

Attention

In order to practice social distancing related to the COVID-19 pandemic, the Chaska City Council work session and meeting and Chaska Economic Development Authority meeting on Monday, May 5th will be held virtually on a platform called Zoom. To learn more about participating or watching the meetings, visit www.chaskamn.com. Any questions about how to participate should be directed to the Chaska Communications Department at communications@chaskamn.com or (952)448-9200.

WORK SESSION

Carver County Road Study – Highway 10 (Engler Blvd.) through Chaska
5:45 – 6:45 PM
Virtual on Zoom



AGENDA
CHASKA CITY COUNCIL
VIRTUAL ON ZOOM
Monday, May 04, 2020
7:00 PM

1. Call to Order
2. Pledge of Allegiance
3. Roll Call
4. Adopt Agenda
5. Visitor Presentation
6. Approve Previous Meeting Minutes
 - 6.A. Approve the April 20, 2020 City Council Meeting Minutes
7. Consent Items

- 7.A. Adopt Resolution 2020-29, Cogeneration and Small Production Tariff
- 7.B. Approve Letter of Support - MN River Bluffs Trail
- 7.C. Adopt Resolution 2020-31, Approving Issuance of EAW for Public Comment for Oak Ridge Development/City of Chaska
- 7.D. Adopt Resolution 2020-30, Adopt Resolution to Establish Parameters for Sale and Issuance of Bonds (Chaska EDA, Series 2020B)
- 7.E. Approval of 2019 Interfund Transfers
- 7.F. Adopt Resolution 2020-32, Approve the Municipal State Aid Street System Revision
- 8. Action Items
 - 8.A. Adopt Resolution 2020-33, Public Assessment Hearing - 2020 Downtown Street & Utility Reconstruction (File#524-91200)
- 9. Bills
 - 9.A. ACCOUNTS PAYABLE COUNCIL ROSTER 5-4-2020
- 10. Other Business
 - 10.A. City Administrator's Report
 - 10.B. Biweekly - May 4, 2020
 - 10.C. Met Council Bus Service Allocation Study
 - 10.D. Financial Reports - March 2020
- 11. Adjourn

Chaska Economic Development Authority Meeting
Immediately following City Council

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**- MINUTES -
CHASKA CITY COUNCIL
April 20, 2020**

1. Call to Order

The meeting was called to order by Mayor Windschitl at 7 pm.

2. Pledge of Allegiance

3. Roll Call

Roll call was taken. Present: Councilmembers Hatfield, Hubbard, Huang, Grau, And Mayor Windschitl. *(Councilmembers Hatfield, Hubbard, Huang, and Grau participated remotely per State Statute 13D.021).*

Absent: None.

Also Present: Luke Melchert, City Attorney; and Matt Podhradsky, City Administrator. *(Kevin Ringwald, Community Development Director; Liz Hanson, City Planner; Noel Graczyk, Administrative Services Director; City Engineer Matt Clark; Nate Kabat, Assistant Administrator participated remotely).*

4. Adopt the Agenda

Motion by Councilmember Huang, second by Councilmember Hubbard to adopt the agenda as presented.

Motion carried.

5. Visitor Presentation

5.A. Overview of COVID-19 Pandemic Response

Dr. Richard Scott, Carver County Health & Humans Services Deputy Division Director and COVID-19 Unified Command, Incident Co-Commander, provided an overview of the pandemic response.

Councilmember Grau inquired if the seasonal flu that was hard hitting early in the year is done.

Dr. Scott explained that due to social distancing, influenza cases have radically decreased.

Councilmember Huang inquired if the pace of the COVID-19 serology-based testing is known and how that would look for testing across a population.

Dr. Scott provided further detail regarding the benefits of this type of testing and the challenges that exist with it.

Mayor Windschitl asked for further clarity regarding mass testing and whether someone is immune to COVID-19 once having it.

Dr. Scott gave additional information about mass testing and potential immunity.

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Councilmember Hubbard inquired if those who contracted COVID-19 a second time had it less severe than the first time.

Dr. Scott stated he has not read the research on that but would suspect it would be the case.

Councilmember Hubbard also asked what resources are available to businesses to put best practices in place if they are allowed to reopen.

Dr. Scott referred to prepared reopening documents and stated the goal is preserve the health and safety of stakeholders and implementing practices that do this are important. He stated the MN Department of Health will be working closely with the Governor to outline these strategies.

Councilmember Hubbard inquired when the proper PPE supply is anticipated.

Dr. Scott stated that is hard to know but flattening the curve allows time for those supplies to catch up with the need.

5.B. Overview of COVID-19 Pandemic Response

Tim Wiebe, EOC Director, provided an update on the City's COVID-19 pandemic response.

Mayor Windschitl and City Administrator Podhradsky shared their thoughts on how the City has responded to the pandemic.

Mayor Windschitl spoke briefly about some light-hearted actions happening in Chaska during this time and along with City Administrator Podhradsky, provided an update on Chaska Cares.

6. Minutes

Motion by Councilmember Hubbard, second by Councilmember Grau to approve the minutes of the March 16, 2020 City Council meeting.

Motion carried.

7. Consent Agenda

Motion by Councilmember Huang, second by Councilmember Hatfield to approve the Consent Agenda Items A through F:

- A. Approve Resolution 2020-25, Approving Parking Restrictions on Stoughton Ave and Beech Street
Motion to adopt Resolution No. 2020-25, Prohibiting Parking on Stoughton Avenue from Fifth to Sixth Street and the East side of Beech Street between Fourth Street and Fifth Street.
- B. Adopt Resolution 2020-26, Accepting Gifts and Donations
Motion to adopt Resolution No. 2020-26, acknowledging and accepting gifts to the City of Chaska received during the period January 1, 2020 through March 31, 2020.
- C. Adopt Resolution 2020-27, Approve Bond Sale Reimbursement
Motion to adopt Resolution No. 2020-27 relating to financing certain proposed projects and establishing compliance with reimbursement bond regulations under the Internal Revenue Code.

DRAFT

- D. Approve Transient Accommodations Renewals
Motion to approve all 2020-2021 transient accommodation licenses effective May 1, 2020 through April 30, 2021.
- E. Adopt Resolution 2020-28, Approving the Final Site & Building Plan for QualiTech, Inc. at 150 Jonathan Blvd N/Omar Haque/PC #2020-09
Motion to adopt Resolution No. 2020-28 approving the Final Site & Building Plan for QualiTech, Inc. (PC# 2020-09).
- F. Adopt the Chaska ADA Transition Plan for Public Right of Way
Motion to Adopt the Chaska ADA Transition Plan for Public Right of Way.

Motion carried.

A representative from QualiTech thanked the Council.

8. Action Items

8.A. Approve McKnight Wetland Bank Application

City Administrator Podhradsky introduced the item to the Council.

City Engineer Clark presented the item to the Council.

Mayor Windschitl inquired about how this project commenced.

City Administrator Podhradsky and City Engineer Clark explained the history of the project.

Mayor Windschitl asked if this project will be hired out.

City Engineer Clark stated what can be done in-house will be, and the rest will be hired out.

Councilmember Huang looked for more explanation regarding the need to replace wetland if this project does not to occur.

City Engineer Clark gave further detail into the steps from Wetland Conservation Act.

Motion by Councilmember Huang, second by Councilmember Grau to Approve the McKnight Wetland Bank Application. Motion carried.

9. Bills

9.A. Accounts Payable Council Roster 4-20-2020

The Council requested further information about bills on pages 6, 8, 12, 24, 27, 36, 48, 68, 69, 78, 104, and also about Rotary Club dues and Webex fees.

City Administrator Podhradsky, Assistant Administrator Kabat, and City Engineer Clark provided further information regarding those bills.

Motion by Councilmember Hatfield, second by Councilmember Huang to approve the bills as presented. Roll call was taken. Voting aye: Councilmembers Hatfield, Hubbard, Huang, Grau and Mayor Windschitl. Voting nay: None
Motion carried.

10. Other Business

10.A. City Administrator's Report

10.B. Bi-Weekly – April 20, 2020

10.C. Other Meeting Minutes

10.C.i. Receive the Minutes of the March 11th Planning Commission Meeting.

10.C.ii. Receive the Draft Minutes of the 02-27-2020 Human Rights Commission Meeting.

10.C.iii. Receive the Draft Minutes of the April 11th Planning Commission Meeting.

Councilmember Grau:

- Reported he had a constituent asking about raising chickens in the City. City Administrator Podhradsky offered to present the former power point presentation that had been done regarding this topic. Mayor Windschitl commented that this is a difficult topic but there has not been much City-wide interest in the past.
- Commended the residents of Chaska in their response to COVID-19.

Councilmember Hatfield:

- Reported the Auxiliary Easter Bunny Parade went well and was a fun and thanked Chaska Cares for partnering with them.

Councilmember Hubbard:

- Welcomed the new police chief Ryan Seibert.
- Noted the Highway 10 corridor study is happening, and residents can go onto the Carver County website for information and for public input.
- Reminded residents to input their information for the 2020 Census. City Attorney Melchert also noted that entering census data is critical and the data entry process is quite easy.
- Reported she is sitting on a call tomorrow with Representative Nash, Senator Jensen, and Beacon Interfaith.

Councilmember Huang:

- Noted the input now from residents directly affects the funding for the Highway 10 corridor project. City Administrator Podhradsky reported that this will be an item at the next work session.
- Noted Representative Phillips is having a ZOOM conference call hosted by the SouthWest Metro Chamber of Commerce on Thursday at 2:30 pm.
- Updated the Council on SouthWest Transit status and funding possibilities through the CARES Act.
- Also commended the residents for making the most of this hard time.

Mayor Windschitl:

- Noted Christmas in May will occur this year, albeit in a different format.

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- Reported the Chaska Clean-up Day is May 2, 2020 from 8am to 2pm.
- Noted there is a Carver County Foundation that has money that is able to be given out to different 501.C3s and stated Chaska is looking to start a fund locally.
- Welcomed Chief Seibert.
- Noted the next Council Meeting is May 4th via ZOOM, and that the meeting on May 18th, if occurring in person, will be at the Community Center.

11. Adjourn

Motion by Councilmember Huang, second by Councilmember Hatfield to adjourn the meeting at 10:03 pm.

Motion carried.

**REQUEST FOR ACTION
CHASKA CITY COUNCIL
5/4/2020**

Subject: Cogeneration and Small Production Tariff

Prepared By: Andrew Romine, Interim Electric Director

Background

Resolution 2020-29 is an update to Resolution #2019-79 adopted on June 17, 2019. Annually we need to make updates to the tariff's on schedules 1 (average retail rate) and 4 (avoided costs). The rate schedules have been updated accordingly and are ready for adoption.

Recommendation

Staff recommends adoption

CITY COUNCIL ACTION REQUESTED

Motion to Adopt Resolution 2020-29 for Cogeneration and Small Production Tariff

**CITY OF CHASKA
CARVER COUNTY, MINNESOTA**

RESOLUTION

DATE 5/04/2020 **RESOLUTION NO.** 2020-29

MOTION BY COUNCILMEMBER _____ **SECOND BY COUNCILMEMBER** _____

**Resolution Adopting a Cogeneration and Small Power Production Tariff
for the City's Electric Utility**

WHEREAS, this resolution relates to the municipal electric utility (the "Utility") operated by the City of Chaska, Minnesota (the "City") and governed by its City Council; and

WHEREAS, the City rules and Minnesota Statutes Section 216B.164 require the City Council to annually adopt a Cogeneration and Small Power Production Tariff; and

WHEREAS, a Cogeneration and Small Power Production Tariff is attached to this resolution, which Tariff contains the following schedules:

Schedule 1: Calculation of the average retail utility energy rate

Schedule 2: Standard contracts to be used with qualifying facilities

Schedule 3: City's safety standards, required operating procedures for interconnected operations, and the functions to be performed by any control and protective apparatus

Schedule 4: Estimated average incremental energy costs by seasonal, peak and off-peak periods for the utility's power supplier from which energy purchases are first avoided. Schedule 4 shall contain the net annual avoided capacity costs, if any, stated per kilowatt-hour and averaged over the on-peak hours and over all hours for the utility's power supplier from which capacity purchases are first avoided. Both the average incremental energy costs and net annual avoided capacity costs shall be increased by a factor equal to 50 percent of the utility and the utility's power supplier's overall line losses due to distribution, transmission and transformation of electric energy.

WHEREAS, these filings shall be maintained in the office of the City Clerk and shall be made available for public inspection during normal business hours;

NOW, THEREFORE, BE IT RESOLVED that, regarding the Utility, the Cogeneration and Small Power Production Tariff attached to this resolution is hereby adopted effective for transactions on and after May 4, 2020.

Passed and adopted by the City Council of the City of Chaska, Minnesota, this 4th day of May, 2020.

Mark Windschitl, Mayor

Attest: _____
Chaska Deputy Clerk

Cogeneration and Small Power Production Tariff

Pursuant to its Rules Governing the Interconnection of Cogeneration and Small Power Production Facilities, the City of Chaska (the “Utility”) hereby establishes and/or updates its Cogeneration and Small Power Production Tariff (the “Tariff”) for billing and sales transactions effective as of May 4, 2020 as follows:

The Tariff shall consist of:

SCHEDULE 1.

Calculation of average retail utility energy rates.

SCHEDULE 2.

Standard contracts to be used with qualifying facilities.

SCHEDULE 3.

Interconnection process, safety standards, and technical requirements for distributed energy resource systems, required operating procedures for interconnected operations, and functions to be performed by any control and protective apparatus.

SCHEDULE 4.

Estimated average incremental energy costs by seasonal, peak and off-peak periods for the utility’s power supplier from which energy purchases are first avoided. Schedule 4 shall also contain the net annual avoided capacity costs, if any, stated per kilowatt-hour and averaged over the on-peak hours and over all hours for the utility’s power supplier from which capacity purchases are first avoided. Both the average incremental energy costs and net annual avoided capacity costs shall be increased by a factor equal to 50 percent of the utility and the utility’s power supplier’s overall line losses due to distribution, transmission and transformation of electric energy.

SCHEDULE 1 – AVERAGE RETAIL UTILITY ENERGY RATES

Average Retail Utility Energy Rate: Available to any Qualifying Facility of less than 40 kW capacity that does not select either Roll Over Credits, Simultaneous Purchase and Sale Billing or Time of Day rates.

Utility shall bill Qualifying Facilities for any excess of energy supplied by Utility above energy supplied by the Qualifying Facility during each billing period according to Utility's applicable rate schedule. Utility shall pay the customer for the energy generated by the Qualifying Facility that exceeds that supplied by Utility during a billing period at the "average retail utility energy rate." "Average retail utility energy rate" means, for any class of utility customer, the quotient of the total annual class revenue from sales of electricity minus the annual revenue resulting from fixed charges, divided by the annual class kilowatt-hour sales. Data from the most recent 12-month period available shall be used in the computation.

"Average retail utility energy rates" are as follows:

Customer Class	Average Retail Utility Energy Rate
Residential	\$0.11853
Commercial	\$0.07828
Industrial	\$0.07357

**UNIFORM CONTRACT FOR COGENERATION AND SMALL POWER
PRODUCTION FACILITIES**

THIS CONTRACT is entered into _____, ____, by the City of Chaska Electric Department, a municipal utility under Minnesota law, (hereafter called "Utility") and _____ (hereafter called "QF").

RECITALS

The QF has installed electric generating facilities, consisting of _____
_____ (Description of facilities), rated at ____ kilowatts AC
of electricity, on property located at _____
_____.

The QF is a customer of the Utility located within the assigned electric service territory of the Utility.

The QF is prepared to generate electricity in parallel with the Utility.

The QF's electric generating facilities meet the requirements of the rules adopted by the Utility on Cogeneration and Small Power Production and any technical standards for interconnection the Utility has established that are authorized by those rules.

The Utility is obligated under federal and Minnesota law to interconnect with the QF and to purchase electricity offered for sale by the QF.

A contract between the QF and the Utility is required.

AGREEMENTS

The QF and the Utility agree:

1. The Utility will sell electricity to the QF under the rate schedule in force for the class of customer to which the QF belongs.
2. The Utility will buy electricity from the QF under the current rate schedule filed with the city council or city-appointed governing body of the utility. The QF elects the rate schedule category hereinafter indicated:

_____ a. Average retail utility energy rate.

- QF capacity must be less than 40 kW.

_____ b. Simultaneous purchase and sale billing rate.

- QF capacity must be less than 40 kW.

_____ c. Roll-over credits.

- QF capacity must be less than 40 kW.

_____ d. Time-of-day purchase rates.

- QF capacity must be 40 kW or more and less than or equal to 100 kW.

A copy of the presently approved rate schedule is attached to this contract.

3. The rates for sales and purchases of electricity may change over the time this contract is in force, due to actions of the Utility or the State of Minnesota, and the QF and the Utility agree that sales and purchases will be made under the rates in effect each month during the time this contract is in force.
4. The Utility will compute the charges and payments for purchases and sales for each billing period. Any net credit to the QF, other than kilowatt-hour credits under clause 2(c), will be made under one of the following options as chosen by the QF.

_____ a. Credit to the QF's account with the Utility.

_____ b. Paid by check or electronic payment service to the QF within fifteen (15) days of the billing date.

5. Renewable energy credits associated with generation from the facility are owned by:
_____.
6. The QF must operate its electric generating facilities within any rules, regulations, and policies adopted by the Utility not prohibited by the rules governing Cogeneration and Small Power Production on the Utility's system which provide reasonable technical connection and operating specifications for the QF and are consistent with the Minnesota Public Utilities Commission's rules on Cogeneration and Small Power Production, as required under Minnesota Statutes §216B.164, subdivision 9.
7. The QF will not enter into an arrangement whereby electricity from the generating facilities will be sold to an end user in violation of the Utility's exclusive right to provide electric service in its service area under Minnesota Statutes, §216B.37-44.
8. The QF will operate its electric generating facilities so that they conform to the national, state, and local electric and safety codes, and will be responsible for the costs of conformance.
9. The QF is responsible for the actual, reasonable costs of interconnection which are estimated to be \$ _____. The QF will pay the Utility in this way:

_____.
10. The QF will give the Utility reasonable access to its property and electric generating facilities if the configuration of those facilities does not permit disconnection or testing from the Utility 's side of the interconnection. If the Utility enters the QF's property, the Utility will remain responsible for its personnel.
11. The Utility may stop providing electricity to the QF during a system emergency. The Utility will not discriminate against the QF when it stops providing electricity or when it resumes providing electricity.
12. The Utility may stop purchasing electricity from the QF when necessary for the Utility to construct, install, maintain, repair, replace, remove, investigate, or inspect any equipment or facilities within its electric system. The Utility may stop

purchasing electricity from the QF in the event the generating facilities listed in this contract are documented to be causing power quality, safety or reliability issues to the Utility's electric distribution system.

The Utility will notify the QF before it stops purchasing electricity in this way:

—.

13. The QF will keep in force general liability insurance against personal or property damage due to the installation, interconnection, and operation of its electric generating facilities. The amount of insurance coverage will be \$ _____. (The amount must be consistent with the distributed generation tariff adopted by the Utility pursuant to Minnesota Statutes §216B.1611, subdivision 3, clause 2.)
14. The QF and the Utility agree to attempt to resolve all disputes arising hereunder promptly and in a good faith manner.
15. The city council or city-appointed body governing the Utility has authority to consider and determine disputes, if any, that arise under this contract in accordance with procedures in the rules it adopts implementing Minnesota Statute §216B.164, pursuant to §216B.164, subdivision 9.
16. This contract becomes effective as soon as it is signed by the QF and the Utility. This contract will remain in force until either the QF or the Utility gives written notice to the other that the contract is canceled. This contract will be canceled thirty (30) days after notice is given. If the listed electric generating facilities are not interconnected to the Utility's distribution system within twelve months of the contract being signed by the QF and the Utility, the contract terminates. The QF and the Utility may delay termination by mutual agreement.
17. Neither the QF nor the Utility will be considered in default as to any obligation if the QF or the Utility is prevented from fulfilling the obligation due to an act of God, labor disturbance, act of public enemy, war, insurrection, riot, fire, storm or flood, explosion, breakage or accident to machinery or equipment, an order, regulation or restriction imposed by governmental, military or lawfully established civilian authorities, or other cause beyond the QF's or Utility's control. However, the QF or Utility whose performance under this contract is hindered by such an event shall make all reasonable efforts to perform its obligations.
18. This contract can only be amended or modified by mutual agreement in writing signed by the QF and the Utility.

- 19.** The QF must notify the Utility prior to any change in the electric generating facilities' capacity size or generating technology according to the interconnection process adopted by the Utility.
- 20.** Termination of this contract is allowed (i) by the QF at any time without restriction; (ii) by Mutual Agreement between the Utility and the QF; (iii) upon abandonment or removal of electric generating facilities by the QF; (iv) by the Utility if the electric generating facilities are continuously non-operational for any twelve (12) consecutive month period; (v) by the Utility if the QF fails to comply with applicable interconnection design requirements or fails to remedy a violation of the interconnection process; or (vi) by the Utility upon breach of this contract by the QF unless cured with notice of cure received by the Utility prior to termination.
- 21.** In the event this contract is terminated, the Utility shall have the rights to disconnect its facilities or direct the QF to disconnect its generating facilities.
- 22.** This contract shall continue in effect after termination to the extent necessary to allow either the Utility or the QF to fulfill rights or obligations that arose under the contract.
- 23.** Transfer of ownership of the generating facilities shall require the new owners and the Utility to execute a new contract. Upon the execution of a new contract with the new owners this contract shall be terminated.
- 24.** The QF and the Utility shall at all times indemnify, defend, and save each other harmless from any and all damages, losses, claims, including claims and actions relating to injury or death of any person or damage to property, costs and expenses, reasonable attorneys' fees and court costs, arising out of or resulting from the QF's or the Utility's performance of its obligations under this contract, except to the extent that such damages, losses or claims were caused by the negligence or intentional acts of the QF or the Utility.
- 25.** The Utility and the QF will each be responsible for its own acts or omissions and the results thereof to the extent authorized by law and shall not be responsible for the acts or omissions of any others and the results thereof.
- 26.** The QF's and the Utility's liability to each other for failure to perform its obligations under this contract shall be limited to the amount of direct damage actually occurred. In no event, shall the QF or the Utility be liable to each other for any punitive, incidental, indirect, special, or consequential damages of any

kind whatsoever, including for loss of business opportunity or profits, regardless of whether such damages were foreseen.

- 27.** The Utility does not give any warranty, expressed or implied, to the adequacy, safety, or other characteristics of the QF's interconnected system.
- 28.** This contract contains all the agreements made between the QF and the Utility. The QF and Utility are not responsible other than those stated in this contract.

THE QF AND THE UTILITY HAVE READ THIS CONTRACT AND AGREE TO BE BOUND BY ITS TERMS. AS EVIDENCE OF THEIR AGREEMENT, THEY HAVE EACH SIGNED THIS CONTRACT BELOW ON THE DATE LISTED BY SIGNER.

QF

By: _____

Printed Name: _____

DATE: _____

UTILITY

By: _____

Printed Name: _____

DATE: _____

Contract Version: *May 2020*

CITY OF CHASKA



DISTRIBUTED ENERGY RESOURCE INTERCONNECTION PROCESS

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*Detroit Lakes Public Utility's 29.3 kW Select Solar
Community Solar Garden
Detroit Lakes, MN*

INTERCONNECTION PROCESS

Process Overview

ABSTRACT

Information for interconnecting all Distributed Energy Resources smaller than 10 megawatts in size to the utility distribution system.

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Foreword

The State of Minnesota currently has interconnection process standards in effect to address the interconnection of distributed energy resources (DER) to the distribution grid. Under Minnesota Statute §216B.1611, cooperatives and municipals shall adopt an interconnection process that addresses the same issues as the interconnection process approved by the Minnesota Public Utilities Commission. The City of Chaska Electric Department Distributed Energy Resources Interconnection Process (Interconnection Process) applies to any DER no larger than 10-megawatts (MW) AC interconnecting to and operating in parallel City of Chaska Electric Department's distribution system in Minnesota. This interconnection process document is designed to be customer-centric when explaining the steps and details to interconnect DER systems to the distribution grid.

