South Eastern Council of Governments • City of Sioux Falls • Minnehaha County • Lincoln County
SIOUX FALLS MPO
METROPOLITAN PLANNING ORGANIZATION
SOUTH DAKOTA
500 N. WESTERN AVE., SUITE 100 • SIOUX FALLS, SD 57104 • P:605.367.5390 • F:605.367.5394
www.siouxfallsmpo.org • sean@secog.org

Agenda

Urbanized Development Commission

SECOG Center – Board Room
500 N Western Ave, Sioux Falls, SD
November 9, 2023, at 4:00 PM

Interested parties may also participate via Microsoft Teams
Join on your computer, mobile app or room device
Click here to join the meeting
Meeting ID: 294 528 406 368
Passcode: wc2XMe

UDC Meeting – 4:00 PM – Roll Call

1.	Public Input on Non-Agenda Items *(3-minute comment period per individual)*	Chair
2.	Approval of the September 14, 2023 Minutes *(Approval Requested)*	Chair
3.	Election of 2024 Officers *(Approval Requested)*	Sean Hegyi
4.	Citizen Advisory Committee (CAC) Member Appointments for 2024-2026 *(Approval Requested)*	Sean Hegyi
5.	Annual List of Obligated Projects *(Approval Requested)*	Sean Hegyi
6.	2023 Sioux Falls MPO Area Coordinated Public Transit Human Services Transportation Plan *(Approval Requested)*	Sean Hegyi
7.	2024-2027 Transportation Improvement Program (TIP) Revision #24-001 *(Approval Requested)*	Sarah Gilkerson
8.	2020 Census Urbanized Area Smoothing Map *(Approval Requested)*	Larry Dean Sarah Gilkerson
9.	First Draft of Brandon Master Transportation Plan *(Informational)*	Jason Carbee, HDR Jeremy Williams, HDR
10.	First Draft of Lincoln County Highway 106 Corridor Study *(Informational)*	Jon Wiegand, HDR
11.	Other Business a. Upcoming Meetings	Sean Hegyi

Next UDC Meeting: January 18, 2024

Persons with special needs for which the MPO can provide accommodations may call 605.681.8176 at least 48 hours in advance of the meeting.

Minutes

Urbanized Development Commission of the
Sioux Falls MPO

September 14, 2023

Members Present
Carol Twedt, Chair
Pat Starr, Sioux Falls City Council
Greg Heitmann, FHWA (non-voting)
Tiffani Landeen, Lincoln County Commission
Toby Brown (for Jim Jibben, Lincoln County Commission)
Terry Fluit (for Joel Arends, Lincoln County Commission)
Chad Huwe (for Derick Wenck, Mayor of Harrisburg)
Tyler Klatt (for Jean Bender, Minnehaha County Commission)
Steve Groen (for Jen Bleyenberg, Minnehaha County Commission)
Mike Vehle, SD Transportation Commission
Kevin Smith (for Paul TenHaken, Mayor of Sioux Falls)
Rich Merkouris, Sioux Falls City Council

Members Absent
Harry Buck, Mayor of Brandon
Casey Voelker, Mayor of Tea
Joe Kippley, Minnehaha County Commission
David Barranco, Sioux Falls City Council
Greg Neitzert, Sioux Falls City Council

Staff Present
Sean Hegyi, SECOG
Shannon Ausen, Sioux Falls
Sam Trebilcock, Sioux Falls
Fletcher Lacock, Sioux Falls
Karla Resendiz, Sioux Falls
Larry Dean, SDDOT
Sarah Gilkerson, SDDOT

Other Present
Chris Tatham, ETC Inst.

The meeting was called to order by Chair Carol Twedt at 4:00 p.m. The roll was taken, and a quorum was present.

1. **Public Input on Non-Agenda Items:** There was no public input.
2. **Approval of the August 10, 2023 Minutes:** Mike Vehle made a motion to approve the August 10, 2023, minutes and was seconded by Chad Huwe. A voice vote was called, and the motion carried unanimously.
3. **2023-2026 Transportation Improvement Program (TIP) Revision #23-006:** Sarah Gilkerson presented the 2023-2026 TIP Revision #23-006. Pat Starr made a motion to approve the 2023-2026 TIP Revision #23-006 and was seconded by Mike Vehle. A voice vote was called, and the motion carried unanimously.
4. **Market Research Study – Underserved and Transit Surveys:** Chris Tatham from ETC Institute provided an update to the Underserved and Transit Surveys for the Market Research Study. This was for informational purposes only.
5. **First Draft of the 2020 Census Urbanized Area Smoothing Map.** Larry Dean and Sarah Gilkerson presented the first draft of the 2020 Census Urbanized Area Smoothing Map. This was for informational purposes only.
6. **First Draft of the 2023 Sioux Falls MPO Area Coordination Public Transit Human Services Transportation Plan.** Sean Hegyi presented the first draft of the 2023 Sioux Falls MPO Area Coordination Public Transit Human Services Transportation Plan. This was for informational purposes only.
7. **Other Business:**
    a. Sean Hegyi presented the dates of upcoming meetings. This was for informational purposes only.
8. **Adjourn:** Chair Carol Twedt adjourned the meeting at 4:52 p.m.

ARTICLE III ELECTION OF OFFICERS AND APPOINTMENTS

Sec. 1. Election of Officers. The officers of the UDC shall consist of a Chair and a Vice-Chair. In the absence of the Chair, the Vice-Chair has full powers.

Sec. 2. Election and Terms of Office. The Chair and Vice-Chair of the UDC shall be elected annually at the last regularly scheduled meeting of the calendar year. The Chair shall be a resident of the Sioux Falls metropolitan transportation planning area and shall not be a standing member of the UDC. The Vice-Chair shall be from the existing UDC membership as identified in Article I Section 2 of these bylaws. Nominations shall originate from the floor, with both the Chair and the Vice-Chair being elected by a three-fourths (3/4) majority ballot vote of the voting members of the UDC present at the meeting in which the election is held.

The Chair and Vice-Chair of the UDC shall assume their duties at the first meeting of the new calendar year. The term of office for both the Chair and Vice-Chair shall be one (1) year, with no limitation of re-election.

Vacancies in the office of the Chair or Vice-Chair shall be filled at the next regular or special meeting of the UDC following the vacancy.

ARTICLE IV DUTIES OF OFFICERS

Sec. 1. Duties of Chair. The Chair shall call and preside over all meetings of the UDC and represent the UDC in the other usual duties of this office. The Chair of the UDC shall be a non-voting position.

Sec. 2. Duties of the Vice-Chair. The Vice-Chair shall perform the duties of the Chair in his or her absence and shall perform other duties as the Chair may assign. In the absence of the Chair, the Vice-Chair does not forfeit the right to vote on matters before the UDC.

Sec. 3. Temporary Chair. A temporary chair shall be selected by the members present in the absence of the Chair and Vice-Chair.

	Citizen Advisory Committee Members	Business	Community Service Boards	Concerned Citizens	Construction and Development	Education	Environment	Persons with Disabilities	Private Transportation	Retirement Community	Safety	Partial Term	1st Term	2nd Term
1	Diedrich, Cory								0					2023
2	Enstad, Collin*										1	2024		
3	VACANT													
4	Groeneweg, Ryan							1					2023	
5	Hoffman, Mark				1								2023	
6	Jackson, David	1												2025
7	Jessen, Luke			1									2023	
8	Keating, Mollie							1					2025	
9	Laughlin, Rick								1				2024	
10	Neiman, Rachael		1										2024	
11	Oseby, F. Butch*											2025		
12	Parsons, Chuck									1			2024	
13	Snoozy, Amanda									1			2023	
	Sub-Total	**1**	**1**	**1**	**1**	**0**	**0**	**2**	**1**	**2**	**1**			

*Completing the remainder of terms of resigned members, may serve up to two additional three year terms

CAC By-Laws ARTICLE I ORGANIZATION

Sec. 2. Membership, Number of Committee Members, and Affiliations.

Membership for the CAC is drawn from diverse citizen groups or organizations within the current Sioux Falls Metropolitan Planning Organization boundaries. For the purposes of these bylaws, the following is a list of various organizations and citizen groups the CAC utilizes when looking to fill vacancies to represent diverse populations on the committee: Business, Community Service Boards, Concerned Citizens, Construction & Development, Education, Environment, Persons with Disabilities, Private Transportation, Retirement Community, and Safety.

In the interest of maintaining an equitable balance among diverse participating entities, each group or organization shall be allowed no more than two (2) representatives.

METROPOLITAN PLANNING ORGANIZATION
500 N. WESTERN AVE., SUITE 100 • SIOUX FALLS, SD 57104 • P:605.367.5390 • F:605.367.5394
www.SiouxFallsMPO.org • sean@secog.org

The Citizens Advisory Committee (CAC) is an important component of transportation planning for the Sioux Falls Metropolitan Planning Organization (MPO). Working with the Technical Advisory Committee and the Urbanized Development Commission (governing body for the MPO), members of the CAC serve as a liaison between the general public and the formal transportation planning process. In addition, CAC members offer advice, comments and recommendations for projects that require review by the MPO planning process. The CAC meets seven times a year (every other month beginning in January) with an additional meeting held in August. Meetings are held at the SECOG Center in Sioux Falls on Wednesday afternoons and begin at 3:00 p.m.

Representatives will be selected by several criteria including the willingness to attend meetings and interest in local transportation and related issues.

Name Jacob Ricke

Home Address 1720 E Ponderosa Drive

City Sioux Falls State SD Zip Code 57103

Phone 6052919197 Fax _____ E-mail jacob.m.ricke@gmail.com

Employer JLG Architects

Work Address 232 S Main Avenue

City Sioux Falls State SD Zip Code 57104

Phone 6052919197 Fax _____ E-mail jricke@jlgarchitects.com

Membership for the CAC is drawn from various citizen groups or organizations within the current Sioux Falls MPO boundaries. Please indicate which one of the following citizen groups or organizations you feel you would best represent:

____ Business
____ Community Service Boards
x___ Concerned Citizens
____ Construction & Development
____ Education
x___ Environment
____ Persons with Disabilities
____ Private Transportation
____ Retirement Community
____ Safety
____ Other: (Please indicate) _____
_____

Please attach a short biography or resume along with a statement as to why you believe you would be a good representative for the group or organization you have indicated above.

Return to:
Sean Hegyi, Planner
South Eastern Council of Governments
500 N. Western Ave., Suite 100, Sioux Falls, SD 57104
Phone: (605) 681-8176, Fax: (605) 367-5394, E-mail: sean@secog.org

The Sioux Falls MPO does not discriminate on the basis of race, color, religion, sex, sexual orientation, national origin, creed, ancestry, pregnancy, age, genetic information, or disability in the selection of those chosen to serve on a Board or Committee.

STATEMENT OF INTEREST

October 20th, 2023

500 N Western Ave, Suite 100
Sioux Falls, SD 57104
605.681.8176
sean@secog.org

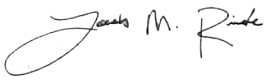
Dear Mr. Hegyi,

This statement is regarding my interest in joining the Citizens Advisory Committee (CAC) of the Metropolitan Planning Organization in the Sioux Falls Metropolitan Area. I am confident that my experience and expertise will align with the goals and objectives of the organization and enable me to effectively serve on the committee. My experience as an architect and project manager has built a solid foundation to think critically, provide any necessary insight, make educated decisions, and contribute to the success of the transportation planning process. As a citizen of the city of Sioux Falls, I am passionate about the future of our area and its growth and development.

Within my experience as an architect, I have had a special interest in sustainable practices. I serve as a member of the internal sustainability core group at my firm, where I have a hand in developing the sustainability principles of our company. This background would allow me to combine my professional expertise with my interest as a citizen to successfully and effectively contribute to the efforts of the Citizens Advisory Committee.

Thank you for considering my application. I look forward to hearing from you and discussing how I can positively impact the organization. Please find my attached resume for your reference.

Sincerely,



Jacob M Ricke

JACOB RICKE

ARCHITECT | PROJECT MANAGER

CONTACT INFO

1720 E Ponderosa Dr
Sioux Falls, SD 57103

605.291.9197
Jacob.m.ricke@gmail.com

WORK EXPERIENCE

Project Manager, Licensed Architect | June 2023 – Current
JLG Architects | Sioux Falls, SD

- Lead and manage project teams to develop innovative design solutions to exceed clint expectations.
- Manage project schedule and budget to ensure projects are completed on-time and within constraints.
- Develop and maintain strong client relationships to provide an opportunity to execute successful projects that elevate the community and improve the human experience.

Job Captain | May 2019 – June 202
JLG Architects | Sioux Falls, SD

- Produced design and construction documentation through all phases.
- Managed the integration of sustainable design principles and practices in projects as a member of the core sustainability group while driving research and development of key sustainability initiatives firm-wide.
- Assisted in management of internal project teams and with consultants.

EDUCATION

Master of Architecture | South Dakota State University | 2017-2019
Brookings, SD

Bachelor of Fine Arts in Architecture | South Dakota State University | 2013-2017
Brookings, SD

VOLUNTEER ORGANIZATIONS

Member | Sioux Falls Public Schools Education Foundation – Fund Development Committee | 2022 - Current

Organizer & Post Director | Sioux Council Boy Scouts of America – Explorer Post | 2022 - Current

Member | American Institute of Architects, South Dakota – Convention Committee | 2023 - Current

RECOGNITION

2023 30 Under 30 | SiouxFalls.Business Magazine
Merit Award | AIA South Dakota | 2018

METROPOLITAN PLANNING ORGANIZATION
500 N. WESTERN AVE., SUITE 100 • SIOUX FALLS, SD 57104 • P:605.367.5390 • F:605.367.5394
www.SiouxFallsMPO.org • sean@secog.org

The Citizens Advisory Committee (CAC) is an important component of transportation planning for the Sioux Falls Metropolitan Planning Organization (MPO). Working with the Technical Advisory Committee and the Urbanized Development Commission (governing body for the MPO), members of the CAC serve as a liaison between the general public and the formal transportation planning process. In addition, CAC members offer advice, comments and recommendations for projects that require review by the MPO planning process. The CAC meets seven times a year (every other month beginning in January) with an additional meeting held in August. Meetings are held at the SECOG Center in Sioux Falls on Wednesday afternoons and begin at 3:00 p.m.

Representatives will be selected by several criteria including the willingness to attend meetings and interest in local transportation and related issues.

Name Warren Lanphier

Home Address 1304 W 5th St

City Sioux Falls State SD Zip Code 57104

Phone 2083106197 Fax _____ E-mail warren.lanphier@schoolbusinc.com

Employer School Bus Inc

Work Address 5100 W 8th St

City Sioux Falls State SD Zip Code 57107

Phone 6053346644 Fax _____ E-mail Warren.lanphier@schoolbusinc.com

Membership for the CAC is drawn from various citizen groups or organizations within the current Sioux Falls MPO boundaries. Please indicate which one of the following citizen groups or organizations you feel you would best represent:

____ Business
____ Community Service Boards
____ Concerned Citizens
____ Construction & Development
X___ Education
____ Environment
____ Persons with Disabilities
X___ Private Transportation
____ Retirement Community
____ Safety
X___ Other: (Please indicate) Public Transportation

Please attach a short biography or resume along with a statement as to why you believe you would be a good representative for the group or organization you have indicated above.

Return to:
Sean Hegyi, Planner
South Eastern Council of Governments
500 N. Western Ave., Suite 100, Sioux Falls, SD 57104
Phone: (605) 681-8176, Fax: (605) 367-5394, E-mail: sean@secog.org

The Sioux Falls MPO does not discriminate on the basis of race, color, religion, sex, sexual orientation, national origin, creed, ancestry, pregnancy, age, genetic information, or disability in the selection of those chosen to serve on a Board or Committee.

Warren Lanphier

Operations/ Organizational Development Management

wlanphier@gmail.com • (208) 310-6197
LinkedIn • Bryan, TX

Performance driven professional with extensive experience in diverse work environments. Proven skills in developing and implementing learning objectives and programs aligned with company culture and strategies. Proficient in creating programs and providing training to managers and individual contributors. Instrumental in preparing learning and communicating plans to support specific organizational change projects. Adept at managing and streamlining business operations in line with strategic requirements to ensure seamless and efficient workflow.

Areas of Expertise

- Organizational Development
- Project Management
- Recruiting/Training Programs
- Mobility Management
- Recruitment Strategies Development
- Learning & Development Management
- Team Building & Leadership
- Crisis Prevention
- Talent Development
- Transportation Operations
- Cost Reduction
- Fleet Management

Professional Experience

School Bus Inc
Director of Operations **2022 - Present**

Hold full accountability for multiple business units. Oversee several sites with the objective of achieving safe student transportation and increasing profitability for the business unit.

- Improved primary customer relationship in first year.
- Established a positive work culture after years of workplace toxicity.

Bryan Independent School District, Bryan, TX **2017 – 2022**
Director of Transportation

Hold full accountability for overseeing and leading a department of 175 employees to meet business objectives, while staying within budget. Ensure safety of the staff members and customers during the pandemic by designing effective procedures. Partnered with departments during COVID pandemic to present online education, while following campus protocol. Create and implement driver training, hiring, and retention program.

- Began tenure as an assistant director; quickly promoted in recognition of outstanding leadership strengths.
- Slashed operational and accidents costs and overtime by executing fleet telematics and GPS tracking systems.
- Implemented several new pieces of technology, including customer call tracking platform, which reduced incoming calls from 1400 per month to 4-500 per month.
- Decreased road calls or need for tow truck recovery from over 60 per year to 6 during first two years
- Implemented ELDT program and Third-Party Testing Program on site.
- Dramatic reduction in accidents and eliminated substantial unnecessary costs.

PepsiCo Fargo, ND **2015 – 2016**
Supply Chain Operations Supervisor

Administered high performing teams of drivers and product handlers through major site restructure while streamlining store delivery operations. Recognized by regional management for establishing driver training program.

- Led, developed, motivated, managed, and worked with culturally diverse team and accomplished all assigned objectives through strict conformance to company policies.
- Minimized waste due to product damage by directing a lean six sigma project.
- Ensured improvement in hiring and retention process by executing employee recognition programs.

Harlow's Bus Service, Bismarck, ND **2014 – 2015**
Transportation Manager

Developed and strengthened long-term relations with the Bismarck Public Schools to achieve desired results. Handled recruiter, router, trainer, office specialist, and mechanics, purchased new buses, and delivered training to members in a timely manner. Identified new customers, created an annual budget, and oversaw cost of the operations. Ensured safe and effective operations while coordinating with maintenance team members.

- Devised new recruitment strategies to reduce turnover to less than 10%. from year to year.
- Improved retention for a school bus operation and reduced turnover by applying new policies and technologies.

Lewiston Independent School District, Lewiston, ID **2013 – 2014**
Transportation Supervisor

Executed fleet management program to streamline and oversee pupil transportation and fleet operations. Conducted annual trainings for drivers of multiple school districts in the region.

- Led 50 drivers, two office assistants, and three mechanics and accomplished all assigned business objectives through strict conformance to policies, rules, and regulations.
- Tracked all transportation related information, including fuel/maintenance expenditures and route mileage vs field trip mileage and submitted reports to the state.
- Trained new hires as well as arranged drivers for athletic trips.

Additional Experience

Terminal Manager, Red Eagle Oil Co., Williston, ND (2 Years)
Sr. Parole Agent, Idaho Department of Correction, Moscow, ID (13 Years)
US Army National Guard Mechanized/Combat Engineer (8 years)

Education

Master of Science in Human Resource Development

Texas A&M University, College Station TX, 2019

Distinguished Honor Graduate

Bachelor of Science & Associate in Applied Science in Behavioral Sciences
Lewis Clark State College, Lewiston, ID, 2015

SIOUX FALLS MPO 2023 OBLIGATED TRANSPORTATION IMPROVEMENT PROJECTS

	FUNDING CATEGORY	PRIORITY	PROJECT #	COUNTY	LENGTH (MILES)	LOCATION	IMPROVEMENT TYPE	2023 - FEDERAL FUNDS ¥	2023 - TOTAL FUNDS ¥	STATUS	AWARDED FEDERAL FUNDS ¥	AWARDED TOTAL FUNDS ¥	LETTING DATE	AWARD DATE	NOTES
SDDOT	Interstate Maintenance Projects	0.11	IM 2292(103)2	Minnehaha	0.2	I229 - Exit 2 (Western Ave) in Sioux Falls	Modify Ramp - NB On Ramp	$2.187	$2.577	Work started 07/10/2023	$1,251,538	$1,492,806	2/15/2023	2/23/2023	Awarded to T&R Contracting Inc. Fed = 90.97%
	Interstate Maintenance Projects	2.00	IM 2292(95)0	Lincoln Minnehaha	11.4	I229 Corridor	Median Lighting	$2.723	$3.100	Let on 08/16/2023	$2,350,070	$2,696,810	8/16/2023	8/24/2023	Awarded to Action Systems dba Action Electric Fed = 90.97%
	Interstate Maintenance Projects	3.00	IM 2292(84)2	Minnehaha	0.8	I229 - Exit 3 (Minnesota Ave) in Sioux Falls	Preliminary Engineering	$0.000	$0.052	In progress					No Letting Date for PE Const years 2027 and 2028
	Interstate Maintenance Projects	4.00	IM 000S(418)	Statewide	0.0	Statewide on the Interstate System	Install Dynamic Message Boards	$1.703	$1.873	No update					Pierre and Rapid City Regions Project
	Interstate Maintenance Projects	11.00	IM 2292(113)1	Lincoln Minnehaha	0.8	I229 N & S - Fm I29 to Exit 2 (Western Ave)	Sign Bridge	$1.272	$1.436	Let on 10/18/2023		$1.319	10/18/2023		Awarded to BX Civil & Construction Inc
	Interstate Maintenance Projects	12.00	IM 2292(107)5 NH 2042(30)	Minnehaha	3.2	I229 - Fm 26th St to 10th St; 10th St Interchange; 10th St - Fm Lowell Ave to Cleveland Ave	Preliminary Engineering	$0.000	$0.260	In progress					Also Funded In: Local Urban System Projects Const years 2029 and 2030
	Local Urban System Projects	1.00	IM 2292(107)5 NH 2042(30)	Minnehaha	3.2	I229 - Fm 26th St to 10th St; 10th St Interchange; 10th St - Fm Lowell Ave to Cleveland Ave	Preliminary Engineering	$0.000	$0.025	In progress					Also Funded In: Interstate Maintenance Projects Const years 2029 and 2030
	Interstate Maintenance Projects	15.00	IM-NH 0909(46)406 ~~NH 0011(118)80~~	Minnehaha	1.0	I90 - Exit 406 (Corson/Brandon); ~~SD11 - Fm Redwood Blvd to Ash St in Brandon & 260th St Intersection in Corson~~	Interchange Reconstruction, Replace Str Bridge, Lighting, PCC Surfacing, ~~ADA~~	$35.846	$41.096	No Letting Date Set					Also Funded In: State Highway System Urban Projects| Construction planned for 2024 & 2025
	State Highway System Urban Projects	4.00	NH-P-TA 0011 (118)80	Minnehaha	0.7	~~I90 - Exit 406 (Corson/Brandon);~~ SD11 - Fm Redwood Blvd to Ash St in Brandon & 260th St Intersection in Corson	Grading, Curb & Gutter, Storm Sewer, Sidewalk, ADA	$3.345	$2.400	No Letting Date Set					Also Funded In: Interstate Maintenance Projects| Construction planned for 2024 & 2025
	Interstate Maintenance Projects	16.00	IM 2292(98)9 P 1200(04) IM 2292(112)6	Minnehaha	0.7	I229 Exit 9 (Benson Rd) in Sioux Falls; Benson Rd - Fm Lewis Ave E to Hall Ave ; I229 - 6th St Structure	Modify Interchange, LSDC, Approach Slab, Joints, Bridge Rail, PE, Grading, Storm Sewer, Curb & Gutter, PCC Surfacing, ROW, Signals, Lighting, Polymer Chip Seal	$19.573	$26.995	Work Started 04/03/2023	$21.138	$37.781	12/7/2022	12/21/2022	Also Funded In: Local Urban System Projects | Awarded to T&R Contracting, Construction began 2023 continuing in 2024
	Local Urban System Projects	3.00	IM 2292(98)9 P 1200(04) IM 2292(112)6	Minnehaha	0.7	I229 Exit 9 (Benson Rd) in Sioux Falls; Benson Rd - Fm Lewis Ave E to Hall Ave ; I229 - 6th St Structure	Modify Interchange, LSDC, Approach Slab, Joints, Bridge Rail, PE, Grading, Storm Sewer, Curb & Gutter, PCC Surfacing, ROW, Signals, Lighting, Polymer Chip Seal	$19.573	$26.995	Work Started 04/03/2024	$21.138	$37.781	12/7/2022	12/21/2022	Also Funded In: Interstate Maintenance Projects | Construction planned for 2023 & 2024
	Interstate Maintenance Projects	23.00	IM 0909(97)404 P 0011(161)80	Minnehaha	0.8	I90 E & W -Fm Exit 402 (Veterans Parkway) to Exit 406 (Corson/Brandon); SD11 - N of I90	Median & Ramp Crossovers, Shoulder Widening	$1.564	$1.719	Work Started 08/23/2023	$1.179	$1.255	7/19/2023	7/27/2023	Also Funded In: State Highway System Urban Projects; Construction continues into 2024
	State Highway System Urban Projects	8.00	IM 0909(97)404 P 0011(161)80	Minnehaha	0.8	I90 E & W -Fm Exit 402 (Veterans Parkway) to Exit 406 (Corson/Brandon); SD11 - N of I90	Median & Ramp Crossovers, Shoulder Widening	$0.135	$0.165	Work Started 08/23/2024	$1.179	$1.255	7/19/2023	7/27/2023	Also Funded In: Interstate Maintenance Projects
	State Highway System Urban Projects	2.00	NH-TA 0100(108)407 P 1353(00) NH 2115(00) P 1261(00)	Lincoln	2.4	Veterans Pkwy - Fm Western Ave to Cliff Ave; Western Ave - Fm S of Veterans Pkwy to N of Veterans Pkwy in Sioux Falls; Minnesota Ave - Fm S of Veterans Pkwy to N of Veterans Pkwy in Sioux Falls; Cliff Ave - Fm S of Veterans Pkwy to N of Veterans Pkwy in Sioux Falls	Grading, Str Bridge, PCC Surfacing, Curb & Gutter, Storm Sewer, Signals, Lighting, AC Surfacing, Modify Intersection	$31.872	$53.824	Work Started 06/08/2023	$34.702	$47.934	5/3/2023	5/11/2023	Also Funded In: Local Urban System Projects; Awarded to John Riley Construction Inc.; Construction continues into 2024; Fed = 81.95%
	Local Urban System Projects	2.00	NH 0100(108)407 P 1353(00) NH 2115(00) P 1261(00)	Lincoln	2.4	Veterans Pkwy - Fm Western Ave to Cliff Ave; Western Ave - Fm S of Veterans Pkwy to N of Veterans Pkwy in Sioux Falls; Minnesota Ave - Fm S of Veterans Pkwy to N of Veterans Pkwy in Sioux Falls; Cliff Ave - Fm S of Veterans Pkwy to N of Veterans Pkwy in Sioux Falls	Grading, Str Bridge, PCC Surfacing, Curb & Gutter, Storm Sewer, Signals, Lighting, AC Surfacing, Modify Intersection	$0.000	$12.306	Work Started 06/08/2024	$34.702	$47.934	5/3/2023	5/11/2023	Also Funded In: State Highway System Urban Projects; Awarded to John Riley Construction Inc.; Construction continues into 2024; Fed = 81.95%
	State Highway System Urban Projects	10.00	NH 0115(61)76	Lincoln	0.0	SD115 N & S - Tiger Way Jct	Signals	$0.341	$0.416	To be Let		Not Scheduled			Construction year 2024
	Bridge Projects	23.00	IM-NH-P 0020(223)	Regionwide	0.0	Various Locations Throughout the Mitchell Region	2023 Bridge Deck Treatment	$0.256	$0.312	Work Completed 07/28/2023	$0.242	$0.285	4/5/2023	4/13/2023	Awarded to RAM Construction Services of Mich
	Railroad Crossing Improvement Projects	0.12	PP 8042(51)	Lincoln		274th St in Harrisburg, BNSF RR, DOT 381639F	Signal, CE	$0.236	$0.262	No Const Info					installing util, finished by end of year
	Railroad Crossing Improvement Projects	4.00	PP-PS 1310(11)	Minnehaha	0.0	6th St - In Sioux Falls, DOT 097881H BNSF Railroad	Signals, Sidewalk, Approach, CE	$0.135	$0.150	No Const Info					No work so far; connected with City of QZs; may be removed from STIP if included in QZs.
	Railroad Crossing Improvement Projects	6.00	PS 000S(426)	Statewide	0.0	Various BNSF Crossing Locations	Preliminary Engineerng FY2023	$0.018	$0.020	In progress					Not used in 2023
	Railroad Crossing Improvement Projects	7.00	PP-PS 1363(01)	Minnehaha	0.0	Ebenezer Ave in Sioux Falls, E&E RR, DOT 925091P	Signals, Crossing Surface, Approach Work, CE	$0.270	$0.300	Completed					Construction year 2024
	Railroad Crossing Improvement Projects	8.00	PP-PS 1332(09)	Minnehaha	0.0	14th Street in Sioux Falls, E&E RR, DOT 186676X	Signals, Crossing Surface, Approach Work, CE	$0.270	$0.300	Completed					

¥ Costs reflect anticipated inflation

SIOUX FALLS MPO 2023 OBLIGATED TRANSPORTATION IMPROVEMENT PROJECTS

SDDOT

FUNDING CATEGORY	PRIORITY	PROJECT #	COUNTY	LENGTH (MILES)	LOCATION	IMPROVEMENT TYPE	2023 - FEDERAL FUNDS ¥	2023 - TOTAL FUNDS ¥	STATUS	AWARDED FEDERAL FUNDS ¥	AWARDED TOTAL FUNDS ¥	LETTING DATE	AWARD DATE	NOTES
Railroad Crossing Improvement Projects	20.00	PP-PS 2115(47)	Minnehaha	0.0	Minnesota Ave - In Sioux Falls, BNSF RR #097224S	Signals, Crossing Surface, Approach Work, CE	$0.288	$0.320	In progress					Materials invoiced; installation unknown
Railroad Crossing Improvement Projects	21.00	PS 6361(04)	Minnehaha	0.0	West Ave - In Crooks BNSF Railroad, DOT #097259T	Crossing Surface Rehabilitation and Extension	$0.049	$0.054	In progress					
Railroad Crossing Improvement Projects	22.00	PS 8050(89)	Lincoln Minnehaha	0.0	Railroad Crossings in Sioux Falls BNSF	Study to Close Crossings	$0.180	$0.200						Deferred into 2024
Railroad Crossing Improvement Projects	23.00	PS 8050(90)	Lincoln Minnehaha	0.0	Railroad Crossings in Sioux Falls E&E	Study to Close Crossings	$0.180	$0.200						Deferred into 2024
Roadway Safety Improvement	0.11	PH OOSW(124)	Statewide		Statewide	Purchase Mobile Retroreflectometers	$0.421	$0.468	Programmed					TIP Revision: 23-002 equipment required to monitor pavement markings to ensure minimum retroreflectivity is maintained
Roadway Safety Improvement	14.00	PH 0020(165)	Regionwide	0.0	Various locations on the State System in the Mitchell Region	Durable Pavement Markings	$0.780	$0.780	Awarded	$0.262 `		9/6/2023	9/14/2023	Awarded to Dakota Traffic Services, LLC; construction year 2024
Roadway Safety Improvement	21.00	PH 0020(183)	Regionwide	0.0	Mitchell Region	Corridor Signing	$1.561	$1.561	In progress					
Roadway Safety Improvement	25.00	PH 0020(201)	Hanson Miner Minnehaha	3.1	Various Locations in the Mitchell Region	Modify Intersection	$6.474	$7.400	Work Started 05/08/2023			3/1/2023	3/9/2023	Administrative Amendment: 23-001 Increase cost to $7.400. State = 0.926, Federal = 6.474
Roadway Safety Improvement	28.00	PH 000S(403)	Regionwide	1.5	Various Locations on the state and local systems in the Aberdeen, Pierre, and Mitchell Regions	High Friction Surface Treatment	$1.405	$1.561	Programmed					Construction year 2024
Pavement Preservation Projects	1.00	NH-P 0022(71)	Areawide	0.0	Various Locations Throughout the Sioux Falls Area	2023 Areawide Pipe Work Projects	$0.427	$0.520	Programmed					
Pavement Preservation Projects	24.00	NH-P 0022(90)	Clay Lincoln McCook Minnehaha	57.7	Various Routes in the Sioux Falls Area	Rout & Seal	$0.178	$0.217	Work Completed 09/16/2023	$233,085	$363,872	4/19/2023	4/27/2023	Awarded to Roadway Services, Inc
Pavement Preservation Projects	33.00	P 0022(91)	Kingsbury Lake Lincoln Minnehaha Turner	52.9	Various Locations in the Sioux Fall Area	Asphalt Surface Treatment	$1.967	$2.401	Completed 06/21/2023	$2,212,414	$2,712,405	2/15/2023	2/23/2023	Awarded to Bituminous Paving, Inc
Miscellaneous	0.11	HR XOlO(Ol)	Statewide		Statewide	FY2023 State Transportation Innovation Council (STIC) Expand 3D Model Field Verification Capabilities	$0.100	$0.125	No update					TIP Revision 23-002 to add project to expend new grant allocation
Miscellaneous	1.00	IT 000S(441)	Statewide	0.0	Statewide	Active Traffic Management System	$0.832	$1.040	No update					
Miscellaneous	14.00	EV 2023(00)0	Statewide	0.0	Various Locations Statewide	2023 NEVI Projects	$4.363	$5.454	In progress					This project is a "fund placeholder" to show any difference between the total amount programmed and the estimated annual programmed amount.
Miscellaneous	15.00	LR 2023(00)0	Statewide	0.0	Various Locations Statewide	2023 CRP Projects	$9.001	$10.000	In progress					This project is a "fund placeholder" to show any difference between the total amount programmed and the estimated annual programmed amount.
Miscellaneous	16.00	LR 2023(00)0	Statewide	0.0	Various Locations Statewide	2023 PROTECT Projects	$9.001	$10.000	In progress					This project is a "fund placeholder" to show any difference between the total amount programmed and the estimated annual programmed amount.
County Secondary and Off System Projects	3.00	P 000S(00)241	Regionwide	0.0	Various Locations in the Mitchell Region	County Pavement Marking	$0.000	$1.248	Completed 10/24/23			5/17/2023	5/25/2023	State funds at 60/40 (State CAP - $0.223, County - $0.149); Remainder 100% Local - $0.828.
Local Bridge Replacement	0.29	BRF 1282(00)23-1	Minnehaha		Structure on Russell St (WBL) West of Kiwanis Ave over the Big Sioux Rv in Sioux Falls (City Owned)	Structure Preservation – Bridge Improvement Grant	$0.000	$0.398	Programmed FY2024					TIP Administrative Amendment: 23-004
Local Bridge Replacement	0.30	BRF 1282(00)23-2	Minnehaha		Structure on Russell St (EBL) West of Kiwanis Ave over the Big Sioux Rv in Sioux Falls (City Owned)	Structure Preservation – Bridge Improvement Grant	$0.000	$0.398	Programmed FY2025					TIP Administrative Amendment: 23-004
Local Bridge Replacement	1.00	BRF 6364(00)21-4	Minnehaha	0.2	2 N & 0.1 W of Corson on 258th St.(Hwy 130) over Split Rock Creek SN 50-279-140	Structure Preservation – Bridge Improvement Grant	$0.000	$1.796	Awarded			11/16/2022		No Info found in system
Local Bridge Replacement	22.00	BRO 8050(00)21-1	Minnehaha		Structure 0.1 E & 0.5 S of Brandon on Mchardy Road over Split Rock Creek (City Owned) SN 50-281-180	Structure Preservation – Bridge Improvement Grant	$0.000	$0.217	Awarded			11/10/2022		Administrative Amendment: 23-001 added structure that did not get let in FFY 2022
Local Bridge Replacement	33.00	BRO-B 8050(82)	Minnehaha	0.2	Structure 1 N & 0.3 W of Renner on 257th St over Silver Creek SN 50-208-130	Structure, Approach Grading, PE	$0.365	$0.445	Programmed FY2024					2020 Local Federal Bridge Replacement Program
Local Bridge Replacement	63.00	BRF 1115(00)22-1	Minnehaha	0.2	Structure 0.2 E of Minnesota Ave in Sioux Falls on North Dr over the BN RR (City Owned) SN 50-203-195	Structure Preservation – Bridge Improvement Grant	$0.000	$0.236	Programmed FY2025					

¥ Costs reflect anticipated inflation

SIOUX FALLS MPO 2023 OBLIGATED TRANSPORTATION IMPROVEMENT PROJECTS

	FUNDING CATEGORY	PRIORITY	PROJECT #	COUNTY	LENGTH (MILES)	LOCATION	IMPROVEMENT TYPE	2023 - FEDERAL FUNDS ¥	2023 - TOTAL FUNDS ¥	STATUS	AWARDED FEDERAL FUNDS ¥	AWARDED TOTAL FUNDS ¥	LETTING DATE	AWARD DATE	NOTES
SDDOT	Local Bridge Replacement	64.00	BRF 1115(00)22-2	Minnehaha	0.2	Structure W of 4th Ave in Sioux Falls on North Dr over the Big Sioux Diversion (City Owned) SN 50-205-192	Structure Preservation – Bridge Improvement Grant	$0.000	$0.889	Programmed FY2026					
	Local Bridge Replacement	67.00	BRF 2115(00)21-1	Minnehaha	0.2	In Sioux Falls E of Minnesota Ave on Benson Road over the Big Sioux Diversion (City Owned) SN 50-202-180	Structure Preservation – Bridge Improvement Grant	$0.000	$3.076	Programmed FY2027					
	Transportation Alternative Projects	1.00	P TAPU(22)	Minnehaha	0.0	Crooks along West Ave from Main St to Executive Ave	PE, CE and Construction of Shared Use Path	$0.323	$0.394	Completed 08/01/2023			2/1/2023	2/9/2023	
	Transportation Alternative Projects	12.00	P TAPU(32)	Minnehaha	0.0	Brandon - along Redwood Blvd fm Split Rock Ck to S Chestnut Blvd & along S Chestnut Blvd fm E Redwood Blvd to Oakhill Circle	PCC Shared Use Path, CE	$0.400	$1.313	No update					No information found
	Subtotal (Mil $)							**$159.614**	**$229.294**						
BRANDON															
				MINNEHAHA		BRANDON	OPERATION & MAINTENANCE	$0	$600,000	On-going					
	Subtotal							**$0**	**$600,000**						
CROOKS				MINNEHAHA		West Ave from Main St to Executive Ave	Shared Use Path & Install RR Crossing	$322,883	$442,960	Construction in Progress			2/1/2023	2/1/2023	$48,960 in Railroad cossing funds included in Total Funds column
				MINNEHAHA		CROOKS	Shared Use Path	$324,522	$396,000	Awarded					
	Subtotal							**$647,405**	**$838,960**						
HARRISBURG			21573	LINCOLN		CLIFF AVE & WILLOW ST INTERSECTION ROUNDABOUT		$0	$5,000,000	95%			3/8/2023	3/20/2023	The roundabout is open to traffic and the project will be completed in 2024
			22081	LINCOLN		272ND ST - MINNESOTA AVE TO CLIFF AVE		$0	$1,900,000	99%			9/8/2022	9/20/2023	The project is substantially completed
			23011	LINCOLN		HARRISBURG	OPERATION & MAINTENANCE	$0	$1,200,000	75%			5/30/2023	6/6/2023	Work will continue as weather allows
	Subtotal							**$0**	**$8,100,000**						
HARTFORD				MINNEHAHA		HARTFORD	OPERATION & MAINTENANCE	$0	$507,767	On-going					
	Subtotal							**$0**	**$507,767**						
SIOUX FALLS	ARTERIAL INTERSECTION IMPROVEMENTS	5	11012	LINCOLN MINNEHAHA		57th St and Sundowner Ave (23); 57th St and Marion Rd (24); 57th St & Minnesota Ave (25); 57th St & Louise Ave (26); 26th St & Sycamore Ave (27); and other various intersections	Additional turn lanes and medians at arterial intersections	$0	$1,050,000	Design is pending for 57th St and Sundowner Ave	$0	$0	NA	NA	No construction planned in 2023.
	BRIDGE AND RETAINING WALL REHABILITATION	6	11014	LINCOLN MINNEHAHA		North Dr & BNSF Overpass and North Dr & Big Sioux River Bridge rehabilitation, construct (23)	Rehabilitation of bridge decks, handrails, approach slabs, abutments and the repair and replacement of retaining walls	$0	$1,475,000	Final design is complete for Benson Rd/BSR/BNSF Overpass.	$0	$0	9/14/2023	NA	Benson Rd/BSR/BNSF Overpass is waiting on BNSF approvals. North Drive bridges design is ongoing.
	MAJOR STREET RECONSTRUCTION	7	11003	LINCOLN MINNEHAHA		Minnesota Ave from 2nd St to 18th St; 33rd St from Grange Ave to Cliff Ave; 41st St from Shirley Ave to Minnesota Ave; Rice St from Cliff Ave to Cleveland Ave; Career Avenue, and other various streets	Reconstruction and widening of various arterial and major collector streets, phased construction	$0	$11,780,696	Under Construction	$0	$0			Funds were tranferred to the Unity Bridge Construction project. Minnesota Avenue from Russell Str to 2nd Street is nearly complete. Design and right of way acquisition for the next segment which is from 2nd to 7th St is underway.
	ARTERIAL STREET IMPROVEMENTS	8	11006	LINCOLN MINNEHAHA		Arterials associated with South Veterans Pkwy Improvements; 57th St from Veterans Pkwy to Six Mile Rd; 6th St from Sycamore Ave to Veterans Pkwy; 49th St Extension; Marion Rd, 259th St to Co Hwy 130; Tallgrass Ave, 69th St to Hwy 106; 85th St from Tallgrass Ave to 469th Ave; Sundowner Ave; Marion Road; 57th St; Six Mile Rd; Benson Rd; Madison St; Minnesota Ave; and other various arterials	Preliminary and final design and construction of arterial streets	$0	$21,978,463	First segment of South Veterans Parkway is under construction. Segments 2, 3, 4, are still under design.	$0	$0	5/3/2023	5/26/2023	This year's project is for South Veterans Parkway Arterials of Cliff, Minnesota and Western Avenues. Contractor is focusing on Cliff and Minnesota Avenues in 2023.
	SOUTH VETERANS PARKWAY IMPROVEMENTS	10	11120	LINCOLN MINNEHAHA		South Veterans Pkwy Construction (23-27)	Utility construction within the corridor	$0	$2,950,000	Under Construction	$0	$1,716,653	5/3/2023	5/26/2023	Contractor is focusing on Cliff and Minnesota Avenues in 2023. Sanitary and water costs only.

¥ Costs reflect anticipated inflation

SIOUX FALLS MPO 2023 OBLIGATED TRANSPORTATION IMPROVEMENT PROJECTS

	FUNDING CATEGORY	PRIORITY	PROJECT #	COUNTY	LENGTH (MILES)	LOCATION	IMPROVEMENT TYPE	2023 - FEDERAL FUNDS ¥	2023 - TOTAL FUNDS ¥	STATUS	AWARDED FEDERAL FUNDS ¥	AWARDED TOTAL FUNDS ¥	LETTING DATE	AWARD DATE	NOTES
SIOUX FALLS	BRIDGE RECONSTRUCTION PROGRAM	11	11086	MINNEHAHA		49th St & Big Sioux River Bridge, design (23-25), reconstruct (26-27). Project fund savings for reconstruction of 49th St Bridge (24-27)	Design and reconstruct various bridges	$0	$400,000	Not started	$0	$0	NA	NA	This program has been altered due to priorities. The 49th St/BSR will be be reprogrammed for 2028.
	SCHOOL DISTRICT/ PARK SITE COORDINATION	14	11002	LINCOLN MINNEHAHA		Cliff Ave from 85th St to the south 1/2 mile, construct (23); McGovern Middle School collector streets (24); Southeastern Ave from 69th St to the south, construct (25); and other various locations needed for new school construction	Public infrastructure needed for the opening of new schools or parks	$0	$5,525,000	Under Construction	$0	$4,148,182	1/26/2023	2/22/2023	Intersection is open to traffic
	RAILROAD CROSSING IMPROVEMENTS	15	11011	LINCOLN MINNEHAHA		6th St Downtown, 14th St/Second Ave, Ebenezer, Minnesota Ave/Algonquin, construct {23); EE Rail Study, BNSF Rail Study, {24); 259th St by Marion Rd; 49th/ Southeastern; 14th St/Cliff Ave; 20th St/Cliff Ave; and other various crossing	Railroad crossing improvements in coordination with Ellis & Eastern and Burlington Northern railroads; this project utilizes 90% federal funds and 10% city match	$90,000	$100,000	Under Construction	$0	$100,000	NA	NA	14th Street/5th Avenue and Ebenezer Avenue Ellis Eastern crossings are completed. 6th Street and Downtown BNSF crossing is under construction.
	SDDOT PROJECT COORDINATION	16	11013	LINCOLN MINNEHAHA		VARIOUS LOCATIONS	Unforeseen street, water, sanitary sewer, traffic signal studies, pedestrian facilities, street and utility design, and construction improvements not eligible for SD DOT funding and are coordinated with SDDOT projects	$0	$190,000	Not started	$0	$0	NA	NA	No anticipated projects.
	BENSON ROAD & I-229 AREA IMPROVEMENTS	20	11098	MINNEHAHA		Benson Rd from Lewis Ave to Bahnson Ave	City non participating costs for additional lanes, additional capacity & safety improvements, and pedestrian/bicycle improvements	$0	$2,600,000	Under Construction	$0	$2,065,050	12/7/2022	1/7/2023	Sanitary and water costs only.
	49TH STREET EXTENSION	22	11029	MINNEHAHA		49th St from Western Ave to Grange Ave	Extend 49th St from Western Ave to Grange Ave: Phase 2 from West to Grange, construct (23). Phase 3 from Grange Ave to Duluth Ave (26-27)	$0	$1,020,000	Substantially completed	$0	$0	NA	NA	Final design for phase 2, West to Western in continuing.
	ARROWHEAD PARKWAY IMPROVEMENTS	23	11064	MINNEHAHA		Arrowhead Pkwy & Veterans Pkwy Intersection and approximately 1/4 mile in all directions, construct (24-25)	Reconstruct and widen Arrowhead Parkway	$0	$2,000,000	Construction 90% complete	$0	$1,769,770	4/6/2022	5/6/2022	Sanitary and water costs only.
	85TH ST AND I29 IMPROVEMENTS	24	11017	LINCOLN		85th St & I-29 interchange improvements; construct (24).	Project will allow an 85th St Interchange with I-29 to expand the arterial street system and provide for system connectivity for new growth.	$0	$0	Design underway.					
	CLIFF AVE AND I229 AREA IMPROVEMENTS	28	11100	LINCOLN MINNEHAHA		Cliff Ave from 38th St to Big Sioux River	Non-participating costs for design, reconstruction and expansion of Cliff Ave from 38th St to Big Sioux River to six lanes with a median: design (23-24), construct (25-26)	$0	$100,000	Design underway, Waiting for FHWA EA approval	$0	$85,000	12/15/2024	NA	These costs are design for water and sanitary installation. EA has not been released yet by FHWA. Project is behind schedule.
	MINNESOTA AVE AND I229 IMPROVEMENTS	29	11099	LINCOLN MINNEHAHA		Minnesota Ave from 41st St to Lotta St	Reconstruction and expansion of Minnesota Ave from 41st St to Lotta St to six lanes with a median: design (23-26); Coordinate with SDDOT interchange improvements	$0	$100,000	Design underway, Waiting for FHWA EA approval	$0	$125,000	12/15/2026	NA	These costs are design for water and sanitary installation. EA has not been released yet by FHWA. Project is behind schedule.
				LINCOLN MINNEHAHA		SIOUX FALLS	OPERATION & MAINTENANCE	$0	$32,659,138	On-going					
	Subtotal							**$90,000**	**$83,928,297**						
TEA															
				LINCOLN		TEA	OPERATION & MAINTENANCE	$0	$600,000	On-going					
	Subtotal							**$0**	**$600,000**						

¥ Costs reflect anticipated inflation

SIOUX FALLS MPO 2023 OBLIGATED TRANSPORTATION IMPROVEMENT PROJECTS

FUNDING CATEGORY	PRIORITY	PROJECT #	COUNTY	LENGTH (MILES)	LOCATION	IMPROVEMENT TYPE	2023 - FEDERAL FUNDS ¥	2023 - TOTAL FUNDS ¥	STATUS	AWARDED FEDERAL FUNDS ¥	AWARDED TOTAL FUNDS ¥	LETTING DATE	AWARD DATE	NOTES
LINCOLN CO. (MPO)														
			LINCOLN		CR 110 3.3 EAST OF HARRISBURG	BRIDGE REPLACEMENT	$0	$1,250,000						
			LINCOLN			OPERATION & MAINTENANCE	$0	$1,900,000						
Subtotal							**$0**	**$3,150,000**						
MINNEHAHA COUNTY (Countywide)														
Co. Highway & Bridge	1		MINNEHAHA	1.0	Hwy 130 Marion Intersection Improvements	Highway Reconstruction and Signals	$0	$1,090,000	On-going	$0	City's Contract	5/11/2023	Sioux Falls Awarded Project	The County Highway is substantially complete and open to traffic.
Co. Highway & Bridge	2	50-144-020	MINNEHAHA	0.1	Hwy 104-2 mi N 4.4 mi E of Colton	Bridge Replacement	$0	$1,554,000	Deferred to 2025					
Co. Highway & Bridge	3	50-330-086	MINNEHAHA	0.1	Hwy 103 0.14 mi N of Hwy 120	Bridge Replacement	$0	$777,000	Deferred to 2026					
Co. Highway & Bridge	4	50-337-130	MINNEHAHA	0.1	257th St-0.3 mi W of County Line	Bridge Replacement	$0	$416,250	Defered to 2024					
Co. Highway & Bridge	5	50-330-026	MINNEHAHA	0.1	Hwy 103 3.4 mi N of Sherman	Bridge Preservation, New Deck and Railing	$0	$466,000	Deferred to 2024					
Co. Highway & Bridge	6	50-208-130	MINNEHAHA	0.1	257th St-0.3 mi W of SD Hwy 115	Bridge Replacement	$356,000	$461,500	Preparing to Bid					
Co. Highway & Bridge	7	50-290-131	MINNEHAHA	0.1	2.9 mi N and 1 mi E of Corson	Bridge Replacement	$356,000	$461,500	Preparing to Bid					
Co. Highway & Bridge	8	50-279-140	MINNEHAHA	0.1	Hwy 140-2 mi N and 0.1 mi W of Corson	Bridge Preservation, New Deck and Railing	$0	$2,153,000	On-going	$0	$1,993,428	11/16/2022	12/20/2022	Completion expecded at the end of November 2023
Co. Highway & Bridge	1		MINNEHAHA		County Wide	System Pres & Maint	$0	$3,150,000	Completed	$0	$2,357,310	1/18/2023	2/13/2023	Final Payment of $2,588,888.09
Co. Highway & Bridge	1		MINNEHAHA		County Wide	Operations & Maint	$0	$6,144,452	On-going					
Subtotal							**$712,000**	**$16,673,702**						
AVIATION														
AIRPORT IMPROVEMENT PROGRAM		# 3-46-0078-021-2023	LINCOLN		LINCOLN COUNTY AIRPORT	NORTH GA APRON RECONSTRUCTION	$562,500	$625,000	Awarded	$832,500	$925,000	4/18/2023	5/23/2022	
			MINNEHAHA		SIOUX FALLS REGIONAL AIRPORT, JOE FOSS FIELD	PARKING STRUCTURE & Skyway CONSTRUCTION - Part 1	$0	$38,375,000	Const. started 4/3/23	$0	$62,457,683	5/24/2022	6/10/2022	Awarded to Henry Carlson Const.
			MINNEHAHA		SIOUX FALLS REGIONAL AIRPORT, JOE FOSS FIELD	EXPAND ECONOMY LOT	$0	$1,300,000	Const. started 4/3/23	$0	$1,704,263	10/22/2022	10/27/2022	Awarded to Soukup Const.
			MINNEHAHA		SIOUX FALLS REGIONAL AIRPORT, JOE FOSS FIELD	REPLACE EAST-SIDE WATER MAIN	$0	$1,044,721	Work to begin 6/5/2023	$0	$1,044,721	3/21/2023	3/24/2023	Awarded to ASCO
			MINNEHAHA		SIOUX FALLS REGIONAL AIRPORT, JOE FOSS FIELD	Addition to Maintenance Ship	$0	$5,955,567	Work began Fall 22	$0	$5,955,567	6/25/2022	7/8/2022	Awarced to Sunkota Const.
			MINNEHAHA		SIOUX FALLS REGIONAL AIRPORT, JOE FOSS FIELD	REPLACE EMERG. GENERATOR	$0	$1,012,000	Work scheduled for fall 2023	$0	$1,012,000	1/19/2023	1/25/2023	Awarded to Thompson Electric
Subtotal							**$562,500**	**$48,312,288**		**$832,500**	**$73,099,234**			
PUBLIC TRANSPORTATION														
FTA § 5310			LINCOLN MINNEHAHA		VARIOUS AGENCIES IN THE SIOUX FALLS URBANIZED AREA	ASSISTANCE FOR NON-PROFIT AGENCIES THAT PROVIDE SERVICES TO PERSONS WITH DISABILITIES AND SENIORS	$372,474	$465,593	Awards determined, unobligated	$372,349	$465,436			
FTA § 5310			LINCOLN MINNEHAHA		VARIOUS AGENCIES IN THE RURAL AREA OF THE SIOUX FALLS MPA	ASSISTANCE FOR NON-PROFIT AGENCIES THAT PROVIDE SERVICES TO PERSONS WITH DISABILITIES AND SENIORS	$2,500	$3,125	Awards determined, unobligated	$0	$0			
FTA § 5339			LINCOLN MINNEHAHA		URBAN TRANSIT AGENCIES (CITY OF SIOUX FALLS)	CAPITAL INVESTMENT: BUS AND BUS RELATED EQUIPMENT AND FACILITIES	$296,893	$371,116	Suballocation process between SDDOT and FTA in progress.	$296,893	$371,116			
FTA § 5311			LINCOLN MINNEHAHA		RURAL TRANSIT AGENCIES (SERVICE IN BRANDON AND HARTFORD; POTENTIAL SERVICE IN TEA AND HARRISBURG)	OPERATING ASSISTANCE	$88,000	$106,255	Obligated and active	$180,000	$217,339			
FTA § 5339			LINCOLN MINNEHAHA		CITY OF SIOUX FALLS (SIOUX AREA METRO)	CAPITAL INVESTMENT: BUS AND BUS RELATED EQUIPMENT AND FACILITIES			Buses Delivered May/June 2023	$975,024	$1,218,780	Jun-22	22-Jun	This funding purchased 11 fixed-route buses that were purchased summer 2023
FTA § 5339			LINCOLN MINNEHAHA		CITY OF SIOUX FALLS (SIOUX AREA METRO)	CAPITAL INVESTMENT: BUS AND BUS RELATED EQUIPMENT AND FACILITIES			Buses to be bid and ordered in 2024	$971,211	$1,214,014	Winter 2024	Winter 2025	This funding will help purchase 6 small cutaway buses for on-demand services
FTA § 5307			LINCOLN MINNEHAHA		CITY OF SIOUX FALLS (SIOUX AREA METRO)	OPERATING ASSISTANCE	$3,579,115	$11,361,771	2022/2023 Operating Expenses	$4,926,222	$10,200,000	NA	NA	This funding will provide grant funding for 50% operating expenses utilizing all $3,526,222 in 2022 FTA 5307 funding and $1,400,000 in 2023 FTA 5307 funding.
FTA § 5307 CARES Capital			LINCOLN MINNEHAHA		CITY OF SIOUX FALLS (SIOUX AREA METRO)	BUS REPLACEMENT	$4,986,376	$4,986,376	Buses were delivered May/June 2023	$3,986,376	$5,314,551	Jun-22	22-Jun	This funding purchased 11 fixed-route buses that were be purchased summer 2023
Subtotal							**$9,325,358**	**$17,294,235**						

¥ Costs reflect anticipated inflation

SIOUX FALLS MPO AREA COORDINATED PUBLIC TRANSIT – HUMAN SERVICES TRANSPORTATION PLAN

November 9, 2023

Acknowledgments:

This document was prepared by:
The South Eastern Council of Governments,
the Cities of Brandon, Crooks, Harrisburg, Hartford, Sioux Falls and Tea,
Lincoln and Minnehaha Counties,
and the
South Dakota Department of Transportation

In cooperation with:
The Federal Highway Administration
and the Federal Transit Administration of the
United States Department of Transportation

"The preparation of this report has been financed in part through grant[s] from the Federal Highway Administration and Federal Transit Administration, U.S. Department of Transportation, under the State Planning and Research Program, Section 505 [or Metropolitan Planning Program, Section 104(f)] of Title 23, U.S. Code. The contents of this report do not necessarily reflect the official views or policy of the U.S. Department of Transportation."

EXECUTIVE SUMMARY

PURPOSE OF THE PLAN

The purpose of the *Sioux Falls MPO Area Coordinated Public Transit – Human Services Transportation Plan* is to:

1. Identify the unmet transportation needs for seniors and individuals with disabilities; and

2. Develop strategies, activities, and/or projects to address the identified gaps between current services and needs, as well as opportunities to achieve efficiencies in service delivery.

This plan corresponds with current federal transportation policy which requires that a locally-developed, coordinated public transit/human services planning process be undertaken as a condition of receiving funding from the Federal Transit Administration (FTA) program directed at meeting the needs of the plan's target populations: seniors and individuals with disabilities.

In recent years, coordination efforts have focused on mobility management, a term that represents a transportation strategy that focuses more on the customers and their needs, and meeting those needs through the coordinated use of variety providers.

MOBILITY MANAGEMENT

The National Center for Mobility Management (NCMM) notes that mobility management is an approach to designing and delivering transportation services that starts and ends with the customer. It begins with a community vision in which the entire transportation network – public transit, human services agencies, private operators, volunteer drivers, and others – work together with customers, planners, and stakeholders to deliver transportation options that best meet the community's needs. Mobility management encourages:

1. Innovation and flexibility to reach the "right fit" solution for customers;

2. Plans for sustainability

3. Strives for easy access to information and referral to assist customers in learning about and using services; and

4. Continuously incorporates customer feedback as services are evaluated and adjusted.

The customized approach of mobility management means no two programs are exactly alike, and a variety of entities, including urban public transit providers and the Sioux Falls MPO, could serve as a mobility manager in a community. Some components commonly found in a mobility management program include, but are not limited to:

1. Partnerships between multiple agencies and organizations;

2. Customer-driven, market-based approach that provides customers with a variety of transportation options through individualized trip planning;

3. One-stop travel information and trip planning centers that provide information on available transportation options and coordinate requests for transportation services. Locally, Helpline Center is a central call center for customers to gain information on available transportation options.

COMPONENTS OF THE COORDINATED PLAN

A variety of tools were utilized to build awareness and solicit input from the public and transportation stakeholders throughout the planning process.

Public Participation and Outreach

A variety of tools were utilized to build awareness and solicit input from the public and transportation stakeholders throughout the planning process. Public participation efforts included:

- A providers and user survey;
- Provider and stakeholder meetings with key community members, including the Public Transit Advisory Board (PTAB), the Urbanized Development Commission (UDC), and the Transportation Coordination Committee (TCC);
- Community presentations, such as stakeholder meetings and open houses, to provide information and gather feedback; and
- Utilization of the Sioux Falls MPO website.

Needs Assessment and Program Design

Coupled with community outreach, successful mobility management practices are sensitive to local and regional transportation needs and build their program around these needs by:

- Listening to the local community;
- Conducting ongoing needs assessments; and
- Designing services and programs to fit the identified needs

Program Evaluation and Assessment

Monitoring and evaluation are important considerations for any mobility management program, especially as funding continues to be constrained for transportation projects and services. Frequent evaluation and assessment is vital to ensure that mobility management programs are addressing the main needs of the community and that funding is going towards the appropriate programming.

Summary of Transportation Services

One of the first steps in this planning process was to collect information on existing transportation services from agencies and organizations that serve the plan's target populations, either through direct transportation services or through the provision of other services. The purpose was to gain a better understanding of the mobility services available to the target populations as well as their unmet transportation needs.

Summary of Strategies

Using the above processes, information is collected on existing transit services, inviting new resources to the table, and gathering survey and feedback from the community, with the goal of assessing the plan's target populations, will help determine transportation gaps and/or needs.

A primary task in the development of the Sioux Falls Coordinated Public Transit-Human Services Transportation Plan was the identification of strategies for seniors and individuals with disabilities. Needs were primarily identified based on information provided by the providers and stakeholders through various means including surveys and meetings. The identified strategies included:

- ✓ Support the Transit Development Plan drafted and approved by the City of Sioux Falls, allowing improved routes, enhances coverage area through implementation on On-Demand transit;

- ✓ Implement transit focused technology for statistics of trip frequency and bus stop frequency, scheduling, fare collection, location tracking, and increased efficiencies;

- ✓ Market and deploy training programs to engage the community and encourage ridership;

- ✓ Engage with community through Social Media venues where available;

- ✓ Encourage State and Regional Transit Systems to help provide options to outlying MPO communities to access transit services within the region;

- ✓ Collaborate with local providers and agencies, such as the Helpline Center, to maintain a current and consistently updated database of transportation options available. Such as:
    - o Public Transit System;
    - o Volunteer driver/car programs;
    - o Non-profit human service providers;
    - o Non-profit transportation providers;
    - o Private transportation providers; and
    - o State focused collaborations to determine transportation gaps.

- ✓ Keep paratransit services parallel to all fixed-route service levels and within ¾ mile of all fixed-route bus services;

- ✓ Implement a community-wide volunteer driver program that agencies can access as a volunteer driver resource;

- ✓ Develop an agency rate structure based on the full-cost allocation models to help off-set agency day trip costs on paratransit;

- ✓ Provide guidance to state and local policy-makers about the specific benefits of human service transportation and public transit and how both play different roles in providing transportation to different rider needs;

- ✓ Start a statewide Human Services Transportation Coordination process. The goals of a statewide coordination process would provide the benefits for all involved in the process.

PLAN APPROVAL

The update to the Sioux Falls MPO Area Coordinated Public Transit – Human Services Transportation Plan was approved by the Urbanized Development Commission of the Sioux Falls MPO on November 9, 2023. The South Dakota Department of Transportation subsequently approved the Plan on _____, 2023. The approval letter can be found in Appendix A.

PURPOSE AND BACKGROUND OF THE COORDINATED PLAN

BACKGROUND

There are numerous different entities in the Sioux Falls metropolitan area, including public agencies, human service agencies, residential facilities, and private companies, involved with planning, funding, and providing transportation services. These services provide necessary mobility and access to employment, education, medical services, recreation/social engagements, and retail services to the region's residents.

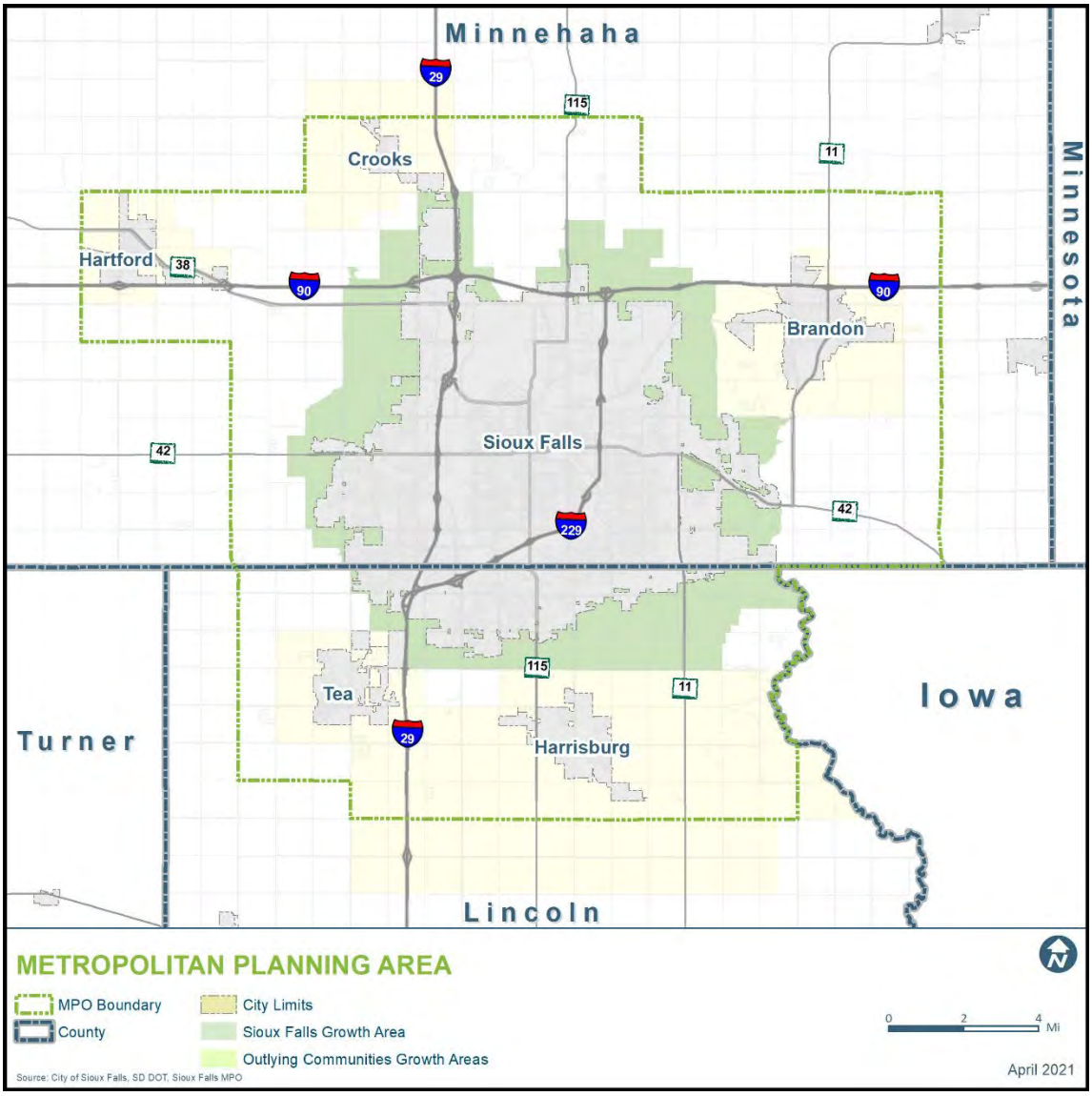
With so many entities involved in transportation services, often serving a specific rider population and purpose, it is common for there to be a duplication of services, underutilization of capital, or inefficient use of resources. Frequently the result is that there are areas and populations of a community that are underserved.

, The Sioux Falls Area Coordinated Public Transit – Human Services Transportation Plan (Coordinated Plan) was last updated in 2018. The plan provided guidance with priorities for coordinated transportation projects including funding decisions for FTA 5310 grants.

This 2023 update to the Coordinated Plan was undertaken to refine the 2018 priorities based upon the results of provider and user surveys completed and analyzed in 2023, the stakeholder and provider meetings held in June 2023 and September 2023, and the public open house held in October 2023.

REGIONAL PROFILE

This Sioux Falls Metropolitan Planning Organization (MPO) planning area includes approximately 321 square miles in southeastern South Dakota, including the Cities of Brandon, Crooks, Harrisburg, Hartford, Sioux Falls, and Tea, as well as portions of Lincoln and Minnehaha Counties.



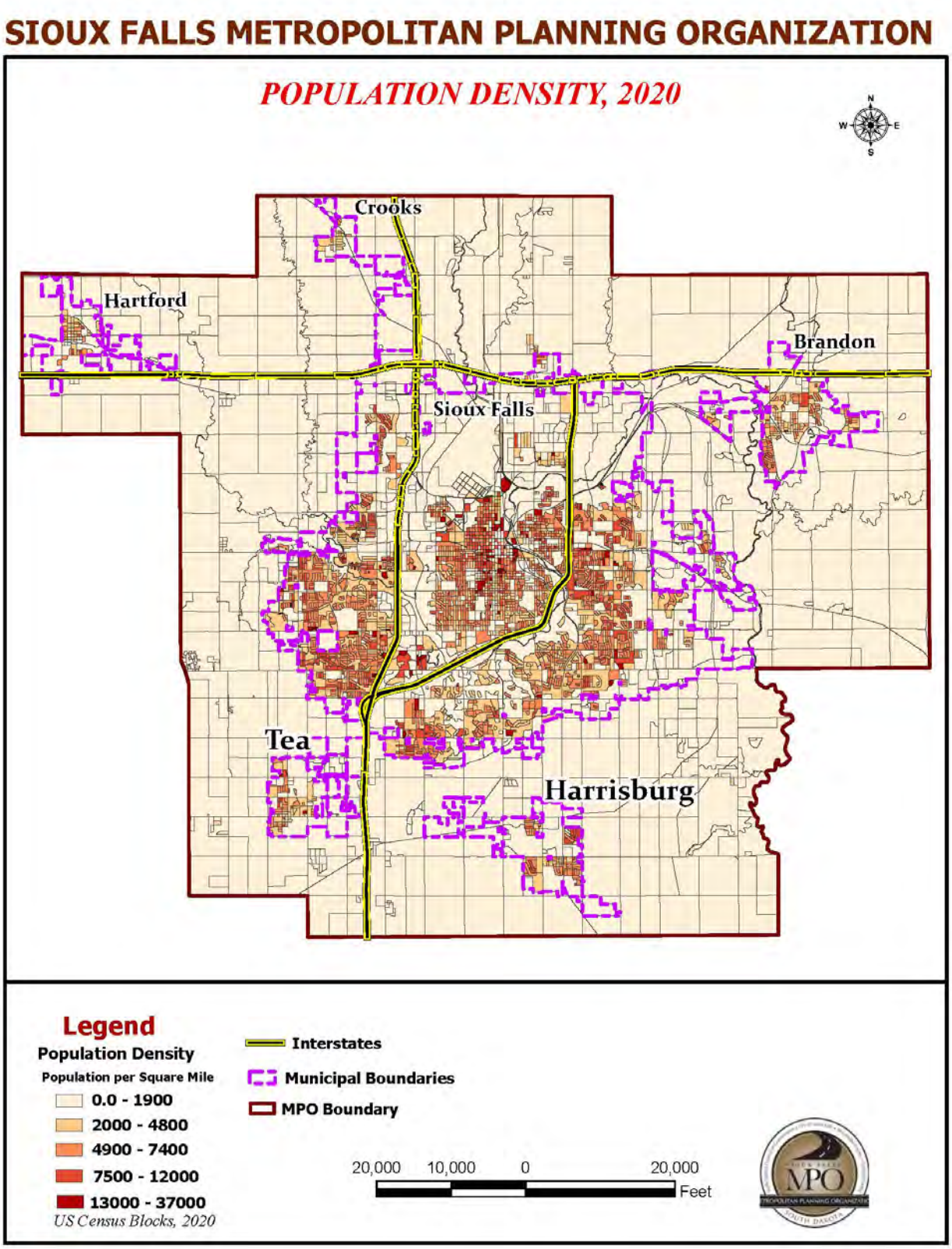
Regional Population Characteristics

One of the greatest determinants of transportation need is total population and population concentration or density. According to the 2020 Census, the total population of the Sioux Falls MPO region is 233,818. The population in the MPO region represents 26% of the total population of the State of South Dakota.

The estimated population of the City of Sioux Falls is 196,528 (2021) which is an increase of 28% over the 2017 population of 153,888. Other communities in the region have experienced strong population growth as well. Most notably, the City of Harrisburg has seen a 17% increase in population since 2018, and the City of Brandon has seen a 12% increase in the same timeframe. The figure below details the population increases for all the communities in the MPO planning area.

MPO Community	2000 Census Population	2010 Census Population	2020 Census Population	2022 Population (Est.)	Population Increase Since 2010
Brandon	5,693	8,785	10,986	11,110	+26.5%
Crooks	859	1,269	1,352	1,364	+7.5%
Harrisburg	958	4,089	6,843	8,451	+106.7%
Hartford	1,844	2,534	3,347	3,376	+33.2%
Sioux Falls	123,975	153,888	193,233	208,884	+35.7%
Tea	1,742	3,806	5,677	6,918	+81.8%

With the exceptions of Brandon, Harrisburg, Sioux Falls, and Tea, the population density is less than 1,009 persons per square mile in the region. The highest density areas (>6,650 persons per square mile) are in the central and east-central portions of the City of Sioux Falls. The map on the following page shows the population density for the Sioux Falls MPO region.


SIOUX FALLS METROPOLITAN PLANNING ORGANIZATION
POPULATION DENSITY, 2020
N
W
E
S
Crooks
Hartford
Brandon
Sioux Falls
Tea
Harrisburg
Legend
Population Density
Population per Square Mile
0.0 - 1900
2000 - 4800
4900 - 7400
7500 - 12000
13000 - 37000
US Census Blocks, 2020
Interstates
Municipal Boundaries
MPO Boundary
20,000 10,000 0 20,000
Feet
MPO

TARGET POPULATION CHARACTERISTICS

The coordinated plan specifically addresses the transportation needs of seniors and individuals with disabilities.

Seniors:

Includes all persons 65 years of age and older.

Based on the 2021 American Community Survey 1-Year Estimates, the population of persons age 65 varies for each community in the MPO region. The two municipalities with the highest percentage of the population age 65 and over are Hartford, with 18.6% of the total population at age 65 or older, and Sioux Falls, with 13.7% of the total population at age 65 or older.

All municipalities in the MPO planning area, except for Hartford, are below the statewide average of 17.6% and the nationwide average of 16.8%. The MPO communities, excluding Hartford and Sioux Falls, range from 10.4% to as low as 2.2% of the total population at 65 years of age or older. The proportion of persons age 65 and older indicates the region has a relatively younger population because of the significant number of people that are relocating to the Sioux Falls MPO area for employment opportunities.

Around the country, census figures have shown that the elderly population is growing faster than the general population nationally. However, for the past 30 years, the Sioux Falls MPO age 65 and over population has remained stable at 9.4% of the total population. Sioux Falls continues to be a destination for people to locate after they retire with two major hospitals and many other clinics and health care options in the community. Regarding senior living opportunities, Sioux Falls has many nursing homes, assisted living and independent living apartments available plus many other housing options including townhomes and twin homes that appeal older and retired populations. The table below shows the percent of population age 65 or older for the Sioux Falls MPO planning area communities.

Percent of Population Age 65 and over – Sioux Falls MPO Area

Location	Population over 65	Percent of Populations
Brandon	1,155	10.4%
Crooks	84	6.2%
Harrisburg	168	2.2%
Hartford	628	18.6%
Sioux Falls	28,617	13.7%
Tea	380	5.5%
South Dakota	160,129	17.6%
United States	55,992,310	16.8%

Individuals with Disabilities:

The U.S. Census details that disability is broadly defined as the consequence of an impairment that may be physical, cognitive, mental, sensory, emotional, developmental, or some combination of these. Disabilities is an umbrella term, covering impairments, activity limitations, and participation restrictions. Impairments may include physical, sensory, and cognitive or developmental disabilities. Mental disorders (also known as psychiatric or psychosocial disability) and various types of chronic disease may also qualify as disabilities. A disability may occur during a person's lifetime or may be present from birth.

Based on the U.S. Census Bureau's 2021 American Community Survey 1-Year Estimates, the Sioux Falls MPO area has a lower percentage of persons with disabilities compared to the nationwide average of 13% and South Dakota statewide average of 12.4%. There are approximately 19,203 individuals with disabilities in Sioux Falls or 9.9% of the total population. Apart from Hartford, the remainder of the MPO planning area has a lower percentage of persons with disabilities.

Percent of Persons with Disabilities in Sioux Falls MPO Communities

Location	Population with Disability	Percentage of Population
Brandon	811	7.3%
Crooks	100	7.4%
Harrisburg	786	9.3%
Hartford	375	11.1%
Sioux Falls	20,680	9.9%
Tea	304	4.4%
South Dakota	112,818	12.4%
United States	43,327,382	13.0%

FEDERAL POLICY ON TRANSPORTATION COORDINATION

A 2003 report issued by the U.S. General Accounting Office (GAO)[1] found that there are more than 60 different federal programs, across nearly a dozen federal departments that fund transportation services for transportation-disadvantaged persons. There is often little or no coordination of services among those that operate the federal programs within the same community.

Following the release of the GAO report, President Bush issued Executive Order 13330 in February 2004. The Executive Order established the Interagency Coordinating Council on Access and Mobility (CCAM) consisting of the secretaries of Transportation, Health and Human

[1] US General Accounting Office, *Transportation Disadvantaged Populations: Some Coordination Efforts Among Programs Providing Transportation Services, but Obstacles Persist,* 2003, 1-5.

Services, Education, Labor, Veterans Affairs, Agriculture, Housing and Urban Development, and the Interior and the Attorney General and the Commissioner of Social Security.

Executive Order 13330—Human Service Transportation Coordination
February 24, 2004

A broad range of Federal program funding allows for the purchase or provision of transportation services and resources for persons who are transportation-disadvantaged. Yet, in too many communities, these services and resources are fragmented, unused, or altogether unavailable.

Federally assisted community transportation services should be seamless, comprehensive, and accessible to those who rely on them for their lives and livelihoods. For persons with mobility limitations related to advanced age, persons with disabilities, and persons struggling for self-sufficiency, transportation within and between our communities should be as available and affordable as possible.

The development, implementation, and maintenance of responsive, comprehensive, coordinated community transportation systems is essential for persons with disabilities, persons with low incomes, and older adults who rely on such transportation to fully participate in their communities.

As a result of Executive Order 13330, the Federal Interagency Coordinating Council on Access and Mobility (CCAM) launched United We Ride (UWR). United We Ride is an initiative that includes 11 federal departments working together to simplify access, reduce duplication, and enhance cost efficiencies in community human service transportation.

In its *Report to the President* (CCAM, 2005a), the CCAM outlines accomplishments over the preceding year, collective actions of the council, and each CCAM member's action plan to enhance human service transportation for older adults, individuals with disabilities of all ages, and people with lower incomes. The report also outlines *five key recommendations* that are targeted to enhance community initiatives in order to build coordinated services at the state and local levels. Those five key recommendations, excerpted from the report, are:

- *Recommendation 1 – Coordinated Transportation Planning*: In order to effectively promote the development and delivery of coordinated transportation services, the CCAM recommends that the Administration seek mechanisms (statutory, regulatory, or administrative) to require participation in a community transportation planning process for human service transportation programs. By promoting shared responsibility for transportation services, joint planning promises increased cost-effectiveness and increased access for consumers by eliminating duplicative efforts and wasted resources.
- *Recommendation 2 – Vehicle Sharing:* In order to reduce duplicate transportation services as well as idle time for drivers and vehicles, the CCAM recommends that vehicles used in human service transportation be made available to other federally funded programs.

- *Recommendation 3 – Cost Allocation:* In order to ensure that adequate resources are available for transportation services for persons with disabilities, older adults and individuals with lower incomes, and to encourage the shared use of vehicles and existing public transportation services, the CCAM recommends where statutorily permitted that standard cost allocation principles for transportation be developed and endorsed by federal human service and transportation agencies.
- *Recommendation 4 – Reporting and Evaluation:* The Council recommends the development of a method to permit cross agency analysis of the effectiveness, efficiency, and progress of States, communities, and tribes toward improved coordination of transportation programs.
- *Recommendation 5 – Consolidated Access Transportation Demonstration Program:* CCAM recommended the development of a single transportation system (not necessarily a single provider) financed through a consolidated federally funded stream would meet the total needs of transportation-disadvantaged populations.

Enacted in 2005, SAFETEA-LU created a requirement that a locally-developed, coordinated public transit/human services planning process be undertaken as a condition of receiving funding for three Federal Transit Administration (FTA) programs directed at meeting the needs of older individuals, persons with disabilities, and low-income persons.

Over the course of the next decade, many communities and states adopted interagency coordination committees and coordination plans. Much of the emphasis was placed on vehicle sharing (Recommendation 2). Sioux Falls also tried vehicle sharing concepts and pilot projects. In all cases, vehicle sharing was not found to be feasible or practical. Recommendation 1 has been implemented in some respects in that coordinated plans have been required for local and regional transportation agencies, but there has been very little in regard to "shared responsibility for transportation services".

Recommendation 4 (Reporting and Evaluation) has only been done at a very basic level with continued data available on local and regional transit ridership, but with very spotty reporting by human service agencies. Recommendation 5 (Transportation Demonstration) has only recently been tried by bringing in a new non-profit transportation provider to Sioux Falls to target agency day trips with LifeScape and DakotAbilities. This demonstration project was successful and has been expanded over the last 4 years. Recommendation 3 (Cost Allocation) has not been considered in South Dakota. Other states are implementing cost allocation models to ensure there are adequate dollars for transportation. In many cases, local and regional transportation providers are asked to provide rides at very low or non-existent cost allocation levels. This plan needs to begin to address cost allocation to find ways to share the cost of human service and public transit in Sioux Falls MPO area and South Dakota.

MPO Area – The State of Transit

Within the Sioux Falls MPO area two rural providers are available. Rural Office of Community Services (ROCS) provide services to the cities of Brandon and Hartford, respectively. Also, private providers are available to provide Medicaid NEMT services especially from area nursing homes or assisted living facilities. Otherwise, transportation services are very limited within the

Sioux Falls MPO area outside of Sioux Falls. This is in part because all the communities have a young median age and low percentage of people with disabilities. However, as the communities grow, provisions should be made to begin to develop a regional transit system that can feed into the Sioux Falls transportation system.

Condition of Urban Transit and Human Service Coordination

Over the past six (6) years, the COVID-19 pandemic had a huge effect on ridership trends. With that came an unprecedented influx of COVID-19 funds. These additional funds provided a great benefit to help transit systems bridge the gap of revenue streams and also provided a huge benefit to capital funding. However, the one-time funding cannott be factored in as a consistent revenue stream. The negative impact of COVID-19 on the urban transit systems and overall private and non-profit transportation ridership has been a factor that cannot be dismissed. While urban public transit ridership overall has been declining in recent years, COVID-19's impact on ridership was significant. The return of riders to urban public transit has been slow, which has increased the urgency to revisit transit with Sioux Area Metro to maintain a sustainable system. Below are the major Sioux Area Metro challenges that must be addressed within the Transit Development Plan:

- Federal funding levels are never adequate; however, 5307 funds (urban operating appropriation) and 5339 funds (capital allowance) have slightly increased with the updated Bipartisan Infrastructure Law. Locally, this reflected an increase of $792,303.58. This was followed by a onetime supplemental funding during the 2020 and 2021 COVID-19 pandemic. The CARES ($7,738,249) and ARP ($3,955,820) funding was applied to operations and capital (buses).
- There have been significant staffing challenges for human service agencies and transit agencies. This has made it very difficult for transit and human services to coordinate with those staffing issues.
- The City of Sioux Falls coordinates with Lifescape, Dakotabilities, and the Sioux Falls School District
- With 4,000 to 7,000 additional people locating in Sioux Falls each year, the demand to update the current transit system is essential. The updated 2023 Transit Development Plan (TDP) addresses the need to update the current transit system.
- Implementation of technology has been a focus for SAM. Technology in the transportation industry has been expanding at incredible rates. This includes ride scheduling software, passenger counters, fare collection, bus tracking (GPS), and surveillance systems. Integrating these tools has been time intensive and financially limiting. The goal of these technologies is to increase efficiencies and

to allow data to drive the service changes to better meet the needs of the passengers.

- Educating, promoting, and marketing the transit system is a continuous process. With ridership for urban systems struggling, the need for transit remains. On a national, state, and local level, the financial investment has not been at levels needed to provide more robust systems. Marketing and education about the public transit systems and public input creates an opportunity to increase ridership. Travel training and videos focused on how to ride public transit may further increase transit ridership.

Transit agencies are required by SDDOT to have Public Transportation Human Services Coordination Plans, but there has been very little engagement, let alone coordination during that time. Most impacts from lack of coordination is experienced within the Paratransit system. Paratransit is a curb-to-curb shared ride transportation service for persons who are, due to their functional limitation(s), unable to use accessible fixed route bus service either some or all of the time. If a person is found eligible for a Paratransit trip, the urban transit system must provide services within one-hour of the person's requested trip time.

Paratransit service ridership in Sioux Falls was extremely high eight years ago when compared to other urban Paratransit systems. In fact, both Rapid City and Sioux Falls consistently had two of the three highest paratransit ridership when comparing 20 urban transit systems (see Sioux Falls Transit Development Plan). Paratransit was established as a parallel method for individuals to use when they cannot always use fixed-route services. Paratransit is expensive method to provide human and social service group trips.

Human services agency trips significantly increase the paratransit operating budget and make it difficult to develop a sustainable long-term transit budget. Coordination with human service agencies and with Community Coordinated Transit Services (CCTS) was implemented to relieve the burden on paratransit. However, the funding for these human services agency trips has been subsidized by the City of Sioux Falls and adds approximately $1.5 million to the overall transit budget each year. The cost of these trips should be studied to determine the appropriate allocation that is carried between human service agencies and the City of Sioux Falls and SAM

To create a more equitable cost share for agency rides, paratransit agency rates should be considered. An agency rate is allowed by ADA regulations for agency group trips. Currently, paratransit struggles to maximize services with limited financial resources. Without an equitable agency fare, federal and state public transit monies are spread out more thinly across transit systems. Therefore, transit agencies may be forced to cut budgets that could then lead to service cuts for all riders if local taxes are not able to cover the additional share.

Agency fares would be a compromise (to be negotiated with the local human service agencies and approved by FTA) so that public transit systems can recover some costs while human service organizations can utilize public transit for a lower cost than would be paid to private providers.

RELATIONSHIP TO THE METROPOLITAN AND STATEWIDE PLANNING PROCESSES

The development and content of coordinated plans are intended to be specific to the transportation needs and issues of an urbanized area or defined region and are to be undertaken to guide the development of projects that address the identified transportation gaps and issues. A coordinated plan is a required element of the Sioux Falls MPO's long-range transportation plan. Coordinated plans may be developed as a part of the long-range transportation planning process or developed separately and then incorporated into the long-range transportation plan. The current long-range transportation plan was adopted in November 2020. The 2023 update to the coordinated plan is being developed separately and will be incorporated into the MPO's 2025 long-range transportation plan through adoption by the MPO's Urbanized Development Commission.

Projects identified through the coordinated planning process and selected for funding through a Federal Transit Administration program must be incorporated into the MPO's Transportation Improvement Plan (TIP) and the Statewide Transportation Improvement Plan (STIP). If the competitive selection process utilized to select projects for funding does not coincide with the development of the TIP/STIP, the TIP/STIP amendment processes will be used to include the competitively selected projects into the TIP/STIP before FTA award.

SUMMARY OF TRANSPORTATION SERVICES

The seniors and individuals with disabilities populations in the Sioux Falls area are served by a variety of transportation entities, each often has its own service area, target population, and unique and widely variable operating parameters. In the region, transportation service providers to seniors and individuals with disabilities include public transit, volunteer driver programs, human service agencies and residential facilities, and private companies.

As described in the Public Participation and Outreach section of this document, one of the first steps in this planning process was a survey of agencies and organizations that serve the plan's target populations, either through direct transportation services or through the provision of other services.

The Underserved Population Survey and Transit Passenger Surveys, included in Appendix B, summarizes the information collected through the user surveys. The analysis provides a breakdown of each question that includes demographic information and the identification of the transportation needs for the user group. Due to the limited number of user surveys that were collected, the analysis was largely based on the surveys completed by the providers.

TRANSPORTATION PROVIDERS INVENTORY

The purpose of a transportation provider inventory is to assist in coordination efforts by identifying possible duplications and gaps in transportation services. Appendix C includes an inventory of available services in the area, including information on the characteristics of the existing public transit, human service agency, and residential facility transportation services

provided by the completed provider surveys. The following is a description of some of the services listed in the inventory.

Public Transit

Brandon City Transit and Hartford Area Transit (ICAP)

Brandon City Transit provides demand response transit service within the City of Brandon. Also, Brandon City Transit specifically provides rides for residents of Bethany Meadows Assisted Living and Helping Hands Assisted Living; both facilities are located in Brandon.

All Brandon City Transit trips must be scheduled 24 hours in advance and requests are made by telephone. The current fare is $2.00 per ride, each way. The system operates Monday through Friday from 8:00 a.m. – 3:30 p.m. Brandon City Transit's fleet includes two 12-passenger wheelchair accessible buses.

Hartford Area Transit (ICAP) provides demand response transit service within Harford and to Sioux Falls with a 10-passenger 2-wheelchair bus. Trips must be scheduled 24 hours in advance. The system operates Monday and Thursday from 8 a.m. to 2:00 p.m. within Hartford and Tuesdays from 8 a.m. to 2:30 p.m. for rides to Sioux Falls. Rides within Hartford have no charge and round-trip rides to Sioux Falls are $14.

Sioux Area Metro (SAM)

Fixed Route Service
Sioux Area Metro's fixed route service is provided Monday through Saturday. The fixed route buses are accessible to people with disabilities. Each bus is equipped with a wheelchair lift or ramp along with two wheelchair securement locations. Sioux Area Metro provides free individualized travel training to assist new passengers in learning how to ride these buses.

Sioux Area Metro operates 12 regular routes each of which provide trip connections to downtown Sioux Falls or to the Southwest Transfer Facility, employment centers, and to numerous neighborhoods and the Sioux Falls School District high schools. Service is available on most routes from 5:45 a.m. to 9:15 p.m. Monday - Friday, and from 7:45 a.m. to 12:00 p.m. on Saturday. Service is available weekday evenings until approximately 9:00 p.m. on five routes.

Paratransit Service
Those not able to access a bus stop on the fixed-route system due to a functional disability may be eligible for paratransit service. Sioux Area Metro Paratransit is a curb-to-curb shared ride transportation service for persons who are, due to their functional limitation(s), unable to use accessible fixed route bus service. Passengers must be certified eligible per guidelines established in the Americans with Disabilities Act (ADA).

Bike and Bus Program
Sioux Area Metro also offers the Bike and Bus Program, allowing riders to bike to any bus stop and then put their bike on the bus to take with them to any other stop. The rider can then complete the remainder of their trip on their bike.

SAM On-Demand
Sioux Area Metro allows riders to book rides for Saturday bus services. Riders may schedule a ride between any two Sioux Area Metro bus stops. When requesting a ride, the rider may either choose a pick-up time or a drop-off time to best fit the rider's schedule.

The Pass-It-On Program
Sioux Area Metro provides 40,000 one-ride passes to the Minnehaha County Human Services Department as the Pass-It-On Program. The Pass-It-On program provides free courtesy bus passes to individuals that are experiencing economic difficulties and cannot afford to pay for a bus pass themselves. The intent of the program is to assist individuals in becoming self-sufficient and thus no longer needing assistance from social service agencies. The bus pass is distributed to several human and social service agencies in Sioux Falls.

Kids Ride Free Program
Sioux Area Metro allows anyone between ages 11-18, with a current school ID or Freedom Pass, to ride the bus for free. Anyone under the age of 10 is allowed to ride the bus for free without a school ID or Freedom Pass, so long as they are accompanied by an adult. This program is available during weekday services, SAM On Demand, and for paratransit services.

Volunteer Driver Programs

Active Generations/Workers on Wheels

Active Generations is a non-profit agency that provides a wide range of services for seniors including transportation. Active Generations' Workers on Wheels program is a program in which volunteer drivers provide transportation for eligible seniors to medical appointments and grocery shopping. Eligibility requirements include that the client must be at least 60 years old, unable to pay for professional services, and have no family available to assist. The volunteer drivers use their own vehicles to provide this service. Workers on Wheels is supported by the Sioux Empire United Way.

Disabled American Veteran's (DAV)

DAV van resources work with the local Veterans Affairs to provide transportation for veterans to and from veteran health care centers for scheduled medical appointments. Funding for the program is provided through a veterans' grant program and private funding. Volunteers do all the driving for the program. DAV can only provide services to ambulatory passengers.

Project C.A.R.

Project C.A.R. is a non-profit transportation agency that provides transportation services primarily for seniors to health appointments, church services, and volunteer assignments using volunteer drivers. Transportation services are provided to participants of sponsoring agencies, such as the Senior Companion Program, and other agencies that contract with Project C.A.R. on a trip-by-trip basis. The volunteer drivers provide transportation using Project C.A.R.'s fleet of vehicles. Project C.A.R. is funded through revenue from sponsors, contracts, and fundraisers.

Project C.A.R. provides site-to-site transportation to individuals with associated sponsoring agencies and churches going to specific sponsor activities. All rides must be scheduled one week prior to the appointment.

Non-profit providers

Community Coordinated Transportation Systems (CCTS) is a nonprofit "on-demand" public transit provider that provides nonambulatory and ambulatory transportation services to Dakotabilities, Lifescape, and the general public in the Sioux Falls area, as well as the rest of South Dakota. Passengers are able to book their trips during regular business hours.

Community Support Providers

There are four community support providers providing transportation services in the MPO region to their clients including DakotAbilities, LifeScape, Southeastern Behavioral, and Volunteers of America (VOA). Each agency provides different levels of transportation depending on transportation assistance needs. DakotAbilities and LifeScape frequently utilize Paratransit for agency day trips and Southeastern Behavioral occasionally utilizes Paratransit. VOA typically only transports their clients with their transportation system.

Nursing Homes and Assisted Living Facilities and Residential Facilities

There are several elderly housing facilities that provide limited transportation services to their clients including the following:

- Touchmark at All Saints
- Dow Rummel Village
- Southridge Healthcare Center
- Trail Ridge Senior Living
- Sunnycrest Village
- Good Samaritan Society – Multiple facilities
- Avera Prince of Peace
- Bethany Lutheran – Brandon
- Helping Hand - Brandon
- Touchmark at All Saints
- Cayman Court Assisted Living
- StoneyBrook Suites
- The Inn on Westport
- Ponderosa Lodge Senior Living
- Meadows on Sycamore

Transportation of their clients may also include private providers and paratransit.

Private Companies

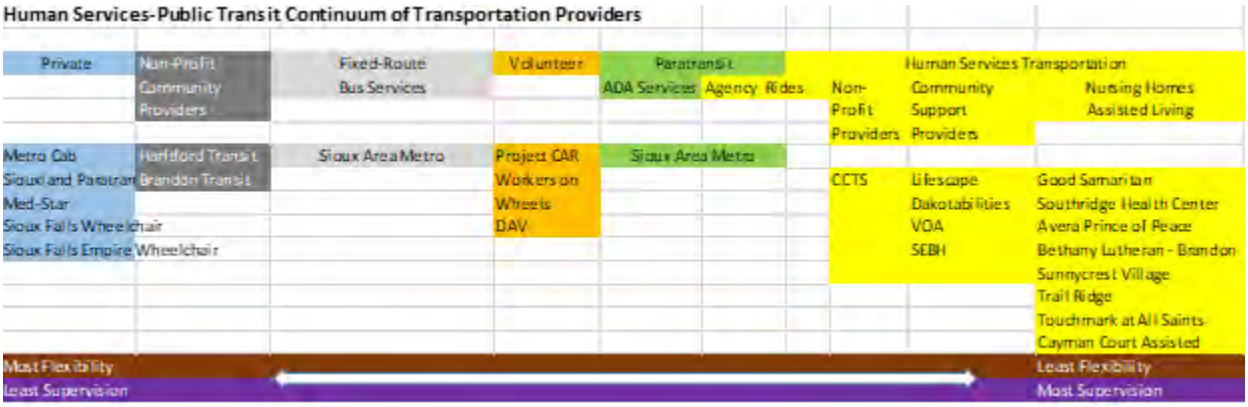
There are also several private transportation providers in the MPO region that provide services to individuals with disabilities and seniors. The private providers include several taxi/wheelchair transport companies with varying rates and hours of service without an advanced reservation requirement. Private transportation providers include: Lyft, Uber, SiouxLand Paratransit, Sioux Falls Wheelchair Transit Plus Inc., Sioux Empire Wheelchair Transit, and Med-Star Transit, Metro Cab, and Sioux Falls Taxi Services.

Other Transportation Providers

Other organizations in Sioux Falls that provide some transportation services for seniors or people with disabilities includes EmBe, Children's Inn and Glory House.

Continuum of Transportation Providers

The Sioux Falls MPO area has a continuum of transportation providers in the area. The providers can be categorized by different levels of supervision and by different levels of flexibility in travel destinations. Private providers such as taxis and Lyft provide great flexibility in destinations and no supervision. However, most of the target population for the Coordinated Plan cannot afford those services unless Medicaid or another subsidy is included. Sioux Area Metro fixed-route services provide very little supervision of a rider's needs but allow for riders to choose many different route destinations at a moment's notice, but the service area within the city is limited. On the other end of the spectrum, human service transportation requires significant levels of supervision to maintain the health and safety of the person. Paratransit requires more independence to ride except when it is an agency trip which has caused confusion and difficulty in providing appropriate levels of supervision and cost reimbursement.



SUMMARY OF NEEDS AND GAPS

During the provider and stakeholder meeting held on June 21, 2023, a brief overview was given on the FTA 5310 program, coordinated planning, and results from the 2018 provider and user survey, and available transportation services. Discussion began with the identification of transportation needs for senior and individuals with disabilities. The attendees identified the following transportation needs and gaps for individuals with disabilities and seniors:

1. No transit routes to specialty hospitals south of 57th/69th street.
2. Calling in to schedule a ride for a person that is hard-of-hearing might be difficult or make them feel like a burden.
3. Vulnerable members of the community might struggle to learn new technology or might not have technology available to ride transit.
4. Fixed routes do not always go where they need to go or might not go frequently enough to get people to their destinations on time.
5. Wheel-chair express is no longer accepting Medicaid, which causes a major struggle for people to access rides and transportation.
6. Seniors and individuals with disabilities might not have the ability to get to bus stops.
7. Lack of knowledge regarding applications and technologies that is available for people to schedule rides.
8. Lack of drivers is causing issues getting transit to individuals with disabilities and seniors.
9. Low-income populations might not have money to pay for transit.
10. There is a need for disability awareness for transit drivers.
11. Bus shelters are not available everywhere, which negatively impacts individuals with disabilities and senior citizens.
12. Rides do not run late enough, individuals with disabilities and seniors are unable to go to late night events in downtown because transportation is unavailable.
13. Veterans have issues getting on buses due to ID cards.
14. Keep transit options available during events to promote inclusiveness.
15. Getting to and from work is a struggle because people do not know how to ride the bus and travel training would help.
16. Bus stops are not close enough to places where resources are located for individuals with food insecurities.

The needs and gaps identified at the stakeholder meeting were helpful in providing additional guidance to issues and strategies.

A second stakeholder meeting was held on September 11, 2023. During the second stakeholder meeting, a brief overview was given on the FTA 5310 program, coordinated planning, and goals for the plan. Discussion focused on possible solutions to the transportation needs and gaps identified:

1. A centralized location to book rides and receive transit information – for public, private, and non-profit options.

2. Collaborating with local businesses to suggest volunteering time as drivers for non-profit organizations.
3. Promote ride shares.
4. Expand SAM and Paratransit footprint around the Sioux Falls MPO area.
5. Automatic voice announcements on buses and at bus stops; promote multiple languages for automated voice announcements.
6. GPS location tracking.
7. Consistent Ride Call notifications.
8. Improve texting notifications for road closure impact on buses and fare payment systems.
9. Ability to schedule rides using technology or utilized other non-verbal methods.
10. Update SAM training videos.
11. Desire for board members and elected officials to ride and be trained on fixed-route and paratransit.
12. Hands-on travel training for groups and individuals based on their needs.

PUBLIC PARTICIPATION AND OUTREACH

During the development of the 2023 update to the Coordinated Plan, a public participation process was undertaken to build awareness and solicit input from the public and transportation stakeholders. The public participation process was governed by two sets of guidelines. First, the planning process followed the public participation guidelines as outlined in the Public Participation Plan for the Sioux Falls MPO. In addition, the planning process conformed to FTA regulations. MAP-21 requires that the plans be "developed and approved through a process that included participation by seniors, individuals with disabilities, representatives of public, private, and non-profit transportation and human service providers and other members of the public."[2]

The public participation plan approved by the Sioux Falls MPO on May 11, 2023, had five primary components, which are listed below:

- Provider and User Surveys;
- Provider Stakeholder Meeting;
- MPO Committee Meetings;
- Public Open House (held on October 12, 2023); and
- Sioux Falls MPO Website.

COMPONENTS OF THE PUBLIC PARTICIPATION PLAN

Underserved Population Survey

To gain updated information on the mobility services available to the target populations, as well as their unmet transportation needs, surveys were conducted of service agencies, private companies, and transportation users across the region. The user survey questions focused

[2] Chapter 53 of Title 49, United States Code, as Amended by MAP-21, Section 5310.

primarily on the transportation services used, how transportation services are accessed, and the user's unmet transportation service needs, and a summary of the user survey results is provided below.

Underserved Population Survey Results[3]

- Most survey respondents are able to utilize transportations services either some of the time or never (53%).
- Most survey respondents have used public transit within the City of Sioux Falls (69.5%).
- Most survey respondents travel at least once per week for grocery stores (85.2%), general shopping (67.0%), employment (61.6%), and recreation (46.3%).
- Most survey respondents list the overall transportation system as poor (39%) or average (33%).
- People are more likely to use public transit if they could get real-time information about the location of buses (73%) and if buses were scheduled more frequently (71%).
- Most respondents use their own personal vehicle to travel around the area (70%).
- Most of the general comments requested additional services and expanded hours.

The full underserved population survey responses are provided in Appendix B.

Provider Stakeholder Meeting

A stakeholder meeting was conducted during the planning process to obtain information and input from existing transportation providers and stakeholder agencies (those that serve one or more of the target populations and/or indirectly support transportation services). The meeting was held on June 21, 2023, at the Siouxland Downtown Library. Information on the 2023 Coordinated Plan was presented, a facilitated discussion on coordination was held, and provider surveys were completed during the meeting at which a mix of both providers and stakeholders attended.

Coordination Plan Open House

A draft of the plan was provided for public review and comments were solicited during an open house at the Downtown Public Library on October 12, 2023. Also, plan comments were taken by e-mail and phone. During this time, a few written and verbal comments were received and are noted below. The comments were addressed in the final coordination plan with the current Coordinated Plan or land use strategies, but limited resources make it difficult to find implementation methods. Other comments will be noted for future Coordination Plan updates.

The following is a summary of the input obtained at the open house or through written comments:

- Expand transportation opportunities to areas outside of downtown Sioux Falls;
- Continue working with school districts and other entities to provide travel training to those who need it;

[3] Due to the limited amount of user surveys completed, results are suggestive rather than representative of the target populations of interest.

- Expand fixed-route services to hospital and medical facilities that are south of 57th street;
- Consistent meetings between MPO staff, community representatives, and stakeholders to discuss new needs and barriers as they arise in the community.

UDC Transportation Coordination Committee

One meeting was held with the UDC Transportation Coordination Committee to review the survey results and gather input on the draft update to the Coordinated Plan from the committee's members, which include transportation providers and stakeholders, on _____, at the South Eastern Council of Governments.

Sioux Falls MPO Website

A draft of the update to the Coordinated Plan was made available for comment via the Sioux Falls MPO website at https://siouxfallsmpo.org/resources/mpo_plan_development/coordinated_plan.php. Emails requesting review of the draft and comments, including a link to the website, were also sent out to the providers and stakeholders.

STRATEGIES, ACTIVITIES, AND PROJECTS

OVERVIEW

Based on the needs and gaps identified in the previous section, strategies, activities, and projects were identified based on resources (from multiple sources), time, and feasibility for implementing specific strategies and/or activities identified. The strategies, described further in this section, included the following:

1. Coordination of Fixed-Route Services
2. Coordination of MPO Area Providers
3. Coordination of Private Transportation
4. Coordination of Volunteer Transportation
5. Coordination of Human Service Transportation
6. Coordination of Paratransit Transportation
7. Coordination of All Transportation Providers

ISSUES

The following issues have been compiled through public input sessions including stakeholder groups and interviews and provider and user surveys. The issues are then used to help determine goals and strategies.

<u>Fixed-Route Bus Services Issues</u>

- Limited service area within the city of Sioux Falls limit the number of destinations that residents can reach.
- Limited service hours create problems for riders to rely on the service for many of their trips.
- Reduced federal funding for capital has made it difficult to budget for the future and create a sustainable system.
- Public transit has a very limited ability to raise funds through fares.
- Fixed-route service has struggled to have people understand how to use the system.
- Fixed-route service is viewed as scary and dangerous.
- Decreasing ridership was exacerbated by COVID-19 over the past few years and is just starting to recover.
- Prior to COVID-19, driver shortages started to become an issue withing the Sioux Falls MPO area which was then exacerbated by COVID-19.

<u>Fixed-Route Coordination Issues</u>

- Sioux Area Metro and human services agencies need to find ways to better coordinate with one another to find ways to integrate people with developmental disabilities onto the fixed-route system.
- The State of South Dakota and human service agencies need to find ways to break down barriers to riding the fixed-route bus service including fear and anxiety.
- Public policy makers at the city and state need more guidance about who is using public transportation and current challenges utilizing public transportation.

MPO Community Transportation Providers Service Issues

- Very limited service in areas outside of Sioux Falls. Areas that have transit services are limited in hours and local control.

MPO Transportation Providers Coordination Issues.

- Opportunity for services with local partner agencies across all ages and services.

Private Transportation Providers Service Issues

- Limited ability to provide rides at an affordable rate.
- Only NEMT Medicaid is available as a subsidy to provide rides to seniors and persons with disabilities.
- Private transportation has significantly changed over the past 5 years with much fewer taxi and other private transportation providers with the emergence of Transportation Network Companies (TNCs). Sioux Falls has both Lyft and Uber services which are convenient for users but tend to be expensive for seniors and people with disabilities.

Private Transportation Providers Coordination Issues

- Private transportation has not always been involved in transportation coordination. New areas are emerging with Private Transportation Providers to coordinate with nonprofit entities, such as Helpline Center, to provide services.
- Private transportation may have limited ability to comply with FTA requirements if used for a project.
- Private transportation might not have local representatives that can participate in coordination efforts with local entities.

Volunteer Transportation Service Issues

- Limited volunteers prevent Project C.A.R. and Workers on Wheels from expanding services.
- New practices or methodologies have not been implemented to deploy efficient volunteers.

Volunteer Transportation Coordination Issues

- The community does not take ownership of the volunteer driver shortage.
- Coordination between the agencies that need the volunteer transportation services and the providers should include discussion about the need for volunteers to address the driver shortage.

Paratransit Service Issues

- It is important to understand that under the ADA, paratransit functions as a “safety net” for people whose disabilities prevent them from using the regular fixed route transit system. It is not intended to be a comprehensive system of transportation that meets all the needs of persons with disabilities. By statute, complementary paratransit must be

provided at a level of service that is comparable to that provided by the fixed-route system.

- Paratransit funding should first and foremost be used for public transportation rides. FTA requirements provide that only after needs of public transit riders are met, can federal transit funds then be used to meet the transportation needs of other federal programs (e.g. Medicaid supported agency programs), provided that this use does not interfere with the public transit system. There cannot be a reduction in the service quality or availability of public transit as a result of transporting human service clients.
- Too many times paratransit is operating as a "natural support" for agency transportation and to a lesser degree nursing home transportation.

Paratransit Coordination Issues

- Paratransit and human service agencies do not coordinate on level of supervision required of some agency trips.

Human Service Transportation Service Issues

- Limited ability to train and fund drivers.
- Limited ability to transport non-ambulatory (wheelchair) riders because of expense of the vehicle and the difficulty in funding a trained driver with a CDL.
- Limited state and federal operational funding to transport clients.

Human Service Transportation Coordination Issues

- With a need to create more independent employment and transportation options for people with developmental disabilities, fixed-route services should be looked at first as a travel option. Paratransit should not be used as an agency support, but rather as an individual trip option when fixed-route will not work.
- There is very limited ability to develop community integration with human service transportation trips. A coordinated transportation provider such as CCTS would have that ability if coordination with the agencies allowed for integrated shared rides with other agency or nursing home or medical riders.
- A coordinated transportation system has not been developed to its potential in Sioux Falls. There is a potential to develop a fully coordinated system in which the many human service agencies (nursing homes, developmental disabilities, etc.) purchase service to safely transport its clients with appropriate supervision.

GOALS AND STRATEGIES

Listed on the next several pages are the identified strategies for implementation based on resources, time, type of service and feasibility for implementing specific strategies and/or activities identified.

Coordination of Fixed-Route Services

Overall Goal: Increased utilization and improved perception of the public transit fixed route system through the utilization of the existing SAM travel training materials and involvement of human service agencies.

Strategies:
- ✓ Work to implement the strategies of the Sioux Falls Transit Development Plan
- ✓ Develop travel training sessions as a major marketing effort that engages the community and help train new and potential riders.
- ✓ Implement a buddy system program for new and potential fixed-route riders by working with human service agencies to offer family training events and rider incentives to try a buddy system or other intensive travel training program.
- ✓ Continue agency programs to offer free and/or reduced cost bus passes (Pass-It-On Programs) for low-income clients to access the fixed route system and look for opportunities for community contributions to help augment the program.
- ✓ Cultivate community partnerships to expand funding.
- ✓ Update technology on the fixed-route system including Real-time GPS, and contactless payment systems to encourage more people to ride.
- ✓ Encourage development of affordable housing where existing transit service is available.
- ✓ Develop information to share with federal, state, and local public policy makers about the benefits provided by public transit.
- ✓ Improve the ability of human service agencies and others to access travel training opportunities for fix-route services.

Responsible Agency: Sioux Area Metro
Type of Service to Improve: Sioux Area Metro Fixed-Route Bus Service

Coordination of MPO Area Providers

Overall Goal: Expansion of a coordinated community transportation system throughout the MPO planning area to provide a connection between the smaller communities to employment and services within the City of Sioux Falls. This priority is considered a mid-term to long-term priority as it would require a considerable amount of resources that are not adequately available for all communities within the MPO area at this point. However, as resources become available, the following should be considered:

Strategies:
- ✓ Work with MPO school districts and Teachwell to develop and provide a travel training program to have student learn how to ride the bus in Sioux Falls and also within their community.
- ✓ Encourage vanpool service and other non-profit provider, such as Brandon and ICAP Transit, to connect ambulatory and non-ambulatory residents of the smaller MPO communities to fixed route and paratransit service in Sioux Falls. The connections could potentially be made at predetermined and coordinated locations that work most appropriately for each transit agency. Work with ROCS Transit (Brandan and Hartford) to expand services within the communities and connect to Sioux Falls.

- ✓ Work with other MPO communities to develop transit system options within MPO communities including to Sioux Falls.

Responsible Agency: UDC Transportation Coordination Committee and SECOG, MPO City Governments, and Non-Profit Transportation Providers.
Type of Service to Improve: Non-Profit Transportation

Coordination of Private Transportation

Overall Goal: Leverage Private Transportation services to assist when public and non-profit services are unavailable.

Strategies:
- ✓ MPO City Governments and private transportation providers should explore voucher service options when additional services are required beyond the Sioux Area Metro service area.
- ✓ The TCC and private providers should explore grant and community giving options for voucher services in a partnership with private transportation providers.
- ✓ Transportation Network Companies (TNC) and MPO City Governments should explore voucher programs that allow for mileage or fee reimbursement for transportation providers who give rides to residents with disabilities or senior citizens.

Responsible Agency: UDC Transportation Coordination Committee, MPO City Governments, and Private Transportation Providers.
Type of Service to Improve: Private Transportation Providers

Coordination of Volunteer Transportation

Overall Goal: Find methods to expand volunteer transportation services as an affordable and flexible transportation option.

Strategies:
- ✓ Encourage and develop a community-wide volunteer driver program that agencies can access as a volunteer driver resource.
- ✓ Encourage agencies to enter into contracts with Project C.A.R. to provide medical and work trips rather than beginning new transportation services.
- ✓ Coordination should include discussion about the need for volunteers to address the volunteer driver shortage.

Responsible Agency: UDC Transportation Coordination Committee and Volunteer Transportation Providers.
Type of Service to Improve: Volunteer Transportation (i.e. Project CAR and Workers on Wheels)

Coordination of Human Service Transportation

Overall Goal: Find transportation strategies to balance the needs of seniors and people with disabilities that includes safe and improved independence through a sustainable transportation system.

Strategies:

- ✓ Work with the State of Coordinated Planning process to develop other transportation options for seniors and people with disabilities.
- ✓ Complete a full-cost allocation study to help determine the cost of transportation for human service transportation whether through Paratransit, human service agencies or private providers.
- ✓ Assist human service providers to provide the safest and most cost-effective transportation option possible based on the needs of the agency.
- ✓ Assist human service providers to secure funding when the agency is required to utilize their own transportation services.
- ✓ Coordinate with human service agencies with options to integrate their clients into the community with the most appropriate transportation option possible.
- ✓ Continue coordination opportunities for non-profit transportation services between CCTS and other non-profit transportation and human service agencies.

Responsible Agency: UDC Transportation Coordination Committee, Human Service Agencies, and Non-Profit Transportation Providers
Type of Services to Improve: Human Service Transportation and Non-Profit Transportation.

Coordination of Paratransit Transportation

Overall Goal: paratransit functions as a "safety net" for people whose disabilities prevent them from using the regular fixed route transit system. Complementary paratransit must be provided at a level of service that is comparable to that provided by the fixed-route system.

Strategies:

- ✓ Keep paratransit services parallel to all fixed-route service levels and within ¾ mile of all fixed-route bus services.
- ✓ Continue to identify opportunities to move agency day trips to CCTS.
- ✓ Investigate through private or non-profit providers the development of a voucher program for trips outside the operating times and ¾ mile area of paratransit.
- ✓ Improve the technology of paratransit for scheduling and payment systems.
- ✓ Develop an incentive program where paratransit riders can gain free rides on fixed-route services when trying fixed-route travel training.
- ✓ Partner with Community Campus, DakotAbilities, and LifeScape to do family transportation days to allow families to learn about all transportation including fixed-route, paratransit and community transportation options.
- ✓ Assess people's travel training potential through Paratransit assessments.

Responsible Agency: Sioux Area Metro and City of Sioux Falls
Type of Service Targeted: ADA ambulatory and non-ambulatory services

Coordination of All Transportation Providers

Overall Goal: Foster a more efficient, effective, and seamless Sioux Falls MPO transportation system by focusing on the following coordination strategies.

Strategies:

- ✓ Provide guidance to state and local policy-makers about the specific benefits of human service transportation and public transit and how both play different roles in providing transportation to different rider needs.
- ✓ TCC assumed the role of soliciting applications for the FTA Section 5310 funds allocated for the Sioux Falls urbanized area and recommending projects for funding to the State. This allowed greater influence in ensuring that the funds are used for projects that complement the priorities of this plan, in a coordinated manner, to fulfill the needs stated in this plan. TCC continues to make recommendations to the State for FTA Section 5310 projects.
- ✓ Support the statewide Human Services Transportation Coordination process. The goals of a statewide coordination process would provide the following benefits for all involved in the process.
    - o A level of awareness of transit service-levels and cost changes that are projected allowing state agencies to plan services and inform clients.
    - o Opportunities for transit coordination projects that if funded cooperatively could maintain and even expand ridership levels for an entire community and/or region of the State.
    - o Prioritizing state and federal transit dollars to assist with coordinated transit projects that provide coordinated services.
- ✓ Seek out non-federal funding sources such as the medical community, employers, colleges, and non-profit community organizations such as United Way to provide assistance to the consolidated non-profit transportation provider.

Responsible Agency: UDC Transportation Coordination Committee, MPO City Governments, Sioux Area Metro, Human Service Agencies, Non-Profit Transportation Providers, Private Transportation Providers, and Volunteer Transportation Providers
Type of Services to Improve: Sioux Falls and MPO Public Transit Agencies, Human Service Transportation, Non-Profit Transportation, Private Transportation, and Volunteer Transportation.

CONCLUSION

The fundamental purpose of a locally developed public transit - human service transportation coordination plan is to identify transportation needs within a community and connect them with strategies. The previous section identifies the strategies, responsible agencies, and types of service to improve. Transportation providers and stakeholders in the Sioux Falls MPO region should refer to these strategies during the consideration of transportation service projects and the application of funding to support those projects.

SDDOT Approval Letter

PROVIDER AND USER SURVEY

Sioux Falls Metropolitan Area LRTP Market Research Study

Survey of Traditionally Underserved Populations

Summary Report

Conducted for

the South Eastern Council of Governments

by

ETC Institute

September 2023

Contents

Sioux Falls Metropolitan Area LRTP Market Research Study
Survey of Traditionally Underserved Populations
Executive Summary

Overview

ETC Institute conducted a survey of traditionally underserved populations during the summer of 2023. The survey was administered to 203 persons who met one or more of the following criteria: had a physical disability, were the caretaker of someone with a cognitive disability, lived in poverty, were not able to speak English, did not have access to a vehicle, or were homeless. The survey was administered by ETC Institute with assistance of agencies who provide support to these population groups in the Sioux Falls area. The survey of traditionally underserved populations was designed to ensure that the needs of these groups were adequately represented in the region's 2023 Long Range Transportation Plan Market Research Study.

This section of the report contains:

- a brief summary of the survey methodology and major findings
- charts depicting the overall results of the survey
- tables that show the results for all questions on the survey
- a copy of the survey instrument

Major Findings of the Traditionally Underserved Populations Survey

- **Overall Satisfaction with the Region's Transportation System Has Decreased Since 2019.** In 2019, 27% of the respondents surveyed rated the region's transportation system as "excellent" or "good"; this number declined in 2023 to 20%.

- **Transportation Services Respondents Were Most Satisfied With.** The aspects of the region's transportation system that respondents were most satisfied with, based upon a combined percentage of respondents who were "very" or "somewhat satisfied," were:

  - Maintenance of interstates and highways around Sioux Falls (73%)
  - Ease of travel by car to/from Sioux Falls and other communities in the area (67%)
  - Adequacy of traffic signage along city streets and highways (57%)
  - Ease of travel by car from one side of Sioux Falls to the other (50%)

- **Transportation Services That Were Most Important.** The aspects of the region's transportation system that respondents felt were most important were: 1) the maintenance of streets in Sioux Falls, 2) the availability of public transportation in Sioux Falls, and 3) the ease of travel from one side of Sioux Falls to the other.

- **Top Priorities for Transportation Improvements in the Sioux Falls Metropolitan Area.** Based upon a combined percentage of respondents who rated these items as "very high" or "high" priorities, the items that respondents felt should be the top priorities for improvement over the next 20 years were:

  - Improving transportation for seniors/person with disabilities (93%)
  - Improving public transportation inside the City Sioux Falls (81%)
  - Improving/adding public transportation outside Sioux Falls (73%)

- **Transportation Improvements Respondents Were Most Willing to Fund With Their Tax Dollars.** The four transportation improvements that respondents were most willing to fund with their tax dollars were:

  - Improving transportation for seniors/person with disabilities
  - Improving public transportation inside the City of Sioux falls
  - Improving east-west roads in the City of Sioux Falls
  - Improving/adding public transportation outside Sioux Falls

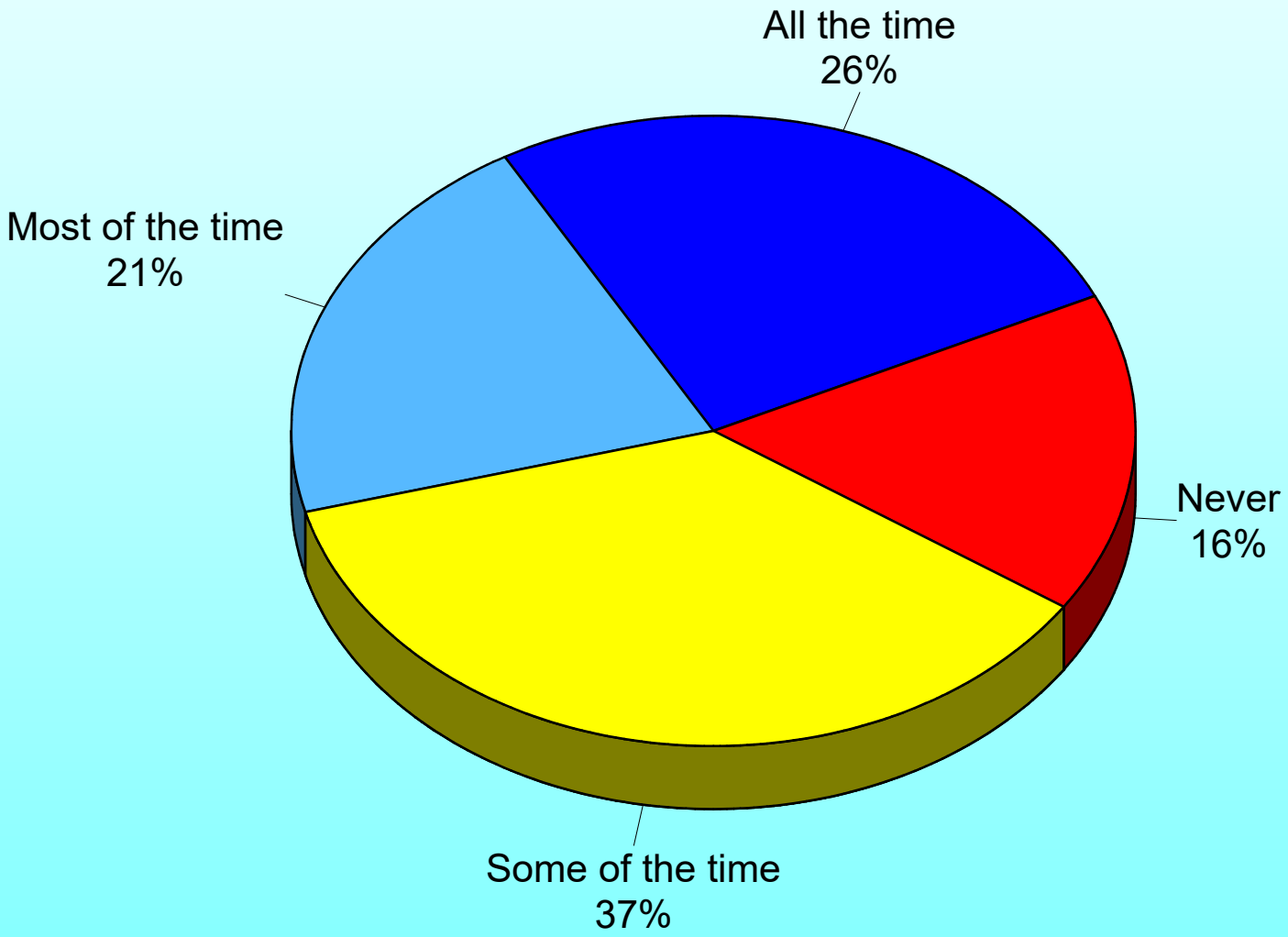
- **Public Transportation.** More than two-thirds (69%) of respondents indicated that they had used public transportation inside the City of Sioux Falls. The situations under which respondents were most likely to use public transportation, based upon a combined percentage of "very likely" and "likely" responses, were: if they could get real time information about the location of buses (73%) and if buses are scheduled to arrive more frequently (71%).

- **Sources of Information.** The top two ways that respondents felt it would be best to keep them informed about transportation improvements were: 1) television news and 2) social networks.

