

Appendix A

Public Participation Plan



12TH AVENUE SOUTH MOORHEAD CORRIDOR STUDY PUBLIC PARTICIPATION PLAN

IN COLLABORATION WITH METRO COG, CITY OF MOORHEAD, AND APEX ENGINEERING GROUP

Updated August 2018

OVERVIEW

Moorhead has programmed a project to construct improvements along 12th Avenue South in 2020. This roadway has served as a vital corridor through the city for decades. It is the policy of the Fargo-Moorhead Metropolitan Council of Governments (Metro COG) and the City of Moorhead (City) to use a context-sensitive approach to design that considers the complete streets needs of all transportation system users (motor vehicles, transit, pedestrians and bicycles) as well as the needs of adjacent and nearby property owners, including the preservation or addition of parking, trees and landscaping.

Engaging area property owners, residents, workers, students and users of this street and the surrounding sidewalks is a key component of the study, asking for input and feedback on needs, issues, alternatives, benefits and constraints.

PROJECT PURPOSE AND NEED

The purpose and need of this study is to identify and analyze a range of complete streets and aesthetic design elements along 12th Avenue South, between River Drive and Main Avenue SE to enhance the safety and comfort of all users along the corridor while providing reasonable traffic operations for motor vehicles and preserving and enhancing the character of the neighborhood.

KEY STAKEHOLDERS

- Home owners and renters
- Commuters (vehicle, bicycle, pedestrian, public transit)
- Staff and students of adjacent and nearby colleges and universities (Concordia, MSUM, MState)
- Public and private K-12
- Businesses, churches, organizations (specifically Eventide, Sanford, MHD industrial park tenants, and LAC/A Place For Hope)
- City, State and county officials
- Moorhead business, civic and community organizations (MBA, River Keepers)
- City staff, core community services
- MHD Public Schools transportation/buses and MAT bus
- BNSF RR and Otter Tail Valley RR

ENGAGEMENT STRATEGY

Use multiple, existing communication channels already reaching stakeholders to boost awareness and engagement:

1. Provide shareable content for partners to reach their audiences.
2. Make it easy to engage and participate.

GOALS, MEASUREMENT

Effectiveness of public engagement efforts will be measured and reviewed throughout the study period, allowing us to make changes in communication channels and messaging if necessary. The key measurement will be balance of input shared:

- Engagement goal is to have a representative cross-section of stakeholders share input.
- Measured by monitoring survey results together with public meeting attendance.

OVERALL MESSAGES

- The City of Moorhead and Metro COG initiated this study of 12th Avenue South in Moorhead to support the current and future needs of all users of this street, including residents, walkers, bikers, transit users and motorists.
- As a user of 12th Avenue South, your insight and input is needed to help shape the future of this important corridor through Moorhead.
- Recommendations for alternatives and improvements will be developed using applicable standards together with your input and analysis of data and existing conditions.
- Information about the corridor study as well as key information and opportunities to give your input will be posted on the City of Moorhead's website, at <http://www.cityofmoorhead.com/departments/engineering/current-projects/12th-ave-study> (final website address TBD)

MESSAGE PILLARS FOR SOCIAL CHANNELS

- Input opportunities, how, where to share your input
 - Link to survey, https://www.surveymonkey.com/r/Moorhead_12th_Avenue
 - Link to city website, study page
- Shared data, insight, input
 - Data collected, key facts, findings, observations
 - Ideas and input already shared
- Key dates/events
 - Survey open, https://www.surveymonkey.com/r/Moorhead_12th_Avenue
 - Public meetings
 - Thursday, September 20, 2018; 4 – 7 p.m
 - Tentative February 2019.

PUBLIC PARTICIPATION SCHEDULE AND TACTICS

TIMING	AUDIENCE	TACTICS	DETAILS/WHO
PREPARE ASSETS JULY – AUG 2018	All	<ul style="list-style-type: none"> Develop study page on MHD city website 	Develop page on city's website as home base for communications. Jonathan Atkins is liaison for city.
		<ul style="list-style-type: none"> Develop, set-up survey 	Flint/Apex shared starter questions; Adam Altenburg/SRC edited; survey ready June 2018; link went live on City website on July 3 rd .
		<ul style="list-style-type: none"> Define messaging, talking points, key words, hashtag(s) 	Flint to develop; will draft overall messages, email messaging, e-notifications, and social posts
		<ul style="list-style-type: none"> Develop study graphics, meeting signage, map, flyer 	Flint will develop in combination with messaging, includes study timeline graphically
		<ul style="list-style-type: none"> Develop PSA script, spot for MCAM 	Flint will draft script for review; MCAM will produce together with Flint
	Targeted stakeholders	<ul style="list-style-type: none"> Develop/define email lists 	Flint/APEX will identify with SRC; Flint will maintain database for updates from survey participants
SURVEY ANNOUNCEMENT START COMMUNICATIONS WEEK OF AUG 27, 2018 (CLASSES START THIS WEEK AT CONCORDIA, MSUM, MSTATE)	All	Study announced, survey opportunity shared through channels	Flint will coordinate distribution: <ul style="list-style-type: none"> E-notification Media advisory Email to lists Alerts to MAT riders Post to Facebook, Metro COG, Moorhead, Next Door Shareable posts and emails for partners, employers: Concordia, MSUM, MState, Eventide, MAT, MHD schools
		Pitch story to print publications, survey and meeting opportunity	Flint will pitch story to Clay County Extra and student newspapers, The Concordian and The Advocate
		Begin airing of PSA promoting public meeting/survey opportunity of MCAM	Flint will coordinate with MCAM/Tony Tilton, general mgr.

ADVERTISE PUBLIC MTG #1 WEEK OF SEPT 10	All	Advertise public meeting	Paid advertisement for public meeting in Clay County Extra (Metro COG)
PROMOTE PUBLIC MTG #1 WEEK BEFORE, WEEK OF	All	Promote public meeting on social channels, MCAM	<p>Boost posts on Facebook (Flint) Flint will coordinate distribution:</p> <ul style="list-style-type: none"> • E-notification • Media advisory • Email to lists • Alerts to MAT riders • Post to Facebook, Metro COG, Moorhead, Next Door • Promote live opportunity via Facebook <p>MCAM PSA continues to air Shareable posts and emails for partners, employers: Concordia, MSUM, MState, Eventide, MAT, MHD schools</p>
PROMOTE PUBLIC MTG #1 WED, SEPT 19	Residents	Coffee with the Mayor topic	Share survey opportunity and public meeting with attendees (tentative)
PUBLIC MTG #1 THURS, SEPT 20, 4 – 7 PM. 2018 (SET UP AT 3)	All	Public Meeting at Concordia College, Birkeland Lounge, Offutt Concourse;	<p>Flint/APEX set-up, directional signs Open House format with formal presentation at scheduled time</p> <ul style="list-style-type: none"> • Share maps, corridor video • Gather comments; paper surveys available • Graphic of study timeline <p>Leverage Facebook Live from public meeting:</p> <ul style="list-style-type: none"> • Share frequently asked questions/take questions • Ask attendee to be interviewed <p>Walk viewers through the meeting virtually Flint will coordinate/formal presentation filmed, aired through playback on MCAM</p>

SRC MTG #2 OCT 2018	SRC	Study Review Committee Mtg #2	APEX to facilitate; update on tech memos #1 and #2; survey results; public meeting recap
UPDATE TO PUBLIC OCT 2018	All	Post updated information to webpage; email database	Flint/APEX will supply content
SRC MTG #3 DEC 2018	SRC	Study Review Committee Mtg #3	APEX to facilitate; update on tech memos #3;
DRAFT CORRIDOR STUDY REPORT FEB 2019	SRC	Draft report submitted to SRC	APEX to submit/share draft report to SRC
PROMOTE PUBLIC MEETING #2 3 WEEKS BEFORE	All	Begin airing of PSA promoting public meeting #2 on MCAM	Flint will write/coordinate production and airing with MCAM/Tony Tilton, general mgr.
		Pitch story to print publications, opportunity to weigh in online and at meeting	Flint will pitch story to Clay County Extra and student newspapers, The Concordian and The Advocate
ADVERTISE PUBLIC MEETING #2 WEEK BEFORE	All	Advertise public meeting	Paid advertisement for public meeting in Clay County Extra (Metro COG)
PROMOTE PUBLIC MEETING #2 WEEK BEFORE, WEEK OF	All	Promote public meeting on social channels, MCAM	Boost posts on Facebook (Flint) Flint will coordinate distribution: <ul style="list-style-type: none"> • E-notification • Media advisory • Email to lists • Alerts to MAT riders • Post to Facebook, Metro COG, Moorhead, Next Door Continue airing PSA on MCAM Shareable posts and emails for partners, employers: Concordia, MSUM, MState, Eventide, MAT, MHD schools
PUBLIC MTG #2 FEB 2019	All	TBD	Flint/APEX set-up, directional signs. Format TBD <ul style="list-style-type: none"> • Alternatives and recommendations developed will be shared for input and discussion

			Leverage Facebook Live from public meeting: <ul style="list-style-type: none"> • Share summary of study work to date • Slideshow of alternatives
		Aired/played back on MCAM	Flint will coordinate/formal presentation filmed, aired through playback on MCAM/Tony Tilton, mgr.
SRC MTG #4 MARCH 2019	SRC	Study Review Committee Mtg #4	APEX to facilitate; discussion of Draft Corridor Study comments; public meeting recap
PRESENTATIONS TO BOARDS AND COMMISSIONS MARCH/APRIL 2019	Moorhead Planning Commission and City Council; TTC and Policy Board	Presentations to boards and commissions	APEX to present (Note some are taped/televised as part of regular MCAM programming)
UPDATE TO PUBLIC APRIL 2019	All	Post updated information to webpage; email database	Flint/APEX will supply content
FINAL STUDY RELEASED MAY 2019	All	Post updated information, link to study on webpage; email link to database	Flint/APEX will supply content.
			Boost posts on Facebook (Flint) Flint will coordinate distribution: <ul style="list-style-type: none"> • E-notification • Media advisory • Email to lists • Alerts to MAT riders • Post to Facebook, Metro COG, Moorhead, Next Door Shareable posts and emails for partners, employers: Concordia, MSUM, MState, Eventide, MAT, MHD schools

DRAFT Q&A

Why is a study of 12th Avenue South in Moorhead being conducted?

The City has a project for this corridor programmed for construction in 2020. This study will guide the final design of the project to ensure that it meets the current and future needs of all users of this street, including residents, walkers, bicyclists, transit users and motorists.

Why are you asking for public input?

Sharing input from your unique perspective will help identify local needs and provide guidance to the City to design context-sensitive solutions and help shape the future of this vital corridor through Moorhead.

How will my input be used?

Your input on how you use 12th Avenue South, and any challenges or improvements you'd like to see supports the long-range planning for this corridor. Your input will be used during the project team's analysis of solutions to address each challenge, which will be presented as concepts for public review and discussion.

What is the study process?

The study team will use the community's ideas and comments to determine possible improvements for all types of transportation along this corridor. Additional analysis is completed and design options are developed. You will have the opportunity to review and comment on the alternatives developed. Further research is completed on those alternatives, including their economic feasibility, and the final study is presented to the Metro COG. The study period from start to end is approximately one year.

As improvements identified as part of the study are introduced and move forward, public involvement and comment is an essential component of the vetting process. Upon completion of the study, the City will proceed to final design of the project, incorporating those elements of the study that were recommended in the final study.

Will I see ideas submitted?

Input received as well as analysis completed will be shared on the corridor study page on the city of Moorhead's website <http://www.cityofmoorhead.com/departments/engineering/current-projects/12th-ave-study>
(final website address TBD)

How is this study funded?

This study is funded with a combination of federal transportation funds and City of Moorhead funds. Further questions about the funding and management of this project can be viewed at www.cityofmoorhead.com/12thAveStudy.com (final website address TBD) or by contacting Metro COG Project Manager, Adam Altenburg.

Appendix B
Public Input Meeting Attendee List, Comment Transcripts, and
Other Materials

Moorhead 12th Avenue South Corridor Study
Attendee List for Public Input Meeting #1 – 09/20/18

No.	Attendee
1	Karen Vosburg
2	Don Larew
3	Cindy Bossart
4	Tim Powers
5	Cheryl Revie
6	Ian Revie
7	Darrell Vasvick
8	JoAnn Walker
9	Joel Wehri
10	Phyllis Murray
11	Roy Murray
12	Denese Norris
13	Benny Peterson
14	Iola Peterson
15	Jeff Were
16	Patricia Beiswenger
17	Jean Hollaar
18	Julia Walk
19	Matt Kammerer
20	Sandra Rather
21	Jonathan Steinward
22	Roger Koppang
23	Barrett Voigt
24	Stan Struble
25	Jim Dustin
26	Juan Cabanela

Moorhead 12th Avenue South Corridor Study

Transcript of Comment Forms Received at Public Input Meeting #1 – 09/20/18

No.	Comment
1	Fire hydrant is too close to driveway – has been hit several times.
2	I would like to see crosswalk across 12 th Ave S at 19½ St, sidewalks east of 20 th St S, and street trees east of 20 th St S.
3	<p>There are three blocks on the north side of 12th Ave S, from 4th St to 2nd St approximately, where our kids had to walk on the street 30 years ago, and they still have to today. There needs to be sidewalk on that side of street also.</p> <p>Bad corner at 3rd St, when turning right there is a deep “dip”.</p>
4	Need sidewalk to be completed on north side of 12 th Ave S from 2 nd St to 6 th St.
5	As a daily bus rider, I really need MATBUS service to stop in front of A Place for Hope in the 12 th Ave S industrial park at 2419 12 th Ave S. If possible, could MATBUS place a shelter at this address? Also, request that the City fills in the hole approximately 5-10 feet from the bus stop sign.
6	Would like to see more connectivity in bike lanes – west of 20 th St is great! Would be nice to see that continue to 8 th St.
7	Keep on improving bus service on 12 th Ave S from 20 th St to Hwy 52 (Main Avenue). A Place for Hope has many members who currently use the bus service and the service we have is appreciated. There is no shelter available for several blocks down on 20 th St, so there are a lot of people who have to wait in bitter cold temperatures and extreme winds. This is exceptionally bad when the train stops the bus.
8	We appreciate the bus stopping at A Place for Hope at 2419 12 th Ave S. It would be great to have 7-day bus stops and a shelter for the cold weather days.

12th Avenue South CORRIDOR STUDY

The City of Moorhead and the Fargo-Moorhead Metropolitan Council of Governments (Metro COG) have partnered to study a section of 12th Avenue South in Moorhead, beginning at the west end at River Drive and extending east to the intersection with Main Avenue. The purpose of the study is to evaluate current and future needs along the corridor, and to identify short-term and long-range improvements for consideration.



This corridor has served as a vital east to west roadway through the community since it was first paved in the 1950s and 1960s. The city has planned for improvements to be constructed in 2020 using an approach to design that considers the needs of everyone who uses 12th Avenue South – vehicles, transit, pedestrians and bicycles – as well as the needs of adjacent and nearby property owners including adding or preserving parking, trees and landscaping.

This study will include public input on what needs, issues and improvements would be desirable for the future in addition to technical analysis that identifies current and future conditions and impacts for all types of users of 12th Avenue South.

STUDY BENEFITS

This study will help influence improvements planned for the 2020 construction season.

Results will help identify and prioritize short-term and long-range planning.

The study allows the city to consider the needs and wishes of all stakeholders.



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QUESTIONS AND ANSWERS ABOUT THIS CORRIDOR STUDY:

What is a corridor study?

A corridor study is a focused look at current and future needs of all types of users and stakeholders for a specified roadway, or corridor, through the City of Moorhead. Using a combination of data and public input, the study process identifies needs, issues, alternatives, benefits and constraints.

Why is a study of 12th Avenue South in Moorhead being conducted now?

This study was initiated by the City of Moorhead and Metro COG to support the current and future needs of all users of this street, a “complete streets” design approach that looks at the needs of residents, walkers, bikers, transit users and motorists. This study will inform future construction improvements planned for 2020, as portions of the pavement are already classified as below-average condition.

What kind of input are you asking for?

We’ll be seeking your input at multiple points in the study. Initially, we’re hoping to hear what your ideas, needs and concerns are for what this avenue could provide into the future. As part of a complete streets design approach, we are asking those who currently use this corridor on foot or by car, bike or bus, as well as live or own property on or adjacent to 12th Avenue to share comments. An online survey is available at: www.surveymonkey.com/r/Moorhead_12th_Avenue

After alternatives and recommendations are developed, we’ll be asking for your feedback again.

How will my input be used?

Your initial input helps us validate current needs and issues, as well as anticipate what future needs will be for this avenue. After alternatives and recommendations are developed, your feedback will help guide plans and priorities for both short-term and long-term improvements.

Information about the study, including technical memos and reports, will be posted to:

www.cityofmoorhead.com/departments/engineering/current-projects/12th-ave-s

www.fmmetrocog.org/projects-rfps/12th-avenue-south-corridor-study

Please direct all questions and comments to:

Apex Engineering, Matt Kinsella: 701-373-7987
matt.kinsella@apexenggroup.com

CURRENT FACTS ABOUT 12TH AVENUE SOUTH:

3,100 - 7,000 vehicles move along segments of 12th Avenue each day.

900+ MATBUS riders a month use one of 9 bus stops for 3 routes currently driving on or crossing 12th Avenue.

2,400+ daily pedestrian crossing movements are made at the intersection of 12th Avenue South and 8th Street while area colleges are in session.

9 key intersections, **2** that are signalized, will be evaluated and studied, including 24-hour turning movement counts, wait times, queue length and crash data.

In the **Mid-1950s** 12th Avenue South was first graded and paved from River Drive to 20th Street, and the section from 20th Street east to Main Avenue SE was graded and paved in 1964.

188 trees and hedges are planted in the boulevard, plus the landmark “Crazy Tree” grows on the corner of Concordia College’s campus.





Public Input Meeting #1 12th Avenue South Corridor Study Moorhead, MN

September 20, 2018



Introductions – Presenters



Matt Kinsella

Project Manager



Brent Muscha

Design Engineer



Kate Miner

Traffic Analysis



Introductions – Other Team Members



Kristie Leshovsky
Tom Trowbridge
Jonathan Atkins
Steve Moore



Adam Altenburg



Roger Olson



Lori Van Beek

Getting Started

- Please Sign In
- Study Handout
- Comment Form
- Online Survey Station
- Title VI Public Participation Survey (Optional)
- Tonight's Goal – To Hear from You

Tonight's Agenda

- Study Overview
- Existing Traffic Conditions
- Future Traffic Conditions (No Build)
- Other Study Elements
- Study Schedule and Next Steps



Study Overview



Why is the Study Needed?

- Vital East-West Corridor in the Area Network
- Evaluate Current and Future Needs
- Upcoming 2020 Construction Project
- Inform Short-Term and Long-Range Planning

What Do You See as Issues and Needs?



Existing Traffic Conditions

■ Data Collection

- Average Annual Daily Traffic (AADT)
- Turning Movement Counts
- Historical Crash Data
- Existing Geometrics and Traffic Control

■ High-Level Capacity Analysis

■ Operational Analysis

■ Safety Analysis



METROCOG
FARGO MOORHEAD METROPOLITAN COUNCIL OF GOVERNMENTS

Existing Traffic Conditions

- High Level Capacity Analysis
 - 2-lane roadway capacity 10,000 vehicles/day
 - 3-lane roadway capacity 18,000 vehicles/day
- 12th Avenue currently carries between 3,100 and 7,000 vehicles/day



Existing Traffic Conditions

- Operational Analysis
 - Synchro/SimTraffic
 - ♦ Intersection Control Delay

Level of Service (LOS)	Average Delay (seconds/vehicle)	
	Signalized Intersection	Unsignalized Intersection
A	≤ 10	≤ 10
B	> 10 and ≤ 20	> 10 and ≤ 15
C	> 20 and ≤ 35	> 15 and ≤ 25
D	> 35 and ≤ 55	> 25 and ≤ 35
E	> 55 and ≤ 80	> 35 and ≤ 50
F	> 80	> 50

- ♦ Queuing Analysis

Existing Traffic Conditions

- Crash Analysis
 - Reviewed crash data from 2011-2015
 - Data indicated no crash issues within that timeframe



Future 2040 NO BUILD Traffic Conditions

- Traffic Projections
- High-Level Capacity Analysis
- Operational Analysis



Future 2040 NO BUILD Traffic Conditions

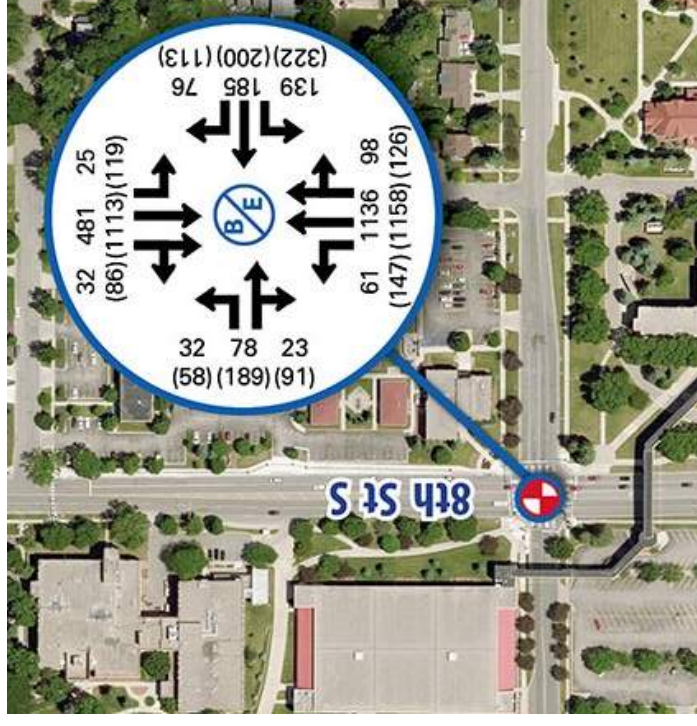
- Traffic Projections
 - Fargo-Moorhead 2040 Long Range Transportation Plan
- High-Level Capacity Analysis
 - 9,700 vehicles/day highest future



Future 2040 NO BUILD Traffic Conditions

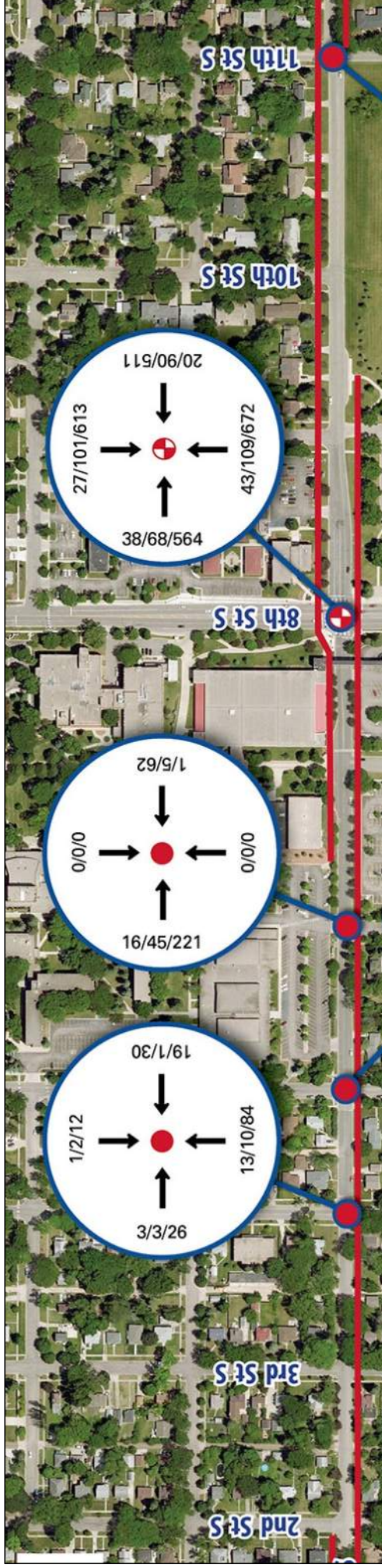
■ 2040 Operational Analysis Results

- Level Of Service
 - ◆ 8th Street LOS E
 - Failing movements – NB and EB
 - ◆ Main Avenue – LOS E for certain movements
- Queuing
 - ◆ 8th Street – issues get worse
 - ◆ Main Avenue – starting to see issues



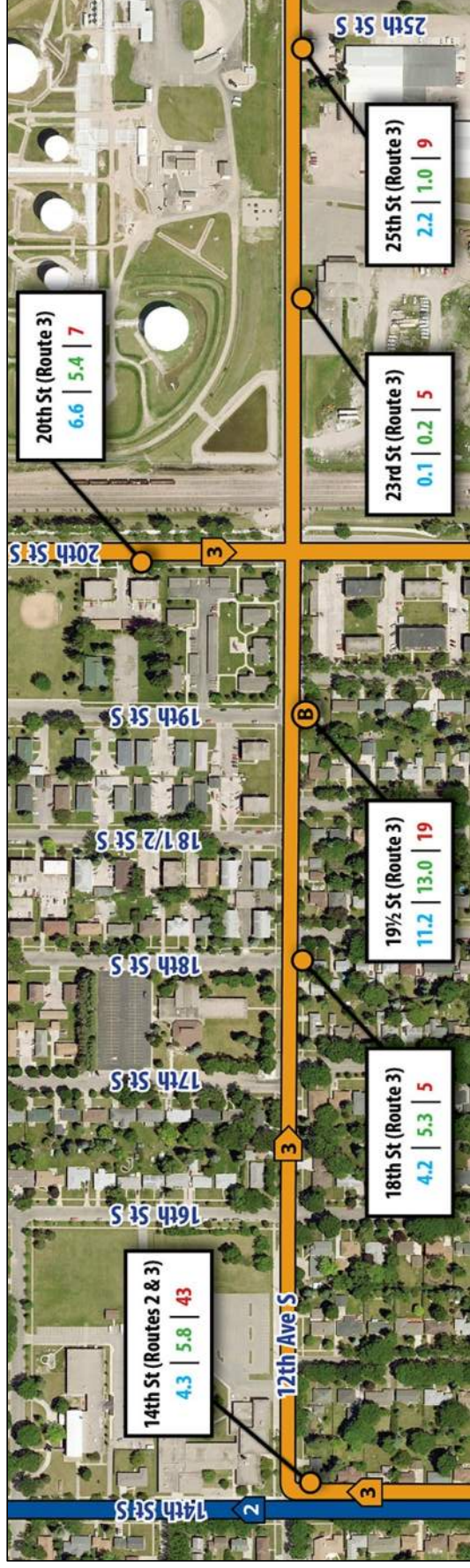
Pedestrian and Bicycle Facilities

- Lack of connectivity – gaps
- 2,400+ crossing movements per day at 8th Street



MATBUS Transit

- 900+ riders use one of the 9 bus stops along 3 routes
- Nearly 100 bike loadings in 2017



Railroad Crossing

- Pedestrian and Bicycle Crossing



Access













- Moorhead City Code – Access Spacing for Minor Arterials
 - Recommended: 8 access points per mile
 - Maximum: 16 access points per mile within urban core

■ 12th Avenue South Corridor – 2.0 Miles Long

- 30 Intersections
- 76 Driveways (Private or Business)
- Average 53 access points per mile

Parking

■ At Least 9 Different Types of Parking Restrictions

NO PARKING 8 AM-4PM WED	
NO PARKING OVER 3" OF SNOW	
NO PARKING 8 AM-4PM THURS	
3 HR PARKING 7AM-5PM MON-FRI, AUG 15TH-MAY15TH	
NO PARKING	
NO PARKING 1AM-7AM TUES	
NO PARKING 9AM-4PM MON-FRI	
NO PARKING (LOADING ZONE)	
NO PARKING 8AM-5PM MON-FRI	
PRIVATE ACCESS	
BUSINESS, COLLEGE, APARTMENT ACCESS/ENTRANCE	
BIKE LANES (ON STREET)	



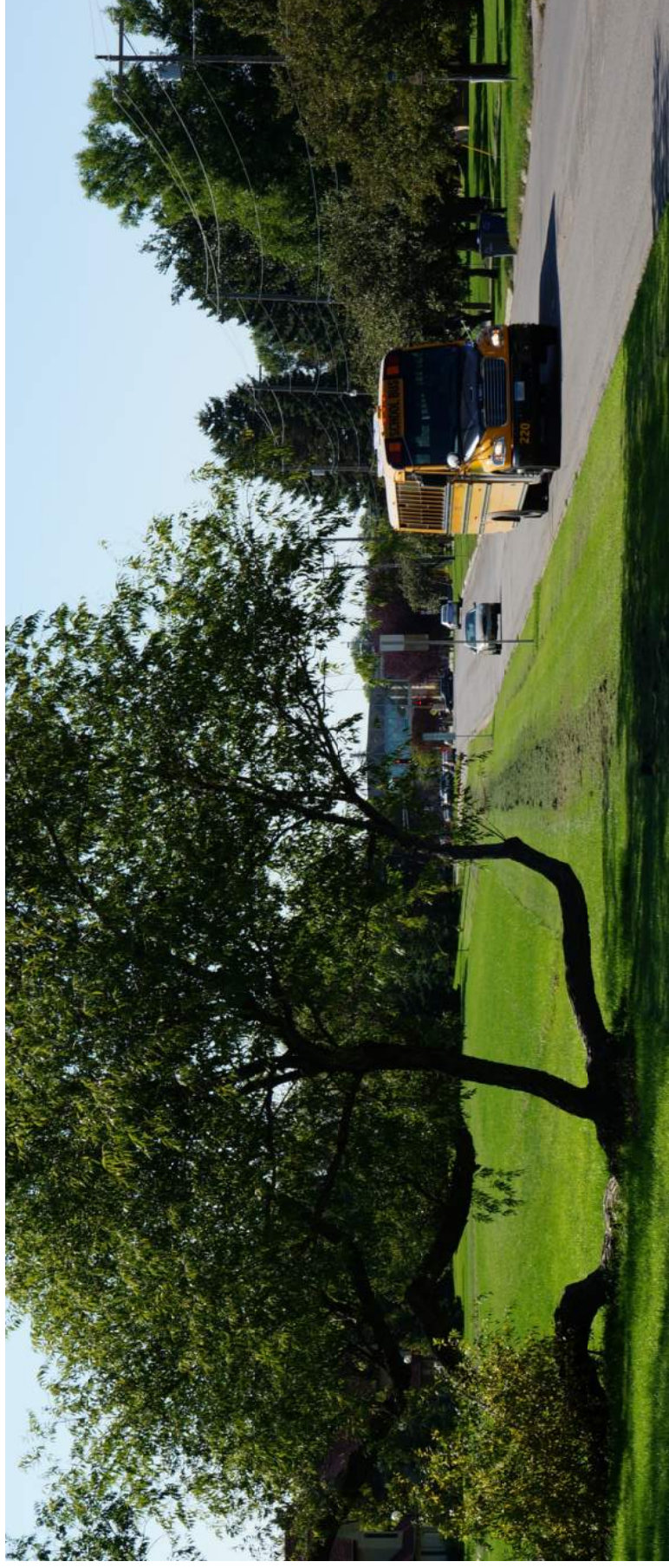
Available Right of Way

- Limited Right of Way on this Corridor
 - Typically 33-40 feet available each side of centerline
 - Additional Space Available between 8th and 11th Street



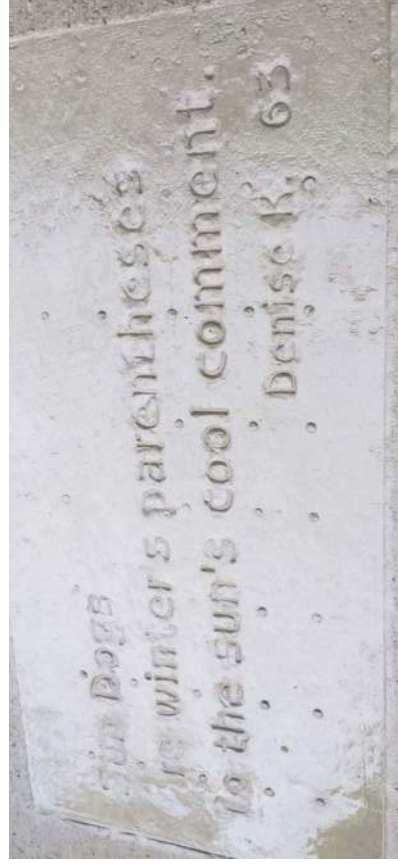
Trees and Landscaping

- 188 boulevard trees + the “Crazy Tree”



Streetscape Ideas

- Possible Aesthetic Enhancements:
 - Street artwork/stamping
 - Sidewalk art
 - Utility box art
 - MATBUS shelters/bench art



Study Schedule and Next Steps

- September 2018 – January 2019: Alternative Development
- February 2019: Draft Study Report
- February 2019: Public Meeting #2
- March – April 2019: Board and Council Approvals
- May 2019: Final Study Report
- Spring - Summer 2020: Construction

Multiple Ways to Provide Input

- Talk to team members tonight
- Complete online survey at the computer station
- Complete comment forms – leave here or mail in
- Email your comments – contact info is provided on forms and handout
- Attend next public meeting in February

Thank You for Attending!

- Questions and Comments



Moorhead 12th Avenue South Corridor Study
Attendee List for Public Input Meeting #2 – 03/19/19

No.	Attendee
1	Timothy Stone
2	Sheri Larson
3	Sharon Weber
4	Andrea Cook
5	Faye Cook
6	Leonard Cook
7	Russell Pfaff
8	Kirsten Frantsvog
9	Karl Stumo
10	Marv Degerness
11	Benny Peterson
12	Iola Peterson
13	Roger Koppang
14	Jim Haney
15	Coralie Wai
16	Tim Myers
17	Don Swenson
18	Don Larew
19	Steve Busse
20	Forrest Steinhoff

No.	Attendee
21	Harold Kaste
22	Denese Norris
23	Mike Edenburg
24	Charles Franklin
25	Carolyn Kramer
26	Alan Cooper
27	Janine Hanson
28	Don Buegel
29	Jeff Werre
30	Marilyn Proulx
31	Jeremy Mattson
32	Nick Walberg
33	Chad Johnson
34	Nicole Mattson
35	Jenny Mongeau
36	Dr. J.E. Kreps
37	Steve Schaefer
38	Tim Wollenson
39	Jonathan Gilmour
40	Kenyon Williams

Moorhead 12th Avenue South Corridor Study

Transcript of Comments Received During and After Public Input Meeting #2 – 03/19/19

No.	Comment
1	A mic would have been nice so that we could hear better.
2	That “Crazy Tree” identified on the corner of Concordia College campus is a very valuable tree and is grossly neglected. It struggles every year to overcome dying branches. This tree should be renamed, identified publicly with a small metal sign on a plaque, and a small metal fence of sorts should be placed along the street and avenue and by all means – no more children climbing on trunk and branches. This tree would bring in a lot of money to Concordia by “donate to the tree” on a yearly basis. I am making comparison to the “Lone Cypress” tree growing out of a solid rock out on Monterey Peninsula near Pebble Beach Golf Course and 17 Mile Drive and Carmel-By-The-Sea.
3	Tough job! Sounds like you have studied this thoroughly.
4	1. Visuals were hard to read 2. Please repeat comments from the front so we know what question is being addressed. 3. Less lasting. Choose the big ideas. 4. Is there a reason a bike path needs to be considered with 12 th Ave. 5. Any of you want presentation coaching?
5	Will the curb be taken? - Only if absolutely necessary
6	Changes to street parking? - In some spots to make room for a bike lane/path if that alternative is used.
7	Elimination of 12 th Ave parking will push the vehicles to the already busy side streets. - Agreed, no perfect option but we will try to do what is best
8	What is the slope goal for the RR crossing? What is it currently? - We would like to be under 5%, it is currently around 10%
9	Is there going to be a visibility issue with the crosswalk at the proposed bus stop with the cars making the corner off of 20 th onto 12 th Ave from the north? - We can move the crosswalk, however there should be enough room to see and stop
10	How common is the bike/car path? How is safety with these? - They are growing in popularity and education is key with safety. People will use them more and more and the more common that they are they more people will be bike aware in these areas.
11	It would be great to have some turning lanes on the major N/S Streets. The road is so tight, will be interesting to see if there will be home purchases. Any way to widen it by Concordia?
12	My big ask would be to improve the bikeability and walkability of 12th Ave between Main and 20th Street. It's really dangerous as it is now, even with the bike lanes. I'm sure I'm not the only one that would suggest this but thought I would pass it along. At one point last summer we were considering having our daughter bike to MSUM for College for Kids but because of that Corridor, we decided against it.
13	Second time I request this: consider doing something with 12th Ave S east of Hwy 52, specifically at the intersection of Ridgewood Boulevard and 12th Ave S. Consider cutting trees and relocating street signs at intersection of Appletree Lane or whatever the name of the street is that intersects with 12th Ave S, just passed the railroad tracks. They obstruct the view of traffic when turning east, onto 12th Ave S.

12th Avenue South CORRIDOR STUDY

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This corridor has served as a vital east to west roadway through the community since it was first paved in the 1950s and 1960s. The city has planned for improvements to be constructed in 2020 using an approach to design that considers the needs of everyone who uses 12th Avenue South – vehicles, transit, pedestrians and bicycles – as well as the needs of adjacent and nearby property owners including adding or preserving parking, trees and landscaping.

This study will include public input on what needs, issues and improvements would be desirable for the future in addition to technical analysis that identifies current and future conditions and impacts for all types of users of 12th Avenue South.

STUDY BENEFITS

This study will help influence improvements planned for the 2020 construction season.

Results will help identify and prioritize short-term and long-range planning.

The study allows the city to consider the needs and wishes of all stakeholders.



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QUESTIONS AND ANSWERS ABOUT THIS CORRIDOR STUDY:

What is a corridor study?

A corridor study is a focused look at current and future needs of all types of users and stakeholders for a specified roadway, or corridor, through the City of Moorhead. Using a combination of data and public input, the study process identifies needs, issues, alternatives, benefits and constraints.

Why is a study of 12th Avenue South in Moorhead being conducted now?

This study was initiated by the City of Moorhead and Metro COG to support the current and future needs of all users of this street, a “complete streets” design approach that looks at the needs of residents, walkers, bikers, transit users and motorists. This study will inform future construction improvements planned for 2020, as portions of the pavement are already classified as below-average condition.

What kind of input are you asking for?

We’ll be seeking your input at multiple points in the study. Initially, we’re hoping to hear what your ideas, needs and concerns are for what this avenue could provide into the future. As part of a complete streets design approach, we are asking those who currently use this corridor on foot or by car, bike or bus, as well as live or own property on or adjacent to 12th Avenue to share comments. An online survey is available at: www.surveymonkey.com/r/Moorhead_12th_Avenue

After alternatives and recommendations are developed, we’ll be asking for your feedback again.

How will my input be used?

Your initial input helps us validate current needs and issues, as well as anticipate what future needs will be for this avenue. After alternatives and recommendations are developed, your feedback will help guide plans and priorities for both short-term and long-term improvements.

Information about the study, including technical memos and reports, will be posted to:

www.cityofmoorhead.com/departments/engineering/current-projects/12th-ave-s

www.fmmetrocog.org/projects-rfps/12th-avenue-south-corridor-study

Please direct all questions and comments to:

Apex Engineering, Matt Kinsella: 701-373-7987
matt.kinsella@apexenggroup.com

CURRENT FACTS ABOUT 12TH AVENUE SOUTH:

3,100 - 7,000 vehicles move along segments of 12th Avenue each day.

900+ MATBUS riders a month use one of 9 bus stops for 3 routes currently driving on or crossing 12th Avenue.

2,400+ daily pedestrian crossing movements are made at the intersection of 12th Avenue South and 8th Street while area colleges are in session.

9 key intersections, **2** that are signalized, will be evaluated and studied, including 24-hour turning movement counts, wait times, queue length and crash data.

In the **Mid-1950s** 12th Avenue South was first graded and paved from River Drive to 20th Street, and the section from 20th Street east to Main Avenue SE was graded and paved in 1964.

188 trees and hedges are planted in the boulevard, plus the landmark “Crazy Tree” grows on the corner of Concordia College’s campus.





Public Input Meeting #2 12th Avenue South Corridor Study Moorhead, MN

March 19, 2019

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Engineering Group



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Introductions – Presenters



Matt Kinsella
Project Manager



Kate Miner
Traffic Analysis



Brent Muscha
Design Engineer

Hanson Design Associates

Jim Hanson
Streetscaping/Landscaping



■ Introductions – Other Team Members ■



Kristie Leshovsky
Tom Trowbridge
Jonathan Atkins
Steve Moore



Adam Altenburg



Roger Olson



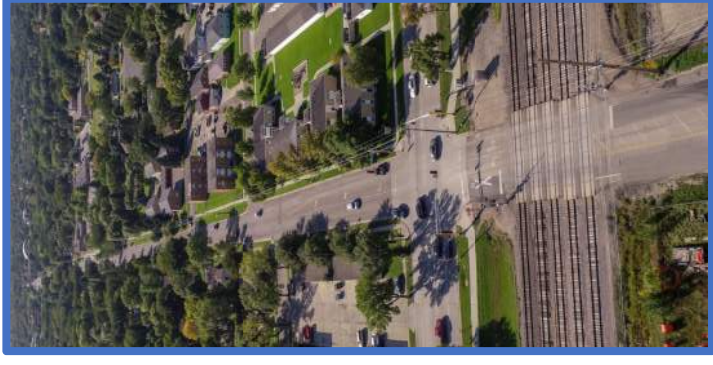
Lori Van Beek

Getting Started

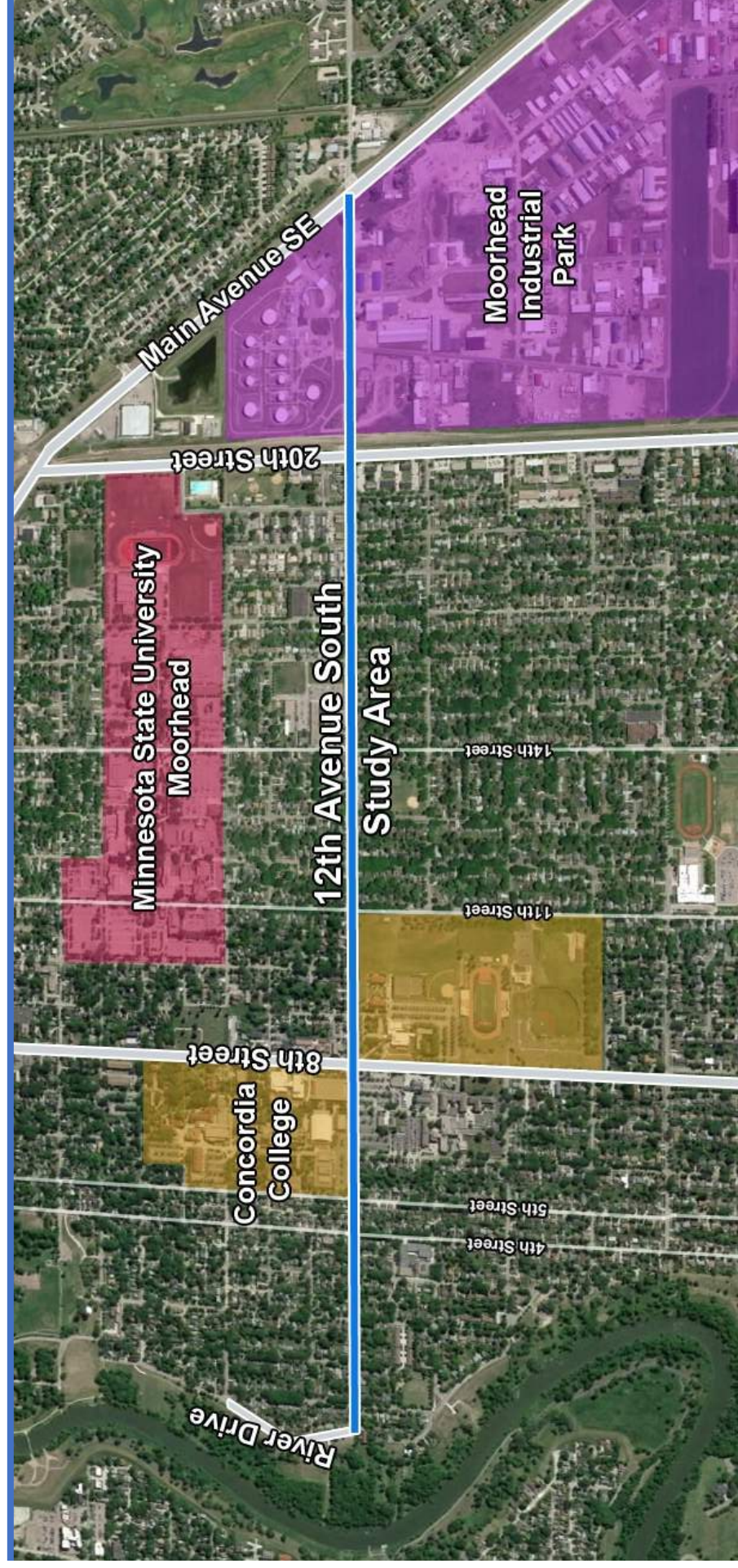
- Please Sign In
- Study Handout
- Comment Card
- Title VI Public Participation Survey (Optional)
- Tonight's Goal – To Get Your Feedback

Tonight's Agenda

- Study Overview
- Study Issues and Needs
- Proposed Alternatives
- Study Schedule and Next Steps

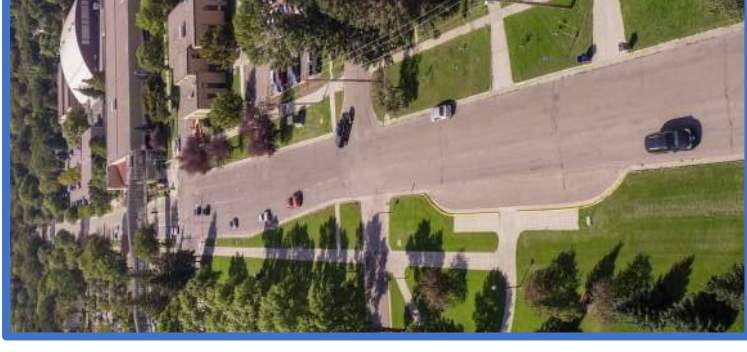


Study Overview



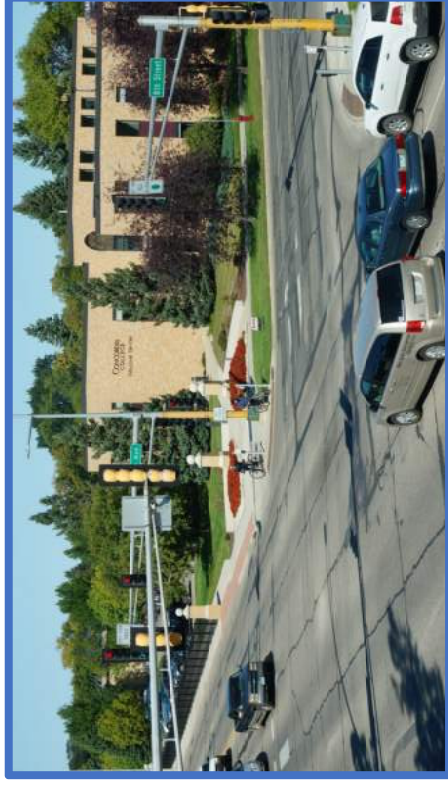
Why is this Study Needed?

- Vital East-West Corridor in the Area Network
- Evaluate Current and Future Needs
- Upcoming 2020 Construction Project
- Inform Short-Term and Long-Range Planning



Concurrent Study – US 10/75 Corridor

- Overlap at 8th Street Intersection
- Coordination Between Study Teams
- Traffic Projections
 - Our Study = 2040 Projections
 - US 10/75 = 2045 Projections
- Preliminary Analysis Shows Proposed Improvements are Supported by Both Studies



Existing Traffic Conditions

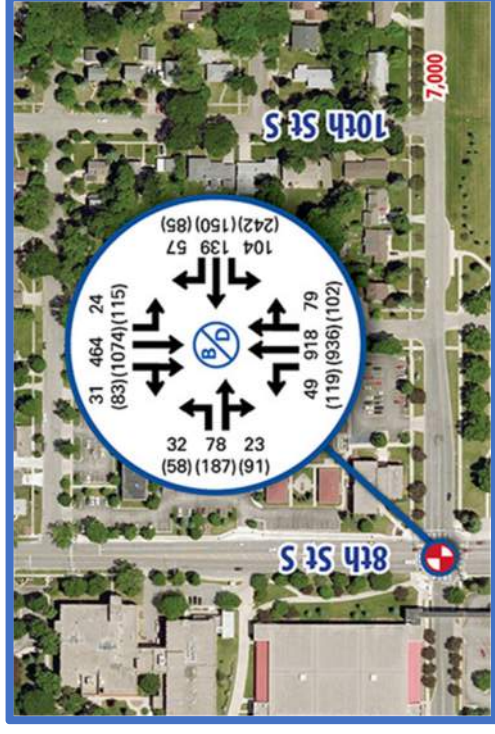
- High Level Capacity Analysis
 - 2-lane roadway capacity = 10,000 vehicles/day
 - 3-lane roadway capacity = 18,000 vehicles/day
- 12th Avenue South currently carries between 3,100 and 7,000 vehicles/day



Existing Traffic Conditions

Operational Analysis Results

- Level Of Service
 - ✦ All intersections operating at LOS D or higher
 - EB Left turn movement at 8th Street
- Queuing – no issues
- Crashes – no issues



Level of Service (LOS)	Average Delay (seconds/vehicle)	
	Signalized Intersection	Unsignalized Intersection
A	≤ 10	≤ 10
B	> 10 and ≤ 20	> 10 and ≤ 15
C	> 20 and ≤ 35	> 15 and ≤ 25
D	> 35 and ≤ 55	> 25 and ≤ 35
E	> 55 and ≤ 80	> 35 and ≤ 50
F	> 80	> 50

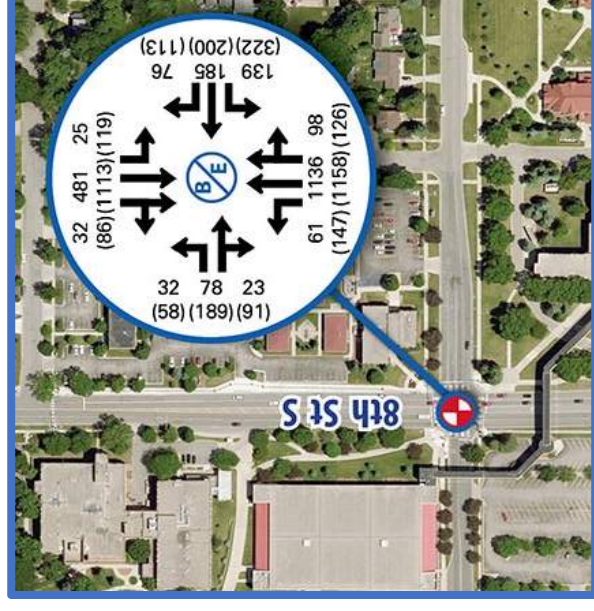
Future 2040 NO BUILD Traffic Conditions

- Traffic Projections
 - Fargo-Moorhead 2040 Long Range Transportation Plan
- High-Level Capacity Analysis
 - 9,700 vehicles/day highest future (8th St to 11th St)



Future 2040 NO BUILD Traffic Conditions

- 2040 Operational Analysis Results
 - Level Of Service
 - ◆ 8th Street = LOS D
 - Failing movements – EB
 - Queuing
 - ◆ 8th Street – issues get worse for EB movements



Previous Public Input Opportunities

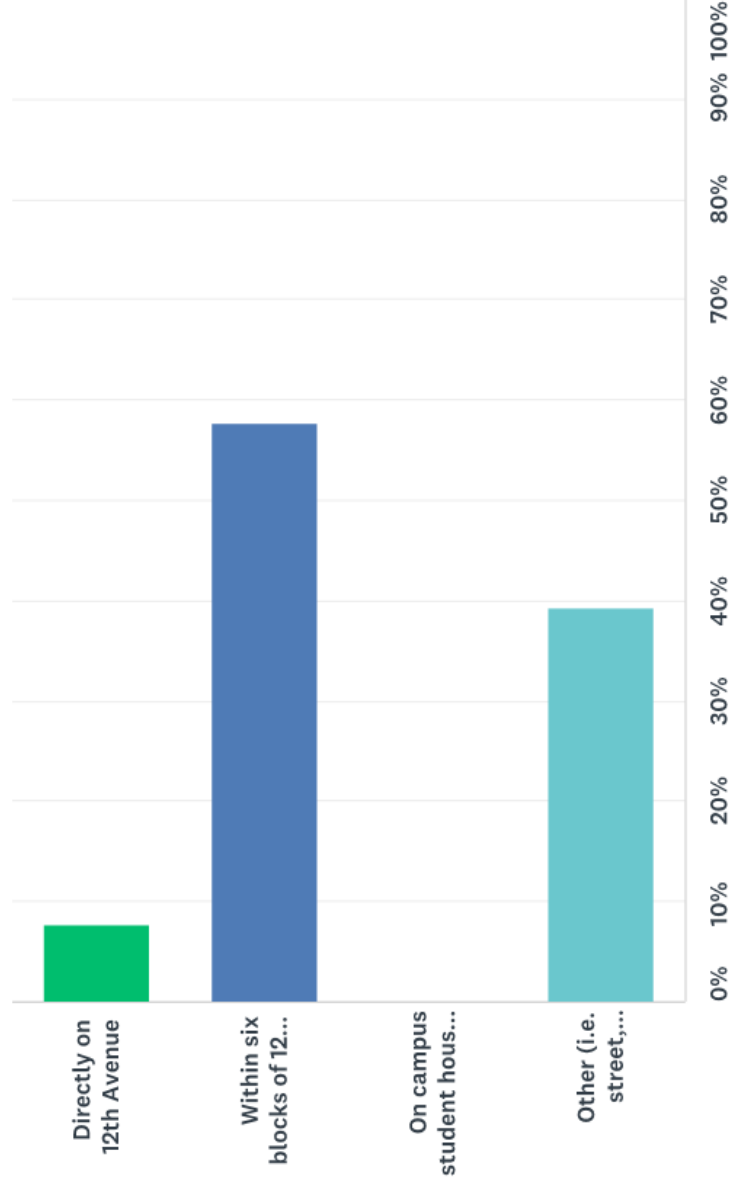
- Online survey available from July 3 – October 15, 2018
 - 172 survey responses were received
- Public Input Meeting #1 – held on September 20, 2018
 - 25 attendees signed in



What We Heard From You

Q1 Where do you live?