The Interconnection Process is comprised of four manuals: 1) Process Overview, 2) Simplified Process, 3) Fast Track Process, and 4) Study Process and also contains several forms, including a final Interconnection Agreement. For the majority of DER interconnections, only the Process Overview and the Simplified Process manuals will apply. For larger and more complex DER interconnections, the Fast Track Process or the Study Process may apply.

As part of the Interconnection Process, an Interconnection Agreement is to be executed prior to interconnecting a DER system to the utility distribution grid. For most DER interconnections, the utility's Contract for Cogeneration and Small Power Production Facilities (Uniform Contract) will be used. For DER systems that do not fall under the terms of the Uniform Contract, the Municipal Minnesota Interconnection Agreement (MMIA) will apply.

The process to interconnect a DER system to the distribution grid starts with the submission of an Interconnection Application. Each track has different information that is requested in the application and the non-refundable interconnection application fees will vary. Both the electric utility and the interconnecting customer have timelines that are enforced to ensure a timely application review, contract execution and interconnection commissioning.

The key to a successful interconnection of a DER system is communication between all parties. Timely submission of the Interconnection Application prior to the purchase and installation of a DER system is strongly recommended. The Utility encourages customers to ask questions throughout the interconnection process. Interconnecting DER system to the distribution grid is not an effortless process, but it does not need to be a problematic process either.

1 Key Terminology

1.1. Distributed Energy Resource

Distributed Energy Resources, DER, were often referred to in past interconnection processes as Distributed Generation, DG, and on occasion also interchanged with the term Qualifying Facility, QF. This Interconnection Process uses the term DER to address all types of generation and energy resources that can be interconnected to the electric Distribution System. DER technologies can include photovoltaic solar systems, wind turbines, storage batteries or diesel generators and are not limited to renewable types of technologies.

1.2. Point of Common Coupling (PCC) / Point of DER Connection (POC)

DER systems often reside behind the utility's revenue meter of a residence or business. The meter is normally the point of demarcation between the utility-owned equipment and the customer-owned equipment. The term Point of Common Coupling, PCC, is the demarcation location between the utility and the customer.

The Point of DER Connection, PoC, can be different from the PCC. The PoC is the location where a DER system would interconnect to the electrical system normally owned by the customer. For example, the PoC for a rooftop photovoltaic solar system may be the main electrical panel in a customer's home.

1.3. Capacity

Throughout the Interconnection Process will be references to the capacity of the DER system. In most cases, the capacity listed is referring to the Nameplate Capacity of the DER system. All capacity references will be in alternating current, AC.

There can be multiple DER systems with different PoCs that all have the same PCC submitted on a single interconnection application. The capacity for this type of interconnection would be the aggregate Nameplate Capacity of all DER systems at the individual PoCs. Additional examples of DER system arrangements can be seen in Section 13 under the definition of Point of Common Coupling.

2 Roles

2.1. Overview

During the interconnection process for a proposed DER system, there may be multiple entities involved in the application, approval and commissioning processes. The main entities that are involved during the Interconnection Process for a proposed DER system are the Interconnection Customer, the Application Agent and the DER Interconnection Coordinator. Official definitions of each entity are defined in the Glossary (Section 13). Additional details are explained in the subsections below.

2.2. DER Interconnection Coordinator

The utility is referred to as the Area Electric Power Supply Operator in this Interconnection Process. The Area EPS Operator shall designate a DER Interconnection Coordinator to serve as a single point of contact from which general information on the application process may be obtained. The DER Interconnection Coordinator shall be available to provide coordination assistance with the Interconnection Customer but is not responsible for directly answering or resolving all of the issues involved in review and implementation of the interconnection process and standards.

The contact information of the DER Interconnection Coordinator will be posted on the Area EPS Operator's website if feasible, or available from the utility.

2.3. Interconnection Customer

The owner of the proposed DER system and the entity requesting interconnection to the distribution system.

2.4. Application Agent

The Interconnection Customer may designate, on the Interconnection Application or in writing after the application has been submitted, an Application Agent to serve as a single point of contact to coordinate with the DER Interconnection Coordinator on their behalf. Designation of an Application Agent does not absolve the Interconnection Customer from signing application documents and the responsibilities outlined in the Interconnection Process or in interconnection agreements. DER vendors, project managers or electricians are common entities that the Interconnection Customer may designate to perform this role.

2.5. Engineering Roles

Either party may designate a specific person to be a single point of contact to provide technical expertise during the Interconnection Process for themselves or their organization. The person to supply engineering expertise may be a third party such as an engineering consultant or manufacturer's engineer.

3 Processes

3.1. Overview

The Interconnection Process applies to any DER no larger than 10 MW AC interconnecting to and operating in parallel with an Area EPS distribution system in Minnesota. Interested parties with plans to interconnect DER systems larger than 10 MW AC to the distribution system should contact the Area EPS Operator for a case-specific interconnection process. Federal Energy Regulatory Commission's (FERC) interconnection process will supersede any

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interconnection process the Area EPS Operator has for DER system interconnections that fall under the jurisdiction of FERC.

The Interconnection Process for DER is broken into three different tracks; the Simplified Process, the Fast Track Process, and the Study Process. The general classification of each track is summarized in Table 3.1 below.

Table 3.1. Interconnection Process Tracks

Track	DER Technology	Size Limitations
Simplified Process	Certified Inverter only	20 kW AC
Fast Track Process	All types	5 MW AC
Study Process	All types	10 MW AC

If engineering screens are failed during the application process, a proposed DER interconnection may be moved into a different track. When a proposed DER interconnection is moved into a different track, additional information may be requested and additional fees may apply.

3.2. Importance of Process Timelines

It is very important to pay attention to timelines listed for each process track. The timelines exist for an orderly and efficient process to interconnect DER systems to the Distribution System. If a timeline is missed by an Interconnection Customer, without the Interconnection Customer requesting a Timeline Extension explained in Section 10, the Interconnection Application will be deemed withdrawn by the Area EPS Operator.

The Area EPS Operator also needs to abide by the timelines listed for each process track. The process for an Area EPS Operator to request Timeline Extensions is also addressed in Section 10.

Unless otherwise stated, all time frames are measured in Business Days. For purpose of measuring these time intervals, the time shall be computed so as to exclude the first and include the last day of the prescribed duration of time. Any communication sent or received after 4:30 p.m. Central Prevailing Time or on a Saturday, Sunday or Holiday shall be considered to be sent on the next Business Day.

3.3. Simplified Process

An application to interconnect a certified¹, inverter-based DER system no larger than 20 kilowatts (kW) shall be evaluated under the Simplified Process. A common form of DER inverter certification is UL 1741. Proposed DER systems that require Area EPS system modifications to accommodate the interconnection do not qualify for the Simplified Process. A transformer change, fusing upgrades or line extensions are common examples of Area EPS system modification. Simplified Process eligibility does not imply or indicate the Interconnection Application will pass the initial review screens. Failure to pass the screens will route the Interconnection Application to the Fast Track Process.

3.4. Fast Track Process

An application to interconnect a DER shall be evaluated under the Fast Track Process if the eligibility requirements are not exceeded in Table 3.2 and the application does not qualify for the Simplified Process. Fast Track eligibility for DERs is determined based upon the generator type, the size of the generator, voltage of the line, and the location and type of line at the Point of Common Coupling, (PCC). All synchronous and induction machines must be no larger than 2 MW to be eligible for Fast Track Process consideration.

Table 3.2. Fast Track Eligibility for DER

Line Voltage	Fast Track Eligibility² Regardless of Location	Fast Track Eligibility for certified, inverter-based DER on a Mainline³ and ≤ 2.5 Electrical Circuit Miles from Substation⁴
< 5 kV	≤ 500 kW	≤ 500 kW
≥ 5 kV and < 15 kV	≤ 1 MW	≤ 2 MW
≥ 15 kV and < 30 kV	≤ 2 MW	≤ 4 MW
≥ 30 kV and ≤ 69 kV	≤ 4 MW	≤ 5 MW

In addition to the size threshold, the Interconnection Customer's proposed DER must meet the codes, standards and certification requirements found in Section 15 and Section 14.

¹ Additional information regarding certified equipment is found in Sections 14 and 15.

² Synchronous and induction machine eligibility is limited to no more than 2 MW even when line voltage is greater than 15 kV.

³ For purposes of this table, a Mainline is the three-phase backbone of a circuit. It will typically constitute lines with wire sizes of 4/0 American wire gauge, 266 kcmil, 336.4 kcmil, 397.5 kcmil, 477 kcmil and 795 kcmil.

⁴ An Interconnection Customer can determine this information about its proposed interconnection location in advance by requesting a pre-application report described in Section 5.

3.5. Study Process

An application to interconnect a DER that does not meet the Simplified Process or Fast Track Process eligibility requirements or does not pass the review as described in either process, shall be evaluated under the Study Process.

3.6. Process Assistance

Prior to submitting an Interconnection Application, the Interconnection Customer may ask the Area EPS Operator's DER Interconnection Coordinator which process track a proposed interconnection is subject to and about additional details regarding each process track.

An Interconnection Customer can obtain, through an informal request, general information about the Interconnection Process and about potentially Affected System(s) for a proposed interconnection at a specific location. The existing electric system information provided to the Interconnection Customer should include relevant system study results, interconnection studies, and other materials useful to an understanding of an interconnection at a particular point on the Area EPS Operator's System. Information will be provided to the extent such provision does not violate the privacy policies of the Area EPS Operator, confidentiality provisions of prior agreements or critical infrastructure requirements. The Area EPS Operator shall comply with reasonable requests for such information.

4 Interconnection Application

4.1. Overview

Each process track has different information that needs to be provided to the Area EPS Operator. Table 4.1 indicates which application is to be completed in its entirety and submitted to the Area EPS Operator to start the interconnection process for the proposed DER system.

Table 4.1. Interconnection Application

Process Track	Application
Simplified	Simplified Interconnection Application
Fast Track	Standard Interconnection Application
Study	Standard Interconnection Application

The Area EPS Operator will provide all necessary Interconnection Applications, Interconnection Process documents and sample interconnection agreements on its website if possible. The Area EPS Operator will also accept Interconnection Applications submitted electronically either through a web portal or to an email address specified by the Area EPS Operator. The Area EPS Operator may allow the Interconnection Application to be submitted with an electronic signature.

4.2. Availability of Information

The Area EPS Operator will provide all necessary Interconnection Applications, Interconnection Process documents and sample interconnection agreements on its website if possible. If a website is not available, the applicable documents will be readily available at the Area EPS Operator's main office.

The Area EPS Operator will establish a public queue of active interconnection applications on its website once the Area EPS Operator has received at least 40 completed Interconnection Applications in a year. The public queue will be updated, at minimum, on a monthly basis.

4.3. Interconnection Application Process Fees

Each Interconnection Application submitted to the Area EPS Operator must include the appropriate interconnection application process fee prior to the Area EPS Operator reviewing the Interconnection Application. The required process fee for each process track is listed in Table 4.2.

Table 4.2. Interconnection Application Process Fee

Process Track		Process Fee
Simplified		\$100
Fast Track	Certified ⁵ System	\$100 + \$1/kW
	Non-Certified System	\$100 + \$2/kW
Study		\$1,000 + \$2/kW down payment. Additional study fees may apply.

4.4. Application Review Timelines

The Interconnection Application shall be date- and time-stamped upon initial, and if necessary, resubmission receipt. The Area EPS Operator shall notify the Interconnection Customer if the Interconnection Application is deemed incomplete within ten (10) Business Days. This notification shall include a written list detailing all information that must be provided to complete the Interconnection Application. Depending on the process track the Interconnection Customer has between five (5) and ten (10) Business Days to provide the missing information unless additional time is requested with valid reasons. Failure to submit the requested information within the stated timeline will result in the Interconnection Application being withdrawn.

An Interconnection Application will be deemed complete upon submission to the Area EPS Operator when all documents, fees and information required with the Interconnection Application adhering to Minnesota Technical Requirements are included. The time- and date-

⁵ Additional information regarding certified equipment is found in Sections 14 and 15.

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stamp of the completed Interconnection Application shall be accepted as the qualifying date for purposes of establishing a queue position as described in Section 4.7.

Depending on the process track the Area EPS Operator has either a total of twenty (20) Business Days or twenty-five (25) Business Days to complete the Interconnection Application review and submit notice back to the Interconnection Customer stating the proposed DER system may proceed with the interconnection process or the proposed DER system requires additional engineering studies. The period of time when waiting for the Interconnection Customer to provide missing information is not included in the Area EPS Operator's twenty (20) Business Days or twenty-five (25) Business Days review timeline.

4.5. Comparability

The Area EPS Operator shall receive, process and analyze all Interconnection Applications in a timely manner. The Area EPS Operator shall use the same Reasonable Efforts in processing and analyzing Interconnection Applications from all Interconnection Customers.

4.6. Changing Process Queues

During the review of the initially submitted Interconnection Application for the proposed DER system, the Area EPS Operator may determine the proposed DER system should be in a different process track. For proposed DER systems that are moved into a different process track after submittal of the initial application, the difference between the originally submitted processing fee and the current process track's processing fee will be assessed. In addition, the Area EPS Operator may request the Interconnection Customer to provide additional information regarding the proposed DER system.

4.7. Queue Position

The Area EPS Operator shall maintain a single, administrative queue and may manage the queue by geographical region. The queue position of each completed Interconnection Application is used to determine the engineering review. The queue position is also used to determine the cost responsibility for system upgrades necessary to accommodate the interconnection.

An Interconnection Application will retain its queue number even when it is moved into a different process track. An Interconnection Application can lose its queue position if the Interconnection Customer misses timelines in the applicable process track. The Interconnection Customer and Area EPS Operator have the opportunity to request timeline extensions which are explained in detail in Section 10.

4.8. Site Control

Documentation of site control must be submitted with the Interconnection Application. Site control may be demonstrated by any of the following:

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- Ownership of, a leasehold interest in, or a right to develop a site for the purpose of constructing the DER system.
- An option to purchase or acquire a leasehold site for constructing the DER system.
- An exclusivity or other business relationship between the Interconnection Customer and the entity having the right to sell, lease, or grant to the Interconnection Customer the right to possess or occupy a site for constructing the DER system.

For DER in the Simplified Process, proof of site control may be demonstrated by the site owner's signature on the Simplified Interconnection Application.

5 Pre-Application Report

5.1. Pre-Application Report Requests

The Interconnection Customer may submit a Pre-Application Report Request, including a non-refundable fee of \$300, for a Pre-Application Report on a proposed project at a specific site. The Interconnection Customer must fill out the Pre-Application Request form as completely as possible. The Area EPS Operator shall provide the readily available data listed in Section 5.3 within fifteen (15) Business Days of receipt of a completed request form and payment. The Pre-Application Report produced by the Area EPS Operator is non-binding, does not confer any rights, and does not preclude the Interconnection Customer from any interconnection process steps including submission of the Interconnection Application.

5.2. Information Provided

Using the information provided in the Pre-Application Report Request form, the Area EPS Operator will identify the substation/area bus, bank or circuit likely to serve the proposed PCC. This selection by the Area EPS Operator does not necessarily indicate, after application of the screens and/or study, that this would be the circuit the project ultimately connects to. The Interconnection Customer must request additional Pre-Application Reports if information about multiple PCCs is requested.

The Pre-Application Report will only include existing data. A request for a Pre-Application Report does not obligate the Area EPS Operator to conduct a study or other analysis of the proposed DER in the event that data is not readily available. The Area EPS Operator will provide the Interconnection Customer with the data that is available. The confidentiality provisions in Section 12.1 apply to Pre-Application Reports.

5.3. Pre-Application Report Components

The Pre-Application Report shall include the following pieces of information provided the data currently exists and is readily available.

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- Total capacity (in megawatts (MW)) of substation/area bus, bank or circuit based on normal or operating ratings likely to serve the proposed Point of Common Coupling.
- Existing aggregate generation capacity (in MW) interconnected to a substation/area bus, bank or circuit (i.e., amount of generation online) likely to serve the proposed Point of Common Coupling.
- Aggregate queued generation capacity (in MW) for a substation/area bus, bank or circuit (i.e., amount of generation in the queue) likely to serve the proposed Point of Common Coupling.
- Available capacity (in MW) of substation/area bus or bank and circuit likely to serve the proposed Point of Common Coupling (i.e., total capacity less the sum of existing aggregate generation capacity and aggregate queued generation capacity).
- Substation nominal distribution voltage and/or transmission nominal voltage if applicable.
- Nominal distribution circuit voltage at the proposed Point of Common Coupling.
- Approximate circuit distance between the proposed Point of Common Coupling and the substation.
- Relevant line section(s) actual or estimated peak load and minimum load data, including daytime minimum load and absolute minimum load, when available.
- Whether the Point of Common Coupling is located behind a line voltage regulator.
- Number and rating of protective devices and number and type (standard, bi-directional) of voltage regulating devices between the proposed Point of Common Coupling and the substation/area. Identify whether the substation has a load tap changer.
- Number of phases available on the Area EPS medium voltage system at the proposed Point of Common Coupling. If a single phase, distance from the three-phase circuit.
- Limiting conductor ratings from the proposed Point of Common Coupling to the distribution substation.

- Whether the Point of Common Coupling is located on a spot network, grid network, or radial supply.
- Based on the proposed Point of Common Coupling, existing or known constraints such as, but not limited to, electrical dependencies at that location, short circuit interrupting capacity issues, power quality or stability issues on the circuit, capacity constraints, or secondary networks.

6 Capacity of the Distributed Energy Resources

6.1. Existing DER System Expansion

If the Interconnection Application is for an increase in capacity to an existing DER system, the Interconnection Application shall be evaluated on the basis of the total new alternating current (AC) capacity of the DER. The maximum capacity for the DER shall be the aggregate maximum Nameplate Rating unless the conditions in Section 6.3 are met.

6.2. New DER Systems

An Interconnection Application for a DER that includes multiple energy production devices, (i.e. solar and storage), at a site for which the Interconnection Customer seeks a simple Point of Common Coupling, shall be evaluated on the basis of the aggregated maximum Nameplate Rating unless the conditions in Section 6.3 are met.

6.3. Limited Capacity

A DER system may include devices, (i.e. control systems, power relays or other similar device settings), that can limit the maximum capacity at which the DER system can generate into the Area EPS Operator's distribution system. For DER system that include capacity limited devices, the Interconnection Customer must obtain the Area EPS Operator's agreement to consider the DER system with the Nameplate Rating as the limited capacity. The Area EPS Operator's agreement shall not be unreasonably withheld provided proper documentation is provided showing the effective limit active power output will not adversely affect the safety and reliability of the Area EPS Operator's distribution system. If the Area EPS Operator does not agree, the Interconnection Application must be withdrawn or revised to specify the maximum capacity that the DER system is capable of injecting into the Area EPS Operator's distribution system without such limitations. Nothing in this section shall prevent the Area EPS Operator from considering a higher output, (i.e. aggregate Nameplate Rating), if the limitations do not provide adequate assurance, when evaluating the system impacts.

7 Modification to Interconnection Applications

7.1. Procedures

At any time after the Interconnection Application is deemed complete, the Interconnection Customer or the Area EPS Operator may identify modifications to the proposed DER system

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that may improve costs and benefits (including reliability) of the proposed DER system and the ability for the Area EPS Operator to accommodate the proposed DER system. The Interconnection Customer shall submit to the Area EPS Operator in writing all proposed modifications to any information provided in the Interconnection Application. The Area EPS Operator cannot unilaterally modify the Interconnection Application.

Additional information regarding modifications to interconnection applications is found in each process track document.

8 Interconnection Agreements

8.1. Timelines

After the Interconnection Application has been approved by the Area EPS Operator, the Area EPS Operator shall provide the Interconnection Customer with an executable Interconnection Agreement within five (5) Business Days. The Interconnection Customer shall have thirty (30) Business Days to sign and return the Interconnection Agreement to the Area EPS Operator. The Area EPS Operator shall sign the Interconnection Agreement within five (5) business days after receiving the signed Interconnection Agreement from the Interconnection Customer.

If the Interconnection Customer fails to return a signed Interconnection Agreement to the Area EPS Operator within thirty (30) Business Days and fails to request an extension as explained in Section 10, the Interconnection Application will be deemed withdrawn.

8.2. Types of Agreements

There are two main types of Interconnection Agreements that may be executed with an approved Interconnection Application. In general, Interconnection Customers with a proposed DER system that qualifies for the Simplified Process track will sign the Area EPS Operator's Uniform Contract for Cogeneration and Small Power Production Facilities (Uniform Contract). Proposed DER systems less than 100 kW that are under the Fast Track process may also sign the Uniform Contract. All other sized DER system will sign the Municipal Minnesota Interconnection Agreement (MMIA). Area EPS Operators who do not purchase the excess generation of the proposed DER system will also require the MMIA to be executed for any size of DER system.

Table 8.1. Interconnection Agreements

Process Track		Interconnection Agreement
Simplified		Uniform Contract
Fast Track	Qualifies for Net Energy Billing	Uniform Contract
	Less than 100 kW & Area EPS Agrees to Purchase Excess Generation	Uniform Contract
	All Other DER systems	MMIA
Study		MMIA

Interconnection Customers may choose to sign the MMIA in lieu of the Uniform Contract. A separate power purchase agreement will also need to be executed if the Uniform Contract is not utilized. Interconnection of the proposed DER system will not occur until a signed Uniform Contract or the MMIA is returned to the Area EPS Operator no later than five (5) days prior to scheduled testing and inspection.

9 Interconnection

9.1. Metering

Any metering requirements necessitated by the use of the DER system shall be installed at the Interconnection Customer's expense. The metering requirement costs will be included in the final invoice of interconnection costs to the Interconnection Customer. The Interconnection Customer is also responsible for metering replacement costs not covered in the Interconnection Customer's general customer charge. The Area EPS Operator may charge Interconnection Customers an ongoing metering-related charge for an estimate of ongoing metering-related costs specifically demonstrated.

9.2. Inspection, Testing and Commissioning

The Interconnection Customer shall arrange for the inspection and testing of the DER system and the Customer's Interconnection Facilities prior to interconnection pursuant to Minnesota Technical Requirements. Commissioning tests of the Interconnection Customer's installed equipment shall be performed pursuant to applicable codes and standards of Minnesota's Technical Requirements and Section 15.

The Interconnection Customer shall notify the Area EPS Operator of testing and inspection no fewer than five (5) Business Days in advance, or as may be agreed to by the Parties. Depending on the process track, either a Certificate of Completion or a testing procedure shall be submitted to the Area EPS Operator prior to the testing and inspection date. The Area EPS Operator shall send qualified personnel to the DER site to inspect the interconnection and witness the testing. Testing and inspection shall occur on a Business Day at a mutually agreed upon time and date. The Area EPS Operator may waive the right to witness the testing.

9.3. Interconnection Costs

The Interconnection Customer shall pay for the actual cost of the Interconnection Facilities and Distribution Upgrades along with the Area EPS Operator's cost to commission the proposed DER system. An estimate of the interconnection costs shall be stated in the Uniform Contract or MMIA.

9.4. Technical Requirements

The Area EPS Operator shall use Reasonable Efforts to provide the Interconnection Customer the Minnesota Technical Requirements by providing the document with the notice of approval

of the interconnection application or by providing a website link to the document. Additionally, the Area EPS Operator shall notify the Interconnection Customer of any changes to these requirements as soon as they are known. Unless notified by the Area EPS Operator, the Interconnection Customer only needs to be in compliance with the current version of the Minnesota Technical Requirements at the time of interconnection.

9.5. Authorization for Parallel Operations

The Interconnection Customer shall not operate its DER system in parallel with the Area EPS Operator's distribution system without prior written authorization from the Area EPS Operator. The Area EPS Operator shall provide such authorization within three (3) Business Days from when the Area EPS Operator receives notification that the Interconnection Customer has complied with all applicable parallel operations requirements; the completion of a successful testing and inspection of the DER system and all payments for issued bills related to the interconnection process that are past due have been paid in full. Such authorization shall not be unreasonably withheld, conditioned or delayed.