Section 1:
Charts and Graphs

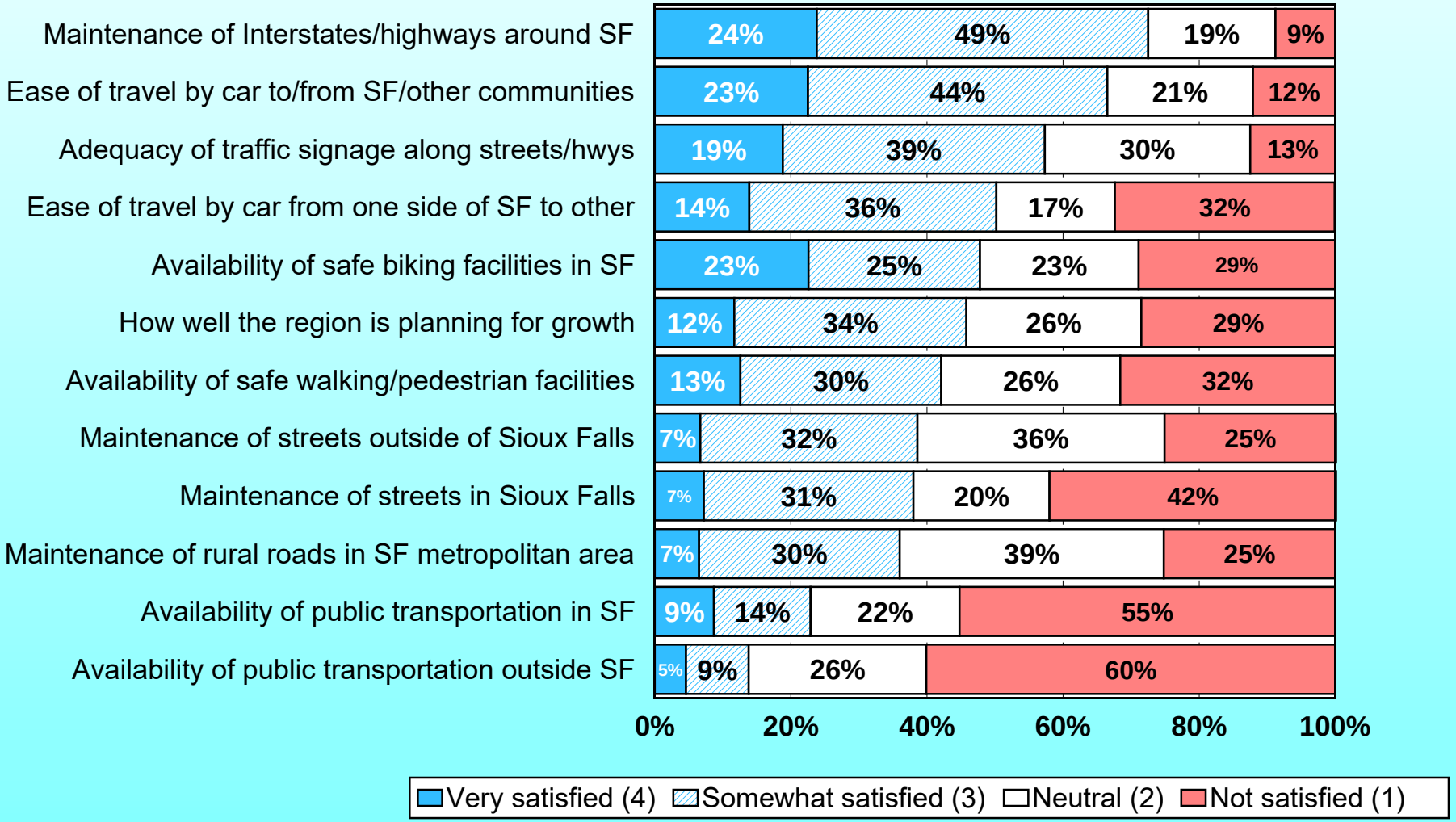
Q1. How often are you able to utilize transportation services that fit your travel needs?

by percentage of respondents (excluding "not provided")



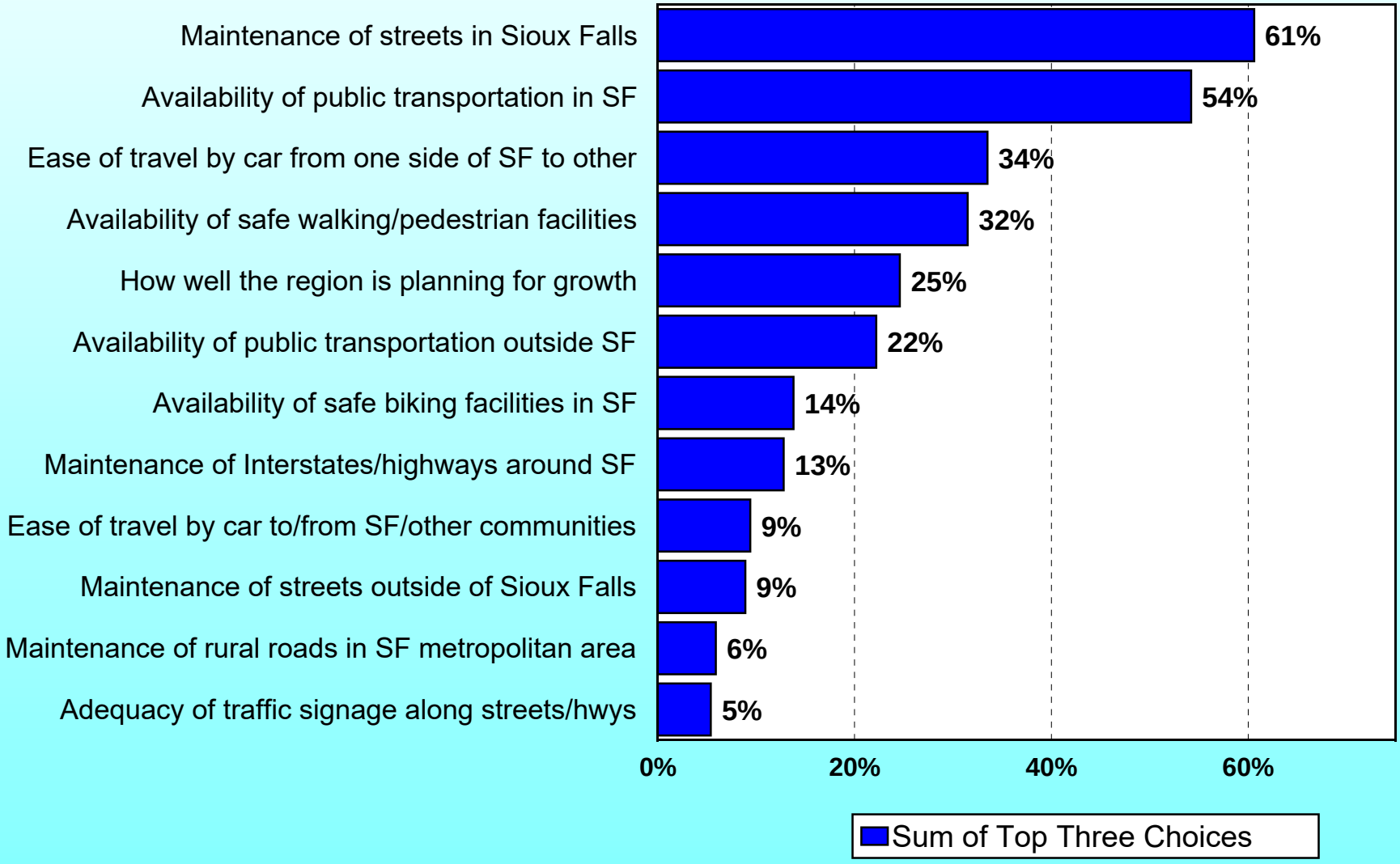
Q2. Satisfaction With Various Aspects of the Transportation System in Sioux Falls

by percentage of respondents (excluding "don't know")



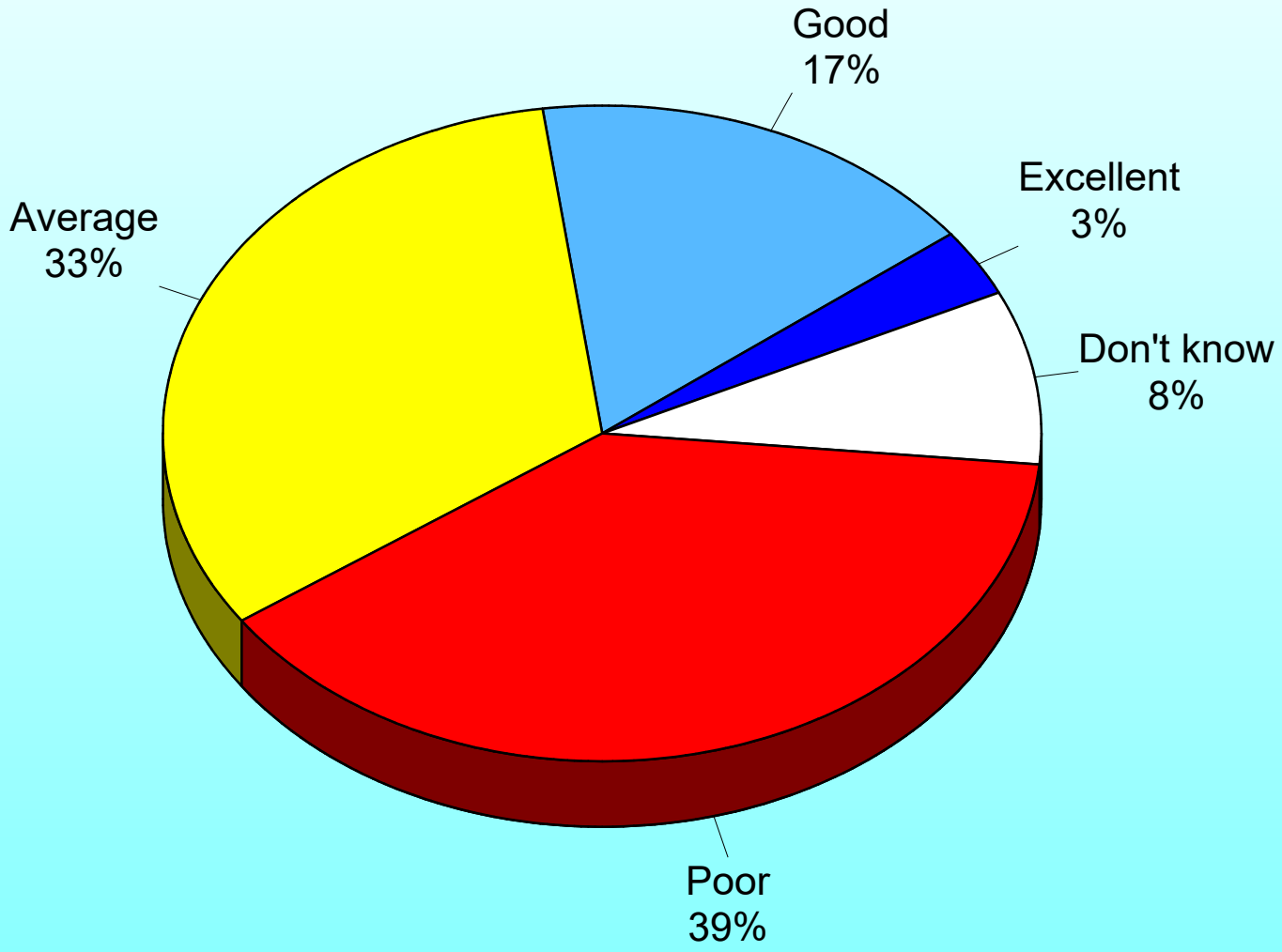
Q3. Transportation Services That Are Most Important to Households

by percentage of respondents who selected the item as one of their top three choices



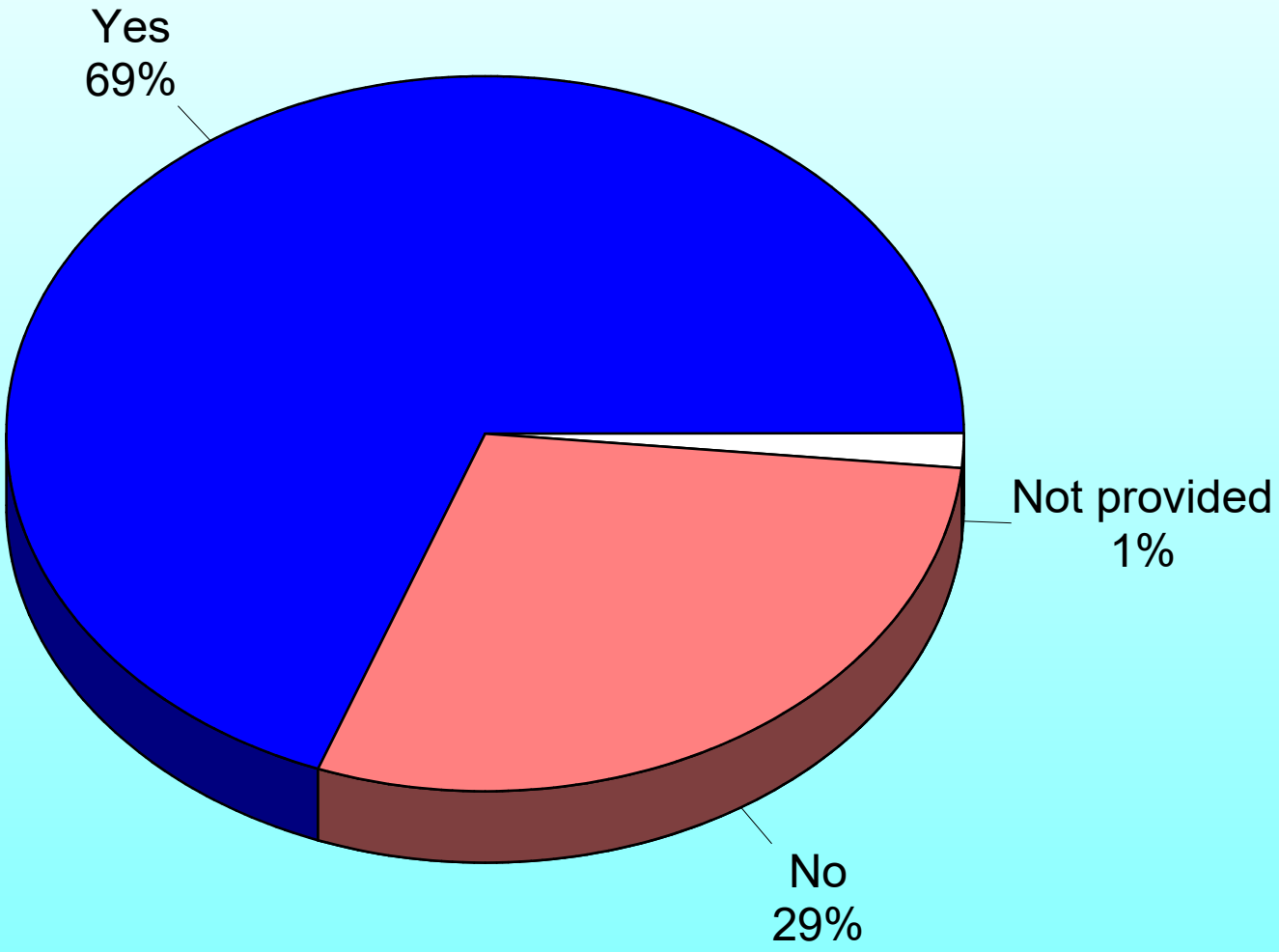
Q4. Overall Ratings of the Overall Transportation System in the Sioux Falls Metropolitan Area

by percentage of respondents



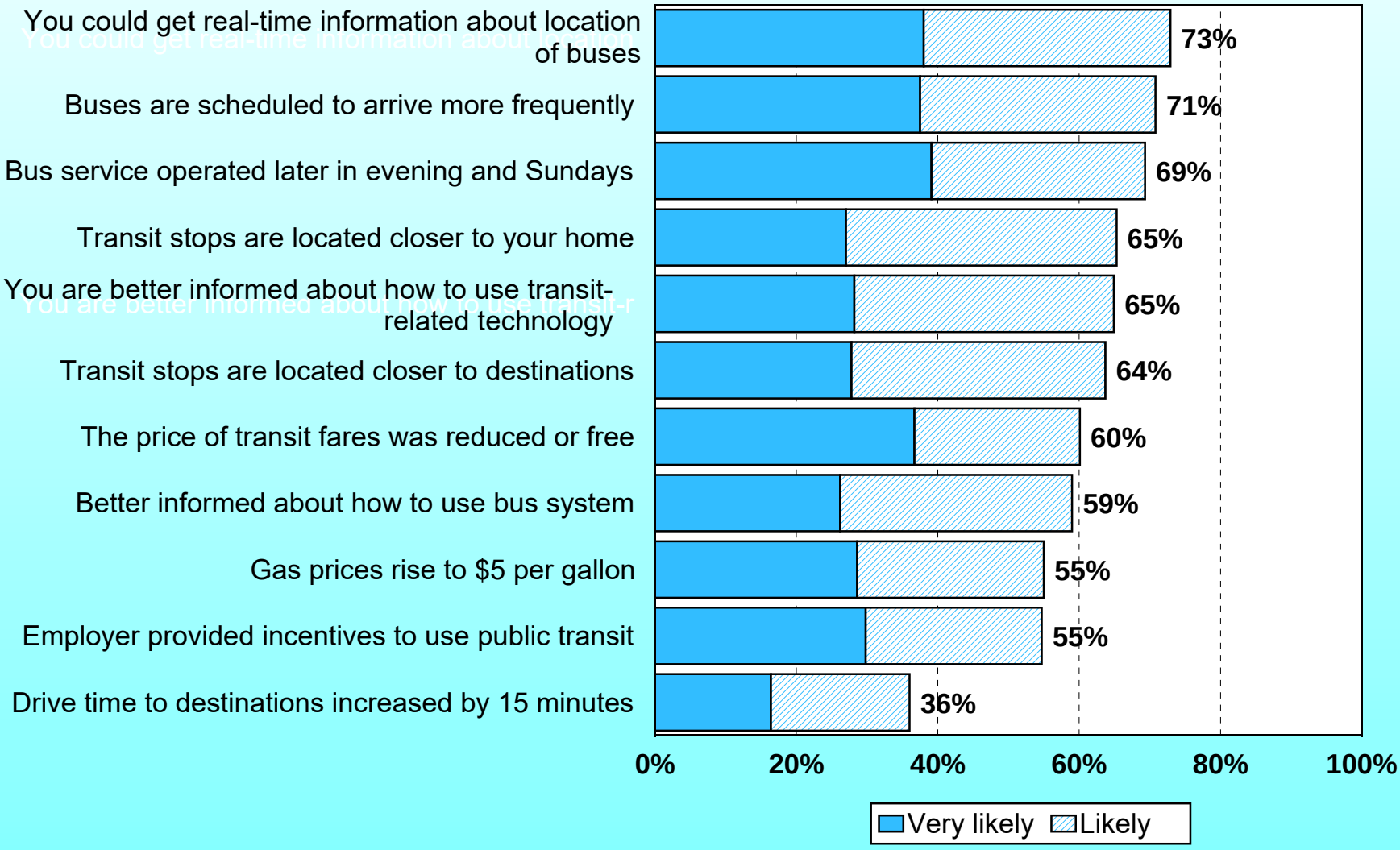
Q5. Have you EVER used public transit inside the City of Sioux Falls?

by percentage of respondents



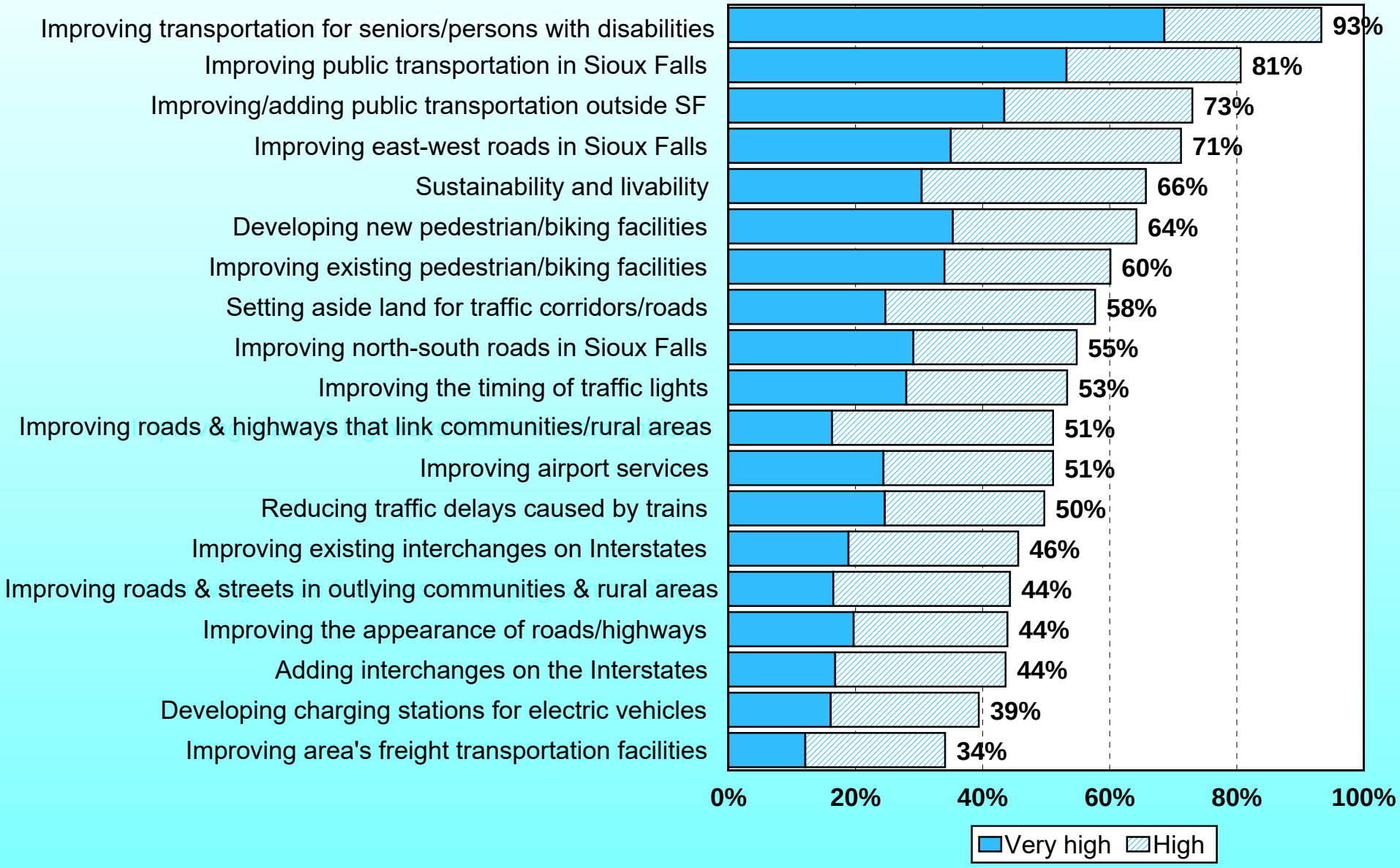
Q6. Likelihood of Using Public Transit in the Sioux Falls Metropolitan Area Based on the Following Factors

by percentage of respondents (excluding "not provided")



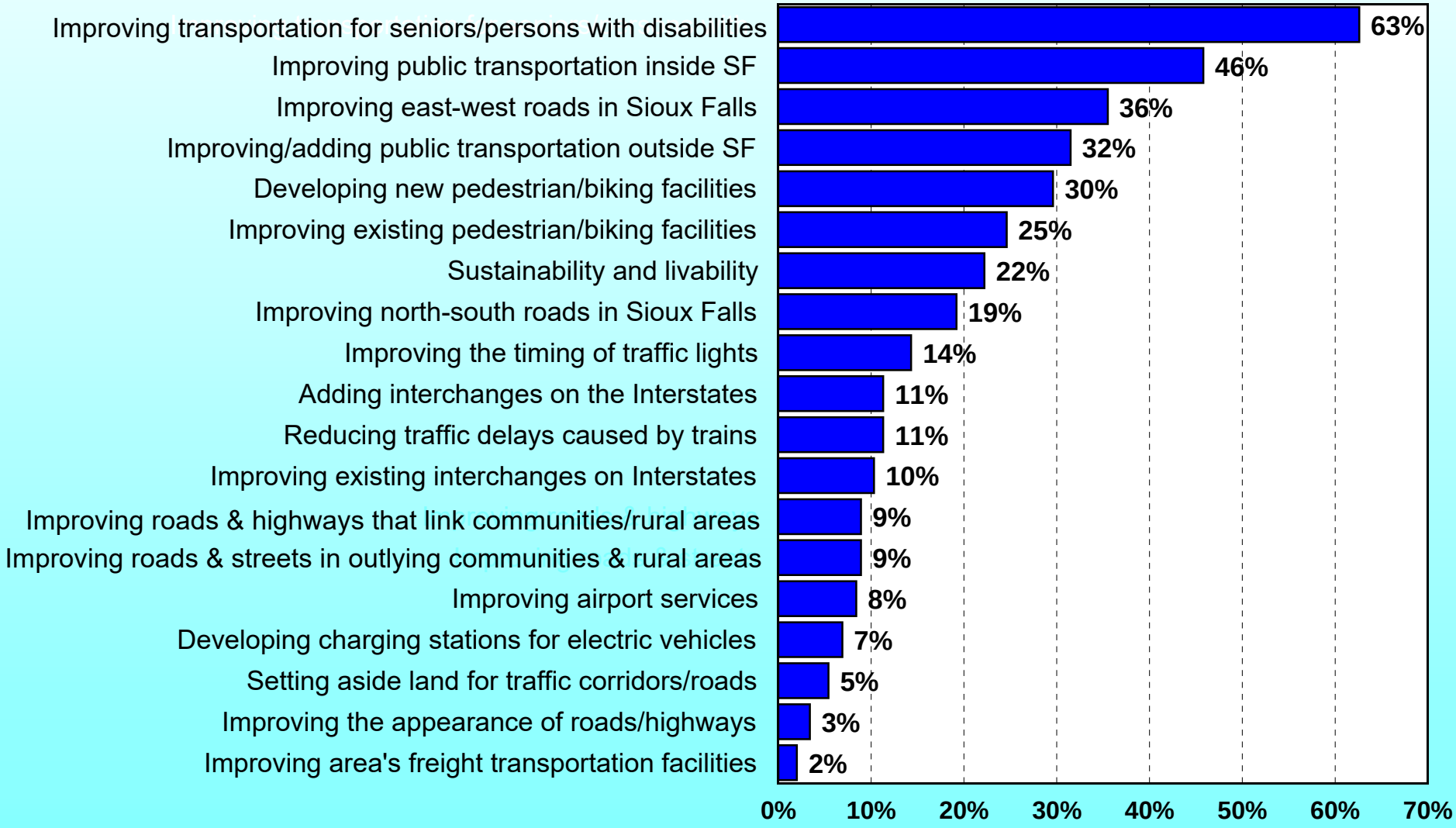
Q7. Priorities for Improvement in the Sioux Falls Metropolitan Area Over the Next 20 Years

by percentage of respondents (excluding "not provided")



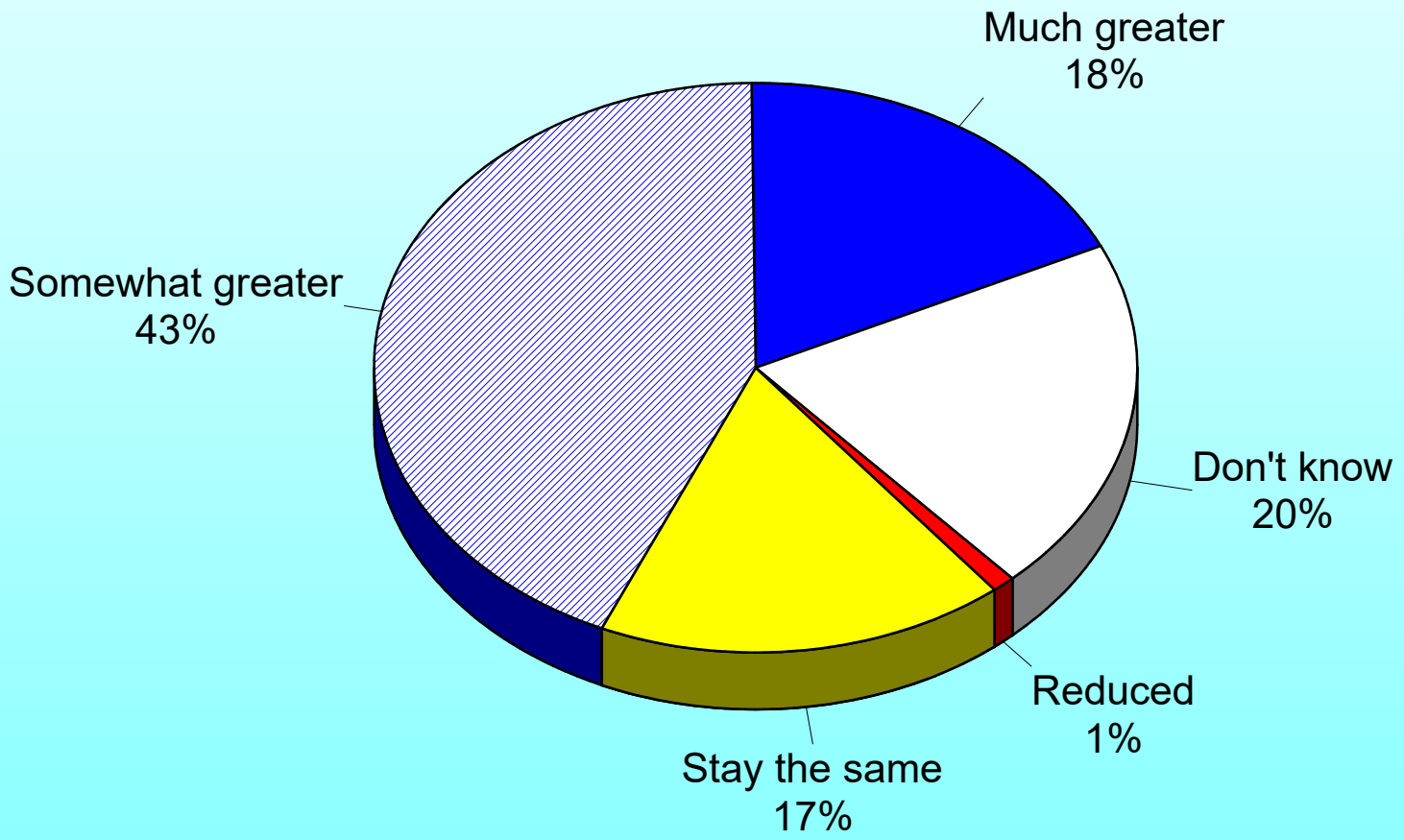
Q8. Transportation Improvements Residents Would be Most Willing to Fund With Their Tax Dollars

by percentage of respondents who selected the item as one of their top four choices



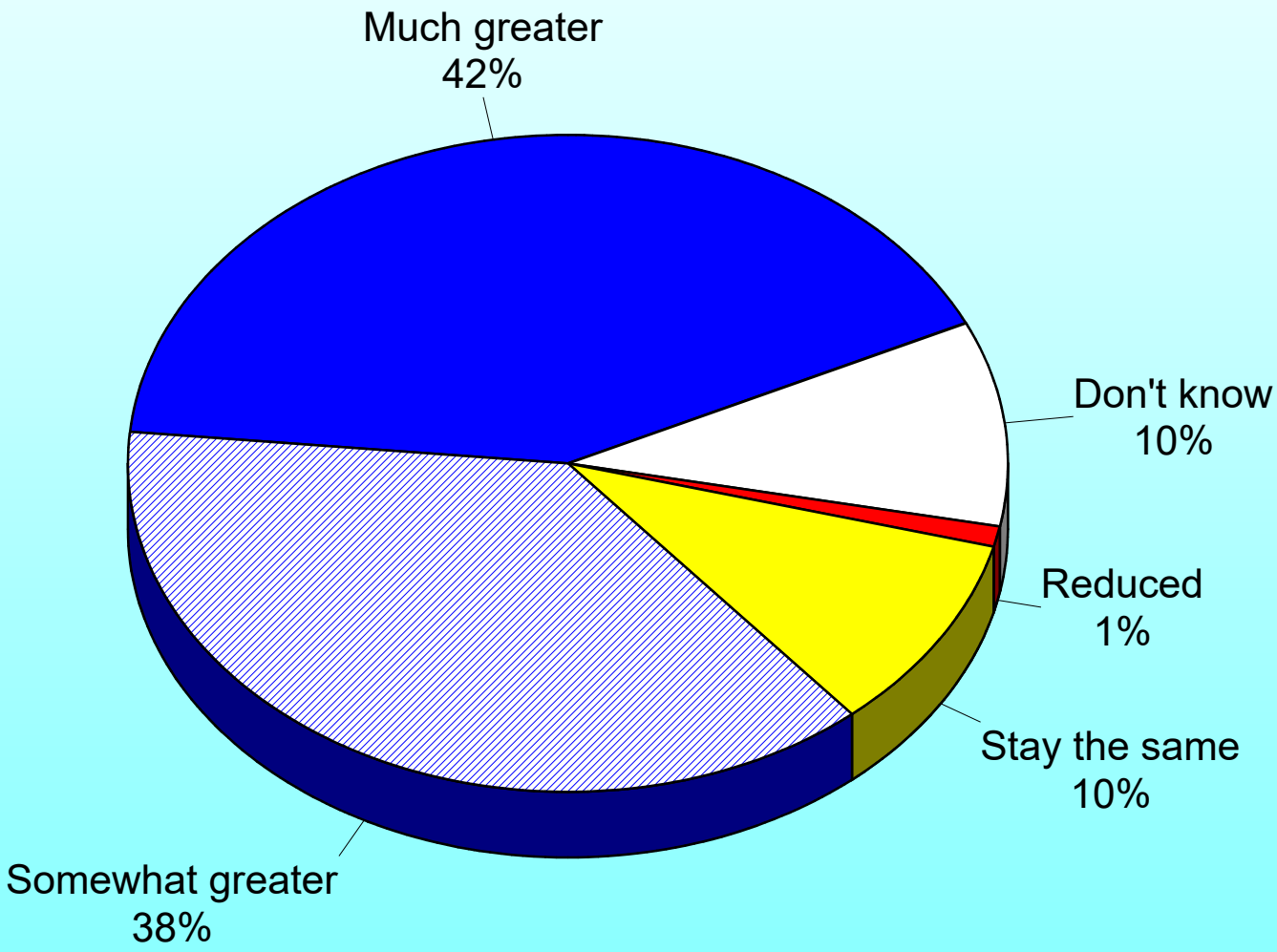
Q9. How Residents Think the Current Level of Funding for Road and Highway Improvements Should Change Over the Next Five Years

by percentage of respondents



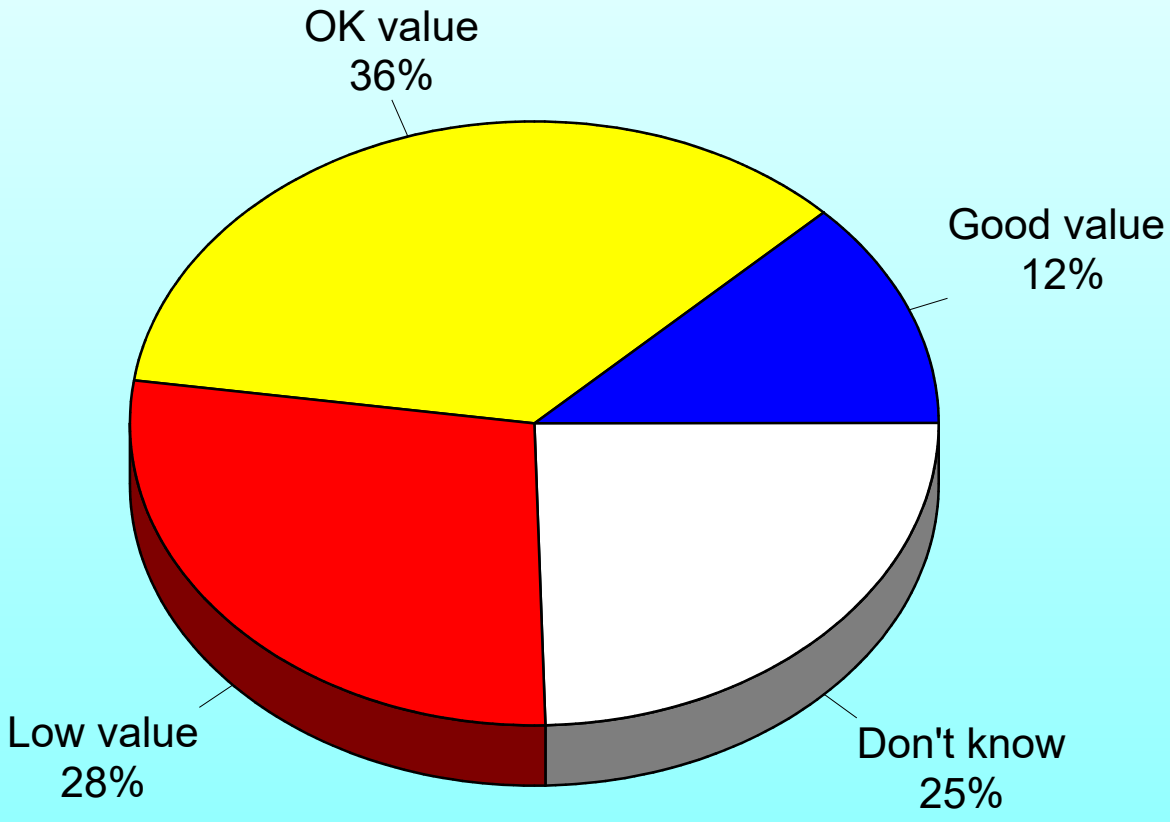
Q10. How Residents Think the Current Level of Funding for Public Transportation Should Change Over the Next Five Years

by percentage of respondents



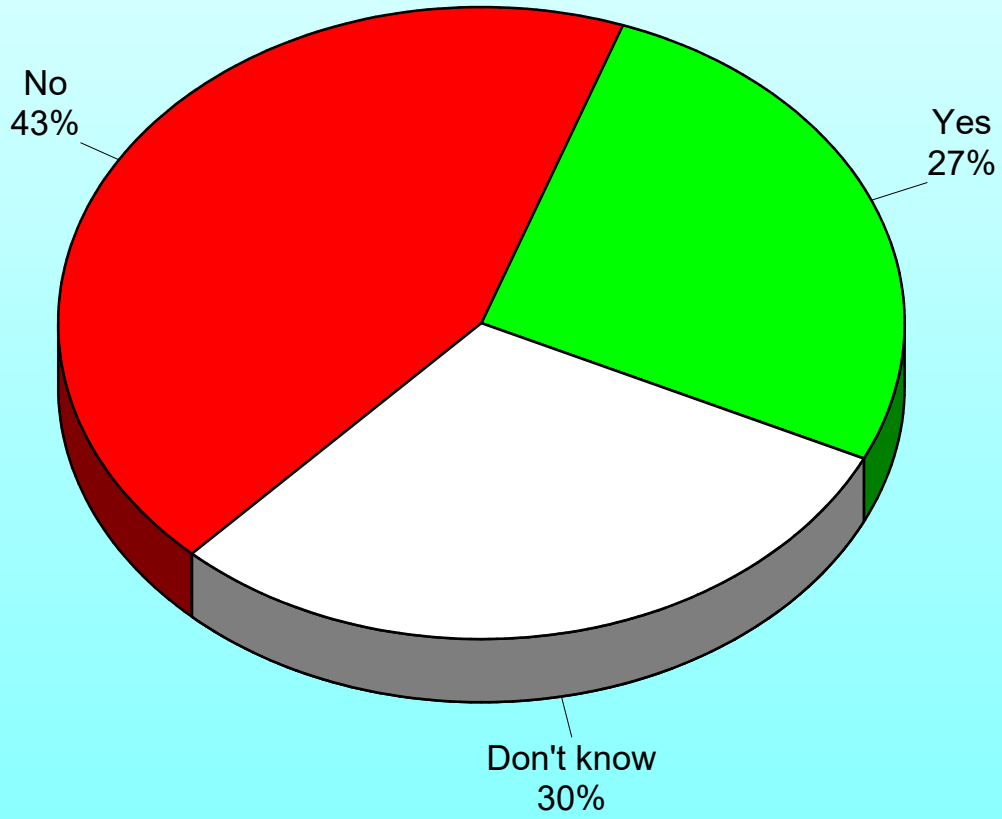
Q11. Overall, how would you rate the value that you currently receive for the transportation taxes that you pay?

by percentage of respondents



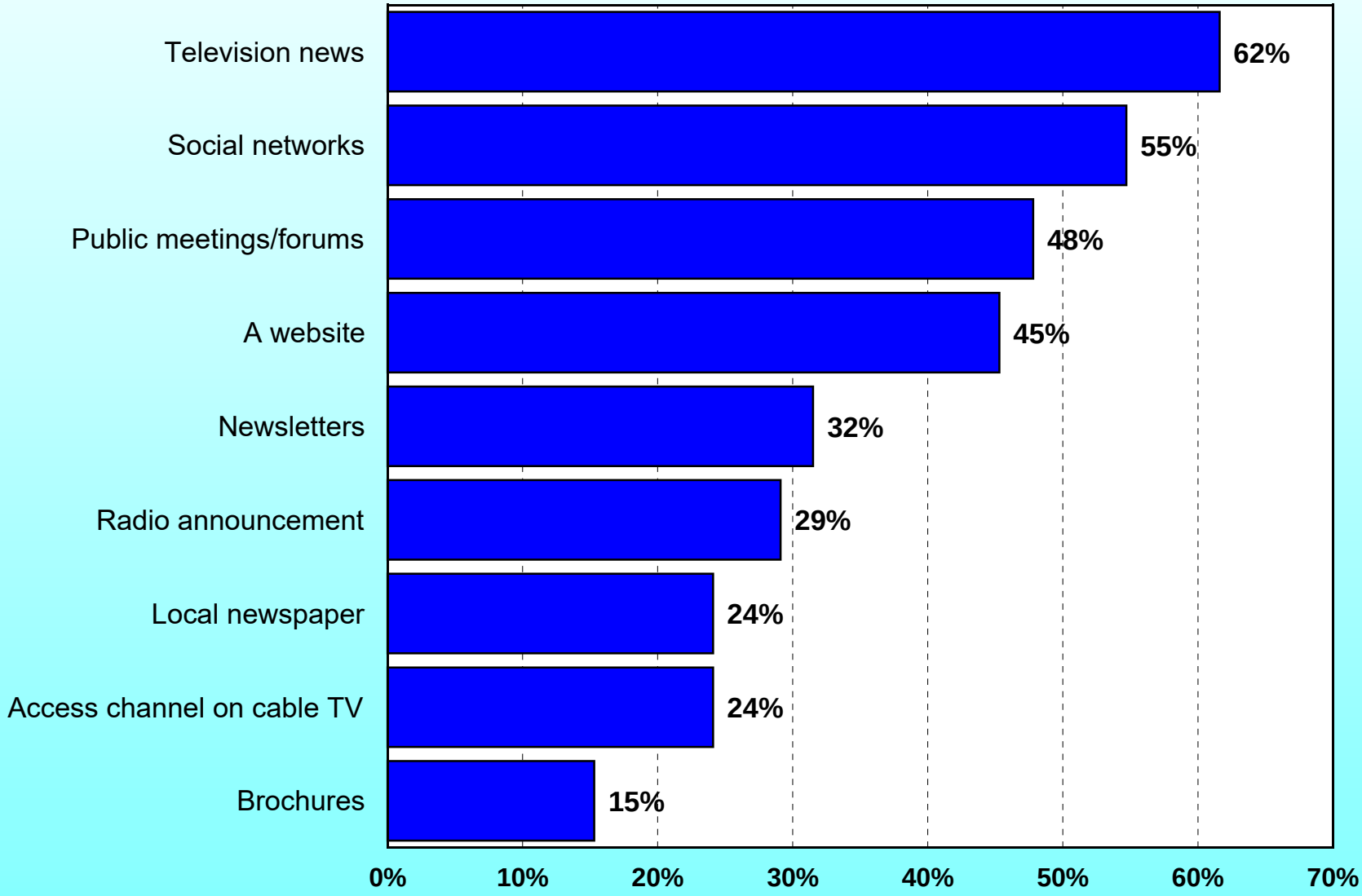
Q12. Do you generally think that local governments in the Sioux Falls area do a good job of involving people in the process of planning transportation improvements for the region?

by percentage of respondents



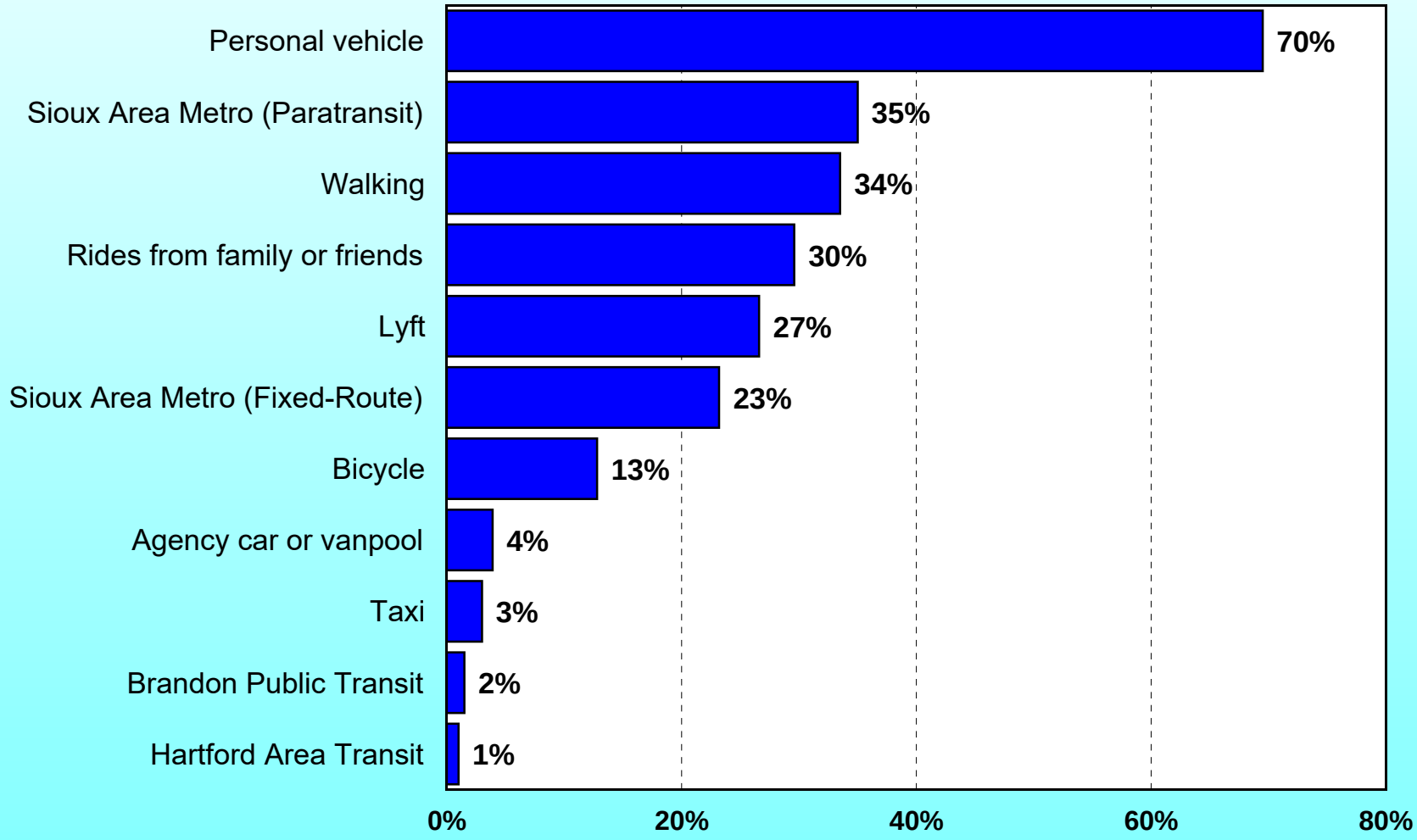
Q13. Best Ways to Keep Residents Informed About Transportation Improvements

by percentage of respondents (multiple selections could be made)



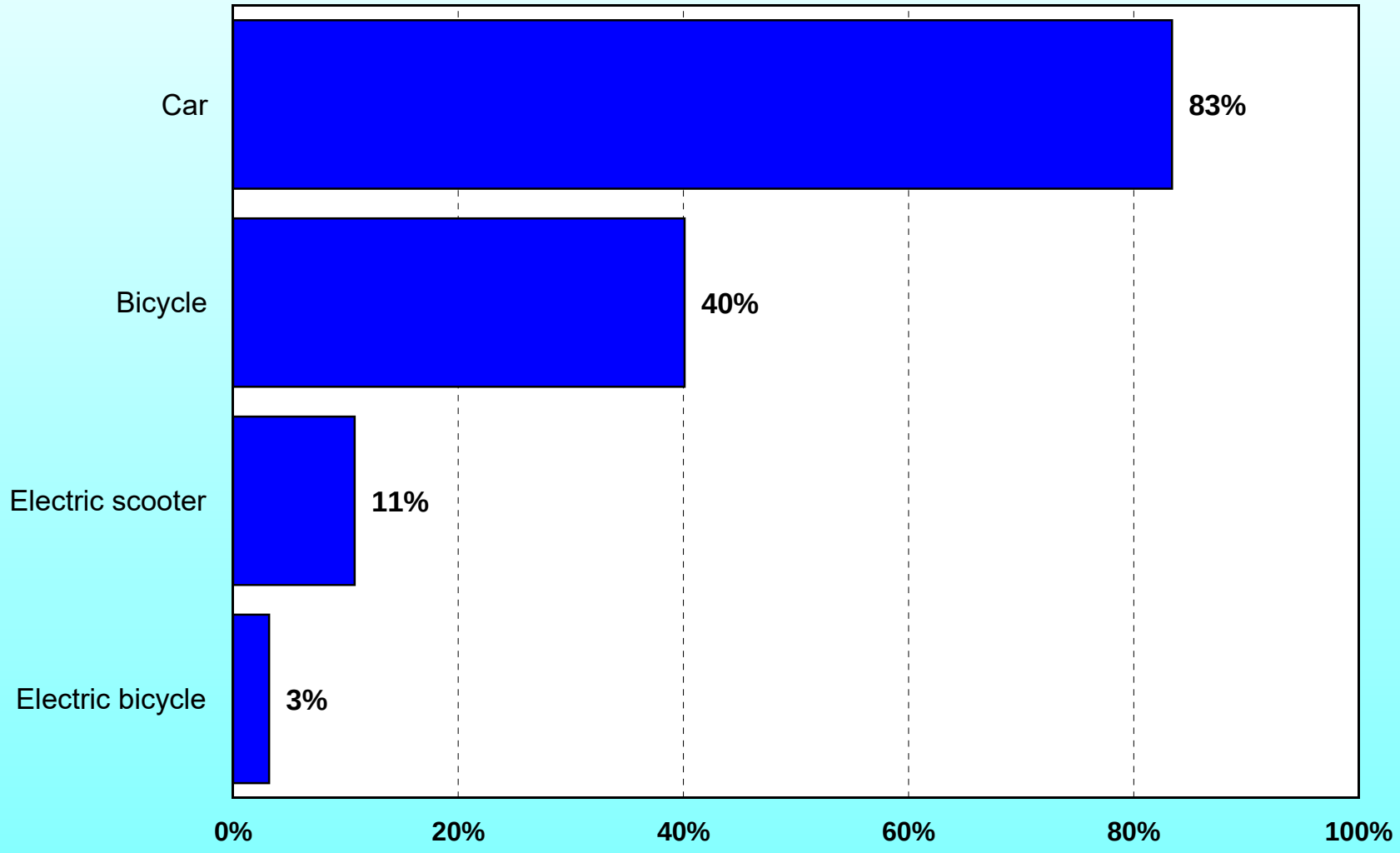
Demographics: Modes of Transportation That Households Normally Use to Get To/From Work, School or Other Frequently Traveled Destinations

by percentage of respondents (multiple selections could be made)



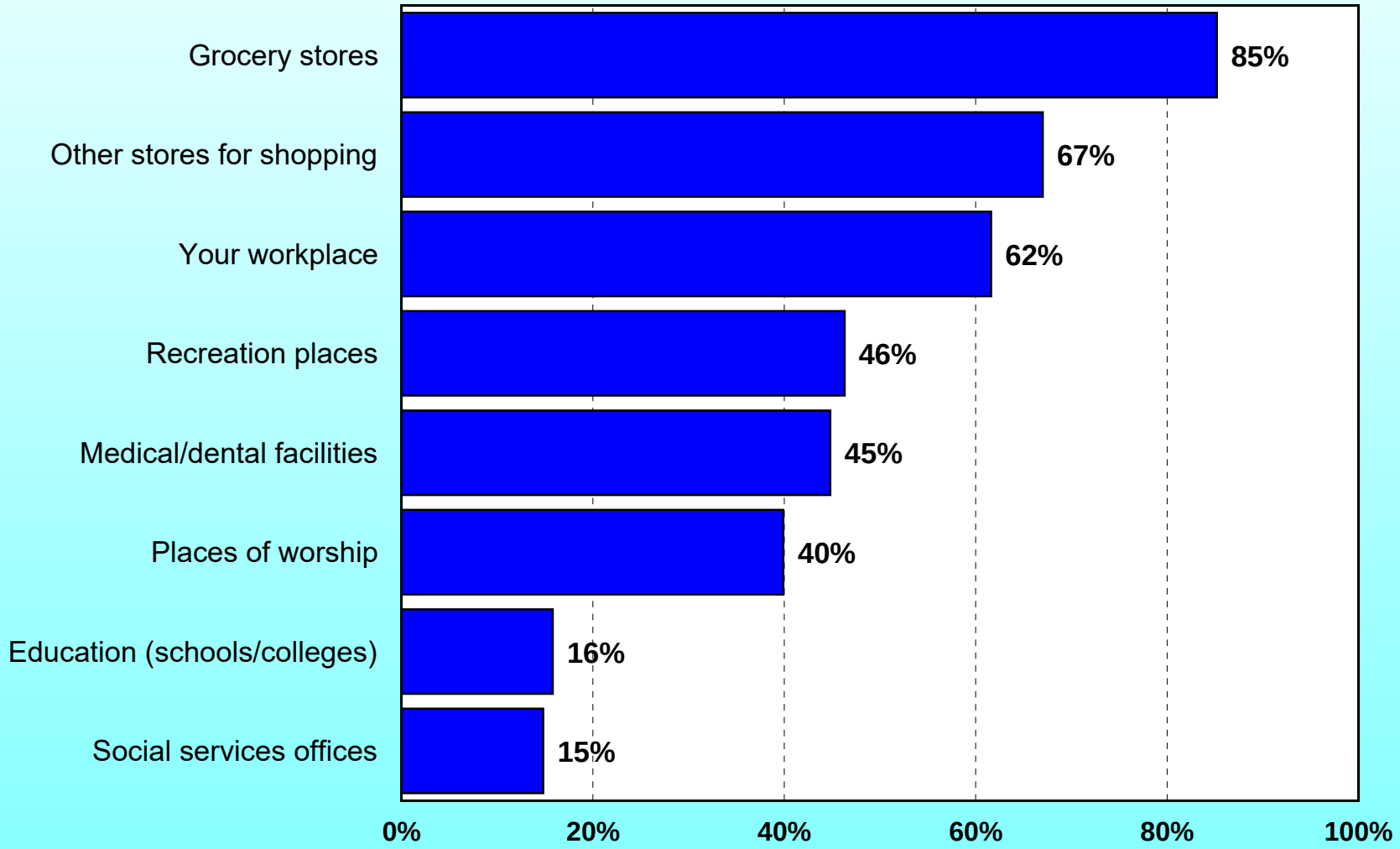
Demographics: Types of Vehicles Owned by Households

by percentage of respondents (excluding “none" - multiple selections could be made)



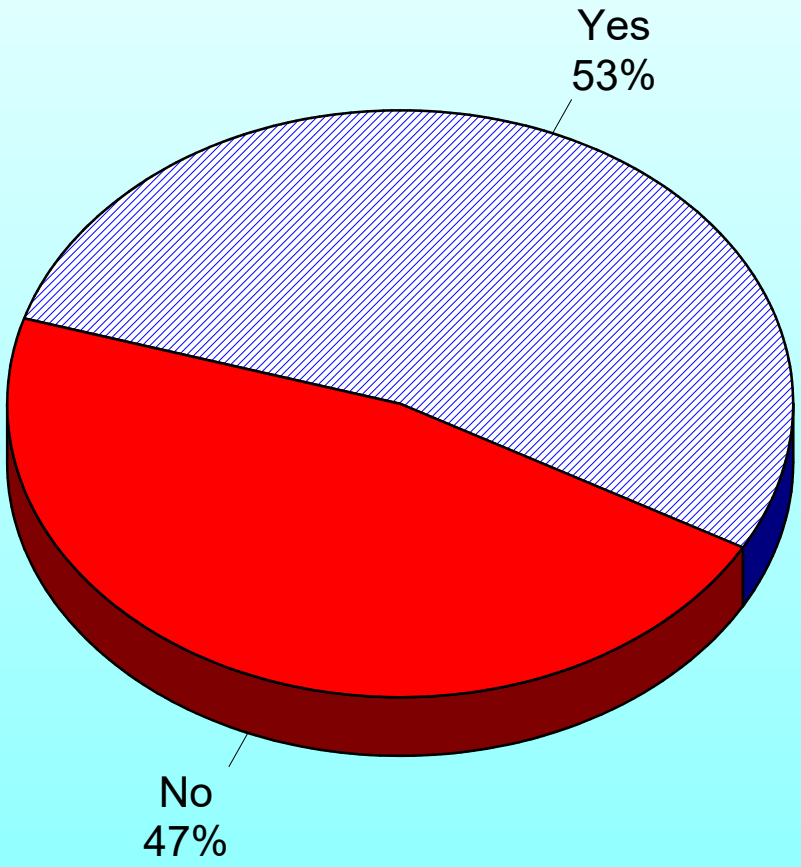
Demographics: Types of Destinations That Households Typically Visit at Least Once Per Week

by percentage of respondents (multiple selections could be made)



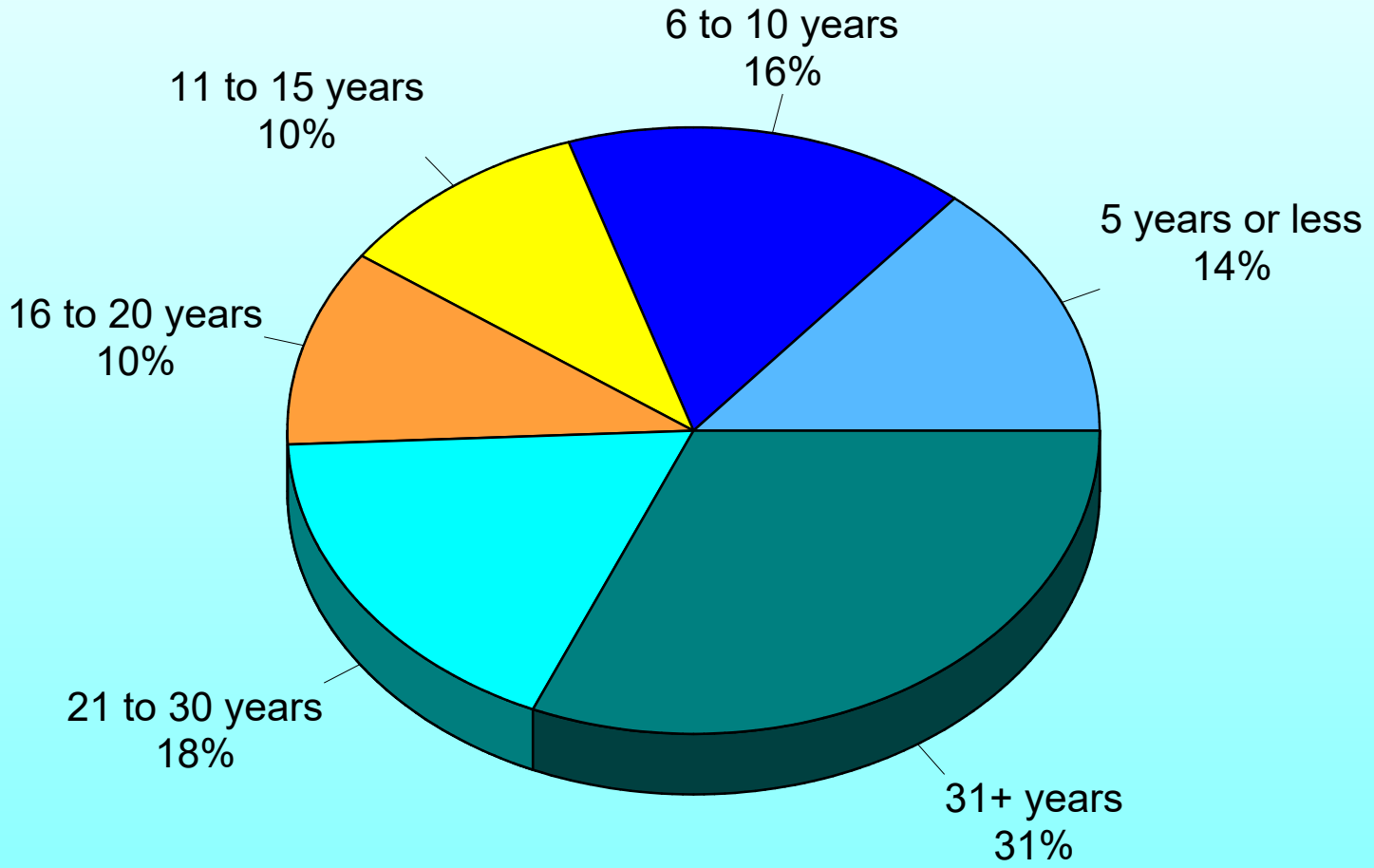
Demographics: Have you used Lyft or Uber in the past year?

by percentage of respondents (excluding "not provided")



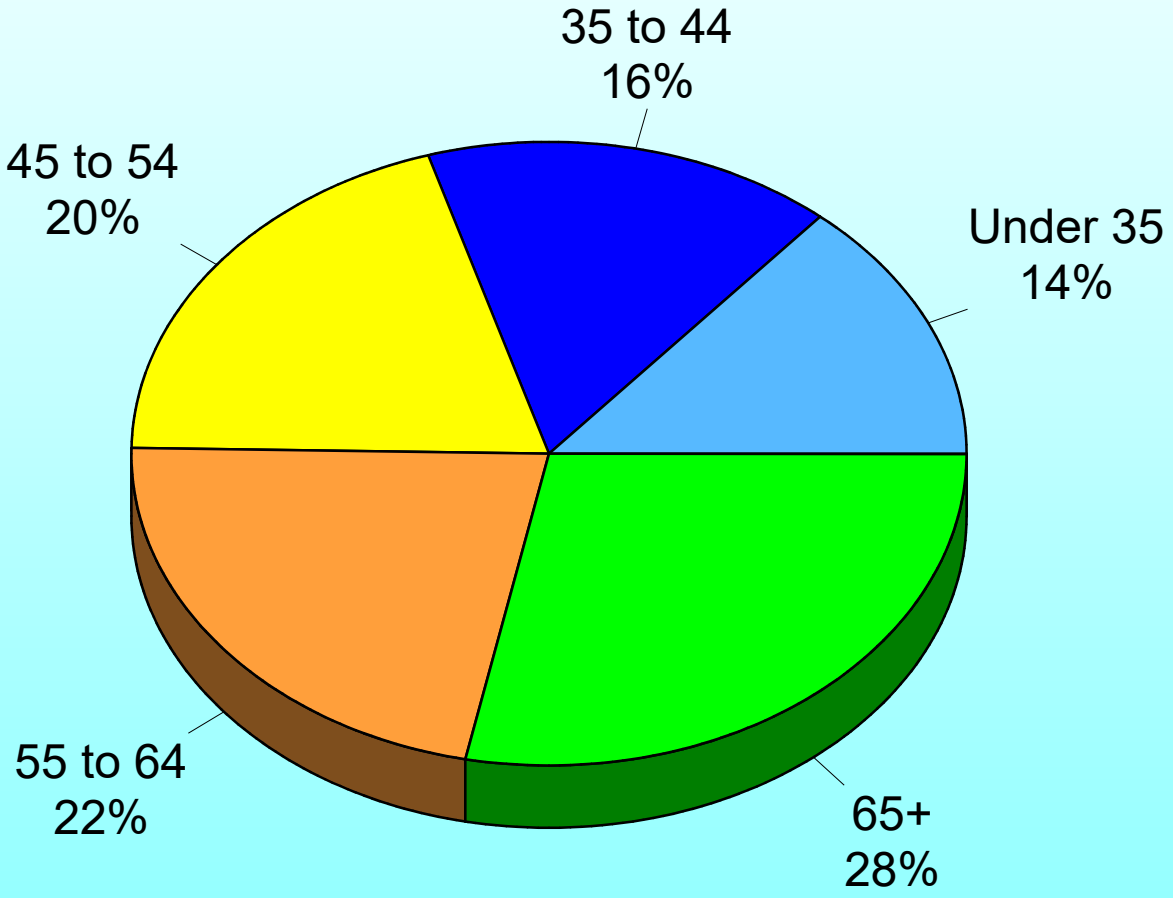
Demographics: How many years have you lived in the Sioux Falls Metropolitan Area?

by percentage of respondents (excluding "not provided")



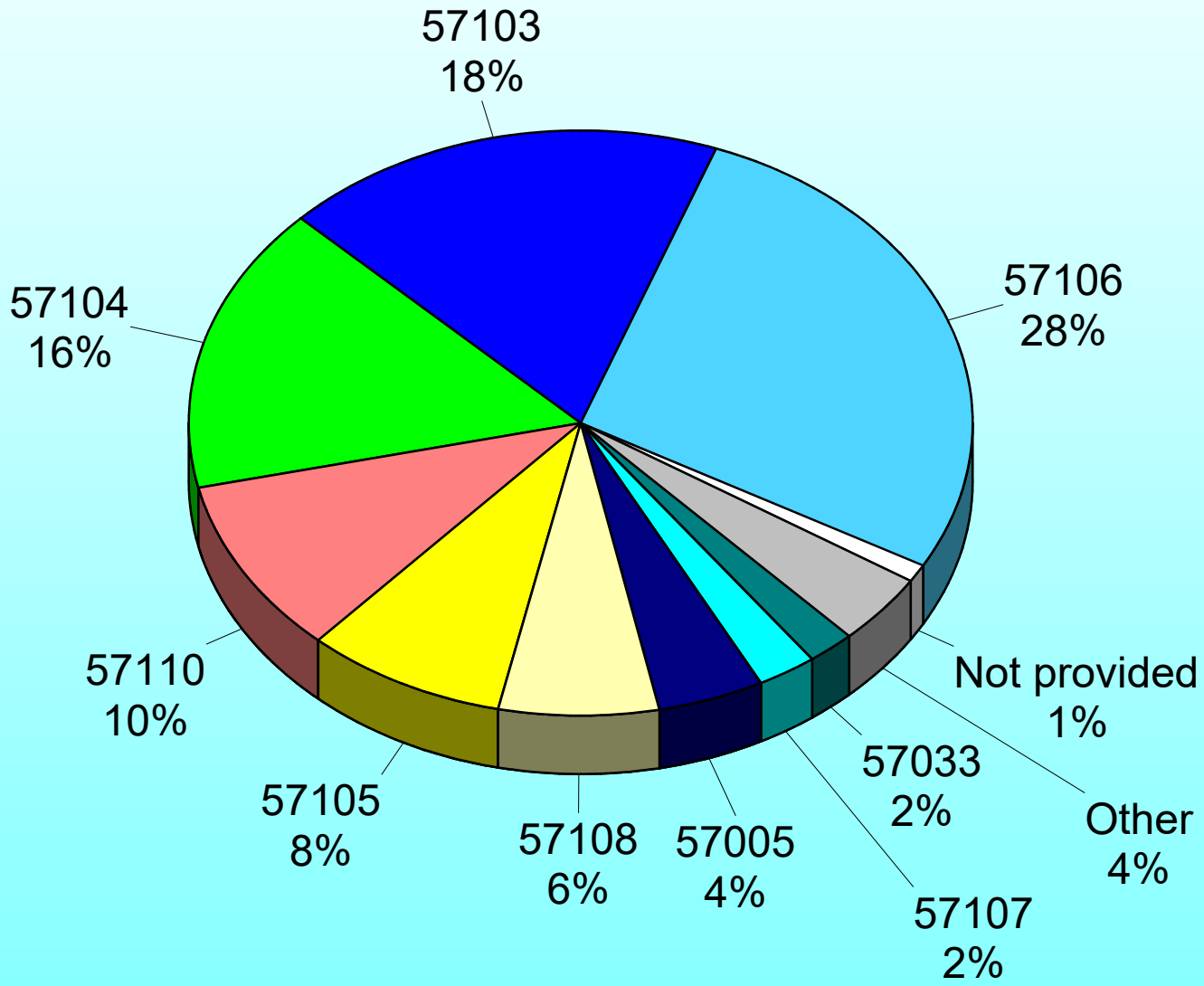
Demographics: Age of Respondent

by percentage of respondents



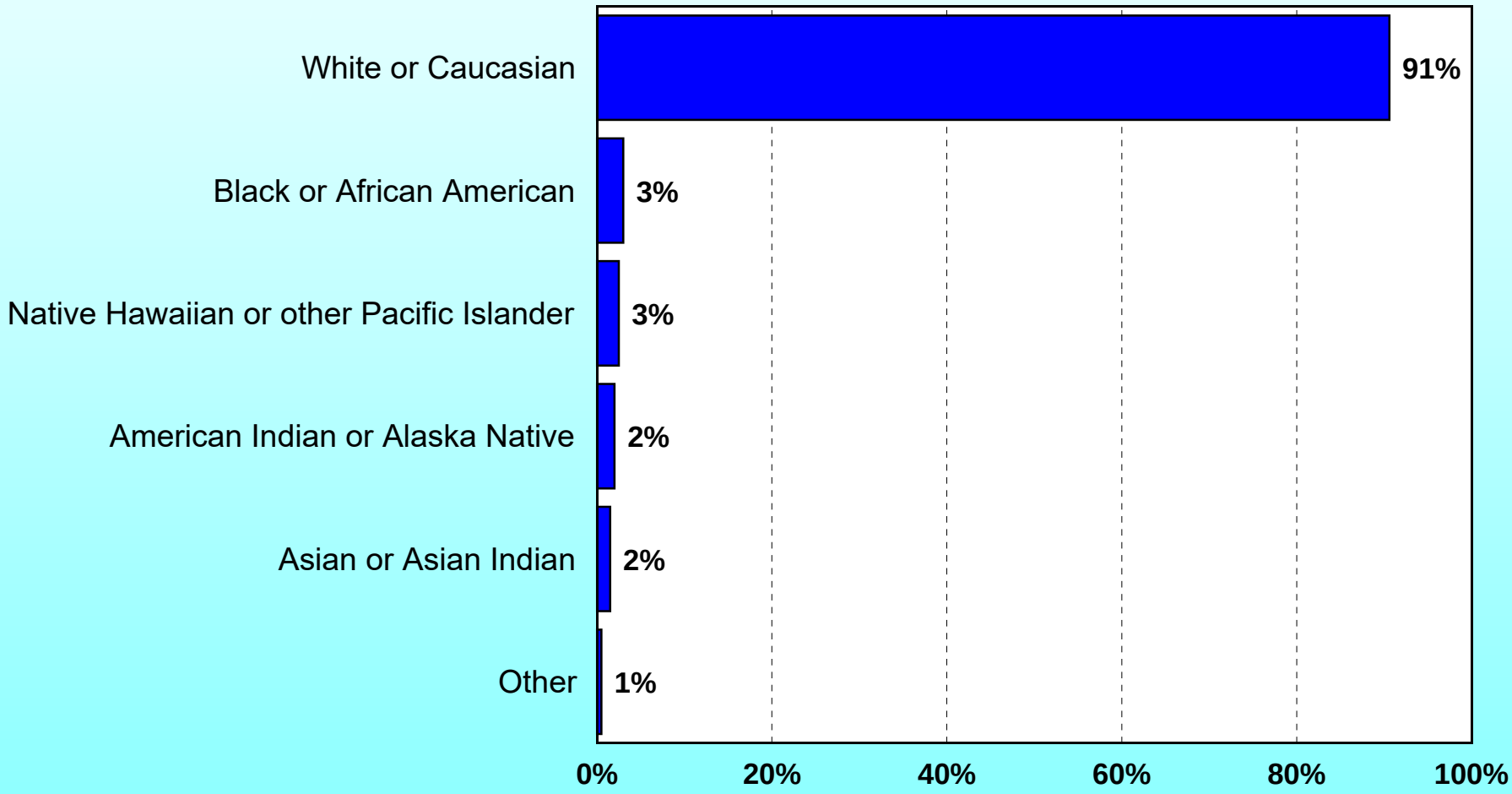
Demographics: What is your HOME zip code?

by percentage of respondents



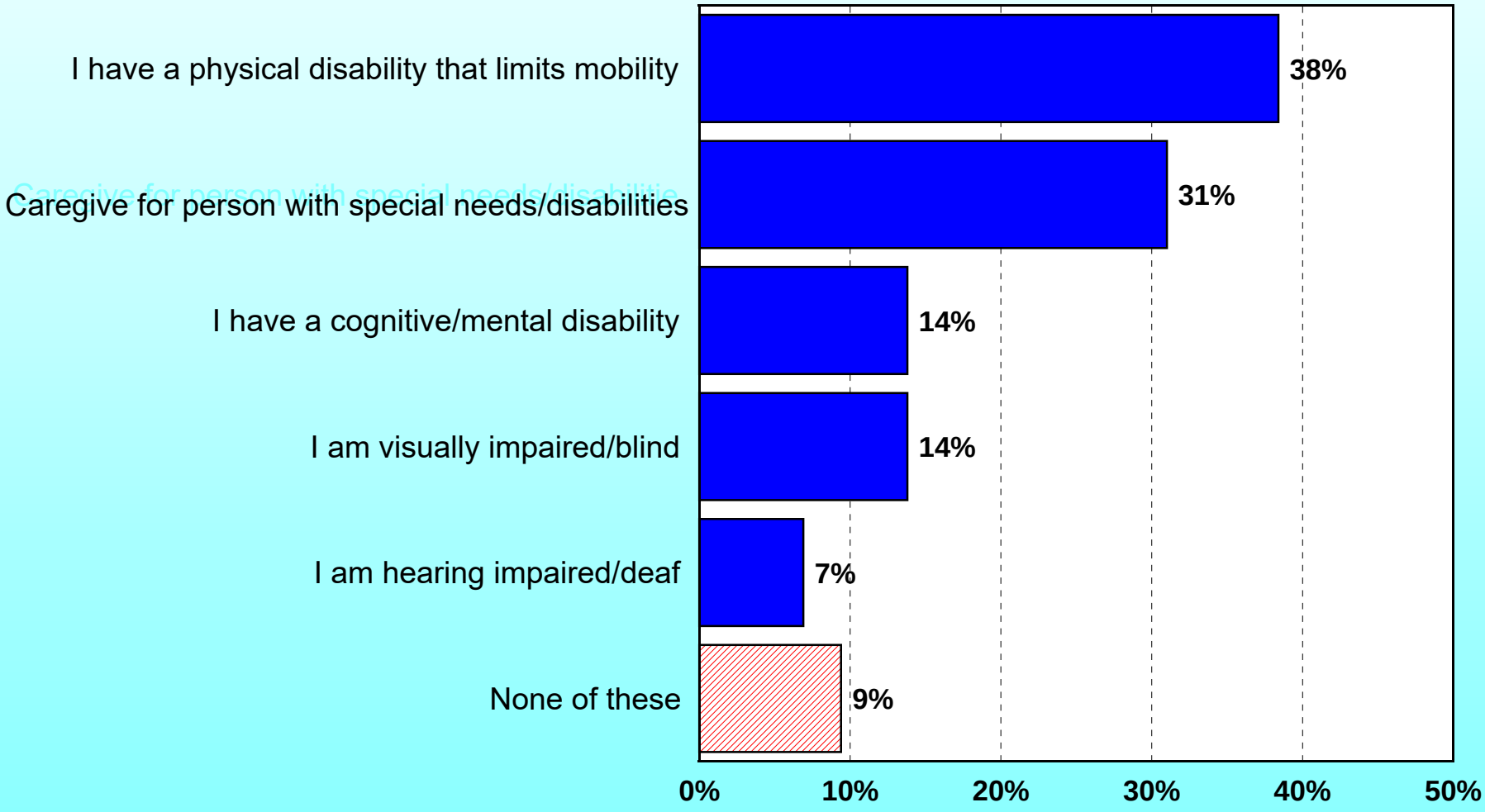
Demographics: Which of the following best describes your race?

by percentage of respondents (multiple selections could be made)



Demographics: Which of the following describes you?

by percentage of respondents who indicated they have a physical or mental disability
(multiple selections could be made)

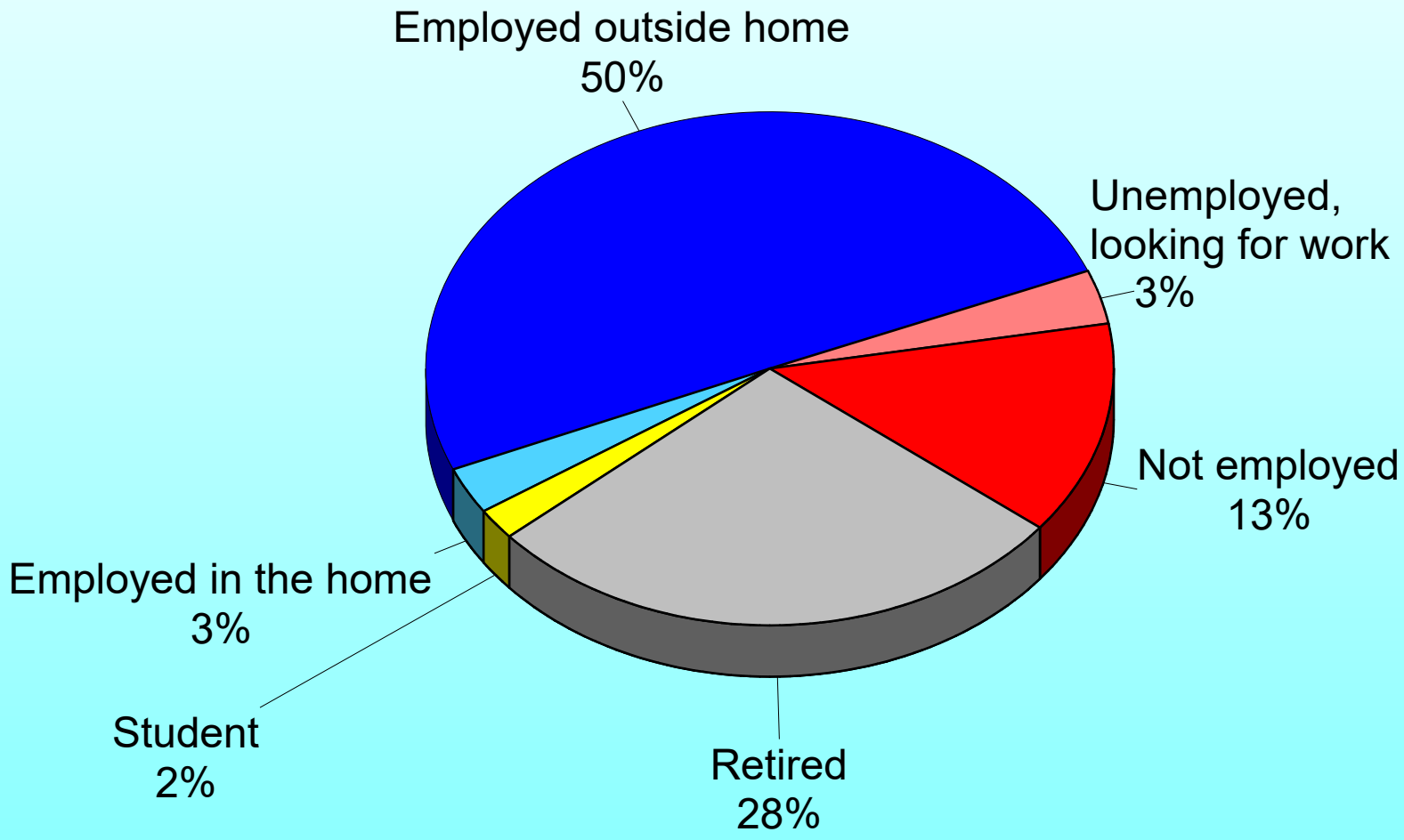


Demographics: Do you speak a language other than English in your home?

by percentage of respondents

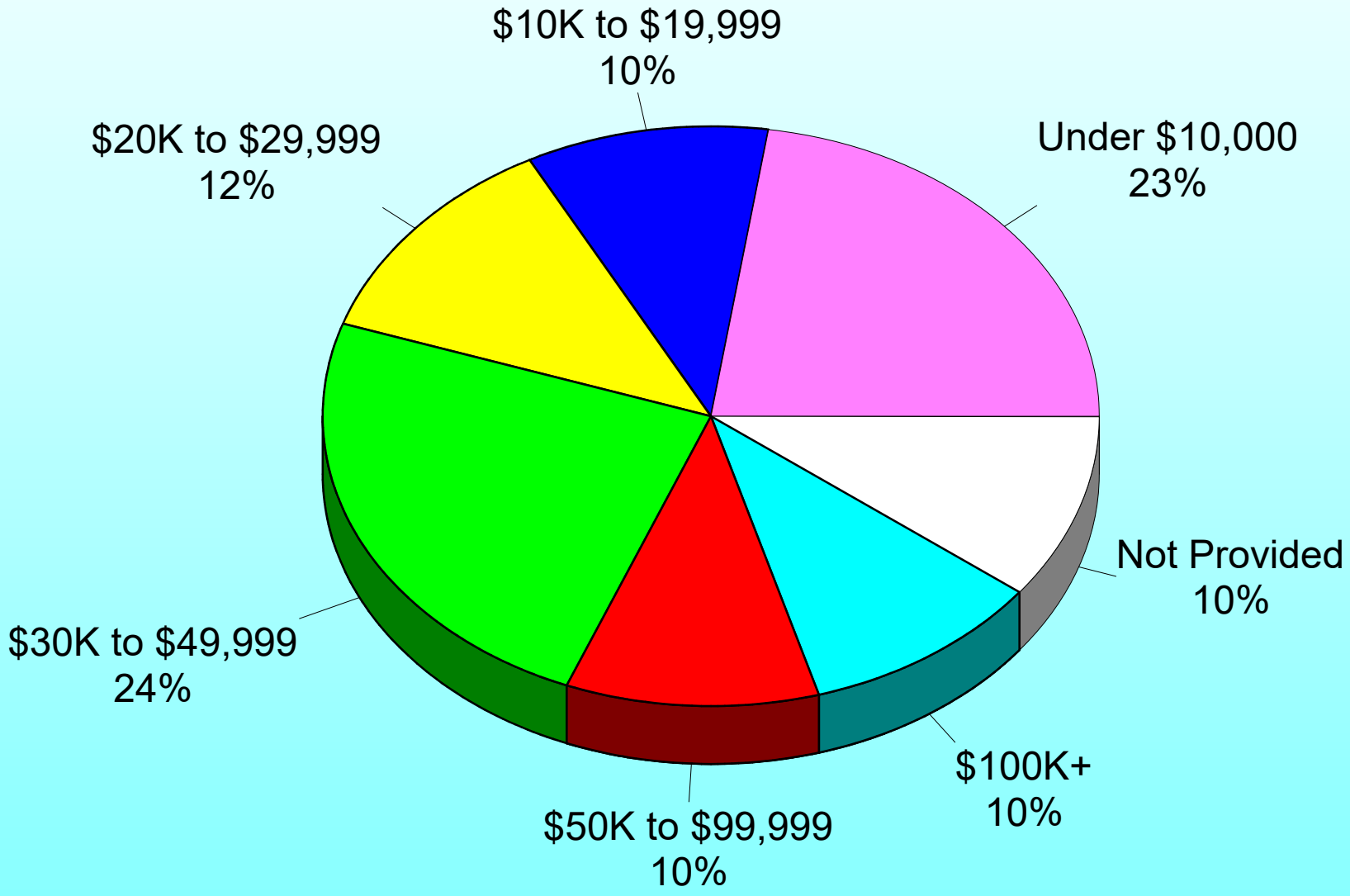
Demographics: Employment Status

by percentage of respondents



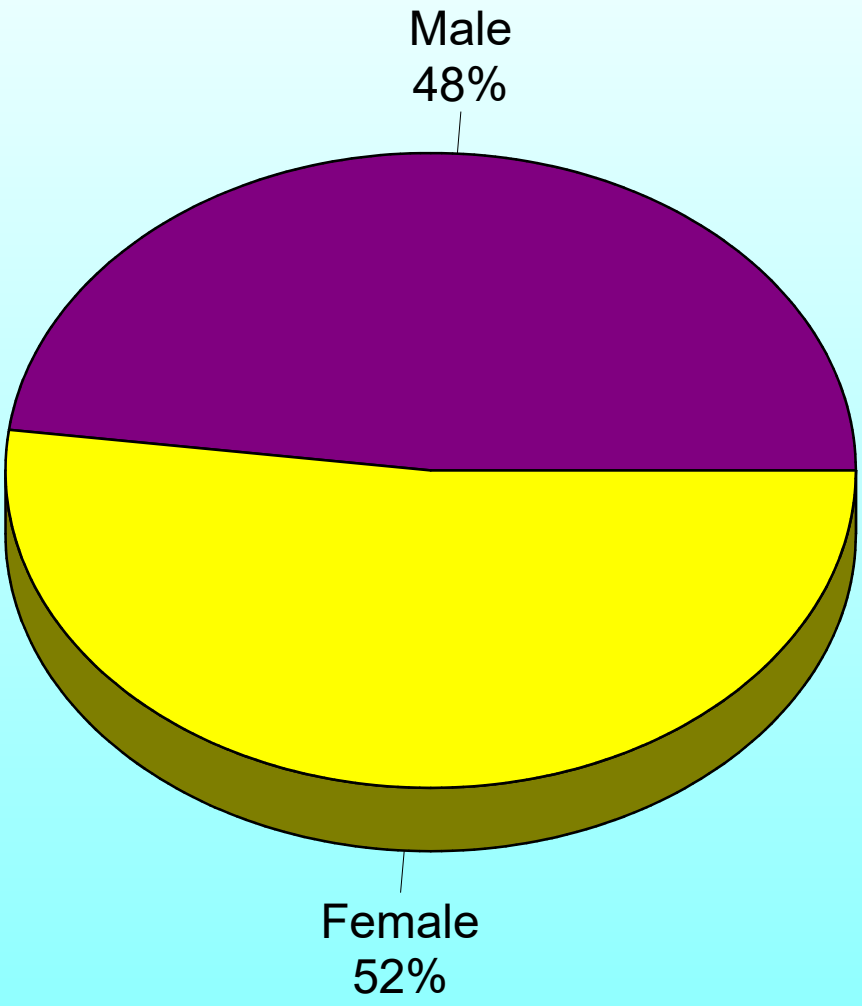
Demographics: Total Annual Household Income

by percentage of respondents



Demographics: Gender of Respondents

by percentage of respondents



0.5% of respondents preferred to self-describe

Section 2:
Tabular Data

Q1. How often are you able to utilize transportation services that fit your travel needs?

Q1. How often are you able to utilize transportation services that fit your travel needs	Number	Percent
All the time	45	22.2 %
Most of the time	36	17.7 %
Some of the time	63	31.0 %
Never	28	13.8 %
Not provided	31	15.3 %
Total	203	100.0 %

WITHOUT "NOT PROVIDED"

Q1. How often are you able to utilize transportation services that fit your travel needs? (without "not provided")

Q1. How often are you able to utilize transportation services that fit your travel needs	Number	Percent
All the time	45	26.2 %
Most of the time	36	20.9 %
Some of the time	63	36.6 %
Never	28	16.3 %
Total	172	100.0 %

Q2. Several components of the transportation system in the Sioux Falls Metropolitan Area are listed below. For each item, please indicate whether you are "Very Satisfied," "Somewhat Satisfied," or "Not Satisfied."

(N=203)

	Very satisfied	Somewhat satisfied	Neutral	Not satisfied	Don't know
Q2-1. Maintenance of streets in Sioux Falls	6.9%	29.6%	19.2%	40.4%	3.9%
Q2-2. Maintenance of streets in the communities outside of Sioux Falls	4.4%	21.2%	24.1%	16.7%	33.5%
Q2-3. Maintenance of interstates & highways around Sioux Falls	22.7%	46.3%	17.7%	8.4%	4.9%
Q2-4. Maintenance of rural roads in Sioux Falls Metropolitan Area	4.4%	20.2%	26.6%	17.2%	31.5%
Q2-5. Ease of travel by car to/from City of Sioux Falls & other communities in Minnehaha & Lincoln Counties	20.2%	39.4%	19.2%	10.8%	10.3%
Q2-6. Ease of travel by car from one side of City of Sioux Falls to the other	13.8%	36.0%	17.2%	32.0%	1.0%
Q2-7. Availability of safe walking/pedestrian facilities in Sioux Falls Metro Area	11.8%	27.6%	24.6%	29.6%	6.4%
Q2-8. Availability of safe biking facilities in Sioux Falls Metropolitan Area	17.7%	19.7%	18.2%	22.7%	21.7%
Q2-9. Availability of public transportation/ bus service in City of Sioux Falls	7.9%	12.8%	19.7%	49.8%	9.9%
Q2-10. Availability of public transportation/ bus service in the areas outside of Sioux Falls	3.4%	6.9%	19.7%	45.3%	24.6%
Q2-11. Adequacy of traffic signage along City streets & highways	17.7%	36.5%	28.6%	11.8%	5.4%
Q2-12. How well the region is planning for growth	10.3%	30.0%	22.7%	25.1%	11.8%

WITHOUT "DON'T KNOW"

Q2. Several components of the transportation system in the Sioux Falls Metropolitan Area are listed below. For each item, please indicate whether you are "Very Satisfied," "Somewhat Satisfied," or "Not Satisfied." (without "don't know")

(N=203)

	Very satisfied	Somewhat satisfied	Neutral	Not satisfied
Q2-1. Maintenance of streets in Sioux Falls	7.2%	30.8%	20.0%	42.1%
Q2-2. Maintenance of streets in the communities outside of Sioux Falls	6.7%	31.9%	36.3%	25.2%
Q2-3. Maintenance of interstates & highways around Sioux Falls	23.8%	48.7%	18.7%	8.8%
Q2-4. Maintenance of rural roads in Sioux Falls Metropolitan Area	6.5%	29.5%	38.8%	25.2%
Q2-5. Ease of travel by car to/from City of Sioux Falls & other communities in Minnehaha & Lincoln Counties	22.5%	44.0%	21.4%	12.1%
Q2-6. Ease of travel by car from one side of City of Sioux Falls to the other	13.9%	36.3%	17.4%	32.3%
Q2-7. Availability of safe walking/pedestrian facilities in Sioux Falls Metro Area	12.6%	29.5%	26.3%	31.6%
Q2-8. Availability of safe biking facilities in Sioux Falls Metropolitan Area	22.6%	25.2%	23.3%	28.9%
Q2-9. Availability of public transportation/ bus service in City of Sioux Falls	8.7%	14.2%	21.9%	55.2%
Q2-10. Availability of public transportation/ bus service in the areas outside of Sioux Falls	4.6%	9.2%	26.1%	60.1%
Q2-11. Adequacy of traffic signage along City streets & highways	18.8%	38.5%	30.2%	12.5%
Q2-12. How well the region is planning for growth	11.7%	34.1%	25.7%	28.5%

Q3. Which THREE of the items in Question 2 are most important to the members of your household?

Q3. Top choice	Number	Percent
Maintenance of streets in Sioux Falls	60	29.6 %
Maintenance of streets in the communities outside of Sioux Falls	9	4.4 %
Maintenance of interstates & highways around Sioux Falls	9	4.4 %
Maintenance of rural roads in Sioux Falls Metropolitan Area	2	1.0 %
Ease of travel by car to/from City of Sioux Falls & other communities in Minnehaha & Lincoln Counties	3	1.5 %
Ease of travel by car from one side of City of Sioux Falls to the other	8	3.9 %
Availability of safe walking/pedestrian facilities in Sioux Falls Metro Area	17	8.4 %
Availability of safe biking facilities in Sioux Falls Metropolitan Area	5	2.5 %
Availability of public transportation/bus service in City of Sioux Falls	59	29.1 %
Availability of public transportation/bus service in the areas outside of Sioux Falls	17	8.4 %
Adequacy of traffic signage along City streets & highways	2	1.0 %
How well the region is planning for growth	5	2.5 %
None chosen	7	3.4 %
Total	203	100.0 %

Q3. Which THREE of the items in Question 2 are most important to the members of your household?

Q3. 2nd choice	Number	Percent
Maintenance of streets in Sioux Falls	28	13.8 %
Maintenance of streets in the communities outside of Sioux Falls	4	2.0 %
Maintenance of interstates & highways around Sioux Falls	14	6.9 %
Maintenance of rural roads in Sioux Falls Metropolitan Area	9	4.4 %
Ease of travel by car to/from City of Sioux Falls & other communities in Minnehaha & Lincoln Counties	10	4.9 %
Ease of travel by car from one side of City of Sioux Falls to the other	27	13.3 %
Availability of safe walking/pedestrian facilities in Sioux Falls Metro Area	24	11.8 %
Availability of safe biking facilities in Sioux Falls Metropolitan Area	13	6.4 %
Availability of public transportation/bus service in City of Sioux Falls	31	15.3 %
Availability of public transportation/bus service in the areas outside of Sioux Falls	20	9.9 %
Adequacy of traffic signage along City streets & highways	2	1.0 %
How well the region is planning for growth	12	5.9 %
None chosen	9	4.4 %
Total	203	100.0 %

Q3. Which THREE of the items in Question 2 are most important to the members of your household?

Q3. 3rd choice	Number	Percent
Maintenance of streets in Sioux Falls	35	17.2 %
Maintenance of streets in the communities outside of Sioux Falls	5	2.5 %
Maintenance of interstates & highways around Sioux Falls	3	1.5 %
Maintenance of rural roads in Sioux Falls Metropolitan Area	1	0.5 %
Ease of travel by car to/from City of Sioux Falls & other communities in Minnehaha & Lincoln Counties	6	3.0 %
Ease of travel by car from one side of City of Sioux Falls to the other	33	16.3 %
Availability of safe walking/pedestrian facilities in Sioux Falls Metro Area	23	11.3 %
Availability of safe biking facilities in Sioux Falls Metropolitan Area	10	4.9 %
Availability of public transportation/bus service in City of Sioux Falls	20	9.9 %
Availability of public transportation/bus service in the areas outside of Sioux Falls	8	3.9 %
Adequacy of traffic signage along City streets & highways	7	3.4 %
How well the region is planning for growth	33	16.3 %
None chosen	19	9.4 %
Total	203	100.0 %

SUM OF TOP 3 CHOICES

Q3. Which THREE of the items in Question 2 are most important to the members of your household? (top 3)

Q3. Sum of top 3 choices	Number	Percent
Maintenance of streets in Sioux Falls	123	60.6 %
Maintenance of streets in the communities outside of Sioux Falls	18	8.9 %
Maintenance of interstates & highways around Sioux Falls	26	12.8 %
Maintenance of rural roads in Sioux Falls Metropolitan Area	12	5.9 %
Ease of travel by car to/from City of Sioux Falls & other communities in Minnehaha & Lincoln Counties	19	9.4 %
Ease of travel by car from one side of City of Sioux Falls to the other	68	33.5 %
Availability of safe walking/pedestrian facilities in Sioux Falls Metro Area	64	31.5 %
Availability of safe biking facilities in Sioux Falls Metropolitan Area	28	13.8 %
Availability of public transportation/bus service in City of Sioux Falls	110	54.2 %
Availability of public transportation/bus service in the areas outside of Sioux Falls	45	22.2 %
Adequacy of traffic signage along City streets & highways	11	5.4 %
How well the region is planning for growth	50	24.6 %
None chosen	7	3.4 %
Total	581	

Q4. Overall, would you rate the transportation system in the Sioux Falls Metropolitan Area as "excellent," "good," "average," or "poor?"

Q4. How would you rate transportation system in Sioux Falls Metropolitan Area	Number	Percent
Excellent	7	3.4 %
Good	34	16.7 %
Average	66	32.5 %
Poor	79	38.9 %
Don't know	17	8.4 %
Total	203	100.0 %

WITHOUT "DON'T KNOW"

Q4. Overall, would you rate the transportation system in the Sioux Falls Metropolitan Area as "excellent," "good," "average," or "poor?" (without "don't know")

Q4. How would you rate transportation system in Sioux Falls Metropolitan Area	Number	Percent
Excellent	7	3.8 %
Good	34	18.3 %
Average	66	35.5 %
Poor	79	42.5 %
Total	186	100.0 %

Q5. Have you EVER used public transit inside the City of Sioux Falls?

Q5. Have you ever used public transit inside City of Sioux Falls	Number	Percent
Yes	141	69.5 %
No	59	29.1 %
Not provided	3	1.5 %
Total	203	100.0 %

WITHOUT "NOT PROVIDED"

Q5. Have you EVER used public transit inside the City of Sioux Falls? (without "not provided")

Q5. Have you ever used public transit inside City of Sioux Falls	Number	Percent
Yes	141	70.5 %
No	59	29.5 %
Total	200	100.0 %

Q6. Several factors that could encourage you to use public transit in the Sioux Falls Metropolitan Area are listed below. Using a scale of 1 to 5, where 5 is "Very Likely" and 1 is "Very Unlikely," please rate how likely each factor would be to encourage you to use public transit.

(N=203)

	Very likely	Likely	Not sure	Unlikely	Very unlikely	Not provided
Q6-1. Your drive time to your destinations increased by 15 minutes due to traffic congestion	15.3%	18.2%	18.2%	21.2%	20.2%	6.9%
Q6-2. Transit stops are located closer to your home	26.1%	36.9%	15.3%	6.9%	11.3%	3.4%
Q6-3. Transit stops are located closer to your destinations	27.1%	35.0%	19.7%	6.4%	9.4%	2.5%
Q6-4. Buses are scheduled to arrive at stops more frequently	35.5%	31.5%	13.8%	4.9%	8.9%	5.4%
Q6-5. You are better informed about how to use the bus system in Sioux Falls Area	25.1%	31.5%	20.7%	9.9%	8.9%	3.9%
Q6-6. Your employer provided incentives to use public transit services	26.6%	22.2%	18.2%	7.4%	14.8%	10.8%
Q6-7. Bus service operated later in the evening & on Sundays	36.9%	28.6%	11.8%	6.4%	10.8%	5.4%
Q6-8. You could get real-time information about location of buses so you would know when the buses would arrive at stops	36.0%	33.0%	11.8%	4.9%	8.9%	5.4%
Q6-9. Gas prices rise to $5 per gallon	25.6%	23.6%	16.3%	12.8%	11.3%	10.3%
Q6-10. You are better informed about how to use transit-related technology to schedule & use public transit	26.1%	34.0%	17.7%	5.4%	9.4%	7.4%
Q6-11. The price of transit fares was reduced or free	34.0%	21.7%	19.7%	8.9%	8.4%	7.4%

WITHOUT "NOT PROVIDED"

Q6. Several factors that could encourage you to use public transit in the Sioux Falls Metropolitan Area are listed below. Using a scale of 1 to 5, where 5 is "Very Likely" and 1 is "Very Unlikely," please rate how likely each factor would be to encourage you to use public transit. (without "not provided")

(N=203)

	Very likely	Likely	Not sure	Unlikely	Very unlikely
Q6-1. Your drive time to your destinations increased by 15 minutes due to traffic congestion	16.4%	19.6%	19.6%	22.8%	21.7%
Q6-2. Transit stops are located closer to your home	27.0%	38.3%	15.8%	7.1%	11.7%
Q6-3. Transit stops are located closer to your destinations	27.8%	35.9%	20.2%	6.6%	9.6%
Q6-4. Buses are scheduled to arrive at stops more frequently	37.5%	33.3%	14.6%	5.2%	9.4%
Q6-5. You are better informed about how to use the bus system in Sioux Falls Area	26.2%	32.8%	21.5%	10.3%	9.2%
Q6-6. Your employer provided incentives to use public transit services	29.8%	24.9%	20.4%	8.3%	16.6%
Q6-7. Bus service operated later in the evening & on Sundays	39.1%	30.2%	12.5%	6.8%	11.5%
Q6-8. You could get real-time information about location of buses so you would know when the buses would arrive at stops	38.0%	34.9%	12.5%	5.2%	9.4%
Q6-9. Gas prices rise to $5 per gallon	28.6%	26.4%	18.1%	14.3%	12.6%
Q6-10. You are better informed about how to use transit-related technology to schedule & use public transit	28.2%	36.7%	19.1%	5.9%	10.1%
Q6-11. The price of transit fares was reduced or free	36.7%	23.4%	21.3%	9.6%	9.0%

Q7. For each of the following, please indicate whether you think the item should be a "Very High," "High," "Medium," or "Low" priority for improvement in the Sioux Falls Metropolitan Area over the next 20 years.

(N=203)

	Very high	High	Medium	Low	Not provided
Q7-1. Improving existing interchanges on interstates	16.7%	23.6%	31.5%	16.7%	11.3%
Q7-2. Adding interchanges on the interstates	14.8%	23.6%	33.0%	16.7%	11.8%
Q7-3. Improving major north-south roads/ streets in City of Sioux Falls	25.1%	22.2%	27.1%	11.8%	13.8%
Q7-4. Improving major east-west roads/ streets in City of Sioux Falls	30.5%	31.5%	19.2%	5.9%	12.8%
Q7-5. Improving public transportation/bus service in Sioux Falls	49.8%	25.6%	11.8%	6.4%	6.4%
Q7-6. Improving/adding public transportation/ bus service to link Sioux Falls with the outlying communities & areas	40.4%	27.6%	12.3%	12.8%	6.9%
Q7-7. Improving the timing of traffic lights	25.1%	22.7%	30.5%	11.3%	10.3%
Q7-8. Reducing traffic delays caused by trains	22.2%	22.7%	22.2%	23.2%	9.9%
Q7-9. Improving roads & streets in outlying communities & rural areas of Lincoln & Minnehaha Counties	14.3%	24.1%	28.6%	19.7%	13.3%
Q7-10. Improving roads & highways that link communities/rural areas in Lincoln & Minnehaha Counties within Sioux Falls	14.3%	30.5%	31.5%	11.3%	12.3%
Q7-11. Developing new pedestrian (walking) & biking facilities	32.5%	26.6%	20.2%	12.8%	7.9%
Q7-12. Improving existing pedestrian (walking) & biking facilities	31.5%	24.1%	23.6%	13.3%	7.4%
Q7-13. Setting aside land for traffic corridors & roads in future growth areas	22.2%	29.6%	26.1%	11.8%	10.3%
Q7-14. Improving transportation services for seniors & persons with disabilities	65.5%	23.6%	5.4%	1.0%	4.4%
Q7-15. Improving airport services in the region	21.7%	23.6%	26.1%	17.2%	11.3%

Q7. For each of the following, please indicate whether you think the item should be a "Very High," "High," "Medium," or "Low" priority for improvement in the Sioux Falls Metropolitan Area over the next 20 years.

	Very high	High	Medium	Low	Not provided
Q7-16. Improving the area's freight transportation facilities (i.e., airport, rail, truck routes)	10.3%	18.7%	33.0%	23.2%	14.8%
Q7-17. Improving the appearance of roads/ highways	17.2%	21.2%	29.1%	20.2%	12.3%
Q7-18. Sustainability & livability (balancing social, economic & environmental issues through complete streets, smart growth, mixed-uses)	27.6%	32.0%	23.2%	7.9%	9.4%
Q7-19. Developing charging stations for electric vehicles (EVs)	14.3%	20.7%	24.6%	29.1%	11.3%

WITHOUT "NOT PROVIDED"

Q7. For each of the following, please indicate whether you think the item should be a "Very High," "High," "Medium," or "Low" priority for improvement in the Sioux Falls Metropolitan Area over the next 20 years. (without "not provided")

(N=203)

	Very high	High	Medium	Low
Q7-1. Improving existing interchanges on interstates	18.9%	26.7%	35.6%	18.9%
Q7-2. Adding interchanges on the interstates	16.8%	26.8%	37.4%	19.0%
Q7-3. Improving major north-south roads/ streets in City of Sioux Falls	29.1%	25.7%	31.4%	13.7%
Q7-4. Improving major east-west roads/ streets in City of Sioux Falls	35.0%	36.2%	22.0%	6.8%
Q7-5. Improving public transportation/bus service in Sioux Falls	53.2%	27.4%	12.6%	6.8%
Q7-6. Improving/adding public transportation/ bus service to link Sioux Falls with the outlying communities & areas	43.4%	29.6%	13.2%	13.8%
Q7-7. Improving the timing of traffic lights	28.0%	25.3%	34.1%	12.6%
Q7-8. Reducing traffic delays caused by trains	24.6%	25.1%	24.6%	25.7%
Q7-9. Improving roads & streets in outlying communities & rural areas of Lincoln & Minnehaha Counties	16.5%	27.8%	33.0%	22.7%
Q7-10. Improving roads & highways that link communities/rural areas in Lincoln & Minnehaha Counties within Sioux Falls	16.3%	34.8%	36.0%	12.9%
Q7-11. Developing new pedestrian (walking) & biking facilities	35.3%	28.9%	21.9%	13.9%
Q7-12. Improving existing pedestrian (walking) & biking facilities	34.0%	26.1%	25.5%	14.4%
Q7-13. Setting aside land for traffic corridors & roads in future growth areas	24.7%	33.0%	29.1%	13.2%
Q7-14. Improving transportation services for seniors & persons with disabilities	68.6%	24.7%	5.7%	1.0%
Q7-15. Improving airport services in the region	24.4%	26.7%	29.4%	19.4%

WITHOUT "NOT PROVIDED"

Q7. For each of the following, please indicate whether you think the item should be a "Very High," "High," "Medium," or "Low" priority for improvement in the Sioux Falls Metropolitan Area over the next 20 years. (without "not provided")

	Very high	High	Medium	Low
Q7-16. Improving the area's freight transportation facilities (i.e., airport, rail, truck routes)	12.1%	22.0%	38.7%	27.2%
Q7-17. Improving the appearance of roads/ highways	19.7%	24.2%	33.1%	23.0%
Q7-18. Sustainability & livability (balancing social, economic & environmental issues through complete streets, smart growth, mixed-uses)	30.4%	35.3%	25.5%	8.7%
Q7-19. Developing charging stations for electric vehicles (EVs)	16.1%	23.3%	27.8%	32.8%

Q8. Which FOUR of the improvements listed in Question 7 would you be most willing to fund with your taxes?

Q8. Top choice	Number	Percent
Improving existing interchanges on interstates	14	6.9 %
Adding interchanges on the interstates	3	1.5 %
Improving major north-south roads/streets in City of Sioux Falls	17	8.4 %
Improving major east-west roads/streets in City of Sioux Falls	19	9.4 %
Improving public transportation/bus service in Sioux Falls	34	16.7 %
Improving/adding public transportation/bus service to link Sioux Falls with the outlying communities & areas	12	5.9 %
Improving the timing of traffic lights	4	2.0 %
Reducing traffic delays caused by trains	6	3.0 %
Improving roads & streets in outlying communities & rural areas of Lincoln & Minnehaha Counties	4	2.0 %
Improving roads & highways that link communities/rural areas in Lincoln & Minnehaha Counties within Sioux Falls	2	1.0 %
Developing new pedestrian (walking) & biking facilities	8	3.9 %
Improving existing pedestrian (walking) & biking facilities	6	3.0 %
Setting aside land for traffic corridors & roads in future growth areas	1	0.5 %
Improving transportation services for seniors & persons with disabilities	58	28.6 %
Improving airport services in the region	2	1.0 %
Sustainability & livability (balancing social, economic & environmental issues through complete streets, smart growth, mixed-uses)	5	2.5 %
None chosen	8	3.9 %
Total	203	100.0 %

Q8. Which FOUR of the improvements listed in Question 7 would you be most willing to fund with your taxes?

Q8. 2nd choice	Number	Percent
Improving existing interchanges on interstates	4	2.0 %
Adding interchanges on the interstates	6	3.0 %
Improving major north-south roads/streets in City of Sioux Falls	12	5.9 %
Improving major east-west roads/streets in City of Sioux Falls	27	13.3 %
Improving public transportation/bus service in Sioux Falls	27	13.3 %
Improving/adding public transportation/bus service to link Sioux Falls with the outlying communities & areas	24	11.8 %
Improving the timing of traffic lights	6	3.0 %
Reducing traffic delays caused by trains	3	1.5 %
Improving roads & streets in outlying communities & rural areas of Lincoln & Minnehaha Counties	2	1.0 %
Improving roads & highways that link communities/rural areas in Lincoln & Minnehaha Counties within Sioux Falls	4	2.0 %
Developing new pedestrian (walking) & biking facilities	17	8.4 %
Improving existing pedestrian (walking) & biking facilities	6	3.0 %
Setting aside land for traffic corridors & roads in future growth areas	3	1.5 %
Improving transportation services for seniors & persons with disabilities	28	13.8 %
Improving airport services in the region	4	2.0 %
Improving the area's freight transportation facilities (i.e., airport, rail, truck routes)	2	1.0 %
Sustainability & livability (balancing social, economic & environmental issues through complete streets, smart growth, mixed-uses)	9	4.4 %
Developing charging stations for electric vehicles (EVs)	5	2.5 %
None chosen	14	6.9 %
Total	203	100.0 %

Q8. Which FOUR of the improvements listed in Question 7 would you be most willing to fund with your taxes?

Q8. 3rd choice	Number	Percent
Adding interchanges on the interstates	11	5.4 %
Improving major north-south roads/streets in City of Sioux Falls	5	2.5 %
Improving major east-west roads/streets in City of Sioux Falls	18	8.9 %
Improving public transportation/bus service in Sioux Falls	16	7.9 %
Improving/adding public transportation/bus service to link Sioux Falls with the outlying communities & areas	13	6.4 %
Improving the timing of traffic lights	12	5.9 %
Reducing traffic delays caused by trains	7	3.4 %
Improving roads & streets in outlying communities & rural areas of Lincoln & Minnehaha Counties	6	3.0 %
Improving roads & highways that link communities/rural areas in Lincoln & Minnehaha Counties within Sioux Falls	2	1.0 %
Developing new pedestrian (walking) & biking facilities	17	8.4 %
Improving existing pedestrian (walking) & biking facilities	22	10.8 %
Setting aside land for traffic corridors & roads in future growth areas	3	1.5 %
Improving transportation services for seniors & persons with disabilities	22	10.8 %
Improving airport services in the region	5	2.5 %
Improving the appearance of roads/highways	4	2.0 %
Sustainability & livability (balancing social, economic & environmental issues through complete streets, smart growth, mixed-uses)	18	8.9 %
Developing charging stations for electric vehicles (EVs)	4	2.0 %
None chosen	18	8.9 %
Total	203	100.0 %

Q8. Which FOUR of the improvements listed in Question 7 would you be most willing to fund with your taxes?

Q8. 4th choice	Number	Percent
Improving existing interchanges on interstates	3	1.5 %
Adding interchanges on the interstates	3	1.5 %
Improving major north-south roads/streets in City of Sioux Falls	5	2.5 %
Improving major east-west roads/streets in City of Sioux Falls	8	3.9 %
Improving public transportation/bus service in Sioux Falls	16	7.9 %
Improving/adding public transportation/bus service to link Sioux Falls with the outlying communities & areas	15	7.4 %
Improving the timing of traffic lights	7	3.4 %
Reducing traffic delays caused by trains	7	3.4 %
Improving roads & streets in outlying communities & rural areas of Lincoln & Minnehaha Counties	6	3.0 %
Improving roads & highways that link communities/rural areas in Lincoln & Minnehaha Counties within Sioux Falls	10	4.9 %
Developing new pedestrian (walking) & biking facilities	18	8.9 %
Improving existing pedestrian (walking) & biking facilities	16	7.9 %
Setting aside land for traffic corridors & roads in future growth areas	4	2.0 %
Improving transportation services for seniors & persons with disabilities	19	9.4 %
Improving airport services in the region	6	3.0 %
Improving the area's freight transportation facilities (i.e., airport, rail, truck routes)	2	1.0 %
Improving the appearance of roads/highways	3	1.5 %
Sustainability & livability (balancing social, economic & environmental issues through complete streets, smart growth, mixed-uses)	13	6.4 %
Developing charging stations for electric vehicles (EVs)	5	2.5 %
None chosen	37	18.2 %
Total	203	100.0 %

SUM OF TOP 4 CHOICES

Q8. Which FOUR of the improvements listed in Question 7 would you be most willing to fund with your taxes? (top 4)

Q8. Sum of top 4 choices	Number	Percent
Improving existing interchanges on interstates	21	10.3 %
Adding interchanges on the interstates	23	11.3 %
Improving major north-south roads/streets in City of Sioux Falls	39	19.2 %
Improving major east-west roads/streets in City of Sioux Falls	72	35.5 %
Improving public transportation/bus service in Sioux Falls	93	45.8 %
Improving/adding public transportation/bus service to link Sioux Falls with the outlying communities & areas	64	31.5 %
Improving the timing of traffic lights	29	14.3 %
Reducing traffic delays caused by trains	23	11.3 %
Improving roads & streets in outlying communities & rural areas of Lincoln & Minnehaha Counties	18	8.9 %
Improving roads & highways that link communities/rural areas in Lincoln & Minnehaha Counties within Sioux Falls	18	8.9 %
Developing new pedestrian (walking) & biking facilities	60	29.6 %
Improving existing pedestrian (walking) & biking facilities	50	24.6 %
Setting aside land for traffic corridors & roads in future growth areas	11	5.4 %
Improving transportation services for seniors & persons with disabilities	127	62.6 %
Improving airport services in the region	17	8.4 %
Improving the area's freight transportation facilities (i.e., airport, rail, truck routes)	4	2.0 %
Improving the appearance of roads/highways	7	3.4 %
Sustainability & livability (balancing social, economic & environmental issues through complete streets, smart growth, mixed-uses)	45	22.2 %
Developing charging stations for electric vehicles (EVs)	14	6.9 %
None chosen	8	3.9 %
Total	743	

Q9. How do you think the current level of funding for road and highway improvements in the Sioux Falls Metropolitan Area should change over the next five years?

Q9. How should current level of funding for road & highway improvements in Sioux Falls Metropolitan Area change over next five years	Number	Percent
Should be much greater	37	18.2 %
Should be somewhat greater	88	43.3 %
Should stay the same	35	17.2 %
Should be reduced	2	1.0 %
Don't know	41	20.2 %
Total	203	100.0 %

WITHOUT “DON’T KNOW”

Q9. How do you think the current level of funding for road and highway improvements in the Sioux Falls Metropolitan Area should change over the next five years? (without "don't know")

Q9. How should current level of funding for road & highway improvements in Sioux Falls Metropolitan Area change over next five years	Number	Percent
Should be much greater	37	22.8 %
Should be somewhat greater	88	54.3 %
Should stay the same	35	21.6 %
Should be reduced	2	1.2 %
Total	162	100.0 %

Q10. How do you think the current level of funding for public transportation in the Sioux Falls Metropolitan Area should change over the next five years?

Q10. How should current level of funding for public transportation in Sioux Falls Metropolitan Area change over next five years	Number	Percent
Should be much greater	85	41.9 %
Should be somewhat greater	77	37.9 %
Should stay the same	20	9.9 %
Should be reduced	1	0.5 %
Don't know	20	9.9 %
Total	203	100.0 %

WITHOUT "DON'T KNOW"

Q10. How do you think the current level of funding for public transportation in the Sioux Falls Metropolitan Area should change over the next five years? (without "don't know")

Q10. How should current level of funding for public transportation in Sioux Falls Metropolitan Area change over next five years	Number	Percent
Should be much greater	85	46.4 %
Should be somewhat greater	77	42.1 %
Should stay the same	20	10.9 %
Should be reduced	1	0.5 %
Total	183	100.0 %

Q11. Overall, how would you rate the value that you currently receive for the transportation taxes that you pay?

Q11. How would you rate overall value you currently receive for transportation taxes that you pay	Number	Percent
Good value for your money	25	12.3 %
OK value for your money	72	35.5 %
Low value for your money	56	27.6 %
Don't know	50	24.6 %
Total	203	100.0 %

WITHOUT "DON'T KNOW"

Q11. Overall, how would you rate the value that you currently receive for the transportation taxes that you pay? (without "don't know")

Q11. How would you rate overall value you currently receive for transportation taxes that you pay	Number	Percent
Good value for your money	25	16.3 %
OK value for your money	72	47.1 %
Low value for your money	56	36.6 %
Total	153	100.0 %

Q12. Do you generally think that local governments in the Sioux Falls Metropolitan Area do a good job of involving residents in the process of planning transportation improvements for the region?

Q12. Do local governments in Sioux Falls Metropolitan Area do a good job of involving residents in the process of planning transportation improvements for the region	Number	Percent
Yes	54	26.6 %
No	88	43.3 %
Don't know	61	30.0 %
Total	203	100.0 %

WITHOUT “DON’T KNOW”

Q12. Do you generally think that local governments in the Sioux Falls Metropolitan Area do a good job of involving residents in the process of planning transportation improvements for the region? (without "don't know")

Q12. Do local governments in Sioux Falls Metropolitan Area do a good job of involving residents in the process of planning transportation improvements for the region	Number	Percent
Yes	54	38.0 %
No	88	62.0 %
Total	142	100.0 %

Q13. Which of the following sources would be the best way to keep you informed about planned transportation improvements in the Sioux Falls Metropolitan Area?

Q13. Which following sources would be the best way to keep you informed about planned transportation improvements	Number	Percent
Access channel on cable TV	49	24.1 %
Local newspaper	49	24.1 %
Radio announcement	59	29.1 %
A website	92	45.3 %
Social networks (Twitter, Instagram, FB, etc.)	111	54.7 %
Brochures	31	15.3 %
Newsletters	64	31.5 %
Television news	125	61.6 %
Public meetings/forums	97	47.8 %
Other	4	2.0 %
Total	681	

Q13-10. Other

Q13-10. Other	Number	Percent
Text	1	25.0 %
Opt in for text or call for information	1	25.0 %
Mail postcard with date and time	1	25.0 %
Billboards and local postings	1	25.0 %
Total	4	100.0 %

Q14. Which of the following modes of transportation do you or other members of your household normally use to get to/from work, school or other frequently traveled destinations?

Q14. Which following modes of transportation does your household normally use to get to/from work, school or other frequently traveled destinations	Number	Percent
Sioux Area Metro (Fixed-Route)	47	23.2 %
Sioux Area Metro (Paratransit)	71	35.0 %
Hartford Area Transit	2	1.0 %
Brandon Public Transit	3	1.5 %
Personal vehicle	141	69.5 %
Agency car or vanpool	8	3.9 %
Bicycle	26	12.8 %
Walking	68	33.5 %
Taxi	6	3.0 %
Lyft	54	26.6 %
Rides from family or friends	60	29.6 %
Other	4	2.0 %
Total	490	

Q14-12. Other

Q14-12. Other	Number	Percent
My handicap scooter	1	25.0 %
VA for medication	1	25.0 %
Standing electric scooter	1	25.0 %
Caregiver	1	25.0 %
Total	4	100.0 %

Q15. Which of the following types vehicles do you own?

Q15. Which following types of vehicles do you own	Number	Percent
Car	142	70.0 %
Bicycle	70	34.5 %
Electric scooter	17	8.4 %
Electric bicycle	5	2.5 %
None	46	22.7 %
Total	280	

WITHOUT "NONE"

Q15. Which of the following types vehicles do you own? (without "none")

Q15. Which following types of vehicles do you own	Number	Percent
Car	131	83.4 %
Bicycle	63	40.1 %
Electric scooter	17	10.8 %
Electric bicycle	5	3.2 %
Total	216	

Q16. Which of the following types of destinations do you typically visit at least once per week?

Q16. Which following types of destinations do you typically visit at least once per week	Number	Percent
Your workplace	125	61.6 %
Medical/dental facilities	91	44.8 %
Grocery stores	173	85.2 %
Other stores for shopping	136	67.0 %
Social services offices	30	14.8 %
Education (schools/colleges)	32	15.8 %
Places of worship	81	39.9 %
Recreation places	94	46.3 %
Other	12	5.9 %
Total	774	

Q16-9. Other

Q16-9. Other	Number	Percent
Social interaction with family, friends	1	8.3 %
Group meetings for weight loss	1	8.3 %
Restaurants, entertainment	1	8.3 %
Restaurants	1	8.3 %
Library	1	8.3 %
Restaurants, volunteer programs	1	8.3 %
Doctor when needed	1	8.3 %
Meetings with city, visiting friends/family, eating out	1	8.3 %
Sheltered workshop, Lifescope	1	8.3 %
Active generations	1	8.3 %
Restaurants, downtown area	1	8.3 %
Friends and family homes	1	8.3 %
Total	12	100.0 %

Q17. Have you used Lyft or Uber in the past year?

Q17. Have you used Lyft or Uber in past year	Number	Percent
Yes	108	53.2 %
No	94	46.3 %
Not provided	1	0.5 %
Total	203	100.0 %

WITHOUT "NOT PROVIDED"

Q17. Have you used Lyft or Uber in the past year? (without "not provided")

Q17. Have you used Lyft or Uber in past year	Number	Percent
Yes	108	53.5 %
No	94	46.5 %
Total	202	100.0 %

Q18. How many years have you lived in the Sioux Falls Metropolitan Area?

Q18. How many years have you lived in Sioux Falls Metropolitan Area	Number	Percent
0-5	28	13.8 %
6-10	32	15.8 %
11-15	21	10.3 %
16-20	21	10.3 %
21-30	36	17.7 %
31+	63	31.0 %
Not provided	2	1.0 %
Total	203	100.0 %

WITHOUT "NOT PROVIDED"

Q18. How many years have you lived in the Sioux Falls Metropolitan Area? (without "not provided")

Q18. How many years have you lived in Sioux Falls Metropolitan Area	Number	Percent
0-5	28	13.9 %
6-10	32	15.9 %
11-15	21	10.4 %
16-20	21	10.4 %
21-30	36	17.9 %
31+	63	31.3 %
Total	201	100.0 %

Q19. What is your age?

Q19. Your age	Number	Percent
18-34	28	13.8 %
35-44	32	15.8 %
45-54	41	20.2 %
55-64	45	22.2 %
65+	57	28.1 %
Total	203	100.0 %

Q20. What is your HOME zip code?

Q20. Your home zip code	Number	Percent
57106	56	27.6 %
57103	37	18.2 %
57104	32	15.8 %
57110	20	9.9 %
57105	17	8.4 %
57108	13	6.4 %
57005	9	4.4 %
57107	5	2.5 %
57033	4	2.0 %
57032	3	1.5 %
99999	2	1.0 %
57710	1	0.5 %
57501	1	0.5 %
57013	1	0.5 %
57030	1	0.5 %
57022	1	0.5 %
Total	203	100.0 %

Q21. Which of the following BEST describes your race?

Q21. Which following best describes your race	Number	Percent
Asian or Asian Indian	3	1.5 %
Black or African American	6	3.0 %
American Indian or Alaska Native	4	2.0 %
White or Caucasian	184	90.6 %
Native Hawaiian or other Pacific Islander	5	2.5 %
Other	1	0.5 %
Total	203	

Q21-6. Self-describe your race:

Q21-6. Self-describe your race	Number	Percent
Mixed	1	100.0 %
Total	1	100.0 %

Q22. Which of the following describe you?

Q22. Which following describe you	Number	Percent
I am visually impaired/blind	28	13.8 %
I am hearing impaired/deaf	14	6.9 %
I have a physical disability that limits mobility	78	38.4 %
I have a cognitive/mental disability	28	13.8 %
Caregive for person with special needs/diabilities	63	31.0 %
None of these	19	9.4 %
Total	230	

WITHOUT "NONE OF THESE"

Q22. Which of the following describe you? (without "none of these")

Q22. Which following describe you	Number	Percent
I am visually impaired/blind	28	15.2 %
I am hearing impaired/deaf	14	7.6 %
I have a physical disability that limits mobility	78	42.4 %
I have a cognitive/mental disability	28	15.2 %
Caregive for person with special needs/diabilities	63	34.2 %
Total	211	

Q23. Do you speak a language other than English in your home?

Q23. Do you speak a language other than English in your home	Number	Percent
Yes	7	3.4 %
No	196	96.6 %
Total	203	100.0 %

Q24. What is your current employment status?

Q24. What is your current employment status	Number	Percent
Employed outside the home	102	50.2 %
Employed in the home	6	3.0 %
Student	4	2.0 %
Retired	57	28.1 %
Not employed	27	13.3 %
Unemployed, looking for work	7	3.4 %
Total	203	100.0 %

Q25. Would you say your total household income is:

Q25. Your total household income	Number	Percent
Under $10K	46	22.7 %
$10K to $19,999	20	9.9 %
$20K to $29,999	25	12.3 %
$30K to $49,999	49	24.1 %
$50K to $99,999	21	10.3 %
$100K+	21	10.3 %
Not provided	21	10.3 %
Total	203	100.0 %

WITHOUT "NOT PROVIDED"

Q25. Would you say your total household income is: (without "not provided")

Q25. Your total household income	Number	Percent
Under $10K	46	25.3 %
$10K to $19,999	20	11.0 %
$20K to $29,999	25	13.7 %
$30K to $49,999	49	26.9 %
$50K to $99,999	21	11.5 %
$100K+	21	11.5 %
Total	182	100.0 %

Q26. Your gender:

Q26. Your gender	Number	Percent
Male	97	47.8 %
Female	105	51.7 %
Prefer to self-describe	1	0.5 %
Total	203	100.0 %

Q26-3. Self-describe your gender:

Q26-3. Self-describe your gender	Number	Percent
Non-binary	1	100.0 %
Total	1	100.0 %

Section 3:
Survey Instrument

South Eastern Council of Governments • City of Sioux Falls • Minnehaha County • Lincoln County
SIOUX FALLS MPO
METROPOLITAN PLANNING ORGANIZATION
SOUTH DAKOTA
500 N. WESTERN AVE., SUITE 100 • SIOUX FALLS, SD 57104 • P:605.367.5390 • F:605.367.5394
www.siouxfallsmpo.org • sean@secog.org

July 2023

Dear Resident:

On behalf of the Sioux Falls Metropolitan Planning Organization (MPO), **I would like to encourage you to take a few minutes to complete and return the enclosed survey**.

Local governments from the cities of Brandon, Crooks, Harrisburg, Hartford, Sioux Falls, and Tea, as well as Lincoln and Minnehaha counties, are working together with the South Dakota Department of Transportation to plan improvements to the region's transportation system. **Your feedback on this survey is very important, as the results will be used to help identify transportation priorities for the region's Long-Range Transportation Plan**.

A postage-paid return envelope addressed to ETC Institute has been provided for your convenience. ETC Institute is the independent consultant that is responsible for completing the market research study and survey for this project. ETC will compile the results of the study and survey and present a report to the MPO later this summer. This report will also be made available to the public for their review.

If you have any questions, please contact me at sean@secog.org or (605) 681-8176. You may also visit the MPO website at www.siouxfallsmpo.org for more information on the transportation planning process and the Long-Range Transportation Plan. Thank you for your assistance with this important effort.

Sincerely,

Sean Hegyi
Planner, MPO Coordinator

Sioux Falls Metropolitan Planning Area
2023 Long Range Transportation Planning Survey

Thank you for agreeing to participate in this important survey. The Metropolitan Planning Organization, which includes the Cities of Sioux Falls, Brandon, Harrisburg, Tea, Hartford, and Crooks; as well as Lincoln and Minnehaha Counties, will use your input to help set transportation priorities for the region. When you are finished, please return your survey in the enclosed postage-paid envelope. You may also complete the survey online at *SF2023Survey.org*.

1. How often are you able to utilize transportation services that fit your travel needs?

____(1) All the time ____(2) Most of the time ____(3) Some of the time ____(4) Never

2. Several components of the transportation system in the Sioux Falls metropolitan area are listed below. For each item, please indicate whether you are "Very Satisfied," "Somewhat Satisfied," or "Not Satisfied" by circling the corresponding number. A rating of "Don't Know" indicates you are not familiar with the item being rated, and a rating of "neutral" indicates that you do not have a strong opinion either way.

How satisfied are you with the:		Very Satisfied	Somewhat Satisfied	Neutral	Not Satisfied	Don't Know
01.	Maintenance of streets in Sioux Falls	4	3	2	1	9
02.	Maintenance of streets in the communities outside of Sioux Falls	4	3	2	1	9
03.	Maintenance of interstates and highways around Sioux Falls	4	3	2	1	9
04.	Maintenance of rural roads in the Sioux Falls metropolitan area	4	3	2	1	9
05.	Ease of travel by car to/from the City of Sioux Falls and other communities in Minnehaha and Lincoln Counties	4	3	2	1	9
06.	Ease of travel by car from one side of the City of Sioux Falls to the other	4	3	2	1	9
07.	Availability of safe walking/pedestrian facilities in the Sioux Falls metro area	4	3	2	1	9
08.	Availability of safe biking facilities in the Sioux Falls metropolitan area	4	3	2	1	9
09.	Availability of public transportation/bus service in the City of Sioux Falls	4	3	2	1	9
10.	Availability of public transportation/bus service in the areas outside of Sioux Falls	4	3	2	1	9
11.	Adequacy of traffic signage along city streets and highways	4	3	2	1	9
12.	How well the region is planning for growth	4	3	2	1	9

3. Which THREE of the items in Question 2 on the previous page are most important to the members of your household? *[Using the list in Q2 on the previous page, write the numbers for your top 3 choices in the spaces below.]*

1st: _____ 2nd: _____ 3rd: _____

4. Overall, would you rate the transportation system in the Sioux Falls metropolitan area as "excellent," "good," "average," or "poor"?

____(4) Excellent ____(2) Average ____(9) Don't know
____(3) Good ____(1) Poor

5. Have you EVER used public transit inside the City of Sioux Falls?

____(1) Yes ____(2) No

6. Several factors that could encourage you to use public transit in the Sioux Falls metropolitan area are listed below. Using a scale of 1 to 5, where 5 is "Very Likely" and 1 is "Very Unlikely," please rate how likely each factor would be to encourage you to use public transit.

How likely would you be to use public transit if:		Very Likely	Likely	Not Sure	Unlikely	Very Unlikely
01.	Your drive time to your destinations increased by 15 minutes due to traffic congestion	5	4	3	2	1
02.	Transit stops are located closer to your home	5	4	3	2	1
03.	Transit stops are located closer to your destinations	5	4	3	2	1
04.	Buses are scheduled to arrive at stops more frequently	5	4	3	2	1
05.	You are better informed about how to use the bus system in the Sioux Falls area	5	4	3	2	1
06.	Your employer provided incentives to use public transit services	5	4	3	2	1
07.	Bus service operated later in the evening and on Sundays	5	4	3	2	1
08.	You could get real-time information about the location of buses so you would know when the buses would arrive at stops	5	4	3	2	1
09.	Gas prices rise to $5 per gallon	5	4	3	2	1
10.	You are better informed about how to use transit-related technology to schedule and use public transit	5	4	3	2	1
11.	The price of transit fares was reduced or free	5	4	3	2	1

7. For each of the following, please indicate whether you think the item should be a "Very High," "High," "Medium," or "Low" priority for improvement in the Sioux Falls metropolitan area over the next 20 years:

Rating of transportation issues:		Very High	High	Medium	Low
01.	Improving existing interchanges on interstates	4	3	2	1
02.	Adding interchanges on the interstates	4	3	2	1
03.	Improving major north-south roads/streets in the City of Sioux Falls	4	3	2	1
04.	Improving major east-west roads/streets in the City of Sioux Falls	4	3	2	1
05.	Improving public transportation/bus service in Sioux Falls	4	3	2	1
06.	Improving/adding public transportation/bus service to link Sioux Falls with the outlying communities and areas	4	3	2	1
07.	Improving the timing of traffic lights	4	3	2	1
08.	Reducing traffic delays caused by trains	4	3	2	1
09.	Improving roads and streets in outlying communities and rural areas of Lincoln and Minnehaha Counties	4	3	2	1
10.	Improving roads and highways that link communities/rural areas in Lincoln and Minnehaha Counties with Sioux Falls	4	3	2	1
11.	Developing new pedestrian (walking) and biking facilities	4	3	2	1
12.	Improving existing pedestrian (walking) and biking facilities	4	3	2	1
13.	Setting aside land for traffic corridors and roads in future growth areas	4	3	2	1
14.	Improving transportation services for seniors and persons with disabilities	4	3	2	1
15.	Improving airport services in the region	4	3	2	1
16.	Improving the area's freight transportation facilities (i.e., airport, rail, truck routes)	4	3	2	1
17.	Improving the appearance of roads/highways	4	3	2	1
18.	Sustainability and livability (balancing social, economic and environmental issues through complete streets, smart growth, mixed-uses)	4	3	2	1
19.	Developing charging stations for electric vehicles (EVs)	4	3	2	1

8. Which FOUR of the improvements listed above would you be most willing to fund with your taxes? *[Using the list in Q7, write the numbers of your top 4 choices in the spaces below.]*

1st: _____ 2nd: _____ 3rd: _____ 4th: _____

9. How do you think the current level of funding for road and highway improvements in the Sioux Falls metropolitan area should change over the next five years?

____(4) Should be much greater
____(3) Should be somewhat greater
____(2) Should stay the same
____(1) Should be reduced
____(9) Don't know

10. How do you think the current level of funding for public transportation in the Sioux Falls metropolitan area should change over the next five years?

____(4) Should be much greater
____(3) Should be somewhat greater
____(2) Should stay the same
____(1) Should be reduced
____(9) Don't know

11. Overall, how would you rate the value that you currently receive for the transportation taxes that you pay?

____(3) Good value for your money
____(2) OK value for your money
____(1) Low value for your money
____(9) Don't know

12. Do you generally think that local governments in the Sioux Falls metropolitan area do a good job of involving residents in the process of planning transportation improvements for the region?

____(1) Yes ____(2) No ____(9) Don't know

13. Which of the following sources would be the best way to keep you informed about planned transportation improvements in the Sioux Falls metropolitan area? *[Check all that apply.]*

____(01) Access channel on cable TV
____(02) Local newspaper
____(03) Radio announcement
____(04) A website
____(05) Social networks (Twitter, Instagram, FB, etc.)
____(06) Brochures
____(07) Newsletters
____(08) Television news
____(09) Public meetings/forums
____(10) Other: _____

DEMOGRAPHICS

14. Which of the following modes of transportation do you or other members of your household normally use to get to/from work, school or other frequently traveled destinations? *[Check all that apply.]*

____(01) Sioux Area Metro (Fixed-Route)
____(02) Sioux Area Metro (Paratransit)
____(03) Hartford Area Transit
____(04) Brandon Public Transit
____(05) Personal vehicle
____(06) Agency car or vanpool
____(07) Bicycle
____(08) Walking
____(09) Taxi
____(10) Lyft
____(11) Rides from family or friends
____(12) Other (describe): _____

15. Which of the following types vehicles do you own? *[Check all that apply.]*

___(1) Car
___(2) Bicycle
___(3) Electric scooter
___(4) Electric bicycle
___(5) None

16. Which of the following types of destinations do you typically visit at least once per week?

____(1) Your workplace
____(2) Medical/dental facilities
____(3) Grocery stores
____(4) Other stores for shopping
____(5) Social services offices
____(6) Education (schools/colleges)
____(7) Places of worship
____(8) Recreation places
____(9) Other: _____

17. Have you used Lyft or Uber in the past year? ____(1) Yes ____(2) No

18. How many years have you lived in the Sioux Falls metropolitan area? _____ years

19. What is your age? _____ years

20. What is your HOME zip code? _____

21. Which of the following BEST describes your race? *[Check all that apply.]*

____(01) Asian or Asian Indian
____(02) Black or African American
____(03) American Indian or Alaska Native
____(04) White or Caucasian
____(05) Native Hawaiian or other Pacific Islander
____(06) Hispanic, Spanish, or Latino/a/x
____(99) Other: _____

22. Which of the following describe you? *[Check all that apply.]*

____(1) I am visually impaired/blind
____(2) I am hearing impaired/deaf
____(3) I have a physical disability that limits mobility
____(4) I have a cognitive/mental disability
____(5) None of these

23. Do you speak a language other than English in your home? ____(1) Yes ____(2) No

24. What is your current employment status?

____(1) Employed outside the home
____(2) Employed in the home
____(3) Student
____(4) Retired
____(5) Not employed
____(6) Unemployed, looking for work

25. Would you say your total household income is:

____(1) Under $10,000
____(2) $10,000 to $19,999
____(3) $20,000 to $29,999
____(4) $30,000 to $49,999
____(5) $50,000 to $99,999
____(6) $100,000 or more

26. Your gender:

____(1) Male ____(2) Female ____(3) Prefer to self-describe: _____

27. *[OPTIONAL]* If you have any other comments about the transportation system in the Sioux Falls area, please write your comments in the space provided below.

_____

_____

_____

28. Would you be willing to participate in future surveys sponsored by the Sioux Falls Metropolitan Planning Organization?

____(1) Yes *[Please answer Q28a.]* ____(2) No

28a. Please provide your contact information.

Mobile Phone Number: _____

Email Address: _____

This concludes the survey. Thank you for your time!

Please return your completed survey in the enclosed postage-paid envelope addressed to:
ETC Institute, 725 W. Frontier Circle, Olathe, KS 66061

Your responses will remain completely confidential. The Information printed to the right will ONLY be used to help identify which areas of the City are having problems. If your address is not correct, please provide the correct

2023 Sioux Area Metro Passenger Survey Findings Report

Presented to Sioux Area Metro
Sioux Falls, South Dakota

August 2023

ETC INSTITUTE

Contents

Executive Summary

2023 Sioux Area Metro Passenger Survey
Executive Summary

Overview and Methodology

The City of Sioux Falls initiated a metro passenger survey during the summer of 2023. The primary objective for conducting the Sioux Area Metro Passenger Survey was to gather accurate travel data from transit riders to assist in planning transportation improvements in the Sioux Falls metropolitan area. The on-board survey was administered to a random sample of 203 riders on the public transit system in Sioux Falls.

This report contains the following:

- Executive Summary with major findings
- Charts and graphs (Section 1)
- GIS maps by Zip Code (Section 2)
- Importance-Satisfaction analysis of key service aspects (Section 3)
- Frequency distribution tables of the survey results (Section 4)
- Cross-tabular data by routes taken by survey respondents (Section 5)
- Survey instrument (Section 6)

Characteristics of Transit Riders and Select Findings

Household Size

More than one-third (36%) of respondents indicated they lived in a one-person household, 32% indicated they lived in a two-person household, 23% indicated their household size is between three and four, and 8% of respondents indicated they lived in a household with five or more people.

Income

Forty-six percent (46%) of respondents indicated they had an annual household income of less than $15,000. Twenty-three percent (23%) indicated they had an annual household income between $15-$29,999. Thirty-one percent (31%) of respondents reported an annual income of $30,000 or more.

Age and Gender

Twenty-four percent (24%) of respondents specified they were between 18 and 34 years old. Thirty-three percent (33%) of respondents indicated they were between 35 and 44 years old, 19% were between 45 and 54 years old, 16% were between 55 and 64 years old, and 8% of respondents indicated they were 65 years or older. Fifty-eight percent (58%) of the respondents were male and 42% of the respondents were female.

2023 Sioux Area Metro Passenger Survey
Executive Summary

Primary Reasons Respondents Use Transit
Eighty-three percent (83%) of transit users indicated they have no working vehicle in the household. Sixty-eight percent (68%) of respondents specified that the bus in Sioux Falls is the only alternative for transportation. Thirty-seven percent (37%) of respondents indicated that the bus is a means to save money. If the bus service was not available, 35% of transit users indicated that they would walk and 26% would get a ride from someone.

Purpose of Trip
Forty-nine percent (49%) of respondents indicated they were employed. Thirty-six percent (36%) of respondents specified the purpose of their trip was for work. Twenty-six percent (26%) of respondents indicated their trip was for personal business. Twenty percent (20%) indicated their trip was for shopping and 9% for hospital/doctor's office visit. Other purposes included: social/recreation (5%), college/school (1%), and other (1%). The majority of respondents (81%) indicated they were planning to use the bus to visit between 1 and 4 places. Nine percent (9%) of respondents indicated they were planning to use the bus to visit five or more places.

Frequency of Use
Forty-four percent (44%) of respondents indicated they ride 5+ days per week. More than a third of respondents (37%) indicated they ride 2-4 days per week. The remaining respondents specified they ride once a week (10%), a few times a month (9%), a few times a year (1%), and rarely or never (1%).

How Long Respondent has been Riding Transit in the Sioux Falls Area
More than half of riders (56%) indicated they have been riding the bus in Sioux Falls five years or less. Twenty percent (20%) of respondents have been riding between 6 and 10 years, 7% have been riding 11 to 15 years, 6% have been riding 16 to 20 years, and 10% have been riding 21 years or more. Thirty-four percent (34%) of respondents rated the quality of the public transit system in Sioux Falls as "excellent." Forty-one percent (41%) of respondents rated the quality of the public transit system in Sioux Falls as "good." Sixteen percent (16%) of respondents rated the quality of the public transit system in Sioux Falls as "fair" and 5% gave a rating of "poor".

Bus Stops
Eighty-five percent (85%) of respondents live 5 blocks or less from the nearest bus stop, 9% live 6 to 10 blocks from the nearest bus stop, and 11% live between 11 blocks or more from the nearest bus stop. Seventy-two percent (72%) of respondents indicated they would like the bus to arrive at the stop nearest their home in 21 minutes or longer.

Transfers
Thirty-four percent (34%) of respondents indicated they would make a transfer once to reach their destination. Thirty-one percent (31%) of respondents indicated they would make a transfer twice to reach their destination. Ten percent (10%) of respondents indicated they would have to make a transfer

2023 Sioux Area Metro Passenger Survey
Executive Summary

three or more times to reach their destination. Lastly, one-fourth (25%) of respondents indicated they would not have to make any transfers to reach their destination.

Service Ratings and Importance

Respondents were asked to provide an overall rating of the services provided by the public transit system in Sioux Falls. Based on the sum of "excellent" and "good" responses, the top-rated services were: how safe they feel on the bus (86%), customer service provided by drivers and SAM staff (84%), and on-time reliability of buses (80%). The services that were of most importance to respondents, based on the sum of their top three choices, were: availability of weekend service (40%), on-time reliability of buses (28%) and customer service provided by drivers and SAM staff (25%).

Potential Services/Amenities Provided to Use

The top potential services that respondents indicated would make them ride the bus more frequently, based on the sum of "very likely" and "likely" responses, were: shelter amenities such as heat, fans, lights, and digital schedules, etc. (72%) and real-time information about the location of buses that can be accessed on a mobile device (67%). Seventy-six percent (76%) indicated they have a smart phone.

Investment Priorities

Recommended Priorities. In order to help the agency identify investment priorities, ETC Institute conducted an Importance-Satisfaction (I-S) analysis. This analysis examined the importance respondents placed on each aspect of public transit and the level of satisfaction with each aspect. By identifying services of high importance and low satisfaction, the analysis identified which aspects will have the most impact on the overall satisfaction with agency services. If the public transit system wants to improve its overall satisfaction rating, they should prioritize investments in services with the highest Importance Satisfaction (I-S) ratings. Details regarding the methodology for the analysis are provided in Section 2 of this report.

Overall Priorities by Major Category. This analysis reviewed the importance of and satisfaction with major categories of public transit services. This analysis was conducted to help set overall priorities. Based on the results of this analysis, the major services that are recommended as the top priorities for investment in order to raise the overall satisfaction rating are listed below:

- Availability of weekend service (I-S Rating = 0.2315)
- Availability of evening service (I-S Rating = 0.1106)

The table on the following page shows the Importance-Satisfaction rating for all 12 categories of public transit services that were rated.