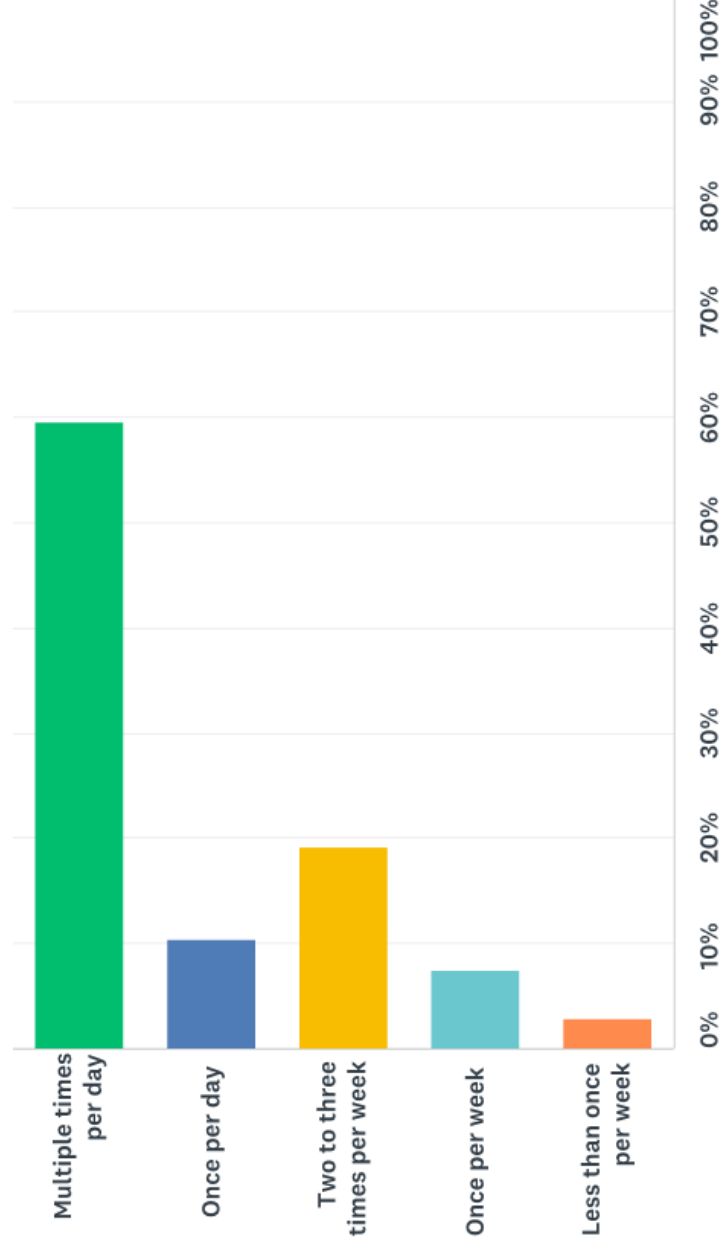
Answered: 170 Skipped: 2



What We Heard From You

Q3 How often do you travel 12th Avenue?

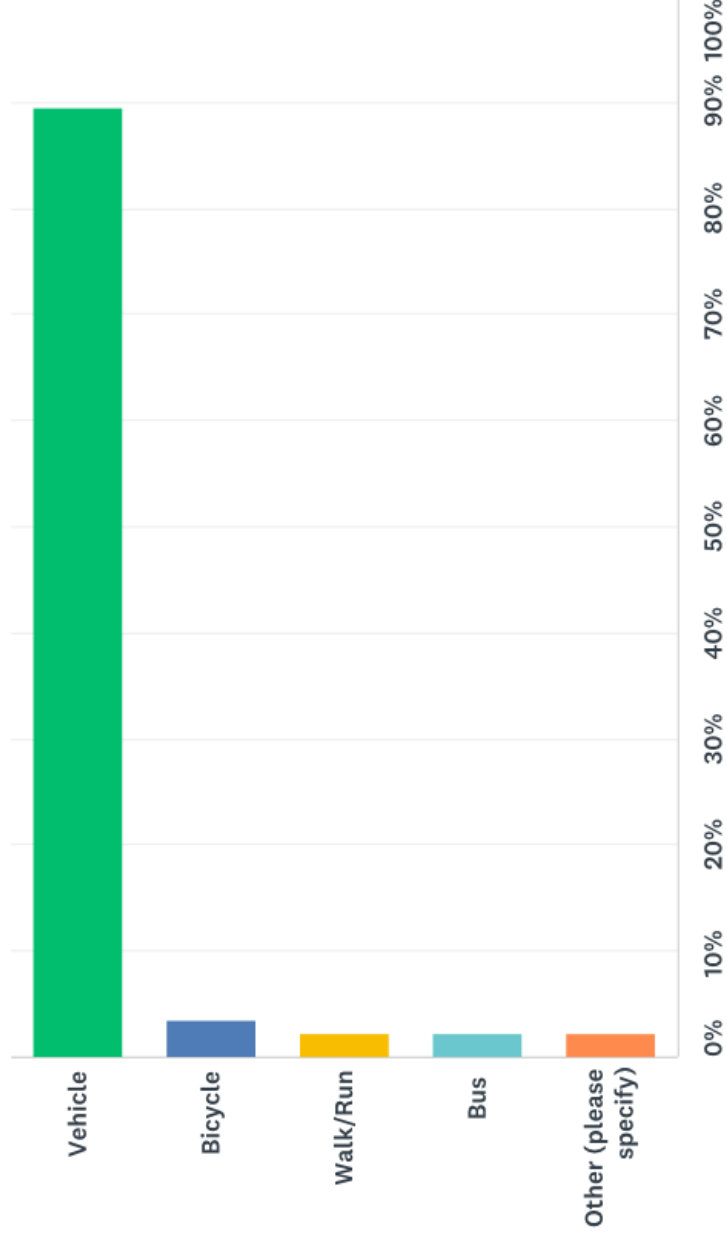
Answered: 171 Skipped: 1



What We Heard From You

Q4 How do you most often travel 12th Avenue?

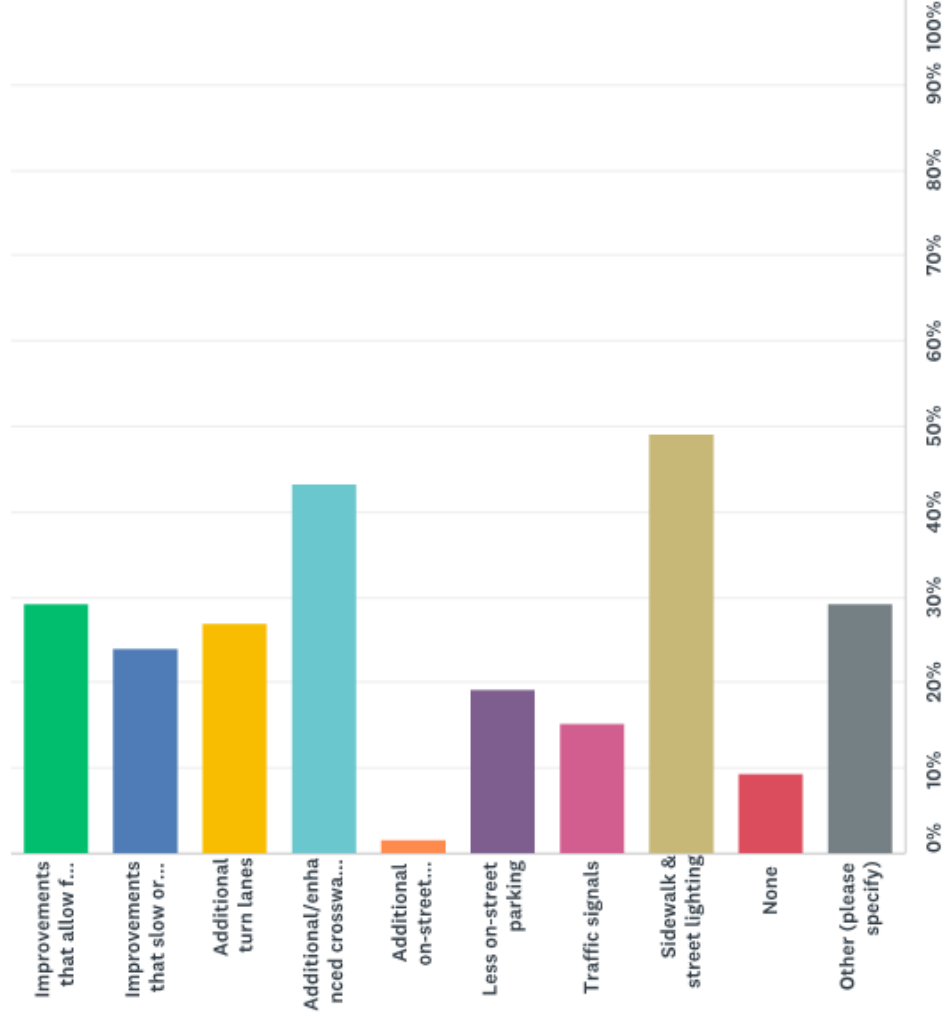
Answered: 171 Skipped: 1



What We Heard From You

Q6 What roadway or safety improvements do you feel are needed along 12th Avenue? (select all that apply)

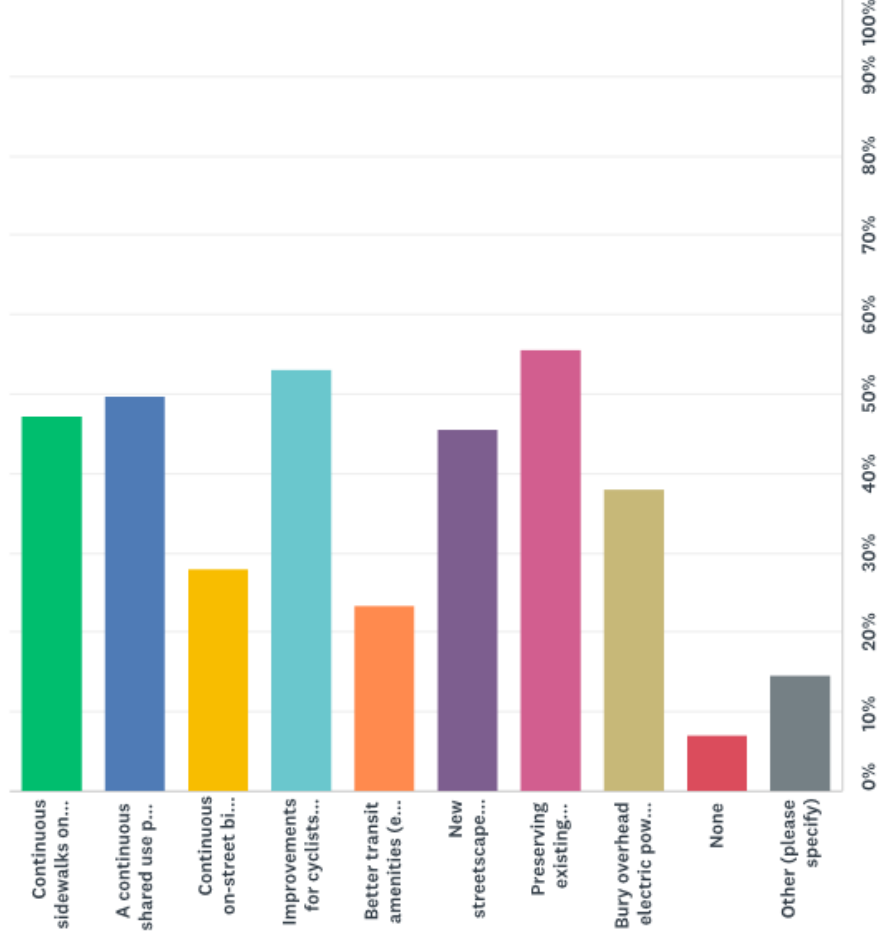
Answered: 171 Skipped: 1



What We Heard From You

Q7 What multi-modal (bicycle/pedestrian/transit) or aesthetic improvements do you feel would enhance 12th Avenue? (select all that apply)

Answered: 171 Skipped: 1

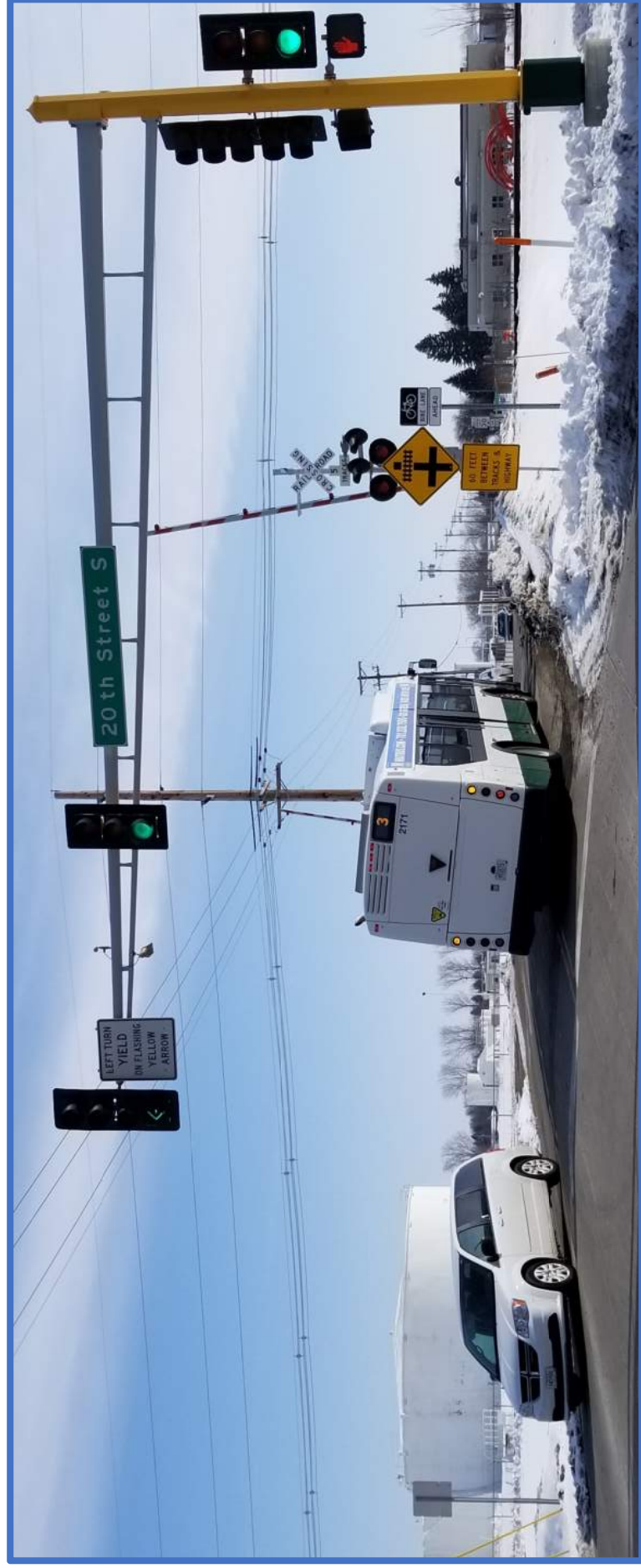


What We Heard From You

Top Commented Categories:

- Pavement Condition
- Pedestrian and Bicycle Connectivity and Safety
- Railroad Crossing Improvement
- Transit Facilities
- Trees and Streetscaping

Issues and Needs



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Issues and Needs

Considerations

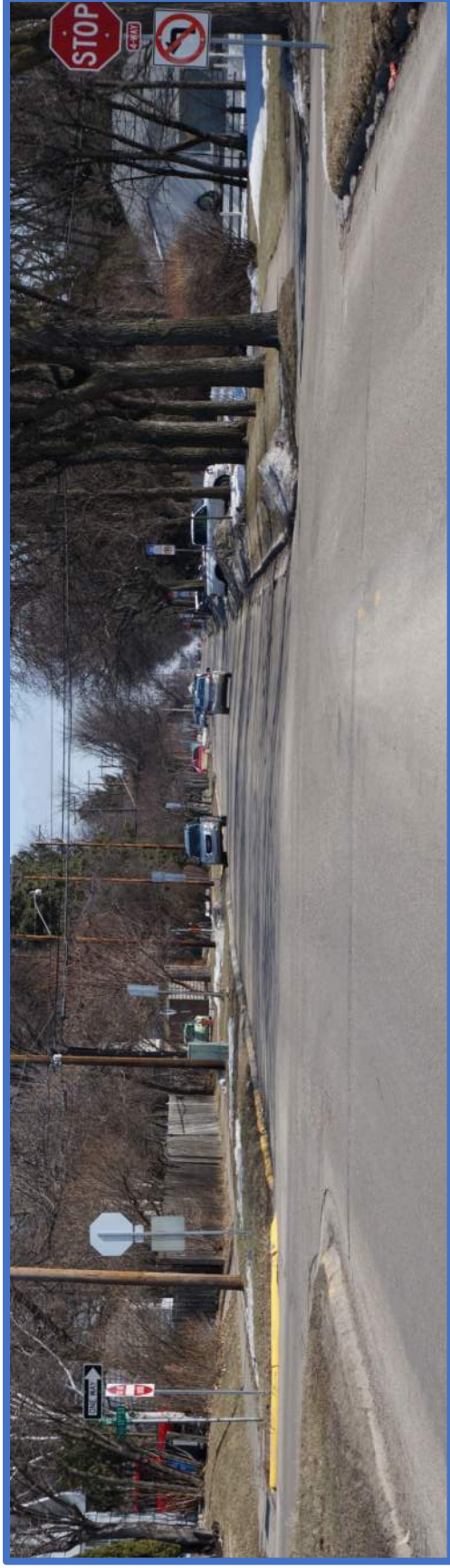
- Public Input
 - Meeting
 - Survey
- Stakeholder Input
- Traffic



Issues and Needs

Traffic Operations and Geometric Improvements

- No Additional Capacity (Widening) Required
- Delay for Eastbound Traffic at 8th Street
- 12th Avenue Horizontal Offset at 11th Street Intersection
- Steep Vertical Grade at BNSF Railroad east of 20th Street



Issues and Needs

Pedestrian and Bicycle Connectivity

- Making Connections
 - Sidewalks & Bike Paths
 - Access to the Red River
- Update to Current Standards
- Improve BNSF Crossing



Issues and Needs

Transit Improvements

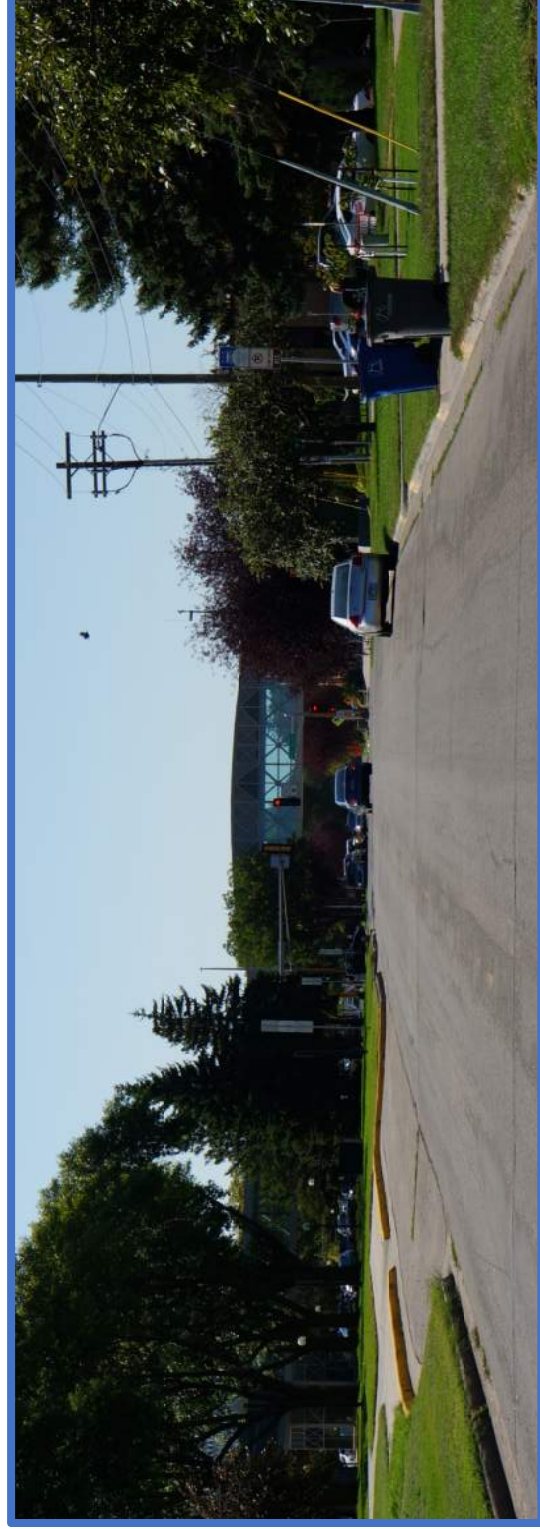
- 19 ½ Street
 - Most Heavily Used
 - Private Property Constraints
- 25th Street (A Place for Hope)
 - Limited Access
 - Riders Loading from Driveway



Issues and Needs

Parking and Access Management

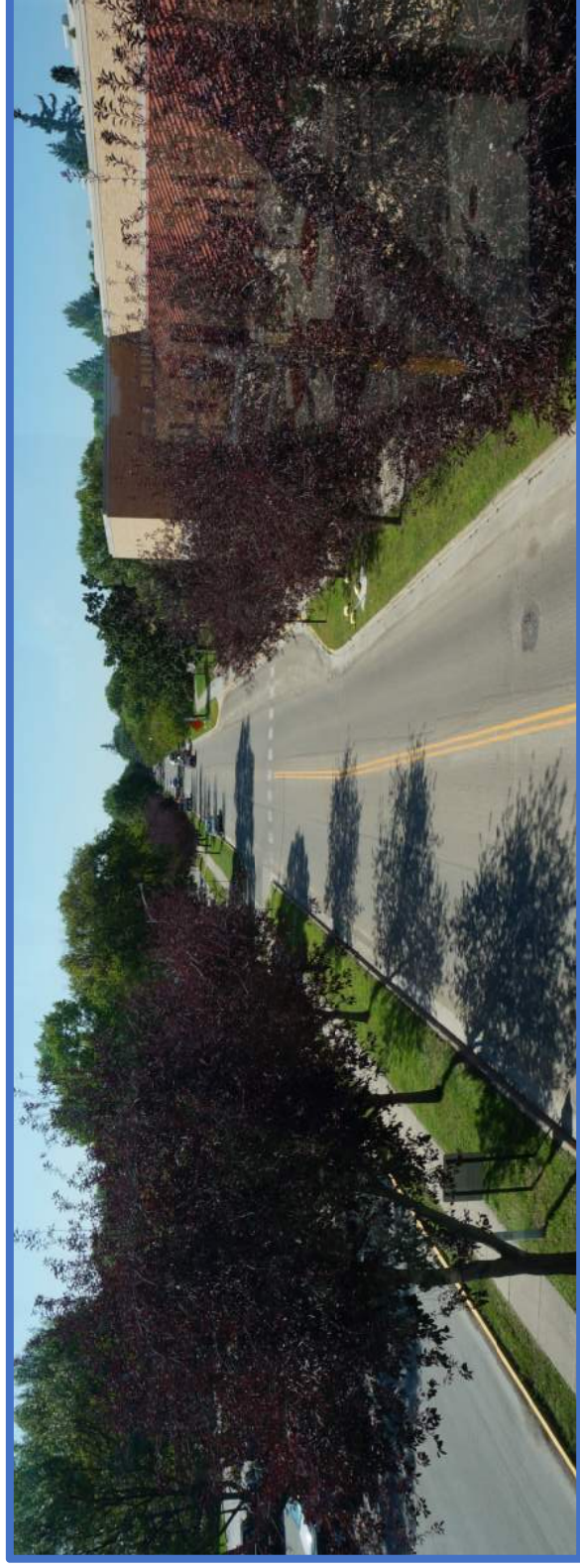
- Reduce Access Conflicts
- On-Street Parking
- Pull-Out Parking/Loading Areas



Issues and Needs

Streetscaping and Trees

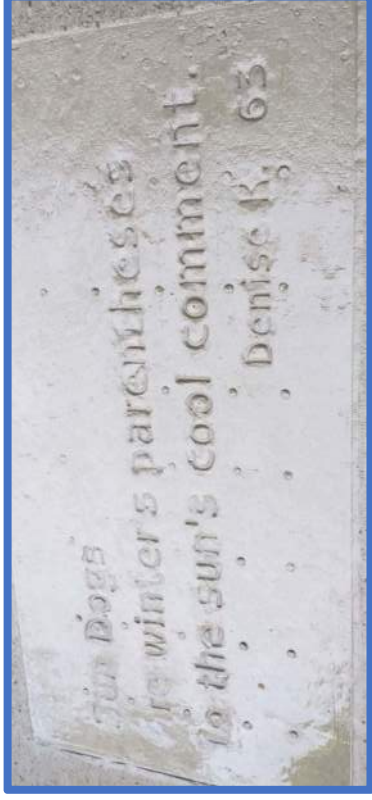
- Concordia-Area Enhancements
- Industrial-Area Enhancements
- Preservation of Existing Trees



Streetscape Ideas

Possible Aesthetic Enhancements

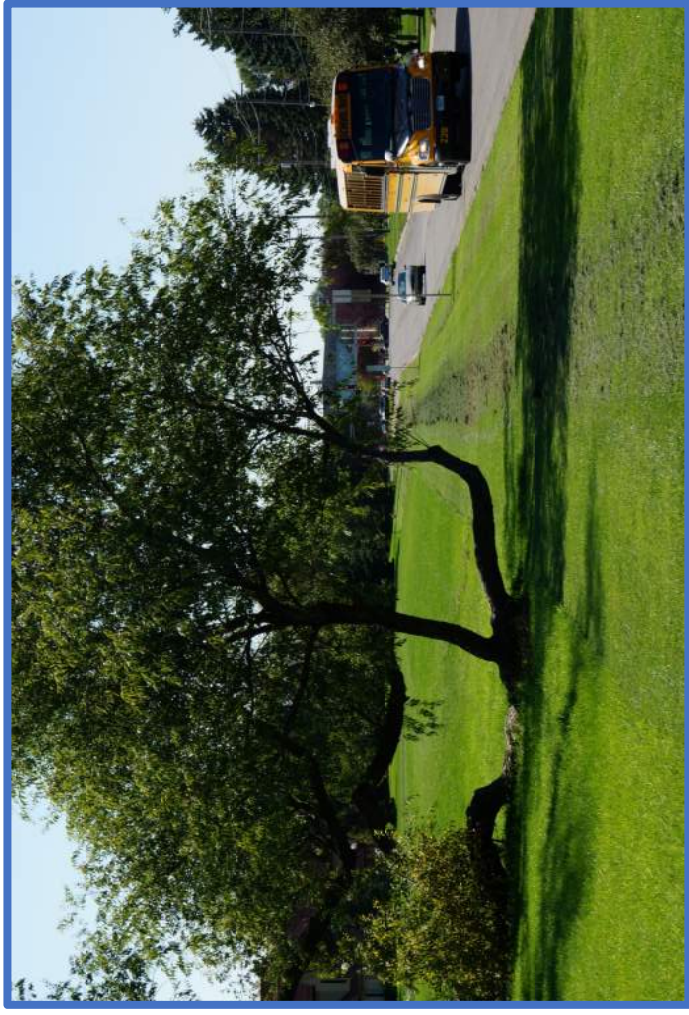
- Street artwork/stamping
- Sidewalk art
- Utility box art
- MATBUS shelters/bench art



Issues and Needs

Alternative Development & Evaluation

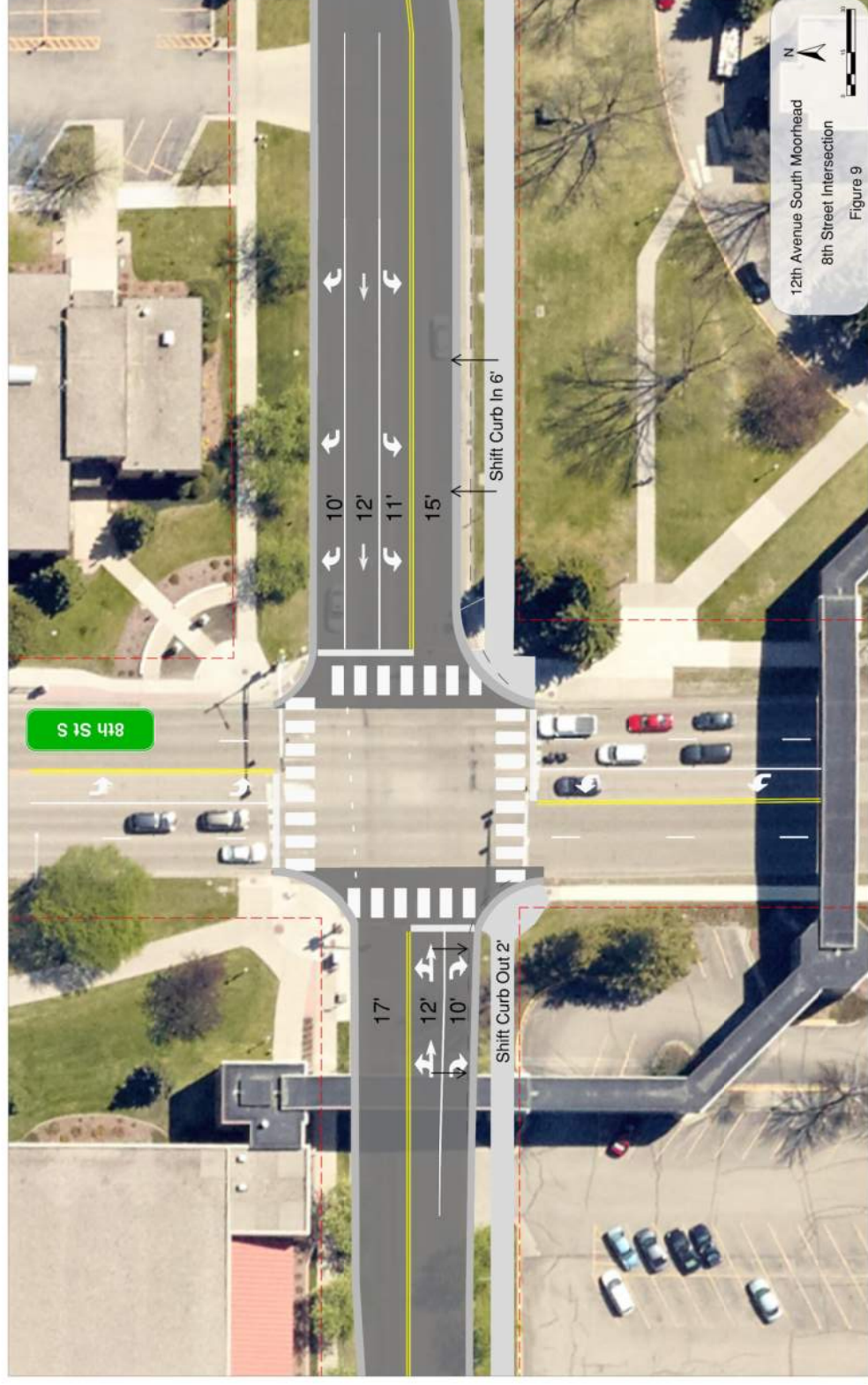
- Three Segments
 - River Drive to 8th Street
 - 8th Street to 20th Street
 - 20th Street to Main Avenue
- Meet a Need
- Address an Issue
- Feasibility and Cost



River Dr to 8th Street Alternatives



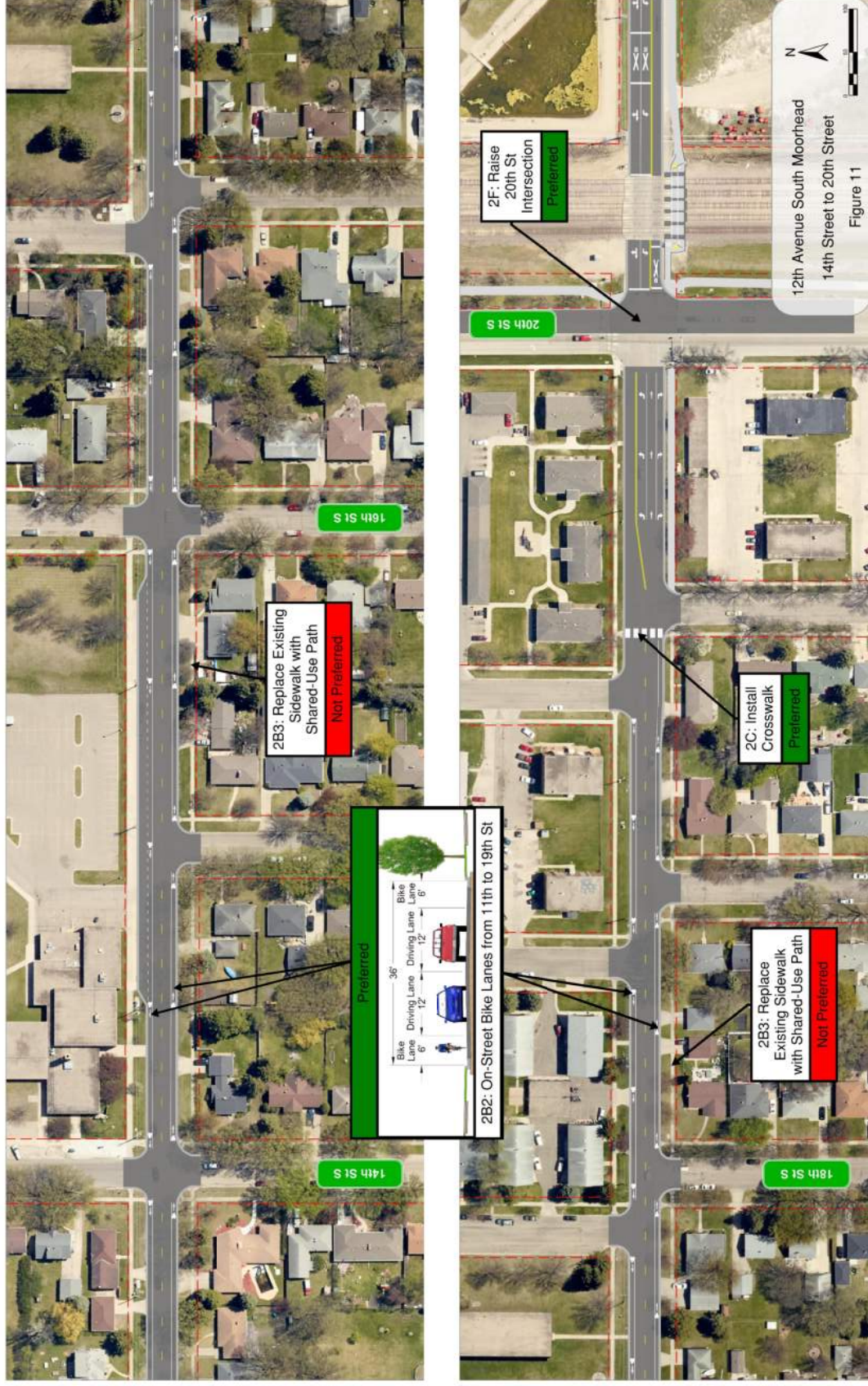
8th Street Lane Configuration



8th Street to 20th Street Alternatives



8th Street to 20th Street Alternatives



20th Street to Main Ave Alternatives



Figure 12

12th Avenue South Moorhead
BNSF RR Crossing to Main Avenue

Concordia-Area Streetscaping

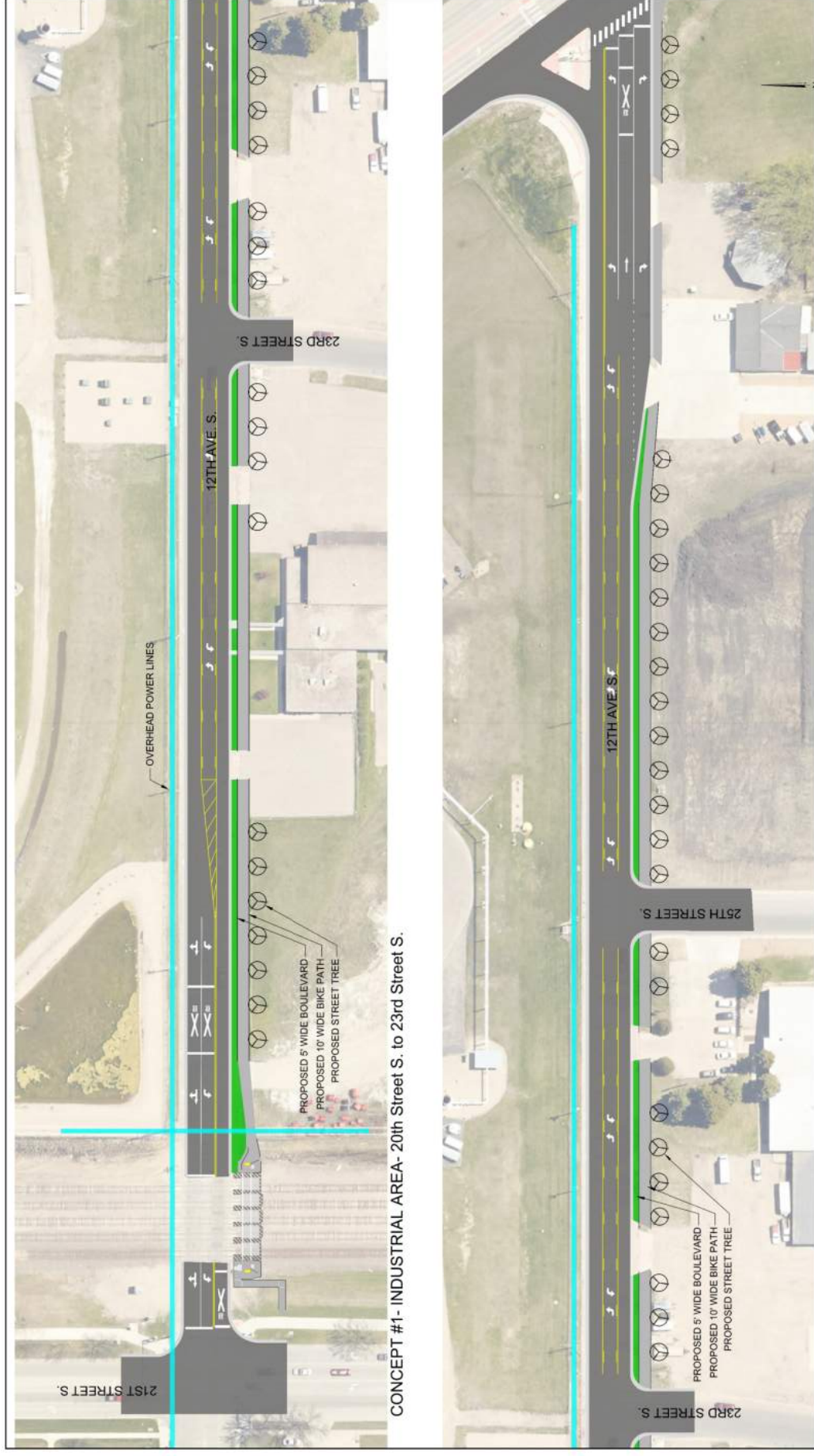


CONCEPT #1- CONCORDIA COLLEGE FRONTAGE- 5th Street S. to 8th Street S.



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Industrial-Area Streetscaping



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Multiple Ways to Provide Input

- Talk to team members tonight
- New online survey link available starting [tonight](#)
 - Provide your feedback on the alternatives presented
- Complete comment forms – leave here or mail in
- Email your comments:
 - Contact info is provided on forms and handout

Study Schedule and Next Steps

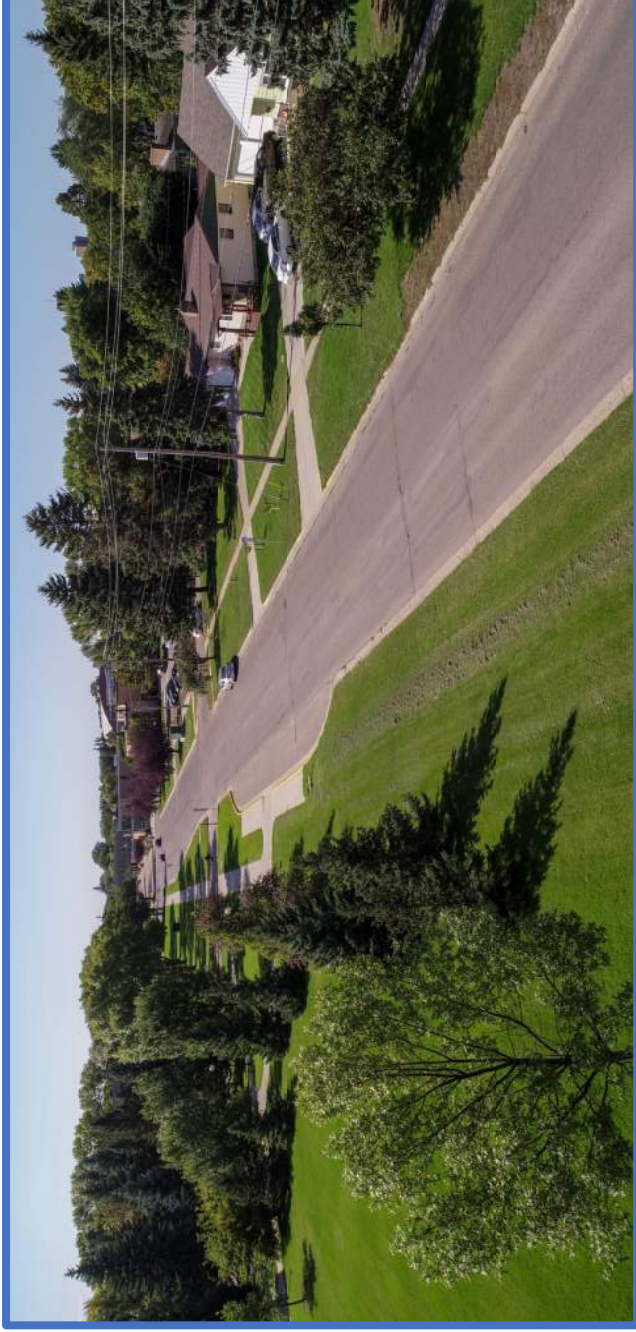
- May 2018: Study Kickoff
- July - October 2018: 1st Online Survey Available
- September 2018: Public Input Meeting #1
- March 2019: Public Input Meeting #2
- April 2019: 2nd Online Survey Available
- April 2019: Draft Study Report
- May 2019: Board and Council Approvals
- May 2019: Final Study Report



Spring - Summer 2020: Construction

Thank You for Attending!

- Questions and Comments



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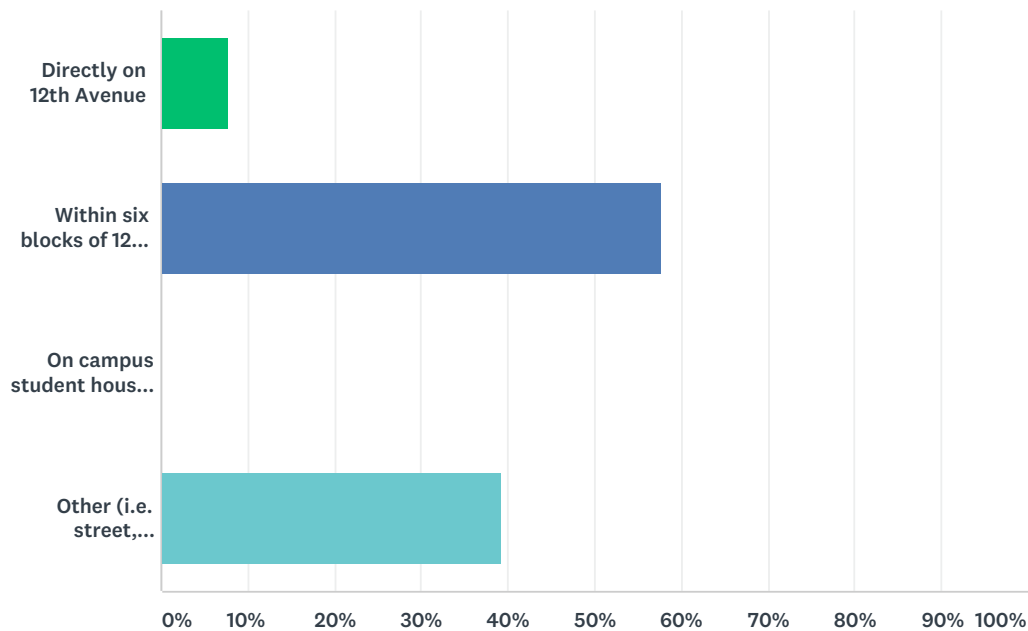
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Appendix C

Online Survey Summaries

Q1 Where do you live?

Answered: 170 Skipped: 2



ANSWER CHOICES		RESPONSES	
Directly on 12th Avenue		7.65%	13
Within six blocks of 12th Avenue		57.65%	98
On campus student housing (input hall name or apartment name below)		0.00%	0
Other (i.e. street, neighborhood, student housing hall, city)		39.41%	67
Total Respondents: 170			

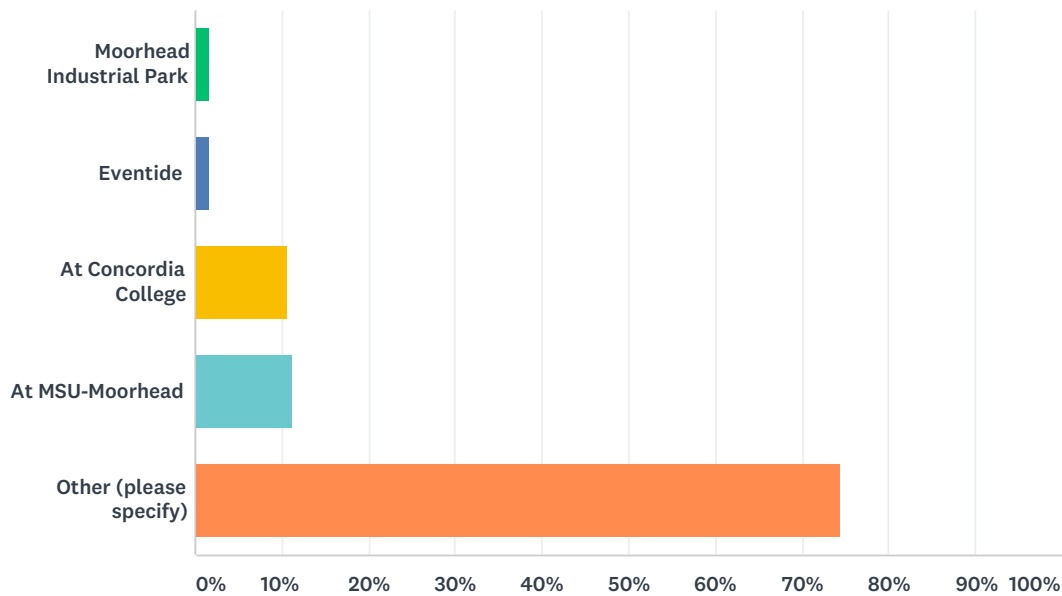
#	OTHER (I.E. STREET, NEIGHBORHOOD, STUDENT HOUSING HALL, CITY)	DATE
1	Own rental on 12 Ave and property right off 12th Ave in Industrial Park	10/9/2018 11:16 PM
2	Just north of MSUM	10/9/2018 3:44 PM
3	Fargo	10/9/2018 3:06 PM
4	Within 8 blocks of 12th Avenue	10/9/2018 11:53 AM
5	18th St. S.	10/9/2018 11:10 AM
6	City	10/9/2018 10:50 AM
7	I live in Dilworth, Mn	10/9/2018 9:45 AM
8	3922 6th St S, Moorhead	10/9/2018 9:08 AM
9	Village Green	10/9/2018 9:04 AM
10	11th St S	10/9/2018 8:38 AM
11	8 blocks south of 12th Avenue	10/9/2018 12:37 AM
12	6th ave n Moorhead	10/8/2018 8:27 PM
13	Barnesville	10/8/2018 6:07 PM

14	1215 2nd Ave s	10/8/2018 5:59 PM
15	By Horizon, but I use the street all the time & used to live on it	10/8/2018 4:42 PM
16	Fargo	10/8/2018 4:25 PM
17	41st Ave S	10/8/2018 4:22 PM
18	South Moorhead, 40045 South Rivershore Drive	10/8/2018 2:39 PM
19	Brookdale	10/8/2018 2:38 PM
20	1207 4th Ave S Moorhead	10/8/2018 2:12 PM
21	6th Ave N	10/8/2018 1:38 PM
22	between 11th & 12th	10/8/2018 1:25 PM
23	13th Street S	10/8/2018 1:23 PM
24	In Fargo	10/8/2018 1:20 PM
25	Between 18 & 19th avenues south	10/8/2018 1:16 PM
26	north moorhead	10/8/2018 1:08 PM
27	12th Ave N.	10/3/2018 10:40 PM
28	Near Fleet Farm in Fargo	9/20/2018 8:21 PM
29	529 Maple Ln	9/20/2018 1:28 PM
30	Morningside subdivision	9/19/2018 7:48 PM
31	Elm st south	9/18/2018 7:40 AM
32	Ridgewood Edition. I am working, cannot attend meeting. Please make sure you read my survey. Thank you.	9/17/2018 2:52 PM
33	20th Ave / 8th St S	9/17/2018 9:46 AM
34	N/A	9/17/2018 8:30 AM
35	37th ave and 4th st south	9/16/2018 10:27 PM
36	Meadows lane	9/16/2018 10:19 AM
37	30th Street South in Village Green area	9/16/2018 7:52 AM
38	South of the interstate	9/16/2018 4:34 AM
39	Glyndon, MN	9/15/2018 10:44 PM
40	3400 10 th St S	9/15/2018 1:37 PM
41	Ellen Hopkins Area	9/14/2018 9:18 PM
42	5th St S	9/14/2018 9:13 PM
43	North Moorhead	9/14/2018 6:41 PM
44	Fargo	9/14/2018 4:24 PM
45	Dilworth	9/14/2018 3:15 PM
46	Lived directly on 12th Ave until 8/1/18. Now live one block away.	9/14/2018 2:29 PM
47	418 5TH ST S	9/14/2018 2:07 PM
48	4th ave and 12th st s	9/14/2018 1:36 PM
49	In Moorhead	9/14/2018 1:33 PM
50	North Moorhead	9/14/2018 11:59 AM
51	1202 Elm st. S.	9/14/2018 9:43 AM
52	South Fargo	9/14/2018 8:08 AM
53	South Moorhead	9/13/2018 4:55 PM

54	Fargo	9/13/2018 2:24 PM
55	neighborhood	9/13/2018 1:53 PM
56	1411 20th St. S.	9/13/2018 1:04 PM
57	Fargo	9/13/2018 12:44 PM
58	Fargo, ND	9/13/2018 12:30 PM
59	Westmoor Greens Neighborhood	9/13/2018 9:25 AM
60	4326 South Rivershore Drive	9/13/2018 8:30 AM
61	10 the st and 21 ave	9/11/2018 8:31 AM
62	south Moorhead	9/6/2018 10:57 AM
63	Near 34th St.	8/24/2018 6:26 PM
64	Brook Ave	8/22/2018 2:58 PM
65	Westminster Dr	7/29/2018 11:11 PM
66	33rd st. N	7/25/2018 11:18 PM
67	South Moorhead	7/18/2018 1:56 PM

Q2 Where do you work/go to school?