10 Extension of Timelines

10.1. Reasonable Efforts

The Area EPS Operator shall make Reasonable Efforts to meet all time frames provided in these procedures. If the Area EPS Operator cannot meet a deadline provided herein, it must notify the Interconnection Customer in writing within three (3) Business Days after the deadline to explain the reason for the failure to meet the deadline and provide an estimated time by which it will complete the applicable interconnection procedure in the process.

10.2. Extensions

For applicable time frames described in these procedures, the Interconnection Customer may request, in writing, one extension equivalent to half of the time originally allotted (e.g., ten (10) Business Days for a twenty (20) Business Days original time frame) which the Area EPS Operator may not unreasonably refuse. No further extensions for the applicable time frame shall be granted absent a Force Majeure Event or other similarly extraordinary circumstance.

11 Disputes

11.1. Procedures

The Parties agree to make good faith efforts to attempt to resolve all disputes arising out of the interconnection process and associated study and Interconnection Agreements. The Parties agree to follow the established dispute resolution policy adopted by the Area EPS Operator.

12 Clauses

12.1. Confidentiality

Confidential Information shall mean any confidential and/or proprietary information provided by one Party to the other Party that is clearly marked or otherwise designated “Confidential.” For purposes of these procedures, design, operating specifications, and metering data provided by the Interconnection Customer may be deemed Confidential Information regardless of whether it is clearly marked or otherwise designated as such. If requested by either Party, the other Party shall provide in writing the basis for asserting that the information warrants confidential treatment. Parties providing a Governmental Authority trade secret, or privileged or otherwise not public or nonpublic data under Minnesota Government Data Practices Act, Minnesota Statutes Chapter 13, shall identify such data consistent with the Commission’s September 1, 1999 Revised Procedures for Handling Trade Secret and Privileged Data available online at: <https://mn.gov/puc/puc-documents/#4>.

Confidential Information does not include information previously in the public domain with proper authorization, required to be publicly submitted or divulged by Governmental Authorities (after notice to the other Party and after exhausting any opportunity to oppose such publication or release), or necessary to be publicly divulged in an action to enforce these procedures. Each Party receiving Confidential Information shall hold such information in confidence and shall not disclose it to any third party nor to the public without prior written authorization from the Party providing that information, except to fulfill obligations under these procedures, or to fulfill legal or regulatory requirements that could not otherwise be fulfilled by not making the information public.

Each Party shall hold in confidence and shall not disclose Confidential Information, to any person (except employees, officers, representatives and agents, who agree to be bound by this section). Confidential Information shall be clearly marked as such on each page or otherwise affirmatively identified. If a court, government agency or entity with the right, power, and authority to do so, requests or requires either Party, by subpoena, oral disposition, interrogatories, requests for production of documents, administrative order, or otherwise, to disclose Confidential Information, that Party shall provide the other Party with prompt notice of such request(s) or requirements(s) so that the other Party may seek an appropriate protective order or waive compliance with the terms of this Agreement. In the absence of a protective order or waiver the Party shall disclose such confidential information which, in the opinion of its counsel, the party is legally compelled to disclose. Each Party will use reasonable efforts to obtain reliable assurance that confidential treatment will be accorded to any confidential information furnished.

Critical infrastructure information or information that is deemed or otherwise designated by a Party as Critical Energy/Electric Infrastructure Information (CEII) pursuant to FERC regulation, [18 C.F.R. §388.133](#), as may be amended from time to time, may be subject to further protections for disclosure as required by FERC or FERC regulations or orders and the disclosing

Party's CEII policies. Each Party shall employ at least the same standard of care to protect Confidential Information obtained from the other Party as it employs to protect its own Confidential Information.

Each Party is entitled to equitable relief, by injunction or otherwise, to enforce its rights under this provision to prevent the release of Confidential Information without bond or proof of damages and may seek other remedies available at law or in equity for breach of this provision.

12.2. Non-Warranty

The Area EPS Operator does not give any warranty, expressed or implied, as to the adequacy, safety, or other characteristics of any structures, equipment, wires, appliances or devices owned, operated, installed or maintained by the Interconnection Customer, including without limitation the DER and any structures, equipment, wires, appliances or devices not owned, operated or maintained by the Area EPS Operator. The Area EPS Operator does not guarantee uninterrupted power supply to the DER and will operate the Distribution System with the same reliability standards for the entire customer base.

12.3. Indemnification

Each Party is protected from liability incurred to third parties as a result of carrying out the provisions of this interconnection process and subsequent interconnection agreements. The Parties shall at all times indemnify, defend, and save the other Party harmless from, any and all damages, losses, claims, including claims and actions relating to injury to or death of any person or damage to property, demand, suits, recoveries, costs and expenses, court costs, attorney fees, and all other obligations by or to third parties, arising out of or resulting from the other Party's action or inactions of its obligations under this agreement on behalf of the indemnifying Party, except in cases of gross negligence or intentional wrongdoing by the indemnified Party.

This indemnification obligation shall apply notwithstanding any negligent or intentional acts, errors or omissions of the indemnified Party, but the indemnifying Party's liability to indemnify the indemnified Party shall be reduced in proportion to the percentage by which the indemnified Party's negligent or intentional acts, errors or omissions caused the damages.

Neither Party shall be indemnified for its damages resulting from its sole negligence, intentional acts or willful misconduct. These indemnity provisions shall not be construed to relieve any insurer of its obligation to pay claims consistent with the provisions of a valid insurance policy.

If an indemnified person is entitled to indemnification under this article as a result of a claim by a third party, and the indemnifying Party fails, after notice and reasonable opportunity to proceed under this article, to assume the defense of such claim, such indemnified person may at the expense of the indemnifying Party contest, settle or consent to the entry of any judgment with respect to, or pay in full, such claim.

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If an indemnifying party is obligated to indemnify and hold any indemnified person harmless under this article, the amount owing to the indemnified person shall be the amount of such indemnified person's actual loss, net of any insurance or other recovery.

Promptly after receipt by an indemnified person of any claim or notice of the commencement of any action or administrative or legal proceeding or investigation as to which the indemnity provided for in this article may apply, the indemnified person shall notify the indemnifying party of such fact. Any failure of or delay in such notification shall not affect a Party's indemnification obligation unless such failure or delay is materially prejudicial to the indemnifying party.

12.4. Limitation of Liability

Each party's liability to the other party for any loss, cost, claim, injury, liability, or expense, including reasonable attorney's fees, relating to or arising from any act or omission in its performance of this Agreement, shall be limited to the amount of direct damage actually incurred. In no event shall either party be liable to the other party for an indirect, incidental, special, consequential, or punitive damages of any kind whatsoever, except as allowed under in Section 12.3.

13 Glossary

Affected System – Another Area EPS Operator’s System, Transmission Owner’s Transmission System, or Transmission System connected generation which may be affected by the proposed interconnection.

Applicant Agent – A person designated in writing by the Interconnection Customer to represent or provide information to the Area EPS on the Interconnection Customer’s behalf throughout the interconnection process.

Area EPS – The electric power distribution system connected at the Point of Common Coupling.

Area EPS Operator – An entity that owns, controls, or operates the electric power distribution systems that are used for the provision of electric service in Minnesota. For this Interconnection Process the Area EPS Operator is City of Chaska Electric Department.

Business Day – Monday through Friday, excluding Holidays as defined by [Minn. Stat. §645.44, Subdivision 5. Any communication to have been sent or received after 4:30 p.m. Central Prevailing Time or on a Saturday, Sunday or holiday shall be considered to have been sent on the next Business Day.](#)

Certified Equipment – Certified equipment is equipment that has been tested by a nationally recognized lab meeting a specific standard. For DER systems, a UL 1741 listing is a common form of DER inverter certification. Additional information is contained in Sections 14 and 15.

Confidential Information – Any confidential and/or proprietary information provided by one Party to the other Party and is clearly marked or otherwise designated “Confidential.” All procedures, design, operating specifications, and metering data provided by the Interconnection Customer may be deemed Confidential Information. See Section 12.1 for further information.

Distributed Energy Resource (DER) – A source of electric power that is not directly connected to a bulk power system or central station service. DER includes both generators and energy storage technologies capable of exporting active power to an EPS. An interconnection system or a supplemental DER device that is necessary for compliance with this standard is part of a DER. For the purpose of the Interconnection Process and interconnection agreements, the DER includes the Customer’s Interconnection Facilities but shall not include the Area EPS Operator’s Interconnection Facilities.

Distribution System – The Area EPS facilities which are not part of the Local EPS, Transmission System or any generation system.

Distribution Upgrades – The additions, modifications, and upgrades to the Distribution System at or beyond the Point of Common Coupling to facilitate interconnection of the DER and render the distribution service necessary to effect the Interconnection Customer’s connection to the Distribution System. Distribution Upgrades do not include Interconnection Facilities.

Electric Power System (EPS) – The facilities that deliver electric power to a load.

Fast Track Process – The procedure as described in the Interconnection Process - Fast Track Process for evaluating an Interconnection Application for a DER that meets the eligibility requirements of Section 3.4.

SCHEDULE 3 – INTERCONNECTION PROCESS, TECHNICAL REQUIREMENTS, AND OPERATING PROCEDURES

Force Majeure Event – An act of God, labor disturbance, act of the public enemy, war, insurrection, riot, fire, storm or flood, explosion, breakage or accident to machinery or equipment, an order, regulation or restriction imposed by governmental, military or lawfully established civilian authorities, or another cause beyond a Party's control. A Force Majeure Event does not include an act of negligence or intentional wrongdoing.

Good Utility Practice – Any of the practices, methods and acts engaged in or approved by a significant portion of the electric industry during the relevant time period, or any of the practices, methods and act which, in the exercise of reasonable judgment in light of the facts known at the time the decision was made, could have been expected to accomplish the desired result at a reasonable cost consistent with good business practices, reliability, safety and expedition. Good Utility Practice is not intended to be limited to the optimum practice, method, or act to the exclusion of all others, but rather to be acceptable practices, methods, or acts generally accepted in the region.

Governmental Authority – Any federal, state, local or other governmental regulatory or administrative agency, court, commission, department, board, or other governmental subdivision, legislature, rulemaking board, tribunal, or other governmental authority having jurisdiction over the Parties, their respective facilities, or the respective services they provide, and exercising or entitled to exercise any administrative, executive, police, or taxing authority or power; provided, however, that such term does not include the Interconnection Customer, the Area EPS Operator, or any Affiliate thereof. The governing authority of the municipal utility is the authority governing interconnection requirements unless otherwise provided for in the Minnesota Technical Requirements.

Interconnection Agreement – The terms and conditions between the Area EPS Operator and Interconnection Customer (Parties). See Section 8 for when the Uniform Contract or Municipal Minnesota Interconnection Agreement applies.

Interconnection Application – The Standard or Simplified Interconnection Application, as applicable, pursuant to Section 4.

Interconnection Customer – The person or entity, including the Area EPS Operator, who will be the owner of the DER and who proposes to interconnect a DER(s) with the Area EPS Operator's Distribution System. The Interconnection Customer is responsible for ensuring the DER(s) is designed, operated and maintained in compliance with the Minnesota Technical Requirements.

Interconnection Facilities – The Area EPS Operator's Interconnection Facilities and the Interconnection Customer's Interconnection Facilities. Collectively, Interconnection Facilities include all facilities and equipment between the DER and the Point of Common Coupling, including any modification, additions or upgrades that are necessary to physically and electrically interconnect the DER to the Area EPS Operator's System. Some examples of Customer Interconnection Facilities include supplemental DER devices, inverters, and associated wiring and cables up to the Point of DER Connection. Some examples of Area EPS Operator Interconnection Facilities include sole use facilities; such as, line extensions, controls, relays, switches, breakers, transformers and shall not include Distribution Upgrades or Network Upgrades.

Interconnection Process – The Area EPS Operator's interconnection standards in this document.

SCHEDULE 3 – INTERCONNECTION PROCESS, TECHNICAL REQUIREMENTS, AND OPERATING PROCEDURES

Material Modification – A modification to machine data, equipment configuration or to the interconnection site of the DER at any time after receiving notification by the Area EPS Operator of a complete Interconnection Application that has a material impact on the cost, timing, or design of any Interconnection Facilities or Upgrades, or a material impact on the cost, timing or design of any Interconnection Application with a later Queue Position or the safety or reliability of the Area EPS.⁶

MN Technical Requirements – The term including all of the DER technical interconnection requirement documents for the state of Minnesota; including Attachment 2 Distributed Generation Interconnection Requirements established in the Commission’s September 28, 2004 Order in E-999/CI-01-1023) until superseded and upon Commission approval of updated Minnesota DER Technical Interconnection and Interoperability Requirements in E-999/CI-16-521.

Nameplate Rating – nominal voltage (V), current (A), maximum active power (kWac), apparent power (kVA), and reactive power (kVar) at which a DER is capable of sustained operation. For a Local EPS with multiple DER units, the aggregate nameplate rating is equal to the sum of all DERs nameplate rating in the Local EPS. For purposes of the Attachment V in the Interconnection Agreement, the DER system’s capacity may, with the Area EPS’s agreement, be limited through use of control systems, power relays or similar device settings or adjustments as identified in IEEE 1547. The nameplate ratings referenced in the Interconnection Process are alternating current nameplate DER ratings at the Point of DER Coupling.

Network Upgrades – Additions, modifications, and upgrades to the Transmission System required at or beyond the point at which the DER interconnects with the Area EPS Operator’s System to accommodate the interconnection with the DER to the Area EPS Operator’s System. Network Upgrades do not include Distribution Upgrades.

Operating Requirements – Any operating and technical requirements that may be applicable due to the Transmission Provider’s technical requirements or Minnesota Technical Requirements, including those set forth in the Interconnection Agreement.

Party or Parties – The Area EPS Operator and the Interconnection Customer.

Point of Common Coupling (PCC) – The point where the Interconnection Facilities connect with the Area EPS Operator’s Distribution System. See figure 1. Equivalent, in most cases, to “service point” as

⁶ A Material Modification shall include, but may not be limited to, a modification from the approved Interconnection Application that: (1) changes the physical location of the point of common coupling such that it is likely to have an impact on technical review; (2) increases the nameplate rating or output characteristics of the Distributed Energy Resource; (3) changes or replaces generating equipment, such as generator(s), inverter(s), transformers, relaying, controls, etc., and substitutes equipment that is not like-kind substitution in certification, size, ratings, impedances, efficiencies or capabilities of the equipment; (4) changes transformer connection(s) or grounding; and/or (5) changes to a certified inverter with different specifications or different inverter control settings or configuration. A Material Modification shall not include a modification from the approved Interconnection Application that: (1) changes the ownership of a Distributed Energy Resource; (2) changes the address of the Distributed Energy Resource, so long as the physical point of common coupling remains the same; (3) changes or replaces generating equipment such as generator(s), inverter(s), solar panel(s), transformers, relaying, controls, etc. and substitutes equipment that is a like-kind substitution in certification, size, ratings, impedances, efficiencies or capabilities of the equipment; and/or (4) increases the DC/AC ratio but does not increase the maximum AC output capability of the Distributed Energy Resource in a way that is likely to have an impact on technical review.

SCHEDULE 3 – INTERCONNECTION PROCESS, TECHNICAL REQUIREMENTS, AND OPERATING PROCEDURES

specified by the Area EPS Operator and described in the National Electrical Code and the National Electrical Safety Code.

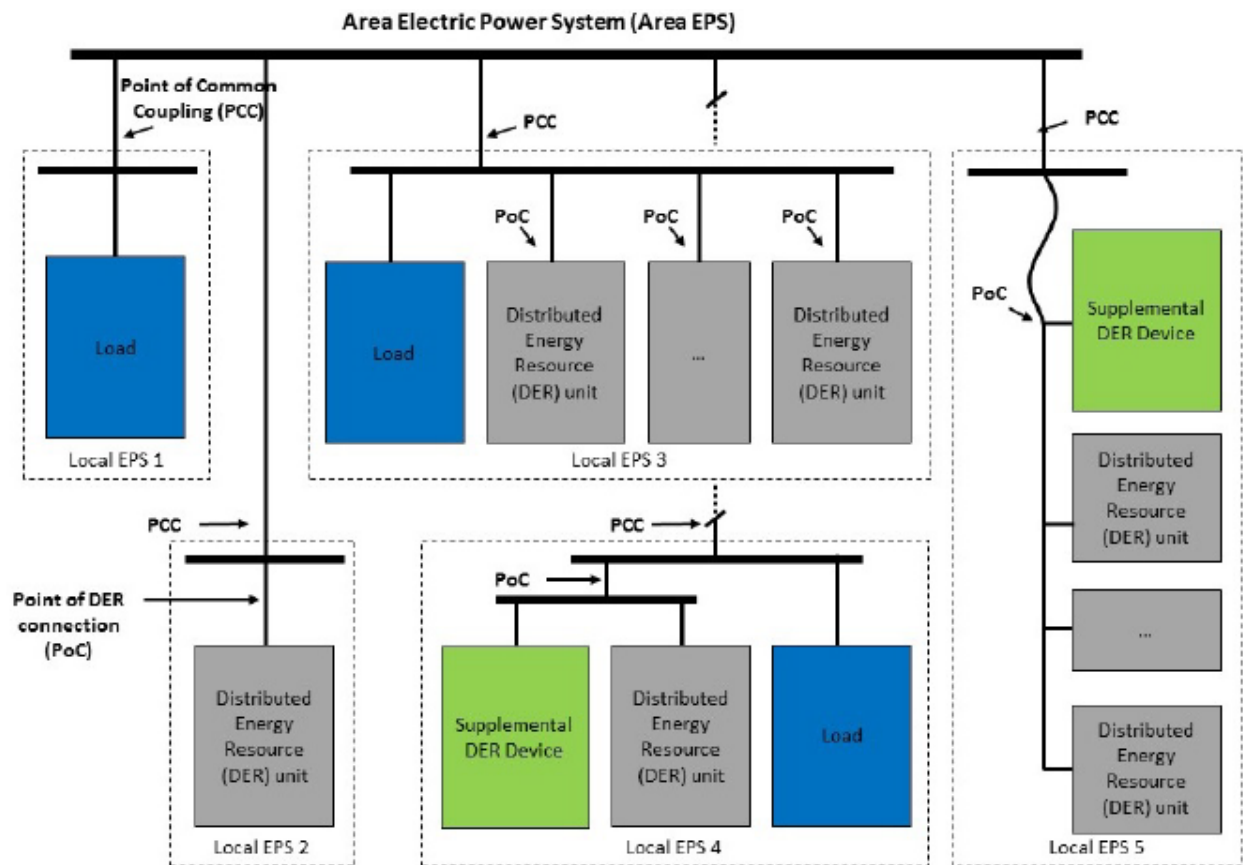


Figure 1: Point of Common Coupling and Point of DER Connection (Source: IEEE 1547)

Point of DER Connection (PoC) – When identified as the Reference Point of Applicability, the point where an individual DER is electrically connected in a Local EPS and meets the requirements of this standard exclusive of any load present in the respective part of the Local EPS (e.g. terminals of the inverter when no supplemental DER device is required). For DER unit(s) that are not self-sufficient to meet the requirements without a supplemental DER device(s), the Point of DER Connection is the point where the requirements of this standard are met by DER in conjunction with a supplemental DER device(s) exclusive of any load present in the respective part of the Local EPS.

Queue Position – The order of a valid Interconnection Application, relative to all other pending valid Interconnection Applications, that is established based upon the date- and time- of receipt of the complete Interconnection Application as described in Section 4.7.

Reasonable Efforts – With respect to an action required to be attempted or taken by a Party under these procedures, efforts that are timely and consistent with Good Utility Practice and are otherwise substantially equivalent to those a Party would use to protect its own interests.

SCHEDULE 3 – INTERCONNECTION PROCESS, TECHNICAL REQUIREMENTS, AND OPERATING PROCEDURES

Reference Point of Applicability – The location, either the Point of Common Coupling or the Point of DER Connection, where the interconnection and interoperability performance requirements specified in IEEE 1547 apply. With mutual agreement, the Area EPS Operator and Customer may determine a point between the Point of Common Coupling and Point of DER Connection. See Minnesota Technical Requirements for more information.

Simplified Process – The procedure for evaluating an Interconnection Application for a certified inverter-based DER no larger than 20 kW that uses the screens described in the Interconnection Process – Simplified Process document. The Simplified Process includes simplified procedures.

Study Process – The procedure for evaluating an Interconnection Application that includes the scoping meeting, system impact study, and facilities study.

Transmission Owner – The entity that owns, leases or otherwise possesses an interest in the portion of the Transmission System relevant to the Interconnection.

Transmission Provider – The entity (or its designated agent) that owns, leases, controls, or operates transmission facilities used for the transmission of electricity. The term Transmission Provider includes the Transmission Owner when the Transmission Owner is separate from the Transmission Provider. The Transmission Provider may include the Independent System Operator or Regional Transmission Operator.

Transmission System – The facilities owned, leased, controlled or operated by the Transmission Provider or the Transmission Owner that are used to provide transmission service. See the Commission's July 26, 2000 Order Adopting Boundary Guidelines for Distinguishing Transmission from Generation and Distribution Assets in Docket No. E-999/CI-99-1261.

Uniform Contract – the Area EPS Operator's Agreement for Cogeneration and Small Power Production Facilities (Uniform Contract) that may be applied to all qualifying new and existing interconnections between the Area EPS Operator and a DER system having capacity less than 40 kilowatts.

Upgrades – The required additions and modifications to the Area EPS Operator's Transmission or Distribution System at or beyond the Point of Interconnection. Upgrades may be Network Upgrades or Distribution Upgrades. Upgrades do not include Interconnection Facilities.

14 Certification of DER Equipment

Distributed Energy Resource (DER) equipment proposed for use in an interconnection system shall be considered certified for interconnected operation if the following criteria is met:

- 1) It has been tested in accordance with industry standards for continuous utility interactive operation in compliance with the appropriate codes and standards referenced below by any Nationally Recognized Testing Laboratory (NRTL) recognized by the United States Occupational Safety and Health Administration to test and certify interconnection equipment pursuant to the relevant codes and standards listed in the Overview Process,
- 2) It has been labeled and is publicly listed by such NRTL at the time of the interconnection application, and
- 3) Such NRTL makes readily available for verification all test standards and procedures it utilized in performing such equipment certification, and, with consumer approval, the test data itself. The NRTL may make such information available on its website and by encouraging such information to be included in the manufacturer's literature accompanying the equipment.

The Interconnection Customer must verify that the assembly and use of the equipment falls within the use or uses for which the equipment was tested, labeled, and listed by the NRTL.

Certified equipment shall not require further type-test review, testing, or additional equipment to meet the requirements of this interconnection procedure; however, nothing herein shall preclude the need for a DER Design Evaluation or an on-site commissioning test by the parties to the interconnection as provided for in the Minnesota Technical Requirements.

If the certified equipment package includes only interface components (switchgear, inverters, or other interface devices), then an Interconnection Customer must show that the generator or other electric source being utilized with the equipment package is compatible with the equipment package and is consistent with the testing and listing specified for this type of interconnection equipment.

Provided the generator or electric source, when combined with the equipment package, is within the range of capabilities for which it was tested by the NRTL and does not violate the interface components' labeling and listing performed by the NRTL, no further type-test review, testing or additional equipment on the customer side of the Point of Common Coupling shall be required to be considered certified for the purposes of this interconnection procedure; however, nothing herein shall preclude the need for a DER design evaluation or an on-site commissioning test by the parties to the interconnection as provided for in the Minnesota Technical Requirements.

An equipment package does not include equipment provided by the Area EPS.

15 Certification Codes and Standards

The existing Minnesota Technical Requirements and the following standards shall be used in conjunction with the Interconnection Process. The process has started to update the Technical Requirements to meet IEEE 1547-2018. Once that process is completed, the updated DER Technical Interconnection and Interoperability Requirements will supersede this section.