2023 Sioux Area Metro Passenger Survey
Executive Summary

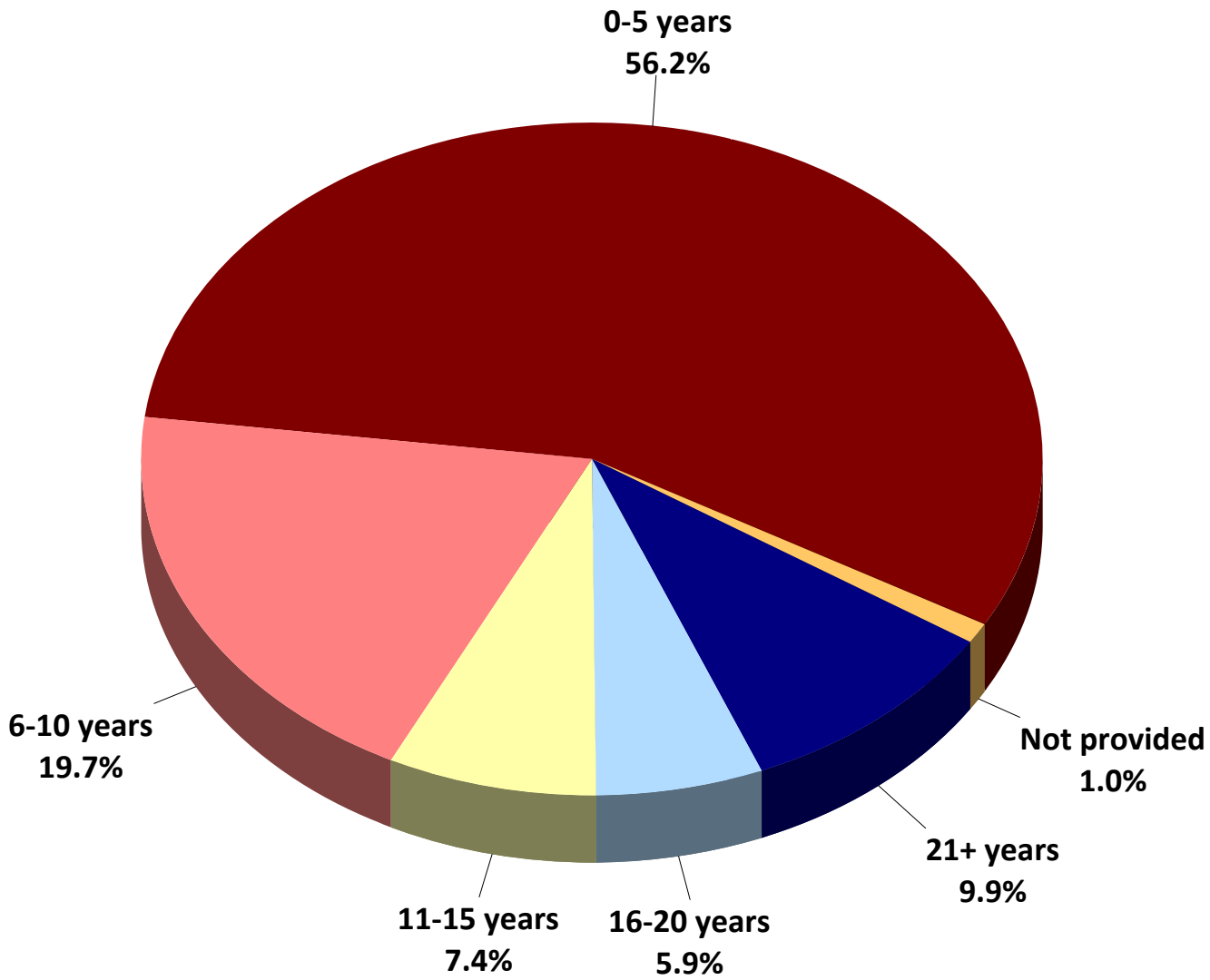
2023 Importance-Satisfaction Rating
Sioux Falls, SD
Public Transit In The Metropolitan Area

Category of Service	Most Important %	Most Important Rank	Satisfaction %	Satisfaction Rank	Importance-Satisfaction Rating	I-S Rating Rank
Very High Priority (IS >.20)						
Availability of weekend service	40%	1	43%	12	0.2315	1
High Priority (IS .10-.20)						
Availability of evening service	22%	4	50%	11	0.1106	2
Medium Priority (IS <.10)						
How frequently buses come by stops	18%	7	68%	8	0.0590	3
On-time reliability of buses	28%	2	80%	3	0.0549	4
How close stops are located to the destinations I need to visit	16%	8	67%	9	0.0543	5
How safe you feel when waiting at bus shelters & SAM Depot	21%	5	79%	5	0.0433	6
Customer service provided by drivers & SAM staff	25%	3	84%	2	0.0406	7
Availability of covered shelters at stops	9%	10	55%	10	0.0400	8
Minimizing the number of transfers	12%	9	69%	7	0.0372	9
How safe you feel on the bus	19%	6	86%	1	0.0275	10
Availability of safe walking/pedestrian facilities to get to the bus	7%	11	79%	4	0.0154	11
Availability of information about bus service	5%	12	73%	6	0.0149	12

1 Charts and Graphs

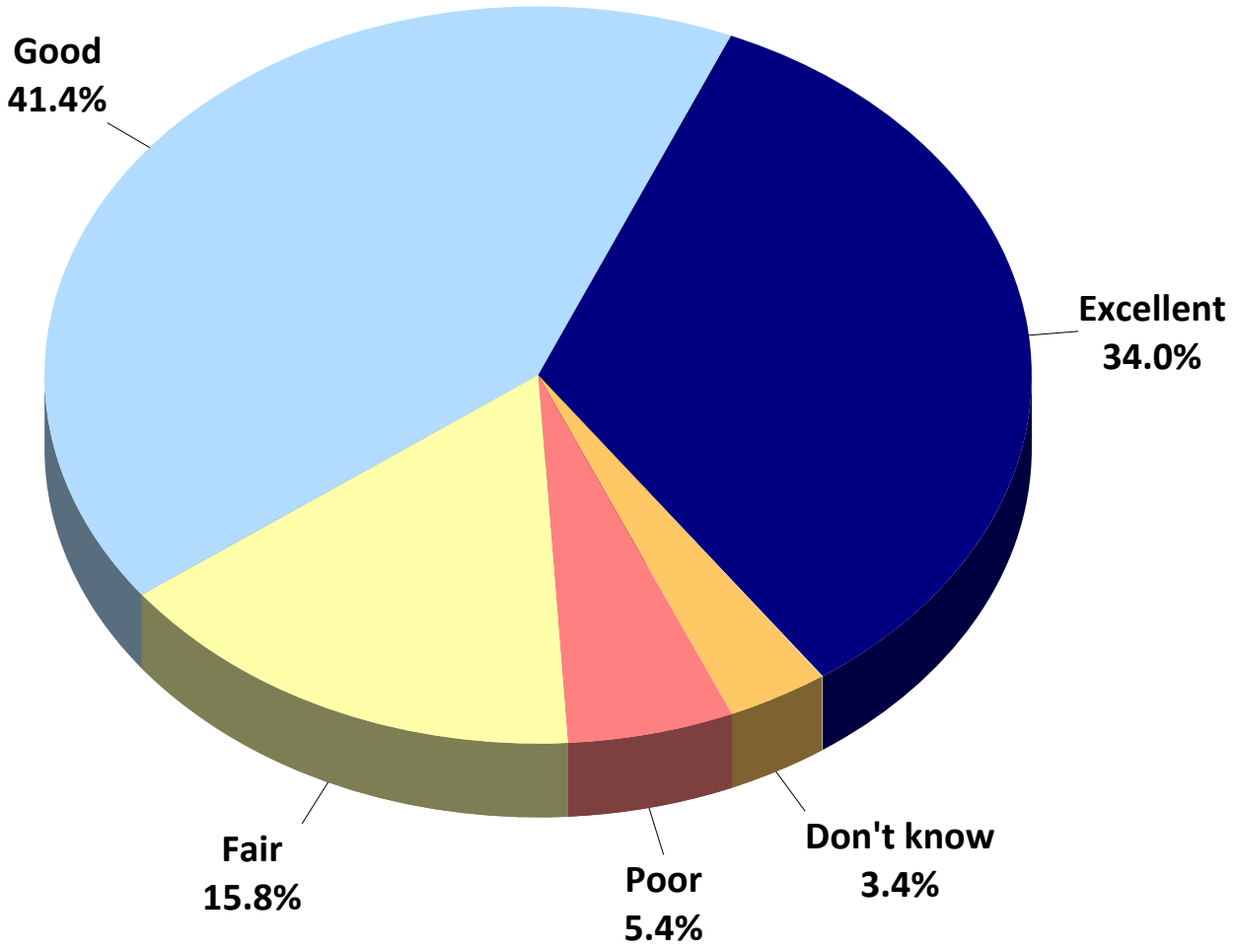
Q1. How many years have you been riding the bus in Sioux Falls?

by percentage of respondents



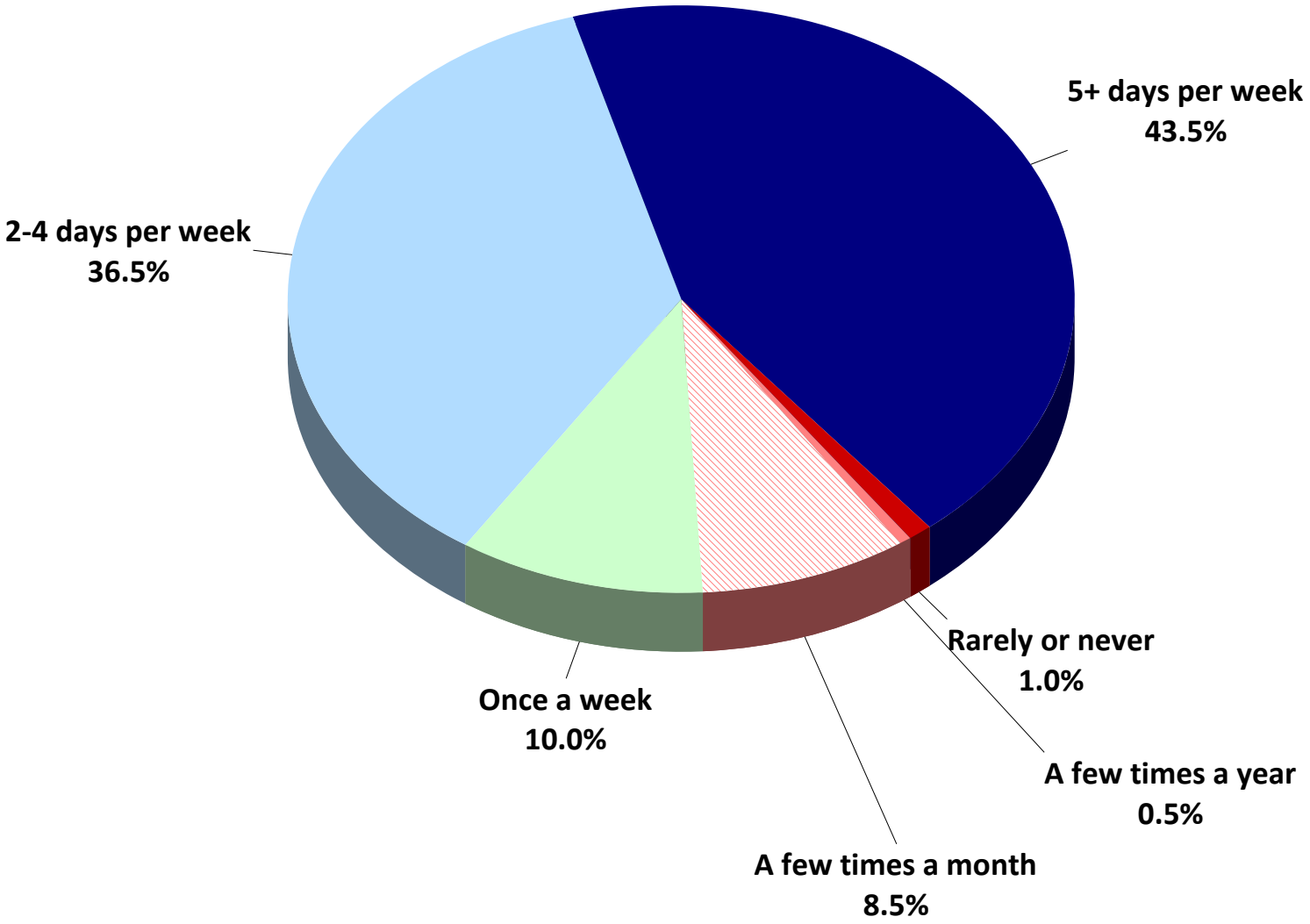
Q2. Overall, what is your perception of the quality of the public transit system in Sioux Falls?

by percentage of respondents



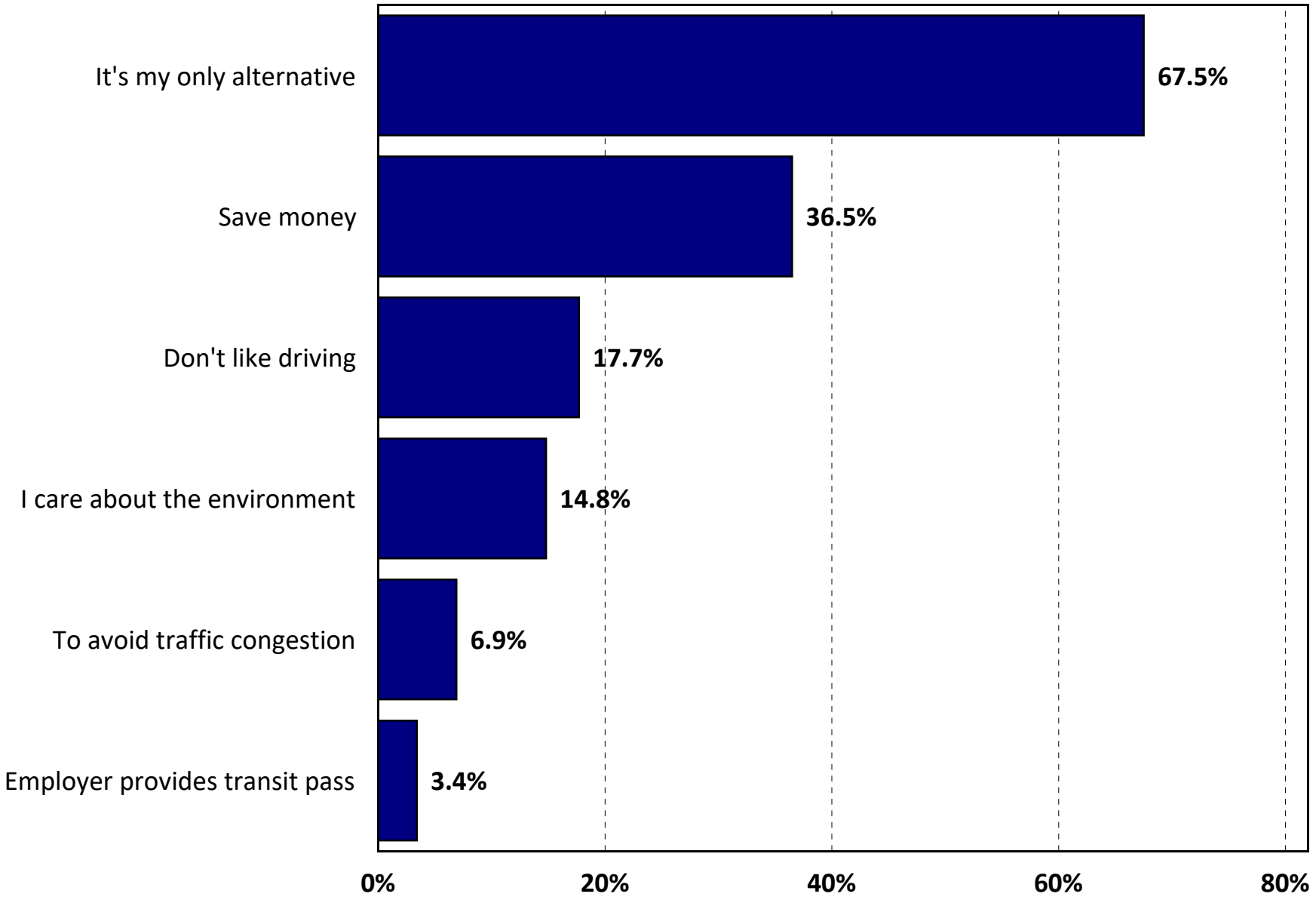
Q3. How often do you currently use Sioux Falls Area Metro?

by percentage of respondents (excluding "not provided")



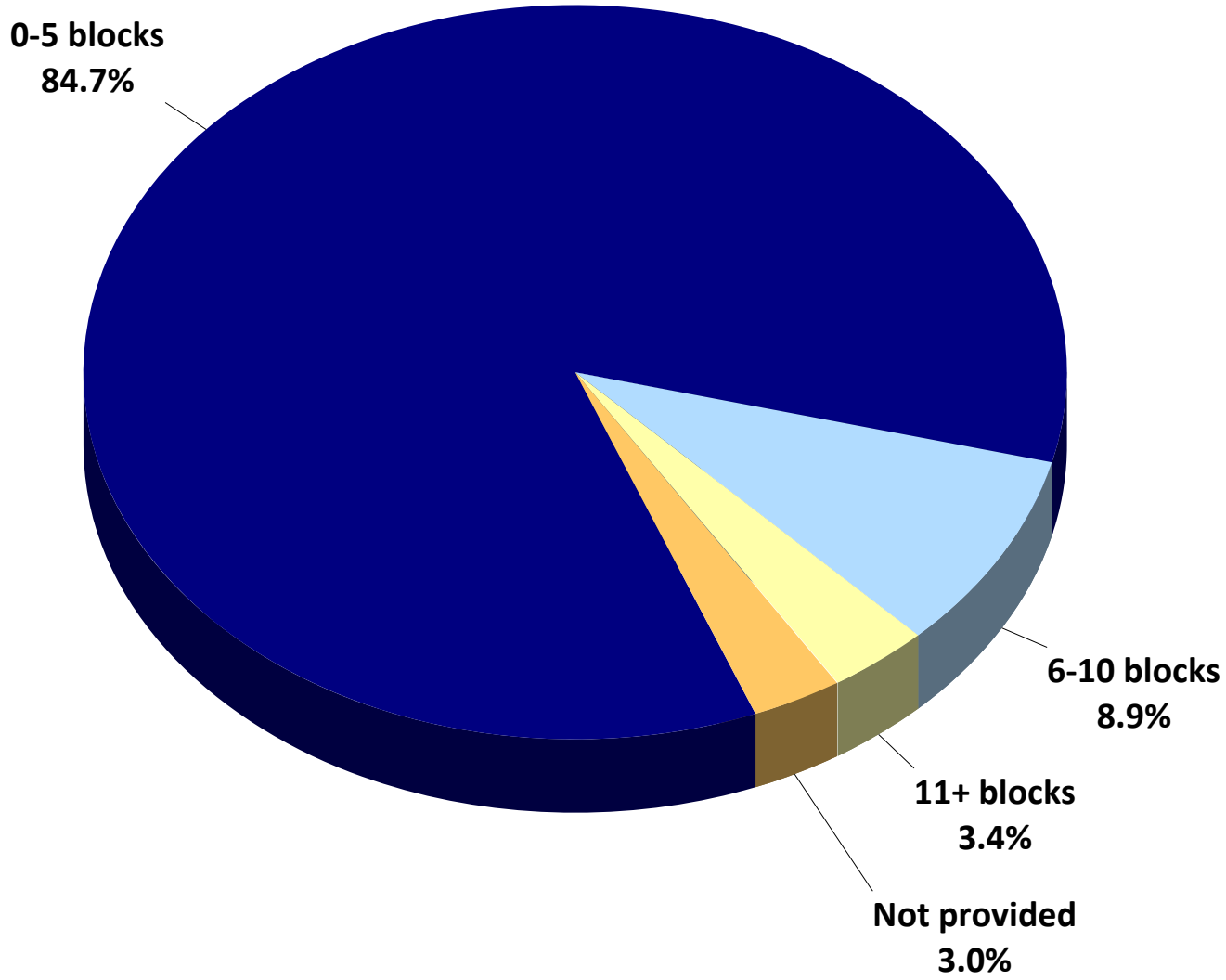
Q4. Why do you use the bus in Sioux Falls?

by percentage of respondents (multiple choices could be made)



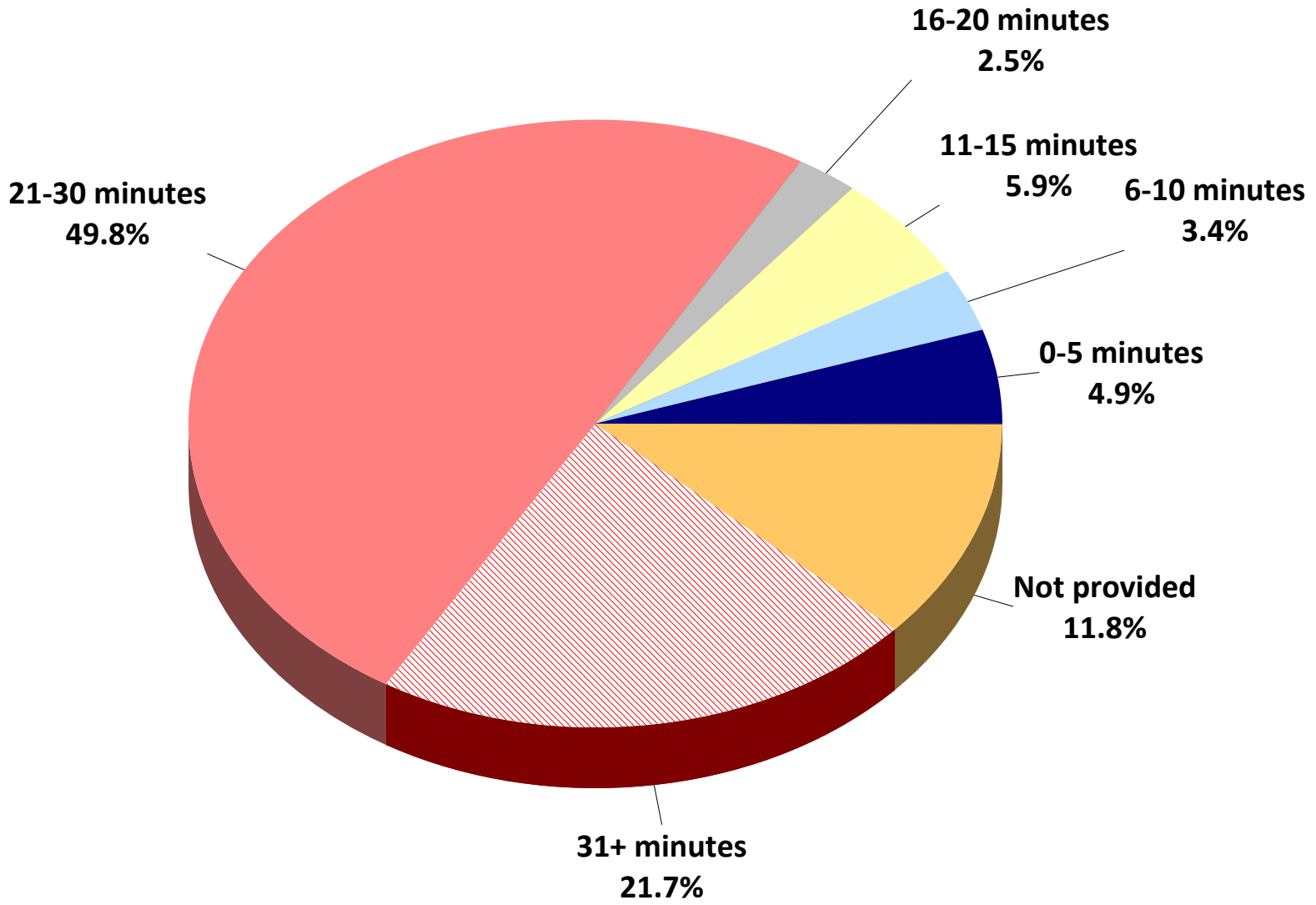
Q5. How many blocks from your HOME is the nearest bus stop located?

by percentage of respondents



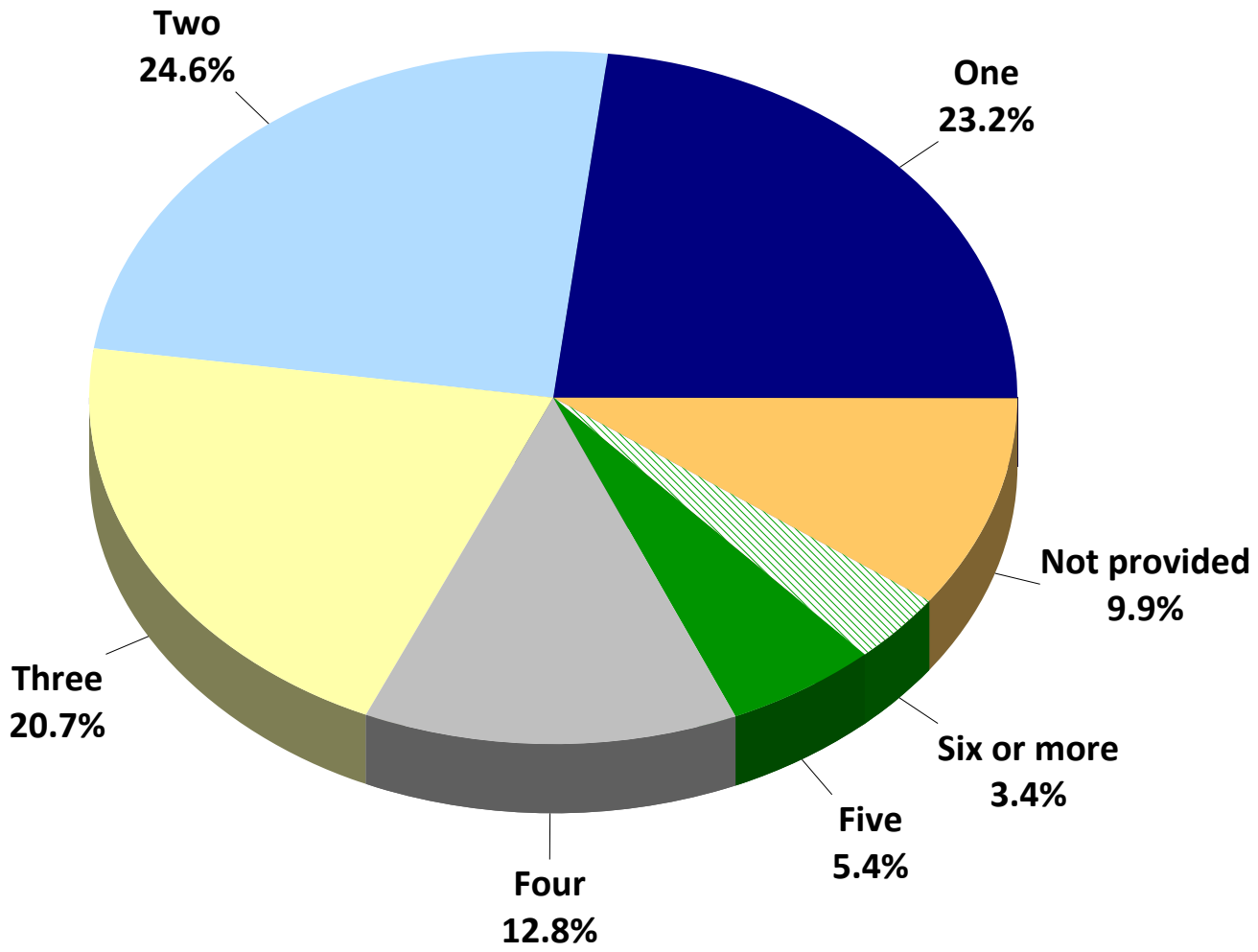
Q6. How often would you like the bus to arrive at the bus stop nearest your HOME?

by percentage of respondents



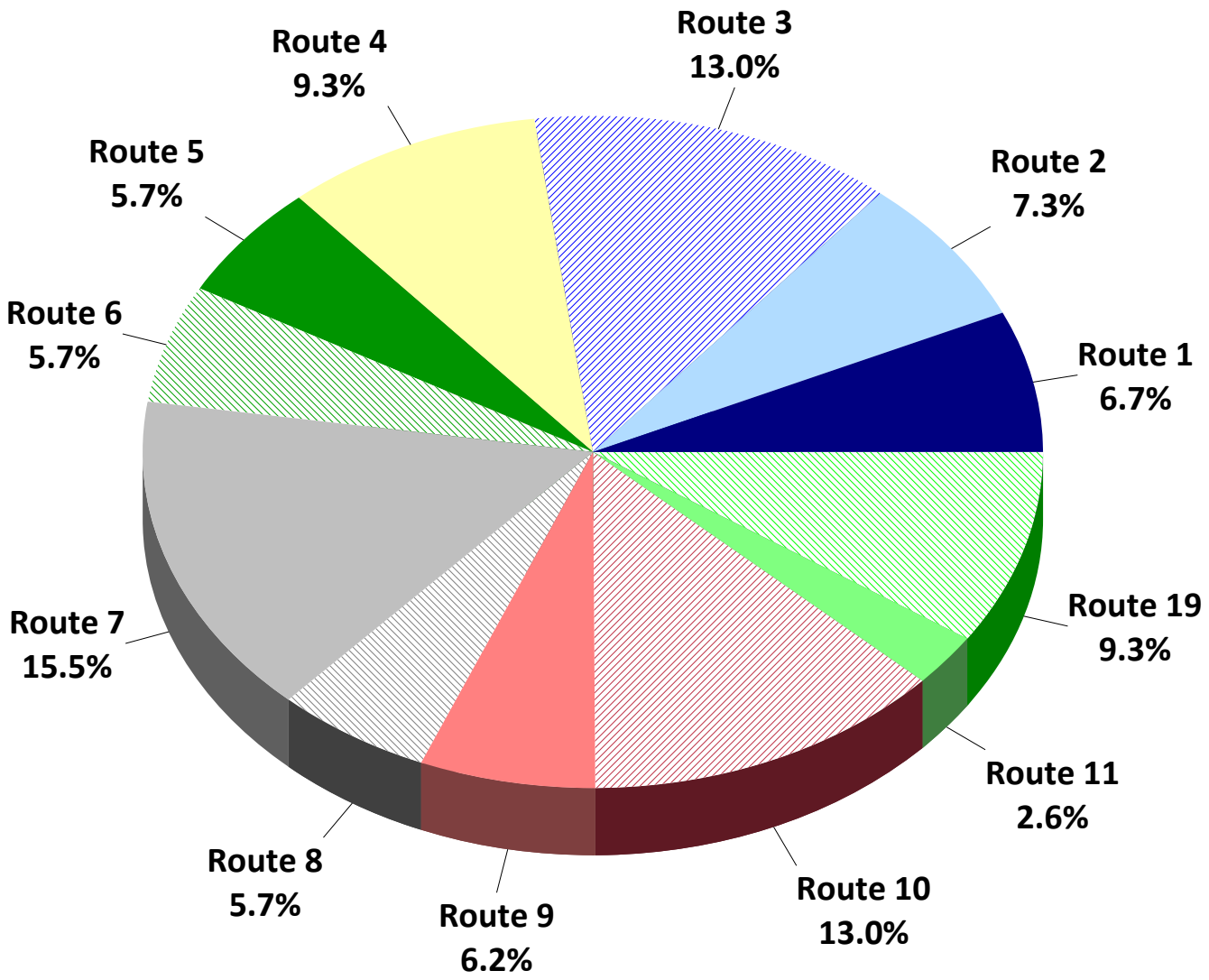
Q7. Excluding your home, how many different places did you (or will you) use the bus to visit today?

by percentage of respondents



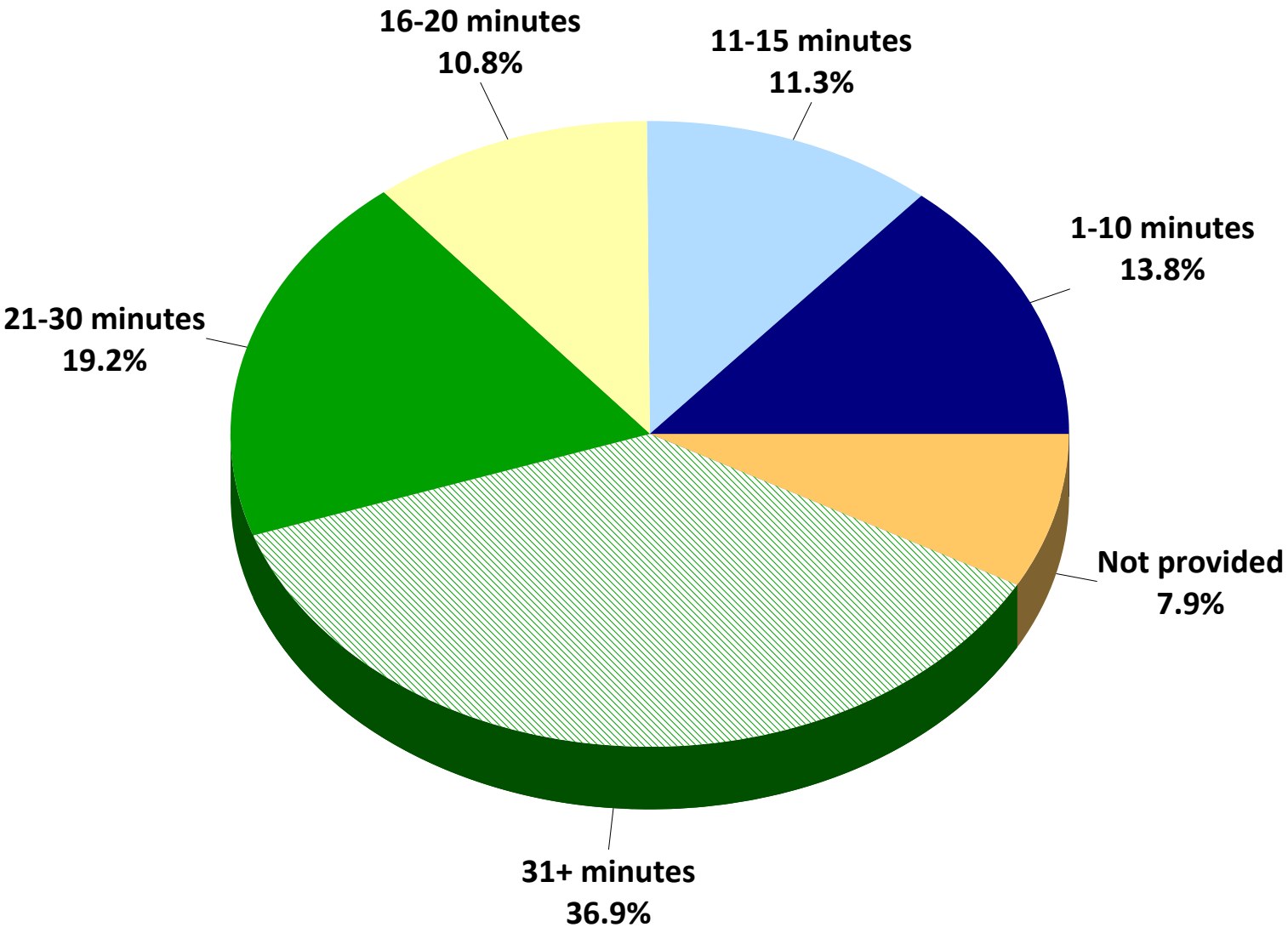
Q8. Which route are you riding now (or about to board next)?

by percentage of respondents



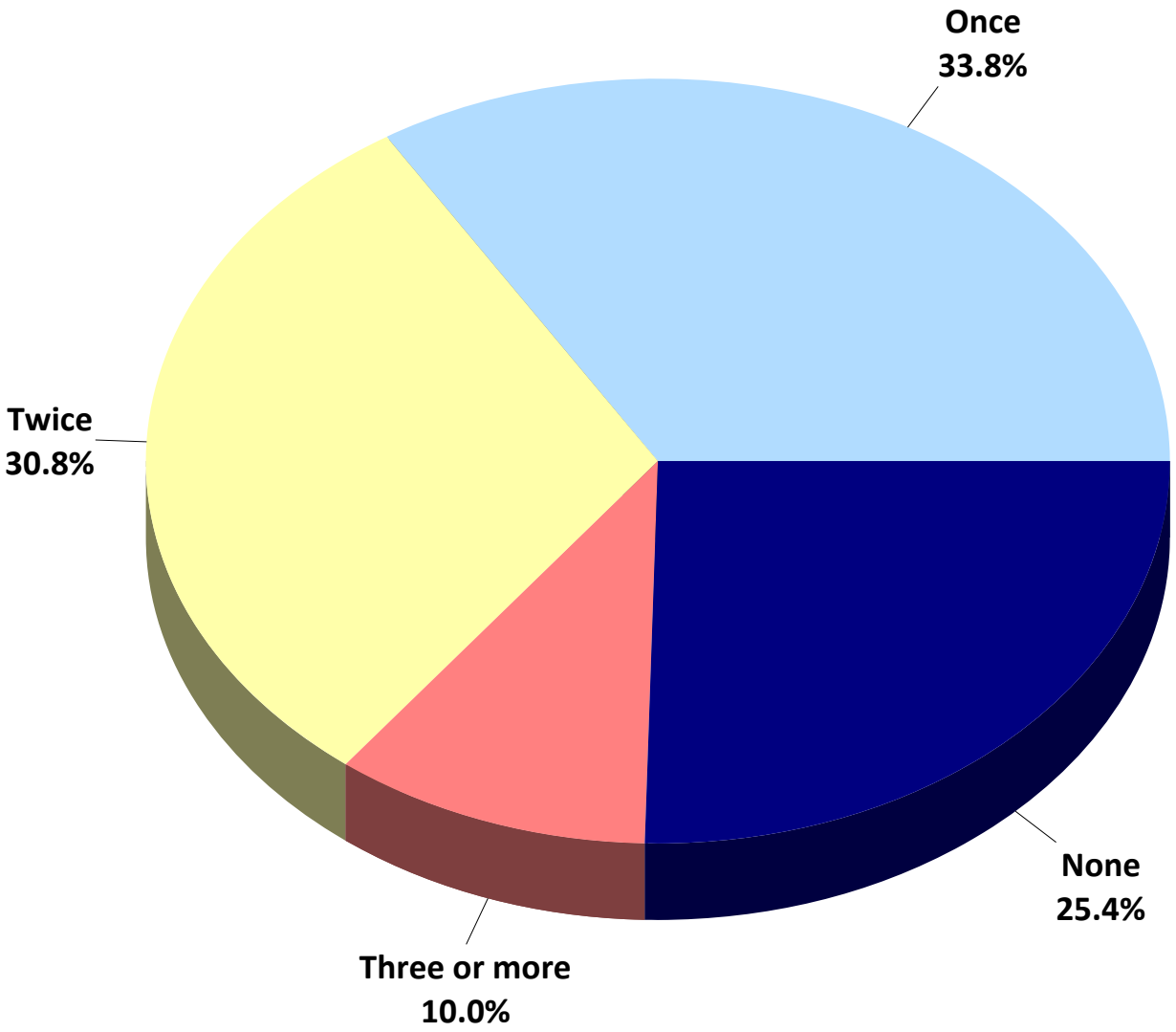
Q10. How long did/will it take you to get from your home to the destination using the bus?

by percentage of respondents



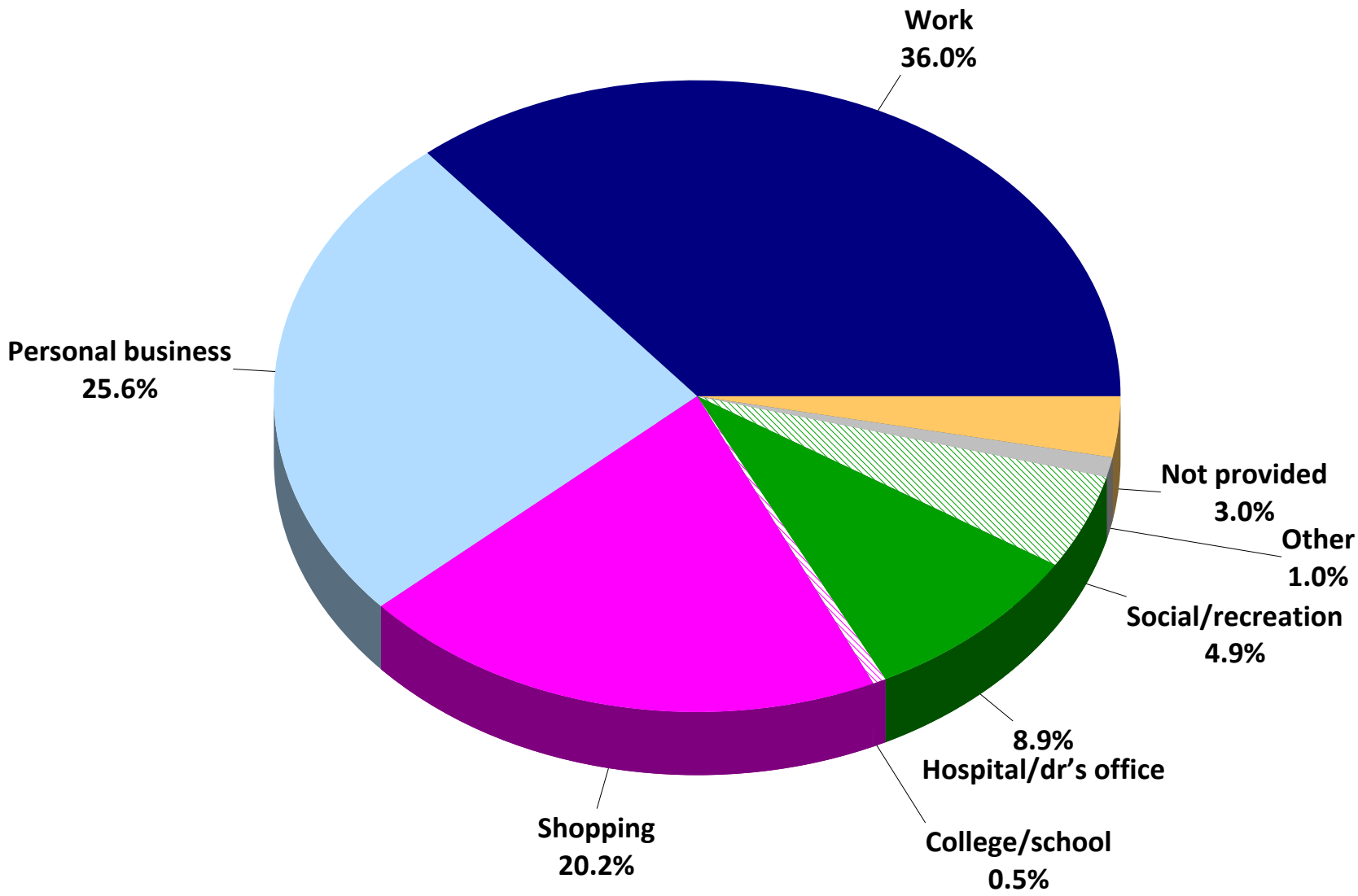
Q11. How many times did you (or would you have had to) transfer to get from your home to your destination?

by percentage of respondents (excluding "not provided")



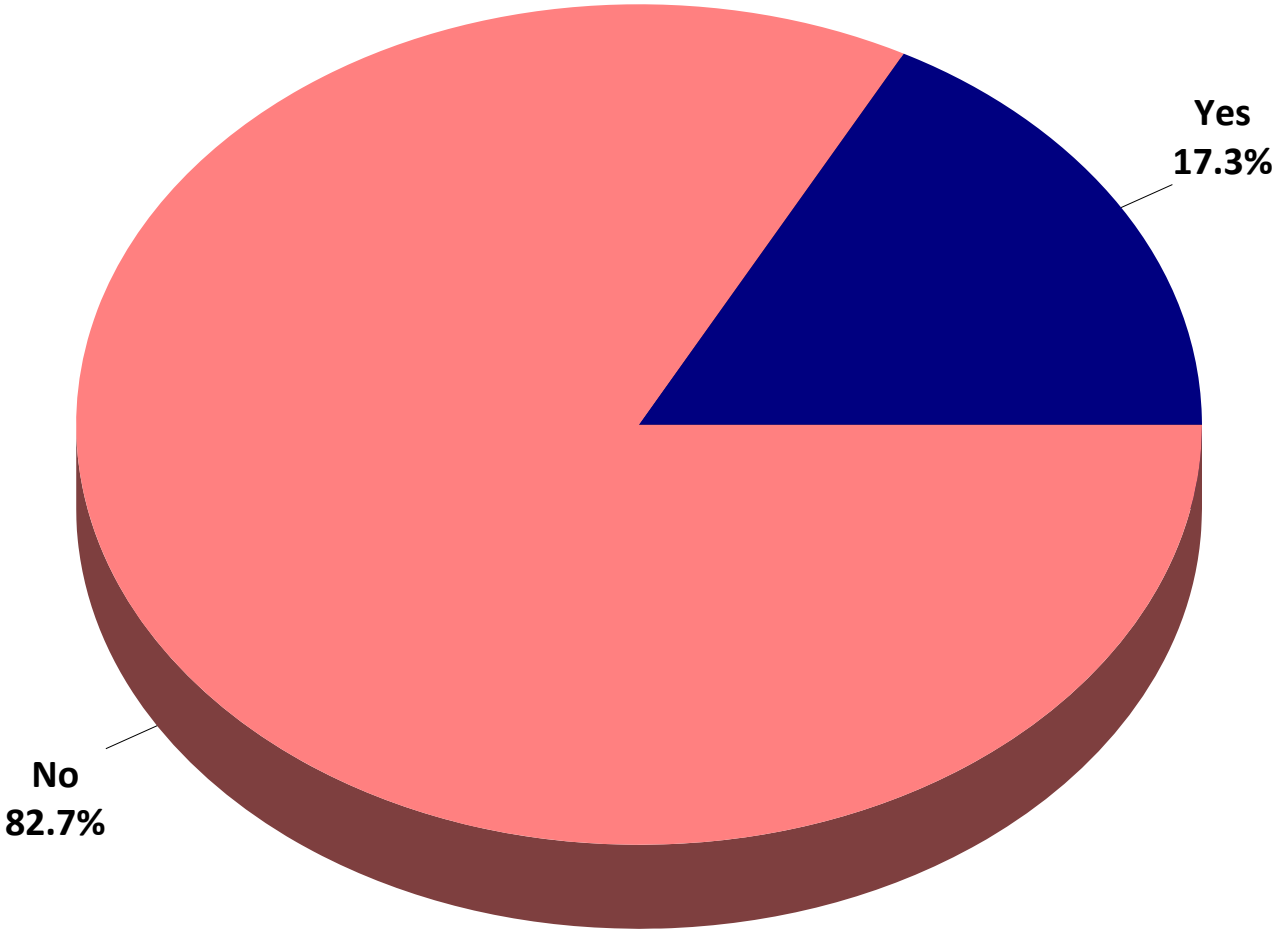
Q12. What is/was the primary purpose of your current trip?

by percentage of respondents



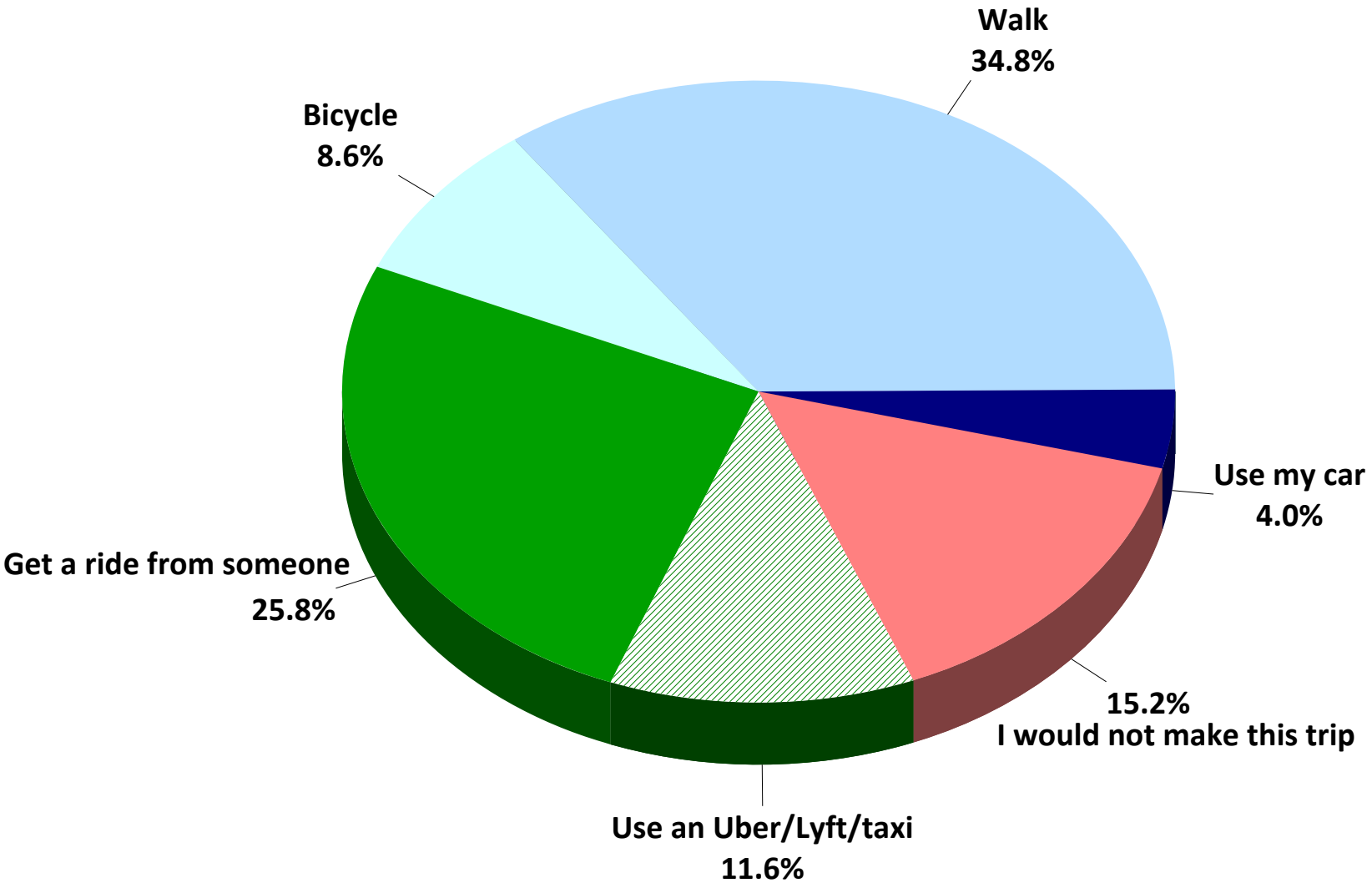
Q13. Do you have a car or other vehicle that you could have used to make this trip?

by percentage of respondents (excluding "not provided")



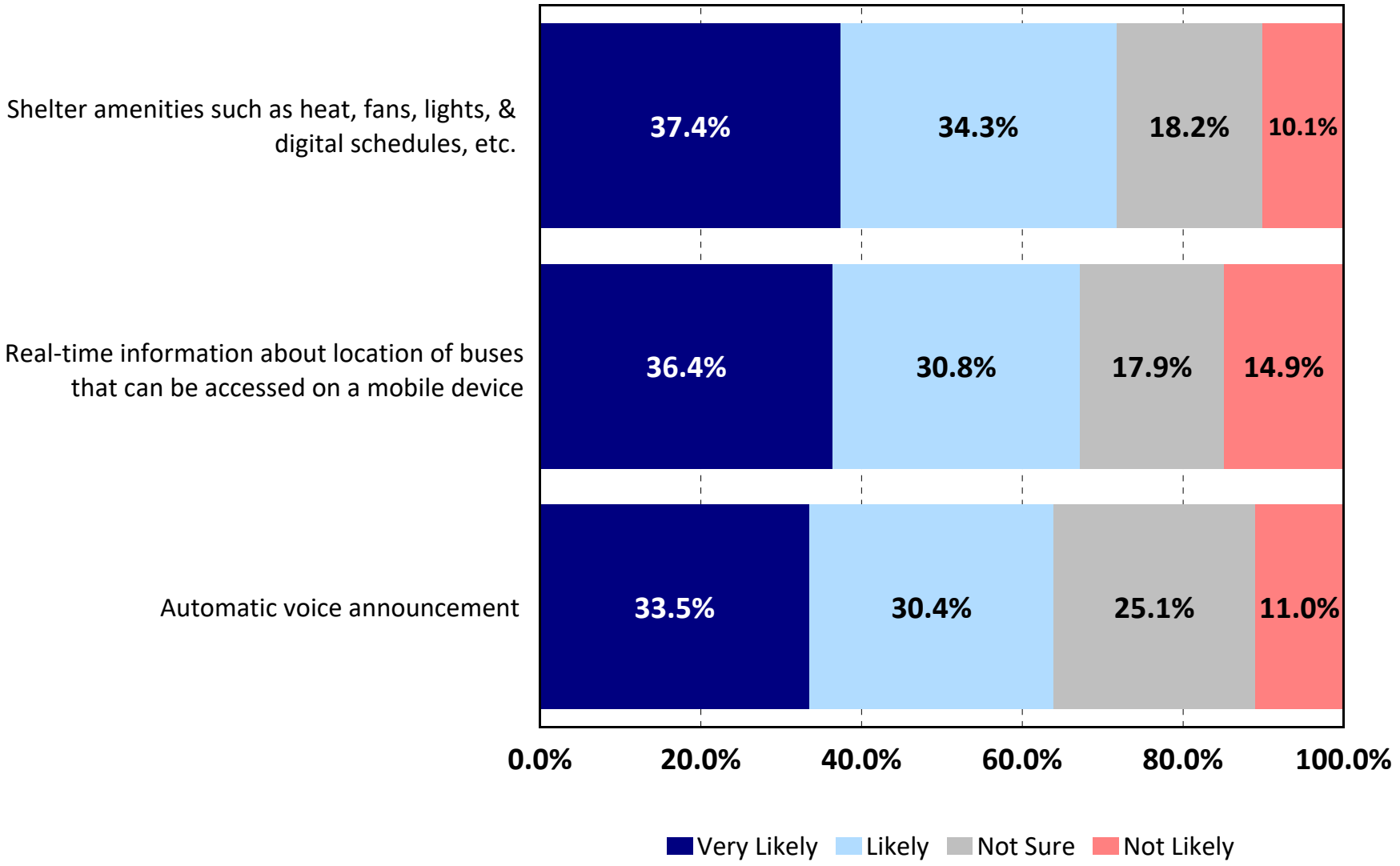
Q14. If the bus service was not available, how would you make this trip?

by percentage of respondents (excluding "not provided")



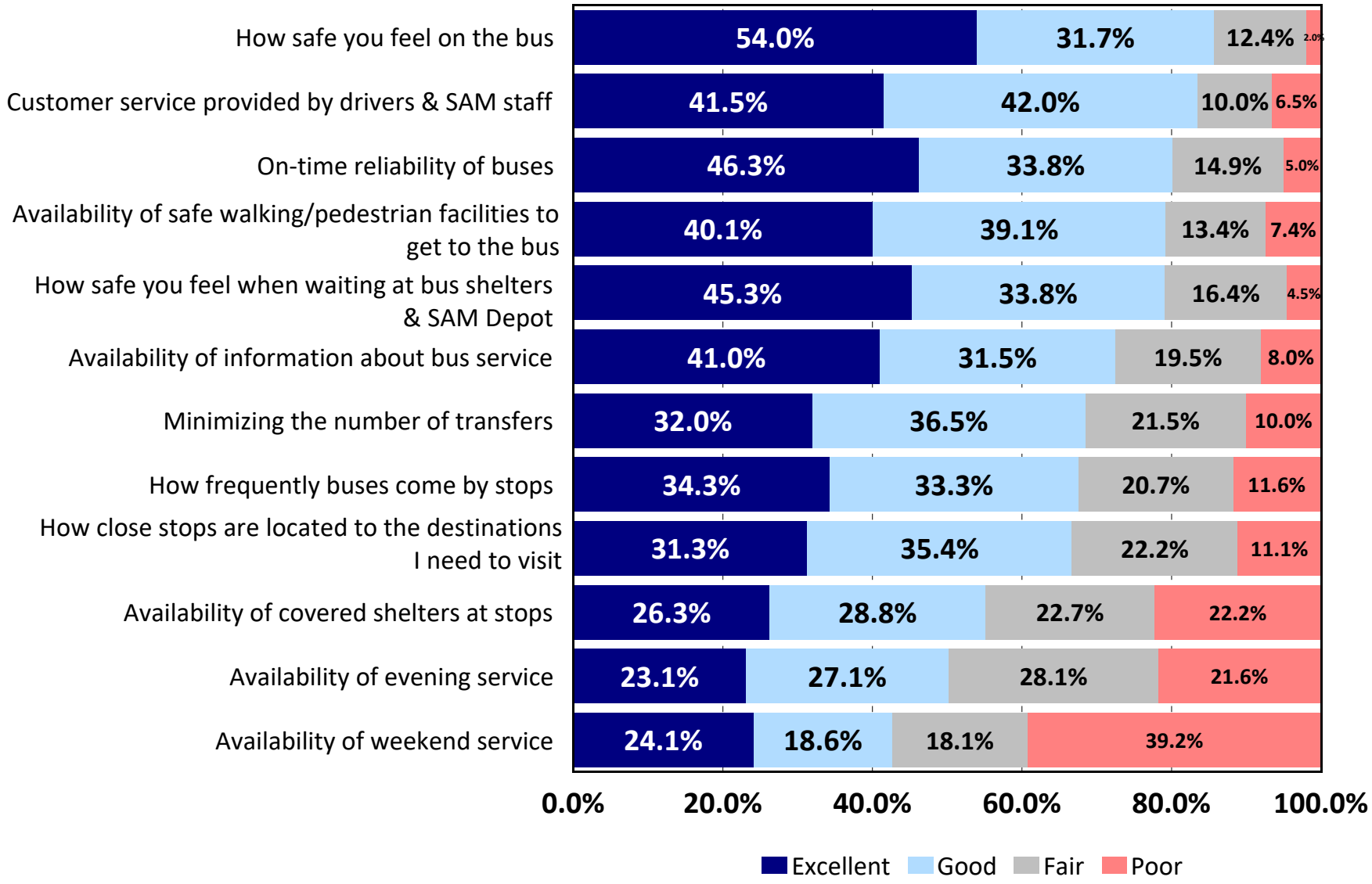
Q16. How Likely Passengers Would Ride the Bus More Frequently With the Following Services Provided

by percentage of respondents (excluding "not provided")



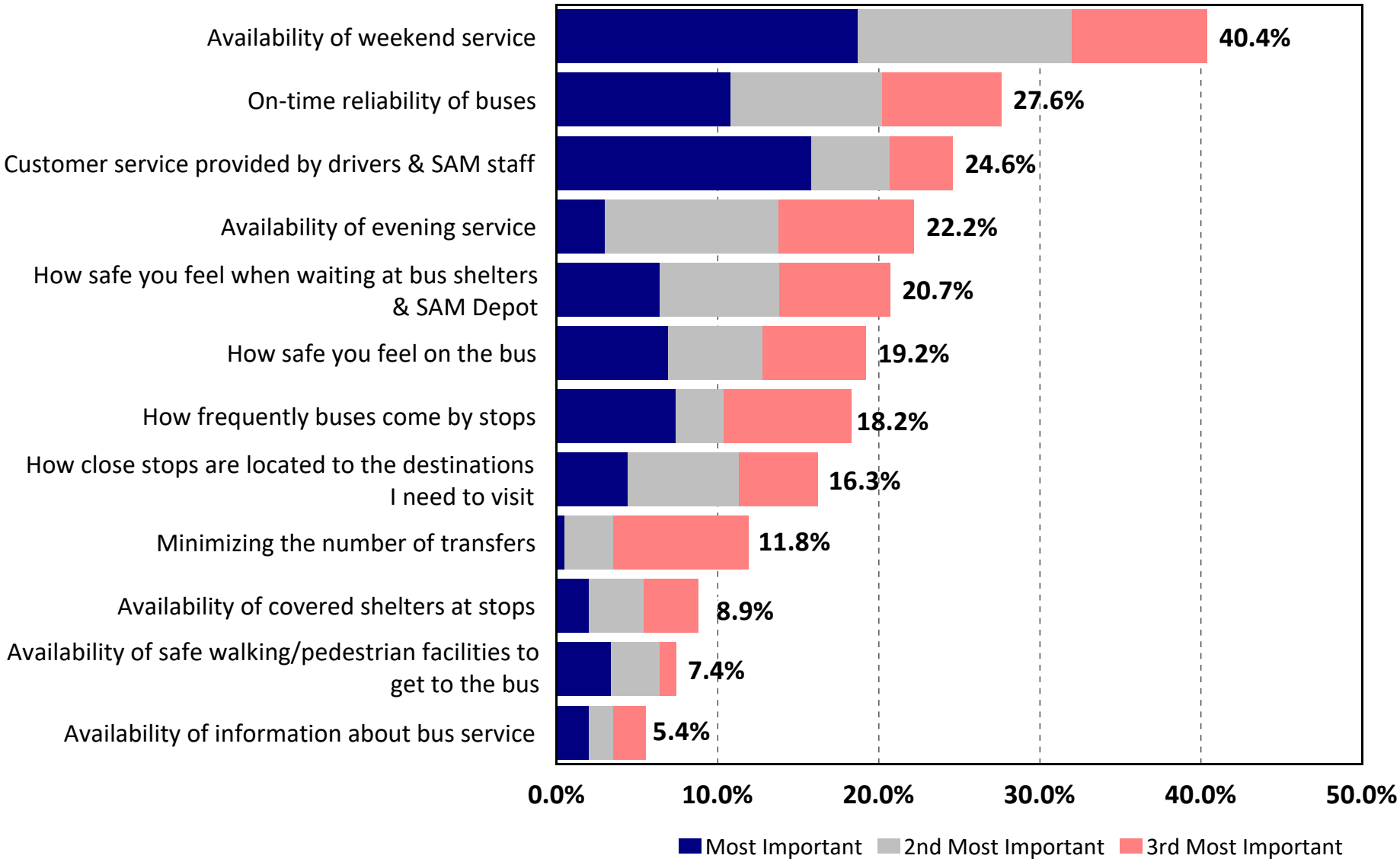
Q17. Ratings of the Following Aspects of Public Transit in the Sioux Falls Metropolitan Area

by percentage of respondents (excluding "not provided")



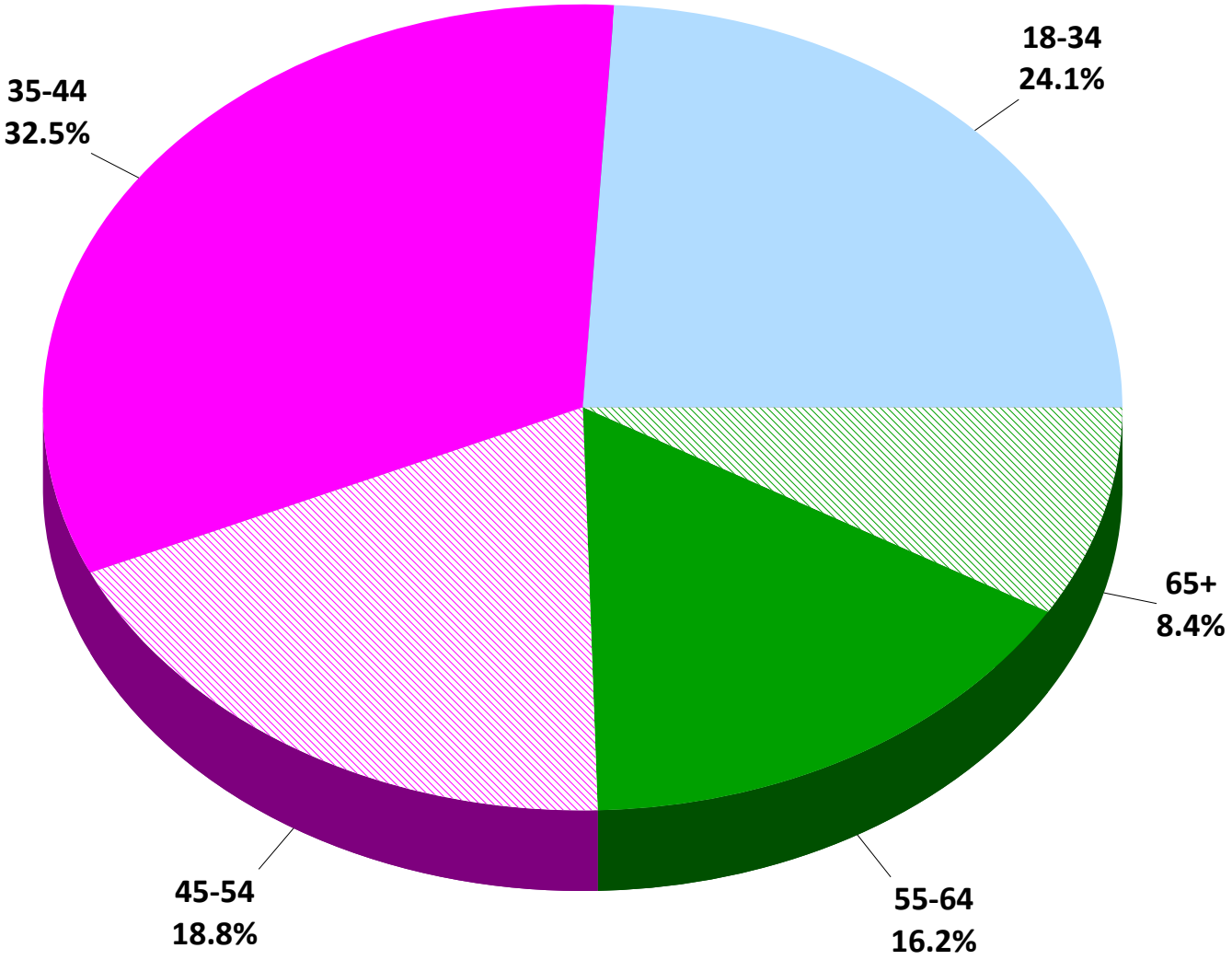
Q18. Aspects of Public Transit That Are Most Important to Passengers

by percentage of respondents who selected the item as one of their top three choices



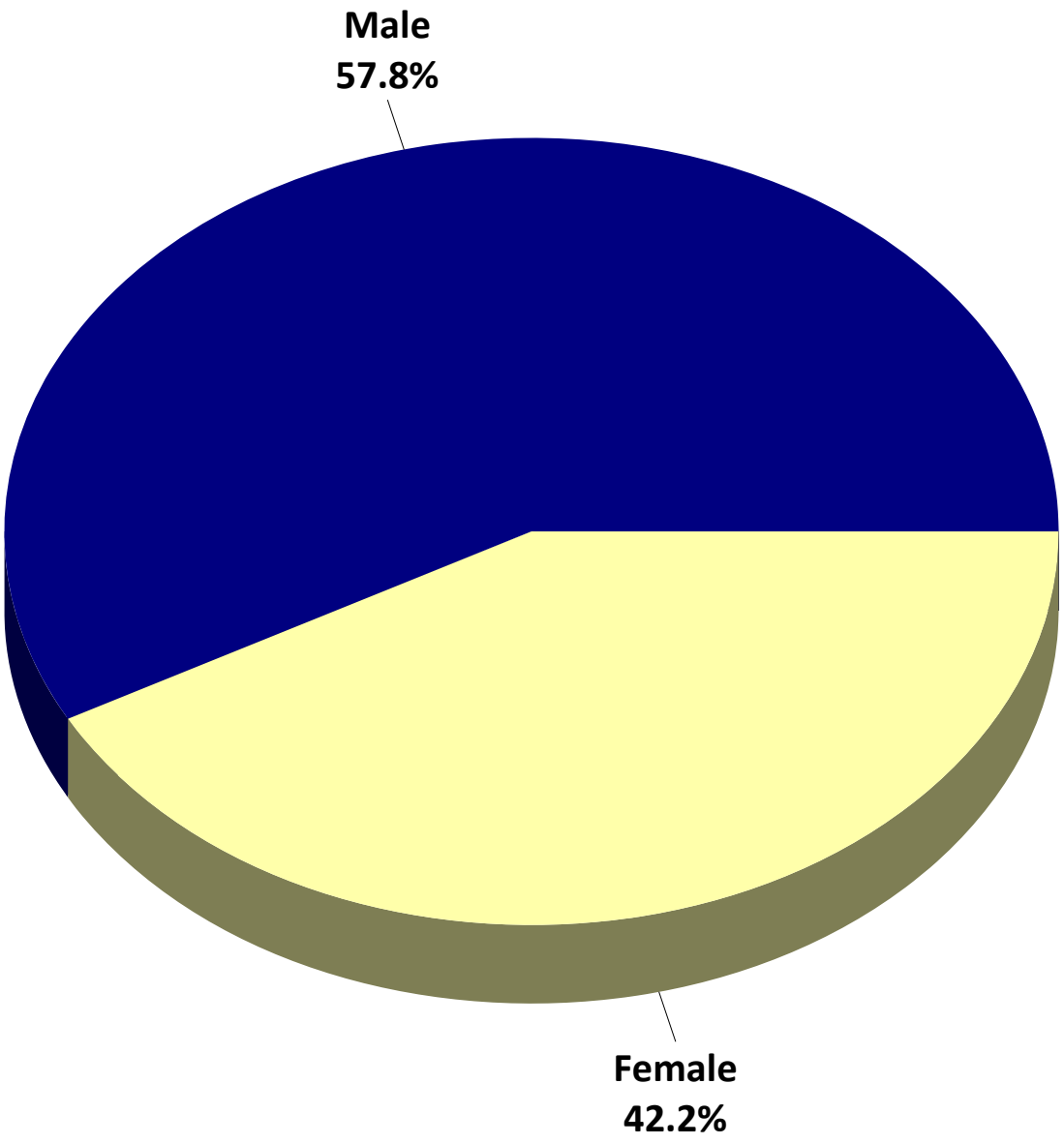
Q19. What is your age?

by percentage of respondents



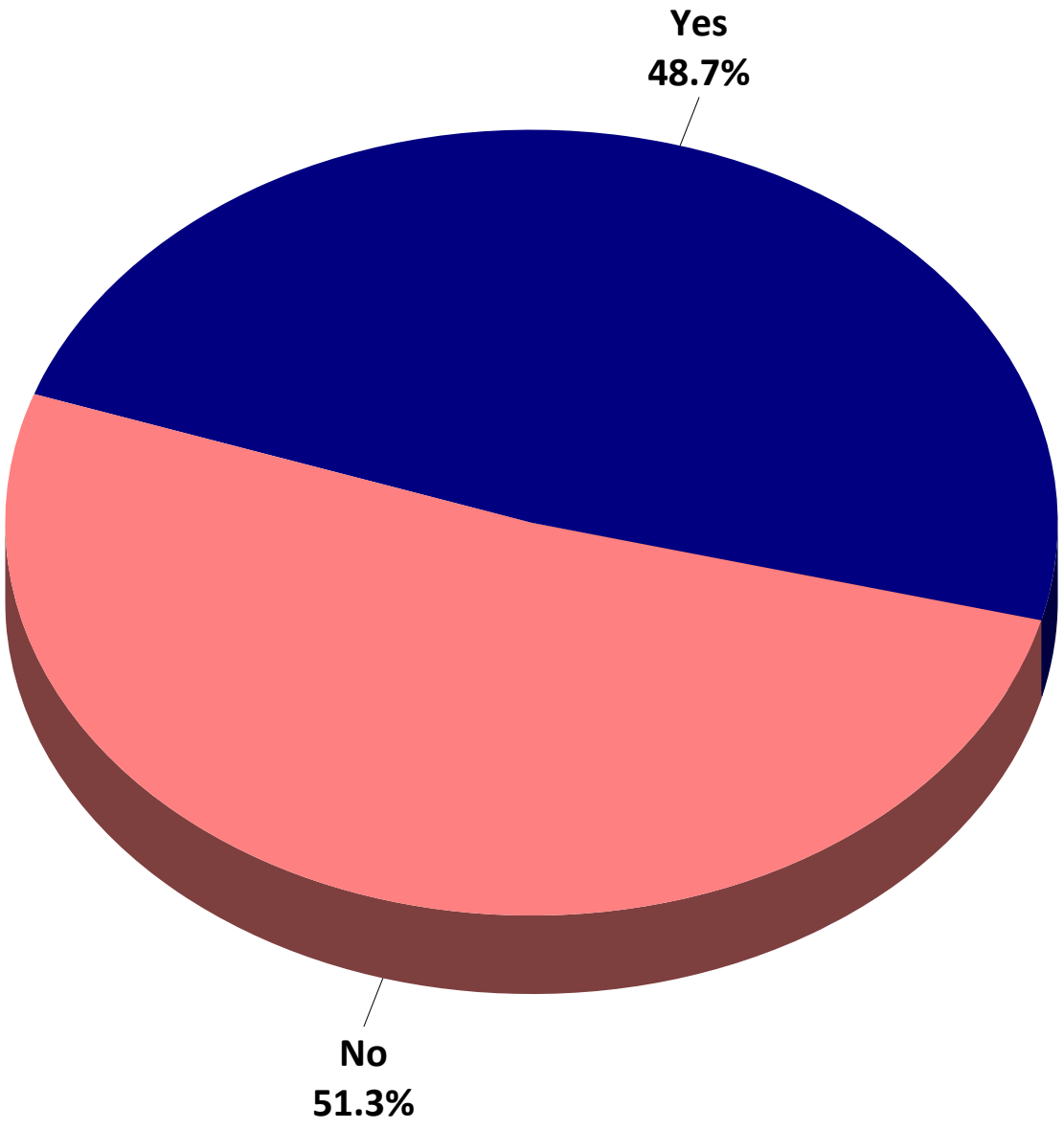
Q20. Gender

by percentage of respondents



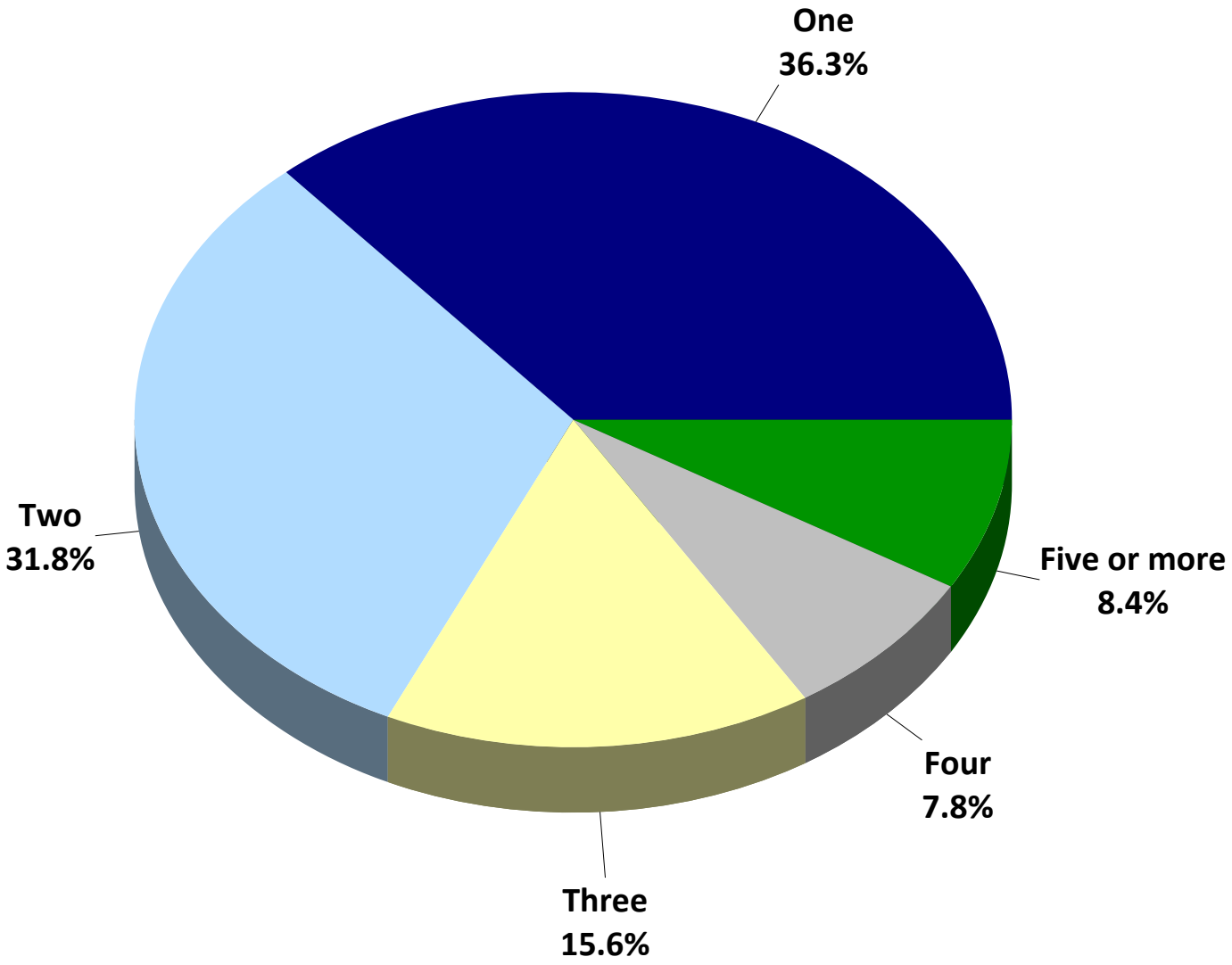
Q21. Are you employed?

by percentage of respondents



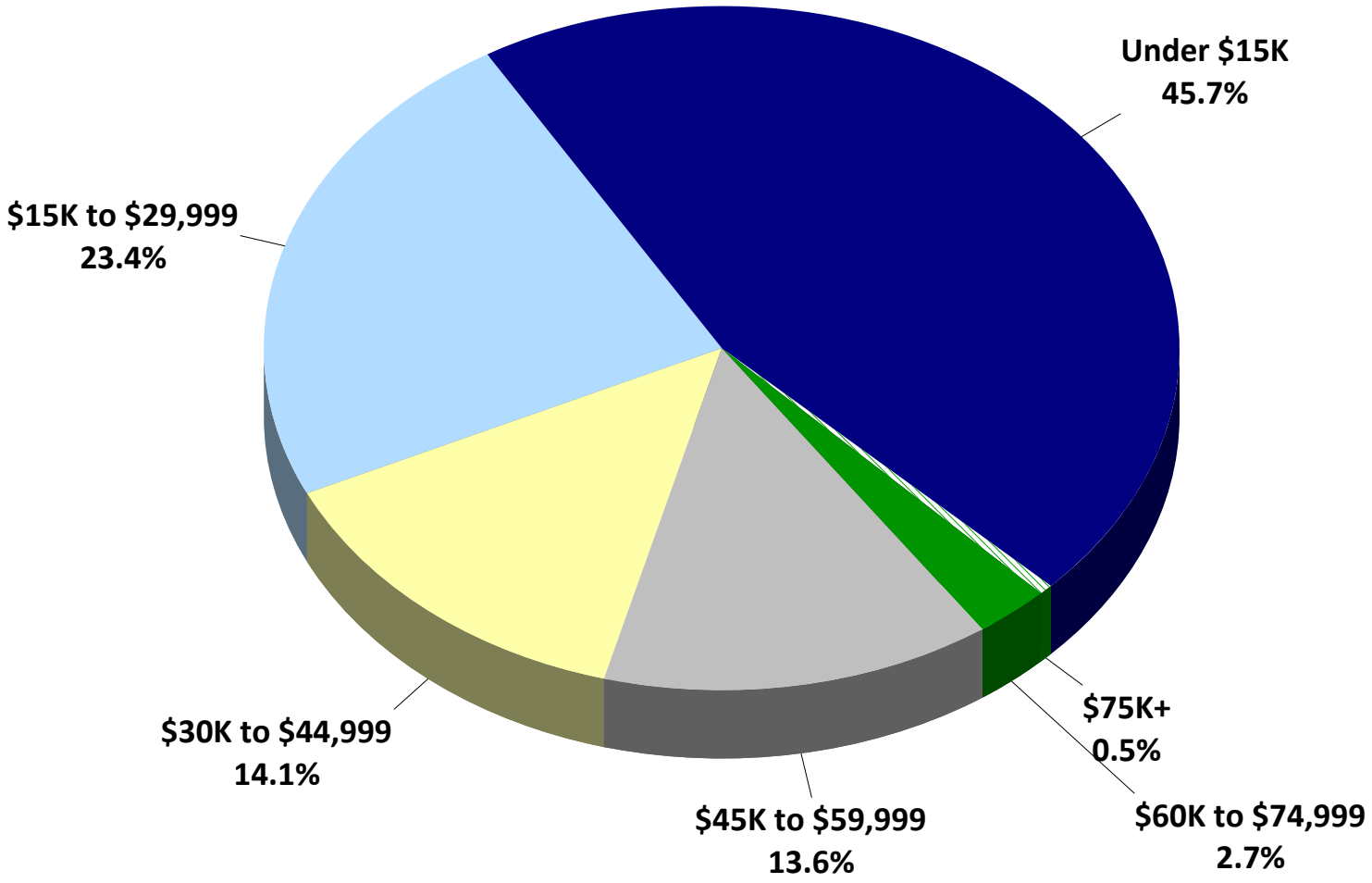
Q22. How many persons currently live in your household?

by percentage of respondents



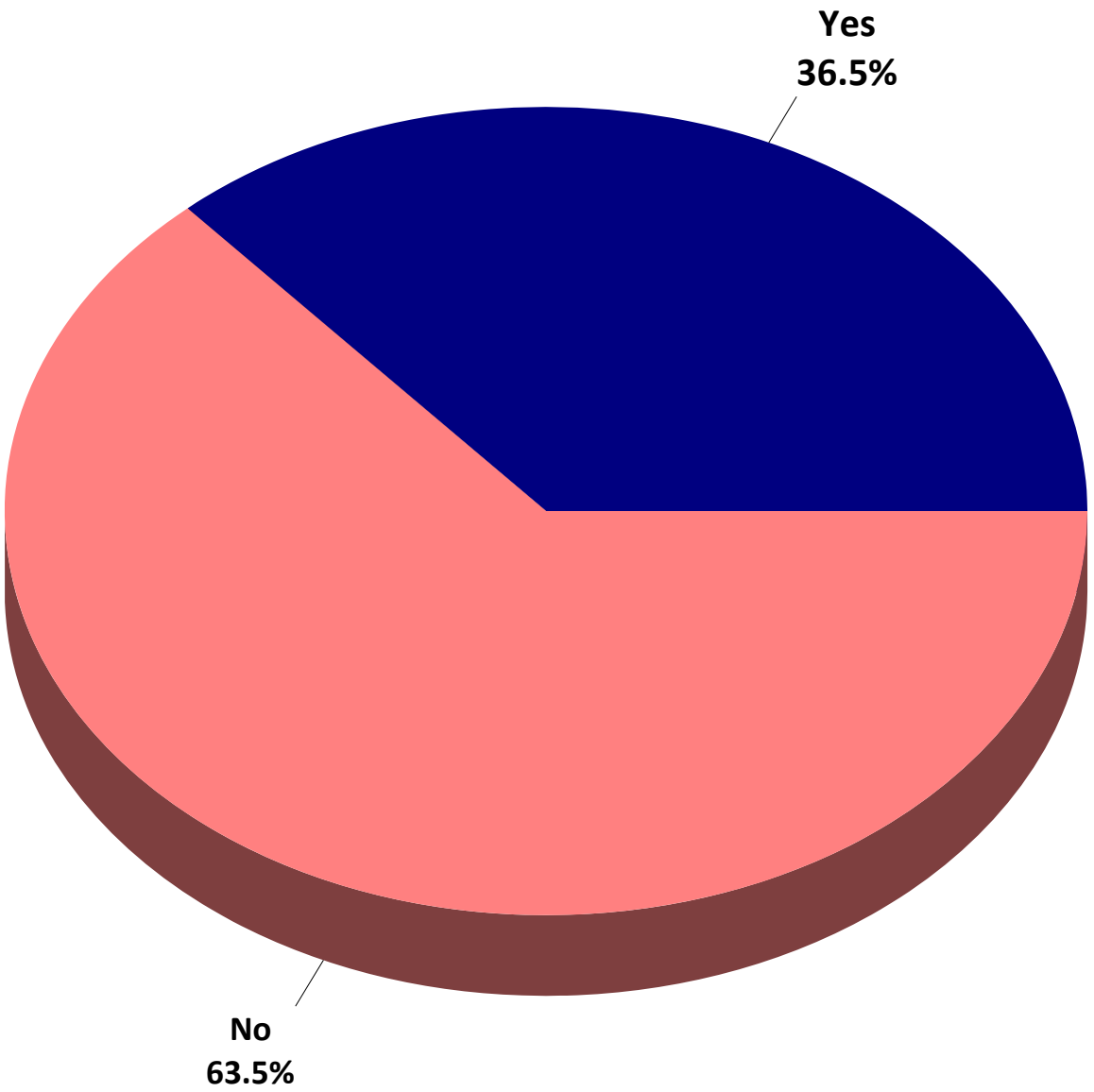
Q23. Total Annual Household Income

by percentage of respondents



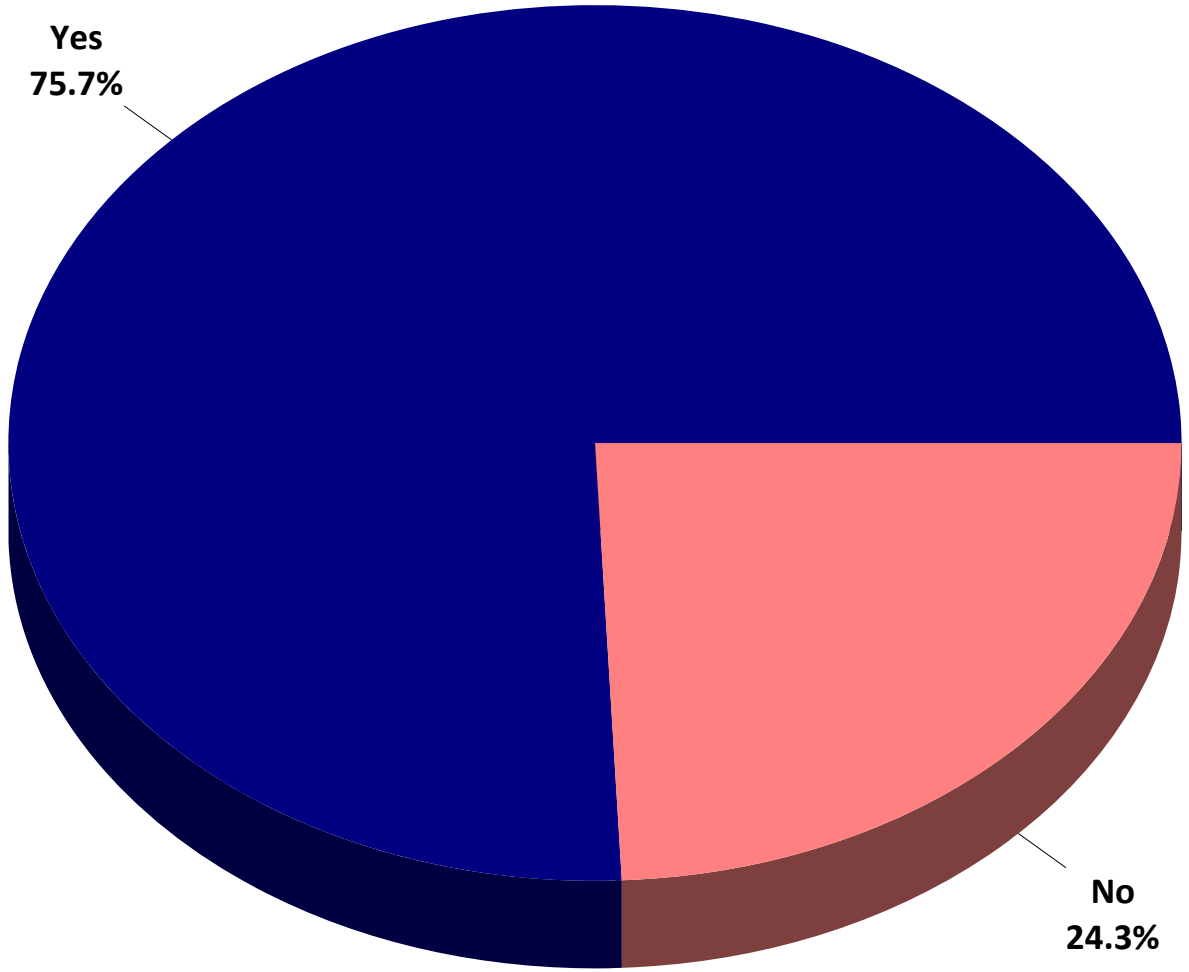
Q24. Do you have a physical disability?

by percentage of respondents



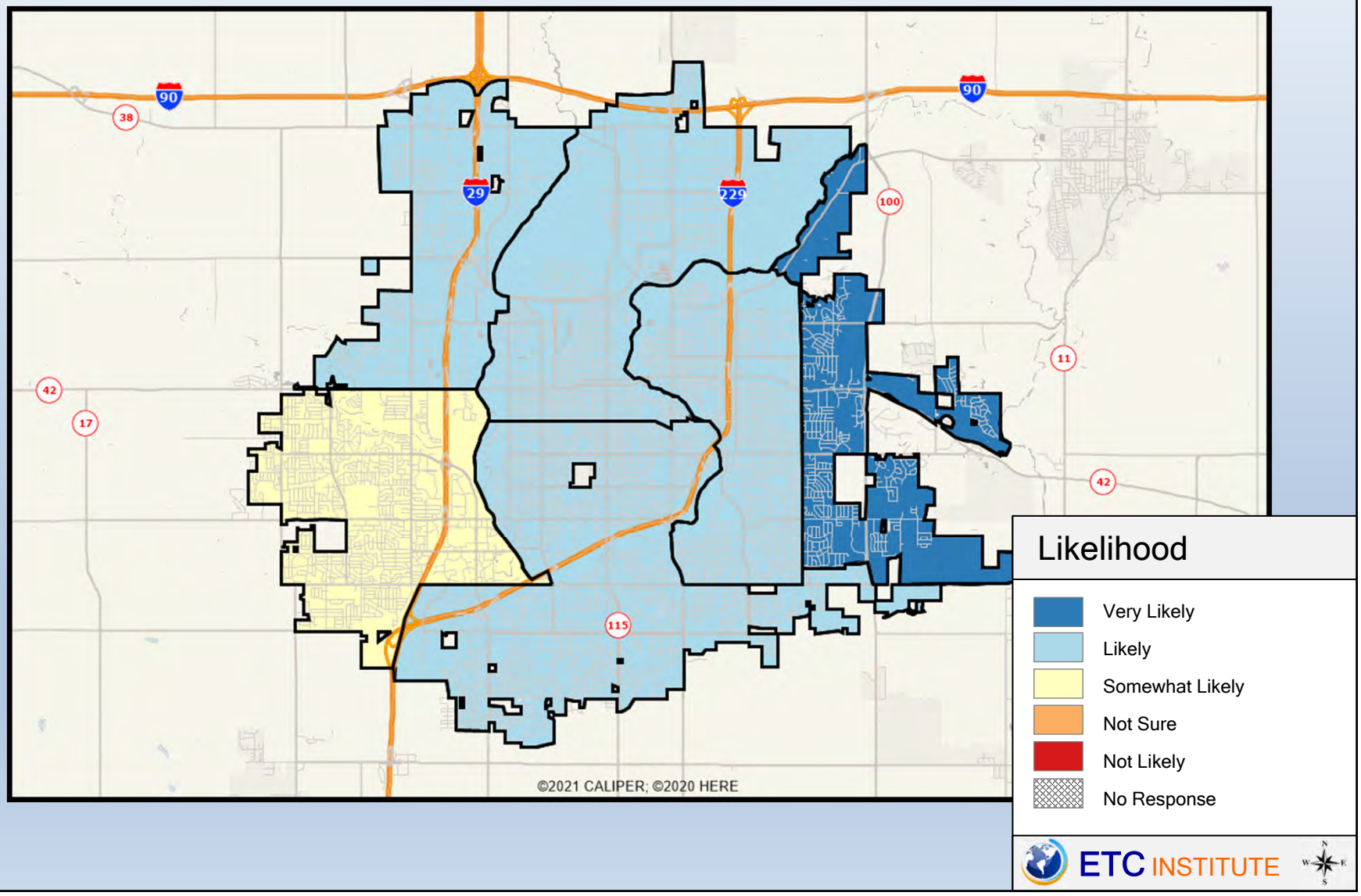
Q25. Do you have a smart phone?

by percentage of respondents

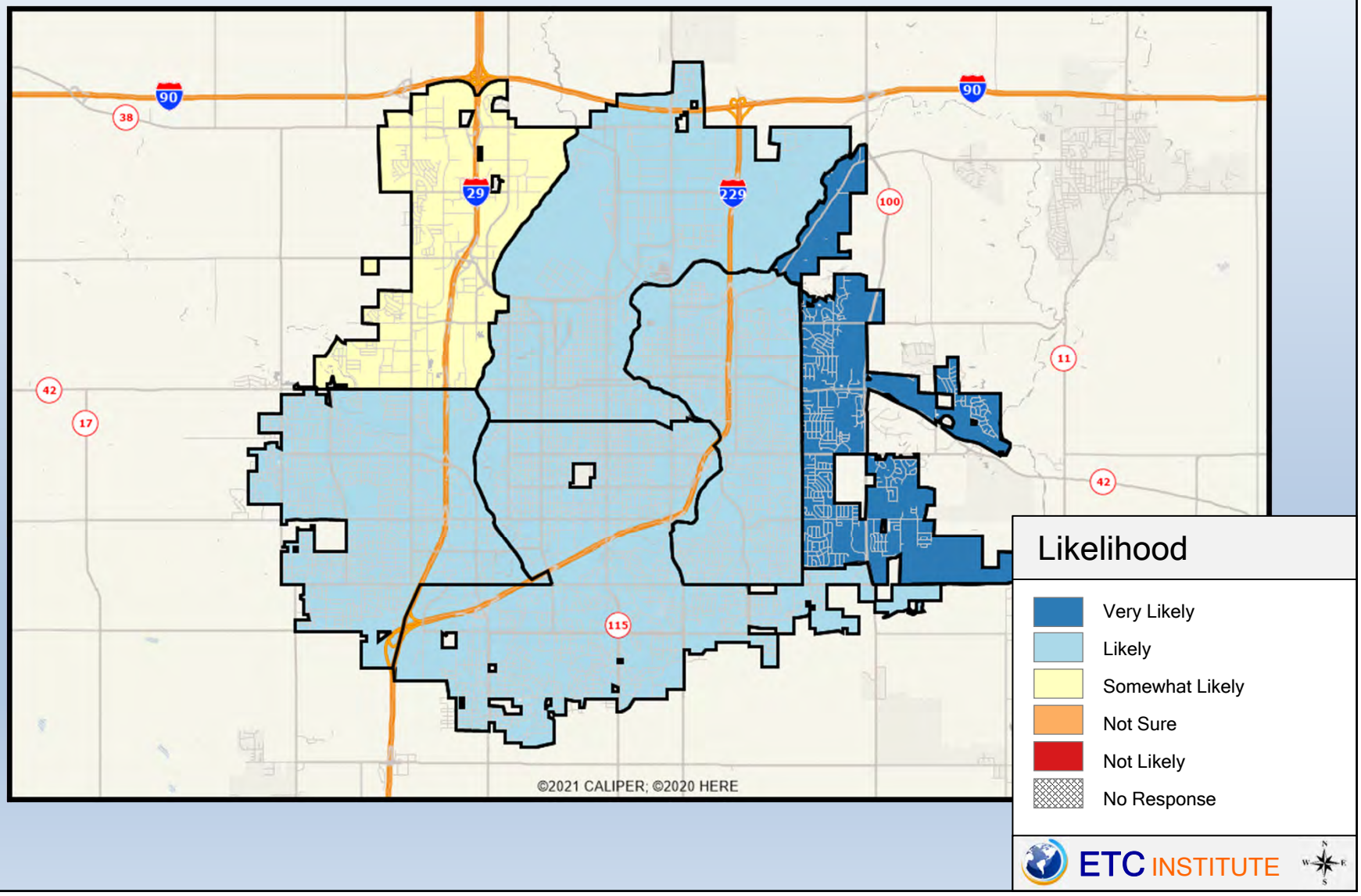


2 GIS Maps by Zip Code

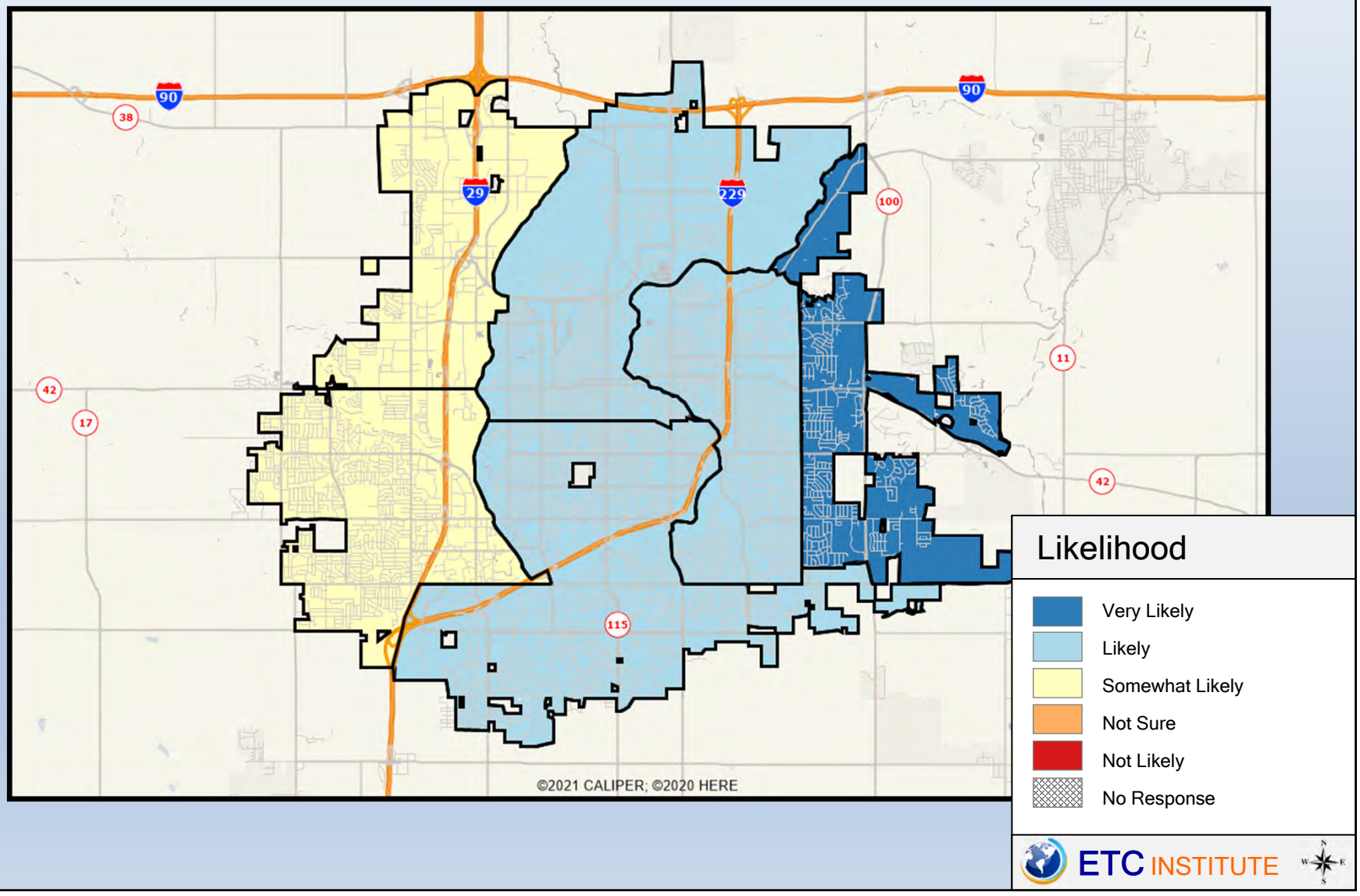
Q16-1. Shelter amenities such as heat, fans, lights, and digital schedules, etc.



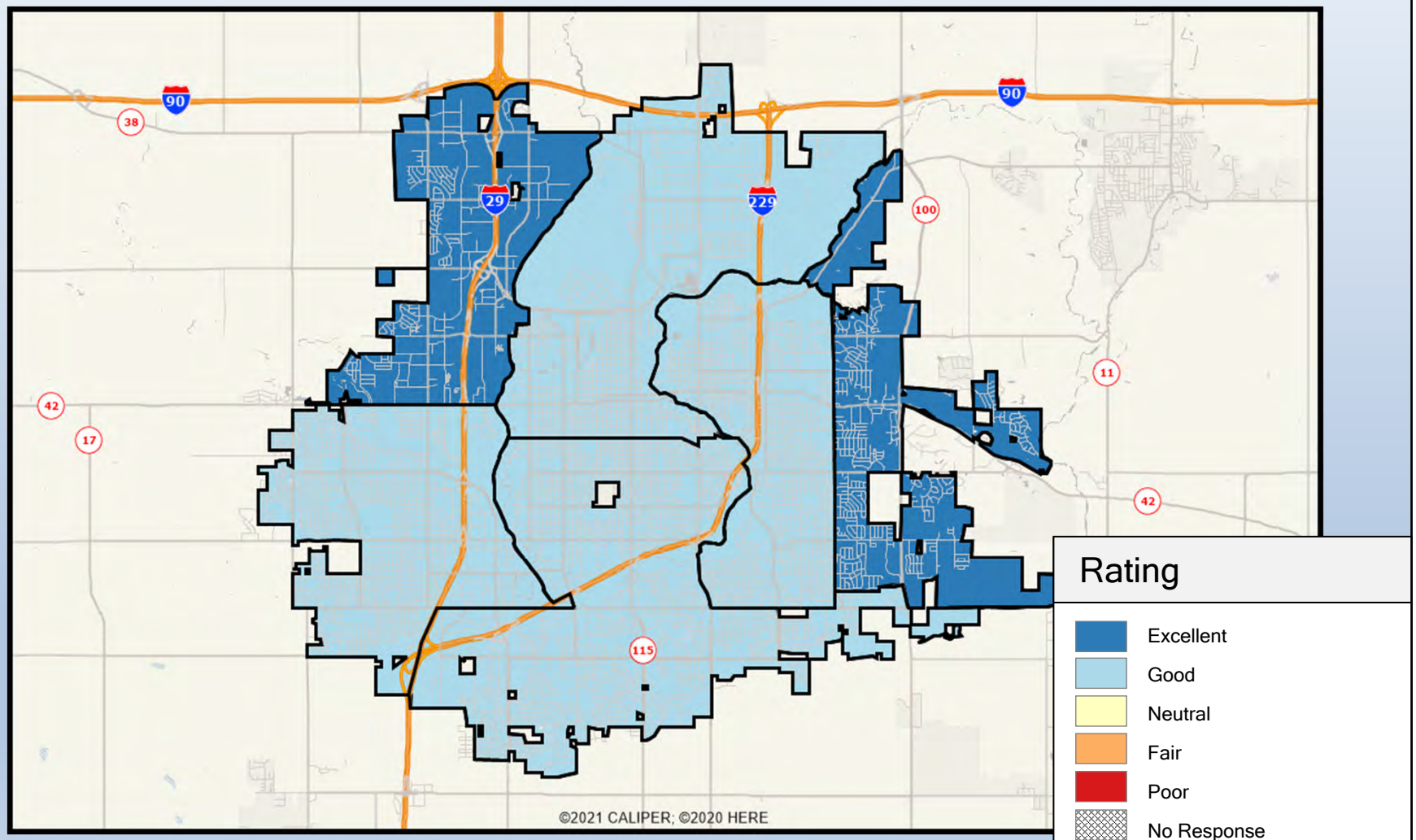
Q16-2. Automatic voice announcement



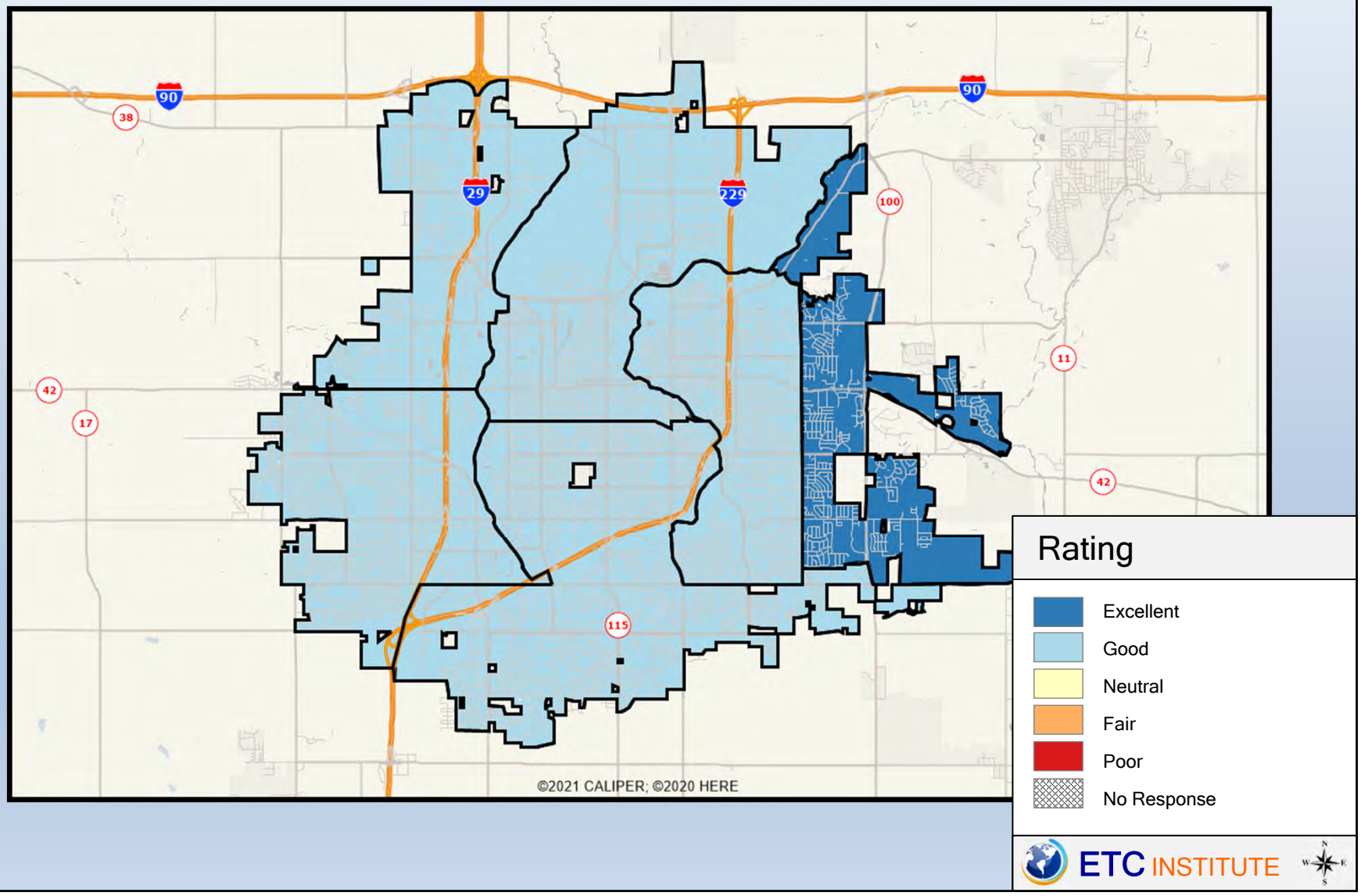
Q16-3. Real-time information about the location of buses that can be accessed on a mobile device



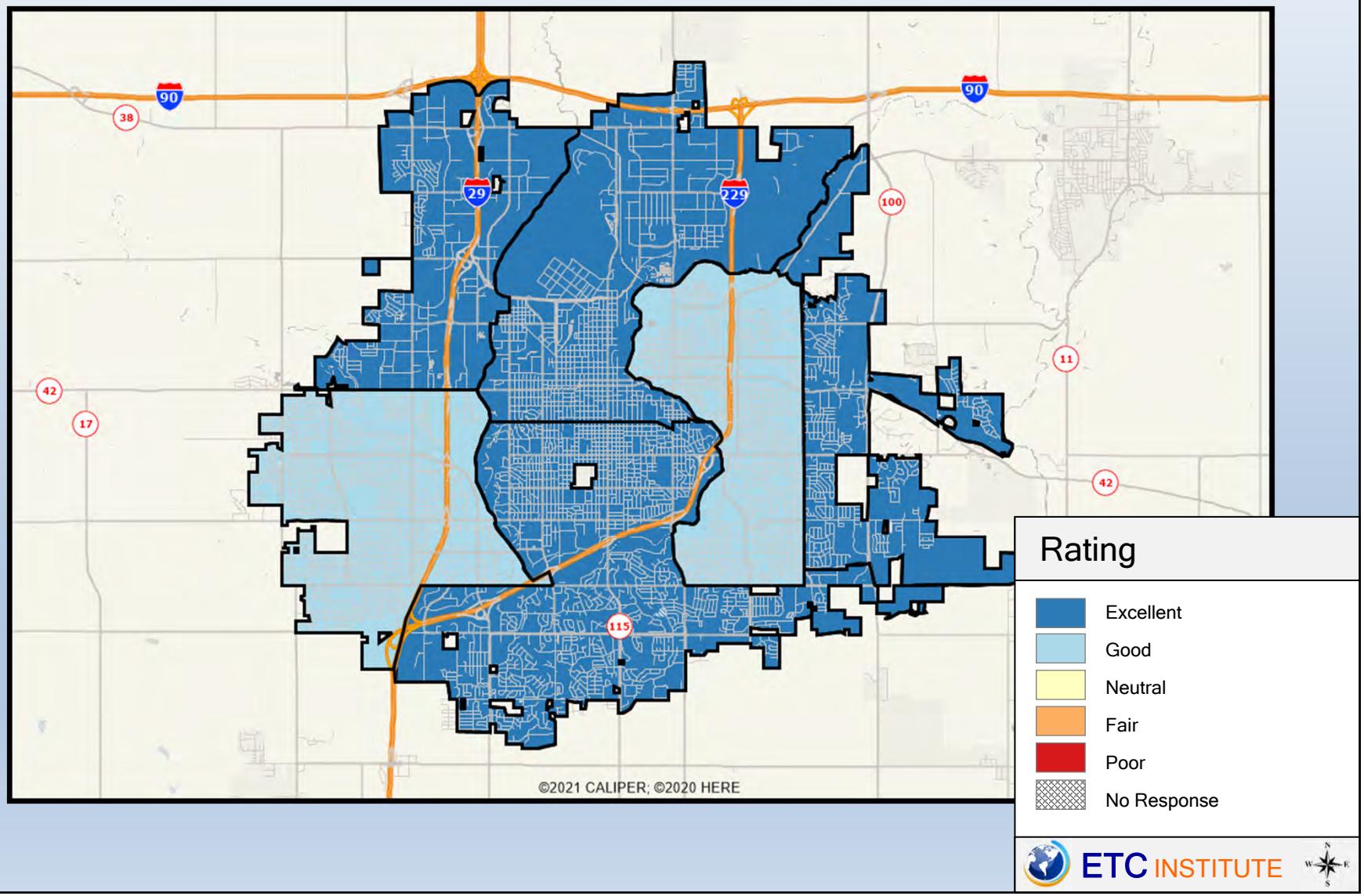
Q17-01. Customer service provided by drivers and SAM staff



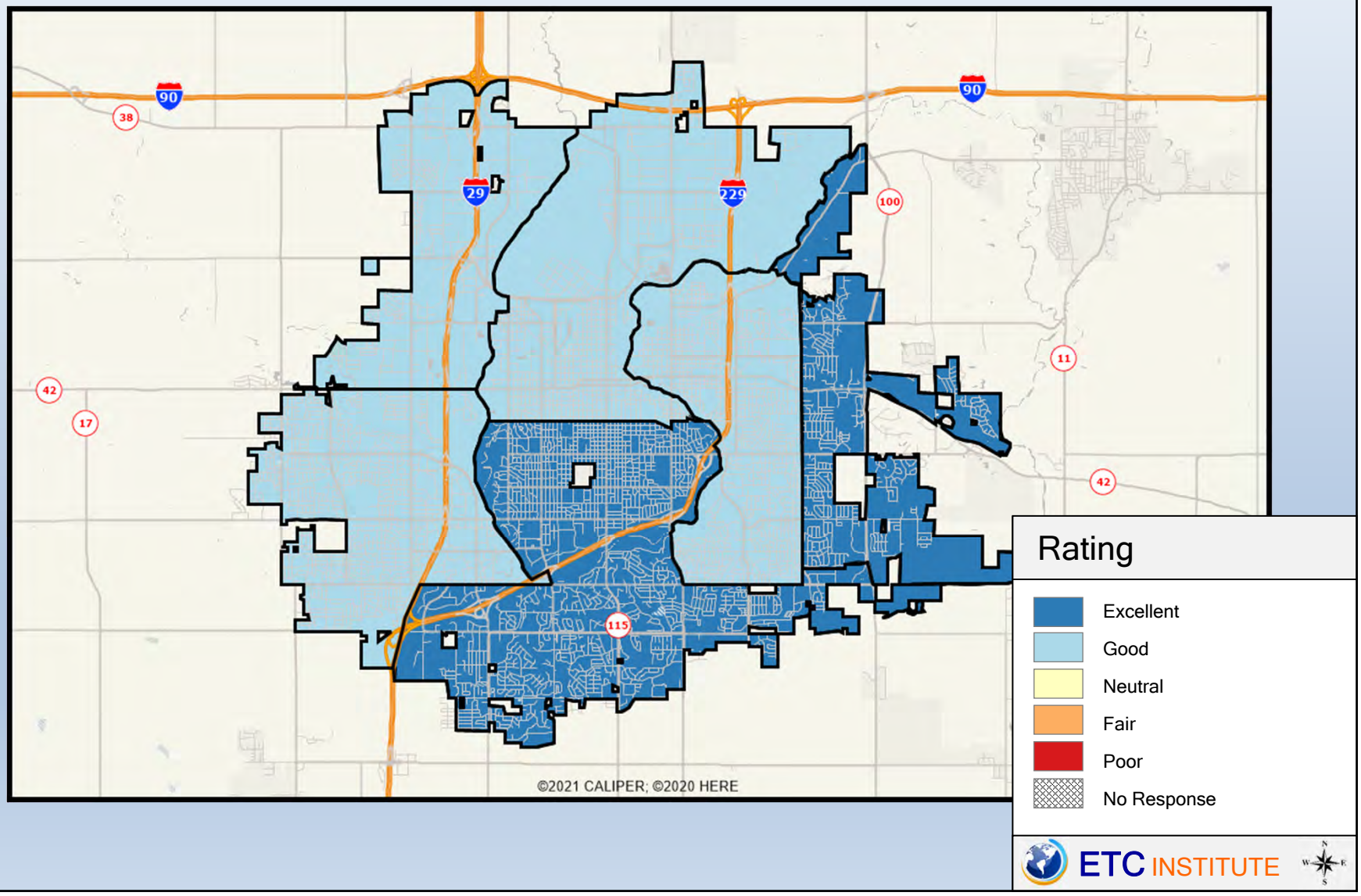
Q17-02. How safe you feel when waiting at bus shelters and SAM Depot



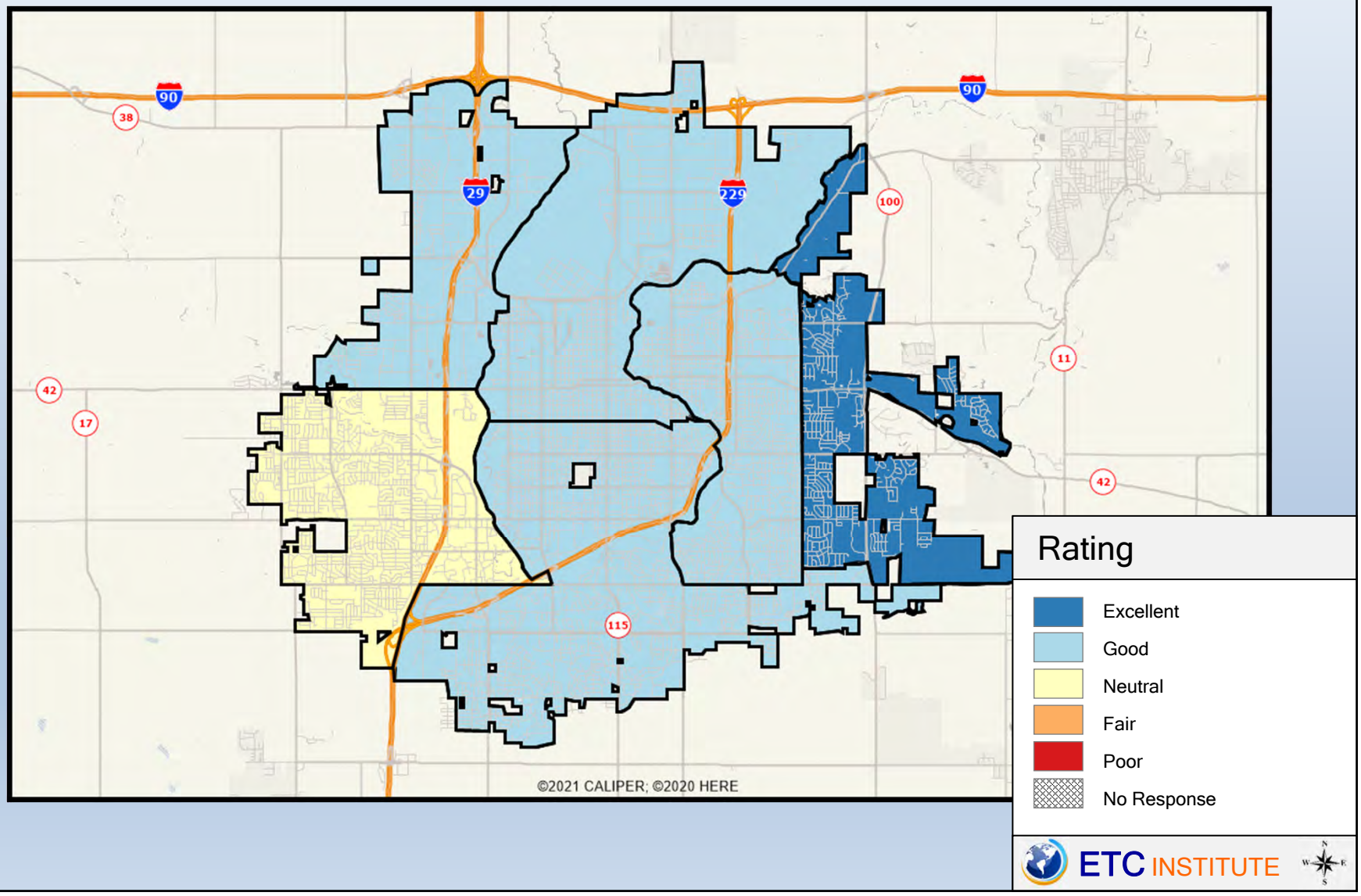
Q17-03. How safe you feel on the bus



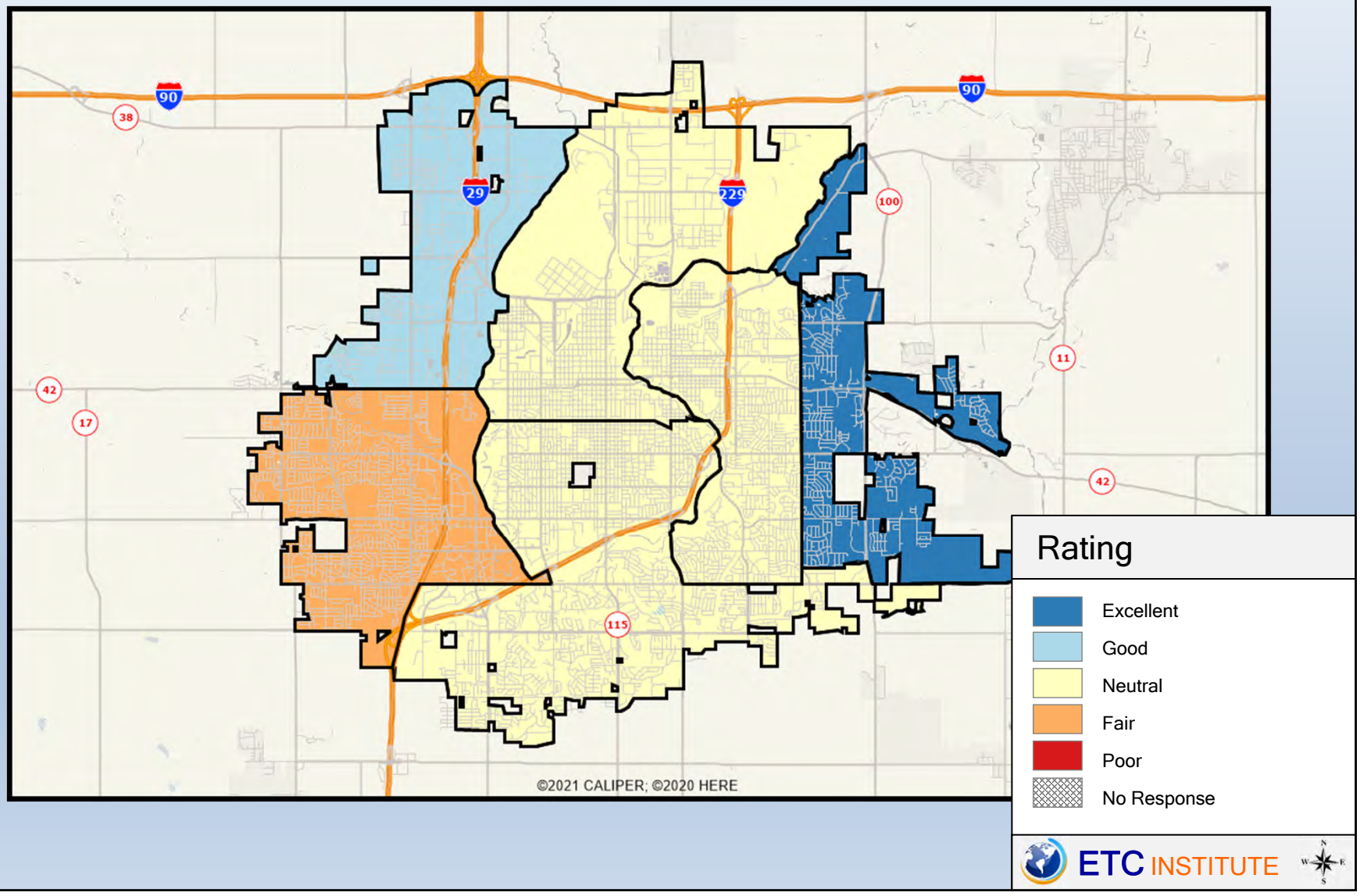
Q17-04. On-time reliability of buses



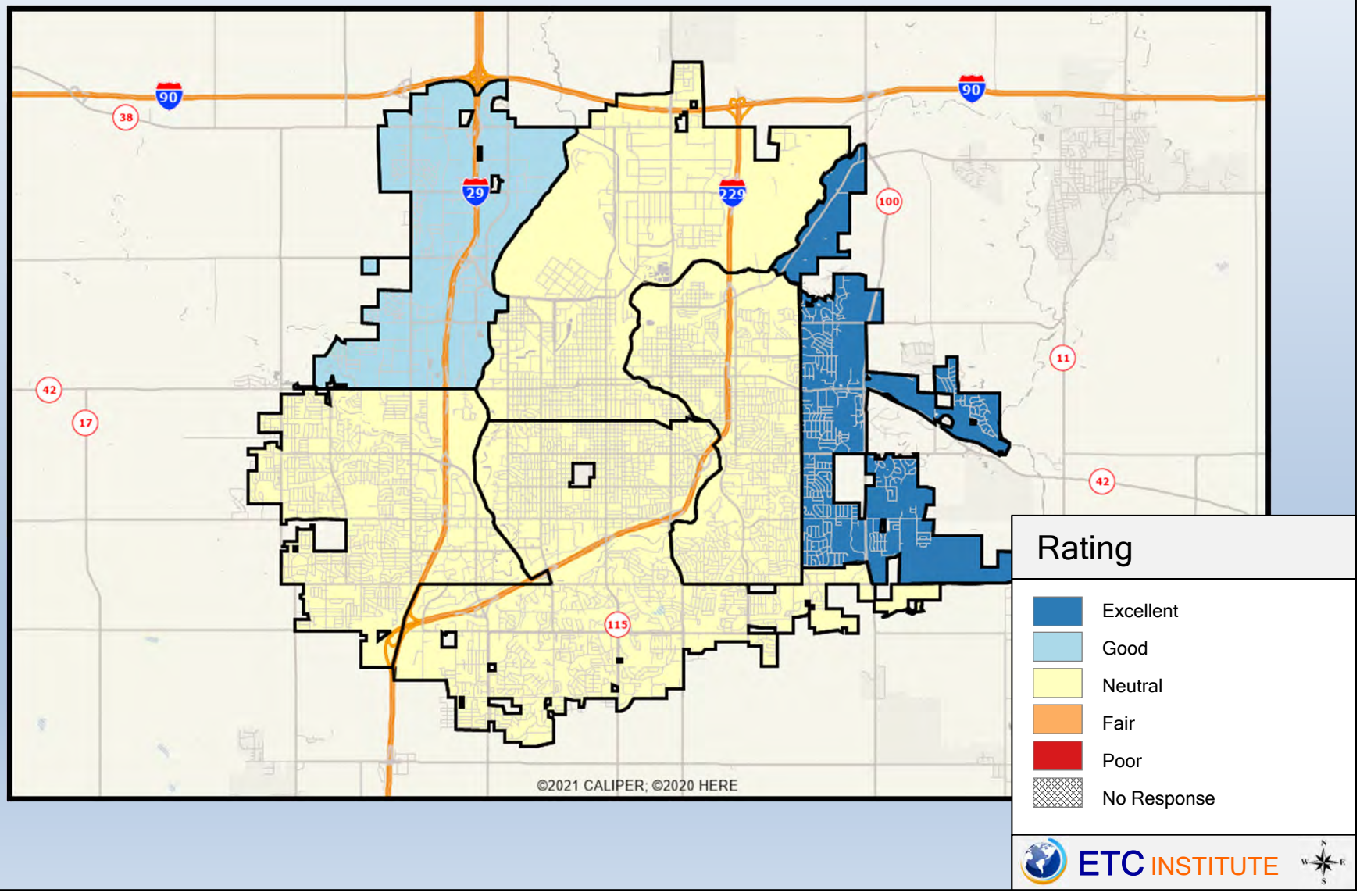
Q17-05. How frequently buses come by stops



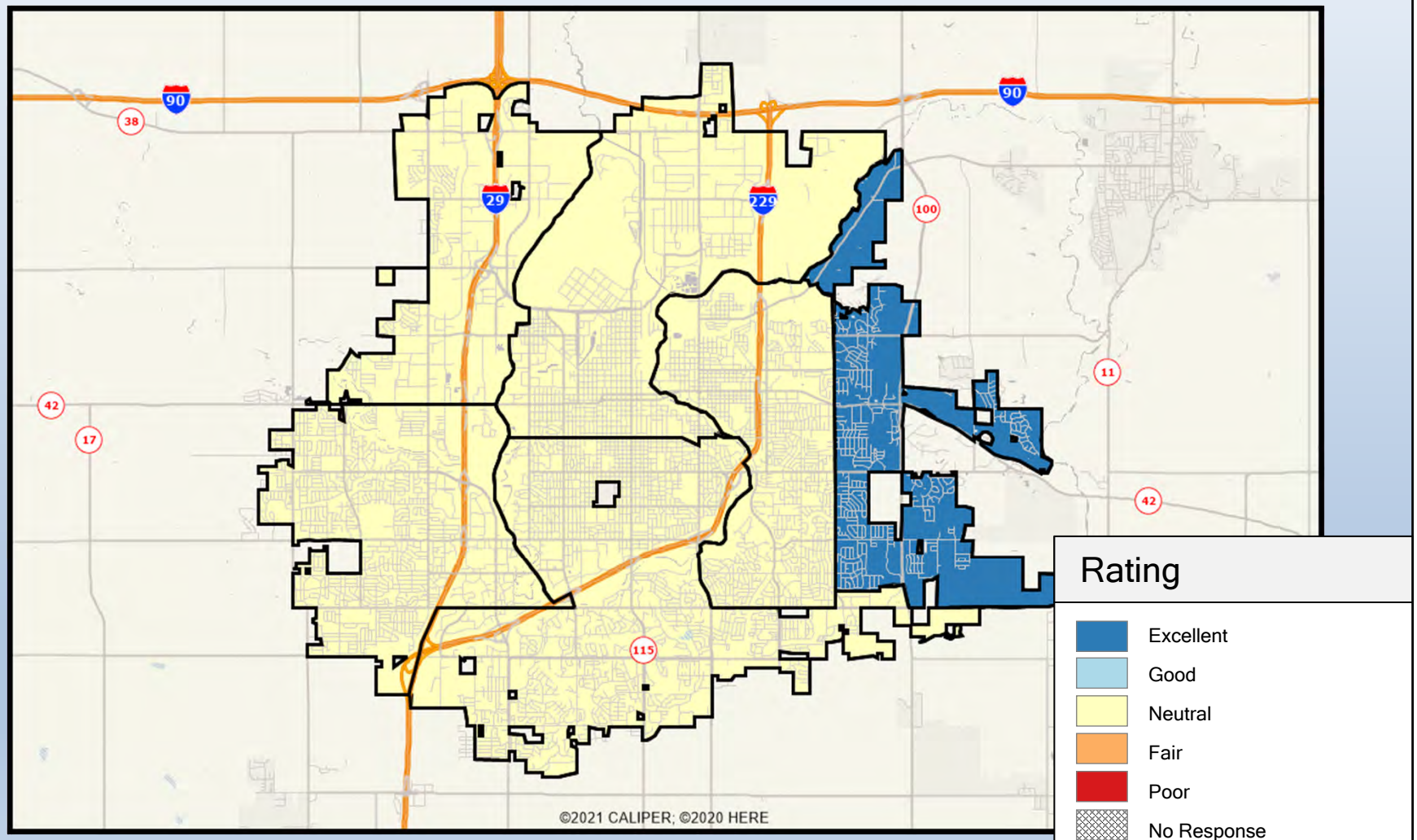
Q17-06. Availability of weekend service



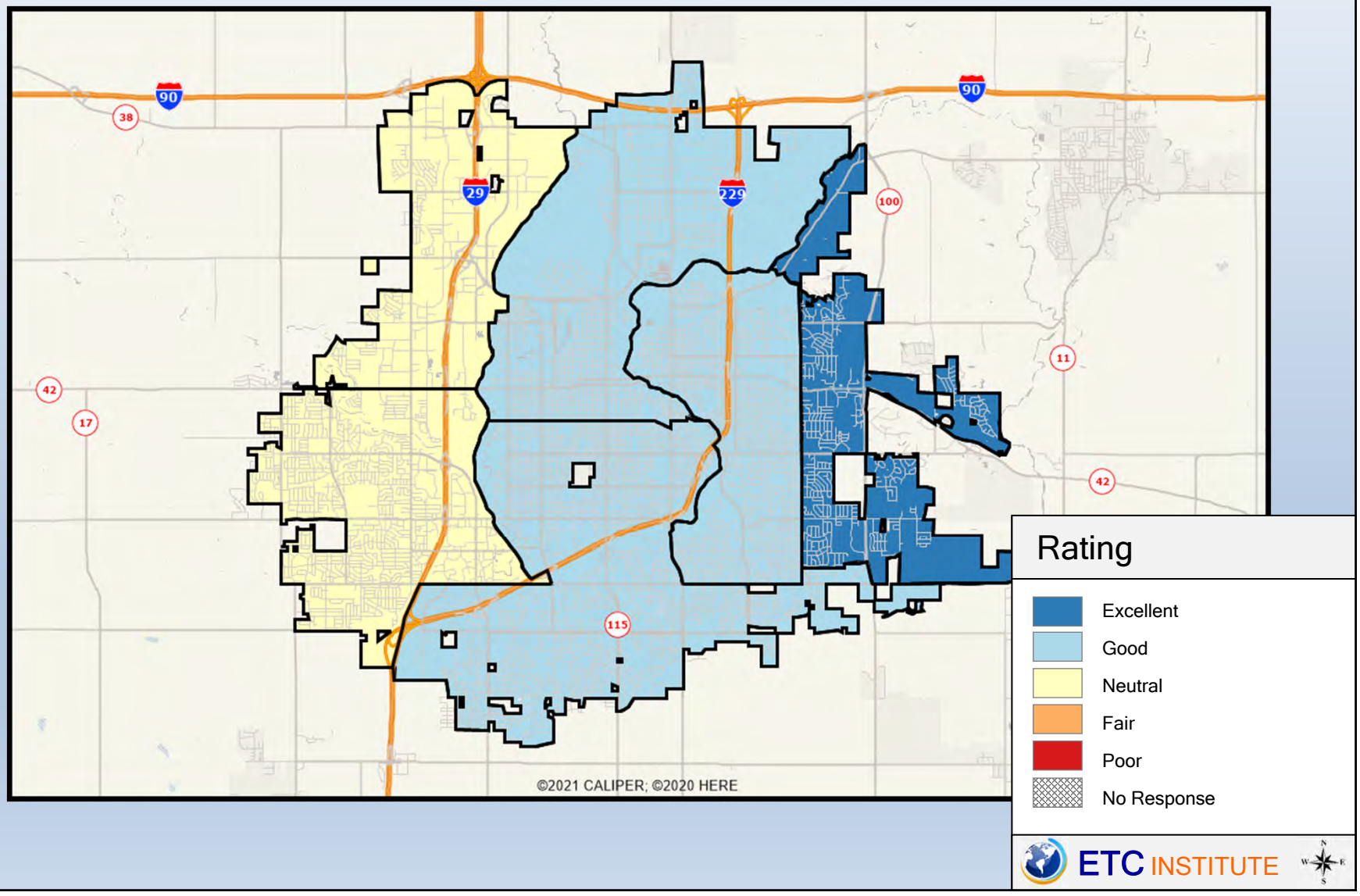
Q17-07. Availability of evening service



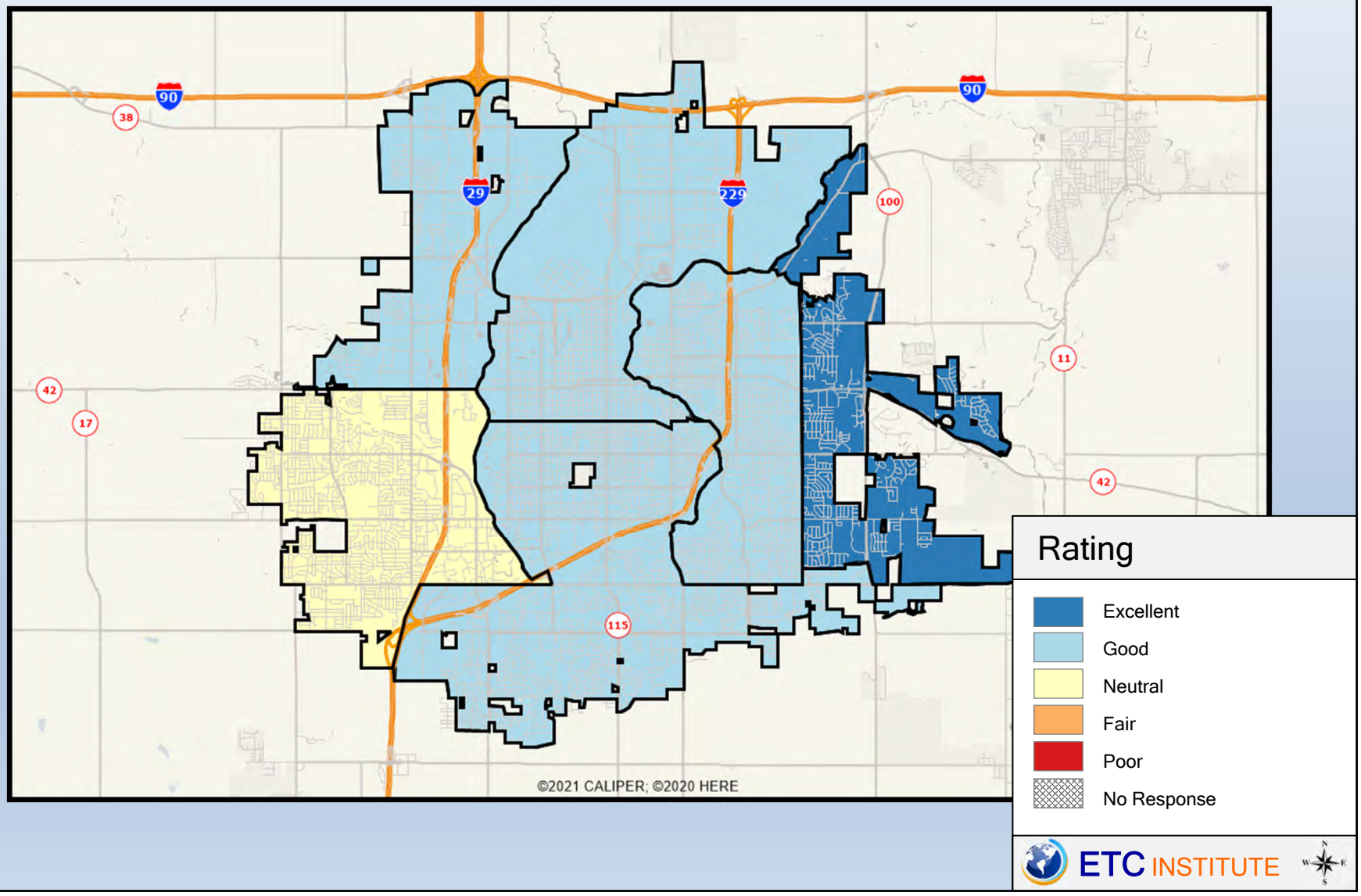
Q17-08. The availability of covered shelters at stops



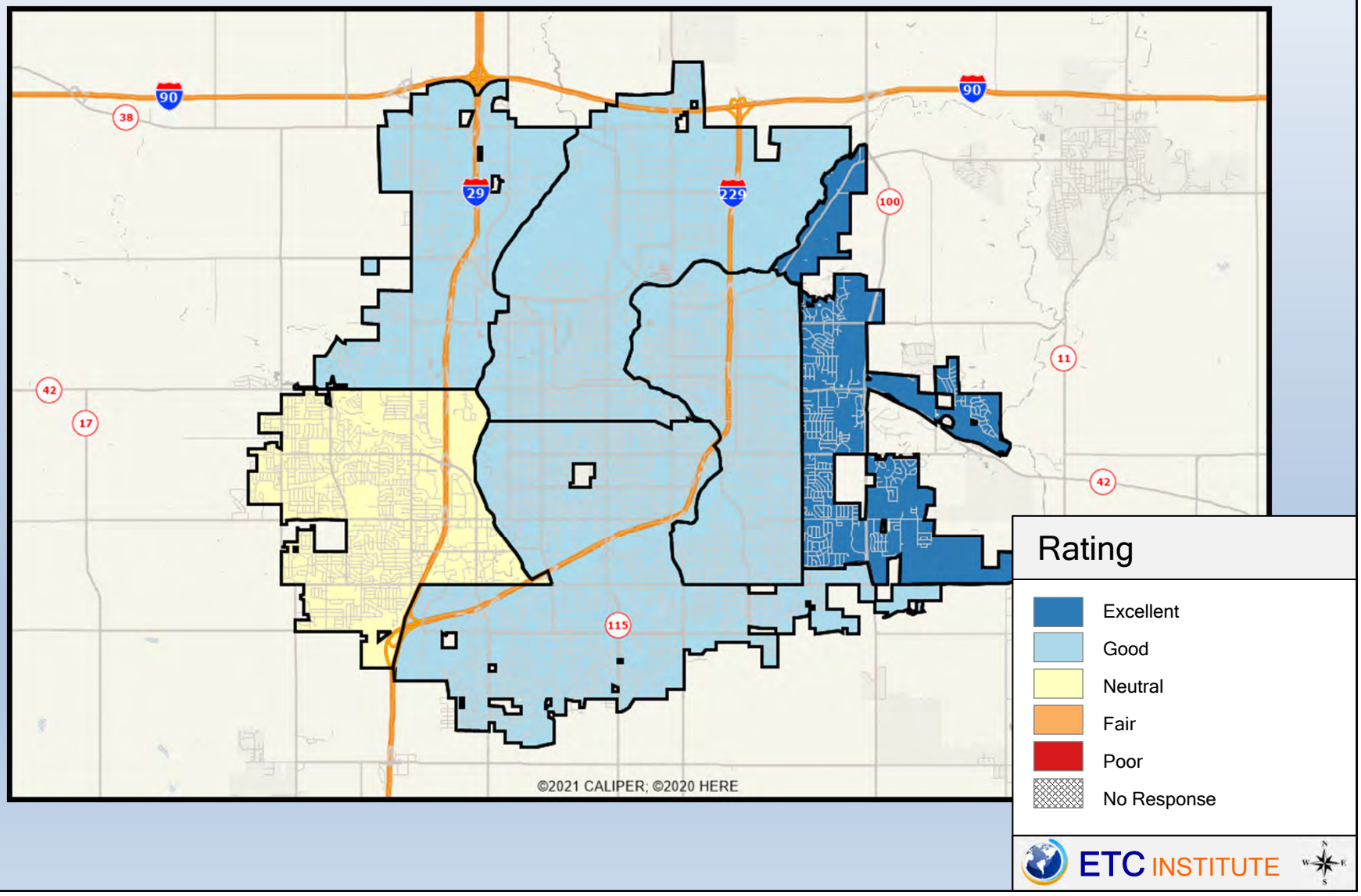
Q17-09. How close stops are located to the destinations I need to visit



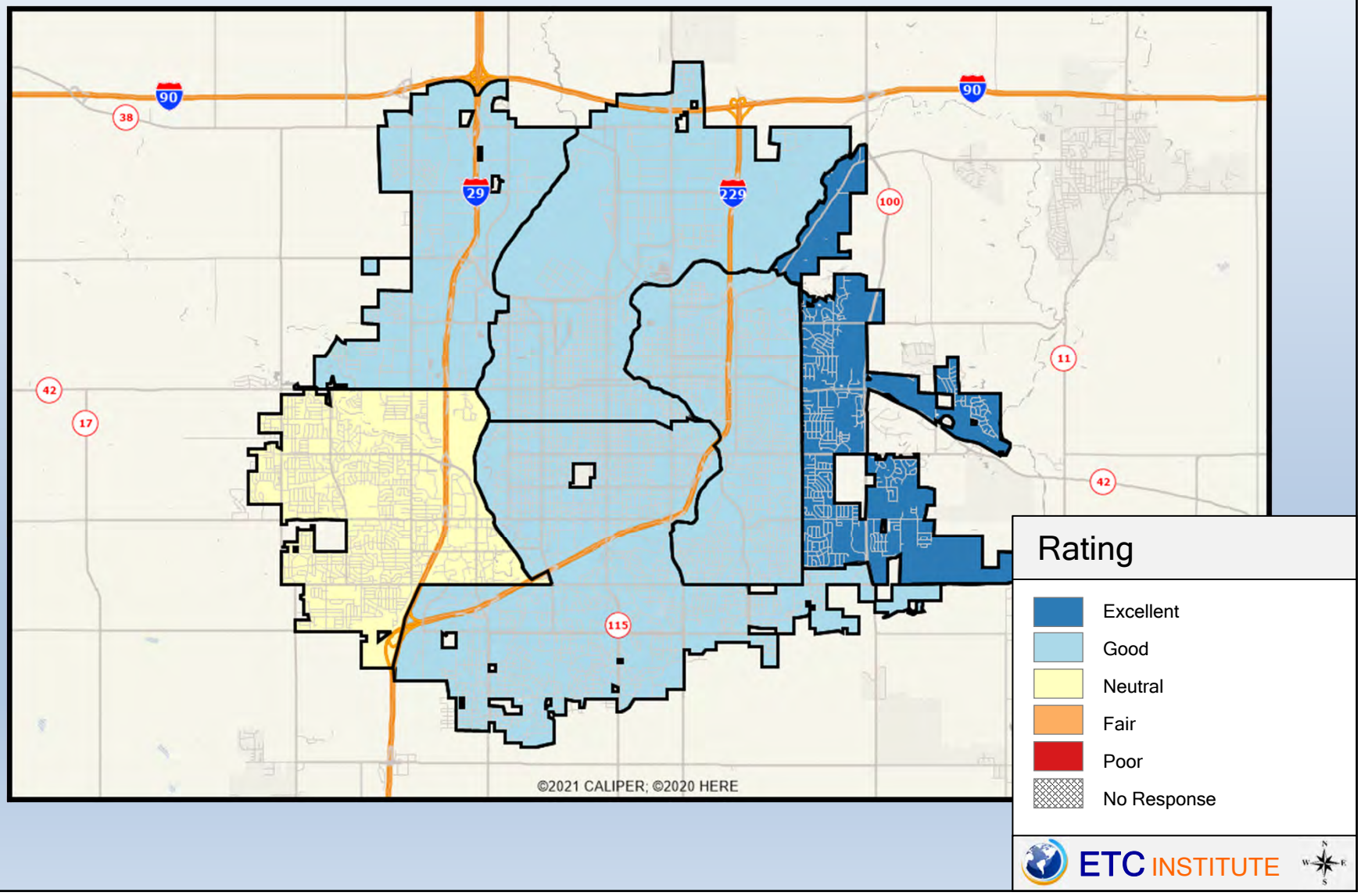
Q17-10. Minimizing the number of transfers



Q17-11. The availability of information about bus service



Q17-12. The availability of safe walking and pedestrian facilities to get to the bus



3 Importance-Satisfaction Analysis

Importance-Satisfaction Analysis

Overview

Today, officials have limited resources which need to be targeted to activities that are of the most benefit to their citizens. Two of the most important criteria for decision making are (1) to target resources toward services of the highest importance to citizens; and (2) to target resources toward those services where citizens are the least satisfied.

The Importance-Satisfaction (I-S) rating is a unique tool that allows public officials to better understand both of these highly important decision-making criteria for each of the services they are providing. The Importance-Satisfaction rating is based on the concept that public agencies will maximize overall customer satisfaction by emphasizing improvements in those areas where the level of satisfaction is relatively low, and the perceived importance of the service is relatively high.

I-S Rating = Importance x (1-Satisfaction)

Example of the Calculation

Respondents were asked to identify the categories of agency services that were most important to them. Nearly one-fourth (22.2%) of respondents selected *availability of evening service* as one of the most important aspects of the public transit system.