Answered: 169 Skipped: 3



ANSWER CHOICES	RESPONSES
Moorhead Industrial Park	1.78% 3
Eventide	1.78% 3
At Concordia College	10.65% 18
At MSU-Moorhead	11.24% 19
Other (please specify)	74.56% 126
TOTAL	169

#	OTHER (PLEASE SPECIFY)	DATE
1	fargo	10/12/2018 7:34 AM
2	North Fargo	10/11/2018 5:52 PM
3	Fargo	10/10/2018 9:57 PM
4	Retired	10/10/2018 11:02 AM
5	FARGO	10/9/2018 4:48 PM
6	Retired	10/9/2018 3:44 PM
7	West Fargo	10/9/2018 11:53 AM
8	Retired	10/9/2018 11:48 AM
9	Downtown Fargo	10/9/2018 11:35 AM
10	downtown Moorhead	10/9/2018 11:10 AM
11	Around the block of 8th street and 24th ave south	10/9/2018 9:45 AM
12	off of 30th Ave.	10/9/2018 9:35 AM
13	Moorhead Public Library	10/9/2018 9:08 AM

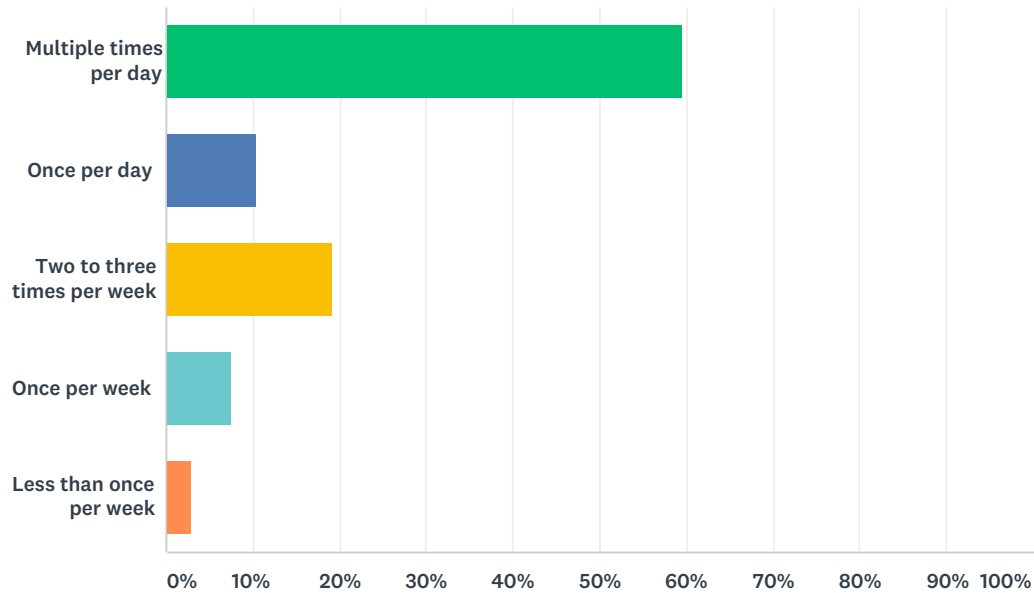
14	Fargo Airport	10/9/2018 9:04 AM
15	NDSU	10/9/2018 8:38 AM
16	Hornbachers main Ave	10/9/2018 5:20 AM
17	Work at home	10/9/2018 1:30 AM
18	Work remotely	10/9/2018 12:37 AM
19	Downtown Fargo	10/8/2018 10:52 PM
20	Fargo	10/8/2018 10:46 PM
21	Downtown Fargo	10/8/2018 9:50 PM
22	Sanford/ Mstate	10/8/2018 9:28 PM
23	Fargo	10/8/2018 8:39 PM
24	Office at CCRI and clients all over Moorhead.	10/8/2018 8:27 PM
25	Horizon Middle School	10/8/2018 8:05 PM
26	West Fargo	10/8/2018 6:23 PM
27	I work for the city of Moorhead	10/8/2018 6:07 PM
28	Moorhead public schools	10/8/2018 5:59 PM
29	Retired	10/8/2018 5:39 PM
30	I work in Dilworth	10/8/2018 5:08 PM
31	Don't work/school	10/8/2018 4:42 PM
32	Our Redeemer	10/8/2018 4:22 PM
33	Farmstead Care	10/8/2018 3:32 PM
34	Fargo	10/8/2018 3:08 PM
35	Sanford I94 Hospital	10/8/2018 2:49 PM
36	Children go to school at MHS and Horizon MS.	10/8/2018 2:39 PM
37	Our Redeemer Lutheran Church	10/8/2018 2:36 PM
38	Fargo	10/8/2018 2:19 PM
39	Fargo	10/8/2018 2:18 PM
40	Home	10/8/2018 2:12 PM
41	Downtown Moorhead	10/8/2018 1:38 PM
42	St Joes	10/8/2018 1:23 PM
43	Near MSUM	10/8/2018 1:20 PM
44	Granddaughter goes to Horizon Middle School	10/8/2018 1:16 PM
45	Work from home, but our kids attend Horizon and Dodd's.	10/8/2018 1:11 PM
46	on main ave in moorhead, daughter goes to ellen hopkins	10/8/2018 1:08 PM
47	MatBus	10/3/2018 10:40 PM
48	Fargo downtown	9/28/2018 4:34 PM
49	Fargo	9/24/2018 10:27 PM
50	City of Moorhead	9/21/2018 8:15 AM
51	fargo downtown	9/20/2018 4:27 PM
52	Fargo	9/20/2018 9:11 AM
53	Work out of my home with travel regionally	9/20/2018 5:36 AM
54	Fargo	9/19/2018 7:48 PM

55	Retired	9/19/2018 5:28 PM
56	Robert Asp, Horizon Middle School, North Fargo	9/19/2018 4:22 PM
57	retired	9/19/2018 3:17 PM
58	Moorhead public schools, MSUM, Park Christian	9/19/2018 9:47 AM
59	FARGO	9/18/2018 1:33 PM
60	the meadows	9/18/2018 9:20 AM
61	Mapleton Nd	9/18/2018 7:40 AM
62	West Fargo	9/17/2018 9:19 PM
63	courthouse	9/17/2018 5:04 PM
64	I live near 12th Avenue, but I work in Fargo	9/17/2018 11:22 AM
65	South Moorhead	9/17/2018 10:45 AM
66	North Moorhead	9/17/2018 9:46 AM
67	N/A	9/17/2018 8:30 AM
68	Fargo	9/17/2018 8:06 AM
69	Various locations - in home tutoring at students residence	9/16/2018 11:18 PM
70	Mhd water plant	9/16/2018 10:27 PM
71	Retired	9/16/2018 8:48 PM
72	Glyndon	9/16/2018 6:50 PM
73	Elementry School So. of town	9/16/2018 11:27 AM
74	Retired	9/16/2018 10:19 AM
75	NDSU	9/16/2018 7:52 AM
76	City of Moorhead	9/15/2018 10:44 PM
77	Retired	9/15/2018 4:52 PM
78	Dorothy Dodds Elementary school	9/15/2018 1:37 PM
79	North Side of Fargo	9/15/2018 1:10 PM
80	NDSU	9/15/2018 10:49 AM
81	Horizon Middle School	9/14/2018 9:51 PM
82	North Fargo	9/14/2018 9:18 PM
83	retired	9/14/2018 9:13 PM
84	34th st & 29th ave	9/14/2018 9:02 PM
85	north Fargo	9/14/2018 7:45 PM
86	Son's daycare at Our Redeemer, work downtown Moorhead	9/14/2018 6:57 PM
87	Self employed professional photographer	9/14/2018 6:41 PM
88	NDSU	9/14/2018 5:00 PM
89	East of Moorhead	9/14/2018 4:53 PM
90	at home	9/14/2018 4:48 PM
91	retired	9/14/2018 4:39 PM
92	Clay County	9/14/2018 4:24 PM
93	Retired from NDSU	9/14/2018 3:52 PM
94	Air national guard	9/14/2018 3:30 PM
95	retired	9/14/2018 2:33 PM

96	South Fargo	9/14/2018 2:29 PM
97	South Fargo	9/14/2018 2:21 PM
98	work in South Moorhead and South Fargo, but kids at schools - Concordia, St Joes, Horizon and MHS	9/14/2018 2:07 PM
99	Home	9/14/2018 1:36 PM
100	in Fargo	9/14/2018 1:34 PM
101	Downtown	9/14/2018 1:33 PM
102	Fargo	9/14/2018 1:20 PM
103	Fargo	9/14/2018 12:29 PM
104	Fargo	9/14/2018 11:59 AM
105	VA Hospital	9/14/2018 9:43 AM
106	Downtown Fargo	9/13/2018 11:39 PM
107	Robert Asp elementary	9/13/2018 6:32 PM
108	Downtown Fargo	9/13/2018 4:55 PM
109	The Village Family Services	9/13/2018 2:24 PM
110	Hector airport	9/13/2018 1:30 PM
111	Disabled	9/13/2018 1:04 PM
112	Fargo	9/13/2018 12:33 PM
113	downtown	9/13/2018 9:25 AM
114	Hornbacher's	9/13/2018 8:30 AM
115	Home	9/11/2018 8:31 AM
116	Fargo	9/7/2018 2:48 PM
117	Work in the urban progress zone of downtown.	8/24/2018 6:26 PM
118	Fargo	8/22/2018 3:38 PM
119	Work from home	8/22/2018 2:58 PM
120	Downtown Fargo	8/21/2018 3:56 PM
121	City of Moorhead	8/9/2018 8:49 PM
122	NDSU	8/3/2018 11:00 AM
123	Drive throughout Moorhead	7/29/2018 11:11 PM
124	All over the metro	7/25/2018 11:18 PM
125	Downtown Moorhead	7/18/2018 1:56 PM
126	Fargo public schools	7/10/2018 8:15 AM

Q3 How often do you travel 12th Avenue?

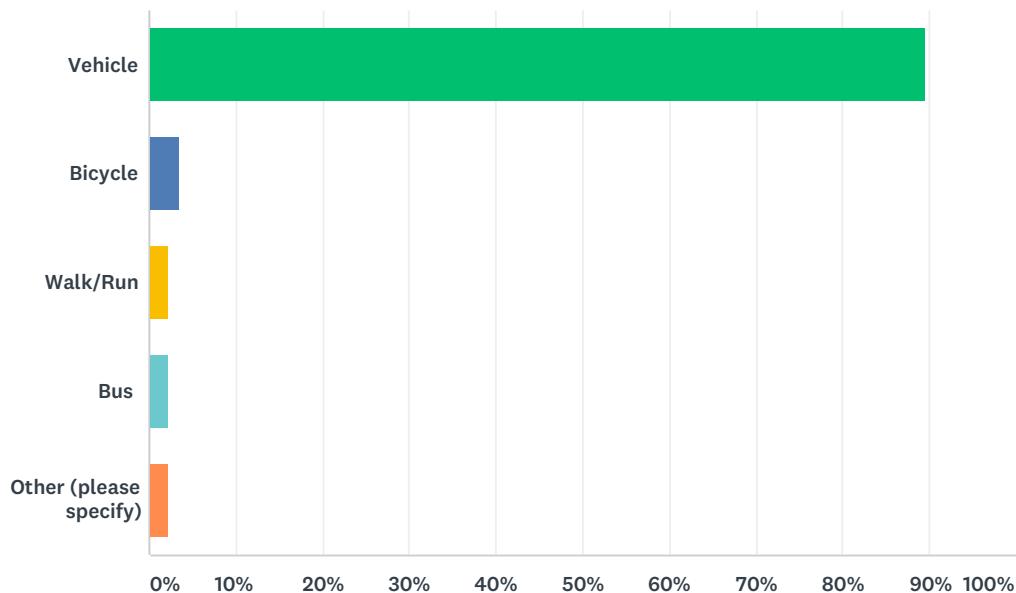
Answered: 171 Skipped: 1



ANSWER CHOICES	RESPONSES	
Multiple times per day	59.65%	102
Once per day	10.53%	18
Two to three times per week	19.30%	33
Once per week	7.60%	13
Less than once per week	2.92%	5
TOTAL		171

Q4 How do you most often travel 12th Avenue?

Answered: 171 Skipped: 1

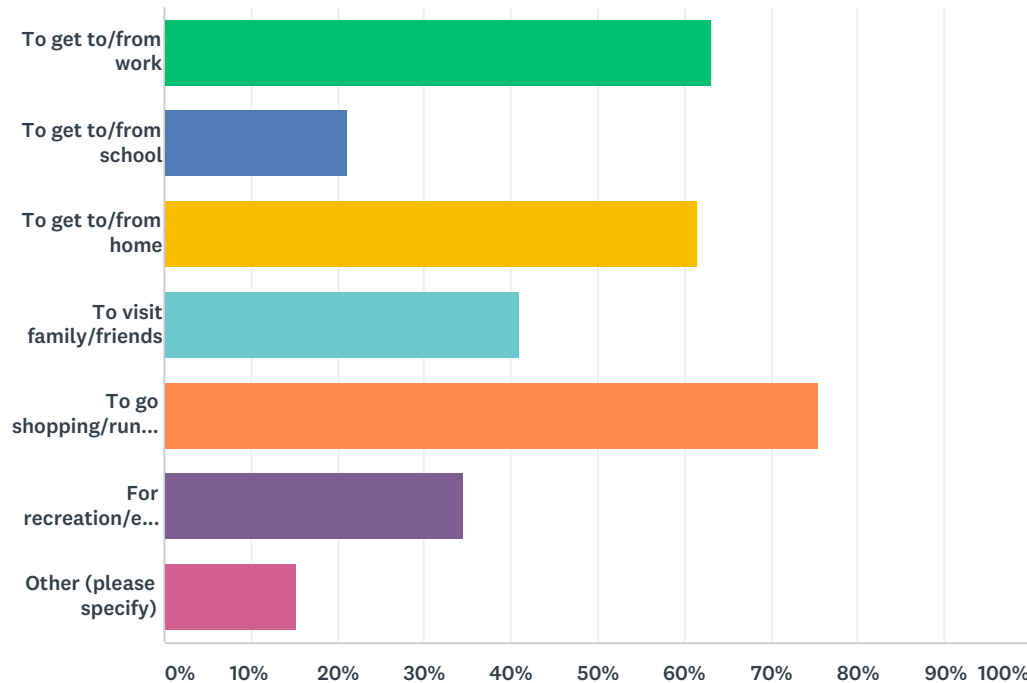


ANSWER CHOICES	RESPONSES	
Vehicle	89.47%	153
Bicycle	3.51%	6
Walk/Run	2.34%	4
Bus	2.34%	4
Other (please specify)	2.34%	4
TOTAL		171

#	OTHER (PLEASE SPECIFY)	DATE
1	Almost exclusively by bicycle; PLEASE INCLUDE BIKE LANES	9/16/2018 7:52 AM
2	.	9/14/2018 9:43 AM
3	Vehicle - but I would like to use my bike more	9/13/2018 9:25 AM
4	Rollerblade, bus, and vehicle. I frequently drive on 12th for work, but will often rollerblade when going to work or downtown. Occasionally use the bus.	8/24/2018 6:26 PM

Q5 For what reasons do you use 12th Avenue? (check all that apply)

Answered: 171 Skipped: 1



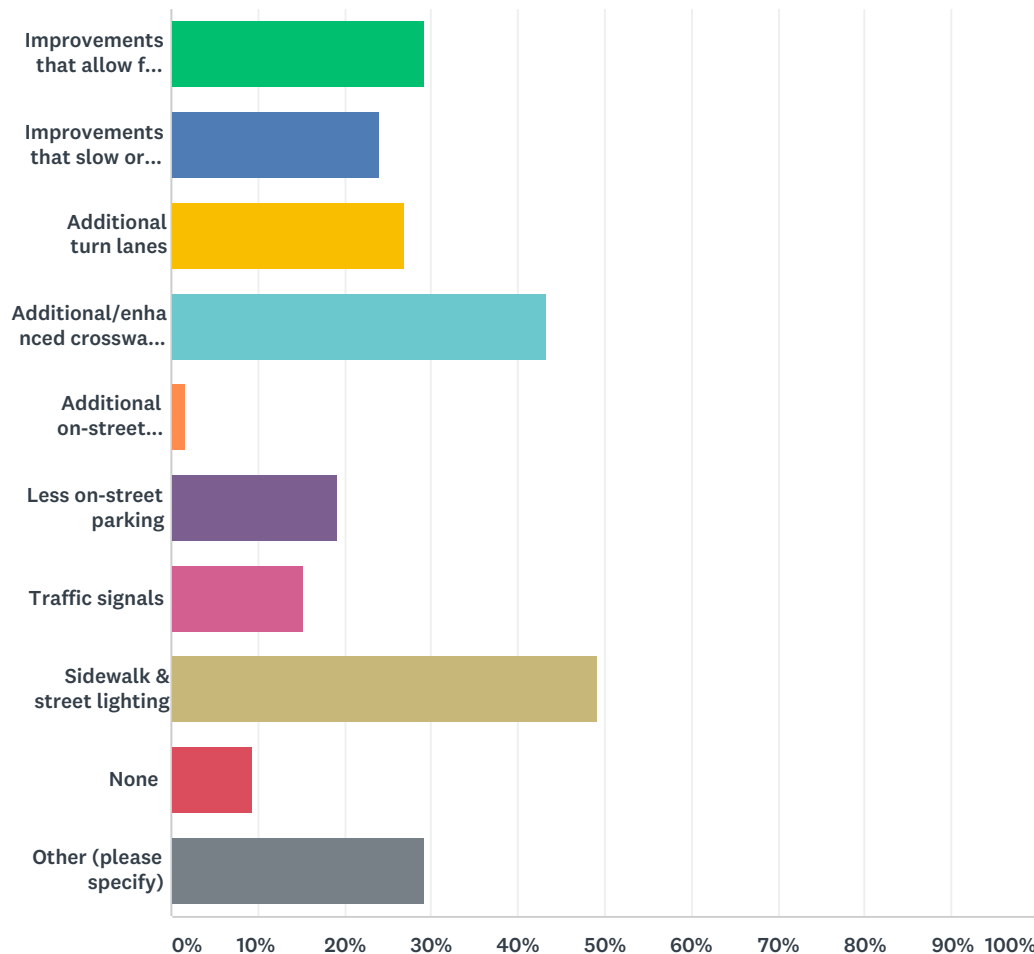
ANSWER CHOICES	RESPONSES	
To get to/from work	63.16%	108
To get to/from school	21.05%	36
To get to/from home	61.40%	105
To visit family/friends	40.94%	70
To go shopping/run errands	75.44%	129
For recreation/exercise/parks	34.50%	59
Other (please specify)	15.20%	26
Total Respondents: 171		

#	OTHER (PLEASE SPECIFY)	DATE
1	Walking my dog	10/10/2018 9:57 PM
2	Medical appts.	10/10/2018 11:02 AM
3	I live on the Edge od Dilworth and I have to either backtrack and grab HWY 10 to the interstate or drive by the golf course with the curves of the road still cutting through town the backway.	10/9/2018 9:45 AM
4	I also across 12th Ave S on my daily walk.	10/9/2018 8:38 AM
5	To get to daycare services	10/8/2018 6:51 PM
6	Work	10/8/2018 6:07 PM
7	To/from the Library	10/8/2018 4:42 PM
8	Drop off and pick up child from daycare	10/8/2018 4:25 PM

9	Walking pets	10/8/2018 3:08 PM
10	to/from youth hockey arena	10/8/2018 2:49 PM
11	To go out to eat	10/8/2018 1:16 PM
12	dance class held at church	10/8/2018 1:08 PM
13	to walk my dogs	9/19/2018 8:33 PM
14	My child goes to daycare at Our Redeemer. I travel on 12th after dropping him off and going to pick him up.	9/17/2018 9:19 PM
15	To get to my church, to get to N. Fargo, via Main St.	9/17/2018 2:52 PM
16	Go to the lake country	9/16/2018 8:48 PM
17	Drive on for only 1/2 block to get to 20th St.	9/16/2018 11:27 AM
18	Chiropractor appointments	9/16/2018 10:19 AM
19	To complete work duties	9/15/2018 10:44 PM
20	It will be a main detour route during the 20th st underpass. Also to get my son to and from school, Horizon.	9/15/2018 1:37 PM
21	go to frequent medical appointments at clinics	9/14/2018 2:33 PM
22	.	9/14/2018 9:43 AM
23	Kids activities at MSUM	9/13/2018 8:30 AM
24	Alternative route if trains are blocking Main and 20th/21st.	8/24/2018 6:26 PM
25	Work	7/29/2018 11:11 PM
26	Avoid trains	7/25/2018 11:18 PM

Q6 What roadway or safety improvements do you feel are needed along 12th Avenue? (select all that apply)

Answered: 171 Skipped: 1



ANSWER CHOICES	RESPONSES	
Improvements that allow for quicker travel through the corridor	29.24%	50
Improvements that slow or calm traffic through the corridor	23.98%	41
Additional turn lanes	26.90%	46
Additional/enhanced crosswalk pavement and markings	43.27%	74
Additional on-street parking	1.75%	3
Less on-street parking	19.30%	33
Traffic signals	15.20%	26
Sidewalk & street lighting	49.12%	84
None	9.36%	16
Other (please specify)	29.24%	50

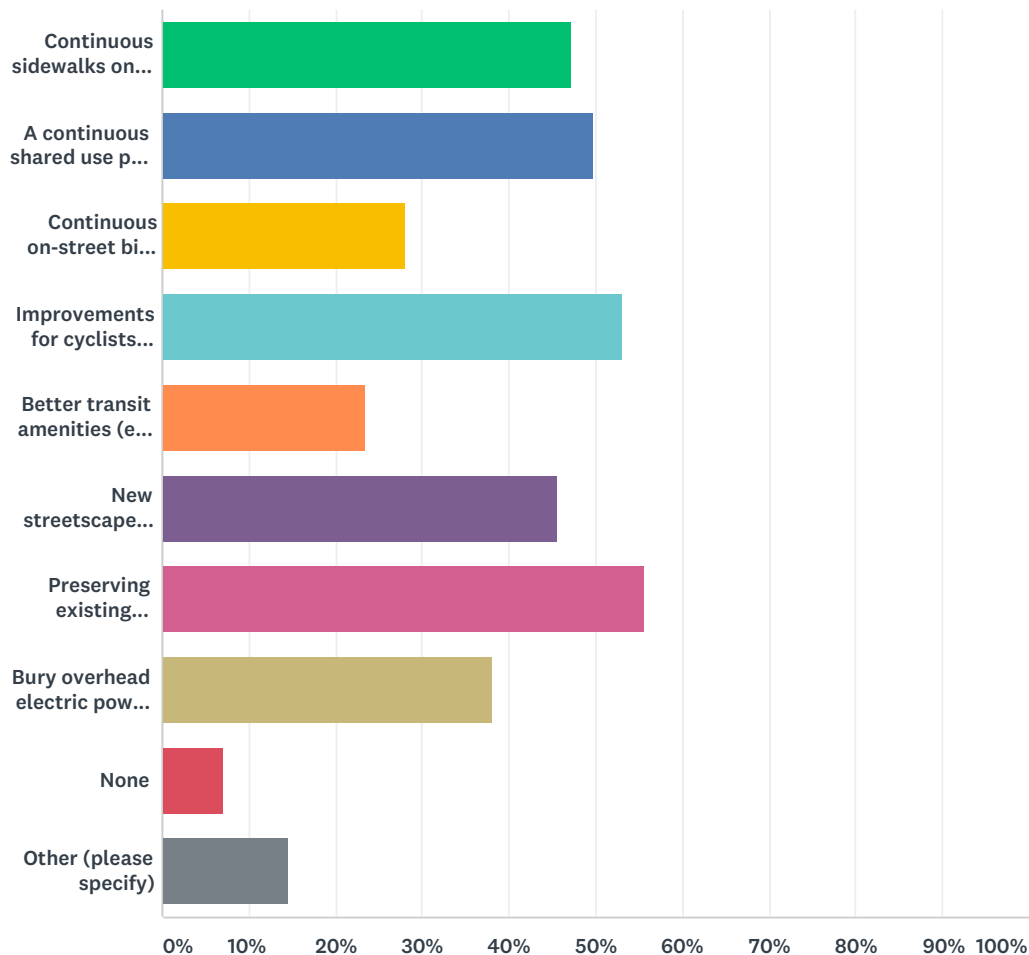
Total Respondents: 171

#	OTHER (PLEASE SPECIFY)	DATE
1	Enforcement of current Laws concern pedestrians not obeying traffic laws. Also enforcement of the laws concerning motorized vehicles on sidewalks near Concordia campus.	10/14/2018 10:30 AM
2	Fix the actual road - it's horrible from 11th St to 20th St S	10/11/2018 5:52 PM
3	A site of buses to get out of traffic to load and unload passengers	10/9/2018 4:48 PM
4	Enhanced bike lane	10/9/2018 3:44 PM
5	Landscaping, public art, places of business, independent eateries (NOT fast food or fast coffee chains found elsewhere)	10/9/2018 11:35 AM
6	make sure there is better warning sign to not ride bike over the bridge. probably make a tunnel like barrier for people on sidewalk or bike can do away from the cold winter nights. better sidewalks and some places put in sidewalks for the first time. Also should fix the humpy dumpty part of the road, but right now it catches anyone going to fast.	10/9/2018 9:45 AM
7	Bike Lane is needed	10/9/2018 9:04 AM
8	Add sidewalks between Main Ave and 20th St	10/8/2018 10:46 PM
9	More open lanes of travel.	10/8/2018 9:28 PM
10	Bike path upkeep	10/8/2018 6:23 PM
11	LEAVE THIS ROAD ALONE!	10/8/2018 5:46 PM
12	a much needed bike lane from 8th St. S. to Old 52 along 12th ave s.	10/8/2018 5:08 PM
13	Seems fine the way it is - just regular maintenance.	10/8/2018 4:42 PM
14	It currently feels like an over-used residential street rather than a traffic artery.	10/8/2018 2:38 PM
15	The road needs to be redone. It is very rough to travel in between Concordia and 20th St. Street lights instead of stop signs would improve flow of traffic.	10/8/2018 1:20 PM
16	The surface needs to be smoothed and repaved. It is very uneven, rolling, bumpy.	10/8/2018 1:16 PM
17	Not sure if sidewalk & street lighting means lighting of sidewalks or presence of sidewalks. There are areas where there are major gaps in the presence of sidewalks that should be addressed (SE Main - 20 St). Traffic light at 12th Av & Ridgewood Blvd as traffic volumes increase it's hard to make a left onto 12 Av S.	9/21/2018 8:15 AM
18	Additional signs	9/20/2018 8:21 PM
19	BIKE LANES between SE Main & 20th St. Real ones; not just ones painted in the gravel at the edge. And a sidewalk or bike path on the same portion. It is simply dangerous!	9/20/2018 4:42 PM
20	none where i am at	9/20/2018 4:27 PM
21	improved space for bike riders	9/20/2018 5:36 AM
22	bike lane	9/19/2018 8:33 PM
23	regrading/repaving road surface, especially between 16th Street and 20th Street	9/19/2018 9:47 AM
24	Resurface would help	9/18/2018 6:58 PM
25	Better maintainence of the intersections in the winter. They are too slippery!	9/18/2018 1:48 PM
26	Pavement maintained well enough for bicycle use.	9/17/2018 5:04 PM
27	Why stop at 2th Ave S and Main? You need to continue east on Main, consider improvemnts. Consider a traffic light at 12th Ave S and Ridgewood Edition. Take signs and trim trees obstructing view when turning east, from Appleteree Lane. The school traffic is difficult to manage at times when trying to turn from Ridgewood onto 12th Ave S. Keep the traffic signal at 12th Ave S and Main just like it is set up now. We endured a horrible traffic light situation for many years until you finally replaced the traffic signals a few years ago. Leave those alone, do not change. Please	9/17/2018 2:52 PM
28	Better bike safety improvements.	9/17/2018 12:52 PM

29	Demarcated bike lanes, transit shelters with heat coils, boulevard medians with trees, better pedestrian crossing at RR tracks on 20th St, sidewalks east of 20th Street	9/17/2018 8:06 AM
30	Underpass at 20 th Street	9/16/2018 8:48 PM
31	East of 20th street the 30mph speed limit seems too slow	9/16/2018 10:19 AM
32	Bike lanes	9/16/2018 7:52 AM
33	slow traffic at west end in residential neighborhood; bike lane between Concordia and Main	9/15/2018 10:49 AM
34	Mostly neighborhood homes.....residential. Does not need to have faster traffic flow.	9/14/2018 9:37 PM
35	Bridge connecting 12th Ave to 13th Ave S in Fargo for traffic and pedestrians/bikes.	9/14/2018 9:18 PM
36	It could've use some center striping last Fall, really needs it now between 8th and 20th streets.	9/14/2018 4:53 PM
37	round-about	9/14/2018 4:48 PM
38	Use of the existing skywalk at 8th Street and 12th Avenue	9/14/2018 4:24 PM
39	Smooth pavement.	9/14/2018 2:29 PM
40	In particular the corner at 8th is dangerous for biking/walking children. No turn on red is regularly violated putting bikes/pedestrians at great risk. More kids biking across 20th to the middle school is tricky as well.	9/14/2018 2:21 PM
41	Needs to be wider, no room for head to head when vehicles are parked on each side and even sometime when 1 side (snow)	9/14/2018 1:34 PM
42	Bike lane	9/14/2018 1:20 PM
43	.	9/14/2018 9:43 AM
44	The major problem I deal with is college student/pedestrians that seem unable to follow the traffic signals and step out into the street and impede those vehicles that are trying to turn. Nothing anyone can do about that.	9/13/2018 6:32 PM
45	Bicycle Facilities; ADA compliant sidewalks	9/13/2018 4:55 PM
46	fix the railroad crossing by 20th st	9/13/2018 1:30 PM
47	Level out the RR crossing	9/7/2018 2:48 PM
48	Better bike lanes. The ones that run through the industrial park are constantly covered in debris, broken glass, loose gravel, and potholes. I've nearly wiped out several times and have been almost hit by traffic because the city doesn't properly take care of or, quite frankly, care about anything other than moving vehicular traffic.	8/24/2018 6:26 PM
49	Rail road underpass. Bike lanes throughout.	8/3/2018 11:00 AM
50	Street sweeper never cleans the south bike lane on 12th. Biking on gravel is dangerous. T	7/10/2018 8:15 AM

Q7 What multi-modal (bicycle/pedestrian/transit) or aesthetic improvements do you feel would enhance 12th Avenue? (select all that apply)

Answered: 171 Skipped: 1



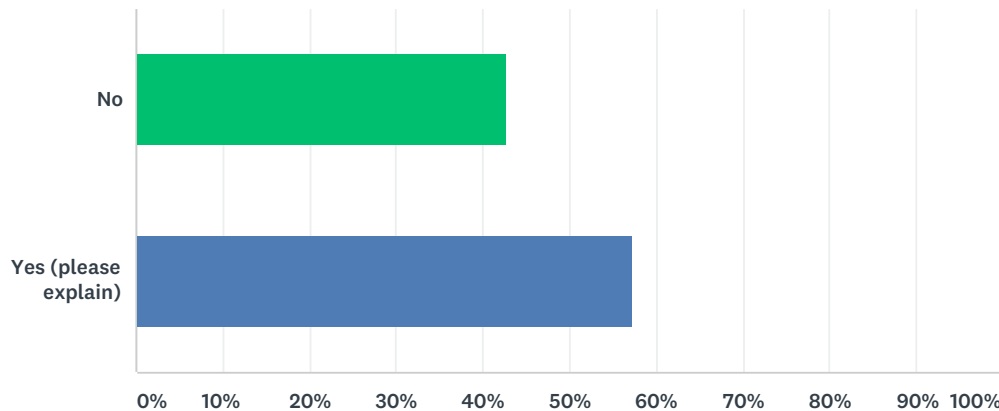
ANSWER CHOICES	RESPONSES	
Continuous sidewalks on both sides of the street	47.37%	81
A continuous shared use path (walking, bicycling, skating, etc.) on one side of the road	49.71%	85
Continuous on-street bike lanes	28.07%	48
Improvements for cyclists and pedestrians at the railroad crossing near 20th Street	53.22%	91
Better transit amenities (e.g. transit shelters, benches) for MATBUS users	23.39%	40
New streetscape improvements (e.g. lighting, landscaping, seating, special sidewalk paving, public art/sidewalk art)	45.61%	78
Preserving existing boulevard trees	55.56%	95
Bury overhead electric power lines	38.01%	65
None	7.02%	12
Other (please specify)	14.62%	25

Total Respondents: 171

#	OTHER (PLEASE SPECIFY)	DATE
1	Keep pedestrians and bicyclists off the street. Vehicles and pedestrians don't mix. The sheer size differences between bikes and cars makes a simple mistake a tragedy.	10/14/2018 10:30 AM
2	I already answered half of that	10/9/2018 9:45 AM
3	Greenery and safety features for pedestrian travel in industrial park	10/8/2018 7:01 PM
4	separate walk / bike paths would be nice. It isn't safe to bike on 12th.	10/8/2018 6:23 PM
5	Resurfacing - currently very bumpy and bouncy pavement.	10/8/2018 2:39 PM
6	Redo pavement. The rough pavement looks bad and would improve curb appeal and travel along the road.	10/8/2018 1:20 PM
7	Improved pedestrian safety at busy intersections	10/8/2018 1:16 PM
8	Or replacement of boulevard trees if some have to be removed for safety improvements.	9/21/2018 8:15 AM
9	Off street bike lane, I ride here with my son frequently	9/19/2018 7:48 PM
10	No sidewalk art !	9/18/2018 6:58 PM
11	Monitor traffic between Main and 34th St. on 12th Ave S. Drivers are always speeding that section of 12th Ave S as they also do from Main to 20th St. S., on 12th Ave.	9/17/2018 2:52 PM
12	A boulevard median with trees and public art along the whole avenue. Also street trees east of the RR tracks. I can see the ugly storage tanks and industrial buildings from my house. It makes Moorhead look really dumpy and ugly.	9/17/2018 8:06 AM
13	I don't view bike lanes as an "enhancement" but a priority/necessity	9/16/2018 7:52 AM
14	Remove stop signs if you want it to be a corridor of traffic.	9/15/2018 4:56 PM
15	diversify tree and other boulevard plantings	9/15/2018 10:49 AM
16	Bridge connecting 12th Ave to 13th Ave S in Fargo for traffic and pedestrians/bikes.	9/14/2018 9:18 PM
17	Don't lose the "Crazy Tree!" It is a landmark!	9/14/2018 5:00 PM
18	Roundabouts?	9/14/2018 3:15 PM
19	On-street bike lanes would be good where the streets are wide enough. Speeding bicyclers who don't use warning bells that come up behind unsuspecting sidewalk pedestrians are not appreciated.	9/14/2018 2:33 PM
20	.	9/14/2018 9:43 AM
21	Would roundabout help traffic flow at 20th Street?	9/14/2018 8:08 AM
22	improving the look through the industrial park area on the east end, plant trees, etc	9/13/2018 1:30 PM
23	Some cars like to go as fast as possible between 11th & 14th Streets. I still want to park my car on 12th avenue. No way do I want a bike trail on the street and lose my parking. Keep them off the busy streets. Powerlines were promised to be buried in the 1950s and never were. I want my boulevard trees for shading my home. Please do not widen this street! Use 20th and 8th street as major throughfares.	9/13/2018 12:33 PM
24	Trail policies from the 2004 Comprehensive plan calls for sidewalks on both sides of streets. Either start following your own plans or start a new one!	8/24/2018 6:26 PM
25	Street sweeper can't effectively clean this stretch of road. Please try to clean the gravel.	7/10/2018 8:15 AM

Q8 Are there any intersections or portions of 12th Avenue that you have safety concerns with?

Answered: 157 Skipped: 15



ANSWER CHOICES	RESPONSES	
No	42.68%	67
Yes (please explain)	57.32%	90
TOTAL		157

#	YES (PLEASE EXPLAIN)	DATE
1	As I mentioned earlier the amount of motorized vehicle traffic on the sidewalks on the corner of 8th and main is disturbing. The other day while trying to take a right turn from 12th heading east to eighth heading south, the light turned green for me. Naturally I had to wait for the pedestrians to cross first. So did the guy on the atv on the sidewalk. When it cleared for me to take my turn he pulled right out in front of me.	10/14/2018 10:30 AM
2	intersection at 20th st. This intersection needs to be redone and lower the cross slope so there is not such a bump.	10/12/2018 7:34 AM
3	Section between 11th St & 20th St is full of uneven road - dips & heaves.	10/11/2018 5:52 PM
4	20th st and old 52	10/10/2018 9:57 PM
5	8th Street /Hwy 75 Pedestrians not obeying crossing signals & turning cars not obeying signals.	10/10/2018 11:02 AM
6	20 th street 8th street Cars blowing thru red lights	10/9/2018 3:44 PM
7	12th Ave & 20th Street	10/9/2018 3:06 PM
8	Main Ave, 20th St, train crossings, 11th St	10/9/2018 11:35 AM
9	Where it appears opened up the speed limit is still 30, most people do not do that	10/9/2018 9:45 AM
10	It can be difficult as a pedestrian to cross 12th Ave S at the intersections of 11th St and 14th St.	10/9/2018 8:38 AM
11	From 20th st to hwy 52	10/9/2018 5:20 AM
12	Concordia students frequently jaywalk at 12th and 8th street even though Concordia has provided an enclosed walkway at considerable expense.	10/8/2018 10:52 PM
13	8th st/12th ave needs better traffic flow for vehicles	10/8/2018 9:28 PM
14	12th avenue from 20th street to Main Avenue is not safe for pedestrians. The bike lane is consistently full of dirt and gravel, making it dangerous.	10/8/2018 8:05 PM

15	Commuting on 12th ave south with the increased traffic from the underpass diversion is difficult. Seems to be too much traffic trying to use the roadway. 12th Avenue intersections at 20th and 8th street and dangerous as traffic does not stop when their light turns red. Many times vehicles through the yellow and red lights. I literally see it happening daily. So much so that when my light turns green I choose to wait extra and check.	10/8/2018 6:51 PM
16	Ridgewood and 12th. Traffic goes by on 12th at a high rate of speed. 45 mph + in a 30 is common. Either make it a faster road with stop signs leading up to it or add some stop lights.	10/8/2018 6:23 PM
17	20th Street over the tracks and possible across main Ave can be hairy.	10/8/2018 5:59 PM
18	12th Ave and 5th street	10/8/2018 5:39 PM
19	Many motorists do not come to a full stop at multiple intersections. Especially 11th St. S. and 12th Ave and 14th St. S. and 12th Ave.	10/8/2018 5:08 PM
20	The one way streets that connect to 12th, they aren't clearly marked and I've often found myself encountering someone driving the wrong way down the one ways	10/8/2018 4:25 PM
21	Our Redeemer has a daycare and with all the continuous traffic from the stop sign on 14th St, it is very difficult for all the daycare vehicles to turn from 16th St back on to 12th Ave. Also, the daycare kids go on stroller and bike rides along 12th Ave and have to cross it to get to lamb park. Ensuring their safety is important.	10/8/2018 4:22 PM
22	12th and 8th. The no right on red is dumb. Rarely anyone in cross walk...	10/8/2018 3:08 PM
23	The railroad track at 20th and 12th is a challenge	10/8/2018 3:08 PM
24	12th Ave and 20th Street. There is significant contour/bounciness in the at intersection. Smooth out that intersection. It's hard on my car and I drive slowly through that intersection.	10/8/2018 2:39 PM
25	20th street. 8th street is OK, but probably can be improved.	10/8/2018 2:38 PM
26	Visibility is low when entering the corridor and lack of pedestrian crossings means kids are frequently running across the street to the bus stop on the south side.	10/8/2018 2:36 PM
27	It is hard to see oncoming traffic and unsafe when entering 12th Ave from Appletree lane.	10/8/2018 2:18 PM
28	The intersection of 12th & 20th w/ the railroad crossing -- and the neighborhood around that same area is a bit sketchy.	10/8/2018 1:38 PM
29	The acceleration of westbound traffic from the last stop sign on 4 street all the way to River drive.	10/8/2018 1:25 PM
30	The lousy workmanship of the road. Stop cutting into the roads and making them crappy.	10/8/2018 1:23 PM
31	The stop sign at 12th and 11th st is bad and should be improved.	10/8/2018 1:20 PM
32	11 and 14th streets	10/8/2018 1:16 PM
33	Pedestrians walking near the industrial park. They walk on the road and it is very unsafe. They need a sidewalk.	9/28/2018 4:34 PM
34	The shared use bike path between 20th st and main is covered in dirt rocks along with being at a steep grade that is not safe for my elementary age children to travel.	9/24/2018 10:27 PM
35	Hard to make safe left onto 12 Av S from Ridgewood Blvd during peak traffic.	9/21/2018 8:15 AM
36	I wish there was a sign about the amount space between the intersection and the railroad tracks.	9/20/2018 8:21 PM
37	Virtually all of them. MNDOT's attempts at crossing safety at 12th Av & 8th St are a joke. Each quadrant is unique. What ever happened to standardization? The 20th St bike path at 12th Av directs bikes and pedestrians to the middle of the intersection. How weird is that.	9/20/2018 4:42 PM
38	Even though outside of the current discussion, there is a need for a MARKED crosswalk for pedestrians on 12th Ave S AT 36th and 38th Street South by the Junior High. High traffic volumes make it a safety hazard for children trying to cross at those two intersections. thanks	9/20/2018 4:00 PM
39	Crossing the severely jarring railroad tracks at 20th. I am worried it will harm my shocks/struts of my car. Also, buses (which have to stop) stop at the railroad tracks and trap vehicles in the intersection (both, traveling east on 12th at Main and 20th) when the light hurriedly turns red, allowing north/south-bound traffic to go. This is a hazard! Perhaps a lane for buses or ability for cars to get around the yielding buses. Not sure of the correct fix.	9/20/2018 11:13 AM
40	Biking from 16th Street to Main Avenue is treacherous.	9/19/2018 8:33 PM

41	20th st railroad	9/19/2018 7:48 PM
42	12th Ave S and 3rd St S - major bus hub for school age children and no protection from vehicles during those times	9/19/2018 4:22 PM
43	Every intersection on 12th avenue that is near a campus is a safety concern for pedestrians and bicyclists using the sidewalks. I've seen several near-accidents at stop signs where vehicles come in too quickly and nearly hit pedestrians and bicyclists	9/19/2018 3:09 PM
44	At the one ways	9/18/2018 6:58 PM
45	East of 20th St. With no sidewalk, I have either walked on the grounds (which are uneven, dirty, etc.) or on the street/gutter (which is dirty, unsafe).	9/18/2018 4:38 PM
46	In the winter, 12th Ave and 14th Street and 12th Ave and 11th St.	9/18/2018 1:48 PM
47	8TH STREET HWY 52 20TH ST	9/18/2018 1:33 PM
48	12th and 14th. It would be nice to have additional turning lanes if possible.	9/17/2018 9:19 PM
49	12th Avenue and 11th Street. 12th Ave and 14th street. Lots of accidents there and very icy in the winter. Need more room for the MAT bus stops.	9/17/2018 3:03 PM
50	Ridgewood and 12th Ave S. Main and 12th Ave S., 20th St. S. and Main Ave (on railroad tracks)	9/17/2018 2:52 PM
51	11th Street - especially in the fall people don't notice that the road is switching from 1-way to 2-way.	9/17/2018 12:52 PM
52	20th St intersection (East Side) - A better transition to and from bike lanes on 12th Ave to bike path on 20th St. Heading west the bike lane just ends before the tracks. There is no safe way for a cyclist to head north or south on the bike path from 12th Ave. The cyclist either has to go to the intersection in the right turn lane to head north or cross all traffic to head south. Some type of paved bike lane/path which merges 20th St and 12th Ave on the west side of tracks would be helpful.	9/17/2018 9:46 AM
53	1. 20th St S intersection. There are no sidewalks east of 20th Street. 2. There is no crosswalk on 19 1/2 St S to cross the road. The road is too wide to cross and is very scary to cross. I would never let my children cross the street alone. 3. The yellow line at the intersection with the Concordia tree needs to be re-centered. Most drivers have the expectation that road is perfectly divided in half. I have seen a lot of close collisions at this intersection where cars are making a left-hand turn.	9/17/2018 8:06 AM
54	20th Street and 12th ave street lights slow the flow of traffic needs timing work	9/16/2018 10:27 PM
55	Crosswalks to Concordia	9/16/2018 6:50 PM
56	12 Ave/Main Ave SE. When EB on 12 Ave, visibility of SB Main Ave is non existent unless you completely turn around in your seat due to the angles of the road.	9/16/2018 4:34 AM
57	8th St, 20th St, Hwy 52	9/15/2018 4:52 PM
58	12th ave and Main/old 52. Especially in the winter, intersection gets extremely slippery making it hard for vehicles stopping at the speed limits.	9/15/2018 1:37 PM
59	It should be a 4-way stop at 12th Avenue and Elm. The new striping down 12th from Concordia west is hazardous --forces vehicles into parked cars because lane is too narrow on half of street.	9/15/2018 10:49 AM
60	8th St and 12th Ave crosswalks	9/14/2018 9:18 PM
61	Traffic is sometimes quite heavy on 12th avenue. Entering from neighborhood intersections, especially in winter when snow banks obscure vision, can be quite challenging. (Lived on 16th St for many years)	9/14/2018 9:13 PM
62	12th and Main when travelling East. Get behind a City bus, or any longer vehicle that has to stop for tracks, and you will find yourself in the intersection with a red light. The light does not stay green long for 1 or 2 vehicles.	9/14/2018 4:53 PM
63	8th street and 12th ave	9/14/2018 4:48 PM
64	8th Street and 12th Avenue and 20th Street and 12th Avenue	9/14/2018 4:24 PM

65	Intersection with 8th Street where Concordia students won't use the elevated walkway Concordia students do not always use the designated xing area south of the Memorial Auditorium on the east side of that intersection. Also intersection with 18th or 19th Streets where people are crossing to the bus stop including young people	9/14/2018 3:52 PM
66	Train tracks and stop lights close together.	9/14/2018 3:15 PM
67	When driving East on 12th Ave S in heavier traffic, it is difficult to see pedestrians and bicyclers that cross 12th Ave S to get to Concordia College and back from the street that borders the west end of Meritcare parking lot.	9/14/2018 2:33 PM
68	At 12th Ave and 8th Street I would like to see electronic "no turn on red" signs that could change. During the summer when there are less Concordia students at the cross walks, right turns on red could be allowed.	9/14/2018 2:29 PM
69	8th, 20th, and Main -- In particular the corner at 8th is dangerous for biking/walking children. "No turn on red" is regularly violated putting bikes/pedestrians at great risk. There are more and more kids biking across 20th and Main to the middle school. It is tricky as well.	9/14/2018 2:21 PM
70	Crossing at 20th, and again at the highway. This is a major route to the middle school and I am not comfortable having my kids travel it. I have them go to the high school and through the back way, but now that it is so torn apart there, I am unsure of how to get them to or from school in the spring when they bike...	9/14/2018 2:07 PM
71	at the crossing 8th and at the rail road crossing	9/14/2018 1:34 PM
72	stretch between SE Main & 20th needs bike and pedestrian amenities/connectivity	9/14/2018 1:33 PM
73	Make 11th St, north of 12th Ave, non one-way street	9/14/2018 1:20 PM
74	8th Street is much better than in the past, but always a point of concern with the high volume of traffic year round.	9/14/2018 8:08 AM
75	In addition to the railroad crossing near 20th Street, bicycle and pedestrian travel is difficult all the way from 20th Street to Main Ave	9/13/2018 11:39 PM
76	Again, the problem is mainly with college student/pedestrians that step out in front of vehicles, especially on where the one way streets intersect 12th avenue.	9/13/2018 6:32 PM
77	12th and 4th - people stop quickly and briefly 12th and 5th - people stop quickly and briefly - barely looking 12th and 6th - Concordia students cross without looking 12th and 8th - very busy intersection 12th and 20th - the grade change creates it difficult to cross quickly heading east on a bicycle	9/13/2018 4:55 PM
78	The need for bus shelters, especially one at the corner of 12th Avenue and 19th St. S	9/13/2018 1:42 PM
79	12th ave and 20th street, mainly on the eastern part of the intersection, rough railroad crossing, would like a right turn lane for westbound to northbound traffic and for the left/center turn lane to connect east of the tracks so when trains back up traffic two lanes of cars can form and not have to wait until west of the tracks for the left turn lane (center turn lane is blocked by cross-hatches on the east side of tracks)	9/13/2018 1:30 PM
80	Speeds along the avenue. Would also like large trucks off the street. Some curb drainage is horrible. Mosquito traps. Also continue to enforce Concordia students from walking across cross walks when it show red on the sign for no crossing. Most are good. Otherwise ban and force them to use the skyway.	9/13/2018 12:33 PM
81	12th Ave and 20th Street - RR crossing could be improved.	9/13/2018 9:25 AM
82	12th Avenue and 20th Street, specifically when you cross the railroad tracks.	9/13/2018 8:30 AM
83	18th st and 12 Ave. 12 and 12. Used by children to get to the pool	9/11/2018 8:31 AM
84	RR crossing	9/7/2018 2:48 PM
85	5th Street (northbound one way) -- erratic pedestrian crossings in the area	9/6/2018 10:57 AM
86	12th and 20th, 8th and 12th, , SE Main and 12th, and even though it's not part of the study 12th and 34th. All of these areas are filled with speeding cars who don't care about pedestrians or cyclists and will frequently stop within crosswalks and ignore red lights when turning right. Additionally, the mixed use path between SE Main and 34th St on 12th lacks proper lighting at night. It's difficult for cars to see anyone who may be using the path.	8/24/2018 6:26 PM

87	20th St railroad crossing	8/22/2018 2:58 PM
88	Train crossing	8/21/2018 3:56 PM
89	Rail road at grade crossings at 20th St and Main Ave	8/3/2018 11:00 AM
90	8th ave with the Concordia students	7/25/2018 11:18 PM

Q9 What is the most important issue(s) you believe should be addressed along the 12th Avenue corridor?

Answered: 115 Skipped: 57

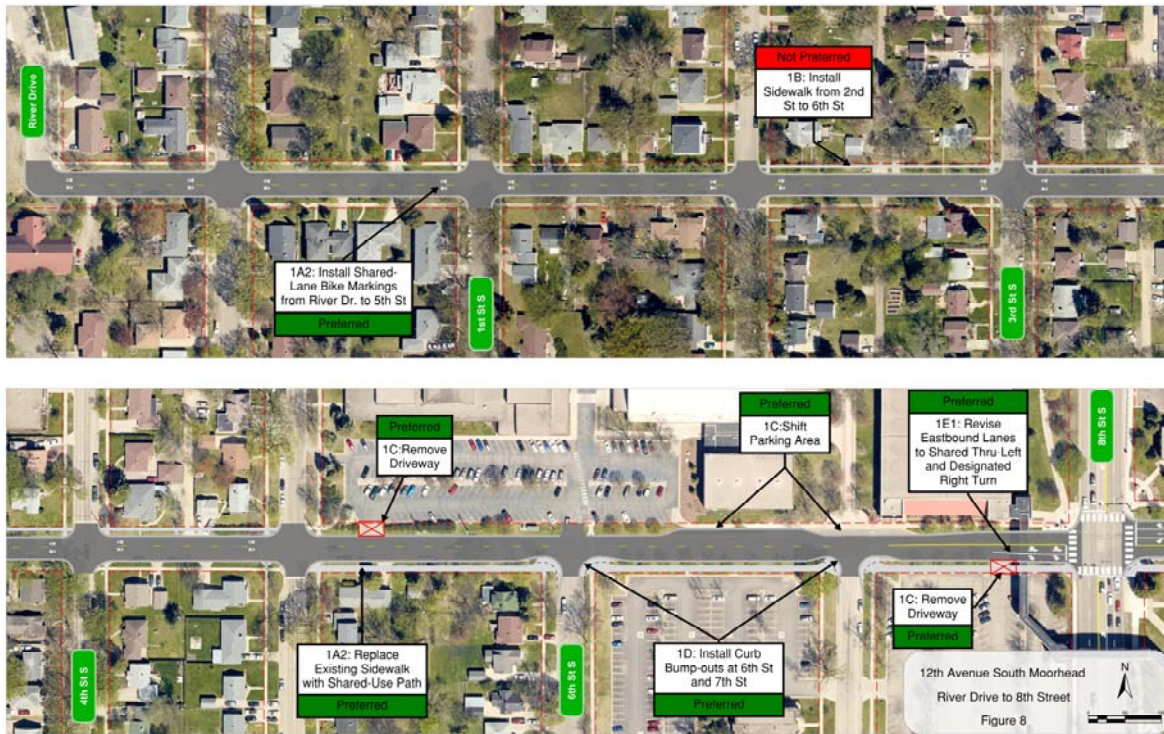
#	RESPONSES	DATE
1	The use of motorized vehicles in sidewalks	10/14/2018 10:30 AM
2	Just needs new pavement so it is not so ruff.	10/12/2018 7:34 AM
3	Actual road.	10/11/2018 5:52 PM
4	Sidewalk from 20th straight through past Horizon Middle School	10/10/2018 9:57 PM
5	Pedestrian/bicycle/vehicle safety.	10/10/2018 11:02 AM
6	Conditions of the road itself, lighting, and visible markings of crosswalks	10/9/2018 11:16 PM
7	safety	10/9/2018 4:48 PM
8	Above	10/9/2018 3:44 PM
9	Safety, efficiency, beauty	10/9/2018 11:35 AM
10	the weather	10/9/2018 9:45 AM
11	I am not sure if it is an issue but I think 12th Ave has and will continue to be a popular thorough-way from 8th street to 20th and to Main, especially due to the Horizon Middle School and Dorothy Dodds elementary. Therefore, I think getting traffic through in a faster, more efficient way might be a positive improvement for the future.	10/9/2018 9:08 AM
12	Issues checked on question #7.	10/9/2018 8:38 AM
13	Sidewalks and bike lanes, please!	10/9/2018 7:37 AM
14	Bike/walking paths and keeping quiet neighborhood feel	10/9/2018 5:20 AM
15	Maintaining the integrity of the respective neighborhoods is of utmost importance, especially as more and more properties near and along 12th Avenue are converted to rentals. Traffic lights in residential areas should be avoided. I would rather see more amenities for pedestrians and cyclists at the expense of automobile convenience. Twelfth Avenue should never be an artery at any point west of 20th street.	10/8/2018 10:52 PM
16	Improve lanes of travel	10/8/2018 9:28 PM
17	Speed limits should be increased and a bike path should be added between Old 52 and 34th Street	10/8/2018 8:39 PM
18	Sidewalks/path continuously on at least one side between 20th street and Main Avenue	10/8/2018 8:05 PM
19	The industrial park area is an eye sore.	10/8/2018 7:01 PM
20	Too much traffic with the detours	10/8/2018 6:51 PM
21	Make it smooth. Way too bumpy and uneven.	10/8/2018 6:07 PM
22	Just leave the road alone. 1. We don't need more construction 2. This road and traffic flows fines 3. We don't want to pay for updates that are not needed	10/8/2018 5:46 PM
23	Keep residential areas residential. More lighting.	10/8/2018 5:39 PM
24	bike and pedestrian safety!!!!	10/8/2018 5:08 PM
25	Preserve that beautiful strange tree	10/8/2018 4:25 PM
26	Get rid up bumps	10/8/2018 3:08 PM
27	level grade of the road surface. It's very uneven now.	10/8/2018 2:39 PM

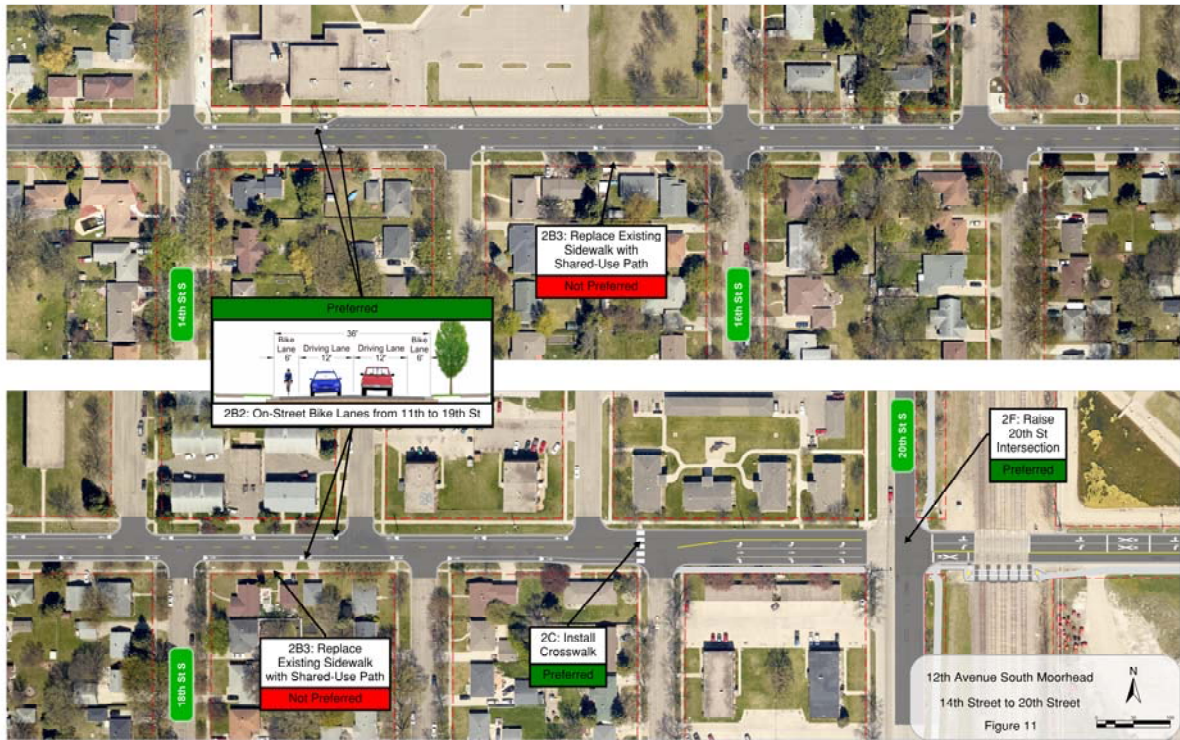
28	If the city intends this to be a main corridor, looking at the nature of the full set of intersections is probably in order.	10/8/2018 2:38 PM
29	Keeping it safe, but keeping it as a way to get across town without many stop signs or stop lights.	10/8/2018 2:36 PM
30	Safety at intersections for vehicles entering 12th ave and pedestrians crossing 12th ave	10/8/2018 2:18 PM
31	Keep the tree!	10/8/2018 2:12 PM
32	Safety, ease of travel.	10/8/2018 1:38 PM
33	Create a 4Way stop at the intersection of 12 Ave and 2nd street	10/8/2018 1:25 PM
34	When laying down the pavement/concrete - ENSURE it last for more than 5 years without feeling like you are on a roller coaster and need a kidney belt. Get rid of the annoying side street stuff - utility lines and boxes. Dedicate bikes and peds on one side of the street and in their dedicated (off the street) drive. Cars and bikes DO NOT mix. If signals go up, they should "sense" when the lane has emptied and immediately change for the other direction - unlike the 12th ave and 20th intersection.	10/8/2018 1:23 PM
35	Redoing the road.	10/8/2018 1:20 PM
36	Rough surfaces, pedestrian safety and street lighting.	10/8/2018 1:16 PM
37	None, we don't need it we can't afford it.	9/28/2018 9:03 PM
38	Sidewalk improvements, could use crosswalks near Our Redeemer area. Industrial Park area could use trees, landscaping, etc. It's an eye sore.	9/28/2018 4:34 PM
39	It's really hard to bike along 12th Avenue. I'd make that my top priority. Also, I don't know why that road is so steeply sloped in my neighborhood (i.e. near the intersection of 3rd St and 12th Ave S).	9/25/2018 8:24 PM
40	Mentioned in point 8 "20th st and main is covered in dirt rocks along with being at a steep grade that is not safe for my elementary age children to travel." However, outside of this study area I have another concern with 12th ave s at 34th st s. At that intersection, there is not a pedestrian crossing from west to east on the north side of the crossing and there's no pedestrian crossing from the south to north on the east side of the intersection making it not possible to reach Casey's from the west side of 34th st.	9/24/2018 10:27 PM
41	Continuous off-road pedestrian path/sidewalk.	9/21/2018 8:15 AM
42	Better signs to figure out where the different colleges are would be helpful.	9/20/2018 8:21 PM
43	Bike and pedestrian safety is sorely lacking.	9/20/2018 4:42 PM
44	crossing by Concordia for event parking	9/20/2018 4:27 PM
45	Crossing the railroad tracks at 20th. Rough, small distance between 20th and the railroad tracks, etc.	9/20/2018 11:13 AM
46	the road quality is very inconsistent. In some spots it is fine, in others, it is uneven, potholed, etc.	9/20/2018 8:21 AM
47	bike rider access and safety, and beautification. Moorhead can do a much better job of landscaping and beautifying our public spaces!	9/20/2018 5:36 AM
48	1. 12th Avenue should be a preferred East-West bicycle corridor with dedicated bicycle lanes. 2. There should be a MAT Bus route connecting Concordia to Moorhead Adult Basic Education along 12th Avenue to 34th Street and south. This would help volunteers (like me) and students in the ABE program.	9/19/2018 8:33 PM
49	Smoother crossing of the tracks at 20th st and off street bike lane(s)	9/19/2018 7:48 PM
50	Limited neighborhood impact. Encourage mass transit. Emphasis on improvements closest to 8th street and Conc. College.	9/19/2018 5:28 PM
51	bus traffic / school age child safety	9/19/2018 4:22 PM
52	Appropriate bike and pedestrian paths so they can safely commute and not clog the sidewalks if it isn't necessary.	9/19/2018 3:09 PM
53	Policing the Edison area--lots of activity in the lot.	9/19/2018 9:47 AM
54	Bicycle and pedestrian use.	9/18/2018 6:58 PM
55	Pedestrian safety and accessibility.	9/18/2018 4:38 PM