When the stated version of the following standards is superseded by an approved revision then that revision shall apply:

IEEE 1547-2003 IEEE Standard for Interconnecting Distributed Resources with Electric Power Systems

IEEE 1547a-2014 IEEE Standard for Interconnecting Distributed Resources with Electric Power Systems – Amendment 1

IEEE 1547.1-2005 IEEE Standard Conformance Test Procedures for Equipment Interconnecting Distributed Resources with Electric Power Systems

IEEE 1547.1a-2015 (Amendment to IEEE Std 1547.1-2005) IEEE Standard Conformance Test Procedures for Equipment Interconnecting Distributed Resources with Electric Power Systems – Amendment 1

UL 1741 Inverters, Converters, Controllers, and Interconnection System Equipment for Use in Distributed Energy Resources (2010)

NFPA 70 (2017), National Electrical Code

IEEE Std C37.90.1 (2012) (Revision of IEEE Std C37.90.1-2002), IEEE Standard for Surge Withstand Capability (SWC) Tests for Protective Relays and Relay Systems Associated with Electric Power Apparatus

IEEE Std C37.90.2 (2004) (Revision of IEEE Std C37.90.2-1995), IEEE Standard for Withstand Capability of Relay Systems to Radiated Electromagnetic Interference from Transceivers

IEEE Std C37.108-2002/1989 (Revision of C37.108-1989/2002), IEEE Guide for the Protection of Network Transformers

IEEE Std C57.12.44-2014 (Revision of IEEE Std C57.12.44-2005), IEEE Standard Requirements for Secondary Network Protectors

IEEE Std C62.41.2-2002, IEEE Recommended Practice on Characterization of Surges in Low-Voltage (1000 V and Less) AC Power Circuits

IEEE Std C62.41.2-2002_Cor 1-2012 (Corrigendum to IEEE Std C62.41.2-2002) – IEEE Recommended Practice on Characterization of Surges in Low-Voltage (1000 V and Less) AC Power Circuits Corrigendum 1: Deletion of Table A.2 and Associated Text

IEEE Std C62.45-2002 (Revision of IEEE Std C62.45-1992) – IEEE Recommended Practice on Surge Testing for Equipment Connected to Low-Voltage (1000 V and less) AC Power Circuits

SCHEDULE 3 – INTERCONNECTION PROCESS, TECHNICAL REQUIREMENTS, AND OPERATING PROCEDURES

ANSI C84.1-(2016) Electric Power Systems and Equipment – Voltage Ratings (60 Hertz)

IEEE Standards Dictionary Online, [Online]

NEMA MG 1-2016, Motors and Generators

IEEE Std 519-2014, IEEE Recommended Practices and Requirements for Harmonic Control in Electrical Power Systems

SCHEDULE 4 – AVERAGE INCREMENTAL COSTS

Qualifying Facilities that qualify and select the Simultaneous Purchase and Sale or Time-of-Day rates for compensation for all generation shall be compensated by Utility as detailed in Parts N and O of the Utility's Rules Governing the Interconnection of Cogeneration and Small Power Production Facilities.

Compensation will be based on the rates as follows:

	<u>Energy (\$/kwh)</u>	<u>Capacity (\$/kwh)</u>	<u>REC (\$/kwh)</u>
Summer Months (June-Sept)			
On Peak	0.0273	0	0
Off Peak	0.0176	0	0
All Hours	0.0222	0	0
Winter Months (Oct-May)			
On Peak	0.0249	0	0
Off Peak	0.0184	0	0
All Hours	0.0214	0	0
Annual (January-December)	0.0217	0	0

[https://mhsllaw.sharepoint.com/sites/08000/4/draftdocs/distributed energy and cogeneration policy/resolution for cogeneration and small production tariff - draft 3.docx](https://mhsllaw.sharepoint.com/sites/08000/4/draftdocs/distributed%20energy%20and%20cogeneration%20policy/resolution%20for%20cogeneration%20and%20small%20production%20tariff%20-%20draft%203.docx)

**REQUEST FOR ACTION
CHASKA CITY COUNCIL
05/04/2020**

Subject: **Letter of Support – Carver County’s application for the Minnesota River Bluffs Regional Trail from Bluff Creek Drive to Pioneer Trail under the Multiuse Trails and Bicycle Facilities category of Metropolitan Council’s 2020 Regional Solicitation for federal transportation funding.**

Prepared By: **Vicki Schmid, Administration Clerk**

Background: The proposed project will reconstruct and pave a segment of the Minnesota River Bluffs Regional Trail from Flying Cloud Drive to Pioneer Trail. Project elements include approximately 2 miles of 10-foot wide, off-street, bituminous multi-use trail meeting all ADA requirements, addition of a small parking lot, informational kiosk, ADA-compliant pedestrian ramp at west project terminus, culvert reconstruction and associated work, and a local trail connection to Flying Cloud Drive.

The Minnesota River Bluffs Regional Trail is both a recreation destination and a commuter route. It plays a key role in Carver County’s alternate transportation infrastructure. As a Tier 1 Regional Bicycle Transportation Network (RBTN) alignment, the Minnesota River Bluffs Regional Trail is a crucial link in the regional trail and bicycle network, connecting to Cedar Lake LRT Regional Trail (Tier 1 RBTN Alignment) in Minneapolis, Nine Mile Creek Regional Trail (Tier 1 RBTN Corridor) in Hopkins, County Road 10 (Tier 1 RBTN Corridor) in Chaska, County Road 101 (Tier 2 RBTN Alignment) in Chanhassen, State Hwy 101 (Tier 1 RBTN Corridor) in Shakopee, and Pioneer Trail (Tier 2 RBTN Corridor) in Eden Prairie.

This section of the trail is currently closed due to damage from a landslide in 2014. The existing 6-mile detour adds time to trips, and is less safe, requiring cyclist to ride on the shoulder with vehicular traffic. The project will leverage repair work by the Hennepin County Regional Railroad Authority to reopen the segment, providing a continuous eleven-mile, mixed-use trail for residents of Carver County and beyond.

CITY COUNCIL ACTION REQUESTED

Motion to authorize the Mayor to sign a letter of support for the County’s application to the Metropolitan Council’s 2020 Regional Solicitation funding program.



Minnesota River Bluffs Trail Project Extents



REQUEST FOR ACTION CHASKA CITY COUNCIL 05/04/2020

Subject: Issuance of EAW release for public comment for Oak Ridge

Prepared By: Elizabeth Hanson

Staff Recommendation: Motion to adopt Resolution

Background

In March 2020 the Concept Plan for Oak Ridge was approved. The authorization to prepare the EAW for Oak Ridge was also approved at this time. An EAW is mandatory due to the commercial square footage and multi-family units proposed on a parcel of land. The EAW has been prepared and is ready for publication.

Information

The City is requesting the issuance of the Environmental Assessment Worksheet (EAW) for public comments as it relates to the proposed Oak Ridge plan for commercial and residential. Environmental documents shall be used as guides in issuing, amending, and denying permits and carrying out other responsibilities of governmental units to avoid or minimize adverse environmental effects and to restore and enhance environmental quality. Environmental documents shall not be used to justify a decision, nor shall indications of adverse environmental effects necessarily require that a project be disapproved. An EAW has been prepared under the City's direction with assistance from the proposer and their agents, who completed data portions of the EAW to the RGU (Minnesota Rules, Chapter 4410.1400).

The City Council of the City of Chaska, Minnesota, is being asked to issue the Environmental Assessment Worksheet (EAW) for the Oak Ridge plan for public review and comment, and causes notification of its publication in the Chaska Herald and the EQB Monitor.

CITY COUNCIL ACTION REQUESTED THIS EVENING

Motion to adopt Resolution No. 2020-31, authorizing the EAW release for public comment on the proposed Oak Ridge plan.

RESOLUTION

A Resolution approving issuance of the Environmental Assessment Worksheet for public comment regarding the proposed Oak Ridge development

Mark Windschitl, Mayor

Oak Ridge Development

Environmental Assessment Worksheet

Prepared for:

RCS-RCA Oak Ridge, LLC

Prepared by:

Kimley»Horn

April 2020

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Figure 3: Wetland Delineation Summary Map

Figure 4: MPCA and Public Waters Data Map

Figure 5: MN Dept. of Health (MDH) Drinking Water Supply Management Areas, Wellhead Protection Areas (WPA), and County Well Index (CWI) Map

Figure 6: NRCS Hydric Soils Map

Figure 7. Sewer Connections

List of Attachments

Attachment 1: Site Plan and Existing Conditions

Attachment 2: City of Chaska 2040 Land Use Plan

Attachment 3: City of Chaska Zoning Map

Attachment 4: NRCS Erosion Hazard – Carver County, MN

Attachment 5: MN Wetland Conservation Act Notice of Decision

Attachment 6: Cultural Resources Letter

Attachment 7: Traffic Impact Analysis Report

Environmental Assessment Worksheet

This Environmental Assessment Worksheet (EAW) form and EAW Guidelines are available at the Environmental Quality Board's website at:

<http://www.egb.state.mn.us/EnvRevGuidanceDocuments.htm>. The EAW form provides information about a project that may have the potential for significant environmental effects. The EAW Guidelines provide additional detail and resources for completing the EAW form.

Cumulative potential effects can either be addressed under each applicable EAW Item, or can be addressed collectively under EAW Item 19.

Note to reviewers: Comments must be submitted to the RGU during the 30-day comment period following notice of the EAW in the *EQB Monitor*. Comments should address the accuracy and completeness of information, potential impacts that warrant further investigation, and the need for an EIS.

1. Project Title

Oak Ridge Development

2. Proposer

Proposer: RCS-RCA Oakridge, LLC

Contact Person: Robert Atkinson

Title: President

Address: 4354 Wooddale Ave,

City, State, ZIP: Minneapolis, MN 55424

Phone: 612-747-2345

Email: bobby@therealestatenetwork.com

3. RGU

RGU: City of Chaska

Contact Person: Kevin Ringwald

Title: Community Development Director

Address: One City Hall Plaza

City, State, ZIP: Chaska, MN 55318-1962

Email: Kringwald@chaskamn.com

4. Reason for EAW Preparation

Check one:

Required:

☐ EIS Scoping

☒ Mandatory EAW

Discretionary:

☐ Citizen petition

☐ RGU discretion

☐ Proposer initiated

If EAW or EIS is mandatory, give EQB rule category subpart number(s) and name(s):

Minnesota Rules, part 4410.4300, subpart 32: Mixed-Use Development

5. Project Location

County: Carver

City/Township: Chaska

PLS Location ($\frac{1}{4}$, $\frac{1}{4}$, Section, Township, Range): SE $\frac{1}{4}$ of Section 20, Township 116N, Range 23W

Watershed (81 major watershed scale): Lower Minnesota River

Tax Parcel Number: 30.4740010, 30.4740040, 30.4740020

At a minimum, attach each of the following to the EAW:

- **County map showing the general location of the project** (see Figure 1)
- **US Geological Survey 7.5 minute, 1:24,000 scale map indicating project boundaries** (see Figure 2)
- **Site plans showing all significant project and natural features** (see Attachment 1)

6. Project Description

- a. Provide the brief project summary to be published in the *EQB Monitor* (approximately 50 words).**

The developer is proposing to redevelop land surrounding the existing Oak Ridge Hotel and Conference Center at 1 Oakridge Drive in Chaska, Carver County, MN. The site is approximately 64 acres and currently contains a 171,000 square foot conference center, parking lots, recreation, and undeveloped land. The proposed development includes up to 166,000 square feet of additional commercial use, 498 multifamily/senior housing units, 1,939 proposed parking spaces, and associated infrastructure.

- b. Give a complete description of the proposed project and related new construction, including infrastructure needs. If the project is an expansion, include a description of the existing facility. Emphasize 1) construction and operation methods and features that will cause physical manipulation of the environment or will produce wastes; 2) modifications to existing equipment or industrial processes; 3) significant demolition, removal, or remodeling of existing structures; and 4) timing and duration of construction activities.**

The developer is proposing to redevelop land surrounding the existing Oak Ridge Hotel and Conference Center located at 1 Oakridge Drive, Chaska, Carver County, MN. The site is approximately 64 acres and currently contains a 171,000 square foot conference center, parking lots, recreation (e.g. trails, ballfields, obstacle course), and undeveloped

land. There is one existing access point to the site, Oakridge Drive, from Chestnut Street (Trunk Highway 41).

The proposed commercial and residential development could include up to 166,000 square feet of commercial retail and up to 498 units of multi-family residential and senior living. The site will also contain approximately 1,939 automotive parking spaces, stormwater treatment, and green space. The access road from Chestnut Street will be reconfigured and an additional access point will be constructed at the intersection of Peavey Road and Chestnut Street.

The existing hotel and conference center will be maintained; however, there is a potential that the existing conference center and hotel would be repurposed into office, institutional, and/or other uses. If a change in use is proposed for the existing hotel and conference center, the proposed project will meet the required parking counts. Construction activities are anticipated to begin in the spring of 2020 and be complete by 2022.

c. Project magnitude

Table 1: Project Magnitude

Measure	Magnitude
Total Project Acreage	64 acres
Linear Project Length	Not applicable
Number and Type of Residential Units	498 multi-family units
Commercial Building Area (square feet)	166,000 square feet
Industrial Building Area (square feet)	0 square feet
Institutional Building Area (square feet)	0 square feet
Other Uses – specify (square feet)	Not applicable
Structure Height(s)	Multifamily Residential - 48 feet max.

d. Explain the project purpose. If the project will be carried out by a governmental unit, explain the need for the project and identify its beneficiaries.

The purpose of this project is to redevelop land surrounding an existing hotel and conference center into a mixed-used commercial and retail development. The site is currently zoned as a business park and has one existing access point from Oakridge Drive off of Chestnut Street (Trunk Highway 41).

e. Are future stages of this development, including development on any other property, planned or likely to happen? ☐ Yes ☒ No

If yes, briefly describe future stages, relationship to present project, timeline, and plans for environmental review.

Not applicable

f. Is this project a subsequent stage of an earlier project? ☐ Yes ☒ No

If yes, briefly describe the past development, timeline, and past environmental review.

Not applicable

7. Cover Types

Estimate the acreage of the site with each of the following cover types before and after development.

Table 2: Cover Types

Cover Type	Before (Acres)	After (Acres)
Wetlands	0.4	0.3
Deep Water/Streams	0	0
Wooded/Forest	18.1	18.1
Grassland	28.2	2
Cropland	0	0
Lawn/Landscaping	12.8	12.9
Impervious Surface	4.5	29.2
Stormwater Pond	0	1.5
Other (describe)	0	0
Total	64	64

8. Permits and Approvals Required

List all known local, state, and federal permits, approvals, certifications, and financial assistance for the project. Include modifications of any existing permits, governmental review of plans, and all direct and indirect forms of public financial assistance including bond guarantees, Tax Increment Financing, and infrastructure. All of these final decisions are prohibited until all appropriate environmental review has been completed. See Minnesota Rules Chapter 4410.3100.

Table 3: Permits and Approvals Required

Unit of Government	Type of Application	Status
US Army Corps of Engineers	Section 404 Permit	To be submitted
Minnesota Department of Health	Well and Boring Sealing Record	To be submitted
	Watermain Extension Permit	To be submitted
Minnesota Pollution Control Agency	Demolition Permit	To be submitted, if needed
	National Pollutant Discharge Elimination System (NPDES)	To be submitted
	Sanitary Sewer Extension Permit	To be submitted
Minnesota Department of Labor and Industries	Utility Permit	To be submitted
Minnesota Department of Transportation	Access Permit, grading permit, drainage permit, and work in ROW permit	To be submitted
City of Chaska	Demolition Permit	To be submitted, if needed
	Development Approval	To be submitted
	Building Permit	To be submitted
	Grading Permit	To be submitted
	Wetland Conservation Act Replacement Plan Application	To be submitted

Unit of Government	Type of Application	Status
	EIS Need Decision	In process
Carver County Water Management Organization	Stormwater Management Plan Review	To be submitted

9. Land Use

a. Describe:

i. Existing land use of the site as well as areas adjacent to and near the site, including parks, trails, and prime or unique farmlands.

The existing land use of the site is a Planned Multi Use Development for a Hotel and Conference Center and vacant land. There is a trail along McKnight Lake adjacent to the site. The site is surrounded by light industrial (office/warehouse), mixed-use and rural residential, public space, and water. A golf course is located east of Chestnut Street.

According to the Natural Resources Conservation Service (NRCS) Web Soil Survey, 22.2 acres of the site contain soils that are considered prime farmland. 21.6 acres of the site contain soils that are considered farmland of statewide importance.

ii. Planned land use as identified in comprehensive plans (if available) and any other applicable plan for land use, water, or resource management by a local, regional, state, or federal agency.

The City of Chaska's 2040 land use plan (revised in November 2018) identifies the Oakridge Conference Center site as becoming entirely business park (see Attachment 2).

iii. Zoning, including special districts or overlays such as shoreland, floodplain, wild and scenic rivers, critical area, agricultural preserves, etc.

The City of Chaska's zoning map (updated in May 2019) identifies the Oakridge Conference Center site as Planned Multi-Use Development (PMD) (see Attachment 3). The site is identified as moderately vulnerable within the Minnesota Department of Health (MDH) Chaska North Drinking Water Supply Management Area, as well as located within the Chaska North Wellhead Protection Area (WPA) (see Figure 5).

b. Discuss the project's compatibility with nearby land uses, zoning, and plans listed in Item 9a above, concentrating on implications for environmental effects.

The proposed project is compatible with nearby land uses, zoning, and planned land use. All lands adjacent to the site are guided and utilized for business park and multi-use development purposes. The proposed project is not anticipated to have any significant adverse environmental effects related to land use compatibility, but existing environmental conditions will be mitigated through soil correction and implementation of stormwater best management practices (BMPs).

c. Identify measures incorporated into the proposed project to mitigate any potential incompatibility as discussed in Item 9b above.

No incompatibility has been identified; therefore, no mitigation is needed. The stormwater treatment system will treat the surface water runoff from the site to meet current standards to protect the surface waters and groundwater. In the event a more intense use would occur on this property that would be of a concern to the surface water or groundwater quality, additional treatment for the stormwater runoff would be incorporated into the system and would be monitored under the stormwater program.

10. Geology, Soils, and Topography/Land Forms

- a. Geology – Describe the geology underlying the project area and identify and map any susceptible geologic features such as sinkholes, shallow limestone formations, unconfined/shallow aquifers, or karst conditions. Discuss any limitations of these features for the project and any effects the project could have on these features. Identify any project designs or mitigation measures to address effects to geologic features.**

According to the Geologic Atlas of Carver County and the Phase 1 Environmental Site Assessment (ESA), the bedrock geology of the project area consists of the Jordan Sandstone, St. Lawrence Formation, and Lone Rock Formation. The Jordan Sandstone consists of coarse-grained, quartzose sandstone and fine-grained, feldspathic sandstone with shale and siltstone lenses. The St. Lawrence Formation consists of very fine-grained sandstone and siltstone, and crystalline dolostone. The Lone Rock Formation consists of very fine to fine grained, silty, feldspathic, and glauconitic sandstone. The depth to bedrock is 250-450 feet. The surficial geology consists of loam and clay loam, with pebbles and cobbles. There are no known shallow limestone formations or karst conditions. The surficial geology is anticipated to have a low sensitivity to potential contamination from surface activities. Groundwater beneath the site lies within surficial deposits and several bedrock aquifers, including the Prairie Du Chien/Jordan, Upper Tunnel City, and Mt. Simon Aquifers. The Chaska public water supply draws from the Mt. Simon, Tunnel City, Jordan, and "Drift" aquifers, with county water supply wells located within 1 mile of the site.

With the proposed stormwater BMPs, no adverse impacts to groundwater are anticipated as a result of the project.

- b. Soils and Topography – Describe the soils on the site, giving NRCS (SCS) classifications and descriptions, including limitations of soils. Describe topography, any special site conditions relating to erosion potential, soil stability, or other soil limitations, such as steep slopes or highly permeable soils. Provide estimated volume and acreage of soil excavation and/or grading. Discuss impacts from project activities (distinguish between construction and operational activities) related to soils and topography. Identify measures during and after project construction to address soil limitations including stabilization, soil corrections, or other measures. Erosion/sedimentation control related to stormwater runoff should be addressed in response to Item 11.b.ii.**

According to the NRCS Web Soil Survey, there are ten soil types within the project site (see Table 4 and Figure 6). The erosion hazard ratings indicate the hazard of soil loss from off-road areas after disturbance activities that expose soil surface (see Attachment 4). Within the project site, approximately 53% of the site is mapped with a "severe" rating,

meaning that significant erosion is expected, and erosion-control measures are needed. Approximately 12% of the site is mapped with soils with a "moderate" rating, meaning that some erosion is likely. Approximately 35% of the site is mapped with a "slight" rating, meaning that erosion is unlikely under ordinary climatic conditions.

Table 4: Soil Types within the Project Site

Soil Type	Acres within Site	Percent of Site	Erosion Hazard
Hamel loam, 0 to 2 percent slopes	4.5	7.0%	Slight
Kilkenny-Lester loams, 2 to 6 percent slopes	17.4	27.1%	Slight
Lester-Kilkenny loams, 6 to 12 percent slopes	6.3	9.9%	Moderate
Lester-Kilkenny complex, 6 to 10 percent slopes, moderately eroded	14.3	22.3%	Severe
Lester-Kilkenny loams, 12 to 18 percent slopes	6.7	10.4%	Severe
Lester-Kilkenny complex, 10 to 16 percent slopes, moderately eroded	3.6	5.7%	Severe
Lester-Kilkenny complex, 16 to 22 percent slopes	0.6	1.0%	Severe
Lester-Kilkenny complex, 22 to 40 percent slopes	9.4	14.7%	Severe
Terril loam, 2 to 6 percent slopes	0.3	0.4%	Slight
Terril loam, 6 to 12 percent slopes	1.0	1.6%	Moderate
Total	64.1	100%	

A geotechnical exploration and review of the site was completed in May of 2019. This review found remnants of concrete foundations from the former farmsteads within the site.

Site grading of all 47.5 acres for the proposed development will need to occur; 225,000 cubic yards (CY) of excavation and 230,000CY of fill are proposed for site grading and development.

Site grading and development will avoid high erosion areas and steep sloped areas as much as possible. Sedimentation and erosional BMP's, such as erosion blankets during construction and reseeding post-construction, will be utilized to minimize impacts to soils and topology.

11. Water Resources

a. Describe surface water and groundwater features on or near the site below.

- i. **Surface Water – lakes, streams, wetlands, intermittent channels, and county/judicial ditches. Include any special designations such as public waters, trout stream/lake, wildlife lakes, migratory waterfowl feeding/resting lake, and outstanding resource value water. Include water quality impairments or special designations listed on the current MPCA 303d Impaired Waters List that are within one mile of the project. Include DNR Public Waters Inventory number(s), if any.**

A wetland delineation was completed for the project site and has been approved by the City of Chaska as the Wetland Conservation Act (WCA) Local Governmental Unit (LGU) (see Attachment 5). Three wetlands were identified

within or near the project site (see Figure 3). Four ephemeral streams were identified within the project site, with one located east of the project site. Two open waterbodies, McKnight Lake and Big Woods Lake, were identified offsite to the west and north of the site, respectively.

Within approximately one mile of the site, there are seven DNR Public Water Wetlands; four are on the Minnesota Pollution Control Agency's (MPCA) impaired waters list: Hazeltine Lake (DNR PWI #10001400), McKnight Lake (DNR PWI #10021600), Lake Jonathan (DNR PWI #10021700), and Lake Grace (DNR PWI #10021800) (see Figure 4). The four lakes are identified as aquatic recreation impaired use waters and a Total Maximum Daily Load (TMDL) study is required to determine additional nutrient impairments.

Three unnamed Public Water wetlands (DNR PWI #10080700, 10080800, 10021900) within one mile of the site are not on the MPCA impaired waters list (see Figure 4).