With regard to satisfaction, 50.2% of respondents surveyed rated the agency's overall performance in the *availability of evening service* as a "4" or "5" on a 5-point scale (where "4" means "Excellent" and "3" means "Good") excluding "Don't Know" responses. The I-S rating was calculated by multiplying the sum of the most important percentages by 1 minus the sum of the satisfaction percentages. In this example 22.2% was multiplied by 49.8% (1-0.502). This calculation yielded an I-S rating of 0.1106, which ranked second out of 12 service categories.

The maximum rating is 1.00 and would be achieved when 100% of the respondents select an item as one of their most important service features and 0% indicate they are satisfied with the feature.

The lowest rating is 0.00 and could be achieved under either of the following two situations:

- If 100% of the respondents were positively satisfied with the delivery of the service
- If none (0%) of the respondents selected the service as one of the three most important areas.

Importance-Satisfaction Analysis

Interpreting the Ratings

Ratings that are greater than or equal to 0.20 identify areas that should receive significantly more emphasis. Ratings from 0.10 to 0.20 identify service areas that should receive increased emphasis. Ratings less than 0.10 should continue to receive the current level of emphasis.

- *Definitely Increase* Emphasis (I-S > 0.20)
- *Increase* Current Emphasis (I-S = 0.10 - 0.20)
- *Maintain* Current Emphasis (I-S < 0.10)

The results for the 2023 Sioux Area Metro Passenger Survey are provided on the following page.

2023 Importance-Satisfaction Rating
Sioux Falls, SD
Public Transit In The Metropolitan Area

Category of Service	Most Important %	Most Important Rank	Satisfaction %	Satisfaction Rank	Importance-Satisfaction Rating	I-S Rating Rank
Very High Priority (IS >.20)						
Availability of weekend service	40%	1	43%	12	0.2315	1
High Priority (IS .10-.20)						
Availability of evening service	22%	4	50%	11	0.1106	2
Medium Priority (IS <.10)						
How frequently buses come by stops	18%	7	68%	8	0.0590	3
On-time reliability of buses	28%	2	80%	3	0.0549	4
How close stops are located to the destinations I need to visit	16%	8	67%	9	0.0543	5
How safe you feel when waiting at bus shelters & SAM Depot	21%	5	79%	5	0.0433	6
Customer service provided by drivers & SAM staff	25%	3	84%	2	0.0406	7
Availability of covered shelters at stops	9%	10	55%	10	0.0400	8
Minimizing the number of transfers	12%	9	69%	7	0.0372	9
How safe you feel on the bus	19%	6	86%	1	0.0275	10
Availability of safe walking/pedestrian facilities to get to the bus	7%	11	79%	4	0.0154	11
Availability of information about bus service	5%	12	73%	6	0.0149	12

Note: The I-S Rating is calculated by multiplying the "Most Important" % by (1-'Satisfaction' %)

Most Important %: The "Most Important" percentage represents the sum of the first, second, and third most important responses for each item. Respondents were asked to identify the three items that were most important to them.

Satisfaction %: The "Satisfaction" percentage represents the sum of the ratings "4" and "3" excluding 'don't knows.' Respondents rated each item on a scale of 4 to 1 with "4" being Excellent and "1" being Poor.

4 Tabular Data

Q1. How many years have you been riding the bus in Sioux Falls?

Q1. How many years have you been riding the bus in Sioux Falls	Number	Percent
0-2	68	33.5 %
3-5	46	22.7 %
6-10	40	19.7 %
11-15	15	7.4 %
16-20	12	5.9 %
21+	20	9.9 %
Not provided	2	1.0 %
Total	203	100.0 %

WITHOUT "NOT PROVIDED"

Q1. How many years have you been riding the bus in Sioux Falls? (without "not provided")

Q1. How many years have you been riding the bus in Sioux Falls	Number	Percent
0-2	68	33.8 %
3-5	46	22.9 %
6-10	40	19.9 %
11-15	15	7.5 %
16-20	12	6.0 %
21+	20	10.0 %
Total	201	100.0 %

Q2. Overall, what is your perception of the quality of the public transit system in Sioux Falls?

Q2. Your overall perception of the quality of public transit system in Sioux Falls	Number	Percent
Excellent	69	34.0 %
Good	84	41.4 %
Neutral	32	15.8 %
Poor	11	5.4 %
Don't know	7	3.4 %
Total	203	100.0 %

WITHOUT "DON'T KNOW"

Q2. Overall, what is your perception of the quality of the public transit system in Sioux Falls? (without "don't know")

Q2. Your overall perception of the quality of public transit system in Sioux Falls	Number	Percent
Excellent	69	35.2 %
Good	84	42.9 %
Neutral	32	16.3 %
Poor	11	5.6 %
Total	196	100.0 %

Q3. How often do you currently use Sioux Area Metro?

Q3. How often do you currently use Sioux Area Metro	Number	Percent
5+ days per week	87	42.9 %
2-4 days per week	73	36.0 %
Once a week	20	9.9 %
A few times a month	17	8.4 %
A few times a year	1	0.5 %
Rarely or never	2	1.0 %
Not provided	3	1.5 %
Total	203	100.0 %

WITHOUT "NOT PROVIDED"

Q3. How often do you currently use Sioux Area Metro? (without "not provided")

Q3. How often do you currently use Sioux Area Metro	Number	Percent
5+ days per week	87	43.5 %
2-4 days per week	73	36.5 %
Once a week	20	10.0 %
A few times a month	17	8.5 %
A few times a year	1	0.5 %
Rarely or never	2	1.0 %
Total	200	100.0 %

Q4. Why do you use the bus in Sioux Falls?

Q4. Why do you use the bus in Sioux Falls	Number	Percent
It's my only alternative	137	67.5 %
To avoid traffic congestion	14	6.9 %
Don't like driving	36	17.7 %
Save money	74	36.5 %
Employer provides transit pass	7	3.4 %
I care about the environment	30	14.8 %
Other	12	5.9 %
Total	310	

Q4-7. Other:

Q4-7. Other	Number	Percent
Don’t drive	1	8.3 %
GET FROM POINT A TO POINT B	1	8.3 %
WORK	1	8.3 %
I STRESS EASILY	1	8.3 %
I ride it to work	1	8.3 %
DISABILITY	1	8.3 %
HOMELESS	1	8.3 %
INSURANCE IS TOO HIGH	1	8.3 %
Taxi costs too much	1	8.3 %
DR APPOINTMENTS AND SHOPPING	1	8.3 %
SAVING FOR A GOOD CAR	1	8.3 %
VEHICLE BEING SERVICED	1	8.3 %
Total	12	100.0 %

Q5. How many blocks from your HOME is the nearest bus stop located?

Q5. How many blocks from your home is the nearest bus stop located	Number	Percent
0-2	116	57.1 %
3-5	56	27.6 %
6-10	18	8.9 %
11+	7	3.4 %
Not provided	6	3.0 %
Total	203	100.0 %

WITHOUT "NOT PROVIDED"

Q5. How many blocks from your HOME is the nearest bus stop located? (without "not provided")

Q5. How many blocks from your home is the nearest bus stop located	Number	Percent
0-2	116	58.9 %
3-5	56	28.4 %
6-10	18	9.1 %
11+	7	3.6 %
Total	197	100.0 %

Q6. How often would you like the bus to arrive at the bus stop nearest your HOME?

Q6. How often would you like the bus to arrive at the bus stop nearest your home	Number	Percent
0-5	10	4.9 %
6-10	7	3.4 %
11-15	12	5.9 %
16-20	5	2.5 %
21-30	101	49.8 %
31+	44	21.7 %
Not provided	24	11.8 %
Total	203	100.0 %

WITHOUT "NOT PROVIDED"

Q6. How often would you like the bus to arrive at the bus stop nearest your HOME? (without "not provided")

Q6. How often would you like the bus to arrive at the bus stop nearest your home	Number	Percent
0-5	10	5.6 %
6-10	7	3.9 %
11-15	12	6.7 %
16-20	5	2.8 %
21-30	101	56.4 %
31+	44	24.6 %
Total	179	100.0 %

Q7. Excluding your home, how many different places did you (or will you) use the bus to visit today?

Q7. How many different places did you or will you use the bus to visit today	Number	Percent
1	47	23.2 %
2	50	24.6 %
3	42	20.7 %
4	26	12.8 %
5	11	5.4 %
6+	7	3.4 %
Not provided	20	9.9 %
Total	203	100.0 %

WITHOUT "NOT PROVIDED"

Q7. Excluding your home, how many different places did you (or will you) use the bus to visit today? (without "not provided")

Q7. How many different places did you or will you use the bus to visit today	Number	Percent
1	47	25.7 %
2	50	27.3 %
3	42	23.0 %
4	26	14.2 %
5	11	6.0 %
6+	7	3.8 %
Total	183	100.0 %

Q8. Which route are you riding now (or about to board next)?

Q8. Which route are you riding now or about to board next	Number	Percent
1	13	6.7 %
2	14	7.3 %
3	25	13.0 %
4	18	9.3 %
5	11	5.7 %
6	11	5.7 %
7	30	15.5 %
8	11	5.7 %
9	12	6.2 %
10	25	13.0 %
11	5	2.6 %
19	18	9.3 %
Total	193	100.0 %

Q9. Excluding your home, what is/was the name of the primary destination you are using/used the bus to visit today? (1st)

- 1ST PREMIER BANK
- 5 GUYS
- A friends house
- ACTIVE GENERATIONS
- AGP
- ALCOM
- ARBYS
- ASPIRES
- AVERA HOSPITAL
- AVERA MCGREEVY CLINIC
- BANQUET
- BILLS
- BISHOP DUDLEY HOUSE
- Brooke
- Bus Depot
- CARROLL INS
- CASEYS
- CENTRAL CHURCH DOWNTOWN
- CITY HALL
- CLEVELAND APARTMENTS
- COURTHOUSE
- Dakotaland auto glass
- DAN RUMMELL VILLAGE
- DAUGHTERS HOUSE
- Dept. Of Human Services
- DOLLAR STORE
- DOLLAR TREE
- Downtown Library
- DQ
- Dragons Den
- DUDLEY
- EASTVIEW APARTMENTS
- EMBE SWIMMING POOL
- EMPIRE MALL
- EMPIRE MALL
- EMPIRE MALL
- EMPIRE MALL
- EYEMART
- FACE IT TOGETHER
- FALLS COMMUNITY
- FAMILY DOLLAR
- FAST FOOD BUSINESS
- FIRST FEDERAL BANK

Q9. Excluding your home, what is/was the name of the primary destination you are using/used the bus to visit today? (1st)

- FLYING J
- FLYING J
- FRYING PAN
- GET N GO
- GIMME-A-BREAK-DAYCARE
- GLORY HOUSE
- GOODWILL
- Goodwill
- GRAND PRAIRIE FOODS
- HAMPTON INN
- HERITAGE
- Hospitality Apartments
- Hy-Vee
- Hy-Vee
- IMPERIAL MALL
- JC PENNEY
- KFC
- LA TAPATIA MEXICAN STORE & RESTAURANT
- LEWIS STORES
- LIBRARY
- LIBRARY DOWNTOWN
- LYON PARK
- MacDonald's
- MACKINZIE RIVER AND BLARNEY STONE PUB
- MALL WALMART
- MCDONALDS
- MEDICAL
- MEDVANTX
- MENARDS
- Midtown Dental Health
- NORDICA WAREHOUSE
- NORMAN B MEARS LIBRARY
- OSHIMA
- PAPA JOHNS
- PAROLE OFFICE
- PAROLE OFFICE
- PAROLE OFFICE
- PERKINS
- PIZZA RANCH
- PIZZA RANCH
- PLASMA RESOURCES
- PODS MOVING & STORAGE
- POMEGRANATE

Q9. Excluding your home, what is/was the name of the primary destination you are using/used the bus to visit today? (1st)

- RAMADA
- RAMKOTA SUITES
- ROSS
- RUBY TUESDAY
- Sanford
- SANFORD HOSPITAL
- SANFORD HOSPITAL
- SAUERS
- SHEELS BEST BUY
- SHEELS/BEST BUY
- Shop N Cart
- SHOP N CART
- SILENCER CENTRAL
- SIOUX FALLS COOP
- SIOUX FALLS FOOD COOP
- SMARCO SMITH
- SMITHFIELD
- SMITHFIELD
- SMITHFIELD
- SMITHFIELD FOODS
- SOUTHEASTERN BEHAVIORAL HEALTH
- ST VINCENT DE PAUL SOCIETY
- STATE DEPARTMENT OF LABOR
- SUNSHINE FOODS
- TALECRIS
- THE ARENA
- TOMMY JACKS PUB
- TOWER CAMPGROUND
- TURLE PARK
- U I H
- UNITED STATES COURT HOUSE
- URBAN INDIAN HEALTH
- VA HOSPITAL
- VA HOSPITAL
- VALLEY INN
- Valley Inn
- WALGREENS
- WALMART
- WALMART
- WALMART
- WALMART
- WALMART
- WALMART
- WALMART

Q9. Excluding your home, what is/was the name of the primary destination you are using/used the bus to visit today? (1st)

- WALMART
- WALMART
- WALMART
- WALMART
- WALMART
- WALMART
- WALMART
- WALMART
- WALMART
- WALMART
- WALMART EAST
- WESTERN MALL
- WHITTERS
- WILEYS BAR
- WILLIAM MCLAUGHLIN
- WOOFS AND WAVES

Q9. Excluding your home, what is/was the name of the primary destination you are using/used the bus to visit today? (2nd)

- 1000 S. Grange Ave
- 101 E INDIANA
- 10TH
- 10TH & CLIFF
- 10TH & SPRING
- 10TH ST
- 1101 W 22ND ST
- 1117 W 11TH ST
- 11ST
- 11TH ST
- 120 N. Kiwanis Ave.
- 1200 1/2 west 10th Street
- 12th western
- 1400 N CLEVELAND
- 1400 N WEBER AVE
- 1400 N WEBER AVE
- 14TH & MINNESOTA
- 1801 N TERIN CIR
- 1818 N LEWIS
- 18TH & GRANGE
- 18TH & MINNESOTA
- 18th and grange
- 18TH AND MINNESOTA
- 1900 S MARION RD
- 2001 e 39th street north
- 2101 E 39TH ST
- 2101 W 41ST
- 214 E 12TH ST
- 224 W 9TH ST
- 22ND & GRANGE
- 2300 W 46TH ST
- 2417 S CARLOY AVE
- 2600 S Western Ave
- 2605 W 12TH ST
- 2608 E 8TH ST
- 2608 E 8TH ST
- 26TH & MARION
- 2701 E 6th St
- 2701 E 6TH ST
- 3009 W RUSSELL ST
- 302 N JUNIPER PL
- 3101 E 26th St.
- 3300 E 11TH ST

Q9. Excluding your home, what is/was the name of the primary destination you are using/used the bus to visit today? (2nd)

- 3601 EAST 3RD ST
- 3800 N Career Ave
- 3809 E 10TH ST
- 39TH & TERRY
- 410 W 18TH
- 41ST & LOUISE
- 41ST AND LOUISE
- 41ST AND MINNESOTA
- 41ST AND MINNESOTA
- 41ST AND NORTON
- 41ST ST
- 41ST ST
- 41ST ST SW
- 41ST ST SW
- 41T AND LOUISE
- 430 E 10TH ST
- 4901 N 4TH AVE
- 4915 N CLIFF AVE
- 49TH & WESTPORT
- 49TH ST
- 49TH ST
- 501 EAST 52ND ST
- 5200 W 60TH ST N
- 530 S 2ND AVE
- 5426 E ARROWHEAD PKWY
- 5521 E ARROWHEAD
- 5521 E ARROWHEAD PKWY
- 57TH & TENNIS LN
- 6TH & MINNESOTA
- 6th & Weber
- 6TH ST
- 7TH AVE
- 800 E 14TH ST
- 809 NW Ave
- 811 E 10rh St
- 900 E 8TH ST
- 900 EAST 8TH ST
- 970 N CLIFF AVE
- 9TH ST
- ARROWHEAD
- ARROWHEAD
- ARROWHEAD PARKWAY
- BROOKING AND MINNESOTA
- CLEVELAND

Q9. Excluding your home, what is/was the name of the primary destination you are using/used the bus to visit today? (2nd)

- DAKOTA AVE
- DOLLY FARMS
- Downtown
- E 10TH
- E 10TH ST
- E 54TH ST NORTH
- E ARROWHEAD
- EAST
- EAST PARKWAY
- EAST SIDE
- EAST SIDE
- KIWANIS
- LOUISE AND 57TH
- NOT PROVIDED
- ON CLEVELAND
- RUSSELL ST
- S SHIRLEY ST
- Sycamore avenue
- TRUCK STOP 60TH N
- W BURNSIDE ST
- WEST SIDE
- WESTPORT AVE & 12TH ST
- WILLIAMS AVE

Q10. How long (in minutes) did/will it take you to get from your home to the destination listed above using the bus?

Q10. How long in minutes did/will it take you to get from your home to the destination using bus	Number	Percent
0-5	15	7.4 %
6-10	13	6.4 %
11-15	23	11.3 %
16-20	22	10.8 %
21-30	39	19.2 %
31+	75	36.9 %
Not provided	16	7.9 %
Total	203	100.0 %

WITHOUT "NOT PROVIDED"

Q10. How long (in minutes) did/will it take you to get from your home to the destination listed above using the bus? (without "not provided")

Q10. How long in minutes did/will it take you to get from your home to the destination using bus	Number	Percent
0-5	15	8.0 %
6-10	13	7.0 %
11-15	23	12.3 %
16-20	22	11.8 %
21-30	39	20.9 %
31+	75	40.1 %
Total	187	100.0 %

Q11. How many times did you (or would you have had to) transfer to get from your home to the destination listed above?

Q11. How many times did you or would you have had to transfer to get from your home to the destination	Number	Percent
None	51	25.1 %
Once	68	33.5 %
Twice	62	30.5 %
Three or more	20	9.9 %
Not provided	2	1.0 %
Total	203	100.0 %

WITHOUT "NOT PROVIDED"

Q11. How many times did you (or would you have had to) transfer to get from your home to the destination listed above? (without "not provided")

Q11. How many times did you or would you have had to transfer to get from your home to the destination	Number	Percent
None	51	25.4 %
Once	68	33.8 %
Twice	62	30.8 %
Three or more	20	10.0 %
Total	201	100.0 %

Q12. What is/was the primary purpose of your current trip?

Q12. What is/was the primary purpose of your current trip	Number	Percent
Work	73	36.0 %
Personal business	52	25.6 %
Shopping	41	20.2 %
College/school	1	0.5 %
Hospital/doctor's office	18	8.9 %
Social/recreation	10	4.9 %
Other	2	1.0 %
Not provided	6	3.0 %
Total	203	100.0 %

WITHOUT "NOT PROVIDED"

Q12. What is/was the primary purpose of your current trip? (without "not provided")

Q12. What is/was the primary purpose of your current trip	Number	Percent
Work	73	37.1 %
Personal business	52	26.4 %
Shopping	41	20.8 %
College/school	1	0.5 %
Hospital/doctor's office	18	9.1 %
Social/recreation	10	5.1 %
Other	2	1.0 %
Total	197	100.0 %

Q12-7. Other:

Q12-7. Other	Number	Percent
TREATMENT	1	50.0 %
ERRANDS	1	50.0 %
Total	2	100.0 %

Q13. Do you have a car or other vehicle that you could have used to make this trip?

Q13. Do you have a car or other vehicle that you could have used to make this trip	Number	Percent
Yes	34	16.7 %
No	163	80.3 %
Not provided	6	3.0 %
Total	203	100.0 %

WITHOUT "NOT PROVIDED"

Q13. Do you have a car or other vehicle that you could have used to make this trip? (without "not provided")

Q13. Do you have a car or other vehicle that you could have used to make this trip	Number	Percent
Yes	34	17.3 %
No	163	82.7 %
Total	197	100.0 %

Q14. If the bus service was not available, how would you make this trip?

Q14. How would you make this trip if bus service was not available	Number	Percent
Use my car	8	3.9 %
Walk	69	34.0 %
Bicycle	17	8.4 %
Get a ride from someone	51	25.1 %
Use an Uber/Lyft/taxi	23	11.3 %
I would not make this trip	30	14.8 %
Not provided	5	2.5 %
Total	203	100.0 %

WITHOUT "NOT PROVIDED"

Q14. If the bus service was not available, how would you make this trip? (without "not provided")

Q14. How would you make this trip if bus service was not available	Number	Percent
Use my car	8	4.0 %
Walk	69	34.8 %
Bicycle	17	8.6 %
Get a ride from someone	51	25.8 %
Use an Uber/Lyft/taxi	23	11.6 %
I would not make this trip	30	15.2 %
Total	198	100.0 %

Q15. First destination you would like to visit in the Sioux Falls metropolitan area that are not currently served by the public transit system.

- 2001 e 39th street north
- 60TH ST FOR AMAZON
- 69 & LOUISE
- 69TH
- 69TH & LOUISE
- 85TH
- A & B BUSINESS SOLUTIONS N A BLVD
- Airport
- Airport
- Airport
- Aldi
- AMAZON
- AVERA HEART HOSPITAL
- AVERA HEART HOSPITAL
- AVERA HEART HOSPITAL
- AVERA ORTHOPEDICS
- BIKE PATHS
- BUTTERFLY HOUSE
- CARROT INSTITUTE
- CHURCH
- DENTAL CLINICS PAST 49TH ST
- Falls
- FALLS PARK AREA
- FALLS PARK AREA
- FIRST BAPTIST CHURCH
- FIRST BAPTIST CHURCH
- FLEET FARM
- FLYING J
- FLYING J
- Good Will of the Great Plains
- HARTFORD
- JIMMY JOHNS ON BENTON
- JUST WEEKEND ROUTES AND MORE ROUTES
- LAND O LAKES
- MCDONALDS ON 10TH ST
- More pools
- New work location by Dawley Village
- OPTHAMOLOGY LTD
- ORTHOPEDIC AVERA
- PARHAM CHIROPRACTIC 2500 W 46TH ST
- PIZZA RANCH
- RONNING LIBRARY

Q15. First destination you would like to visit in the Sioux Falls metropolitan area that are not currently served by the public transit system.

- SATURDAY AND SUNDAY SERVICE
- SOUTH OF 60TH
- SUBARU 82 ST SOUTH
- SUBWAY ON 69TH & MINNESOTA
- SUNSHINE FOODS
- THEATER
- VETERANS CENTER
- Walmart
- Walmart
- Walmart
- WALMART 60TH N
- Walmart 85th & Minnesota Ave
- WALMART ON 85TH & MINNESOTA
- WALMART ON 85TH ST
- Walmart on 85th& Minnesota
- WALMART SOUTH MINNESOTA
- Work

Q15. Second destination you would like to visit in the Sioux Falls metropolitan area that are not currently served by the public transit system.

- 41ST & TEA LIS RD
- 54TH & SYCAMORE
- 7412 w stoneycreek st
- 85TH
- Amazon
- AMAZON NORTH
- Appointment
- AVERA BEHAVIOR HEALTH 69TH & LOUIS
- Average Behavioral Health
- BACK IN BALANCE FAMILY CHIROPRACTIC 4301 W 57TH ST
- BATHROOMS OPEN AT NIGHT
- BUTTERFLY HOUSE AQUARIUM
- FAIRGROUNDS
- Freddy's
- Friends house
- HYVEE (26TH & SYCAMORE)
- Hy-Vee on Cliff and 57th
- LAST STOP CD SHOP
- LEWIS DRUG 41ST AND MARION
- LIBRARY
- Places past 69th Street on Minnesota and/or Western Ave
- POTTER HALL
- S ELLIS RD (SEVERAL PLACES)
- Special Olympics unified center
- STORAGE UNITS ON LYONS
- SUNNY CREST RETIREMENT
- TEA
- UNION GOSPEL MISSION
- WALGREENS ON 41ST AND LOUISE AVE
- WALL LAKE
- WALMART
- WALMART EAST
- WALMART SOUTHSIDE
- WALMART SS

Q15. Third destination you would like to visit in the Sioux Falls metropolitan area that are not currently served by the public transit system.

- 69th & Louise Ave
- COMPUTER PROS, 1200 W 57TH ST
- Elm wood golf course
- FLEET FARM
- GLORY HOUSE
- GRAND FALL CASINO & GOLF RESORT
- HARRISBURG
- NEW JOB FORCE OFFICE WHEREVER THEY ARE MOVING TO
- Orielys
- Outlying communities Tea, Harrisburg, Brandon
- PENNYS
- Perkins
- See my daughter
- SKY ZONE
- SOUTH CLIFF-MINNESOTA
- SUNSHINE
- Walmart Minnesota & South 85th
- ZOO

Q16. Please indicate how likely you would be to ride the bus more than you currently do if the following services/amenities were provided.

(N=203)

	Very likely	Likely	Not sure	Not likely	Not provided
Q16-1. Shelter amenities such as heat, fans, lights, & digital schedules, etc	36.5%	33.5%	17.7%	9.9%	2.5%
Q16-2. Automatic voice announcement	31.5%	28.6%	23.6%	10.3%	5.9%
Q16-3. Real-time information about the location of buses that can be accessed on a mobile device	35.0%	29.6%	17.2%	14.3%	3.9%

WITHOUT "NOT PROVIDED"

Q16. Please indicate how likely you would be to ride the bus more than you currently do if the following services/amenities were provided. (without "not provided")

(N=203)

	Very likely	Likely	Not sure	Not likely
Q16-1. Shelter amenities such as heat, fans, lights, & digital schedules, etc	37.4%	34.3%	18.2%	10.1%
Q16-2. Automatic voice announcement	33.5%	30.4%	25.1%	11.0%
Q16-3. Real-time information about the location of buses that can be accessed on a mobile device	36.4%	30.8%	17.9%	14.9%

Q17. Please rate the current aspects of public transit in the Sioux Falls metropolitan area listed below.

(N=203)

	Excellent	Good	Fair	Poor	Not provided
Q17-1. Customer service provided by drivers & SAM staff	40.9%	41.4%	9.9%	6.4%	1.5%
Q17-2. How safe you feel when waiting at bus shelters & SAM Depot	44.8%	33.5%	16.3%	4.4%	1.0%
Q17-3. How safe you feel on the bus	53.7%	31.5%	12.3%	2.0%	0.5%
Q17-4. On-time reliability of buses	45.8%	33.5%	14.8%	4.9%	1.0%
Q17-5. How frequently buses come by stops	33.5%	32.5%	20.2%	11.3%	2.5%
Q17-6. Availability of weekend service	23.6%	18.2%	17.7%	38.4%	2.0%
Q17-7. Availability of evening service	22.7%	26.6%	27.6%	21.2%	2.0%
Q17-8. Availability of covered shelters at stops	25.6%	28.1%	22.2%	21.7%	2.5%
Q17-9. How close stops are located to the destinations I need to visit	30.5%	34.5%	21.7%	10.8%	2.5%
Q17-10. Minimizing the number of transfers	31.5%	36.0%	21.2%	9.9%	1.5%
Q17-11. Availability of information about bus service	40.4%	31.0%	19.2%	7.9%	1.5%
Q17-12. Availability of safe walking/ pedestrian facilities to get to the bus	39.9%	38.9%	13.3%	7.4%	0.5%

WITHOUT "NOT PROVIDED"

Q17. Please rate the current aspects of public transit in the Sioux Falls metropolitan area listed below. (without "not provided")

(N=203)

	Excellent	Good	Fair	Poor
Q17-1. Customer service provided by drivers & SAM staff	41.5%	42.0%	10.0%	6.5%
Q17-2. How safe you feel when waiting at bus shelters & SAM Depot	45.3%	33.8%	16.4%	4.5%
Q17-3. How safe you feel on the bus	54.0%	31.7%	12.4%	2.0%
Q17-4. On-time reliability of buses	46.3%	33.8%	14.9%	5.0%
Q17-5. How frequently buses come by stops	34.3%	33.3%	20.7%	11.6%
Q17-6. Availability of weekend service	24.1%	18.6%	18.1%	39.2%
Q17-7. Availability of evening service	23.1%	27.1%	28.1%	21.6%
Q17-8. Availability of covered shelters at stops	26.3%	28.8%	22.7%	22.2%
Q17-9. How close stops are located to the destinations I need to visit	31.3%	35.4%	22.2%	11.1%
Q17-10. Minimizing the number of transfers	32.0%	36.5%	21.5%	10.0%
Q17-11. Availability of information about bus service	41.0%	31.5%	19.5%	8.0%
Q17-12. Availability of safe walking/ pedestrian facilities to get to the bus	40.1%	39.1%	13.4%	7.4%

Q18. Which THREE of the items listed in Question 17 are most important to you?

Q18. Top choice	Number	Percent
Customer service provided by drivers & SAM staff	32	15.8 %
How safe you feel when waiting at bus shelters & SAM Depot	13	6.4 %
How safe you feel on the bus	14	6.9 %
On-time reliability of buses	22	10.8 %
How frequently buses come by stops	15	7.4 %
Availability of weekend service	38	18.7 %
Availability of evening service	6	3.0 %
Availability of covered shelters at stops	4	2.0 %
How close stops are located to the destinations I need to visit	9	4.4 %
Minimizing the number of transfers	1	0.5 %
Availability of information about bus service	4	2.0 %
Availability of safe walking/pedestrian facilities to get to the bus	7	3.4 %
None chosen	38	18.7 %
Total	203	100.0 %

Q18. Which THREE of the items listed in Question 17 are most important to you?

Q18. 2nd choice	Number	Percent
Customer service provided by drivers & SAM staff	10	4.9 %
How safe you feel when waiting at bus shelters & SAM Depot	15	7.4 %
How safe you feel on the bus	12	5.9 %
On-time reliability of buses	19	9.4 %
How frequently buses come by stops	6	3.0 %
Availability of weekend service	27	13.3 %
Availability of evening service	22	10.8 %
Availability of covered shelters at stops	7	3.4 %
How close stops are located to the destinations I need to visit	14	6.9 %
Minimizing the number of transfers	6	3.0 %
Availability of information about bus service	3	1.5 %
Availability of safe walking/pedestrian facilities to get to the bus	6	3.0 %
None chosen	56	27.6 %
Total	203	100.0 %

Q18. Which THREE of the items listed in Question 17 are most important to you?

Q18. 3rd choice	Number	Percent
Customer service provided by drivers & SAM staff	8	3.9 %
How safe you feel when waiting at bus shelters & SAM Depot	14	6.9 %
How safe you feel on the bus	13	6.4 %
On-time reliability of buses	15	7.4 %
How frequently buses come by stops	16	7.9 %
Availability of weekend service	17	8.4 %
Availability of evening service	17	8.4 %
Availability of covered shelters at stops	7	3.4 %
How close stops are located to the destinations I need to visit	10	4.9 %
Minimizing the number of transfers	17	8.4 %
Availability of information about bus service	4	2.0 %
Availability of safe walking/pedestrian facilities to get to the bus	2	1.0 %
None chosen	63	31.0 %
Total	203	100.0 %

SUM OF TOP 3 CHOICES

Q18. Which THREE of the items listed in Question 17 are most important to you? (top 3)

Q18. Sum of top 3 choices	Number	Percent
Customer service provided by drivers & SAM staff	50	24.6 %
How safe you feel when waiting at bus shelters & SAM Depot	42	20.7 %
How safe you feel on the bus	39	19.2 %
On-time reliability of buses	56	27.6 %
How frequently buses come by stops	37	18.2 %
Availability of weekend service	82	40.4 %
Availability of evening service	45	22.2 %
Availability of covered shelters at stops	18	8.9 %
How close stops are located to the destinations I need to visit	33	16.3 %
Minimizing the number of transfers	24	11.8 %
Availability of information about bus service	11	5.4 %
Availability of safe walking/pedestrian facilities to get to the bus	15	7.4 %
None chosen	38	18.7 %
Total	490	

Q19. What is your age?

Q19. Your age	Number	Percent
18-34	46	22.7 %
35-44	62	30.5 %
45-54	36	17.7 %
55-64	31	15.3 %
65+	16	7.9 %
Not provided	12	5.9 %
Total	203	100.0 %

WITHOUT "NOT PROVIDED"

Q19. What is your age? (without "not provided")

Q19. Your age	Number	Percent
18-34	46	24.1 %
35-44	62	32.5 %
45-54	36	18.8 %
55-64	31	16.2 %
65+	16	8.4 %
Total	191	100.0 %

Q20. Your gender:

Q20. Your gender	Number	Percent
Male	115	56.7 %
Female	84	41.4 %
Not provided	4	2.0 %
Total	203	100.0 %

WITHOUT "NOT PROVIDED"

Q20. Your gender: (without "not provided")

Q20. Your gender	Number	Percent
Male	115	57.8 %
Female	84	42.2 %
Total	199	100.0 %

Q21. Are you employed?

Q21. Are you employed	Number	Percent
Yes	94	46.3 %
No	99	48.8 %
Not provided	10	4.9 %
Total	203	100.0 %

WITHOUT "NOT PROVIDED"

Q21. Are you employed? (without "not provided")

Q21. Are you employed	Number	Percent
Yes	94	48.7 %
No	99	51.3 %
Total	193	100.0 %

Q21a. If "YES" to Question 21, what is the name of your employer?

- ADP
- ALCOM
- AMAZON
- AMERICAN INN HOTEL NORTH
- ARBYS
- BELL INC
- BK
- BOTSKIS
- BURGER KING
- BURLINGTON COAT FACTORY
- CHISTENA THOMAS
- CROOKED PINT
- Dakotaland auto glass
- DOLLAR TREE
- DQ
- Empire hyvee
- EMPIRE MALL
- FAMILY DOLLAR
- FAZOLIS
- FBM
- FLEET FARM
- FLYING J
- FRYIN PAN
- Goodwill
- GRAND PRAIRIE FOODS
- HAMPTON INN
- Hardees
- HIRE QUEST
- HIRE QUEST
- HOLIDAY INN
- HOSTEL
- HyVee
- HyVee
- HyVee
- INTEK
- KFC
- KFC
- LOWES
- MACYS
- MCDONALDS
- MCKINZIE RIVERS
- MEDVANTX
- MENARDS
- OSHIMA

Q21a. If "YES" to Question 21, what is the name of your employer?

- PAPA JOHNS
- PILOT FLYING J
- PIZZA RANCH
- QUICK START
- ROM
- ROSS
- SD Dept of Human Services
- SELF EMPLOYED
- SELF EMPLOYED
- SELF EMPLOYED
- SHOP N CART
- SHORT STAFF
- SILENCER CENTRAL
- SMITHFIELD FOODS
- SMITHFIELD FOODS
- SMITHFIELD FOODS
- SMITHFIELD FOOD/VENDING DEPARTMENT
- SMITHFIELD FOODS
- SMITHFIELD FOODS
- ST VINCENT DEPAUL THRIFT STORE
- University of Sioux Falls
- Valley Inn
- VALLEY MANAGEMENT
- VERVANT CARD
- WALMART
- WENDYS
- WOOFS AND WAVES

Q21a. If "YES" to Question 21, what is the address of your employer?

- 1000 S Grange Ave
- 1010 E 10th Street
- 10TH
- 10TH ST
- 10TH ST
- 1101 W 22nd St. 57105
- 120 N Kiwanis Ave
- 1400 N CLEVELAND
- 1400 N WEBER AVE
- 1400 N WEBER AVE
- 1900 S MARION RD
- 2001 e 39th street north
- 22ND & GRANGE
- 26TH & MARION
- 2701 E 6TH ST
- 300 S KIWANIS
- 300 S MINNESOTA
- 3035 W FLEET ST
- 3201 E 10TH ST
- 3300 W RUSSELL ST
- 3809 E 10TH ST
- 4009 W 49TH
- 4101 South Louise
- 41ST AND MINNESOTA
- 421 W 8TH ST
- 4901 N 4TH AVE
- 49TH
- 49th louise
- 501 EAST 52ND ST
- 5201 N GRANITE LN
- 5201 N GRANITE LN SIOUX FALLS
- 5521 E ARROWHEAD
- 600 E DAWLEY FARMS
- 608 N WEST AVE
- 811 E 10th St
- 8TH ST
- 917 E 10TH ST
- ARROWHEAD PKWY
- BEHIND WALMART & SAMS CLUB
- E 54TH ST NORTH
- KIWANIS
- LAKE LORRAINE
- LAS VEGAS
- NOT PROVIDED
- W 12TH
- W 12TH ST

Q22. How many persons currently live in your household?

Q22. How many persons currently live in your household	Number	Percent
1	65	32.0 %
2	57	28.1 %
3	28	13.8 %
4	14	6.9 %
5+	15	7.4 %
Not provided	24	11.8 %
Total	203	100.0 %

WITHOUT "NOT PROVIDED"

Q22. How many persons currently live in your household? (without "not provided")

Q22. How many persons currently live in your household	Number	Percent
1	65	36.3 %
2	57	31.8 %
3	28	15.6 %
4	14	7.8 %
5+	15	8.4 %
Total	179	100.0 %

Q23. Would you say your total annual household income is:

Q23. Your total annual household income	Number	Percent
Under $15K	84	41.4 %
$15K to $29,999	43	21.2 %
$30K to $44,999	26	12.8 %
$45K to $59,999	25	12.3 %
$60K to $74,999	5	2.5 %
$75K+	1	0.5 %
Not provided	19	9.4 %
Total	203	100.0 %

WITHOUT "NOT PROVIDED"

Q23. Would you say your total annual household income is: (without "not provided")

Q23. Your total annual household income	Number	Percent
Under $15K	84	45.7 %
$15K to $29,999	43	23.4 %
$30K to $44,999	26	14.1 %
$45K to $59,999	25	13.6 %
$60K to $74,999	5	2.7 %
$75K+	1	0.5 %
Total	184	100.0 %

Q24. Do you have a physical disability?

Q24. Do you have a physical disability	Number	Percent
Yes	73	36.0 %
No	127	62.6 %
Not provided	3	1.5 %
Total	203	100.0 %

WITHOUT "NOT PROVIDED"

Q24. Do you have a physical disability? (without "not provided")

Q24. Do you have a physical disability	Number	Percent
Yes	73	36.5 %
No	127	63.5 %
Total	200	100.0 %

Q25. Do you have a smart phone?

Q25. Do you have a smart phone	Number	Percent
Yes	143	70.4 %
No	46	22.7 %
Not provided	14	6.9 %
Total	203	100.0 %

WITHOUT "NOT PROVIDED"

Q25. Do you have a smart phone? (without "not provided")

Q25. Do you have a smart phone	Number	Percent
Yes	143	75.7 %
No	46	24.3 %
Total	189	100.0 %

Q26. What is your home zip code?

Q26. What is your home zip code	Number	Percent
57104	61	35.9 %
57103	55	32.4 %
57105	22	12.9 %
57106	19	11.2 %
57107	7	4.1 %
57101	3	1.8 %
57110	2	1.2 %
57033	1	0.6 %
Total	170	100.0 %

Q27. Do you have any other suggestions to improve bus service in Sioux Falls?

- ANOTHER DEPOT-WEEKEND
- BEING ON TIME
- BRING BACK REGUALR BUS SERVICES ON SATURDAYS
- BUS SERVICE WAS BETTER IN THE PAST
- BUSES SHOULD RUN 24 HOURS BECAUSE SOME PEOPLE CANT AFFORD A ROUND TRIP LYFT; FANS OR SHADED SHELTERS FOR HOT DAYS
- COME MORE OFTEN
- EXPAND THE NIGHT SERVICE AND HAVE REGULAR ROUTES
- FULL TIME SATURDAY SERVICE AND MORE ROUTES; MAKE DRIVING MORE ATTRACTIVE AND PAY THEM
- Get rid of on demand. It's a waste of money and time. And doesn't work. I just loved standing in the rain waiting for a bus on Saturday getting soaking wet.
- GOOD AT GIVING RIDES BUT SHOULD NOT HAVE TO SCHEDULE RIDES ON SATURDAYS
- HALF HOUR WAITING FOR BUSES--NOT HOURLY
- HAVE A BUS ROUTE THAT GOES OUT THERE AND MAYBE A LATER TIME
- HAVE BUS OUT LATER. HAVE BETTER BUS STOP; HAVE BUS ON SUNDAY
- HAVE DRIVERS LET DOWN LIFT FOR PEOPLE WHO ARE UNABLE TO GET OFF THE BUS-THAT ARE USING WALKERS
- Having buses on Sunday
- I BELIEVE THAT THE BUS SERVICE IS GREAT
- I NEVER GET AN ANSWER BACK AFTER I FILE A COMPLAINT
- I THINK IT SHOULD BE AVAILABLE 24/7 AND WEEKENDS BECAUSE SOME PEOPLE WORK NIGHTS OR ON THE WEEKENDS. ALSO DONT AGREE WITH THE STROLLER POLICY
- I THINK IT WOULD BE NICE TO HAVE THE BUS ON SATURDAYS FOR EVERYONE INSTEAD OF SCHEDULING A RIDE
- I WOULD BE ABLE TO WORK IF PROVIDED WITH WEEKEND SERVICE-NO BUSES ON SATURDAY AND SUNDAY
- I WOULD LIKE TO SEE THE BUS LINES EXTEND FURTHER ON MINNESOTA AVE TO 70TH ST
- I've lived in several cities with good bud service and understand the chicken and the egg problem. I think it would help a lot of there was an app with real-time tracking of the busses. The token transit app is a great step in the right direction and really appreciate being able to buy tickets on my phone.
- IF THE BUS COULD RUN LATER IN THE EVENING, LIKE UP TO 9PM
- JUST GO TO FLYING J AND OFFER LATER HOURS
- KEEP UP THE GOOD WORK
- LATER HOURS AND EXPANDED SERVICE
- LOWER WAIT TIME
- MAKE SURE THEY KNOW THEIR ROUTE AND TIMES
- MIRROR IN THE BACK OF THE BUS OR FOR DRIVER
- MORE AIR
- MORE BUSES AVAILABLE ON SATURDAY AND TIMES WOULD BE UNTIL 6PM
- MORE EVENING AND ESPECIALLY WEEKEND SERVICE
- MORE EVENING BUSES, WEEKEND BUSES
- More marketing (social media, etc.) to increase ridership.
  More frequent route/schedule updates on Sioux falls.org/sam
- MORE SHELTERS AND SHORT TIME TO WAIT FOR BUSES TO TRANSFER TO
- MUSIC
- NAOTHER DEPOT--WEEKEND NORMAL ROUTES
- NEED SATURDAY AND SUNDAY SERVICE SO I CAN GO TO CHURCH

Q27. Do you have any other suggestions to improve bus service in Sioux Falls?

- NO SHORT BUS ON ROUTE
- None I can think of. I haven't been riding the bus for very long but its an awesome experience every time
- ONLY A FEW RUDE DRIVERS OCCASSIONALLY
- PEOPLE GET DRUNK AND FIGHT UNDER THE PARKING RAMP NEXT TO THE TC
- PLAY MUSIC
- REGULAR SATURDAY SERVICE WOULD BE GREAT
- RUN LATER IN THE EVENING AND WEEKENDS
- SAM ON DEMAND ON SATURDAYS IS GARBAGE. I HAVE ONLY TAKEN IT ONCE ON SATURDAY TO GO TO 41ST ST GREAT CLIPS. CANNOT GO TO MOVIES AT WEST MALL, BUS SHUTS DOWN TOO EARLY
- Service should be improved to 30 minute service. Weekday service should be extended till 9:45 on busy routes & 7:45 on non busy routes. Saturday service should be extended till 7:45.
- SHELTERS, INFORMATION DESK BEING MORE FRIENDLY-WHENEVER I CALL FOR HELP, THEY SEEM UNHAPPY TO HELP
- SOMETIMES THE BUSES DISPLAY THE WRONG ROUTE NUMBERS (LED SCREEN) UNTIL THEY ARE ABOUT TO LEAVE, I'VE BOARDED THE WRONG ONES FOR THIS REASON
- SUNDAY AVAILABILITY EVENING HOURS
- THE BUS SERVICE ON SATURDAY AND SUNDAY
- THE CITY DESPERATELY NEEDS MORE ROUTES IN SOUTH SIOUX FALLS
- THE LAYOVER FOR MY TRANSFER IS A VERY LONG WAIT
- THE PHONE LINES NEED MORE PEOPLE;MORE BIKE RACKS ON THE BUS PLEASE
- THEY SHOULD RUN EVERY 30 MINUTES
- TO HAVE YOUR DRIVERS ANNOUNCE THE STREET NUMBER; TO REINFORCE PASSENGER NOT TO SWEAR ON BUSES
- TRANSPORTATION ON SUNDAYS WOULD BE AWESOME; ALSO BUS DRIVERS DRIVE CRAZY SOMETIMES
- VERY GOOD
- WEEKEND SERVICE
- Wish they run on Sundays
- WISH WE WENT BACK TO CARD
- YES, MORE EMPLOYEES
- YES, PLEASE KEEP BUS SERVICE IN SIOUX FALLS
- YOUR SERVICES CAN ONLY GET BETTER AND THEY'RE ALREADY GREAT

5 Cross-Tabular Data by Route

Q1. How many years have you been riding the bus in Sioux Falls? (without "not provided")

N=203	Route												Total
	1	2	3	4	5	6	7	8	9	10	11	19	
Q1. How many years have you been riding the bus in Sioux Falls													
0-2	30.8%	21.4%	32.0%	38.9%	30.0%	36.4%	46.7%	9.1%	25.0%	24.0%	25.0%	44.4%	33.8%
3-5	23.1%	35.7%	24.0%	0.0%	30.0%	27.3%	36.7%	36.4%	16.7%	8.0%	25.0%	16.7%	22.9%
6-10	23.1%	21.4%	20.0%	33.3%	30.0%	9.1%	3.3%	36.4%	25.0%	24.0%	50.0%	11.1%	19.9%
11-15	15.4%	7.1%	8.0%	5.6%	10.0%	9.1%	0.0%	9.1%	25.0%	12.0%	0.0%	0.0%	7.5%
16-20	0.0%	14.3%	0.0%	11.1%	0.0%	0.0%	10.0%	0.0%	8.3%	4.0%	0.0%	16.7%	6.0%
21+	7.7%	0.0%	16.0%	11.1%	0.0%	18.2%	3.3%	9.1%	0.0%	28.0%	0.0%	11.1%	10.0%

Q2. Overall, what is your perception of the quality of the public transit system in Sioux Falls? (without "don't know")

N=203	Route												Total
	1	2	3	4	5	6	7	8	9	10	11	19	
Q2. Your overall perception of the quality of public transit system in Sioux Falls													
Excellent	38.5%	42.9%	36.0%	23.5%	0.0%	36.4%	34.5%	27.3%	20.0%	45.8%	60.0%	41.2%	35.2%
Good	30.8%	42.9%	44.0%	47.1%	72.7%	54.5%	41.4%	54.5%	50.0%	33.3%	20.0%	41.2%	42.9%
Fair	15.4%	14.3%	20.0%	17.6%	18.2%	9.1%	17.2%	18.2%	30.0%	8.3%	0.0%	17.6%	16.3%
Poor	15.4%	0.0%	0.0%	11.8%	9.1%	0.0%	6.9%	0.0%	0.0%	12.5%	20.0%	0.0%	5.6%

Q3. How often do you currently use Sioux Area Metro? (without "not provided")

N=203	Route												Total
	1	2	3	4	5	6	7	8	9	10	11	19	
Q3. How often do you currently use Sioux Area Metro													
5+ days per week	15.4%	35.7%	56.0%	55.6%	54.5%	72.7%	51.7%	45.5%	33.3%	28.0%	80.0%	18.8%	43.5%
2-4 days per week	61.5%	42.9%	32.0%	33.3%	27.3%	27.3%	31.0%	45.5%	16.7%	44.0%	0.0%	56.3%	36.5%
Once a week	23.1%	7.1%	8.0%	0.0%	9.1%	0.0%	6.9%	9.1%	25.0%	16.0%	0.0%	6.3%	10.0%
A few times a month	0.0%	14.3%	4.0%	11.1%	9.1%	0.0%	10.3%	0.0%	8.3%	12.0%	0.0%	18.8%	8.5%
A few times a year	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	20.0%	0.0%	0.5%
Rarely or never	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	16.7%	0.0%	0.0%	0.0%	1.0%

Q4. Why do you use the bus in Sioux Falls?

N=203	Route												Total
	1	2	3	4	5	6	7	8	9	10	11	19	
Q4. Why do you use the bus in Sioux Falls													
It's my only alternative	76.9%	85.7%	72.0%	66.7%	45.5%	90.9%	56.7%	72.7%	66.7%	64.0%	80.0%	55.6%	67.5%
To avoid traffic congestion	7.7%	7.1%	8.0%	0.0%	0.0%	9.1%	6.7%	18.2%	16.7%	8.0%	20.0%	0.0%	6.9%
Don't like driving	7.7%	7.1%	20.0%	11.1%	36.4%	27.3%	26.7%	9.1%	33.3%	20.0%	0.0%	11.1%	17.7%
Save money	23.1%	28.6%	36.0%	38.9%	54.5%	36.4%	36.7%	45.5%	41.7%	28.0%	40.0%	38.9%	36.5%
Employer provides transit pass	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	3.3%	0.0%	8.3%	4.0%	0.0%	11.1%	3.4%
I care about the environment	15.4%	14.3%	4.0%	33.3%	36.4%	0.0%	20.0%	18.2%	16.7%	8.0%	0.0%	5.6%	14.8%
Other	0.0%	14.3%	4.0%	5.6%	0.0%	9.1%	10.0%	0.0%	8.3%	8.0%	0.0%	0.0%	5.9%

Q5. How many blocks from your HOME is the nearest bus stop located? (without "not provided")

N=203	Route												Total
	1	2	3	4	5	6	7	8	9	10	11	19	
Q5. How many blocks from your home is the nearest bus stop located													
0-2	69.2%	57.1%	60.0%	72.2%	50.0%	81.8%	72.4%	27.3%	54.5%	58.3%	20.0%	50.0%	58.9%
3-5	15.4%	28.6%	28.0%	27.8%	30.0%	0.0%	20.7%	63.6%	36.4%	25.0%	40.0%	43.8%	28.4%
6-10	7.7%	7.1%	4.0%	0.0%	10.0%	18.2%	6.9%	9.1%	9.1%	8.3%	40.0%	6.3%	9.1%
11+	7.7%	7.1%	8.0%	0.0%	10.0%	0.0%	0.0%	0.0%	0.0%	8.3%	0.0%	0.0%	3.6%

Q6. How often would you like the bus to arrive at the bus stop nearest your HOME? (without "not provided")

N=203	Route												Total
	1	2	3	4	5	6	7	8	9	10	11	19	
Q6. How often would you like the bus to arrive at the bus stop nearest your home													
0-5	9.1%	14.3%	0.0%	0.0%	27.3%	0.0%	3.6%	0.0%	0.0%	5.3%	0.0%	6.7%	5.6%
6-10	0.0%	0.0%	4.5%	0.0%	0.0%	0.0%	3.6%	0.0%	10.0%	5.3%	40.0%	6.7%	3.9%
11-15	9.1%	0.0%	0.0%	0.0%	0.0%	0.0%	3.6%	0.0%	0.0%	15.8%	20.0%	33.3%	6.7%
16-20	0.0%	7.1%	0.0%	0.0%	0.0%	10.0%	0.0%	9.1%	0.0%	5.3%	0.0%	6.7%	2.8%
21-30	54.5%	57.1%	63.6%	87.5%	54.5%	50.0%	57.1%	63.6%	60.0%	47.4%	0.0%	33.3%	56.4%
31+	27.3%	21.4%	31.8%	12.5%	18.2%	40.0%	32.1%	27.3%	30.0%	21.1%	40.0%	13.3%	24.6%

Q7. Excluding your home, how many different places did you (or will you) use the bus to visit today? (without "not provided")

N=203	Route												Total
	1	2	3	4	5	6	7	8	9	10	11	19	
Q7. How many different places did you or will you use the bus to visit today													
1	7.7%	38.5%	31.8%	27.8%	33.3%	54.5%	14.8%	40.0%	30.0%	9.1%	40.0%	25.0%	25.7%
2	38.5%	15.4%	27.3%	22.2%	44.4%	0.0%	22.2%	40.0%	50.0%	40.9%	20.0%	12.5%	27.3%
3	23.1%	23.1%	31.8%	16.7%	0.0%	18.2%	44.4%	0.0%	20.0%	18.2%	20.0%	31.3%	23.0%
4	7.7%	15.4%	9.1%	11.1%	22.2%	27.3%	11.1%	20.0%	0.0%	22.7%	0.0%	6.3%	14.2%
5	15.4%	7.7%	0.0%	0.0%	0.0%	0.0%	7.4%	0.0%	0.0%	9.1%	0.0%	18.8%	6.0%
6+	7.7%	0.0%	0.0%	22.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	20.0%	6.3%	3.8%

Q10. How long (in minutes) did/will it take you to get from your home to the destination listed above using the bus? (without "not provided")

N=203	Route												Total
	1	2	3	4	5	6	7	8	9	10	11	19	
Q10. How long in minutes did/will it take you to get from your home to the destination using bus													
0-5	0.0%	0.0%	20.0%	0.0%	0.0%	0.0%	3.6%	20.0%	20.0%	13.6%	0.0%	6.3%	8.0%
6-10	8.3%	7.1%	4.0%	23.5%	0.0%	0.0%	0.0%	10.0%	0.0%	9.1%	0.0%	6.3%	7.0%
11-15	0.0%	7.1%	20.0%	0.0%	18.2%	18.2%	14.3%	0.0%	20.0%	9.1%	40.0%	12.5%	12.3%
16-20	16.7%	7.1%	4.0%	17.6%	18.2%	18.2%	7.1%	10.0%	0.0%	18.2%	0.0%	25.0%	11.8%
21-30	25.0%	42.9%	24.0%	23.5%	18.2%	36.4%	28.6%	10.0%	10.0%	4.5%	20.0%	6.3%	20.9%
31+	50.0%	35.7%	28.0%	35.3%	45.5%	27.3%	46.4%	50.0%	50.0%	45.5%	40.0%	43.8%	40.1%

Q11. How many times did you (or would you have had to) transfer to get from your home to the destination listed above? (without "not provided")

N=203	Route												Total
	1	2	3	4	5	6	7	8	9	10	11	19	
Q11. How many times did you or would you have had to transfer to get from your home to the destination													
None	38.5%	50.0%	32.0%	16.7%	27.3%	36.4%	26.7%	9.1%	8.3%	32.0%	20.0%	11.1%	25.4%
Once	30.8%	7.1%	32.0%	38.9%	54.5%	27.3%	30.0%	45.5%	41.7%	40.0%	60.0%	27.8%	33.8%
Twice	23.1%	35.7%	20.0%	38.9%	9.1%	27.3%	40.0%	45.5%	41.7%	16.0%	0.0%	33.3%	30.8%
Three or more	7.7%	7.1%	16.0%	5.6%	9.1%	9.1%	3.3%	0.0%	8.3%	12.0%	20.0%	27.8%	10.0%

Q12. What is/was the primary purpose of your current trip? (without "not provided")

N=203	Route												Total
	1	2	3	4	5	6	7	8	9	10	11	19	
Q12. What is/was the primary purpose of your current trip													
Work	25.0%	21.4%	36.0%	55.6%	9.1%	54.5%	33.3%	45.5%	50.0%	34.8%	60.0%	33.3%	37.1%
Personal business	25.0%	35.7%	24.0%	22.2%	9.1%	27.3%	13.3%	45.5%	25.0%	30.4%	20.0%	50.0%	26.4%
Shopping	33.3%	21.4%	32.0%	5.6%	36.4%	9.1%	43.3%	9.1%	16.7%	4.3%	20.0%	5.6%	20.8%
College/school	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	3.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.5%
Hospital/doctor's office	16.7%	14.3%	4.0%	11.1%	27.3%	9.1%	0.0%	0.0%	0.0%	17.4%	0.0%	5.6%	9.1%
Social/recreation	0.0%	7.1%	4.0%	5.6%	18.2%	0.0%	3.3%	0.0%	8.3%	13.0%	0.0%	0.0%	5.1%
Other	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	3.3%	0.0%	0.0%	0.0%	0.0%	5.6%	1.0%

Q13. Do you have a car or other vehicle that you could have used to make this trip? (without "not provided")

N=203	Route												Total
	1	2	3	4	5	6	7	8	9	10	11	19	
Q13. Do you have a car or other vehicle that you could have used to make this trip													
Yes	15.4%	23.1%	12.0%	22.2%	0.0%	27.3%	16.7%	27.3%	25.0%	16.7%	0.0%	13.3%	17.3%
No	84.6%	76.9%	88.0%	77.8%	100.0%	72.7%	83.3%	72.7%	75.0%	83.3%	100.0%	86.7%	82.7%

Q14. If the bus service was not available, how would you make this trip? (without "not provided")

N=203	Route												Total
	1	2	3	4	5	6	7	8	9	10	11	19	
Q14. How would you make this trip if bus service was not available													
Use my car	15.4%	7.1%	4.2%	5.6%	0.0%	0.0%	3.3%	0.0%	0.0%	4.3%	0.0%	0.0%	4.0%
Walk	7.7%	21.4%	33.3%	44.4%	36.4%	36.4%	36.7%	54.5%	25.0%	34.8%	40.0%	44.4%	34.8%
Bicycle	7.7%	7.1%	16.7%	5.6%	0.0%	9.1%	6.7%	0.0%	8.3%	17.4%	0.0%	0.0%	8.6%
Get a ride from someone	30.8%	28.6%	12.5%	11.1%	27.3%	36.4%	23.3%	27.3%	50.0%	21.7%	40.0%	33.3%	25.8%
Use an Uber/Lyft/taxi	15.4%	14.3%	16.7%	16.7%	9.1%	9.1%	16.7%	0.0%	8.3%	8.7%	0.0%	11.1%	11.6%
I would not make this trip	23.1%	21.4%	16.7%	16.7%	27.3%	9.1%	13.3%	18.2%	8.3%	13.0%	20.0%	11.1%	15.2%

Q16. Please indicate how likely you would be to ride the bus more than you currently do if the following services/amenities were provided. (without "not provided")

N=203	Route												Total
	1	2	3	4	5	6	7	8	9	10	11	19	
Q16-1. Shelter amenities such as heat, fans, lights, & digital schedules, etc													
Very likely	23.1%	50.0%	40.0%	47.1%	18.2%	30.0%	27.6%	36.4%	66.7%	60.9%	0.0%	33.3%	37.4%
Likely	38.5%	42.9%	32.0%	35.3%	54.5%	50.0%	34.5%	36.4%	16.7%	13.0%	60.0%	33.3%	34.3%
Not sure	7.7%	7.1%	20.0%	11.8%	18.2%	20.0%	27.6%	18.2%	16.7%	17.4%	20.0%	11.1%	18.2%
Not likely	30.8%	0.0%	8.0%	5.9%	9.1%	0.0%	10.3%	9.1%	0.0%	8.7%	20.0%	22.2%	10.1%
Q16-2. Automatic voice announcement													
Very likely	0.0%	36.4%	40.0%	33.3%	27.3%	20.0%	30.0%	36.4%	58.3%	58.3%	0.0%	25.0%	33.5%
Likely	36.4%	27.3%	32.0%	33.3%	27.3%	50.0%	33.3%	27.3%	8.3%	20.8%	60.0%	25.0%	30.4%
Not sure	27.3%	27.3%	24.0%	13.3%	36.4%	30.0%	23.3%	36.4%	33.3%	8.3%	40.0%	31.3%	25.1%
Not likely	36.4%	9.1%	4.0%	20.0%	9.1%	0.0%	13.3%	0.0%	0.0%	12.5%	0.0%	18.8%	11.0%
Q16-3. Real-time information about the location of buses that can be accessed on a mobile device													
Very likely	23.1%	36.4%	44.0%	37.5%	18.2%	27.3%	37.9%	45.5%	66.7%	54.2%	0.0%	23.5%	36.4%
Likely	30.8%	36.4%	44.0%	37.5%	27.3%	45.5%	31.0%	27.3%	16.7%	16.7%	60.0%	17.6%	30.8%
Not sure	23.1%	9.1%	8.0%	6.3%	45.5%	18.2%	24.1%	9.1%	16.7%	12.5%	20.0%	29.4%	17.9%
Not likely	23.1%	18.2%	4.0%	18.8%	9.1%	9.1%	6.9%	18.2%	0.0%	16.7%	20.0%	29.4%	14.9%

Q17. Please rate the current aspects of public transit in the Sioux Falls metropolitan area listed below. (without "not provided")

N=203	Route												Total
	1	2	3	4	5	6	7	8	9	10	11	19	
Q17-1. Customer service provided by drivers & SAM staff													
Excellent	38.5%	38.5%	56.0%	33.3%	36.4%	36.4%	37.9%	45.5%	50.0%	40.0%	60.0%	44.4%	41.5%
Good	30.8%	38.5%	36.0%	55.6%	45.5%	63.6%	51.7%	45.5%	41.7%	36.0%	20.0%	33.3%	42.0%
Fair	7.7%	23.1%	4.0%	5.6%	18.2%	0.0%	6.9%	0.0%	8.3%	12.0%	20.0%	11.1%	10.0%
Poor	23.1%	0.0%	4.0%	5.6%	0.0%	0.0%	3.4%	9.1%	0.0%	12.0%	0.0%	11.1%	6.5%
Q17-2. How safe you feel when waiting at bus shelters & SAM Depot													
Excellent	53.8%	50.0%	52.0%	44.4%	27.3%	36.4%	44.8%	36.4%	41.7%	60.0%	60.0%	38.9%	45.3%
Good	38.5%	35.7%	28.0%	33.3%	45.5%	63.6%	37.9%	45.5%	41.7%	12.0%	20.0%	27.8%	33.8%
Fair	7.7%	14.3%	20.0%	16.7%	27.3%	0.0%	17.2%	9.1%	8.3%	20.0%	0.0%	27.8%	16.4%
Poor	0.0%	0.0%	0.0%	5.6%	0.0%	0.0%	0.0%	9.1%	8.3%	8.0%	20.0%	5.6%	4.5%
Q17-3. How safe you feel on the bus													
Excellent	46.2%	64.3%	50.0%	50.0%	54.5%	45.5%	56.7%	63.6%	58.3%	68.0%	60.0%	44.4%	54.0%
Good	46.2%	28.6%	33.3%	38.9%	27.3%	45.5%	30.0%	18.2%	25.0%	8.0%	40.0%	44.4%	31.7%
Fair	7.7%	7.1%	16.7%	5.6%	18.2%	9.1%	6.7%	9.1%	16.7%	24.0%	0.0%	11.1%	12.4%
Poor	0.0%	0.0%	0.0%	5.6%	0.0%	0.0%	6.7%	9.1%	0.0%	0.0%	0.0%	0.0%	2.0%

Q17. Please rate the current aspects of public transit in the Sioux Falls metropolitan area listed below. (without "not provided")

N=203	Route												Total
	1	2	3	4	5	6	7	8	9	10	11	19	
Q17-4. On-time reliability of buses													
Excellent	53.8%	35.7%	32.0%	55.6%	45.5%	36.4%	40.0%	54.5%	54.5%	52.0%	80.0%	44.4%	46.3%
Good	30.8%	57.1%	40.0%	16.7%	36.4%	45.5%	43.3%	18.2%	27.3%	28.0%	20.0%	27.8%	33.8%
Fair	15.4%	7.1%	28.0%	22.2%	18.2%	9.1%	6.7%	18.2%	18.2%	16.0%	0.0%	16.7%	14.9%
Poor	0.0%	0.0%	0.0%	5.6%	0.0%	9.1%	10.0%	9.1%	0.0%	4.0%	0.0%	11.1%	5.0%
Q17-5. How frequently buses come by stops													
Excellent	23.1%	30.8%	28.0%	27.8%	18.2%	36.4%	44.4%	36.4%	36.4%	48.0%	60.0%	33.3%	34.3%
Good	23.1%	30.8%	40.0%	27.8%	54.5%	63.6%	40.7%	27.3%	27.3%	16.0%	20.0%	27.8%	33.3%
Fair	30.8%	30.8%	24.0%	33.3%	18.2%	0.0%	14.8%	27.3%	18.2%	16.0%	0.0%	16.7%	20.7%
Poor	23.1%	7.7%	8.0%	11.1%	9.1%	0.0%	0.0%	9.1%	18.2%	20.0%	20.0%	22.2%	11.6%
Q17-6. Availability of weekend service													
Excellent	15.4%	28.6%	25.0%	16.7%	9.1%	27.3%	28.6%	27.3%	18.2%	20.0%	60.0%	33.3%	24.1%
Good	23.1%	7.1%	8.3%	5.6%	18.2%	36.4%	32.1%	18.2%	18.2%	20.0%	40.0%	11.1%	18.6%
Fair	7.7%	21.4%	20.8%	27.8%	27.3%	9.1%	17.9%	27.3%	18.2%	8.0%	0.0%	27.8%	18.1%
Poor	53.8%	42.9%	45.8%	50.0%	45.5%	27.3%	21.4%	27.3%	45.5%	52.0%	0.0%	27.8%	39.2%

Q17. Please rate the current aspects of public transit in the Sioux Falls metropolitan area listed below. (without "not provided")

N=203	Route												Total
	1	2	3	4	5	6	7	8	9	10	11	19	
Q17-7. Availability of evening service													
Excellent	23.1%	23.1%	20.8%	22.2%	10.0%	27.3%	31.0%	27.3%	16.7%	32.0%	40.0%	16.7%	23.1%
Good	7.7%	23.1%	33.3%	11.1%	20.0%	36.4%	31.0%	27.3%	33.3%	24.0%	40.0%	27.8%	27.1%
Fair	53.8%	30.8%	29.2%	33.3%	60.0%	27.3%	24.1%	9.1%	41.7%	24.0%	20.0%	16.7%	28.1%
Poor	15.4%	23.1%	16.7%	33.3%	10.0%	9.1%	13.8%	36.4%	8.3%	20.0%	0.0%	38.9%	21.6%
Q17-8. Availability of covered shelters at stops													
Excellent	23.1%	35.7%	20.0%	16.7%	20.0%	27.3%	23.3%	36.4%	30.0%	37.5%	40.0%	23.5%	26.3%
Good	15.4%	21.4%	24.0%	27.8%	50.0%	36.4%	26.7%	36.4%	50.0%	16.7%	60.0%	29.4%	28.8%
Fair	15.4%	28.6%	28.0%	22.2%	10.0%	9.1%	36.7%	9.1%	20.0%	20.8%	0.0%	17.6%	22.7%
Poor	46.2%	14.3%	28.0%	33.3%	20.0%	27.3%	13.3%	18.2%	0.0%	25.0%	0.0%	29.4%	22.2%
Q17-9. How close stops are located to the destinations I need to visit													
Excellent	23.1%	21.4%	37.5%	16.7%	18.2%	36.4%	39.3%	45.5%	45.5%	37.5%	40.0%	27.8%	31.3%
Good	30.8%	57.1%	29.2%	22.2%	45.5%	45.5%	32.1%	36.4%	27.3%	29.2%	60.0%	38.9%	35.4%
Fair	23.1%	21.4%	16.7%	44.4%	18.2%	18.2%	21.4%	0.0%	27.3%	20.8%	0.0%	22.2%	22.2%
Poor	23.1%	0.0%	16.7%	16.7%	18.2%	0.0%	7.1%	18.2%	0.0%	12.5%	0.0%	11.1%	11.1%

Q17. Please rate the current aspects of public transit in the Sioux Falls metropolitan area listed below. (without "not provided")

N=203	Route												Total
	1	2	3	4	5	6	7	8	9	10	11	19	
Q17-10. Minimizing the number of transfers													
Excellent	23.1%	42.9%	40.0%	22.2%	20.0%	36.4%	20.0%	54.5%	45.5%	41.7%	40.0%	27.8%	32.0%
Good	53.8%	21.4%	32.0%	33.3%	50.0%	54.5%	46.7%	36.4%	45.5%	12.5%	20.0%	33.3%	36.5%
Fair	23.1%	14.3%	24.0%	33.3%	20.0%	0.0%	23.3%	0.0%	9.1%	25.0%	20.0%	27.8%	21.5%
Poor	0.0%	21.4%	4.0%	11.1%	10.0%	9.1%	10.0%	9.1%	0.0%	20.8%	20.0%	11.1%	10.0%
Q17-11. Availability of information about bus service													
Excellent	15.4%	50.0%	52.0%	27.8%	27.3%	36.4%	50.0%	54.5%	54.5%	41.7%	40.0%	29.4%	41.0%
Good	30.8%	35.7%	24.0%	38.9%	18.2%	45.5%	26.7%	27.3%	27.3%	29.2%	40.0%	52.9%	31.5%
Fair	38.5%	14.3%	16.0%	16.7%	54.5%	18.2%	16.7%	9.1%	9.1%	16.7%	20.0%	11.8%	19.5%
Poor	15.4%	0.0%	8.0%	16.7%	0.0%	0.0%	6.7%	9.1%	9.1%	12.5%	0.0%	5.9%	8.0%
Q17-12. Availability of safe walking/pedestrian facilities to get to the bus													
Excellent	23.1%	28.6%	52.0%	33.3%	36.4%	36.4%	43.3%	63.6%	33.3%	48.0%	40.0%	29.4%	40.1%
Good	53.8%	42.9%	32.0%	38.9%	36.4%	54.5%	40.0%	36.4%	33.3%	20.0%	60.0%	58.8%	39.1%
Fair	23.1%	21.4%	12.0%	16.7%	27.3%	9.1%	6.7%	0.0%	25.0%	12.0%	0.0%	5.9%	13.4%
Poor	0.0%	7.1%	4.0%	11.1%	0.0%	0.0%	10.0%	0.0%	8.3%	20.0%	0.0%	5.9%	7.4%

Q18. Which THREE of the items listed in Question 17 are most important to you? (top 3)

N=203	Route												Total
	1	2	3	4	5	6	7	8	9	10	11	19	
Q18. Sum of top 3 choices													
Customer service provided by drivers & SAM staff	23.1%	21.4%	32.0%	27.8%	18.2%	36.4%	16.7%	18.2%	8.3%	32.0%	0.0%	38.9%	24.6%
How safe you feel when waiting at bus shelters & SAM Depot	38.5%	0.0%	20.0%	11.1%	9.1%	45.5%	16.7%	18.2%	50.0%	16.0%	0.0%	16.7%	20.7%
How safe you feel on the bus	15.4%	14.3%	28.0%	27.8%	9.1%	9.1%	23.3%	18.2%	16.7%	16.0%	20.0%	16.7%	19.2%
On-time reliability of buses	30.8%	21.4%	32.0%	33.3%	27.3%	27.3%	23.3%	18.2%	16.7%	28.0%	20.0%	38.9%	27.6%
How frequently buses come by stops	30.8%	14.3%	20.0%	22.2%	27.3%	18.2%	16.7%	9.1%	16.7%	20.0%	0.0%	22.2%	18.2%
Availability of weekend service	53.8%	64.3%	36.0%	50.0%	36.4%	27.3%	33.3%	27.3%	41.7%	56.0%	40.0%	33.3%	40.4%
Availability of evening service	23.1%	28.6%	16.0%	22.2%	45.5%	18.2%	16.7%	27.3%	25.0%	12.0%	20.0%	33.3%	22.2%
Availability of covered shelters at stops	7.7%	21.4%	8.0%	16.7%	9.1%	0.0%	10.0%	0.0%	8.3%	16.0%	0.0%	0.0%	8.9%
How close stops are located to the destinations I need to visit	7.7%	21.4%	32.0%	11.1%	27.3%	9.1%	6.7%	18.2%	16.7%	16.0%	40.0%	5.6%	16.3%

Q18. Which THREE of the items listed in Question 17 are most important to you? (top 3) (cont.)

N=203	Route												Total
	1	2	3	4	5	6	7	8	9	10	11	19	
Q18. Sum of top 3 choices (cont.)													
Minimizing the number of transfers	15.4%	7.1%	12.0%	0.0%	9.1%	0.0%	20.0%	9.1%	16.7%	12.0%	20.0%	16.7%	11.8%
Availability of information about bus service	7.7%	7.1%	0.0%	5.6%	0.0%	0.0%	3.3%	0.0%	8.3%	12.0%	0.0%	5.6%	5.4%
Availability of safe walking/ pedestrian facilities to get to the bus	7.7%	0.0%	12.0%	5.6%	18.2%	0.0%	10.0%	0.0%	16.7%	8.0%	20.0%	0.0%	7.4%
None chosen	7.7%	21.4%	8.0%	11.1%	18.2%	27.3%	26.7%	36.4%	8.3%	12.0%	40.0%	22.2%	18.7%

6 Survey Instrument

2023 Sioux Area Metro Passenger Survey

Thank you for agreeing to help us with this important survey. Your input will be used to plan transportation improvements in the Sioux Falls metropolitan area.

SUPERVISOR ONLY
Route: _____
Date: _____

---

1. How many years have you been riding the bus in Sioux Falls?

[Write "0" if less than one year.] _____ years

2. Overall, what is your perception of the quality of the public transit system in Sioux Falls?

____(4) Excellent ____(3) Good ____(2) Fair ____(1) Poor ____(9) Don't know

3. How often do you currently use Sioux Area Metro?

____(1) 5+ days per week
____(2) 2-4 days per week
____(3) Once a week
____(4) A few times a month
____(5) A few times a year
____(6) Rarely or never

4. Why do you use the bus in Sioux Falls? *[Check all that apply.]*

____(1) It's my only alternative
____(2) To avoid traffic congestion
____(3) Don't like driving
____(4) Save money
____(5) Employer provides transit pass
____(6) I care about the environment
____(7) Other: _____

5. How many blocks from your HOME is the nearest bus stop located?

_____ blocks

6. How often would you like the bus to arrive at the bus stop nearest your HOME?

Every _____ minutes

TODAY'S TRIP

7. Excluding your home, how many different places did you (or will you) use the bus to visit today?

_____ places

8. Which route are you riding now (or about to board next)? _____

9. Excluding your home, what is/was the name and address of the primary destination you are using/used the bus to visit today? If you are visiting/visited more than one place, just list one. *[If you don't know the exact address, please provide a description of the location.]*

Place Name: _____

Location/Address: _____

10. How long (in minutes) did/will it take you to get from your home to the destination listed above using the bus?

_____ minutes

11. How many times did you (or would you have had to) transfer to get from your home to the destination listed above? *[Please only list the number of transfers for your ONE-WAY TRIP from your home to the destination.]*

____(0) None ____(1) Once ____(2) Twice ____(3) Three or more

12. What is/was the primary purpose of your current trip?

____(1) Work
____(2) Personal business
____(3) Shopping
____(4) College/school
____(5) Hospital/doctor's office
____(6) Social/recreation
____(7) Other: _____

13. Do you have a car or other vehicle that you could have used to make this trip?

____(1) Yes ____(2) No

14. If the bus service was not available, how would you make this trip?

____(1) Use my car
____(2) Walk
____(3) Bicycle
____(4) Get a ride from someone
____(5) Use an Uber/Lyft/Taxi
____(6) I would not make this trip

Please see reverse side for further questions.

15. Please list destinations (up to 3) that you would like to visit in the Sioux Falls metropolitan area that are not currently served by the public transit system. *If the destination name is not unique, please provide a brief description of the location (e.g., "McDonalds on East 10th Street" rather than just "McDonalds.") [If you don't know, leave the item blank.]*

1st: _____

2nd: _____

3rd: _____

16. Please indicate how likely you would be to ride the bus more than you currently do if the following services/amenities were provided.

	Amenities	Very Likely	Likely	Not Sure	Not Likely
1.	Shelter amenities such as heat, fans, lights, and digital schedules, etc.	4	3	2	1
2.	Automatic voice announcement	4	3	2	1
3.	Real-time information about the location of buses that can be accessed on a mobile device	4	3	2	1

17. Please rate the current aspects of public transit in the Sioux Falls metropolitan area listed below.

	Attributes of Public Transit	Excellent	Good	Fair	Poor
01.	Customer service provided by drivers and SAM staff	4	3	2	1
02.	How safe you feel when waiting at bus shelters and SAM Depot	4	3	2	1
03.	How safe you feel on the bus	4	3	2	1
04.	On-time reliability of buses	4	3	2	1
05.	How frequently buses come by stops	4	3	2	1
06.	Availability of weekend service	4	3	2	1
07.	Availability of evening service	4	3	2	1
08.	The availability of covered shelters at stops	4	3	2	1
09.	How close stops are located to the destinations I need to visit	4	3	2	1
10.	Minimizing the number of transfers	4	3	2	1
11.	The availability of information about bus service	4	3	2	1
12.	The availability of safe walking/pedestrian facilities to get to the bus	4	3	2	1

18. Which THREE of the items listed above are most important to you? *[Write the numbers that correspond to your top three choices below.]*

1st: _____ 2nd: _____ 3rd: _____

19. What is your age? _____ years

20. Your gender: ____(1) Male ____(2) Female

21. Are you employed? ____(1) Yes *[Answer 21a.]* ____(2) No

21a. If "YES," what is the name and address of your employer?

Employer Name: _____

Address: _____

22. How many persons currently live in your household? _____ persons

23. Would you say your total annual household income is:

____(1) Under $15,000
____(2) $15,000 to $29,999
____(3) $30,000 to $44,999
____(4) $45,000 to $59,999
____(5) $60,000 to $74,999
____(6) $75,000 to $99,999
____(7) $100,000 plus

24. Do you have a physical disability? ____(1) Yes ____(2) No

25. Do you have a smart phone? ____(1) Yes ____(2) No

26. What is your home address and zip code?

Address: _____

Zip code: _____

27. Do you have any other suggestions to improve bus service in Sioux Falls.

_____

_____

Please return your completed survey to the Survey Administrator.

TO ENTER A DRAWING FOR A FREE MONTHLY PASS, PLEASE PROVIDE YOU NAME AND PHONE NUMBER BELOW.

Name: _____ Phone: _____

TRANSPORTATION SERVICE PROVIDER INVENTORY

Transportation Services Inventory

Agency		Eligibility Restrictions	Days & Hours of Operation		Scheduling	Fee	Vehicles			Vehicle Idle Times	Drivers	Service Area
Public Transit												
Name:	Brandon City Transit	NA	**Weekdays:**	8am - 3:30pm	Monday - Friday, call 7:30am - 12:30pm to schedule, 24 hours in advance	$2.00, 60 & older free	**#**	**Type (bus, van)**	**Wheelchair Accessible?**	Weekdays after 3:15pm, Saturdays, and Sundays	**Type (FT, PT, Volunteer)**	**Location**
Address:	304 Main Ave, Brandon, SD 57005		**Saturdays:**	NA			2	Buses	Yes		Full Time	Brandon
Website:	https://cityofbrandon.org/transit		**Sundays:**	NA							Part Time	Sioux Falls
Phone:	605-582-3553		**Holidays:**	NA								
Name:	SAM (Fixed Route)	NA	**Weekdays:**	5:45am - 9:15pm	Fixed Route	Varies, see website	**#**	**Type (bus, van)**	**Wheelchair Accessible?**	Sundays and Holidays	**Type (FT, PT, Volunteer)**	**Location**
Address:	500 E 6th St, SFSD 57103		**Saturdays:**	7:45am - 2:45pm	On-Demand (Weekend)		52	Vehicles	Yes		Full Time	Sioux Falls
Website:	https://www.siouxfalls.org/sam/		**Sundays:**	NA							Part Time	
Phone:	605-367-7151		**Holidays:**	NA								
Name:	SAM (Paratransit)	Mobility Impaired (See Paratransit Rider's Guide for additional information)	**Weekdays:**	5:15am - 9:15pm	Call or schedule online by 5pm the day prior to the ride, up to 10 days in advance	$2.50 (one-way)	**#**	**Type (bus, van)**	**Wheelchair Accessible?**	Sundays and Holidays	**Type (FT, PT, Volunteer)**	**Location**
Address:	500 E 6th St, SFSD 57103		**Saturdays:**	7:30am - 7pm							Full Time	Sioux Falls
Website:	https://www.siouxfalls.org/sam/paratransit		**Sundays:**	NA							Part Time	
Phone:	605-367-7613		**Holidays:**	NA								
Name:	Hartford Area Transit	N/A	**Monday:**	8am-2pm	Call to schedule, 24 hours in advance; travels in Hartford on Mondays and Thursdays; travels to Sioux Falls on Tuesdays.	Donations for in-town; $14 per ride (round trip) to Sioux Falls	**#**	**Type (bus, van)**	**Wheelchair Accessible?**	Wednesday, Friday-Sunday	**Type (FT, PT, Volunteer)**	**Location**
Address:	125 N. Main Avenue, Hartford, SD 57033		**Tuesday:**	8am-2:30pm			2	Buses	Yes		Full Time	Hartford
Website:	https://www.hartfordsd.us/hartfordtransit		**Thursday:**	8am-2pm							Part Time	Sioux Falls
Phone:	605-906-1483		**Holidays:**	NA								
Non-Profit Transportation Providers												
Name:	Active Generations (Workers on Wheels)	Elderly and low income; for medical appointments and grocery shopping	**Weekdays:**	8am - 5pm	Call 7-10 days in advance; evenings and weekends rides for grocery shopping as arranged with driver	Donation Recommended ($3)	**#**	**Type (bus, van)**	**Wheelchair Accessible?**	NA	**Type (FT, PT, Volunteer)**	**Location**
Address:	2300 W 46th St, SFSD 57105		**Saturdays:**	NA							Volunteer	Sioux Falls Area
Website:	https://activegenerations.org/support-services/workers-on-wheels/		**Sundays:**	NA								
Phone:	605-333-3317		**Holidays:**									
Name:	Children's Home Shelter	Victims of domestic & family violence, abuse & neglect.	**Weekdays:**	All Day		NA	**#**	**Type (bus, van)**	**Wheelchair Accessible?**	When no scheduled trip	**Type (FT, PT, Volunteer)**	**Location**
Address:	409 N Western Ave, SFSD 57104		**Saturdays:**	All Day							Full Time	Sioux Falls Area
Website:	https://chssd.org/shelter		**Sundays:**	All Day							Part Time	
Phone:	605-338-4880		**Holidays:**	NA								

Agency		Eligibility Restrictions	Days & Hours of Operation		Scheduling	Fee	Vehicles			Vehicle Idle Times	Drivers	Service Area
Name:	DakotAbilities	Physically & developmentally disabled, medically involved people	**Weekdays:**	7:30am to 10pm		NA	**#**	**Type (bus, van)**	**Wheelchair Accessible?**		**Type (FT, PT, Volunteer)**	**Location**
Address:	3600 S Duluth Ave, SFSD 57105		**Saturdays:**	7:30am to 10pm			17	Bus/Van	Yes		Full Time	Sioux Falls Area
Website:	https://www.dakotabilities.org/		**Sundays:**	7:30am to 10pm			3	Van	No		Part Time	
Phone:	605-334-4220		**Holidays:**									
Name:	Disabled American Veterans (DAV)	Veterans	**Weekdays:**	8am - 2pm	Call in and provide as much notice as possible.	NA	**#**	**Type (bus, van)**	**Wheelchair Accessible?**	Evenings, weekends, and holidays	**Type (FT, PT, Volunteer)**	**Location**
Address:	1519 W 51st St, SFSD 57105		**Saturdays:**	NA			4	4 passenger RV	No		Volunteer	Sioux Falls Area
Website:	www.davmembersportal.org/sd		**Sundays:**	NA								
Phone:	605-332-6866		**Holidays:**	NA								
Name:	Teachwell Solutions	Physically & developmentally disabled, low income	**Weekdays:**	7:30am - 4:00pm	NA	NA	**#**	**Type (bus, van)**	**Wheelchair Accessible?**		**Type (FT, PT, Volunteer)**	**Location**
Address:	715 E 14th St, SFSD 57104		**Saturdays:**	NA			3	7 Passenger Vans	No		Full Time	Sioux Falls Area
Website:	https://teachwell.org/		**Sundays:**	NA			1	4 Passenger Van	Yes		Part Time	
Phone:	605-367-7680 Ext. 102		**Holidays:**	NA			2	12 passenger Vans	No			
							1	11 Passenger Van	No			
							1	15 Passenger Van	No			
Name:	Falls Community Health	Homeless & low income with medical needs	**M-T & Th-F**	8am-5pm			**#**	**Type (bus, van)**	**Wheelchair Accessible?**	Evenings & Weekends	**Type (FT, PT, Volunteer)**	**Location**
Address:	521 N Main Ave, SFSD 57104		**Wednesday**	9am - 5pm							Full Time	Sioux Falls Area
Website:	www.siouxfalls.org/FCH.aspx		**Saturdays:**	NA							Part Time	
Phone:	605-367-8793		**Sundays:**	NA								
			Holidays:	NA								
Name:	First Presbyterian Church	NA	**Weekdays:**				**#**	**Type (bus, van)**	**Wheelchair Accessible?**		**Type (FT, PT, Volunteer)**	**Location**
Address:	2300 S West Ave, SFSD 57105		**Saturdays:**								Full Time	Sioux Falls Area
Website:	www.fpcsiouxfalls.org		**Sundays:**								Part Time	
Phone:	605-336-2886		**Holidays:**								Volunteer	
Name:	Glory House	Mental health, chemically dependent, offenders	**M-Th**	8am - 6pm	Limited transportation to initial appointments and few activities	None	**#**	**Type (bus, van)**	**Wheelchair Accessible?**	Evenings, Weekends, and Holidays	**Type (FT, PT, Volunteer)**	**Location**
Address:	4000 S West Ave, SFSD 57109		**F**	8am - 9pm			2	Vans	No		Full Time	Sioux Falls Area
Website:	www.glory-house.org		**Saturdays:**	NA			1	Car	No		Part Time	
Phone:	605-332-3273		**Sundays:**	NA								
			Holidays:	NA								

Agency		Eligibility Restrictions	Days & Hours of Operation		Scheduling	Fee	Vehicles			Vehicle Idle Times	Drivers	Service Area
Name:	The Inn on Westport	Elderly	**Weekdays:**	8am-5pm		$10, unless scheduled a day in advance	**#**	**Type (bus, van)**	**Wheelchair Accessible?**	Evenings & Weekends	**Type (FT, PT, Volunteer)**	**Location**
Address:	4000 S Westport Ave, SFSD 57106		**Saturdays:**	NA			1	Van	Yes		Full Time	Sioux Falls Area
Website:	https://innonwestport.org/		**Sundays:**	NA			1	Bus	Yes		Part Time	
Phone:	605-362-1210		**Holidays:**	NA								
Name:	Project CAR	Elderly and limited mobility, most are low income	**Weekdays:**	8am - 4pm	Call to schedule or go online; schedule fills 10 days in advance	No fees; dues collected from organizations	**#**	**Type (bus, van)**	**Wheelchair Accessible?**	Evenings & Weekends	**Type (FT, PT, Volunteer)**	**Location**
Address:	327 S Dakota Ave, SFSD, 5104		**Saturdays:**	NA			4	Cars	No		Volunteers	Sioux Falls Area
Website:	NA		**Sundays:**	8am - Noon			1	Van	No			
Phone:	605-332-2777		**Holidays:**	NA								

Agency		Eligibility Restrictions	Days & Hours of Operation		Scheduling	Fee	Vehicles			Vehicle Idle Times	Drivers		Service Area
Name:	St Francis House	Homeless adults & children including mentally & physically disabled and low income	**Weekdays:**	4:30am - 8:00pm	NA	NA	**#**	**Type (bus, van)**	**Wheelchair Accessible?**	8pm - 8am	**Type (FT, PT, Volunteer)**		**Location**
Address:	1301 E Austin St, SFSD 57103		**Saturdays:**	4:30am - 8:00pm			40	Bicycles	No		Full Time		Sioux Falls Area
Website:	www.stfrancishouse.com		**Sundays:**	4:30am - 8:00pm			1	15 passenger van	No		Part Time		
Phone:	605-334-3879		**Holidays:**	4:30am - 8:00pm			1	Van	No		Volunteer		
							1	Caravan	No				
							1	Truck	No				
Name:	Trail Ridge Retirement Community	Elderly, physically disabled	**Weekdays:**	8:30am to 4:00pm			**#**	**Type (bus, van)**	**Wheelchair Accessible?**	Evenings & Weekends	**Type (FT, PT, Volunteer)**		**Location**
Address:	3408 W Ralph Rogers Rd, Ste 100, SFSD 57108		**Saturdays:**	NA			1	Van	Yes		Full Time		Sioux Falls Area
Website:	https://trailridge.net/		**Sundays:**	NA			2	Van	No		Part Time		
Phone:	605-339-4847		**Holidays:**	NA							Seasonal		
Name:	VA Medical Center	Veterans	**Weekdays:**	8am-3pm	Call	NA	**#**	**Type (bus, van)**	**Wheelchair Accessible?**	When not being used for a veteran	**Type (FT, PT, Volunteer)**		
Address:	2501 W 22nd St, SFSD 57105		**Saturdays:**	NA			2		Yes		Volunteer		
Website:	www.siouxfalls.va.gov		**Sundays:**	NA			19		No				
Phone:	605-336-3230		**Holidays:**	NA									
Name:	Volunteers of America Dakotas	Developmentally disabled, children, adolescents residing in treatment centers	**Weekdays:**	7am-11pm	Schedule a day in advance	NA	**#**	**Type (bus, van)**	**Wheelchair Accessible?**	9:30-11:30am, 1:30-3pm, 10pm-7am	**Type (FT, PT, Volunteer)**		
Address:	PO Box 89306, SFSD 57109		**Saturdays:**	7am-11pm			2	Van	No				
Website:	www.voa-dakotas.org		**Sundays:**	7am-11pm			2	Van	Yes				
Phone:	605-444-6320		**Holidays:**	NA									

Agency		Eligibility Restrictions	Days & Hours of Operation		Scheduling	Fee	Vehicles			Vehicle Idle Times	Drivers		Service Area
For-Profit Transportation Providers													
Name:	School Bus, Inc.	NA	**Weekdays:**	As needed		Varies	**#**	**Type (bus, van)**	**Wheelchair Accessible?**	9am-2pm, Evenings & Weekends	**Type (FT, PT, Volunteer)**		
Address:	5100 W 8th St, SFSD 57107		**Saturdays:**	As needed			105	29-78 Passenger Buses	Yes (27)		PT		
Website:	www.sbicharters.com		**Sundays:**	As needed									
Phone:	605-334-6644		**Holidays:**	As needed									
Name:	Sioux Falls Wheelchair		**Weekdays:**	24 hours		Varies	**#**	**Type (bus, van)**	**Wheelchair Accessible?**		**Type (FT, PT, Volunteer)**		
Address:	2801 S Old Orchard Cir, SFSD 57103		**Saturdays:**	24 hours				Vans	Yes		Full Time		
Website:			**Sundays:**	24 hours							Part Time		
Phone:	605-336-9625		**Holidays:**										
Name:	Wheelchair Express		**Weekdays:**	24 hours		$25 one-way; $45 round-trip; plus mileage charge outside of Sioux Falls	**#**	**Type (bus, van)**	**Wheelchair Accessible?**		**Type (FT, PT, Volunteer)**		
Address:			**Saturdays:**	24 hours				Vans	Yes		Full Time		
Website:	www.wheelchairexpresssd.com		**Sundays:**	24 hours							Part Time		
Phone:	605-338-9529		**Holidays:**										
Name:	Sunnycrest Village	Elderly	**Weekdays:**	T, Th: 8:30am-10am		NA	**#**	**Type (bus, van)**	**Wheelchair Accessible?**	When no scheduled trip	**Type (FT, PT, Volunteer)**		
Address:	3900 S Terry Ave, SFSD 57106			W: 1pm-3pm			1	14 passenger	No		Part Time		
Website:	www.sunnycrestvillage.com		**Saturdays:**	NA									
Phone:	605-361-1422		**Sundays:**	10:15am-12pm									
			Holidays:	NA									

SOUTH DAKOTA DEPARTMENT OF TRANSPORTATION
SIOUX FALLS AREA MPO TRANSPORTATION IMPROVEMENT PROGRAM
REVISIONS/ADDITIONS

Program Fiscal Year is October 1 Through September 30

MPO TIP REVISION: **24-001** *Committee Action Requested:* **Approval**

SDDOT STIP REVISION: **24-006 and 014**

FUNDING CATEGORY: State Highway System Urban Projects

JUSTIFICATION: This project was to be let in FY2023, however, the plans and certifications did not meet the fiscal year-end deadline for the 2023-2026 STIP, therefore, the project needs to be deferred to FY2024.

ITEM#	PROJECT	PCN	LOCATION	IMPROVEMENT	YEAR	ORIG COST	REVISED COST	NET CHANGE
11.10	NH 0115(61)76	0950	SD115 N & S - Tiger Way Jct	Signals	2024	0.000	0.520	+ 0.520

PROPOSED CHANGE: Add to 2024 as Item #11.10 in the SHSUrban Category at a cost of $0.520. Federal = $0.427; State = $0.094.

FUNDING CATEGORY: Railroad Crossing Improvement Projects

JUSTIFICATION: To match crossing with completed and proposed city-sponsored roadway improvements by changing the current passive crossing with signals, gates, and medians.

ITEM#	PROJECT	PCN	LOCATION	IMPROVEMENT	YEAR	ORIG COST	REVISED COST	NET CHANGE
0.10	PP-PS 8042(55)	09NR	272nd St - In Harrisburg, BNSF Railroad, DOT #381642N	Signal, Crossing Surface	2024	0.000	0.550	+ 0.550

PROPOSED CHANGE: Add to 2024 as Item #0.10 in the RRXing Category at a cost of $0.550. Federal = $0.495; Other = $0.055.

	YEAR		REVISED COST	NET CHANGE
TOTAL CHANGE TO CATEGORY:				
State Highway System Urban	2024		0.520	+ 0.520
Railroad Crossing Improvement	2024		0.550	+ 0.550
TOTAL CHANGE FOR REVISION:	2024			+ 1.070

☐ **Approve**

☐ **Disapprove**

NAME:

Executive Policy Committee Chair / Date

COMMENTS:

☐ **Approve**

☐ **Disapprove**

NAME:

SDDOT / Date

COMMENTS:

Road Not Included

Road Not Included

FHWA Urbanized Area Map for Sioux Falls MPO

Lincoln County, South Dakota
Minnehaha County, South Dakota
2023

PREPARED BY
PROJECT DEVELOPMENT
SOUTH DAKOTA DEPARTMENT OF TRANSPORTATION
November 9, 2023

IN COOPERATION WITH THE
U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

Legend

- Urbanized Area Boundary
- Roads
- Transit Fixed Routes
- 2020 Census Defined Urban Boundary
- Sioux Falls
- Harrisburg
- Crooks
- Brandon
- Tea

CERTIFICATION AND APPROVAL OF THE SIOUX FALLS MPO URBANIZED AREA BOUNDARY

CERTIFICATION

I HEREBY CERTIFY AND APPROVE THAT THE URBAN BOUNDARY DEPICTED HEREON WAS ESTABLISHED BY STATE AND LOCAL OFFICIAL IN COOPERATION WITH EACH OTHER IN PURSUANT TO THE FEDERAL-AID HIGHWAY POLICY GUIDE OF 1991.

DIRECTOR, DIVISION OF PLANNING/ENGINEERING — DATE
S.D. DEPARTMENT OF TRANSPORTATION

APPROVAL

CHAIRMAN, URBANIZED DEVELOPMENT COMMISSION — DATE
SOUTHEAST COUNCIL OF GOVERNMENTS
SF METROPOLITAN PLANNING ORGANIZATION

S.D. DIVISION — DATE
FEDERAL HIGHWAY ADMINISTRATION

Brandon
SOUTH DAKOTA

City of Brandon
Master Transportation Plan

Master Transportation Plan
DRAFT REPORT OCTOBER 2023

The South Dakota Department of Transportation provides services without regard to race, color, sex, sexual orientation, gender identity, religion, national origin, age or disability, according to the provisions contained in SDCL 20-13, Title VI of the Civil Rights Act of 1964, the Rehabilitation Act of 1973, as amended, the Americans with Disabilities Act of 1990 and Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, 1994.

Any person who has questions concerning this policy or wishes to file a discrimination complaint should contact the Department's Civil Rights Office at 605-773-3540.

Contents

List of Figures

List of Tables

Introduction

The purpose of the Brandon Master Transportation Plan is to proactively plan for the future needs of the city's multimodal transportation system. This document focuses on:

- Analyzing data and engaging with residents and stakeholders to identify current and future system needs. This includes leveraging past studies of detailed needs, evaluating recent crash data, identifying locations of emerging congestion through use of the Sioux Falls Metropolitan Planning Organization's (MPO) travel demand model, and outlining locations of bicycle and pedestrian system gaps.
- Identifying recommendations for the future system. This includes corridors that require additional study, standards for how the future street system should be designed, outlining guidelines for transferring street jurisdiction as the city continues to grow, and recommendations for complete streets implementation.

Related Planning Efforts

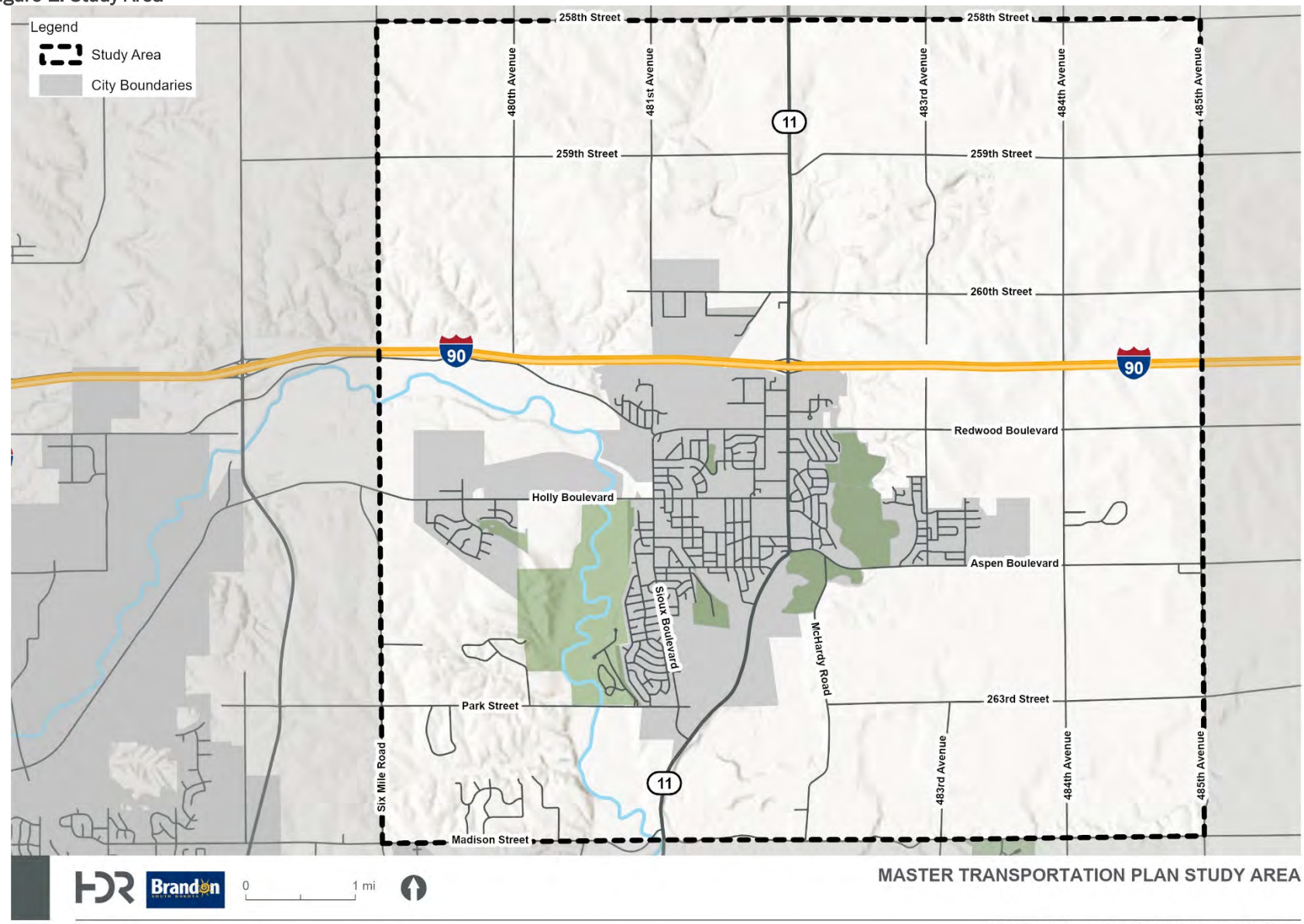
Planning efforts carried out by the City of Brandon, Minnehaha County, Sioux Falls Metropolitan Planning Organization (MPO), the City of Sioux Falls and South Dakota Department of Transportation (SDDOT) that relate to this MTP were reviewed to understand the key findings and recommendations that could impact how the future transportation system is planned for.

Major outcomes of these studies that impact the operations and/or safety of the Brandon MTP area's transportation system were further evaluated in the Standards Development phase of the master transportation planning process. The studies that were reviewed to supplement this Master Transportation Plan include the following:

- City of Brandon Plans Evaluated:
  - 2022 Bicycle and Pedestrian Plan
  - 2020 Housing Study
  - 2019 Coordinated Public Transit-Human Services Transportation Plan
  - 2035 Comprehensive Plan
  - Brandon Engineering Design Standards
- Minnehaha County
  - 2035 Comprehensive Plan
- Sioux Falls MPO
  - Go Sioux Falls MPO 2045 Long Range Transportation Plan
  - MPO Area Coordinated Public Transit-Human Services Transportation Plan
  - MPO Bicycle Plan
  - MPO Multi-Use Trails Plan
- South Dakota DOT
  - State Freight Plan
  - Maple Street/Park Street Corridor Study
  - SD11 Corridor Study
  - I-90 Exit 406 Interchange Modification Justification Report
  - Ellis and Eastern Railroad Crossing Study
  - 2020 Decennial Interstate Corridor Study
- City of Sioux Falls plans evaluated:
  - Sioux Falls Complete Streets Policy

Figure 1 shows the MTP study area.

Figure 1: Study Area



Plan Goals

The goals for the Brandon MTP were developed through the early phases of the public engagement process and reviewing the South Dakota Department of Transportation's Long Range Transportation Plan (LRTP) and the Sioux Falls MPO's LRTP. Input received from the community and stakeholders during first round of public and stakeholder engagement framed the goals and objectives for the transportation system.

The goals and associated implementation objectives are shown in Table 1. The goals outline the area of importance for the plan and the associated objective for each is intended to describe a measurable way in which each goal can be implemented.

Table 1: MTP Goals and Implementation Objectives

Goal	Implementation Objective
Safety	Reducing the risk of harm to users of Brandon's transportation system (cars, bikes, and pedestrians).
Accessibility	Connecting people to goods and services as well as providing choices for different modes of transportation (car, bike, bus, etc.).
Economic	Focusing on transportation as a means of supporting and promoting the economic vitality of the Brandon area.
Resiliency	Creating a transportation system that is adaptable and providing service when significant impactful events occur.
Efficiency and Reliability	Providing for the efficient and reliable movement of people, services, and goods, and efficient circulation of traffic in developments and near schools.
Placemaking	Integrating the transportation system with land use to provide transportation facilities that fit in with their surrounding neighborhoods and development.
Maintain	Effectively manage and preserve the existing transportation with the goal of keeping it in a state of good repair.
Bicycle and Pedestrian Connections	Providing enhanced infrastructure and connections for pedestrians and bicyclists.

Public and Stakeholder Engagement

There were two main rounds of public engagement that helped frame the development of the MTP, including:

- Issues and Goals Feedback – March 2023
- Preliminary Plan Feedback – October 2023

At both milestones, public open houses and stakeholder meetings were held to get feedback on plan direction. Additional engagement approaches used included:

- Public Transportation Survey
- Virtual Open Houses
- Study Advisory Team Meetings
- City Council Presentations
- MPO Committee Presentations

The feedback received during this engagement guided the development of the plan and recommendations.

Public Open Houses

Two open houses were held at the Brandon Golf Course, 2100 E Aspen Blvd. The purpose of each open house was to allow residents to come at their convenience, learn about plan progress, and share feedback on the plan's development.

A series of public engagement events were hosted as part of the City of Brandon's Master Transportation Plan development. First round public engagement events included a discussion amongst stakeholders as well as a public open house. This report details the first public open house and summarizes feedback received during the event.

Open House 1 – March 7, 2023

The public open house was held at the Brandon Golf Course Clubhouse on Tuesday, March 7 from 4 to 7 PM. The purpose of the meeting was to inform members of the public about the plan development process, provide residents with an opportunity to offer input on transportation needs and issues, and identify plan goals and direction.

The meeting was advertised across several platforms, including a public notice posted in the Brandon Valley Journal, posts on the City's social media channels, and an event was added to the Brandon Valley Area Chamber of Commerce's online calendar. The event information, meeting boards, and a narrated presentation was also published on the project webpage.

The March 7 public open house was an in-person event, where attendees were able to explore several stations to learn about the plan development process and offer input on plan goals as well as existing transportation issues and opportunities. The stations for the public meeting included:

- Welcome station — attendee sign in and informational materials regarding plan development process and timeline.
- Project Background and Technical Data station — these boards included project background information, a project area map, ongoing plans and studies, historic crash data, existing and future traffic congestion conditions, and bike/pedestrian infrastructure.
- Plan Goals station — this was an interactive station that asked attendees to select the three goal areas they find most important for the plan to address, out of eight potential goal areas to choose from.
- Issues and Opportunities mapping station — this was an interactive station asking attendees to provide comments on an area map of the issues and opportunities they believe are facing the multimodal transportation system

Meeting Outcomes

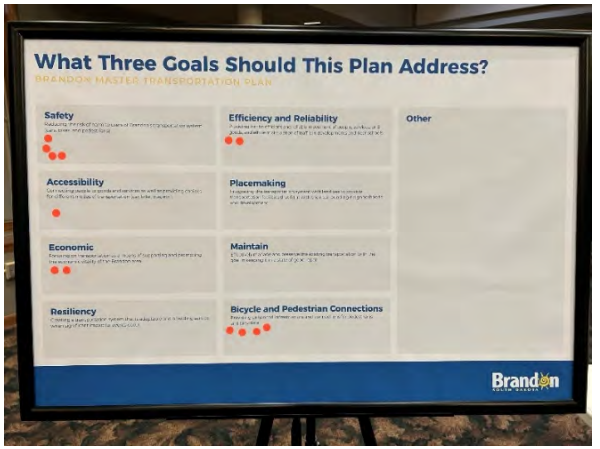
Approximately 14 members of the public attended the March 7 public open house, and most attendees participated in the interactive stations. Summaries for each of the interactive stations are below.

Plan Goals

The Plan Goals activity asked participants to review the eight goal areas identified for the Master Transportation Plan, and then vote for the three goal areas they believe the plan should focus on. The goal areas identified were:

- Safety
- Efficiency and Reliability
- Accessibility
- Placemaking
- Economic
- Maintain
- Resilience
- Bicycle and Pedestrian Connections

The results of the Plan Goals activity are shown in **Figure 2.** As shown, Bicycle and Pedestrian Connections and Safety received the highest number of votes with 4, followed by Efficiency and Reliability and Economic with 2 votes.



Issues Mapping

The second interactive station asked participants to comment on current transportation issues and opportunities by leaving comments on a large map of the MTP study area. Attendees provided 15 comments that covered roadway, bicycle and pedestrian, and transit topics; the results of the activity are in **Figure 3** and **Table 2.** As shown in the figure, most comments were related to roadway improvements.

Figure 2: Plan Goals Activity, Vote Percentages

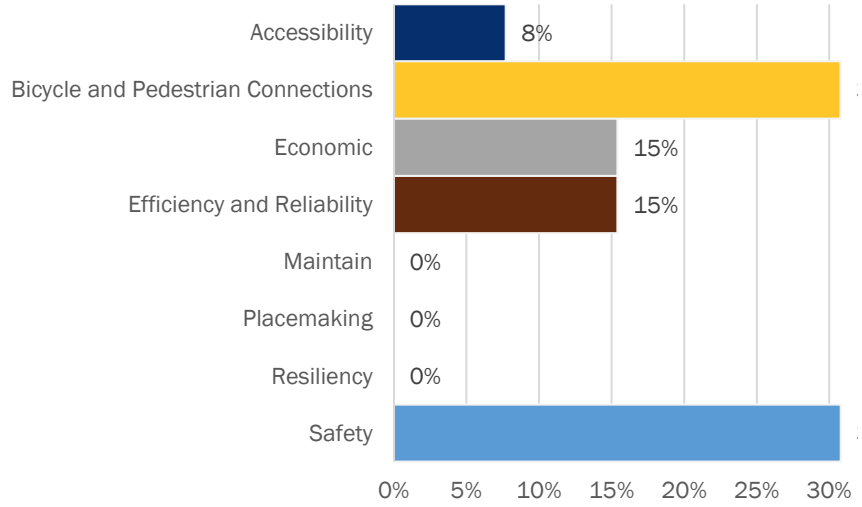


Figure 3: Open House Mapping Activity Comments

Table 2: Open House 1 Mapping Activity Comments

	Comment
1	BNSF trains block traffic
2	Concern with maintenance of traffic during reconstruction of Interchange
3	Pedestrian crossing signal
4	Turn lane
5	Roundabout
6	Sidewalks
7	Bike lane along Splitrock to Sioux Blvd
8	School traffic congestion
9	Maple through to Splitrock Blvd/SD11
10	Ironwood
11	Need for safe walking and biking to school for students
12	East side of Sioux Blvd- no sidewalks or crossin
13	Vacate ROW to eliminate traffic using unofficial backway into neighborhood
14	Safety issues
15	Need to coordinate construction activities for upcoming improvements

Open House 2 – October 24, 2023

The second public open house was held at the Brandon Golf Course on October 24 from 4 to 6 PM. The purpose of the meeting was to share MTP recommendations and solicit feedback from the public on potential treatments for issue areas identified by City staff.

The meeting was advertised across several platforms, including a public notice posted in the Brandon Valley Journal, posts on the City's social media channels, and an event was added to the Brandon Valley Area Chamber of Commerce's online calendar. The event information, meeting boards, and a narrated presentation was also published on the project webpage.

The October 24 public open house was an in-person event, where attendees were able to explore several stations to learn about the MTP recommendations The stations included:

- Welcome station — attendee sign in and informational materials regarding plan development process and timeline.
- Project Background and Plan Input Received station — these boards included project background information, and summaries of input received in the last open house and during the online Transportation Survey.
- MTP Recommendations station — these boards provided a summary of recommendations for the street and active transportation networks.
- Issue Areas voting station — this was an interactive station asking attendees to share their preferences on active transportation treatment options for Sylvan Circle and the City's industrial areas.
- Typical Cross Sections station – these boards illustrated the typical cross sections developed for the MTP in support of the recommended updates to Brandon's Engineering Design Standards.

Meeting Outcomes

A total of 10 members of the public attended October 24 public open house, and most attendees participated in the interactive Issue Areas voting station. A summary of this interactive station is below.

Issue Areas

The Issue Areas station provided attendees a series of potential design concepts for two locations within the Brandon area—Sylvan Circle and the industrial area north of Redwood Boulevard, including 9th Avenue, Birch Street, Ash Street, and 7th Avenue N. These locations have been identified by City staff as having relatively high pedestrian and bicycle activity, but currently lack facilities such as sidewalks or shared use paths that would provide safe conditions for these users.

To address these deficiencies, a series of design concepts were developed. City staff had indicated that the cost of installing sidewalks in these areas is cost-prohibitive at this time, so the design concepts sought to provide cost-effective solutions that can increase safety for pedestrians and bicyclists. Refer to the Active Transportation chapter of this report for more detail on the design concepts.

Attendees at the public meeting were invited to vote on their preferences for active transportation solutions for Sylvan Circle and Brandon's industrial areas. Voting was done by using a Likert scale approach in which attendees could indicate their preference for each design concept as "Preferred," "Neutral," or "Not Preferred." The voting results are shown in Figure through Figure.

Sylvan Circle Shared Lanes Concept

Attendee feedback on the Sylvan Circle Shared Lanes concept indicated a generally positive view of this option, with two attendees sharing "Preferred" votes and one attendee sharing a "Neutral" vote.

Sylvan Circle Existing Conditions with No Pedestrian or Bike Accommodations

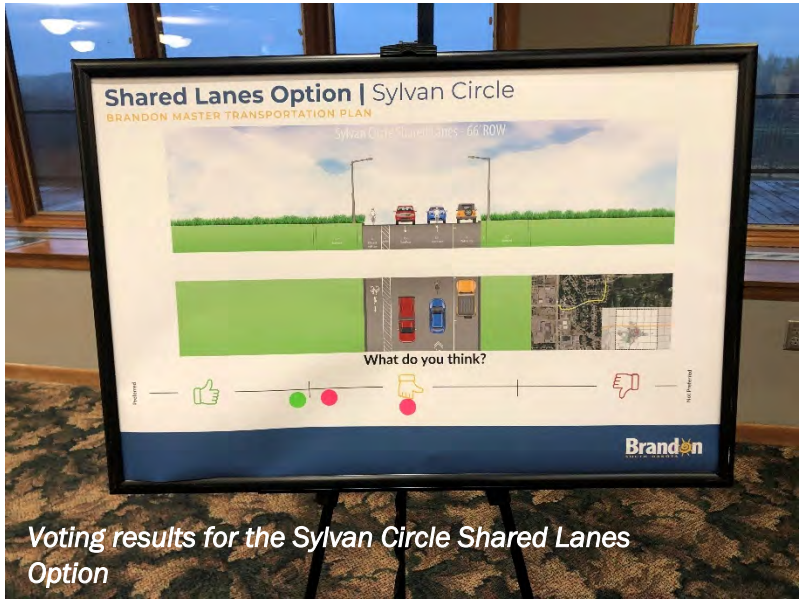
The Sylvan Circle Existing Conditions with No Pedestrian or Bike Accommodations received two "Neutral" votes, with attendees stating that the lack of sidewalks in this area is an issue but the relatively high pedestrian and bicycle usage demonstrates that the current design is sufficient when compared to the high-cost alternative of installing sidewalks.

Industrial Collector Shared Lanes Concept

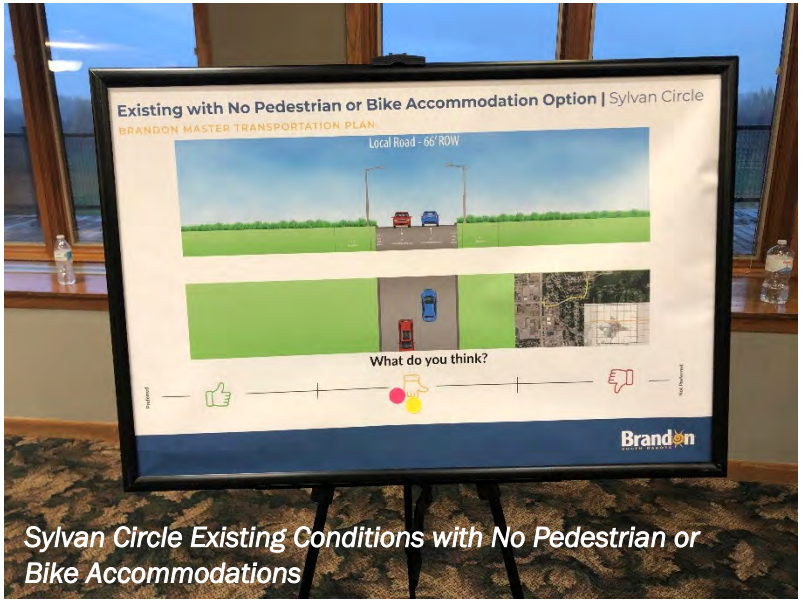
Votes received for the Industrial Collector Shared Lanes Concept included one "Preferred" vote and one "Not Preferred" vote. An attendee stated that the nature of Brandon's industrial areas, with high percentages of heavy truck traffic, should not be a focus of active transportation investment, while one attendee shared that they regularly bike along 9th Street with their children to access the restaurants along SD 11/Splitrock Boulevard so improving safety for pedestrians and bicyclists along this corridor would be a benefit.

Industrial Collector Sharrows Option

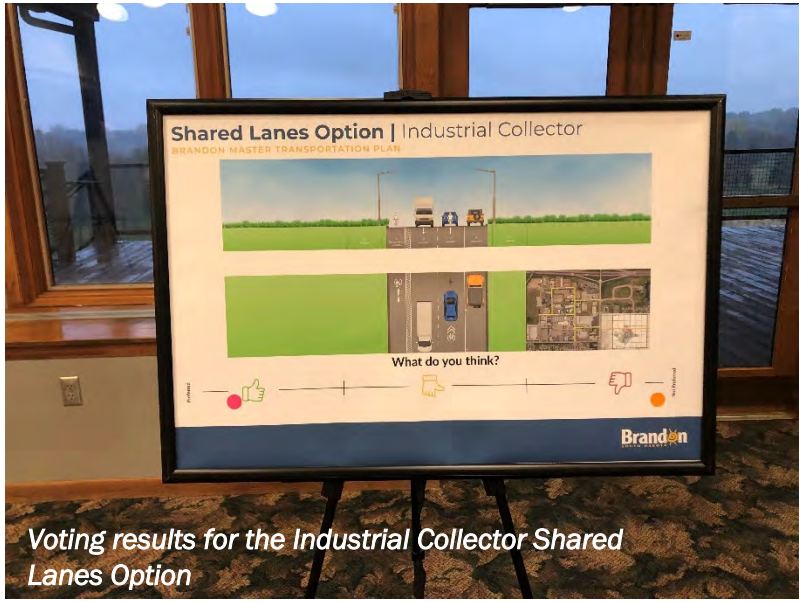
All votes received for the Industrial Collector Sharrows Option were for "Not Preferred." When speaking with attendees, they expressed concern over the efficacy of sharrows in improving safety for pedestrian and bicycle users as having these users in mixed traffic with heavy vehicles poses significant safety concerns. These attendees felt separated bicycle and pedestrian infrastructure would be a better treatment compared to sharrows.



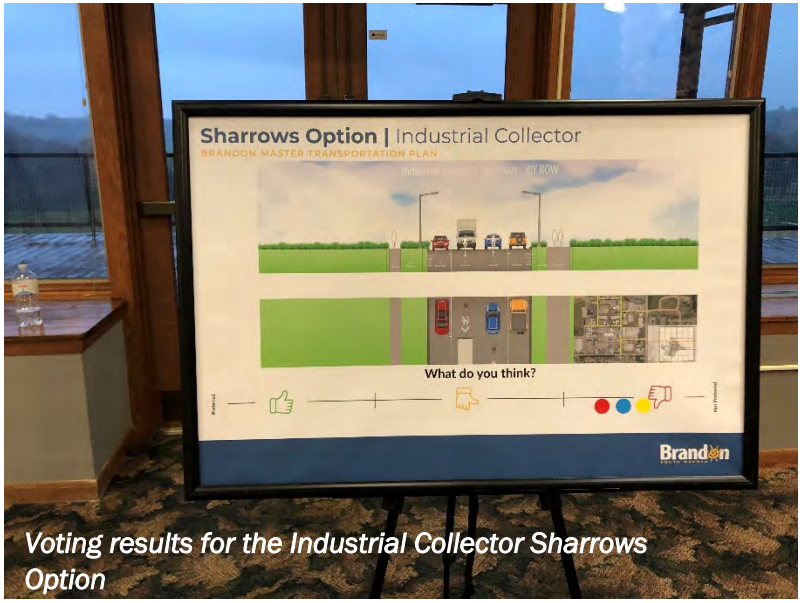
Voting results for the Sylvan Circle Shared Lanes Option



Sylvan Circle Existing Conditions with No Pedestrian or Bike Accommodations



Voting results for the Industrial Collector Shared Lanes Option



Voting results for the Industrial Collector Sharrows Option

Transportation Survey Summary

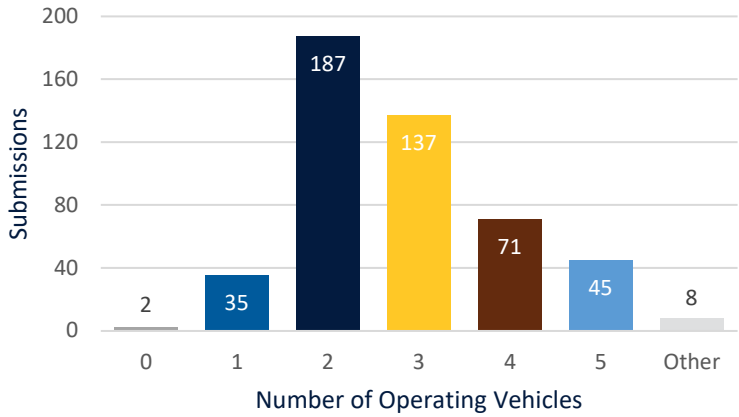
The MTP team launched a public survey to get feedback on the Brandon Transportation System, in coordination with a public open house on the evening of March 7, 2023. The survey ran from March 7 to April 14, 2023 and 485 residents participated.

Some demographic questions were asked up front which included the following items:

- 97% of survey respondents lived in Brandon.
- 40% of survey respondents had lived in Brandon for 10 years or less.
- 31% of survey respondents worked in Brandon and 49% worked in Sioux Falls.

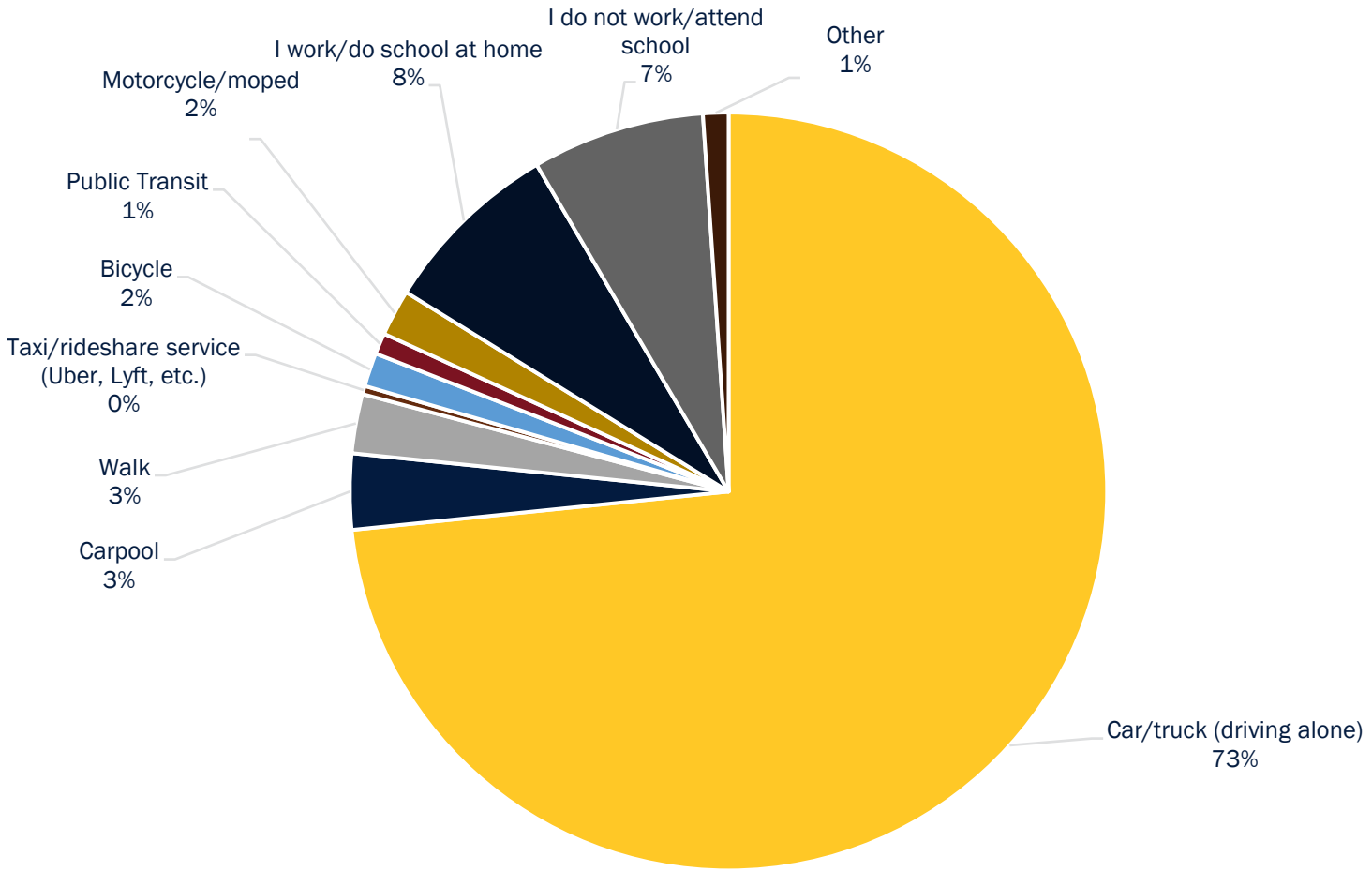
The remainder of this section provides a summary of the key transportation survey results.

How many operating vehicles (cars, trucks, motorcycles/mopeds, vans) do you or others in your household own?



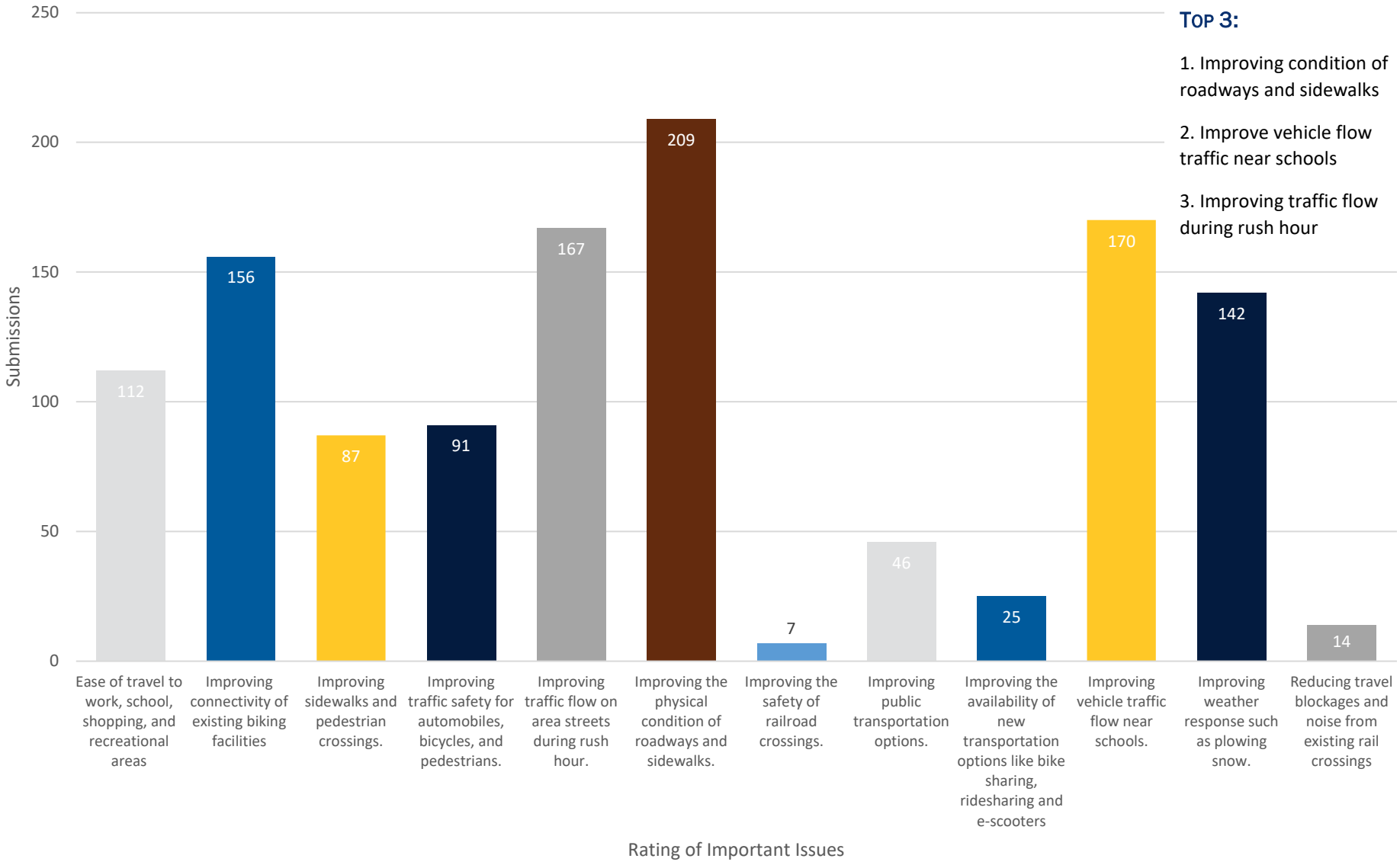
93% of survey respondents have 2 cars or more. Less than 1% do not own a car.

WHAT METHOD OF TRANSPORTATION DO YOU NORMALLY USE TO GO TO WORK/SCHOOL?



ADDITIONAL COMMENTS RECEIVED FROM THE TRANSPORTATION SURVEY CAN BE FOUND IN THE APPENDIX

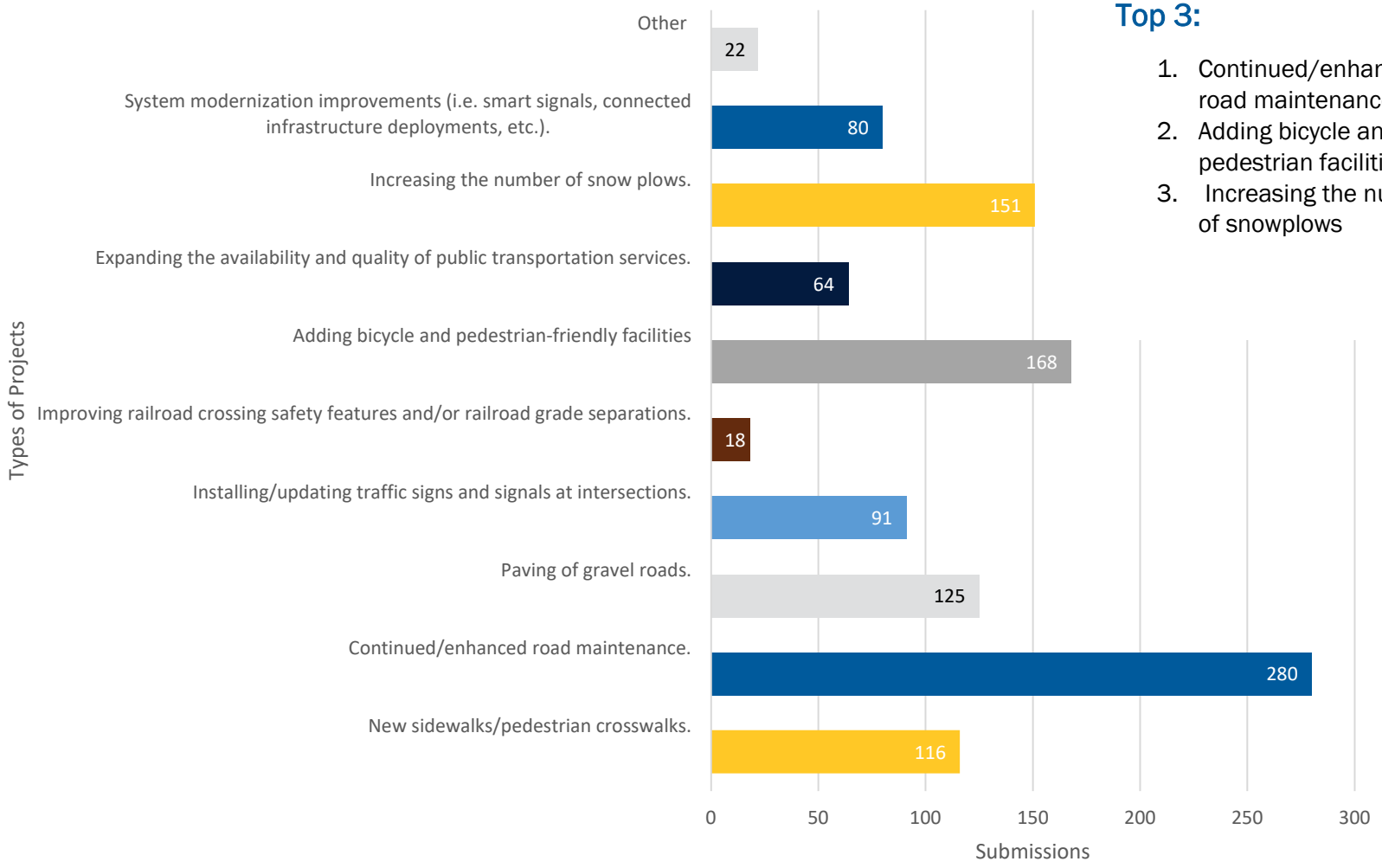
WHICH ISSUES DO YOU BELIEVE ARE MOST IMPORTANT AND SHOULD BE ADDRESSED IN THE BRANDON TRANSPORTATION PLAN? SELECT UP TO 3.



TOP 3:

1. Improving condition of roadways and sidewalks
2. Improve vehicle flow traffic near schools
3. Improving traffic flow during rush hour

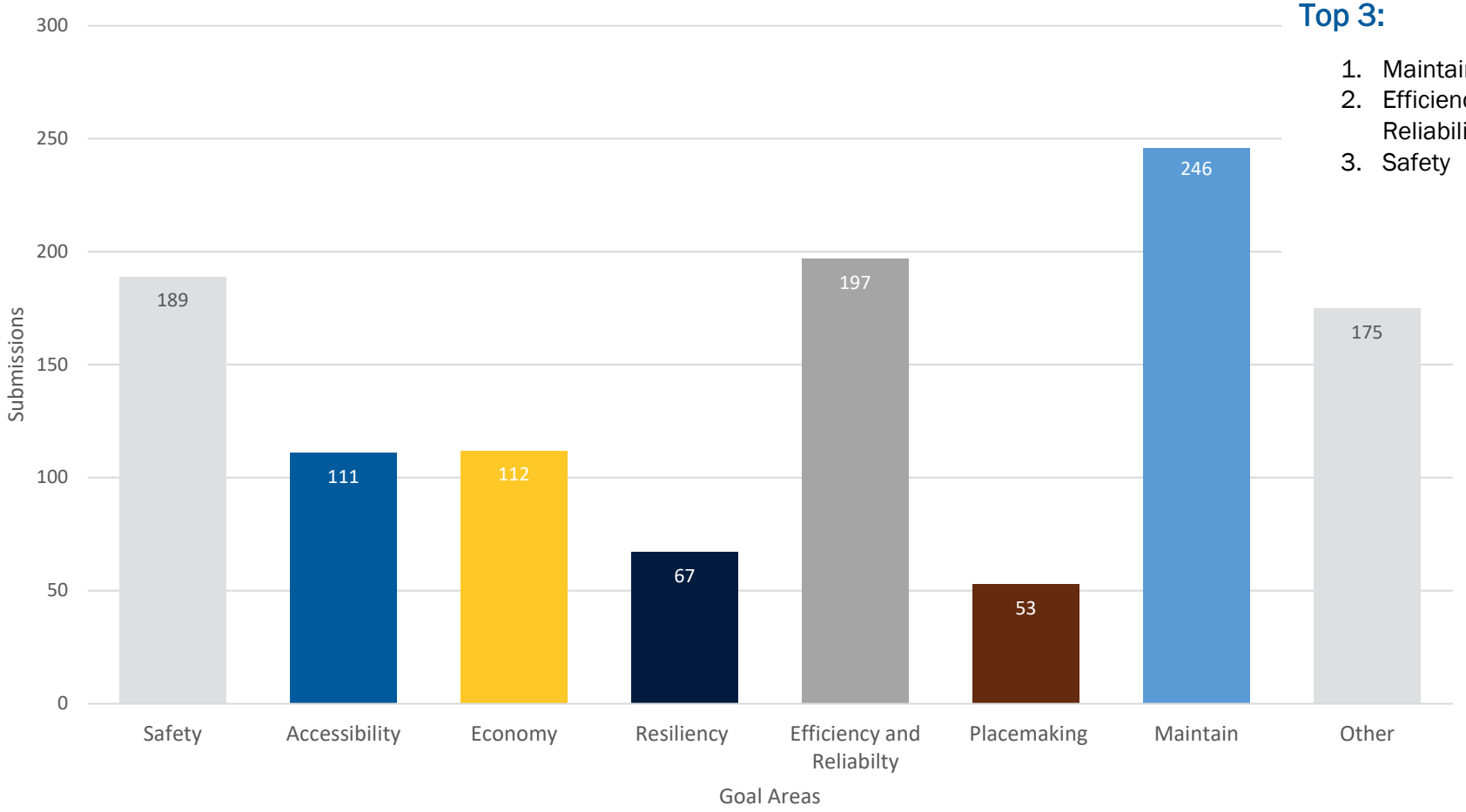
WHAT TYPES OF FUTURE PROJECTS DO YOU BELIEVE SHOULD BE FUNDED TO IMPROVE BRANDON'S TRANSPORTATION NETWORK? SELECT UP TO 3.



Top 3:

1. Continued/enhanced road maintenance
2. Adding bicycle and pedestrian facilities
3. Increasing the number of snowplows

WHAT GOALS AND CHARACTERISTICS OF THE BRANDON TRANSPORTATION SYSTEM SHOULD THE MASTER TRANSPORTATION PLAN FOCUS ON? SELECT UP TO 3.



Top 3:

1. Maintain
2. Efficiency and Reliability
3. Safety

Virtual Open House

The public open house materials were placed on the website and made available to the public for review and their input from March 7 to April 14, 2023. The materials included:

- Public Open House Boards
- Slides and audio presentation of plan development progress
- Comment form to provide input on the plan

Stakeholder Meetings

The intent of creating the stakeholder group was to get the input of people that were leaders across Brandon and interfaced with the transportation system in a range of ways. Stakeholders included representatives of:

- Brandon Valley School District
- Rural Office of Community Services (ROCS)
- Parks Advisory Committee
- City Parks
- Recreation and Forestry
- City Public Works
- City Administration
- Police Department
- Brandon Volunteer Fire Department
- Brandon Valley Area Chamber of Commerce
- South Dakota Game, Fish, and Parks
- Brandon Township and Split Rock Creek Township

Stakeholder meetings were held the same days as the two public open houses and included brief presentations and discussions to get feedback on plan direction.

Stakeholder Meeting 1

The stakeholder meeting was planned as a supplement to the March 7 public open house held at the Brandon Golf Course Clubhouse. As such, the main activities of the stakeholder mirror those of the public open house. These activities include:

- Plan Development presentation – a brief description of the plan development process, including the plan focus areas and existing transportation conditions.
- Plan Goals activity – interactive activity asking attendees to select the three goal areas they find most important for the plan to address.
- Issues and Opportunities mapping activity – interactive activity asking attendees to comment on issues and opportunities of the current transportation system on an area map.