56	Keeping traffic moving at safe speeds.	9/18/2018 7:40 AM
57	If this project involves special assessment, it should be assessed only on properties along 12th Street, especially if the City is resorting to specials to pay for the 20th Street underpass.	9/17/2018 5:04 PM
58	Stoplights or stop signs.	9/17/2018 3:03 PM
59	The corridor from Main to 34th St. S. on 132th Ave S. At least there are no residential home west of Main, only the Industrial Park, Less chance speeders will hurt or cause a crash. There is an extensive residential area from Main to 34th St S, on 12th Ave S. and lots of pedestrian and bike traffic, many children, along with the speeders. it is a crash or hit and hurt someone situation. Thankful it has not happened yet. I just do not understand why you are ignoring this part of the 12th Ave S corridor.	9/17/2018 2:52 PM
60	pedestrian friendliness	9/17/2018 1:41 PM
61	Bike and pedestrian safety!	9/17/2018 12:52 PM
62	I would hate to see quicker travel through the corridor as I live and walk in this neighborhood. The speed limit is plenty high at 30MPH. The intersections are served well with the stop signs.	9/17/2018 11:22 AM
63	Improve the sidewalks for walking	9/17/2018 10:45 AM
64	Safety for cyclists and pedestrians. Many areas currently without sidewalks and any existing bike lanes are narrow and often covered in sand from the street sweepers or filled with snow from plows. I commute year round.	9/17/2018 9:46 AM
65	Safety of college students crossing the street.	9/17/2018 8:30 AM
66	Improved amenities and beautification. I'm sick of Moorhead being labeled as the cheap and dumpy city. I invest a lot in my home to improve the aesthetics, I don't see why the city can't do the same. Forget the check book theory. "If there's no money in the check book account, then don't spend money you don't have." We invest in education (the key word "invest"), why shouldn't we invest in our quality of life too?	9/17/2018 8:06 AM
67	It's a major corridor but too much stop and go for vehicles. That needs to be improved and still make it safe for bicycles and walkers. There should not be on-street parking on 12th.	9/16/2018 6:50 PM
68	Paving	9/16/2018 11:27 AM
69	safety	9/16/2018 7:52 AM
70	12th Ave S redevelopment must allow the roadway to serve as a high volume arterial as the City continues to grow. Please consider emergency vehicles and the ability of traffic to pull to the side. Center medians and single traffic lanes create bottlenecks and are difficult to maintain in the winter.	9/15/2018 10:44 PM
71	Keeping the cost low or nothing. Why is the city looking at this when there are so many other areas that need wayyyyyy more improvement for safety, quality and benefit? Honestly, this area is a waste of the city's time. You (city) can do a LOT better.	9/15/2018 4:56 PM
72	Improved Traffic safety for pedestrians and vehicles.	9/15/2018 1:37 PM
73	Improving traffic flow	9/15/2018 1:10 PM
74	12th Avenue west of 4th street is not a high traffic, high use avenue; nor should it be. This is a residential area. All "development" west of 4th resulting in more traffic, more cars, and more nonsense will be opposed by neighborhood groups, residents, and business owners.	9/15/2018 11:32 AM
75	During commuting hours it is too narrow to safely accommodate the traffic it receives. Where it is residential, I feel it would be better to reroute car traffic and use 12th for bikes, pedestrians, buses.	9/15/2018 10:49 AM
76	1. Preserving the residential character of 12th Avenue and the surrounding neighborhood from 20th street to the river. 2. Preventing 12th Avenue from becoming a major commercial thoroughfare with folks speeding through 3. Avoiding special assessments of neighborhood homes to finance expensive upgrades	9/14/2018 9:51 PM
77	Keep the residential feel to 20th Street	9/14/2018 9:37 PM
78	Road surface.	9/14/2018 9:18 PM
79	Street narrows with cars parked in residential section of 12th Avenue. Either eliminate on street parking (not popular with those that live on 12th I suspect) or widen street.	9/14/2018 9:13 PM

80	Speed	9/14/2018 9:02 PM
81	Because my backyard is on 12th, I would much prefer less/slower/quieter traffic.	9/14/2018 7:45 PM
82	Pedestrian safety	9/14/2018 6:41 PM
83	Providing a safe bike/ pedestrian path would be helpful.	9/14/2018 5:00 PM
84	Flattening out the intersections.	9/14/2018 4:53 PM
85	Parking. Too many people use the street as a parking lot.	9/14/2018 4:48 PM
86	Connect 12th ave in Moorhead to 13th Ave in Fargo via a bridge	9/14/2018 4:39 PM
87	We have an existing skywalk that almost is never used, while turning onto other streets is virtually impossible.	9/14/2018 4:24 PM
88	There are severe visibility issues at the intersection with 7th Street where student parking on the streets is too close to the intersection to see traffic coming from the west. At best there would be no parking allowed on 12th from 7th to 6th Street. There may be a similar visibility issue at 6th Street as well but I don't use that street often.	9/14/2018 3:52 PM
89	Road conditions ie potholes	9/14/2018 3:30 PM
90	Twelfth Ave S is largely a residential area that doesn't need a faster corridor to or over the river because there is a nearby major freeway going east and west that crosses the Red River. There are other bridges crossing the river between Moorhead and Fargo. What 12th Ave S needs is streets without pot holes and water main breaks but because of the winters here that is a difficult task. Adding a continuous path for bicycling, running and walking without major disruption of property, streets and traffic sounds fine providing there is enough space and money to spend. Improving existing parks and adding a nice park closer to the eastern end of the corridor. How about an art park with paths that don't use the entire length of the corridor. Bike lanes in the street would be a good thing where there the streets are wide enough. Speeding bicyclers who don't use bells that come up behind unsuspecting pedestrians are not appreciated.	9/14/2018 2:33 PM
91	Continuous bike lane for bikes and walkers	9/14/2018 2:21 PM
92	Large amounts of traffic and high speeds that people travel on this mostly residential route.	9/14/2018 2:07 PM
93	widening	9/14/2018 1:34 PM
94	Slow traffic down between 8th St and 20th St!	9/14/2018 1:20 PM
95	Please don't do any construction on 12th Ave until after the train project is done!!!!	9/14/2018 9:52 AM
96	Leave it alone. Where I live is a nice and quiet neighbor hood. I fear any "improvements " will ultimately destroy it.	9/14/2018 9:43 AM
97	Safety for pedestrians and smooth travel for vehicles. A well lit wide path for walking/biking is a higher priority than decorating the area. Safety of our local residents and students should be a priority.	9/14/2018 8:08 AM
98	Improving bicycle and pedestrian safety while maintaining efficient traffic flow	9/13/2018 11:39 PM
99	Safety. But, practically speaking, there is nothing anyone can do if people will not obey the law, read and follow the traffic signals and pay attention.	9/13/2018 6:32 PM
100	Improve pedestrian mobility and reduce the speed of vehicular traffic through traffic calming, such as reduced lane widths and curb bump-outs.	9/13/2018 4:55 PM
101	Sidewalks through the industrial park	9/13/2018 1:53 PM
102	Having bus shelters	9/13/2018 1:42 PM
103	biggest issue i see is the need for better/more street lights through there (and even farther east to 34th st, but thats not in the study area). it's a very dark road at night and with pedestrians and bikes it makes it dangerous	9/13/2018 1:30 PM
104	Cut down traffic through our neighborhood. Use 8th and 20th as the major routes and eliminate as much traffic as possible so it can be more quiet and less exhaust in our back yards.	9/13/2018 12:33 PM
105	I think it should be treated as a main corridor. It should have wider lanes, concrete surface with great lighting. Currently it looks/feels like a residential street that everyone happens to drive on.	9/13/2018 8:30 AM
106	Safety and aesthetics	9/11/2018 8:31 AM

107	RR crossing and sidewalks between 20th and Old 52.	9/7/2018 2:48 PM
108	Making the entire corridor safer and more inviting to use. Keeping paths and bike lanes clear of debris and well maintained. But honestly, better planning city-wide.	8/24/2018 6:26 PM
109	Road pavement improvement. More space for cars, less car parking on the street. Larger sidewalks for both bikes and pedestrians.	8/22/2018 3:38 PM
110	n/a	8/22/2018 2:58 PM
111	Train crossing!	8/21/2018 3:56 PM
112	Lack of rail road underpass at 20th st and Main Ave locations	8/3/2018 11:00 AM
113	Quicker travel	7/29/2018 11:11 PM
114	Somehow improving the railroad crossing at 20th	7/25/2018 11:18 PM
115	Clean bike and walking paths. Sweep the street, please.	7/10/2018 8:15 AM





EXISTING OVERHEAD POWERLINES
CAMPUS COLUMN CORNER MARKER
CROSSWALK CONCRETE PAVING
RELOCATED BUS DROP OFF
CAMPUS LIGHT WITH BANNER ARM
REPLANT/RELOCATE EXISTING
HEDGES
PROPOSED STREET TREE
SECONDARY GATE COLUMN
CROSSWALK CONCRETE PAVING

ROOM WITH SNOW SLIDE ONTO
ADJACENT WALKWAY
REMOVE EXISTING TREES TO ALLOW WINTER
ACCESS AROUND SNOW SLIDE AREA
EXISTING PLAZA
CROSSWALK CONCRETE PAVING

EXISTING PLAZA
PROPOSED PLAZA AND CONCOURSE
GATEWAY

12TH AVE S

5TH STREET S

6TH STREET S

7TH STREET S

8TH STREET S

CURB BUMP-OUT
CAMPUS LIGHT WITH BANNER ARMS
ARTIST DESIGNED IMPRESSED CONCRETE
ACCENT TREE
SHRUB BED
EXISTING CURB LINE

CURB BUMP-OUT
BENCH
CAMPUS LIGHT WITH BANNER ARMS
ARTIST DESIGNED IMPRESSED CONCRETE
ACCENT TREE
SHRUB BED
EXISTING CURB LINE

ACCENT PAVING
CAMPUS LIGHT WITH BANNER ARMS
SHRUB BED
ACCENT COLUMN OR AIRMAY
SCULPTURE
SEAT WALL

This aerial map illustrates the proposed campus layout, including the following features:

- Streets:** 9TH STREET S., 10TH STREET S., 11TH STREET S., 12TH AVE S.
- Infrastructure:** PROPOSED TREE, EXISTING TREE, TERTIARY GATE COLUMNS, EXISTING OVERHEAD POWERLINES, CAMPUS COLUMN CORNER MARKER, CAMPUS LIGHT WITH BANNER ARM, PROPOSED STREET TREE, EXISTING WILLOW TREE.

				 Hatch James H. Hatch, Inc. 10000 Highway 100 Moorhead, MN 56501 Tel: 218/835-1100 Fax: 218/835-1101 Email: info@hatch.com		Drawn by JH Date 3-10-19	Moorhead 12th Avenue South MOORHEAD, MINNESOTA	CONCORDIA COLLEGE 5th St. S to 11th St. S. PROJECT NO.	SHEET 1 of
Title Revision	Date By	Checked by JH Scale AS SHOWN							

20TH STREET S

OVERHEAD POWER LINES

12TH AVE S

23RD STREETS

PROPOSED BOULEVARD
PROPOSED MULTI-USE PATH
PROPOSED STREET TREE

				 Hatch CONSTRUCTION SERVICES, LLC 10000 Highway 100, Suite 200 Minneapolis, MN 55412 Tel: 612.345.1234	Drawn by JH	Date 3-19-19	Moorhead 12th Avenue South MOORHEAD, MINNESOTA	INDUSTRIAL AREA 20th St. S to SE Main Ave PROJECT NO.	SHEET 1 of 1
Title Mainline	Date 3-19-19	Checked by JH	Scale AS SHOWN						

Q1 1A2: Replace existing south sidewalk with an 8' shared-use path from 5th Street to 8th Street and install shared-lane bike markings from River Drive to 5th Street.

Answered: 24 Skipped: 2

	1	2	3	4	5	TOTAL	WEIGHTED AVERAGE
☆	20.83% 5	8.33% 2	33.33% 8	16.67% 4	20.83% 5	24	3.08

Q2 1B: Install 5' sidewalk on north side between 2nd street and 6th Street.

Answered: 24 Skipped: 2

	1	2	3	4	5	TOTAL	WEIGHTED AVERAGE
☆	29.17% 7	4.17% 1	25.00% 6	8.33% 2	33.33% 8	24	3.13

Q3 1C: Close parking lot access points near 5th Street and 8th Street, and shift parking area near 7th Street.

Answered: 24 Skipped: 2

	1	2	3	4	5	TOTAL	WEIGHTED AVERAGE
☆	16.67% 4	8.33% 2	16.67% 4	8.33% 2	50.00% 12	24	3.67

Q4 1D: Install curb bump-outs at 6th Street and 7th Street.

Answered: 24 Skipped: 2

	1	2	3	4	5	TOTAL	WEIGHTED AVERAGE
☆	16.67% 4	12.50% 3	25.00% 6	4.17% 1	41.67% 10	24	3.42

Q5 1E1: Reassign eastbound lanes at 8th Street intersection with a shared left/thru and a designated right turn by shifting curbline.

Answered: 24 Skipped: 2

	1	2	3	4	5	TOTAL	WEIGHTED AVERAGE
☆	29.17% 7	4.17% 1	12.50% 3	16.67% 4	37.50% 9	24	3.29

Q6 1D2: Widen 12th Avenue to install designated eastbound right turn lane at 8th Street.

Answered: 24 Skipped: 2

	1	2	3	4	5	TOTAL	WEIGHTED AVERAGE
☆	41.67% 10	4.17% 1	12.50% 3	16.67% 4	25.00% 6	24	2.79

Q7 Additional Comments on Segment 1.

Answered: 11 Skipped: 15

#	RESPONSES	DATE
1	Turn lanes always impeded by college foot traffic. Sidewalk north side 12th Ave would keep peds off street. Bicyclists would ignore bike lanes.	4/17/2019 8:32 PM
2	Bump outs are not effective. Sidewalks are vital! DON'T remove sidewalk from 5th to 8th! Bikes go where they want and never obey traffic signs; DON'T give them a special lane. Remove parking from 12th Ave. so there is room to drive! I've driven on 12th Ave. for more than 30 years. The biggest problem has always been that the parking allowed on 12th squeezes the driving lanes down so half the year you can't go both directions (east and west) at the same time. You CAN'T remove the sidewalks that are already there. People need to be able to walk around the block! Pedestrian traffic is huge in our neighborhood. Don't mess that up!	4/10/2019 5:42 PM
3	I would oppose removal of trees from the river to Fifth St. S. on the north side of 12th Ave., particularly the Canadian Cherry Trees.	4/2/2019 7:47 PM
4	We need to keep street parking on at least one side of 12th. Ave. from Third Street to the river. Currently there is parking only on one side of Third St. If we lose parking on 12th. Ave., we will own a home that has zero Street parking.	3/29/2019 5:30 PM
5	I absolutely hate the idea of 1D2 and most of the ideas that would impact trees.	3/25/2019 9:54 AM
6	Leave pier as is	3/24/2019 2:09 PM
7	Eastbound traffic turning right at 8th St is always limited, mostly to certain times of day. Such traffic bound for I-94 can always continue S on 6th to 24th Av S, as an alternative. A small short turn lane is a good compromise. Curb bump-outs only intrude as an obstacle, especially for those making right turns, and they choke a lane used by both cars and bikes. Hitting one unexpectedly could be disastrous to either. Lastly, for all pedestrians at 8th & 12th Av, "No Right Turn On Red" should be STRONGLY enforced!	3/24/2019 1:54 PM
8	Less autocentric and more pedestrian friendly planning and engineering.	3/22/2019 10:12 PM
9	bad idea, need a dedicated left turn lane more since there's no right on red light, they can't turn on red anyway so more important to have dedicated left turn lane and right turns can share lane with straight ahead traffic	3/22/2019 3:55 PM
10	I applaud the interest in putting in bike lanes, but mixing them with pedestrians confuses bikes' status as having a right to use the road and is a hazard to the pedestrians. I'd rather see a bike lane on the road. I am satisfied with the current turn/ through lane configuration. My primary interest is in things that will improve pedestrian and bicycle safety, since vehicle congestion is not a major problem in that area.	3/22/2019 11:18 AM
11	I think widening 12th Ave to install a right-turn lane would be a bad idea even if the skyway pier was not there. By widening the street, you would make it less pedestrian friendly, and I don't think there's enough of a traffic problem to warrant it.	3/20/2019 3:48 PM

Q8 2A: Install 8' shared-use path on south side from 9th Street to 11th Street, staying north of the "Crazy Tree."

Answered: 24 Skipped: 2

	1	2	3	4	5	TOTAL	WEIGHTED AVERAGE
☆	20.83% 5	4.17% 1	16.67% 4	4.17% 1	54.17% 13	24	3.67

Q9 2D: Remove parking area on south side near 9th Street, remove driveway for north side parking lot, realign access.

Answered: 24 Skipped: 2

	1	2	3	4	5	TOTAL	WEIGHTED AVERAGE
☆	4.17% 1	16.67% 4	12.50% 3	20.83% 5	45.83% 11	24	3.88

Q10 2E: Realign 11th Street intersection to improve horizontal alignment.

Answered: 24 Skipped: 2

	1	2	3	4	5	TOTAL	WEIGHTED AVERAGE
☆	33.33% 8	8.33% 2	0.00% 0	20.83% 5	37.50% 9	24	3.21

Q11 2B2: Add 6' designated on-street bike lanes on each side of 12th Avenue from 11th Street to 19th Street.

Answered: 24 Skipped: 2

	1	2	3	4	5	TOTAL	WEIGHTED AVERAGE
☆	20.83% 5	0.00% 0	20.83% 5	0.00% 0	58.33% 14	24	3.75

Q12 2B3: Replace existing south sidewalk with an 8' shared-use path from 11th Street to 20th Street.

Answered: 24 Skipped: 2

	1	2	3	4	5	TOTAL	WEIGHTED AVERAGE
☆	41.67% 10	12.50% 3	12.50% 3	4.17% 1	29.17% 7	24	2.67

Q13 2C: Install crosswalk at 19 1/2 Street.

Answered: 24 Skipped: 2

	1	2	3	4	5	TOTAL	WEIGHTED AVERAGE
☆	12.50% 3	0.00% 0	41.67% 10	8.33% 2	37.50% 9	24	3.58

Q14 2F: Construct grade raise of 20th Street intersection to improve vertical profile with BNSF Railroad Tracks.

Answered: 24 Skipped: 2

	1	2	3	4	5	TOTAL	WEIGHTED AVERAGE
☆	20.83% 5	4.17% 1	8.33% 2	8.33% 2	58.33% 14	24	3.79

Q15 Additional Comments on Segment 2.

Answered: 11 Skipped: 15

#	RESPONSES	DATE
1	On street bike lanes are a hazard. Shared use path parallel to street is safer. Do we need a crosswalk at 19 1/2 St? Raising 20th St intersection too costly.	4/17/2019 8:32 PM
2	DON'T add on street bike lanes! The road is big enough for east/west traffic now. Continue to allow parking on this section of 12th Ave. It has never caused problems. Bikers do NOT follow traffic laws; DO NOT give them their own special lane.	4/10/2019 5:42 PM
3	Please do not take our trees. The reason I live in the this area is that it is well-established with grown trees. The idea of destroying our greenery to cater to cars makes me ill.	3/25/2019 9:54 AM
4	Protect "crazy tree" and other trees.	3/24/2019 2:09 PM
5	I prefer on-street bike lanes between 11th St and 19St. For those reluctant to bike in traffic, more curb cuts and approaches could be added along 20th St, making it easier to enter/exit parallel shared use bike/pedestrian path that already exists! That bike traffic could then find a more quiet, safer E/W route alternative. Hopping a curb is dangerous for those unaccustomed to such a tactic. Put these curb cuts at logical intersections with 20th St. Currently there's only one a full half mile N of 12th Av., and the 1st one to the South is at 20th Av (I think). The result could be less bike traffic on a busy stretch of 12th S, but a good, logical alternative HAS to be provided!	3/24/2019 1:54 PM
6	This corridor should be more pedestrian friendly and be turned into a multi-modal corridor emphasizing modes of travel other than the automobile with designated bike lanes.	3/22/2019 10:12 PM
7	"2F" is excellent idea, plus need to realign lanes across railroad tracks, the eastbound lane shifts to the right when you cross tracks (the street is wider on the east side of tracks than to the west)	3/22/2019 3:55 PM
8	the 19 1/2 crosswalk would only give pedestrians a false sense of security--drivers are probably already looking at the 20th street lights and won't comply with crosswalk markings. The value of realigning 11th street seems very low. It's not hard to navigate as is.	3/22/2019 11:18 AM
9	These improvements at best leave me with a yawn. How about black cast iron street lights? Bronze statue on boulevard of terminating vista? Install plastic poles along bike lanes to make them more comfortable? If we're going to do this thing let's do it right and get rid of the tight wad image of Moorhead. Let's make Moorhead exciting for once and do something really cool. For example a pilot project of a solar multi use path that melts snow in the winter to save on snow removal costs.	3/22/2019 11:13 AM
10	What's the possibility of making available parking to replace those spaces lost on 12th Avenue in the parking area of the school formerly located on the north side between 14th & 16th	3/21/2019 1:29 PM

11 I've long thought we needed a shared-use path by Concordia (between 8th and 11th). Any reason why it can't be ten feet wide, the recommended width? I think the on-street bike lanes are a great idea. I like that they are 6 feet instead of 5 feet. I've ridden on many of the 5-foot lanes that I feel are too narrow. I was at the public input meeting and heard the complaints from the guy worried about the loss of parking. It's a valid concern, but I'd like to see an analysis of how many cars are typically parked along 12th ave and what the capacity is on adjacent streets to take those cars. My suspicion is that not that many will be impacted, and that there are enough parking places in the neighborhood, even if you'll have to walk a bit. Sure, some people will be inconvenienced, but we need to stop prioritizing cars over everything else. Bicyclists, pedestrians, and transit users have long been inconvenienced by the way we have been designing cities. We need to design a multi-modal city that gives people the freedom to travel how they choose. This is the right move.

3/20/2019 3:48 PM

Q16 3A: Construct pedestrian/bicycle crossing on east side of 20th Street South at BNSF Railroad tracks.

Answered: 26 Skipped: 0

	1	2	3	4	5	TOTAL	WEIGHTED AVERAGE
☆	23.08% 6	0.00% 0	7.69% 2	7.69% 2	61.54% 16	26	3.85

Q17 3B: Add new 10' shared-use path on south side (remove existing on-street bike lanes, shift south curb line 10' north to accommodate off-street path), install curb ramp and concrete waiting area at 25th Street South bus stop.

Answered: 26 Skipped: 0

	1	2	3	4	5	TOTAL	WEIGHTED AVERAGE
☆	7.69% 2	3.85% 1	19.23% 5	11.54% 3	57.69% 15	26	4.08

Q18 3D: Shift private business driveway east of the BNSF Railroad tracks, close driveways.

Answered: 26 Skipped: 0

	1	2	3	4	5	TOTAL	WEIGHTED AVERAGE
☆	11.54% 3	7.69% 2	19.23% 5	7.69% 2	53.85% 14	26	3.85

Q19 Additional Comments on Segment 3.

Answered: 10 Skipped: 16

#	RESPONSES	DATE
1	Leave private drives alone.	4/17/2019 8:32 PM

2	The major problem with this section of the road is the intersection of 12th ave. and 20th St. The east side has no room because of the railroad tracks. There is no room for vehicles on the west side of the tracks. I don't know of any way to fix this.	4/10/2019 5:42 PM
3	I think this road needs to be reconstructed so it doesn't fall apart all the time from the truck traffic.	4/1/2019 11:28 AM
4	Protect trees.	3/24/2019 2:09 PM
5	20th St S reconstruction squandered opportunities to improve grade changes in regard to railroad tracks at 12th Av S intersection. What were you thinking! 20th St could have been raised to minimize grade change, OR..... it could be LOWERED to intersect with the NEW (are you sitting down?) UNDERPASS, or grade separation in regards to those pesky RR tracks! If one new underpass is good, then even more would be better! Just dreaming. This last segment needs street lighting. What's there now is totally inadequate, especially for pedestrians and bike traffic. I believe this is considered an alternate route for such traffic during the ongoing SE Main/21st S grade separation project. What a joke! Broken pavement near the curbs, always littered with gravel debris, and dark to boot! This stretch of 12th Av S could have/should have had a mill and overlay 10 years ago! AND, some better lighting.	3/24/2019 1:54 PM
6	Keep bike lanes on the road. Drivers in Fargo-Moorhead don't understand and are not the friendliest when it comes to bikes. Removing bike lanes from the road to a shared use path emphasizes cars and space for cars are more important than bikes and pedestrians. It also gives more staunch critics another reason to say bikes have no right to be on the road.	3/22/2019 10:12 PM
7	glad to see sidewalk in this stretch since now there's one west of 20th and east of se main ave but nothing between. i've seen lots of people walking in the street there, it's not safe	3/22/2019 3:55 PM
8	This is a dangerous segment from 20th Street to Main Ave SE. current traffic has little regard for bikes and pedestrians. To add to the danger are the fuel trucks using this segment to go to/from the terminal.	3/22/2019 12:18 PM
9	I'm okay with a shared-use path from 20th St. to Main because it gets significant bike use and less pedestrian use. It would be seen as a continuation of the paths running on the east side of 20th St. and the south side of 12th Ave. from Main to Horizon. The purported bike line on this stretch is impassable and hazardously narrow; a wise cyclist would avoid it entirely and use the regular traffic lane. Anything would be an improvement.	3/22/2019 11:18 AM
10	All should be completed as they would greatly increase pedestrian and bicycle safety!!	3/20/2019 8:53 PM

Q20 4: Corridor-wide streetscaping improvements

Answered: 25 Skipped: 1

	1	2	3	4	5	TOTAL	WEIGHTED AVERAGE
☆	12.00%	8.00%	20.00%	24.00%	36.00%		
	3	2	5	6	9	25	3.64

Q21 Additional Comments on Corridor-wide Considerations.

Answered: 6 Skipped: 20

#	RESPONSES	DATE
1	Winter wrecks most of this. Why spend the money?	4/17/2019 8:32 PM
2	Bump outs are totally ineffective. They narrow down the turning room for vehicles and make it more difficult to make turns without moving into opposing traffic. DON'T install bump outs!	4/10/2019 5:42 PM

3	Do NOT make summer drainage and winter drifting any worse between 20th St S & SE Main than it already is. Lastly, I sometimes think consultants and traffic engineers have never been on foot or on a bike for any reason other than a leisurely walk around their own respective neighborhoods. Have you EVER commuted to your job on a bike? Do you walk along and cross busy streets after dark on a regular basis. Have you ever tried to get around in a wheelchair, for the rest of your life? Sometimes small inexpensive changes can result in huge benefits for.....the little people. Would YOU want YOUR elderly grandmother navigating these mean streets, sidewalks, and intersections, with "Walk" lights that abruptly switch to "Don't Walk" when you've only made it to the MIDDLE of the intersection?!? Little things like that. If you can't do it right, then you're only pandering.	3/24/2019 1:54 PM
4	Why aren't there any improvements proposed between 11th and 20th Streets? Don't use that red stamped concrete; it's not durable and looks terrible after just a couple of years.	3/22/2019 11:18 AM
5	I have a problem with the city paying for landscaping on the land owned by Concordia as well as creating new entrances to the campus by elaborate paving work placed in the street	3/21/2019 1:29 PM
6	Lots of great ideas!	3/20/2019 3:48 PM

Appendix D

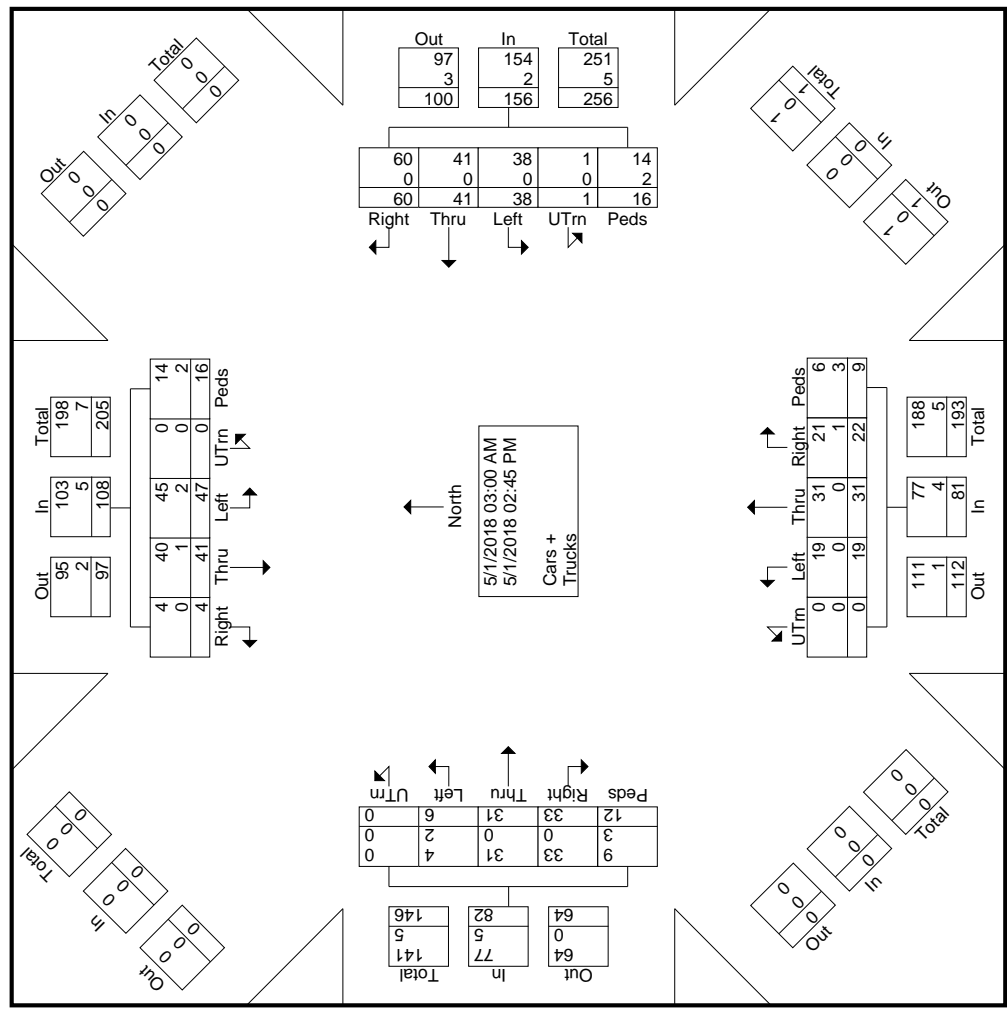
Traffic Analysis Supporting Data

Groups Printed- Cars + - Trucks

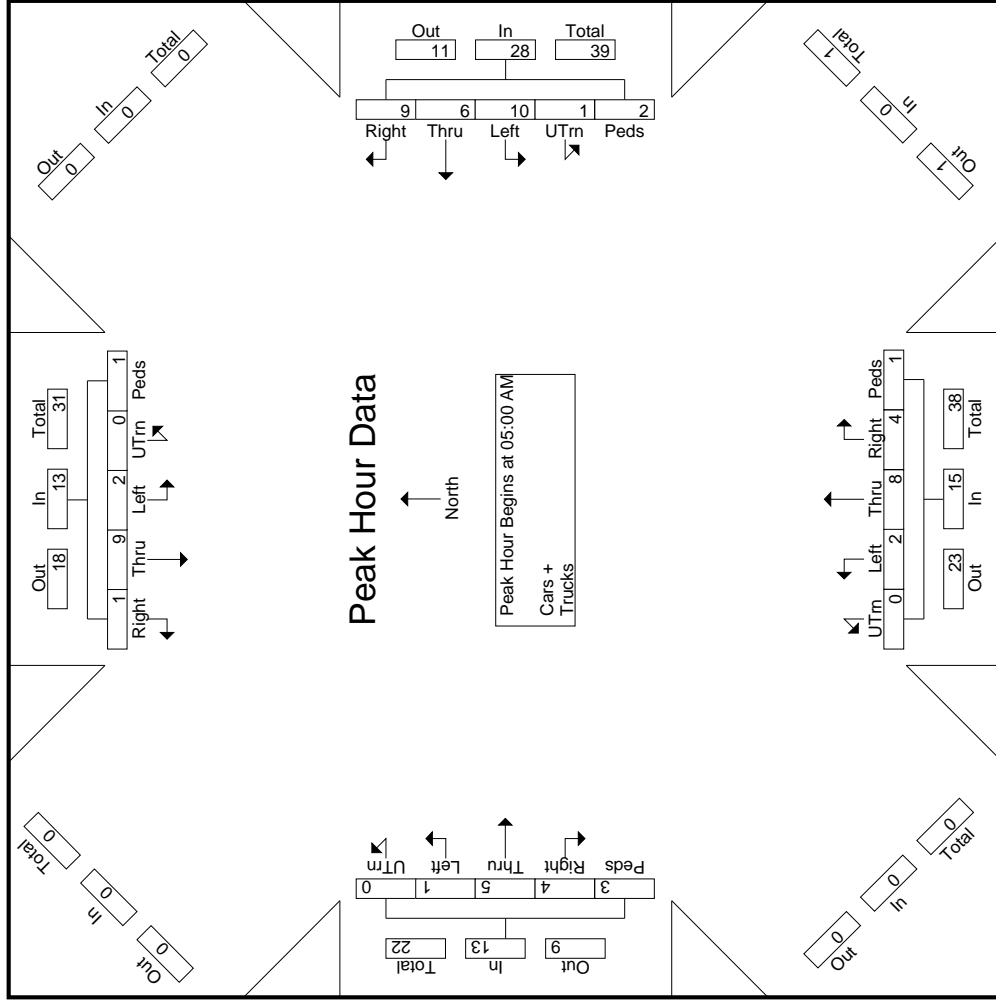
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03:15 AM	0	1	1	0	3	0	0	1	0	2	0	0	0	0	0	0	0	0	1	0	0	0	1	0	1	10			
03:30 AM	0	2	0	0	1	0	2	0	1	0	0	1	1	0	0	0	0	1	2	1	0	0	1	2	1	12			
03:45 AM	0	1	1	0	0	0	0	2	2	0	0	0	0	1	0	0	0	0	3	2	0	0	3	2	0	12			
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04:30 AM	0	2	1	0	0	0	0	0	1	0	0	1	2	1	2	0	0	0	1	2	0	0	1	2	0	13			
04:45 AM	0	2	1	0	0	0	3	3	3	0	0	1	1	0	1	0	0	0	0	0	0	0	0	0	0	15			
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05:45 AM	0	0	0	1	0	1	2	3	3	0	0	1	2	0	1	0	0	0	1	2	0	0	1	2	0	17			
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06:45 AM	0	1	1	0	2	0	0	0	3	2	0	0	1	1	0	0	0	0	1	1	0	0	1	1	0	13			
Total	0	1	4	1	4	0	6	4	9	3	0	2	2	3	2	0	2	4	4	2	0	2	4	4	2	53			
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09:30 AM	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	1	0	3			
09:45 AM	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	1	0	0	0	1	0	0	3			
Total	0	3	1	0	2	0	1	3	3	0	0	1	2	1	0	0	0	3	1	0	0	0	3	1	0	21			

Groups Printed- Cars + - Trucks

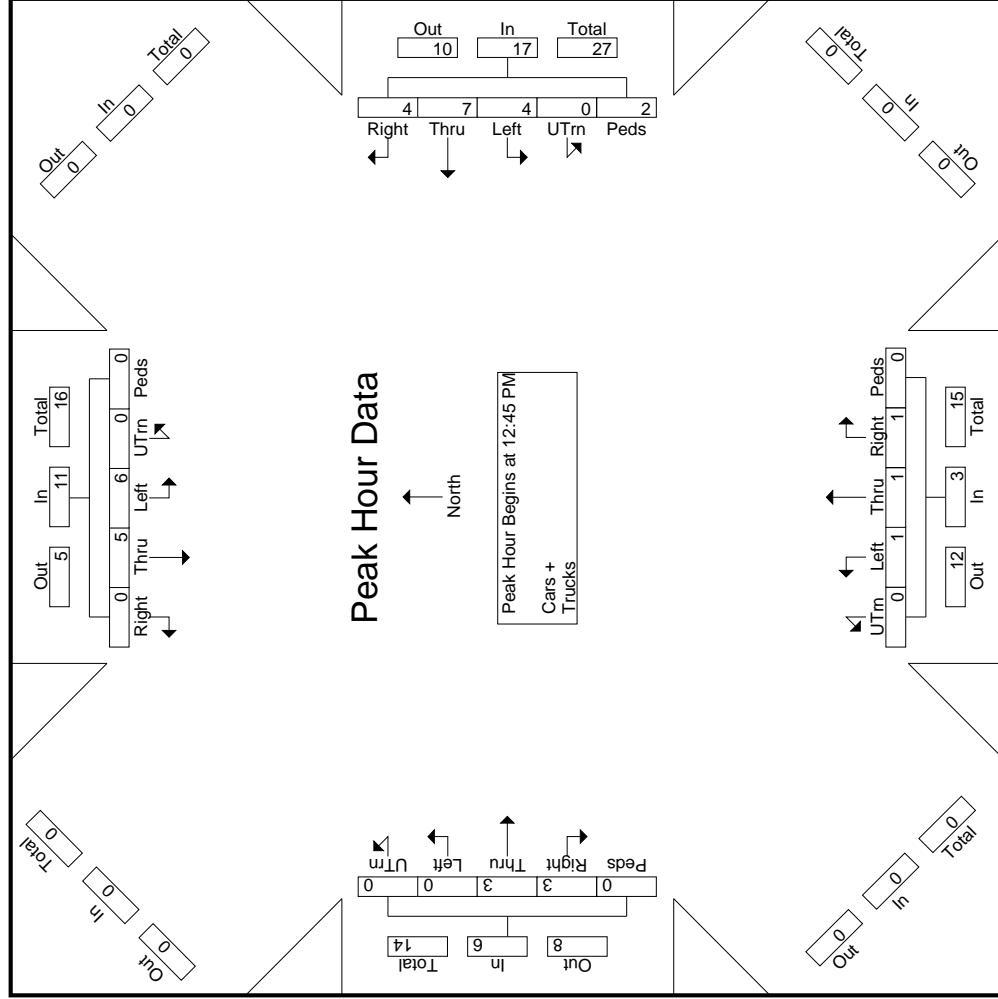
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10:30 AM	0	1	2	0	0	0	0	1	2	0	0	0	0	0	0	0	0	0	0	0	6				
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12:30 PM	0	3	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	1	0	6				
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Total	0	1	4	1	0	0	3	1	4	0	0	2	2	0	0	0	0	1	0	0	19				
Grand Total	0	47	41	4	16	1	38	41	60	16	0	19	31	22	9	0	6	31	33	12	427				
Approch %	0	43.5	38	3.7	14.8	0.6	24.4	26.3	38.5	10.3	0	23.5	38.3	27.2	11.1	0	7.3	37.8	40.2	14.6					
Total %	0	11	9.6	0.9	3.7	0.2	8.9	9.6	14.1	3.7	0	4.4	7.3	5.2	2.1	0	1.4	7.3	7.7	2.8					
Cars +	0	45	40	4	14	1	38	41	60	14	0	19	31	21	6	0	4	31	33	9	411				
% Cars +	0	95.7	97.6	100	87.5	100	100	100	100	87.5	0	100	100	95.5	66.7	0	66.7	100	100	75	96.3				
Trucks	0	2	1	0	2	0	0	0	0	2	0	0	0	1	3	0	2	0	0	3	16				
% Trucks	0	4.3	2.4	0	12.5	0	0	0	0	12.5	0	0	0	4.5	33.3	0	33.3	0	0	25	3.7				



	Southbound						Westbound						Northbound						Eastbound						
Start Time	UTrn	Left	Thru	Right	Peds	App. Total	UTrn	Left	Thru	Right	Peds	App. Total	UTrn	Left	Thru	Right	Peds	App. Total	UTrn	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 03:00 AM to 11:45 AM - Peak 1 of 1																									
Peak Hour for Entire Intersection Begins at 05:00 AM																									
05:00 AM	0	2	2	0	0	4	0	3	1	4	0	8	0	0	1	3	0	4	0	0	1	2	0	3	19
05:15 AM	0	0	5	0	0	5	0	4	1	1	0	6	0	1	4	1	0	6	0	0	1	0	2	3	20
05:30 AM	0	0	2	0	1	3	0	1	1	1	2	5	0	0	1	0	0	1	0	1	2	0	1	4	13
05:45 AM	0	0	0	1	0	1	1	2	3	3	0	9	0	1	2	0	1	4	0	0	1	2	0	3	17
Total Volume	0	2	9	1	1	13	1	10	6	9	2	28	0	2	8	4	1	15	0	1	5	4	3	13	69
% App. Total	0	15.4	69.2	7.7	7.7		3.6	35.7	21.4	32.1	7.1		0	13.3	53.3	26.7	6.7		0	7.7	38.5	30.8	23.1		
PHF	.000	.250	.450	.250	.250	.650	.250	.625	.500	.563	.250	.778	.000	.500	.500	.333	.250	.625	.000	.250	.625	.500	.375	.813	.863



	Southbound						Westbound						Northbound						Eastbound							
Start Time	UTrn	Left	Thru	Right	Peds	App. Total	UTrn	Left	Thru	Right	Peds	App. Total	UTrn	Left	Thru	Right	Peds	App. Total	UTrn	Left	Thru	Right	Peds	App. Total	Int. Total	
Peak Hour Analysis From 12:00 PM to 02:45 PM - Peak 1 of 1																										
Peak Hour for Entire Intersection Begins at 12:45 PM																										
12:45 PM	0	2	1	0	0	3	0	2	0	0	1	3	0	0	0	1	0	1	0	0	0	0	0	0	0	7
01:00 PM	0	2	1	0	0	3	0	1	2	3	0	6	0	0	0	0	0	0	0	0	1	0	0	0	1	10
01:15 PM	0	1	1	0	0	2	0	1	4	0	1	6	0	0	1	0	0	1	0	0	2	1	0	0	3	12
01:30 PM	0	1	2	0	0	3	0	0	1	1	0	2	0	1	0	0	0	1	0	0	0	2	0	0	2	8
Total Volume	0	6	5	0	0	11	0	4	7	4	2	17	0	1	1	1	0	3	0	0	3	3	0	6	37	
% App. Total	0	54.5	45.5	0	0		0	23.5	41.2	23.5	11.8		0	33.3	33.3	33.3	0		0	0	50	50	0			
PHF	.000	.750	.625	.000	.000	.917	.000	.500	.438	.333	.500	.708	.000	.250	.250	.250	.000	.750	.000	.000	.375	.375	.000	.500	.771	

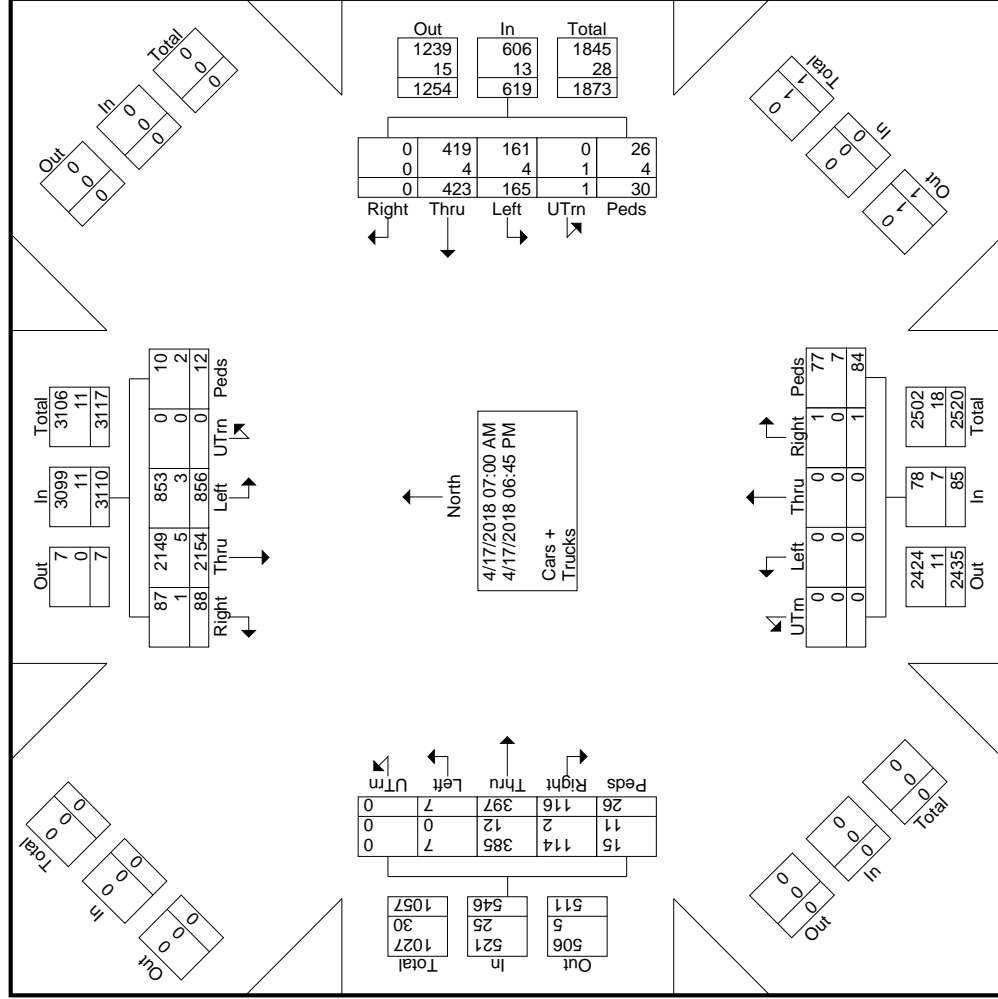


Groups Printed- Cars + - Trucks

	Southbound					Westbound					Northbound					Eastbound					
Start Time	UTrn	Left	Thru	Right	Peds	UTrn	Left	Thru	Right	Peds	UTrn	Left	Thru	Right	Peds	UTrn	Left	Thru	Right	Peds	Int. Total
07:00 AM	0	16	57	5	1	0	3	4	0	3	0	0	0	0	0	0	0	4	0	2	95
07:15 AM	0	15	44	4	0	0	3	11	0	1	0	0	0	0	4	0	0	4	1	2	89
07:30 AM	0	11	72	0	0	0	2	12	0	2	0	0	0	0	5	0	0	14	3	1	122
07:45 AM	0	12	68	4	0	0	8	17	0	3	0	0	0	0	2	0	0	9	2	0	125
Total	0	54	241	13	1	0	16	44	0	9	0	0	0	0	11	0	0	31	6	5	431
08:00 AM	0	27	61	5	1	0	9	15	0	7	0	0	0	0	2	0	0	7	1	0	135
08:15 AM	0	35	61	1	0	1	3	14	0	7	0	0	0	0	4	0	2	7	1	2	138
08:30 AM	0	29	113	2	0	0	7	15	0	0	0	0	0	0	1	0	0	9	4	1	181
08:45 AM	0	47	96	4	0	0	9	23	0	0	0	0	0	0	1	0	1	16	4	2	203
Total	0	138	331	12	1	1	28	67	0	14	0	0	0	0	8	0	3	39	10	5	657
09:00 AM	0	44	114	2	0	0	3	25	0	1	0	0	0	0	1	0	0	18	2	0	210
09:15 AM	0	27	129	3	0	0	6	22	0	0	0	0	0	0	1	0	0	18	2	1	209
09:30 AM	0	20	63	4	0	0	7	18	0	0	0	0	0	0	0	0	0	7	3	0	122
09:45 AM	0	25	64	5	0	0	2	12	0	0	0	0	0	0	1	0	0	7	4	0	120
Total	0	116	370	14	0	0	18	77	0	1	0	0	0	0	3	0	0	50	11	1	661
10:00 AM	0	17	55	4	1	0	7	16	0	0	0	0	0	0	0	0	0	7	2	0	109
10:15 AM	0	24	53	0	0	0	9	9	0	0	0	0	0	0	2	0	0	11	1	2	111
10:30 AM	0	22	46	3	0	0	3	5	0	0	0	0	0	0	1	0	0	3	0	0	83
10:45 AM	0	15	33	3	0	0	5	9	0	0	0	0	0	0	0	0	0	8	3	2	78
Total	0	78	187	10	1	0	24	39	0	0	0	0	0	0	3	0	0	29	6	4	381
11:00 AM	0	4	23	0	0	0	0	2	0	0	0	0	0	0	0	0	0	8	7	0	44
11:15 AM	0	16	40	0	0	0	3	7	0	0	0	0	0	0	1	0	0	12	10	0	89
11:30 AM	0	18	35	2	0	0	4	3	0	0	0	0	0	0	0	0	0	16	9	0	87
11:45 AM	0	16	39	0	0	0	7	8	0	0	0	0	0	0	3	0	0	19	0	0	92
Total	0	54	137	2	0	0	14	20	0	0	0	0	0	0	4	0	0	55	26	0	312
12:00 PM	0	16	34	0	0	0	3	5	0	0	0	0	0	0	2	0	0	10	6	0	76
12:15 PM	0	15	29	2	0	0	3	4	0	0	0	0	0	0	1	0	0	11	5	0	70
12:30 PM	0	20	29	0	0	0	4	6	0	0	0	0	0	0	1	0	0	6	5	1	72
12:45 PM	0	14	36	0	0	0	5	8	0	0	0	0	0	0	2	0	1	10	3	0	79
Total	0	65	128	2	0	0	15	23	0	0	0	0	0	0	6	0	1	37	19	1	297
01:00 PM	0	10	16	0	0	0	5	4	0	0	0	0	0	0	2	0	0	7	3	0	47
01:15 PM	0	17	21	2	0	0	1	6	0	0	0	0	0	0	4	0	0	11	0	1	63
01:30 PM	0	12	26	1	0	0	3	4	0	1	0	0	0	0	0	0	0	8	0	0	55
01:45 PM	0	14	24	1	0	0	2	4	0	0	0	0	0	0	0	0	0	6	2	0	53
Total	0	53	87	4	0	0	11	18	0	1	0	0	0	0	6	0	0	32	5	1	218