- ii. **Groundwater – aquifers, springs, and seeps. Include 1) depth to groundwater; 2) if project is within a MDH well protection area; and 3) identification of any onsite and/or nearby wells, including unique numbers and well logs, if available. If there are no wells known on site or nearby, explain the methodology used to determine this.**

According to the geotechnical exploration and review of the site that was completed in May of 2019, groundwater was observed at depths of approximately 25 feet. The public water supply has a moderate sensitivity to potential contamination within the Wellhead Protection Area. To protect the groundwater and drinking water supply for the City of Chaska, additional mitigation measures for the proposed underground fuel tanks and proposed underground stormwater treatment were identified. The additional measures to protect groundwater and the public water supply are identified and included in the following sections: Section 11.b.ii Stormwater, and Section 12. Contamination/Hazardous Materials/Wastes.

The site is within the Chaska North Wellhead Protection Area (WPA) and Minnesota Department of Health (MDH) Chaska North Drinking Water Supply Management Area (see Figure 5). According to the MDH County Well Index (CWI), 41 public water supply wells are within one-mile of the site (see Figure 5). The county wells within one-mile of the project site are primarily identified as domestic/residential wells.

Four Chaska wells (Unique Well ID's 257444, 257445, 257446, and 557822) are used for drinking water or emergency wells and are located east of Chestnut Street (see Figure 5). A City of Chaska well (559395) is used for irrigation purposes. Three monitoring wells (570392, 570393, 570394) west of Lake Grace are now sealed. The unlabeled wells in Figure 5 are either domestic or other private wells.

Wells were also sought as part of the Phase I Environmental Site Assessment (ESA) completed for this project in May 2019. No wells were observed within the three Oakridge Conference Center parcels during the Phase I ESA site visit. If unidentified wells are found, the MPCA and MDH must be contacted to

determine course of action which may include sealing, relocating, or preserving by a licensed well contractor according to Minnesota Rules Chapter 4725.

b. Describe effects from project activities on water resources and measures to minimize or mitigate the effects below.

i. Wastewater – For each of the following, describe the sources, quantities, and composition of all sanitary, municipal/domestic, and industrial wastewaters projected or treated at the site.

1) If the wastewater discharge is to a publicly owned treatment facility, identify any pretreatment measures and the ability of the facility to handle the added water and waste loadings, including any effects on, or required expansion of, municipal wastewater infrastructure.

Based on the Metropolitan Council's Sewer Available Charge determination standards for a retail building with 166,000 square feet (sf), 160 multi-family units, occupied with 1.2 people per unit based on the common unit layout, and a senior and assisted living campus of 456 units and the existing conference center, which could be converted to an office or institutional uses, wastewater flows are anticipated to be between 94,000 to 108,000 gallons per day (gpd). Wastewater is expected to be equivalent to domestic strength wastewater. Figure 7 and Table 5 below show the sewer connection locations and anticipated flows in gallons per day (gpd) for each of the anticipated uses.

Table 5: Sewer Connections and Anticipated Flows

Connection Location	Anticipated Flow (gpd)
Retail Use	6,000
Existing Conference Center	16,000 – 29,900
Senior Housing Campus	52,300
Proposed Multi-Family	19,800
Total estimated flow rates:	94,000 – 108,000

The sanitary sewer service will be provided by the City of Chaska by an existing 24-inch sanitary sewer line along the east side of McKnight Lake and the south side of Big Woods Lake. The existing system currently has the capacity to handle up to 108,000 gpd of wastewater generated by this type of facility. Sanitary services will be connected to the existing lines via manhole and line extensions into the property and the proposed buildings will be connected to the main line via an 8-inch sanitary line. Manholes will be provided every 200 feet to provide access to the main line on the site for serviceability and monitoring. All sanitary sewers are located outside the MDH required setbacks from a well. All onsite wells will be properly sealed per the MDH code prior to construction of the proposed development.

- 2) If the wastewater discharge is to a subsurface sewage treatment system (SSTS), describe the system used, the design flow, and suitability of site conditions for such a system.**

Not applicable

- 3) If the wastewater discharge is to surface water, identify the wastewater treatment methods, discharge points, and proposed effluent limitations to mitigation impacts. Discuss any effects to surface or groundwater from wastewater discharges.**

Not applicable

- ii. Stormwater – Describe the quantity and quality of stormwater runoff at the site prior to and post construction. Include the routes and receiving water bodies for runoff from the site (major downstream water bodies as well as the immediate receiving waters). Discuss any environmental effects from stormwater discharges. Describe stormwater pollution prevention plans including temporary and permanent runoff controls and potential BMP site locations to manage or treat stormwater runoff. Identify specific erosion control, sedimentation control, or stabilization measures to address soil limitations during and after project construction.**

Currently, the site is composed of primarily grasslands and forested areas, with approximately 22% impervious surfaces largely due to the existing conference center, hotel, and parking lots. Stormwater systems currently conveyed runoff to ultimately drain to McKnight Lake and Big Woods Lake.

Due to the area being located within a wellhead protection area, infiltration is not allowed under the stormwater regulations. To comply with the wellhead area protection criteria, filtration areas and the newly created stormwater treatment ponds will be lined with a clay liner or HDPE liner up to two feet above the high-water level in accordance with the MCPA and MDH requirements. The smaller retail and multifamily areas will include above-ground stormwater ponding areas and a combination of BMP's to treat stormwater. The retail area will utilize underground stormwater treatment within the parking lot to treat runoff from the site. Options for stormwater recuse along with other filtration options are being studied to provide the volume extraction portion of the watershed requirements. Additionally, any runoff generated from the fuel storage or refueling areas will be routed through an oil and grease separator to capture and treat any runoff from these areas to provide added protection of the groundwater drinking source. The City of Chaska staff will be consulted closely during the design of the stormwater treatment systems to see the added precautions and concerns are addressed in order to protect the groundwater and water supply in the area.

The stormwater system will provide the required treatment to remove 90% of the Total Suspended Solids (TSS) and phosphorus from the runoff prior to entering the lakes. Some possible filtration options include iron sand filters or other filters that will provide the phosphorous removals required for the project. The development will also have multiple filtration basins to provide treatment to reduce phosphorus

loading downstream of the project area and will treat the equivalent amount of runoff to equal 1.1-inch from the new impervious areas on the site (as identified in Carver County Water Management Organization (WMO) and City of Chaska ordinances). The filtration ponds will meet the volume control requirement set by the Carver County WMO rules and will be lined with two feet of clay to reduce the potential of stormwater being infiltrated into the ground.

A stormwater pollution prevention plan (SWPPP) will be developed in accordance with the NPDES permit administered by the MPCA, the City of Chaska, and Carver County WMO. The SWPPP will include temporary measures to prevent pollution during construction. Silt-fence, bio-rolls, and fabric covers for existing catch basins will be used to provide erosion and sediment control during construction and site disturbance.

- iii. **Water Appropriation – Describe if the project proposes to appropriate surface or groundwater (including dewatering). Describe the source, quantity, duration, use, and purpose of the water use and if a DNR water appropriation permit is required. Describe any well abandonment. If connecting to an existing municipal water supply, identify the wells to be used as a water source and any effects on, or required expansion of, municipal water infrastructure. Discuss environmental effects from water appropriation, including an assessment of the water resources available for appropriation. Identify any measures to avoid, minimize, or mitigate environmental effects from the water appropriation.**

Water appropriation is not anticipated for the project; however, if dewatering is required for construction, a permit will be obtained from the Minnesota Department of Natural Resources (DNR).

All existing wells on site shall be sealed according to Minnesota Rules Chapter 4725. If unidentified wells are found, the MPCA and MDH will be contacted to and shall be sealed by a licensed well contractor.

The existing Oakridge Conference Center is served by an 8-inch water loop line from the west side of Chestnut Street. The project is proposing to relocate and upgrade the existing line to a 12-inch pipe to accommodate the development. Each building will have an individual service from the new loop line, and the existing 8-inch loop line around the conference center will remain. New hydrants will be installed for fire protection and each building will be sprinkled.

- iv. **Surface Waters**

- 1) **Wetlands – Describe any anticipated physical effects or alterations to wetland features, such as draining, filling, permanent inundation, dredging, and vegetative removal. Discuss direct and indirect environmental effects from physical modification of wetlands, including the anticipated effects that any proposed wetland alterations may have to the host watershed. Identify measures to avoid (e.g., available alternatives that were considered), minimize, or mitigate environmental effects to wetlands. Discuss whether any required compensatory wetland mitigation for unavoidable wetland impacts**

will occur in the same minor or major watershed, and identify those probable locations.

Two wetlands (Wetlands 2 and 3) are located within the project site (see Figure 3). A third wetland (Wetland 1) is located proximate to the site in a roadside ditch along Chestnut Street. Impacts to wetlands will be minimized to the extent practicable. Wetland 3 is being avoided by development and drainage patterns surrounding the wetland will be maintained. All wetland impacts will be mitigated using wetland mitigation bank credits at a 2:1 replacement ratio.

- 2) Other surface waters – Describe any anticipated physical effects or alterations to surface water features (lakes, streams, ponds, intermittent channels, county/judicial ditches) such as draining, filling, permanent inundation, dredging, diking, stream diversion, impoundment, aquatic plant removal, and riparian alteration. Discuss direct and indirect environmental effects from physical modification of water features. Identify measures to avoid, minimize, or mitigate environmental effects to surface water features, including in-water Best Management Practices that are proposed to avoid or minimize turbidity/sedimentation while physically altering the water features. Discuss how the project will change the number or type of watercraft on any water body, including current and projected watercraft usage.**

There are four ephemeral streams identified within the project site (see Figure 3). One ephemeral stream (Ephemeral Stream D), two lakes (McKnight Lake and Big Woods Lake), and an unnamed pond are identified adjacent to the project site (see Figure 3). According to the site plan, impacts and development are not anticipated to the four ephemeral streams within the project site (Attachment 1). Furthermore, no alterations or impacts to Ephemeral Stream D, the surrounding lakes, or the pond are anticipated.

No changes to the number or type of watercraft on the waterbodies are anticipated.

Stormwater runoff will be pre-treated with filtration systems, including sand and/or other filters that will provide phosphorous removals required for the project. Aboveground stormwater ponding areas along with BMP's will be utilized to treat stormwater. Underground stormwater treatment will be utilized for the retail areas of the development. Stormwater ultimately drain to McKnight Lake and Big Woods Lake, which is similar to the existing drainage patterns of the site.

12. Contamination/Hazardous Materials/Wastes

- a. Pre-project Site Conditions – Describe existing contamination or potential environmental hazards on or in close proximity to the project site, such as soil or groundwater contamination, abandoned dumps, closed landfills, existing or abandoned storage tanks, and hazardous liquid or gas pipelines. Discuss any potential environmental effects from pre-project site conditions that would be caused or exacerbated by project**

construction and operation. Identify measures to avoid, minimize, or mitigate adverse effects from existing contamination or potential environmental hazards. Include development of a Contingency Plan or Response Action Plan.

A Phase I ESA was completed for the project site in May of 2019. The Oakridge Conference Center land was used for agricultural purposes dating back to at least 1937. The current Conference Center was constructed between 1987 and 1991. No evidence of wells, sewer systems, or tanks was observed.

The potential environmental hazards identified in the Phase I ESA for the conference center are as follows:

- An emergency generator is located outside, north of the Conference Center boiler room. No staining on the concrete floor was observed. A 6,000-gallon underground storage tank (UST) was reported to be double-walled in a nearby grassy area north of the mechanical room. No staining of the ground near the tank fill pipe was observed. In addition, no staining or spilled fuel was observed where the tank piping connected to the generator.
- A 200-gallon diesel fuel tank is located in the main garage. No evidence of petroleum spills was observed.
- The Conference Center holds a hazardous waste license for the generation of waste paints, oils, and various universal wastes.

The Hazardous Waste MANIFEST data provides information on hazardous waste. The waste generated at the Oakridge Conference Center site includes fewer than 1 kg of waste related paint materials per month. No violations were found in the database.

All identified potential environmental hazards are associated with the existing conference center which will not be modified as a result of the proposed project. A construction contingency plan will be developed and implemented during project construction.

b. Project Related Generation/Storage of Solid Wastes – Describe solid wastes generated/stored during construction and/or operation of the project. Indicate method of disposal. Discuss potential environmental effects from solid waste handling, storage, and disposal. Identify measures to avoid, minimize, or mitigate adverse effects from the generation/storage of solid waste including source reduction and recycling.

Construction of the development will generate construction-related waste materials such as wood, packaging, excess materials, and other wastes, which will either be recycled or disposed of in the proper facilities in accordance with state regulations and guidelines.

Solid waste generated from the completed project will consist of minimal industrial and office waste materials. A source recycling/separation plan will be implemented, and wastes that cannot be recycled will be managed in accordance with state regulations and guidelines.

Hazardous waste products are not anticipated to be produced nor stored while awaiting distribution. If a tenant does produce or store hazardous waste products, they will be

properly stored and handled according to current state and federal regulations, including impervious containment surface and spill/release plan and supplies.

- c. Project Related Use/Storage of Hazardous Materials – Describe chemicals/hazardous materials used/stored during construction and/or operation of the project including method of storage. Indicate the number, location, and size of any above or below ground tanks to store petroleum or other materials. Discuss potential environmental effects from accidental spills or releases of hazardous materials. Identify measures to avoid, minimize, or mitigate adverse effects from the use/storage of chemicals/hazardous materials including source reduction and recycling. Include development of a spill prevention plan.**

One underground storage tank (UST) and one aboveground storage tank (AST) were identified during the Phase I ESA. The tanks will not be removed during site development. No new above or underground storage tanks will be added to the site.

Any hazardous waste materials used/stored during construction and/or operation of the project will be disposed of in the manner specified by local or state regulation or by the manufacturer. A spill prevention plan will be developed, and proper spill prevention controls will be in place for any vehicle refueling or maintenance that occurs on site during construction or storage of hazardous waste as described in the section below.

- d. Project Related Generation/Storage of Hazardous Wastes – Describe hazardous wastes generated/stored during construction and/or operation of the project. Indicate method of disposal. Discuss potential environmental effects from hazardous waste handling, storage, and disposal. Identify measures to avoid, minimize, or mitigate adverse effects from the generation/storage of hazardous wastes including source reduction and recycling.**

Regulated material and/or waste will be managed in accordance with state requirements. No known toxic or hazardous wastes are anticipated to be generated on site. If any toxic or hazardous waste is generated on the site, it will be properly handled to current state and federal regulations. Toxic or hazardous wastes to be stored on site during construction will include fuel and oil necessary for maintaining and running heavy construction equipment and during operations may include commercial cleaning supplies. The MPCA regulates asbestos management activities and disposal activities. Any disposal of asbestos regulated waste will be in accordance with MPCA rules.

For the proposed fuel station within the retail lot, three underground fuel storage tanks are proposed. These underground tanks will be designed and installed per Minnesota Rules, Chapter 7150, Underground Storage Tanks. The tanks will be secondarily contained, constructed of non-corrodible material or steel with cathodic protection, and include leak detection device installation. Additionally, the soils in this area appear to have a thick layer of sandy lean clay around 12 to 14 feet below the surface. The fuel tanks will be tested to see if a liner is needed provided added protection to the groundwater, the liner may consist as compacted clay with a specified permeability or a HDPE liner to provide the added protection if needed. To account for potential fuel spills on-site, the parking area is proposed to be treated with an oil separator pre-treatment BMP. During the design phase, the City of Chaska staff will be consulted to make sure the

concerns are addressed, and care is being taken to protect the groundwater and drinking water supply.

13. Fish, Wildlife, Plant Communities, and Sensitive Ecological Resources (Rare Features)

a. Describe fish and wildlife resources as well as habitats and vegetation on or near the site.

The current site provides no fish habitat as there are no intermittent or perennial streams, rivers, lakes, or ponds located within the site. The waterbodies adjacent to the project site provide fish habitat.

Potential wildlife habitat is located within the project site, primarily in the forested regions along the edges of the project site. The wetlands, ephemeral streams, and grasslands also provide potential wildlife habitat. Given the urban setting of the project site, wildlife, including white-tailed deer, small mammals, and bird species that are currently using the project site for potential habitat are well adapted to highly disturbed environments.

Adjacent land uses include industrial, roadway right-of-way, residential, and a golf course which provide some wildlife habitat.

b. Describe rare features such as state-listed (endangered, threatened, or special concern) species, native plant communities, Minnesota County Biological Survey Sites of Biodiversity Significance, and other sensitive ecological resources on or within close proximity to the site. Provide the license agreement number (LA) and/or correspondence number (ERDB) from which the data were obtained, and attach the Natural Heritage letter from the DNR. Indicate if any additional habitat or species survey work has been conducted within the site and describe results.

The Natural Heritage Information System (NHIS) database was reviewed (per LA-965) for state-listed endangered, threatened, or special concern species, DNR native plant or prairie communities, and Minnesota County Biological Survey (MCBS) Sites of Biodiversity Significance within one-mile of the project site. According to the NHIS, no state-listed endangered, threatened, or special concern species were identified within or within one-mile of the project site. Furthermore, no DNR native plant or prairie communities or MCBS Sites of Biodiversity Significance were identified within or within one-mile of the site. No known northern long-eared bat (NLEB) townships are found within or within one-mile of the site.

According the DNR, a Regionally Significant Ecological Area (RSEA) was identified within one-mile of the project site. No RSEAs are identified within the site. The NHIS database review identified no known sightings of the rusty-patched bumble bee (RPBB) within one-mile of the project site.

c. Discuss how the identified fish, wildlife, plant communities, rare features, and ecosystems may be affected by the project. Include a discussion on introduction and spread of invasive species from the project construction and operation. Separately discuss effects to known threatened and endangered species.

The NHIS database review identified no known observations of the rusty-patched bumble bee (RPBB) within one-mile of the project site. Potential suitable habitat for the RPBB is located within the project site.

Potential suitable bat habitat for the northern long-eared bat (NLEB) is located within the wooded areas of the project site. No known hibernacula or maternity roost trees are located within the project vicinity.

The DNR identified one RSEA within one-mile of the site. No impacts to the RSEA are anticipated, as the development is confined to the project site.

Wildlife currently using the site are highly adaptive and should not be adversely affected by the project. Invasive species will be controlled on site during construction, and turf grass and other ornamental landscape plants will be used on the site and may provide some additional habitat for song birds, small mammals, and insects.

d. Identify measures that will be taken to avoid, minimize, or mitigate adverse effects to fish, wildlife, plant communities, and sensitive ecological resources.

To minimize potential impacts to fish and fish habitat, no impacts to the adjacent waterbodies are anticipated.

Impacts to the upland grassland areas will be completed during the inactive RPBB season (October to April) to avoid removing potential suitable habitat during the active season for the RPBB. Green space and native plantings will be added to the proposed development to provide suitable habitat within the project vicinity. Impacts to wooded areas have been avoided to minimize potential impacts to overwintering RPBB queens.

No tree clearing of forested areas is anticipated; therefore, no impacts to the NLEB are anticipated. Any tree clearing activities would occur outside of the active bat season.

14. Historic Properties

Describe any historic structures, archeological sites, and/or traditional cultural properties on or in close proximity to the site. Include 1) historic designations; 2) known artifact areas; and 3) architectural features. Attach letter received from the State Historic Preservation Office (SHPO). Discuss any anticipated effects to historic properties during project construction and operation. Identify measures that will be taken to avoid, minimize, or mitigate adverse effects to historic properties.

In November 2019, Commonwealth Heritage Group, Inc. (Commonwealth) completed archaeological investigations for the project site. The archaeological survey was conducted in accordance with the *Minnesota State Archaeologist's Guide for Archaeological Projects in Minnesota* (2011) and the *SHPO Manual for Archaeological Projects in Minnesota* (2005), as well as Section 106 of the National Historic Preservation Act and its implementing regulations 36 CFR Part 800, addressing the potential effects of the project on historic properties located within the Area of Potential Effects (APE). The project was assumed to have no potential to effect above-ground resources, so cultural resource investigations were limited to archaeological survey only.

Archaeological survey consisted of visual inspection and assessment of the entire Project APE and shovel testing where appropriate. Shovel testing was conducted at 15-meter (m) (50 foot [ft]) intervals along transects spaced at 15 m (50 ft) in areas with less than 25 percent surface visibility. Shovel testing was not conducted in areas of obvious previous disturbance or where slopes exceeded 15 percent. The majority of the APE consisted of rolling grassy terrain sloping to the shorelines of Big Woods Lake to the north and McKnight Lake to the west. Shovel testing conducted within the APE revealed soils typical of historically plowed agricultural fields, consisting of a mottled disturbed plow zone horizon to a depth of approximately 20 centimeters (cm) (8 inches [in]) below surface (bs) over a sandy clay subsoil. No cultural materials or other indications of archaeological sites or features were identified during survey of the APE. Based on these results Commonwealth concludes that the project will have no effect on historic (archaeological) properties and recommends that the project be allowed to proceed without additional archaeological investigations.

A report documenting the findings is included in Attachment 6. The results of the survey have been provided to the Minnesota State Historic Preservation Office (SHPO) and correspondence is pending.

15. Visual

Describe any scenic views or vistas on or near the project site. Describe any project related visual effects such as vapor plumes or glare from intense lights. Discuss the potential visual effects from the project. Identify any measures to avoid, minimize, or mitigate visual effects.

There are no known existing scenic views or vistas with the project site. The views towards the waterbodies and the forested areas adjacent to the waterbodies will remain. The project will not create any vapor plumes or intense lighting. Lighting will include LED building-mounted lights and LED parking lot lights and will be in conformance with city ordinances. Therefore, no impacts are anticipated.

16. Air

- a. Stationary Source Emissions – Describe the type, sources, quantities, and compositions of any emissions from stationary sources such as boilers or exhaust stacks. Include any hazardous air pollutants, criteria pollutants, and any greenhouse gases. Discuss effects to air quality including any sensitive receptors, human health, or applicable regulatory criteria. Include a discussion of any methods used to assess the project's effect on air quality and the results of that assessment. Identify pollution control equipment and other measures that will be taken to avoid, minimize, or mitigate adverse effects from stationary source emissions.**

No stationary source emissions will be generated on site; therefore, no mitigation is required.

- b. Vehicle Emissions – Describe the effect of the project's traffic generation on air emissions. Discuss the project's vehicle-related emissions effect on air quality. Identify measures (e.g., traffic operational improvements, diesel idling minimization plan) that will be taken to minimize or mitigate vehicle-related emissions.**

The Minnesota Department of Transportation (MnDOT) has developed a screening method designed to identify intersections that will not cause a carbon monoxide (CO) impact above state standards. MnDOT has demonstrated that even the 10 highest traffic volume intersections in the Twin Cities do not experience CO impacts. Therefore, intersections with traffic volumes lower than these 10 highest intersections will not cause a CO impact above state standards. MnDOT's screening method demonstrates that intersections with total daily approaching traffic volumes below 82,300 vehicles per day will not have the potential for causing CO air pollution problems. None of the intersections in the study area exceed the criteria that would lead to a violation of the air quality standards. All intersection levels of service are expected to be LOS (level of service) D or better, meaning impacts to air quality are not anticipated.

- c. Dust and Odors – Describe sources, characteristics, duration, quantities, and intensity of dust and odors generated during project construction and operation. (Fugitive dust may be discussed under Item 16a). Discuss the effect of dust and odors in the vicinity of the project including nearby sensitive receptors and quality of life. Identify measures that will be taken to minimize or mitigate the effects of dust and odors.**

The project will generate temporary fugitive dust emissions during construction. These emissions will be controlled by watering, sprinkling, or calcium chloride application, as appropriate or as prevailing weather and soil conditions dictate. Dust emissions are not anticipated during operations as all ground surfaces will either be impervious or vegetated.

The construction and operation of the project is not anticipated to generate objectionable odors. Dust and odors are not anticipated to have a significant impact on human health, quality of life, or the environment.