In-person attendees completed these activities on paper displays while virtual attendees completed the activities using a collaborative online tool called Mural.

Meeting Outcomes

Approximately eight stakeholders attended the in-person meeting, and an additional eight stakeholders called in via Webex, for a total of 16 attendees. The outcomes of the Stakeholder Meeting activities are summarized below for each of the activities.

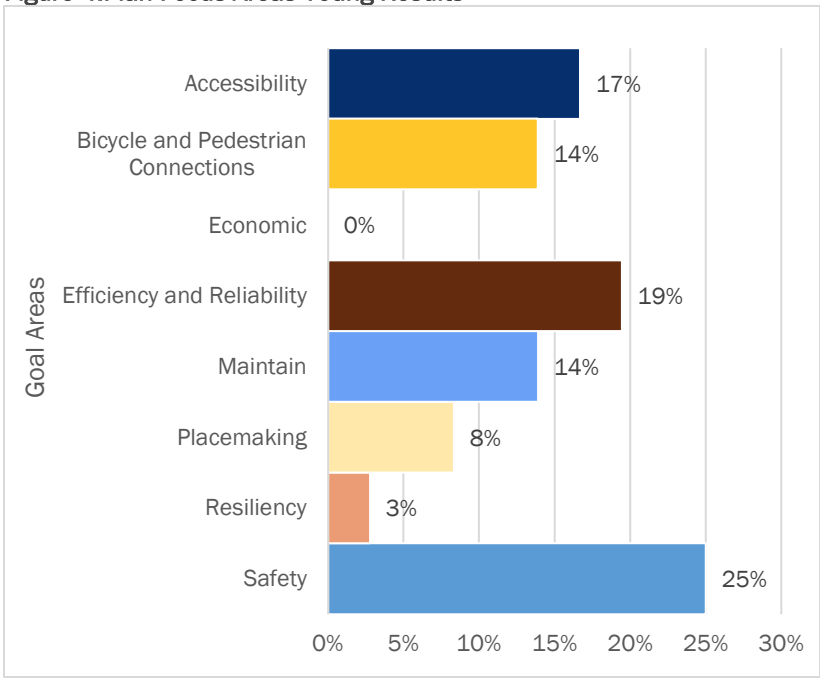
Plan Goals

The Plan Goals activity asked stakeholders to review the eight goal areas identified for the Master Transportation Plan, and then vote for the three goal areas they believe the plan should focus on. The goal areas identified were:

- Safety
- Efficiency and Reliability
- Accessibility
- Placemaking
- Economic
- Maintain
- Resilience
- Bicycle and Pedestrian Connections

The results for the Plan Focus Areas are shown in **Figure 4**. The stakeholders highlighted Safety as the top goal area for the Plan to focus on, followed by Efficiency and Reliability and Accessibility.

Figure 4:Plan Focus Areas Voting Results



Issues Mapping

The Project Area Mapping activity invited stakeholders to use an area map to comment on the most pressing transportation needs and issues that the community faces. Comments received during this activity were mainly focused on traffic operations and safety issues, but input on potential bicycle and pedestrian connections was received during the session. **Figure 5** shows the location of the comments received, and **Table 3** shows the comments received.

Discussion in the stakeholder meeting centered on the need for roadway improvements to handle future traffic volumes associated with planned developments, including the elementary school that will be constructed in eastern Brandon. Additional comments highlighted stakeholder concerns over higher speed travel along SD11/Splitrock Boulevard, especially for north bound travelers entering the southern City limits, due to potential safety issues; stakeholders also voiced concern over the availability of funding for needed improvements to gravel roads throughout the MTP study area.

Figure 5: Stakeholder Meeting #1 Mapping Activity Comments

Table 3: Stakeholder Meeting #2 Mapping Activity Comments

ID	Comment
1	Future interchange desired
2	Lower speed with bridge project in 2024
3	Safety concerns
4	Trail desired to new school
5	Load limits on gravel road desired
6	Crash concerns
7	Concern with school traffic
8	Turn lane needed
9	Lots of houses-traffic
10	Turn lane use on shoulder – safety concern
11	Dangerous and congested
12	High speeds are an issue
13	Safety concerns
14	Concern for the need to fund paving Maple Street-developer funding? State funding?
15	Intersection being improved
16	New development
17	Trail along Holly Blvd?
18	Presence of power lines is a safety issue for Interstate
19	Dirt/gravel road: with likely development, use of the road impacts vehicles
20	Add a bike lane on Holly Blvd from Sioux Blvd to Veterans Parkway
21	Tight access; required left or right turn when going east is difficult for buses. Creates congestion when transporting students
22	Sioux/HWY 11: integrating into traffic on HWY 11 without traffic control is unsafe

Stakeholder Meeting 2

Stakeholder Meeting #2 occurred on October 24 and was hosted as a hybrid event with an in-person option at Brandon City Hall and a live, call-in option via Webex. The purpose of the meeting was to provide stakeholders an update on the Master Transportation Plan (MTP) and offer an opportunity to discuss the Plan's recommendations.

Stakeholders were identified by City staff and include representatives of the Brandon Valley School District, Rural Office of Community Services (ROCS), Parks Advisory Committee, City Parks, Recreation and Forestry, City Public Works, City Administration, Police Department, Brandon Volunteer Fire Department, Brandon Valley Area Chamber of Commerce, South Dakota Game, Fish, and Parks, Brandon Township, and Split Rock Creek Township.

Meeting Overview

The stakeholder meeting was planned as a supplement to the October 24th public open house held at the Brandon Golf Course Clubhouse. The session began with a presentation that provided a brief overview of the MTP, and the milestones reached since the first stakeholder meeting in March. Unlike Stakeholder Meeting #1, this meeting did not incorporate any interactive activities but rather focused on group discussion amongst the attendees.

Meeting Outcomes

Approximately eight stakeholders attended the in-person meeting, and one stakeholder called in via Webex, for a total of 9 attendees. The outcomes of the Stakeholder Meeting activities are summarized below for each of the activities.

Group Discussion

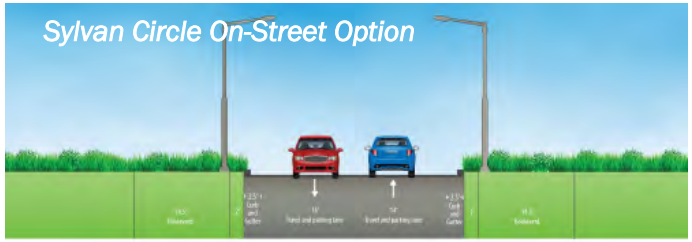
The group discussion held during Stakeholder Meeting #2 focused on MTP recommendations as well as other topics mentioned by attendees. The topics discussed included:

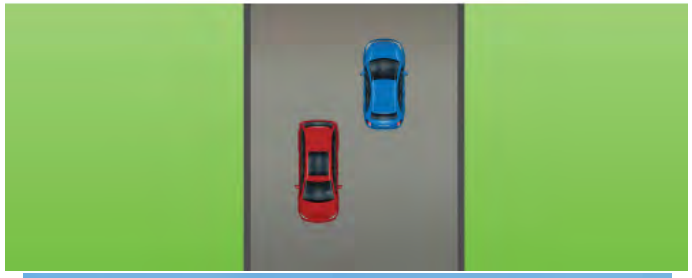
- Active transportation improvements for Sylvan Circle and Brandon's industrial areas
- Shared use path connectivity in east Brandon
- Citywide sidewalk connectivity
- Intersection improvements
- Street network improvements

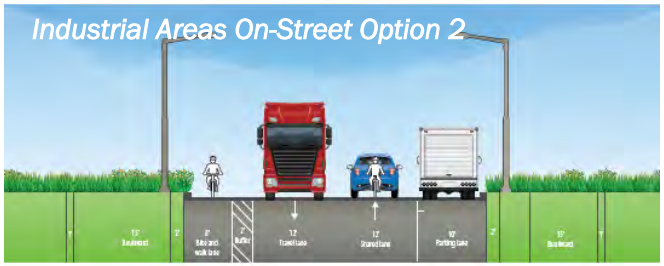
Active Transportation Improvements for Sylvan Circle and the Industrial Areas

The meeting presentation described the potential active transportation improvements for Sylvan Circle and industrial areas, as discussed in the Standards Development chapter of the MTP. Stakeholders shared feedback on the proposed design concepts shown in the righthand column and below. Input shared by the stakeholders about these design concepts indicated a need to improve safety for bicyclists and pedestrians at these locations, and the difficulty related to retrofitting these areas with sidewalks due to the high costs associated with construction and limited right-of-way. Stakeholders expressed interest in a separated facility to provide a lane for bicyclist and pedestrians but felt sharrows alone would not provide the necessary conditions to provide a safety for active transportation users.

More information on these design concepts is available in the Active Transportation chapter of this report.







Shared Use Path Connectivity in East Brandon

The topic of shared use path connectivity in east Brandon centered around the construction of the new school east of Chestnut Boulevard and the need to provide a facility for student access to the school. City staff noted the City's interest in pursuing funding under SDDOT's Transportation Alternatives program for constructing a shared use path connection from the facility along Rachelle Street that would extend this path east and then north to the school. Related improvements discussed for this area include rectangular rapid flashing beacons (RRFBs) at the crosswalks located at Augusta and Chestnut and Chestnut and Rachelle Street.

Citywide Sidewalk Connectivity

Existing gaps in the City's sidewalk network were brought up by stakeholders, who were interested in how Brandon is addressing these. City staff noted the sidewalk infill program currently underway within the community and the effort to work with property owners to address these gaps. Brandon has contacted property owners of parcels that currently do no have sidewalks so that strategies to address these can be identified.

Intersection Improvements

Intersection improvements discussed by the stakeholders related to the planned roundabout at the intersection of SD11/Splitrock Boulevard and Aspen Boulevard. City staff noted that construction of this facility is planned for the year 2028, once improvements to SD11/Splitrock Boulevard at I-90 are completed. Stakeholders indicated the need to construct a roundabout that facilitates safe movements for large vehicles such as emergency vehicles; it was recommended by City staff that these concerns are directed to SDDOT as they begin the design process for the roundabout at this location.

A second intersection location, at Maple Street and Sioux Boulevard, was mentioned by stakeholders who were interested

in potential improvements that would provide facilitate safer turning movements for buses transporting students to the school found here. It was noted that these improvements would be development-driven and at the discretion of SDDOT.

Street Network Improvements

Concerns over the recommended street network improvements shown in Figure noted the potential increase in traffic at McHardy Road and the proposed collector to the east induced from roadway upgrades need to address safety concerns from this traffic growth.

A second question posed by the stakeholder growth sought to understand the timing of the improvements planned for Ironwood Street. City staff noted that the design of these improvements is planned and construction is pending the need for special assessments to fund this construction; the City is currently working with the City Council and impacted property owners to work through special assessments. Further discussion of this topic indicated a need for design amendable to emergency vehicle traffic as this location currently poses difficulty in accessibility for larger vehicles such as firetrucks, which causes a challenge for reaching residents at this location

Study Advisory Team Meetings

The Study Advisory Team (SAT) was a working group of transportation professionals that met monthly to provide feedback on plan direction. Representation on the plan SAT included:

- City of Brandon
- City of Sioux Falls
- Sioux Falls Metropolitan Planning Organization (MPO)
- Minnehaha County
- SDDOT
- Federal Highway Administration (FHWA)

Meetings were held monthly and typically involved presentations and requests for feedback on technical elements of the plan.

Sioux Falls MPO Presentations

Throughout the course of the MTP's development, several presentations were made to committees of the Sioux Falls MPO to update the MPO and its members on the plan's progress and to solicit feedback on the MTP. The committees presented to included the Citizen Advisory Committee (CAC), Technical Advisory Committee (TAC), and the Urbanized Development Committee (UDC). The first series of presentations were held in July 2023 and provided an overview of the MTP process. Additional presentations occurred in November 2023 and December 2023 where the draft MTP was presented to the committees.

Brandon Today

This chapter summarizes the people and community characteristics that impact how Brandon's multimodal transportation system functions. Data sources presented in this section are the United States Decennial Census and American Community Survey (ACS) 5-year Estimates for the year 2021. The geography used to query the demographic data for this profile was the Census Place designation for the City of Brandon.

A Growing Community

Brandon's population has seen significant growth since 1990 and demonstrates the community's status as one of the fastest growing communities within the state.

Table 4 shows decennial population levels since 1990 for Brandon, and how growth in the community's population during the past 30 years compares to that of the Sioux Falls Metropolitan Area and the State of South Dakota. Brandon experienced substantial population growth between 1990 and 2010. Brandon's population growth slowed somewhat on a percentage basis between 2010 and 2020 compared to the decades prior, but the community still added roughly 2,500 residents during this decade.

Table 4: Population Growth for the Brandon, Sioux Falls Metropolitan Area, and South Dakota

Year	City of Brandon	Sioux Falls Metropolitan Region	South Dakota
1990	3,543	139,236	698,004
2000	5,777	164,481	754,844
2010	8,785	228,261	814,180
2020	11,048	276,730	886,667

Source: United States Decennial Census, 1990-2020

Living in Brandon

The characteristics of housing within Brandon are closely intertwined with the community's transportation system, as each household has unique transportation needs given the makeup of that household

Table 5 summarizes housing characteristics for Brandon. Currently, there are roughly 3,900 households in Brandon and nearly 78 percent are owner-occupied. The average household size is 2.76 which exceeds the average household size of 2.40 for the Sioux Falls Metropolitan Area, and the average household size of 2.46 for the State of South Dakota, per ACS 5-year estimates for the year 2021.

Working in Brandon

Employment characteristics are also an important element of travel demand as local employment generates travel demand to those locations. Furthermore, employment supports the local economy by providing individuals with job opportunities while providing the city with tax and other revenues. The types of employment found within a community are also closely linked to how the local transportation system operates as certain industries, such as manufacturing and logistics, rely on freight modes like trucking and rail for their operations.

Table 6 illustrates the top employment industries for Brandon's workers. ACS estimates indicate there are just over 6,200 individuals who are over the age of 16 years and employed within the community. The largest proportion of these workers are employed in the educational, health care, and social assistance field while the second highest proportion are employed in manufacturing. Retail trade is the third most common industry for Brandon's workers.

Table 5: Housing Characteristics for Brandon

Housing Characteristics	
Total Households	3,899
Average Household Size	2.76
Owner-Occupied Housing	77.7%
Renter-Occupied Housing	22.3%

Source: American Community Survey 5-Year Estimates, 2021

Table 6: Employment Characteristics for Brandon

Employment Characteristics	Total	Percent
Employed population 16 years and over	6,219	
Educational services, and health care and social assistance	1,638	26.3%
Manufacturing	694	11.2%
Retail trade	688	11.1%
Finance and insurance, and real estate and rental and leasing	662	10.6%
Professional, scientific, and management, and administrative and waste management services	622	10.0%
Arts, entertainment, and recreation, and accommodation and food services	341	5.5%
Construction	333	5.4%
Other services, except public administration	331	5.3%
Transportation and warehousing, and utilities	288	4.6%
Wholesale trade	263	4.2%
Public administration	255	4.1%
Agriculture, forestry, fishing and hunting, and mining	56	0.9%
Information	48	0.8%

Source: American Community Survey 5-Year Estimates, 2021

Commuting in Brandon

Means to Work

For most workers within Brandon, the morning commute is taken in a car, truck, or van as shown in Table 7. Roughly 81 percent of commuters drive alone for their regular commute. ACS 5-Year estimates indicate that just over 12 percent of individuals working in Brandon complete their job duties from home. Other modes like walking, taxicab, and public transit are estimated to account for 1.3 percent of commute trips; few workers within Brandon are estimated to regularly commute via bicycle.

Vehicles Available

Vehicles available looks at the levels of access Brandon's workers have to a vehicle, which then gives an idea of the propensity for commuting via driving alone, and to a lesser extent, carpooling. The substantial share of commuters getting to work in a private vehicle provides some insight into the relationship between the high mode share shown in Table 6 with the high share of workers that have 2 or more vehicles available to them as shown in Table 8. Overall, 98 percent of Brandon's workers have access to at least one vehicle which further reinforces the higher mode share associated with private vehicle usage for commuting purposes.

Table 7: Means to Work

Means of Transportation to Work	Mode Share
Car, Truck, or Van	86.3%
Drove Alone	80.5%
Carpooled	5.9%
Worked from Home	12.4%
Walked	0.6%
Taxicab, Motorcycle, or Other Means	0.4%
Public Transportation (excluding taxicab)	0.3%
Bicycle	0.0%

Source: American Community Survey 5-Year Estimates, 2021

Table 8: Vehicles Available

Vehicles Available	
Workers 16 Years and Over in Households	6,137
No vehicle available	1.2%
1 vehicle available	10.9%
2 vehicles available	44.5%
3 or more vehicles available	43.3%

Source: American Community Survey 5-Year Estimates, 2021

Time of Departure

Brandon's workers are on the road early as demonstrated in Table 9, which illustrates when Brandon's workers leave home for their typical commute. The most popular hour for departure is from 7-8 AM which is when over 40 percent of commute trips start. The hour of 6-7 AM is also a popular hour and sees approximately 22 percent of commuters leaving home.

Travel Time to Work

Travel time to work indicates how long Brandon's commuters spend to get to their places of employment. ACS 5-Year Estimates indicate that over 30 percent of Brandon's commuters spend between 20- and 24-minutes traveling to work each day. Overall, half of Brandon's workers commute 30 minutes or fewer each day while just over 5 percent are spending 45 minutes or more traveling to work. Table 10 summarizes the complete breakdown of travel times to work for Brandon's commuters.

Table 9: Time of Departure

Time of Departure	Percent
12:00 AM to 4:59 AM	2.5%
5:00 AM to 5:29 AM	3.1%
5:30 AM to 5:59 AM	7.2%
6:00 AM to 6:29 AM	8.8%
6:30 AM to 6:59 AM	12.7%
7:00 AM to 7:29 AM	22.1%
7:30 AM to 7:59 AM	18.6%
8:00 AM to 8:29 AM	9.4%
8:30 AM to 8:59 AM	1.4%
9:00 AM to 11:59 PM	14.3%

Source: American Community Survey 5-Year Estimates, 2021

Table 10: Travel Time to Work

Travel Time to Work	Percent
Less than 10 minutes	17.0%
10 to 14 minutes	10.5%
15 to 19 minutes	15.4%
20 to 24 minutes	30.6%
25 to 29 minutes	10.4%
30 to 34 minutes	8.2%
35 to 44 minutes	2.4%
45 to 59 minutes	1.5%
60 or more minutes	3.9%
Mean travel time to work (minutes)	21.4

Source: American Community Survey 5-Year Estimates, 2021

Existing Land Use

Today, the Brandon community is home to a variety of land uses ranging from low-density residential to heavy industrial. Land use has a close relationship with transportation as land use regulations set the framework for how communities spatially distribute homes, employment, commerce, recreation, and public facilities; residents, workers, and visitors then generate demand for transportation to and from these destinations. Thus, a community's land use decisions have major implications on the transportation system and how it functions.

Brandon's existing land use is summarized in **Table 11** while **Figure 6** illustrates the distribution of the community's land uses. Of Brandon's 3,737 acres included in the current land use plan, 30 percent is dedicated to low-density residential use which can be found throughout the city as shown in **Figure 6**. Natural Resources Conservation (NRC) Floodplain/Conservation is the next largest land use designation in the community and includes Brandon's parks and locally-managed nature areas. Much of the NRC Floodplain/Conservation land uses are located to the south and east parts of the city and provides an adequate level of access to adjacent residential uses. Heavy industrial takes up the third largest share of land use area and is focused in northern Brandon. Industrial uses are often closely linked to the local freight system as these areas generate relatively higher levels of truck and/or rail traffic as part of their operations.

General business and central business land uses are also critical to the functioning of the transportation system, as these land uses often generate high levels of employment opportunities. While these uses comprise less than 5 percent of land use in Brandon today, they generate substantial economic activity while generating high levels of travel demand from Brandon's residents and visitors.

Table 11: Brandon's Existing Land Uses

Zoning Designation	Acres	Percent of Total Land Use
R-1 Residential - Low Density	1,119.51	30.0%
NRC Floodplain/Conservation	634.64	17.0%
HI- Heavy Industrial	631.22	16.9%
Big Sioux Recreation Area	537.26	14.4%
IN- Institutional District	258.91	6.9%
R-2 Residential - Medium Density	176.29	4.7%
GB- General Business	168.86	4.5%
LI- Light Industrial	109.38	2.9%
R-3 Residential - High Density	88.78	2.4%
PD- Planned Development	4.74	0.1%
NB- Neighborhood Business	3.68	0.1%
CB- Central Business	3.45	0.1%
Total	**3,736.74**	

Source: City of Brandon

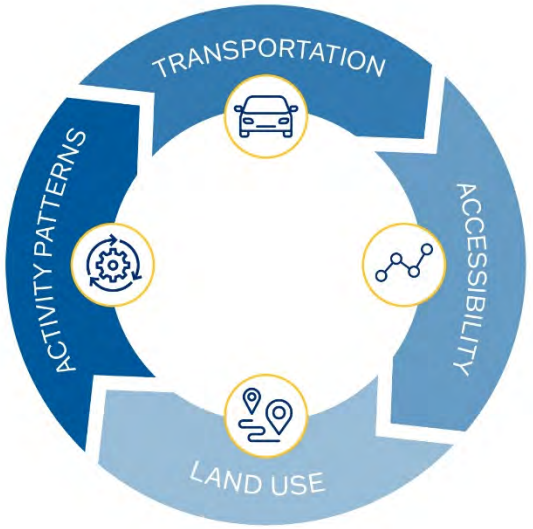
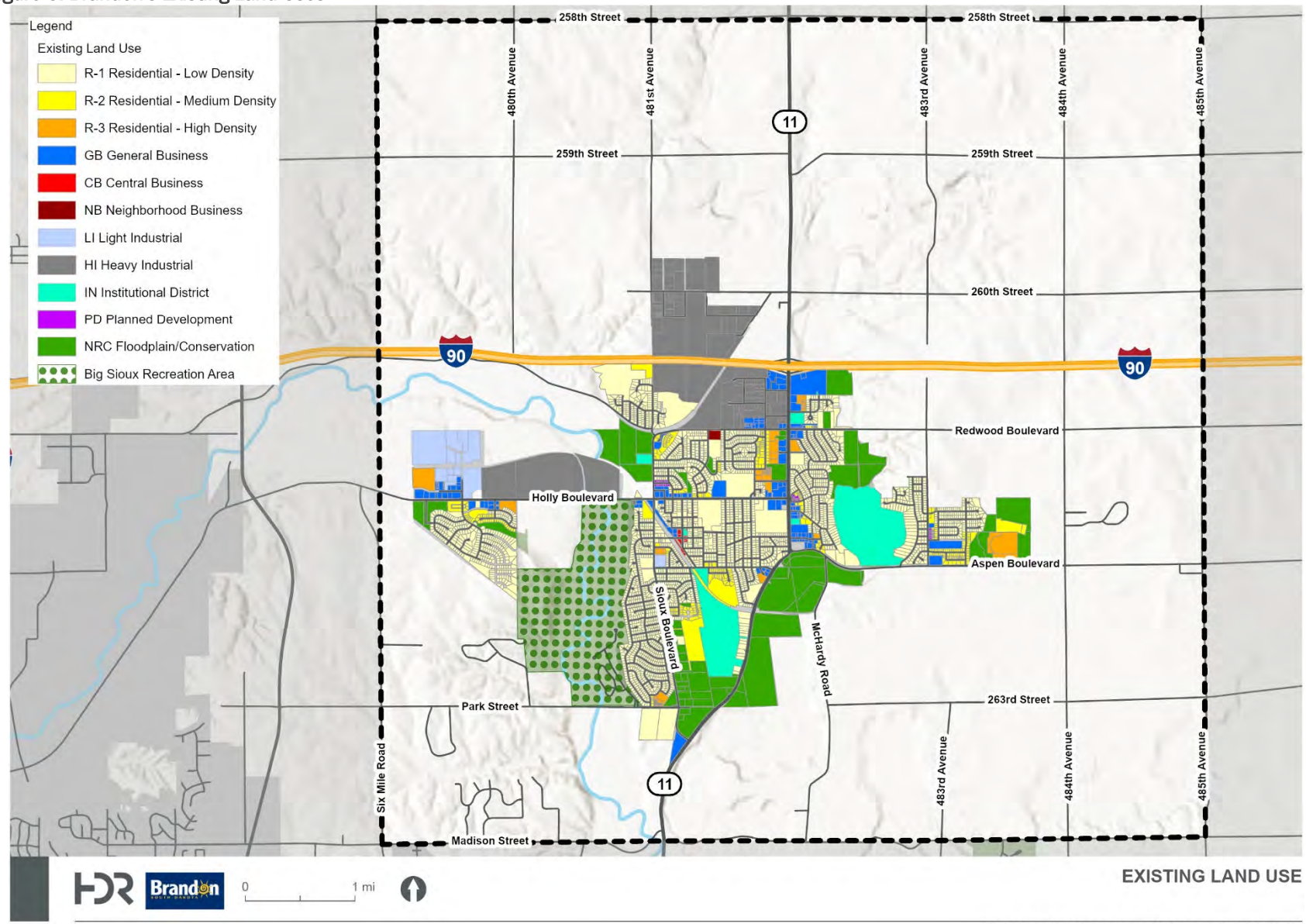


Figure 6: Brandon's Existing Land Uses



Existing System Performance

Brandon's existing multimodal transportation system was reviewed to gain a baseline understanding of the system's condition and operation. These existing conditions form the baseline scenario that guides the development of Plan alternatives and strategies and is the basis for evaluating how the system performs under future scenarios.

The baseline conditions review looks at the system through a multimodal lens to evaluate:

Streets and Roads

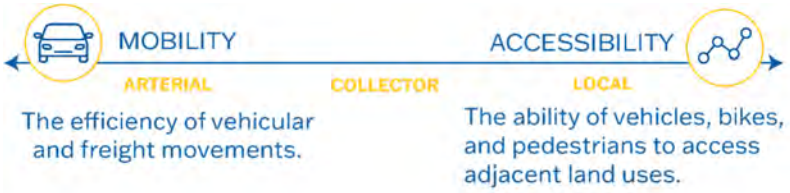
Brandon's street network is the backbone of the community's transportation system and facilitates a high percentage of the trips made in the city. As such, it is critical for the community to understand the condition of today's streets and roads so that strategies that guide the city towards achieving the goals and objectives of this MTP can be identified.

This section summarizes the condition of street and road network with regard to:

- Functional Classification
- Roadway Jurisdiction
- Traffic Operations
- Traffic Safety
- Asset Condition-Pavement and Bridges

Functional Classifications and National Highway System

The streets and road network within Brandon is designed to provide mobility and accessibility for users. However, corridors and segments within this network are designed to serve different purposes with regard to mobility and accessibility; certain corridors, like Interstate 90 (I-90) and South Dakota Highway 11 (SD11), are intended to facilitate high degrees of mobility but limit access while corridors like E Holly are able to provide much more robust access, but at the expense of reduced mobility.



Planners and engineers describe this trade-off using the concept of functional classifications, which organizes streets and roadways based on the travel objectives (i.e., mobility vs. accessibility) they aim to meet. The functional classification system is a hierarchical network of streets and roadways that is based on a number of design factors like speed, lane capacity, daily traffic, and relationship to adjacent land uses. The functional classification system is also used to determine which streets and roads are eligible for Federal funding.

Table 12 summarizes the functional classification system and the role each classification plays in the network. Functional classifications for the Brandon area are shown in Figure 7.

Another important road designation is the National Highway System (NHS), defined by the FHWA as those roadways most important to the nation's economy, defense, and mobility. Highways are designated as part of the NHS due to their ability to connect major population centers and critical transportation facilities such as airports, public transportation centers, and intermodal facilities.

Roadway Jurisdiction

Roadway jurisdiction refers to the agency responsible for maintaining and improving the streets and roads within the MTP study area. Currently, street and roadway responsibilities are undertaken by the State, SDDOT, Minnehaha County, Brandon and Split Rock townships, and the City.

As Brandon continues to grow, there will likely be the need for the community to take over responsibility of future streets and roadways that currently do not fall under its jurisdiction. By understanding today's roadway responsibilities, the city can better anticipate what their future responsibilities will be. Figure 8 shows roadway jurisdictions within the MTP study area.

Table 12: Functional Classification Descriptions

Functional Classification	Description
Interstate	Provide highest degree of mobility but most limited accessibility. Designed for long-distance trave at higher speeds between major urban areas.
Principal Arterial	Provide a high degree of mobility within major metropolitan centers while providing a low level of direct access to adjacent land uses.
Minor Arterial	Provide connections to Principal Arterial routes and facilitate trips of moderate length. Provide greater access to land uses than Principal Arterials.
Collector	Provide a connection between local roads and the arterial road network. Typically have the lowest degree of mobility and highest degree of access.
Local	Provide direct access to adjacent land uses while not supporting through traffic movements.

Source: Federal Highway Administration

Figure 7: Existing Federal Functional Classifications

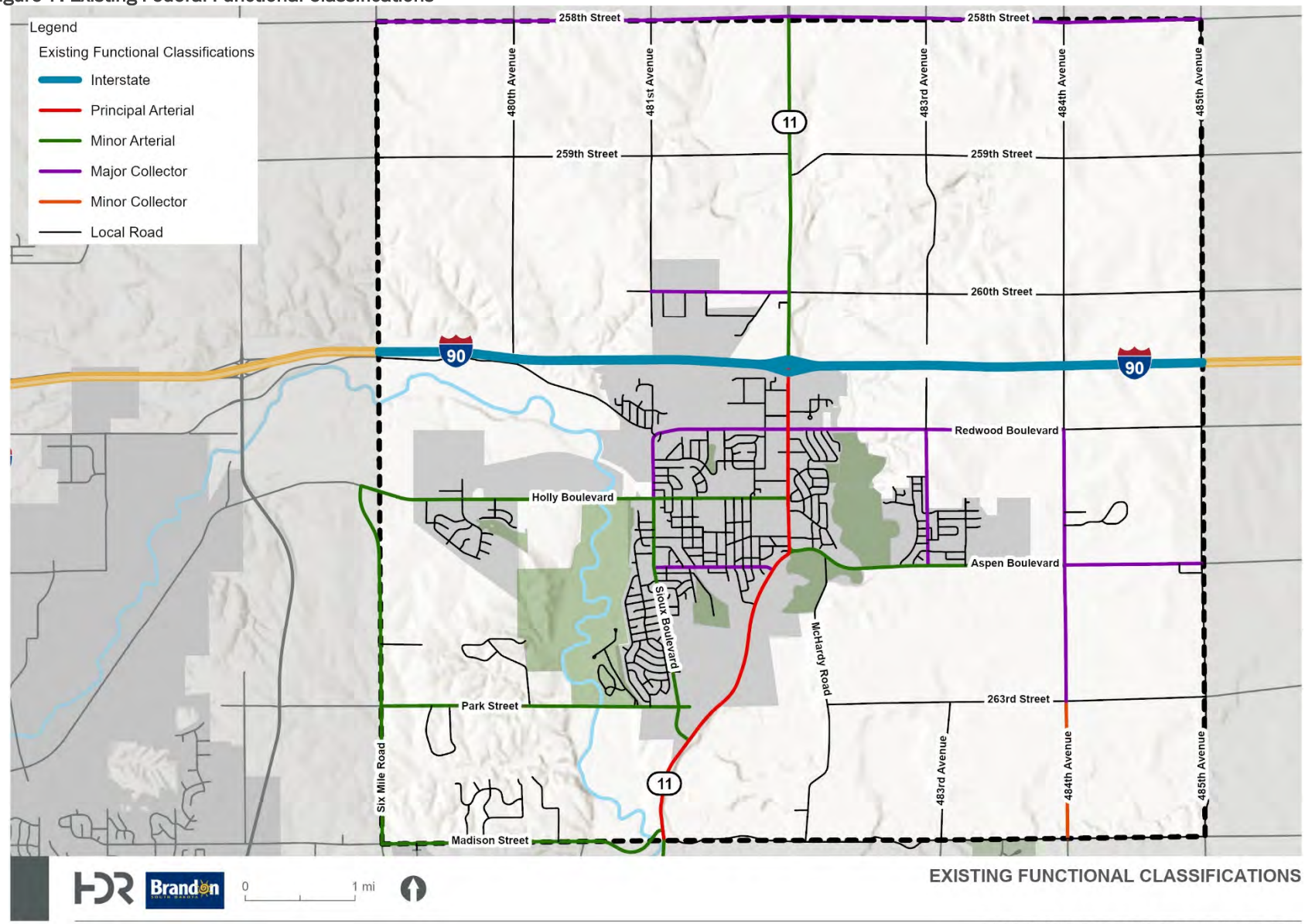
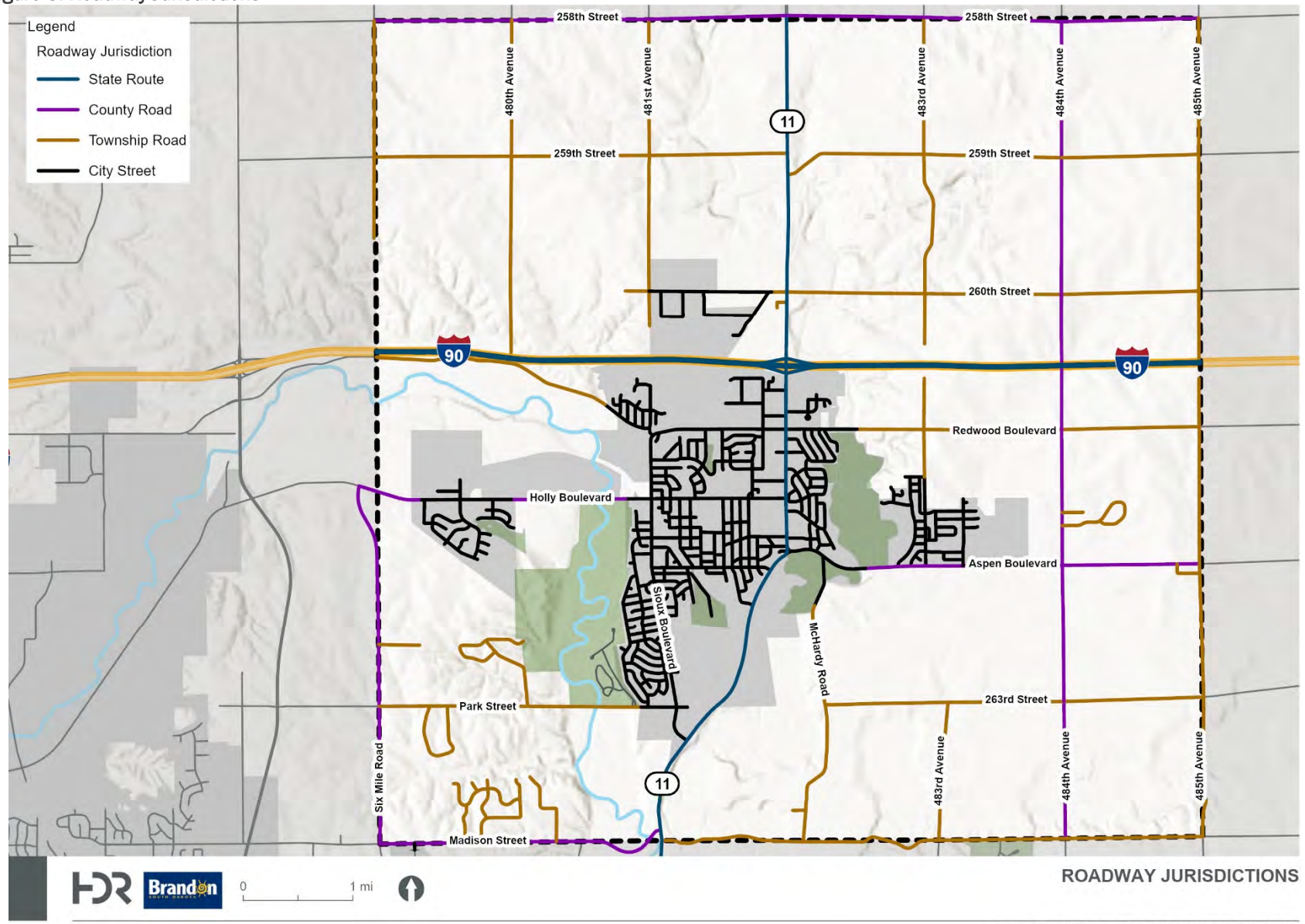


Figure 8: Roadway Jurisdictions



Traffic Operations

Existing Traffic Operations

Traffic operations looks at how vehicles are moving across Brandon's streets and roadways and focuses on identifying locations of recurring congestion among other operational issues. This congestion, typically associated with peak travel hours, can cause delays that impact drivers in a number of ways. This section will discuss current conditions through a planning-level traffic operations analysis conducted as part of the MTP process.

The traffic operations analysis looked at the current average daily traffic (ADT) volumes for Brandon's roads that are functionally classified as a collector or higher and compared these to their design capacities. Daily traffic volumes were sourced from SDDOT while design capacities are based on the SDDOT ADT Threshold standards published in Chapter 15 of the agency's Road Design Manual and shown in **Table 13**.

The comparison of ADTs to design capacities results in a ratio, termed volume-to-capacity (V/C) ratio, that lends a high-level estimation of traffic operations during peak travel hours. Based on the V/C ratio, corridors are assigned a "level of service" (LOS) grade, with a LOS A denoting congestion-free conditions while a LOS F represents gridlock. **Figure 9** provides a definition of each LOS grade. The City of Brandon's goal is to have streets operate at LOS D or better.

Segment LOS for Brandon's functionally classified roadways are shown in **Figure 10** along with existing ADTs from SDDOT. Most corridors within Brandon are operating at an acceptable LOS of C or greater, and most roadways with ADTs at or below 6,000 vehicles per day are operating at an adequate LOS.

Table 13: South Dakota Department of Transportation Capacity Thresholds

Total Number of Lanes	Total Design Year ADT	
	Rural Level	Urban
2	< 8,000	< 6,000*
3	6,000 to 16,000	
4	8,000 to 20,000	
5	16,000 to 30,000	
6	> 20,000	> 30,000

Source: South Dakota Department of Transportation
*Modified from the SDDOT Road Design Manual level of 2,500

Figure 9: Level of Service Definitions

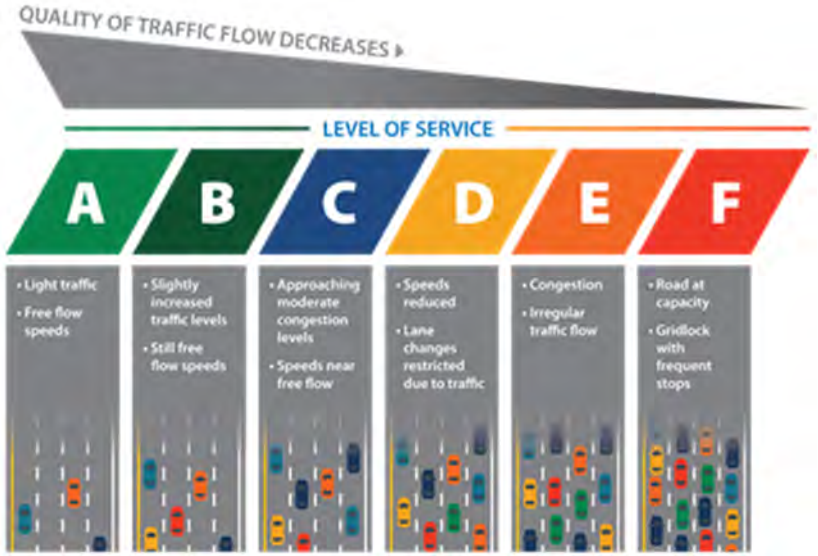
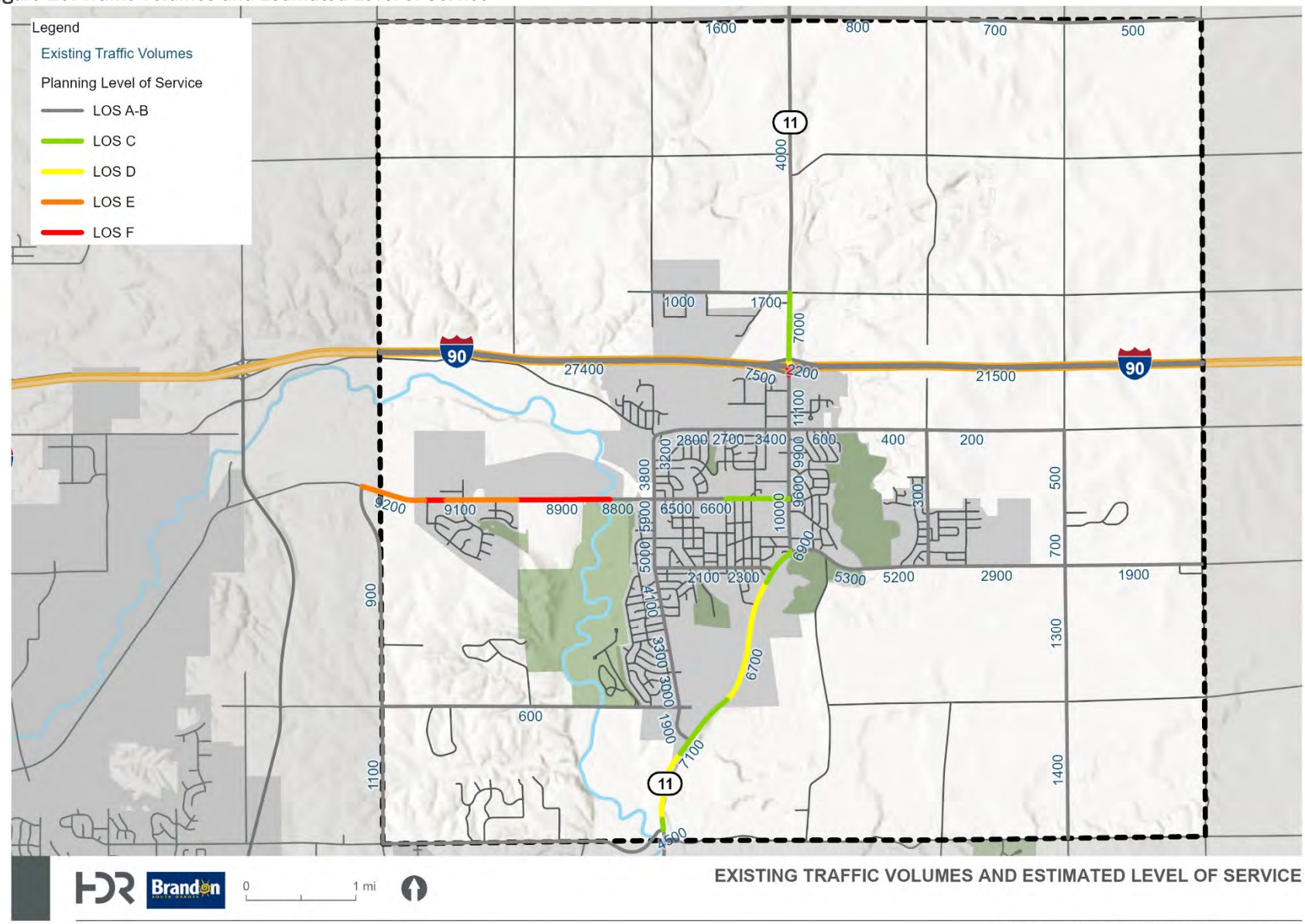


Figure 10: Traffic Volumes and Estimated Level of Service



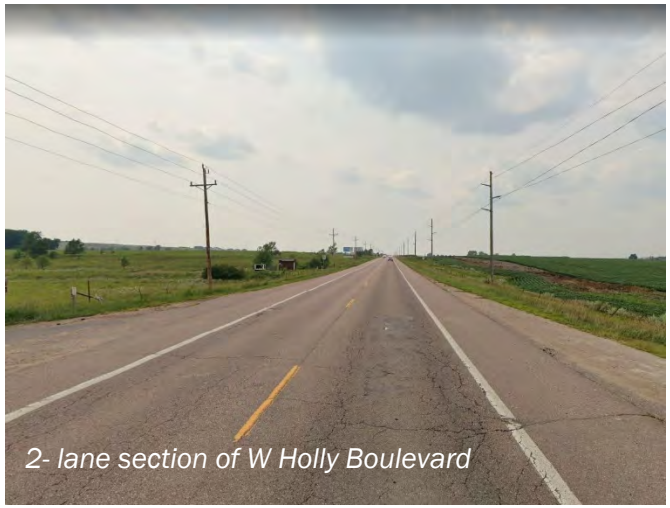
Several corridors are estimated to operate at LOS D or worse, which highlights potential locations of recurring peak hour congestion that could be impacting traffic operations along these routes. The corridors estimated to have poor levels of service are detailed in Table 14.

W Holly Boulevard was identified as the route with worst peak hour level of service, with some segments registering an LOS F. One issue that could be influencing poor peak hour travel conditions is the nature of the routes current design; much of the route that is estimated to perform at LOS F is two lanes which can limit traffic flow given the current daily volumes. Some segments of W Holly Boulevard have turn lanes at controlled intersections which provides additional capacity resulting in slightly improved LOS.

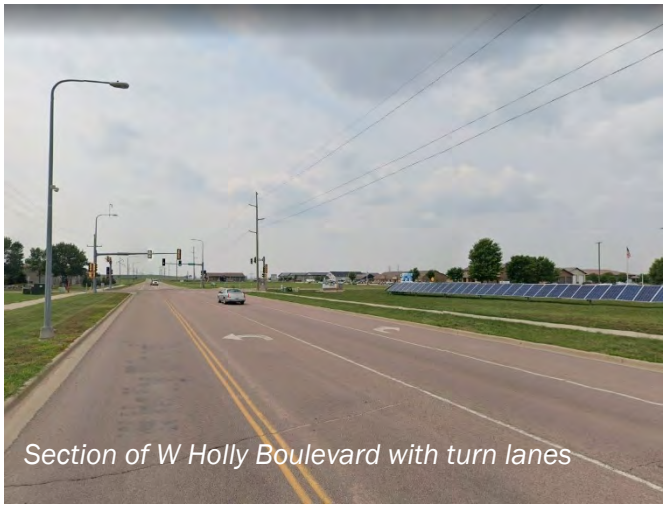
The corridors estimated to operate at or below LOS D are considered candidates for improvement, as these locations would likely experience further decline in LOS as future growth in the community increases demand for streets and roads, thereby exacerbating current congestion issues.

Table 14: Corridors with Poor Levels of Service

Corridor	LOS	Average Daily Volume
Splitrock Boulevard / SD11 from Aspen Boulevard to E Madison Street	C / D	6,700 - 7,100
Splitrock Boulevard / SD11 over I-90	C / F	7,000 - 11,100
W Holly Boulevard from Big Sioux River Bridge to Veterans Parkway	E / F	8,900 - 9,200



2- lane section of W Holly Boulevard



Section of W Holly Boulevard with turn lanes

Asset Condition

Pavement

Pavement condition data for NHS routes located within the Brandon MTP area was sourced from the Highway Performance Monitoring System (HPMS) dataset submitted by SDDOT to FHWA for the year 2020. HPMS data reports pavement conditions using the metric International Roughness Index (IRI), which is a common method for evaluating the quality of road pavement. Pavement condition for the local system is not available at this time.

IRI assess the smoothness of road segment's pavement, which in turn describes the ride quality for an individual driving along that segment. A road segment is assigned a value based on the existing pavement profile, with higher values indicating a rougher pavement surface and a lower quality ride experience for drivers. The IRI values are grouped into the following categories:

- **Good**: IRI is 95 or less
- **Fair**: IRI is between 96 and 170
- **Poor**: IRI is 171 or greater

Figure 11 illustrates current pavement conditions for the Brandon MTP area's NHS routes, which include I-90 and SD11. As seen in **Figure 11**, the majority of I-90 is rated as being in Good condition, with IRI values below 95; segments of I-90 near Exit 406 demonstrate some stretches of pavement in Fair condition.

Pavement conditions along SD11 are estimated to be in poorer condition relative to I-90. Several segments of SD11 are estimated to be in Poor condition based on the HPMS data while the remainder of the corridor is estimated to be in Fair condition.

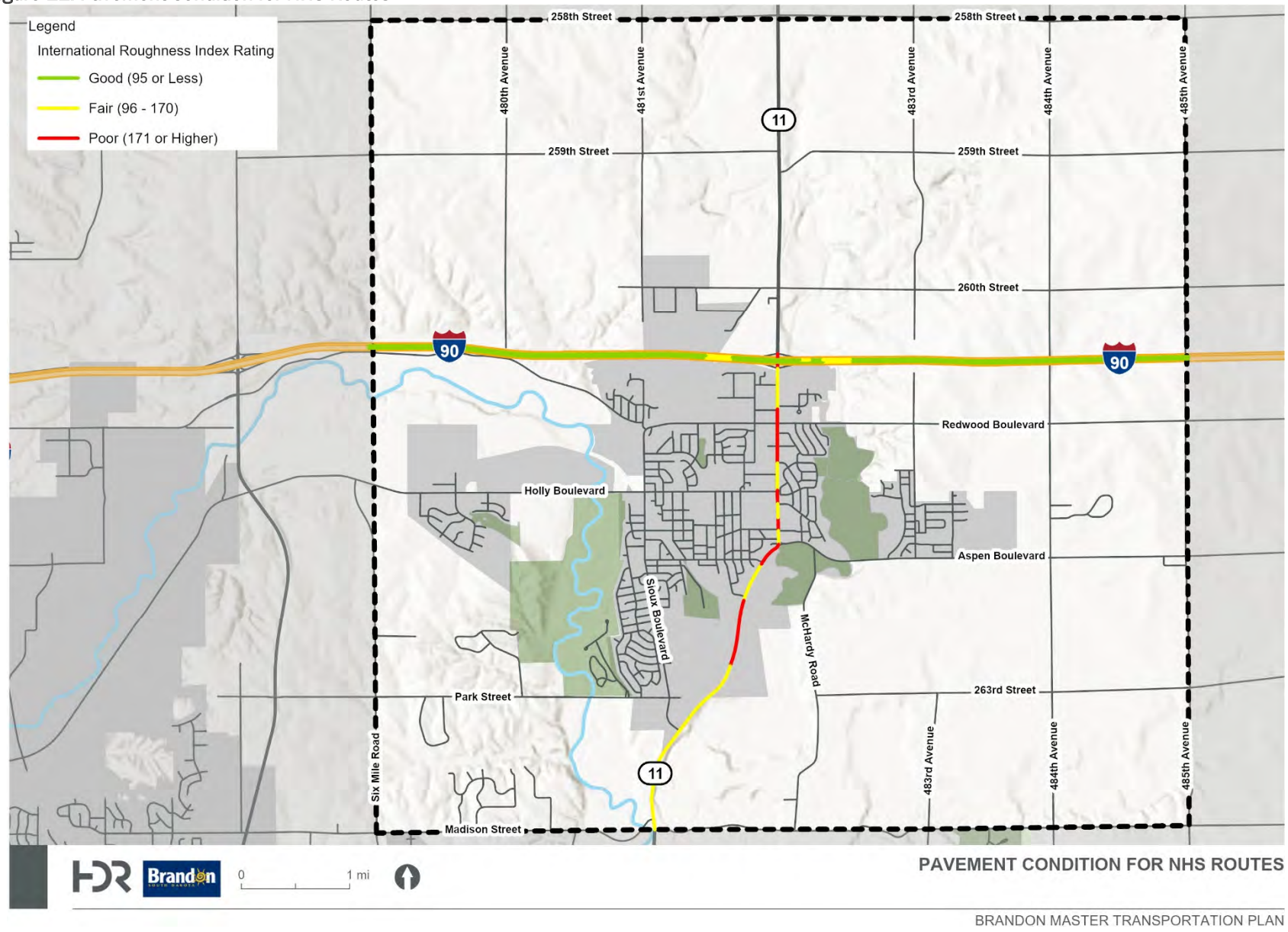
Table 15 summarizes overall IRI for the MTP area NHS routes.

Table 15: Summary of IRI Ratings for NHS Routes

IRI Rating	Percent of NHS Pavement Centerline Mileage
Good	70.7%
Fair	20.5%
Poor	8.8%

Source: Federal Highway Administration, Highway Performance Monitoring System

Figure 11: Pavement Condition for NHS Routes



Bridges

Bridges are vital transportation assets that support system connectivity in areas with topographical features that pose barriers, such as waterways and low-lying areas. Maintaining bridges that are in good condition can alleviate operational and financial burdens for the agencies responsible for them.

Bridge data sourced from SDDOT indicates the conditions of structures across the state as of the year 2022. A review of this data was conducted to assess the current conditions of bridges found within the MTP study area. Currently, there are 24 bridges found within the MTP study area and 5 are located on I-90, which is considered part of the NHS.

SDDOT assigns each bridge a condition rating of Good, Fair, or Poor as well as a sufficiency rating that evaluates each bridge's health based on criteria developed by FHWA and published in the Recording and Coding Guide for the Structure Inventory and Appraisal of the Nation's Bridges. The criteria look at the following when determining sufficiency rating:

- **Structural adequacy and safety**: the bridges structural components
- **Serviceability and functional obsolescence**: the bridge's functionality
- **Essentiality for public use**: the bridge's importance to the community
- **Special reductions**: any factor impacting detour length, bridge railings, and structure type

Sufficiency ratings range from a low of 0, indicating a bridge that is insufficient for use, to a high of 100 which indicates a bridge is in perfect condition. Bridges that are located on NHS routes and are therefore eligible for Federal funding are eligible for funding for replacement should they record a sufficiency rating below 50, while bridges with a sufficiency rating above 50 but below 80 are eligible for funding to rehabilitate the structure. A summary of sufficiency ratings for bridges within the MTP area is provided in **Table 16**.

Table 16: Brandon MTP Area Bridge Sufficiency Ratings

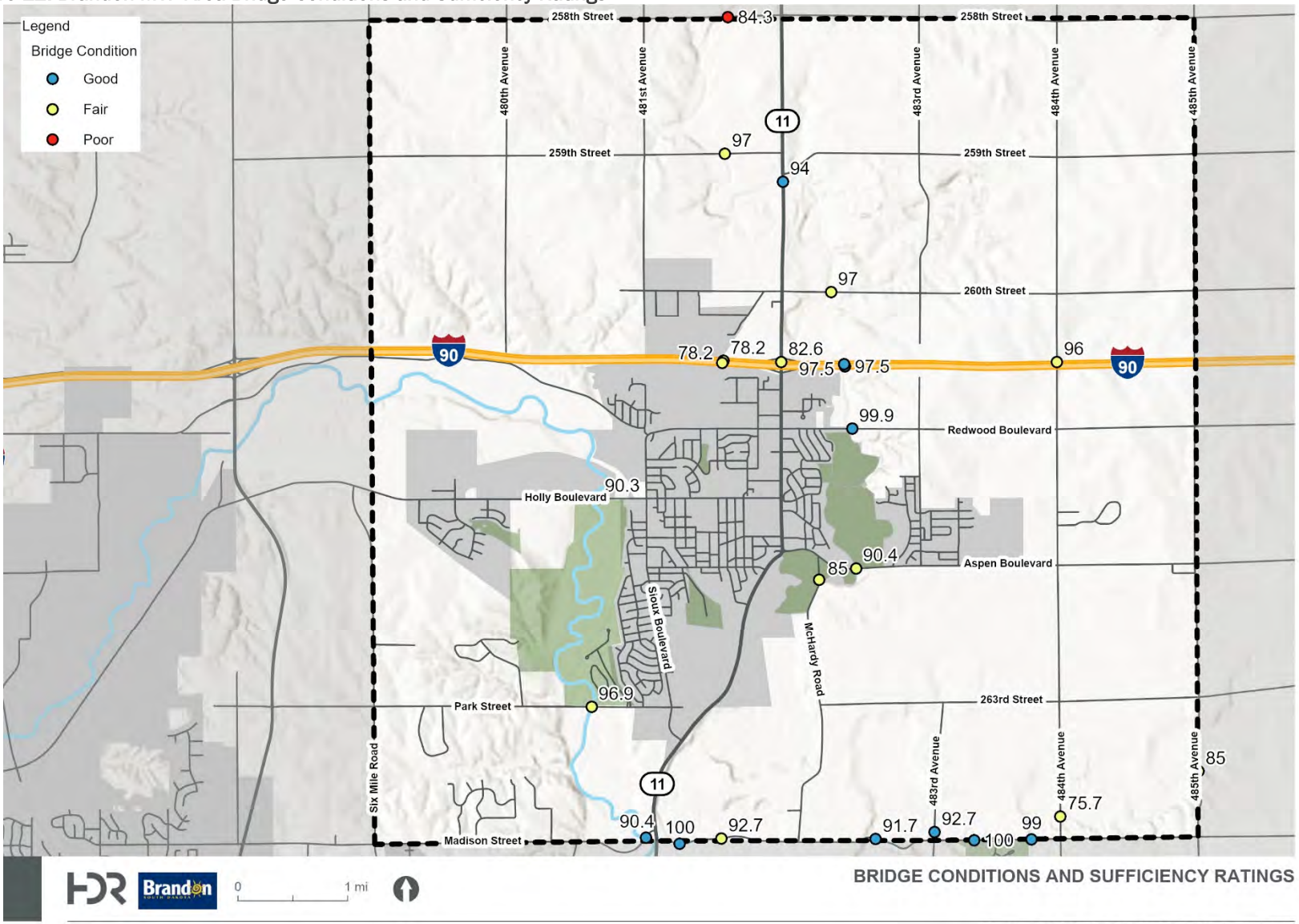
Sufficiency Rating	Number of MTP Area Bridges
90 - 100	17
80 - 89	4
70 - 79	3

Source: South Dakota Department of Transportation

Figure 12 shows the condition of MTP area bridges as well as each structure's sufficiency rating. As **Figure 12** demonstrates, all but one of the MTP area bridges are in Fair condition or better, and all have sufficiency ratings exceeding 75.

The bridge determined to be in Poor condition is located along the northern extent of the MTP area. The bridge is located on 258th Street and crosses Split Rock Creek; while the bridge is listed in Poor condition, its sufficiency rating is recorded as 84.3. The bridge with the lowest sufficiency rating is in the southeast corner of the MTP area on 484th Avenue. This structure crosses Beaver Creek and is in Fair condition.

Figure 12: Brandon MTP Area Bridge Conditions and Sufficiency Ratings



Source: South Dakota Department of Transportation

Multimodal System

Brandon's multimodal transportation system is a comprehensive network of modes that cater to various transportation needs of the community's residents and workers. The current multimodal system includes freight, bicycle and pedestrian, and transit modes, which are detailed in this section.

Freight System

The freight system plays a critical role in supporting the local economy by facilitating the movement of goods into, out of, and through the Brandon MTP area. Brandon's freight network not only provides residents with the goods they need but also provides them with employment opportunities; approximately 15 percent of the community's workforce is employed in manufacturing, transportation, warehousing, or utilities (**Table 6**), which are all directly related to the freight system. An even larger proportion of Brandon's workers are employed in industries that rely on freight services, such as retail.

Highway Freight

Highway freight plays a major role in the MTP area's freight system as trucks provide some of the highest levels of accessibility across all freight modes.

Two designated truck routes are found within the Brandon MTP area. These routes include:

- Splitrock Boulevard/SD11, from 258th Street to Madison Street
- Redwood Boulevard, from Splitrock Boulevard to Sioux Boulevard; Holly Boulevard from Sioux Boulevard west to City limits

Figure 13 shows these truck routes along with the areas within Brandon that are currently zoned for industrial use. As **Figure 13** illustrates, the designated truck routes provide access between the industrial zones, which are concentrated in the northwest part of the Brandon, and the road network.

Average annual daily truck traffic (AADTT) volumes for I-90 and Splitrock Boulevard/SD11 were obtained from SDDOT and are shown in **Figure 14**; the blue labels shown in the figure represent the percentages of daily volumes associated with heavy vehicles, including freight trucks.

I-90 carries the highest AADTT volumes within the MTP area, with volumes exceeding 1,000 trucks per day. For the portion of I-90 east of Exit 406, heavy vehicles account for over 20 percent of daily volumes while these vehicle types account for nearly 18 percent of daily volumes west of Exit 406. Average daily truck volumes on Splitrock Boulevard/SD11range from a high of 700 trucks per day just north of I-90 to a low of 300 trucks per day north of 260th Street and south of Sioux Boulevard. In terms of percentage of daily volumes, heavy vehicles account for 5 percent to 10 percent of total daily volumes in this corridor.

Additional data related to highway freight was sourced from FHWA's Freight Analysis Framework (FAF) program. This data estimates annual tonnage of goods shipped into, out of, and through the MTP area during 2017. **Figure 15** displays the annual tonnage flows, in kilotons, for I-90 and Splitrock Boulevard/SD11. I-90 was determined to carry the highest levels of annual tonnage in the MTP area, with an estimated 13,000 kilotons moved along this route in 2017. Splitrock Boulevard/SD11 was estimated to carry roughly 200 kilotons south of I-90 while just over 500 kilotons were estimated along SD11 north of I-90 during this same period.

Figure 13: Designated Truck Routes and Industrial Use Zones

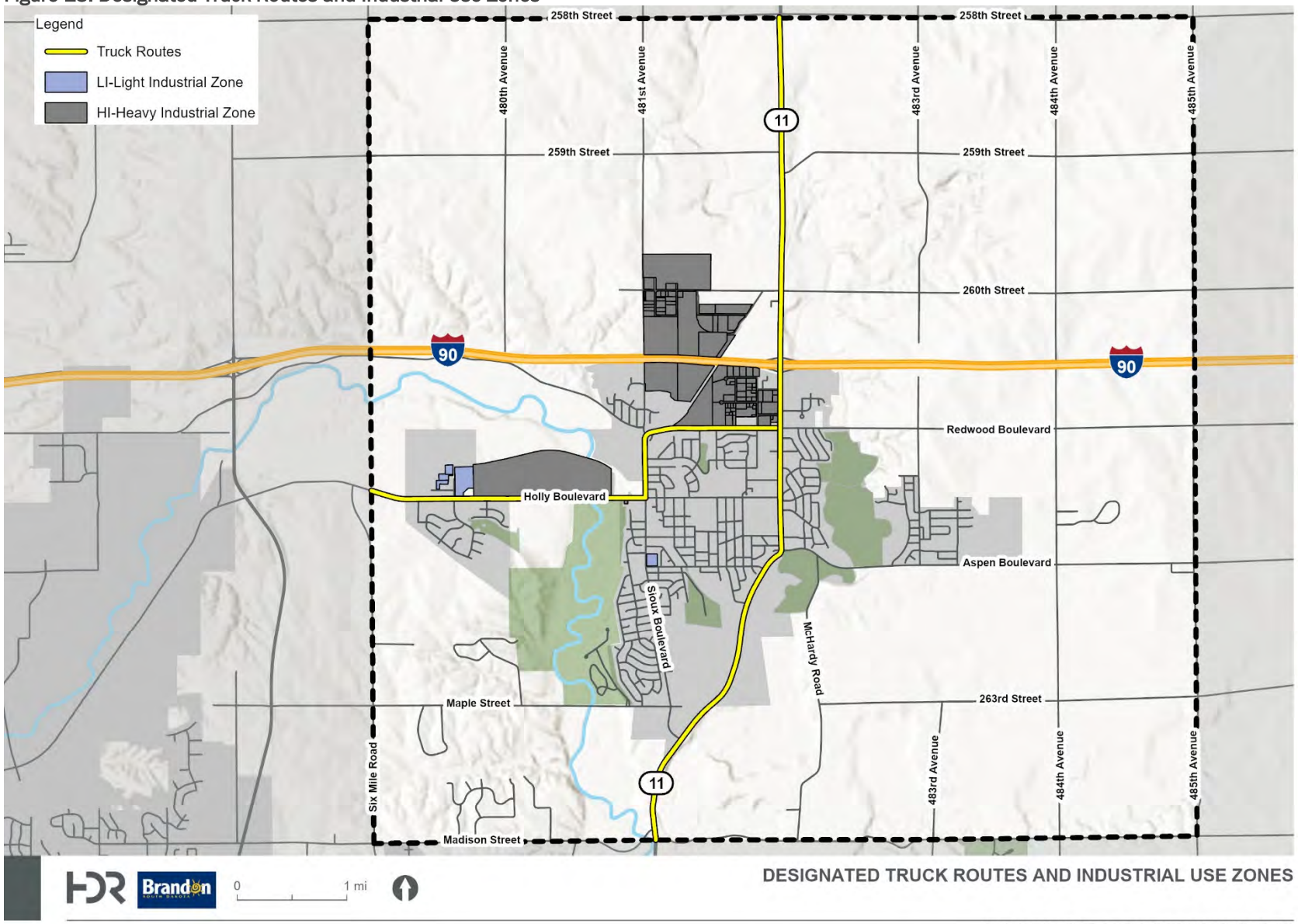


Figure 14: Average Daily Truck Traffic Volumes and Percentages of Daily Traffic from Trucks

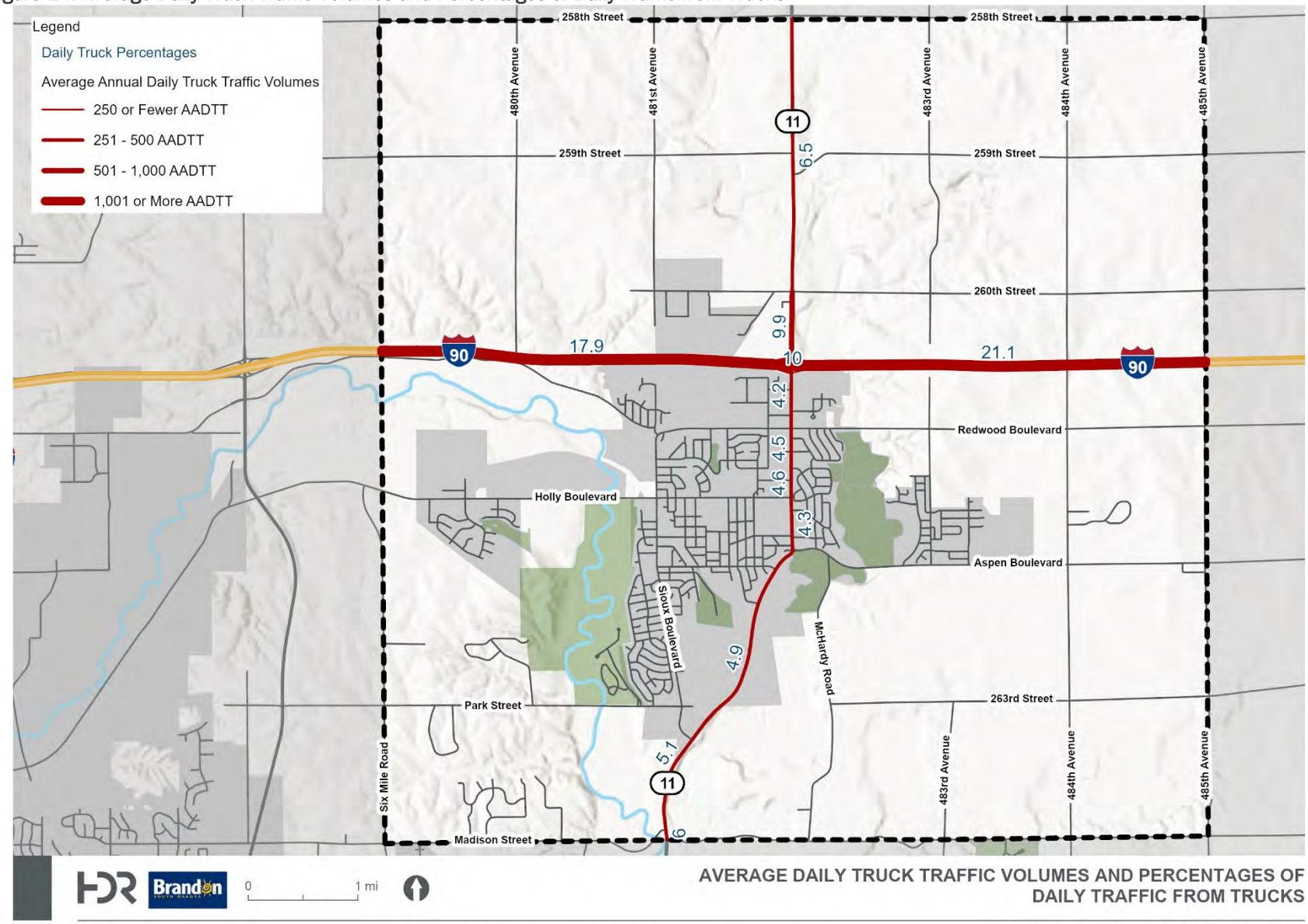
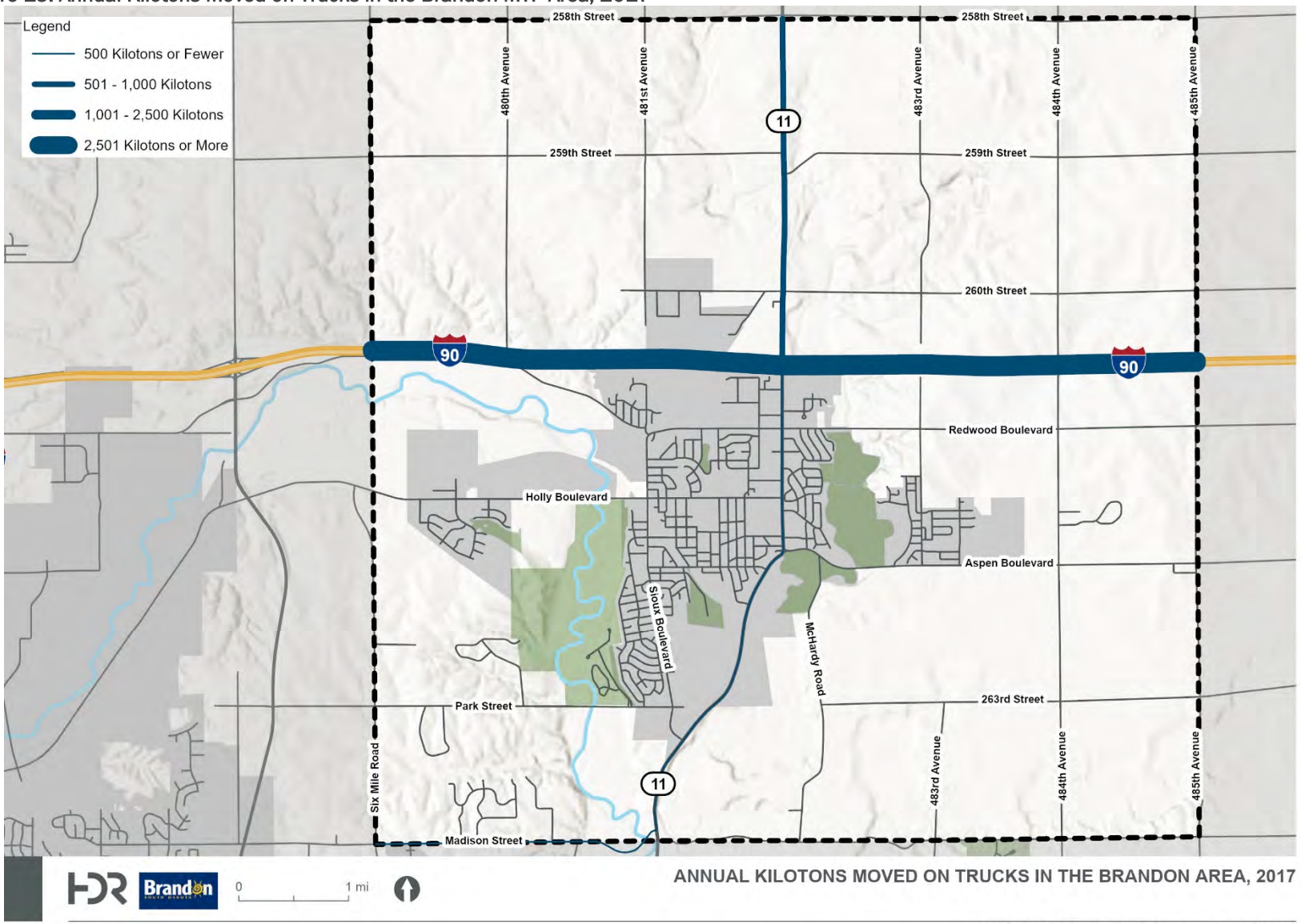


Figure 15: Annual Kilotons Moved on Trucks in the Brandon MTP Area, 2017



Source: Federal Highway Administration, Freight Analysis Framework 5.4.1

Rail Freight

Rail freight provides an economical solution to carry large quantities of goods long distances, which is a key benefit for freight within South Dakota owing to the importance of agriculture to the State's economy. While the Brandon MTP area is mostly urban in nature, the presence of two rail lines poses impacts to the functioning of the local transportation system.

Two main lines and a series of rail spurs are found in the MTP area. These lines are operated by BNSF, who operates a mainline running from the northern part of the MTP area westward towards Sioux Falls, and the rail spurs located north of I-90 near Corson. Ellis & Eastern's mainline runs east to west through the MTP boundary. These lines are shown in **Figure 16**.

Rail crossings are locations in which rail lines intersect with roadways. These locations can pose barriers to vehicular traffic when they occur at grade. Safety issues are also present at at-grade crossings due to potential train-vehicle conflicts. Separating train and vehicle traffic with overpasses and underpasses can alleviate these issues but are costly options that are not always feasible given topographical and right-of-way limitations.

Today, there are 17 public rail crossings in the Brandon MTP area and most of these crossings are at grade, as shown in **Figure 16**. Several railroad underpasses are found in the MTP area, with notable examples being the I-90 and Splitrock Boulevard/SD11 crossings. There is one rail overpass crossing in the MTP area, found along N Sioux Boulevard.

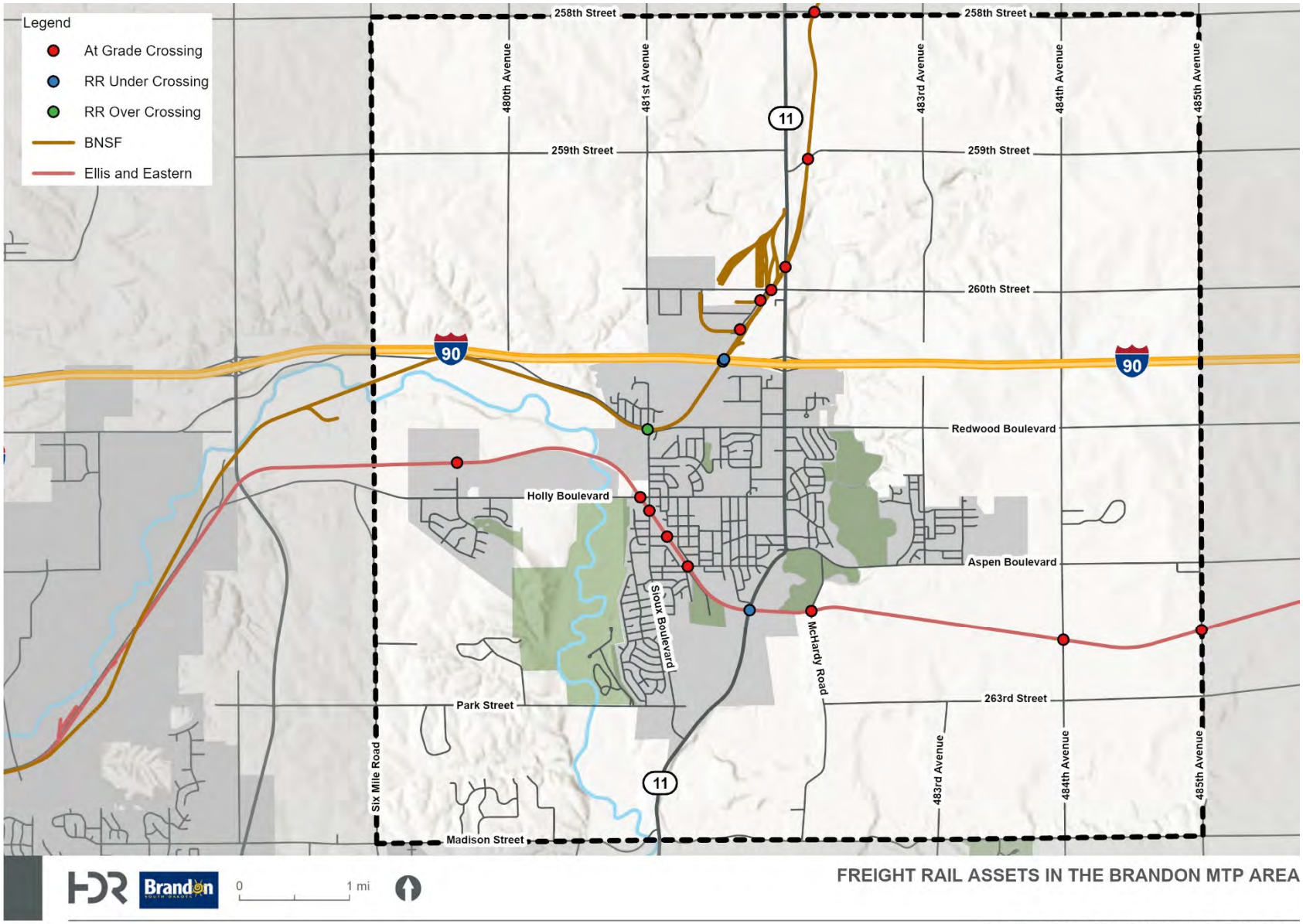
Air Freight

Air freight refers to freight goods moved via airplane. While no air freight facilities are currently found in the Brandon MTP area, Joe Foss Field in neighboring Sioux Falls is the leading facility for air freight activity as stated in SDDOT's 2017 State Freight Plan. The State Freight Plan indicates that over 42 million pounds of inbound and outbound goods were shipped from this facility in 2016. Joe Foss Field is approximately 10 miles west of Brandon's incorporated limits.

Pipelines

A review of USDOT's National Pipeline Mapping System (NPMS) was conducted to identify if any active pipelines are found within the Brandon MTP area. Based on the NPMS, there are no pipelines identified within the MTP area.

Figure 16: Freight Rail Assets in the Brandon MTP Area



Bicycle and Pedestrian System

A detailed discussion of Brandon's existing bicycle and pedestrian system is available in the **Active Transportation** chapter of this report.

Transit System

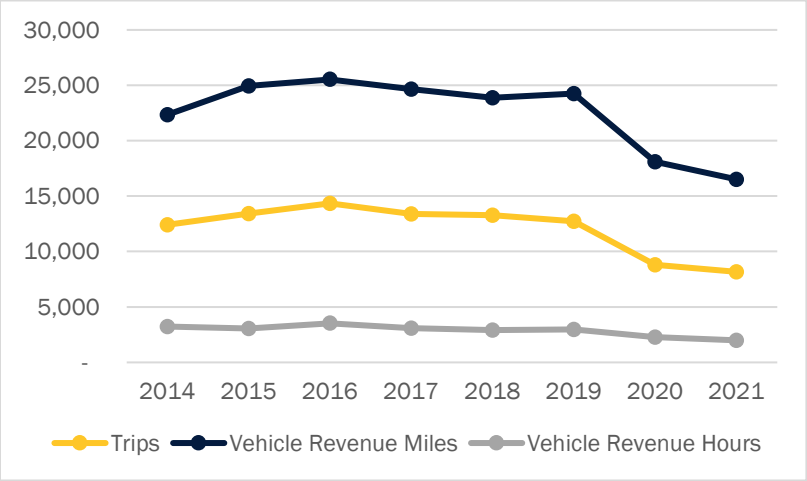
Brandon Transit, the public transit service operating within the Brandon MTP area, is managed by Rural Office of Community Services (ROCS). ROCS is a private non-profit community services organization serving southeastern South Dakota.[1]

Brandon Transit is a demand-response service wherein users schedule rides by calling the Brandon Transit Dispatch at least 24 hours in advance of their trip. Brandon Transit hours are from 8 AM through 3:30 PM Monday through Friday, and no service is operated on weekends. Each one-way trip is $2 per ride for users below 60 years of age; users aged 60 years are not charged fare but are suggested to donate. The service area of Brandon Transit is the city's limits, and users can schedule a ride to any location within the city.

Ridership and operations data for Brandon Transit are published annually by the Federal Transit Administration's National Transit Database (NTD). NTD data for the years 2014 through 2022 were reviewed to understand transit usage in the MTP area.

Data on annual trips, vehicle revenue miles, and vehicle revenue hours is shown in **Figure 17**. Annual ridership for Brandon Transit saw a slight increase from 2014 through 2017 before experiencing decline the following two years. Ridership in the year 2020 saw the largest drop due to the COVID-19 public health pandemic. The year 2021 saw an annual ridership level similar to the year 2020.

Figure 17: Annual Ridership, Vehicle Revenue Miles, and Vehicle Revenue Hours for Brandon Transit, 2014-2022



Source: Federal Transit Administration

Vehicle revenue miles refers to the total mileage that the transit vehicles travel while in carrying passengers and vehicle revenue hours refers to the total number of hours transit vehicles spend traveling while carrying passengers. Both of these metrics are functions of the number of annual passengers which is reflected in how these measures track with annual ridership, as shown in **Figure 17**.

The transit system currently runs two buses, and demand has been relatively high for the two buses. When interviewed in July 2023, ROCS indicated that a third vehicle may be needed in the near future due to demand.

[1] Rural Office of Community Services, *About.*

Issues Summary

The modal needs highlighted in this chapter provide insight into the current issues facing the transportation system within the Brandon MTP area. These issues include:

Traffic Operations	Peak hour congestion is present along W Holly Boulevard and Splitrock Boulevard/SD11. Future traffic forecasts anticipate worsening peak hour congestion as the Brandon community continues to grow and develop.
Safety	Current crash hot spots are found along the MTP area's higher volume roadways, including Splitrock Boulevard/SD11, W Holly Boulevard, and S Sioux Boulevard.
Freight	The presence of industrial land uses within Brandon highlights opportunities to strengthen connections to these areas in the future, thereby improving freight mobility in the MTP area.

Active Transportation

Active transportation benefits communities by allowing individuals to improve their physical and mental health; connect to each other, to outdoors, and to popular destinations; and move about the community safely and efficiently regardless of mode choice. Active transportation refers to people walking, biking, using a mobility aid device, scootering, skating, rollerblading, and lightweight electric-assist devices such as e-bikes and e-scooters. Many of these activities are also popular for recreation and can be used by people of all ages and abilities. As such, facilities that support active transportation should be safe and comfortable while connecting users with important destinations such as schools, downtown, parks and recreation, and other places people live and visit regularly. To create an active transportation network, Brandon should integrate the Active Transportation Principles, the U.S. DOT's Safe System Approach, and a local Complete Street Policy into the City's growth, development, and design decisions.

Active Transportation Principles

Incorporating active transportation principles into the network planning and design process is fundamental to making the built environment more accommodating for biking, walking, and rolling. The principles include comfort, coherence, directness, attractiveness, and most importantly, safety. Each principle may vary in significance depending upon the person or type of trip. For instance, directness may be prioritized for grocery store commutes, and attractiveness and comfort may be better suited for recreational bike rides. Regardless of the scenario, safety remains paramount, especially when designing routes for vulnerable users, such as children traveling to parks and schools. **Figure 18** describes the Active Transportation Principles.

Figure 18: Active Transportation Principles

Safe System Approach

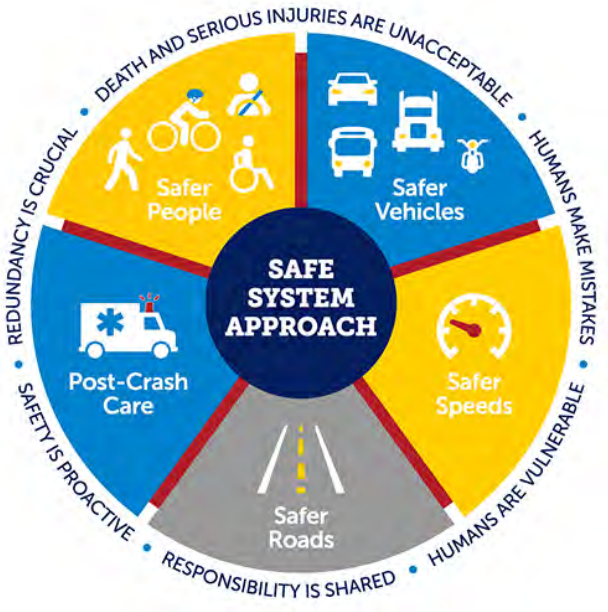
The Safe System Approach, the guiding paradigm of traffic safety from the U.S. Department of Transportation, reinforces safety as the most important principle. The Safe System Approach focuses on eliminating crashes that lead to death or serious injury and addresses all transportation system users, including people walking, biking, and rolling. Principles and objectives of the Safe System Approach, shown in **Figure 19**, lead to street design that:

1. Acknowledges human physical limits for tolerating crashes by improving protection and reducing crash severity
2. Manages vehicle speeds through context-sensitive design
3. Separates different modes of travel in time and space

While the Safe System Approach provides the principles and objectives to achieve zero deaths and serious injuries, design guides are needed to implement those concepts. Several FHWA guidance documents provide tested countermeasures and strategies to reduce traffic crashes and address Vulnerable Road Users (VRUs). A VRU is any individual who is at higher risk while using the road, primarily due to their exposure to traffic. VRUs include people walking, biking, and using other forms of active transportation. Design guides incorporate best practices for bicycle and pedestrian facility design, which is critical to the safer people and safer roads objectives. An additional consideration for the design of pedestrian accommodations is that these facilities must comply with the Americans with Disabilities Act (ADA), which affects design details such as running slope, cross slope, facility width, and crossing improvements. The following national state-of-the-practice guidance documents were used to inform recommendations and should be consulted during design processes:

- FHWA Guide for Improving Pedestrian Safety at Uncontrolled Crossing Locations
- FHWA Manual on Uniform Traffic Control Devices (MUTCD)
- NACTO Designing for All Ages and Abilities
- FHWA Small Town and Rural Multimodal Networks
- AASHTO Guide for the Development of Bicycle Facilities

Figure 19: Safe System Approach Principles (Outer Ring) and Objectives (Inner Ring)



Source: U.S. DOT

Complete Streets

Taking a Complete Streets approach to the planning, design, and operation of streets creates transportation networks which all motorists, pedestrians, and bicyclists can safely use, regardless of age or ability. A complete street may include sidewalks, bike facilities, crosswalks, bus stops, and more. The context of road users, the adjacent land uses, and street function will result in varying facilities. Well-designed complete streets will follow the active transportation principles and Safe System Approach described above. The National Complete Street Coalition, a program of Smart Growth America, recommends adopting a local Complete Streets Policy to prioritize the needs of vulnerable users and implement complete streets in an equitable manner. MTP recommendations related to Complete Streets are available in the **MTP Recommendations** chapter of this report.

Existing Active Transportation Network

The bicycle and pedestrian system found within the MTP area consists of shared use paths, natural surface trails, and sidewalks, which form a strong backbone for building out a connected network in the future. **Figure 20** shows the existing active transportation network.

Shared Use Paths

Shared use paths within the MTP area are separated bicycle and pedestrian facilities found predominately in the City's parks and recreation areas. These facilities are 10 feet wide and provide users safe routes that minimize potential conflict with vehicle traffic. Existing shared use paths are shown in **Figure 20**. With close proximity to major park and recreation destinations, Brandon's shared use paths provide ample bicycle and pedestrian access to recreational opportunities.

Natural Surface Trails

Two natural surface trails exist within the Big Sioux State Recreation Area. These trails use surfaces such as grass, dirt, or gravel to provide an inexpensive alternative to paved trails and are often used for hiking trails in natural areas as they are inexpensive to construct and have moderate maintenance requirements.

Sidewalks

Sidewalks within the MTP area are critical facilities that support pedestrian mobility. Sidewalks can be found throughout the MTP area and provide substantial coverage, however a network gap exists in central Brandon which could restrict pedestrian mobility and impact safe travel in this location. While gaps do exist in the sidewalk network, Brandon is actively working to fill these gaps by working with property owners to install sidewalks. Existing sidewalks range from 3.5 feet to 8 feet in width. **Figure 12** shows the existing sidewalk network.

Pedestrian Crossings

Pedestrian crossing features enable safe mobility for users, especially at intersections with high traffic volumes. Within Brandon, pedestrian crossing features can be found at 10 signalized intersections per data obtained from SDDOT and Brandon City staff. The intersections and associated pedestrian crossing features are summarized in **Table 17**. **Figure 20** shows these crossing locations within the MTP area.

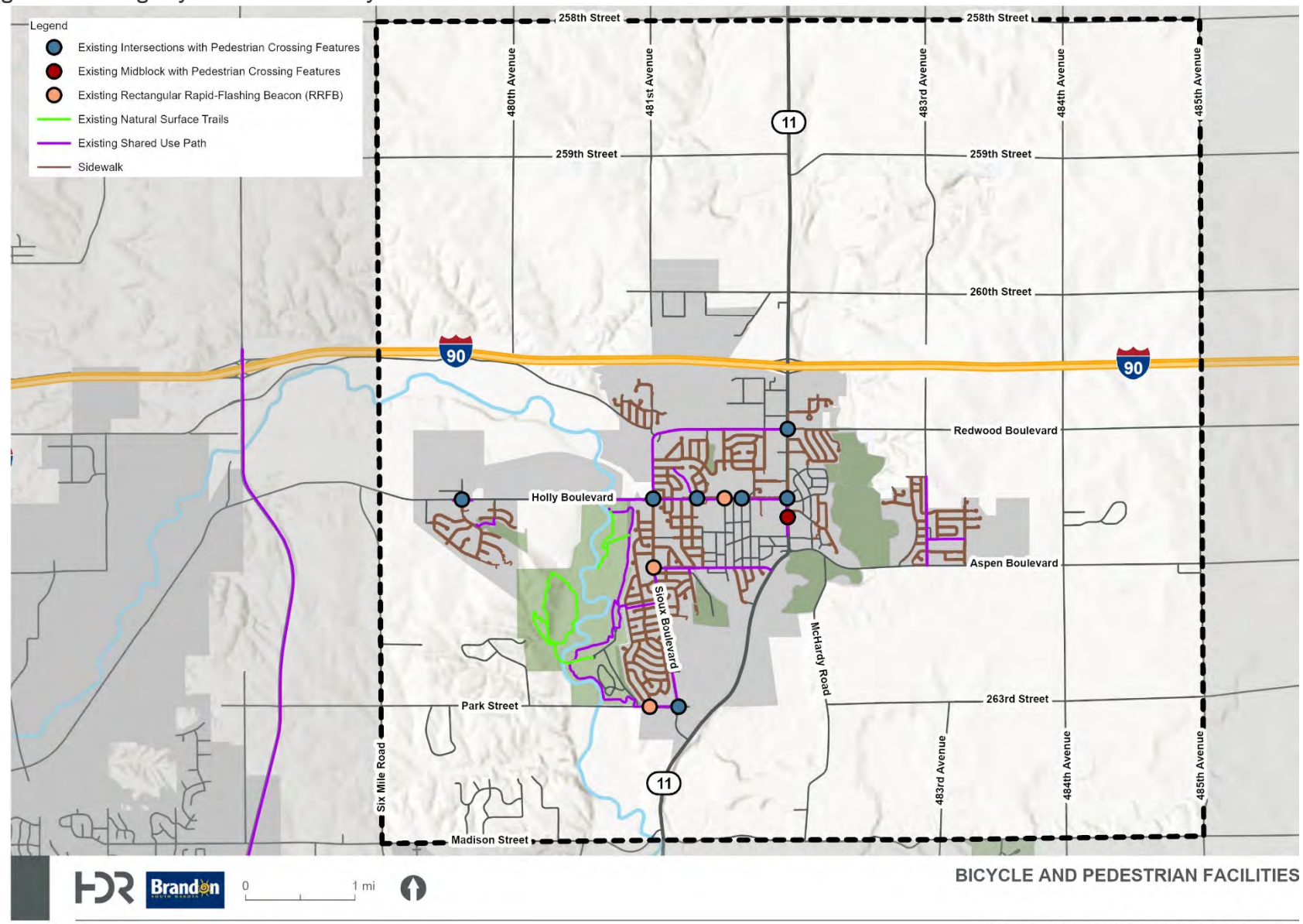
Table 17: Locations with Pedestrian Crossing Features

Location	Pedestrian Crossing Feature
Holly Boulevard & 6th Avenue	Marked crosswalk, pedestrian signal head
Sioux Boulevard & Park Street	Marked crosswalk, pedestrian signal head
Holly Boulevard & Heritage Road	Marked crosswalk, pedestrian signal head
Holly Boulevard & Sioux Boulevard	Marked crosswalk, pedestrian signal head
Holly Boulevard & Pasque Flower Trail	Marked crosswalk, pedestrian actuated signal
Splitrock Boulevard/SD11 & Redwood Boulevard	Marked crosswalk, pedestrian actuated signal
Holly Boulevard & Splitrock Boulevard/SD11	Marked crosswalk, pedestrian actuated signal
Splitrock Boulevard/SD11 south of Rushmore Drive (mid-block)	Marked crosswalk, pedestrian actuated signal
Holly Boulevard & 4th Street	Rectangular Rapid-Flashing Beacon (RRFB)
Locust Avenue & Park Street	Rectangular Rapid-Flashing Beacon (RRFB)
Sioux Boulevard & Aspen Boulevard	Rectangular Rapid-Flashing Beacon (RRFB)

Source: South Dakota Department of Transportation

Shared use path access in Brandon

Figure 20: Existing Bicycle and Pedestrian System



City of Brandon Bicycle and Pedestrian Plan

The City of Brandon completed a Bicycle and Pedestrian plan in 2022 with the intent of developing a visionary plan to guide the future of the community's walking and biking network. The Plan details the existing bicycle and pedestrian assets found within the community and develops a series of goals and objectives aimed at improving the active transportation network.

The goal areas of the Bicycle and Pedestrian Plan seek to guide Brandon towards a future active transportation network that is safe, efficient, and connected while ensuring equitable access across the community. The goals developed as part of the Bicycle and Pedestrian Plan process are shown in **Figure 21**.

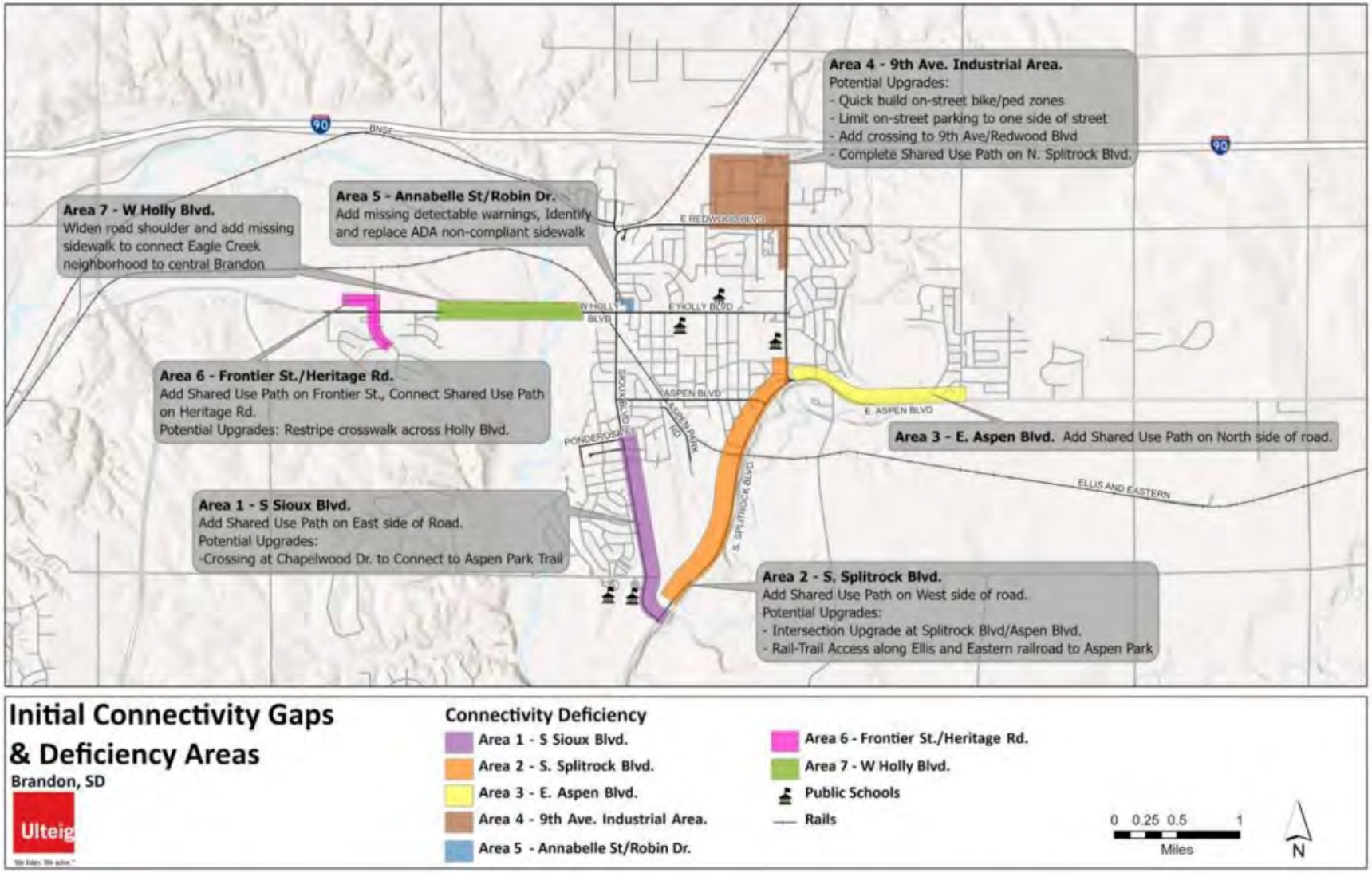
A key element of the Bicycle and Pedestrian Plan was the identification of existing connectivity gap and deficiency areas, which then inform the Plan's recommended strategies. These areas are considered priority locations for enhancing the existing bicycle and pedestrian network and are shown in **Figure 22**.

Major outcomes of the Plan include a concept for a future regional trail network and a schedule of implementation for the improvements necessary to realize the future network. A series of policy strategies and recommendations were also published as part of the Plan.

This MTP aims to align with related planning efforts for the Brandon community. As such, the development of alternatives and strategies for the MTP area's future transportation system will incorporate the findings of the Bicycle and Pedestrian Plan.

Figure 21: City of Brandon's Bike and Pedestrian Plan Goals

Figure 22: Connectivity Gaps and Deficiency Areas Identified in the Brandon Bike and Ped Plan



Source: City of Brandon

Active Transportation Strategies

A series of potential active transportation strategies available to Brandon were identified as part of this MTP. Based on the review of active transportation strategies, bicycle and pedestrian network recommendations were identified and presented in the **MTP Recommendations** chapter of this report.

Natural Surface Trails

Brandon aims to create a network of paved and natural surface trails to "increase public health, active transportation, and economic development."[2] Natural surface trails can be utilized in areas with a stable trail bed and excellent drainage conditions (such as a rail-trail).[3] Natural surfaces may be hard-packed dirt, mowed paths, mulch, or hard-packed crushed limestone. The concern for erosion and ongoing maintenance and the amount and type of traffic the trail will attract should be considered, and if erosion is problematic or heavy trail use is expected, asphalt or concrete may be a better option. Natural surface trails are recommended along river greenways and former railroad rights-of-way. **Figure 23** provides an example natural surface trail, found in the Big Sioux State Recreation Area.

Figure 23: Natural Surface Trail at Big Sioux Recreation Area

Benefits of Natural Surface Trails		
Provides an active recreational opportunity to connect with nature	May serve as an active transportation link	Creates a safe corridor completely seprated from motorized traffic

[2] Brandon Bike and Pedestrian Plan

[3] Federal Highway Administration (n.d.). SWLess10 – Effective Countermeasures: Design and Operations. Retrieved July 13, 2023, from https://safety.fhwa.dot.gov/ped_bike/univcourse/swless10.cfm

Shared Use Paths

Shared use paths are paved, off-road routes that are designed for bi-directional travel for all non-motorized users. The minimum recommended width is 10 feet,[4] although 8 feet may be acceptable in constrained circumstances. Most riders are comfortable using shared use paths and they are considered suitable for people of all ages and abilities. Paved shared use paths can serve as both destinations and connectors, enabling people to walk or bike to their desired locations safely and conveniently. Shared use paths are recommended on all future collector and arterial streets.

Benefits of Shared Use Paths	
Improves sense of comfort and safety for all ages and abilities due to separation from vehicular traffic	Allows non-motorized users to share space, potentially reducing right-of-way needs

Shared Lane Markings

Shared lane markings are a painted bike symbol and chevron located in the vehicular path on a street to indicate a shared environment between people driving and biking. They should be accompanied by Manual on Uniform Traffic Control Devices (MUTCD) signage indicating that "Bikes May Use Full Lane." Shared lane markings are appropriate on low-volume and low-speed streets where a bike lane is not feasible. Shared lane markings are recommended along local streets that are identified as planned or existing walking routes as shown on the Safe School Routes maps in the Bike and Pedestrian Plan. **Figure 24** demonstrates an example shared lane marking.

Figure 24: Example Shared Lane Marking

Source: National Association of City Transportation Officials

Bike Lanes

Standard bike lanes consist of a minimum 5-feet-wide lane for one-way travel with a painted bike symbol adjacent to the motorized travel lane and are accompanied by MUTCD Bike Lane signage.

Proposed bike lanes may be considered for upgrading to "buffered" bike lanes or "separated" bike lanes. Buffered bike lanes add a 2- to 3-feet wide painted buffer between the travel lane and the bike lane. This increases separation from motorized traffic and improves level of comfort for people biking. For Brandon, a buffered bike lane would include a 5- to 6-feet-wide bike lane, along with a 2- to 3-feet wide painted buffer.

Separated bike lanes (also known as protected bike lanes) add a vertical element such as a curb, bollards, or planters to the buffer area. Parked cars can also serve as the vertical element. This is

[4] The standard for future shared use paths is 10 feet, although existing shared use paths are 8 feet.

most important for higher speed and higher volume roadways. **Figure 25** shows an example of buffered bike lanes.

Figure 25: Example Buffered Bike Lanes

Source: City of Corvallis

Benefits of Bike Lanes		
Provides dedicated space for bicyclists	Improve sense of comfort and safety for all ages and abilities through buffers or vertical separation	Reduces conflict between bicyclists and pedestrians

South Dakota Law 32-26-26.1 – Overtaking Bicycles

State law states that motorists overtaking a bicycle traveling in the same direction shall allow a minimum of ***three-foot separation*** *between right side of driver's vehicle and left side of bicycle, and* ***six-foot separation*** *if posted speed limit is greater than thirty-five miles per hour.*

Providing ***a dedicated space for bicyclists using bike lanes*** *can make compliance with this law easier.*

Advisory Bike Lanes

Advisory bike lanes (also known as dashed bike lanes, advisory shoulders, or edge lane roads) are an emerging bicycle facility type in the United States and FHWA is evaluating their potential for inclusion in the MUTCD.[5] Advisory bike lanes used a dashed bike lane line and bike lane symbols to identify a preferred space for biking on a roadway that would be too narrow to accommodate a standard bike lane. Along corridors where no sidewalks are provided, the advisory bike lane may also be used by people walking if it is also designed for compliance with the ADA. The preferred width of an advisory bike lane is 6 feet, with a 10 to 18 feet two-way travel lane for motorists. **Figure 26** provides an example of advisory bike lanes.

Some communities that have deployed advisory bike lanes find them to be appropriate on streets with low volumes (3,000 ADT or less preferred with potential up to 6,000 ADT) and speeds (25 mph or less preferred with potential up to 35 mph) with two-way traffic and good sight distances with no need for a solid center line.[6] Motorists typically travel in the center of the road but may encroach into the advisory bike lane to allow room to pass an oncoming vehicle after yielding to any bicyclists or pedestrians that may be using the advisory lane. Additional information regarding advisory bike lanes can be found at Edge Lane Roads.

Advisory bike lanes may be considered on future local and industrial streets *but are not currently recommended until they are approved in the MUTCD*.

Figure 26: Example of Advisory Bike Lanes

Source: Small Town and Rural Multimodal Networks

Benefits of Advisory Bike Lanes			
Identifies priority space for bicyclists	Allows motorists to easily pass bicyclists	Allows on-street parking to remain in place	May accomodate pedestrians with ADA upgrades

[5] Federal Highway Administration, Retrieved September 13, 2023 from Frequently Asked Questions - Part 9 Traffic Control for Bicycle Facilities - FHWA MUTCD (dot.gov)

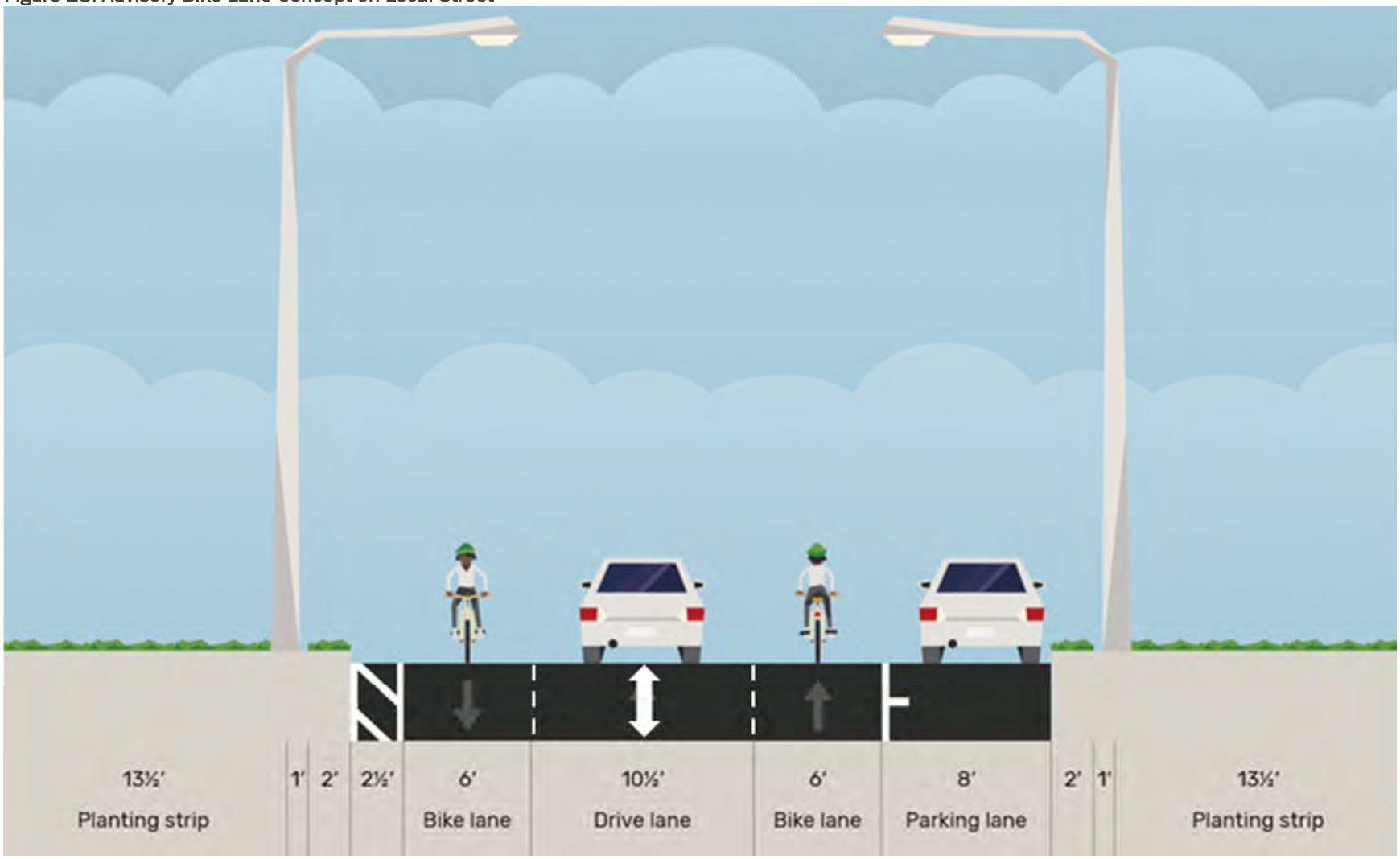
[6] Federal Highway Administration, (2016) Small Town and Rural Multimodal Networks

Figure 27 provides a conceptual cross section of how advisory bike lanes might be applied to one of the industrial collectors. Since large trucks sometimes park along these streets, a wider parking lane (as indicated by the 2.5-foot curb and gutter plus the 8-foot parking lane) would better accommodate the width of large trucks.

Figure 28 provides a conceptual cross section of how advisory bike lanes might be applied to a low-volume local street in Brandon. In this example, on-street parking is removed or restricted on one side to make room for advisory bike lanes.

Figure 27: Advisory Bike Lane Concept on Industrial Collector

Figure 28: Advisory Bike Lane Concept on Local Street



Low Impact Design Concept

Two areas were identified in the Bicycle and Pedestrian Plan as in need of a quick treatment to accommodate both walking and biking:

- The industrial area south of I-90 (E Ash Street, E Birch Street, 7th Avenue N, and 9th Avenue N)
- The south loop of Sylvan Circle (Holly Blvd/N Splitrock Blvd to Custer Pkwy/Pioneer Park).

Neither of these areas have sidewalks, but there is observed demand for walking or biking the industrial area and for walking and biking to Pioneer Park and schools along Sylvan Circle. Both corridors have low traffic volumes, low traffic speeds, and both have on-street parking on both sides of the street that is not heavily used.

A combination of two treatments may be applied to these corridors to accommodate biking and walking. First, shared lane markings can be added in one (or both) direction(s) to indicate a preferred location for people biking on the street. Second, parking can be removed from one side of the street to create additional space for a buffered or separated bike lane. The concepts in **Figures 29** and **30** show a buffered bike lane and sharrow. The buffered bike lane could be upgraded to a separated bike lane by adding a vertical element to the buffer area. If this space is intended for use by pedestrians as well, it should be designed to be compliant with the ADA.

Sylvan Circle

Figure 29: Low Impact Design Concept for Sylvan Circle

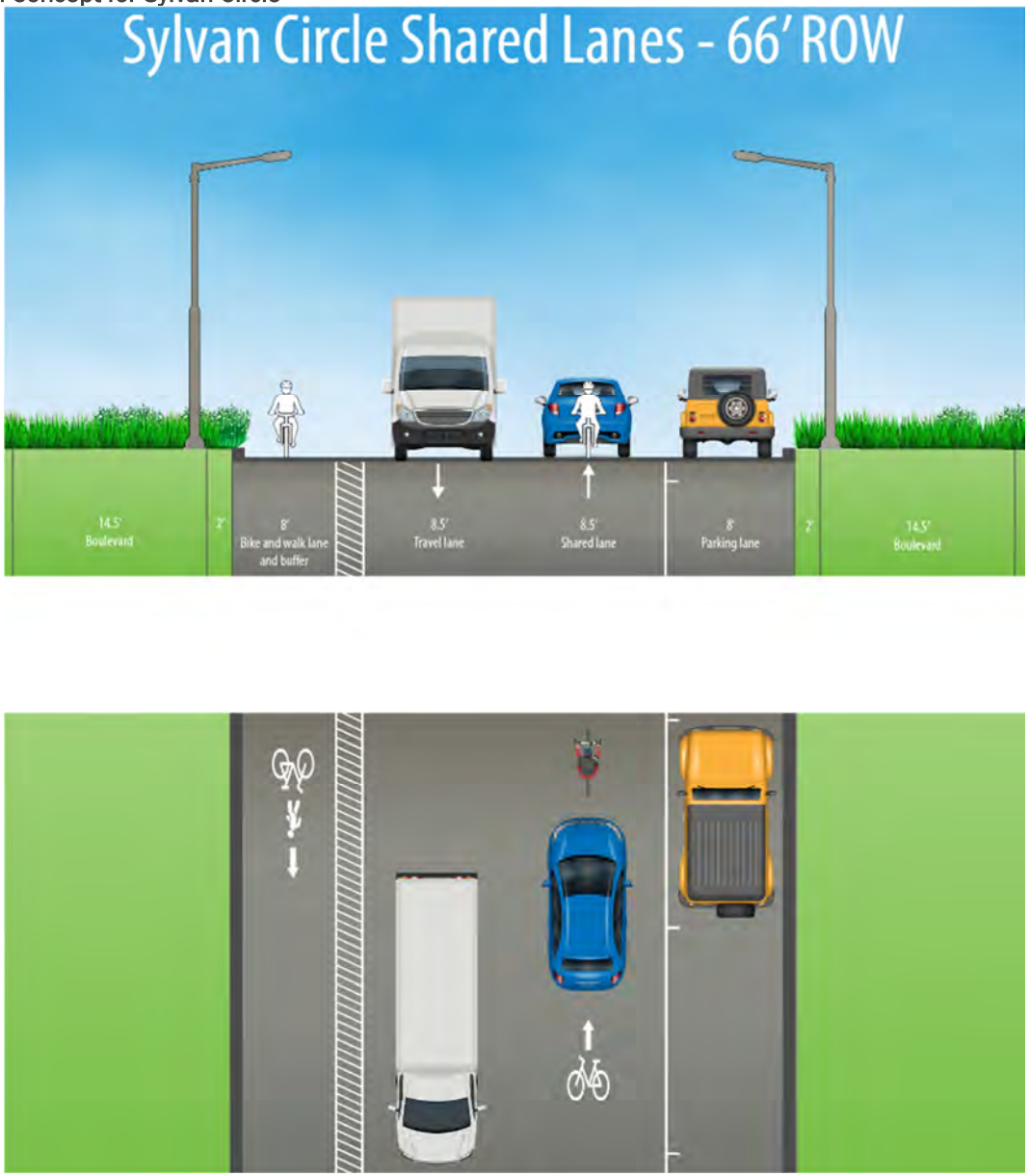
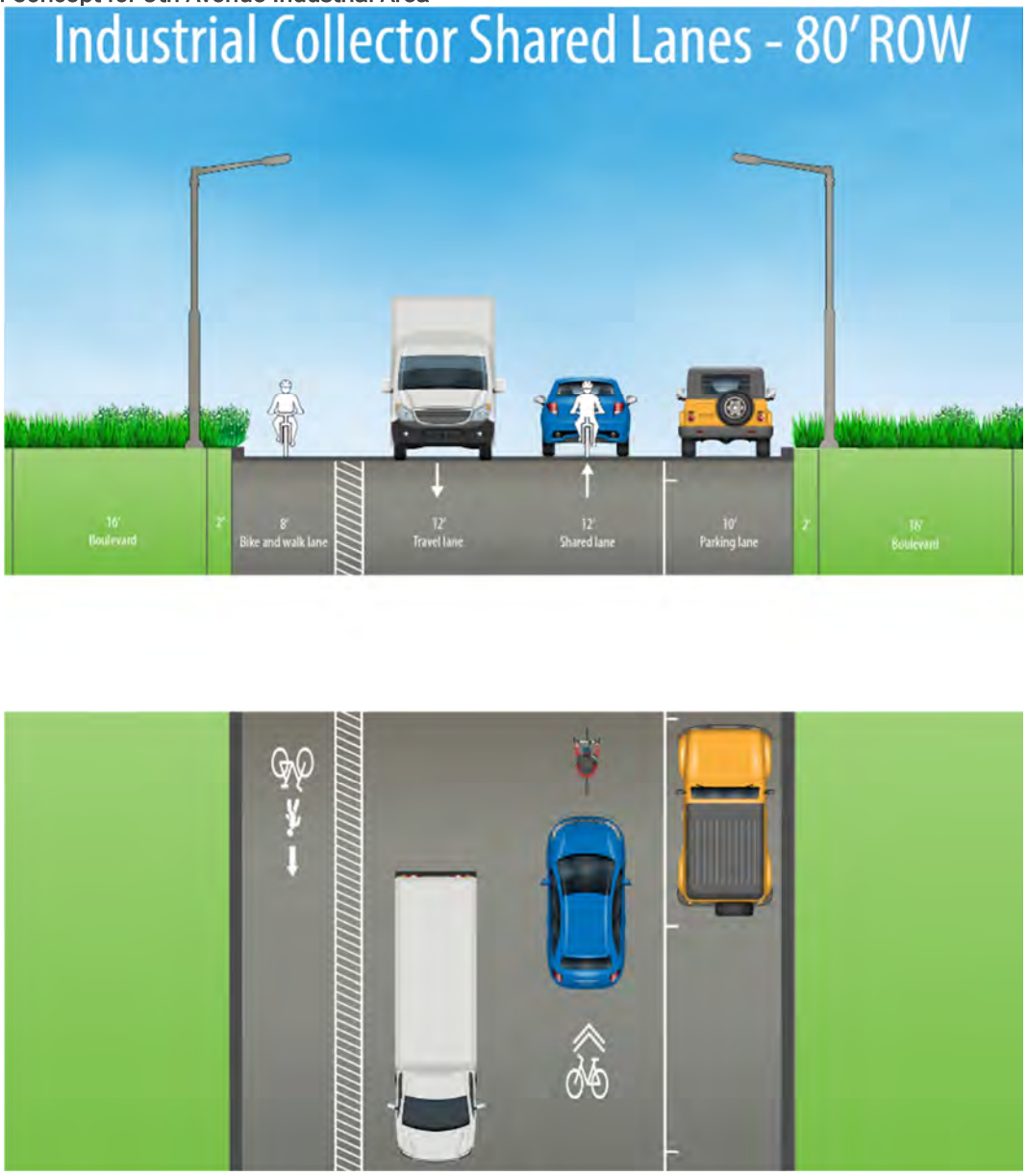


Figure 30: Low Impact Design Concept for 9th Avenue Industrial Area



Active Transportation Crossings

One of the Safe System Approach principles is that "Humans are Vulnerable," which recognizes the physical limitations that humans have for tolerating a crash. People biking, walking, and rolling are vulnerable users of the transportation system, meaning that they are more likely to be injured or killed in a collision with a vehicle than the occupants of that vehicle. Intersections and other street crossings present conflict points between different types of roadway users which can lead to crashes. To improve safety conditions, there are several intersection treatments that can be used which improve the visibility of people biking and walking to motorists through dedication of roadway space, signage, signals, or facility design.

Controlled Crossings

Controlled crossings are most often found at the intersections of two streets. Controls may include traffic signals or STOP signs for one or more approaches of the intersection. In areas where these intersections include shared use paths or sidewalks, the crossing should also include:

- Painted stop bar: indicates to the motorist where to stop
- Continental style marked crosswalk at school and shared use path crossings: indicates to motorist that pedestrians may be crossing and indicates to pedestrian where to cross.
- Detectable warnings (truncated domes) and ramps provides ADA compliance
- Pedestrian countdown timers at traffic signals: indicates time remaining to cross, which reassures pedestrians on ability to cross before the signal changes
- Turning Vehicles Yield to Pedestrians (or Bicycle/Pedestrians) sign (MUTCD R10-15): indicates to motorist to yield to people using the trail at a signalized crossing where vehicles are allowed to make a right turn on red.
- Pedestrian refuge islands: provides protected area in the middle of the street for people crossing, which is particularly useful when crossing multi-lane streets.

Figure 31: Continental Crosswalk with Curb Ramps

Figure 32: Example Pedestrian Countdown Timer

Figure 33: Example Continental Style Crosswalk

Source: Federal Highway Administration

Uncontrolled or Midblock Crossings

Uncontrolled crossings are locations where designated sidewalks or shared use paths intersect roadways without any traffic control. Uncontrolled crossings are commonly found at midblock locations, sidewalk or shared use path crossings, or intersections with only two-way traffic control. These crossings require enhancements to improve visibility and establish right-of-way for people walking or biking across the street and to enhance safety for all users.

Improvements for these crossings depend on factors like road type, width, traffic volume, speed, and the specific context of the location. To determine suitable interventions, the FHWA Guide for Improving Pedestrian Safety at Uncontrolled Crossing Locations, as shown in **Figure 34**, provides valuable guidance.

In Brandon, locations with uncontrolled crossing locations would benefit from continental style marked crosswalks, detectable warnings, appropriate crossing signage, and median islands if crossing three or more lanes. Additional treatments may include:

- Yield pavement markings: indicates to motorists where to yield to pedestrians
- Bicycle/pedestrian crossing warning signs and advance warning signs (MUTCD signs W11-15 and W11-15P or W16-7P): indicates to motorists that people may be crossing at marked location. Crossings near schools should use the School Crossing Assembly (MUTCD signs S1-1 and plaques as appropriate)
- In-street pedestrian crossing signs (MUTCD signs R1-6)
- Rectangular Rapid Flashing Beacons (RRFB): brings attention to the bicyle/pedestrian crossing warning signs by flashing only when someone is crossing

- Pedestrian Hybrid Beacons (aka High-Intensity Activated Crosswalks (HAWK)): directs vehicular traffic to stop when people are using the crosswalk, appropriate for higher-speed, higher-volume streets, and those with multiple lanes
- Curb extensions (aka bulb outs): narrows the roadway to slow motorists and shortens the crossing distance for pedestrians

Figure 34: Guide for Improving Pedestrian Safety at Uncontrolled Crossing Locations

Roadway Configuration	Posted Speed Limit and AADT								
	Vehicle AADT <9,000			Vehicle AADT 9,000–15,000			Vehicle AADT >15,000		
	≤30 mph	35 mph	≥40 mph	≤30 mph	35 mph	≥40 mph	≤30 mph	35 mph	≥40 mph
2 lanes (1 lane in each direction)	● ○ 2 4 5 6	● 5 6 7 9	○ 5 6 ● ●	● 4 5 6	● 5 6 7 9	○ 5 6 ● ●	● 4 5 6 7 9	○ 5 6 7 9	○ 5 6 ● ●
3 lanes with raised median (1 lane in each direction)	● ○ 2 3 4 5	● 3 5 7 9	○ 3 5 ● ●	○ 3 4 5 7 9	○ 3 5 ● ●	○ 3 5 ● ●	○ 3 4 5 7 9	○ 3 5 ● ●	○ 3 5 ● ●
3 lanes w/o raised median (1 lane in each direction with a two-way left-turn lane)	● ○ 2 3 4 5 6 7 9	● 3 5 6 7 9	○ 3 5 6 ●	○ 3 4 5 6 7 9	○ 3 5 6 ●	○ 3 5 6 ●	○ 3 4 5 6 7 9	○ 3 5 6 ●	○ 3 5 6 ●
4+ lanes with raised median (2 or more lanes in each direction)	● 3 5 7 8 9	● 3 5 7 8 9	○ 3 5 8 ●	○ 3 5 7 8 9	○ 3 5 ● 8 ●	○ 3 5 8 ●	○ 3 5 7 8 9	○ 3 5 8 ●	○ 3 5 8 ●
4+ lanes w/o raised median (2 or more lanes in each direction)	● 3 5 6 7 8 9	○ 3 5 6 7 8 9	○ 3 5 6 8 ●	○ 3 5 6 7 8 9	○ 3 5 6 ● 8 ●	○ 3 5 6 8 ●	○ 3 5 6 7 8 9	○ 3 5 6 8 ●	○ 3 5 6 8 ●

Given the set of conditions in a cell,

\# Signifies that the countermeasure is a candidate treatment at a marked uncontrolled crossing location.

● Signifies that the countermeasure should always be considered, but not mandated or required, based upon engineering judgment at a marked uncontrolled crossing location.

○ Signifies that crosswalk visibility enhancements should always occur in conjunction with other identified countermeasures.*

The absence of a number signifies that the countermeasure is generally not an appropriate treatment, but exceptions may be considered following engineering judgment.

1 High-visibility crosswalk markings, parking restrictions on crosswalk approach, adequate nighttime lighting levels, and crossing warning signs
2 Raised crosswalk
3 Advance Yield Here To (Stop Here For) Pedestrians sign and yield (stop) line
4 In-Street Pedestrian Crossing sign
5 Curb extension
6 Pedestrian refuge island
7 Rectangular Rapid-Flashing Beacon (RRFB)**
8 Road Diet
9 Pedestrian Hybrid Beacon (PHB)**

Source: Federal Highway Administration

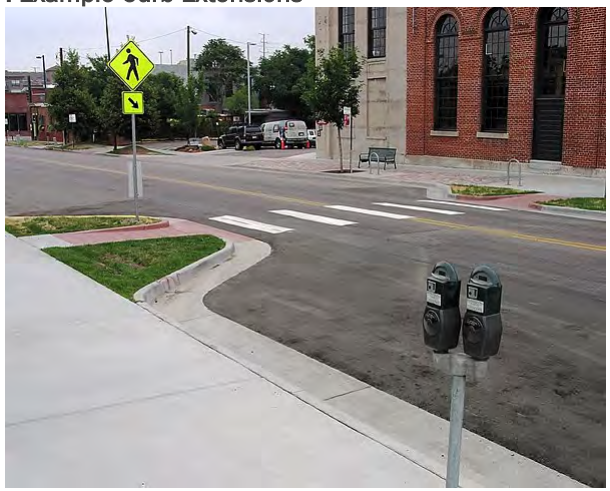
Figure 35: Midblock Crosswalk with Signage

Source: FHWA
https://highways.dot.gov/sites/fhwa.dot.gov/files/images/crosswalk-viz.jpg

Figure 36: Rectangular Rapid Flashing Beacon

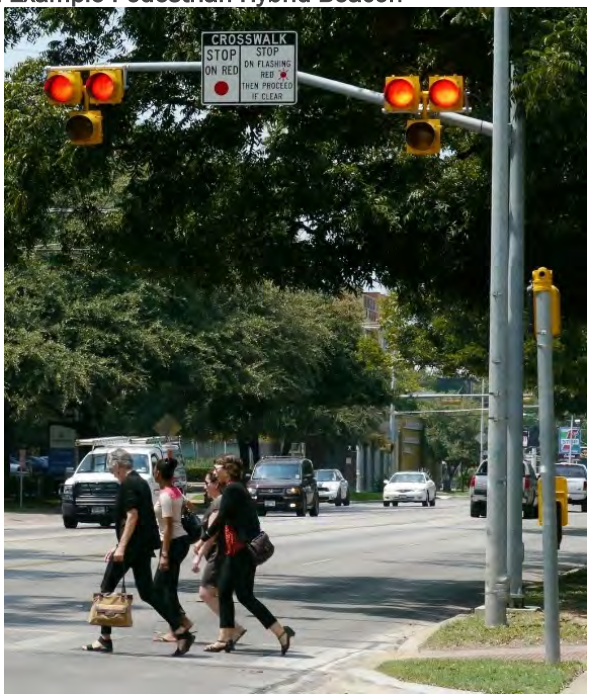
Source: City of Brandon

Figure 37: Example Curb Extensions



Source:*https://upload.wikimedia.org/wikipedia/commons/thumb/2/2e/Curb_extensions_at_midblock_crosswalk.jpg/600px-Curb_extensions_at_midblock_crosswalk.jpg*

Figure 38: Example Pedestrian Hybrid Beacon



Source: City of Austin, *Signal Requests | AustinTexas.gov*

Figures 35 - 38 show examples of these improvements. City policy should adhere to these recommendations, with priority given to midblock crossings near key pedestrian generators like schools, parks, and other amenities. All midblock crossings must be marked with appropriate signage and pavement markings and shall incorporate the recommended improvements based on the specific roadway context.

For example, there is an existing mid-block crossing between Brandon Valley High School and the commercial area across South Splitrock Boulevard. The crossing consists of an ADA-compliant continental crosswalk, pedestrian signal heads, and standard vehicular signal heads. This could be improved for all

users by adding a center median pedestrian refuge island. Pedestrian hybrid beacons are a suitable alternative to the existing vehicular signals at this location.

Additional locations for crosswalk improvements may be considered across North Splitrock Boulevard at:

- Teakwood Street
- Keystone Drive
- North Teton Drive

Locations for crosswalk improvements may also be considered across East Holly Boulevard at:

- North Robin Drive
- North Cardinal Avenue
- Main Avenue
- South 1st Avenue
- South 4th Avenue
- South 5th Avenue
- South 7th Avenue/N Maple Avenue
- Near the entrance to the grocery store strip mall to meet demand as exemplified in **Figure 39**

Figure 39: Students Cross E Holly Boulevard Midblock

Source: Google Street View

Future System Performance

The future performance of Brandon's transportation system was analyzed to understand how anticipated future growth in households and employment could impact travel demand within the community. Future system needs can be understood by analyzing projected travel demand over the next 20 years and understanding how future traffic levels could impact system operations.

Forecasted Growth in Households and Jobs

Growth in Brandon's households and employment through the year 2045 was estimated as part of the Sioux Falls MPO's travel demand model (TDM) process, which uses these growth levels as a key input in forecasting future traffic conditions.

Household Growth, 2018 – 2045

Forecasted growth in Brandon's households are summarized in **Table 18.** As **Table 18** indicates, the number of households within the Brandon area are expected to grow at annual rate of 2.7 percent through 2045. This growth rate marks an increase of over 7,500 households added to the community by 2045. This doubling of the number of households within the community could see significant growth pressure leading to a substantial increase in the number of vehicles using the transportation system each day. **Figure 40** illustrates where growth in the number of households is expected to occur within the community.

Table 18: Forecasted Household Growth, 2018-2045

Households	Total Households	Compound Annual Growth
2018	7,143	2.7%
2045	14,796	
Households Added	7,653	

Source: Sioux Falls MPO Travel Demand Model

Job Growth, 2018 2045

Forecasted growth in Brandon's employment levels are summarized in **Table 19**. As **Table 19** indicates, the number of jobs within Brandon is expected to grow at an annual rate of 3.3 percent, which would result in the addition of 10,000 new jobs within the community. The addition of 10,000 new jobs within Brandon would result in approximately 17,250 workers being employed in the area by 2045. Similar to household growth, this increase in employment would likely see a substantial increase in travel demand owing to the daily commuting needs of these workers. **Figure 41** illustrates where this expected growth in employment is anticipated to occur within the Brandon area.

Table 19: Forecasted Employment Growth, 2018-2045

Jobs	Total Jobs	Compound Annual Growth
2018	7,239	3.3%
2045	17,240	
Jobs Added	10,001	

Source: Sioux Falls MPO Travel Demand Model

Figure 40: Forecasted Growth in Households

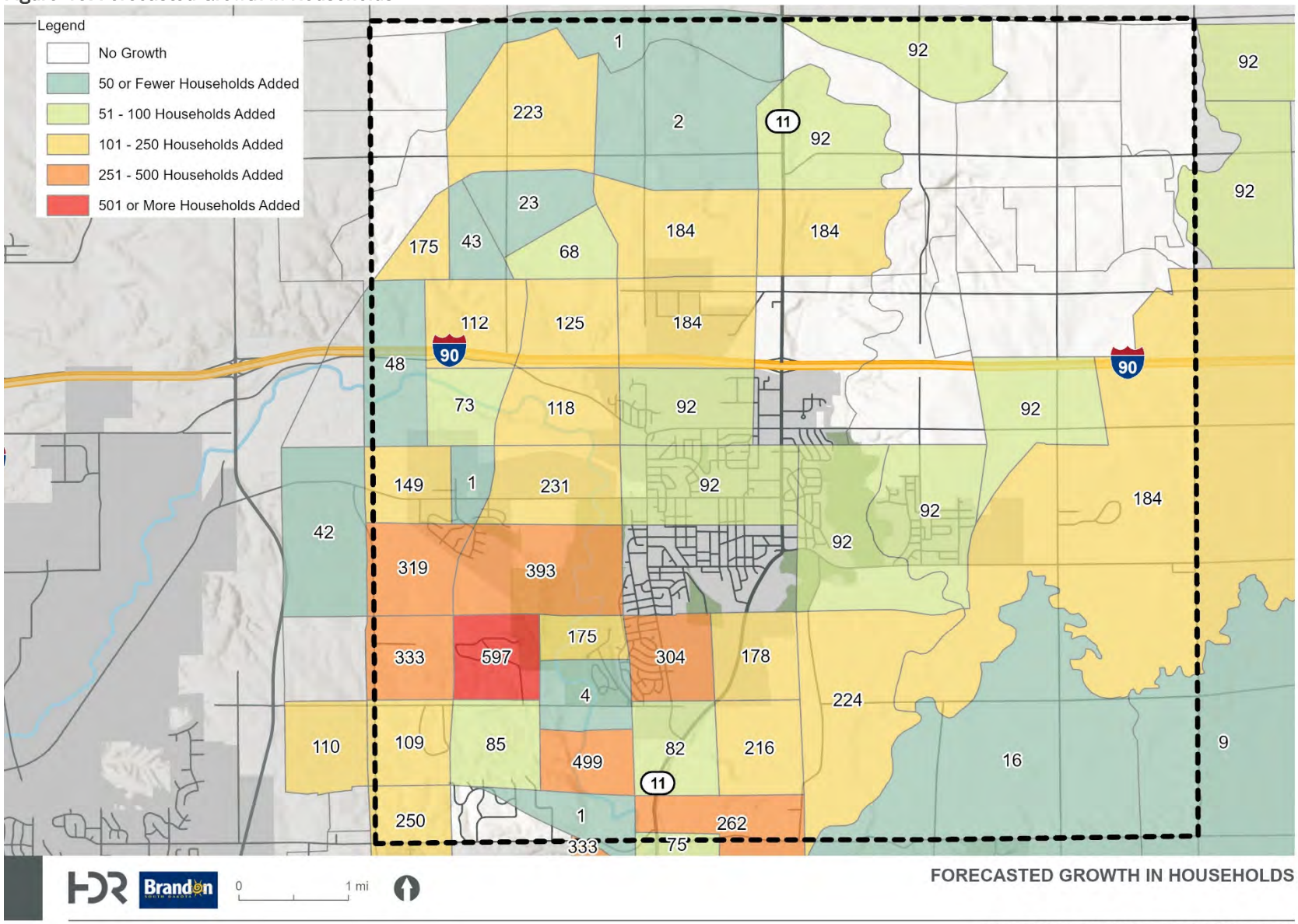
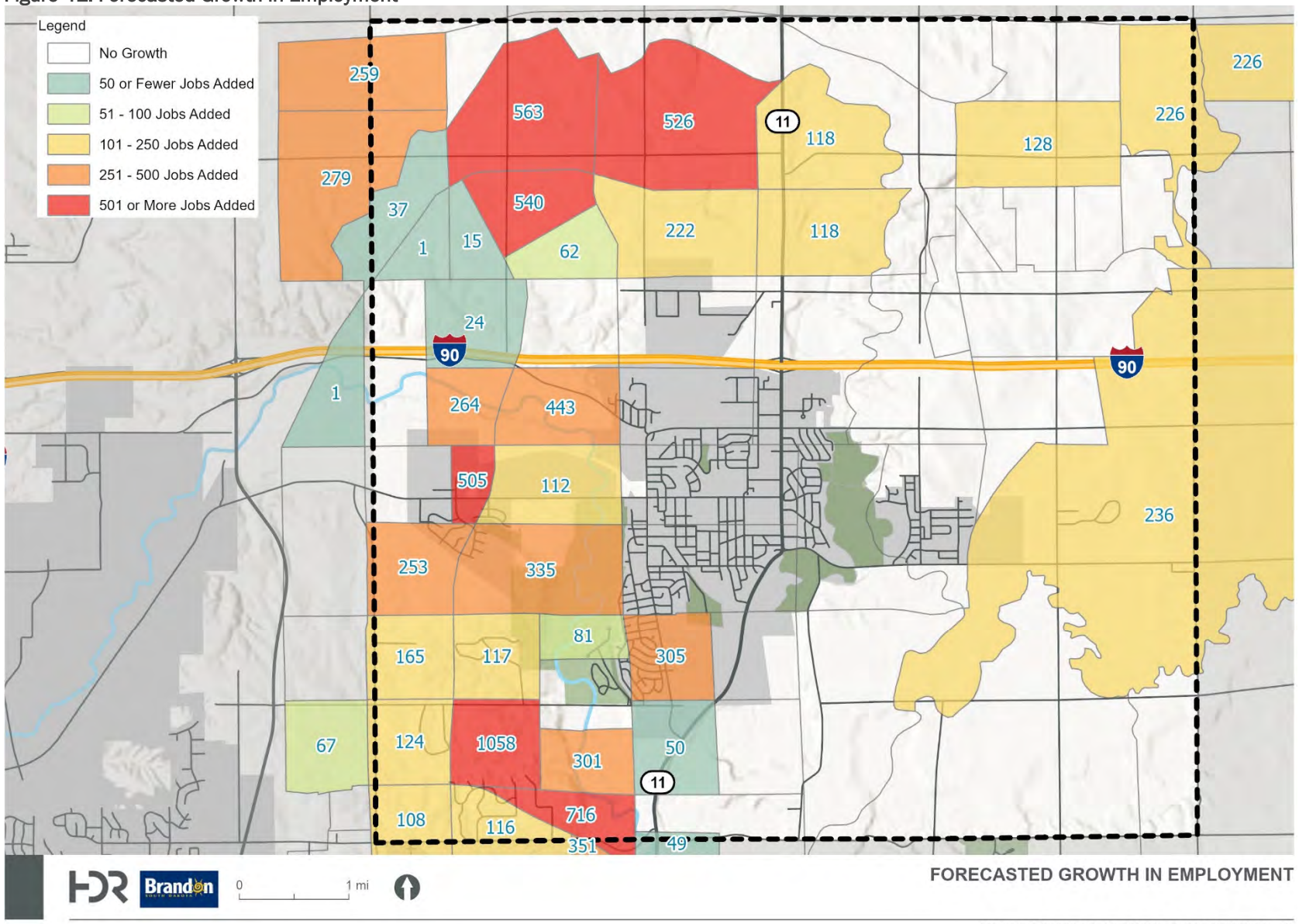


Figure 41: Forecasted Growth in Employment



Future Traffic Operations

Future traffic operations for the MTP area were developed based on traffic assignment from the Sioux Falls MPO's TDM, which uses 2018 as a base year and provides models traffic conditions through the future year 2045. The TDM is a mathematical model that forecasts future traffic based on forecasted household and employment growth for the community; the TDM also incorporates transportation network improvements that are programmed or committed projects for implementation that would influence traffic operations (e.g., capacity expansions, new roads, lane widenings, etc.).

Based on the traffic forecasts sourced from the Sioux Falls MPO's TDM, shown in **Figure 42**, future planning level traffic operations were developed. Future traffic operations are viewed through the same LOS approach that was discussed for existing traffic operations and are shown in **Figure 43**.