Groups Printed- Cars + - Trucks

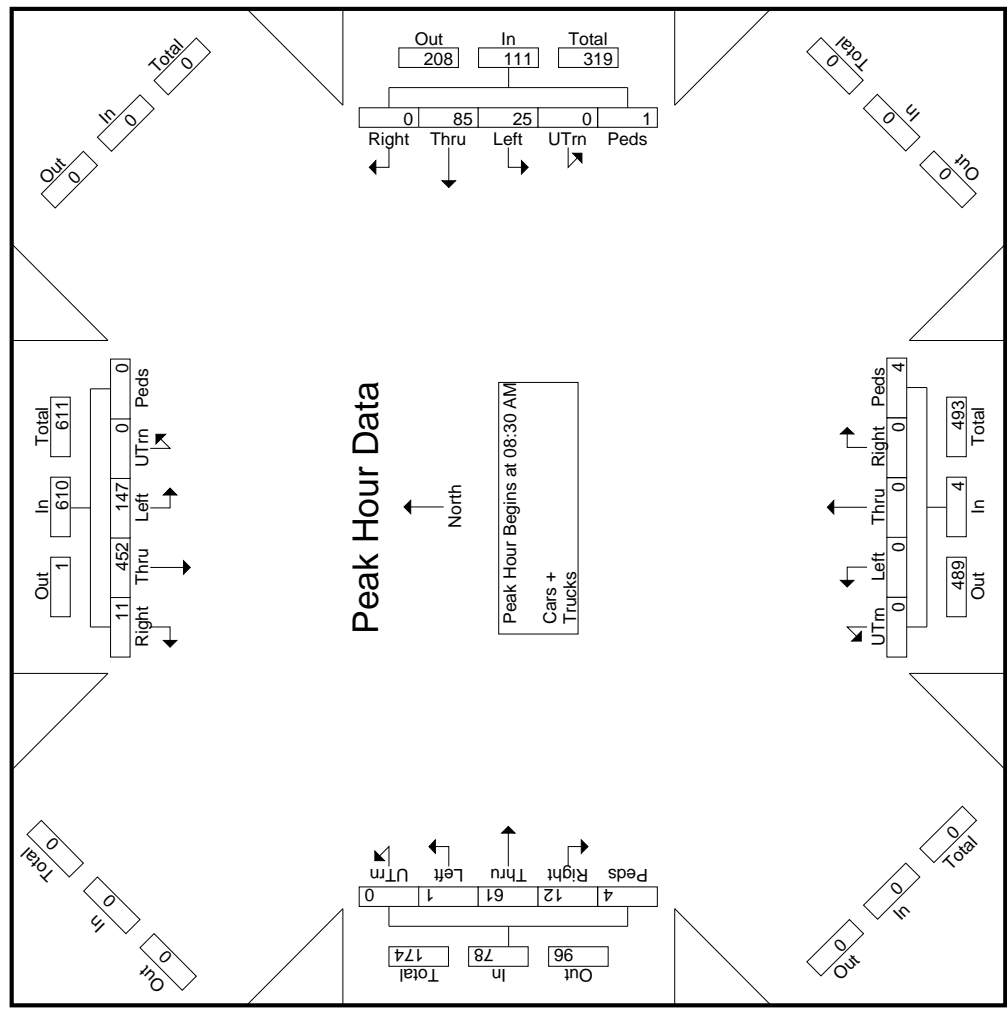
Southbound					Westbound					Northbound					Eastbound						
Start Time	UTrn	Left	Thru	Right	Peds	UTrn	Left	Thru	Right	Peds	UTrn	Left	Thru	Right	Peds	UTrn	Left	Thru	Right	Peds	Int. Total
02:00 PM	0	17	26	1	0	0	0	5	0	0	0	0	0	0	4	0	0	10	3	0	66
02:15 PM	0	20	14	0	2	0	1	7	0	0	0	0	0	0	1	0	0	4	1	0	50
02:30 PM	0	13	32	1	0	0	1	6	0	0	0	0	0	0	0	0	0	7	1	4	65
02:45 PM	0	13	33	2	0	0	3	2	0	0	0	0	0	0	1	0	0	4	1	0	59
Total	0	63	105	4	2	0	5	20	0	0	0	0	0	0	6	0	0	25	6	4	240
03:00 PM	0	8	32	1	0	0	0	9	0	1	0	0	0	0	1	0	0	5	2	0	59
03:15 PM	0	9	37	1	0	0	1	4	0	0	0	0	0	0	4	0	0	5	3	0	64
03:30 PM	0	12	38	2	0	0	2	8	0	0	0	0	0	0	0	0	0	3	2	0	67
03:45 PM	0	24	32	2	2	0	5	10	0	0	0	0	0	1	5	0	0	9	2	0	92
Total	0	53	139	6	2	0	8	31	0	1	0	0	0	1	10	0	0	22	9	0	282
04:00 PM	0	24	49	0	1	0	2	10	0	0	0	0	0	0	2	0	0	7	3	0	98
04:15 PM	0	16	38	2	1	0	2	4	0	1	0	0	0	0	4	0	0	9	2	2	81
04:30 PM	0	21	36	4	0	0	1	10	0	0	0	0	0	0	3	0	0	9	0	0	84
04:45 PM	0	23	31	1	1	0	1	6	0	0	0	0	0	0	1	0	0	8	2	0	74
Total	0	84	154	7	3	0	6	30	0	1	0	0	0	0	10	0	0	33	7	2	337
05:00 PM	0	14	42	2	0	0	3	7	0	0	0	0	0	0	2	0	0	9	1	1	81
05:15 PM	0	11	37	4	0	0	2	4	0	1	0	0	0	0	4	0	0	5	1	0	69
05:30 PM	0	12	29	0	0	0	3	8	0	1	0	0	0	0	0	0	0	9	3	0	65
05:45 PM	0	12	40	1	1	0	5	10	0	0	0	0	0	0	0	0	0	9	4	0	82
Total	0	49	148	7	1	0	13	29	0	2	0	0	0	0	6	0	0	32	9	1	297
06:00 PM	0	15	45	0	0	0	3	4	0	0	0	0	0	0	1	0	0	2	1	0	71
06:15 PM	0	15	39	4	1	0	1	9	0	1	0	0	0	0	3	0	3	5	0	1	82
06:30 PM	0	19	43	3	0	0	3	12	0	0	0	0	0	0	7	0	0	5	1	1	94
06:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	49	127	7	1	0	7	25	0	1	0	0	0	0	11	0	3	12	2	2	247
Grand Total	0	856	2154	88	12	1	165	423	0	30	0	0	0	1	84	0	7	397	116	26	4360
Approch %	0	27.5	69.3	2.8	0.4	0.2	26.7	68.3	0	4.8	0	0	0	1.2	98.8	0	1.3	72.7	21.2	4.8	
Total %	0	19.6	49.4	2	0.3	0	3.8	9.7	0	0.7	0	0	0	0	1.9	0	0.2	9.1	2.7	0.6	
Cars +	0	853	2149	87	10	0	161	419	0	26	0	0	0	1	77	0	7	385	114	15	4304
% Cars +	0	99.6	99.8	98.9	83.3	0	97.6	99.1	0	86.7	0	0	0	100	91.7	0	100	97	98.3	57.7	98.7
Trucks	0	3	5	1	2	1	4	4	0	4	0	0	0	0	7	0	0	12	2	11	56
% Trucks	0	0.4	0.2	1.1	16.7	100	2.4	0.9	0	13.3	0	0	0	0	8.3	0	0	3	1.7	42.3	1.3



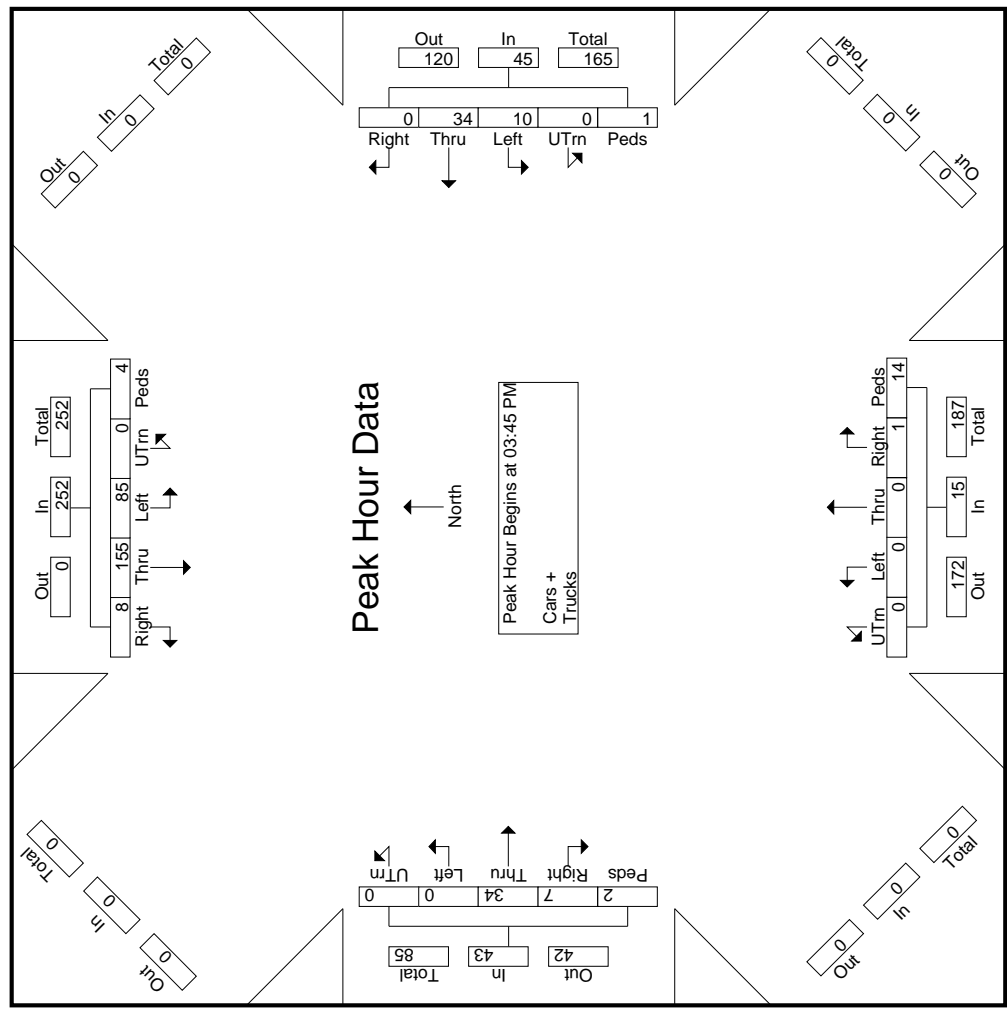
12279 Nicollet Avenue
Burnsville, MN 55337

File Name : Not Named 2
Site Code :
Start Date : 4/17/2018
Page No : 4

	Southbound						Westbound						Northbound						Eastbound						
Start Time	UTrn	Left	Thru	Right	Peds	App. Total	UTrn	Left	Thru	Right	Peds	App. Total	UTrn	Left	Thru	Right	Peds	App. Total	UTrn	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 11:45 AM - Peak 1 of 1																									
Peak Hour for Entire Intersection Begins at 08:30 AM																									
08:30 AM	0	29	113	2	0	144	0	7	15	0	0	22	0	0	0	0	1	1	0	0	9	4	1	14	181
08:45 AM	0	47	96	4	0	147	0	9	23	0	0	32	0	0	0	0	1	1	0	1	16	4	2	23	203
09:00 AM	0	44	114	2	0	160	0	3	25	0	1	29	0	0	0	0	1	1	0	0	18	2	0	20	210
09:15 AM	0	27	129	3	0	159	0	6	22	0	0	28	0	0	0	0	1	1	0	0	18	2	1	21	209
Total Volume	0	147	452	11	0	610	0	25	85	0	1	111	0	0	0	0	4	4	0	1	61	12	4	78	803
% App. Total	0	24.1	74.1	1.8	0		0	22.5	76.6	0	0.9		0	0	0	0	100		0	1.3	78.2	15.4	5.1		
PHF	.000	.782	.876	.688	.000	.953	.000	.694	.850	.000	.250	.867	.000	.000	.000	.000	1.00	1.00	.000	.250	.847	.750	.500	.848	.956



Start Time	Southbound					Westbound					Northbound					Eastbound				
	UTrn	Left	Thru	Right	Peds	App. Total	UTrn	Left	Thru	Right	Peds	App. Total	UTrn	Left	Thru	Right	Peds	App. Total	UTrn	Int. Total
Peak Hour Analysis From 12:00 PM to 06:45 PM - Peak 1 of 1																				
Peak Hour for Entire Intersection Begins at 03:45 PM																				
03:45 PM	0	24	32	2	2	60	0	5	10	0	0	15	0	0	0	0	1	5	6	
04:00 PM	0	24	49	0	1	74	0	2	10	0	0	12	0	0	0	0	2	2	2	0
04:15 PM	0	16	38	2	1	57	0	2	4	0	0	7	0	0	0	0	4	4	0	0
04:30 PM	0	21	36	4	0	61	0	1	10	0	0	11	0	0	0	0	3	3	0	0
Total Volume	0	85	155	8	4	252	0	10	34	0	1	45	0	0	0	34	7	15	0	0
% App. Total	0	33.7	61.5	3.2	1.6		0	22.2	75.6	0	6.7	93.3	0	0	0	79.1	16.3	0	0	0
PHF	.000	.885	.791	.500	.500	.851	.000	.500	.850	.000	.250	.750	.000	.000	.000	.944	.583	.625	.000	.827

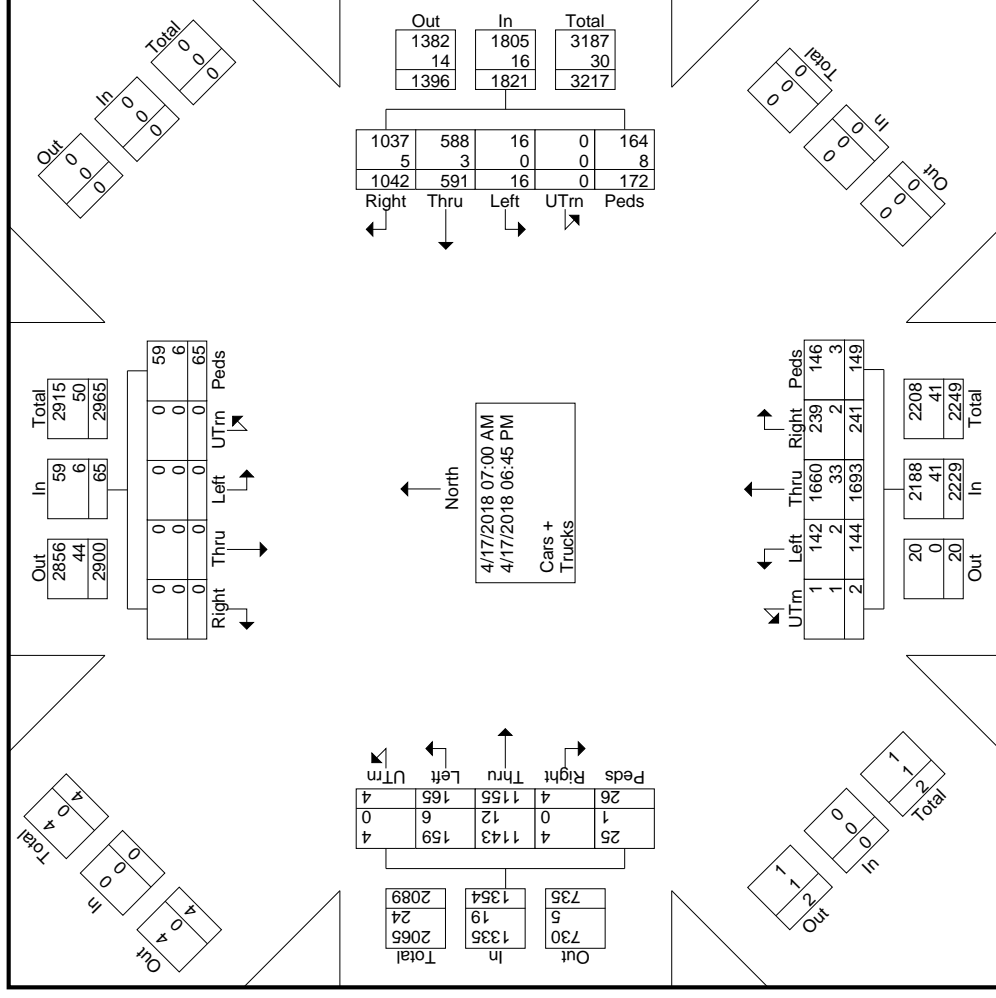


Groups Printed- Cars + - Trucks

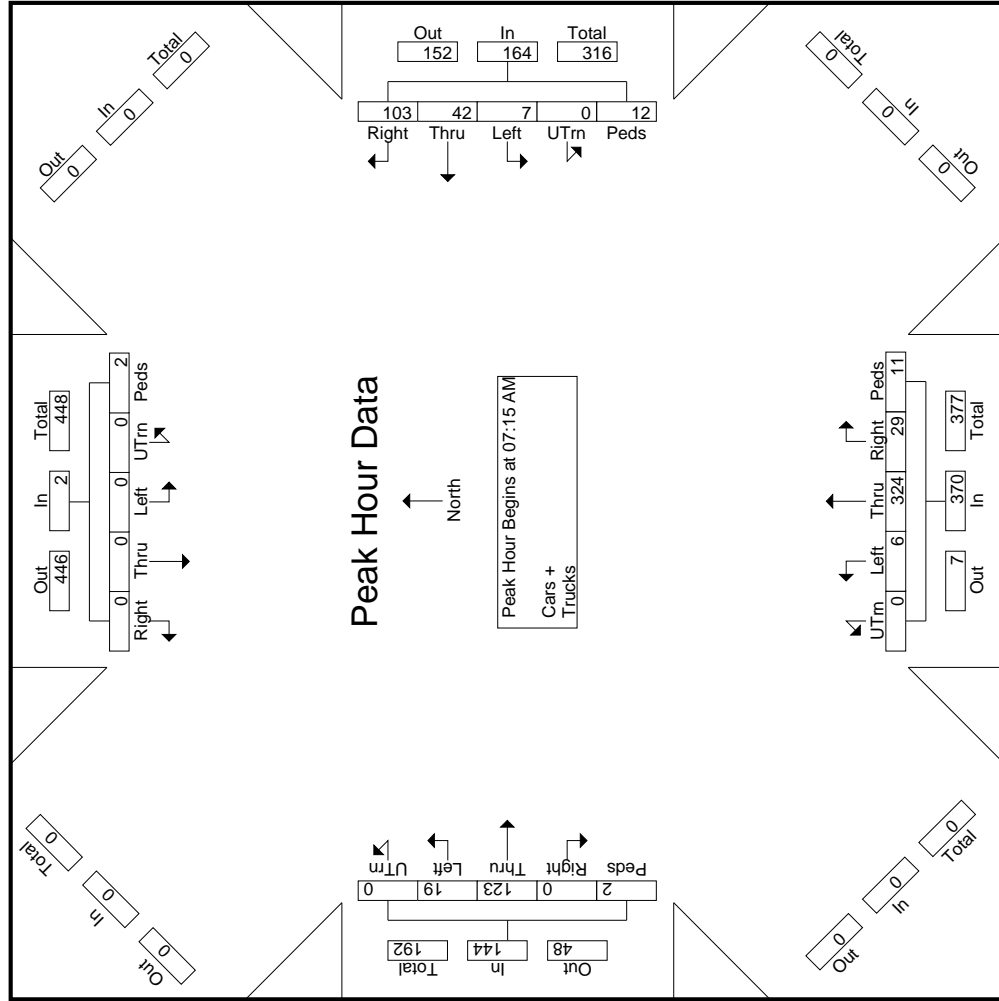
Start Time	Southbound						Westbound						Northbound						Eastbound					
	UTrn	Left	Thru	Right	Peds		UTrn	Left	Thru	Right	Peds		UTrn	Left	Thru	Right	Peds		UTrn	Left	Thru	Right	Peds	Int. Total
07:00 AM	0	0	0	0	1		0	0	5	13	0		0	1	37	5	0		0	2	14	0	0	78
07:15 AM	0	0	0	0	1		0	1	7	20	1		0	1	64	4	0		0	4	27	0	1	131
07:30 AM	0	0	0	0	0		0	0	9	35	4		0	2	93	7	2		0	7	37	0	0	196
07:45 AM	0	0	0	0	0		0	6	16	34	6		0	2	106	7	7		0	3	29	0	0	216
Total	0	0	0	0	2		0	7	37	102	11		0	6	300	23	9		0	16	107	0	1	621
08:00 AM	0	0	0	0	1		0	0	10	14	1		0	1	61	11	2		0	5	30	0	1	137
08:15 AM	0	0	0	0	0		0	0	11	16	1		0	0	31	3	1		2	18	8	0	1	92
08:30 AM	0	0	0	0	0		0	0	13	12	0		0	0	48	3	2		0	7	23	0	0	108
08:45 AM	0	0	0	0	1		0	2	10	5	1		0	0	24	3	2		0	3	17	0	0	68
Total	0	0	0	0	2		0	2	44	47	3		0	1	164	20	7		2	33	78	0	2	405
09:00 AM	0	0	0	0	2		0	0	6	15	2		0	3	19	0	2		2	2	11	0	0	64
09:15 AM	0	0	0	0	1		0	0	8	16	2		0	0	16	4	7		0	4	23	0	1	82
09:30 AM	0	0	0	0	0		0	0	2	25	2		0	1	20	10	2		0	5	17	0	0	84
09:45 AM	0	0	0	0	2		0	1	13	17	1		0	1	22	3	2		0	3	17	0	0	82
Total	0	0	0	0	5		0	1	29	73	7		0	5	77	17	13		2	14	68	0	1	312
10:00 AM	0	0	0	0	2		0	0	2	15	6		0	1	32	2	3		0	5	20	0	1	89
10:15 AM	0	0	0	0	1		0	0	7	20	10		0	1	30	9	6		0	5	23	0	0	112
10:30 AM	0	0	0	0	1		0	0	8	18	1		0	0	32	2	1		0	4	21	0	1	89
10:45 AM	0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0	0	0	0
Total	0	0	0	0	4		0	0	17	53	17		0	2	94	13	10		0	14	64	0	2	290
11:00 AM	0	0	0	0	1		0	0	5	22	1		0	3	20	4	0		0	1	15	0	0	72
11:15 AM	0	0	0	0	0		0	0	9	19	4		0	1	24	2	4		0	0	13	0	0	76
11:30 AM	0	0	0	0	2		0	0	10	19	2		0	0	28	1	1		0	2	22	0	0	87
11:45 AM	0	0	0	0	3		0	0	6	40	3		1	2	31	8	3		0	1	26	0	0	124
Total	0	0	0	0	6		0	0	30	100	10		1	6	103	15	8		0	4	76	0	0	359
12:00 PM	0	0	0	0	5		0	0	10	28	11		0	0	31	7	7		0	3	37	1	1	141
12:15 PM	0	0	0	0	1		0	0	9	32	6		0	2	34	9	1		0	0	22	0	0	116
12:30 PM	0	0	0	0	0		0	0	13	27	6		0	2	38	7	7		0	5	28	0	2	135
12:45 PM	0	0	0	0	1		0	0	13	36	7		0	3	35	7	5		0	10	29	0	2	148
Total	0	0	0	0	7		0	0	45	123	30		0	7	138	30	20		0	18	116	1	5	540
01:00 PM	0	0	0	0	0		0	0	6	14	5		0	1	33	5	4		0	3	26	0	1	98
01:15 PM	0	0	0	0	0		0	0	7	20	3		0	1	28	2	2		0	2	19	0	0	84
01:30 PM	0	0	0	0	1		0	0	11	22	3		0	6	27	5	2		0	2	22	0	0	101
01:45 PM	0	0	0	0	1		0	0	8	28	4		0	5	33	4	3		0	2	22	0	1	111
Total	0	0	0	0	2		0	0	32	84	15		0	13	121	16	11		0	9	89	0	2	394

Groups Printed- Cars + - Trucks

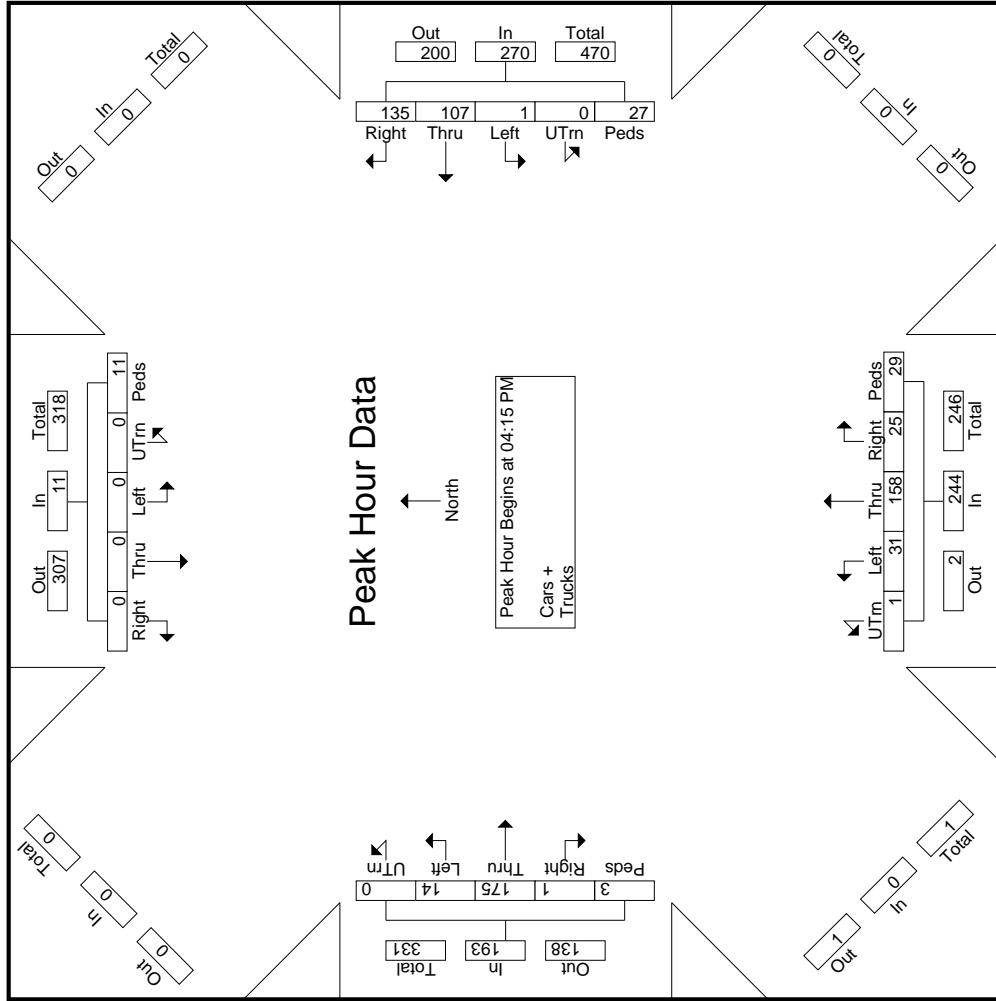
Southbound					Westbound					Northbound					Eastbound						
Start Time	UTrn	Left	Thru	Right	Peds	UTrn	Left	Thru	Right	Peds	UTrn	Left	Thru	Right	Peds	UTrn	Left	Thru	Right	Peds	Int. Total
02:00 PM	0	0	0	0	2	0	2	16	18	1	0	4	31	1	2	0	2	20	0	0	99
02:15 PM	0	0	0	0	2	0	0	12	25	6	0	7	33	2	3	0	2	30	0	0	122
02:30 PM	0	0	0	0	1	0	0	24	27	4	0	3	39	8	11	0	2	32	0	0	151
02:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	5	0	2	52	70	11	0	14	103	11	16	0	6	82	0	0	372
03:00 PM	0	0	0	0	1	0	0	8	18	3	0	2	36	7	3	0	0	18	0	0	96
03:15 PM	0	0	0	0	1	0	0	13	22	3	0	6	27	3	5	0	1	20	0	2	103
03:30 PM	0	0	0	0	2	0	1	16	26	4	0	6	43	4	3	0	6	24	0	2	137
03:45 PM	0	0	0	0	0	0	0	28	21	3	0	2	42	8	1	0	3	24	0	0	132
Total	0	0	0	0	4	0	1	65	87	13	0	16	148	22	12	0	10	86	0	4	468
04:00 PM	0	0	0	0	3	0	0	19	23	4	0	13	45	7	3	0	5	33	2	2	159
04:15 PM	0	0	0	0	7	0	1	29	43	4	1	9	31	7	10	0	2	36	0	1	181
04:30 PM	0	0	0	0	2	0	0	25	24	8	0	3	38	6	7	0	2	33	1	1	150
04:45 PM	0	0	0	0	1	0	0	30	35	6	0	10	39	6	4	0	6	56	0	0	193
Total	0	0	0	0	13	0	1	103	125	22	1	35	153	26	24	0	15	158	3	4	683
05:00 PM	0	0	0	0	1	0	0	23	33	9	0	9	50	6	8	0	4	50	0	1	194
05:15 PM	0	0	0	0	5	0	0	24	28	5	0	10	42	5	1	0	2	35	0	1	158
05:30 PM	0	0	0	0	0	0	0	19	28	3	0	6	38	6	1	0	2	23	0	1	127
05:45 PM	0	0	0	0	2	0	0	18	19	2	0	3	34	4	3	0	3	22	0	0	110
Total	0	0	0	0	8	0	0	84	108	19	0	28	164	21	13	0	11	130	0	3	589
06:00 PM	0	0	0	0	5	0	0	20	24	2	0	5	43	8	1	0	5	24	0	1	138
06:15 PM	0	0	0	0	1	0	0	10	14	2	0	4	38	8	0	0	6	31	0	0	114
06:30 PM	0	0	0	0	0	0	0	9	14	9	0	1	27	5	4	0	1	26	0	0	96
06:45 PM	0	0	0	0	1	0	2	14	18	1	0	1	20	6	1	0	3	20	0	1	88
Total	0	0	0	0	7	0	2	53	70	14	0	11	128	27	6	0	15	101	0	2	436
Grand Total	0	0	0	0	65	0	16	591	1042	172	2	144	1693	241	149	4	165	1155	4	26	5469
Approch %	0	0	0	0	100	0	0.9	32.5	57.2	9.4	0.1	6.5	76	10.8	6.7	0.3	12.2	85.3	0.3	1.9	
Total %	0	0	0	0	1.2	0	0.3	10.8	19.1	3.1	0	2.6	31	4.4	2.7	0.1	3	21.1	0.1	0.5	
Cars +	0	0	0	0	59	0	16	588	1037	164	1	142	1660	239	146	4	159	1143	4	25	5387
% Cars +	0	0	0	0	90.8	0	100	99.5	99.5	95.3	50	98.6	98.1	99.2	98	100	96.4	99	100	96.2	98.5
Trucks	0	0	0	0	6	0	0	3	5	8	1	2	33	2	3	0	6	12	0	1	82
% Trucks	0	0	0	0	9.2	0	0	0.5	0.5	4.7	50	1.4	1.9	0.8	2	0	3.6	1	0	3.8	1.5



		Southbound						Westbound						Northbound						Eastbound						
Start Time	UTrn	Left	Thru	Right	Peds	App. Total	UTrn	Left	Thru	Right	Peds	App. Total	UTrn	Left	Thru	Right	Peds	App. Total	UTrn	Left	Thru	Right	Peds	App. Total	Int. Total	
Peak Hour Analysis From 07:00 AM to 11:45 AM - Peak 1 of 1																										
Peak Hour for Entire Intersection Begins at 07:15 AM																										
07:15 AM	0	0	0	0	1	1	0	1	7	20	1	29	0	1	64	4	0	0	69	0	4	27	0	1	32	131
07:30 AM	0	0	0	0	0	0	0	0	9	35	4	48	0	2	93	7	2	2	104	0	7	37	0	0	44	196
07:45 AM	0	0	0	0	0	0	0	6	16	34	6	62	0	2	106	7	7	7	122	0	3	29	0	0	32	216
08:00 AM	0	0	0	0	1	1	0	0	10	14	1	25	0	1	61	11	2	2	75	0	5	30	0	1	36	137
Total Volume	0	0	0	0	2	2	0	7	42	103	12	164	0	6	324	29	11	370	370	0	19	123	0	2	144	680
% App. Total	0	0	0	0	100		0	4.3	25.6	62.8	7.3		0	1.6	87.6	7.8	3			0	13.2	85.4	0	1.4		
PHF	.000	.000	.000	.000	.500	.500	.000	.292	.656	.736	.500	.661	.000	.750	.764	.659	.393	.758	.758	.000	.679	.831	.000	.500	.818	.787



Southbound										Westbound										Northbound										Eastbound									
Start Time	UTrn	Left	Thru	Right	Peds	App. Total	UTrn	Left	Thru	Right	Peds	App. Total	UTrn	Left	Thru	Right	Peds	App. Total	UTrn	Left	Thru	Right	Peds	App. Total	Int. Total														
Peak Hour Analysis From 12:00 PM to 06:45 PM - Peak 1 of 1																																							
Peak Hour for Entire Intersection Begins at 04:15 PM																																							
04:15 PM	0	0	0	0	7	7	0	1	29	43	4	77	1	9	31	7	10	58	0	2	36	0	1	39	181														
04:30 PM	0	0	0	0	2	2	0	0	25	24	8	57	0	3	38	6	7	54	0	2	33	1	1	37	150														
04:45 PM	0	0	0	0	1	1	0	0	30	35	6	71	0	10	39	6	4	59	0	6	56	0	0	62	193														
05:00 PM	0	0	0	0	1	1	0	0	23	33	9	65	0	9	50	6	8	73	0	4	50	0	1	55	194														
Total Volume	0	0	0	0	11	11	0	1	107	135	27	270	1	31	158	25	29	244	0	14	175	1	3	193	718														
% App. Total	0	0	0	0	100		0	0.4	39.6	50	10		0.4	12.7	64.8	10.2	11.9		0	7.3	90.7	0.5	1.6																
PHF	.000	.000	.000	.000	.393	.393	.000	.250	.892	.785	.750	.877	.250	.775	.790	.893	.725	.836	.000	.583	.781	.250	.750	.778	.925														

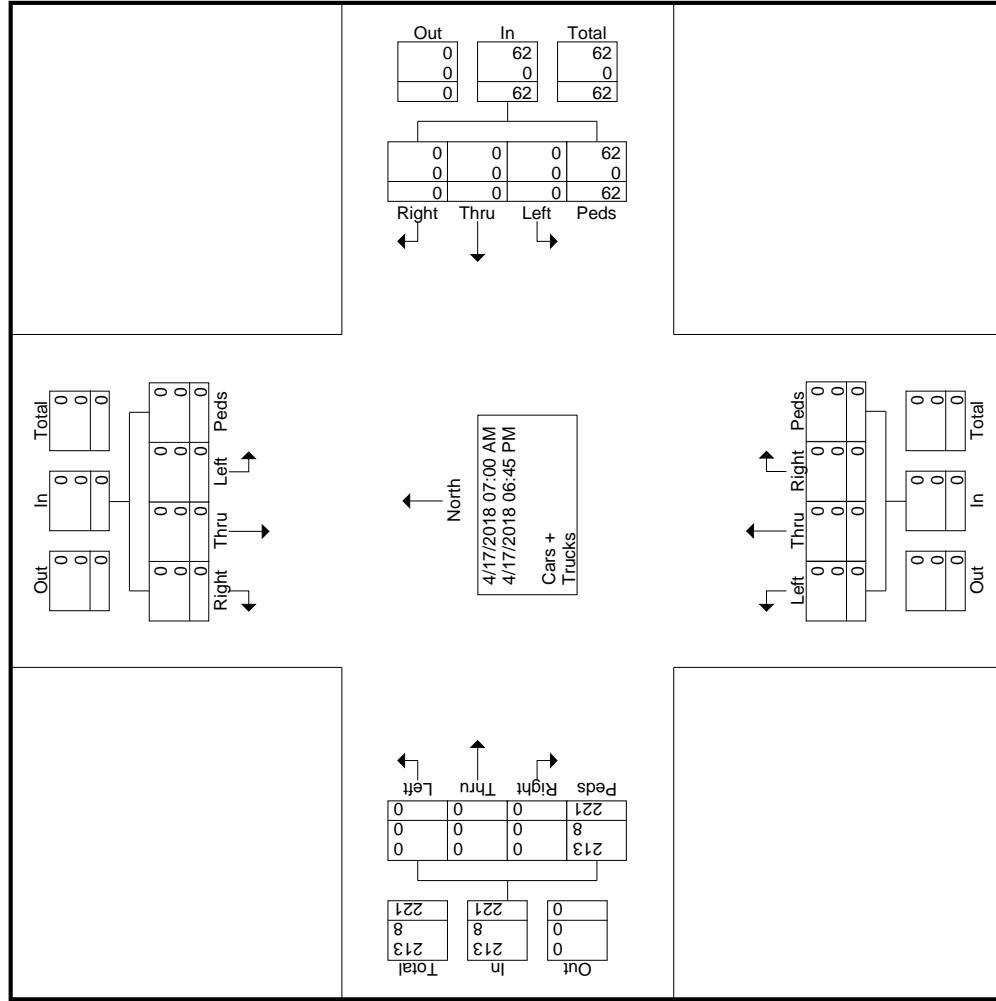


Groups Printed- Cars + - Trucks

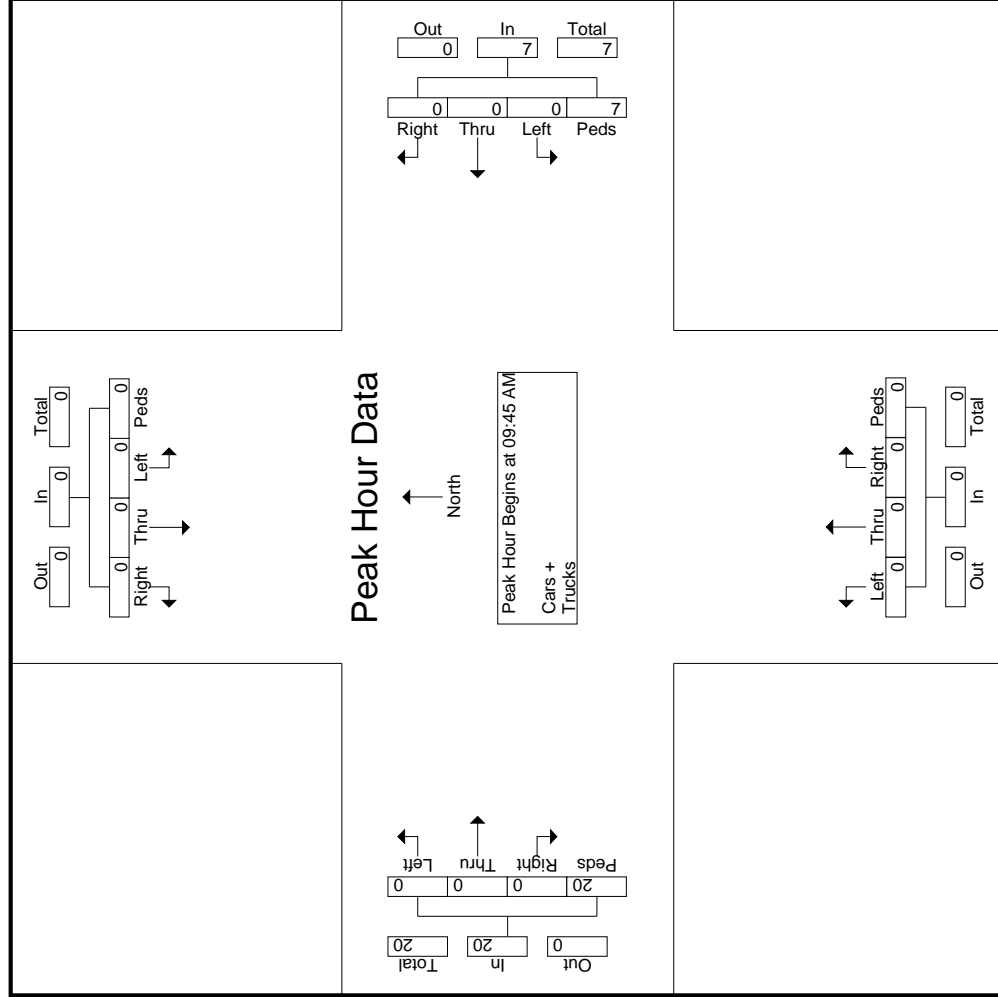
	Southbound					Westbound					Northbound					Eastbound				
	Left	Thru	Right	Peds		Left	Thru	Right	Peds		Left	Thru	Right	Peds		Left	Thru	Right	Peds	Int. Total
Start Time																				
07:00 AM	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	1	1
07:15 AM	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	3	3
07:30 AM	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	1	1
07:45 AM	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	6	6
Total	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	11	11
08:00 AM	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	6	7
08:15 AM	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	3	3
08:30 AM	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	2	4
08:45 AM	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	2	2
Total	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	13	16
09:00 AM	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	3	3
09:15 AM	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	1	3
09:30 AM	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	2	3
09:45 AM	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	7	10
Total	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	13	19
10:00 AM	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	4	7
10:15 AM	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	5	6
10:30 AM	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	4	4
10:45 AM	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0	0
Total	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	13	17
11:00 AM	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	2	2
11:15 AM	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	1	1
11:30 AM	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	1	2
11:45 AM	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	3	7
Total	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	7	12
12:00 PM	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	5	9
12:15 PM	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	7	9
12:30 PM	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	7	10
12:45 PM	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	4	5
Total	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	23	33
01:00 PM	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	1	1
01:15 PM	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	2	3
01:30 PM	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	3	3
01:45 PM	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	2	3
Total	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	8	10

Groups Printed- Cars + - Trucks

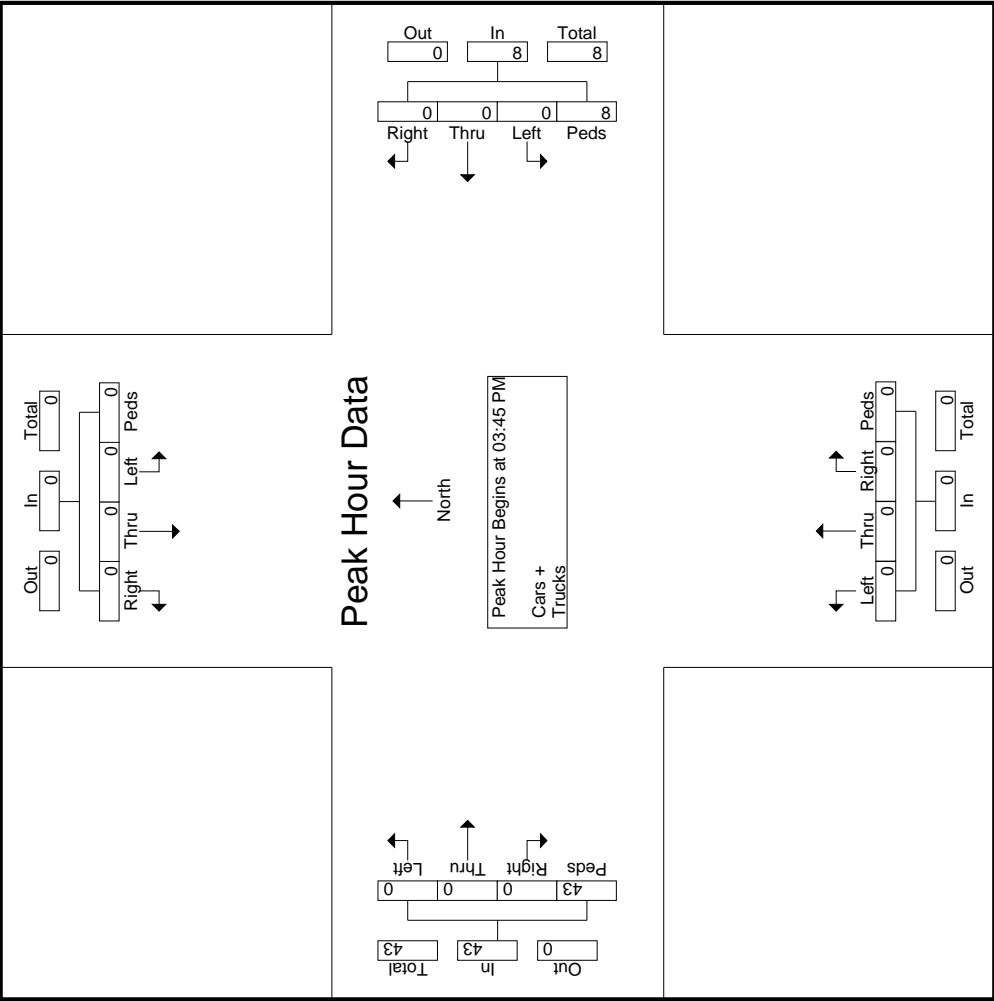
Start Time	Southbound			Westbound			Northbound			Eastbound		
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds
02:00 PM	0	0	0	0	0	0	0	0	0	0	0	3
02:15 PM	0	0	0	0	0	0	0	0	0	0	0	4
02:30 PM	0	0	0	0	0	0	0	0	0	0	0	5
02:45 PM	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	12
03:00 PM	0	0	0	0	0	0	0	0	0	0	0	2
03:15 PM	0	0	0	0	0	0	0	0	0	0	0	13
03:30 PM	0	0	0	0	0	0	0	0	0	0	0	4
03:45 PM	0	0	0	0	0	0	0	0	0	0	0	5
Total	0	0	0	0	0	0	0	0	0	0	0	24
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	5
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	7
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	17
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	16
Total	0	0	0	0	0	0	0	0	0	0	0	6
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	44
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	6
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	4
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	9
Total	0	0	0	0	0	0	0	0	0	0	0	2
06:00 PM	0	0	0	0	0	0	0	0	0	0	0	21
06:15 PM	0	0	0	0	0	0	0	0	0	0	0	8
06:30 PM	0	0	0	0	0	0	0	0	0	0	0	10
06:45 PM	0	0	0	0	0	0	0	0	0	0	0	9
Total	0	0	0	0	0	0	0	0	0	0	0	5
Grand Total	0	0	0	0	0	0	0	0	0	0	0	32
Apprch %	0	0	0	0	0	0	0	0	0	0	0	221
Total %	0	0	0	0	0	0	0	0	0	0	0	100
Cars +	0	0	0	0	0	0	0	0	0	0	0	78.1
% Cars +	0	0	0	0	0	0	0	0	0	0	0	213
Trucks	0	0	0	0	0	0	0	0	0	0	0	96.4
% Trucks	0	0	0	0	0	0	0	0	0	0	0	8
	0	0	0	0	0	0	0	0	0	0	0	3.6
												2.8



	Southbound					Westbound					Northbound					Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 11:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 09:45 AM																					
09:45 AM	0	0	0	0	0	0	0	0	3	3	0	0	0	0	0	0	0	0	7	7	10
10:00 AM	0	0	0	0	0	0	0	0	3	3	0	0	0	0	0	0	0	0	4	4	7
10:15 AM	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	5	5	6
10:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	4	4
Total Volume	0	0	0	0	0	0	0	0	7	7	0	0	0	0	0	0	0	0	20	20	27
% App. Total	0	0	0	0	0	0	0	0	100	100	0	0	0	0	0	0	0	0	100	100	100
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.583	.583	.000	.000	.000	.000	.000	.000	.000	.000	.714	.714	.675



	Southbound					Westbound					Northbound					Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 06:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 03:45 PM																					
03:45 PM	0	0	0	0	0	0	0	0	2	2	0	0	0	0	0	0	0	0	5	5	7
04:00 PM	0	0	0	0	0	0	0	0	2	2	0	0	0	0	0	0	0	0	5	5	7
04:15 PM	0	0	0	0	0	0	0	0	2	2	0	0	0	0	0	0	0	0	17	17	19
04:30 PM	0	0	0	0	0	0	0	0	2	2	0	0	0	0	0	0	0	0	16	16	18
Total Volume	0	0	0	0	0	0	0	0	8	8	0	0	0	0	0	0	0	0	43	43	51
% App. Total	0	0	0	0	0	0	0	0	100	100	0	0	0	0	0	0	0	0	100	100	51
PHF	.000	.000	.000	.000	.000	.000	.000	.000	1.00	1.00	.000	.000	.000	.000	.000	.000	.000	.000	.632	.632	.671

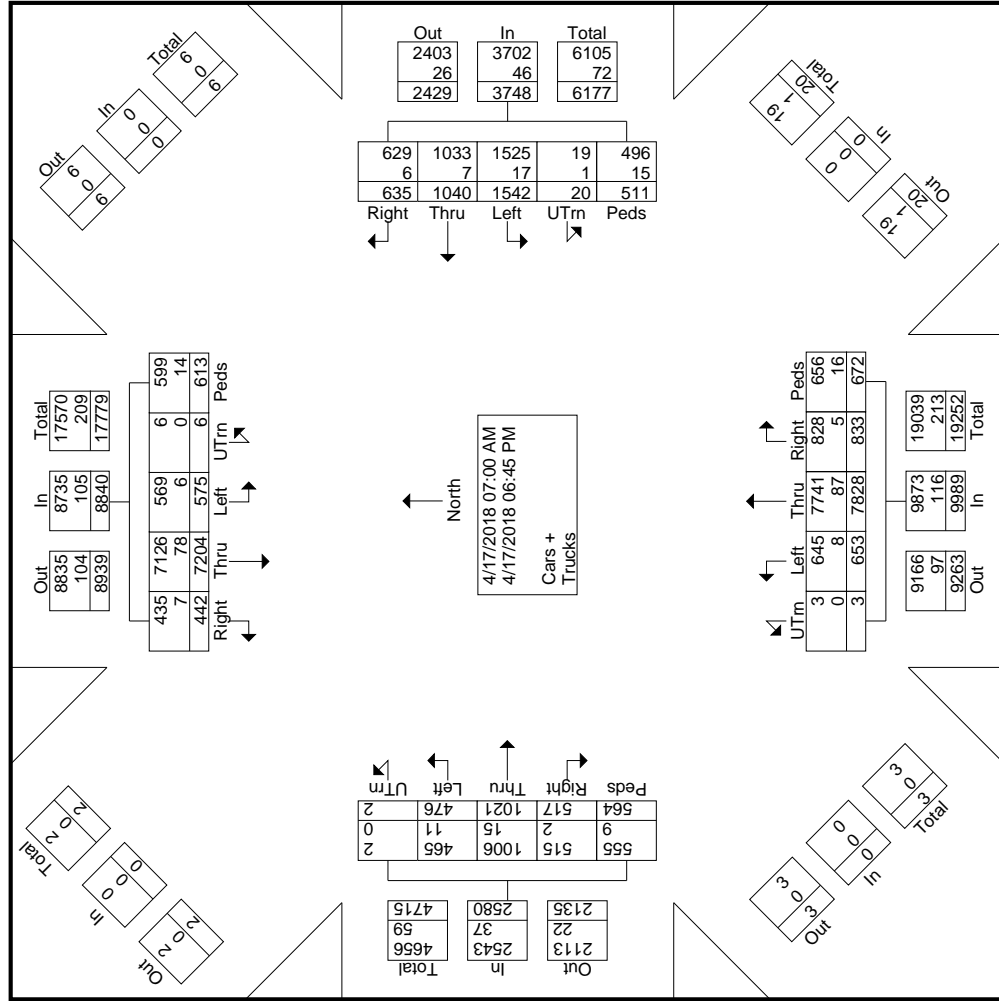


Groups Printed- Cars + - Trucks

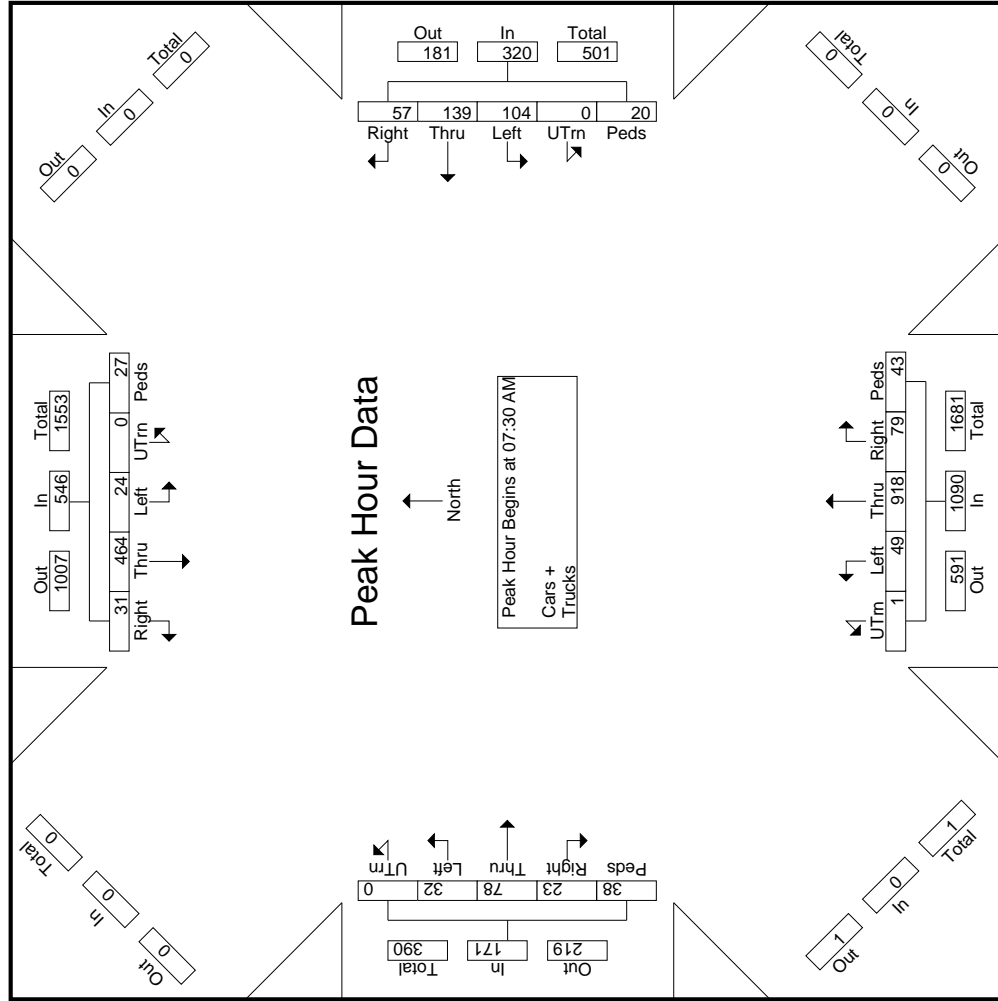
	Southbound										Westbound										Northbound										Eastbound									
Start Time	UTrn	Left	Thru	Right	Peds	UTrn	Left	Thru	Right	Peds	UTrn	Left	Thru	Right	Peds	UTrn	Left	Thru	Right	Peds	UTrn	Left	Thru	Right	Peds	Int. Total														
07:00 AM	0	6	56	2	0	0	26	15	11	1	0	4	113	9	3	0	2	7	7	3	0	2	7	7	3	265														
07:15 AM	0	4	92	5	1	0	33	17	7	2	0	7	149	17	1	0	1	19	5	3	0	1	19	5	3	363														
07:30 AM	0	3	99	4	4	0	38	30	13	4	0	9	221	15	9	0	11	15	4	12	0	11	15	4	12	491														
07:45 AM	0	8	130	10	17	0	31	65	17	13	1	20	294	24	25	0	8	19	6	21	0	8	19	6	21	709														
Total	0	21	377	21	22	0	128	127	48	20	1	40	777	65	38	0	22	60	22	39	0	22	60	22	39	1828														
08:00 AM	0	6	125	9	3	0	19	23	10	2	0	11	229	27	4	0	8	21	6	1	0	8	21	6	1	504														
08:15 AM	0	7	110	8	3	0	16	21	17	1	0	9	174	13	5	0	5	23	7	4	0	5	23	7	4	423														
08:30 AM	1	6	110	9	7	0	16	18	8	2	0	13	120	10	0	0	1	19	8	2	0	1	19	8	2	350														
08:45 AM	0	11	91	4	4	0	18	14	11	1	0	10	138	12	6	0	5	13	10	5	0	5	13	10	5	353														
Total	1	30	436	30	17	0	69	76	46	6	0	43	661	62	15	0	19	76	31	12	0	19	76	31	12	1630														
09:00 AM	0	7	98	5	9	0	15	16	9	5	0	9	146	16	9	0	7	14	4	11	0	7	14	4	11	380														
09:15 AM	0	7	108	2	8	0	13	14	15	8	0	12	151	12	9	0	12	23	7	10	0	12	23	7	10	411														
09:30 AM	0	8	143	14	17	0	13	14	17	14	0	15	147	25	14	0	7	8	6	5	0	7	8	6	5	467														
09:45 AM	1	16	126	3	10	0	26	21	14	4	0	20	144	20	11	0	7	7	2	18	0	7	7	2	18	450														
Total	1	38	475	24	44	0	67	65	55	31	0	56	588	73	43	0	33	52	19	44	0	33	52	19	44	1708														
10:00 AM	1	11	112	3	15	0	24	21	11	10	0	11	143	9	17	0	6	16	11	11	0	6	16	11	11	432														
10:15 AM	0	12	159	13	13	1	24	18	4	38	0	10	186	25	40	0	7	18	9	15	0	7	18	9	15	592														
10:30 AM	0	10	104	8	10	0	22	20	8	5	0	10	102	12	6	0	7	15	2	9	0	7	15	2	9	350														
10:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0														
Total	1	33	375	24	38	1	70	59	23	53	0	31	431	46	63	0	20	49	22	35	0	20	49	22	35	1374														
11:00 AM	0	6	107	1	7	0	22	15	10	3	0	4	117	12	4	0	10	4	9	5	0	10	4	9	5	336														
11:15 AM	0	8	117	4	3	0	28	13	13	1	0	9	119	15	7	0	8	15	6	3	0	8	15	6	3	369														
11:30 AM	0	6	126	3	13	0	19	17	7	6	0	7	179	13	9	0	10	11	10	5	0	10	11	10	5	441														
11:45 AM	1	19	161	5	16	0	23	24	6	13	0	10	160	23	28	0	13	20	10	16	0	13	20	10	16	548														
Total	1	39	511	13	39	0	92	69	36	23	0	30	575	63	48	0	41	50	35	29	0	41	50	35	29	1694														
12:00 PM	0	11	157	11	24	0	24	19	18	18	0	11	167	14	29	0	20	28	14	19	0	20	28	14	19	584														
12:15 PM	0	9	124	5	10	0	27	17	12	8	0	11	146	27	11	0	11	24	14	9	0	11	24	14	9	465														
12:30 PM	0	13	169	5	37	0	31	26	9	29	0	16	166	13	21	0	12	20	8	23	0	12	20	8	23	598														
12:45 PM	1	11	133	6	25	0	25	17	11	19	0	13	196	18	13	0	7	22	16	18	0	7	22	16	18	551														
Total	1	44	583	27	96	0	107	79	50	74	0	51	675	72	74	0	50	94	52	69	0	50	94	52	69	2198														
01:00 PM	0	9	135	5	8	0	36	16	18	6	0	8	161	20	15	0	9	13	19	12	0	9	13	19	12	490														
01:15 PM	0	14	156	6	6	0	31	17	12	3	0	12	173	11	6	2	10	11	6	6	0	10	11	6	6	482														
01:30 PM	0	12	158	8	8	0	36	24	5	5	0	11	146	17	8	0	8	17	8	6	0	8	17	8	6	477														
01:45 PM	0	13	165	5	13	0	30	20	17	14	0	14	174	11	6	0	9	23	13	12	0	9	23	13	12	539														
Total	0	48	614	24	35	0	133	77	52	28	0	45	654	59	35	2	36	64	46	36	0	36	64	46	36	1988														