17. Noise

Describe sources, characteristics, duration, quantities, and intensity of noise generated during project construction and operation. Discuss the effect of noise in the vicinity of the project including 1) existing noise levels/sources in the area; 2) nearby sensitive receptors; 3) conformance to state noise standards; and 4) quality of life. Identify measures that will be taken to minimize or mitigate the effects of noise.

Noise Sources

Existing noises include commercial and industrial land uses as well as noise from Chestnut Street (TH41). Noise from TH41 is the primary existing noise source in the project area.

Construction of the proposed development will generate noise from activities such as, but not limited to, demolition, concrete crushing, dynamic compaction, and earth work.

The proposed development will include commercial retail, multi-family residential, and senior living with up to six additional buildings being built. The site will include automotive parking. The intensity of noise from the site will be consistent with the existing commercial area.

The proposed site will generate noise from truck activity and automotive travel. Adjacent train activity will be minimal with very low speeds and low volume of train car movement.

The intensity of the noise will be lower than the adjacent noises from Chestnut Street and will be consistent with neighboring properties.

Nearby Sensitive Receivers

Surrounding land uses are light industrial (office/warehouse), mixed-use and rural residential, public space, and water.

Conformance to State Noise Standards

The operation of the development will have minimal noise impacts to the surrounding area. Traffic generated by the site is one potential noise source. Typically, traffic volumes would need to double for a change of noise level that would be considered barely perceptible. Traffic generated by the development will be a small fraction of the existing traffic that exists in the area, resulting in noise level changes that would typically be associated with changes that are barely perceptible.

Chestnut Street is exempt from state standards, as described in Minnesota Statutes, section 116.07, subdivision 2a.

Quality of Life

The project will be consistent with the nature of the surroundings and will not cause noise levels to increase at surrounding land uses.

Noise Mitigation

During construction, equipment will be kept in proper working order, including engine exhaust systems. No specific mitigation will be required or incorporated into the daily operation of the site.

18. Transportation

- a. Describe traffic-related aspects of project construction and operation. Include 1) existing and proposed additional parking spaces; 2) estimated total average daily traffic generated; 3) estimated maximum peak hour traffic generated and time of occurrence; 4) source of trip generation rates used in the estimates; and 5) availability of transit and/or other alternative transportation modes.**

The Oak Ridge Development is located west of TH 41 (Chestnut Street). The Oak Ridge Development site access will remain at the existing Oakridge Drive & TH 41 intersection and a second access will be constructed at Peavey Road & TH 41. The new Peavey Road/Site Access & TH 41 access will be the main access.

Parking

The site will contain approximately 1,939 automotive parking spaces. The existing site includes parking adjacent to the conference center and will include additional parking spaces for the proposed development. The proposed development will redevelop those existing lots.

Average Daily Trips

Trunk Highway 41 (Chestnut Street) is a north-south roadway. TH 41 is a two-lane roadway with turn lanes or bypass lanes at accesses and roadway connections. The annual average daily traffic (AADT) of 15,700 vehicles per day within the study area.

CSAH 18 (Lyman Boulevard) is a four lane east-west roadway at TH 41, however, approximately 1000 feet east of TH 41 CSAH 18 is a two-lane roadway. CSAH 18 is a dead end approximately a quarter mile west of TH 41. The AADT on CSAH 18 west of TH 41 as 1,200 vehicles per day and 6,300 vehicles per day east of TH 41.

CSAH 14 (Pioneer Trail) is a four lane east-west roadway with turn lanes at major intersections. The AADT on CSAH 14 west of TH 41 as 16,100 vehicles per day and 12,300 vehicles per day east of TH 41.

Peavey Road is a two-lane north-south roadway that provides access to businesses. There are no current ADT counts for the roadway.

Trip Generation

The average rate for ITE land uses were used to calculate the trip generation potential of the site. The site is anticipated to generate an additional 350 new trips during the AM peak hour (222 entering, 128 exiting) and 597 new trips during the PM peak hour (259 entering, 338 exiting). During the AM peak hour there are no pass by trips because the retail trips during this time period would be mostly workers and deliveries, not customers. During the PM peak, it is anticipated that 28% of the trips would be pass-by trips. At the site driveways, 827 trips during the PM peak hour (374 entering, 453 exiting) are expected with the pass-by trips included.

The site trips were distributed to adjacent roadways based on the current traffic patterns in the area and a general assessment of the major regional roadways surrounding the study area. In general, the following global trip distribution was assumed for the development:

- 35% north on TH 41
- 10% east on CSAH 18
- 10% east on CSAH 14
- 15% west on CASH 14
- 30% south on TH 41

- b. **Discuss the effect on traffic congestion on affected roads and describe any traffic improvements necessary. The analysis must discuss the project's impact on the regional transportation system. If the peak hour traffic generated exceeds 250 vehicles or the total daily trips exceeds 2,500, a traffic impact study must be prepared as part of the EAW. Use the format and procedures described in the Minnesota Department of Transportation's Access Management Manual, Chapter 5 or a similar local guidance.**

A traffic analysis was completed to assess the impacts that site traffic will have on the local roadway network. The traffic impact analysis report is provided in Attachment 7.

A capacity analysis was performed for Existing (2019), Opening Year No-Build (2022), and Opening Year Build (2022). The Existing operations at the signalized intersections, TH 41 & CSAH 14 and TH 41 & CSAH 18, operated at LOS D or better in both the AM and PM peak hours. TH 41 & Peavey Road had significant delays on the side streets during the peak hours.

In the Opening Year No-Build (2022) scenarios, TH 41 & CSAH 18 will be a roundabout instead of the existing signal. The September 2019 traffic count collected for this traffic analysis was significantly higher than the 2017 Intersection Control Evaluation (ICE) report 2020 forecasted volumes, so the intersection was recounted in January 2020. After recounting TH 41 & CSAH 18, it was determined that the traffic volumes on TH 41 are anticipated to be similar to the 2020 forecasts in the 2017 ICE report in the AM peak hour but the southbound through movement and the westbound left turns in the PM peak are still significantly higher than what was originally anticipated in the 2017 ICE. It is anticipated that single lane roundabout will be approaching excessive delays during the PM peak hour under 2020 No-Build Conditions. All other intersections are anticipated to operate similarly to the existing conditions.

c. Identify measures that will be taken to minimize or mitigate project related transportation effects.

There are two proposed site accesses, the existing Oakridge Drive access and a new access that lines up with Peavey Road. The Peavey Road access will be the main access and it was assumed the intersection will be reconstructed to provide dedicated left and right turn lanes on all four approaches. A signal warrant analysis was completed for the proposed intersection and it met Warrants 1a, 1b, 2, and 3. Therefore it is recommended that signal be installed at TH 41 & Peavey Road when the development is built. It is recommended that the existing Oakridge Drive & TH 41 intersection be converted to a ¾ access based on access spacing and the peak hour traffic volumes on TH 41.

19. Cumulative Potential Effects

a. Describe the geographic scales and timeframes of the project related environmental effects that could combine with other environmental effects resulting in cumulative potential effects.

Cumulative effects are defined as "the impact on the environment which result from incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency or persons undertakes such actions." The geographic areas considered are those areas adjacent to the project site, and the timeframe considered includes projects would be constructed in the next two years.

b. Describe any reasonably foreseeable future projects (for which a basis of expectation has been laid) that may interact with environmental effects of the proposed project within the geographic scales and timeframes identified above.

No reasonably foreseeable future projects have been identified within the project vicinity.

- c. Discuss the nature of the cumulative potential effects and summarize any other available information relevant to determining whether there is potential for significant environmental effects due to these cumulative effects.**

No reasonably foreseeable future projects have been identified. Future development is taken into consideration in the traffic analysis, and all other impacts from the project will be addressed via regulatory permitting and approval processes. Therefore, the project will be individually mitigated to ensure minimal cumulative impacts occur.

20. Other Potential Environmental Effects

If the project may cause any additional environmental effects not addressed by Items 1 to 19, describe the effects here, discuss the how the environment will be affected, and identify measures that will be taken to minimize and mitigate these effects.

Since a portion of the proposed project is an age-restricted senior development the City requested additional information regarding the potential increase in demand for Emergency Services from the Project Proposer. The Project Proposer and Manager of the age-restricted portion of this project have developed and managed age-restricted neighborhoods throughout the Twin Cities metro area. The Project Proposer and Manager of the age-restricted portion of this project has shared with the city that it anticipates that the proposed age-restricted portion of the development will experience a maximum of 12 calls per month. Emergency calls for age-restricted portion of this developments would not be unproportionate compared to other similar developments within the City. The project provides emergency services (CPR and Lift Assist) for the age-restricted portion of the project. Based on these assurances there would be no significant increased demand for Emergency Services expected as a result of the age-restricted portion of this Project. There are no other known potential environmental impacts anticipated as a result of the Project development.

RGU Certification

The Environmental Quality Board will only accept **SIGNED** Environmental Assessment Worksheets for public notice in the EQB Monitor.

I hereby certify that:

- The information contained in this document is accurate and complete to the best of my knowledge.
- The EAW describes the complete project; there are no other projects, stages, or components other than those described in this document, which are related to the project as connected actions or phased actions, as defined at Minnesota Rules, parts 4410.0200, subparts 9c and 60, respectively.
- Copies of this EAW are being sent to the entire EQB distribution list.

Signature _____

Date _____

Title _____

Figures



Carver County GIS, Pictometry

Figure 1. Project Location
Oak Ridge Development
Environmental Assessment Worksheet



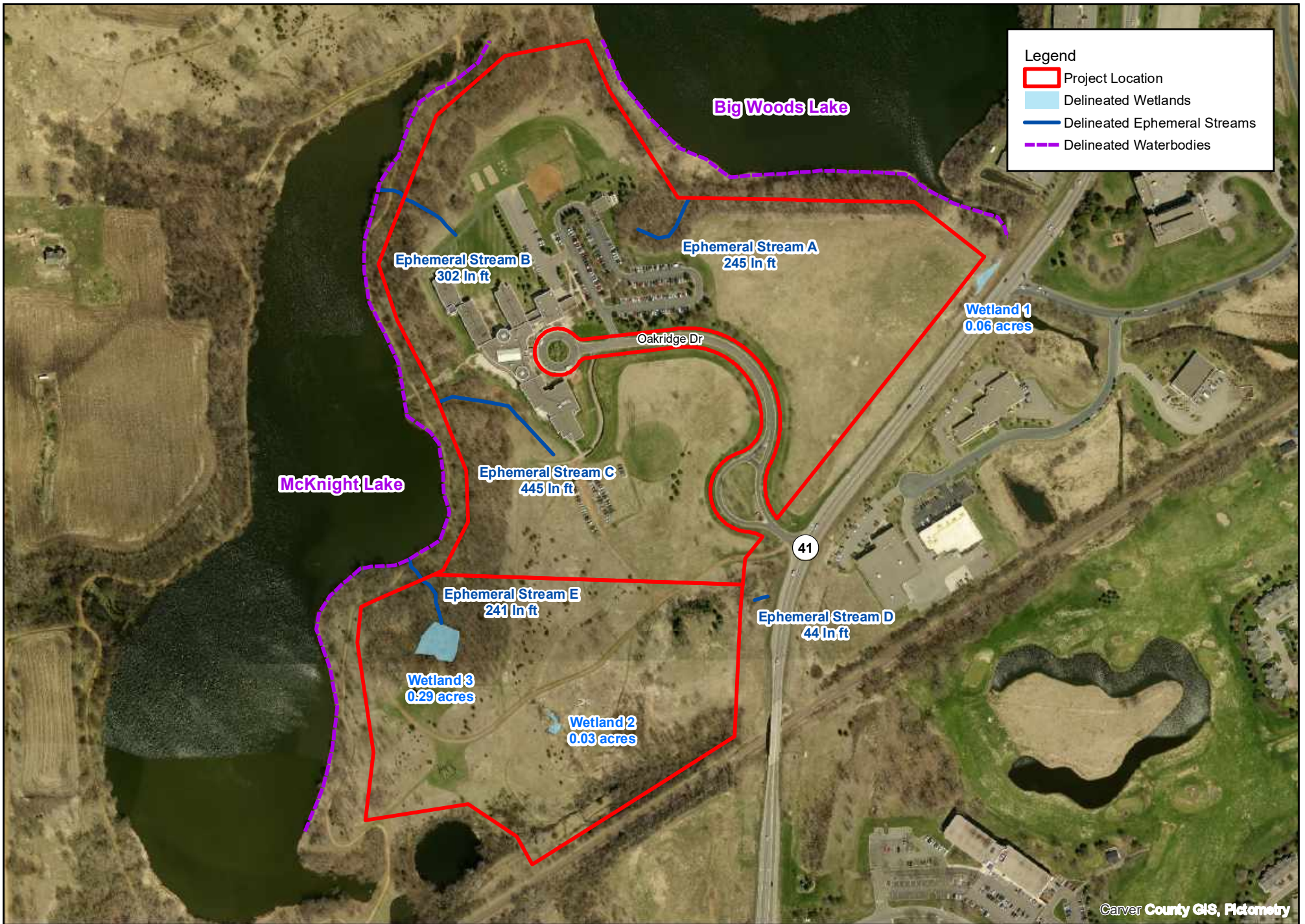


Figure 3. Wetland Delineation Summary Map
 Oak Ridge Development
 Environmental Assessment Worksheet



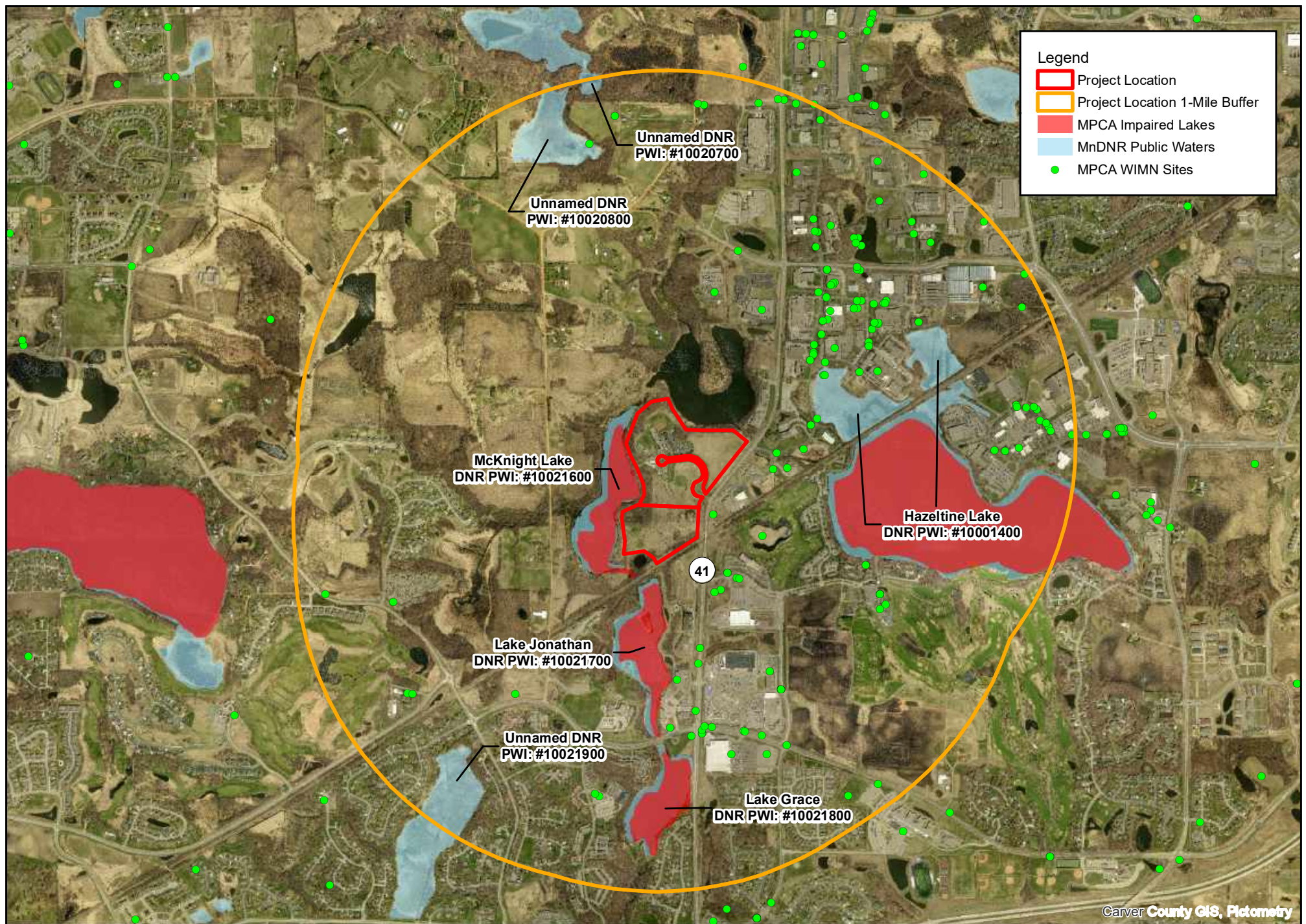


Figure 4. MPCA and Public Waters Data Map
Oak Ridge Development
Environmental Assessment Worksheet



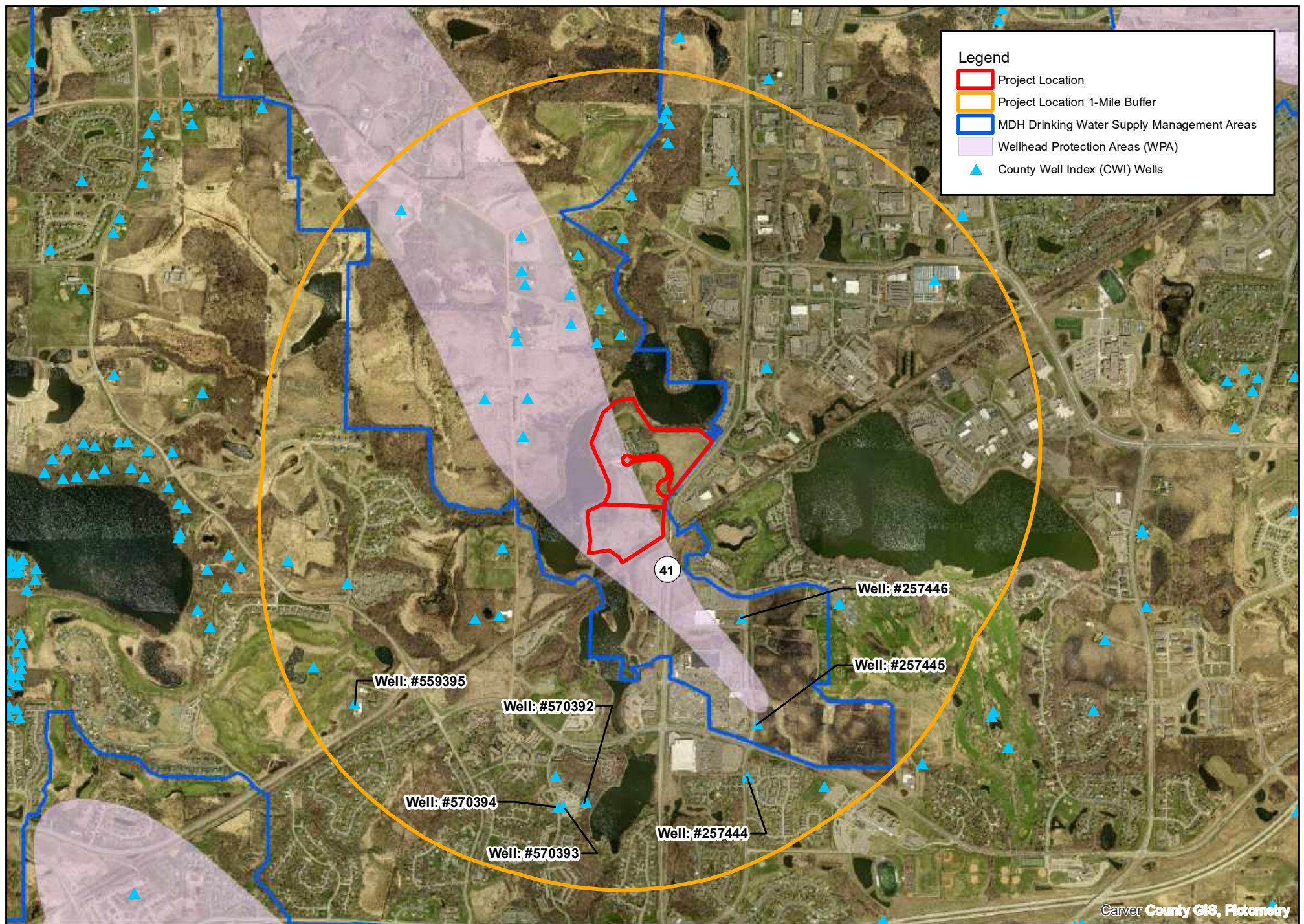


Figure 5. MDH, WPA, and CWI Map
Oak Ridge Development
Environmental Assessment Worksheet





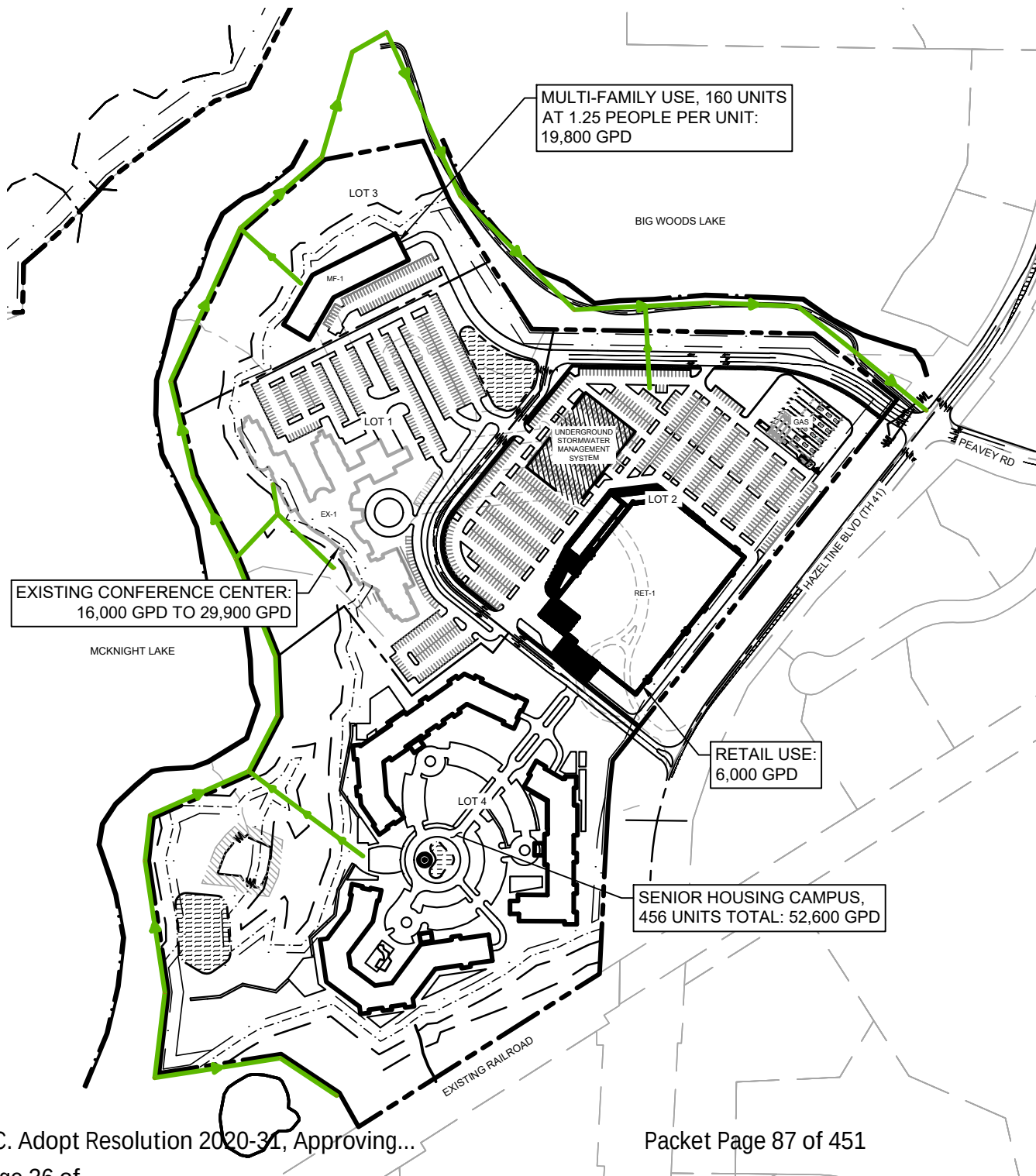
Legend

Project Location

Hydric Soils Boundary

Figure 6. Hydric Soils Map

Oak Ridge Development
Environmental Assessment Worksheet



Attachments

Attachment 1

Site Plan and Existing Conditions



- FOR PLANNED RESIDENTIAL DEVELOPMENT BUILDING SETBACK, THE REQUIREMENT IS 30' OR THE HEIGHT OF THE BUILDING. IT IS ASSUMED THAT THE BUILDING HEIGHT IS 60'
- THE CURRENT ASSUMPTION IS FOR NO MODIFICATIONS TO THE EXISTING PUD
- INTERNAL PARKING LANDSCAPING REQUIRED IS 10% OF THE TOTAL PARKING AREA
- PROXIMITY TO BLUFF AREA REQUIRES A 50' SETBACK FOR PARKING / BUILDING ADJACENT TO SLOPES >18%