This future estimated LOS assumes that no roadway improvements beyond what are currently programmed would be implemented within the Brandon MTP area and uses existing capacities with the intent of evaluating how traffic operations would be perform under a "no build" condition. The "no build" assumption allows for the identification of potential operational issues that could arise given the anticipated increase in the number of households and jobs, which then informs the Standards Development and Alternatives phase of the MTP process.

Given the estimated traffic volumes provided by the Sioux Falls MPO, the corridors identified as operating at LOS D or worse today are expected to further degrade under a no build scenario. Holly Boulevard and Splitrock Boulevard/SD11 south of Aspen Boulevard are two corridors that expected to operate at LOS F by 2045 should no improvements be made along these routes. SD11 north of I-90 is also estimated to operate at LOS F by 2045.

Several corridors that demonstrate acceptable levels of service today are expected to operate at LOS D by 2045, and these include portions of Sioux Boulevard south of W Holly Boulevard, E Aspen Boulevard from Splitrock Boulevard/SD11 to 483rd Avenue, and Madison Street from Olde Wagon Road to Oak Ridge Place. **Table 20** summarizes the corridors that are expected to operate at LOS D or worse by 2045.

Table 20: Future Estimated Corridors of Congestion

Corridor	LOS	Average Daily Volume
E Madison Street, from Six Mile Road to Oak Ridge Place	C / D	6,800
S Sioux Boulevard, from W Holly Boulevard to W Park Street	C / D	6,900 - 7,800
E Aspen Boulevard, from Splitrock Boulevard/SD11 to 483rd Avenue	D	7,600 - 7,900
Splitrock Boulevard/SD11, from I-90 to Corson Street	F	11,100 - 13,800
Splitrock Boulevard/SD11, from Aspen Boulevard to Madison Street	F	10,700 - 14,200
W Holly Boulevard, from Big Sioux River Bridge to Veterans Parkway	F	8,000 - 12,200

Figure 42: Forecasted Growth in Traffic Volumes

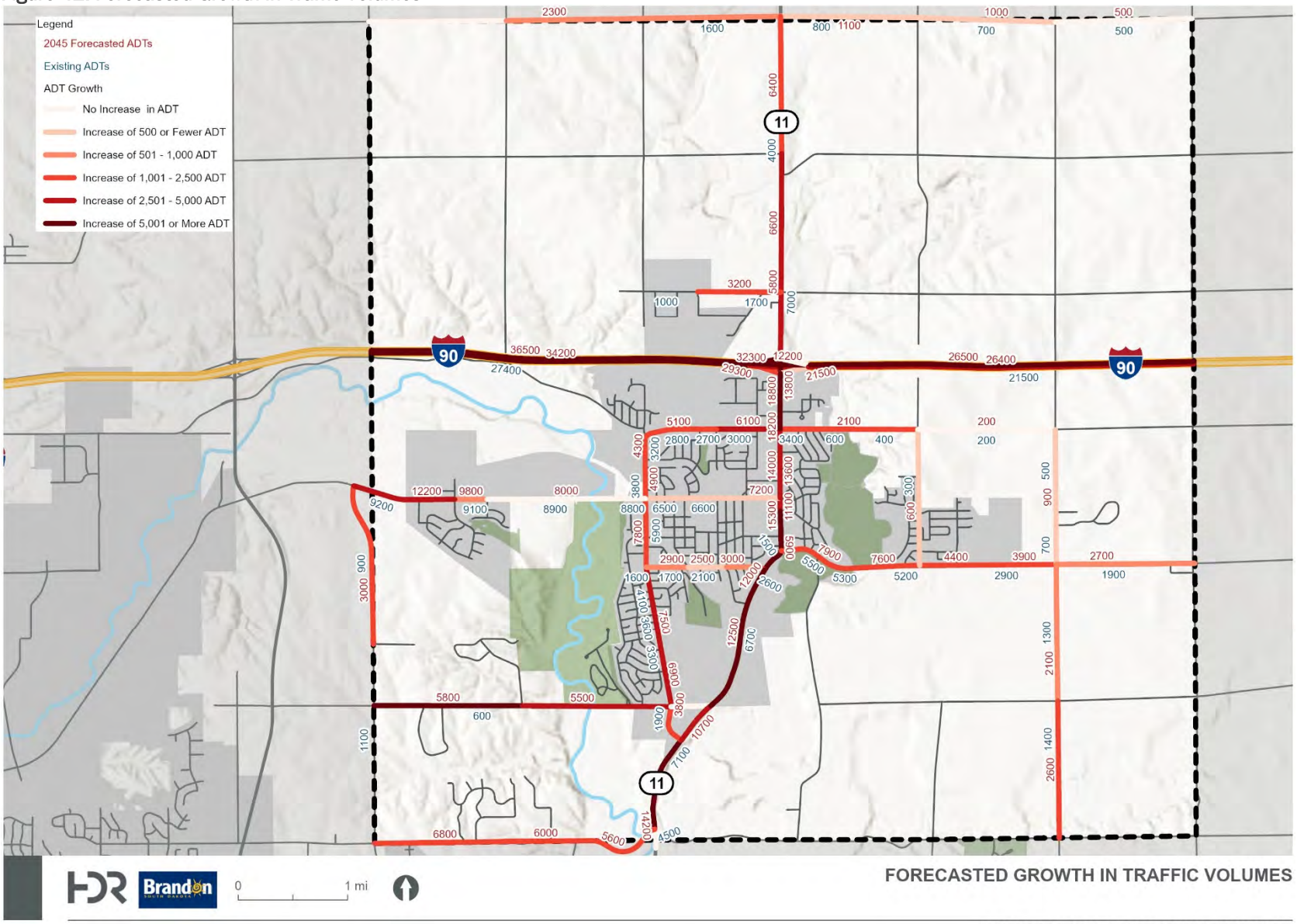
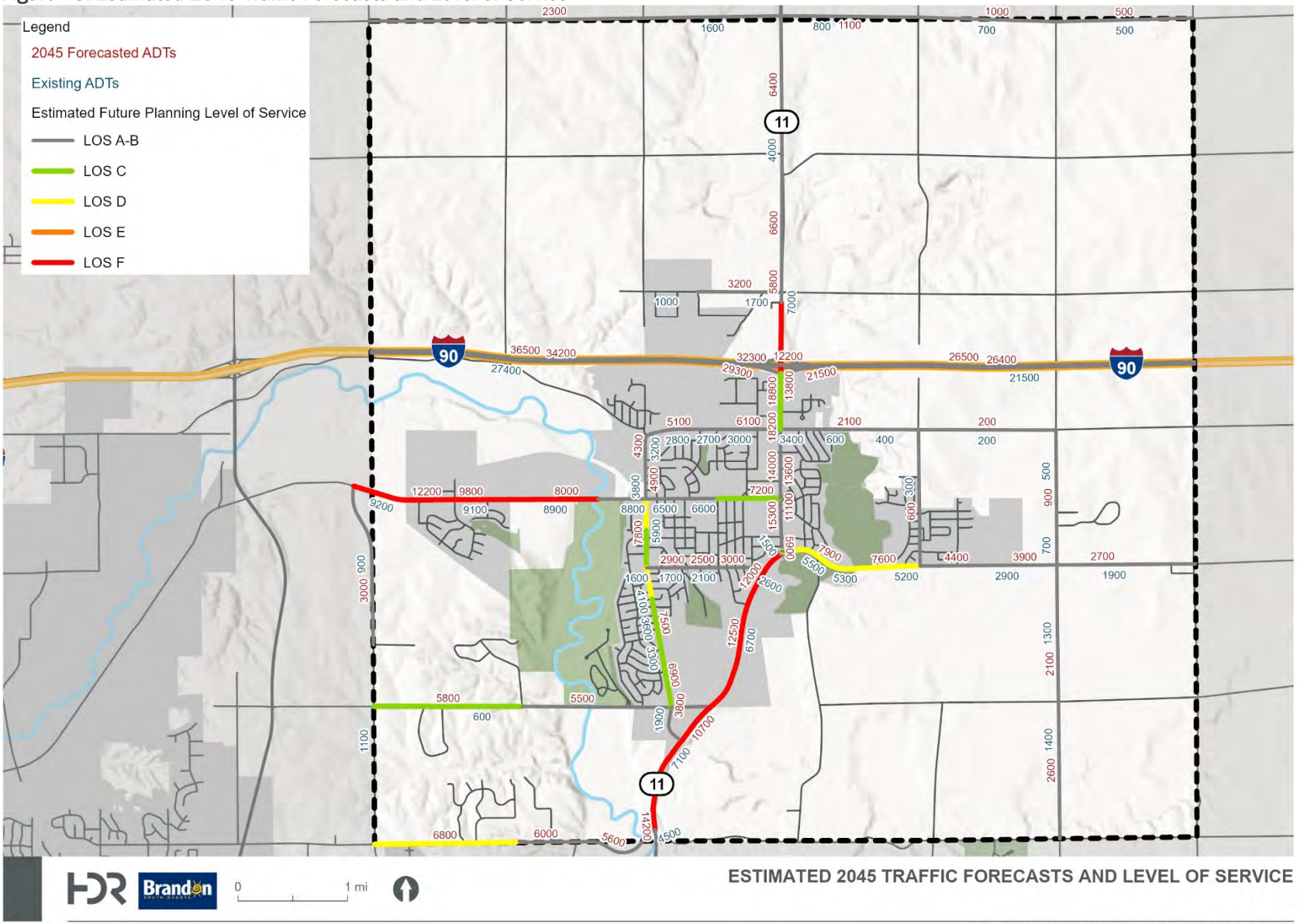


Figure 43: Estimated 2045 Traffic Forecasts and Level of Service



Standards Development

This section presents updated roadway design and access management standards for Brandon to consider in planning for the future transportation system. There are two primary elements of this chapter:

- Future Master Street Plan
- Street Standards

Design and access management standards are presented in Chapters 5 and 8 of the City of Brandon's Engineering Design Standards. These standards apply to all public improvements within the city except where superseded by Federal or state requirements.

Design Guidelines

The standards development process described in this section were based on guidance from several sources, which include:

- SDDOT Road Design Manual
- City of Sioux Falls, South Dakota Engineering Design Standards
- American Association of State Highway and Transportation Officials (AASHTO) A Policy on Geometric Design of Highways and Streets
- National Association of City Transportation Officials (NACTO)

Future Land Use

Land use and transportation are closely linked as different land uses influence the amount and type of travel demand for a given area. The purpose of updating the City's current design and access management standards is to provide the appropriate framework to guide future transportation improvements that complement adjacent land uses while anticipating future travel demand based on forecasted household and employment growth within the community.

The City of Brandon's Future Land Use Plan provides the framework governing how the community will evolve over the next several decades. The City's Comprehensive Plan includes the Future Land Use Plan, which aims to balance the anticipated future population growth with the community's vision for future development patterns to ensure orderly development.

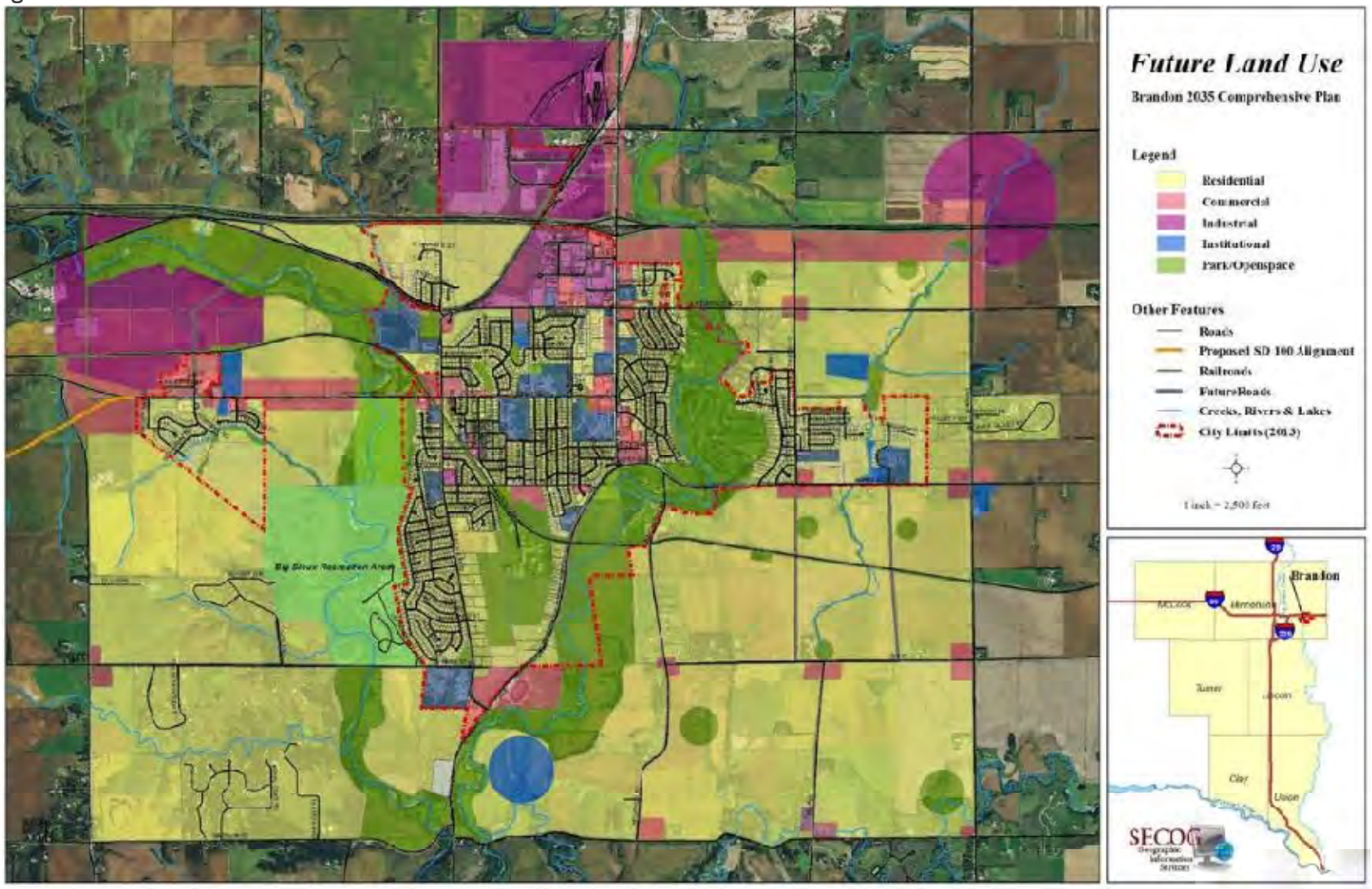
Figure 44 shows Brandon's current Future Land Use Plan as published in the 2035 Comprehensive Plan. **Table 21** summarizes the anticipated proportions of future land uses by type. As seen in the Table, over 62 percent of future land use within Brandon is expected to be for residential land uses while nearly 20 percent is designated for parks and open space. Industrial use is the third largest category at 11.6 percent while commercial land use is expected to comprise 7.5 percent.

Table 21: Brandon's Future Land Uses

Land Use Type	Acres	% Total
Residential	5,704	62.2%
Commercial	685	7.5%
Industrial	1,066	11.6%
Institutional	146	1.6%
Park/Open Space	1,573	17.1%
Total Acres	9,174	100%

Source: City of Brandon 2035 Comprehensive Plan

Figure 44: Brandon's Future Land Use Plan



Source: City of Brandon 2035 Comprehensive Plan

Major Street Plan

Brandon's Major Street Plan (MSP) serves as the roadmap that reflects how the City and partner jurisdictions should plan for and invest in Brandon's future transportation system. The MSP illustrates how future roadways will function within the community while planning where new roadways will be located once adjacent development occurs. The intent is to identify a functional set of standards that meet the needs of adjacent land uses (residential, commercial, and industrial uses) and supports safe and efficient travel for all system users (vehicles, pedestrians, bicyclists, and freight). The MTP provides MSP classes in the following categories:

- Major Arterial
- Community Arterial
- Community Collector
- Industrial Collector
- Local Street

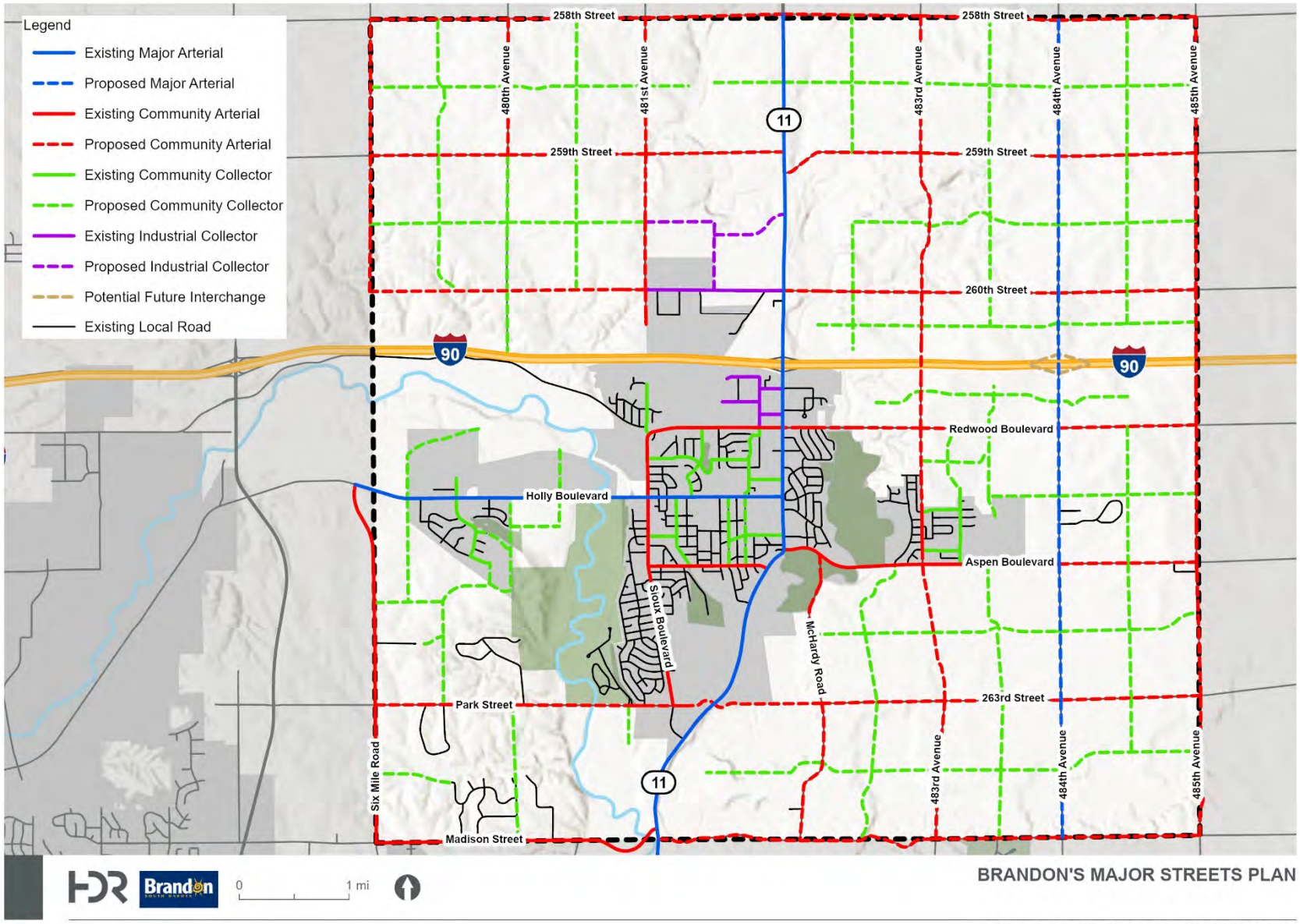
The MSP is a locally-defined and maintained classification system to provide the desired street characteristics to meet the corridor's context and overall system needs. The MSP builds off the Federal functional classifications discussed in the Baseline Conditions section of this MTP. To better address the needs and functionality of the local street and road network, a set of roadway classifications were developed for this MTP, and these classifications are summarized in **Table 22**. The MSP also strives to align with the Major Street Plans of nearby communities, such as Sioux Falls, to support consistency between these jurisdictions as they continue to grow and develop together.

Brandon's proposed MSP is presented in **Figure 45**. As the study area continues to grow and change, it is anticipated that there will be amendments to the major street plan as the community and street system evolve.

Table 22: Major Street Plan Roadway Classifications

Major Street Plan Roadway Classifications	Description
Major Arterial	These are the highest mobility corridors in the study area, placing an emphasis on moving traffic across Brandon or from Brandon to other communities.
Community Arterial	These are high mobility corridors intended to connect future development areas to the Collector and Major Arterial networks.
Community Collector	These are corridors intended to balance mobility and accessibility to future land uses through facilitating connections between the Local and Community Arterial networks.
Industrial Collector	These are corridors designed to connect freight trips between industrial areas and the arterial system.
Local	These are designed to provide direct access to adjacent land uses and support long distance travel.

Figure 45: Brandon's Major Street Plan



BRANDON MASTER TRANSPORTATION PLAN

Proposed Functional Classifications

Future functional classifications are proposed as part of this MTP and build off the recommended MSP shown in Figure 45. The development of the proposed functional classifications was based on guidance in FHWA's *Highway Functional Classification Concepts, Criteria and Procedures*, which details the procedures and processes for transportation agencies in assigning functional classifications to roadways and adjustments to urban area boundaries.

Proposed functional classifications for Brandon's future road network sought to identify existing corridors whose role in the future network may shift over the life of the MTP due to high growth in daily traffic volumes and/or providing increased system connectivity. Future traffic operations were reviewed to determine if these existing corridors would warrant an upgrade in terms of future functional classification. Key existing corridors recommended for a shift in future functional classification are detailed in Table 23.

As part of the typical road design criteria for each functional classification, FHWA provides a recommended mileage extent for each class for both urban and rural roadway systems. These mileage extent recommendations formed the basis for developing the proposed functional classifications presented in this MTP. Table 24 summarizes the mileage extents recommended by FHWA; it is noted that South Dakota falls under the FHWA definition for a Rural State given that 57 percent of the total population resides in the state's urban areas, per 2020 Census data. Table 25 provides the changes in mileage extents by functional classification from Brandon's existing roadway system to the proposed future functional classification system shown in Figure 46.

Table 23: Functional Classification Updates to Key Corridors

Corridor	Existing Functional Classification	Proposed Future Functional Classification
Sioux Boulevard, from Holly Boulevard to Redwood Boulevard	Minor Collector	Minor Arterial
Redwood Boulevard, from Sioux Boulevard to 485th Avenue	Minor Collector	Minor Arterial
Aspen Boulevard, from 484th Avenue to 485th Avenue	Minor Collector	Minor Arterial
263rd Street, from McHardy Road to 484th Avenue	Local	Minor Arterial

Table 24: Recommended Functional Classification Mileage Extents for Rural and Urban Systems

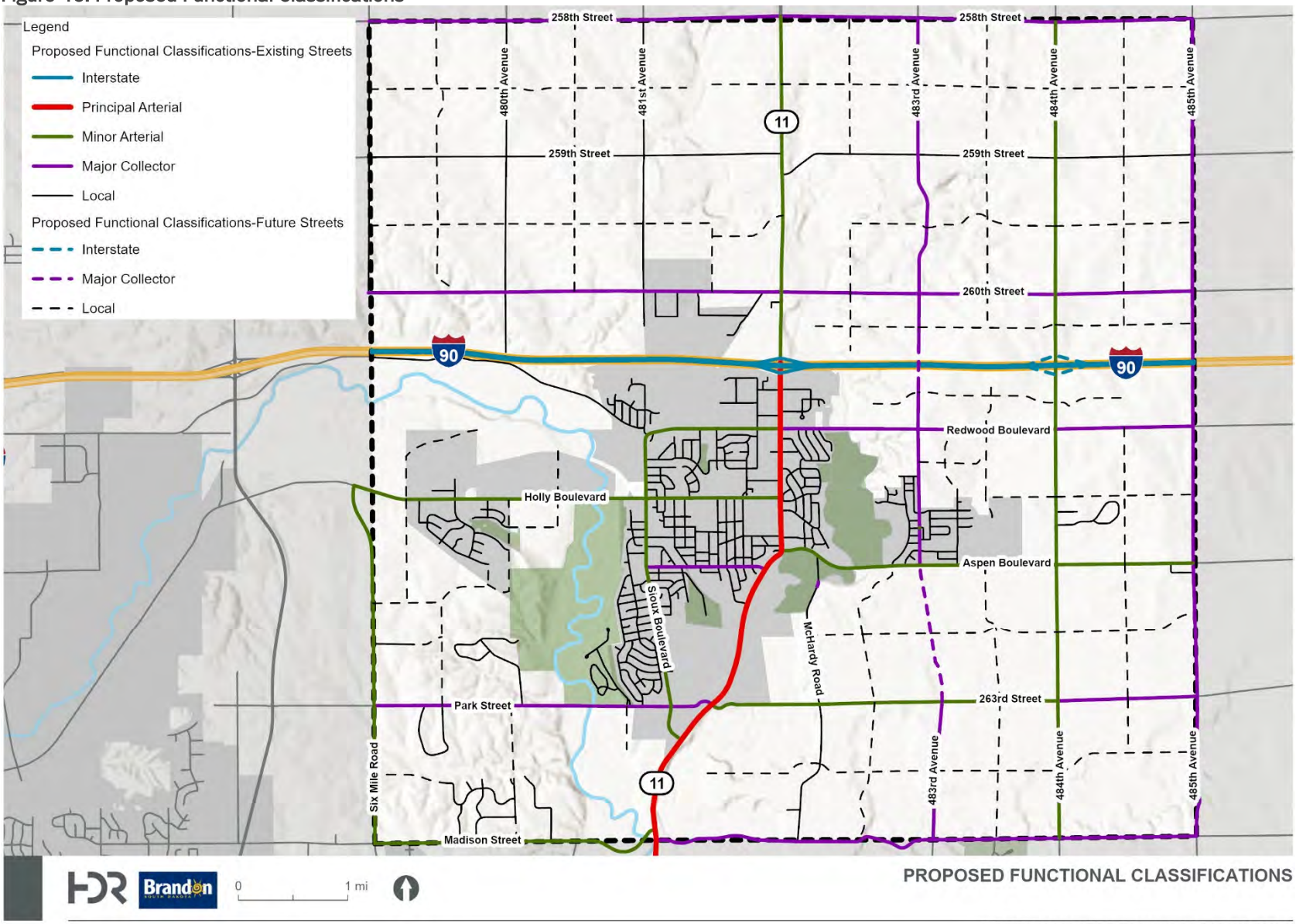
Recommended Mileage Extents	Principal Arterial		Minor Arterial		Major Collector		Minor Collector		Local	
	Rural System	Urban System	Rural System	Urban System	Rural System	Urban System	Rural System	Urban System	Rural System	Urban System
Mileage Extent for Rural States*	2%-6%	4%-9%	2%-6%	7%-14%	8%-19%	3%-16%	3%-15%	3%-16%	62%-74%	62%-74%
Mileage Extent for Urban States	2%-5%	4%-5%	2%-5%	7%-12%	10%-17%	7%-13%	5%-13%	7%-13%	66%-74%	67%-76%
Mileage Extent for All States	1%-2%	4%-5%	2%-6%	7%-12%	9%-19%	7%-15%	4%-15%	7%-15%	64%-75%	63%-75%

*Rural States are those defined as having a maximum of 75 percent of their population in urban centers.
Source: Federal Highway Administration, *Highway Functional Classification Concepts, Criteria and Procedures*

Table 25: Mileage Extents for the Existing and Proposed Roadway Functional Classifications

Functional Classification	Existing Mileage		Future Mileage	
	Total	Percent	Total	Percent
Principal Arterial	6.2	4.8%	6.3	3.4%
Minor Arterial	16.6	12.8%	25.3	13.5%
Major Collector	15.3	11.8%	35.5	19.0%
Minor Collector	1.0	0.8%	0.0	0.0%
Local	91.2	69.9%	119.6	64.1%
Total	130.5		186.7	

Figure 46: Proposed Functional Classifications



Traffic Control Guidelines

Traffic control guidance is provided by the *Manual on Uniform Traffic Control Devices* (MUTCD), which is the major source of information used by transportation engineers for the use of traffic control devices including signs, pavement markings, and traffic signals. The typical process for designing traffic control at a given location involves an MUTCD-based engineering study to assess current traffic conditions. Guidelines for traffic control, including stop control, signals, and roundabouts, are discussed in this section.

Stop-Control

Multi-way stop control is an effective traffic control approach for intersections with certain traffic conditions, such as intersections with significant vehicle conflicts with pedestrians and bicyclists, sight distance issues, and history of angle crashes. It is also an appropriate traffic control approach for intersecting roadways where traffic volumes for both roads are nearly equal. Installation of multi-way stop-control should be considered based upon an engineering study that considers the following criteria:

- Interim measure: for quick, interim installation at intersections where a traffic signal is warranted.
- Crash history: five or more crash events in a 12-month period that could be prevented through the implementation of stop-control.
- Vehicular, pedestrian, and bicycle volumes: traffic volume thresholds that considers vehicular, pedestrian, and bicycle traffic entering the intersection for a typical 8-hour period and minor street vehicular delay.

Additional considerations for multi-way stop control include left turn conflicts, vehicle/pedestrian conflicts, sight distance issues, and intersections of two similar streets.

Traffic Signals

MUCTD guidelines identify nine traffic signals warrants for locations where the installation or removal of a traffic signal is under consideration. The warrants identified by MUCTD include:

- 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

Installation of traffic signals shall be based on engineering judgement that evaluates the characteristics of the specific intersection, site conditions, and overall context within the transportation system. MUCTD guidelines state that “the satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal” (MUTCD 2009 4.C.01.03).

Roundabouts

Roundabouts are a traffic control strategy that can make sense at many intersections. Major benefits associated with roundabouts include the provision of high-level intersection control that reduces crash severities relative to conventional intersection design and the maintenance of efficient traffic operations through improved management of high volumes of intersecting traffic.[7]

Current facility design guidance authored by the Minnesota Department of Transportation (MnDOT) states that roundabouts are comparable to other forms of traffic control and can be considered as an alternative whenever traffic control is needed at an intersection. Like other forms of traffic control, consideration of a roundabout should be contingent upon an Intersection Control Evaluation (ICE) study so that current safety, traffic, and site conditions are understood.

MnDOT's Facility Design Guide identifies site characteristics that are favorable for roundabouts. The guide encourages consideration of roundabouts for sites that:[8]

- Exhibit high left-turn volumes
- Have a history of right-angle or left-turning crash problems
- Are located at interchange ramp terminals
- Have frequent U-turn movements
- Have more than four legs of approach
- Are in areas where traffic calming is desired
- Are in corridors being considered for access management

While roundabouts are an effective traffic control solution that maintain efficient traffic operations and enhance safety, they are not a favorable alternative for all sites. Specific intersection characteristics, as identified by MnDOT, that are not conducive to roundabouts include:[9]

- Locations, such as at-grade railroad crossings, where vehicle queueing occurs that could back traffic into the roundabout
- Highly signalized corridors, especially those with closely spaced intersections
- Highly unbalanced traffic volumes on approach legs when the intersection is near capacity which prohibits entrance from vehicles on the lower-volume approaches
- Adjacent to steep grades, vertical curves, or horizontal curves that limit sight distances

Source: Federal Highway Administration

[7] Minnesota Department of Transportation, *Facility Design Guide*.
[8] Ibid.
[9] Ibid.

Traffic Analysis Guidelines

Quality of service for highways is evaluated using the measure 'Level of Service' (LOS), which assesses the operational performance of a roadway. A roadway's LOS is described using letter grades ranging from A to F, with an LOS A indicating free flow traffic and F indicating complete gridlock.

Traffic analyses conducted for roadways within Brandon shall be in accordance with the guidelines published in the most recent editions of SDDOT's *Road Design Manual* and the Transportation Research Board's *Highway Capacity Manual*.

The minimum operating condition for Brandon's intersections and roadways, for both existing and future-year planning horizon traffic volumes, is LOS D.

Traffic Impact Study Guidelines

Traffic Impact Studies (TIS) evaluate the operational and safety impacts on an area's roadway network due to the presence of a new traffic generator, such as a large retail development, or a shift in travel patterns. A critical outcome of a TIS is the generation of information that guides transportation agencies in decisions related to access management, needed roadway improvements, and traffic control enhancements.

Brandon's current TIS guidelines are maintained in Chapter 5: Street Access and Parking Lot Criteria of the City's Design Standards. These guidelines dictate the requirements for any TIS conducted within Brandon, including:

- Responsibilities for Traffic Report
- Traffic Report Format
- Traffic Report Submittals

City of Brandon Roadway Design Standards

General Criteria

The general criteria for the overall cross section design developed for each of the Roadway Classifications presented as part of Brandon's Major Street Plan are detailed below and summarized in **Table 26.**

Major Arterial

Major Arterials are intended to facilitate high levels of mobility while minimizing access to adjacent land uses. Major Arterial roads incorporate right-of-way (ROW) width of 100 feet or greater so that adequate space can be preserved for these corridors as traffic volumes grow and the need for expansion arises. Given the higher-speed and higher-volume nature of these corridors, 12-foot wide through travel lanes are recommended to support safety for all road users while 12-foot wide center turn lanes will be sufficient to facilitate turning movements.

Shared use paths of a minimum of 10 feet wide are recommended for both sides of the road to facilitate pedestrian mobility adjacent to Major Arterial corridors. Street parking is not permitted for Major Arterial corridors.

Community Arterial

Community Arterial roads are designed to provide higher levels of mobility and limited access to adjacent land uses but are intended to have lower speeds and volumes than Major Arterials. As such, a ROW width of 100 feet is recommended for this roadway classification. Through travel lanes 12 feet wide (in some cases 11 feet wide lanes may be implemented) and 12-foot wide center turn lanes are recommended for Community Arterial roads. Like Major Arterial roads, on-street parking is not permitted for Community Arterials.

Shared use paths of a minimum of 10 feet wide and on one side of the road are recommended to facilitate pedestrian mobility adjacent to Community Arterial corridors. It is recommended that the side of the road opposite the shared use path contain a 5-foot wide sidewalk.

Community Collector

Community Collector roads are designed to carry moderate daily traffic volumes at lower speeds, thereby necessitating a ROW width between 66 and 80 feet. Roadways falling under this classification are intended to have 2 through lanes that are 12 feet wide (in some cases 11 feet wide lanes may be implemented). An 8-foot wide on-street parking lane is permitted on both sides of Community Collectors.

Shared use paths of 10 feet wide or greater are recommended for one side of the road for Community Collector roads where the facility would provide a connection to Brandon's shared use path network. In this instance, a ROW of 80 feet would be required. Typical Community Collectors shall provide 5-foot wide sidewalks on both sides of the road, except for when a side use path is constructed in which case a 5-foot sidewalk would be constructed on the opposite side of the roadway from the shared use path.

Industrial Collector

Industrial Collectors are anticipated to have a limited role in the Brandon's future roadway network and be located only in areas of high industrial activity adjacent to the Major Arterial or Community Arterial network. While the design ROW ranges between 66 and 80 feet wide, the higher percentage of heavy vehicles using these roads necessitates a wider roadway width compared to the other Collector classifications. On-street parking lanes of 8 feet wide are permitted on one or both sides of Industrial Collectors.

Given the intensive industrial land uses adjacent to Industrial Collectors, 10-foot wide shared use paths are recommended for one side of the roadway while 5-foot wide sidewalks are permitted on the side of the road opposing a shared use path.

Local

Local roads are intended to directly serve adjacent land uses while discouraging long and moderate distance trips. As these roads carry the lowest volumes at the lowest speeds, they require a ROW of 66 feet wide with a roadway width of 33 feet wide. These roads are to have unmarked travel lanes of equal width for both directions of travel and allow for on-street parking on both sides of the roadway.

Due to the limited ROW associated with local roads, shared use paths are not recommended in most corridors. Sidewalk facilities are recommended for local roads and should be 5 feet wide.

Table 26: Roadway General Criteria

Roadway General Criteria	Local	Industrial Collector	Community Collector	Community Arterial	Major Arterial
Average Daily Traffic Volume	< 2,000	< 2,000	< 5,000	>5,000	> 8,000
Posted Speed	25	25-30	25	30	30
Number of Lanes	2	2	2	2-4	2-4
Lane Width	-	12+’	11’-12’	11-12’	12’
Right-of-Way	66’	66-80’	66’-80’	100’	100’
Roadway Width	33'	44'	39'	41'+	41'+
Shoulder / Curb & Gutter	2.5'	2.5'	2.5'	2.5'	2.5’
Sidewalk with boulevard	5' detached	5' detached	5’ detached	5' detached	-
Sidewalk behind curb	6'	6'	6’	6'	-
On-Street Parking Allowed	2 sides	2 sides	2 sides	No	No
On-Street Parking width	8'	8'	8'	-	-
Shared Use Path Required	No	1 side	1 side, if ROW is sufficient	1 side	2 sides
Shared Use Path	-	10’	10'	10'	10'

Design Criteria

Design Criteria refers to the geometric design for each of the Major Street Plan Roadway Classifications. These criteria relate to grade, curb return radii, horizontal curve radius, vertical alignment, and grade at intersections. The recommended Design Criteria for each Roadway Classification is detailed below and summarized in **Table 27.**

Major and Community Arterials

Recommended Design Criteria for Major and Community Arterial roadways see a minimum road grade of 0.7 percent and a maximum grade of 6.0 percent. To facilitate safe and efficient turning movements at intersections, recommended curb return radii are 30 feet where Major or Community Arterials intersect collector roads, and 35 feet where two Major and/or Community Arterial roads intersect, or where these roads intersect with an Industrial Collector.

Horizontal and vertical alignment design criteria for Major and Community Arterial roadways should follow standards set forth in AASHTO's *A Policy on Geometric Design of Highways and Streets*. The recommended grade for intersections of two Major and/or Community Arterial roadways is 2 percent.

Community Collector

Recommended Design Criteria for Community Collector roadways see a minimum road grade of 0.7 percent and a maximum grade of 7.0 percent. Curb return radii recommended for Community Collector roadways are 20 feet when intersecting Local or Collector roads and 35 feet when intersecting Industrial Collector, and 25 feet when intersecting with Arterial roads.

Horizontal and vertical alignment design criteria for Community Collector roadways should follow the standards set forth in AASHTO's *A Policy on Geometric Design of Highways and Streets*. The recommended grade at intersections with Local roads is 3 percent, and 2 percent for Collector and Arterial roads.

Industrial Collector

Recommended Design Criteria for Industrial Collector roadways see a minimum grade of 0.7 percent and a maximum grade of 5.0 percent. To facilitate turning movements for heavy vehicles, a wider curb return radius of 35 feet is recommended where Industrial Collectors intersect with other roadways.

While the AASHTO standards for vertical alignment are recommended for Industrial Collectors, a horizontal curve radius of 150 feet is advised for these roads. The recommended grade at intersections with Local roads is 3 percent, and 2 percent for Collector and Arterial roads.

Local

Recommended Design Criteria for Local roadways see a minimum road grade of 0.7 percent and a maximum grade of 8.0 percent. Given the lower volume and lower speed nature of Local roadways, smaller curb return radii may be permitted; a radius of 13.5 feet is recommended for intersections with other Local roads. The recommended curb return radii for locations where Local roads intersect with Industrial Collectors is 35 feet while a radius of 20 feet is recommended for intersections with Collector roads.

A horizontal curve radius of 150 feet is advised for the design of Local roadways while adherence to the AASHTO standards for vertical alignment is recommended. A 3 percent grade at intersections with other local roads is recommended while a 2 percent grade at intersections with Collector roads shall be sufficient.

Table 27: Design Criteria

Design Criteria	Local	Industrial Collector	Community Collector	Community Arterial	Major Arterial
Grade (Min-Max)	0.7% - 8.0%	0.7% - 5.0%	0.7% - 7.0%	0.7% - 6.0%	0.7% - 6.0%
Curb Return Radius (feet)					
- intersect local	13.5’	35’	20’	-	-
- intersect collector	20’	35’	20’	30’	30’
-intersect industrial collector	35’	35’	35’	35’	35’
- intersect arterial	-	35’	25’	35’	35’
Horizontal Curve Radius (feet)	150’	150’	AASHTO Standards		
Vertical Alignment	AASHTO Standards				
Grade at Intersection					
- intersect local	3%	3%	3%	-	-
- intersect collector	2%	2%	2%	-	-
- intersect arterial	-	2%	2%	2%	2%

Access Management Standards

Access management refers to the permitted access points between roadways and adjacent land uses. These standards include traffic signal and roundabout spacing, unsignalized intersection spacing, median design, and driveway spacing. The access management standards for each Roadway Classification are detailed below and summarized in **Table 28** and **Table 29.**

Note that the ultimate recommendation for implementation of a traffic signal (or roundabout) should be based on engineering studies and resources like the MUTCD.

Additionally, these standards relate to future corridors, land use, and street improvements along corridors and acknowledge that some existing developments and corridors do not meet these standards. This section provides a summary of the standards, with the official City standards being reflected in the City of Brandon's *Design Standards*: *Chapter 8 - Street Design and Pavement Thickness*

Major Arterial

Major Arterials are intended to provide the greatest distance between intersections to facilitate the highest levels of mobility while minimizing access to adjacent land uses. As such, the recommended spacing of controlled intersections, i.e. signalized intersections or roundabouts, and uncontrolled intersections is 1/4 mile to 1/2 mile.

Driveway spacing for Major Arterial roads is not permitted without a traffic analysis and City approval.

Community Arterial

Community Arterials are designed to carry lower traffic volumes at lower speeds relative to Major Arterials, meaning reduced access spacing standards are acceptable for these roadways. Signalized intersections and roundabouts can be spaced at 1/4 mile intervals while partial access at 1/8 mile intervals is sufficient. Unsignalized intersection spacings along Community Arterials is expected to vary and should be analyzed and substantiated through a traffic analysis when permitting unsignalized intersections along Community Arterial roads.

Minimum driveway spacings for Community Arterials in commercial or industrial areas is recommended to be at a minimum of 200 feet, but driveway access along new community arterials is not recommended.

Community Collector

Community Collectors access standards are concerned mainly with intersection location and spacing as medians are not recommended for this roadway classification. Signalized intersections or roundabouts are often found at intersections with Arterial roadways and other collector streets, while the spacing of unsignalized intersections is expected to vary and should be analyzed and substantiated through a traffic analysis when permitting unsignalized intersections along Community Collector roads.

Recommended driveway spacings along Community Collector roads varies based on adjacent land uses—for residential areas, a minimum driveway spacing of 40 feet is recommended while a minimum spacing of 100 feet for driveway access to commercial or industrial areas is recommended.

Industrial Collector

Industrial Collector access standards are concerned mainly with unsignalized intersection spacings, which vary based on roadway topologies. Unsignalized intersection spacings should be analyzed and substantiated through a traffic analysis to permit unsignalized intersection spacings along Industrial Collector roadways.

Driveway spacings for Industrial Collectors shall maintain a minimum spacing of 40 feet for residential areas and 100 feet for driveway access points for commercial or industrial areas. Additionally, spacing of driveways along Industrial Collectors should not create negative offset.

Local

Local roadway access standards should be analyzed and substantiated through a traffic analysis to permit and space unsignalized intersections.

The role of Local Roads in serving direct access to adjacent land uses relaxes driveway spacing standards to 20 feet within residential areas and 75 feet for commercial or industrial areas.

Table 28: Access Management Standards

Access Standards	Local	Industrial Collector	Community Collector	Community Arterial	Major Arterial
Signal / Roundabout Spacing	-	-	at Arterial intersection	1/4 mile	1/4 to a 1/2 mile
Unsignalized Intersection Spacing	Varies	Varies	Varies	Varies	1/4 mile

Table 29: Driveway Spacing Standards

Minimum Driveway Spacing	Residential Area	Commercial / Industrial Area
Major Arterial	N/A	Not Recommended
Community Arterial	N/A	200'
Community Collector	40'	100'
Industrial Collector	40’	100’
Local	20'	75'

Additional Design Opportunities

The design standards updates discussed in this chapter of the MTP aim to provide Brandon with an approach for planning and designing transportation improvements that will meet the needs of the community as growth and development occurs over the next 20-plus years. While these design standards updates relate mainly to the planning and design of new roadway facilities, there are opportunities for the community to consider the planning and design of infill development-supportive transportation improvements, such as “main street” design in central Brandon.

While none of these traditional “street oriented” design concepts exist in Brandon today, there is a trend nationally to creating these new downtown / main street development areas. To address these potential opportunities, two illustrative roadway design concepts were developed. These concepts, referred to as “Active Street Design,” are not recommended for inclusion as part of the City’s Design Standards updates but are described here to establish the potential inclusion of these in future design standards updates.

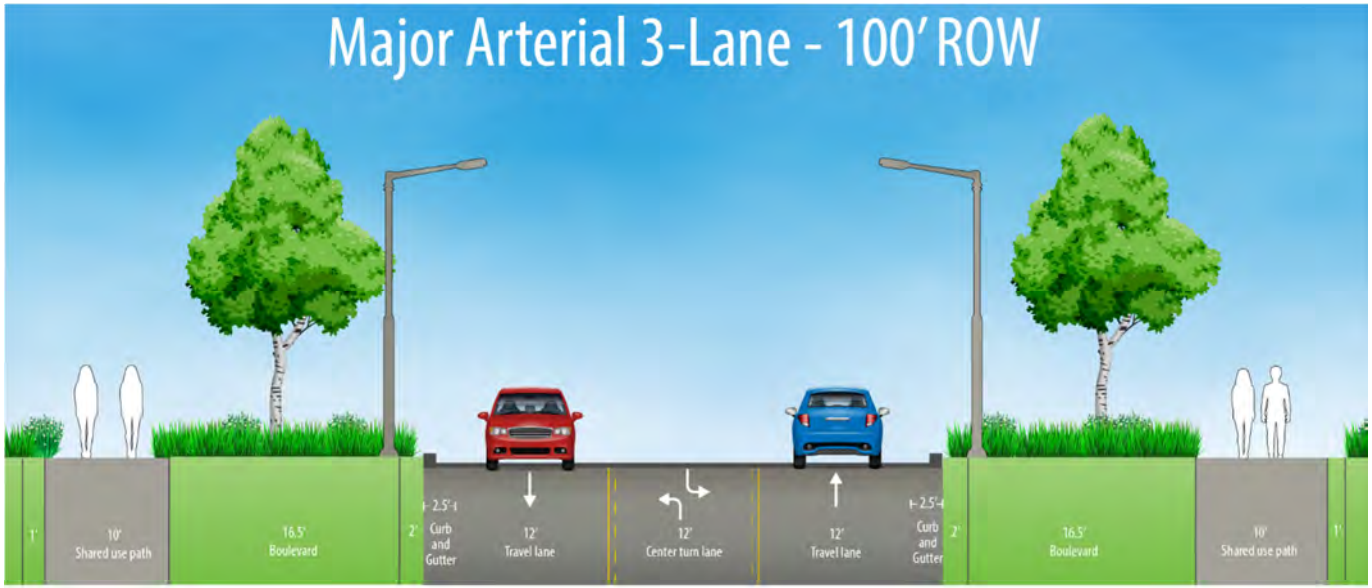
Both Active Street Design concepts utilize an 80-foot ROW, with most of this ROW dedicated to the roadway. The first Active Street Design Concept utilizes on-street parking, with 8-feet parking lanes on both sides of the road. As these design concepts envision a main street environment with high active transportation usage, lower speeds would be encouraged. To accomplish this, both Active Street Design concepts incorporate 10-foot-wide travel lanes accompanied by an 11-foot center two-way left turn lane. Whereas the first Active Street Design Concept includes on-street parking lanes, the second concept replaces these lanes with buffered bike lanes that occupy 8 feet in total—6 feet for the bike lane and a 2-foot buffer to provide separation from vehicles using the travel lanes.

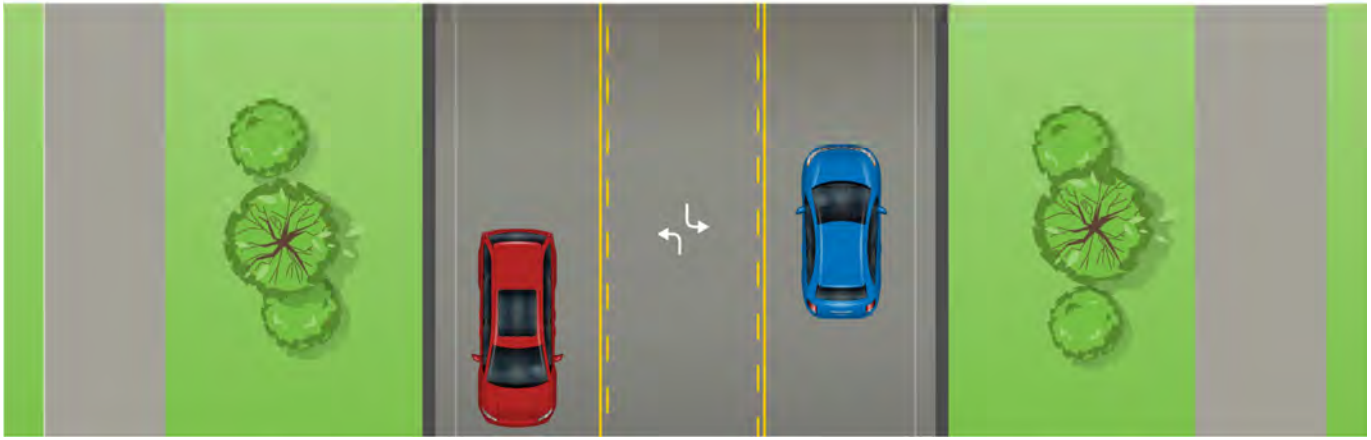
The remaining ROW is envisioned as pedestrian space that provides access to businesses and/or homes fronting the roadway. A total of 16.5 feet of pedestrian space is designed for both sides of the road under the two Active Street Design Concepts; most of this 16.5 feet would be dedicated to sidewalk and public space, while a portion of the space would be dedicated to street trees or other landscaping. It would be possible for this space to also incorporate street furniture, bicycle facilities such as bike racks, or other amenities.

The Active Street Design concepts are included in the Typical Cross Sections below.

Typical Cross Sections

Major Arterial






Major Arterial 4-Lane - 100' ROW
1'
10'
Shared use path
2.5'
2'
2.5'
12'
Travel lane
12'
Travel lane
16'
Median
12'
Travel lane
12'
Travel lane
2.5'
2'
2.5'
10'
Shared use path
1'


Major Arterial 5-Lane - 100' ROW
1'
10'
Shared use path
4.5'
Boulevard
2'
2.5'
12'
Travel lane
12'
Travel lane
12'
Center turn lane
12'
Travel lane
12'
Travel lane
2.5'
2'
4.5'
Boulevard
10'
Shared use path
1'

Community Arterial


Community Arterial 3-Lane - 100' ROW
1'
5'
Sidewalk
21.5'
Boulevard
2'
2.5'-4'
Curb and gutter
12'
Travel lane
12'
Center turn lane
12'
Travel lane
2.5'-4'
Curb and gutter
2'
16.5'
Boulevard
10'
Shared use path
1'

Community Collector


Community Collector - 80' ROW
1'
5'
Sidewalk
12'
Boulevard
2'
8'
Parking lane/Curb and Gutter
12'
Travel lane
12'
Travel lane
8'
Parking lane/Curb and gutter
2'
7'
Boulevard
10'
Shared use path
1'

Industrial Collector

Local Road


Local Road - 66' ROW
1'
5'
Sidewalk
8.5'
Boulevard
2'
2.5'-4'
Curb
and
Gutter
14'
Travel and parking lane
14'
Travel and parking lane
2.5'-4'
Curb
and
Gutter
2'
8.5'
Boulevard
5'
Sidewalk
1'

Active Street Design


Active Street Design - 80' ROW
6.5' Sidewalk/ Public Space
5' Planting boxes/ street trees/ lighting
5' Sidewalk
6' Bike lane/ curb and gutter
2' Buffer
10' Travel lane
11' Center turn lane
10' Travel lane
2' Buffer
6' Bike lane/ curb and gutter
5' Sidewalk/ Public Space
5' Planting boxes/ street trees/ lighting
6.5' Sidewalk/ Public Space

Jurisdictional Transfer

The high growth levels anticipated for Brandon necessitate a process of jurisdictional transfer as the community develops outside of its current incorporated limits. Having a process for jurisdictional transfers allows for a better understanding of how roadway management responsibilities will shift, as well as the best plan of action for maintaining system continuity. Currently, roadways within the MTP study area fall under the purview of the City of Brandon, Brandon and Split Rock Townships, Minnehaha County, and SDDOT.

Jurisdiction over roadways has several critical implications, including the responsibility for planning, designing, constructing, maintaining, and operating a given roadway. Funding eligibility is another critical implication, as the functional classification of roadway determines the types of funding it is eligible to receive. System continuity and roadway design characteristics are a third implication of roadway jurisdiction; with a stated goal of maintaining system continuity within the MTP area, the agency responsible for the design and safety of a corridor are ultimately determining how the role of this corridor within the system's continuity.

Recommended Criteria for Jurisdictional Transfers

The transfer of jurisdiction of a roadway presents a potentially significant cost to the agency taking ownership of that road. The need to improve this roadway up to the current design standards could result in substantial costs to that agency, so having a plan in place to guide the transfer of jurisdiction can help ensure proper alignment, operations, and maintenance concerns are addressed.

A set of potential criteria for the City of Brandon to consider in determining the need for transfer of jurisdiction are presented in Table 30.

Table 30: Recommended Criteria for Jurisdictional Transfers

System Continuity	• Location of the road, whether within the municipal limits or in an identified growth area
Roadway Characteristics	• Infrastructure needs, including utilities, shared use paths, sidewalks, etc. • Daily traffic volumes and speeds limits
Roadway Classification	• Road's functional classification • Types of trips supported by the road
Maintenance and Funding Opportunities	• Would transfer improve efficiency of operations and maintenance? • Timeline for road's rehabilitation/reconstruction investments
Future Planning Documents	• Is the roadway in a future growth area? • Timeline for when development in the future growth area is anticipated to occur
Political Desire	• Are there special political considerations for a jurisdictional transfer?

Transfer of Jurisdiction Process

The process for transferring jurisdictional authority for a roadway begins with the delineation of agency responsibilities regarding the maintenance and operation of that roadway. These responsibilities include, but are not limited to, final engineering design, property acquisition, utility relocation, and roadway maintenance and operation.

Terms agreed upon by the agencies involved in the transfer of jurisdiction can be formalized through several approaches; these terms should be delineated on a case-by-case basis as each roadway will have unique characteristics that should be considered by the agency. The three typical approaches to formalizing a transfer of jurisdiction are:

- Memorandum of Understanding
  - Define scope and purpose of Transfer of Jurisdiction (TOJ), non-legally binding
- Assignment of Easement
  - Legal contract permitting use, access to a property
- Assignment of Right-of-Way
  - Legal contract permitting travel across a property

Determining the Life Cycle Cost of a Roadway

A critical element related to the TOJ process is the determination of the roadway's current and anticipated future value in terms of cost related to its operation and maintenance. It is recommended that the agency assuming responsibility for a roadway segment use SDDOT's Life-Cycle Cost Analysis tool, which provides for the calculation of the roadways future reconstruction and maintenance costs over a defined time period. This tool was developed as part of the SDDOT report SD96-08 *Guidelines for Using Economic Factors and Maintenance Costs in Life-Cycle Cost Analysis*.

Administrative Requirements of the TOJ Process for South Dakota's Arterial Roadway System

Upon agreement of the responsibilities for each agency involved in the TOJ and the determination of the life-cycle costs for a roadway located on the State of South Dakota's arterial roadway system, a series of administrative actions is required under state code and SDDOT policy. These steps are outlined below.

1. City Council passes resolution describing desire road additions or deletions

30-day wait period for action on a proposed deletion; no wait period for additions

2. City forwards copy of resolution to Secretary of the SDDOT, including a map of proposed additions or deletions

State reasons for requested change, i.e., development patterns, traffic growth, etc.

3. Secretary of SDDOT reviews resolution, acts upon request

Proposed deletions require public notice ahead of Council meeting; additions do not

Interchange Development Process

South Dakota Department of Transportation (SDDOT) conducts an Interstate Corridor Study every 10 years to guide the State's investment in the Interstate System. As part of this decennial study, potential future interchanges are identified and prioritized for potential implementation.

Phase 2 of SDDOT's 2020 Decennial Interstate Corridor Study identified two locations within the MTP study area that could be sites of new interchanges:

- I-90 Exit 408, at 484th Avenue

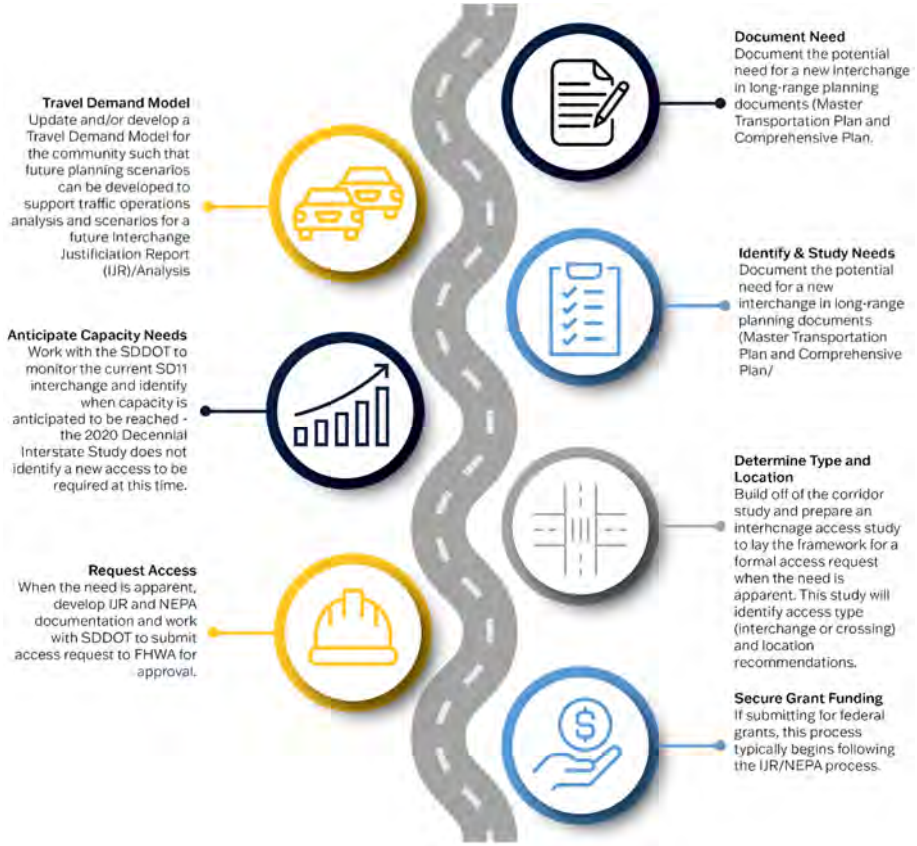
Both locations do not have an interchange at this time but were evaluated in the SDDOT study to assess feasibility of construction of a new interchange facility.

The 2020 Decennial Interstate Corridor Study determined that construction of an interchange at either location is not recommended due to the minimal impact an interchange would likely have in attracting trips, as well as the significant - environmental constraints that would need to be addressed during design and construction of an interchange facility.

While the SDDOT Decennial Interstate Corridor Study does not recommend the construction of an interchange at either location, the potential need for an interchange facility could arise as Brandon continues to grow and develop. As such, the Major Street Plan identifies potential interchanges at I-90 Exit 408 to establish Brandon's proactivity in considering the potential need for a new interchange.

Given the requirements of constructing a new interchange, the City of Brandon can anticipate the project development process should the need for a new interchange arise and be able to efficiently support SDDOT in the design and construction of the facility. **Figure 47** provides a general project development timeline for the City of Brandon to consider in future planning activities as the need for a new interchange is continually monitored.

Figure 47: Typical New Interchange Development Lifecycle



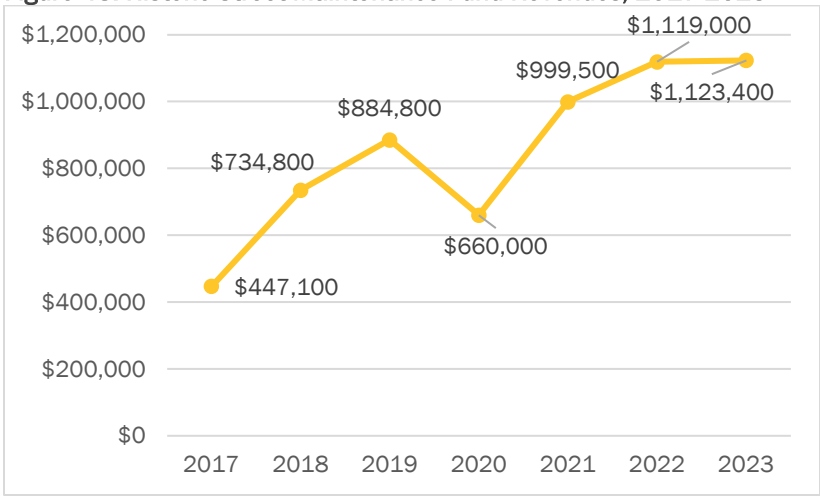
Pavement Management Standards

The current approach for pavement management used by the City of Brandon is to divide the roadway network into seven sub-areas and rotate maintenance and rehabilitation investments in these sub-areas each year through the annual Capital Improvement Plan (CIP). Brandon's Street Maintenance Fund is the key source of funding for the City's pavement management program. Historic funding, for the years 2017 through 2023, illustrate a growth in revenues available to the City for pavement management as shown in **Figure 48**. It is noted this figure shows adopted revenue levels for the Street Maintenance Fund's unassigned balance and street assessment sub-funds.

Historic investment in pavement management through this approach has resulted in effective maintenance of the City's pavement assets, and residents of the community feel that the continuation of effective pavement management should be a key goal of this MTP.

The recommendation of this MTP regarding pavement management standards is for the City of Brandon to continue its current approach to investing in pavement maintenance and rehabilitation for the seven sub-areas. Monitoring trends related to funding eligible for pavement management can present an opportunity for the City of Brandon to source additional funds to aid in managing the system's pavement condition.

Figure 48: Historic Street Maintenance Fund Revenues, 2017-2023



Source: City of Brandon Annual Budgets, 2017-2022

Funding Analysis

This chapter of the Master Transportation Plan (MTP) summarizes an analysis conducted of Brandon's financial documents, including recent Capital Improvement Plans (CIPs) and annual budgets. The purpose of this analysis was to understand key revenue and expenditure trends related to historic spending on transportation-related improvements. Through understanding the key trends influencing the City's transportation-related spending, a baseline for estimating future revenue conditions can be gained.

The analysis reviewed CIPs and annual budgets for the period 2017 through 2023. Federal and state dollars allocated to the Brandon area during this time period were also reviewed. Given the historic revenues and expenditures, funding projections for Brandon area were developed through the year 2050. The discussion of future transportation funds uses a series of time bands that seek to group dollars in a based on reasonably expected growth rates. The time bands include:

- **Current Capital Improvement Plan**: 2024 – 2027
- **Short-Term**: 2028 – 2033
- **Mid-Term**: 2034 – 2039
- **Long-Term**: 2040 – 2045

Phasing of the recommended MTP improvements is based on these time bands and the nature of each project's cost and priority in meeting the current needs of Brandon's transportation system. The Current Capital Improvement Plan period represents improvements committed under the City's current CIP; as such, the earliest implementation of MTP recommendations would be during the Short-Term period.

Funding Sources

Transportation funding for the City of Brandon comes from an array of Federal, state, and local sources. This section details the typical sources of funds.

Local Funding Sources

Local sources provide the majority of transportation funds for the City of Brandon. The bulk of dollars spent on transportation come from the City's General Fund; these funds are supplemented by several other local programs. The typical local sources of transportation funds include:

- **General Fund:** Main source of funds for services provided by the City. Revenues come from property taxes, sales taxes, fees, permits, transfer payments, grants, fines, special assessments, and interest income.
- **Street Assessment:** Revenues from fees levied on private properties abutting public right-of-way (ROW). The purpose of this program is to provide additional revenues to fund infrastructure improvements.
- **Third Cent Sales Tax:** Revenues from an additional one percent sales tax within the City of Brandon. Funds accrued through this tax may be used for land acquisition, architectural fees, construction costs, and public facilities.
- **Motor Vehicle Licensing:** Revenue from Minnehaha County's motor vehicle license fund allocated to the City of Brandon.
- **County Wheel Tax:** Revenues from Minnehaha County's wheel tax fund allocated to the City of Brandon. Revenues from the County Wheel Tax fund may only be used for highway and bridge maintenance and construction.

State Funding Sources

- **Local Government Highway & Bridge Fund:** Revenue from the State's Local Government Highway & Bridge Fund.
- **State Grants:** Revenue from State grants and reimbursements.
- **Surface Transportation Program (STP) Funds:** Revenue from SDDOT's formula-based program that allocates funds to South Dakota's Class I cities, defined as those with populations between 5,000 and 50,000, based on population, state and Federal route lane mileage, land mass, and fringe development.

Federal Funding Sources

- **Surface Transportation Block Grant Program (STBG):** Federal funding made available to the State or local agency for projects on any Federal-aid highway or bridge project. Eligible projects include any improvement to a Federal-aid road, pedestrian and bicycle improvement, or transit capital project.
- **Transportation Alternatives Program (TAP):** Federal funding made available to the State or local agencies for alternative transportation projects, including pedestrian and bicycle facilities, recreational trails, safe routes to school, historic preservation, vegetation management, and environmental mitigation related to stormwater and habitat connectivity.
- **National Highway Performance Program (NHPP):** Federal funding made available to the State or local agency for projects that support the condition of the NHS, constructs new facilities on the NHS, or ensures investment of Federal funds in highway construction supports progress towards achievement of SDODT performance targets for asset management.
- **Highway Safety Improvement Program (HSIP):** Federal funding made available to the State or local agencies for projects that aim to achieve a significant reduction in traffic fatalities and serious injuries on public roadways, including non-State-owned public roads.

Historic Funding Trends

A review of past City budgets and CIPs was conducted to identify key trends related to historic revenues that have been available to Brandon for improving the local transportation system. The analysis of historic funding trends was based on financial documents published between 2017 and 2023; based on the trends identified in this analysis, growth rates were developed that were then applied to baseline revenue levels for the purpose of forecasting future revenues and assessing the amounts of transportation dollars likely to be available to the City of Brandon through the life of this MTP.

Historic Revenues

Historic revenues for the City of Brandon for the years 2017 through 2023 are summarized in **Table 31**. General Fund revenues averaged $6.1 million per year over the seven-year analysis period, providing most of the dollars available for transportation improvements. Third Cent Sales Tax revenues averaged just over $200,000 per year during this same timeframe while Street Assessment revenues saw an average of $610,000 per year. Motor Vehicle License and Highway and Bridge Fund revenues averaged $53,000 and $55,000 per year, respectively, while County Wheel Tax revenues averaged $10,000 per year. STP Fund revenues disseminated by SDDOT provided an average of $320,000 per year for transportation improvements within the community.

Table 31: Historic Revenue Levels (Thousands of $)

Funding Source	2017	2018	2019	2020	2021	2022	2023	2017 - 2023 Average
General Fund	$5,146	$5,361	$5,708	$5,949	$6,333	$6,984	$7,458	$6,100
Third Cent Tax	$190	$190	$210	$220	$200	$220	$240	$210
Street Assessment	$255	$480	$560	$660	$665	$815	$840	$610
Motor Vehicle License	$45	$50	$53	$54	$54	$56	$56	$50
Highway & Bridge Fund	$55	$55	$55	$54	$54	$54	$55	$50
Wheel Tax	$9	$10	$10	$10	$10	$10	$10	$10
STP Funds	$284	$284	$290	$297	$336	$364	$390	$320

Future Revenue Forecasts

Future revenues were forecasted to provide a baseline understanding of the amount of transportation dollars likely to be available to the City of Brandon given past growth trends. These forecasts were developed by analyzing historic growth trends based on the revenue levels shown in **Table 31** and applying these to forecast baseline revenue levels; the revenue forecast period spans the years 2028, or the beginning of the Short-Term time band, through the conclusion of the Long-Term time band in 2045.

Revenue Forecast Baselines and Growth Rates

A baseline revenue level for the typical sources of transportation funds within Brandon was developed based on historic average revenue levels for the years 2017 through 2023. These baseline revenue levels are shown in **Table 32**, along with their respective forecast growth rates. Forecast growth rates were based on the annual growth trends observed for each revenue source during the analysis of historic revenue levels.

Table 32: Baseline Revenue Levels and Forecast Growth Rates

Funding Source	Forecast Baseline	Growth Rate
General Fund	$6,100,000	3.5%
Third Cent Tax	$210,000	2.2%
Street Assessment	$610,000	5.7%
Motor Vehicle License	$53,000	2.4%
Highway & Bridge Fund	$55,000	2.0%
Wheel Tax	$10,000	1.3%
STP Funds	$390,000	1.5%
TAP Funds	$62,000	1.5%

Revenue Forecasts

Revenue forecasts for transportation-related funding sources are shown in **Table 33** and presented by time band. Overall revenue forecasts for the City of Brandon through 2045 see:

- **$58.3 million** in Short-Term Funding
- **$72.5 million** in Mid-Term Funding
- **$89.7 million** in Long-Term Funding
- **$220.5 million** in total funding through the life of the MTP

Short-Term Revenues

Revenue forecasts for the Short-Term are anticipated to equal just over $58 million, with most of these revenues coming from the General Fund whose revenues were forecasted to equal $47 million. Third Cent Tax revenues are expected to amount to $1 million in the Short-Term while Street Assessment revenues were forecasted to be $6 million during this period. Motor Vehicle License and Highway and Bridge Fund revenues are both anticipated to equal roughly $380,000 while Wheel Tax revenues are expected total just over $66,000. STP Funds sourced from SDDOT were forecasted to be $3 million and TAP Funds were forecasted to be $467,000.

Mid-Term Revenues

Revenue forecasts for the Mid-Term are anticipated to equal just nearly $72.5 million, with General Fund revenues forecasted to equal $58 million. Third Cent Tax revenues are expected to amount to $2 million in the Mid-Term while Street Assessment revenues were forecasted to be $8 million during this period. Motor Vehicle License and Highway and Bridge Fund revenues are both anticipated to equal roughly $435,000 while Wheel Tax revenues are expected total just over $71,000. STP Funds sourced from SDDOT were forecasted to be $3 million and TAP Funds were forecasted to be $560,000.

Long-Term Revenues

Revenue forecasts for the Long-Term are anticipated to equal just over $89 million, with most of these revenues coming from the General Fund whose revenues were forecasted to equal $71 million. Third Cent Tax revenues are expected to amount to $2 million in while Street Assessment revenues were forecasted to be $11 million during this period. Motor Vehicle License revenues were forecasted to be $502,000 while Highway and Bridge Fund revenues are anticipated to equal roughly $485,600. Wheel Tax revenues are expected to total just over $77,000. STP Funds sourced from SDDOT were forecasted to be $4 million and TAP Funds were forecasted to be $673,000.

Table 33: Revenue Forecasts (Thousands of $)

Revenue Forecasts	General Fund	Third Cent Tax	Street Assessment	Motor Vehicle License	Highway & Bridge Fund	Wheel Tax	STP Funds	TAP Funds	Total
Short-Term (2028-2033)	$47,000	$1,000	$6,000	$379	$383	$66	$3,000	$467	$58,295
Mid-Term (2034-2039)	$58,000	$2,000	$8,000	$436	$431	$72	$3,000	$560	$72,499
Long-Term (2040-2045)	$71,000	$2,000	$11,000	$502	$486	$78	$4,000	$673	$89,738
Total	$176,000	$5,000	$25,000	$1,317	$1,300	$216	$10,000	$1,700	$220,533

MTP Recommendations

As the Brandon community continues to attract new residents and workers, the need for strategies to maintain safe and efficient travel in light of increased demand related to this growth will likely arise. This chapter of the MTP describes strategies to address future traffic growth and provide safe and efficient multimodal travel.

Future Roadway System

The future roadway system, as illustrated in the Major Street Plan (**Figure 45**), provides the roadmap for future expansion of Brandon's existing system. Given the growth in traffic volumes and operations, the MTP seeks to lay the foundation for the analysis of Brandon's future high-volume corridors through the completion of traffic studies. It is through this lens that MTP recommendations for the future roadway system are provided.

Engineering Design Standards

A key element of this MTP is the review of Brandon's Engineering Design Standards so that the necessary revisions needed to update these standards are identified. The Standards Development chapter of this MTP provided a series of updates that can be made to the City's Engineering Design Standards so that future transportation improvements align with the community's vision and goals as growth and development occurs. As such, this MTP recommends that the City of Brandon updates its Engineering Design Standards to reflect the revisions presented in the Standards Development chapter.

Recent and Ongoing Corridor Studies

Several corridors within the Brandon MTP area have recently undergone, or are currently undergoing, a study of current and future anticipated traffic with the purpose of identifying the improvements necessary to support safe and efficient traffic operates in the future. The corridors that have recently been, or are currently being, studied include:

- SD11 / Splitrock Boulevard, from SD42 to Redwood Boulevard (2022)
- Maple Street / Park Street, from Veterans Parkway to SD11 / Splitrock Boulevard (2019)
- Rice Street and Holly Boulevard, from N Cliff Avenue to SD11 / Splitrock Boulevard (Ongoing)
- Interstate 90 Exit 406 Interchange

The MTP supports the implementation of the improvements identified within these studies that are located within the Brandon MTP Area. **Figure 49** provides a summary of the recommendations.

SD11 / Splitrock Boulevard Corridor Study

The SD11/Splitrock Boulevard Corridor Study sought to evaluate existing conditions and future operations of the corridor to identify potential improvements along the roadway between SD42 and Redwood Boulevard. SDDOT had identified this segment of SD11 as the location of a rehabilitation or reconstruction project planned for the 2028-2030 timeframe, and this study aims to identify improvements that could be implemented in support of the major rehabilitation or reconstruction.

The findings of the study for the portion of SD11 within the MTP Area recommend the following improvements, which are also shown in **Figure 49**:

- Widening of SD11 from Madison Street to Sioux Boulevard from its current two-lane rural section to a three-lane rural section with a center two-way left turn lane (TWLTL) and paved eight-foot shoulders.
- Widening of SD11 from Sioux Boulevard to Aspen Boulevard from its current two-lane rural section to a five-

lane urban section with two through lanes in each direction with a center TWLTL.

- Implementation of the reconstruction of SD11 from the I-90 interchange south to the intersection with Ash Street.

Maple Street / Park Street Corridor Study

The Maple Street / Park Street Corridor Study identified transportation issues and needs throughout the corridor and developed a plan for addressing these needs over a 20 year planning horizon, given the anticipated development expected along the corridor.

The findings of the study for the portion of Maple Street / Park Street within the MTP Area recommend the following improvements, which are also shown in **Figure 49**:

- Reconstruction and widening of Maple Street / Park Street from Six Mile Road to Sioux Boulevard from its current two-lane cross section to a three-lane urban section with a center TWLTL.
- Extension of Park Street from Sioux Boulevard to SD11 / Splitrock Boulevard that maintains the three-lane cross section recommended for the Six Mile Road to Sioux Boulevard segment.

Rice Street and Holly Boulevard Corridor Study

The Rice Street and Holly Boulevard Study is an ongoing effort to develop a long-range plan for the corridor, extending from N Cliff Avenue in Sioux Falls to SD11 / Splitrock Boulevard in Brandon. The objectives of the study aim to determine the future design of the corridor, plan future traffic control at intersections, develop a corridor access management plan, and identify a corridor land use plan.

The study is planned for publication in 2024; once available, the MTP recommends that the City of Brandon support the findings of the Rice Street and Holly Boulevard Corridor Study when planning future improvements for this corridor.

Recommended Future Corridor Studies

In addition to the completed and ongoing corridor studies, the future conditions analysis identified locations where the current street system will see deficiencies related to safety and mobility without improvements. As this is a long-term plan, it is recommended that corridor studies be conducted to identify the details on required future improvements for each corridor. Those corridor studies include:

Redwood Boulevard, from SD11 / Splitrock Boulevard to 484th Avenue

Redwood Boulevard is currently a gravel township east of Split Rock Creek. There is a new school being built for the year 2025 south of Redwood and east of Chestnut and significant levels of residential development are anticipated in this eastern portion of Brandon by 2045. This growth is anticipated to lead to growth in traffic volumes between 400 daily vehicles today just west of Chestnut to over 2,000 daily vehicles by 2045. Future traffic studies are likely to indicate additional growth.

A corridor study should focus on converting this segment into an urban segment that identifies:

- Locations of access points
- Future access points and Intersection control
- Number of future travel lanes
- Turning lane locations
- Bicycle and pedestrian facilities.

Chestnut Boulevard, Redwood Boulevard to Aspen Boulevard

Chestnut Boulevard is currently unpaved from Redwood Boulevard south to Oakhill Circle, where it transitions to a two-

lane urban section from Oakhill Circle to Aspen Boulevard. Similar to the Redwood Boulevard corridor, Chestnut Boulevard serves anticipated high-growth areas within the MTP Area, such as the future school planned to open in 2025 as well as adjacent residential development. This growing areas is expected to lead to increases of daily traffic volumes within the area, which presents the potential need to improve this corridor so that future traffic to the school and residential developments is supported.

The recommendation for a Chestnut Boulevard corridor study include:

- Refined forecasts that take into account recent growth trends and future turning movements. The Sioux Falls MPO model is showing limited growth in this corridor, but it is anticipated that with refined traffic forecasting approaches the forecasts will show additional future traffic levels.
- Recommended access points and overall street design based on the City's design standards
- Recommendations for traffic control based on corridor evaluation.
- Inclusion of the appropriate active transportation elements.

Aspen Boulevard, from SD11 / Splitrock Boulevard to 484th Avenue

Aspen Boulevard is currently a two-lane urban section from SD11 to McHardy Road, where it transitions to a two-lane rural section to 484th Avenue. A portion of the McHardy Road to 484th Avenue segment, between the Brandon Golf Course and 483rd Avenue, features a center TWLTL. Aspen Boulevard is a key corridor within the community, connecting development in the eastern part of Brandon to SD11 and Brandon's central business district.

With its connection to the anticipated high-growth areas in the eastern part of Brandon, Aspen Boulevard is expected to see relatively high growth in daily traffic volumes. For the segment of Aspen Boulevard between SD11 and 483rd Avenue, daily traffic volumes are forecasted to increase from a current day level of 5,700 daily vehicles to approximately 8,000 daily vehicles by 2045. Daily traffic levels east of 483rd Avenue are expected to increase from a current level of 2,900 daily vehicles to almost 4,500 daily vehicles by 2045.

An Aspen Boulevard corridor study would focus on a safe and efficient design of the corridor as it transitions from the rural cross section to an urban cross section east of the Brandon Golf Course. A second major component recommended for a future Aspen Boulevard corridor study is access management and determining the appropriate locations of future access points. Traffic control needs and bicycle and pedestrian features should also be considered as part of a future corridor study for Aspen Boulevard.

Madison Street, from Six Mile Road to SD11 / Splitrock Boulevard

Madison Street is currently a two-lane rural cross section from Six Mile Road to SD11 and has been identified as being in a high growth area of future employment and household development. However, a relatively high amount of growth in households is anticipated for this part of Brandon.

Today, approximately 4,500 vehicles are traveling along Madison Street west of SD11. This number is forecasted to increase to nearly 7,000 vehicles per day by 2045. Given this estimated increase in daily traffic volumes, a study of the Madison Street corridor between Six Mile Road and SD11 could benefit the City by developing the necessary infrastructure plans that accommodate rising traffic volumes. This study can identify the necessary number of through and turn lanes, traffic control,

access points, and bicycle and pedestrian infrastructure needed to support future travel along Madison Street.

Additional Roadway Recommendations

Supplementing the recommended corridor studies of this MTP are additional recommendations to study the need for an I-90 interchange at Exit 408, to build out of the future collector network identified in the MSP, and roadway paving.

Future Interchange Study

SDDOT conducts a decennial study that analyzes the state's Interstate System, including the mainline and interchange facilities, to help guide investment in the system during the following decade. The 2020 Decennial Interstate Corridor Study serves as the current decennial study for the SDDOT; this study identified a potential interchange sited at I-90 Exit 408 east of Brandon's city limits. The interchange concept identified in the study is a standard diamond interchange at the 484th Avenue overpass of I-90, and the maintenance of 484th Avenue in its existing design as a two-lane road without turn lanes at the future stop-controlled ramp terminal intersections.

The decennial study found that forecasted growth is not likely to be significant enough to warrant construction of an interchange at this location. Despite these findings, the MTP recommends that traffic conditions and development be monitored in this area for consideration of a future interchange at the site shown in **Figure 49**.

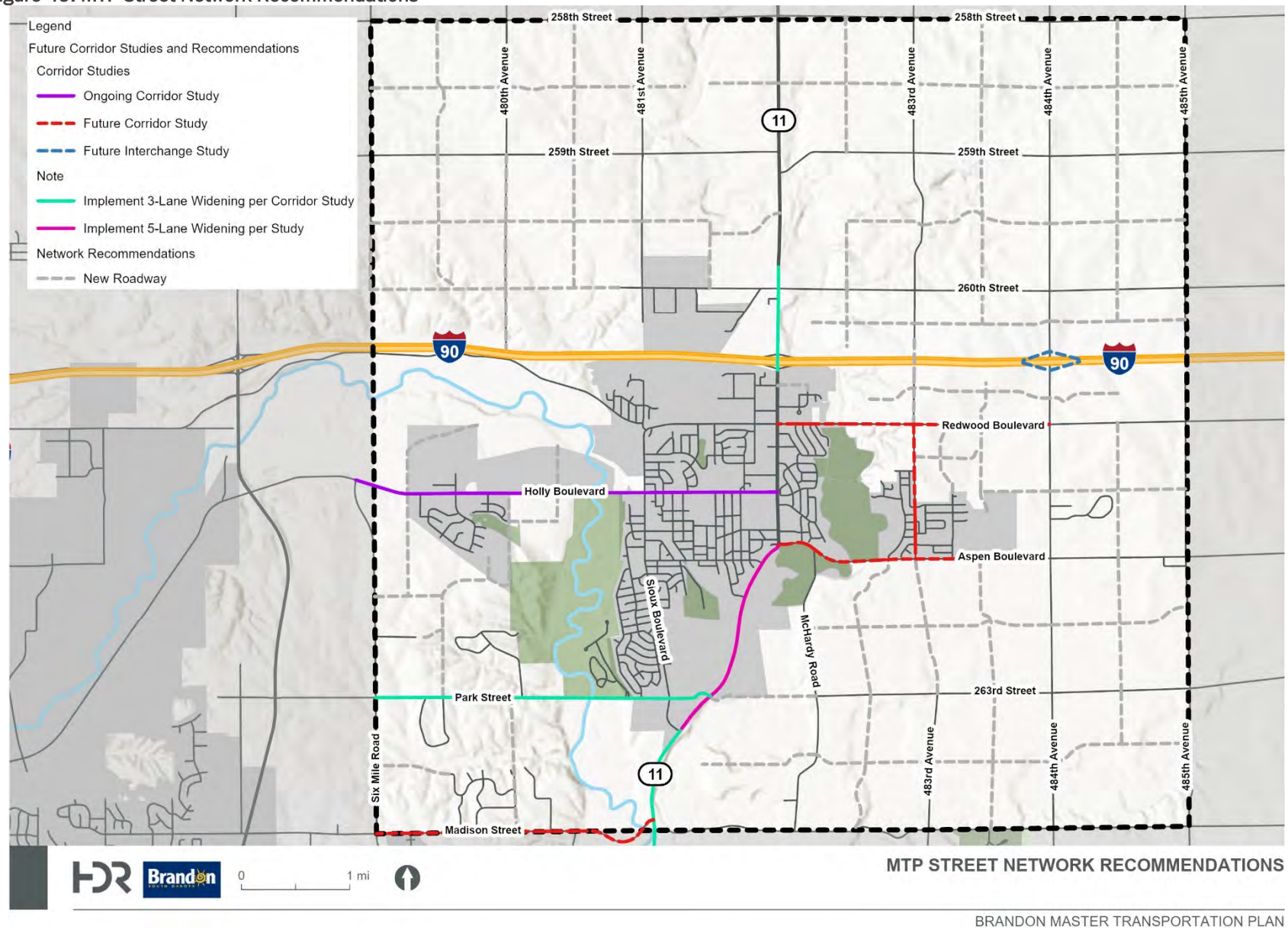
Collector Network

A build out of the future collector network, illustrated in **Figure 49** as the light gray dashed lines, is recommended on a location-specific basis as development occurs and growth pressure requires additions to the collector network to support future travel demand within the MTP Area. Given the household and employment growth shown in **Figure 40** and **Figure 41**, it can be expected that future build out of the collector network would occur in the southern and northwest parts of the MTP Area.

Pavement Management

Brandon has demonstrated success in preserving its pavement assets within the community through the management program described in the Pavement Management Standards section. As stated in the section, this MTP recommends the continuation of this program while monitoring funding programs and trends related to asset management. Public feedback received during MTP engagement activities stated the need for Brandon to continue preserving the physical condition of roadways and sidewalks; through the continuation of the current pavement management program, Brandon can maintain its transportation assets in a financially sustainable manner while providing residents and visitors with quality transportation infrastructure.

Figure 49: MTP Street Network Recommendations



Future Bicycle and Pedestrian System

Bicycle and Pedestrian Recommendations

The proposed active transportation network concept was built from the 2022 *Brandon Bike and Pedestrian Plan*. That Plan set a vision to "provide a Healthy Community Design that provides opportunities for increased activity, greater public health, cleaner air, access to trails, increased ADA accessibility, increased economic development, and better multimodal transportation." The Plan has six goals which include: connectivity, trails, safety, safe routes to school, accessibility, and equity. The Plan aims to address Brandon residents' demand for better trails and sidewalks and respond to residents' interest for improved active transportation options using Complete Streets.

Proposed Bicycle and Pedestrian Network

Bicycle and pedestrian improvements recommended as part of this MTP create an active transportation network that will be cohesive with the existing and proposed street network to improve multimodal connectivity. The recommendations for the bicycle and pedestrian network were grouped into the following facility types:

- Existing and Proposed Natural Surface Trails
- Existing and Proposed Shared Use Paths
- Proposed Shared Lane Markings
- Proposed Bike Lanes

The 2022 Brandon Bike and Pedestrian Plan contained recommendations to build a regional trail system, expand shared use paths, and add shared bike/walk lanes in the "Quick Build" area located in the 9th Avenue Industrial Park. The proposed active transportation network in this MTP, shown in **Figure 50**, started by using the proposed shared use path and trail data from the 2022 Bicycle and Pedestrian Plan. Some of the recommendations in the 2022 Bicycle and Pedestrian Plan were adjusted for the updated active transportation network concept, and include the following:

- The Safe School Routes Map[10] in the Bike and Pedestrian Plan included local roads which were identified as preferred walking routes to school. Since these would be lower volume and lower speed routes suitable for children walking to school, the updated active transportation network also identifies these routes as proposed on-street shared bicycle routes, which are indicated as proposed Shared Lane Markings in **Figure 50**.
- The proposed regional trails in the Bike and Pedestrian Plan[11] are identified as proposed Natural Surface Trails in the MTP.
- All future collector and arterials as shown in **Figure 50** from the MTP are also routes for future Shared Use Paths. These are expected to be built as the streets are constructed.
- Where proposed Natural Surface Trails and proposed Shared Use Paths overlapped or were in proximity, they were consolidated to only indicate proposed Shared Use Paths.

[10] Brandon Bike and Pedestrian Plan

[11] Brandon Bike and Pedestrian Plan

Low Impact Design Concept Application

The Low Impact Design Concepts discussed in the **Active Transportation** chapter detailed solutions to two issue areas identified by City staff—Sylvan Circle and the industrial park area north Redwood Boulevard and west of SD 11/Splitrock Boulevard. This MTP recommends the consideration of these low impact design concepts to address the limited bicycle and pedestrian infrastructure in these locations through further study and consultation with residents and employers so that an understanding of the appropriate treatments that can provide safe facilities for bicycle and pedestrians is obtained. Prior to implementation of any of these concepts, neighborhood and stakeholder engagement and additional concept design are recommended. Figure 50 provides the locations of the two low impact design concept areas.

Complete Streets

To support the implementation of the proposed bicycle and pedestrian network shown in **Figure 50**, the adoption of a Complete Streets policy is recommended as part of this MTP. A Complete Streets Policy can help the community progress towards the vision and goals articulated in the Bicycle and Pedestrian Plan by specifying how Brandon will plan, design, and maintain streets in a manner that provides safety for users of all ages and abilities.

The adoption of a Complete Streets policy can formalize an approach for the City of Brandon to use in planning, designing, and building streets that are safe and efficient for all roadway users. Through the adoption of a policy, the community can institutionalize a process that sees the provision of adequate active transportation infrastructure is incorporated into the planning and design of transportation improvements. The outcomes of this formalized policy can result in streets that safer while striving to balance the needs of all users.

A draft Complete Streets policy compliant with the guidance provide by the National Complete Street Coalition is included in Appendix X.

ADA Transition Plan

The Americans with Disabilities Act (ADA) of 1990 prohibits discrimination against people who have disabilities. ADA applies to all agencies including the City of Brandon, and includes providing appropriate accessibility within the public rights-of-way. An ADA transition plan for the City would include the following elements as defined by FHWA:

1. A List of Physical Barriers in the Department's Facilities that Limit Accessibility of Individuals with Disabilities (the Self-Evaluation),
2. A Detailed Description of the Methods to Remove these Barriers and Make the Facilities Accessible,
3. A Schedule for Taking the Necessary Steps,
4. The Name of the Official Responsible for Implementation,
5. A Schedule for Providing Curb Ramps
6. A Record of the Opportunity Given to the Disability Community and Other Interested Parties to Participate in the Development of the Plan.

Safety Action Plan

Safety has emerged as a key topic in transportation planning, as evidenced by Federal and state transportation agencies emphasizing safety through increased funding and performance requirements that focus on reducing crashes. One approach to planning safe multimodal transportation systems is through comprehensive Safety Action Plans, which provide transportation agencies with a unifying framework that leverages data analysis to identify critical safety needs and guides safety investments.

To support safety action planning. USDOT makes funding available to state and local transportation agencies for developing

Safety Action Plans. A major funding opportunity is USDOT's Safe Streets and Roads for All (SS4A) discretionary grant program that provides funding for planning and demonstration. SS4A funding can be used to develop an action plan, conduct safety planning in support of an Action Plan, and to carry out demonstration activities that inform the development or updating of an Action Plan.[12]

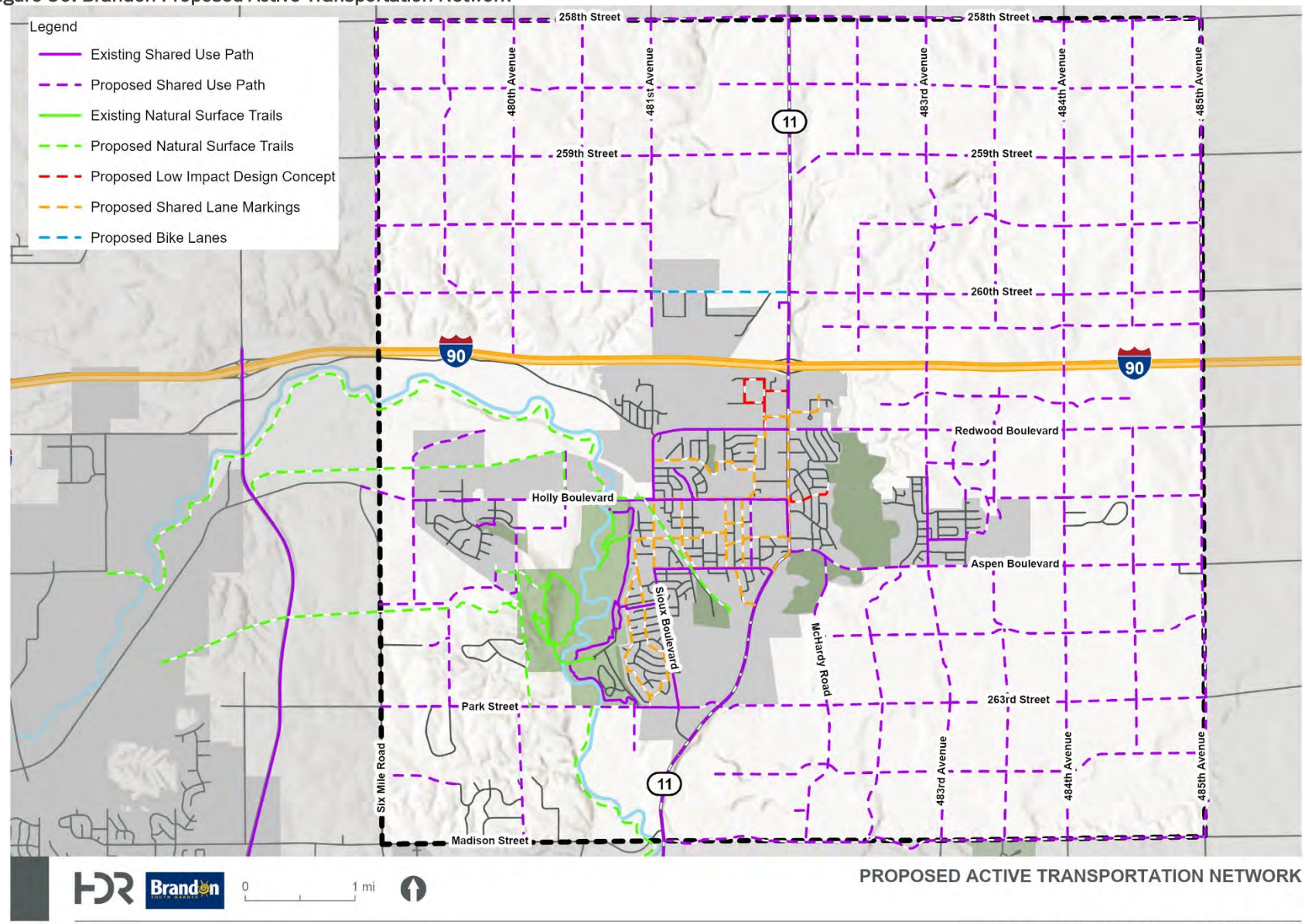
A recommendation of this MTP is for the City of Brandon to consider pursuing SS4A funding that can be used to develop a Safety Action Plan. While the City is able to pursue SS4A funds on its own, it is advised that Brandon collaborate with other communities in the Sioux Falls MPO region when applying for the grant funding to strengthen the application.

Active Street Design

The Active Street Design concepts discussed in the Standards Development chapter are intended to provide a template for future design opportunities should Brandon focus on infill development within the community. While it is not recommended for these concepts to be included in the Engineering Design Standards updates at this time, it is recommended that the City monitor development trends within the community and consider these design concepts for inclusion in future updates to the Engineering Design Standards should interest in infill development arise.

[12] USDOT, Action Plan Requirements

Figure 50: Brandon Proposed Active Transportation Network



Future Transit System

Presently, Brandon Transit predominantly serves young school-age children, providing transportation between their homes or daycare centers and schools. According to the Brandon Public Transportation Plan, children make up the largest customer base, consistent with 32% of the local population being under the age of 18[13]. As Brandon's population continues to grow, this poses a significant challenge for Brandon Transit, as the demand for its services will inevitably increase beyond its current capacity. The existing prior-day service system operates solely within the city limits of Brandon and is disconnected from surrounding communities.

Current obstacles facing Brandon Transit include challenges meeting demand during peak times. Moreover, there is some demand to expand hours of operation to close gaps in service availability. To meet ridership demand and improve overall service, Brandon can consider expanding service models. One potential solution would be upgrading from service requests the prior-day to same-day service. This enhancement would guarantee transit service on the day of a requested trip, which allows for greater flexibility and convenience for passengers.

Expanding the hours of operation as well as days of operation would also meet the needs of a growing community. Additionally, establishing better connections between Brandon and neighboring areas such as Sioux Falls or Valley Springs would unlock new opportunities for residents such as improved access to regional transit and potential employment. Additional funding sources will be essential to supporting the necessary changes to sustain Brandon Transit in the long-term.

By addressing these challenges, Brandon can pave the way for a more efficient and accessible transit system and will foster growth and enhance the quality of life for all residents.

Table 34: Potential Transit Enhancements

Enhancement	Description
Extended Days of Service	Expand service to operate on Sundays and / or Saturdays
Extended Hours	Expand hours of service from 8:00 am – 3:45 pm to 7:30 am to 5:30 pm to accommodate work and school schedules
Same-Day Service	Guaranteed service when requests are made the same day as the trip
Regional Connection	Expand service to Sioux Falls SAM and Valley Springs

[13] Brandon Transit Plan

LINCOLN COUNTY HIGHWAY 106

CORRIDOR STUDY

DRAFT
September 2023

SECOG
SOUTH EASTERN COUNCIL OF GOVERNMENTS
SOUTH DAKOTA

SD DOT

LINCOLN COUNTY

CITY OF SIOUX FALLS

TABLE OF CONTENTS

APPENDIX

FIGURES

TABLES

INTRODUCTION

Lincoln County Highway 106/271st Street (LC Hwy 106) is the growth boundary between the City of Sioux Falls and City of Harrisburg east of Interstate 29 (I-29), and currently under the jurisdiction of Lincoln County. With rapid growth of both communities and the start of construction of the southern segment of Veterans Parkway, the South Eastern Council of Governments (SECOG) initiated a study in 2023 to develop a long-range plan for the corridor.

The LC Hwy 106 study limits are shown in **Figure 1**, which extends approximately nine miles from the Tallgrass Avenue intersection to the 480th Avenue intersection.

A Study Advisory Team (SAT) was organized to provide guidance and feedback at key milestones and included representatives from:

- SECOG/Sioux Falls Metropolitan Planning Organization (MPO)
- Lincoln County
- City of Harrisburg
- City of Sioux Falls
- South Dakota Department of Transportation (SDDOT)

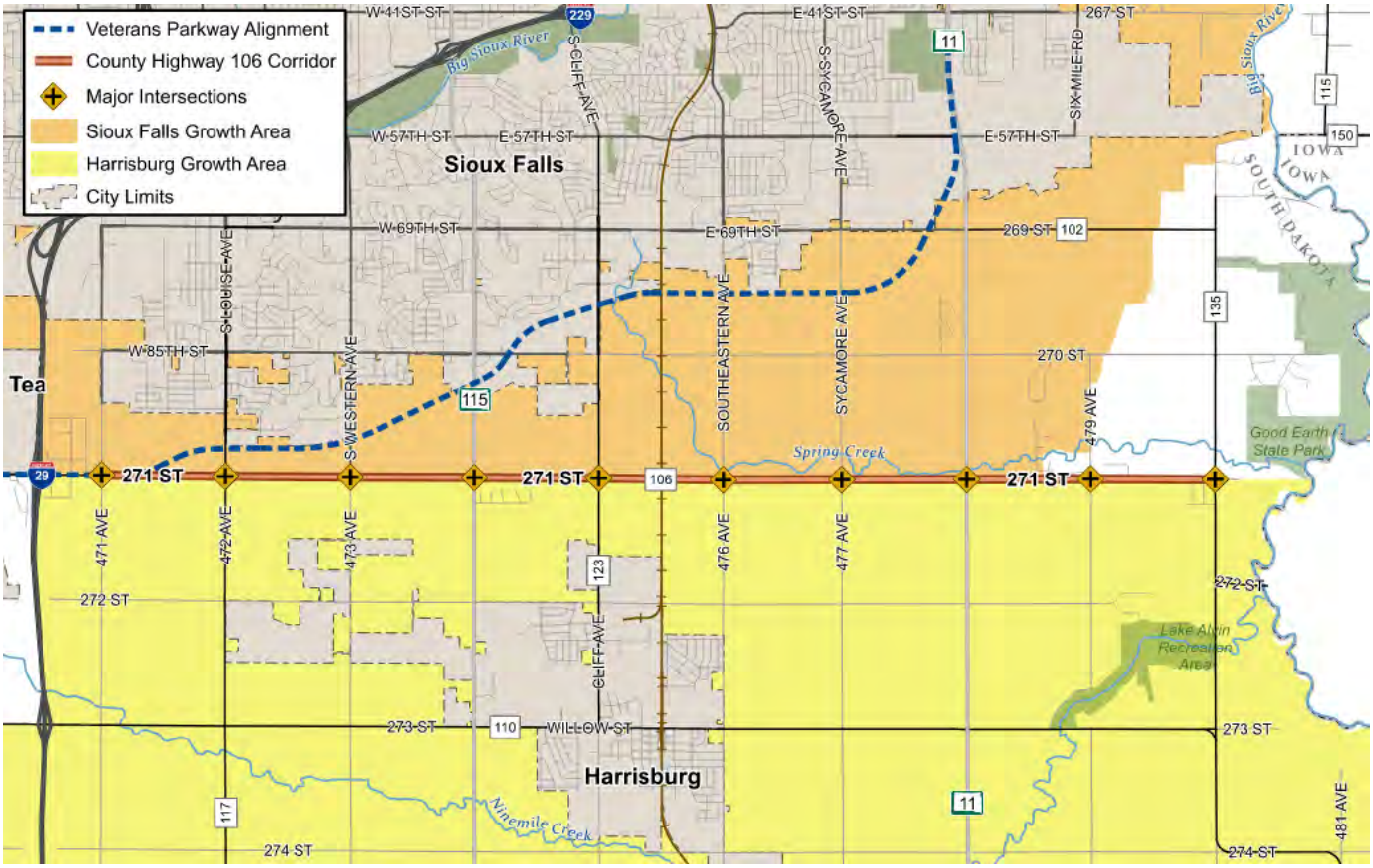


Figure 1: Study Area

Study Objectives

Lincoln County Highway 106 Corridor Study objectives include:

1. Determine potential intersection configurations for all arterial section line intersections.
2. Determine the need for additional through, turning, and/or passing lanes.
3. Develop a corridor land use and access management plan.
4. Create a high-level environmental review technical memorandum of known environmental issues.
5. Develop a long-range plan to help guide partnering agencies in implementation of recommended improvements.

Study Process

The study used a four-step process to develop long-range planning recommendations for the corridor:

1. Identify transportation issues and needs
2. Develop alternatives
3. Evaluate and refine alternatives
4. Develop recommendations

Study Advisory Team, public, and stakeholder involvement were instrumental throughout the process, which included six Study Advisory Team meetings, a land use planning meeting, and two sets of public open houses and virtual stakeholder meetings.

Methods and Assumptions

A *Methods and Assumptions* document was prepared at the onset of the study to serve as a historical record of analysis methodology. The final version is provided in **Appendix A**.

Prior Studies

The following planning documents were referenced to support this study:

- *Northern Lincoln County Corridors (SD11 and SD115) Study*
- *2045 Go Sioux Falls Long Range Transportation Plan (LRTP)*
- *Veterans Parkway Traffic Design Memo*
- *Lincoln County and Harrisburg Master Transportation Plans*
- *City of Harrisburg Master Transportation Plan*
- *2019 City of Harrisburg Comprehensive Plan*
- *Shape Sioux Falls 2040 – Comprehensive Plan*
- Area bicycle and pedestrian plans
- Area traffic impact studies

BASELINE CONDITIONS

Existing Road Conditions

A summary of existing roadway segment and intersection information is shown in **Figure 2**. While LC Hwy 106 maintains a 2-lane cross-section throughout the study corridor, several features vary such as posted speed, intersection configuration, and intersection traffic control. There is an at-grade railroad crossing at the ½-mile point between Cliff Avenue and Southeastern Avenue. The corridor crosses two state highways, SD115 (Minnesota Avenue) and SD11.

Corridor Growth Areas

The LC Hwy 106 corridor is the growth boundary for City of Harrisburg (south of LC Hwy 106) and City of Sioux Falls (north of LC Hwy 106). Growth planning by both communities provides valuable context on when and where development is expected to occur, which translates to planning-level timelines of when transportation network improvements may be required.

On the north side of LC Hwy 106, the City of Sioux Falls Growth Management Plan identifies areas of development and approximate timelines based on serviceability of utilities. The March 8, 2023, version, shown in **Figure 3**, categorizes developable areas into three tiers:

- Tier 1: City services available within the five-year CIP period
- Tier 2: City services are projected to be available for the development within 6 to 15 years
- Tier 3: City services are projected to be available for development within 16 to 25 years

In general, the Harrisburg growth area south of LC Hwy 106 follows a similar projection. Areas west of Cliff Avenue are anticipated to develop first (aligning with City of Sioux Falls Tier 1 and Tier 2 growth areas). An overview of the City of Harrisburg future land use is shown in **Figure 4**. City of Harrisburg growth planning also includes industrial and commercial development along the SD11 corridor.

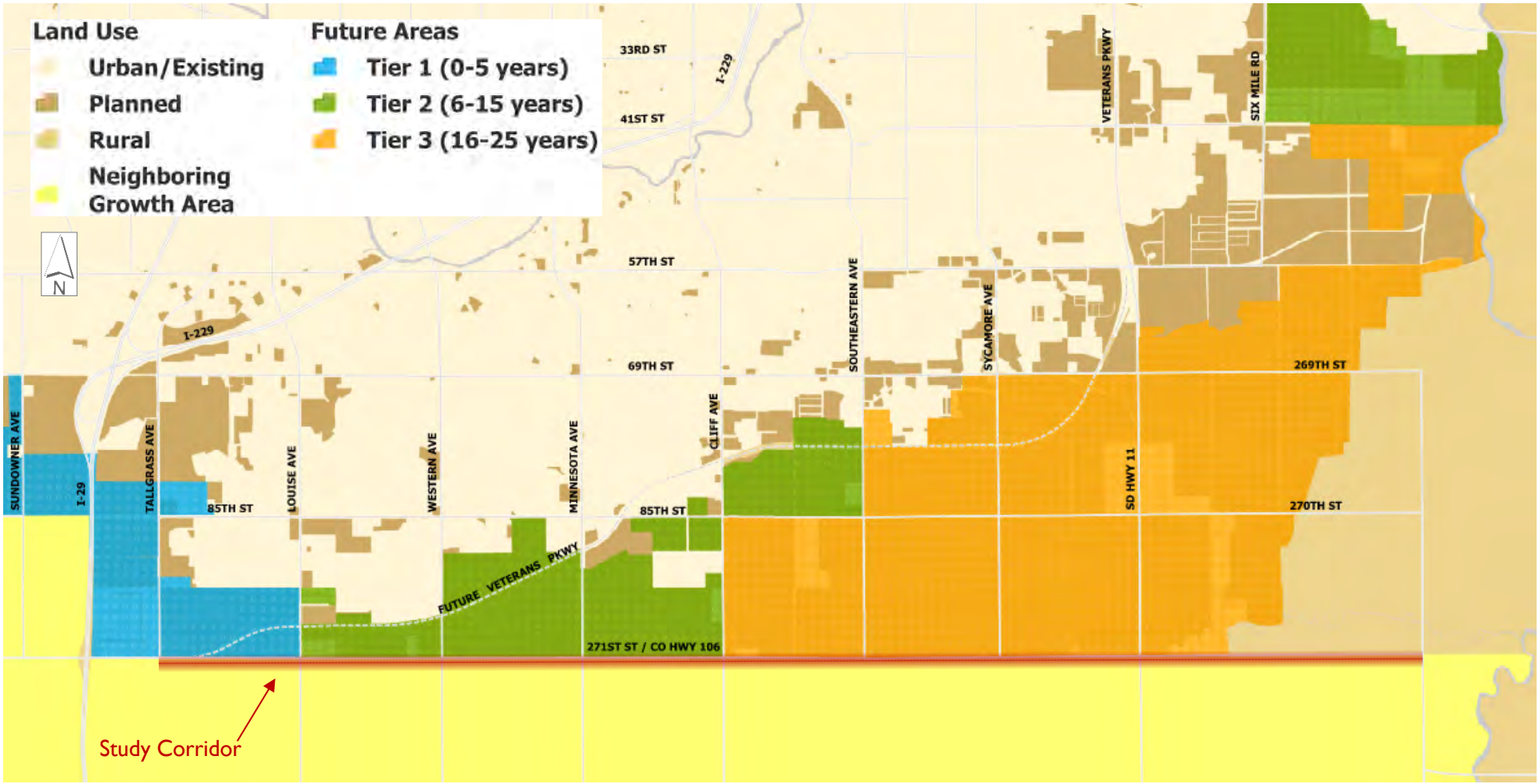
The Sioux Falls MPO travel demand model (TDM) accounts for anticipated growth throughout the MPO area and was updated with local agency growth planning as part of the *2045 Go Sioux Falls LRTP*. Within this study's 25-year planning horizon, most development is expected to occur west of Southeastern Avenue with development beginning to intensify east of Southeastern Avenue in the latter years of the planning horizon.

0 0.5 Miles

LC HWY 106 EXISTING ROADWAY CONDITIONS

FIGURE 2

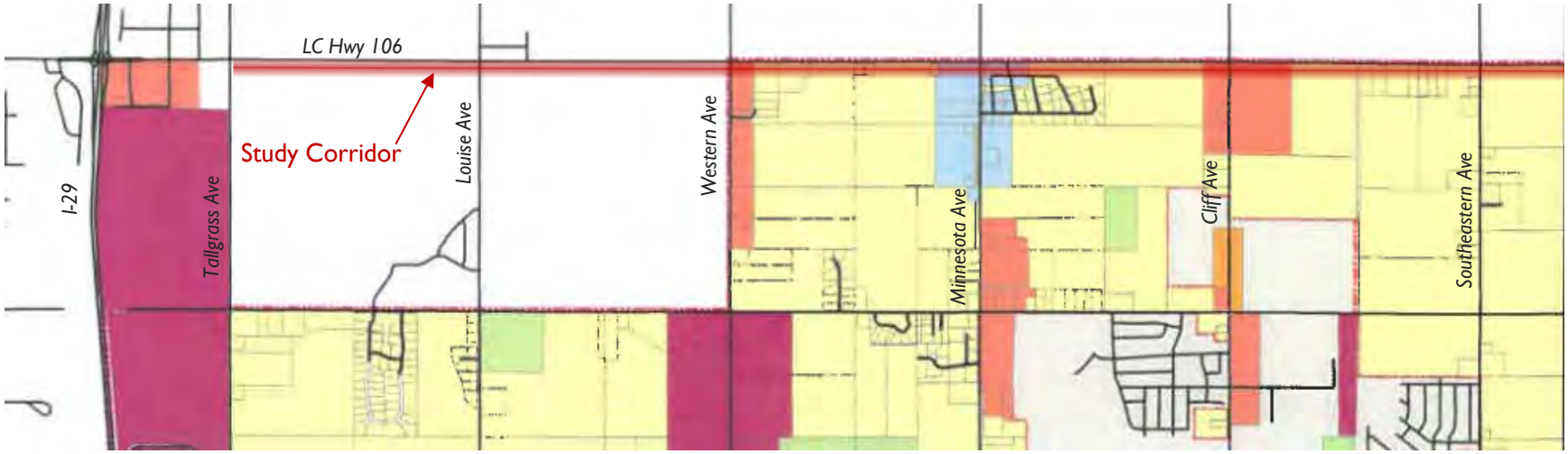
LINCOLN COUNTY, SD | HIGHWAY 106 CORRIDOR STUDY



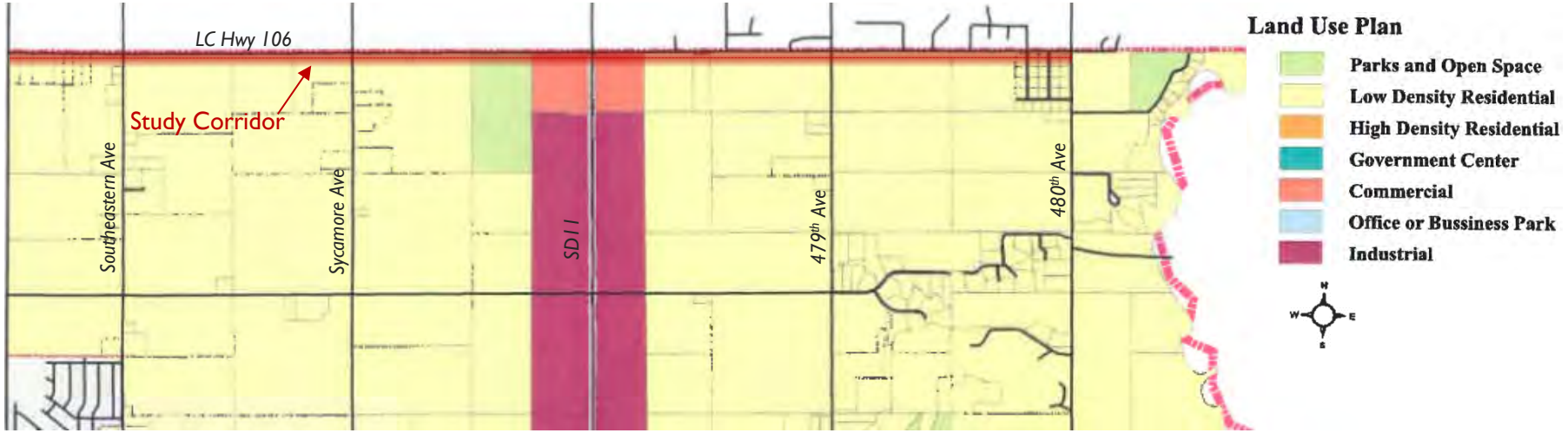
Source: Adapted from City of Sioux Falls (March 8, 2023)

Figure 3: City of Sioux Falls Growth Management Plan Development Areas

I-29 to Southeastern Avenue:



Southeastern Avenue to Big Sioux River:



Source: Adapted from *2019 City of Harrisburg Comprehensive Plan*

Figure 4: Harrisburg Comprehensive Plan Future Land Use

South Veterans Parkway

When complete, Veterans Parkway will be a 17-mile access-controlled regional arterial corridor within the eastern and southern edges of the Sioux Falls growth area. Veterans Parkway corridor termini include interchanges at I-29 (west) and I-90 (north), though local roadways continue beyond those interchanges. The North Veterans Parkway segment from 57th Street northward to I-90 is mostly complete. Construction of South Veterans Parkway started in 2023 with Segment 1, shown in **Figure 5**, with anticipated completion of all four phases in 2027.

Veterans Parkway will tie into the I-29 Exit 73 interchange and Gateway Boulevard corridor on the west end. Heading east from the I-29 Exit 73 interchange, Veterans Parkway will be constructed on the existing LC Hwy 106 alignment until approximately ½-mile east of Tallgrass Avenue where the corridor begins more of a northeastern trajectory on new alignment to 57th Street. Following completion of Veterans Parkway, LC Hwy 106 will no longer have a direct connection with the I-29 Exit 73 interchange and a cul-de-sac will be constructed west of the Louise Avenue intersection. The new limits of LC Hwy 106 east of I-29 will be between Louise Avenue and 480th Avenue.

It is anticipated that Veterans Parkway will become the primary high-capacity, high speed regional route through this area. With LC Hwy 106 no longer having a direct connection with the I-29 Exit 73 interchange, a considerable amount of traffic is anticipated to shift from LC Hwy 106 to the new Veterans Parkway corridor.

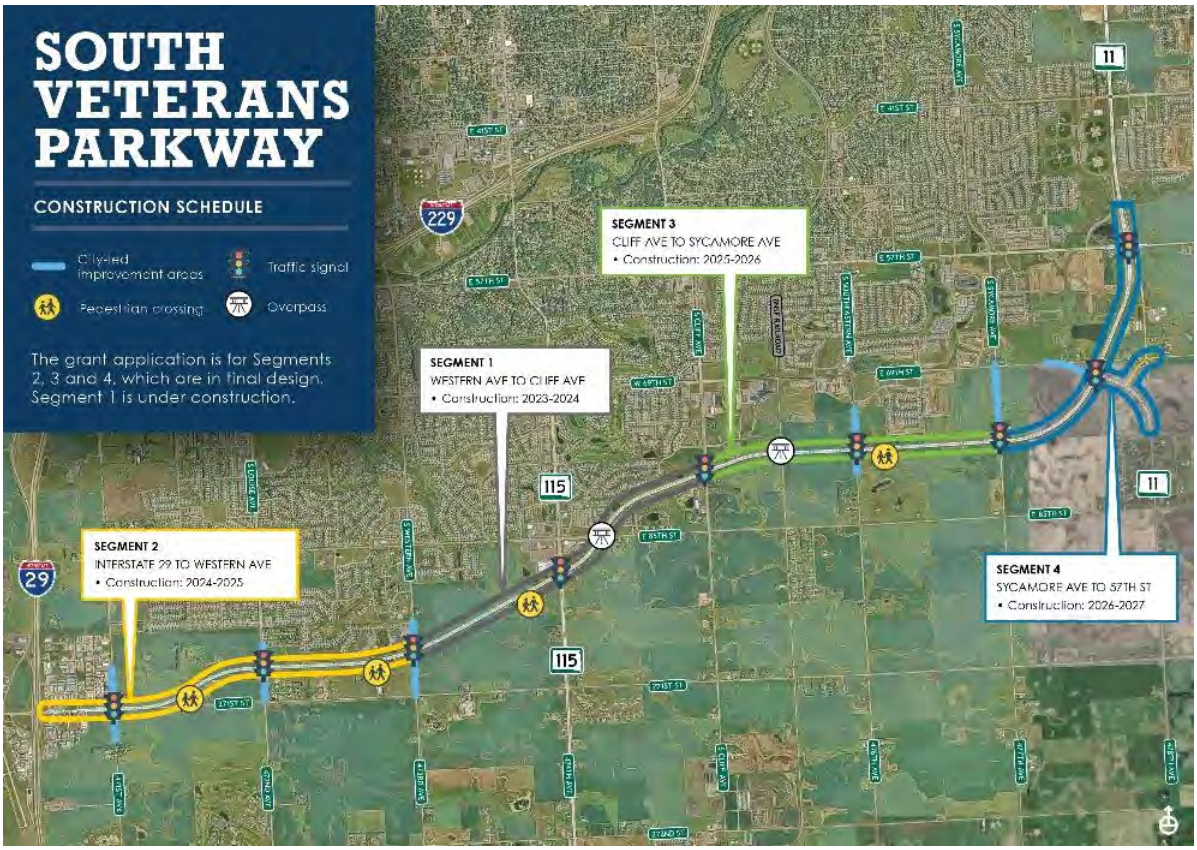


Figure 5: South Veterans Parkway Alignment and Construction Schedule

Traffic Volumes

*See Traffic Forecasts Memo in **Appendix B** for additional information.*

2022 Existing Volumes

Existing condition traffic volumes are based on daily and peak hour traffic counts collected in July 2022. Other counts collected through City of Sioux Falls, Lincoln County, and SDDOT count programs were also reviewed.

Traffic Forecasts

Future-year traffic forecasts were developed to help assess future-year capacity and operational needs throughout the study area due to anticipated development, growth in traffic demand, and/or changes in traffic patterns. For this study, forecast years include:

- 2028: First Possible Year of LC Hwy 106 Project Completion
  - Reflects completion of Veterans Parkway
- 2040: Interim Year
- 2050: Planning Horizon

Traffic forecasts were developed using the Sioux Falls MPO travel demand model (TDM) and *NCHRP 765: Analytical Travel Forecasting Approaches for Project-Level Planning and Design* methodology. All forecasts assume the completion of Veterans Parkway between I-29 and 57th Street and the I-29 & 85th Street interchange projects. Mid-segment intersections, between each north/south arterial intersection, were introduced in the 2028, 2040, and 2050 conditions to incorporate future development-generated traffic volumes on the corridor.

Upon opening of Veterans Parkway between I-29 and 57th Street, it is expected that a considerable amount of LC Hwy 106 east/west traffic will shift to Veterans Parkway and result in an immediate drop in corridor traffic volumes. A special 2018 base year TDM scenario was developed to help estimate this immediate shift in traffic and served as the base condition for LC Hwy 106 segment volumes in all future-year conditions.

A comparison of 2022 existing condition, 2028, and 2050 Planning Horizon daily traffic volumes is shown in **Figure 6**. Daily and peak hour volumes for all traffic scenarios are provided in the *Traffic Forecasts Memo* in **Appendix B**.

Findings

Key findings in the forecast development process include:

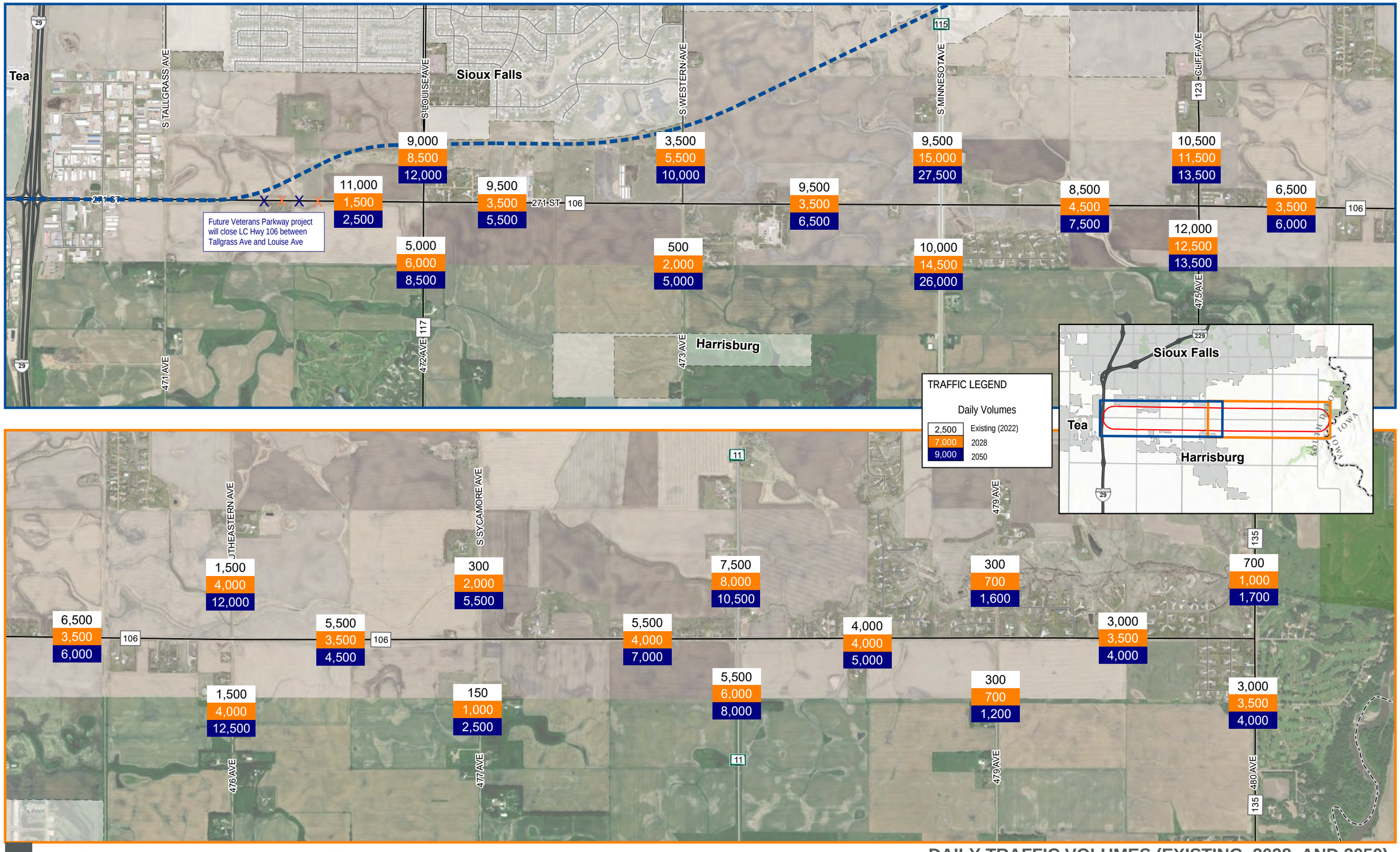
- LC Hwy 106 corridor east/west traffic is expected to decrease considerably with the opening of Veterans Parkway due to:
  - Reduced demand of regional traffic
    - Veterans Parkway will provide the high-speed, high-capacity east/west route in northern Lincoln County, with direct connectivity between I-29, existing Veterans Parkway, and all intersecting north/south arterial roadways

  - Limited existing development along the LC Hwy 106 corridor results in few locally generated trips

- Veterans Parkway has considerably less impact on future north/south arterial corridor volumes through LC Hwy 106 intersections, though turning-movement volumes are expected to change
  - North/south arterial routes will continue to facilitate connectivity between Sioux Falls and Harrisburg areas
  - Following completion of Veterans Parkway, turning traffic to/from LC Hwy 106 will drop significantly and intersection flows will predominantly feature north/south traffic
    - Turning traffic volumes will increase with future development along the LC Hwy 106 corridor

- Once Veterans Parkway is complete, the Sioux Falls MPO TDM shows limited desirability for east/west regional travel on LC Hwy 106 unless traffic is generated along the corridor
  - Exceptions include cut-through type routes:
    - I-29 traffic originating from/destined to areas south of LC Hwy 106 may use the corridor to travel to Louise Avenue to access Veterans Parkway
    - SD11 traffic accessing Veterans Parkway (to the west) may use LC Hwy 106 (via Southeastern or Sycamore Avenue) instead of traveling north to 69th Street
    - Development traffic traveling between SD11 and Sycamore Avenue area

- Development is limited east of Cliff Avenue in the Sioux Falls MPO TDM, which contributes to low east/west volumes, due to:
  - Sioux Falls Tier 3 growth area and serviceability with utilities
  - Spring Creek constrains development along north side of the corridor from Southeastern Avenue to SD11



0 0.5 Miles

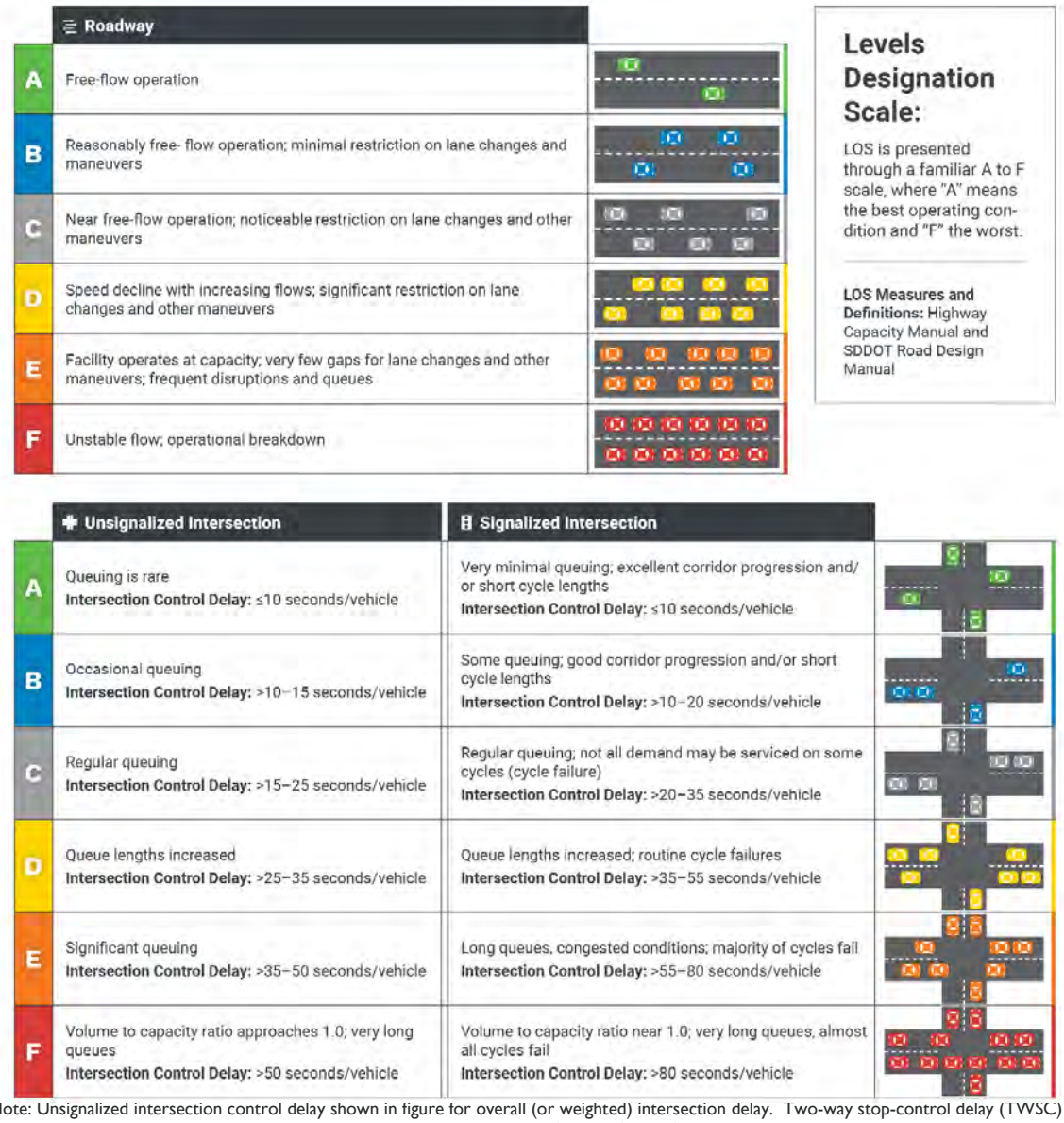
DAILY TRAFFIC VOLUMES (EXISTING, 2028, AND 2050)

FIGURE 6

Traffic Operations Analysis

*See Existing and Future No Build Condition Intersection Traffic Operations Analysis Memo in **Appendix C** for additional information.*

Intersection and roadway operational performance is evaluated through a focus on of quality of service, which describes how well a transportation facility operates from a traveler's perspective considering travel speeds and intersection delay. Quality of service is typically reported as a Level of Service (LOS), which is presented by a letter grade ranging from LOS A (free-flowing conditions) to LOS F (stopped / heavily delayed traffic). A description of LOS measures for intersections and roadway segments pertinent to this study are provided in **Figure 7**.



Note: Unsignalized intersection control delay shown in figure for overall (or weighted) intersection delay. Two-way stop-control delay (TWSC) is measured from the worst-case stop-controlled approach with the same average delay (seconds/vehicle) thresholds.

Figure 7: LOS Descriptions

Intersection and roadway segment peak hour LOS was calculated using Highway Capacity Software 2023 Release (HCS2023) and methodology described in the *Highway Capacity Manual (HCM) 7th Edition*. Guidelines for use of HCS2023 in this study are documented in the *Methods & Assumptions* document. Applicable LOS measures and minimum allowable LOS by facility type are summarized in **Table 1** and **Table 2**, respectively.

Table 1: Level of Service Measures

Roadway Feature	LOS Measure	Supporting Measures
Intersections	Total (overall) intersection delay	95th percentile queues Individual movement delay TWSC intersections: worst-case stop-control delay
Urban Street Segment / Facility	Travel speed	Travel time

TWSC: two-way stop-control

Table 2: Minimum Allowable Level of Service by Facility

Roadway Feature	Minimum Allowable LOS	Notes
Signalized Intersections	LOS C	Individual movements allowed to operate at LOS D Individual movements not allowed with a v/c ratio > 1.0 Queue storage ratios not allowed to exceed 1.0
Unsignalized Intersections	LOS C	TWSC, AWSC, and roundabouts LOS based on weighted average intersection delay Worst-case stop-controlled (WCSC) approach delay and LOS may be lower than the minimum allowable LOS
Urban Street Segment / Facility	-	Measure for comparison of alternatives LOS C desired

TWSC: two-way stop-control; AWSC: all-way stop-control

Existing and Future No Build Condition Analysis

Existing and future No Build condition traffic analyses were conducted to aid in the identification of short-term and long-range operational needs at study intersections. Level of Service results are summarized in the following tables:

- **Table 3:** No Build Condition AM Peak Hour
- **Table 4:** No Build Condition AM Peak Hour

Locations that do not meet minimum allowable LOS thresholds for this study are noted in **Bold Orange** text. Additional analysis information, including output reports, is included in the *Existing and Future No Build Condition Intersection Traffic Operations Analysis Technical Memo* in **Appendix C**.

Table 3: Intersection Level of Service – No Build Condition AM Peak Hour

Analysis Year	Tallgrass Ave	Louise Ave	Western Ave	Minnesota Ave (SD115)	Cliff Ave	Southeastern Ave	Sycamore Ave	SD11	479th Ave	480th Ave
Intersection Control	*TWSC*	*R*	*AWSC*	*S*	*S*	*TWSC*	*TWSC*	*AWSC*	*TWSC*	*AWSC*
Existing (2022)	A	A	C	C	C	A	A	B	A	A
2028 No Build	-	A	A	C	C	B	A	B	A	A
2040 No Build	-	A	B	C	C	**F**	A	**D**	A	A
2050 No Build	-	A	C	D	**D**	**F**	C	**F**	A	A

TWSC: two-way stop-control; AWSC: all-way stop-control; S: traffic signa; R: roundabout
Locations not meeting minimum allowable LOS noted in **Bold Orange**

Table 4: LC Hwy 106 Intersection Operations – No Build Condition PM Peak Hour

Analysis Year	Tallgrass Ave	Louise Ave	Western Ave	Minnesota Ave (SD115)	Cliff Ave	Southeastern Ave	Sycamore Ave	SD11	479th Ave	480th Ave
Intersection Control	*TWSC*	*R*	*AWSC*	*S*	*S*	*TWSC*	*TWSC*	*AWSC*	*TWSC*	*AWSC*
Existing (2022)	A	C	**E**	C	**D**	A	A	**D**	A	A
2028 No Build	-	A	B	C	C	B	A	C	A	A
2040 No Build	-	A	C	C	C	**F**	A	**F**	A	A
2050 No Build	-	A	**F**	**D**	**D**	**F**	C	**F**	A	A

TWSC: two-way stop-control; AWSC: all-way stop-control; S: traffic signa; R: roundabout
Locations not meeting minimum allowable LOS noted in **Bold Orange**

Findings

Based on Existing and No Build condition findings in **Table 3** and **Table 4**, a planning-level timeline of intersection improvement needs is shown in **Figure 8**. This timeline reflects the approximate time for when intersection operations exceed the study's minimum allowable LOS. In several instances, the decrease in east/west volumes associated with the opening of Veterans Parkway addressed existing condition operational needs.

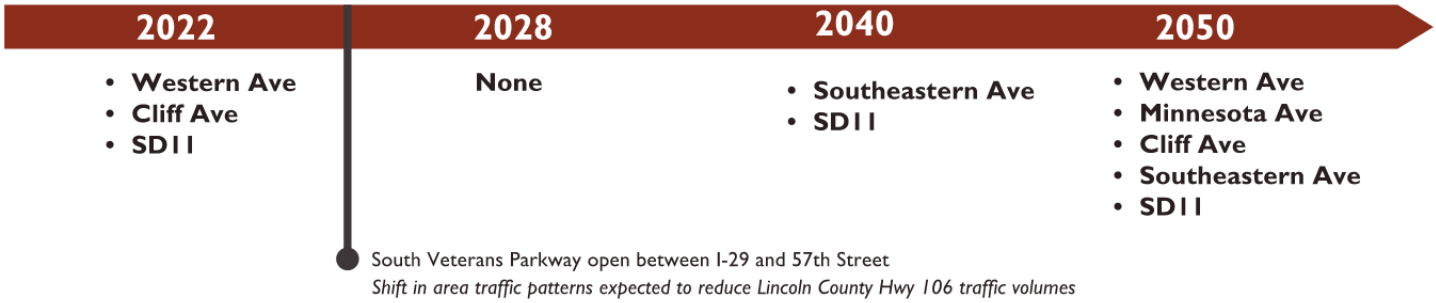


Figure 8: No Build Condition Intersection Needs Timeline

While the LC Hwy 106 & Minnesota Avenue intersection did not show an operational need from an overall intersection LOS perspective, the analysis did replicate the long westbound queues motorists currently experience during peak hours. This leads to undesirable delay for westbound LC Hwy 106 traffic and a consideration with future spot-improvements.

Other key corridor-wide Existing and No Build condition findings include:

- Sharp decrease in east/west volumes are expected with the opening of Veterans Parkway
  - Veterans Parkway will provide the direct connection to I-29 Exit 73 and facilitate the high-capacity, high-speed east/west travel in northern Lincoln County
  - Expected shift in east/west traffic from LC Hwy 106 to Veterans Parkway anticipated to mitigate existing intersection operational needs along the corridor

- Continued growth on north/south arterials for vehicles traveling between Harrisburg and Sioux Falls is an important consideration with future condition intersection operations

- East/west corridor volumes will increase with development surrounding the corridor
  - Pace and density of this development will be an important consideration when identifying the timeline and extent of future LC Hwy 106 improvements

Crash History Review

*See Crash History Review Memo in **Appendix D** for additional information.*

Crash history along the LC Hwy 106 corridor was reviewed for years 2017 through 2021. Data for reported crashes in the statewide crash database were provided by SDDOT. The density of reported crashes throughout the study corridor is shown in **Figure 9**.

Crashes were categorized as intersection and corridor crashes based on location and reviewed for elevated crash rates and trends. Crash rates were calculated in terms of crashes per million entering vehicles (crashes/MEV) for intersections and crashes per million vehicle miles traveled (crashes/MVMT) for segments. Critical crash rates were calculated based on the statistical populations for each crash location (intersection or segment) using methods presented in the *Highway Safety Manual* (American Association of State Highway and Transportation Officials (AASHTO), 2010). A critical crash rate accounts for a desired level of confidence (95 percent used in this study), vehicle exposure, and similar facility types.

Summaries of intersection and segment crash rates are shown in **Table 5** and **Table 6**. Locations with an elevated crash rate when compared to the critical rate are noted. Crash characteristics for intersection and segment crashes are shown in **Table 7** and **Table 8**.

One fatal crash occurred along the corridor in the analyzed timeframe. In a 2017 angle crash, a northbound driver failed to comply with the stop sign at the Southeastern Avenue & LC Hwy 106 intersection. The driver was under the influence of alcohol and one of the involved motorists was not using a seatbelt.