Groups Printed- Cars + - Trucks

Westbound																Northbound																Eastbound															
Southbound						Westbound						Northbound						Eastbound																													
Start Time	UTrn	Left	Thru	Right	Peds	UTrn	Left	Thru	Right	Peds	UTrn	Left	Thru	Right	Peds	UTrn	Left	Thru	Right	Peds	Int. Total																										
02:00 PM	0	10	128	5	12	0	35	14	14	7	1	17	134	20	10	0	8	16	5	6	442																										
02:15 PM	0	20	163	8	20	0	33	17	7	14	1	19	139	10	28	0	6	18	11	23	537																										
02:30 PM	0	20	260	21	36	0	49	24	16	25	0	8	245	15	36	0	22	29	15	32	853																										
02:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0																										
Total	0	50	551	34	68	0	117	55	37	46	2	44	518	45	74	0	36	63	31	61	1832																										
03:00 PM	0	17	154	3	6	0	41	18	15	12	0	10	153	16	8	0	9	21	10	8	501																										
03:15 PM	0	13	206	6	11	0	49	21	14	17	0	11	161	23	31	0	9	28	7	18	625																										
03:30 PM	0	18	252	11	17	0	46	25	15	10	0	10	223	16	11	0	9	20	8	7	698																										
03:45 PM	0	17	254	24	20	0	49	29	19	19	0	20	202	23	24	0	15	39	16	12	782																										
Total	0	65	866	44	54	0	185	93	63	58	0	51	739	78	74	0	42	108	41	45	2606																										
04:00 PM	0	22	246	25	6	0	46	41	25	5	0	21	227	19	17	0	14	33	6	45	798																										
04:15 PM	0	33	273	57	42	8	56	59	18	54	0	47	275	29	81	0	16	70	27	34	1179																										
04:30 PM	1	20	336	22	29	11	71	35	23	16	0	20	278	27	15	0	20	30	24	19	997																										
04:45 PM	0	15	228	21	11	0	66	32	18	9	0	31	194	27	9	0	13	43	21	11	749																										
Total	1	90	1083	125	88	19	239	167	84	84	0	119	974	102	122	0	63	176	78	109	3723																										
05:00 PM	0	15	237	15	19	0	49	24	26	11	0	21	189	19	4	0	9	44	19	4	705																										
05:15 PM	0	20	180	13	14	0	34	36	15	12	0	28	177	26	3	0	12	38	25	2	635																										
05:30 PM	0	13	196	11	25	0	42	34	21	23	0	16	187	30	21	0	14	20	7	15	675																										
05:45 PM	0	16	159	7	13	0	52	17	25	10	0	20	146	19	7	0	16	26	14	11	558																										
Total	0	64	772	46	71	0	177	111	87	56	0	85	699	94	35	0	51	128	65	32	2573																										
06:00 PM	0	9	161	14	12	0	41	24	18	9	0	12	139	15	17	0	22	32	15	16	556																										
06:15 PM	0	20	145	6	14	0	31	15	13	11	0	20	147	21	11	0	14	22	27	9	526																										
06:30 PM	0	14	129	8	5	0	40	6	10	4	0	12	117	16	16	0	10	23	18	21	449																										
06:45 PM	0	10	126	2	10	0	46	17	13	8	0	14	134	22	7	0	17	24	15	7	472																										
Total	0	53	561	30	41	0	158	62	54	32	0	58	537	74	51	0	63	101	75	53	2003																										
Grand Total	6	575	7204	442	613	20	1542	1040	635	511	3	653	7828	833	672	2	476	1021	517	564	25157																										
Approch %	0.1	6.5	81.5	5	6.9	0.5	41.1	27.7	16.9	13.6	0	6.5	78.4	8.3	6.7	0.1	18.4	39.6	20	21.9																											
Total %	0	2.3	28.6	1.8	2.4	0.1	6.1	4.1	2.5	2	0	2.6	31.1	3.3	2.7	0	1.9	4.1	2.1	2.2																											
Cars +	6	569	7126	435	599	19	1525	1033	629	496	3	645	7741	828	656	2	465	1006	515	555	24853																										
% Cars +	100	99	98.9	98.4	97.7	95	98.9	99.3	99.1	97.1	100	98.8	98.9	99.4	97.6	100	97.7	98.5	99.6	98.4	98.8																										
Trucks	0	6	78	7	14	1	17	7	6	15	0	8	87	5	16	0	11	15	2	9	304																										
% Trucks	0	1	1.1	1.6	2.3	5	1.1	0.7	0.9	2.9	0	1.2	1.1	0.6	2.4	0	2.3	1.5	0.4	1.6	1.2																										



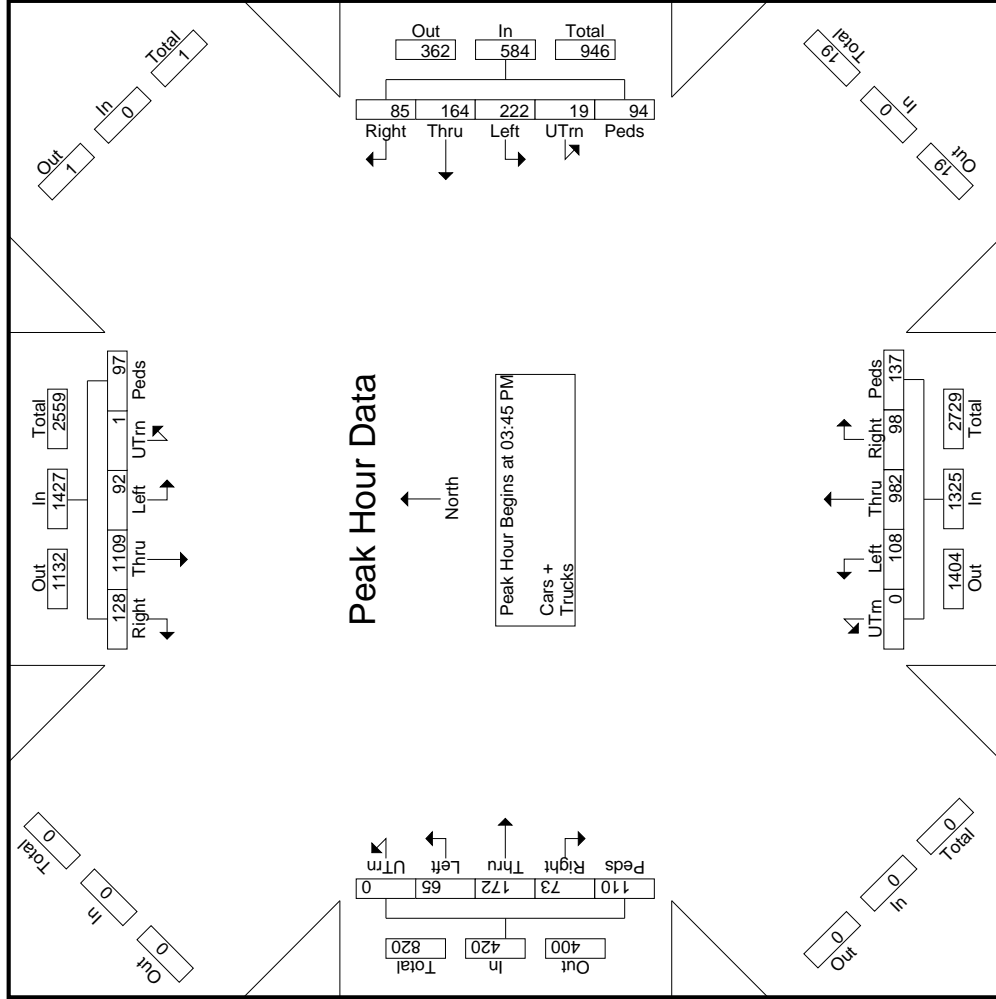
Start Time	Southbound					Westbound					Northbound					Eastbound				
	UTrn	Left	Thru	Right	Peds	App. Total	UTrn	Left	Thru	Right	Peds	App. Total	UTrn	Left	Thru	Right	Peds	App. Total	UTrn	Int. Total
Peak Hour Analysis From 07:00 AM to 11:45 AM - Peak 1 of 1																				
Peak Hour for Entire Intersection Begins at 07:30 AM																				
07:30 AM	0	3	99	4	4	110	0	38	30	13	4	85	0	9	221	15	9	254	0	491
07:45 AM	0	8	130	10	17	165	0	31	65	17	13	126	1	20	294	24	25	364	0	54
08:00 AM	0	6	125	9	3	143	0	19	23	10	2	54	0	11	229	27	4	271	0	504
08:15 AM	0	7	110	8	3	128	0	16	21	17	1	55	0	9	174	13	5	201	0	423
Total Volume	0	24	464	31	27	546	0	104	139	57	20	320	1	49	918	79	43	1090	0	2127
% App. Total	0	4.4	85	5.7	4.9		0	32.5	43.4	17.8	6.2		0.1	4.5	84.2	7.2	3.9		0	
PHF	.000	.750	.892	.775	.397	.827	.000	.684	.535	.838	.385	.635	.250	.613	.781	.731	.430	.749	.000	.750



12279 Nicollet Avenue
Burnsville, MN 55337

File Name : Not Named 2
Site Code :
Start Date : 4/17/2018
Page No : 6

	Southbound						Westbound						Northbound						Eastbound						
Start Time	UTrn	Left	Thru	Right	Peds	App. Total	UTrn	Left	Thru	Right	Peds	App. Total	UTrn	Left	Thru	Right	Peds	App. Total	UTrn	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 06:45 PM - Peak 1 of 1																									
Peak Hour for Entire Intersection Begins at 03:45 PM																									
03:45 PM	0	17	254	24	20	315	0	49	29	19	19	116	0	20	202	23	24	269	0	15	39	16	12	82	782
04:00 PM	0	22	246	25	6	299	0	46	41	25	5	117	0	21	227	19	17	284	0	14	33	6	45	98	798
04:15 PM	0	33	273	57	42	405	8	56	59	18	54	195	0	47	275	29	81	432	0	16	70	27	34	147	1179
04:30 PM	1	20	336	22	29	408	11	71	35	23	16	156	0	20	278	27	15	340	0	20	30	24	19	93	997
Total Volume	1	92	1109	128	97	1427	19	222	164	85	94	584	0	108	982	98	137	1325	0	65	172	73	110	420	3756
% App. Total	0.1	6.4	77.7	9	6.8		3.3	38	28.1	14.6	16.1		0	8.2	74.1	7.4	10.3		0	15.5	41	17.4	26.2		
PHF	.250	.697	.825	.561	.577	.874	.432	.782	.695	.850	.435	.749	.000	.574	.883	.845	.423	.767	.000	.813	.614	.676	.611	.714	.796

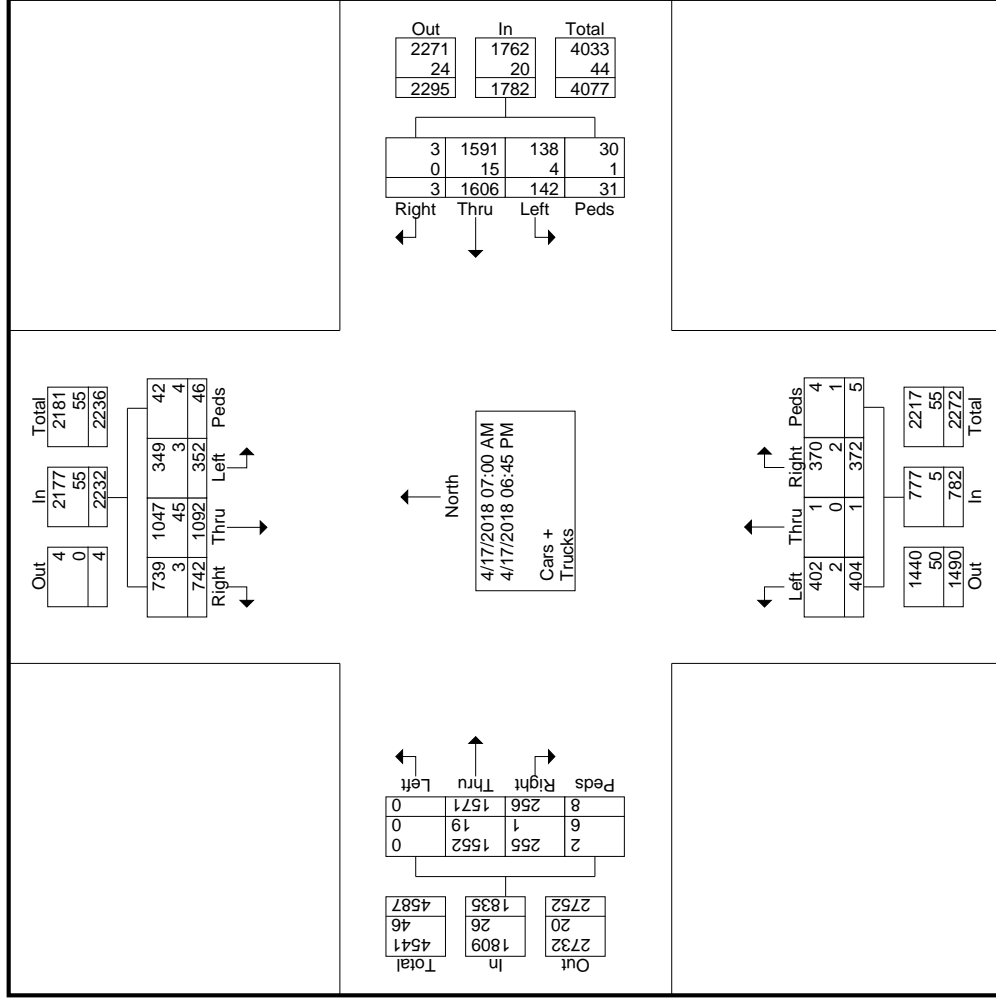


Groups Printed- Cars + - Trucks

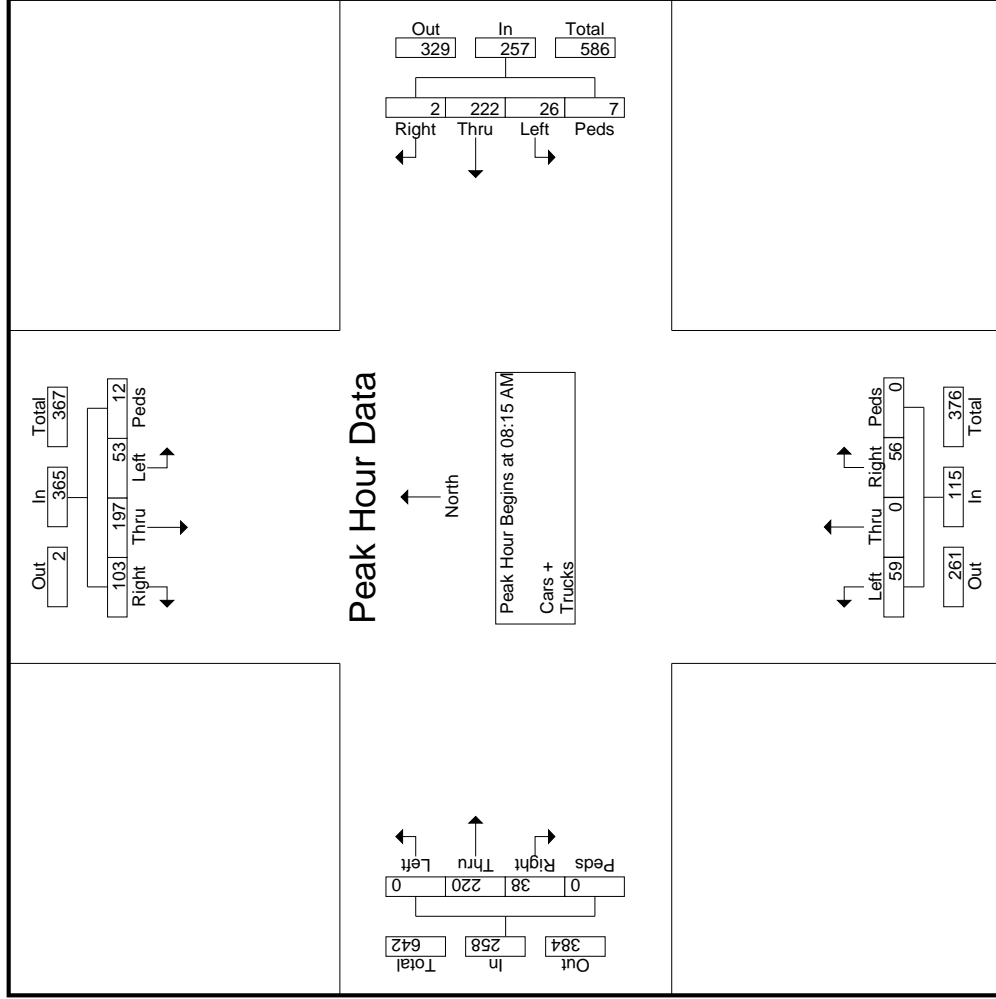
	Southbound					Westbound					Northbound					Eastbound				
	Left	Thru	Right	Peds		Left	Thru	Right	Peds		Left	Thru	Right	Peds		Left	Thru	Right	Peds	Int. Total
Start Time																				
07:00 AM	7	23	20	0		0	33	0	0		6	0	5	0		0	30	8	0	132
07:15 AM	7	25	25	0		7	38	0	0		6	0	5	0		0	37	7	0	157
07:30 AM	13	31	23	3		4	52	0	1		12	0	11	0		0	50	7	2	209
07:45 AM	8	35	18	5		1	58	0	0		12	0	14	0		0	53	8	0	212
Total	35	114	86	8		12	181	0	1		36	0	35	0		0	170	30	2	710
08:00 AM	17	32	19	0		1	58	0	1		8	0	9	0		0	39	8	1	193
08:15 AM	5	41	22	5		8	57	0	6		16	0	15	0		0	51	8	0	234
08:30 AM	20	55	25	2		3	73	1	0		13	0	16	0		0	47	12	0	267
08:45 AM	14	60	35	3		12	51	1	1		17	0	14	0		0	69	8	0	285
Total	56	188	101	10		24	239	2	8		54	0	54	0		0	206	36	1	979
09:00 AM	14	41	21	2		3	41	0	0		13	0	11	0		0	53	10	0	209
09:15 AM	13	22	15	2		7	50	0	0		5	0	7	0		0	60	16	1	198
09:30 AM	12	31	25	3		5	46	0	0		11	0	17	0		0	51	9	1	211
09:45 AM	9	21	25	0		6	26	0	1		11	0	9	1		0	54	8	0	171
Total	48	115	86	7		21	163	0	1		40	0	44	1		0	218	43	2	789
10:00 AM	10	24	21	2		6	40	0	0		9	0	9	0		0	40	7	0	168
10:15 AM	12	19	17	1		1	29	0	0		10	0	6	0		0	40	5	0	140
10:30 AM	5	30	18	0		0	22	0	0		6	0	8	0		0	31	9	0	129
10:45 AM	5	28	27	0		4	30	0	1		7	0	9	0		0	37	6	0	154
Total	32	101	83	3		11	121	0	1		32	0	32	0		0	148	27	0	591
11:00 AM	5	9	7	0		0	28	0	0		8	0	0	0		0	13	1	0	71
11:15 AM	3	22	13	0		5	34	0	1		12	0	6	0		0	26	1	0	123
11:30 AM	4	17	10	0		3	53	0	0		14	0	11	0		0	22	7	0	141
11:45 AM	6	23	15	1		3	74	0	2		23	0	13	1		0	21	4	0	186
Total	18	71	45	1		11	189	0	3		57	0	30	1		0	82	13	0	521
12:00 PM	3	25	10	0		0	35	0	2		4	0	7	0		0	35	4	0	125
12:15 PM	8	12	9	0		1	31	0	1		6	0	3	0		0	22	9	0	102
12:30 PM	7	16	7	0		2	25	0	0		5	0	4	0		0	29	1	0	96
12:45 PM	4	15	11	1		4	19	0	1		12	0	4	0		0	25	2	0	98
Total	22	68	37	1		7	110	0	4		27	0	18	0		0	111	16	0	421
01:00 PM	6	16	10	1		4	18	0	2		10	0	11	0		0	23	2	0	103
01:15 PM	8	14	6	0		3	19	0	1		1	0	5	0		0	29	4	0	90
01:30 PM	6	16	7	1		2	20	0	0		13	0	7	0		0	18	5	1	96
01:45 PM	3	18	11	0		5	35	0	0		5	0	3	0		0	28	3	0	111
Total	23	64	34	2		14	92	0	3		29	0	26	0		0	98	14	1	400

Groups Printed- Cars + - Trucks

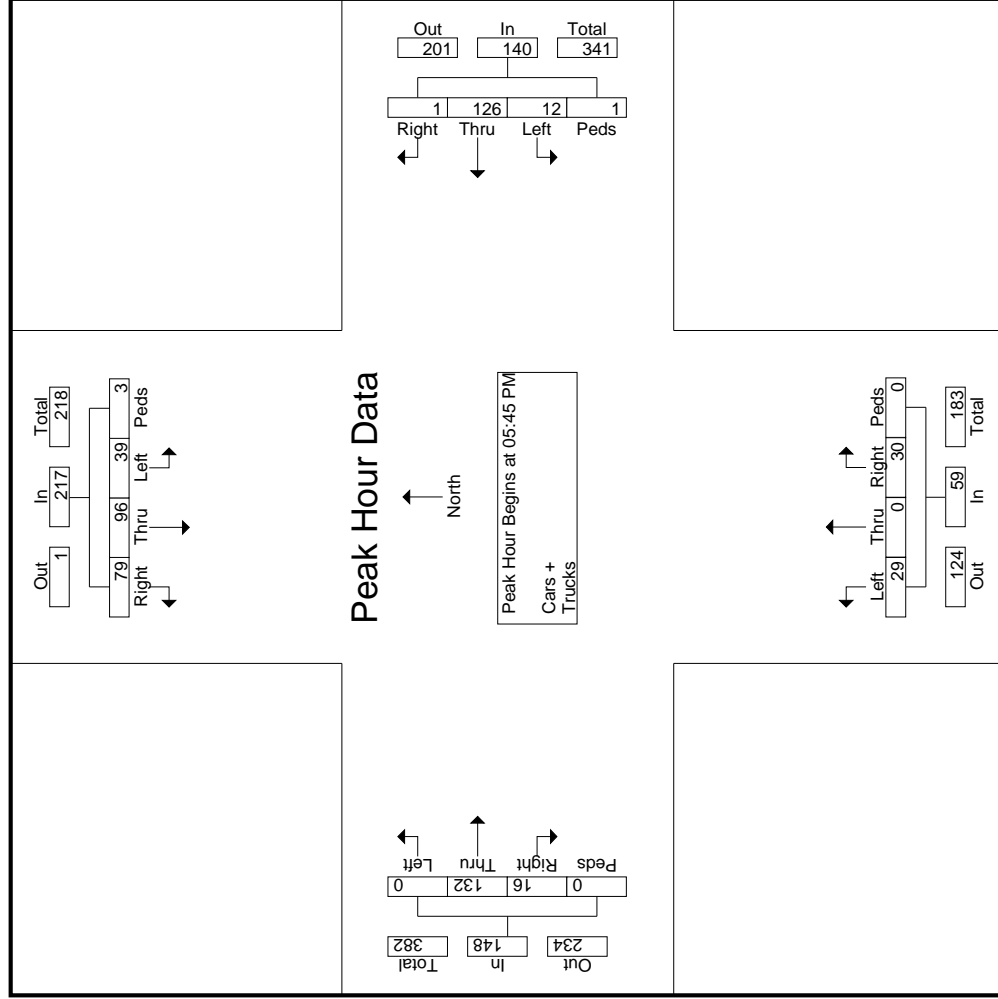
Start Time	Southbound				Westbound				Northbound				Eastbound			
	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds
02:00 PM	3	16	15	1	1	15	0	0	8	0	6	0	0	18	4	0
02:15 PM	5	16	12	0	0	26	0	0	9	0	11	0	0	25	4	0
02:30 PM	5	26	17	2	0	30	0	0	3	0	8	0	0	24	2	0
02:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	13	58	44	3	1	71	0	0	20	0	25	0	0	67	10	0
03:00 PM	7	25	8	1	0	25	0	0	4	0	6	2	0	18	1	0
03:15 PM	4	15	16	2	4	23	0	0	5	0	2	0	0	29	3	2
03:30 PM	8	15	9	1	3	22	0	3	8	0	7	0	0	26	1	0
03:45 PM	13	22	14	1	4	22	0	0	3	0	6	0	0	36	7	0
Total	32	77	47	5	11	92	0	3	20	0	21	2	0	109	12	2
04:00 PM	4	18	11	0	2	31	0	0	9	0	6	0	0	34	8	0
04:15 PM	7	20	9	0	2	24	0	1	14	0	5	0	0	39	7	0
04:30 PM	8	23	16	0	1	35	0	1	7	0	13	0	0	33	6	0
04:45 PM	5	16	17	1	2	27	0	0	13	0	12	0	0	34	8	0
Total	24	77	53	1	7	117	0	2	43	0	36	0	0	140	29	0
05:00 PM	4	18	12	1	5	39	0	0	8	0	9	1	0	42	2	0
05:15 PM	2	25	20	0	4	33	0	3	4	1	8	0	0	24	5	0
05:30 PM	4	20	15	1	2	33	0	1	5	0	4	0	0	24	3	0
05:45 PM	7	18	14	0	5	39	0	0	7	0	7	0	0	34	4	0
Total	17	81	61	2	16	144	0	4	24	1	28	1	0	124	14	0
06:00 PM	9	21	19	2	1	28	0	0	5	0	6	0	0	34	2	0
06:15 PM	11	30	17	1	4	24	0	0	12	0	9	0	0	31	5	0
06:30 PM	12	27	29	0	2	35	1	1	5	0	8	0	0	33	5	0
06:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	32	78	65	3	7	87	1	1	22	0	23	0	0	98	12	0
Grand Total	352	1092	742	46	142	1606	3	31	404	1	372	5	0	1571	256	8
Approch %	15.8	48.9	33.2	2.1	8	90.1	0.2	1.7	51.7	0.1	47.6	0.6	0	85.6	14	0.4
Total %	5.3	16.5	11.2	0.7	2.1	24.2	0	0.5	6.1	0	5.6	0.1	0	23.7	3.9	0.1
Cars +	349	1047	739	42	138	1591	3	30	402	1	370	4	0	1552	255	2
% Cars +	99.1	95.9	99.6	91.3	97.2	99.1	100	96.8	99.5	100	99.5	80	0	98.8	99.6	25
Trucks	3	45	3	4	4	15	0	1	2	0	2	1	0	19	1	6
% Trucks	0.9	4.1	0.4	8.7	2.8	0.9	0	3.2	0.5	0	0.5	20	0	1.2	0.4	75



	Southbound					Westbound					Northbound					Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 11:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 08:15 AM																					
08:15 AM	5	41	22	5	73	8	57	0	6	71	16	0	15	0	31	0	51	8	0	59	234
08:30 AM	20	55	25	2	102	3	73	1	0	77	13	0	16	0	29	0	47	12	0	59	267
08:45 AM	14	60	35	3	112	12	51	1	1	65	17	0	14	0	31	0	69	8	0	77	285
09:00 AM	14	41	21	2	78	3	41	0	0	44	13	0	11	0	24	0	53	10	0	63	209
Total Volume	53	197	103	12	365	26	222	2	7	257	59	0	56	0	115	0	220	38	0	258	995
% App. Total	14.5	54	28.2	3.3		10.1	86.4	0.8	2.7		51.3	0	48.7	0		0	85.3	14.7	0		
PHF	.663	.821	.736	.600	.815	.542	.760	.500	.292	.834	.868	.000	.875	.000	.927	.000	.797	.792	.000	.838	.873



	Southbound					Westbound					Northbound					Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 06:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 05:45 PM																					
05:45 PM	7	18	14	0	39	5	39	0	0	44	7	0	7	0	14	0	34	4	0	38	135
06:00 PM	9	21	19	2	51	1	28	0	0	29	5	0	6	0	11	0	34	2	0	36	127
06:15 PM	11	30	17	1	59	4	24	0	0	28	12	0	9	0	21	0	31	5	0	36	144
06:30 PM	12	27	29	0	68	2	35	1	1	39	5	0	8	0	13	0	33	5	0	38	158
Total Volume	39	96	79	3	217	12	126	1	1	140	29	0	30	0	59	0	132	16	0	148	564
% App. Total	18	44.2	36.4	1.4		8.6	90	0.7	0.7		49.2	0	50.8	0		0	89.2	10.8	0		
PHF	.813	.800	.681	.375	.798	.600	.808	.250	.250	.795	.604	.000	.833	.000	.702	.000	.971	.800	.000	.974	.892



Stonebrooke Engineering

12279 Nicollet Avenue
Burnsville, MN 55337

12 Ave & 14 St S
Moorhead, MN
Tuesday, April 17, 2018

File Name : 041718 - 12 Ave S & 14 St S
Site Code : 041718
Start Date : 4/17/2018
Page No : 1

Groups Printed- Cars + - Trucks

		Southbound					Westbound					Northbound					Eastbound					
Start Time	UTrn	Left	Thru	Right	Peds	UTrn	Left	Thru	Right	Peds	UTrn	Left	Thru	Right	Peds	UTrn	Left	Thru	Right	Peds	Int. Total	
07:00 AM	0	0	0	0	3	0	2	22	7	0	0	4	24	14	0	0	7	31	5	1	120	
07:15 AM	0	0	0	0	0	0	9	42	4	0	0	2	12	7	0	0	6	36	3	0	121	
07:30 AM	0	1	0	0	0	0	10	46	9	0	0	4	14	8	0	0	12	40	2	0	146	
07:45 AM	0	0	0	0	2	0	10	38	3	1	0	0	20	4	0	0	13	38	9	0	138	
Total	0	1	0	0	5	0	31	148	23	1	0	10	70	33	0	0	38	145	19	1	525	
08:00 AM	0	0	0	0	2	0	4	44	10	1	0	1	13	10	0	0	11	33	10	0	139	
08:15 AM	0	0	0	0	5	0	2	42	11	1	0	5	15	9	0	0	17	31	3	1	142	
08:30 AM	0	0	0	0	5	0	6	52	5	0	0	4	27	10	1	0	9	51	4	3	177	
08:45 AM	0	0	0	0	5	0	7	43	4	0	0	1	15	4	1	0	5	60	7	1	153	
Total	0	0	0	0	17	0	19	181	30	2	0	11	70	33	2	0	42	175	24	5	611	
09:00 AM	0	0	0	0	3	0	6	49	3	1	0	2	21	18	1	0	7	57	4	0	172	
09:15 AM	0	0	0	0	2	0	7	53	2	0	1	1	25	7	0	0	10	60	3	0	171	
09:30 AM	0	0	0	0	0	0	4	43	3	0	0	3	15	11	1	0	14	39	2	0	135	
09:45 AM	0	0	0	0	1	0	5	26	6	0	0	0	16	5	0	0	5	55	3	0	122	
Total	0	0	0	0	6	0	22	171	14	1	1	6	77	41	2	0	36	211	12	0	600	
10:00 AM	0	0	0	0	4	0	3	38	10	0	0	3	16	4	0	0	13	38	4	0	133	
10:15 AM	0	0	0	0	2	0	6	30	6	0	0	1	19	5	0	0	14	32	4	2	121	
10:30 AM	0	0	0	0	1	1	18	12	0	0	0	1	11	6	1	0	8	23	3	1	86	
10:45 AM	0	0	0	0	0	0	8	25	9	0	0	1	14	6	1	0	9	31	4	0	108	
Total	0	0	0	0	7	1	35	105	25	0	0	6	60	21	2	0	44	124	15	3	448	

Stonebrooke Engineering

12279 Nicollet Avenue
Burnsville, MN 55337

12 Ave & 14 St S
Moorhead, MN
Tuesday, April 17, 2018

File Name : 041718 - 12 Ave S & 14 St S
Site Code : 041718
Start Date : 4/17/2018
Page No : 2

Groups Printed- Cars + - Trucks

Start Time	Southbound					Westbound					Northbound					Eastbound					Int. Total
	UTrn	Left	Thru	Right	Peds	UTrn	Left	Thru	Right	Peds	UTrn	Left	Thru	Right	Peds	UTrn	Left	Thru	Right	Peds	
11:00 AM	0	0	0	0	0	0	3	19	0	1	0	2	13	6	0	0	3	17	0	2	66
11:15 AM	0	0	0	0	0	0	8	25	7	2	0	6	18	9	0	1	7	23	2	1	109
11:30 AM	0	0	0	0	0	0	7	41	12	0	0	6	16	17	0	0	4	27	1	2	133
11:45 AM	0	0	0	0	0	0	5	64	11	1	0	6	23	20	1	0	4	27	1	0	163
Total	0	0	0	0	0	0	23	149	30	4	0	20	70	52	1	1	18	94	4	5	471
12:00 PM	0	0	0	0	0	0	6	24	9	2	0	5	17	17	1	0	10	31	0	0	122
12:15 PM	0	0	0	0	0	0	4	28	6	0	0	3	9	8	0	0	5	27	1	0	91
12:30 PM	0	0	0	0	0	0	5	25	8	0	0	1	14	8	1	0	5	34	3	0	104
12:45 PM	0	0	0	0	0	0	4	24	9	0	0	1	16	1	0	0	3	25	1	0	84
Total	0	0	0	0	0	0	19	101	32	2	0	10	56	34	2	0	23	117	5	0	401
01:00 PM	0	0	0	0	0	0	2	19	12	1	0	3	13	1	0	0	9	22	2	0	84
01:15 PM	0	0	0	0	0	0	1	22	6	0	0	3	12	2	0	0	6	26	1	0	79
01:30 PM	0	0	0	0	0	0	2	22	6	0	0	3	13	5	0	0	4	17	1	0	73
01:45 PM	0	0	0	0	0	0	1	28	9	0	0	5	13	1	0	0	6	20	1	0	84
Total	0	0	0	0	0	0	6	91	33	1	0	14	51	9	0	0	25	85	5	0	320
02:00 PM	0	0	0	0	0	0	1	13	4	0	0	1	6	4	0	0	7	18	4	0	58
02:15 PM	0	0	0	0	0	0	3	21	13	0	0	4	11	4	0	0	7	28	1	0	92
02:30 PM	0	0	0	0	0	0	2	29	11	0	0	4	8	3	1	0	8	25	3	0	94
02:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	6	63	28	0	0	9	25	11	1	0	22	71	8	0	244
03:00 PM	0	0	0	0	1	0	2	18	4	0	0	0	15	6	0	0	5	23	3	0	77

Stonebrooke Engineering

12279 Nicollet Avenue
Burnsville, MN 55337

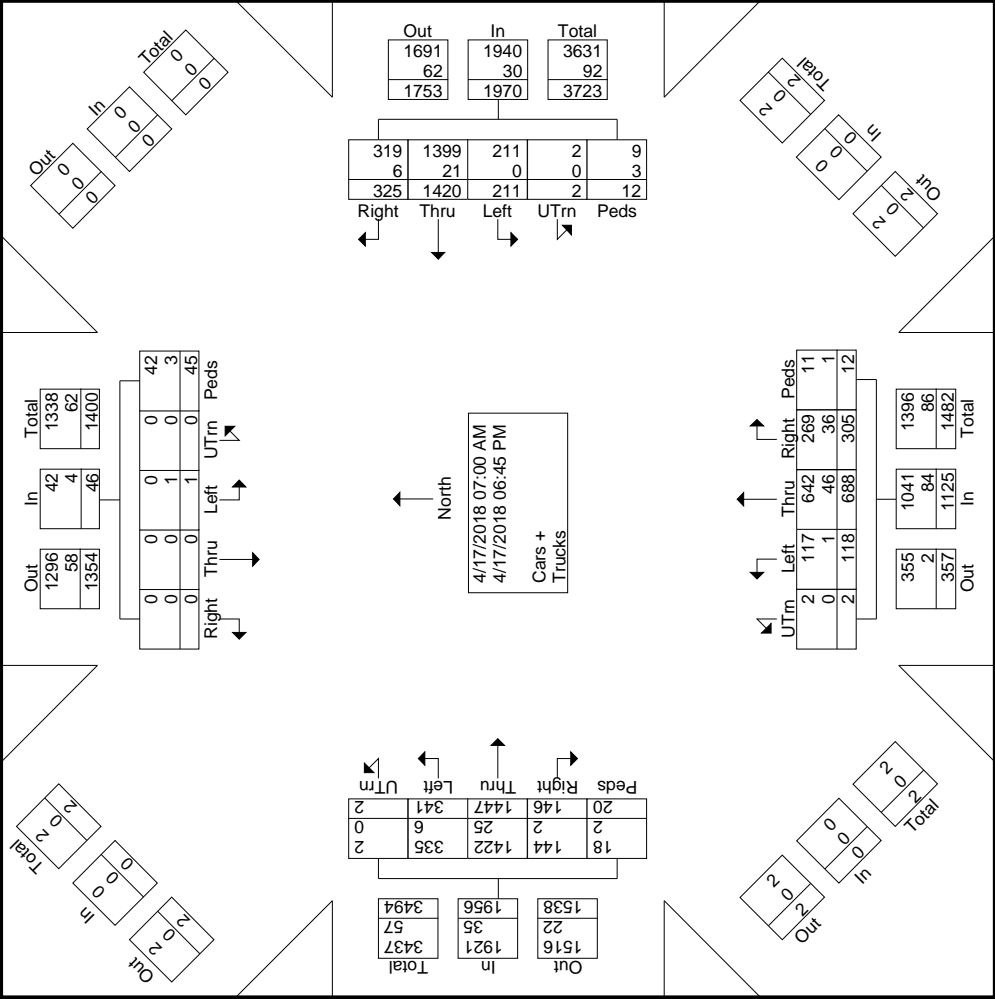
12 Ave & 14 St S
Moorhead, MN
Tuesday, April 17, 2018

File Name : 041718 - 12 Ave S & 14 St S
Site Code : 041718
Start Date : 4/17/2018
Page No : 3

Groups Printed- Cars + - Trucks

	Southbound					Westbound					Northbound					Eastbound					
Start Time	UTrn	Left	Thru	Right	Peds	UTrn	Left	Thru	Right	Peds	UTrn	Left	Thru	Right	Peds	UTrn	Left	Thru	Right	Peds	Int. Total
03:15 PM	0	0	0	0	1	0	4	28	6	0	0	2	11	2	0	0	6	26	1	1	88
03:30 PM	0	0	0	0	1	0	4	22	9	1	0	1	13	5	0	1	5	23	1	0	86
03:45 PM	0	0	0	0	0	0	5	23	4	0	0	2	13	5	0	0	8	33	4	0	97
Total	0	0	0	0	3	0	15	91	23	1	0	5	52	18	0	1	24	105	9	1	348
04:00 PM	0	0	0	0	0	0	1	32	4	0	0	2	13	7	0	0	4	31	4	2	100
04:15 PM	0	0	0	0	0	0	4	24	11	0	0	3	12	2	0	0	14	29	3	0	102
04:30 PM	0	0	0	0	0	0	3	28	11	0	0	5	10	4	1	0	3	37	2	0	104
04:45 PM	0	0	0	0	0	0	2	24	13	0	1	1	17	4	0	0	7	37	2	0	108
Total	0	0	0	0	0	0	10	108	39	0	1	11	52	17	1	0	28	134	11	2	414
05:00 PM	0	0	0	0	2	0	2	40	7	0	0	3	16	6	0	0	9	27	8	0	120
05:15 PM	0	0	0	0	1	1	8	27	7	0	0	0	12	8	0	0	4	19	0	0	87
05:30 PM	0	0	0	0	0	0	3	29	12	0	0	1	20	6	0	0	3	23	3	0	100
05:45 PM	0	0	0	0	0	0	1	43	3	0	0	3	17	4	0	0	5	32	6	1	115
Total	0	0	0	0	3	1	14	139	29	0	0	7	65	24	0	0	21	101	17	1	422
06:00 PM	0	0	0	0	2	0	2	16	12	0	0	3	14	6	0	0	3	33	6	1	98
06:15 PM	0	0	0	0	0	0	4	30	3	0	0	2	8	4	1	0	7	25	7	0	91
06:30 PM	0	0	0	0	2	0	5	27	4	0	0	4	18	2	0	0	10	27	4	1	104
06:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	4	0	11	73	19	0	0	9	40	12	1	0	20	85	17	2	293
Grand Total	0	1	0	0	45	2	211	1420	325	12	2	118	688	305	12	2	341	1447	146	20	5097
Approch %	0	2.2	0	0	97.8	0.1	10.7	72.1	16.5	0.6	0.2	10.5	61.2	27.1	1.1	0.1	17.4	74	7.5	1	
Total %	0	0	0	0	0.9	0	4.1	27.9	6.4	0.2	0	2.3	13.5	6	0.2	0	6.7	28.4	2.9	0.4	
Cars +	0	0	0	0	42	2	211	1399	319	9	2	117	642	269	11	2	335	1422	144	18	4944
% Cars +	0	0	0	0	93.3	100	100	98.5	98.2	75	100	99.2	93.3	88.2	91.7	100	98.2	98.3	98.6	90	97
Trucks	0	1	0	0	3	0	0	21	6	3	0	1	46	36	1	0	6	25	2	2	153
% Trucks	0	100	0	0	6.7	0	0	1.5	1.8	25	0	0.8	6.7	11.8	8.3	0	1.8	1.7	1.4	10	3

Stonebrooke Engineering
12279 Nicollet Avenue
Burnsville, MN 55337

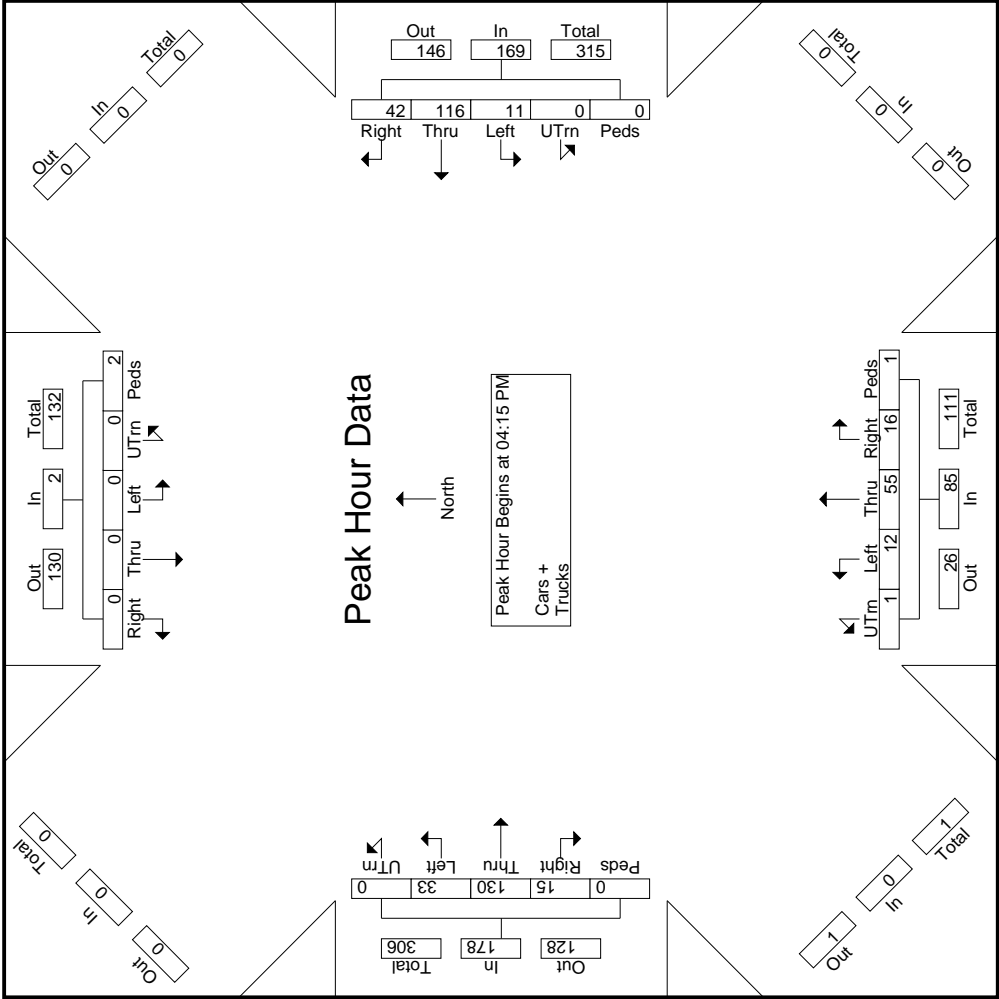


Stonebrooke Engineering
12279 Nicollet Avenue
Burnsville, MN 55337

12 Ave & 14 St S
Moorhead, MN
Tuesday, April 17, 2018

File Name : 041718 - 12 Ave S & 14 St S
Site Code : 041718
Start Date : 4/17/2018
Page No : 5

Southbound				Westbound				Northbound				Eastbound													
Start Time	UTrn	Left	Thru	Right	Peds	App. Total	UTrn	Left	Thru	Right	Peds	App. Total	UTrn	Left	Thru	Right	Peds	App. Total	Int. Total						
Peak Hour Analysis From 07:00 AM to 01:00 PM - Peak 1 of 1																									
Peak Hour for Entire Intersection Begins at 08:30 AM																									
08:30 AM	0	0	0	0	5	5	0	6	52	5	0	63	0	4	27	10	1	42	0	9	51	4	3	67	177
08:45 AM	0	0	0	0	5	5	0	7	43	4	0	54	0	1	15	4	1	21	0	5	60	7	1	73	153
09:00 AM	0	0	0	0	3	3	0	6	49	3	1	59	0	2	21	18	1	42	0	7	57	4	0	68	172
09:15 AM	0	0	0	0	2	2	0	7	53	2	0	62	1	1	25	7	0	34	0	10	60	3	0	73	171
Total Volume	0	0	0	0	15	15	0	26	197	14	1	238	1	8	88	39	3	139	0	31	228	18	4	281	673
% App. Total	0	0	0	0	100		0	10.9	82.8	5.9	0.4		0.7	5.8	63.3	28.1	2.2		0	11	81.1	6.4	1.4		
PHF	.000	.000	.000	.000	.750	.750	.000	.929	.929	.700	.250	.944	.250	.500	.815	.542	.750	.827	.000	.775	.950	.643	.333	.962	.951

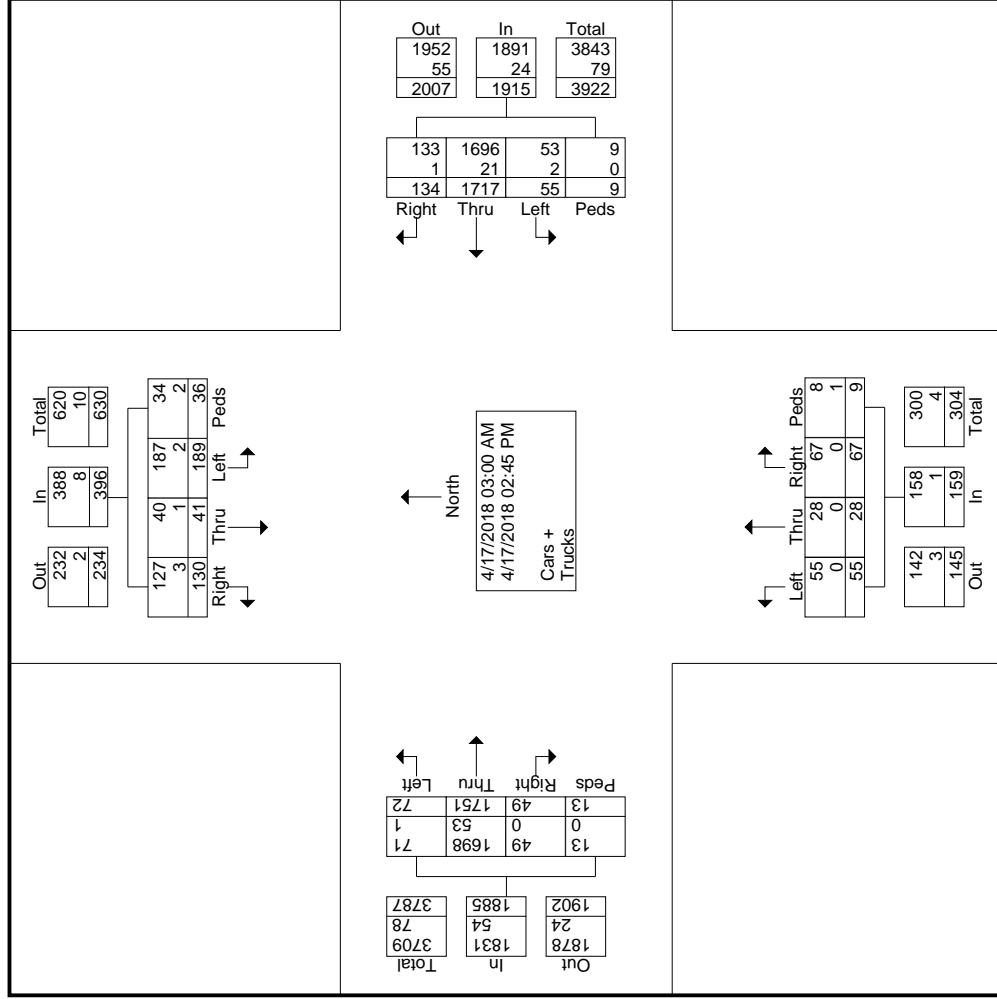


Groups Printed- Cars + - Trucks

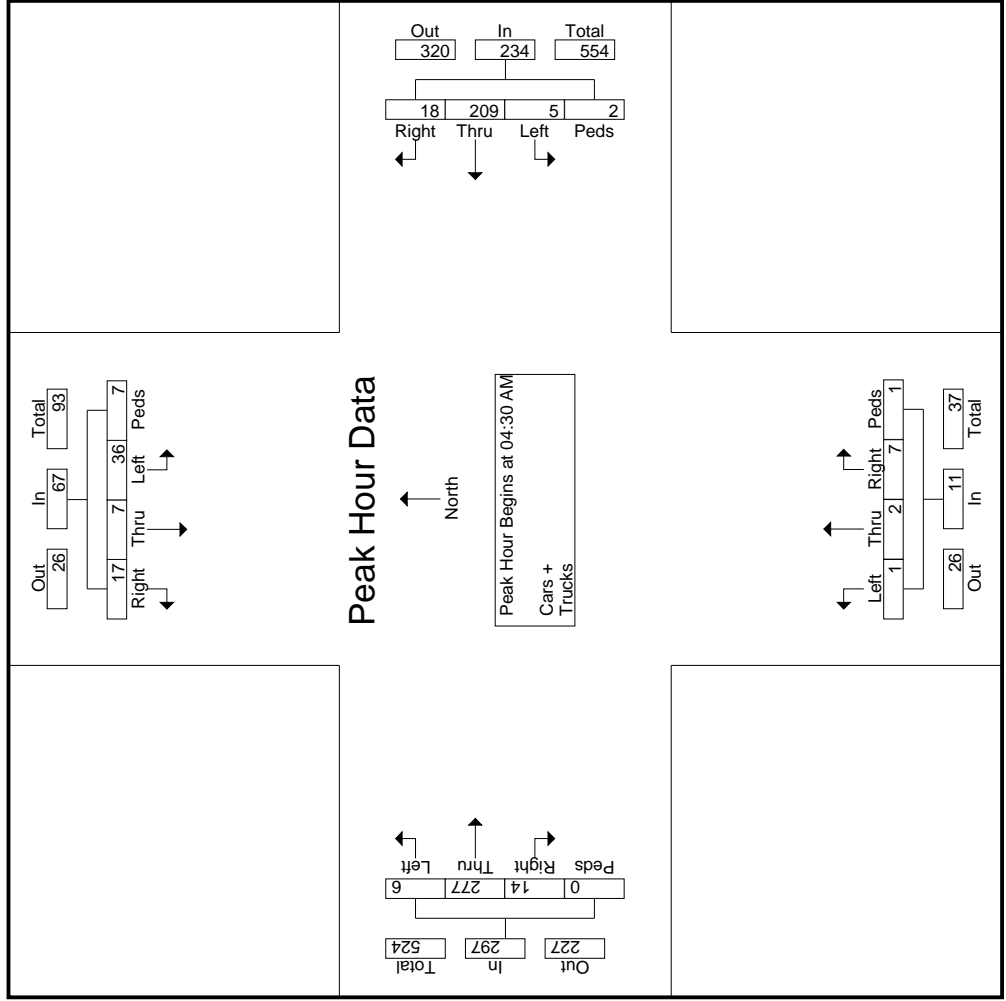
	Southbound					Westbound					Northbound					Eastbound				
	Left	Thru	Right	Peds		Left	Thru	Right	Peds		Left	Thru	Right	Peds		Left	Thru	Right	Peds	Int. Total
Start Time	5	0	2	2		0	31	1	0		1	1	2	0		4	40	1	0	90
03:00 AM																				
03:15 AM	5	2	8	0		2	37	6	0		0	0	1	0		3	41	0	0	105
03:30 AM	12	2	5	0		1	60	4	0		1	0	0	1		3	42	2	1	134
03:45 AM	5	3	1	6		4	50	5	2		0	2	3	0		1	43	2	0	127
Total	27	7	16	8		7	178	16	2		2	3	6	1		11	166	5	1	456
04:00 AM	1	0	4	2		2	55	4	0		1	0	0	0		4	45	0	2	120
04:15 AM	7	2	2	1		0	54	1	0		1	0	0	0		1	42	0	0	111
04:30 AM	12	1	6	1		1	47	4	1		0	0	1	0		1	71	3	0	149
04:45 AM	7	2	2	4		0	54	5	1		0	0	3	1		1	65	3	0	148
Total	27	5	14	8		3	210	14	2		2	0	4	1		7	223	6	2	528
05:00 AM	12	1	5	1		2	51	5	0		1	1	1	0		2	78	3	0	163
05:15 AM	5	3	4	1		2	57	4	0		0	1	2	0		2	63	5	0	149
05:30 AM	3	2	3	1		1	43	2	0		0	1	3	1		3	50	5	1	119
05:45 AM	8	2	7	0		1	36	2	0		1	3	2	0		2	50	1	0	115
Total	28	8	19	3		6	187	13	0		2	6	8	1		9	241	14	1	546
06:00 AM	10	1	2	0		1	38	4	0		1	1	2	0		4	32	2	0	98
06:15 AM	3	2	4	0		1	44	3	0		3	1	1	0		3	39	2	0	106
06:30 AM	5	1	1	0		1	30	0	0		1	3	1	0		6	25	0	0	74
06:45 AM	2	1	6	0		2	27	1	0		1	4	1	1		1	41	0	0	88
Total	20	5	13	0		5	139	8	0		6	9	5	1		14	137	4	0	366
07:00 AM	0	0	2	0		0	20	3	0		0	0	1	0		0	29	0	0	55
07:15 AM	0	0	1	0		2	29	0	0		3	1	2	0		1	34	1	0	74
07:30 AM	4	0	3	0		4	45	1	0		5	0	2	0		0	51	0	0	115
07:45 AM	0	1	1	0		1	68	4	0		4	0	7	0		0	48	1	0	135
Total	4	1	7	0		7	162	8	0		12	1	12	0		1	162	2	0	379
08:00 AM	1	0	0	2		0	44	3	1		0	0	3	2		0	57	0	5	118
08:15 AM	2	1	2	0		0	37	3	0		3	1	3	0		0	43	1	0	96
08:30 AM	8	0	3	0		0	34	10	0		0	0	2	1		2	47	1	1	109
08:45 AM	3	1	1	0		0	36	2	1		1	0	2	0		0	31	0	0	78
Total	14	2	6	2		0	151	18	2		4	1	10	3		2	178	2	6	401
09:00 AM	1	0	2	2		1	39	6	0		0	0	1	0		1	24	0	0	77
09:15 AM	3	0	0	0		0	28	5	0		2	1	0	0		2	21	1	0	63
09:30 AM	1	0	2	0		1	22	2	0		0	0	0	0		0	26	0	0	54
09:45 AM	4	0	3	0		1	37	5	1		0	0	1	0		0	19	2	0	73
Total	9	0	7	2		3	126	18	1		2	1	2	0		3	90	3	0	267