HOTEL - 1 STALL / ROOM, 145 ROOMS = 145 STALLS

CONFERENCE CENTER - 15 STALL PLUS 1 STALL / 300 SF
OVER 2000 SF, 22,000 SF = 82 STALLS

RESTAURANT - 1 STALL / 3 SEATS, 200 SEATS = 67 STALLS

TOTAL STALLS = 294 STALLS

***MULTI-FAMILY - 2 STALLS / 1 DWELLING UNIT,
122 UNITS = 244 STALLS

ELDERLY HOUSING - 1 STALL / 2 DWELLING UNITS,
216 UNITS = 108 STALLS

RESTAURANT - 1 STALL / 3 SEATS,
200 SEATS = 67 STALLS

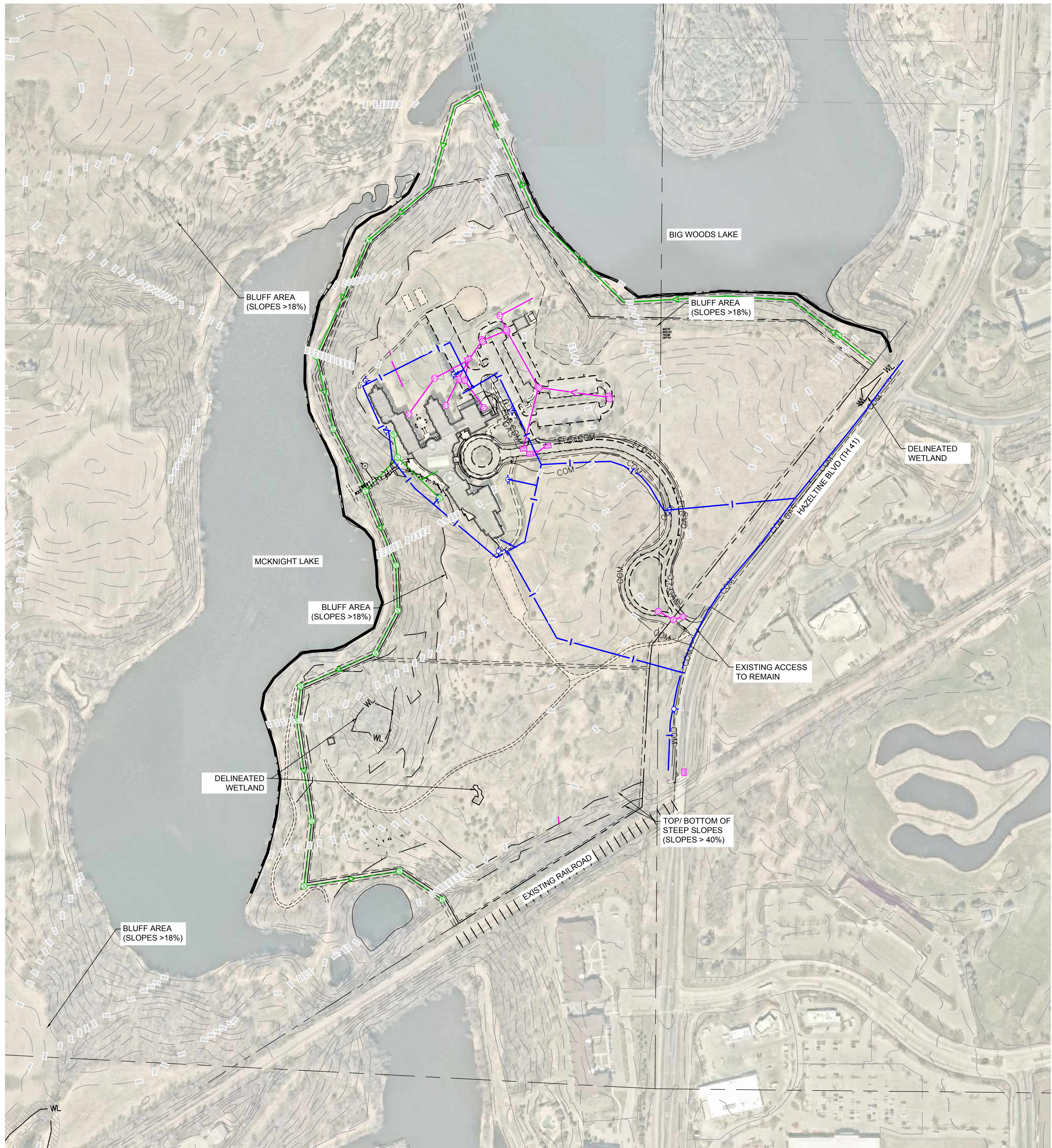
TOTAL STALLS = 419

**OAK RIDGE
MASTER PLAN
PREPARED FOR
RCS-RCA OAK
RIDGE LLC**

SHEET NUMBER
EX-01

KHA PROJECT	DATE	SCALE	AS SHOWN
160129000	11/25/2019	DESIGNED BY	CPC, APIK
		DRAWN BY	CPC, APIK
		CHECKED BY	MCR

[illegible]



LEGEND

	PROPERTY LINE
	STEEP SLOPE AREA
	SETBACK LINE
	EXISTING STORMWATER SEWER
	EXISTING SANITARY SEWER
	EXISTING WATER MAIN
	EXISTING STORMWATER MANHOLE
	EXISTING STORMWATER CATCH BASIN MANHOLE
	EXISTING SANITARY MANHOLE
	EXISTING SANITARY MANHOLE

PROPERTY SUMMARY

OAK RIDGE MASTER PLAN	
PROPERTY AREA	±66.83 AC
ZONING SUMMARY	
EXISTING ZONING	PLANNED MULTI-USE DEVELOPMENT
PROPOSED ZONING	PLANNED MULTI-USE DEVELOPMENT **
PARKING SETBACKS	SIDE/REAR/ROAD = 15'
BUILDING SETBACKS	ROAD = 40' FOR COMMERCIAL; ROAD = 60' FOR RESIDENTIAL * ; SIDE = 0/10'

* FOR PLANNED RESIDENTIAL DEVELOPMENT BUILDING SETBACK, THE REQUIREMENT IS 30' OR THE HEIGHT OF THE BUILDING. IT IS ASSUMED THAT THE BUILDING HEIGHT IS 60'

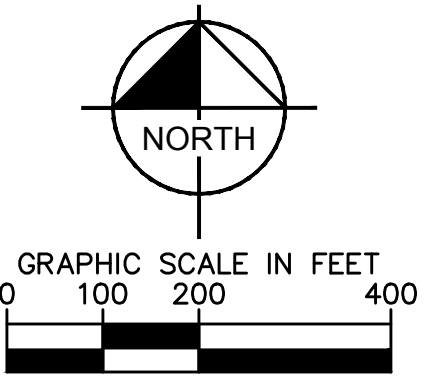
** THE CURRENT ASSUMPTION IS FOR NO MODIFICATIONS TO THE EXISTING PUD

*** INTERNAL PARKING LANDSCAPING REQUIRED IS 10% OF THE TOTAL PARKING AREA

**** PROXIMITY TO BLUFF AREA REQUIRES A 50' SETBACK FOR PARKING / BUILDING ADJACENT TO SLOPES >18%

BUILDING DATA SUMMARY

AREAS	
EXISTING PROPERTY	±66.83 AC
EXISTING PERVIOUS AREA	±52.41 AC
EXISTING IMPERVIOUS AREA	±14.42 AC
EXISTING BUILDING	±1.62 AC
PARKING	
EXISTING PARKING	216 SPACES



PRELIMINARY - NOT FOR CONSTRUCTION

**OAK RIDGE
MASTER PLAN
PREPARED FOR
RCS-RCA OAK
RIDGE LLC**

CHASKA

EXISTING CONDITIONS

KHA PROJECT	160129000
DATE	09/23/19
SCALE	AS SHOWN
DESIGNED BY	CPC, APK
DRAWN BY	CPC, APK
CHECKED BY	MCB

Kimley»»Horn

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PHONE: 651-645-4197

WWW.KIMLEY-HORN.COM

No.

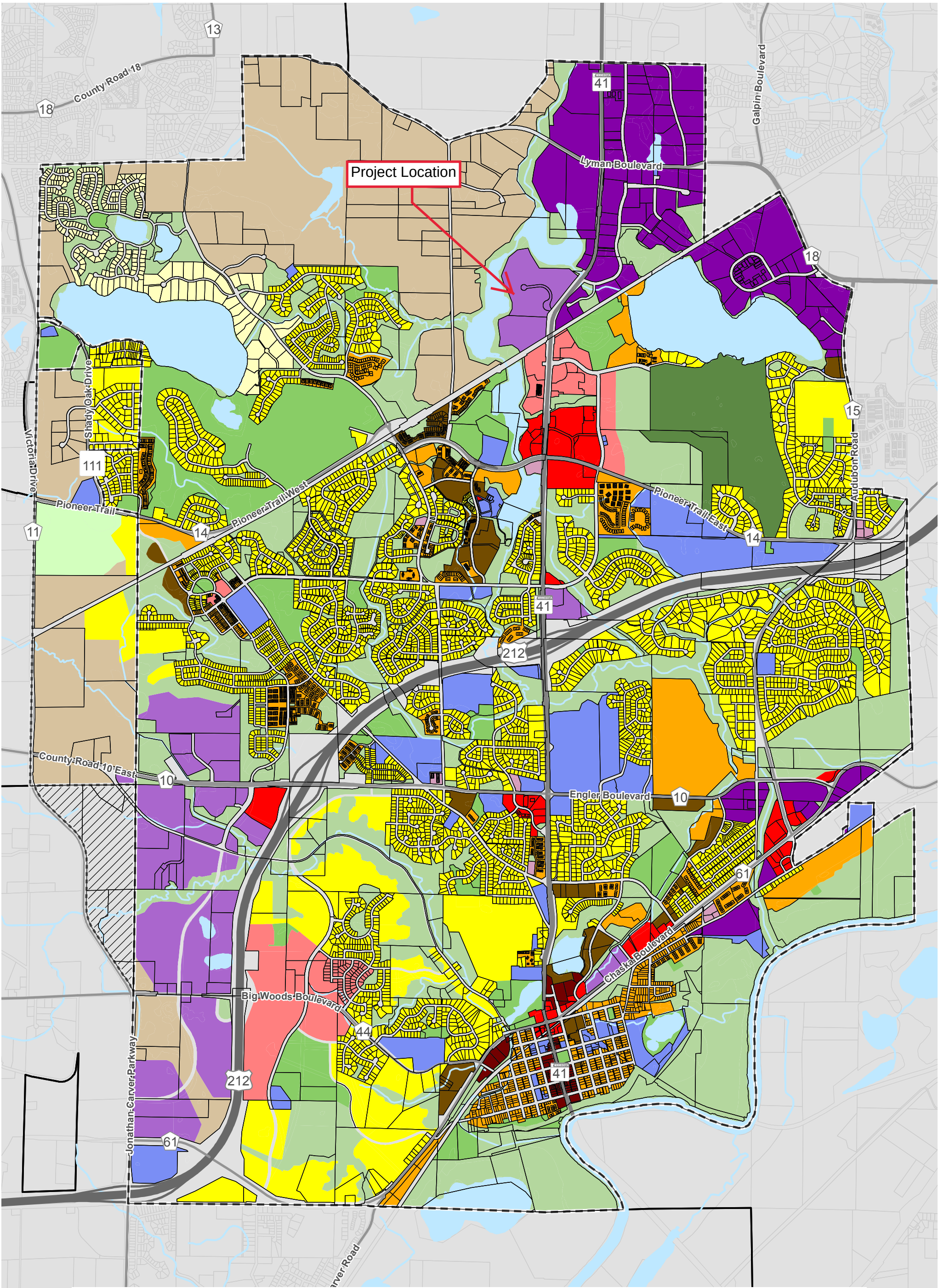
REVISIONS

DATE	BY
------	----

DATE	BY
------	----

Attachment 2

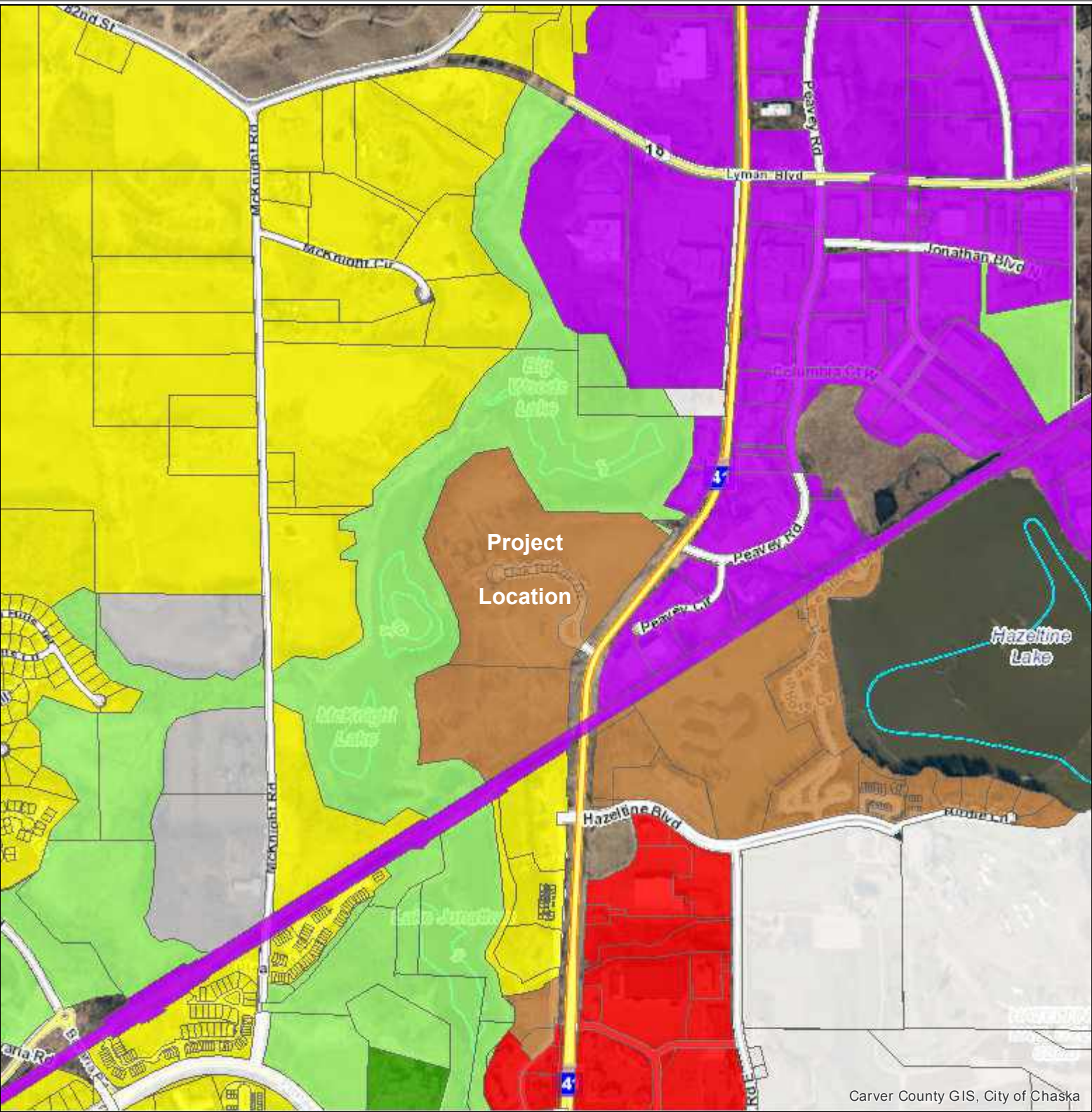
City of Chaska 2040 Land Use



City Current Boundary	2040 Future Land Use	Mixed Residential	Public / Semi-Public
Ultimate Boundary	Agricultural	Downtown Mixed Use	Park
Dahlgren Twp. Growth Area?	Rural Residential	Commercial	Golf Course
	Conservation Residential	Office	Open Space
	Low Density Residential	Business Park	Water
	Medium Density Residential	Industrial	Right-of-Way
	High Density Residential		

Attachment 3

City of Chaska Zoning Map



Zoning Districts

- O - Open Development
- R - Rural

P1 - Public Open Space

7.C Adopt Resolution 2020-31, Approving...

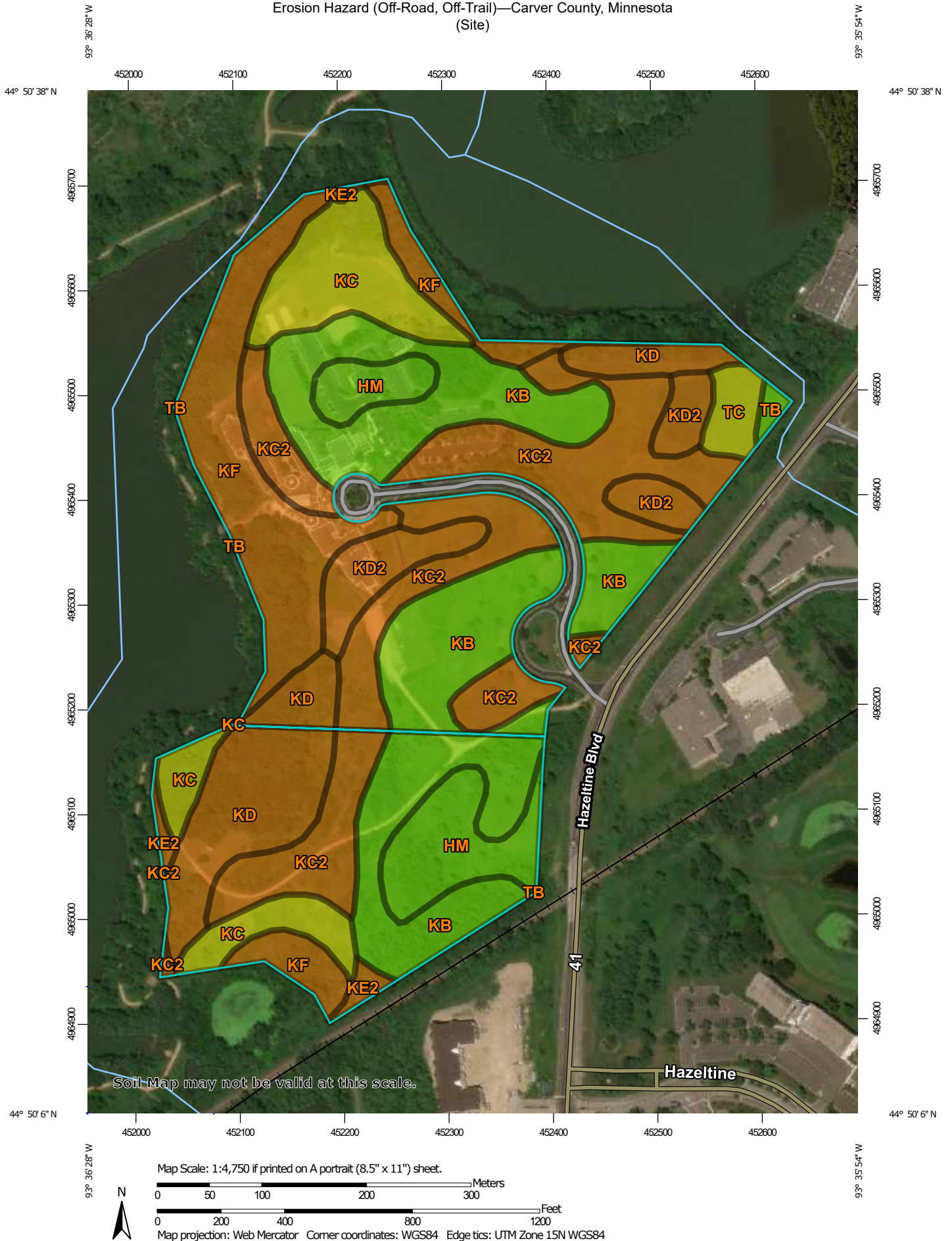
Page 44 of 44

- I - Industrial
- PID - Planned Industrial Development
- PMD - Planned Multi-Use Development
- PRD - Planned Residence Development
- RR - Rural Residential

Attachment 4

NRCS Erosion Hazard

Erosion Hazard (Off-Road, Off-Trail)—Carver County, Minnesota
(Site)



MAP LEGEND

Area of Interest (AOI)

 Area of Interest (AOI)

Soils

Soil Rating Polygons

 Very severe
 Severe
 Moderate
 Slight
 Not rated or not available

Soil Rating Lines

 Very severe
 Severe
 Moderate
 Slight
 Not rated or not available

Soil Rating Points

 Very severe
 Severe
 Moderate
 Slight
 Not rated or not available

Water Features

 Streams and Canals

Transportation

 Rails
 Interstate Highways

 US Routes
 Major Roads
 Local Roads
Background
 Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:12,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
 Web Soil Survey URL:
 Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Carver County, Minnesota
 Survey Area Data: Version 16, Sep 16, 2019

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Sep 12, 2010—Aug 2, 2016

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Erosion Hazard (Off-Road, Off-Trail)

Map unit symbol	Map unit name	Rating	Component name (percent)	Rating reasons (numeric values)	Acres in AOI	Percent of AOI
HM	Hamel loam, 0 to 2 percent slopes	Slight	Hamel (85%)		4.5	7.0%
			Terril (10%)			
			Glencoe (5%)			
KB	Kilkenny-Lester loams, 2 to 6 percent slopes	Slight	Kilkenny (60%)		17.4	27.1%
			Lester (40%)			
KC	Lester-Kilkenny loams, 6 to 12 percent slopes	Moderate	Lester (60%)	Surface kw times slope times R index (0.67)	6.3	9.9%
			Kilkenny (40%)	Surface kw times slope times R index (0.67)		
KC2	Lester-Kilkenny complex, 6 to 10 percent slopes, moderately eroded	Severe	Lester, moderately eroded (50%)	Surface kw times slope times R index (0.76)	14.3	22.3%
			Kilkenny, moderately eroded (35%)	Surface kw times slope times R index (0.76)		
KD	Lester-Kilkenny loams, 12 to 18 percent slopes	Severe	Lester (60%)	Surface kw times slope times R index (0.84)	6.7	10.4%
			Kilkenny (40%)	Surface kw times slope times R index (0.84)		
KD2	Lester-Kilkenny complex, 10 to 16 percent slopes, moderately eroded	Severe	Lester, moderately eroded (50%)	Surface kw times slope times R index (0.88)	3.6	5.7%
			Kilkenny, moderately eroded (35%)	Surface kw times slope times R index (0.88)		
KE2	Lester-Kilkenny complex, 16 to 22 percent slopes	Severe	Lester (50%)	Surface kw times slope times R index (0.90)	0.6	1.0%
			Kilkenny (35%)	Surface kw times slope times R index (0.93)		
KF	Lester-Kilkenny complex, 22 to 40 percent slopes	Severe	Lester (55%)	Surface kw times slope times R index (0.99)	9.4	14.7%
			Kilkenny (35%)	Surface kw times slope times R index (1.00)		

Map unit symbol	Map unit name	Rating	Component name (percent)	Rating reasons (numeric values)	Acres in AOI	Percent of AOI
TB	Terril loam, 2 to 6 percent slopes	Slight	Terril (80%)		0.3	0.4%
			Delft (8%)			
TC	Terril loam, 6 to 12 percent slopes	Moderate	Terril (90%)	Surface kw times slope times R index (0.52)	1.0	1.6%
Totals for Area of Interest					64.1	100.0%

Rating	Acres in AOI	Percent of AOI
Severe	34.6	54.0%
Slight	22.1	34.5%
Moderate	7.4	11.5%
Totals for Area of Interest	64.1	100.0%

Description

The ratings in this interpretation indicate the hazard of soil loss from off-road and off-trail areas after disturbance activities that expose the soil surface. The ratings are based on slope, soil erosion factor K, and an index of rainfall erosivity (R). The soil loss is caused by sheet or rill erosion in off-road or off-trail areas where 50 to 75 percent of the surface has been exposed by logging, grazing, mining, or other kinds of disturbance.