Overarching trends from the crash review included:

- Locations with elevated crash rates when compared to the critical rate include:
  - Intersections: Tallgrass Avenue, Cliff Avenue, Southeastern Avenue, and SD11
  - Segments: Tallgrass Avenue to Louise Avenue and Cliff Avenue to Southeastern Avenue
- Intersections
  - 40 percent of intersection crashes occurred at the Minnesota Avenue and Cliff Avenue intersections
  - Cliff Avenue intersection accounted for a third of the study corridor intersection crashes
    - 52 percent rear-end crashes and 42 percent angle crashes
  - Minnesota Avenue intersection exhibited the highest crash rate
    - 50/50 split of rear-end and angle crashes
- Segments
  - Over 90 percent of the segment rear-end crashes occurred west of Southeastern Avenue
  - 34 percent of the segment crashes were rear-end crashes
  - Both segments with elevated crash rates exhibited more than 40% of the crashes occurring on snow/ice/slush/west roadway surfaces

0 0.5 Miles

LC HWY 106 CRASH DENSITY (2017-2021)

FIGURE 9

LINCOLN COUNTY, SD | HIGHWAY 106 CORRIDOR STUDY

Table 5: Intersection Crash Rates (2017 – 2021)

LC Hwy 106 Intersection	Traffic Control Device	Total Crashes	Daily Entering Vehicles	Crash Rate (crashes/MEV)	Elevated Crash Rate*
Tallgrass Ave	TWSC	14	11,500	0.67	Yes
Louise Ave*	Roundabout	12	16,300	0.67	-
Western Ave	AWSC	8	10,700	0.41	-
Minnesota Ave (SD115)**	Signalized	10	13,400	1.03	-
Cliff Ave	Signalized	31	17,800	0.96	Yes
Southeastern Ave	TWSC	8	7000	0.63	Yes
Sycamore Ave	TWSC	2	5,400	0.20	-
SD11	AWSC	16	10,200	0.86	Yes
479th Ave	TWSC	0	2,100	0.00	-
480th Ave	AWSC	1	2,000	0.27	-

Table 6: Segment Crash Rates (2017 – 2021)

LC Hwy 106 Segment	Segment Length (miles)	Total Crashes	Daily Vehicles	Crash Rate (crashes/MVMT)	Elevated Crash Rate*
Tallgrass Ave to Louise Ave	1	14	10,500	0.73	Yes
Louise Ave to Western Ave	1	8	9,100	0.48	-
Western Ave to Minnesota Ave (SD115)	1	8	9,100	0.48	-
Minnesota Ave (SD115) to Cliff Ave	1	5	8,200	0.34	-
Cliff Ave to Southeastern Ave	1	10	6,100	0.89	Yes
Southeastern Ave to Sycamore Ave	1	5	5,200	0.55	-
Sycamore Ave to SD11	1	5	5,200	0.53	-
SD11 to 479th Ave	1	4	3,500	0.61	-
479th Ave to 480th Ave	1	0	280	0.00	-

Table notes for this page:

*Intersection crashes 2019–2021; **Intersection crashes from 2020-2021

Elevated crash rate based on a comparison to the critical crash rate (crash rate/critical crash rate ratio > 0.7); see *Crash History Review Memo* for additional information

Table 7: Intersection Crash Rates (2017 – 2021)

LC Hwy 106 Intersection	Total Crashes	Injury Severity					Manner of Collision				
		Fatal	Serious Injury	Minor Injury	Possible Injury	No Injury	Single Vehicle	Rear-End	Head-On	Angle	Sideswipe
Tallgrass Ave	14	0	0	3	1	9	4	3	0	4	2
Louise Ave*	12	0	0	1	0	10	7	3	0	2	0
Western Ave	8	0	0	1	1	6	2	2	0	4	0
Minnesota Ave (SD115)**	10	0	0	2	1	7	0	5	0	5	0
Cliff Ave	31	0	1	4	2	24	1	16	0	13	1
Southeastern Ave	8	1	0	0	1	6	3	1	0	4	0
Sycamore Ave	2	0	0	0	2	0	1	1	0	0	0
SD11	16	0	0	2	2	12	2	5	0	8	1
479th Ave	0	0	0	0	0	0	0	0	0	0	0
480th Ave	1	0	0	0	0	1	1	0	0	0	0
Totals:	102	1 (1%)	1 (1%)	13 (13%)	10 (10%)	75 (75%)	21 (21%)	36 (35%)	0	40 (40%)	4 (4%)

*Intersection crashes from 2019–2021

**Intersection crashes from 2020-2021

Table 8: Segment Crash Rates (2017 – 2021)

LC Hwy 106 Segment	Total Crashes	Injury Severity					Manner of Collision				
		Fatal	Serious Injury	Minor Injury	Possible Injury	No Injury	Single Vehicle	Rear-End	Head-On	Angle	Sideswipe
Tallgrass Ave to Louise Ave	14	0	0	2	2	10	7	4	2	0	1
Louise Ave to Western Ave	8	0	0	1	1	6	4	3	1	0	0
Western Ave to Minnesota Ave (SD115)	8	0	0	1	3	4	4	4	0	0	0
Minnesota Ave (SD115) to Cliff Ave	5	0	0	0	1	4	1	4	0	0	0
Cliff Ave to Southeastern Ave	10	0	0	0	0	10	6	3	1	0	0
Southeastern Ave to Sycamore Ave	5	0	0	0	0	5	4	0	1	0	0
Sycamore Ave to SD11	5	0	1	0	0	4	2	2	0	1	0
SD11 to 479th Ave	4	0	0	0	1	3	4	0	0	0	0
479th Ave to 480th Ave	0	0	0	0	0	0	0	0	0	0	0
Totals:	59	0	1 (2%)	4 (7%)	8 (14%)	46 (78%)	32 (54%)	20 (34%)	5 (8%)	1 (2%)	1 (2%)

Railroad Grade Separation Warrant Review

*See Grade Separation Warrant Review Memo in **Appendix E** for additional information.*

An at-grade BNSF Railway railroad crossing is located on LC Hwy 106 between Cliff Avenue and Southeastern Avenue (crossing number 381643V). This study reviewed grade separation warrants for the crossing using City of Sioux Falls Railroad Overpass Policy guidelines documented in the *City of Sioux Falls Engineering Design Standards*. These guidelines consider Design Criteria of the roadway and five Analysis Factors, such as safety, vehicle and pedestrian accessibility, street connectivity, driver delay, and train noise, which are summarized in the following.

Design Criteria

- Roadway is designated as an arterial street on the City of Sioux Falls Major Street Plan: Yes
  - Type 3 Arterial
- The roadway design speed is at least 45 mph: Yes
  - Posted speed 55 mph through crossing
- The roadway has a projected average annual daily traffic (AADT) that exceeds 10,000 vehicles per day: No
  - Future volumes are highly influenced by development-generated trips along the corridor. Future development density, timing, and access locations will impact future traffic volumes. While forecasts developed for this study's planning horizon do not reach 10,000 vehicles per day, it is expected this volume could be exceeded in the future as the City of Sioux Falls Tier 3 growth area, and the corresponding City of Harrisburg growth area, develops.
- The rail line has a design speed of at least 49 mph: No
  - Current maximum timetable speed is 40 mph with typical speed range is 1-40 mph
- The rail line carries an average of three or more trains per day at the location under consideration: No
  - Two movements per day, but subject to change

Analysis Factors

- Safety
  - No reported vehicle train crashes between 2017 and 2021
  - Approach sight distance constraints with tree shelterbelts in northwest and southeast crossing quadrants (see **Figure 10**)
  - Grade separation would eliminate vehicle-train and pedestrian/bicyclist-train conflicts, reduce secondary rear-end crashes due to queue spillback, and eliminate potential blocking of nearby access points
- Vehicle and Pedestrian Accessibility
  - Grade separation would benefit multimodal accessibility and connectivity along the LC Hwy 106 corridor and with surrounding development and transportation facilities
- Street Connectivity
  - Grade separation would benefit street connectivity and travel reliability by removing a point of recurring conflict and extended delay

- Driver Delay
    - Grade separation would benefit roadway users by eliminating delay, and risk for delay, at the crossing location. A grade separation would also benefit Harrisburg-area emergency response and support City of Harrisburg and City of Sioux Falls officials when planning future locations for emergency response facilities.
- Train Noise
    - Residential development is anticipated to occur along the corridor in the future, thus reducing train noise would benefit quality of life in the area

Conclusions

Through this review, it was found that the City of Sioux Falls Railroad Overpass Policy guideline's Design Criteria and Analysis Factors support consideration of a future LC Hwy 106 grade separation of the BNSF rail line between Cliff Avenue and Southeastern Avenue. Development of conceptual layouts is recommended to illustrate potential configurations and impacts to adjacent property.

If grade separation is not implemented in the future, it is recommended that gate warning devices (active traffic control system) be installed due to their safety benefits and notable reduction in predicted crash frequency. If train frequency increases, the evaluation should be revisited to account for the additional impacts to crossing operations and safety.

Figure 10: Railroad Crossing Sight Distance Constraints (Between Cliff Ave and Southeastern Ave)

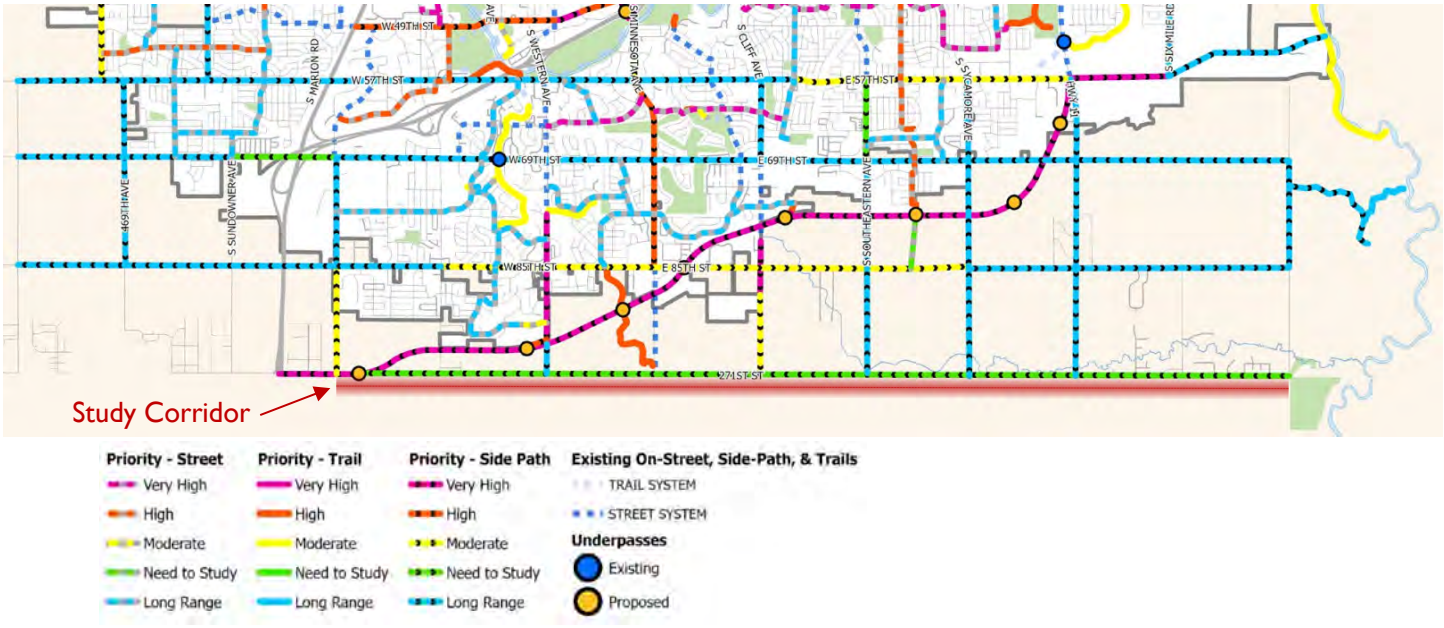
Bicycle and Pedestrian Travel

There are currently no dedicated pedestrian and bicycle facilities along the corridor, which reflects a typical 2-lane rural cross-section, and thus future improvements identified as part of this study will guide multimodal elements and area connectivity.

Bicycle and pedestrian planning recommendations from the *2022 City of Harrisburg Master Transportation Plan* (shown in **Figure 11**) and *2023 Sioux Falls Bicycle Plan* (shown in **Figure 12**) were reviewed as part of this study. The Harrisburg Master Transportation Plan incorporated recommendations from the *2007 Harrisburg Parks & Trails Master Plan.*

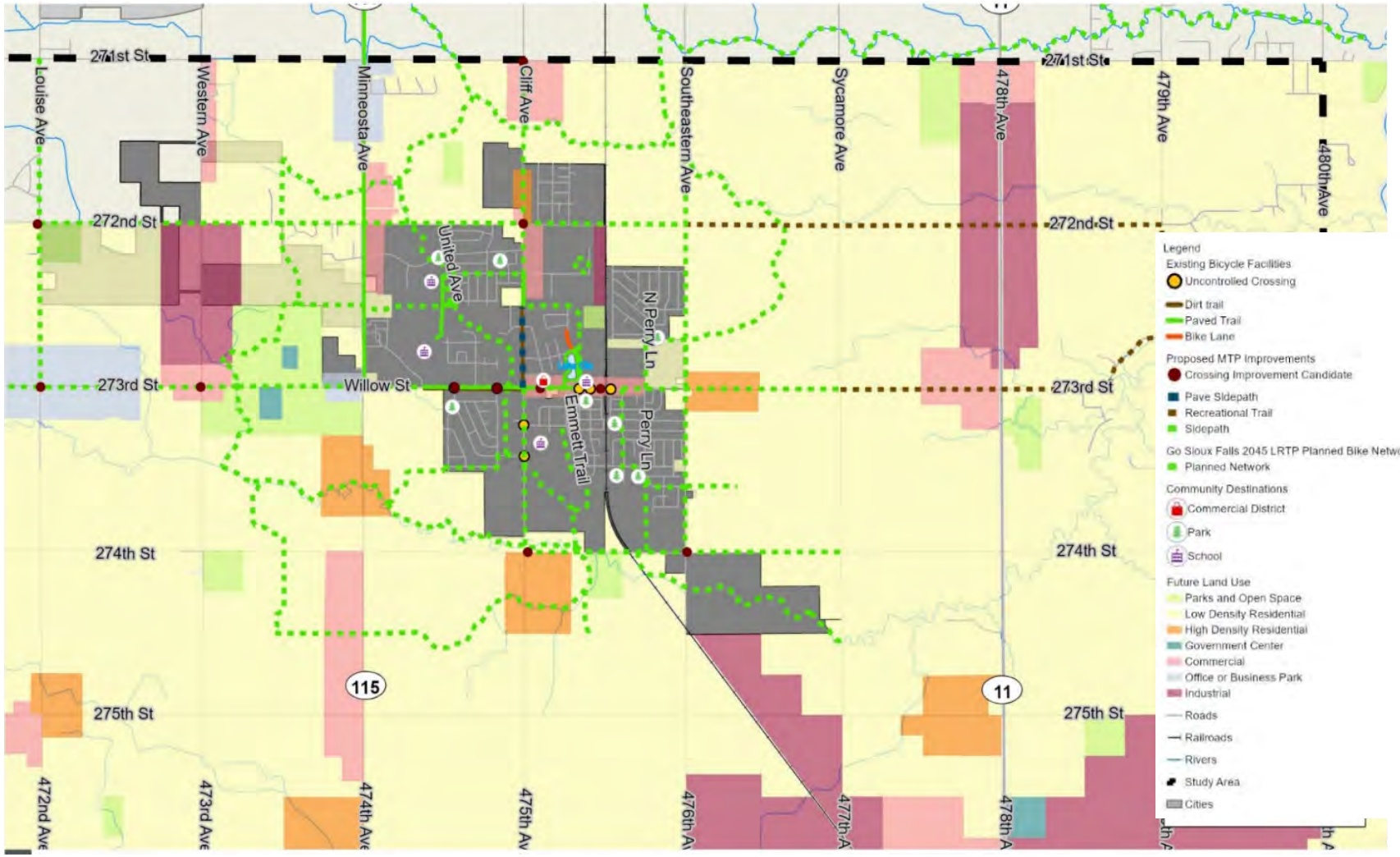
The *2023 Sioux Falls Bicycle Plan* notes the LC Hwy 106 as a side path corridor for further study. Existing or future side path connections with LC Hwy 106 are noted along Western Avenue, Minnesota Avenue, Cliff Avenue, Southeastern Avenue, Sycamore Avenue, and SD11. A future high priority trail extension with Veterans Parkway underpass is identified west of Minnesota Avenue between 85th Street and LC Hwy 106.

City of Harrisburg future paved trails generally follow existing drainageways with pedestrian and bicycle enhancements to arterial corridors. Coordination of the future regional trail network north and south of LC Hwy 106 will be beneficial as this area develops. The LC Hwy 106 corridor is an opportune location to provide regional connectivity for trails and shared use paths extending to the north and south.



Source: Adapted from 2023 Sioux Falls Bicycle Plan, Appendix 2 (Map #8 – Bicycle Plan Map)
https://cms2.revize.com/revize/secogmpo/Document%20Center/Resources/Master%20Plans/Bicycle-Plan-2023-f.pdf

Figure 11: City of Sioux Falls Bicycle Plan Recommendations (2032)



Source: Adapted from *2022 City of Harrisburg Master Transportation Plan*, Figure 29
cms2.revize.com/revize/secogmpo/Document Center/Resources/Master Plans/06_Harrisburg_MTP_FINAL.pdf

Figure 12: City of Harrisburg Master Transportation Plan Proposed Bicycle and Pedestrian Network

PUBLIC OUTREACH SUMMARY

*See Public Open House #1 and Public Open House #2 summary memos in **Appendix F** for additional information.*

The study included several opportunities for the public and stakeholders to provide comments and feedback throughout the process, including:

- Two public open houses
- Two sets of virtual stakeholder meetings
- Digital survey
- Study website

The first public open house and virtual stakeholder meetings introduced the study and provided an opportunity to gather feedback on transportation-related issues and needs to be addressed by the study. The in-person public open house was held at Harrisburg Liberty Elementary on Thursday, October 13, 2022, with approximately 100 attendees. A recorded presentation was played throughout the open house and attendees had the opportunity to review study information, discuss the study with the Study Advisory Team, and provide comments via mark-up maps and comment cards. Virtual small-group stakeholder meetings were also held the day before and day of the public open house. Stakeholders included adjacent landowners, developers, and representatives from other government agencies that may be impacted by future corridor improvements.

A digital survey was available in conjunction with the first public meeting open house and included questions on transportation safety, corridor vision, and study priorities. A snapshot of survey results is provided in **Figure 13**.

Overarching themes from the first public open house and stakeholder meetings centered on:

- **Identifying corridor needs**, such as congested intersections, gravel crossroad improvements (e.g., Southeastern Avenue and Western Avenue), turn lanes, speed, and future access locations
- **Strong support for roundabouts** throughout the corridor
- **Recommendations of future corridor elements,** such as a shared use path, turn lanes, roundabouts, number of lanes (single through lane in each direction vs. two through lanes in each direction), balance of speed and access, and prioritizing north/south arterial corridors
- **Opposition to a future arterial extension of LC Hwy 106** westward from Louise Avenue to Tallgrass Avenue following completion of Veterans Avenue

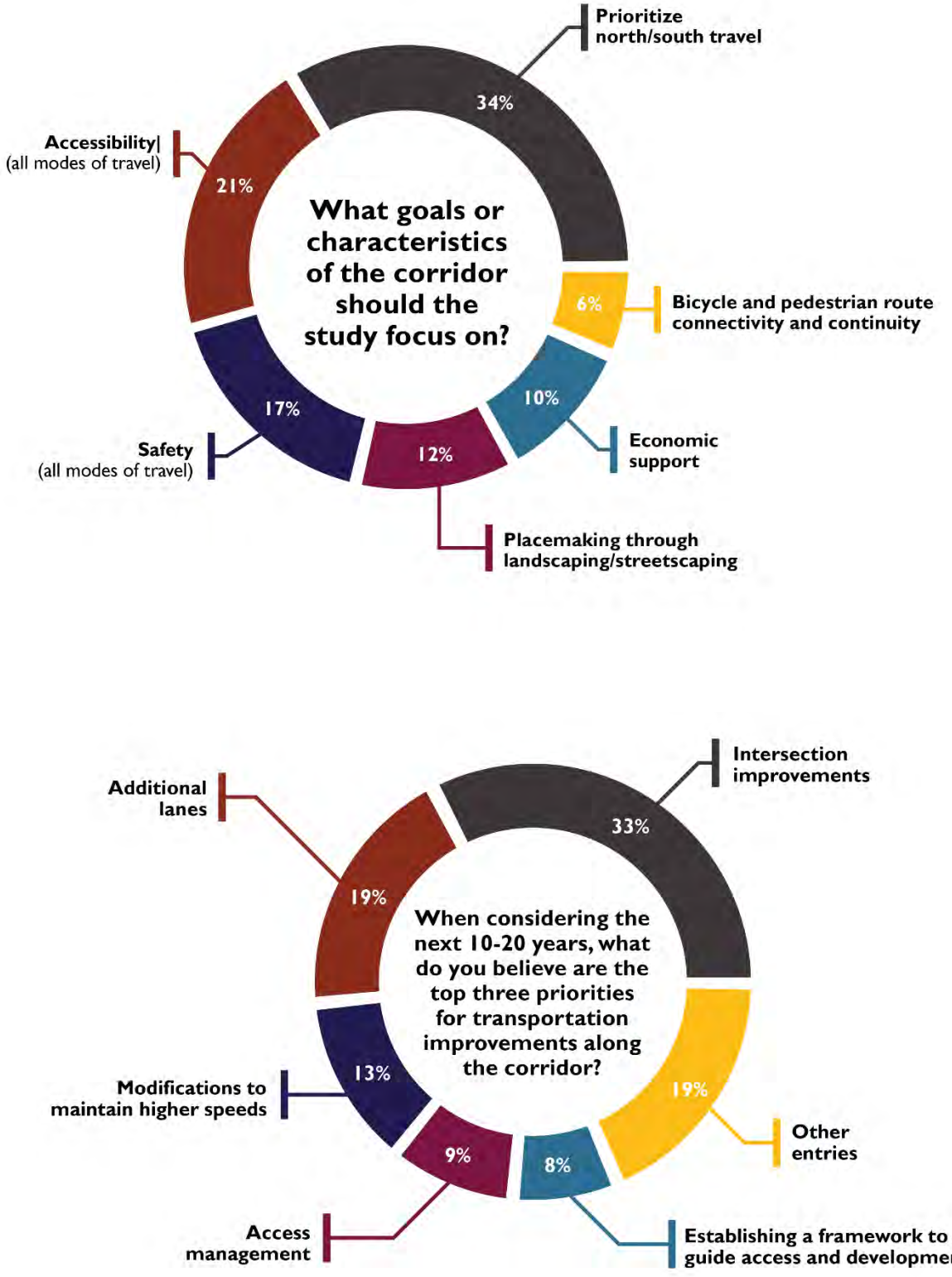


Figure 13: Issues and Needs Survey Results

The second public open house and virtual stakeholder meetings presented preliminary recommendations for feedback. The in-person open house was held at Harrisburg Liberty Elementary on Thursday, May 18, 2023, with approximately 60 attendees. A recorded presentation was available throughout the open house. Preliminary recommendations were shown on table-top roll plots and display boards. Attendees provided comments and feedback through discussion with Study Advisory Team members and comment cards. Virtual small-group stakeholder meetings were also held the day before and day of the public open house to present preliminary recommendations.

Overall, attendees were supportive of the preliminary recommendations and provided several recommendations for enhancements, timing of future projects, and other considerations.

All public open house information was provided on the study website, including a recording of the presentation, display boards, informational handouts, and study contact information for comments and questions.

SUMMARY OF NEEDS

Based on findings from the baseline conditions analysis and feedback from the Study Advisory Team, stakeholder, and public, overarching needs to be address by the corridor study focus on the following:

- Intersection and corridor segment safety
- Corridor number of lanes and future cross-section (urban vs. rural)
- Future intersection configurations and traffic control
- Planning-level timing for projects
- Future access locations for development
- Corridor land use and access plans
- Grade-separated crossing (between Cliff Avenue and Southeastern Avenue) concepts and review of impacts
- Bicycle and pedestrian facilities along the corridor, with a focus on connectivity and continuity

LAND USE PLAN

*See LC Hwy 106 Corridor Land Use and Access Plan Memo in **Appendix G** for additional information.*

The recommended LC Hwy 106 Corridor Land Use Plan, shown in **Figure 14**, was developed in collaboration with the Study Advisory Team and area comprehensive plans. The following land uses were incorporated, with descriptions adapted from the *Shape Sioux Falls 2040 Future Land Use Map*:

Residential

- Overarching land use along the corridor
- Higher density multifamily residential along arterial corridors
- Lower density single-family away from the arterial corridors

Neighborhood Employment Center

- Serves immediate neighborhoods adjacent to intersections with convenience items and services
- Supports multimodal connectivity
- Node-based development primarily located at arterial/arterial intersections

Business Park

- Office/institutional parks and specialized employment areas with commercial support
- Provides noise buffer between regional highways and residential
- Node-based development typically located at major intersections along regional corridors

Light Industrial/Commercial

- Reflects large area of existing Lincoln County zoned light industrial or commercial between I-29 and Tallgrass Avenue
- Compatible with Neighborhood Employment Center or Business Park through redevelopment

Recreational/Conservation

- Recreation (parks, bike trails, etc.) and nature conservation (drainageways, nature areas, etc.) areas

Drainage

- Drainage elements affecting future land use and development; requires future coordination and consultation with agencies having jurisdiction of the corridor and surrounding developable areas (see **DRAINAGE CONSIDERATIONS** section for additional information)
    - Existing natural detention areas
    - Proposed City of Sioux Falls detention areas
    - Culvert crossings requiring drainage considerations

With concurrence of this study, if future land use is found to differ between Lincoln County, City of Harrisburg, and City of Sioux Falls zoning plans, all parties will need to vet the proposed land use and agree upon what is ultimately designated.

Tea
Sioux Falls
Harrisburg
271 ST
106
TALLGRASS AVE
471 AVE
472 AVE
S LOUISE AVE
S WESTERN AVE
473 AVE
S MINNESOTA AVE
CLIFF AVE
123
475 AVE
Neighborhood Employment Center
Business Park
Residential
Recreation/Conservation
Existing Commercial / Light Industrial
Municipal Growth Area Boundary
Veterans Parkway
City Limits
FEMA Flood Plain
1% Annual Chance Flood Hazard
Regulatory Floodway
Existing Natural Detention Areas
Proposed City of Sioux Falls Detention Areas
Culvert Crossings Requiring Drainage Considerations
229
115
11
29
IOWA
S SOUTHEASTERN AVE
S SYCAMORE AVE
476 AVE
477 AVE
479 AVE
480 AVE
135
BP
Spring Creek
Big Sioux River
Good Earth State Park
0
0.5 Miles
LC HWY 106 LAND USE PLAN
FIGURE 14
LINCOLN COUNTY, SD | HIGHWAY 106 CORRIDOR STUDY

ACCESS PLAN

*See LC Hwy 106 Corridor Land Use and Access Plan Memo in **Appendix G** for additional information.*

The recommended LC Hwy 106 Access Plan establishes the appropriate balance of access and mobility for the LC Hwy 106 corridor and area land use. Access and mobility goals for this plan include:

1. Support network functional circulation system
2. Support area connectivity, east/west route continuity, and future development
3. Support prioritization of high-volume north/south arterial routes
4. Provide guidance for future development and transportation projects

With consideration of the corridor Land Use Plan and access and mobility goals, the following recommended access guidelines were adapted from the *Sioux Falls Engineering Design Standards* for a Type III Arterial.

Corridor Description

Arterial street that typically does not continue across a city and primarily serves residential and neighborhood commercial uses.

Access Spacing

- Signalized intersections: ¼ mile
- Full movement access: ¼ mile
- Median opening: 660 feet
- Unsignalized intersection spacing: varies

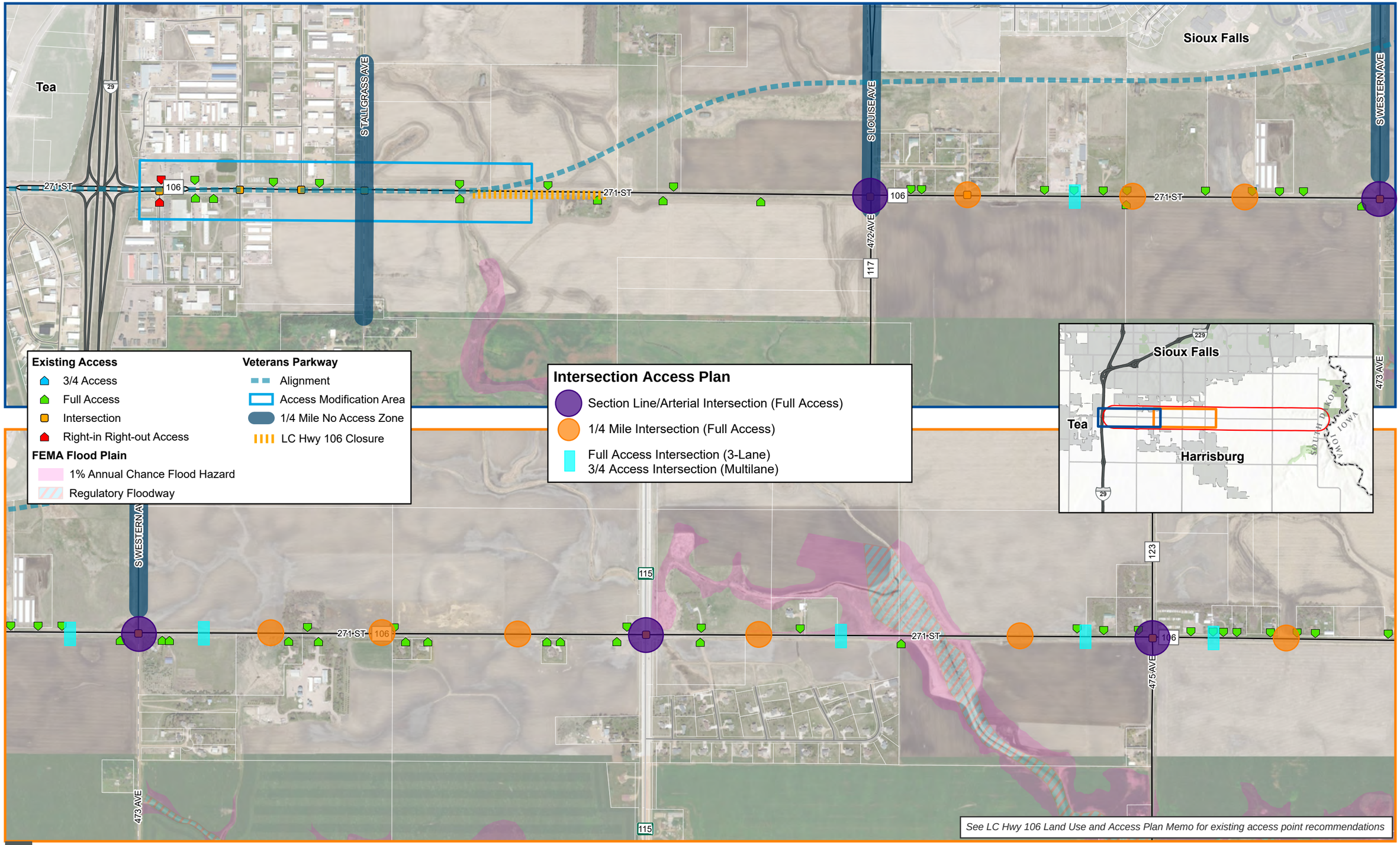
Unsignalized intersection spacing or an additional full movement access at approximately 660 feet from a major intersection may be evaluated through a traffic analysis for consideration by agencies with jurisdiction of the applicable roadway segment.

Turn lanes and intersection traffic control should be evaluated with an access request for each access point being added, or modified, through development or redevelopment. Traffic operations should be prioritized for east/west arterial travel at development access points.

Intersection Access Plan

Recommended framework for corridor intersection and access locations is provided in the Intersection Access Plan shown in **Figure 15**. This figure identifies locations for existing and future arterial, ¼-mile full access, and 660-foot partial-access intersections. Future development requesting full access to LC Hwy 106 shall tie into the identified ¼-mile full access intersection locations. Supporting notes and recommendations for individual access points are provided in the *Land Use and Access Plan Memo* in **Appendix G**. These recommendations served as a guide for alternatives developed in the **INTERSECTION ALTERNATIVES** and **CORRIDOR SEGMENT ALTERNATIVES** sections.

With concurrence of this study, deviation from this Access Plan must be agreed upon by the City of Harrisburg, City of Sioux Falls, and Lincoln County (unless jurisdiction has been transferred).

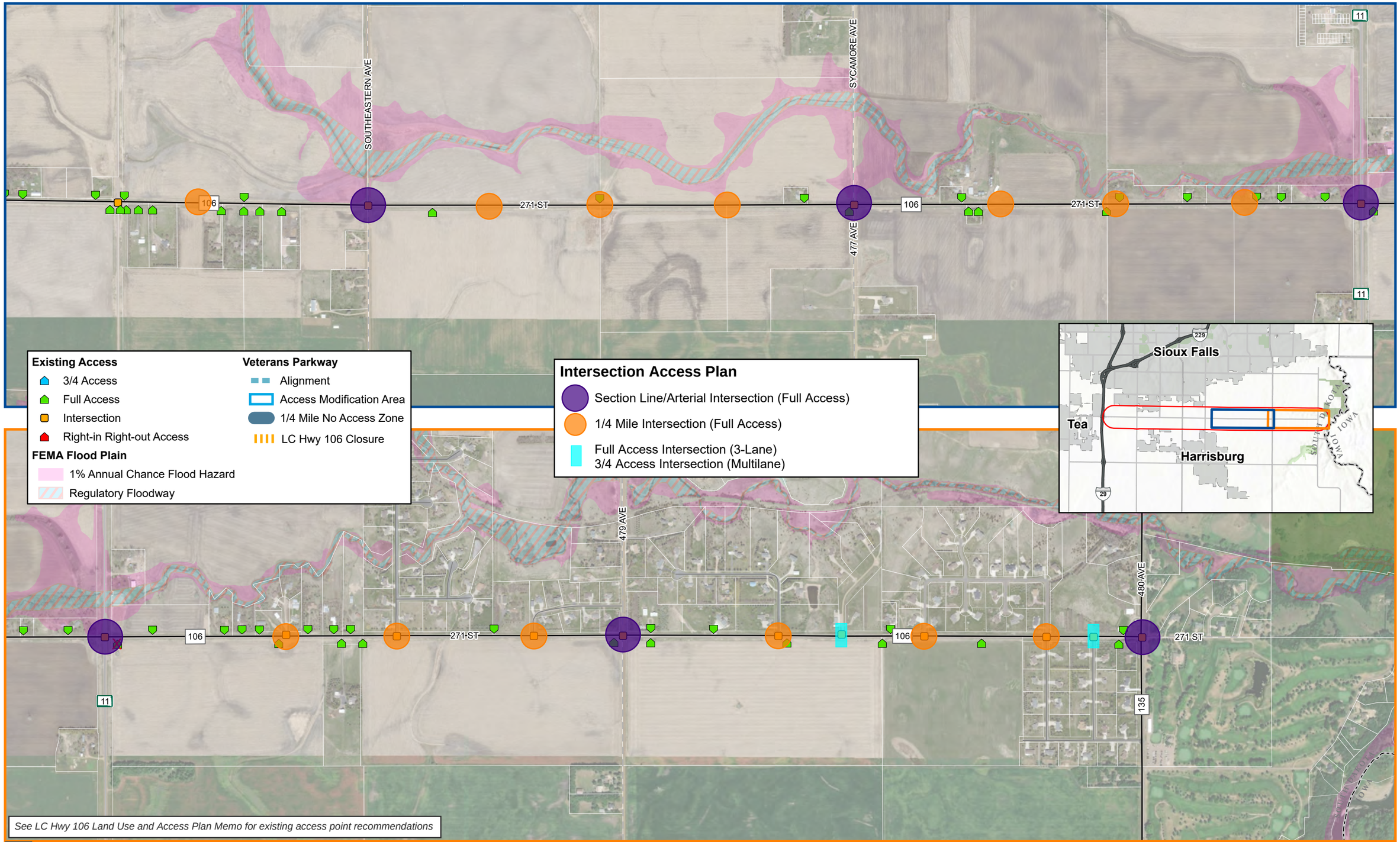


0 1,000 Feet

LC HWY 106 INTERSECTION ACCESS PLAN

FIGURE 15

LINCOLN COUNTY, SD | HIGHWAY 106 CORRIDOR STUDY



LC HWY 106 INTERSECTION ACCESS PLAN

FIGURE 15

LINCOLN COUNTY, SD | HIGHWAY 106 CORRIDOR STUDY

Recommendations to Manage Existing Access

Access located within major (arterial) intersection functional area

1. Close access and connect parcel to new ¼-mile intersection via frontage, rearage, or development road
2. Construct median and restrict access to right-in right-out
3. Consolidate access points

Segments with high access density (closely spaced access points)

1. Close access and connect parcel to new ¼-mile intersection via frontage, rearage, or development road
2. Construct median and restrict access to right-in right-out
3. Consolidate access points

Field access

1. Close and relocate to future ¼-mile intersection as part of development, redevelopment, or future transportation project

ALTERNATIVES INTRODUCTION

Based on issues and needs identified for the LC Hwy 106 corridor, a series of alternatives were developed for typical sections, arterial/arterial (section-line) intersections, and corridor segments between the arterial intersections. Development, evaluation, and refinement feedback was gathered through a collaborative process with the Study Advisory Team over the course of several meetings. Corridor stakeholders and the public also had an opportunity to review alternatives as part of the second set of stakeholder meetings and public open house.

Alternatives development assumptions include:

- 45 mph design speed (40 mph posted speed), typical of suburban arterial corridors in the Sioux Falls MPO area
- LC Hwy 106 alignment centered within a 100-foot right-of-way
- Arterial intersection alternatives and corridor segment alternatives are interchangeable to support agency flexibility in programming and order of future projects
- Intersection turn lanes reflect a 'typical' turn lane layout. A future design analysis as part of project design should be conducted to determine final turn lane geometrics.

TYPICAL SECTION ALTERNATIVES

LC Hwy 106 typical sections were developed to guide future corridor improvements. These typical sections support multimodal route connectivity and continuity and provide a framework to incrementally implement future projects. The four typical sections that illustrate the long-range vision for the corridor, shown in **Figure 16** through **Figure 19**, include:

- **Rural 3-Lane Typical Section:** widening of the existing typical section to include a center left turn lane plus multimodal elements; reflects a modification to the existing cross-section
- **Urban 3-Lane Typical Section:** single through lane in each direction, center left turn lane, curb and gutter, and multimodal elements
- **Urban 5-Lane Typical Section:** two through lanes in each direction, center left turn lane, curb and gutter, and multimodal elements
- **Urban 4-Lane Divided Typical Section:** two through lanes in each direction, raised median that accommodates a left turn lane at intersections, curb and gutter, and multimodal elements

Key urban typical section elements incorporate:

Right-of-Way

- 100-foot width

Roadway

- Option to provide a single lane or multiple lanes in each direction
- Raised median and two-way left-turn lane (TWLTL) options
- 11-foot lanes

Bicycle/Pedestrian

- 10-foot shared use path on both sides
- Shared use path located along edge of right-of-way to maximize separation from LC Hwy 106 vehicle lanes, increase bicycle and pedestrian comfort, and accommodate future expansion

Streetscape/Appurtenances

- Streetscape opportunities provided in the boulevard sections of all urban typical sections and within raised center median in Urban 4-Lane Divided typical section
- Roadway lighting

The Rural 3-Lane Typical Section reflects a modification to the existing cross-section to help illustrate how various urban elements may be incorporated into the existing section. Rural 5-lane and 4-lane typical sections also developed as part of the study and are shown in **Appendix H**. These rural typical sections require in excess of 120 feet of right-of-way to develop ditches large enough to adequately convey drainage and would result in impacts to adjacent property.

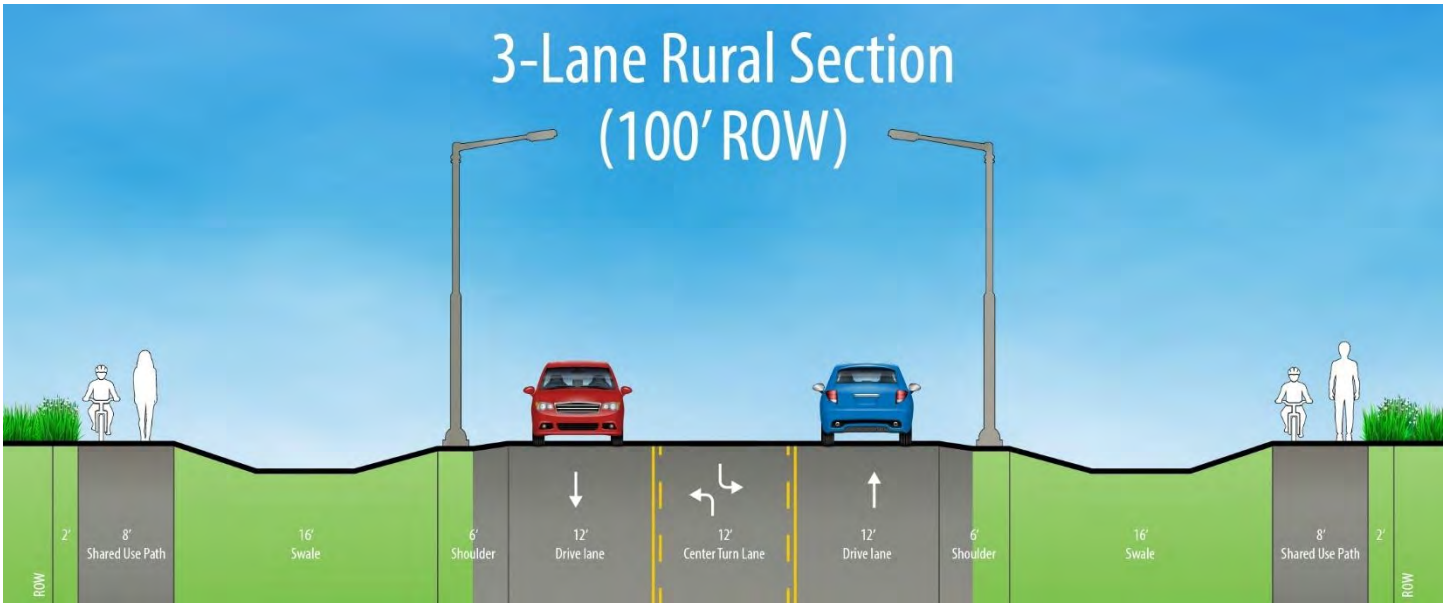


Figure 16: Rural 3-Lane Typical Section

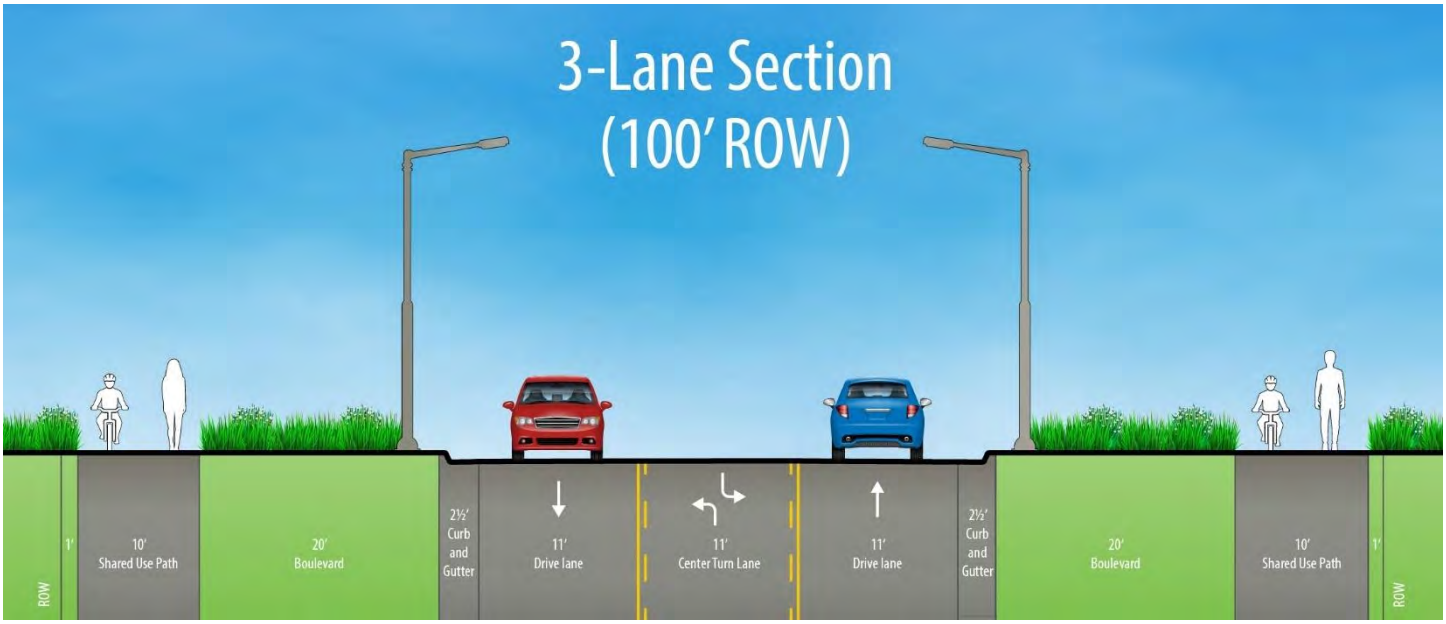


Figure 17: Urban 3-Lane Typical Section

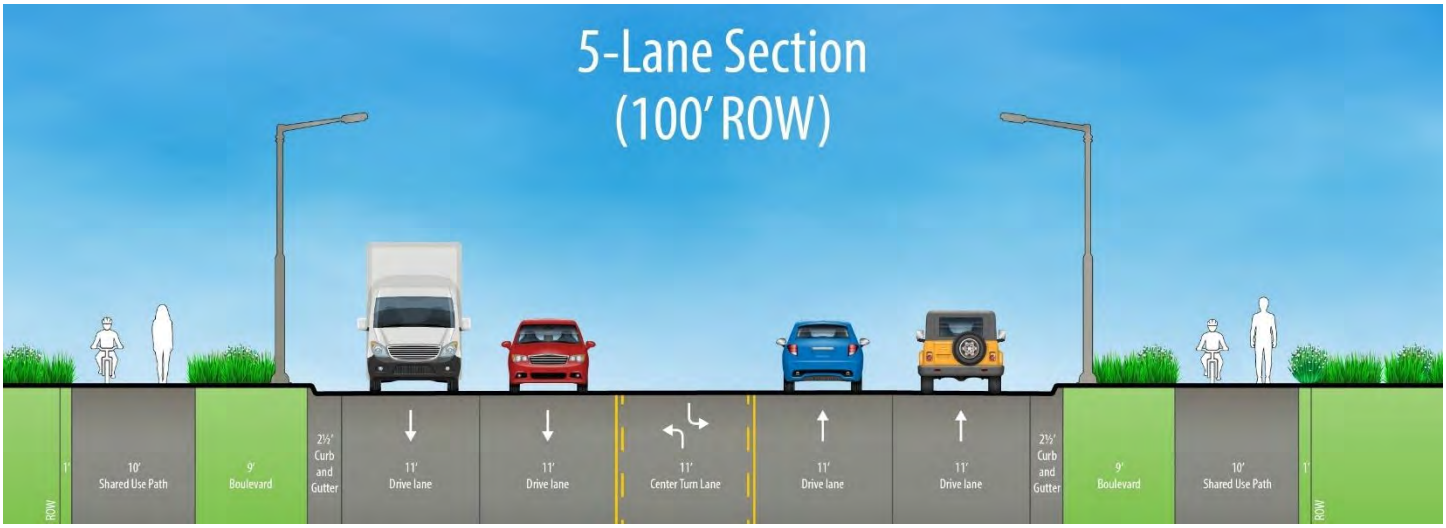


Figure 18: Urban 5-Lane Typical Section

Figure 19: Urban 4-Lane Divided Typical Section

INTERSECTION ALTERNATIVES

Conceptual layouts of intersection alternatives developed for this study are provided in ***Appendix I****.*

Intersection alternatives illustrate potential modifications to existing intersection configurations and address identified issues and needs. Intersection alternatives consist of two main intersection types:

1. Traditional intersection that can either be stop-controlled (stop signs) or signal-controlled (traffic signal)
2. Roundabout (single-lane or multilane)

Intersection traffic control needs (stop sign vs. traffic signal) are based on operational analysis. Existing unsignalized intersections would need to meet *Manual on Uniform Traffic Control* (MUTCD) traffic signal warrants before being signalized. Left and right turn lanes were included in all traditional intersection alternatives. While turn lanes were not required to meet operational goals in several instances, they were still included to reflect the long-range build-out of an arterial corridor where turn lanes provide operational and safety benefits to the transportation network.

LC Hwy 106 typical sections tying into the intersection alternatives include a 3-lane section (e.g., Urban 3-Lane Typical Section) or multilane section (e.g., Urban 5-Lane Typical Section or Urban 4-Lane Divided Typical Section). Assumptions for north/south arterial number of lanes were based on other area studies, Sioux Falls MPO TDM constrained projects, and planned Veterans Parkway-related improvements.

Assumptions incorporated into the alternatives development include:

- Planned Veterans Parkway crossroad arterial improvements, with options reflecting potential tie-in updates and full integration with intersection build-out configurations
- Minnesota Avenue intersection would remain signalized with improvements focused on the west and east intersection approaches
- Southeastern Avenue is a township gravel road and thus the relationship between intersection improvements and Southeastern Avenue corridor improvements is an important consideration when identifying timelines. Southeastern Avenue intersection alternatives assume an improved Southeastern Avenue corridor that can accommodate increased north/south travel.
- SD11 recommendations from the *Northern Lincoln County Corridors (SD11 and SD115) Study* were incorporated for the SD11 corridor, but this study refines recommendations for the east and west approaches
- Multilane roundabouts are a hybrid configuration where only up to two legs have multiple through lanes

A summary matrix of intersection alternatives is provided in **Table 9**.

Table 9: Intersection Alternative Matrix

LC Hwy 106 Intersection	Alternative	Intersection Type	LC Hwy 106 Corridor Typical Section	
			3-Lane	Multilane
Louise Avenue	Louise – 1	Single-Lane Roundabout	X	
	Louise – 2	Multilane Roundabout	X	
	Louise – 3	Traffic Signal	X	
	Louise – 4	Traffic Signal		X
Western Avenue	Western – 1	Single-Lane Roundabout	X	
	Western – 2	Multilane Roundabout	X	
	Western – 3	Traffic Signal	X	
	Western – 4	Traffic Signal		X
Minnesota Avenue (SD115)	Minnesota – 1	Traffic Signal	X	
	Minnesota – 2	Traffic Signal		X
Cliff Avenue	Cliff – 1	Single-Lane Roundabout	X	
	Cliff – 2	Multilane Roundabout	X	
	Cliff – 3	Traffic Signal	X	
	Cliff – 4	Traffic Signal		X
Southeastern Avenue	Southeastern – 1	Single-Lane Roundabout	X	
	Southeastern – 2	Traffic Signal	X	
	Southeastern – 3	Traffic Signal		X
Sycamore Avenue	Sycamore – 1	Single-Lane Roundabout	X	
	Sycamore – 2	Stop-Control (Traffic Signal)	X	
SD11	SD11 – 1	Stop-Control (Traffic Signal)	X	
479th Avenue	479th – 1	Single-Lane Roundabout	X	
	479th – 2	Stop-Control	X	
480th Avenue	480th – 1	Single-Lane Roundabout	X	
	480th – 2	Stop-Control	X	

LC Hwy 106 corridor tying into the intersection alternative:

- 3-Lane: Urban 3-Lane Typical Section
- Multilane: Urban 5-Lane Typical Section or Urban 4-Lane Divided Typical Section

Intersections anticipated to open as stop-control and transition to signalized when warranted indicated by 'Stop-Control (Traffic Signal)'

CORRIDOR SEGMENT ALTERNATIVES

*Conceptual layouts of corridor segment alternatives developed for this study are provided in **Appendix J**.*

Corridor segment alternatives illustrate potential modifications to the LC Hwy 106 corridor between the arterial/arterial (section line) intersections, including:

- Typical section elements
- Future ¼-mile access locations and minimum lane configurations
- Transition locations for number of lanes (lane add/drop) and raised medians

In the multilane corridor alternatives, a raised median is proposed to extend to the adjacent ¼-mile intersection to preserve intersection capacity and maintain expected levels of safety by minimizing conflict points within the major intersection functional area. Deviations from this must be evaluated in accordance with the corridor's Access Plan.

Where multilane corridor alternatives were developed in conjunction with signalized bookend intersections, the multilane section was carried through the bookend signalized intersections and lanes were added or dropped at the adjacent ¼-mile intersection. This helps with lane utilization at major intersections by encouraging motorists to use both lanes through the signalized intersection and then providing a ¼-mile distance for lane changes. Lane add and drop locations should be further evaluated as part of future projects and development.

Where multilane corridor alternatives were developed in conjunction with multilane roundabout bookend intersections, lanes could be added/dropped at the roundabout through channelized turn lanes. This channelization aligns with forecasted traffic patterns and associated lane utilization and driver expectancy. Extending a multilane section to the ¼-mile intersection, beyond the bookend roundabout, was not needed with the roundabout alternatives.

The mid-segment ¼-mile intersections are meant to provide guidance for future development. Developers should use these locations as the foundation to develop their internal road network and corresponding land use. The corridor alternative layouts reflect the recommended minimum lane configuration at these mid-segment intersections. It is anticipated they will open as stop-controlled (from the side-street approaches) unless an engineering study shows a traffic signal will be warranted.

A summary matrix of corridor segment alternatives is provided in **Table 10**. Access options developed for the corridor segment between Cliff Avenue and Southeastern Avenue are listed in **Table 11**.

Table 10: Corridor Segment Alternative Matrix

LC Hwy 106 Segment	Alternative	LC Hwy 106 Corridor Typical Section	
		3-Lane	Multilane
Louise Avenue to Western Avenue	Louise – Western A	X	
	Louise – Western B		X
Western Avenue to Minnesota Avenue	Western – Minnesota A	X	
	Western – Minnesota B		X
Minnesota Avenue (SD115) to Cliff Avenue	Minnesota – Cliff A	X	
	Minnesota – Cliff B		X
Cliff Avenue to Southeastern Avenue	Cliff – Southeastern A	X	
	Cliff – Southeastern B		X
	Railroad Grade Separation		X
Southeastern Avenue to Sycamore Avenue	Southeastern – Sycamore A	X	
Sycamore Avenue to SD11	Sycamore – SD11 A	X	
SD11 to 479th Avenue	SD11 – 479th A	X	
479th Avenue to 48th Avenue	479th – 480th A	X	

Table 11: Cliff Avenue to Southeastern Avenue Access Options

LC Hwy 106 Segment	Alternative	LC Hwy 106 Corridor Typical Section		Options
		3-Lane	Multilane	
Cliff Avenue to Southeastern Avenue	Cliff – Southeastern A	X		A: Maintain existing access B: Frontage road C: Access consolidation
	Cliff – Southeastern B		X	A: Maintain existing driveway access points B: Frontage road C: Access consolidation
	Railroad Grade Separation		X	A: Fill option B: Wall option

BUILD CONDITION ANALYSIS

*See Build Condition Traffic Operations Analysis Memo in **Appendix K** for additional information.*

Intersection Traffic Operations

Build condition traffic operations were analyzed for all arterial intersections to assess feasibility, quantify traffic operational benefits, and aid in the evaluation and comparison of alternatives. Intersection LOS results are summarized in **Table 12** through **Table 17** for Years 2028, 2040, and 2050.

Key intersection traffic operations analysis findings include:

- On LC Hwy 106 approaches to all analysis intersections, providing a single through lane in each direction plus intersection improvements (e.g., adding left and/or right turn lanes, changing intersection traffic control) was found to address operational needs through the study's 2050 Planning Horizon
- Roundabouts consistently provide less delay (better LOS) compared to signalized intersections
    - Single-lane roundabouts exhibit consistent operational benefits through the 2050 Planning Horizon at several analysis intersections, highlighting their adaptability to accommodate daily traffic volume variability and traffic growth
- A multilane LC Hwy 106 corridor (two through lanes in each direction) provides notable benefit at the Minnesota Avenue intersection, where the two eastbound/westbound through lanes allows for enhanced traffic signal prioritization of north/south Minnesota Avenue traffic

Table 12: Intersection Level of Service – 2028 AM Peak Hour

Intersection Type	Louise Ave	Western Ave	Minnesota Ave (SD115)	Cliff Ave	Southeastern Ave	Sycamore Ave	SD11	479th Ave	480th Ave
No Build	*A*	*A*	*C*	*C*	*B*	*A*	*B*	*A*	*A*
Stop-Control						**A**		**A**	**A**
Roundabout *(Single Lane)*	**A**	**A**		**A**	**A**	**A**		**A**	**A**
Roundabout *(Multilane)*	**A**	**A**		**A**					
Traffic Signal	**B**	**B**	**C**	**B**	**B**		**C**		

Table 13: Intersection Level of Service – 2028 PM Peak Hour

Intersection Type	Louise Ave	Western Ave	Minnesota Ave (SD115)	Cliff Ave	Southeastern Ave	Sycamore Ave	SD11	479th Ave	480th Ave
No Build	*A*	*B*	*C*	*C*	*B*	*A*	*C*	*A*	*A*
Stop-Control						**A**		**A**	**A**
Roundabout *(Single Lane)*	**A**	**A**		**B**	**A**	**A**		**A**	**A**
Roundabout *(Multilane)*	**A**	**A**		**A**					
Traffic Signal	**B**	**B**	**C**	**B**	**B**		**C**		

Table 14: Intersection Level of Service – 2040 AM Peak Hour

Intersection Type	Louise Ave	Western Ave	Minnesota Ave (SD115)	Cliff Ave	Southeastern Ave	Sycamore Ave	SD11	479th Ave	480th Ave
No Build	*A*	*B*	*C*	*C*	*F*	*A*	*D*	*A*	*A*
Stop-Control						**A**		**A**	**A**
Roundabout *(Single Lane)*	**A**	**A**		**B**	**A**	**A**		**A**	**A**
Roundabout *(Multilane)*	**A**	**A**		**A**					
Traffic Signal	**B**	**B**	**C**	**B**	**B**		**C**		

Table 15: Intersection Level of Service – 2040 PM Peak Hour

Intersection Type	Louise Ave	Western Ave	Minnesota Ave (SD115)	Cliff Ave	Southeastern Ave	Sycamore Ave	SD11	479th Ave	480th Ave
No Build	*A*	*C*	*C*	*C*	*F*	*A*	*F*	*A*	*A*
Stop-Control						**A**		**A**	**A**
Roundabout *(Single Lane)*	**A**	**A**		**C**	**A**	**A**		**A**	**A**
Roundabout *(Multilane)*	**A**	**A**		**A**					
Traffic Signal	**B**	**B**	**C**	**B**	**B**		**C**		

Table 16: Intersection Level of Service – 2050 AM Peak Hour

Intersection Type	Louise Ave	Western Ave	Minnesota Ave (SD115)	Cliff Ave	Southeastern Ave	Sycamore Ave	SD11	479th Ave	480th Ave
No Build	*A*	*C*	*D*	*D*	*F*	*C*	*F*	*A*	*A*
Stop-Control						**B**		**A**	**A**
Roundabout *(Single Lane)*	**A**	**A**		**C**	**B**	**A**		**A**	**A**
Roundabout *(Multilane)*	**A**	**A**		**B**					
Traffic Signal	**C**	**C**	**C**	**C**	**C**		**C**		

Table 17: Intersection Level of Service – 2050 PM Peak Hour

Intersection Type	Louise Ave	Western Ave	Minnesota Ave (SD115)	Cliff Ave	Southeastern Ave	Sycamore Ave	SD11	479th Ave	480th Ave
No Build	*A*	*F*	*D*	*D*	*F*	*C*	*F*	*A*	*A*
Stop-Control						**B**		**A**	**A**
Roundabout *(Single Lane)*	**A**	**A**		**C**	**B**	**A**		**A**	**A**
Roundabout *(Multilane)*	**A**	**A**		**A**					
Signal	**C**	**C**	**C**	**B**	**C**		**C**		

Corridor Traffic Operations

LC Hwy 106 corridor segments were analyzed in terms of travel time and LOS. Travel time reflects the running time to traverse the respective segments plus arterial intersection delay. Level of Service is based on travel speeds.

Analysis results for the following 2050 Planning Horizon corridor scenarios are summarized in **Table 18** through **Table 21**:

- **'Roundabout and Signalized Corridor'**
  - Single-lane roundabouts at Louise Avenue, Western Avenue, Cliff Avenue, and Southeastern Avenue intersections
  - Signalized intersections at Minnesota Avenue (SD115) and SD11
- **'Signalized Corridor'**
  - Signalized intersections at Louise Avenue, Western Avenue, Minnesota Avenue, Cliff Avenue, Southeastern Avenue, and SD11 intersections

Both scenarios analyzed a 3-lane LC Hwy 106 corridor between Louise Avenue and SD11. The travel time measure for a given segment reflects running time plus arterial delay of the downstream intersection. The differences between the two scenarios for segment and overall corridor travel times are directly related to differences in intersection delay of the roundabout and signalized intersections.

Key corridor segment traffic operations analysis findings include:

- The 'Roundabout and Signalized Corridor' scenario provides a travel time savings of up to 10 percent for east/west travel through the corridor
- All corridor segments measure LOS A
  - Elements that would degrade corridor LOS include:
    - Increased number of access points
    - Changes in traffic control at mid-segment intersections that would stop east/west travel (e.g., traffic signal)
    - Omitting turn lanes at major intersections and higher-volume mid-segment intersections

Table 18: LC Hwy 106 Travel Time and LOS – AM Eastbound (2050 Build)

Segment Measures	Louise Ave	Segment A	Western Ave	Segment B	Minnesota Ave	Segment C	Cliff Ave	Segment D	Southeastern Ave	Segment E	SD11	Facility: Louise Ave to SD11
Signalized Corridor												
Intersection Type	S		S		S		S		S		S	
Travel Time (sec)		108		126		109		111		190		10 min, 44 sec
LOS		A		A		A		A		A		
Roundabout & Signal Corridor												
Intersection Type	R		R		S		R		R		S	
Travel Time (sec)		98		126		99		99		190		10 min, 12 sec
LOS		A		A		A		A		A		

S: signalized intersection; R: roundabout

Table 19: LC Hwy 106 Travel Time and LOS – AM Westbound (2050 Build)

Segment Measures	Louise Ave	Segment A	Western Ave	Segment B	Minnesota Ave	Segment C	Cliff Ave	Segment D	Southeastern Ave	Segment E	SD11	Facility: Louise Ave to SD11
Signalized Corridor												
Intersection Type	S		S		S		S		S		S	
Travel Time (sec)		111		113		127		120		191		11 min, 2 sec
LOS		A		A		A		A		A		
Roundabout & Signal Corridor												
Intersection Type	R		R		S		R		R		S	
Travel Time (sec)		100		101		127		114		183		10 min, 25 sec
LOS		A		A		A		A		A		

S: signalized intersection; R: roundabout

Table 20: LC Hwy 106 Travel Time and LOS – PM Eastbound (2050 Build)

Segment Measures	Louise Ave	Segment A	Western Ave	Segment B	Minnesota Ave	Segment C	Cliff Ave	Segment D	Southeastern Ave	Segment E	SD11	Facility: Louise Ave to SD11
Signalized Corridor												
Intersection Type	S		S		S		S		S		S	
Travel Time (sec)		109		127		116		116		201		11 min, 9 sec
LOS		A		A		A		A		A		
Roundabout & Signal Corridor												
Intersection Type	R		R		S		R		R		S	
Travel Time (sec)		101		126		116		106		195		10 min, 44 sec
LOS		A		A		A		A		A		

S: signalized intersection; R: roundabout

Table 21: LC Hwy 106 Travel Time and LOS – PM Westbound (2050 Build)

Segment Measures	Louise Ave	Segment A	Western Ave	Segment B	Minnesota Ave	Segment C	Cliff Ave	Segment D	Southeastern Ave	Segment E	SD11	Facility: Louise Ave to SD11
Signalized Corridor												
Intersection Type	S		S		S		S		S		S	
Travel Time (sec)		114		114		125		117		199		11 min, 9 sec
LOS		A		A		A		A		A		
Roundabout & Signal Corridor												
Intersection Type	R		R		S		R		R		S	
Travel Time (sec)		98		100		125		102		184		10 min, 9 sec
LOS		A		A		A		A		A		

S: signalized intersection; R: roundabout

Bicycle and Pedestrian Operations

Multimodal elements were incorporated into HCS Streets files when supported by methodology and software. Key elements contributing to beneficial LOS measures include:

- Continuous 10-foot shared use paths on both sides of LC Hwy 106
    - Provides ample space for pedestrians and bicyclists
- Wide boulevard that maximizes separation between vehicular lanes and shared use paths
- Buffer areas clear of fixed objects to not reduce the shared use path effective width
- Connectivity with other area sidewalks and shared use paths beyond the study corridor
- Crosswalks across all major intersection legs (provide for all movements)
- Managed delay at major intersections, which benefits vehicular operations, pedestrian delay, and integration of required signal phasing for all modes

Bicycle and pedestrian LOS throughout the study corridor was measured at LOS C or better for pedestrians (shared use path travel) and LOS D or better for on-street bicyclists. No dedicated on-street bicycle facilities (bike lanes) were included so the analysis assumed on-street bicyclists are using the vehicle travel lane (within or at the edge of the travel lane) and thus the LOS D.

2050 Sensitivity Scenario Traffic Operations

There was considerable interest in future-year traffic volumes at the first public open house and stakeholder meetings, particularly with the notable drop in forecasted traffic volumes upon full opening of Veterans Parkway by Year 2028. In several instances, long-range forecasts were not shown to reach current traffic levels by the 2050 Planning Horizon as the primary source of corridor traffic growth is anticipated to be adjacent development.

It is important to understand City of Sioux Falls and City of Harrisburg growth and land use assumptions built into the Sioux Falls MPO TDM. It is equally important to recognize that development may occur quicker and at greater density than what is accounted for in the TDM, and vice-versa. To account for a scenario where development occurs quicker and at a greater density (generating higher levels of traffic) than what is shown in the TDM, a sensitivity analysis was conducted to reflect LC Hwy 106 volumes that are 50 to 75 percent greater than the forecasted 2050 Planning Horizon volumes.

The 2050 Sensitivity Scenario applied a factor of 1.75 to LC Hwy 106 daily and peak hour traffic volumes from Louise Avenue through Southeastern Avenue to correspond with the City of Sioux Falls Tier I and Tier II growth areas and the core City of Harrisburg growth area. Daily and peak hour volumes were not increased on the north/south arterial corridors as those volumes show continued growth in the TDM. This scenario assumes additional traffic generated along the LC Hwy 106 corridor either stays on the corridor or is integrated into the north/south arterial through movement volumes (similar to pass-by trips in a traffic impact study). 2050 Sensitivity Scenario daily volumes are shown in **Figure 20**.

Table 22 summarizes intersection operations for the Louise Avenue, Western Avenue, Minnesota Avenue, Cliff Avenue, and Southeastern Avenue intersections. A multilane LC Hwy 106 corridor was analyzed through the Western Avenue, Minnesota Avenue, and Cliff Avenue intersections and resulted in the same LOS measure as the 3-lane LC Hwy 106 signalized intersection alternatives.

Table 22: Intersection Level of Service – 2050 Sensitivity Scenario

Intersection Type	AM Peak Hour					PM Peak Hour				
	Louise Ave	Western Ave	Minnesota Ave (SD115)	Cliff Ave	Southeastern Ave	Louise Ave	Western Ave	Minnesota Ave (SD115)	Cliff Ave	Southeastern Ave
No Build	A	C	D	D	F	A	F	D	D	F
Roundabout *(Single Lane)*	B	C		F	C	B	C		F	D
Roundabout *(Multilane)*	A	A		E		A	A		D	
Signal	C	C	D	C	C	C	C	D	C	C

Key findings from 2050 Sensitivity Scenario traffic operations analysis include:

- Louise Avenue and Western Avenue intersections
  - Single-lane roundabouts exhibit 25-50 percent less delay than signalized intersections
  - Multilane roundabouts with lane add and/or drops within the roundabout exhibit the least delay of all intersection alternatives at LOS A
- Minnesota Avenue intersection
  - Signalized intersection LOS D for both the 3-lane and multilane LC Hwy 106 corridor
  - 3-lane LC Hwy 106 measures higher delay than the multilane corridor, which points towards the 2050 Planning Horizon traffic volumes analyzed in the previous sections are near the upper limits of where the signalized intersection could absorb fluctuations. As 2050 Planning Horizon volumes grow towards the 2050 Sensitivity Scenario volumes, they will begin impacting overall intersection operations during the peak hours.
  - Multilane LC Hwy 106 corridor provides the greatest flexibility and capacity to accommodate peak volume fluctuations
- Cliff Avenue intersection
  - Single-lane roundabout fails at LOS F in both AM and PM peak hours, which illustrates the capacity ceiling of a single-lane roundabout
  - Multilane roundabout measures LOS E in the AM peak hour and LOS D in the PM peak hour, showing the analyzed 2050 Sensitivity Scenario volumes are towards the upper capacity limits for acceptable operations
  - Negligible difference between 3-lane and multilane signalized intersection operations
- Southeastern Avenue intersection
  - Similar operations between single-lane roundabout and signalized intersection alternatives

Tea
Sioux Falls
Harrisburg
271 ST
106
117
115
123
229
11
135
S TALLGRASS AVE
471 AVE
S LOUISE AVE
472 AVE
S WESTERN AVE
473 AVE
S MINNESOTA AVE
475 AVE
CLIFF AVE
479 AVE
480 AVE
S SYCAMORE AVE
477 AVE
476 AVE
JTHEASTERN AVE

Future Veterans Parkway project will close LC Hwy 106 between Tallgrass Ave and Louise Ave

11,000	1,500	2,500	4,500
9,000	8,500	12,000	
5,000	6,000	8,500	
9,500	3,500	5,500	9,500
3,500	5,500	10,000	
500	2,000	5,000	
9,500	3,500	6,500	10,500
9,500	15,000	27,500	
10,000	14,500	26,000	
8,500	4,500	7,500	12,000
10,500	11,500	13,500	
12,000	12,500	13,500	
6,500	3,500	6,000	10,000

TRAFFIC LEGEND

Daily Volumes

2,500	Existing (2022)
7,000	2028
9,000	2050
13,000	2050 CH106 Sensitivity

6,500	3,500	6,000	10,000
1,500	4,000	12,000	
5,500	3,500	4,500	7,500
1,500	4,000	12,500	
300	2,000	5,500	
150	1,000	2,500	
7,500	8,000	10,500	
5,500	4,000	7,000	
5,500	6,000	8,000	
4,000	4,000	5,000	
300	700	1,600	
300	700	1,200	
3,000	3,500	4,000	
700	1,000	1,700	
3,000	3,500	4,000	

0 0.5 Miles

2050 SENSITIVITY SCENARIO DAILY TRAFFIC VOLUMES

FIGURE 20

LINCOLN COUNTY, SD | HIGHWAY 106 CORRIDOR STUDY

Intersection and Corridor Segment Safety Benefits

Planning-level crash modification factors (CMF)s were identified for a variety of intersection improvements using countermeasures from the *Highway Safety Manual* and *Crash Modification Factors Clearinghouse*. **Table 23** provides examples of expected crash reduction in terms of injury crashes and total crashes when converting one intersection type to a different intersection type. Presented CMFs are for illustrative purposes to provide an understanding of potential safety benefits associated with each overarching intersection type analyzed in this study. It should be noted that CMF values vary based on crash type, injury severity, roadway/area type, and research study.

Table 23: Potential Crash Reduction Comparison – Intersection Improvements

Treatment	CMF	Crash Reduction	Source
Conversion of a stop-control intersection to a…			
All-Way Stop-Control Intersection	0.30 (Injury) 0.32 (Total)	70% reduction (Injury) 68% decrease (Total)	HSM/CMF 314 CMF 3127
Signalized Intersection	0.64 (Injury) 0.95 (Total)	36% reduction (Injury) 5% decrease (Total)	CMF 319 HSM/CMF 322
Single-Lane Roundabout	0.22 (Injury) 0.22 (Total)	78% reduction (Injury) 78% decrease (Total)	HSM HSM
Multilane Roundabout	0.32 (Injury) 0.81 (Total)	68% reduction (Injury) 19% decrease (Total)	HSM HSM
Conversion of a signalized intersection to a…			
Single-Lane Roundabout	0.45 (Injury) 0.74 (Total)	55% reduction (Injury) 26% decrease (Total)	HSM HSM
Multilane Roundabout	0.29 (Injury) 0.81 (Total)	71% reduction (Injury) 19% decrease (Total)	HSM HSM

Crash Modification Clearinghouse ID obtained from website https://www.cmfclearinghouse.org/

Roundabout safety benefits are demonstrated by extensive research across the United States. For example, the HSM shows an expected 55 percent reduction in injury crashes when a signalized intersection is converted to a single-lane roundabout. The expected reduction is 78 percent when a stop-control intersection is converted to a single-lane roundabout.

It should be noted that there is an expected crash reduction when unwarranted traffic signals are removed (0.76 CMF or 24 percent reduction of total crashes). This illustrates the importance of not installing traffic signals when MUTCD traffic signal warrants are not met.

Other elements incorporated into the alternatives with safety benefits (supported by CMFs) include:

- Roadway lighting
- Left and right turn lanes
- Access closures, consolidation, relocation, and/or restriction of turn/crossing movements
- Raised medians within major intersection functional areas
- Shared use paths (to separate pedestrians/bicyclists from vehicular traffic)

CONCEPTUAL COSTS

Planning-level intersection and corridor segment alternative Construction + Right-of-Way cost estimates are summarized in the following tables. For consistency across intersection types, each planning-level intersection cost accounts for reconstructing the intersection physical area plus 800 feet east and west of the intersection on LC Hwy 106 and 550 feet north and south of the intersection on the crossroad arterial. LC Hwy 106 corridor segment costs are based on the segment length, approximately 3,680 feet, between the major intersection areas. Conceptual costs do not include preliminary and construction engineering costs and would be in addition to what is presented. A cost breakdown by generalized work item is provided in **Appendix L**.

Table 24: LC Hwy 106 Intersection Conceptual Costs

Intersection Type	**LC Hwy 106 Corridor Section**	**Crossroad Number of Lanes** (North/South Arterial)	**Construction + ROW Costs** ($M, 2023)
Single-Lane Roundabout	3-Lane	3-Lane	$4.0
Multilane Roundabout	3-Lane	North leg: multilane South leg: 3-lane	$4.8
Multilane Roundabout	3-Lane	North leg: multilane South leg: multilane	$5.6
Stop Control	3-Lane	3-Lane	$4.0
Traffic Signal	3-Lane	North leg: multilane South leg: 3-lane	$5.2
Traffic Signal	3-Lane	North leg: multilane South leg: multilane	$6.2
Traffic Signal	Multilane	North leg: multilane South leg: multilane	$6.7

Intersection limits reflect construction of intersection physical area (~100 feet) plus 800 feet east and west on LC Hwy 106 and 550 feet north and south on crossroad arterial

Table 25: LC Hwy 106 Corridor Segment Conceptual Costs

LC Hwy 106 Corridor Section	**Corridor Segment Length** (feet)	**Construction + ROW Costs** ($M, 2023)
3-Lane	3,580	$6.8
Multilane	3,580	$7.9

Corridor segment limits reflect reconstruction of the LC Hwy 106 segment between arterial intersection footprints (5,280 ft – 100 ft - 800 ft – 800 ft = 3,580 ft)

TALLGRASS AVENUE TO LOUISE AVENUE CONNECTION

Following completion of Veterans Parkway, LC Hwy 106 will no longer include a direct connection to Tallgrass Avenue. A supplemental scenario was developed to better understand potential operational benefits or drawbacks of providing a future connection between Tallgrass Avenue and Louise Avenue. This connection would require new right-of-way and be at least ¼-mile south of Veterans Parkway per the Veterans Parkway access plan and environmental commitments.

An illustrative range of alignments is shown in **Figure 21** to show potential, planning-level options that tie Tallgrass Avenue with the LC Hwy 106 & Louise Avenue intersection. It is estimated that upwards of 7,500 vehicles per day would use this connection by the 2050 Planning Horizon, though most of the traffic is expected to be development-generated with direct access to the segment. Forecasted 2050 Planning Horizon traffic volumes through the connection and adjacent crossroad corridors are also shown in **Figure 21**.

Key findings from the analysis include:

- Limited traffic demand for through travel on the connection (e.g., I-29 to Louise Avenue)
    - Changes to LC Hwy 106 traffic patterns were generally negligible with or without the connection from the Western Avenue intersection eastward
    - Traffic tends to stay on Veterans Parkway when traveling between I-29 and Louise Avenue or Western Avenue
    - The southwest to northeast diagonal connection reflects out of the way travel for these movements
- Mid-segment development-generated traffic (development traffic with direct access to the connection) typically heads to/from Louise Avenue by nearly a 3:1 margin when compared to traffic traveling to/from Tallgrass Avenue
- Connection provides a good opportunity for access to surrounding development and can help manage access on Tallgrass Avenue and Louise Avenue
- Connection provides a good opportunity to improve local roadway connectivity in the area and establishes an east/west option for local, lower-speed traffic
- Single-lane roundabout best manages delay at the LC Hwy 106 & Louise Avenue intersection

Sioux Falls

Veterans Parkway (future)

Tallgrass Avenue

Louise Avenue

LC Hwy 106

16,200

7,500

2

5,400

8,300

7,500

A

2,800

5,200

1

2,800

3,200

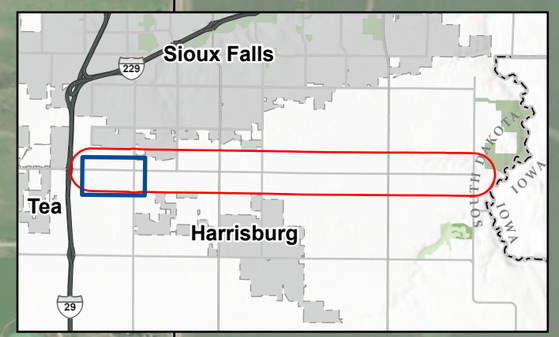
Potential connection area reflects the conceptual area where a future Tallgrass Avenue to Louise Avenue connector could be located.

TRAFFIC LEGEND

- Study Intersection
- Mid-Segment Development Intersection
- Potential Tallgrass Ave to Louise Ave Connection Area

2050 Traffic Volumes

20,000 Daily



RANGE OF POTENTIAL TALLGRASS AVENUE TO LOUISE AVENUE ALIGNMENTS (2050 PLANNING HORIZON DAILY TRAFFIC VOLUMES)

FIGURE 21

Cliff Avenue to Southeastern Avenue Segment Concepts

Conceptual corridor segment layouts illustrating a potential railroad grade separation and options to manage access between Cliff Avenue and Southeastern Avenue are provided in ***Appendix J****.*

The railroad grade separation alternative was developed for a multilane corridor, applicable with an Urban 5-Lane or Urban 4-Lane Divided typical section. The bridge would span upwards of 390 feet and touch down points to the east and west are approximately 1,500 feet from the rail centerline. The alternative includes a fill slope option and wall option to help visualize impacts, shown in **Figure 22**. The fill slope option exhibits a considerably larger footprint that would require full acquisition of at least one parcel while the wall option constructs retaining walls just outside the shared use paths. Rearage road options are shown in the alternative layout in the Appendix.

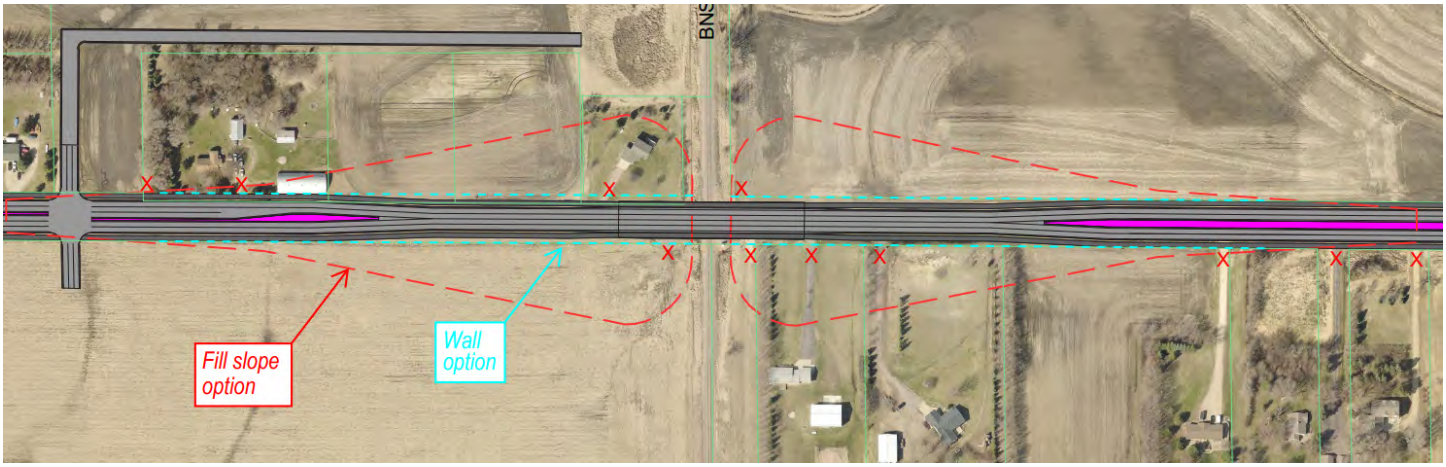


Figure 22: Railroad Grade Separation Conceptual Footprint

Four access concepts were developed for the existing access points on the south side of LC Hwy 106, between the railroad tracks and Southeastern Avenue:

A. Maintain existing access
B. Frontage road
C. Access consolidation
D. Frontage Road (with 4-Lane Divided section)

The concepts provide varying levels of access management, align with access management recommendations in the Access Plan, and provide flexibility for agency implementation as part of future projects.

UTILITY COORDINATION

*See Utility Coordination Memo in **Appendix M** for additional information.*

Planning-level utility coordination was conducted as part of the corridor study to help identify utilities that are:

- Currently in the corridor
- Planning to be in the corridor and/or planning improvements to existing utilities in the corridor
- Not in the corridor and no plans to locate in the corridor

A survey was sent to local utility contacts in Spring 2023. For utilities in the corridor, a follow-up question was also asked about the type and location of the utility within the corridor.

Responding utilities are noted in **Table 26**. The utility type, location, and supporting notes are provided in **Appendix M**.

Table 26: Responding Utilities Located in the LC Hwy 106 Corridor

AT&T	MidAmerican Energy	Xcel Energy
Bluepeak	Northern Natural Gas	Lincoln County Rural Water System
East River Electric Coop.	NuStar Pipeline	Magellan Pipeline Company L.P.
Lewis & Clark Regional Water	Southeastern Electric Cooperative	
LUMEN	Verizon	

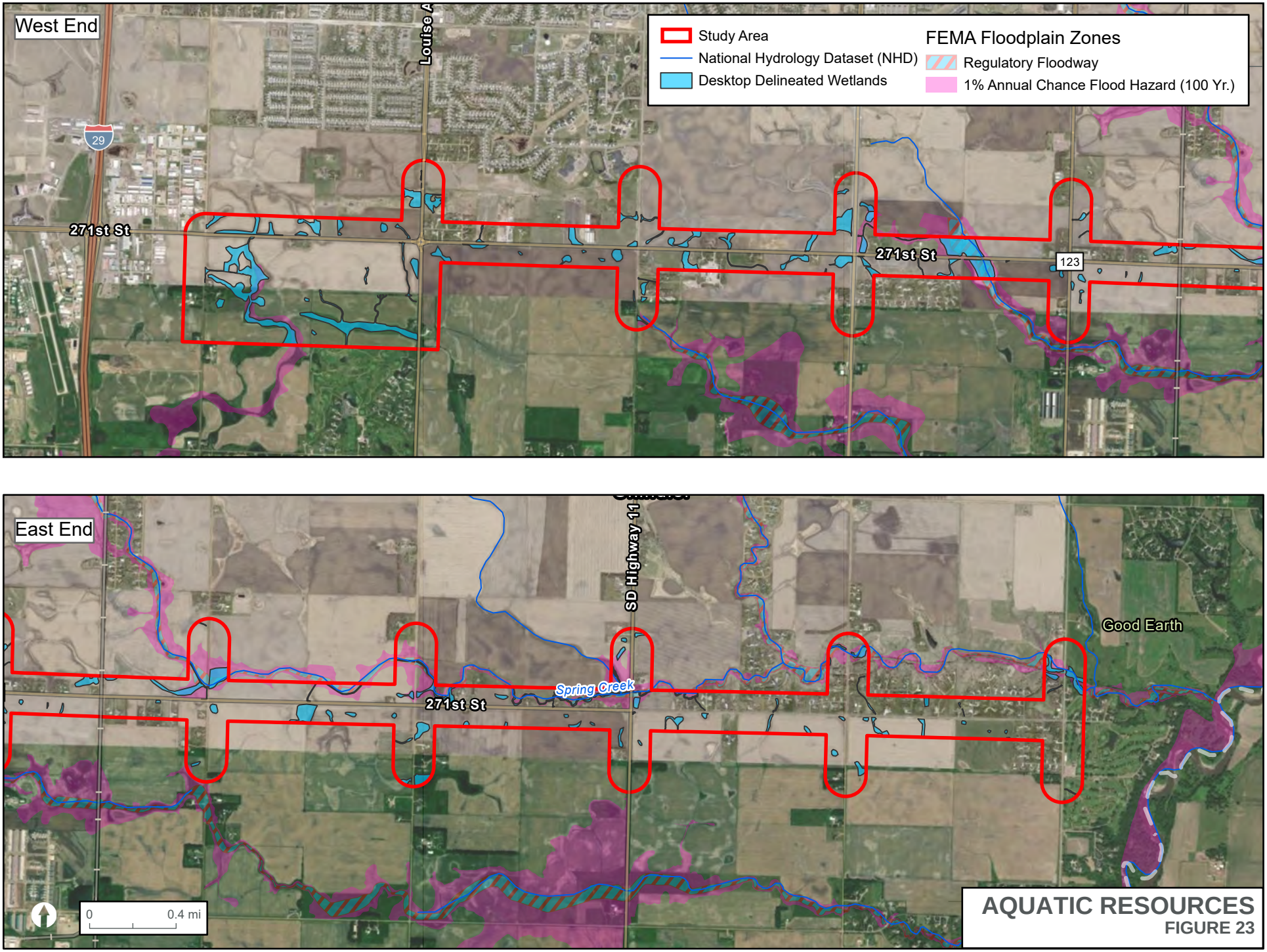
ENVIRONMENTAL REVIEW

*See Environmental Technical Memo in **Appendix N** for additional information.*

An environmental overview of the study area was conducted to identify environmental resources, potential for impacts, and future actions needed as part of the project. The *Environmental Technical Memo*, included in **Appendix N**, documents findings from the review. Figures illustrating environmental resources can also be found with the memo. The following resources likely to be impacted by the project and require further review are summarized below.

Wetlands and Other Waters of the U.S.

A desktop delineation found 134 wetlands within the study area, shown in **Figure 23**, totaling 155 acres. Three stream crossings also exist within the project. Impacts to wetlands or other waters are likely and field delineations should be completed to determine full extent of all wetlands and their boundaries once further project details are known. If impacts occur to wetlands or streams, a U.S. Army Corps of Engineers (USACE) Section 404 Permit may be required.



AQUATIC RESOURCES

FIGURE 23

Threatened and Endangered Species

Trees that serve as habitat for the endangered northern long-eared bat and proposed endangered tricolored bat is present within the study area. A field habitat review will need to be completed and consultation with the U.S. Fish and Wildlife Service should be conducted.

Coordination with SD Game Fish and Parks (SD GFP) also revealed this area to be within the range of the state-listed lined snake. A desktop analysis of suitable lined snake area should be completed for projects pulled forward and visual surveys of habitat may be required.

Archaeological/Historical Properties

Several archaeological and historic properties listed or eligible for listing on the National Register of Historic Places (NRHP) exist within the study area. Many sites have not been evaluated for eligibility for the NRHP. A field survey was not conducted for archaeological/historical properties within the study area. A survey should be conducted to determine if there are any unidentified archaeological/historic properties within the area. Consultation with SD State Historic Preservation Office should occur once impacts to these properties are known.

Floodplain

FEMA floodplain exists within the study area, previously shown in **Figure 23**. Once details for planned projects are developed, a qualified hydraulic staff should review the plan sets to determine if impacts to the floodplain would occur. Additional coordination with the floodplain administrator or FEMA may be required.

LC Hwy 106 Alternatives and Environmental Impacts

Only small differences in anticipated impacts would occur between build options along LC Hwy 106. At intersections, the roundabout options have a larger footprint and may impact slightly more wetland than intersections with a traffic signal or stop control. However, these differences are not anticipated to be significant. Cultural surveys must be completed within project limits once recommendations are known to determine full impacts to archaeological and historic properties. Threatened and endangered species habitat in the area is limited, and build options are not anticipated to remove significant habitat for those species.

DRAINAGE CONSIDERATIONS

The LC Hwy 106 corridor is the headwaters for multiple drainage basins in Lincoln County. Many of these drainage basins have a history of flat terrain and poor drainage causing concern for downstream landowners. Multiple jurisdictions including Lincoln County, City of Sioux Falls, and City of Harrisburg given development in this area and each jurisdiction has design standards and/or ordinances in place to protect downstream drainage through rate and quality control when development occurs. Further, each jurisdiction has ordinances in place regulating development in the FEMA floodplain and regulating impacts to the base flood elevations in the defined floodplain.

The Land Use Plan, introduced in **Figure 14**, identifies major roadway culvert crossing locations on LC Hwy 106 and arterial crossroads. The figure also shows existing natural detention areas that provide some

natural peak flow reduction prior to passing through the existing culvert crossing and proposed detention sites to be constructed during the Veterans Parkway project.

As the LC Hwy 106 corridor develops, the major drainage culvert crossings on LC Hwy 106 and intersecting arterial roadways need to be evaluated to determine the most appropriate method to regulate peak flow rates to meet design standards and minimize future downstream impacts. Based on previous FEMA floodplain analysis or existing drainage studies, several major drainage culvert crossings along the corridor are not sized to convey the 1% annual chance flood event. During this event, flows begin to naturally pond and detain on the upstream side of each existing roadway culvert until the water elevation on the upstream side is high enough to overtop the roadway section. Roadway overtopping flow is often significant at these locations and may damage the existing roadway.

When designing roadway improvements, culvert crossing design considerations and mitigation methods should be evaluated to include, but not limited to:

- City of Sioux Falls, City of Harrisburg, and Lincoln County design standards (as applicable)
- Culvert size and cost for conveying the 1% annual chance flood event without overtopping the roadway
- FEMA Flood Hazard Zone AE (FEMA Zone AE) no-rise condition for the proposed improvement, or a Conditional Letter of Map Revision (CLOMR) would be required
- Preventing an increase in peak flows downstream from the culvert improvement
- Replacement of floodplain attenuation volumes if fill is placed in a FEMA floodplain

Mitigation methods for these design considerations include, but not limited to:

- Adding detention upstream of the roadway culvert crossing to reduce peak flows, reduce culvert crossing size, mitigate a potential rise in a FEMA Zone AE, and/or mitigate floodplain attenuation volume lost
- Adding detention downstream of the roadway culvert crossing to reduce peak flows and/or mitigate floodplain attenuation volume lost
- Coordinating or partnering with neighboring developers to provide additional detention in the development's detention system for the roadway improvements to reduce peak flows, reduce culvert crossing size, mitigate a potential rise in a FEMA Zone AE, and/or mitigate floodplain attenuation volume lost
- Implementing a regional detention solution in the basin to reduce peak flows, reduce culvert crossing size, mitigate a potential rise in a FEMA Zone AE, and/or mitigate floodplain attenuation volume lost
- Obtain a CLOMR if a no-rise cannot be achieved for a FEMA Zone AE

Each design consideration should be reviewed during the final design of these culvert crossings and a potential mitigation option should be implemented to avoid adverse impacts to the drainage system downstream of each culvert.

INTERSECTION ALTERNATIVES EVALUATION

This section provides a summary of Build condition evaluation measures for the various intersection alternatives, focusing on:

- 2050 Planning Horizon traffic operations
- 2050 Sensitivity Scenario traffic operations
- Safety (intersection type crash reduction)
- Long-range compatibility with intersection expansion and/or corridor build-out
- Cost

A description of intersection evaluation measures and considerations is provided in **Table 27**. Evaluation summaries are provided in **Table 28** through **Table 36**.

Each alternative addresses a need established as part of this study. These tables are meant to compare alternatives with consideration to long-range needs. However, there are instances where an alternative may score poorly with respect to these long-range needs, but the alternative addresses a short-term need and may be the best option for an interim measure.

Table 27: Intersection Alternatives Evaluation Description

Category	Considerations	Measure		
		+	*Blank*	–
2050 Planning Horizon traffic operations	How well does the alternative address Year 2050 traffic operation needs?	LOS A-B	LOS C	LOS D-F
2050 Sensitivity Scenario traffic operations	How well does the alternative address Year 2050 Sensitivity Scenario traffic operation needs?	LOS A-B	LOS C-D	LOS E-F
Safety	Comparison of safety based on intersection type CMFs and expected crash reduction	Best safety performance	Maintain or slight improvement	No safety improvement
Long-Range Compatibility	Long-range compatibility with: • Intersection expansion and/or corridor build-out needs (if applicable) • Other area planned improvements (e.g., Veterans Parkway project, SD11 study recommendations, crossroad arterial reconstruction) If an interim improvement, can it be expanded or does it need reconstructed?	Best addresses long-range needs	Requires modification, but expandable	Reconstruction required
Cost	Construction + ROW costs (2023$)	n/a	n/a	n/a
		Differentiating benefit	*Measure supports study objectives and is a benefit to the corridor*	*Differentiating drawback*

Table 28: Alternatives Evaluation – Louise Avenue Intersection

Alternative	Intersection Type	2050 Traffic Operations	2050 Sensitivity Traffic Operations	Safety	Long-Range Compatibility	Costs ($M, 2023)
Louise – 1	Single-Lane Roundabout	+	+	+	–	$4.0
Louise – 2	Multilane Roundabout	+	+	+	+	$4.8
Louise – 3	Traffic Signal				+	$5.2 - $6.2

Table 29: Alternatives Evaluation – Western Avenue Intersection

Alternative	Intersection Type	2050 Traffic Operations	2050 Sensitivity Traffic Operations	Safety	Long-Range Compatibility	Costs ($M, 2023)
Western – 1	Single-Lane Roundabout	+		+	–	$4.0
Western – 2	Multilane Roundabout	+	+	+	+	$4.8 - $5.6
Western – 3	Traffic Signal					$5.2 - $6.2
Western – 4	Traffic Signal (Multilane)				+	$6.7

Table 30: Alternatives Evaluation – Minnesota Avenue Intersection

Alternative	Intersection Type	2050 Traffic Operations	2050 Sensitivity Traffic Operations	Safety	Long-Range Compatibility	Costs ($M, 2023)
Minnesota – 1	Traffic Signal					$2.0
Minnesota – 2	Traffic Signal (Multilane)				+	$3.5

Costs reflect reconstruction of east and west legs of intersection; minimal modification to existing Minnesota Avenue pavement

Table 31: Alternatives Evaluation – Cliff Avenue Intersection

Alternative	Intersection Type	2050 Traffic Operations	2050 Sensitivity Traffic Operations	Safety	Long-Range Compatibility	Costs ($M, 2023)
Cliff – 1	Single-Lane Roundabout		–		–	$4.0
Cliff – 2	Multilane Roundabout	+	–	+	+	$5.6
Cliff – 3	Traffic Signal					$6.2
Cliff – 4	Traffic Signal (Multilane)				+	$6.7

Cliff – 1 safety left blank due to anticipated long-range congestion, which degrades safety benefits during peak periods

Table 32: Alternatives Evaluation – Southeastern Avenue Intersection

Alternative	Intersection Type	2050 Traffic Operations	2050 Sensitivity Traffic Operations	Safety	Long-Range Compatibility	Costs ($M, 2023)
Southeastern – 1	Single-Lane Roundabout	+		+		$4.0
Southeastern – 2	Traffic Signal					$5.2 - $6.2
Southeastern – 3	Traffic Signal (Multilane)				+	$6.7

Table 33: Alternatives Evaluation – Sycamore Avenue Intersection

Alternative	Intersection Type	2050 Traffic Operations	2050 Sensitivity Traffic Operations	Safety	Long-Range Compatibility	Costs ($M, 2023)
Sycamore – 1	Single-Lane Roundabout	+	n/a	+	+	$4.0
Sycamore – 2	Stop-Control (Traffic Signal)		n/a		+	$4.0

Table 34: Alternatives Evaluation – SD11 Intersection

Alternative	Intersection Type	2050 Traffic Operations	2050 Sensitivity Traffic Operations	Safety	Long-Range Compatibility	Costs ($M, 2023)
SD11 – 1	Stop-Control (Traffic Signal)		n/a		+	$6.2

Table 35: Alternatives Evaluation – 479th Avenue Intersection

Alternative	Intersection Type	2050 Traffic Operations	2050 Sensitivity Traffic Operations	Safety	Long-Range Compatibility	Costs ($M, 2023)
479th – 1	Single-Lane Roundabout	+	n/a	+	+	$4.0
479th – 2	Stop-Control	+	n/a			$4.0

Table 36: Alternatives Evaluation – 480th Avenue Intersection

Alternative	Intersection Type	2050 Traffic Operations	2050 Sensitivity Traffic Operations	Safety	Long-Range Compatibility	Costs ($M, 2023)
480th – 1	Single-Lane Roundabout	+	n/a	+	+	$4.0
480th – 2	Stop-Control	+	n/a			$4.0

RECOMMENDATION METHODOLOGY

Recommendations were developed through a collaborative process with the Study Advisory Team, analysis, and public and stakeholder input. The recommendation framework follows a Long-Range Vision process that supports agency flexibility with programming projects as needs and opportunities arise. It also fosters coordination amongst agencies to maximize investment and avoid constructing something twice in a short timeframe. This vision framework is supported through recommendations that provide options for:

- Incremental and/or ultimate build-out
- Intersection type (roundabout or traffic signal)
- Corridor number of lanes on LC Hwy 106 and crossroads (3-lane or multilane)
- Incorporating planned improvements for Veterans Parkway, SD11, and other arterial crossroads

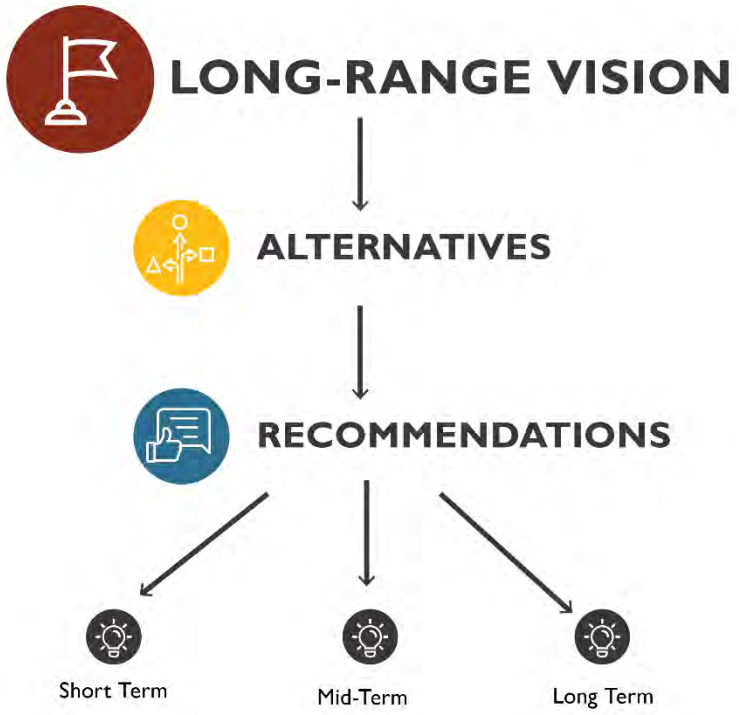
Ultimately, the timeframe for long-range improvement needs is highly dependent on type, pace, and density of future development along the LC Hwy 106 corridor. When a project is identified, this vision process lays the foundation for future design-level evaluation and detailed analysis.

Recommendation Framework

Long-Range Vision: illustrates the overarching, long-range recommendations for the corridor and provides guidance on elements to incorporate in future planning and projects.

Supporting Alternatives: specific modifications that may be implemented individually or collectively when working towards the long-range vision.

Alternatives Recommendations: short-term, mid-term, and long-term recommendations align with anticipated development along the LC Hwy 106 corridor based on the three City of Sioux Falls Growth Management Plan development tiers and City of Harrisburg growth area.

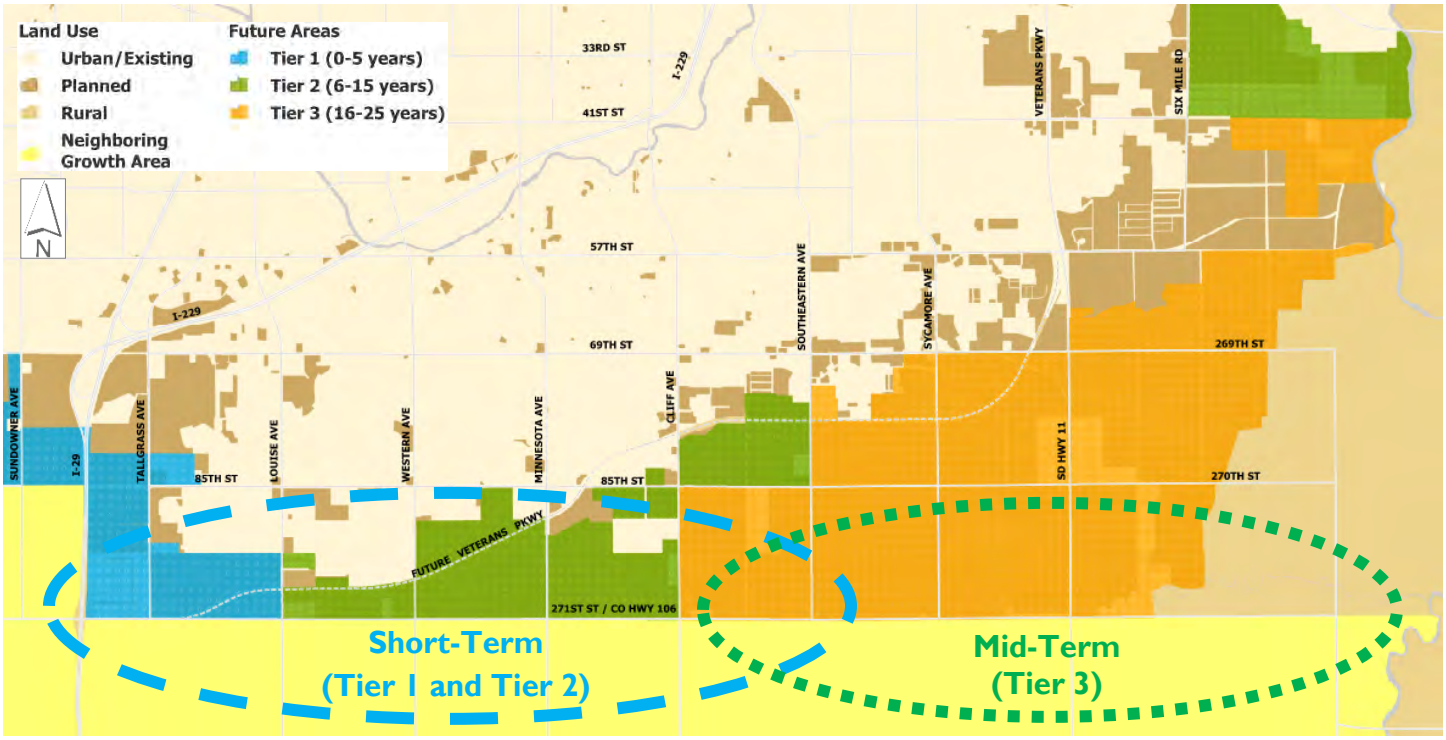


Recommendation Timelines

Recommendation timelines, shown in **Table 37**, correlate with City of Sioux Falls Growth Management Plan development tiers as shown spatially in **Figure 24**. The City of Harrisburg core growth area is similar to the City of Sioux Falls Growth Tiers 1 and 2.

Table 37: Recommendation Timeline and City of Sioux Falls Growth Tiers

Recommendation Timeframe		City of Sioux Falls Growth Tiers and Years
Short-Term	Present – 2035	Tier 1 & Tier 2: 0-15 years
Mid-Term	2036 – 2045	Tier 3: 16-25 years
Long-Term	2046+	26+ years



Source: Adapted from City of Sioux Falls (March 8, 2023)

Figure 24: Spatial Relationship between Recommendation Timeframe and City of Sioux Falls Growth Tiers

Near-term recommendations were also identified for further consideration to reflect spot improvements that address existing needs. These recommendations do not include full reconstruction of an intersection or short segment, rather smaller modifications such as adding a turn lane, modifying an access point, or changing intersection control. They would serve as a bridge between existing and short/mid/long-term recommendations, but not replace those recommendations. If reconstruction is required, short-term and mid-term improvements are recommended.

RECOMMENDATIONS

Typical Sections

Long-Range Vision: Urban typical section

Urban typical sections are recommended for future reconstruction of the corridor:

- **Urban 3-Lane Typical Section:** single through lane in each direction, center left turn lane, curb and gutter, storm sewer, roadway lighting, and 10-foot shared use path on both sides
- **Urban 5-Lane Typical Section:** two through lanes in each direction, center left turn lane, curb and gutter, storm sewer, roadway lighting, and 10-foot shared use path on both sides
- **Urban 4-Lane Divided Typical Section:** two through lanes in each direction, raised median that accommodates a left turn lane at intersections, curb and gutter, storm sewer, roadway lighting, and 10-foot shared use path on both sides

Urban typical sections are recommended in lieu of rural typical sections for this corridor to minimize right-of-way impacts, convey storm water in underground storm sewer instead of ditches due to lack of grade through many areas, and incorporate the desired multimodal transportation elements. It is estimated that a rural multilane typical section would require, at minimum, 120-foot right-of-way that may widen depending on ditch needs.

For near-term spot improvements to intersections or short segments not requiring full reconstruction, maintaining the existing rural section is recommended.

- **Rural 3-Lane Typical Section:** near-term spot improvements

Corridor Number of Lanes

Long-Range Vision:

- **Multilane corridor: Louise Avenue to SD11**
- **3-Lane corridor: SD11 to 480th Avenue**

The 2050 Planning Horizon volumes developed for this study are adequately managed through a 3-lane LC Hwy 106 corridor. However, future development along the corridor will highly influence future corridor needs. The 2050 Sensitivity Analysis showed operational benefits for a multilane corridor from Western Avenue eastward to Southeastern Avenue to address intersection operations at Minnesota Avenue and Cliff Avenue.

Route continuity between key north/south arterials is also important and thus it is recommended a multilane corridor be considered west to Louise Avenue and east to SD11. These intersections reflect the bookend arterial intersections within the primary City of Sioux Falls and City of Harrisburg growth areas.

Short-Term Recommendation: Urban 3-lane corridor

- New 3-Lane: Louise Avenue to Southeastern Avenue
- City of Sioux Falls Tier 1 and Tier 2 growth area
- Core City of Harrisburg growth area

Mid-Term Recommendation: Urban 3-Lane corridor

- Maintain 3-Lane: Louise Avenue to Southeastern Avenue
- New 3-Lane: Southeastern Avenue to SD11
- Consider 3-Lane: SD11 to 480th Avenue
- City of Sioux Falls Tier 3 growth area
- SD11 cut-through route (to/from Sycamore Avenue, Southeastern Avenue, etc.)

Long-Term Recommendation: Urban Multilane and 3-Lane corridor

- New Multilane: Western Avenue to Southeastern Avenue
- Consider Multilane: west to Louise Avenue and east to SD11
- Maintain or construct 3-Lane on all other segments not reconstructed to multilane sections

Intersection Considerations

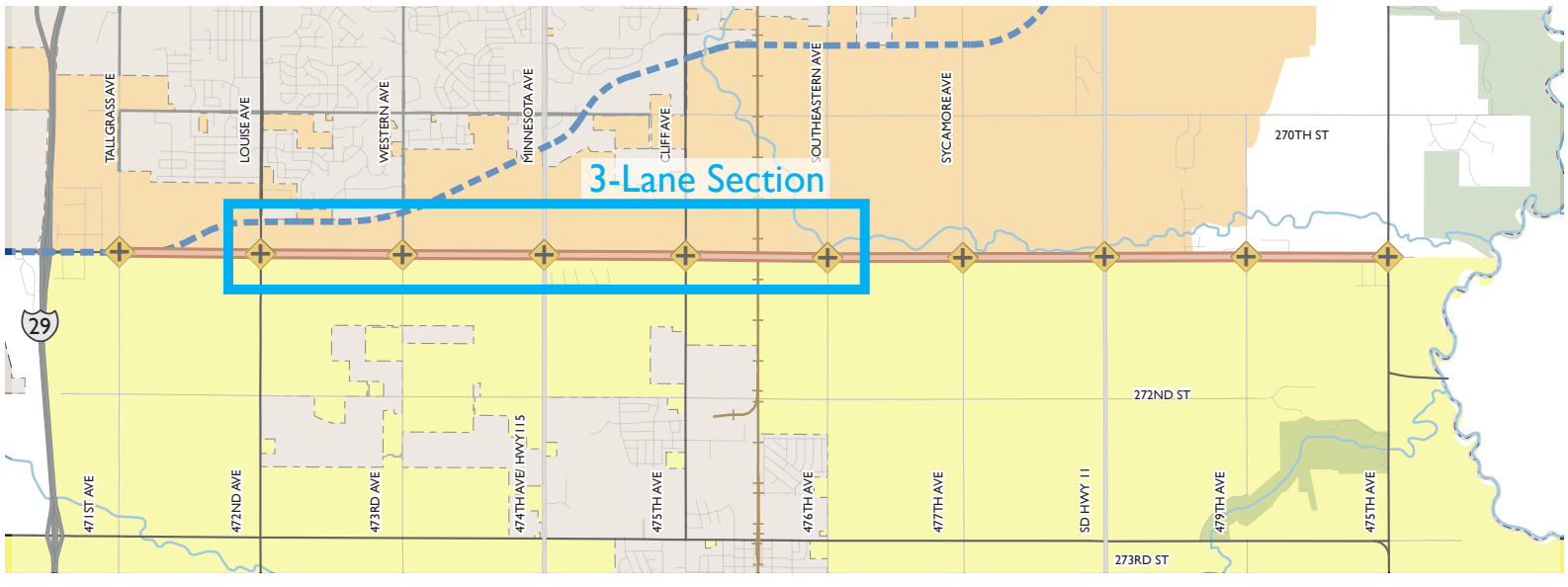
Key considerations with the intersection recommendations include:

- LC Hwy 106 corridor operational needs, future traffic patterns, and route continuity
- Roundabout benefits with traffic operations, safety, and public and stakeholder support
- Prioritize north/south arterial travel
- Anticipated traffic growth on Minnesota Avenue and Cliff Avenue corridors and associated long-range operational needs
- Planned projects in the area and recommendations from other studies
- Potential for incremental build-out of intersections and corridor segments
- Minimize the risk of duplicate work or rework between short/mid/long-term needs

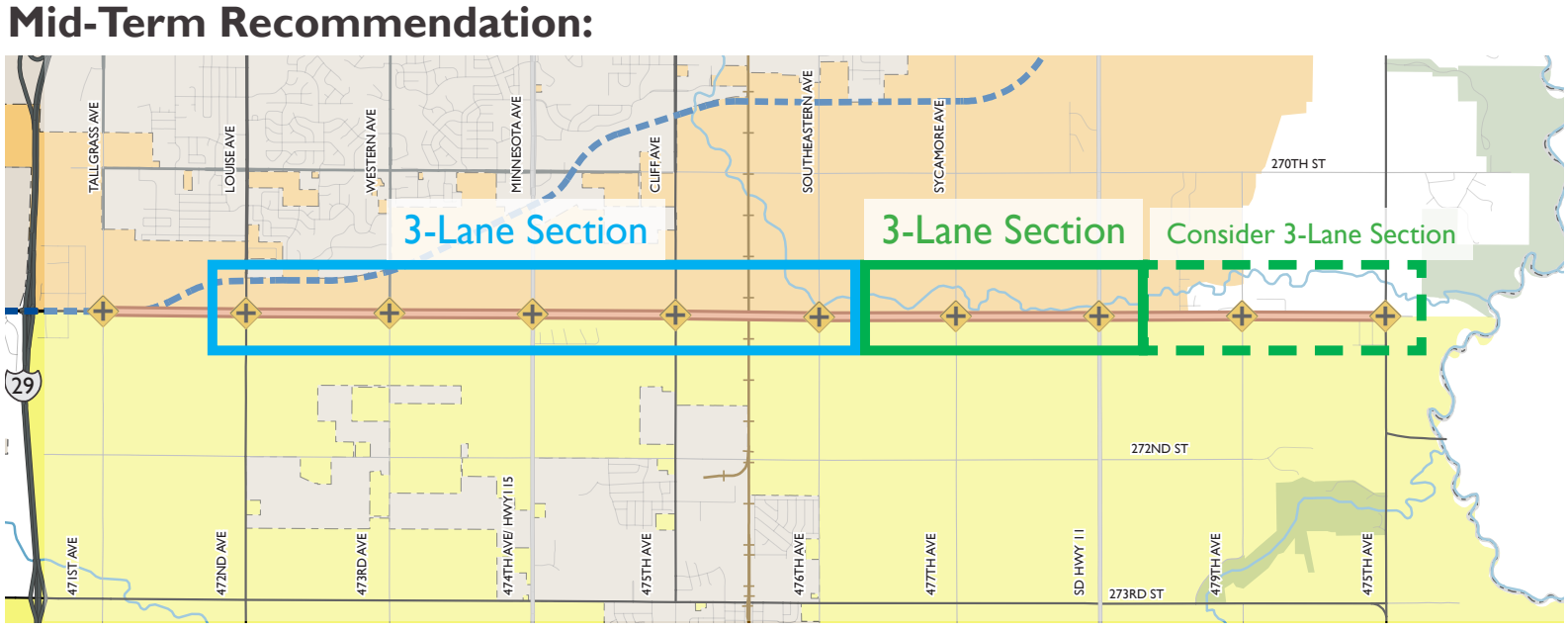
All multilane roundabout alternatives are a 'hybrid' multilane roundabout where only up to two legs of the roundabout are complete multilane sections. All short-term, mid-term, and long-term intersection reconstruction recommendations are for urban intersections.

LC HWY 106 CORRIDOR NUMBER OF LANES RECOMMENDATIONS

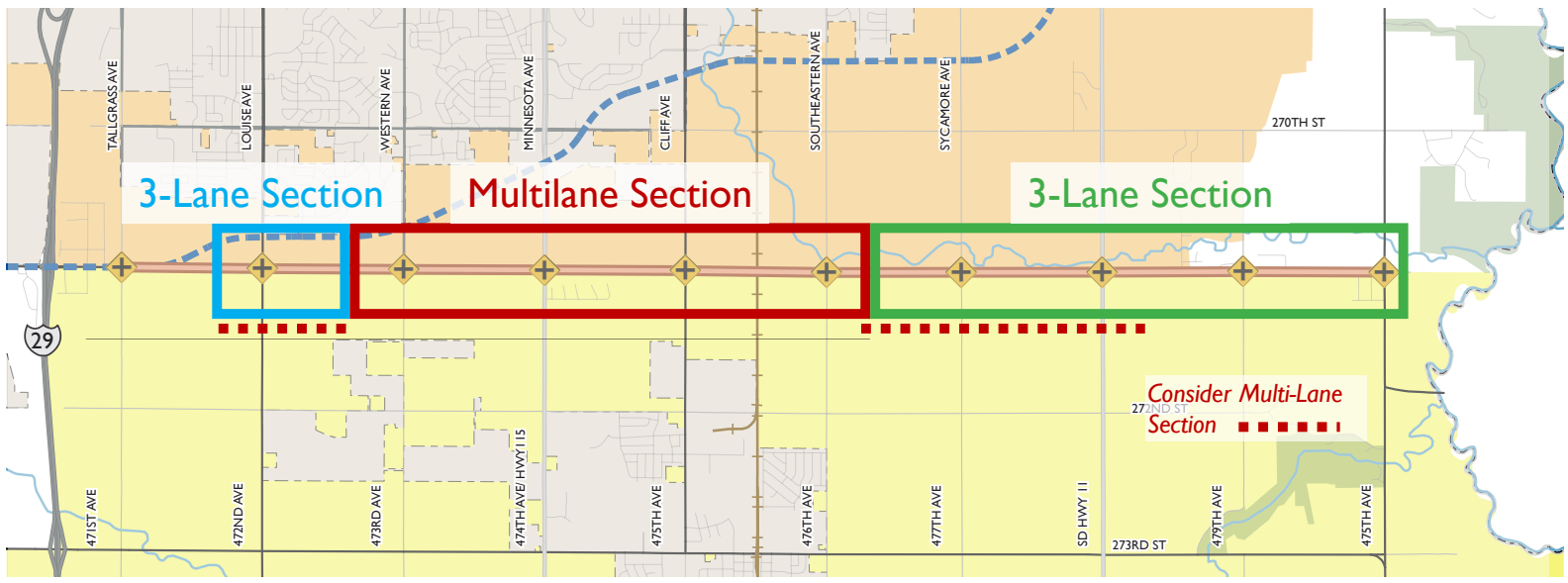
Short-Term Recommendation:



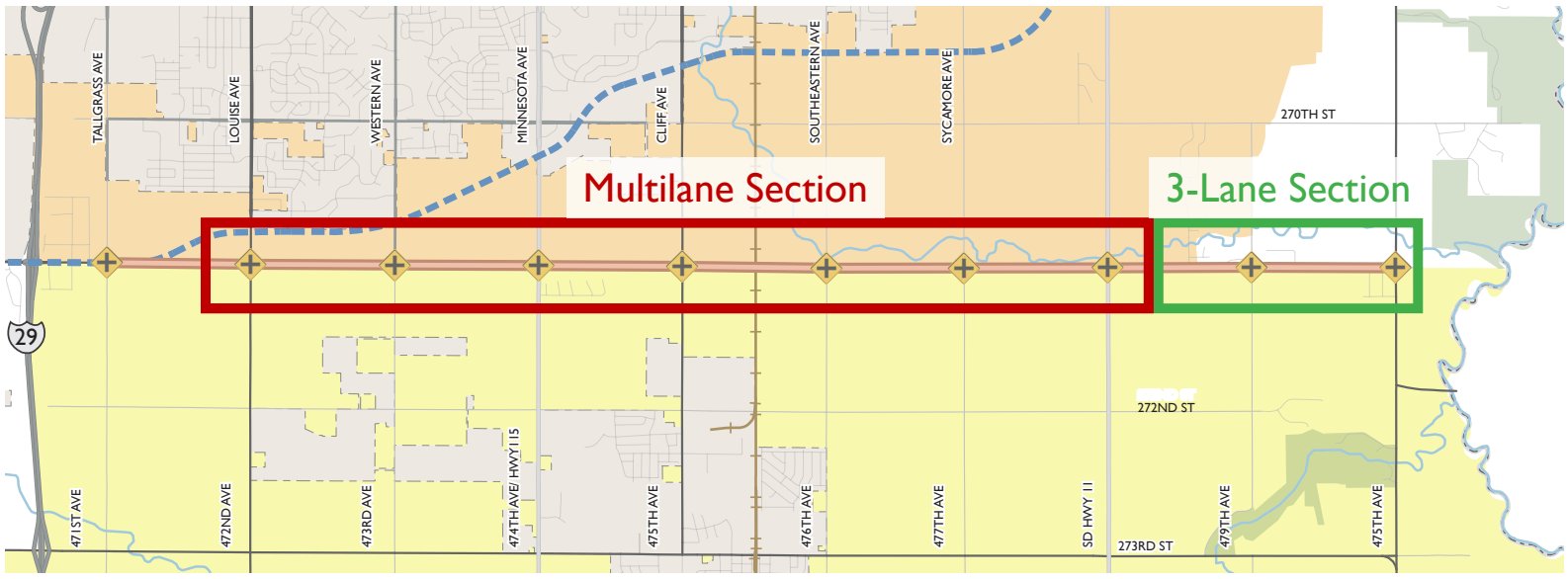
Mid-Term Recommendation:



Long-Term Recommendation:



Long-Range Vision:



ROAD SEGMENTS:

Urban 3-Lane Section:
1 lane each direction plus center left turn lane

Urban Multilane Section:
2 lanes each direction plus center left turn lane or raised median

FIGURE 25 Lincoln County Highway 106 Corridor Study

Louise Avenue Intersection

The Louise Avenue operational and safety analysis findings highlight benefits of the single-lane and multilane roundabout alternatives at this intersection. The existing single-lane roundabout is anticipated to meet operational demand for the foreseeable future; however, it lacks multimodal features which would need to be added in conjunction with future projects. Further, it requires the multilane Louise Avenue corridor to the north to add/drop lanes north of the intersection. Therefore, the existing single-lane roundabout was noted to not exhibit long-rang compatibility with the area. The multilane roundabout alternative addresses the long-range needs for this intersection.

A future signalized intersection may also be considered when the intersection needs to be reconstructed (Louise – 3). However, future traffic patterns may not be conducive to meeting traffic signal warrants and thus there is the potential it would not be signalized upon opening without considerable development along the LC Hwy 106 corridor and Louise Avenue traffic growth.

If a future multilane LC Hwy 106 corridor is extended west to Louise Avenue, the long-term Western Avenue multilane roundabout layout (Western – 2 Modified) would be applicable at this intersection.

Short-Term and Mid-Term Recommendation: Roundabout (Louise – 2)

- Maintain existing single-lane roundabout until reconstruction is needed
- Reconstruct as urban multilane roundabout to tie into the Louise Avenue multilane corridor constructed as part of Veterans Parkway project
    - Add/drop lanes within the roundabout

Long-Term Recommendation: Multilane Roundabout (Louise – 2)

- Maintain or construct the urban multilane roundabout recommended in the Short-Term and Mid-Term recommendations that adds/drops lanes within the roundabout (as needed)

Western Avenue Intersection

Western Avenue intersection considerations are very similar to those at the Louise Avenue intersection. The existing AWSC intersection generally addresses existing traffic operations; however, it lacks multimodal features and the north leg is being reconstructed to a multilane section as part of the Veterans Parkway project.

The multilane roundabout alternative addresses the long-range needs for this intersection by providing operational and safety benefits, facilitating lane adds/drops within the roundabout, and incorporating multimodal features. Further, the roundabout can be expanded to accommodate a multilane section to the east without requiring full reconstruction of the recommended short/mid-term multilane roundabout configuration. Channelized turn lanes provide seamless lane additions within the roundabout that support lane utilization and driver expectancy.

A future signalized intersection may also be considered when the intersection is reconstructed (Western – 3). However, long-range operational and safety benefits are less than what is shown with a roundabout.

Short-Term and Mid-Term Recommendation: Multilane Roundabout (Western – 2)

- Reconstruct as urban multilane roundabout to tie into Western Avenue multilane corridor constructed as part of Veterans Parkway intersection
    - Add/drop lanes within the roundabout

Long-Term Recommendation: Multilane Roundabout (Western – 2 Modified)

- Modify multilane roundabout if needed to tie into a multilane LC Hwy 106 corridor extending east of the intersection
    - Construct channelized northbound and westbound right turn lanes outside of the existing roundabout

Minnesota Avenue Intersection

The SDDOT recently reconstructed Minnesota Avenue (SD115) from Willow Street (Harrisburg) northward to 85th Street (Sioux Falls) as an urban multilane divided corridor. No changes to the Minnesota Avenue pavement are anticipated and the intersection will remain signalized. Minnesota Avenue is the primary north/south arterial corridor in the area with traffic volumes expected to approach 30,000 vehicles per day by Year 2050. Maintaining a signalized intersection helps prioritize north/south travel.

Recommendations focus on building-out the east and west legs to urban sections based on anticipated traffic needs. Managing operations on the eastbound and westbound approaches with left and right turn lanes, and eventually multiple through lanes, helps prioritize north/south travel by minimizing green time for the east/west movements.

Short-Term and Mid-Term Recommendation: Traffic Signal (Minnesota – 2)

- Maintain as signalized intersection
- Reconstruct east and west intersection legs with Urban 4-Lane Divided section. Constructing Minnesota – 2 as the short/mid-term recommendation:
    - Minimizes need for rework when LC Hwy 106 corridor is expanded
    - Establishes the long-term configuration with traffic signal pole locations/lengths, street lighting locations, curb and gutter, raised median, and drainage
    - Can reflect the Minnesota – 1 lane configuration by striping the outside lanes as right turn lanes until additional through lanes are needed

Long-Term Recommendation: Traffic Signal (Minnesota – 2)

- If Minnesota – 2 previously constructed, maintain intersection configuration and review need for right turn lanes
- If Minnesota – 2 not previously constructed, construct Minnesota – 2 configuration and review need for right turn lanes

Cliff Avenue Intersection

While forecasted volumes are not as high as the Minnesota Avenue corridor, the Cliff Avenue corridor is also anticipated to see considerable traffic growth as a centralized north/south arterial corridor within Harrisburg and Sioux Falls. It is anticipated that Cliff Avenue will be a continuous multilane corridor in the future. Currently, Cliff Avenue has been reconstructed by the City of Sioux Falls southward to approximately ½-mile north of the intersection with plans to reconstruct to the LC Hwy 106 intersection.

The traffic operations analysis shows that the single-lane roundabout accommodates Year 2050 traffic volumes but fails with the 2050 Sensitivity Scenario traffic volumes. The multilane roundabout provides considerably better Year 2050 operations, but the 2050 Sensitivity Scenario volumes are nearing capacity thresholds. The signalized intersection alternatives were found to provide the best traffic operations with the 2050 Sensitivity Scenario analysis.

The single-lane roundabout scored poorly in the long-range compatibility based the future Cliff Avenue multilane section and long-range operational needs. The multilane roundabout alternative is a good option through the mid-term, but a signalized intersection would likely be needed with continued Cliff Avenue traffic growth. Therefore, the short-term and mid-term recommendation includes both the multilane roundabout and traffic signal options for consideration.

Short-Term and Mid-Term Recommendation: Multilane Roundabout (Cliff – 2) or Traffic Signal (Cliff – 4)

- Urban reconstruction, with option to construct multilane roundabout or signalized intersection
- If signalized intersection is selected, reconstruct as urban intersection with LC Hwy 106 Urban 4-Lane Divided section. Constructing Cliff – 4 as the short/mid-term recommendation:
    - Minimizes need for rework when LC Hwy 106 corridor is expanded
    - Establishes the long-term configuration with traffic signal pole locations/lengths, street lighting locations, curb and gutter, raised median (and management of existing access), and drainage
    - Can reflect the Cliff – 3 lane configuration by striping the outside lanes as right turn lanes until additional through lanes are needed

Long-Term Recommendation: Traffic Signal (Cliff – 4)

- If Cliff – 4 previously constructed, maintain intersection configuration and review need for right turn lanes
- If Cliff – 4 not previously constructed, construct Cliff – 4 configuration and review need for right turn lanes

Southeastern Avenue Intersection

Southeastern Avenue is at the eastern edge of the Sioux Falls Tier 2 growth area and Harrisburg core growth area. It is currently a township gravel road for over two miles and would need significant improvement to safely accommodate higher volumes. Both development and Southeastern Avenue corridor improvement timelines are important considerations in the future of this intersection as several things need to come together to fully-realize (and accommodate) high levels of traffic growth.

The single-lane roundabout provides the best long-range traffic operations and safety. It can be modified to tie into multilane arterial segments if needed in the future. A signalized intersection is also an option for consideration but exhibits higher levels of delay and less safety benefit.

This intersection is anticipated to be the eastern bookend intersection of the developing area through the mid-term recommendations. Roundabouts are beneficial at major intersections in urban/rural transition areas as they provide traffic calming and serve as a gateway node between two roadway and/or area types. There are safety drawbacks to signalized intersections in these transition areas due to high speeds, speed differential, and driver expectancy issues. With a signalized Cliff Avenue intersection, a roundabout at Southeastern Avenue would not only exhibit safety benefits at the Southeastern Avenue intersection but would likely extend secondary safety benefits eastward through the railroad crossing to the Cliff Avenue intersection.

Short-Term and Mid-Term Recommendation: Single-Lane Roundabout (Southeastern – 1)

- Reconstruct as urban single-lane roundabout

Long-Term Recommendation: Multilane Roundabout (Southeastern – 1 Modified)

- Maintain single-lane roundabout and modify if needed to tie into a multilane LC Hwy 106 corridor extending west of the intersection
    - Construct channelized eastbound and southbound right turn lanes outside of the existing roundabout
- Consider signalized intersection if LC Hwy 106 and Southeastern Avenue corridors are both multilane sections

Sycamore Avenue Intersection

Sycamore Avenue is located in the City of Sioux Falls Tier 3 growth area and thus forecasted traffic volumes are relatively low. The existing TWSC intersection is anticipated to function adequately for the foreseeable future. When reconstruction is needed, a single-lane roundabout is anticipated to provide long-range operational and safety benefits to this intersection.

Short-Term, Mid-Term, and Long-Term Recommendation: Single-Lane Roundabout (Sycamore – 1)

- Maintain existing intersection until reconstruction is needed
- Reconstruct as urban single-lane roundabout

SD11 Intersection

SD11 intersection recommendations were carried forward from the *Northern Lincoln County Corridors (SD11 and SD115) Study* completed in 2023. This study recommends constructing left and right turn lanes on the LC Hwy 106 approaches when the SDDOT reconstructs the intersection to minimize blocking of right turn traffic by through vehicles. East/west through traffic is expected to increase with continued development east of SD11 and into Iowa.

Short-Term, Mid-Term, and Long-Term Recommendation: Stop Control (Traffic Signal) (SD11 – 1)

- Reconstruct intersection based on Northern Lincoln County Corridor Study recommendations
  - Left turn, through, and right turn lane configuration on eastbound and westbound approaches
- Signalize when warranted

479th and 480th Avenue Intersections

479th Avenue and 480th Avenue intersections are on the periphery of City of Sioux Falls and City of Harrisburg growth areas. However, there is considerable rural residential development in the area and the corridor accommodates traffic traveling to/from Iowa via the 272nd Street Big Sioux River bridge.

The existing intersections are anticipated to function adequately for the foreseeable future. When reconstruction is needed, a single-lane roundabout is anticipated to provide long-range operational and safety benefits to both locations.

Short-Term, Mid-Term, and Long-Term Recommendation: Single-Lane Roundabout (479th – 1 and 480th – 1)

- Maintain existing intersection until reconstruction is needed
- Reconstruct as urban single-lane roundabout

¼-Mile Mid-Segment Intersections

Mid-segment intersections are recommended as presented in the Access Plan and recommendation conceptual layouts. Future development shall plan for these locations as the full access intersections on LC Hwy 106.

It is recommended that development plan for a 3-lane section and stop-control (TWSC) on the side-street approaches. A development traffic impact study will determine whether a traffic signal and right turn lanes (applicable for all approaches) will be required based on traffic warrants.

Cliff Avenue to Southeastern Avenue Segment (Access Management and Railroad Grade Separation)

Railroad grade separation and an opportunistic approach to access management is recommended for the Cliff Avenue to Southeastern Avenue segment, supporting the desired long-range vision in the area:

Long-Range Vision:

- **Railroad grade separation**
- **Access Options B or C**

Railroad grade separation should be considered as part of future major corridor investments, such as when the corridor needs to be reconstructed. Grant opportunities should be pursued based on the long-range safety, operations, and community connectivity benefits of grade separation along this east/west arterial corridor.

The two recommended access options align with the Access Plan and strategies to manage existing access along the corridor. A collaborative effort with adjacent properties will be paramount in the long-range success of managing corridor access through this segment, through closing, consolidating, moving away from the railroad crossing, and/or restricting turn movement to mitigate angle conflicts.

Bicycle and Pedestrian

The recommended urban typical sections include a 10-foot shared use path on both sides of the LC Hwy 106 corridor. This provides route continuity along the corridor and a framework for multimodal connectivity between City of Sioux Falls, City of Harrisburg, and adjacent development. City of Sioux Falls long-range bicycle planning focuses shared use paths along arterial roadways (plus a trail west of Minnesota Avenue), while City of Harrisburg long-range planning focuses on pathways adjacent to drainageways. Continuous shared use paths along LC Hwy 106 corridor will provide connectivity between these two approaches.

At minimum, adjacent development shall extend sidewalk to the LC Hwy 106 shared use path at mid-segment intersections. Additional connectivity to shared-use paths is encouraged to minimize out of the way travel by bicyclists and pedestrians and support multimodal connectivity between and within Neighborhood Employment Center and Residential land uses.

Jurisdictional Transfer

Jurisdictional transfer of LC Hwy 106 segments is recommended in conjunction with each corridor segment major investment (reconstruction) and/or annexation. Urban development adjacent to the corridor will drive the need for long-range LC Hwy 106 capacity improvements following the opening of Veterans Parkway.

Tallgrass Avenue to Louise Avenue Connection

No specific Tallgrass Avenue to Louise Avenue connection alignment recommendation is being made as part of this corridor study. However, the Land Use Plan, Access Plan, and traffic operations analysis shows a benefit to the area with a future connection by providing arterial (or major collector):

- Access for future development, particularly with access restrictions south of Veterans Parkway
- East/west route connectivity and continuity between I-29 and Big Sioux River

It should be noted that the Sioux Falls TDM only shows limited pass-through traffic on this segment and that most traffic is generated by adjacent development. The recommended Louise Avenue multilane roundabout has ample capacity to accommodate this traffic. Therefore, the designation and future configuration can be scaled accordingly to fit these conditions.

It is recommended that agencies with planning jurisdiction in this area partner with developers to establish an alignment as part of future development. The segment should:

- Connect with the Louise Avenue intersection at the east end
- Connect with Tallgrass Avenue between ¼-mile and ½-mile south of Veterans Parkway
- Provide 3-Lane Urban section

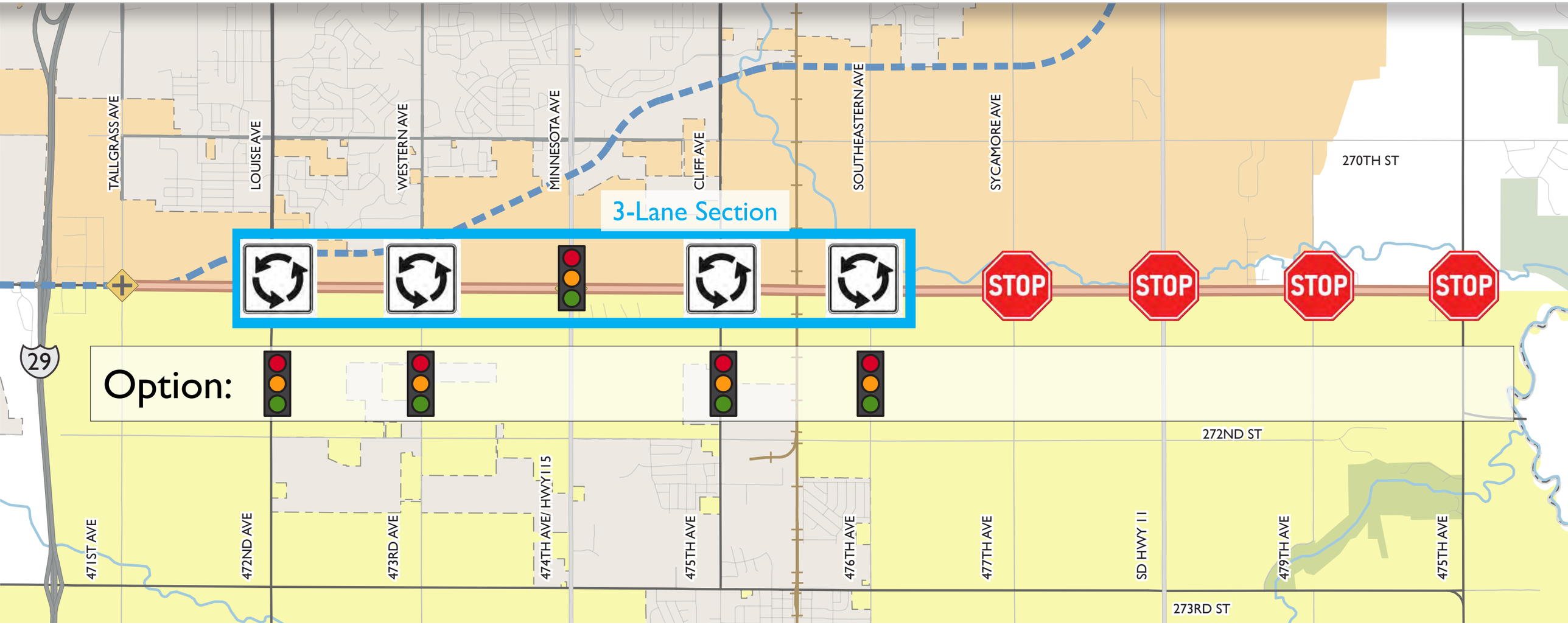
Short-Term and Mid-Term Recommendations Summary

An overview of short-term and mid-term corridor and intersection recommendations is shown in **Figure 26** and **Figure 27**, respectively. Conceptual layouts of the mid-term recommendations (which also covers the short-term layouts) are shown in **Figure 28.**

Long-Term Recommendations Summary

An overview of long-term corridor and intersection recommendations is shown in **Figure 29**. Conceptual layouts of the recommended long-term corridor are shown in **Figure 30**.