Groups Printed- Cars + - Trucks

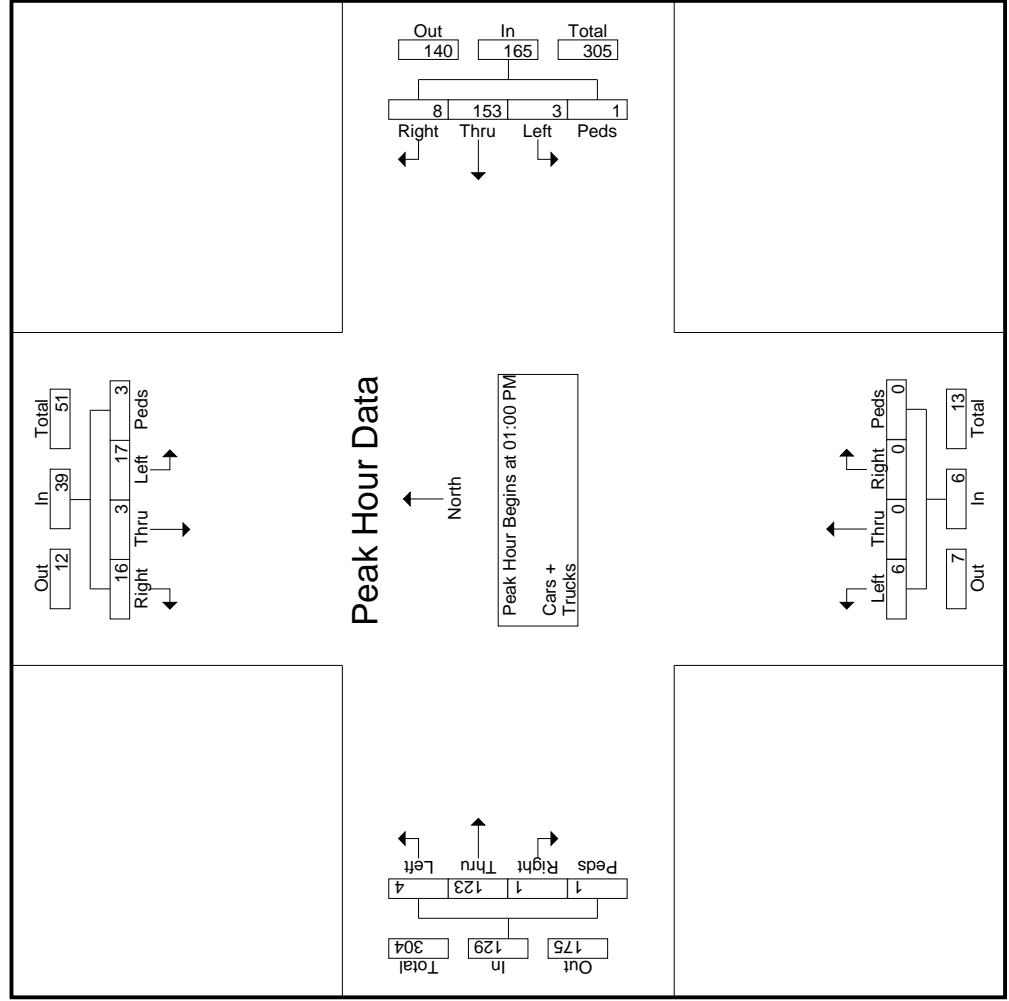
	Southbound					Westbound					Northbound					Eastbound				
	Left	Thru	Right	Peds		Left	Thru	Right	Peds		Left	Thru	Right	Peds		Left	Thru	Right	Peds	Int. Total
Start Time																				
10:00 AM	1	0	1	0		1	19	2	0		1	1	0	0		1	18	1	0	46
10:15 AM	1	0	3	0		1	29	3	0		2	0	1	0		3	29	1	0	73
10:30 AM	3	2	1	0		2	27	0	1		2	1	0	1		3	26	1	0	70
10:45 AM	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0	0
Total	5	2	5	0		4	75	5	1		5	2	1	1		7	73	3	0	189
11:00 AM	5	1	1	1		0	19	2	0		2	1	4	0		0	32	0	0	68
11:15 AM	3	1	4	1		4	28	2	0		1	0	1	0		2	32	1	0	80
11:30 AM	5	1	2	3		0	30	3	0		2	0	3	0		1	34	1	0	85
11:45 AM	4	0	6	0		2	27	3	0		1	1	3	0		0	39	1	0	87
Total	17	3	13	5		6	104	10	0		6	2	11	0		3	137	3	0	320
12:00 PM	3	0	2	1		2	30	3	0		1	1	1	1		1	37	0	1	84
12:15 PM	4	1	1	0		4	36	3	0		1	0	0	0		4	21	3	0	78
12:30 PM	2	2	1	1		2	31	2	0		2	0	4	0		3	37	2	1	90
12:45 PM	0	0	1	0		0	33	2	0		3	1	2	0		1	36	1	0	80
Total	9	3	5	2		8	130	10	0		7	2	7	1		9	131	6	2	332
01:00 PM	3	0	3	1		2	39	0	0		3	0	0	0		2	30	1	0	84
01:15 PM	5	1	5	1		0	40	2	0		0	0	0	0		0	28	0	0	82
01:30 PM	6	1	3	0		1	34	4	0		1	0	0	0		1	33	0	0	84
01:45 PM	3	1	5	1		0	40	2	1		2	0	0	0		1	32	0	1	89
Total	17	3	16	3		3	153	8	1		6	0	0	0		4	123	1	1	339
02:00 PM	2	0	2	0		1	29	1	0		0	1	0	0		1	36	0	0	73
02:15 PM	3	1	4	2		1	36	2	0		0	0	0	0		1	24	0	0	74
02:30 PM	7	1	3	1		1	37	3	0		1	0	1	0		0	30	0	0	85
02:45 PM	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0	0
Total	12	2	9	3		3	102	6	0		1	1	1	0		2	90	0	0	232
Grand Total	189	41	130	36		55	1717	134	9		55	28	67	9		72	1751	49	13	4355
Approch %	47.7	10.4	32.8	9.1		2.9	89.7	7	0.5		34.6	17.6	42.1	5.7		3.8	92.9	2.6	0.7	
Total %	4.3	0.9	3	0.8		1.3	39.4	3.1	0.2		1.3	0.6	1.5	0.2		1.7	40.2	1.1	0.3	
Cars +	187	40	127	34		53	1696	133	9		55	28	67	8		71	1698	49	13	4268
% Cars +	98.9	97.6	97.7	94.4		96.4	98.8	99.3	100		100	100	100	88.9		98.6	97	100	100	98
Trucks	2	1	3	2		2	21	1	0		0	0	0	1		1	53	0	0	87
% Trucks	1.1	2.4	2.3	5.6		3.6	1.2	0.7	0		0	0	0	11.1		1.4	3	0	0	2



	Southbound					Westbound					Northbound					Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 03:00 AM to 11:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:30 AM																					
04:30 AM	12	1	6	1	20	1	47	4	1	53	0	0	1	0	1	1	71	3	0	75	149
04:45 AM	7	2	2	4	15	0	54	5	1	60	0	0	3	1	4	1	65	3	0	69	148
05:00 AM	12	1	5	1	19	2	51	5	0	58	1	1	1	0	3	2	78	3	0	83	163
05:15 AM	5	3	4	1	13	2	57	4	0	63	0	1	2	0	3	2	63	5	0	70	149
Total Volume	36	7	17	7	67	5	209	18	2	234	1	2	7	1	11	6	277	14	0	297	609
% App. Total	53.7	10.4	25.4	10.4		2.1	89.3	7.7	0.9		9.1	18.2	63.6	9.1		2	93.3	4.7	0		
PHF	.750	.583	.708	.438	.838	.625	.917	.900	.500	.929	.250	.500	.583	.250	.688	.750	.888	.700	.000	.895	.934



	Southbound					Westbound					Northbound					Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 02:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 01:00 PM																					
01:00 PM	3	0	3	1	7	2	39	0	0	41	3	0	0	0	3	2	30	1	0	33	84
01:15 PM	5	1	5	1	12	0	40	2	0	42	0	0	0	0	0	0	28	0	0	28	82
01:30 PM	6	1	3	0	10	1	34	4	0	39	1	0	0	0	1	1	33	0	0	34	84
01:45 PM	3	1	5	1	10	0	40	2	1	43	2	0	0	0	2	1	32	0	1	34	89
Total Volume	17	3	16	3	39	3	153	8	1	165	6	0	0	0	6	4	123	1	1	129	339
% App. Total	43.6	7.7	41	7.7		1.8	92.7	4.8	0.6		100	0	0	0		3.1	95.3	0.8	0.8		
PHF	.708	.750	.800	.750	.813	.375	.956	.500	.250	.959	.500	.000	.000	.000	.500	.500	.932	.250	.250	.949	.952

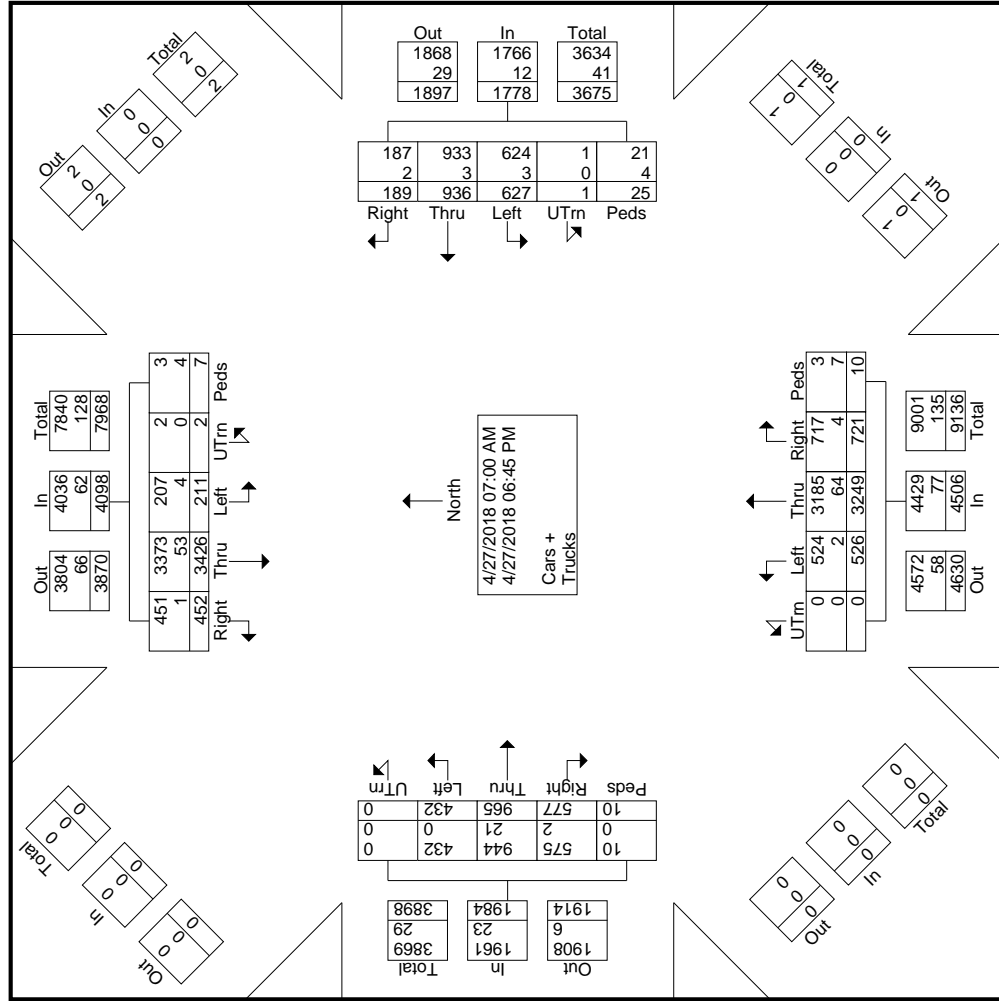


Groups Printed- Cars + - Trucks

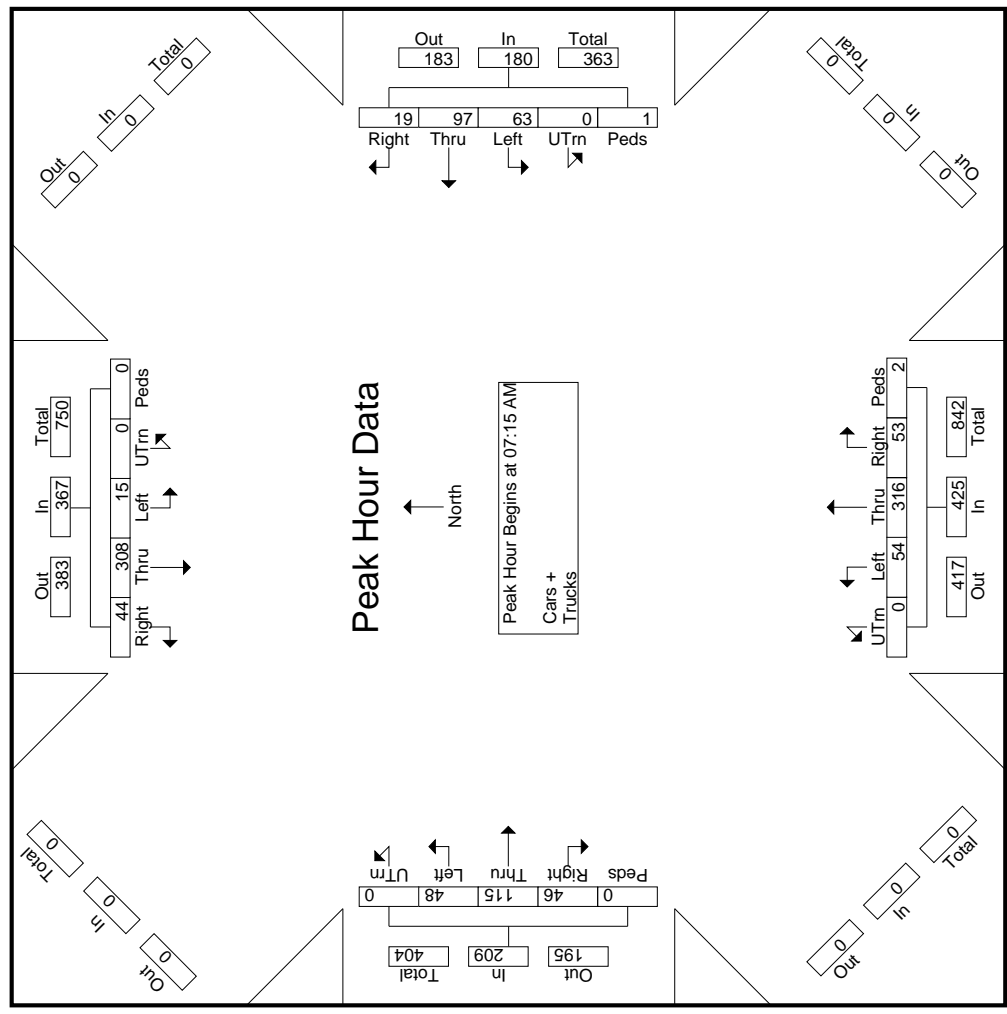
Southbound																Westbound																Northbound																Eastbound															
Start Time	UTrn	Left	Thru	Right	Peds	UTrn	Left	Thru	Right	Peds	UTrn	Left	Thru	Right	Peds	UTrn	Left	Thru	Right	Peds	UTrn	Left	Thru	Right	Peds	Int. Total																																					
07:00 AM	0	4	45	0	0	0	0	11	16	3	0	0	8	29	10	0	0	7	22	10	0	0	7	22	10	0	165																																				
07:15 AM	0	4	61	7	0	0	0	12	16	1	0	0	7	57	5	0	0	8	23	11	0	0	8	23	11	0	212																																				
07:30 AM	0	3	94	10	0	0	0	19	28	7	0	0	16	109	16	0	0	18	38	20	0	0	18	38	20	0	378																																				
07:45 AM	0	3	94	17	0	0	0	22	33	8	1	0	20	111	22	2	0	16	30	7	0	0	16	30	7	0	386																																				
Total	0	14	294	34	0	0	0	64	93	19	1	0	51	306	53	2	0	49	113	48	0	0	49	113	48	0	1141																																				
08:00 AM	0	5	59	10	0	0	0	10	20	3	0	0	11	39	10	0	0	6	24	8	0	0	6	24	8	0	205																																				
08:15 AM	0	6	45	10	0	0	0	13	10	3	0	0	6	34	10	0	0	4	11	7	0	0	4	11	7	0	159																																				
08:30 AM	0	4	50	3	0	0	0	14	15	0	0	0	8	54	12	0	0	11	15	9	0	0	11	15	9	0	195																																				
08:45 AM	0	4	56	7	0	0	0	18	16	2	1	0	17	68	14	1	0	5	14	9	0	0	5	14	9	0	232																																				
Total	0	19	210	30	0	0	0	55	61	8	1	0	42	195	46	1	0	26	64	33	0	0	26	64	33	0	791																																				
09:00 AM	0	1	54	2	0	0	0	9	12	5	2	0	4	49	9	0	0	3	14	5	0	0	3	14	5	0	169																																				
09:15 AM	0	5	45	2	0	0	0	10	23	2	0	0	10	51	15	0	0	4	9	2	0	0	4	9	2	0	178																																				
09:30 AM	0	2	66	8	0	0	0	12	24	5	0	0	9	64	10	0	0	7	16	7	0	0	7	16	7	0	230																																				
09:45 AM	0	2	57	5	0	0	0	16	23	6	0	0	14	57	19	0	0	5	15	9	0	0	5	15	9	0	228																																				
Total	0	10	222	17	0	0	0	47	82	18	2	0	37	221	53	0	0	19	54	23	0	0	19	54	23	0	805																																				
10:00 AM	0	4	37	6	0	0	0	8	23	4	0	0	15	45	13	0	0	6	18	8	0	0	6	18	8	0	187																																				
10:15 AM	0	2	58	6	0	0	0	11	15	1	1	0	14	48	19	0	0	3	18	10	0	0	3	18	10	0	206																																				
10:30 AM	0	2	43	8	0	0	0	11	21	7	0	0	9	51	16	1	0	6	25	9	0	0	6	25	9	0	209																																				
10:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0																																				
Total	0	8	138	20	0	0	0	30	59	12	1	0	38	144	48	1	0	15	61	27	0	0	15	61	27	0	602																																				
11:00 AM	0	4	67	5	0	0	0	6	28	6	0	0	7	61	13	0	0	10	25	11	0	0	10	25	11	0	243																																				
11:15 AM	0	4	64	10	0	1	0	21	20	2	1	0	10	58	15	0	0	12	18	5	0	0	12	18	5	0	241																																				
11:30 AM	0	3	98	2	0	0	0	22	29	6	0	0	5	78	19	0	0	4	26	15	0	0	4	26	15	0	307																																				
11:45 AM	0	7	91	5	0	0	0	28	28	1	0	0	9	87	16	1	0	8	26	17	0	0	8	26	17	0	324																																				
Total	0	18	320	22	0	1	0	77	105	15	1	0	31	284	63	1	0	34	95	48	0	0	34	95	48	0	1115																																				
12:00 PM	0	4	82	8	0	0	0	19	29	6	0	0	8	80	13	1	0	8	21	11	1	0	8	21	11	1	291																																				
12:15 PM	0	5	72	11	0	0	0	8	18	7	0	0	10	82	13	1	0	11	17	20	0	0	11	17	20	0	275																																				
12:30 PM	0	6	81	11	1	0	0	14	20	7	0	0	11	72	24	0	0	13	22	14	0	0	13	22	14	0	296																																				
12:45 PM	0	8	82	17	0	0	0	4	17	4	0	0	13	85	20	0	0	9	15	8	0	0	9	15	8	0	282																																				
Total	0	23	317	47	1	0	0	45	84	24	0	0	42	319	70	2	0	41	75	53	1	0	41	75	53	1	1144																																				
01:00 PM	0	8	89	12	0	0	0	22	16	4	0	0	11	72	15	0	0	8	20	18	0	0	8	20	18	0	295																																				
01:15 PM	0	5	84	5	0	0	0	11	23	7	0	0	10	66	21	0	0	6	30	12	1	0	6	30	12	1	281																																				
01:30 PM	0	4	81	11	0	0	0	14	19	4	1	0	9	78	10	0	0	5	26	18	0	0	5	26	18	0	280																																				
01:45 PM	0	3	84	15	0	0	0	9	12	6	0	0	11	83	16	0	0	12	26	16	0	0	12	26	16	0	293																																				
Total	0	20	338	43	0	0	0	56	70	21	1	0	41	299	62	0	0	31	102	64	1	0	31	102	64	1	1149																																				

Groups Printed- Cars + - Trucks

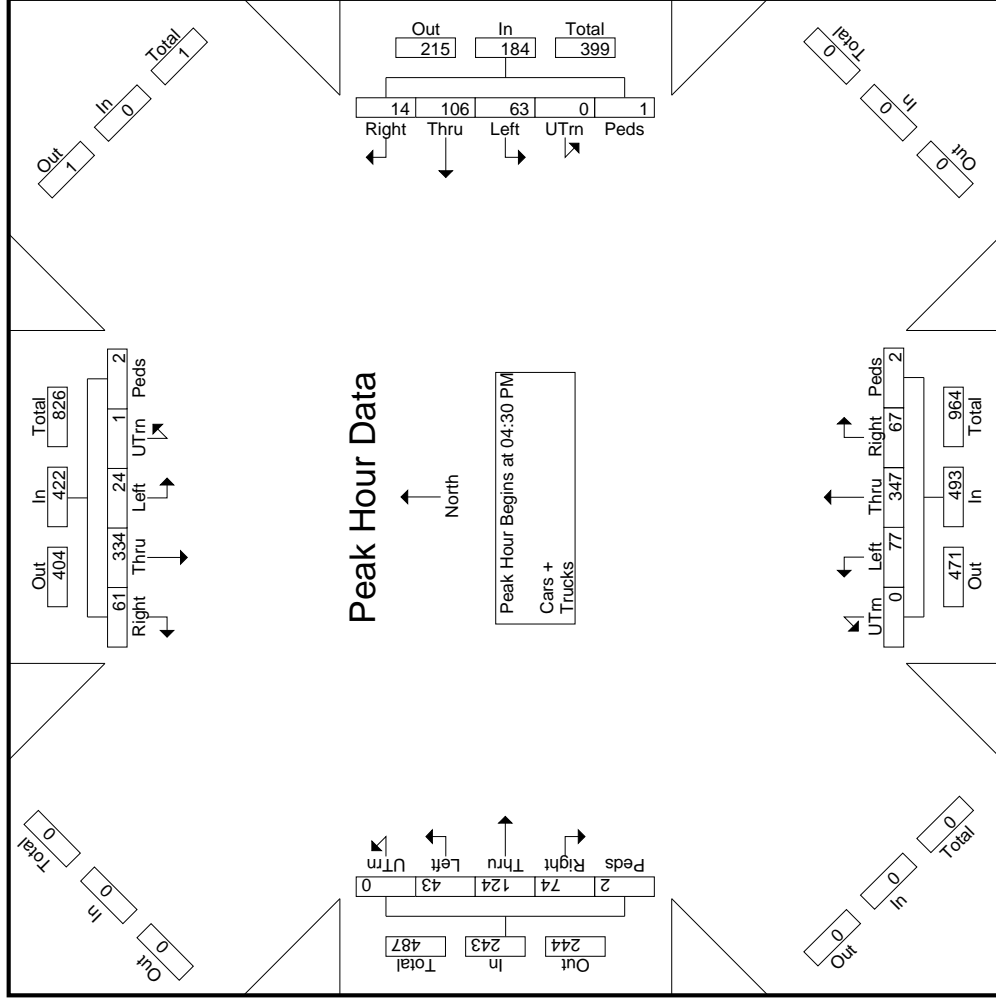
Southbound												Westbound					Northbound					Eastbound				
Start Time	UTrn	Left	Thru	Right	Peds	UTrn	Left	Thru	Right	Peds	UTrn	Left	Thru	Right	Peds	UTrn	Left	Thru	Right	Peds	Int. Total					
02:00 PM	0	2	69	7	0	0	17	25	3	0	0	4	74	25	0	0	11	22	17	0	276					
02:15 PM	0	9	78	8	0	0	21	22	2	0	0	22	75	19	0	0	5	20	9	0	290					
02:30 PM	0	4	88	12	0	0	16	17	4	0	0	10	80	16	0	0	5	23	17	0	292					
02:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0					
Total	0	15	235	27	0	0	54	64	9	0	0	36	229	60	0	0	21	65	43	0	858					
03:00 PM	1	10	86	13	2	0	14	26	2	0	0	8	69	21	0	0	11	22	13	2	300					
03:15 PM	0	0	105	12	0	0	0	0	2	0	0	17	73	3	0	0	23	2	24	0	261					
03:30 PM	0	1	85	7	0	0	13	36	2	1	0	12	72	16	0	0	14	24	17	0	300					
03:45 PM	0	7	92	16	1	0	11	23	1	0	0	16	91	14	0	0	15	20	16	0	323					
Total	1	18	368	48	3	0	38	85	7	1	0	53	305	54	0	0	63	68	70	2	1184					
04:00 PM	0	4	88	11	1	0	15	19	4	0	0	11	91	21	1	0	17	24	19	3	329					
04:15 PM	0	4	89	9	0	0	15	16	13	16	0	8	71	8	0	0	14	31	21	0	315					
04:30 PM	1	4	79	19	0	0	17	24	3	0	0	8	80	13	0	0	6	24	20	0	298					
04:45 PM	0	6	92	15	1	0	18	28	3	1	0	24	92	18	0	0	17	30	16	2	363					
Total	1	18	348	54	2	0	65	87	23	17	0	51	334	60	1	0	54	109	76	5	1305					
05:00 PM	0	3	94	13	0	0	15	30	5	0	0	16	83	19	2	0	10	38	21	0	349					
05:15 PM	0	11	69	14	1	0	13	24	3	0	0	29	92	17	0	0	10	32	17	0	332					
05:30 PM	0	9	74	14	0	0	17	18	6	0	0	9	77	32	0	0	10	21	8	0	295					
05:45 PM	0	3	87	14	0	0	13	22	4	0	0	6	95	23	0	0	8	18	8	0	301					
Total	0	26	324	55	1	0	58	94	18	0	0	60	347	91	2	0	38	109	54	0	1277					
06:00 PM	0	5	81	14	0	0	14	20	9	0	0	16	66	25	0	0	13	13	10	1	287					
06:15 PM	0	0	93	25	0	0	4	3	0	0	0	10	69	7	0	0	8	2	12	0	233					
06:30 PM	0	8	81	9	0	0	14	22	5	0	0	8	58	16	0	0	11	23	8	0	263					
06:45 PM	0	9	57	7	0	0	6	7	1	0	0	10	73	13	0	0	9	12	8	0	212					
Total	0	22	312	55	0	0	38	52	15	0	0	44	266	61	0	0	41	50	38	1	995					
Grand Total	2	211	3426	452	7	1	627	936	189	25	0	526	3249	721	10	0	432	965	577	10	12366					
Approch %	0	5.1	83.6	11	0.2	0.1	35.3	52.6	10.6	1.4	0	11.7	72.1	16	0.2	0	21.8	48.6	29.1	0.5						
Total %	0	1.7	27.7	3.7	0.1	0	5.1	7.6	1.5	0.2	0	4.3	26.3	5.8	0.1	0	3.5	7.8	4.7	0.1						
Cars +	2	207	3373	451	3	1	624	933	187	21	0	524	3185	717	3	0	432	944	575	10	12192					
% Cars +	100	98.1	98.5	99.8	42.9	100	99.5	99.7	98.9	84	0	99.6	98	99.4	30	0	100	97.8	99.7	100	98.6					
Trucks	0	4	53	1	4	0	3	3	2	4	0	2	64	4	7	0	0	21	2	0	174					
% Trucks	0	1.9	1.5	0.2	57.1	0	0.5	0.3	1.1	16	0	0.4	2	0.6	70	0	0	2.2	0.3	0	1.4					



	Southbound						Westbound						Northbound						Eastbound						
Start Time	UTrn	Left	Thru	Right	Peds	App. Total	UTrn	Left	Thru	Right	Peds	App. Total	UTrn	Left	Thru	Right	Peds	App. Total	UTrn	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 11:45 AM - Peak 1 of 1																									
Peak Hour for Entire Intersection Begins at 07:15 AM																									
07:15 AM	0	4	61	7	0	72	0	12	16	1	0	29	0	7	57	5	0	69	0	8	23	11	0	42	212
07:30 AM	0	3	94	10	0	107	0	19	28	7	0	54	0	16	109	16	0	141	0	18	38	20	0	76	378
07:45 AM	0	3	94	17	0	114	0	22	33	8	1	64	0	20	111	22	2	155	0	16	30	7	0	53	386
08:00 AM	0	5	59	10	0	74	0	10	20	3	0	33	0	11	39	10	0	60	0	6	24	8	0	38	205
Total Volume	0	15	308	44	0	367	0	63	97	19	1	180	0	54	316	53	2	425	0	48	115	46	0	209	1181
% App. Total	0	4.1	83.9	12	0		0	35	53.9	10.6	0.6		0	12.7	74.4	12.5	0.5		0	23	55	22	0		
PHF	.000	.750	.819	.647	.000	.805	.000	.716	.735	.594	.250	.703	.000	.675	.712	.602	.250	.685	.000	.667	.757	.575	.000	.688	.765



	Southbound						Westbound						Northbound						Eastbound						
Start Time	UTrn	Left	Thru	Right	Peds	App. Total	UTrn	Left	Thru	Right	Peds	App. Total	UTrn	Left	Thru	Right	Peds	App. Total	UTrn	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 06:45 PM - Peak 1 of 1																									
Peak Hour for Entire Intersection Begins at 04:30 PM																									
04:30 PM	1	4	79	19	0	103	0	17	24	3	0	44	0	8	80	13	0	101	0	6	24	20	0	50	298
04:45 PM	0	6	92	15	1	114	0	18	28	3	1	50	0	24	92	18	0	134	0	17	30	16	2	65	363
05:00 PM	0	3	94	13	0	110	0	15	30	5	0	50	0	16	83	19	2	120	0	10	38	21	0	69	349
05:15 PM	0	11	69	14	1	95	0	13	24	3	0	40	0	29	92	17	0	138	0	10	32	17	0	59	332
Total Volume	1	24	334	61	2	422	0	63	106	14	1	184	0	77	347	67	2	493	0	43	124	74	2	243	1342
% App. Total	0.2	5.7	79.1	14.5	0.5		0	34.2	57.6	7.6	0.5		0	15.6	70.4	13.6	0.4		0	17.7	51	30.5	0.8		
PHF	.250	.545	.888	.803	.500	.925	.000	.875	.883	.700	.250	.920	.000	.664	.943	.882	.250	.893	.000	.632	.816	.881	.250	.880	.924

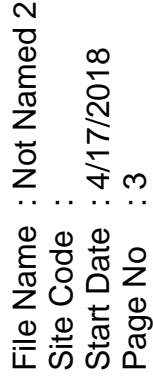


Groups Printed- Cars + - Trucks

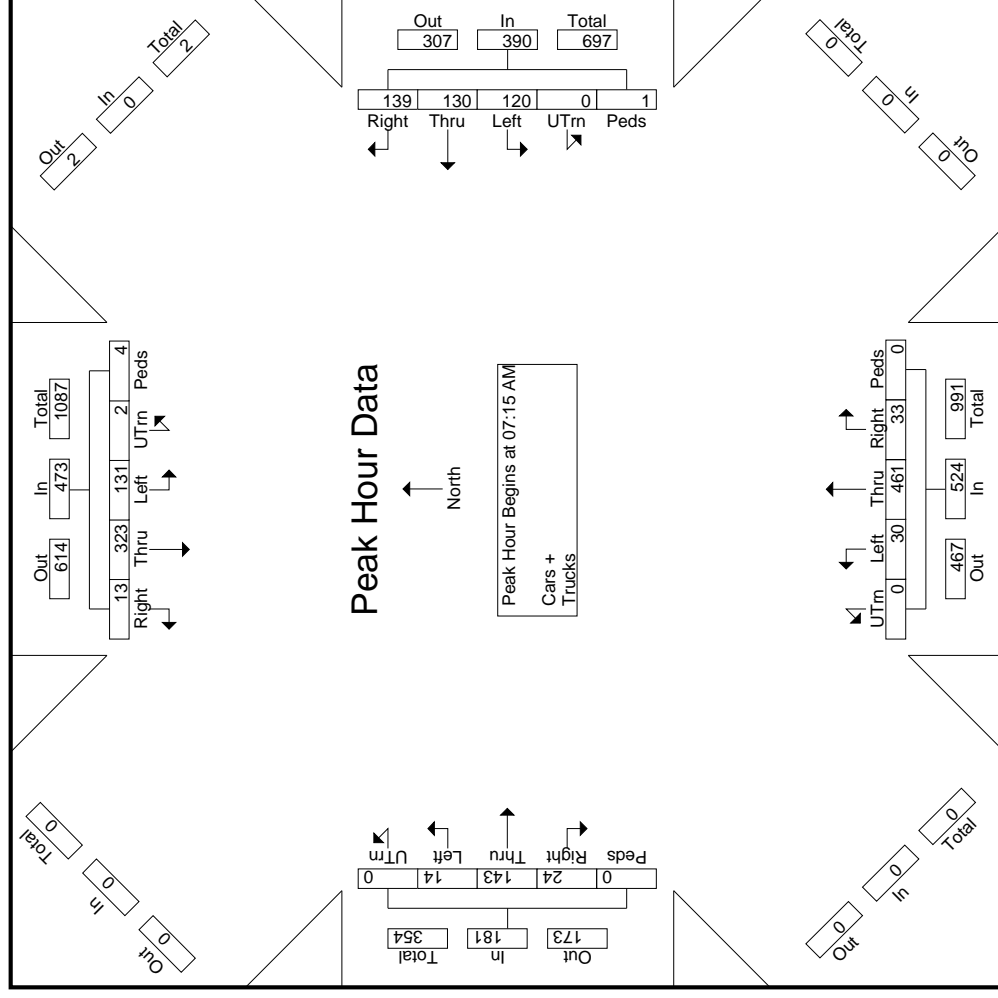
Southbound																Westbound								Northbound								Eastbound							
Start Time	UTrn	Left	Thru	Right	Peds	UTrn	Left	Thru	Right	Peds	UTrn	Left	Thru	Right	Peds	UTrn	Left	Thru	Right	Peds	UTrn	Left	Thru	Right	Peds	Int. Total													
07:00 AM	0	8	59	1	1	0	41	38	13	1	0	3	60	7	0	0	0	2	41	19	0	0	2	41	19	0	294												
07:15 AM	0	22	89	1	0	0	28	23	17	0	0	7	80	4	0	0	0	2	39	7	0	0	2	39	7	0	319												
07:30 AM	0	28	88	6	0	0	48	41	45	0	0	10	131	4	0	0	0	2	29	3	0	0	2	29	3	0	435												
07:45 AM	0	49	88	2	1	0	27	40	50	1	0	5	138	8	0	0	0	7	41	8	0	0	7	41	8	0	465												
Total	0	107	324	10	2	0	144	142	125	2	0	25	409	23	0	0	0	13	150	37	0	0	13	150	37	0	1513												
08:00 AM	2	32	58	4	3	0	17	26	27	0	0	8	112	17	0	0	0	3	34	6	0	0	3	34	6	0	349												
08:15 AM	1	35	64	3	0	0	12	28	13	0	0	4	54	8	0	0	0	7	30	1	0	0	7	30	1	0	260												
08:30 AM	0	48	49	5	0	0	13	23	23	0	0	3	40	11	0	0	0	1	33	0	0	0	1	33	0	0	249												
08:45 AM	0	31	74	3	0	0	12	38	15	0	0	7	48	11	0	0	0	1	26	5	0	0	1	26	5	0	271												
Total	3	146	245	15	3	0	54	115	78	0	0	22	254	47	0	0	0	12	123	12	0	0	12	123	12	0	1129												
09:00 AM	0	16	47	1	0	0	11	25	9	0	0	10	41	7	0	0	0	3	18	3	0	0	3	18	3	0	191												
09:15 AM	0	19	50	5	0	0	5	22	15	4	0	5	33	5	0	0	0	0	13	7	0	0	0	13	7	0	183												
09:30 AM	0	18	60	1	0	0	8	13	10	0	0	2	34	6	0	0	0	1	23	5	0	0	1	23	5	0	181												
09:45 AM	0	18	50	3	0	0	11	15	10	0	0	9	43	1	0	0	0	3	26	5	0	0	3	26	5	0	194												
Total	0	71	207	10	0	0	35	75	44	4	0	26	151	19	0	0	0	7	80	20	0	0	7	80	20	0	749												
10:00 AM	0	15	82	0	0	0	2	13	13	0	0	3	28	9	0	0	0	3	18	2	0	0	3	18	2	0	188												
10:15 AM	0	15	43	3	0	0	9	15	5	0	2	2	44	4	0	0	2	2	23	4	0	0	2	23	4	0	171												
10:30 AM	0	20	64	3	0	0	7	10	7	0	0	1	49	4	3	0	3	18	5	0	0	3	18	5	0	194													
10:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0												
Total	0	50	189	6	0	0	18	38	25	0	2	6	121	17	3	0	8	59	11	0	0	8	59	11	0	0	553												
11:00 AM	0	13	54	2	0	0	13	8	18	0	0	3	39	12	1	0	0	2	26	5	0	0	2	26	5	0	196												
11:15 AM	0	25	70	3	0	0	7	12	4	0	0	9	40	10	0	0	0	1	19	5	0	0	1	19	5	0	205												
11:30 AM	0	33	58	6	1	0	8	25	10	1	0	6	51	12	0	0	0	3	33	5	0	0	3	33	5	0	252												
11:45 AM	0	24	76	4	0	0	14	9	14	0	0	8	44	10	0	0	0	1	27	7	0	0	1	27	7	0	238												
Total	0	95	258	15	1	0	42	54	46	1	0	26	174	44	1	0	0	7	105	22	0	0	7	105	22	0	891												
12:00 PM	0	43	82	5	0	0	7	21	9	0	0	4	57	10	1	0	0	1	29	3	0	0	1	29	3	0	272												
12:15 PM	0	34	82	2	0	0	5	22	23	0	0	4	48	12	0	0	0	3	19	2	0	0	3	19	2	0	256												
12:30 PM	0	33	79	6	0	0	14	17	19	0	0	2	44	2	0	0	0	2	22	7	0	0	2	22	7	0	247												
12:45 PM	0	28	84	3	0	0	14	14	15	0	0	7	35	10	0	0	0	4	25	9	0	0	4	25	9	0	248												
Total	0	138	327	16	0	0	40	74	66	0	0	17	184	34	1	0	0	10	95	21	0	0	10	95	21	0	1023												
01:00 PM	0	25	99	6	0	0	12	24	9	0	0	3	48	12	0	0	0	3	33	8	2	0	3	33	8	2	284												
01:15 PM	0	36	82	1	0	0	6	12	9	0	0	5	46	11	0	0	0	4	20	4	0	0	4	20	4	0	236												
01:30 PM	0	19	69	2	0	0	11	16	16	0	1	2	58	12	0	0	1	4	25	3	0	0	4	25	3	0	238												
01:45 PM	0	26	83	6	0	0	11	16	10	0	0	4	44	9	0	0	0	4	31	9	0	0	4	31	9	0	253												
Total	0	106	333	15	0	0	40	68	44	0	1	14	196	44	0	0	1	15	109	24	2	0	15	109	24	2	1011												

Groups Printed- Cars + - Trucks

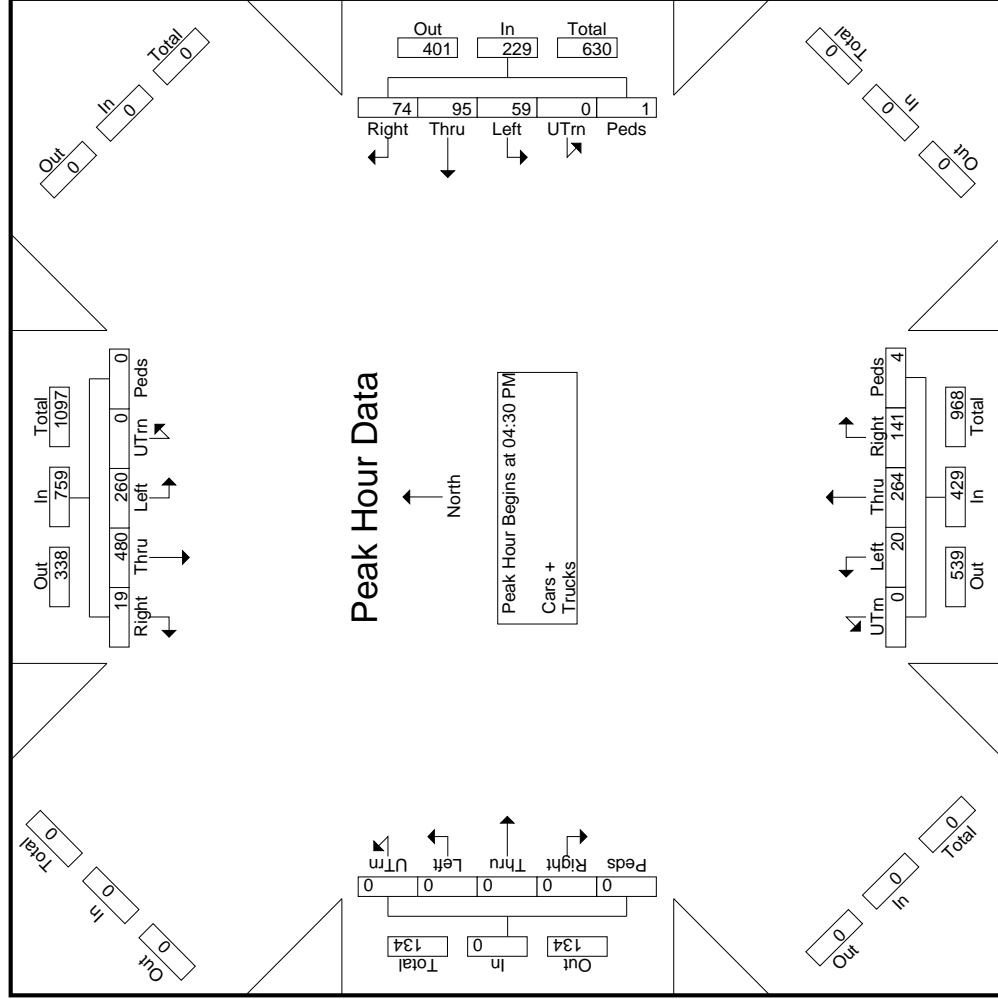
Southbound										Westbound					Northbound					Eastbound				
Start Time	UTrn	Left	Thru	Right	Peds	UTrn	Left	Thru	Right	Peds	UTrn	Left	Thru	Right	Peds	UTrn	Left	Thru	Right	Peds	Int. Total			
02:00 PM	0	13	59	1	0	0	0	8	15	11	0	0	7	35	13	0	0	6	16	8	0	192		
02:15 PM	0	27	103	5	0	0	0	5	14	10	0	0	1	43	15	0	0	5	27	14	0	269		
02:30 PM	0	26	72	5	0	0	0	15	16	10	0	0	2	48	10	0	0	3	30	7	0	244		
02:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Total	0	66	234	11	0	0	0	28	45	31	0	0	10	126	38	0	0	14	73	29	0	705		
03:00 PM	0	19	59	6	0	0	0	13	21	11	1	0	4	75	15	0	0	0	0	0	0	224		
03:15 PM	0	39	102	5	0	0	0	20	21	13	0	0	6	57	13	0	0	0	0	0	0	276		
03:30 PM	0	63	141	6	0	0	0	18	33	11	0	0	7	47	13	0	0	0	0	0	0	340		
03:45 PM	0	72	91	6	0	0	0	17	40	18	0	2	5	41	26	0	0	0	0	0	0	318		
Total	0	193	393	23	0	0	0	68	115	53	1	3	22	220	67	0	0	0	0	0	0	1158		
04:00 PM	0	41	106	6	0	0	0	14	48	24	0	0	14	67	13	2	0	0	0	0	0	335		
04:15 PM	0	60	118	4	0	0	0	12	35	17	0	0	5	73	22	0	0	0	0	0	0	346		
04:30 PM	0	52	106	4	0	0	0	16	30	20	0	0	5	50	54	0	0	0	0	0	0	337		
04:45 PM	0	65	141	3	0	0	0	18	23	11	0	0	6	70	28	3	0	0	0	0	0	368		
Total	0	218	471	17	0	0	0	60	136	72	0	0	30	260	117	5	0	0	0	0	0	1386		
05:00 PM	0	67	139	6	0	0	0	10	19	22	1	0	1	78	17	1	0	0	0	0	0	361		
05:15 PM	0	76	94	6	0	0	0	15	23	21	0	0	8	66	42	0	0	0	0	0	0	351		
05:30 PM	0	48	103	4	0	0	0	17	27	25	0	0	4	61	27	1	0	0	0	0	0	317		
05:45 PM	0	35	89	11	0	0	0	15	17	19	1	0	1	53	24	0	0	0	0	0	0	265		
Total	0	226	425	27	0	0	0	57	86	87	2	0	14	258	110	2	0	0	0	0	0	1294		
06:00 PM	0	39	97	6	0	0	0	10	12	12	0	0	9	53	20	1	0	0	0	0	1	260		
06:15 PM	0	35	84	1	0	0	0	14	12	10	2	0	4	34	13	0	0	0	0	0	0	209		
06:30 PM	0	26	70	4	0	0	0	15	8	10	2	0	2	36	10	4	0	0	0	0	0	187		
06:45 PM	0	32	61	1	0	0	0	8	10	3	0	0	2	46	15	0	0	0	0	0	0	178		
Total	0	132	312	12	0	0	0	47	42	35	4	0	17	169	58	5	0	0	0	0	1	834		
Grand Total	3	1548	3718	177	6	0	0	633	990	706	14	6	229	2522	618	17	0	86	794	176	3	12246		
Approch %	0.1	28.4	68.2	3.2	0.1	0	0	27	42.3	30.1	0.6	0.2	6.8	74.4	18.2	0.5	0	8.1	75	16.6	0.3			
Total %	0	12.6	30.4	1.4	0	0	0	5.2	8.1	5.8	0.1	0	1.9	20.6	5	0.1	0	0.7	6.5	1.4	0			
Cars +	1	1504	3579	172	3	0	0	625	972	698	13	3	222	2395	610	11	0	85	768	175	1	11837		
% Cars +	33.3	97.2	96.3	97.2	50	0	0	98.7	98.2	98.9	92.9	50	96.9	95	98.7	64.7	0	98.8	96.7	99.4	33.3	96.7		
Trucks	2	44	139	5	3	0	0	8	18	8	1	3	7	127	8	6	0	1	26	1	2	409		
% Trucks	66.7	2.8	3.7	2.8	50	0	0	1.3	1.8	1.1	7.1	50	3.1	5	1.3	35.3	0	1.2	3.3	0.6	66.7	3.3		



Start Time	Southbound					Westbound					Northbound					Eastbound				
	UTrn	Left	Thru	Right	Peds	App. Total	UTrn	Left	Thru	Right	Peds	App. Total	UTrn	Left	Thru	Right	Peds	App. Total	UTrn	Int. Total
Peak Hour Analysis From 07:00 AM to 11:45 AM - Peak 1 of 1																				
Peak Hour for Entire Intersection Begins at 07:15 AM																				
07:15 AM	0	22	89	1	0	112	0	28	23	17	0	68	0	7	80	4	0	91	0	319
07:30 AM	0	28	88	6	0	122	0	48	41	45	0	134	0	10	131	4	0	145	0	435
07:45 AM	0	49	88	2	1	140	0	27	40	50	1	118	0	5	138	8	0	151	0	465
08:00 AM	2	32	58	4	3	99	0	17	26	27	0	70	0	8	112	17	0	137	0	349
Total Volume	2	131	323	13	4	473	0	120	130	139	1	390	0	30	461	33	0	524	0	1568
% App. Total	0.4	27.7	68.3	2.7	0.8		0	30.8	33.3	35.6	0.3		0	5.7	88	6.3	0		0	
PHF	.250	.668	.907	.542	.333	.845	.000	.625	.793	.695	.250	.728	.000	.750	.835	.485	.000	.868	.000	.843



Start Time	Southbound					Westbound					Northbound					Eastbound				
	UTrn	Left	Thru	Right	Peds	App. Total	UTrn	Left	Thru	Right	Peds	App. Total	UTrn	Left	Thru	Right	Peds	App. Total	UTrn	Int. Total
Peak Hour Analysis From 12:00 PM to 06:45 PM - Peak 1 of 1																				
Peak Hour for Entire Intersection Begins at 04:30 PM																				
04:30 PM	0	52	106	4	0	162	0	16	30	20	0	66	0	5	50	54	0	109	0	337
04:45 PM	0	65	141	3	0	209	0	18	23	11	0	52	0	6	70	28	3	107	0	368
05:00 PM	0	67	139	6	0	212	0	10	19	22	1	52	0	1	78	17	1	97	0	361
05:15 PM	0	76	94	6	0	176	0	15	23	21	0	59	0	8	66	42	0	116	0	351
Total Volume	0	260	480	19	0	759	0	59	95	74	1	229	0	20	264	141	4	429	0	1417
% App. Total	0	34.3	63.2	2.5	0		0	25.8	41.5	32.3	0.4		0	4.7	61.5	32.9	0.9		0	
PHF	.000	.855	.851	.792	.000	.895	.000	.819	.792	.841	.250	.867	.000	.625	.846	.653	.333	.925	.000	.963



Intersection Safety Screening

Intersection: 12th Ave & 4th Street S



Crash Data, 2011-2015.

Crashes by Crash Severity	
Fatal	0
Incapacitating Injury	0
Non-incapacitating Injury	0
Possible Injury	0
Property Damage	1
Total Crashes	1

Intersection Characteristics	
Entering Volume	7,850
Traffic Control	All stop
Environment	Urban
Speed Limit	30 mph

Annual crash cost = \$1,520

Statewide Comparison

All Way Stop

Total Crash Rate	
Observed	0.07
Statewide Average	0.35
Critical Rate	0.79
Critical Index	0.09

Fatal & Serious Injury Crash Rate	
Observed	0.00
Statewide Average	0.57
Critical Rate	6.62
Critical Index	0.00

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

The observed total crash rate for this period is 0.07 per MEV; this is 91% below the critical rate. Based on similar statewide intersections, an additional 11 crashes over the five years would indicate this intersection operates outside the normal range.

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

Intersection Safety Screening

Intersection: 12th Ave & 5th Street S



Crash Data, 2011-2015.

Crashes by Crash Severity	
Fatal	0
Incapacitating Injury	0
Non-incapacitating Injury	0
Possible Injury	0
Property Damage	1
Total Crashes	1

Intersection Characteristics	
Entering Volume	6,500
Traffic Control	All stop
Environment	Urban
Speed Limit	30 mph

Annual crash cost = \$1,520

Statewide Comparison

All Way Stop

Total Crash Rate	
Observed	0.08
Statewide Average	0.35
Critical Rate	0.84
Critical Index	0.10

Fatal & Serious Injury Crash Rate	
Observed	0.00
Statewide Average	0.57
Critical Rate	7.60
Critical Index	0.00

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

The observed total crash rate for this period is 0.08 per MEV; this is 90% below the critical rate. Based on similar statewide intersections, an additional 9 crashes over the five years would indicate this intersection operates outside the normal range.

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

Intersection Safety Screening

Intersection: 12th Ave & 8th Street S



Crash Data, 2011-2015.

Crashes by Crash Severity	
Fatal	0
Incapacitating Injury	0
Non-incapacitating Injury	2
Possible Injury	7
Property Damage	25
Total Crashes	34

Intersection Characteristics	
Entering Volume	24,550
Traffic Control	Signals
Environment	Urban
Speed Limit	30 mph

Annual crash cost = \$222,200

Statewide Comparison

Signals: high volume, low speed

Total Crash Rate	
Observed	0.76
Statewide Average	0.70
Critical Rate	1.03
Critical Index	0.74

Fatal & Serious Injury Crash Rate	
Observed	0.00
Statewide Average	0.76
Critical Rate	3.55
Critical Index	0.00

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

The observed total crash rate for this period is 0.76 per MEV; this is 26% below the critical rate. Based on similar statewide intersections, an additional 13 crashes over the five years would indicate this intersection operates outside the normal range.

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

Intersection Safety Screening

Intersection: 12th Ave & 11th Street S



Crash Data, 2011-2015.

Crashes by Crash Severity	
Fatal	0
Incapacitating Injury	0
Non-incapacitating Injury	0
Possible Injury	1
Property Damage	1
Total Crashes	2

Intersection Characteristics	
Entering Volume	8,050
Traffic Control	All stop
Environment	Urban
Speed Limit	30 mph

Annual crash cost = \$18,120

Statewide Comparison

All Way Stop

Total Crash Rate	
Observed	0.14
Statewide Average	0.35
Critical Rate	0.78
Critical Index	0.18

Fatal & Serious Injury Crash Rate	
Observed	0.00
Statewide Average	0.57
Critical Rate	6.50
Critical Index	0.00

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

The observed total crash rate for this period is 0.14 per MEV; this is 82% below the critical rate. Based on similar statewide intersections, an additional 10 crashes over the five years would indicate this intersection operates outside the normal range.