SHORT-TERM RECOMMENDATIONS



INTERSECTIONS:

Roundabout

Traffic Signal

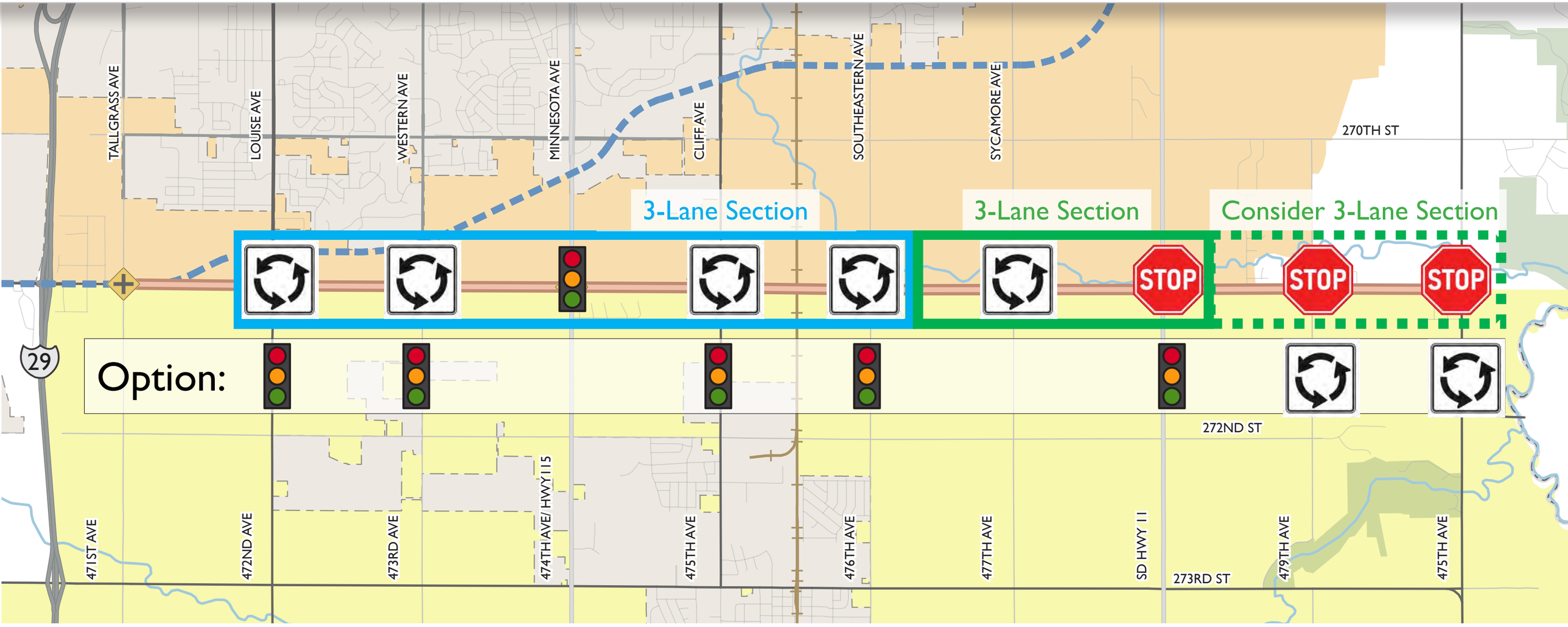
Stop Signs

ROAD SEGMENTS:

Urban 3-Lane Section: 1 lane each direction plus center left turn lane
Urban Multilane Section: 2 lanes each direction plus center left turn lane

FIGURE 26 Lincoln County Highway 106 Corridor Study

MID-TERM RECOMMENDATIONS



INTERSECTIONS:

Roundabout

Traffic Signal

Stop Signs

ROAD SEGMENTS:

Urban 3-Lane Section: 1 lane each direction plus center left turn lane
Urban Multilane Section: 2 lanes each direction plus center left turn lane

FIGURE 27 Lincoln County Highway 106 Corridor Study

LEGEND

- Proposed Roadway
- Raised Median
- Sidewalk
- X — Remove Access
- FEMA 100 Year Floodplain
- Wetlands
- Regulatory Floodway
- Existing ROW / Property Line
- Anticipated ROW Impact
- Signalized Intersection
- Stop Condition Intersection
- Yield Condition Intersection

Veterans Parkway corridor-related improvements

LOUISE AVENUE

MARSHA STREET

BARON PLACE

LC HWY 106 (271ST STREET)

STOP

1/4-Mile Full Access

N

0 50 100 200

SECOG · LINCOLN COUNTY · SIOUX FALLS SOUTH DAKOTA · SD DOT

Recommended Short-Term and Mid-Term Corridor

Louise Avenue & Lincoln County Highway 106 Intersection

Intersection Type: Multilane Roundabout *LC Hwy 106 Corridor Section: 3-Lane*

Alternative: Louise - 2

Figure: 28.a

Rev: 6/23/2023

C:\pwworking\central01\d3636325\County 106 RA Opt2 Figures.dwg
PLOT DATE: 6/23/2023 11:54 AM Semer, Michael

LOUISE AVENUE

MARSHA STREET

BARON PLACE

LC HWY 106 (271ST STREET)

1/4-Mile Full Access

1/4-Mile Full Access

0 50 100 200

LEGEND

- Proposed Roadway
- Raised Median
- Sidewalk
- X — Remove Access
- FEMA 100 Year Floodplain
- Wetlands
- Regulatory Floodway
- Existing ROW / Property Line
- Anticipated ROW Impact
- Signalized Intersection
- Stop Condition Intersection
- Yield Condition Intersection

WESTERN AVENUE

LC HWY 106 (271ST STREET)

1/4-Mile Full Access

1/4-Mile Full Access

Section line arterial intersections shown as standard 4-leg intersection (stop control or traffic signal) for illustrative purposes only.

C:\pwworking\centra01\d3063525\County 106 3 Lane Figures.dwg
PLOT DATE: 6/23/2023 12:02 PM Selner, Michael

SECOG · LINCOLN COUNTY · SIOUX FALLS SOUTH DAKOTA · SD DOT

Recommended Short-Term and Mid-Term Corridor

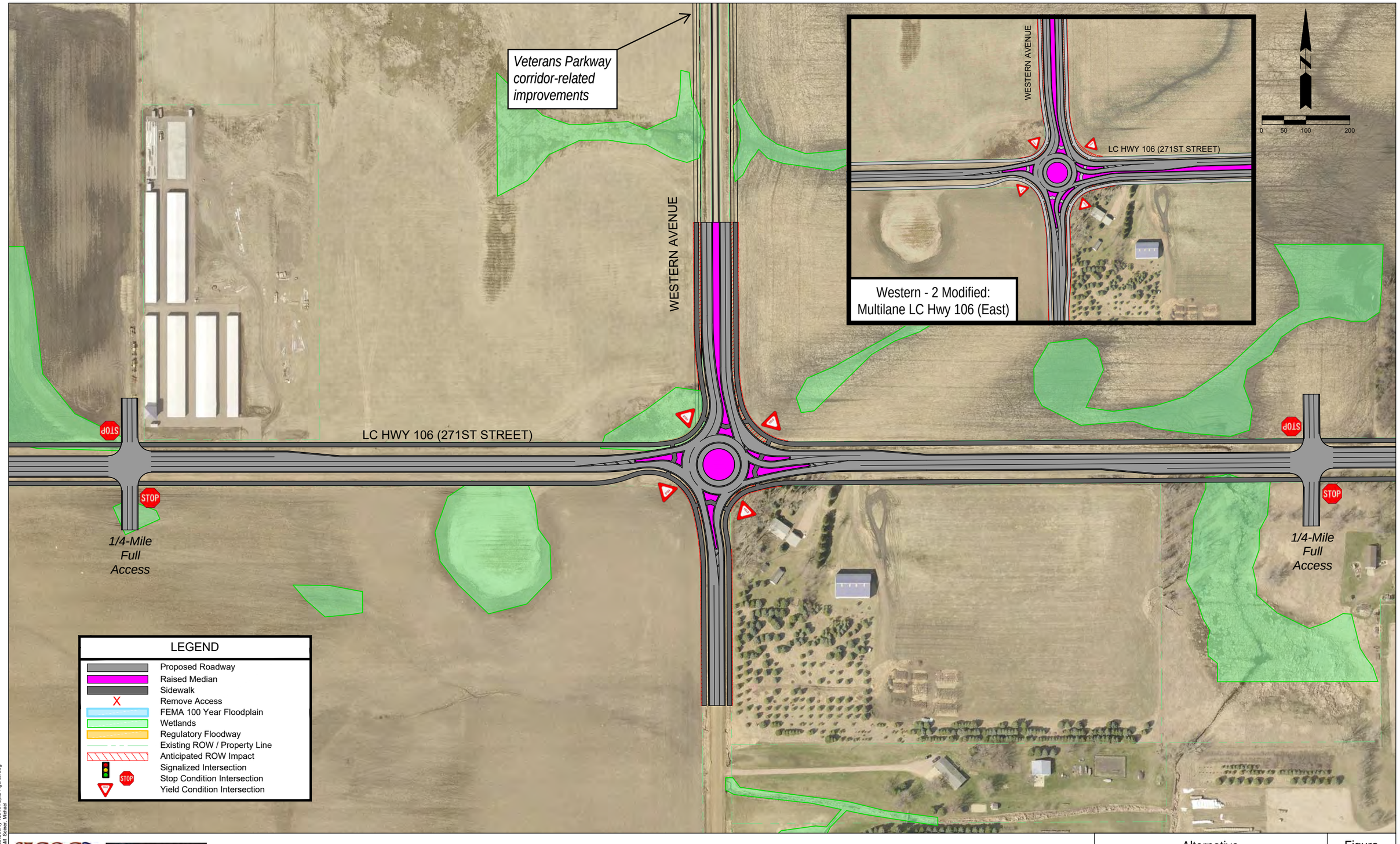
Louise Avenue to Western Avenue (Lincoln County Highway 106 Segment)

LC Hwy 106 Corridor Section: 3-Lane

Alternative: Louise-Western A

Figure: 28.b

Rev: 6/23/2023



C:\pwworking\central\01\d30835\05\County 106 RA Opt2 Figures.dwg
PLOT DATE: 6/20/2023 11:35 AM Seiler, Michael

SECOG · LINCOLN COUNTY · SIOUX FALLS SOUTH DAKOTA · SD DOT

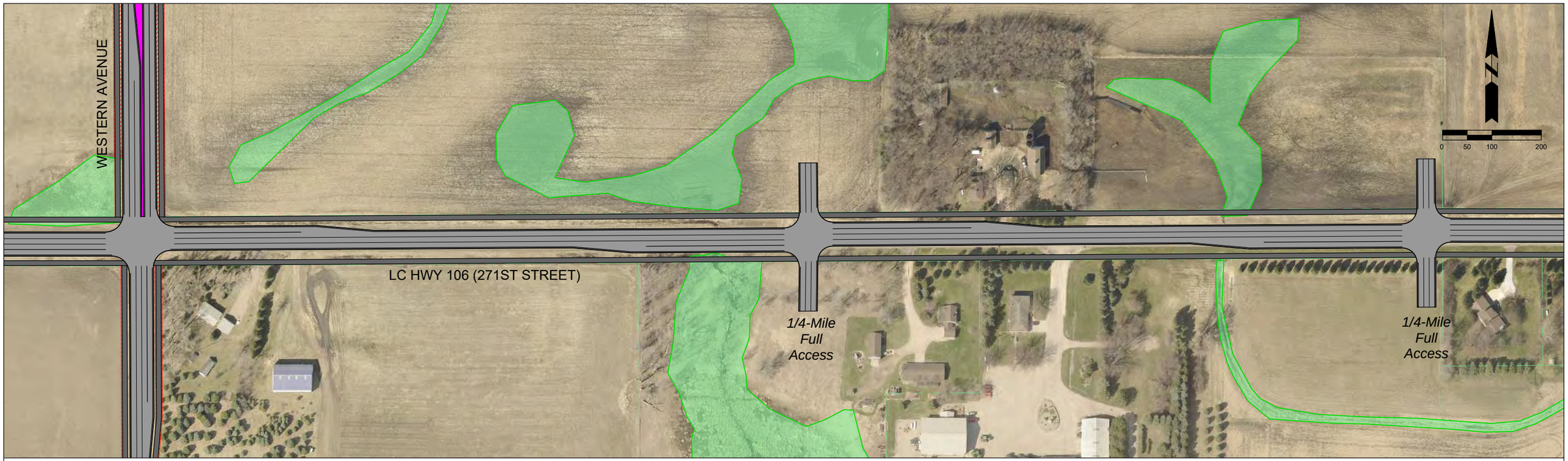
Recommended Short-Term and Mid-Term Corridor

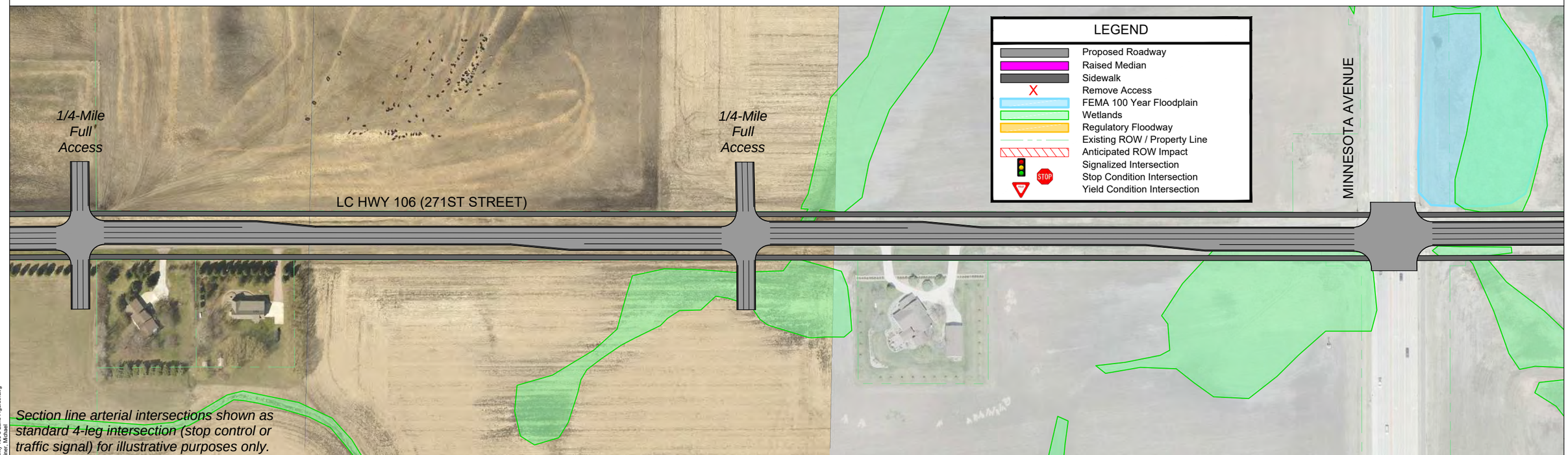
Western Avenue & Lincoln County Highway 106 Intersection

Intersection Type: Multilane Roundabout *LC Hwy 106 Corridor Section: 3-Lane*

Alternative
Western - 2

Figure
28.c
Rev: 6/23/2023





C:\pwworking\central\d1\d3963525\County 106 3 Lane Figures.dwg
PLOT DATE: 6/23/2023 12:02 PM Sattler, Michael

SECOG SOUTH EASTERN COUNCIL OF GOVERNMENTS SOUTH DAKOTA | LINCOLN COUNTY | SIOUX FALLS SOUTH DAKOTA | SD DOT

Recommended Short-Term and Mid-Term Corridor

Western Avenue to Minnesota Avenue (Lincoln County Highway 106 Segment)

LC Hwy 106 Corridor Section: 3-Lane

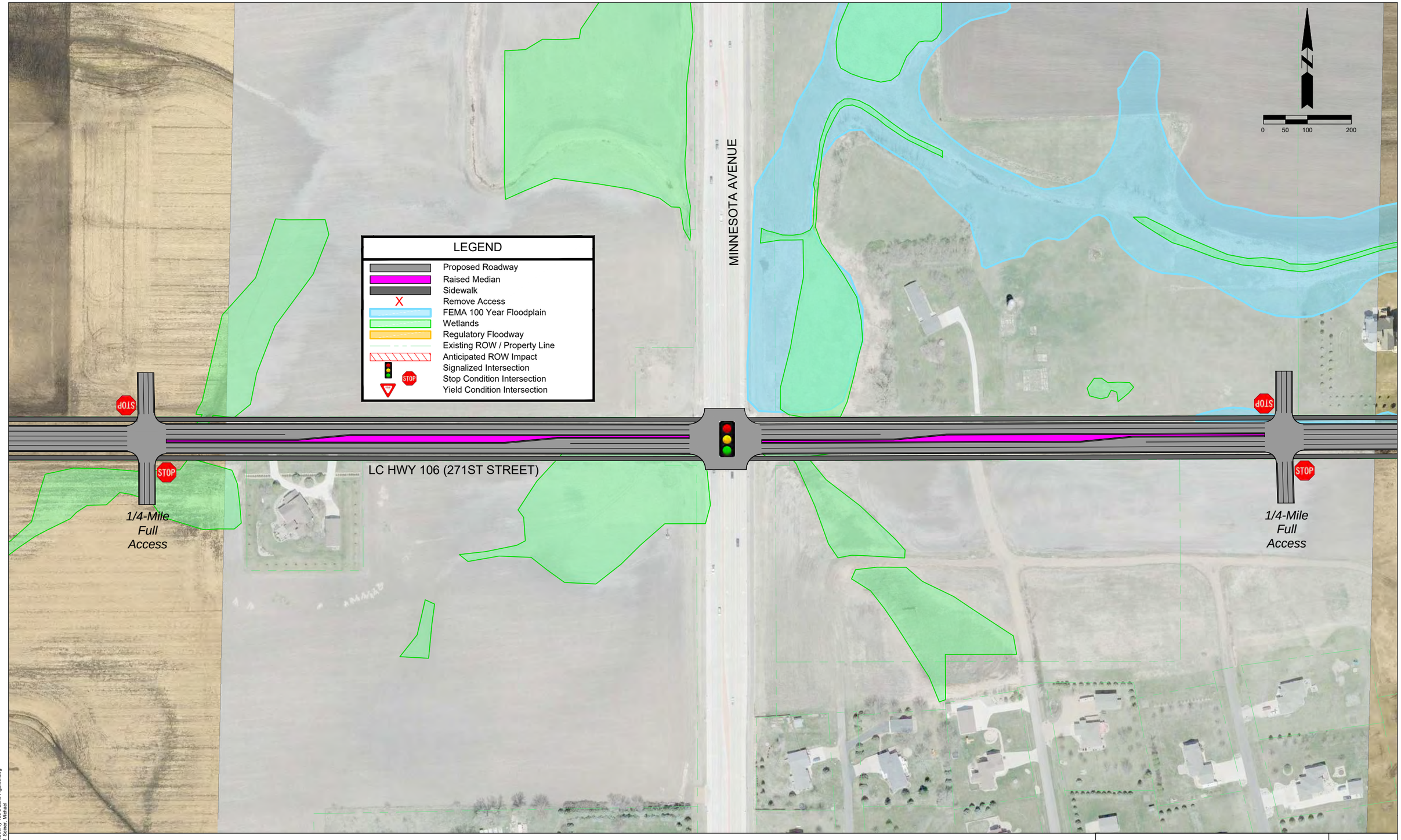
Alternative

Western-Minnesota A

Figure

28.d

Rev: 6/23/2023



C:\pwworking\central\d1\d3063525\County 106 5 Lane Figures.dwg
PLOT DATE: 6/23/2023 11:45 AM Seiner, Michael

SECOG · LINCOLN COUNTY · SIOUX FALLS · SD DOT

Recommended Short-Term and Mid-Term Corridor

Minnesota Avenue (SD115) & Lincoln County Highway 106 Intersection

Intersection Type: Traffic Signal *LC Hwy 106 Corridor Section: Multilane*

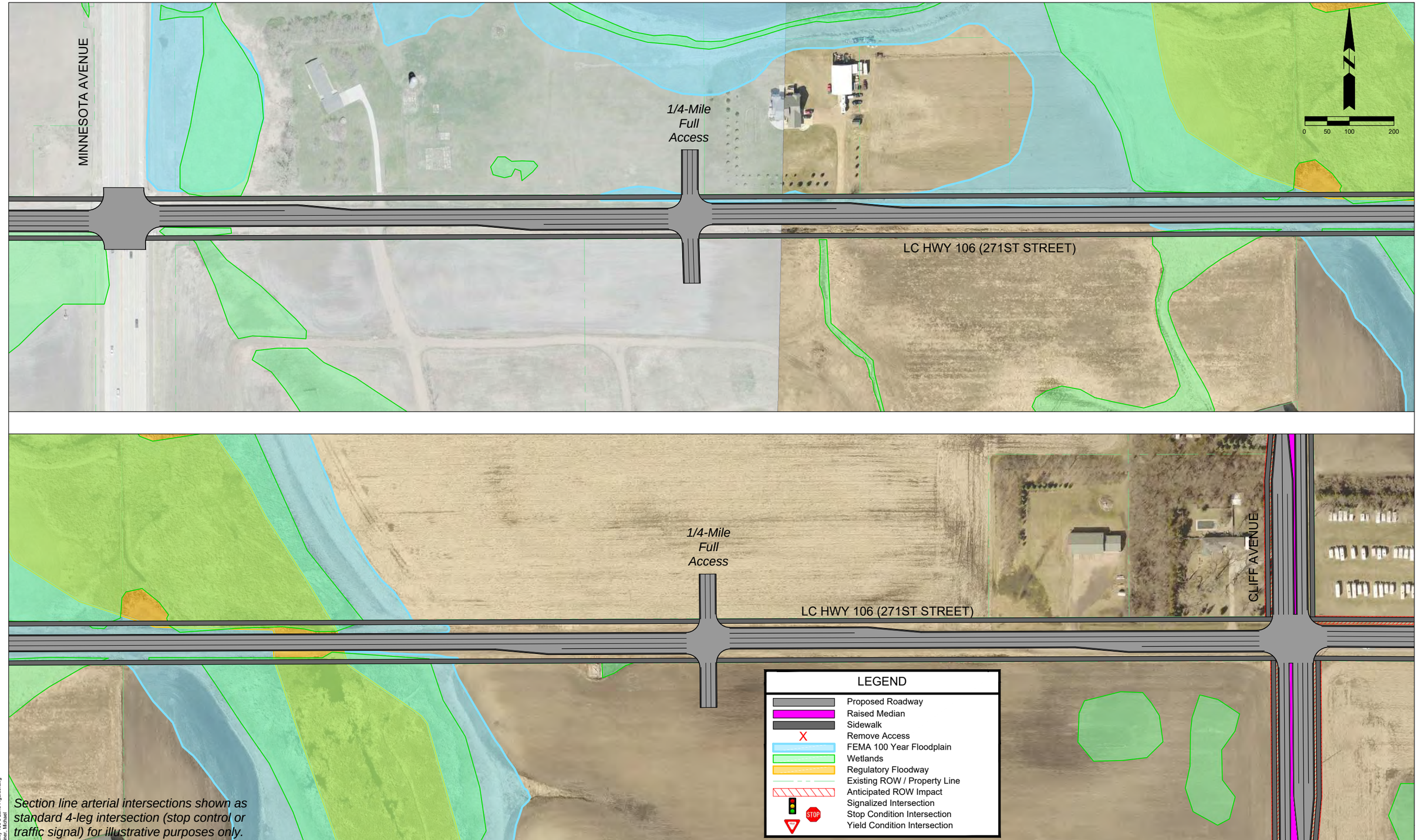
Alternative

Minnesota - 2

Figure

28.e

Rev: 6/23/2023



C:\pwworking\central\d1\d3963525\County 106 3 Lane Figures.dwg
PLOT DATE: 6/23/2023 12:03 PM Selner, Michael

SECOG · LINCOLN COUNTY · SIOUX FALLS · SD DOT

Recommended Short-Term and Mid-Term Corridor

Minnesota Avenue to Cliff Avenue (Lincoln County Highway 106 Segment)

LC Hwy 106 Corridor Section: 3-Lane

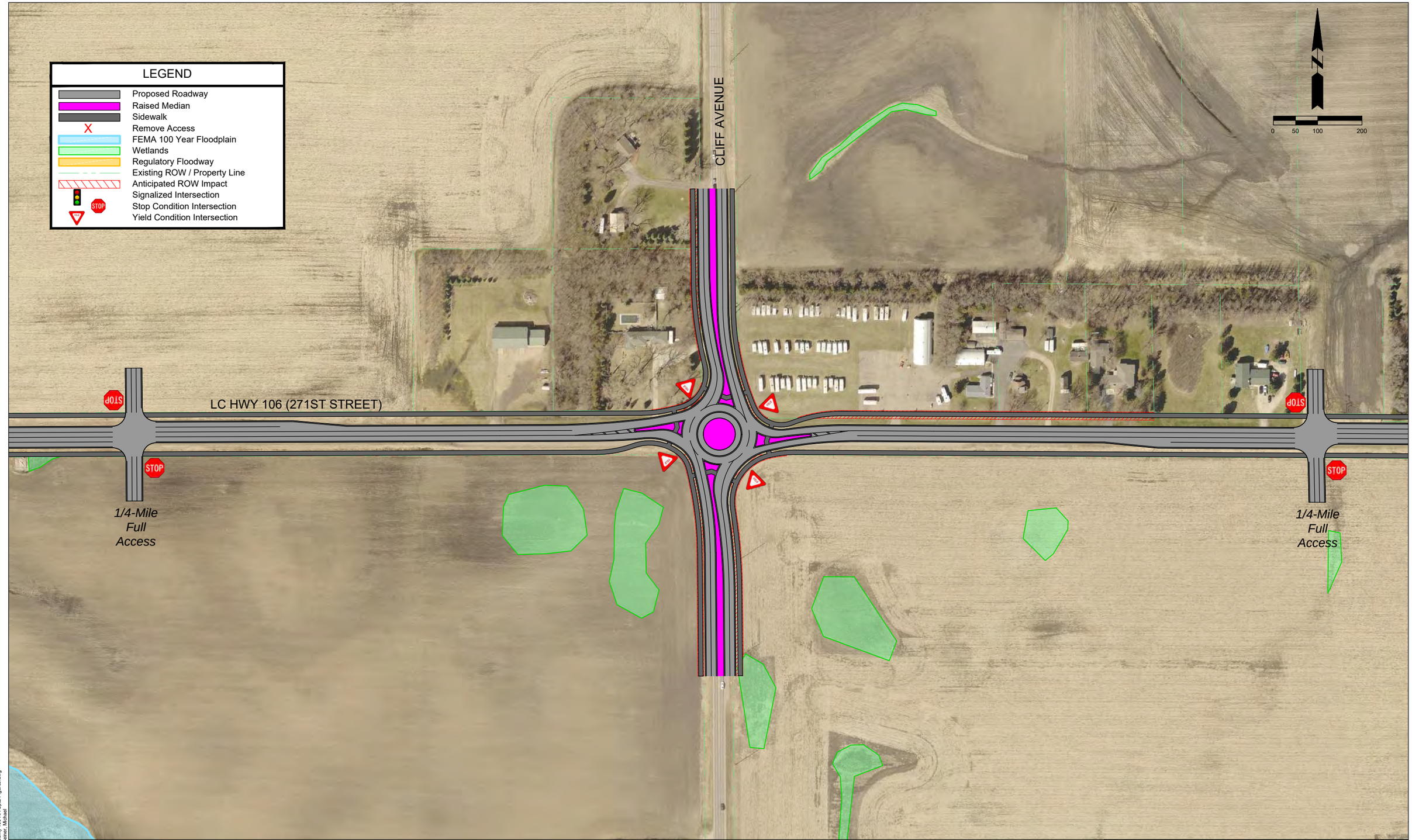
Alternative

Minnesota-Cliff A

Figure

28.f

Rev: 6/23/2023



Recommended Short-Term and Mid-Term Corridor

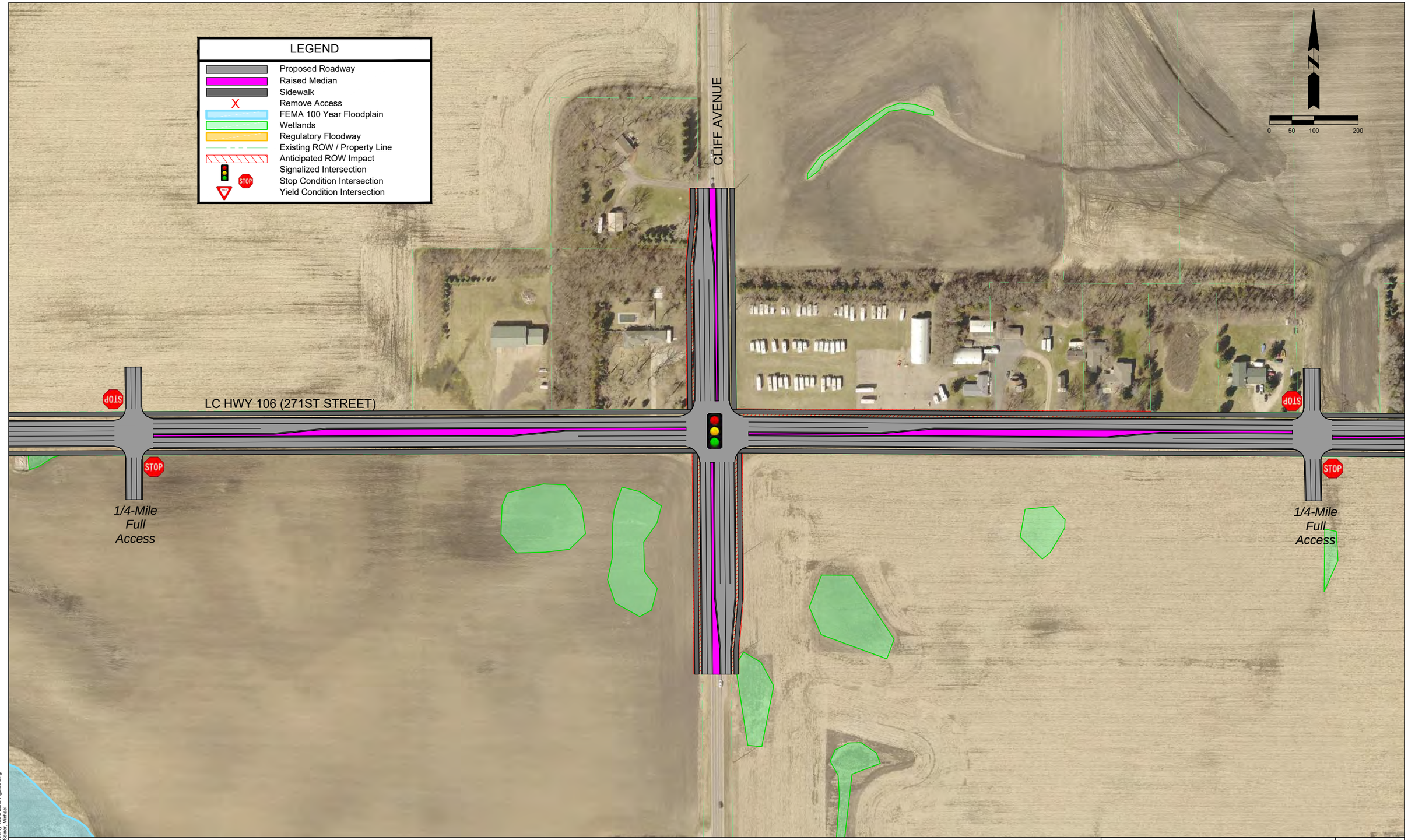
Cliff Avenue & Lincoln County Highway 106 Intersection

Intersection Type: Multilane Roundabout *LC Hwy 106 Corridor Section: 3-Lane*

Alternative
Cliff - 2

Figure
28.g
Rev: 6/23/2023

C:\pwworking\central\d1\d3963525\County 106 RA Opt2 Figures .dwg
PLOT DATE: 6/23/2023 11:55 AM Selner, Michael



C:\pwworking\centata01\d3063525\County 106 5 Lane Figures.dwg
PLOT DATE: 6/23/2023 11:46 AM Seiner, Michael

SECOG · LINCOLN COUNTY · SIOUX FALLS SOUTH DAKOTA · SD DOT

Recommended Short-Term and Mid-Term Corridor

Cliff Avenue & Lincoln County Highway 106 Intersection

Intersection Type: Traffic Signal *LC Hwy 106 Corridor Section: Multilane*

Alternative
Cliff - 4

Figure
28.h
Rev: 6/23/2023

CLIFF AVENUE

LC HWY 106 (271ST STREET)

1/4-Mile Full Access

0 50 100 200

LEGEND

- Proposed Roadway
- Raised Median
- Sidewalk
- X — Remove Access
- FEMA 100 Year Floodplain
- Wetlands
- Regulatory Floodway
- Existing ROW / Property Line
- Anticipated ROW Impact
- Signalized Intersection
- Stop Condition Intersection
- Yield Condition Intersection

1/4-Mile Full Access

LC HWY 106 (271ST STREET)

SOUTHEASTERN AVENUE

167 ft

Access Option B: Frontage Road

Section line arterial intersections shown as standard 4-leg intersection (stop control or traffic signal) for illustrative purposes only.

C:\pwworking\central\d1\d3963525\County 106 3 Lane Figures.dwg
PLOT DATE: 6/23/2023 12:03 PM Selner, Michael

SECOG · LINCOLN COUNTY · SIOUX FALLS · SD DOT

Recommended Short-Term and Mid-Term Corridor

Cliff Avenue to Southeastern Avenue (Lincoln County Highway 106 Segment)

LC Hwy 106 Corridor Section: 3-Lane

Alternative

Cliff-Southeastern A

Access Option B

Figure

28.i

Rev: 6/23/2023

CLIFF AVENUE

LC HWY 106 (271ST STREET)

1/4-Mile Full Access

0 50 100 200

N

LEGEND

- Proposed Roadway
- Raised Median
- Sidewalk
- X — Remove Access
- FEMA 100 Year Floodplain
- Wetlands
- Regulatory Floodway
- Existing ROW / Property Line
- Anticipated ROW Impact
- Signalized Intersection
- Stop Condition Intersection
- Yield Condition Intersection

1/4-Mile Full Access

LC HWY 106 (271ST STREET)

SOUTHEASTERN AVENUE

167 ft

Access Option C:
Access Consolidation

Section line arterial intersections shown as standard 4-leg intersection (stop control or traffic signal) for illustrative purposes only.

C:\pwworking\central\d1\d3963525\County 106 3 Lane Figures.dwg
PLOT DATE: 6/23/2023 12:03 PM Selner, Michael

SECOG · LINCOLN COUNTY · SIOUX FALLS · SD DOT

Recommended Short-Term and Mid-Term Corridor

Cliff Avenue to Southeastern Avenue (Lincoln County Highway 106 Segment)

LC Hwy 106 Corridor Section: 3-Lane

Alternative

Cliff-Southeastern A

Access Option C

Figure

28.j

Rev: 6/23/2023

SOUTHEASTERN AVENUE

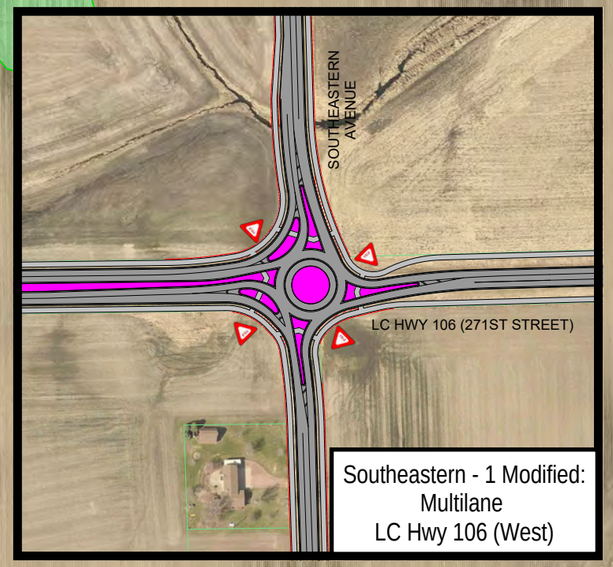
LC HWY 106 (271ST STREET)

1/4-Mile Full Access

STOP

STOP

0 50 100 200



Southeastern - 1 Modified:
Multilane
LC Hwy 106 (West)

LEGEND

- Proposed Roadway
- Raised Median
- Sidewalk
- X Remove Access
- FEMA 100 Year Floodplain
- Wetlands
- Regulatory Floodway
- Existing ROW / Property Line
- Anticipated ROW Impact
- Signalized Intersection
- Stop Condition Intersection
- Yield Condition Intersection

C:\pwworking\central\d1d3063525\County 106 RA Opt1 Figures.dwg
PLOT DATE: 6/23/2023 11:39 AM Semer, Michael

SECOG · LINCOLN COUNTY · SIOUX FALLS · SD DOT

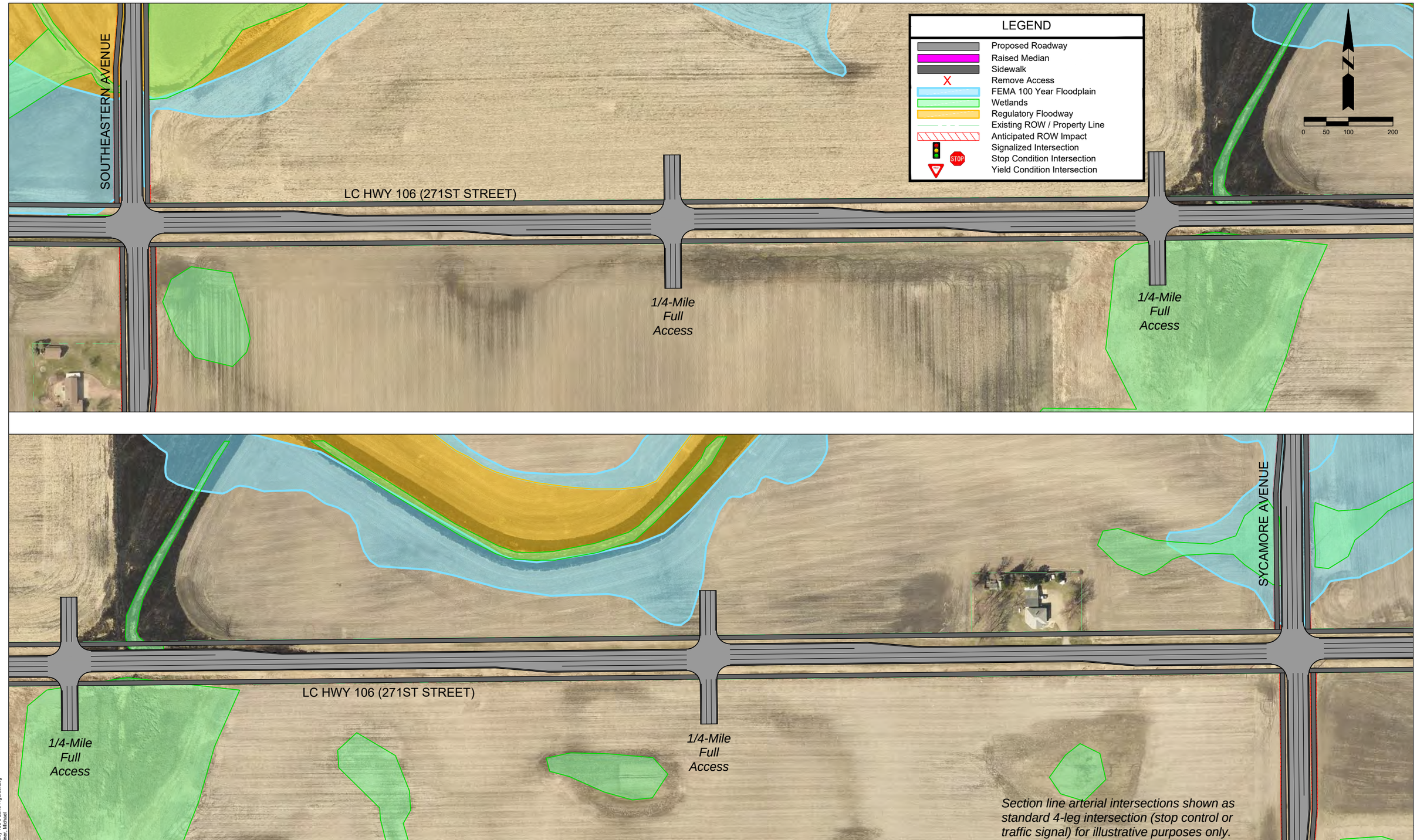
Recommended Short-Term and Mid-Term Corridor

Southeastern Avenue & Lincoln County Highway 106 Intersection

Intersection Type: Single-Lane Roundabout *LC Hwy 106 Corridor Section: 3-Lane*

Alternative
Southeastern - 1

Figure
28.k
Rev: 6/23/2023



C:\pnworking\central\01\d3963525\County 106 3 Lane Figures.dwg
PLOT DATE: 6/23/2023 12:03 PM Selner, Michael

SECOG LINCOLN COUNTY SIOUX FALLS SD DOT

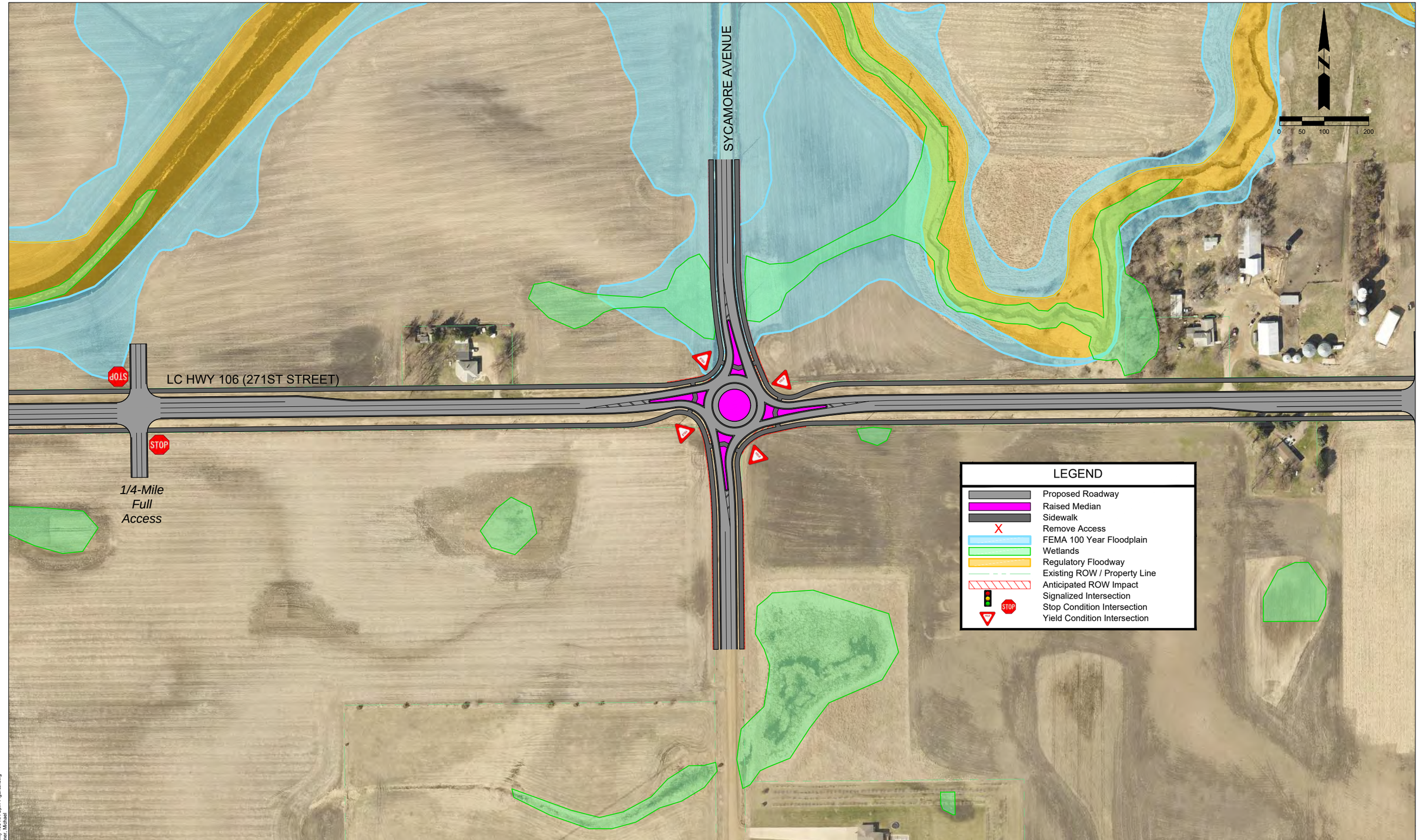
Recommended Short-Term and Mid-Term Corridor

Southeastern Avenue to Sycamore Avenue (Lincoln County Highway 106 Segment)

LC Hwy 106 Corridor Section: 3-Lane

Alternative
Southeastern-Sycamore A

Figure
28.I
Rev: 6/23/2023



C:\pwworking\central\d11\d30635\25\County 106 RA Opt1 Figures.dwg
PLOT DATE: 6/23/2023 11:59 AM Selner, Michael

SECOG · LINCOLN COUNTY · SIOUX FALLS SOUTH DAKOTA · SD DOT

Recommended Short-Term and Mid-Term Corridor

Sycamore Avenue & Lincoln County Highway 106 Intersection

Intersection Type: Single-Lane Roundabout

LC Hwy 106 Corridor Section: 3-Lane

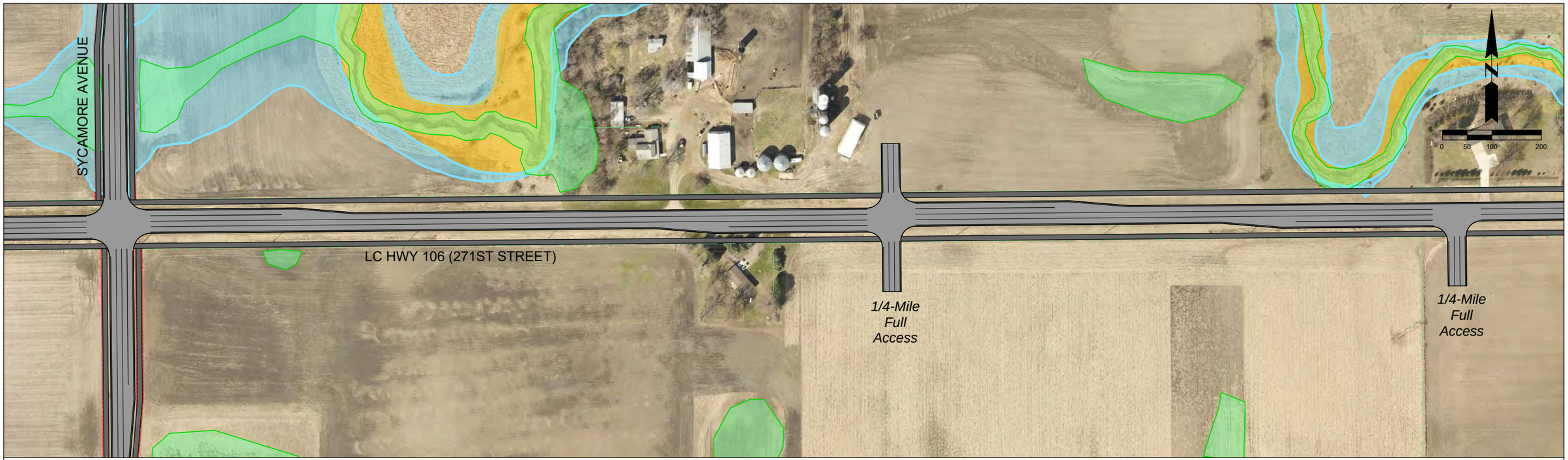
Alternative

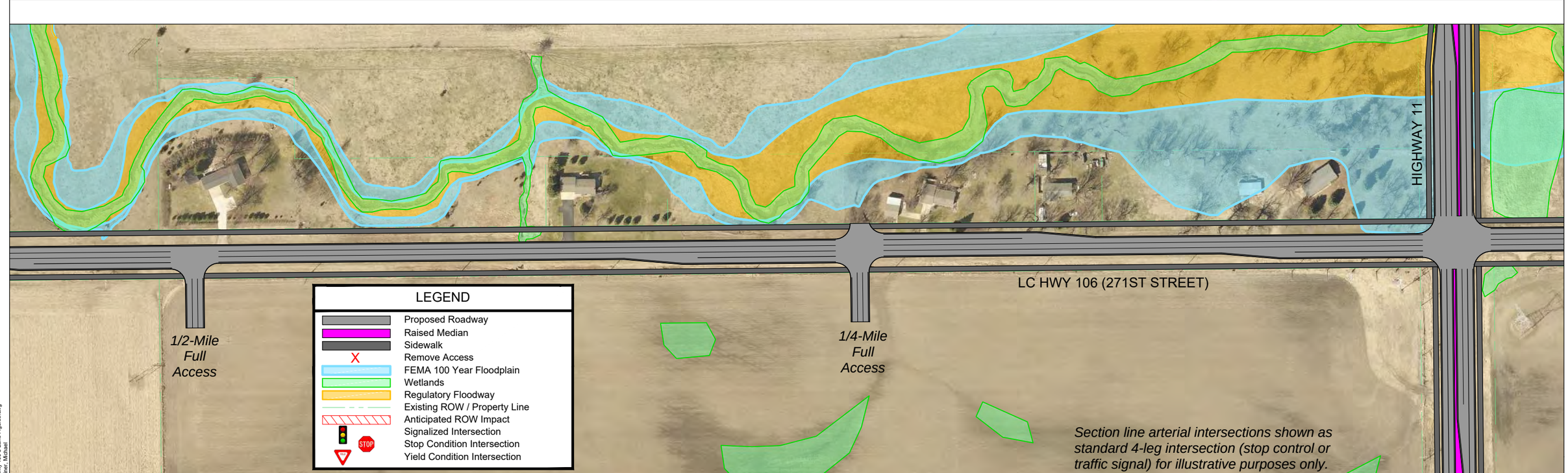
Sycamore - 1

Figure

28.m

Rev: 6/23/2023





SECOG · LINCOLN COUNTY · SIOUX FALLS · SD DOT

Recommended Short-Term and Mid-Term Corridor

Sycamore Avenue to SD11 (Lincoln County Highway 106 Segment)

LC Hwy 106 Corridor Section: 3-Lane

Alternative

Sycamore-SD11 A

Figure

28.n

Rev: 6/23/2023

C:\pnworking\central\d1\d3963525\County 106 3 Lane Figures.dwg
PLOT DATE: 6/23/2023 12:03 PM Sellner, Michael

HIGHWAY 11

LC HWY 106 (271ST STREET)

STOP

Signalize intersection when warranted

SD11 intersection configuration reflects recommendations presented in the SDDOT Northern Lincoln County Corridors (SD11 & SD115) Study

1/4-Mile Full Access

N

0 50 100 200

LEGEND

- Proposed Roadway
- Raised Median
- Sidewalk
- X — Remove Access
- FEMA 100 Year Floodplain
- Wetlands
- Regulatory Floodway
- Existing ROW / Property Line
- Anticipated ROW Impact
- Signalized Intersection
- Stop Condition Intersection
- Yield Condition Intersection

SECOG · LINCOLN COUNTY · SIOUX FALLS · SDDOT

Recommended Short-Term and Mid-Term Corridor

SD11 Avenue & Lincoln County Highway 106 Intersection

Intersection Type: Stop-Control (Traffic Signal)

LC Hwy 106 Corridor Section: 3-Lane

Alternative
SD11 - 1

Figure
28.o
Rev: 6/23/2023

C:\pwworking\central\01\d3063525\County 106 3 Lane Figures.dwg
PLOT DATE: 6/23/2023 12:04 PM Seiler, Michael

HIGHWAY 11

LC HWY 106 (271ST STREET)

1/4-Mile Full Access

0 50 100 200

LEGEND

- Proposed Roadway
- Raised Median
- Sidewalk
- X — Remove Access
- FEMA 100 Year Floodplain
- Wetlands
- Regulatory Floodway
- Existing ROW / Property Line
- Anticipated ROW Impact
- Signalized Intersection
- Stop Condition Intersection
- Yield Condition Intersection

479TH AVENUE

LC HWY 106 (271ST STREET)

1/4-Mile Full Access

1/4-Mile Full Access

Section line arterial intersections shown as standard 4-leg intersection (stop control or traffic signal) for illustrative purposes only.

C:\pwworking\centra01\d3063525\County 106 3 Lane Figures.dwg
PLOT DATE: 6/23/2023 12:04 PM Selner, Michael

SECOG · LINCOLN COUNTY · SIOUX FALLS SOUTH DAKOTA · SD DOT

Recommended Short-Term and Mid-Term Corridor

SD11 to 479th Avenue (Lincoln County Highway 106 Segment)

LC Hwy 106 Corridor Section: 3-Lane

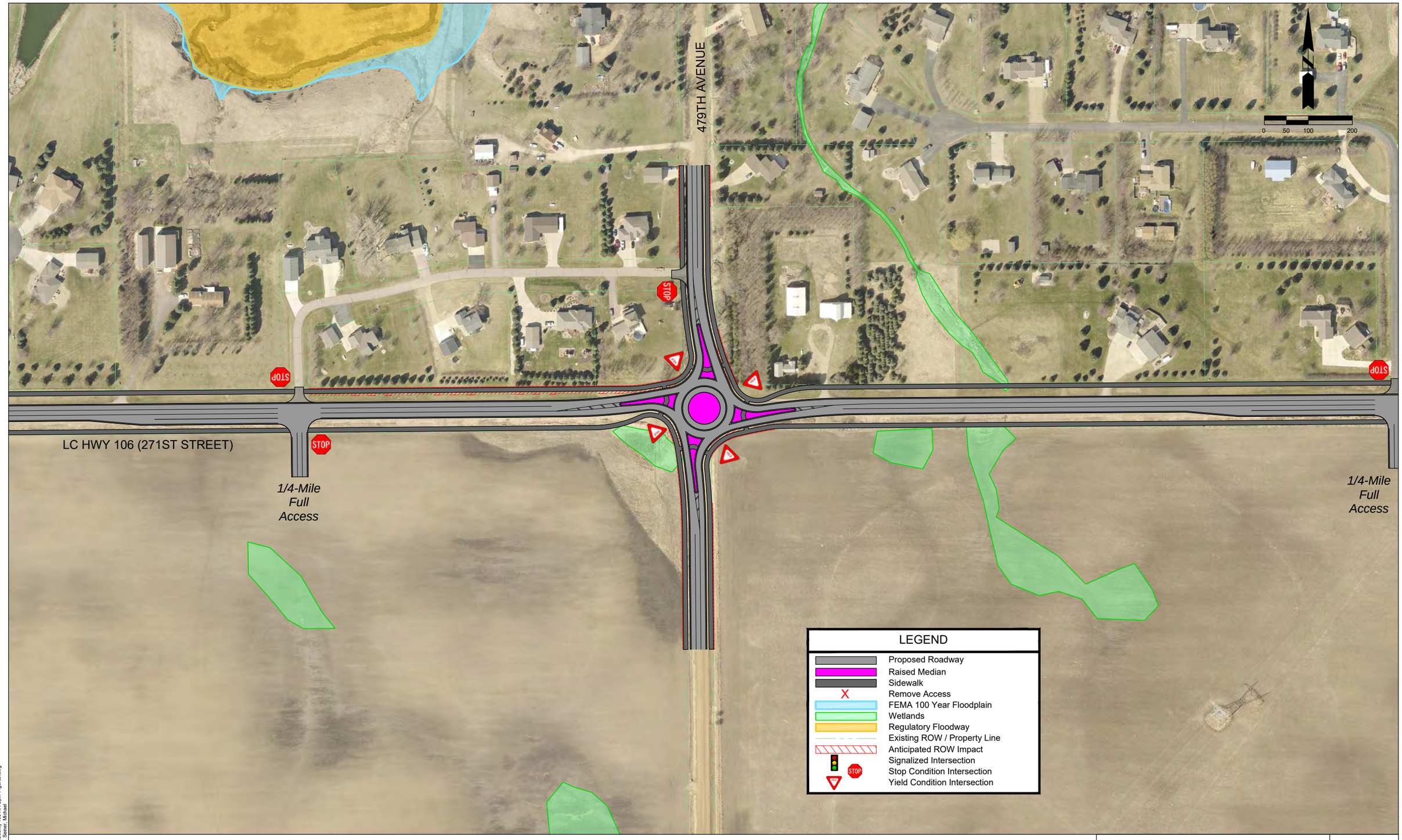
Alternative

SD11-479th A

Figure

28.p

Rev: 6/23/2023



C:\pwworking\central01\d3063525\County 106 RA Opt1 Figures.dwg
PLOT DATE: 6/23/2023 12:00 PM Seiner, Michael

SECOG · LINCOLN COUNTY · SIOUX FALLS SOUTH DAKOTA · SD DOT

Recommended Short-Term and Mid-Term Corridor

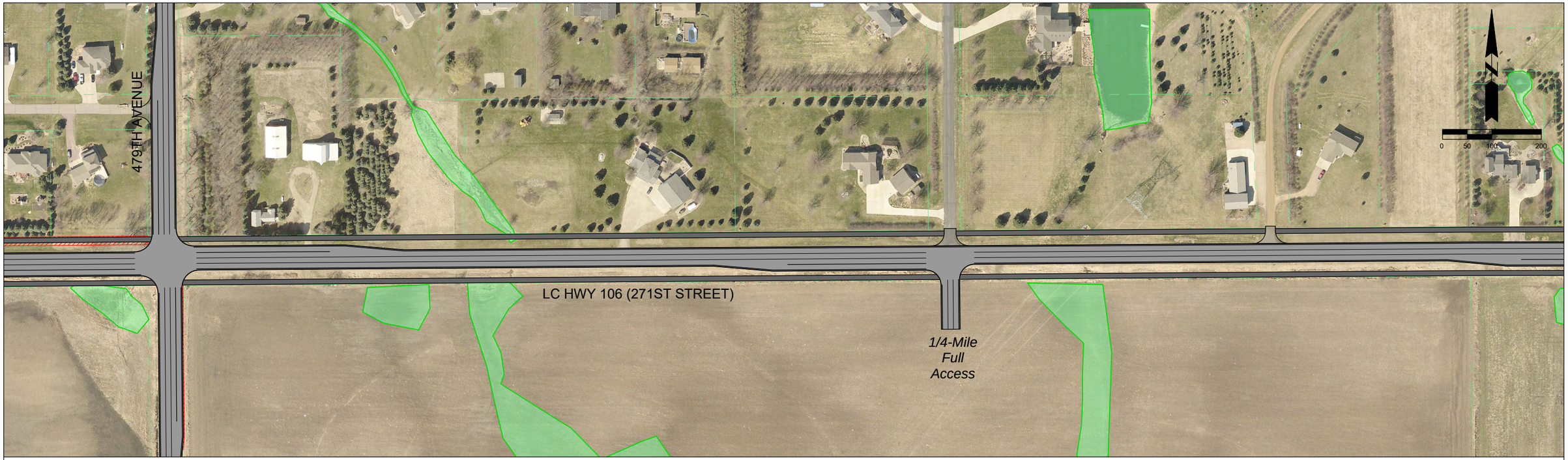
479th Avenue & Lincoln County Highway 106 Intersection

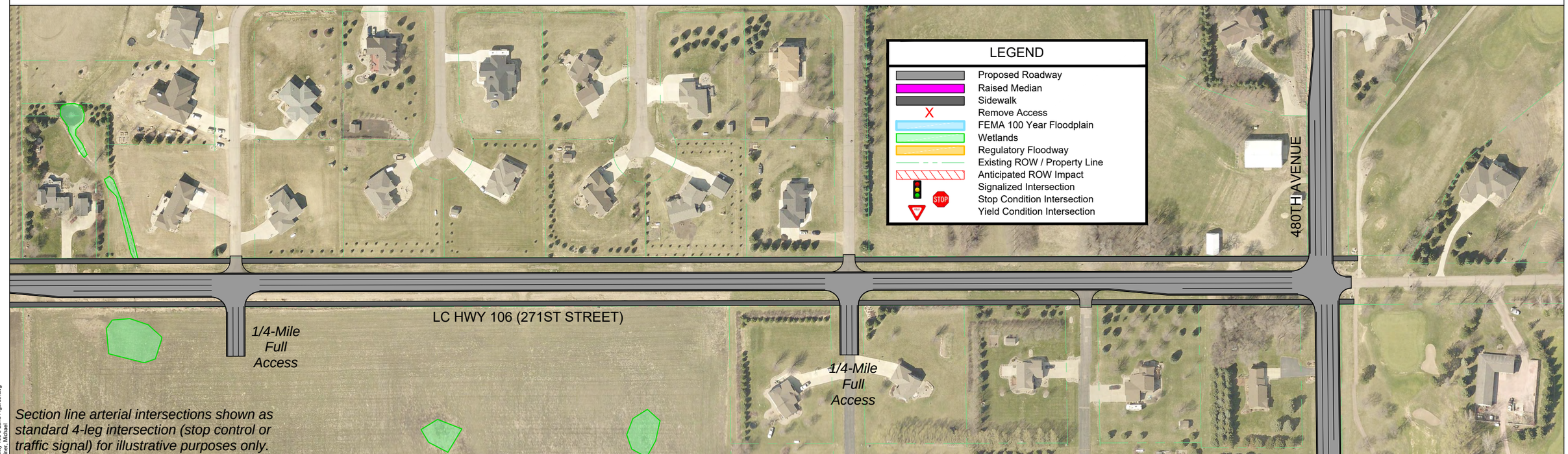
Intersection Type: Single-Lane Roundabout

LC Hwy 106 Corridor Section: 3-Lane

Alternative
479th - 1

Figure
28.q
Rev: 6/23/2023





Section line arterial intersections shown as standard 4-leg intersection (stop control or traffic signal) for illustrative purposes only.

C:\pwworking\central\d1\d3963525\County 106 3 Lane Figures.dwg
PLOT DATE: 6/23/2023 12:04 PM Selmer, Michael

SECOG · LINCOLN COUNTY · SIOUX FALLS · SD DOT

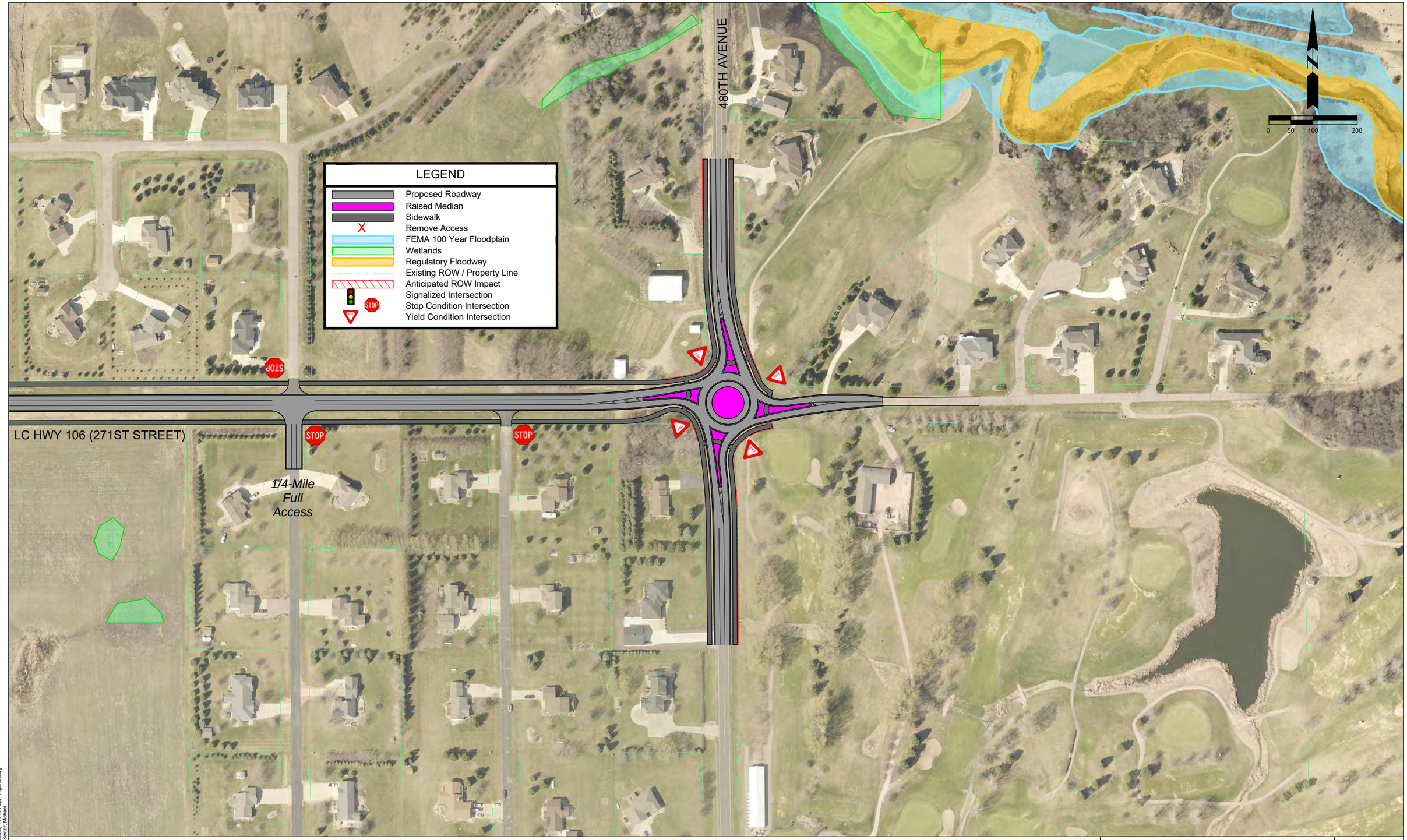
Recommended Short-Term and Mid-Term Corridor

479th Avenue to 480th Avenue (Lincoln County Highway 106 Segment)

LC Hwy 106 Corridor Section: 3-Lane

Alternative
479th-480th A

Figure
28.r
Rev: 6/23/2023



C:\pwworking\central\d1\d3083525\County 106 RA Opt1 Figures.dwg
PLOT DATE: 6/23/2023 12:00 PM Sellner, Michael

SECOG · LINCOLN COUNTY · SIOUX FALLS SOUTH DAKOTA · SD DOT

Recommended Short-Term and Mid-Term Corridor

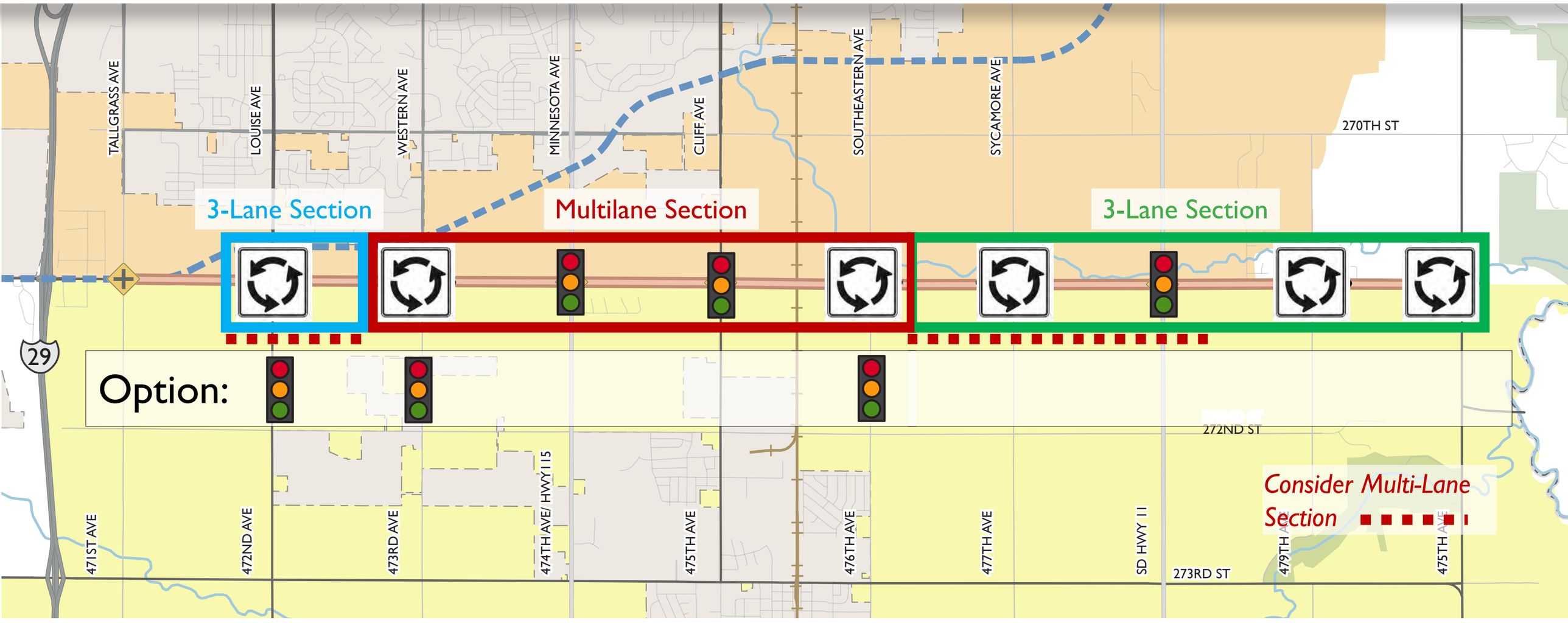
480th Avenue & Lincoln County Highway 106 Intersection

Intersection Type: Single-Lane Roundabout *LC Hwy 106 Corridor Section: 3-Lane*

Alternative
480th - 1

Figure
28.s
Rev: 6/23/2023

LONG-TERM RECOMMENDATIONS



INTERSECTIONS:

Roundabout

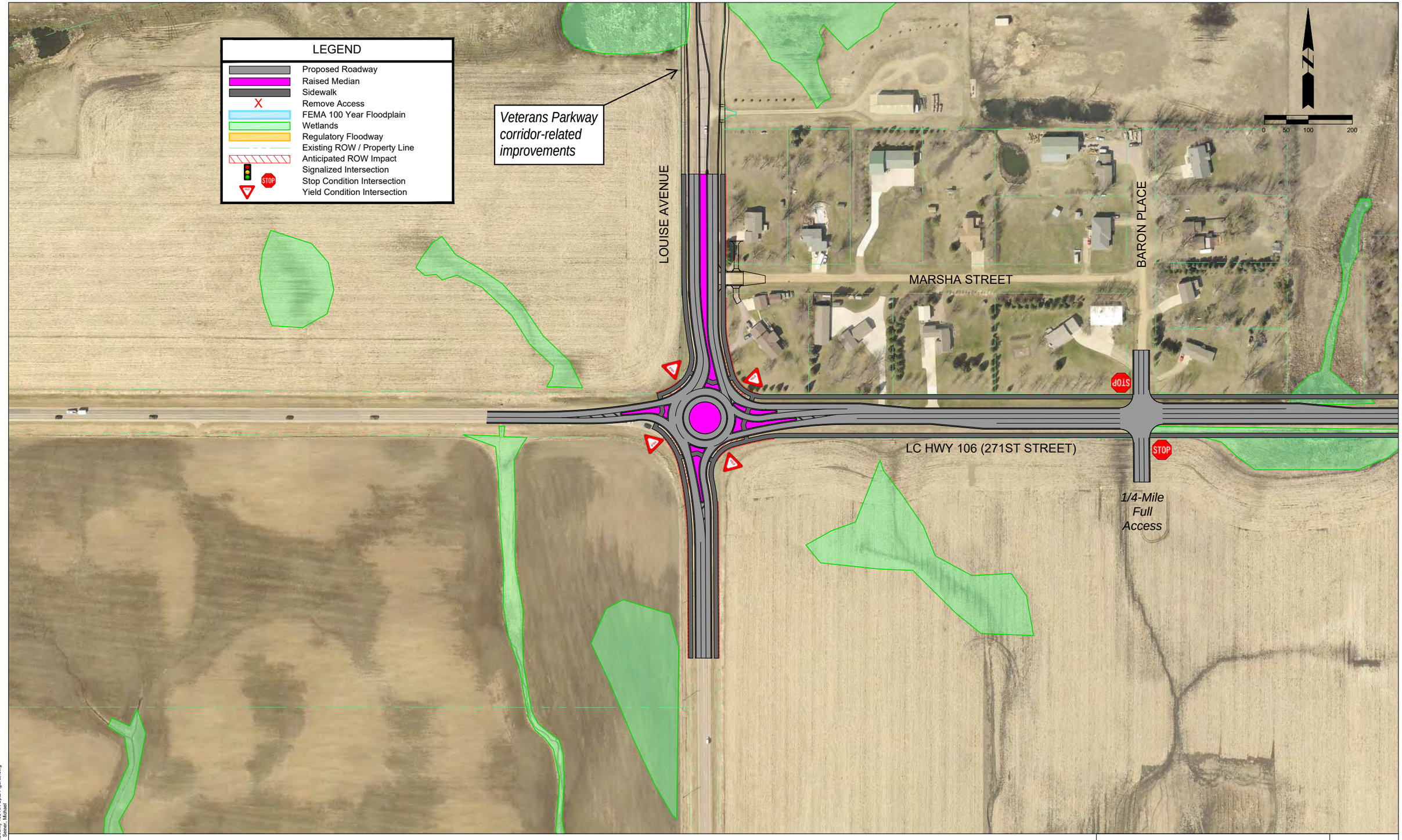
Traffic Signal

Stop Signs

ROAD SEGMENTS:

Urban 3-Lane Section: 1 lane each direction plus center left turn lane
Urban Multilane Section: 2 lanes each direction plus center left turn lane

FIGURE 29 Lincoln County Highway 106 Corridor Study



C:\pwworking\central01\d3636325\County 106 RA Opt2 Figures.dwg
PLOT DATE: 6/23/2023 11:54 AM Sainer, Michael

SECOG · LINCOLN COUNTY · SIOUX FALLS SOUTH DAKOTA · SD DOT

Recommended Long-Term Corridor

Louise Avenue & Lincoln County Highway 106 Intersection

Intersection Type: Multilane Roundabout *LC Hwy 106 Corridor Section: 3-Lane*

Alternative
Louise - 2

Figure
30.a
Rev: 6/23/2023

LOUISE AVENUE

MARSHA STREET

BARON PLACE

LC HWY 106 (271ST STREET)

1/4-Mile Full Access

1/4-Mile Full Access

0 50 100 200

LEGEND

- Proposed Roadway
- Raised Median
- Sidewalk
- X — Remove Access
- FEMA 100 Year Floodplain
- Wetlands
- Regulatory Floodway
- Existing ROW / Property Line
- Anticipated ROW Impact
- Signalized Intersection
- Stop Condition Intersection
- Yield Condition Intersection

WESTERN AVENUE

LC HWY 106 (271ST STREET)

1/4-Mile Full Access

1/4-Mile Full Access

Section line arterial intersections shown as standard 4-leg intersection (stop control or traffic signal) for illustrative purposes only.

C:\pwworking\centra\b113\d3963525\County 106 3 Lane Figures.dwg
PLOT DATE: 6/23/2023 12:02 PM Selner, Michael

SECOG · LINCOLN COUNTY · SIOUX FALLS SOUTH DAKOTA · SD DOT

Recommended Long-Term Corridor

Louise Avenue to Western Avenue (Lincoln County Highway 106 Segment)

LC Hwy 106 Corridor Section: 3-Lane

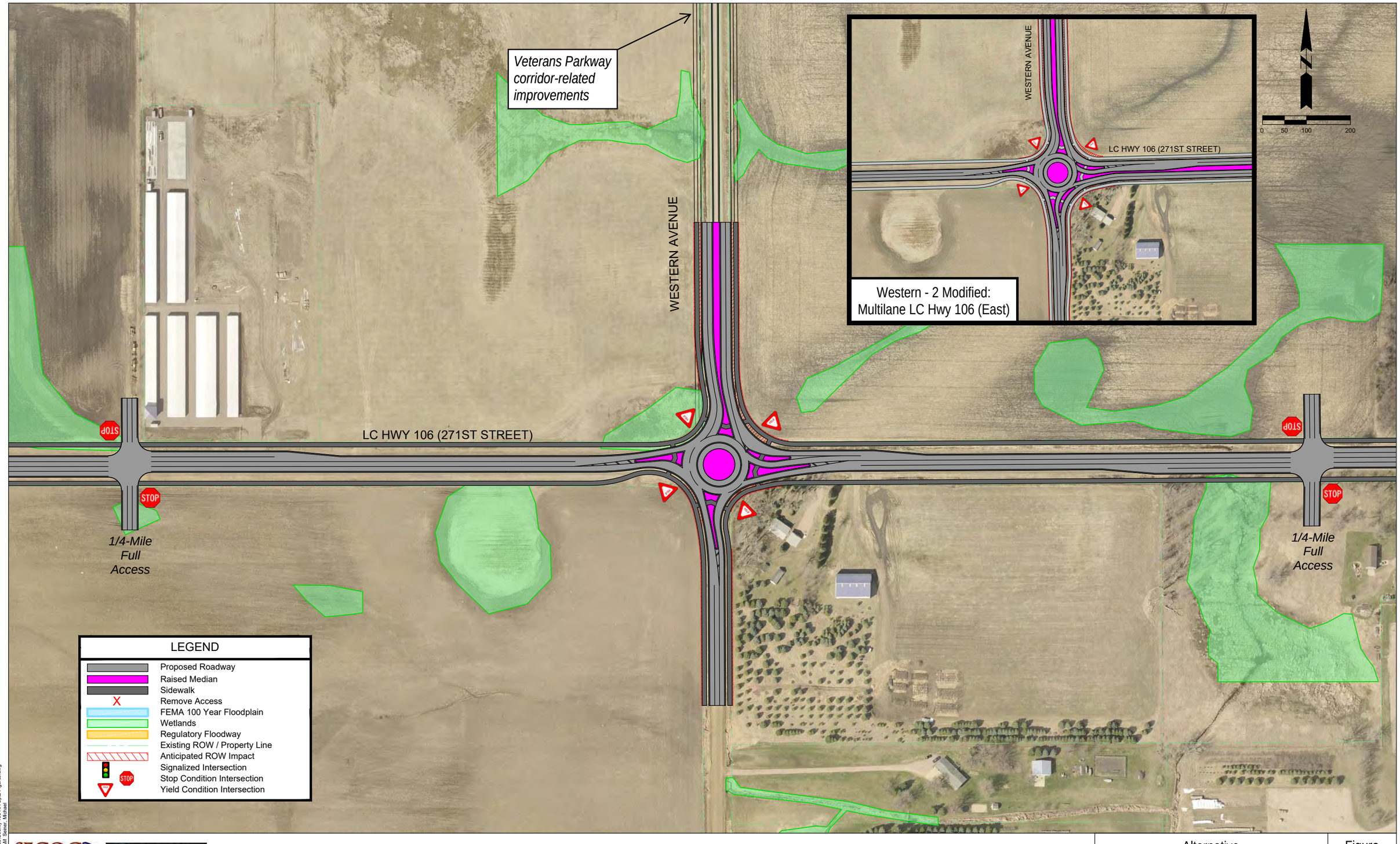
Alternative

Louise-Western A

Figure

30.b

Rev: 6/23/2023



C:\pwworking\central01\d0935325\County 106 RA Opt2 Figures.dwg
PLOT DATE: 6/23/2023 11:35 AM Seiler, Michael

SECOG · LINCOLN COUNTY · SIOUX FALLS SOUTH DAKOTA · SD DOT

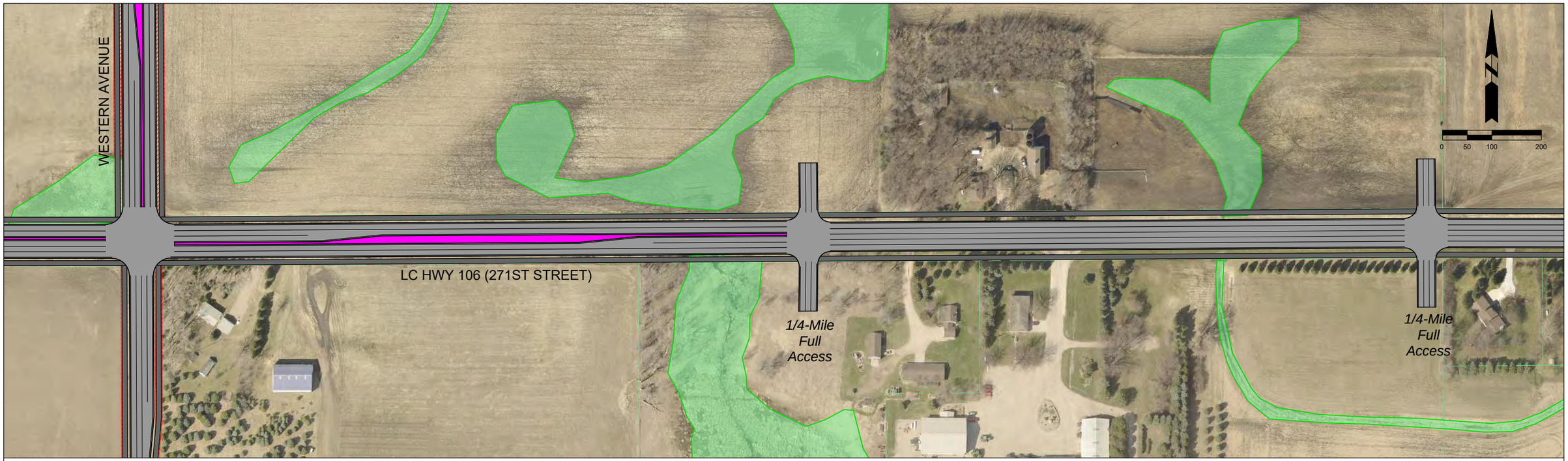
Recommended Long-Term Corridor

Western Avenue & Lincoln County Highway 106 Intersection

Intersection Type: Multilane Roundabout *LC Hwy 106 Corridor Section: 3-Lane*

Alternative
Western - 2

Figure
30.c
Rev: 6/23/2023



C:\pwworking\central\d1\d3963525\County 106.5 Lane Figures.dwg
PLOT DATE: 6/23/2023 11:44 AM - Sattler, Michael

SECOG · LINCOLN COUNTY · SIOUX FALLS · SD DOT

Recommended Long-Term Corridor

Western Avenue to Minnesota Avenue (Lincoln County Highway 106 Segment)

LC Hwy 106 Corridor Section: Multilane

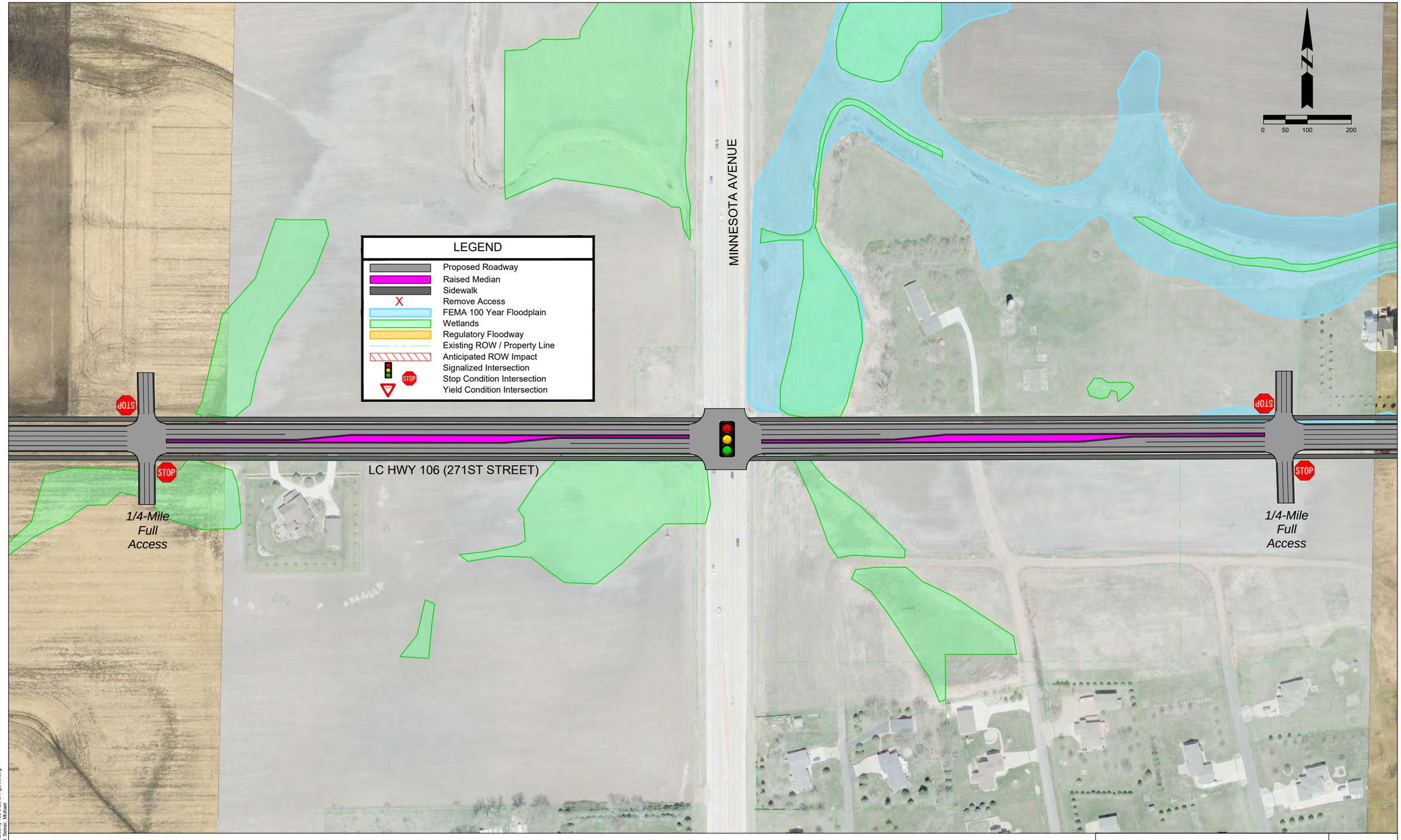
Alternative

Western-Minnesota B

Figure

30.d

Rev: 6/23/2023



C:\powerking\central\01\d\30635251\County 106 5 Lane Figures.dwg
PLOT DATE: 6/23/2023 11:45 AM Seiner, Michael

SECOG · LINCOLN COUNTY · SIOUX FALLS · SD DOT

Recommended
Long-Term Corridor

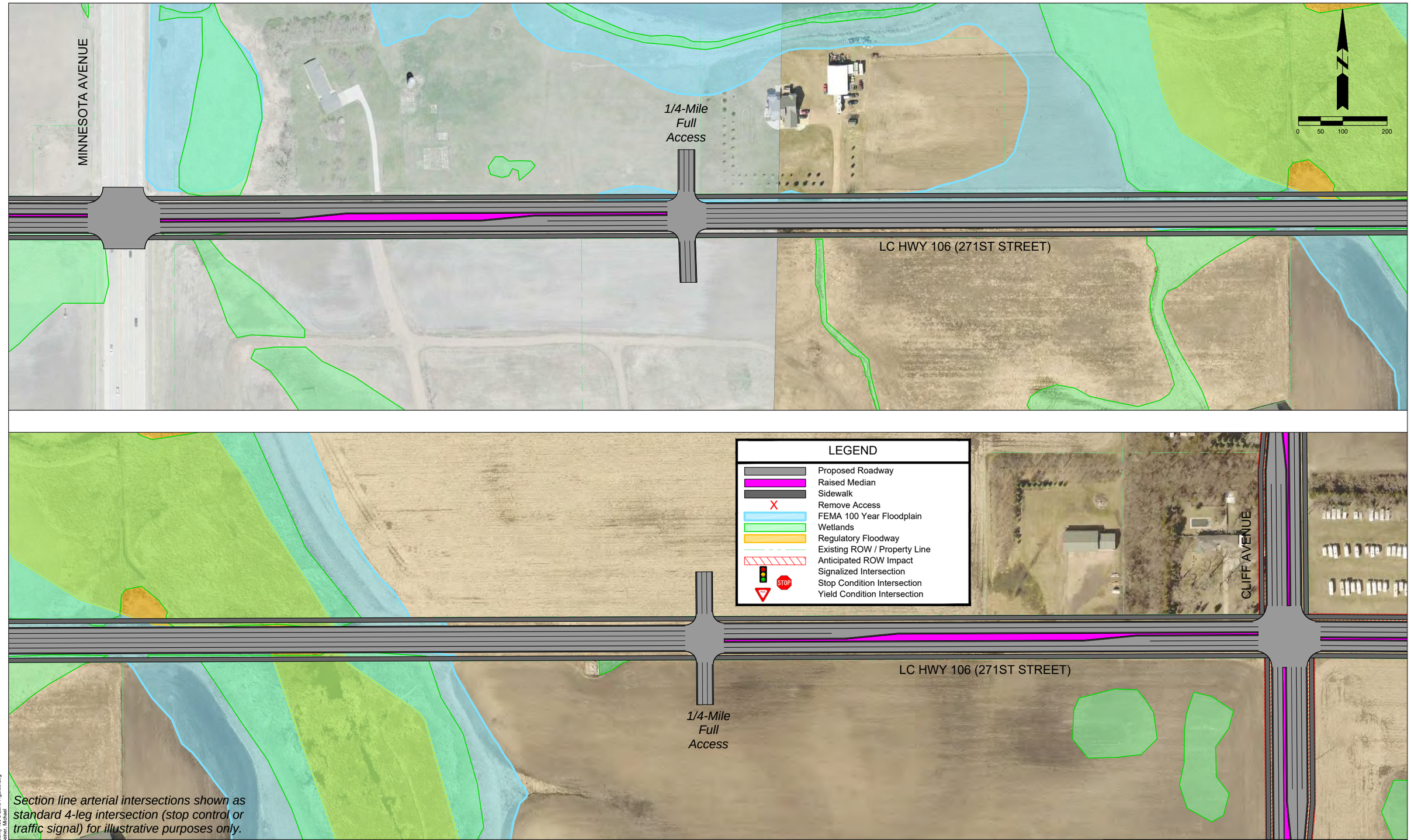
Minnesota Avenue (SD115) & Lincoln County Highway 106 Intersection

Intersection Type: Traffic Signal

LC Hwy 106 Corridor Section: Multilane

Alternative
Minnesota - 2

Figure
30.e
Rev: 6/23/2023



Section line arterial intersections shown as standard 4-leg intersection (stop control or traffic signal) for illustrative purposes only.

Recommended Long-Term Corridor

Minnesota Avenue to Cliff Avenue (Lincoln County Highway 106 Segment)

LC Hwy 106 Corridor Section: Multilane

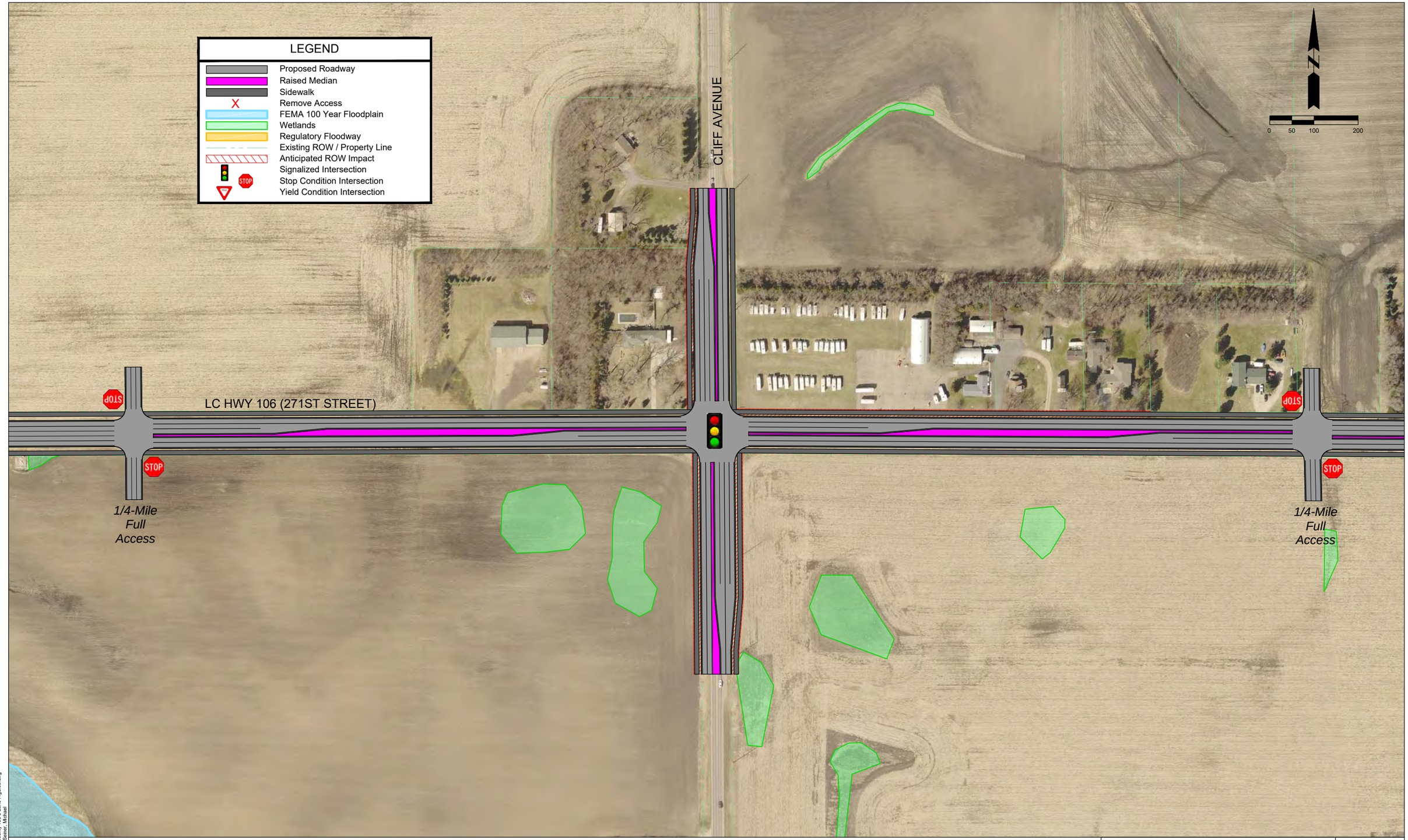
Alternative

Minnesota-Cliff B

Figure

30.f

Rev: 6/23/2023



C:\pwworking\centata01\d3063525\County 106 5 Lane Figures .dwg
PLOT DATE: 6/23/2023 11:46 AM Seiner, Michael

SECOG · LINCOLN COUNTY · SIOUX FALLS SOUTH DAKOTA · SD DOT

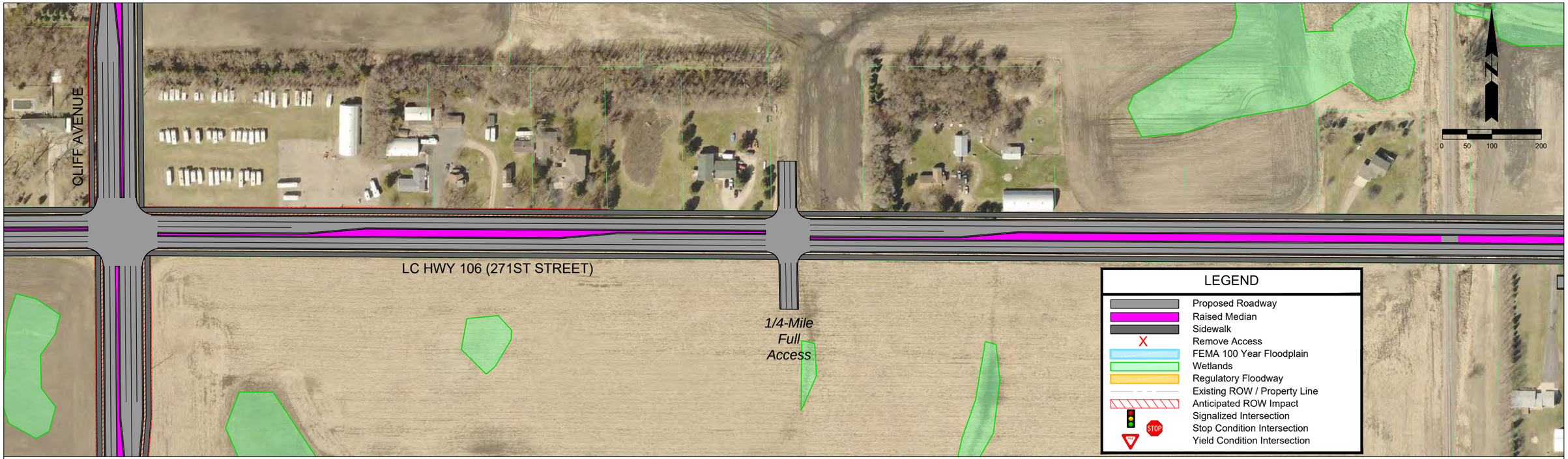
Recommended
Long-Term Corridor

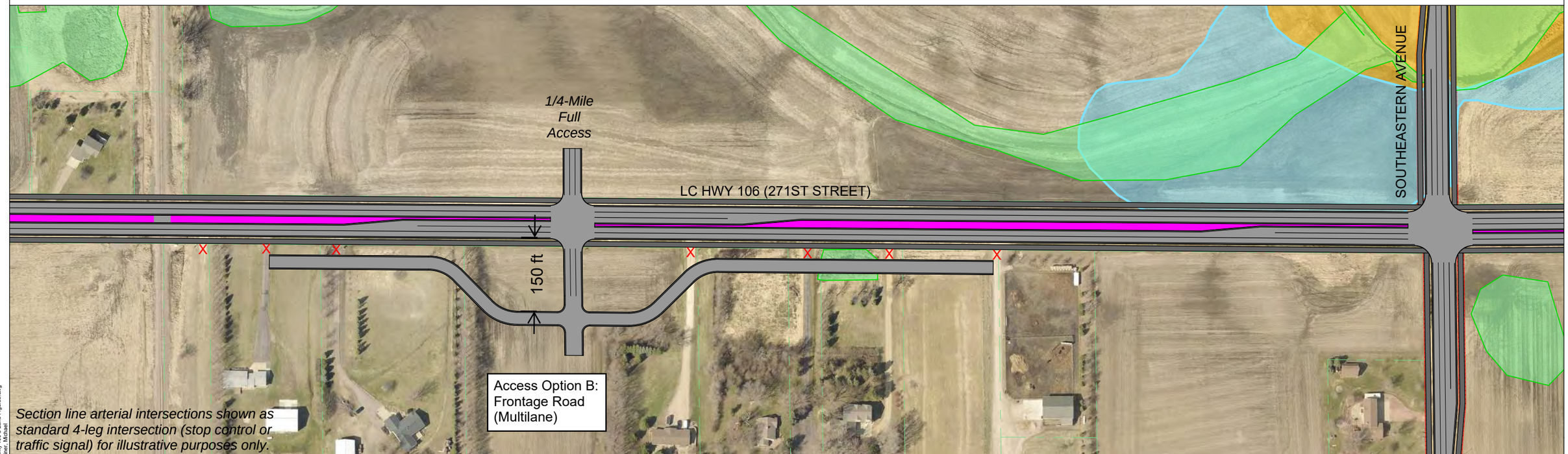
Cliff Avenue & Lincoln County Highway 106 Intersection

Intersection Type: Traffic Signal *LC Hwy 106 Corridor Section: Multilane*

Alternative
Cliff - 4

Figure
30.g
Rev: 6/23/2023





Section line arterial intersections shown as standard 4-leg intersection (stop control or traffic signal) for illustrative purposes only.

SECOG · LINCOLN COUNTY · SIOUX FALLS · SD DOT

Recommended Long-Term Corridor

Cliff Avenue to Southeastern Avenue (Lincoln County Highway 106 Segment)

LC Hwy 106 Corridor Section: Multilane

Alternative

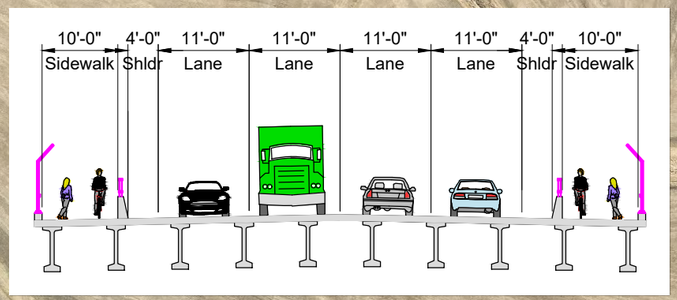
Cliff-Southeastern B

Access Option B (Multilane)

Figure

30.h

Rev: 6/23/2023



BNSF Railway

SOUTHEASTERN AVENUE

LC HWY 106 (271ST STREET)

N

0 75 150 300

Fill slope option

Wall option

LEGEND

- Proposed Roadway
- Raised Median
- Sidewalk
- X — Remove Access
- FEMA 100 Year Floodplain
- Wetlands
- Regulatory Floodway
- Existing ROW / Property Line
- Anticipated ROW Impact
- Signalized Intersection
- Stop Condition Intersection
- Yield Condition Intersection

C:\pw\working\central\i13063521Z-01C-SP-DSGN-SURFACE-LINEWORK_BRIDGE.dwg
PLOT DATE: 4/14/2023 3:47 PM Steiner, Michael

SECOG · LINCOLN COUNTY · SIOUX FALLS SOUTH DAKOTA · SD DOT

Lincoln County Highway 106 Railroad Grade Separation (Cliff Avenue - Southeastern Avenue)

Recommended Long-Term Corridor

LC Hwy 106 Corridor Section: Multilane

Alternative
RR - 1

Figure
30.i
Rev: 4/18/2023

SOUTHEASTERN AVENUE

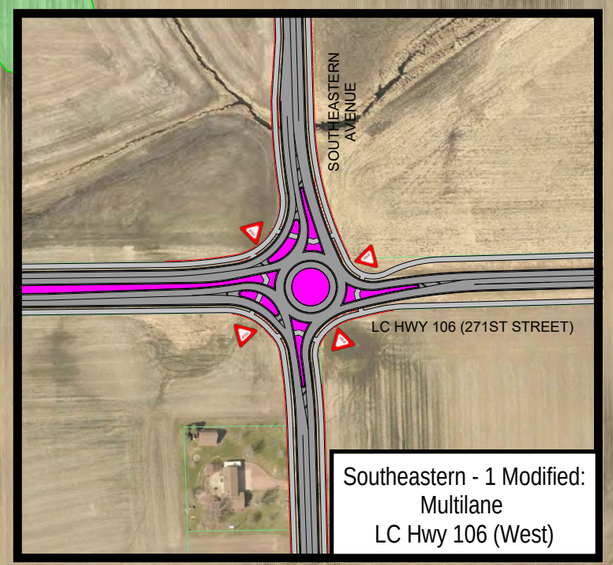
LC HWY 106 (271ST STREET)

1/4-Mile Full Access

STOP

STOP

0 50 100 200



Southeastern - 1 Modified:
Multilane
LC Hwy 106 (West)

LEGEND

- Proposed Roadway
- Raised Median
- Sidewalk
- X — Remove Access
- FEMA 100 Year Floodplain
- Wetlands
- Regulatory Floodway
- Existing ROW / Property Line
- Anticipated ROW Impact
- Signalized Intersection
- STOP — Stop Condition Intersection
- Yield Condition Intersection

C:\pwworking\central\d1d3063525\County 106 RA Opt1 Figures.dwg
PLOT DATE: 6/23/2023 11:39 AM Semer, Michael

SECOG · LINCOLN COUNTY · SIOUX FALLS · SD DOT

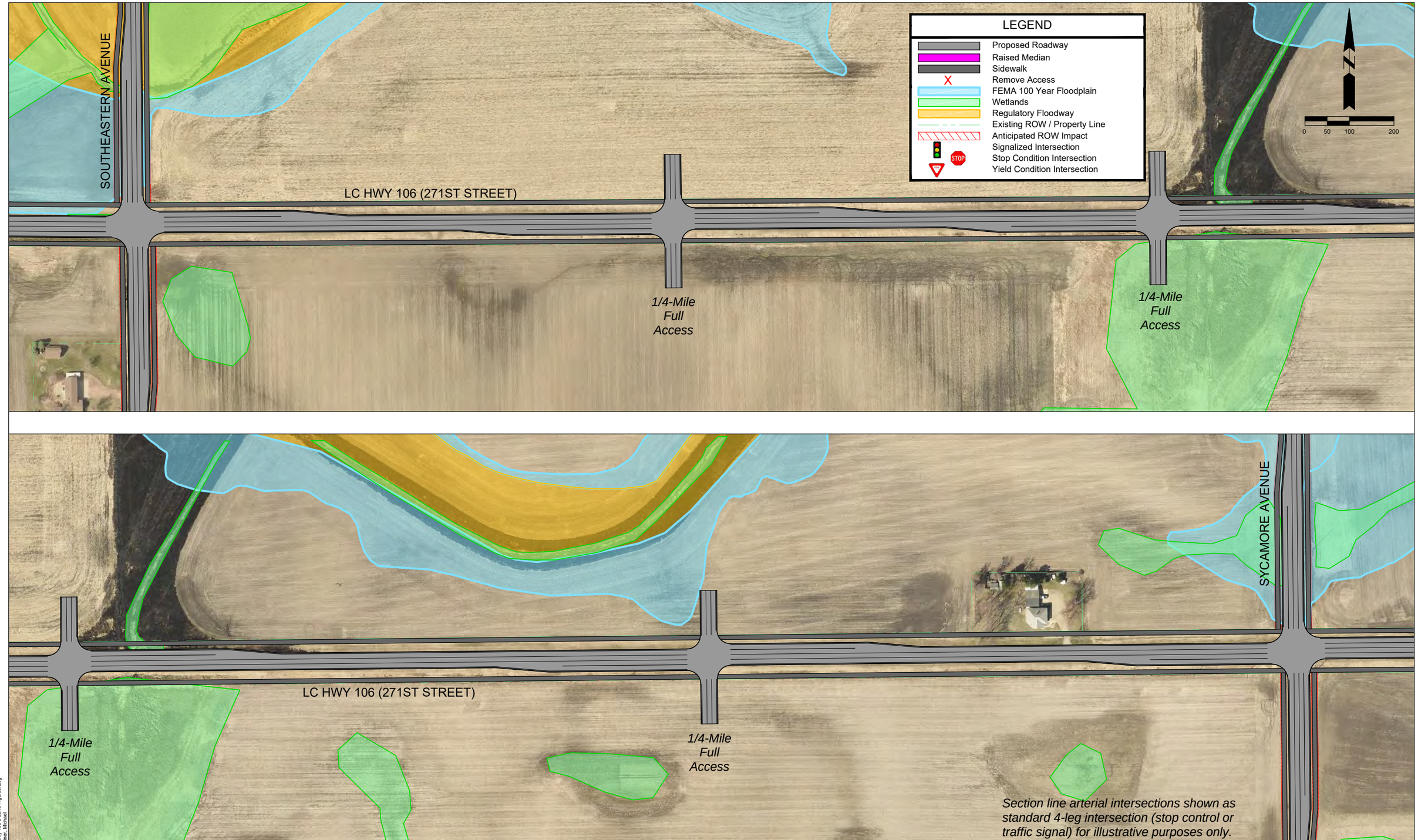
Recommended Long-Term Corridor

Southeastern Avenue & Lincoln County Highway 106 Intersection

Intersection Type: Single-Lane Roundabout *LC Hwy 106 Corridor Section: 3-Lane*

Alternative
Southeastern - 1

Figure
30.j
Rev: 6/23/2023



C:\pnworking\central\01\d3963525\County 106 3 Lane Figures.dwg
PLOT DATE: 6/23/2023 12:03 PM Selner, Michael

SECOG LINCOLN COUNTY SIOUX FALLS SD DOT

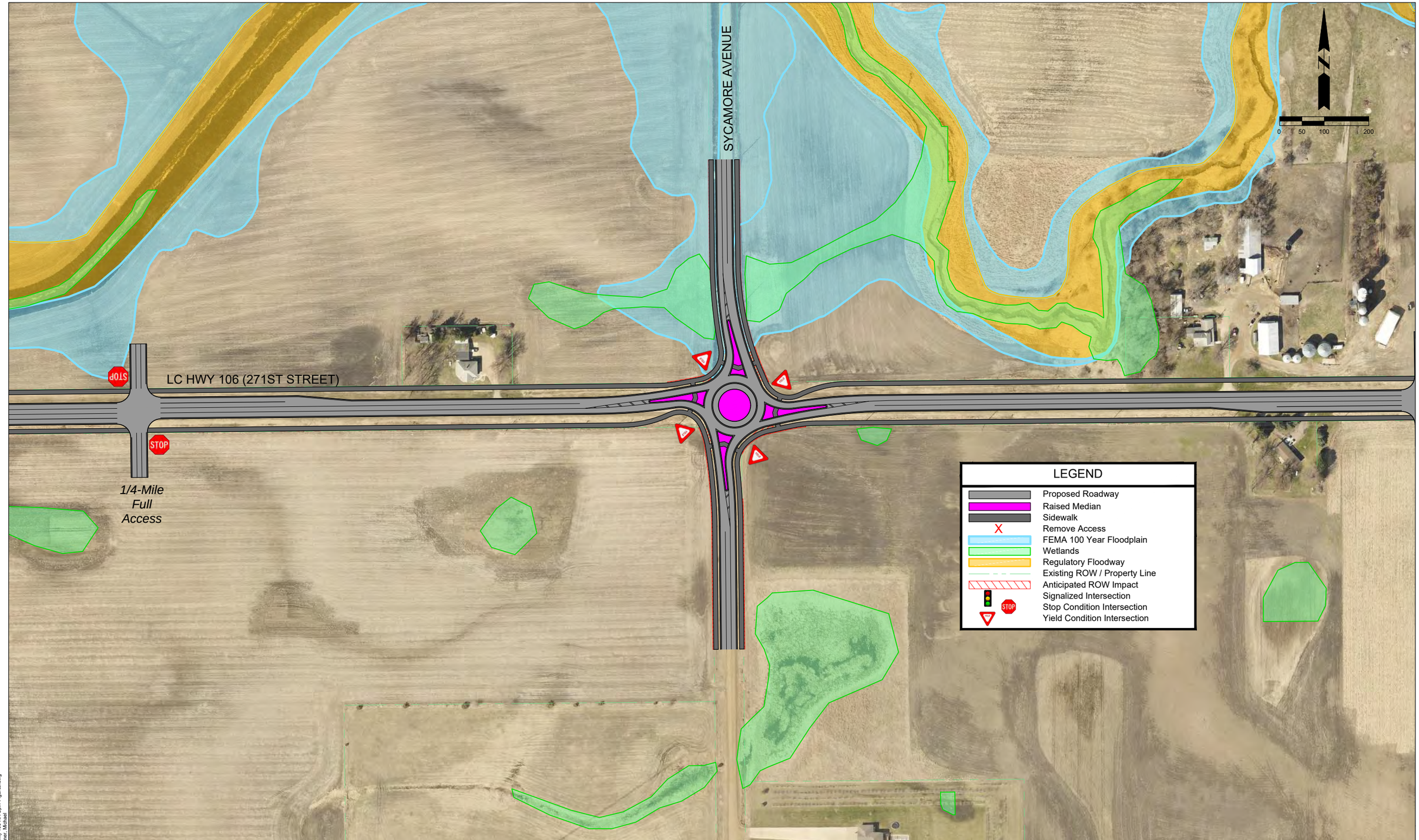
Recommended Long-Term Corridor

Southeastern Avenue to Sycamore Avenue (Lincoln County Highway 106 Segment)

LC Hwy 106 Corridor Section: 3-Lane

Alternative
Southeastern-Sycamore A

Figure
30.k
Rev: 6/23/2023



C:\pwworking\central\d1\d3065525\County 106 RA Op1 Figures.dwg
PLOT DATE: 6/23/2023 11:59 AM Selner, Michael

SECOG · LINCOLN COUNTY · SIOUX FALLS SOUTH DAKOTA · SD DOT

Recommended
Long-Term Corridor

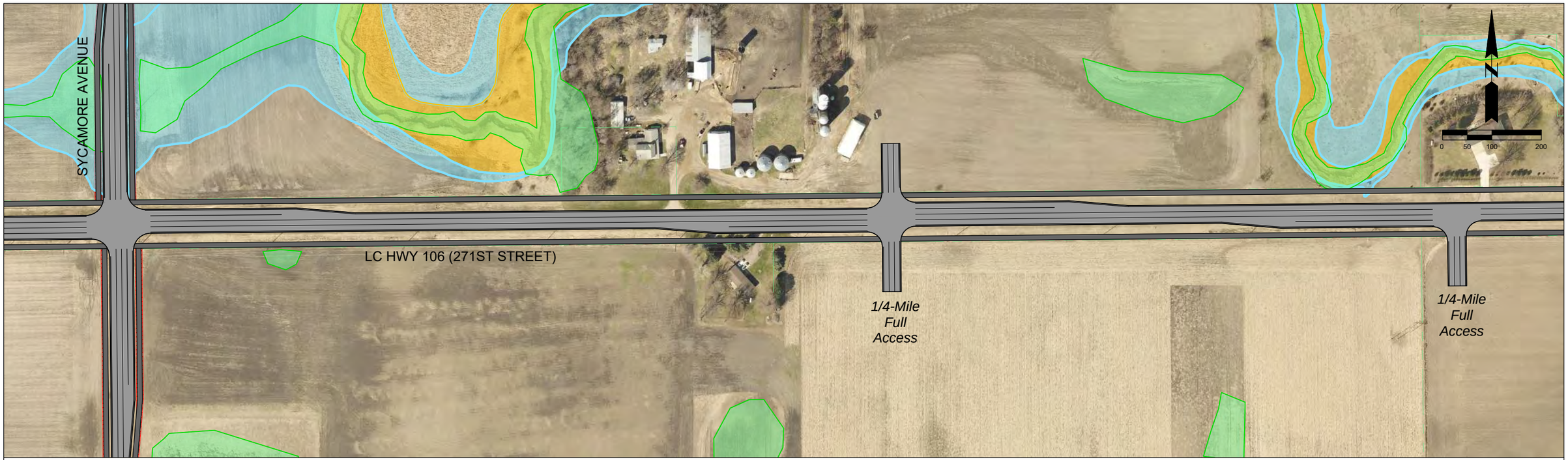
Sycamore Avenue & Lincoln County Highway 106 Intersection

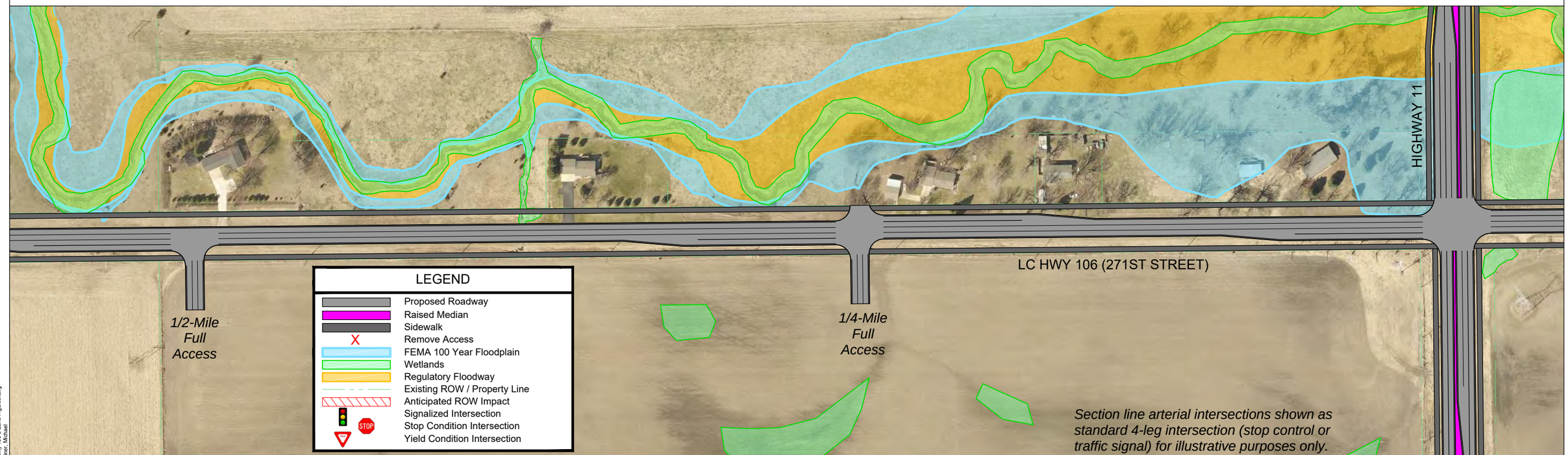
Intersection Type: Single-Lane Roundabout

LC Hwy 106 Corridor Section: 3-Lane

Alternative
Sycamore - 1

Figure
30.I
Rev: 6/23/2023





C:\pwworking\central\d1\d3963525\County 106 3 Lane Figures.dwg
PLOT DATE: 6/23/2023 12:03 PM Selner, Michael

SECOG · LINCOLN COUNTY · SIOUX FALLS · SD DOT

Recommended Long-Term Corridor

Sycamore Avenue to SD11 (Lincoln County Highway 106 Segment)

LC Hwy 106 Corridor Section: 3-Lane

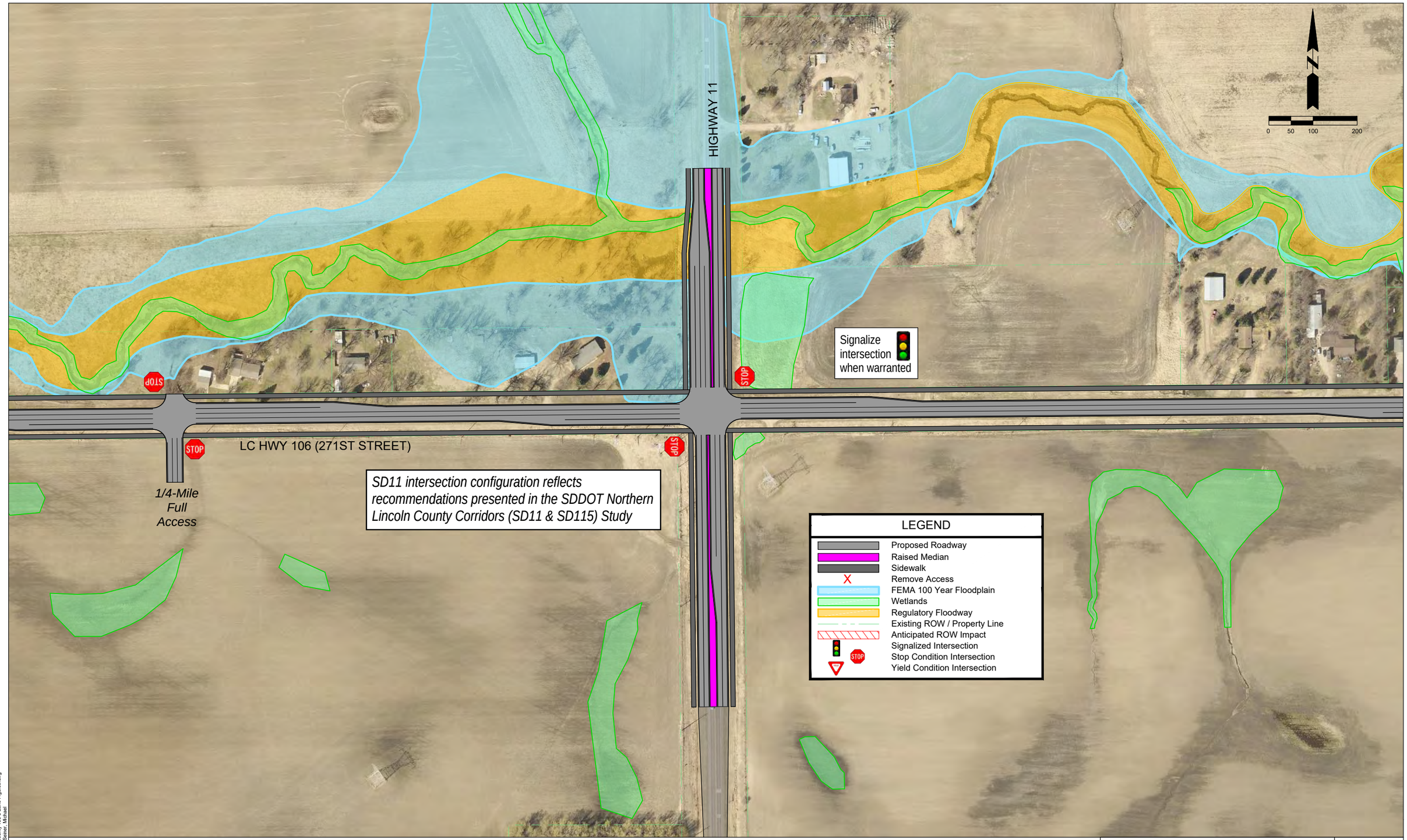
Alternative

Sycamore-SD11 A

Figure

30.m

Rev: 6/23/2023



C:\pwworking\central\d1\d3063525\County 106 3 Lane Figures.dwg
PLOT DATE: 6/23/2023 12:04 PM Seiler, Michael

SECOG · LINCOLN COUNTY · SIOUX FALLS · SD DOT

Recommended Long-Term Corridor

SD11 Avenue & Lincoln County Highway 106 Intersection

Intersection Type: Stop-Control (Traffic Signal) *LC Hwy 106 Corridor Section: 3-Lane*

Alternative
SD11 - 1

Figure
30.n
Rev: 6/23/2023

Section line arterial intersections shown as standard 4-leg intersection (stop control or traffic signal) for illustrative purposes only.

SECOG · LINCOLN COUNTY · SIOUX FALLS SOUTH DAKOTA · SD DOT

Recommended Long-Term Corridor

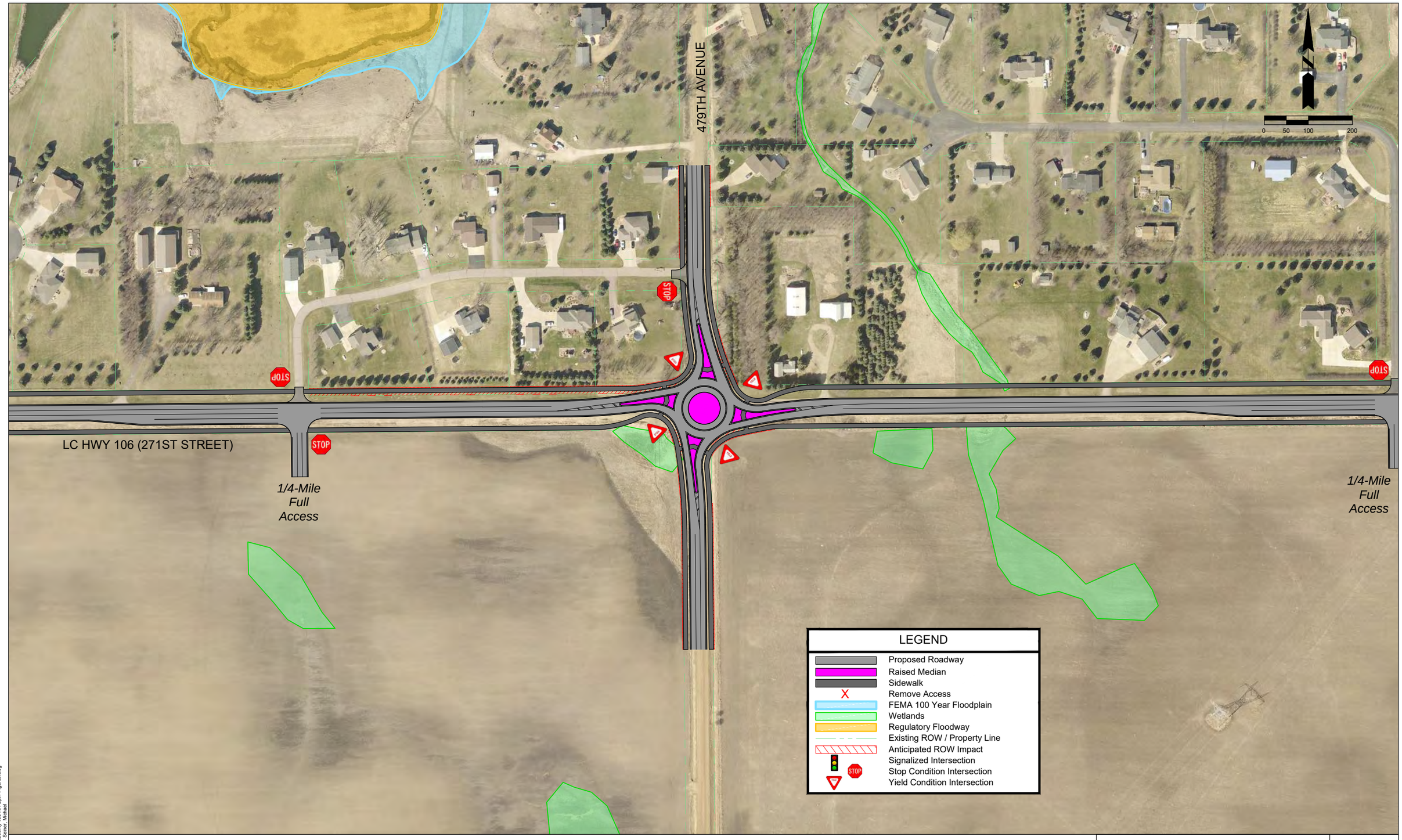
SD11 to 479th Avenue (Lincoln County Highway 106 Segment)

LC Hwy 106 Corridor Section: 3-Lane

Alternative
SD11-479th A

Figure
30.o
Rev: 6/23/2023

C:\pnworking\central\01\d3963525\County 106 3 Lane Figures.dwg
PLOT DATE: 6/23/2023 12:04 PM Selner, Michael



SECOG · LINCOLN COUNTY · SIOUX FALLS · SD DOT

Recommended Long-Term Corridor

479th Avenue & Lincoln County Highway 106 Intersection

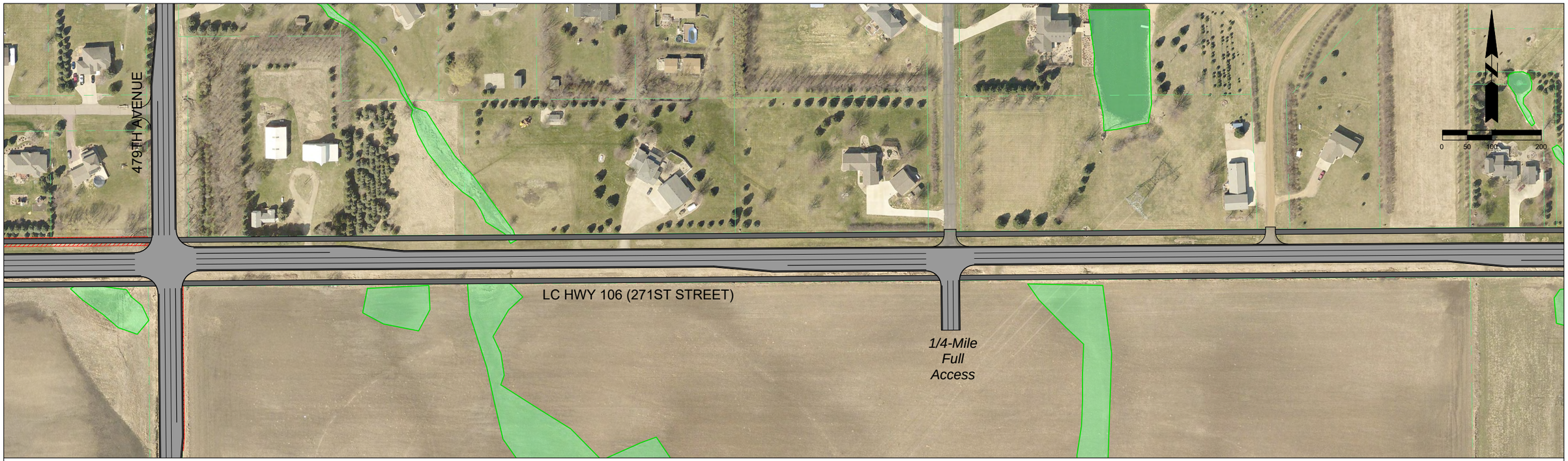
Intersection Type: Single-Lane Roundabout

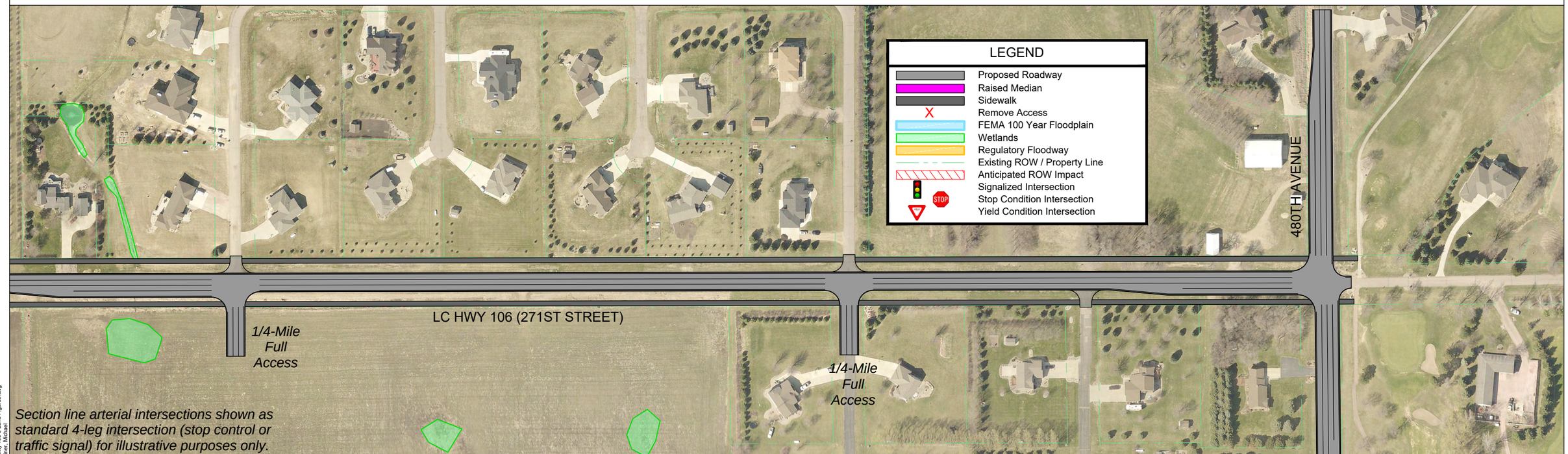
LC Hwy 106 Corridor Section: 3-Lane

Alternative
479th - 1

Figure
30.p
Rev: 6/23/2023

C:\pwworking\central01\d3063525\County 106 RA Opt1 Figures.dwg
PLOT DATE: 6/23/2023 12:00 PM Seiner, Michael





Section line arterial intersections shown as standard 4-leg intersection (stop control or traffic signal) for illustrative purposes only.

C:\pwworking\central\d1\d3963525\County 106 3 Lane Figures.dwg
PLOT DATE: 6/23/2023 12:04 PM Selner, Michael

SECOG · LINCOLN COUNTY · SIOUX FALLS · SD DOT

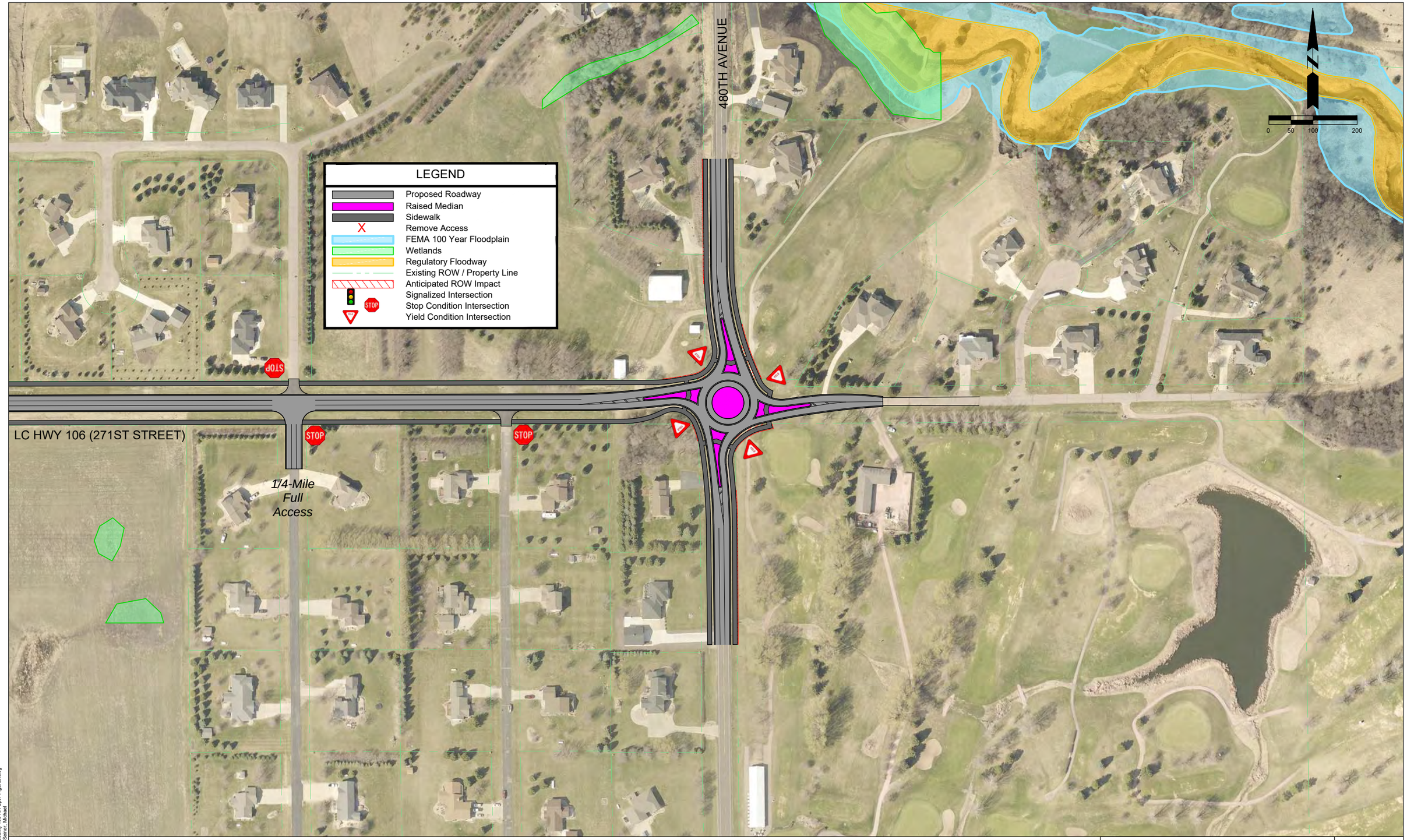
Recommended Long-Term Corridor

479th Avenue to 480th Avenue (Lincoln County Highway 106 Segment)

LC Hwy 106 Corridor Section: 3-Lane

Alternative
479th-480th A

Figure
30.q
Rev: 6/23/2023



C:\pwworking\central\d1\d3083525\County 106 RA Opt1 Figures.dwg
PLOT DATE: 6/23/2023 12:00 PM Sutter, Michael

SECOG · LINCOLN COUNTY · SIOUX FALLS · SD DOT

Recommended
Long-Term Corridor

480th Avenue & Lincoln County Highway 106 Intersection

Intersection Type: Single-Lane Roundabout *LC Hwy 106 Corridor Section: 3-Lane*

Alternative
480th - 1

Figure
30.r
Rev: 6/23/2023

Near-Term Recommendations Summary

Near-term recommendations were identified to address existing transportation needs and reflect spot improvements not necessitating full reconstruction or significant investment. These recommendations are intended to serve as a bridge between existing needs and the short/mid/long-term investments.

Considerations with these near-term recommendations include:

- Supporting agency flexibility to address existing needs, the efficient use of funds, and maximizing large-scale investments
- Incremental opening of Veterans Parkway through construction of four segments will not fully shift traffic away from LC Hwy 106 until the completion in Fall 2027. However, a noticeable shift is anticipated when Veterans Parkway will be open between I-29 and Cliff Avenue following completion of Phase 2.
- Existing traffic operations and safety
- Supporting near-term development along the corridor

LC Hwy 106 Segment: Louise Avenue to 1/3-mile east of Louise Avenue

- **Need:** existing traffic operations and safety and supporting near-term development
- **Recommendation:** widen existing roadway to 3-lane section to provide center left turn lane

LC Hwy 106 & Minnesota Avenue intersection

- **Need:** existing traffic operations and safety due to long westbound queues during peak periods
- **Recommendation:** construct westbound right turn lane
- **Notes:** if adding a right turn lane requires extensive modifications to traffic signals and the east and west legs of the intersection, consider the Short-Term and Mid-Term recommendation

LC Hwy 106 & Cliff Avenue intersection

- **Need:** existing traffic operations and safety due to eastbound queues during peak periods
- **Recommendation:** construct eastbound right turn lane
- **Notes:** consider timing of Short-Term and Mid-Term recommendation project(s)

LC Hwy 106 railroad grade crossing (between Cliff Avenue and Southeastern Avenue)

- **Need:** crossing enhancements due to sight distance limitations, highway and rail speeds, and traffic volumes
- **Recommendation:** add crossing gates

Southeastern Avenue corridor

- **Recommendation:** agencies begin planning for Southeastern Avenue corridor improvements to determine future corridor elements, timing, and costs. As a long multi-jurisdictional corridor that is primarily a township gravel section, improvements will need to be coordinated to support route continuity and logical termini of future projects.

APPENDIX

A. METHODS AND ASSUMPTIONS DOCUMENT

B. TRAFFIC FORECASTS MEMO

C. EXISTING AND FUTURE NO BUILD CONDITION INTERSECTION TRAFFIC OPERATIONS ANALYSIS MEMO

D. CRASH HISTORY REVIEW MEMO

E. GRADE SEPARATION WARRANT REVIEW MEMO

F. PUBLIC OPEN HOUSE #1 AND PUBLIC OPEN HOUSE #2 SUMMARY MEMOS

G. LINCOLN COUNTY HIGHWAY 106 LAND USE AND ACCESS PLAN MEMO

H. RURAL AND URBAN TYPICAL SECTIONS

I. INTERSECTION ALTERNATIVES

J. CORRIDOR SEGMENT ALTERNATIVES

K. BUILD CONDITION TRAFFIC OPERATIONS ANALYSIS MEMO

L. CONCEPTUAL COSTS

M. UTILITY COORDINATION MEMO

N. ENVIRONMENTAL TECHNICAL MEMO