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

Intersection Safety Screening

Intersection: 12th Ave & 14th Street S



Crash Data, 2011-2015.

Crashes by Crash Severity	
Fatal	0
Incapacitating Injury	0
Non-incapacitating Injury	0
Possible Injury	0
Property Damage	4
Total Crashes	4

Intersection Characteristics	
Entering Volume	5,675
Traffic Control	All stop
Environment	Urban
Speed Limit	30 mph

Annual crash cost = \$6,080

Statewide Comparison

All Way Stop

Total Crash Rate	
Observed	0.39
Statewide Average	0.35
Critical Rate	0.87
Critical Index	0.45

Fatal & Serious Injury Crash Rate	
Observed	0.00
Statewide Average	0.57
Critical Rate	8.41
Critical Index	0.00

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

The observed total crash rate for this period is 0.39 per MEV; this is 55% below the critical rate. Based on similar statewide intersections, an additional 6 crashes over the five years would indicate this intersection operates outside the normal range.

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

Intersection Safety Screening

Intersection: 12th Ave & 17th Street S



Crash Data, 2011-2015.

Crashes by Crash Severity	
Fatal	0
Incapacitating Injury	0
Non-incapacitating Injury	0
Possible Injury	1
Property Damage	0
Total Crashes	1

Intersection Characteristics	
Entering Volume	5,350
Traffic Control	Thru / stop
Environment	Urban
Speed Limit	30 mph

Annual crash cost = \$16,600

Statewide Comparison

Urban Thru / Stop

Total Crash Rate	
Observed	0.10
Statewide Average	0.18
Critical Rate	0.59
Critical Index	0.17

Fatal & Serious Injury Crash Rate	
Observed	0.00
Statewide Average	0.33
Critical Rate	7.79
Critical Index	0.00

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

The observed total crash rate for this period is 0.10 per MEV; this is 83% below the critical rate. Based on similar statewide intersections, an additional 5 crashes over the five years would indicate this intersection operates outside the normal range.

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

Intersection Safety Screening

Intersection: 12th Ave & 20th Street S



Crash Data, 2011-2015.

Crashes by Crash Severity	
Fatal	0
Incapacitating Injury	0
Non-incapacitating Injury	1
Possible Injury	6
Property Damage	12
Total Crashes	19

Intersection Characteristics	
Entering Volume	17,475
Traffic Control	Signals
Environment	Urban
Speed Limit	30 mph

Annual crash cost = \$151,840

Statewide Comparison

Signals: low volume, low speed

Total Crash Rate	
Observed	0.60
Statewide Average	0.52
Critical Rate	0.86
Critical Index	0.70

Fatal & Serious Injury Crash Rate	
Observed	0.00
Statewide Average	0.42
Critical Rate	3.47
Critical Index	0.00

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

The observed total crash rate for this period is 0.60 per MEV; this is 30% below the critical rate. Based on similar statewide intersections, an additional 9 crashes over the five years would indicate this intersection operates outside the normal range.

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

Intersection Safety Screening

Intersection: 12th Ave & Main SE



Crash Data, 2011-2015.

Crashes by Crash Severity	
Fatal	0
Incapacitating Injury	0
Non-incapacitating Injury	1
Possible Injury	4
Property Damage	5
Total Crashes	10

Intersection Characteristics	
Entering Volume	14,650
Traffic Control	Signals
Environment	Urban
Speed Limit	30 mph

Annual crash cost = \$108,000

Statewide Comparison

Signals: low volume, low speed

Total Crash Rate	
Observed	0.37
Statewide Average	0.52
Critical Rate	0.89
Critical Index	0.42

Fatal & Serious Injury Crash Rate	
Observed	0.00
Statewide Average	0.42
Critical Rate	3.91
Critical Index	0.00

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

The observed total crash rate for this period is 0.37 per MEV; this is 58% below the critical rate. Based on similar statewide intersections, an additional 14 crashes over the five years would indicate this intersection operates outside the normal range.

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

3: 8th Street S & 12th Avenue S Performance by approach

Approach	EB	WB	NB	SB	All
Denied Del/Veh (s)	0.0	0.0	0.3	0.2	0.2
Total Del/Veh (s)	21.1	16.4	15.6	11.4	15.0

6: 4th Street S & 12th Avenue S Performance by approach

Approach	EB	WB	SB	All
Denied Del/Veh (s)	0.1	0.1	0.2	0.1
Total Del/Veh (s)	6.1	6.6	6.6	6.6

9: 5th Street S & 12th Avenue S Performance by approach

Approach	EB	WB	NB	All
Denied Del/Veh (s)	0.0	0.0	0.1	0.1
Total Del/Veh (s)	6.7	4.3	6.2	5.7

12: 11th Street S & 12th Avenue S Performance by approach

Approach	EB	WB	NB	SB	All
Denied Del/Veh (s)	0.0	0.1	0.1	0.2	0.1
Total Del/Veh (s)	8.2	9.3	4.2	6.6	7.6

15: 14th Street S & 12th Avenue S Performance by approach

Approach	EB	WB	NB	All
Denied Del/Veh (s)	0.0	0.0	0.1	0.0
Total Del/Veh (s)	6.4	7.0	5.4	6.5

19: 17th Street S & 12th Avenue S Performance by approach

Approach	EB	WB	NB	SB	All
Denied Del/Veh (s)	0.0	0.1	0.1	0.1	0.1
Total Del/Veh (s)	2.1	1.7	4.1	5.7	2.3

22: 20th Street S & 12th Avenue S Performance by approach

Approach	EB	WB	NB	SB	All
Denied Del/Veh (s)	0.0	0.0	1.4	1.0	0.8
Total Del/Veh (s)	14.3	18.8	10.2	11.5	12.6

25: SE Main & 12th Avenue S Performance by approach

Approach	EB	WB	SE	NW	All
Denied Del/Veh (s)	0.0	2.2	1.2	0.5	1.1
Total Del/Veh (s)	23.8	15.5	11.2	16.3	15.4

28: Elm Street & 12th Avenue S Performance by approach

Approach	EB	WB	NB	SB	All
Denied Del/Veh (s)	0.1	0.0	0.1	0.1	0.0
Total Del/Veh (s)	0.1	2.0	2.7	4.4	2.1

Total Network Performance

Denied Del/Veh (s)			0.6		
Total Del/Veh (s)			18.7		

3: 8th Street S & 12th Avenue S Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0	0.0	2.5	0.2	0.3	3.0	0.1	0.2
Total Del/Veh (s)	24.0	20.0	19.5	23.2	12.8	16.8	21.4	15.2	16.2	23.9	10.8	11.5

3: 8th Street S & 12th Avenue S Performance by movement

Movement	All
Denied Del/Veh (s)	0.2
Total Del/Veh (s)	15.0

6: 4th Street S & 12th Avenue S Performance by movement

Movement	EBT	EBR	WBL	WBT	SBL	SBT	SBR	All
Denied Del/Veh (s)	0.1	0.0	0.0	0.1	0.3	0.1	0.1	0.1
Total Del/Veh (s)	6.2	3.5	5.7	7.0	5.9	7.0	2.8	6.6

9: 5th Street S & 12th Avenue S Performance by movement

Movement	EBL	EBT	WBT	WBR	NBL	NBT	NBR	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.2	0.1	0.2	0.1
Total Del/Veh (s)	5.7	7.0	3.7	5.2	5.3	6.5	3.2	5.7

12: 11th Street S & 12th Avenue S Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0.1	0.0	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.1
Total Del/Veh (s)	8.7	5.8	8.0	9.4	5.4	3.2	5.3	8.1	4.7	7.6

15: 14th Street S & 12th Avenue S Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.1	0.1	0.0
Total Del/Veh (s)	7.3	6.3	5.4	6.7	7.5	5.0	5.2	6.6	3.4	6.5

19: 17th Street S & 12th Avenue S Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.0	0.0	0.0	0.1	0.1	0.0	0.1	0.1	0.1	0.1	0.2	0.1
Total Del/Veh (s)	4.6	2.0	1.9	4.2	1.6	1.9	3.8	7.3	3.0	6.4	7.4	3.2

19: 17th Street S & 12th Avenue S Performance by movement

Movement	All
Denied Del/Veh (s)	0.1
Total Del/Veh (s)	2.3

22: 20th Street S & 12th Avenue S Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0	0.0	3.5	0.6	3.5	3.7	0.4	3.6
Total Del/Veh (s)	19.9	15.4	4.6	21.4	19.2	9.6	11.3	11.4	3.1	12.9	12.7	3.8

22: 20th Street S & 12th Avenue S Performance by movement

Movement	All
Denied Del/Veh (s)	0.8
Total Del/Veh (s)	12.6

25: SE Main & 12th Avenue S Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Denied Del/Veh (s)	0.0	0.0	0.0	3.1	0.7	2.9	3.4	0.2	3.4	3.3	0.1	3.1
Total Del/Veh (s)	29.8	25.1	6.1	23.5	19.6	5.2	14.7	10.0	2.9	14.7	17.4	3.4

25: SE Main & 12th Avenue S Performance by movement

Movement	All
Denied Del/Veh (s)	1.1
Total Del/Veh (s)	15.4

28: Elm Street & 12th Avenue S Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.1	0.1	0.1	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.2	0.1
Total Del/Veh (s)	1.1	0.0	0.1	3.6	1.9	2.1	3.3	3.0	2.5	4.5	5.3	2.3

28: Elm Street & 12th Avenue S Performance by movement

Movement	All
Denied Del/Veh (s)	0.0
Total Del/Veh (s)	2.1

Total Network Performance

Movement	All
Denied Del/Veh (s)	0.6
Total Del/Veh (s)	18.7

Queuing and Blocking Report

AM Existing

12/21/2018

Intersection: 3: 8th Street S & 12th Avenue S

Movement	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	T	R	L	T	TR	L	T	TR
Maximum Queue (ft)	61	106	105	138	95	154	278	250	70	146	139
Average Queue (ft)	24	50	52	56	28	40	160	143	16	81	51
95th Queue (ft)	56	91	92	105	70	107	244	223	55	130	104
Link Distance (ft)		1032		1229			904	904		1004	1004
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (ft)	130		160		160	130			120		
Storage Blk Time (%)		0		0	0		11			1	
Queuing Penalty (veh)		0		0	0		5			0	

Intersection: 6: 4th Street S & 12th Avenue S

Movement	EB	WB	SB	SB
Directions Served	TR	LT	LT	TR
Maximum Queue (ft)	56	56	88	53
Average Queue (ft)	27	31	50	29
95th Queue (ft)	51	49	75	49
Link Distance (ft)	1381	250	290	290
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 9: 5th Street S & 12th Avenue S

Movement	EB	WB	NB	NB
Directions Served	LT	TR	LT	TR
Maximum Queue (ft)	70	76	84	58
Average Queue (ft)	37	40	45	31
95th Queue (ft)	57	64	71	52
Link Distance (ft)	250	1032	202	202
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Queuing and Blocking Report

AM Existing

12/21/2018

Intersection: 12: 11th Street S & 12th Avenue S

Movement	EB	WB	NB	NB	SB	SB
Directions Served	TR	LT	L	R	L	TR
Maximum Queue (ft)	100	87	47	68	53	96
Average Queue (ft)	54	49	22	27	26	50
95th Queue (ft)	82	76	47	52	49	80
Link Distance (ft)	1229	1255	459	459	456	456
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)						
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 15: 14th Street S & 12th Avenue S

Movement	EB	WB	NB
Directions Served	LTR	LTR	LTR
Maximum Queue (ft)	74	116	61
Average Queue (ft)	42	54	34
95th Queue (ft)	65	90	55
Link Distance (ft)	1255	1029	400
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 19: 17th Street S & 12th Avenue S

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	31	39	31	54
Average Queue (ft)	2	2	8	25
95th Queue (ft)	16	19	30	50
Link Distance (ft)	1029	1275	315	415
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Queuing and Blocking Report

AM Existing

12/21/2018

Intersection: 22: 20th Street S & 12th Avenue S

Movement	EB	EB	EB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	R	L	TR	L	T	R	L	T	R
Maximum Queue (ft)	66	99	42	82	100	74	160	44	39	179	56
Average Queue (ft)	26	41	14	31	38	25	77	14	13	89	19
95th Queue (ft)	56	82	33	66	80	55	140	34	38	154	48
Link Distance (ft)	1275			2074			567			789	
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (ft)	170		170	180		200		200	220		175
Storage Blk Time (%)	0							0			
Queuing Penalty (veh)	0							0			

Intersection: 25: SE Main & 12th Avenue S

Movement	EB	EB	EB	WB	WB	WB	SE	SE	SE	NW	NW	NW
Directions Served	L	T	R	L	T	R	L	T	T	L	T	T
Maximum Queue (ft)	45	144	49	134	128	80	119	115	85	30	170	142
Average Queue (ft)	11	60	6	50	49	24	42	51	27	9	97	47
95th Queue (ft)	34	115	28	97	99	54	86	96	63	26	153	104
Link Distance (ft)	2074			1166			561			561		
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	130		130	200		200	240			180		
Storage Blk Time (%)		1	0								0	
Queuing Penalty (veh)		0	0								0	

Intersection: 28: Elm Street & 12th Avenue S

Movement	NB	SB
Directions Served	LTR	LTR
Maximum Queue (ft)	31	36
Average Queue (ft)	6	10
95th Queue (ft)	26	34
Link Distance (ft)	205	297
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Network Summary

Network wide Queuing Penalty: 7

3: 8th Street S & 12th Avenue S Performance by approach

Approach	EB	WB	NB	SB	All
Denied Del/Veh (s)	0.3	1.5	0.5	0.4	0.6
Total Del/Veh (s)	37.6	24.0	25.1	24.2	25.9

6: 4th Street S & 12th Avenue S Performance by approach

Approach	EB	WB	SB	All
Denied Del/Veh (s)	0.1	0.0	0.1	0.1
Total Del/Veh (s)	5.8	3.2	5.9	5.0

9: 5th Street S & 12th Avenue S Performance by approach

Approach	EB	WB	NB	All
Denied Del/Veh (s)	0.1	0.0	0.1	0.1
Total Del/Veh (s)	6.5	5.2	5.7	5.7

12: 11th Street S & 12th Avenue S Performance by approach

Approach	EB	WB	NB	SB	All
Denied Del/Veh (s)	0.0	0.0	0.1	0.2	0.1
Total Del/Veh (s)	5.0	8.3	4.0	5.7	5.7

15: 14th Street S & 12th Avenue S Performance by approach

Approach	EB	WB	NB	All
Denied Del/Veh (s)	0.0	0.0	0.1	0.0
Total Del/Veh (s)	6.8	6.1	5.7	6.4

19: 17th Street S & 12th Avenue S Performance by approach

Approach	EB	WB	NB	SB	All
Denied Del/Veh (s)	0.0	0.0	0.1	0.1	0.0
Total Del/Veh (s)	2.4	1.7	4.4	4.7	2.2

22: 20th Street S & 12th Avenue S Performance by approach

Approach	EB	WB	NB	SB	All
Denied Del/Veh (s)	1.0	0.3	1.4	1.0	1.0
Total Del/Veh (s)	14.5	20.6	10.4	13.3	13.6

25: SE Main & 12th Avenue S Performance by approach

Approach	EB	WB	SE	NW	All
Denied Del/Veh (s)	0.1	1.9	1.1	1.2	1.1
Total Del/Veh (s)	22.6	14.7	10.3	13.4	13.4

28: Elm Street & 12th Avenue S Performance by approach

Approach	EB	WB	NB	SB	All
Denied Del/Veh (s)	0.1	0.0	0.2	0.1	0.0
Total Del/Veh (s)	0.2	1.8	4.2	4.0	2.3

Total Network Performance

Denied Del/Veh (s)	0.9
Total Del/Veh (s)	23.6

3: 8th Street S & 12th Avenue S Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	1.2	0.1	0.1	1.9	0.4	1.9	2.8	0.2	0.3	2.4	0.2	0.3
Total Del/Veh (s)	32.8	36.9	41.9	28.9	17.6	20.7	35.2	22.7	30.2	33.0	23.4	25.3

3: 8th Street S & 12th Avenue S Performance by movement

Movement	All
Denied Del/Veh (s)	0.6
Total Del/Veh (s)	25.9

6: 4th Street S & 12th Avenue S Performance by movement

Movement	EBT	EBR	WBL	WBT	SBL	SBT	SBR	All
Denied Del/Veh (s)	0.1	0.1	0.0	0.0	0.2	0.1	0.1	0.1
Total Del/Veh (s)	6.1	2.8	6.0	3.0	5.2	6.4	2.7	5.0

9: 5th Street S & 12th Avenue S Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	All
Denied Del/Veh (s)	0.1	0.1	0.0	0.0	0.0	0.0	0.2	0.1	0.1	0.1
Total Del/Veh (s)	5.1	6.7	3.5	7.4	5.0	5.6	5.0	6.2	3.1	5.7

12: 11th Street S & 12th Avenue S Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.2	0.1	0.1	0.2	0.2	0.1
Total Del/Veh (s)	5.0	5.3	6.9	8.5	5.1	3.0	5.0	6.9	3.7	5.7

15: 14th Street S & 12th Avenue S Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.1	0.1	0.0
Total Del/Veh (s)	6.9	6.9	5.0	5.2	7.0	4.0	5.1	6.5	3.3	6.4

19: 17th Street S & 12th Avenue S Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1
Total Del/Veh (s)	4.2	2.3	2.2	3.0	1.6	1.8	5.8	3.6	2.9	5.6	6.1	3.1

19: 17th Street S & 12th Avenue S Performance by movement

Movement	All
Denied Del/Veh (s)	0.0
Total Del/Veh (s)	2.2

22: 20th Street S & 12th Avenue S Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	1.8	0.2	1.7	0.9	0.1	0.1	3.5	0.7	3.3	3.6	0.5	3.5
Total Del/Veh (s)	19.6	17.9	5.9	21.2	21.7	15.0	13.1	11.1	3.5	12.3	15.0	4.0

22: 20th Street S & 12th Avenue S Performance by movement

Movement	All
Denied Del/Veh (s)	1.0
Total Del/Veh (s)	13.6

25: SE Main & 12th Avenue S Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Denied Del/Veh (s)	0.6	0.0	0.5	3.1	0.4	3.0	3.0	0.2	2.8	3.5	0.1	3.4
Total Del/Veh (s)	26.1	25.8	7.2	21.2	18.5	3.4	13.1	9.3	3.0	13.0	17.8	3.2

25: SE Main & 12th Avenue S Performance by movement

Movement	All
Denied Del/Veh (s)	1.1
Total Del/Veh (s)	13.4

28: Elm Street & 12th Avenue S Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.1	0.1	0.1	0.0	0.0	0.0		0.1	0.1	0.1	0.1	0.2
Total Del/Veh (s)	1.0	0.0	0.0	3.8	1.6	1.5		4.0	3.7	3.9	5.2	2.2

28: Elm Street & 12th Avenue S Performance by movement

Movement	All
Denied Del/Veh (s)	0.0
Total Del/Veh (s)	2.3

Total Network Performance

Movement	All
Denied Del/Veh (s)	0.9
Total Del/Veh (s)	23.6

Queuing and Blocking Report
PM Existing revised

12/21/2018

Intersection: 3: 8th Street S & 12th Avenue S

Movement	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	T	R	L	T	TR	L	T	TR
Maximum Queue (ft)	154	312	182	253	126	154	319	301	144	327	301
Average Queue (ft)	43	126	104	63	49	86	168	154	55	172	157
95th Queue (ft)	119	253	164	148	98	169	264	250	129	264	250
Link Distance (ft)		1032		1229			904	904		1004	1004
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (ft)	130		160		160	130			120		
Storage Blk Time (%)	0	11	2		0	1	15		0	18	
Queuing Penalty (veh)	0	6	5		0	5	17		0	12	

Intersection: 6: 4th Street S & 12th Avenue S

Movement	EB	WB	SB	SB
Directions Served	TR	LT	LT	TR
Maximum Queue (ft)	60	31	77	57
Average Queue (ft)	26	21	40	19
95th Queue (ft)	52	44	62	47
Link Distance (ft)	1381	236	290	290
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 9: 5th Street S & 12th Avenue S

Movement	EB	WB	NB	NB
Directions Served	LTR	LTR	LT	TR
Maximum Queue (ft)	91	88	63	57
Average Queue (ft)	42	51	39	23
95th Queue (ft)	70	75	58	50
Link Distance (ft)	236	1032	202	202
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Queuing and Blocking Report
PM Existing revised

12/21/2018

Intersection: 12: 11th Street S & 12th Avenue S

Movement	EB	WB	NB	NB	SB	SB
Directions Served	TR	LT	L	R	L	TR
Maximum Queue (ft)	81	85	50	52	31	72
Average Queue (ft)	44	41	24	24	17	37
95th Queue (ft)	67	65	49	48	42	59
Link Distance (ft)	1229	1255	459	459	456	456
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)						
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 15: 14th Street S & 12th Avenue S

Movement	EB	WB	NB
Directions Served	LTR	LTR	LTR
Maximum Queue (ft)	62	78	63
Average Queue (ft)	38	45	31
95th Queue (ft)	57	68	52
Link Distance (ft)	1255	1029	400
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 19: 17th Street S & 12th Avenue S

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	36	17	31	44
Average Queue (ft)	2	1	14	15
95th Queue (ft)	16	10	39	42
Link Distance (ft)	1029	1275	315	415
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Queuing and Blocking Report
PM Existing revised

12/21/2018

Intersection: 22: 20th Street S & 12th Avenue S

Movement	EB	EB	EB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	R	L	TR	L	T	R	L	T	R
Maximum Queue (ft)	84	107	55	81	141	64	206	100	56	254	87
Average Queue (ft)	29	50	22	31	50	27	86	18	12	115	23
95th Queue (ft)	65	91	46	63	103	54	160	56	41	197	67
Link Distance (ft)	1275			2074			567			789	
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (ft)	170		170	180		200		200	220		175
Storage Blk Time (%)	0					0				1	0
Queuing Penalty (veh)	0					0				1	0

Intersection: 25: SE Main & 12th Avenue S

Movement	EB	EB	EB	WB	WB	WB	SE	SE	SE	NW	NW	NW
Directions Served	L	T	R	L	T	R	L	T	T	L	T	T
Maximum Queue (ft)	40	152	89	89	110	37	125	145	102	25	132	107
Average Queue (ft)	8	71	11	33	40	13	58	64	45	7	71	23
95th Queue (ft)	28	128	43	70	84	30	104	115	87	20	121	66
Link Distance (ft)	2074			1166			561			561		
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	130		130	200		200	240			180		
Storage Blk Time (%)	1		0									
Queuing Penalty (veh)	1		0									

Intersection: 28: Elm Street & 12th Avenue S

Movement	NB	SB
Directions Served	LTR	LTR
Maximum Queue (ft)	31	36
Average Queue (ft)	3	10
95th Queue (ft)	18	34
Link Distance (ft)	205	297
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Network Summary

Network wide Queuing Penalty: 46

3: 8th Street S & 12th Avenue S Performance by approach

Approach	EB	WB	NB	SB	All
Denied Del/Veh (s)	0.0	0.0	0.4	0.3	0.2
Total Del/Veh (s)	20.1	18.1	18.9	12.3	17.4

6: 4th Street S & 12th Avenue S Performance by approach

Approach	EB	WB	SB	All
Denied Del/Veh (s)	0.1	0.1	0.2	0.1
Total Del/Veh (s)	6.0	6.4	6.9	6.7

9: 5th Street S & 12th Avenue S Performance by approach

Approach	EB	WB	NB	All
Denied Del/Veh (s)	0.1	0.0	0.1	0.1
Total Del/Veh (s)	7.3	4.1	6.6	6.0

12: 11th Street S & 12th Avenue S Performance by approach

Approach	EB	WB	NB	SB	All
Denied Del/Veh (s)	0.1	0.1	0.1	0.2	0.1
Total Del/Veh (s)	9.4	12.2	5.1	8.5	9.5

15: 14th Street S & 12th Avenue S Performance by approach

Approach	EB	WB	NB	All
Denied Del/Veh (s)	0.0	0.0	0.1	0.0
Total Del/Veh (s)	8.2	7.5	6.1	7.6

19: 17th Street S & 12th Avenue S Performance by approach

Approach	EB	WB	NB	SB	All
Denied Del/Veh (s)	0.1	0.2	0.1	0.1	0.2
Total Del/Veh (s)	2.4	2.3	7.9	9.1	2.7

22: 20th Street S & 12th Avenue S Performance by approach

Approach	EB	WB	NB	SB	All
Denied Del/Veh (s)	0.4	0.0	1.4	1.0	0.8
Total Del/Veh (s)	19.0	24.7	14.5	19.3	18.9

25: SE Main & 12th Avenue S Performance by approach

Approach	EB	WB	SE	NW	All
Denied Del/Veh (s)	0.0	2.2	1.2	0.5	1.2
Total Del/Veh (s)	30.5	22.7	17.0	24.1	22.6

28: Elm Street & 12th Avenue S Performance by approach

Approach	EB	WB	NB	SB	All
Denied Del/Veh (s)	0.1	0.0	0.1	0.1	0.0
Total Del/Veh (s)	0.1	2.1	3.7	4.5	2.0

Total Network Performance

Denied Del/Veh (s)	0.7
Total Del/Veh (s)	24.4

3: 8th Street S & 12th Avenue S Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0	0.0	2.5	0.2	0.3	2.8	0.1	0.2
Total Del/Veh (s)	31.1	16.7	24.3	26.5	13.4	22.4	24.1	18.5	19.8	33.1	11.3	11.2

3: 8th Street S & 12th Avenue S Performance by movement

Movement	All
Denied Del/Veh (s)	0.2
Total Del/Veh (s)	17.4

6: 4th Street S & 12th Avenue S Performance by movement

Movement	EBT	EBR	WBL	WBT	SBL	SBT	SBR	All
Denied Del/Veh (s)	0.1	0.1	0.1	0.1	0.4	0.1	0.1	0.1
Total Del/Veh (s)	6.5	3.1	5.4	6.8	6.5	7.2	2.6	6.7

9: 5th Street S & 12th Avenue S Performance by movement

Movement	EBL	EBT	WBT	WBR	NBL	NBT	NBR	All
Denied Del/Veh (s)	0.1	0.1	0.0	0.0	0.4	0.1	0.2	0.1
Total Del/Veh (s)	6.6	7.5	3.4	5.4	6.3	6.9	3.3	6.0

12: 11th Street S & 12th Avenue S Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.3	0.3	0.1
Total Del/Veh (s)	9.9	6.8	11.3	12.2	6.4	4.1	5.8	10.1	7.0	9.5

15: 14th Street S & 12th Avenue S Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0
Total Del/Veh (s)	8.6	8.3	6.6	8.5	7.5	7.2	6.3	7.2	3.6	7.6

19: 17th Street S & 12th Avenue S Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.0	0.1	0.0	0.3	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1
Total Del/Veh (s)	5.5	2.2	1.8	4.6	2.2	1.8	10.3	10.7	2.7	9.9	10.1	7.1

19: 17th Street S & 12th Avenue S Performance by movement

Movement	All
Denied Del/Veh (s)	0.2
Total Del/Veh (s)	2.7

22: 20th Street S & 12th Avenue S Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.9	0.1	0.7	0.0	0.0	0.0	3.4	0.7	3.3	3.5	0.5	3.4
Total Del/Veh (s)	23.4	22.0	7.0	30.7	23.0	17.7	17.8	15.8	4.3	18.1	21.5	5.3

22: 20th Street S & 12th Avenue S Performance by movement

Movement	All
Denied Del/Veh (s)	0.8
Total Del/Veh (s)	18.9

25: SE Main & 12th Avenue S Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Denied Del/Veh (s)	0.0	0.0	0.1	2.8	1.3	2.7	3.1	0.2	3.3	3.1	0.2	3.0
Total Del/Veh (s)	33.2	32.8	10.0	36.7	26.1	8.6	22.2	15.3	3.5	21.2	26.0	3.9

25: SE Main & 12th Avenue S Performance by movement

Movement	All
Denied Del/Veh (s)	1.2
Total Del/Veh (s)	22.6

28: Elm Street & 12th Avenue S Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)		0.1	0.1	0.0	0.0	0.0		0.1	0.1	0.1	0.1	0.1
Total Del/Veh (s)		0.0	0.0	3.7	2.0	1.9		5.3	2.9	4.0	6.5	2.1

28: Elm Street & 12th Avenue S Performance by movement

Movement	All
Denied Del/Veh (s)	0.0
Total Del/Veh (s)	2.0

Total Network Performance

Movement	All
Denied Del/Veh (s)	0.7
Total Del/Veh (s)	24.4

Queuing and Blocking Report
2040 NoBuild AM

12/21/2018

Intersection: 3: 8th Street S & 12th Avenue S

Movement	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	T	R	L	T	TR	L	T	TR
Maximum Queue (ft)	70	137	140	164	126	154	437	390	81	170	138
Average Queue (ft)	23	55	67	76	45	50	215	189	20	85	50
95th Queue (ft)	58	104	115	133	92	130	355	330	56	146	113
Link Distance (ft)		1032		1229			904	904		1004	1004
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (ft)	130		160		160	130			120		
Storage Blk Time (%)		0	0	0	0	0	20			2	
Queuing Penalty (veh)		0	0	0	0	0	12			1	

Intersection: 6: 4th Street S & 12th Avenue S

Movement	EB	WB	SB	SB
Directions Served	TR	LT	LT	TR
Maximum Queue (ft)	59	88	90	59
Average Queue (ft)	29	37	55	31
95th Queue (ft)	52	62	80	50
Link Distance (ft)	1381	250	290	290
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 9: 5th Street S & 12th Avenue S

Movement	EB	WB	NB	NB
Directions Served	LT	TR	LT	TR
Maximum Queue (ft)	93	81	89	76
Average Queue (ft)	44	42	53	38
95th Queue (ft)	73	70	78	65
Link Distance (ft)	250	1032	202	202
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Queuing and Blocking Report
2040 NoBuild AM

12/21/2018

Intersection: 12: 11th Street S & 12th Avenue S

Movement	EB	WB	NB	NB	SB	SB
Directions Served	TR	LT	L	R	L	TR
Maximum Queue (ft)	118	138	61	55	56	120
Average Queue (ft)	62	72	29	32	27	64
95th Queue (ft)	97	114	53	50	49	100
Link Distance (ft)	1229	1255	459	459	456	456
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)						
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 15: 14th Street S & 12th Avenue S

Movement	EB	WB	NB
Directions Served	LTR	LTR	LTR
Maximum Queue (ft)	83	123	64
Average Queue (ft)	52	72	37
95th Queue (ft)	75	109	56
Link Distance (ft)	1255	1029	400
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 19: 17th Street S & 12th Avenue S

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	53	46	31	58
Average Queue (ft)	8	5	8	28
95th Queue (ft)	36	26	30	54
Link Distance (ft)	1029	1275	315	415
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 22: 20th Street S & 12th Avenue S

Movement	EB	EB	EB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	R	L	TR	L	T	R	L	T	R
Maximum Queue (ft)	143	220	143	160	185	86	258	92	168	301	197
Average Queue (ft)	51	91	28	59	86	35	119	18	22	155	30
95th Queue (ft)	108	169	80	114	158	69	207	54	96	250	92
Link Distance (ft)	1275			2074			567			789	
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (ft)	170		170	180		200		200	220		175
Storage Blk Time (%)		1	0		0		1			5	0
Queuing Penalty (veh)		2	0		0		2			4	0

Intersection: 25: SE Main & 12th Avenue S

Movement	EB	EB	EB	WB	WB	WB	SE	SE	SE	NW	NW	NW	
Directions Served	L	T	R	L	T	R	L	T	T	L	T	T	
Maximum Queue (ft)	131	266	155	214	301	204	145	166	142	84	278	241	
Average Queue (ft)	21	120	21	111	120	62	67	84	52	15	155	102	
95th Queue (ft)	71	217	90	200	223	140	121	147	108	48	232	199	
Link Distance (ft)	2074		1166				561		561	575		575	
Upstream Blk Time (%)													
Queuing Penalty (veh)													
Storage Bay Dist (ft)	130	130		200	200		240	180					
Storage Blk Time (%)	9		0	2	1	0	4						0
Queuing Penalty (veh)	5		0	13	4	0	1						0

Intersection: 28: Elm Street & 12th Avenue S

Movement	NB	SB
Directions Served	LTR	LTR
Maximum Queue (ft)	31	36
Average Queue (ft)	4	10
95th Queue (ft)	22	34
Link Distance (ft)	205	297
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Network Summary

Network wide Queuing Penalty: 46

3: 8th Street S & 12th Avenue S Performance by approach

Approach	EB	WB	NB	SB	All
Denied Del/Veh (s)	0.0	1.5	0.5	0.3	0.6
Total Del/Veh (s)	125.7	39.0	32.1	30.6	42.2

6: 4th Street S & 12th Avenue S Performance by approach

Approach	EB	WB	SB	All
Denied Del/Veh (s)	0.1	0.0	0.1	0.1
Total Del/Veh (s)	5.8	3.7	6.2	5.4

9: 5th Street S & 12th Avenue S Performance by approach

Approach	EB	WB	NB	All
Denied Del/Veh (s)	1.1	0.0	0.1	0.3
Total Del/Veh (s)	8.9	4.9	6.8	6.6

12: 11th Street S & 12th Avenue S Performance by approach

Approach	EB	WB	NB	SB	All
Denied Del/Veh (s)	0.0	0.0	0.1	0.2	0.1
Total Del/Veh (s)	6.6	9.6	4.5	6.1	7.0

15: 14th Street S & 12th Avenue S Performance by approach

Approach	EB	WB	NB	All
Denied Del/Veh (s)	0.0	0.0	0.2	0.0
Total Del/Veh (s)	8.4	7.6	5.8	7.8

19: 17th Street S & 12th Avenue S Performance by approach

Approach	EB	WB	NB	SB	All
Denied Del/Veh (s)	0.0	0.0	0.1	0.1	0.0
Total Del/Veh (s)	2.5	3.0	5.4	5.9	3.0

22: 20th Street S & 12th Avenue S Performance by approach

Approach	EB	WB	NB	SB	All
Denied Del/Veh (s)	1.3	0.3	1.4	1.1	1.1
Total Del/Veh (s)	21.5	30.3	16.1	22.4	21.6

25: SE Main & 12th Avenue S Performance by approach

Approach	EB	WB	SE	NW	All
Denied Del/Veh (s)	0.0	1.9	1.2	1.2	1.1
Total Del/Veh (s)	31.9	20.5	19.8	19.8	21.7

28: Elm Street & 12th Avenue S Performance by approach

Approach	EB	WB	NB	SB	All
Denied Del/Veh (s)	0.1	0.0	0.2	0.1	0.0
Total Del/Veh (s)	0.1	2.1	5.9	4.0	2.4

Total Network Performance

Denied Del/Veh (s)	1.0
Total Del/Veh (s)	36.0

3: 8th Street S & 12th Avenue S Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.0	0.0	0.0	1.9	0.5	1.8	2.6	0.2	0.3	2.4	0.2	0.2
Total Del/Veh (s)	109.6	124.7	137.5	46.7	28.2	32.6	46.7	29.5	33.0	42.2	29.7	31.2

3: 8th Street S & 12th Avenue S Performance by movement

Movement	All
Denied Del/Veh (s)	0.6
Total Del/Veh (s)	42.2

6: 4th Street S & 12th Avenue S Performance by movement

Movement	EBT	EBR	WBL	WBT	SBL	SBT	SBR	All
Denied Del/Veh (s)	0.1	0.1	0.0	0.0	0.2	0.1	0.1	0.1
Total Del/Veh (s)	5.9	3.0	6.2	3.5	5.8	6.7	2.7	5.4

9: 5th Street S & 12th Avenue S Performance by movement

Movement	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	All
Denied Del/Veh (s)	0.1	1.1		0.0	0.0	0.2	0.1	0.1	0.3
Total Del/Veh (s)	5.6	9.1		4.4	5.9	5.7	6.9	7.4	6.6

12: 11th Street S & 12th Avenue S Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.2	0.2	0.1
Total Del/Veh (s)	6.7	6.0	8.0	9.8	5.4	3.4	5.0	7.6	4.4	7.0

15: 14th Street S & 12th Avenue S Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	All
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.1	0.0
Total Del/Veh (s)	8.0	8.8	5.9	7.8	8.0	6.1	5.0	6.7	3.4	7.8

19: 17th Street S & 12th Avenue S Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.1	0.1	0.1	0.1	0.1
Total Del/Veh (s)	4.9	2.4	2.3	5.1	2.9	2.2	6.4	6.0	3.6	7.3	7.3	3.6

19: 17th Street S & 12th Avenue S Performance by movement

Movement	All
Denied Del/Veh (s)	0.0
Total Del/Veh (s)	3.0

22: 20th Street S & 12th Avenue S Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	2.1	0.5	2.2	0.7	0.1	0.1	3.3	0.8	3.3	3.1	0.6	3.4
Total Del/Veh (s)	29.6	25.7	10.3	33.8	30.5	19.8	18.7	17.6	5.2	20.4	24.7	7.5

22: 20th Street S & 12th Avenue S Performance by movement

Movement	All
Denied Del/Veh (s)	1.1
Total Del/Veh (s)	21.6

25: SE Main & 12th Avenue S Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Denied Del/Veh (s)	0.1	0.0	0.1	2.9	0.7	2.9	2.7	0.4	2.8	3.0	0.2	3.2
Total Del/Veh (s)	33.7	35.1	13.6	30.0	25.6	5.1	32.0	14.8	3.4	20.2	26.4	4.1

25: SE Main & 12th Avenue S Performance by movement

Movement	All
Denied Del/Veh (s)	1.1
Total Del/Veh (s)	21.7

28: Elm Street & 12th Avenue S Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)		0.1	0.1	0.0	0.0	0.0		0.1	0.1	0.1	0.1	0.0
Total Del/Veh (s)		0.0	0.0	3.5	1.8	1.8		3.7	4.0	5.9	2.1	2.4

Total Network Performance

Movement	All
Denied Del/Veh (s)	1.0
Total Del/Veh (s)	36.0

Intersection: 3: 8th Street S & 12th Avenue S

Movement	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	T	R	L	T	TR	L	T	TR
Maximum Queue (ft)	154	593	185	524	167	154	436	401	144	370	351
Average Queue (ft)	73	318	150	185	63	119	241	226	69	215	198
95th Queue (ft)	176	749	212	455	133	189	378	352	155	325	303
Link Distance (ft)		1032		1229			904	904		1004	1004
Upstream Blk Time (%)		2									
Queuing Penalty (veh)		6									
Storage Bay Dist (ft)	130		160		160	130			120		
Storage Blk Time (%)	0	48	20	0	1	3	27		0	29	
Queuing Penalty (veh)	0	25	56	2	3	15	38		1	19	

Intersection: 6: 4th Street S & 12th Avenue S

Movement	EB	WB	SB	SB
Directions Served	TR	LT	LT	TR
Maximum Queue (ft)	53	51	83	40
Average Queue (ft)	28	26	49	22
95th Queue (ft)	50	48	74	46
Link Distance (ft)	1381	236	290	290
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 9: 5th Street S & 12th Avenue S

Movement	EB	WB	NB	NB
Directions Served	LT	LTR	LT	TR
Maximum Queue (ft)	129	102	82	68
Average Queue (ft)	59	56	46	30
95th Queue (ft)	104	86	70	57
Link Distance (ft)	236	1032	202	202
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 12: 11th Street S & 12th Avenue S

Movement	EB	WB	NB	NB	SB	SB
Directions Served	TR	LT	L	R	L	TR
Maximum Queue (ft)	116	88	67	60	45	78
Average Queue (ft)	54	50	29	28	21	43
95th Queue (ft)	87	74	53	51	46	68
Link Distance (ft)	1229	1255	459	459	456	456
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)						
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 15: 14th Street S & 12th Avenue S

Movement	EB	WB	NB
Directions Served	LTR	LTR	LTR
Maximum Queue (ft)	88	120	56
Average Queue (ft)	46	63	33
95th Queue (ft)	71	96	51
Link Distance (ft)	1255	1029	400
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 19: 17th Street S & 12th Avenue S

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	53	69	36	44
Average Queue (ft)	5	7	11	17
95th Queue (ft)	26	38	36	44
Link Distance (ft)	1029	1275	315	415
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 22: 20th Street S & 12th Avenue S

Movement	EB	EB	EB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	R	L	TR	L	T	R	L	T	R
Maximum Queue (ft)	140	249	158	156	216	131	306	155	52	373	200
Average Queue (ft)	55	117	54	63	101	39	144	24	16	193	48
95th Queue (ft)	109	221	134	122	188	98	256	89	44	330	146
Link Distance (ft)	1275			2074			567			789	
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (ft)	170		170	180		200		200	220		175
Storage Blk Time (%)		2	0		1		3	0		11	0
Queuing Penalty (veh)		6	0		2		4	0		10	0

Intersection: 25: SE Main & 12th Avenue S

Movement	EB	EB	EB	WB	WB	WB	SE	SE	SE	NW	NW	NW
Directions Served	L	T	R	L	T	R	L	T	T	L	T	T
Maximum Queue (ft)	111	288	155	154	186	91	248	352	312	37	193	160
Average Queue (ft)	19	148	38	56	93	26	132	126	104	7	119	65
95th Queue (ft)	71	250	125	110	158	62	233	274	220	24	183	142
Link Distance (ft)	2074			1166			561			575		
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	130		130	200		200	240			180		
Storage Blk Time (%)		14	0		0		3	0	0		1	
Queuing Penalty (veh)		11	0		1		10	0	0		0	

Intersection: 25: SE Main & 12th Avenue S

Movement	NW
Directions Served	R
Maximum Queue (ft)	40
Average Queue (ft)	2
95th Queue (ft)	36
Link Distance (ft)	
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	230
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 28: Elm Street & 12th Avenue S

Movement	NB	SB
Directions Served	LTR	LTR
Maximum Queue (ft)	25	31
Average Queue (ft)	2	10
95th Queue (ft)	14	33
Link Distance (ft)	205	297
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Network Summary

Network wide Queuing Penalty: 209

Appendix E

Cost Estimates

Alternative Development Preliminary Cost Estimate

Fargo Moorhead Metro COG and City of Moorhead

12th Avenue Corridor – River Dr to Main Avenue

Moorhead, MN

Updated May 6, 2019

Note: Quantities and costs are preliminary estimates and are subject to change.

All costs are 2019 dollars.

1A1: Install Shared Lane Markings (Sharrows) from River Dr to 8th St				
Item	Unit	Quantity	Unit Cost	Cost
Sharrows	EA	24	\$ 250.00	\$ 6,000.00
SUBTOTAL				\$ 6,000.00
Contingencies (20%)				\$ 1,200.00
Construction Cost				
TOTAL				\$ 7,200.00
			Estimated Cost: \$7,500	

1A2: Install Sharrows from River Dr to 5th St and Replace South Sidewalk with 8' Path				
Item	Unit	Quantity	Unit Cost	Cost
Removal	SY	667	\$ 5.00	\$ 3,335.00
Sidewalk	SY	889	\$ 60.00	\$ 53,340.00
ADA Ramps	EA	6	\$ 2,000.00	\$ 12,000.00
Sharrows	EA	16	\$ 250.00	\$ 4,000.00
SUBTOTAL				\$ 72,675.00
Contingencies (20%)				\$ 14,535.00
Construction Cost				
TOTAL				\$ 87,210.00
			Estimated Cost: \$90,000	

1B: Install 5' Sidewalk on North Side Between 2nd St and 6th St				
Item	Unit	Quantity	Unit Cost	Cost
Removal	SY	745	\$ 5.00	\$ 3,725.00
Sidewalk	SY	995	\$ 60.00	\$ 59,700.00
ADA Ramps	EA	12	\$ 2,000.00	\$ 24,000.00
SUBTOTAL				\$ 87,425.00
Contingencies (20%)				\$ 17,485.00
Construction Cost				
TOTAL				\$ 104,910.00
			Estimated Cost: \$110,000	

1C: Close Parking Lot Access				
Item	Unit	Quantity	Unit Cost	Cost
Removal	SY	380	\$ 10.00	\$ 3,800.00
Sidewalk	SY	23	\$ 60.00	\$ 1,380.00
Curb & Gutter	LF	408	\$ 45.00	\$ 18,360.00
Bus Parking Area	TONS	132	\$ 130.00	\$ 17,160.00
SUBTOTAL				\$ 40,700.00
Contingencies (20%)				\$ 8,140.00
Construction Cost				
TOTAL				\$ 48,840.00
			Estimated Cost: \$50,000	

1D: Install Curb Bump-Outs at 6th St and 7th St Intersections				
Item	Unit	Quantity	Unit Cost	Cost
Removal	SY	445	\$ 10.00	\$ 4,450.00
Sidewalk	SY	290	\$ 60.00	\$ 17,400.00
Curb & Gutter	LF	440	\$ 45.00	\$ 19,800.00
ADA Ramps	EA	8	\$ 2,000.00	\$ 16,000.00
SUBTOTAL				\$ 57,650.00
Contingencies (20%)				\$ 11,530.00
Construction Cost				
TOTAL				\$ 69,180.00
			Estimated Cost: \$75,000	

1E1: Revise Eastbound Lanes to Shared Thru-Left and Designated Right-Turn Lane				
Item	Unit	Quantity	Unit Cost	Cost
Short-Term Costs (C & G and Pole Modification in SE corner 8th St):				
Pavement	TON	100	\$ 130.00	\$ 13,000.00
Traffic Signal Pole Relocation	EA	1	\$ 50,000.00	\$ 50,000.00
Curb & Gutter	LF	400	\$ 45.00	\$ 18,000.00
Drainage/Dirtwork	LUMP SUM	1	\$ 10,000.00	\$ 10,000.00
SUBTOTAL				\$ 91,000.00
Contingencies (20%)				\$ 18,200.00
Construction Cost (Short-Term)				
TOTAL				\$ 109,200.00
			Estimated Short-Term Cost:	
			\$110,000	
Long-Range Costs (Re-Striping and Signal Head/Wiring Changes for Lane Reassignment):				
Striping	LF	5000	\$ 2.00	\$ 10,000.00
Traffic Signal Head Switchouts, and Cabinet/Wiring	EA	1	\$ 50,000.00	\$ 50,000.00
SUBTOTAL				\$ 60,000.00
Contingencies (20%)				\$ 12,000.00
Construction Cost				
TOTAL				\$ 72,000.00
			Estimated Long-Range Cost:	
			\$75,000	

2A: Install 8' or 10' Shared-Use Path on South Side from 8th to 11th St

Item	Unit	Quantity	Unit Cost	Cost
Removal	SY	1357	\$ 5.00	\$ 6,785.00
Sidewalk	SY	1300	\$ 60.00	\$ 78,000.00
ADA Ramps	EA	3	\$ 2,000.00	\$ 6,000.00
SUBTOTAL				\$ 90,785.00
Contingencies (20%)				\$ 18,157.00
Construction Cost				
TOTAL				\$ 108,942.00
			Estimated Cost: \$110,000	

2B1: Install Shared Lane Markings (Sharrows) from 11th St to 20th St

Item	Unit	Quantity	Unit Cost	Cost
Sharrows	EA	30	\$ 250.00	\$ 7,500.00
SUBTOTAL				\$ 7,500.00
Contingencies (20%)				\$ 1,500.00
Construction Cost				
TOTAL				\$ 9,000.00
			Estimated Cost: \$10,000	

2B2: 6' Designated On-Street Bike Lanes on Each Side of 12th Ave from 11th St to 20th St

Item	Unit	Quantity	Unit Cost	Cost
Removal	LF	3700	\$ 0.10	\$ 370.00
Bike Lane Symbol	EA	36	\$ 250.00	\$ 9,000.00
Lanes Lines	LF	11100	\$ 1.00	\$ 11,100.00
Bike Lane Signs	EA	36	\$ 100.00	\$ 3,600.00
SUBTOTAL				\$ 24,070.00
Contingencies (20%)				\$ 4,814.00
Construction Cost				
TOTAL				\$ 28,884.00

Estimated Cost: \$30,000

2B3: Replace Existing South Sidewalk with 8' Shared-Use Path from 11th St to 20th St

Item	Unit	Quantity	Unit Cost	Cost
Removal	SY	1750	\$ 5.00	\$ 8,750.00
Sidewalk	SY	3111	\$ 60.00	\$ 186,660.00
Trees	EA	25	\$ 750.00	\$ 18,750.00
ADA Ramps	EA	20	\$ 2,000.00	\$ 40,000.00
SUBTOTAL				\$ 254,160.00
Contingencies (20%)				\$ 50,832.00
Construction Cost				
TOTAL				\$ 304,992.00

Estimated Cost: \$305,000

2C: Install Crosswalk at 19 1/2 St				
Item	Unit	Quantity	Unit Cost	Cost
ADA Ramps	EA	1	\$ 2,000.00	\$ 2,000.00
Crosswalk Markngs	EA	1	\$ 1,500.00	\$ 1,500.00
SUBTOTAL				\$ 3,500.00
Contingencies (20%)				\$ 700.00
Construction Cost				
TOTAL				\$ 4,200.00
			Estimated Cost: \$5,000	

2D: Remove Parking Area on South Side near 9th St Realign Approach into Campus Lots				
Item	Unit	Quantity	Unit Cost	Cost
Removal	LF	247	\$ 10.00	\$ 2,470.00
Pavement	TON	164	\$ 130.00	\$ 21,320.00
Curb & Gutter	LF	268	\$ 45.00	\$ 12,060.00
SUBTOTAL				\$ 35,850.00
Contingencies (20%)				\$ 7,170.00
Construction Cost				
TOTAL				\$ 43,020.00
			Estimated Cost: \$45,000	

2E: Realign 11th St Intersection to Improve Horizontal Alignment

Item	Unit	Quantity	Unit Cost	Cost
Removal	SY	1027	\$ 10.00	\$ 10,270.00
Pavement	TON	700	\$ 130.00	\$ 91,000.00
Curb & Gutter	LF	550	\$ 45.00	\$ 24,750.00
SUBTOTAL				\$ 126,020.00
Contingencies (20%)				\$ 25,204.00
Construction Cost				
TOTAL				\$ 151,224.00
			Estimated Cost: \$150,000	

2F: Construct Grade Raise of 20th St Intersection to Improve Profile with BNSF RR Tracks

Item	Unit	Quantity	Unit Cost	Cost
Removal	SY	3222	\$ 10.00	\$ 32,220.00
Remove/Replace Trees	EA	40	\$ 1,000.00	\$ 40,000.00
ADA Ramps	EA	8	\$ 2,000.00	\$ 16,000.00
Striping	LF	7400	\$ 1.50	\$ 11,100.00
Traffic Signals	EA	4	\$ 62,500.00	\$ 250,000.00
Drainage/Dirtwork	LUMP SUM	1	\$ 250,000.00	\$ 250,000.00
Pavement	TON	2240	\$ 130.00	\$ 291,200.00
Curb & Gutter	LF	900	\$ 45.00	\$ 40,500.00
SUBTOTAL				\$ 931,020.00
Contingencies (20%)				\$ 186,204.00
Construction Cost				
TOTAL				\$ 1,117,224.00
			Estimated Cost: \$1,250,000	

3A: Construct PED Bicycle Crossing on East Side of 20th St South a BNSF Railroad				
Item	Unit	Quantity	Unit Cost	Cost
Sidewalk and Crossing Plates	Lump SUM	1	\$ 135,560.00	\$ 135,560.00
Drainage/Dirtwork	Lump SUM	1	\$ 25,000.00	\$ 25,000.00
Quad Gates for Quiet Zone	EA	4	\$ 50,000.00	\$ 200,000.00
Insurance	EA	1	\$ 5,000.00	\$ 5,000.00
SUBTOTAL				\$ 365,560.00
Contingencies (20%)				\$ 73,112.00
Construction Cost				
TOTAL				\$ 438,672.00
			Estimated Cost: \$450,000	

3B: Add New 10' Shared-Use Path on South Side				
Item	Unit	Quantity	Unit Cost	Cost
Sidewalk	SY	2085	\$ 60.00	\$ 125,100.00
Drainage	Lump SUM	1	\$ 5,000.00	\$ 5,000.00
Curb & Gutter	LF	1800	\$ 45.00	\$ 81,000.00
SUBTOTAL				\$ 211,100.00
Contingencies (20%)				\$ 42,220.00
Construction Cost				
TOTAL				\$ 253,320.00
			Estimated Cost: \$250,000	

3C: Install Curb Ramp and Concrete Waiting Area at 25th Street South Bus Stop				
Item	Unit	Quantity	Unit Cost	Cost
ADA Ramps	EA	1	\$ 2,000.00	\$ 2,000.00
Drainage	Lump SUM	1	\$ 1,000.00	\$ 1,000.00
Curb & Gutter	LF	25	\$ 45.00	\$ 1,125.00
SUBTOTAL				\$ 4,125.00
Contingencies (20%)				\$ 825.00
Construction Cost				
TOTAL				\$ 4,950.00
			Estimated Cost: \$5,000	

3D: Shift Private Business Driveway East of the BNSF Railroad Tracks				
Item	Unit	Quantity	Unit Cost	Cost
Removals	SY	517	\$ 5.00	\$ 2,585.00
Drainage	Lump SUM	1	\$ 4,000.00	\$ 4,000.00
Concrete Driveway	SY	89	\$ 60.00	\$ 5,340.00
SUBTOTAL				\$ 11,925.00
Contingencies (20%)				\$ 2,385.00
Construction Cost				
TOTAL				\$ 14,310.00
			Estimated Cost: \$15,000	

4A: Upgrade Existing Sidewalks to Current ADA Standards				
Item	Unit	Quantity	Unit Cost	Cost
Removals	EA	80	\$ 50.00	\$ 4,000.00
ADA Ramps	EA	80	\$ 2,000.00	\$ 160,000.00
SUBTOTAL				\$ 164,000.00
Contingencies (20%)				\$ 32,800.00
Construction Cost				
TOTAL				\$ 196,800.00
			Estimated Cost: \$200,000	

4B: Review and Enforce Parking Policies, Paint Curb to Restrict Parking Near Access				
Item	Unit	Quantity	Unit Cost	Cost
Paint	EA	10500	\$ 1.00	\$ 10,500.00
Removals	LF	10500	\$ 0.10	\$ 1,050.00
SUBTOTAL				\$ 11,550.00
Contingencies (20%)				\$ 2,310.00
Construction Cost				
TOTAL				\$ 13,860.00
			Estimated Cost: \$15,000	

4D: Bury Overhead Electric Lines				
Item	Unit	Quantity	Unit Cost	Cost
Underground Lines	LF	10500	\$ 35.00	\$ 367,500.00
Remove/Replace Trees	EA	73	\$ 1,000.00	\$ 73,000.00
Remove OH Lines	LF	10500	\$ 20.00	\$ 210,000.00
Dirtwork	LUMP SUM	1	\$ 275,000.00	\$ 275,000.00
Remove OH Poles	EA	63	\$ 3,000.00	\$ 189,000.00
SUBTOTAL				\$ 1,114,500.00
Contingencies (20%)				\$ 222,900.00
Construction Cost				
TOTAL				\$ 1,337,400.00
			Estimated Cost: \$1,350,000	



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