The ratings are both verbal and numerical. The hazard is described as "slight," "moderate," "severe," or "very severe." A rating of "slight" indicates that erosion is unlikely under ordinary climatic conditions; "moderate" indicates that some erosion is likely and that erosion-control measures may be needed; "severe" indicates that erosion is very likely and that erosion-control measures, including revegetation of bare areas, are advised; and "very severe" indicates that significant erosion is expected, loss of soil productivity and off-site damage are likely, and erosion-control measures are costly and generally impractical.

Numerical ratings indicate the severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.01 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact on the specified aspect of forestland management (1.00) and the point at which the soil feature is not a limitation (0.00).

The map unit components listed for each map unit in the accompanying Summary by Map Unit table in Web Soil Survey or the Aggregation Report in Soil Data Viewer are determined by the aggregation method chosen. An aggregated rating class is shown for each map unit. The components listed for each map unit are only those that have the same rating class as listed for the map unit. The percent composition of each component in a particular map unit is presented to help the user better understand the percentage of each map unit that has the rating presented.

Other components with different ratings may be present in each map unit. The ratings for all components, regardless of the map unit aggregated rating, can be viewed by generating the equivalent report from the Soil Reports tab in Web Soil Survey or from the Soil Data Mart site. Onsite investigation may be needed to validate these interpretations and to confirm the identity of the soil on a given site.

Rating Options

Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

Tie-break Rule: Higher

Attachment 5

MN Wetland Conservation Act Notice of Decision

Minnesota Wetland Conservation Act Notice of Decision

Local Government Unit: City of Chaska	County: Carver
Applicant Name: RCS-RCA Oak Ridge, LLC	Applicant Representative: Bobby Atkinson
Project Name: RCS-RCA Oak Ridge	LGU Project No. (if any): 193804700
Date Complete Application Received by LGU: 10/22/19	
Date of LGU Decision: 12/4/19	
Date this Notice was Sent: 12/4/19	

WCA Decision Type - check all that apply

☒ Wetland Boundary/Type	☐ Sequencing	☐ Replacement Plan	☐ Bank Plan (not credit purchase)
☐ No-Loss (8420.0415)	☐ Exemption (8420.0420)		
Part: ☐ A ☐ B ☐ C ☐ D ☐ E ☐ F ☐ G ☐ H	Subpart: ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 ☐ 8 ☐ 9		

Replacement Plan Impacts (replacement plan decisions only)

Total WCA Wetland Impact Area:
Wetland Replacement Type: ☐ Project Specific Credits: ☐ Bank Credits:
Bank Account Number(s):

Technical Evaluation Panel Findings and Recommendations (attach if any)

☐ Approve ☐ Approve w/Conditions ☐ Deny ☐ No TEP Recommendation

LGU Decision

☐ Approved with Conditions (specify below) ¹ List Conditions:	☒ Approved ¹	☐ Denied
Decision-Maker for this Application: ☒ Staff ☐ Governing Board/Council ☐ Other:		
Decision is valid for: ☒ 5 years (default) ☐ Other (specify):		

¹ *Wetland Replacement Plan approval is not valid until BWSR confirms the withdrawal of any required wetland bank credits. For project-specific replacement a financial assurance per MN Rule 8420.0522, Subp. 9 and evidence that all required forms have been recorded on the title of the property on which the replacement wetland is located must be provided to the LGU for the approval to be valid.*

LGU Findings – Attach document(s) and/or insert narrative providing the basis for the LGU decision¹.

☒ Attachment(s) (specify): Location, Approved Wetland Boundary Map, 2-foot Topography	☒ Summary: The wetland delineation boundaries and type as documented in the Kimley-Horn and Associated delineation report titled Oak Ridge Conference Center, October 2019 are approved.
--	---

¹ Findings must consider any TEP recommendations.

Attached Project Documents

☒ Site Location Map ☐ Project Plan(s)/Descriptions/Reports (specify):
--

Appeals of LGU Decisions

If you wish to appeal this decision, you must provide a written request within 30 calendar days of the date you received the notice. All appeals must be submitted to the Board of Water and Soil Resources Executive Director along with a check payable to BWSR for \$500 *unless* the LGU has adopted a local appeal process as identified below. The check must be sent by mail and the written request to appeal can be submitted by mail or e-mail. The appeal should include a copy of this notice, name and contact information of appellant(s) and their representatives (if applicable), a statement clarifying the intent to appeal and supporting information as to why the decision is in error. Send to:

Appeals & Regulatory Compliance Coordinator
Minnesota Board of Water & Soils Resources
520 Lafayette Road North
St. Paul, MN 55155
travis.germundson@state.mn.us

Does the LGU have a local appeal process applicable to this decision?

☐ Yes¹ ☒ No

¹If yes, all appeals must first be considered via the local appeals process.

Local Appeals Submittal Requirements (LGU must describe how to appeal, submittal requirements, fees, etc. as applicable)

Notice Distribution (include name)

Required on all notices:

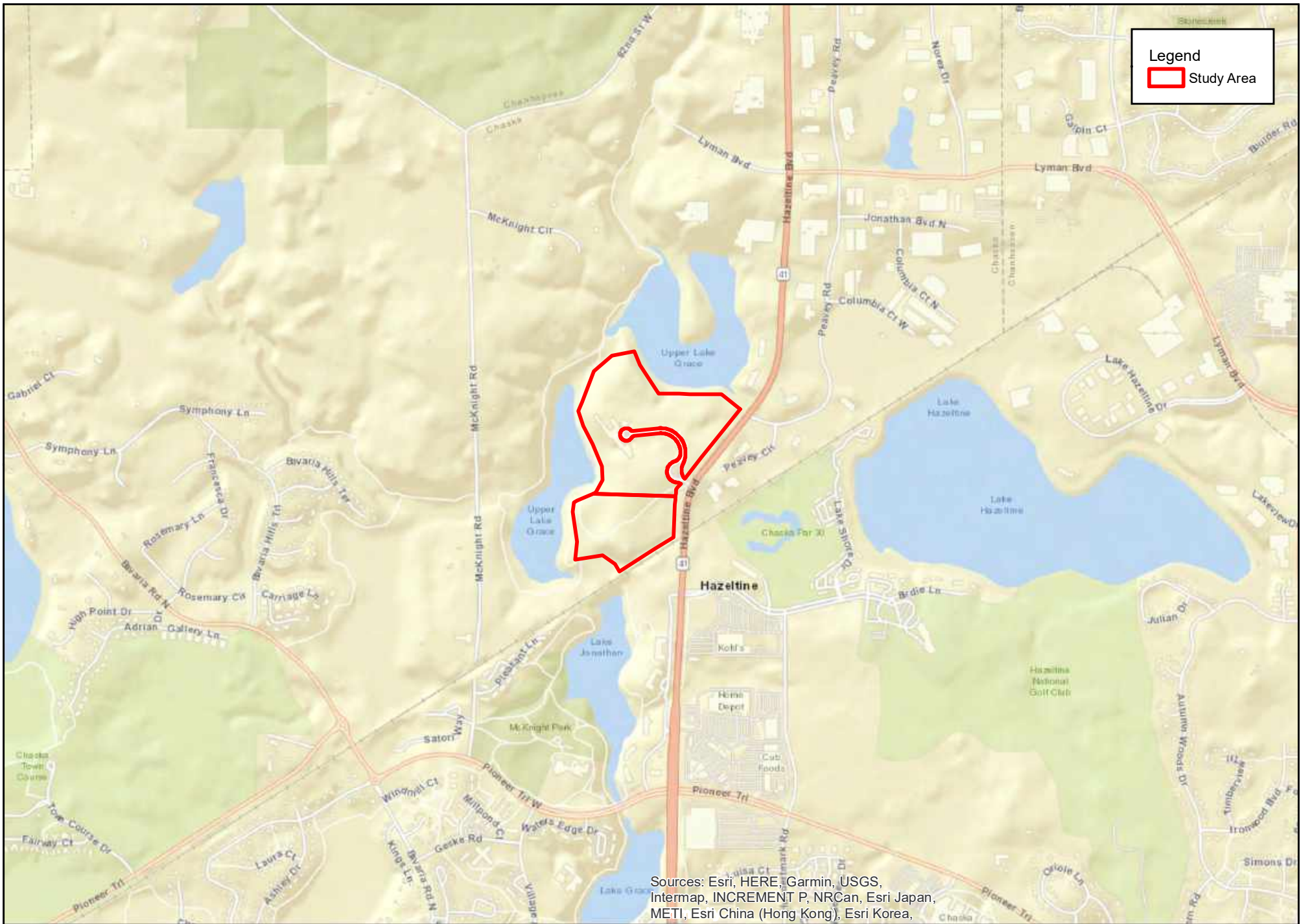
☒ SWCD TEP Member: Aaron Finke	☒ BWSR TEP Member: Ben Carlson
☐ LGU TEP Member (if different than LGU contact):	
☒ DNR Representative: Leslie Parris	
☒ Watershed District or Watershed Mgmt. Org.: Kristen Larson	
☐ Applicant:	☐ Agent/Consultant:

Optional or As Applicable:

☒ Corps of Engineers:	
☐ BWSR Wetland Mitigation Coordinator (required for bank plan applications only):	
☐ Members of the Public (notice only):	☐ Other:

Signature: 	Date: 12/4/19
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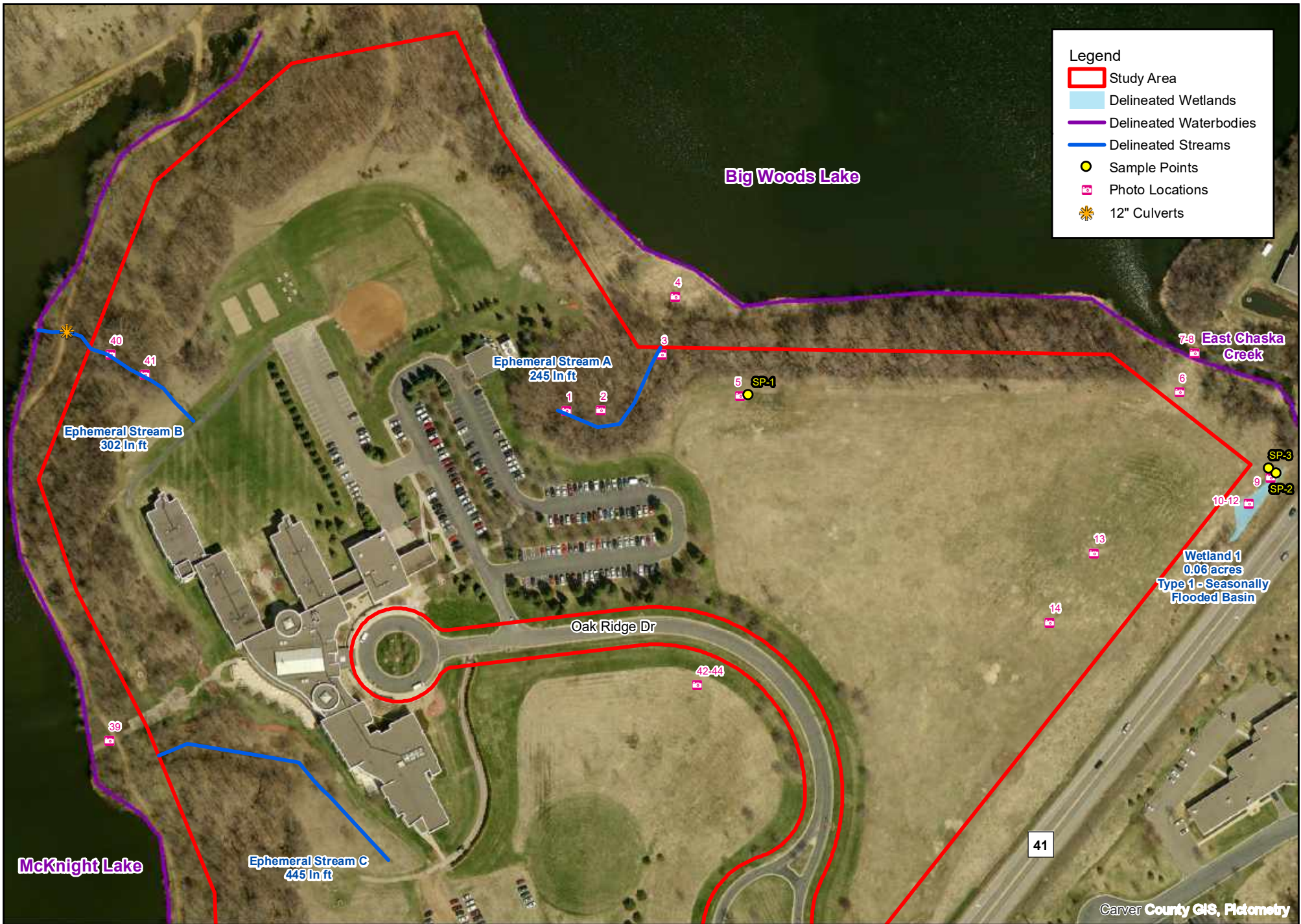
This notice and accompanying application materials may be sent electronically or by mail. The LGU may opt to send a summary of the application to members of the public upon request per 8420.0255, Subp. 3.



Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea,



Figure 1. Study Area Location
 RCS-RCA Oak Ridge, LLC



Legend

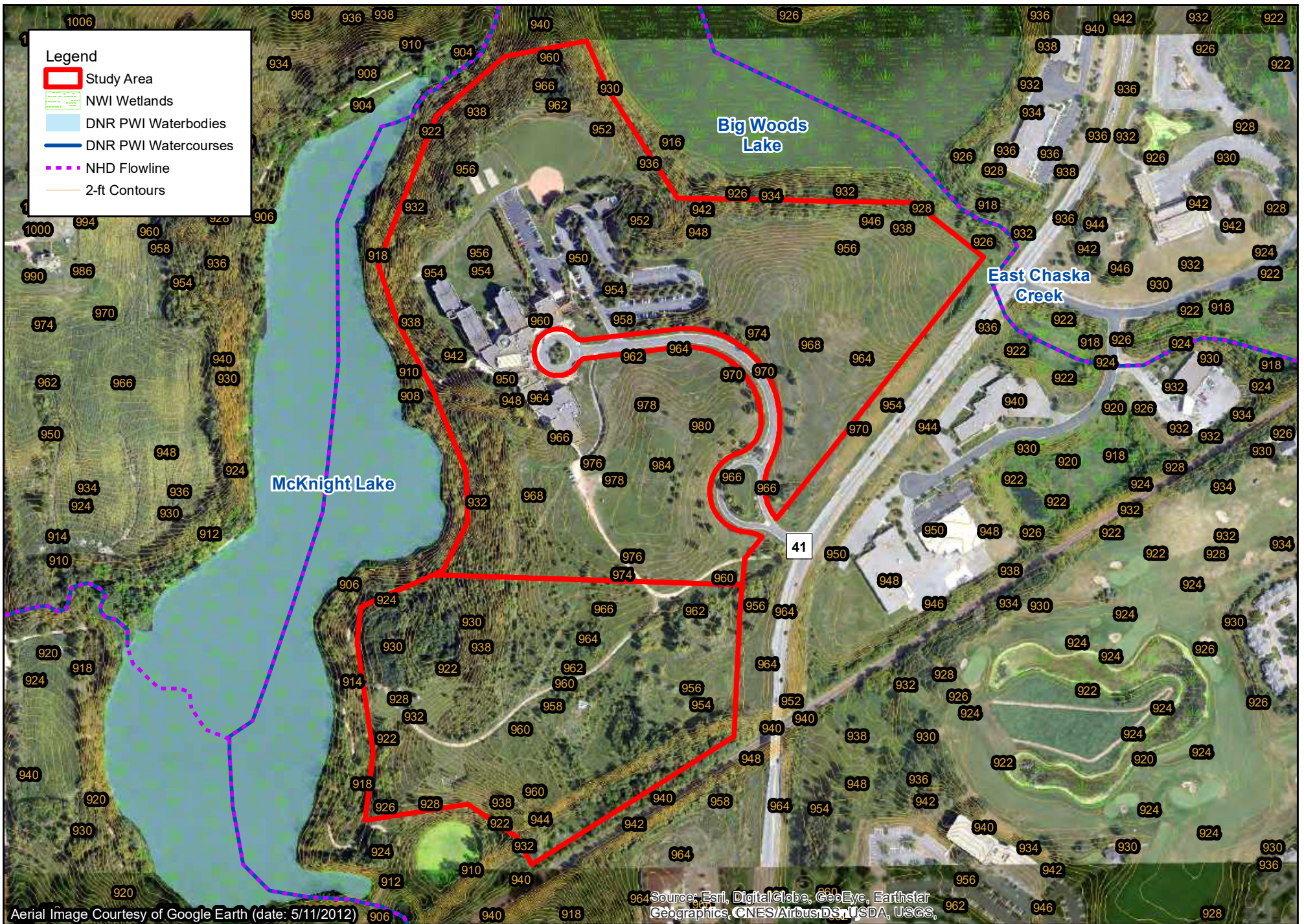
- Study Area
- Delineated Wetlands
- Delineated Waterbodies
- Delineated Streams
- Sample Points
- ✱ Photo Locations
- ✱ 12" Culverts

Figure 3. Delineation Summary Map (North)
 RCS-RCA Oak Ridge, LLC



Carver County GIS, Pictometry

Figure 3. Delineation Summary Map (South)
 RCS-RCA Oak Ridge, LLC



Attachment 6

Cultural Resources Letter

December 30, 2019

W-1657/WR-1656

Ashley Payne, CWD
Kimley-Horn and Associates
767 Eustis Street, Suite 100
St. Paul, MN 55114

**RE: Phase I Cultural Resource Investigations
Oak Ridge Conference Center Development Project
City of Chaska, Carver County, Minnesota**

Dear Ms. Payne,

RCRA Oak Ridge, LLC is proposing to redevelop portions of the existing Oak Ridge Hotel and Conference Center property in Carver County, Minnesota. The project area currently contains parking lots, recreation areas, and undeveloped land. The proposed Oak Ridge Conference Center Development Project (Project) encompasses 64 acres (ac) (26 hectares [ha]) and will include up to 3.7 ac (1.5 ha) for commercial use, 1.3 ac (0.5 ha) for residential multi-family homes, 1,367 proposed parking spaces, and associated infrastructure. The project may require permitting from the United States Corps of Engineers (USACE). Because USACE is a federal agency, it is required to comply with Section 106 of the National Historic Preservation Act (NHPA) of 1966, as amended (Public Law 89-665), and its implementing regulations (36 CFR 800). Section 106 directs agencies or funding recipients to account for the effects that a project may have on historic properties, that is, resources that are listed in or eligible for listing in the National Register of Historic Places (NRHP). Therefore, Commonwealth Heritage Group, Inc. (Commonwealth) was contracted to conduct cultural resources investigations, including a Phase I archaeological survey, for the Project.

Project Location and Description

The Project is located in the SE ¼ of Section 20 and the SW ¼ of Section 21, Township 116 North, Range 23 West, Carver County, Minnesota and will involve the use of 64 ac (26 ha) of workspace entirely within the existing Oak Ridge Conference Center grounds. The Area of Potential Effects (APE) for the Project is defined to include all areas that may be impacted by potential conference center development. The Project is bounded by Minnesota Trunk Highway (MNTH) 41 to the east, and the Twin Cities & Western Railroad to the south. McKnight and Big Woods Lakes and the existing hotel bound the Project to the west and north (Figures 1 and 2). The Project Area is surrounded by urban development (Figure 2).

Environmental Background and Soils

The Project area is located within the Eastern Broadleaf Forest (EBF) Province of the Ecological Classification System developed by the Minnesota Department of Natural Resources and the United States Forest Service (Minnesota Department of Natural Resources [MDNR] 2019). The EBF Province stretches across Minnesota and extends south and east across the Midwest and into the north and southeast. In Minnesota, the province covers approximately 12,000,000 ac (4,900,000 ha) and serves as a transition between prairie to the south and mixed pine/ hardwood forests to the north (MDNR, 2019). The landscape of the EBF Province is largely a result of Pleistocene glacial processes, characterized by thick deposits of Wisconsin Age glacial drift, rolling topography, and small glacial lakes (MDNR, 2019). Soil types present in the Project APE consist primarily of moderately well-drained Lester-Kilkenny loams, 2 to 10 percent slopes (Natural Resources Conservation Service [NRCS] 2019).

Archaeological Pre-Field Methods and Prehistoric Background

Prior to the initiation of the 2019 fieldwork, Commonwealth reviewed site files available through the Minnesota Office of the State Archaeologist (OSA) Portal. The OSA Portal is an on-line database maintained in partnership by the OSA, Minnesota State Historic Preservation Office, and the Minnesota Department of Transportation. The OSA Portal contains information regarding archaeological sites, cemetery/burial sites, and historic properties in Minnesota. No previously reported archaeological sites are located within the APE. Only one archaeological site has been reported within 1 mi (1.6 km) of the Project APE (Figure 1). Site 21CR0097, is located north of Hazeltine Lake, east of MNTH 41 and approximately 0.6 mi (1.0 km) east of the Project APE. Site 21CR0097 contained a single piece of lithic debitage.

Archaeological Survey Methods and Results

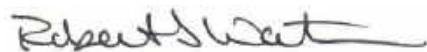
Archaeological survey of the APE was conducted November 11-14, 2019 (Figure 2). At the time of survey, the APE consisted of a rolling, grassy terrain on the landscaped Oak Ridge Conference Center grounds. Typical surface visibility was 0% due to vegetation (Figure 3). Shovel tests throughout the APE were spaced 15 meters (m) (50 feet (ft) apart and measured a minimum of 30×30 centimeter (cm) (12×12 inch [in]). All soil was screened through 0.635 cm (0.25-in) mesh. Excavation of each shovel test extended at least 10 cm (4 in) into sterile subsoil. Where surface visibility was sufficient, the APE was pedestrian surveyed. Several areas were excessively sloped (21 ac [8.5 ha]), wet (0.5 ac [0.2 ha]), or paved (1.9 ac [0.8 ha]) and were visually inspected (Figures 3 and 4). Areas with high visibility (80-100%) were pedestrian surveyed (8 ac [3.3 ha]) (Figure 4). Vegetated areas with low visibility (Figure 6) were shovel tested (10.8 ac [4.4 ha]), which revealed a typical soil profile of 15-45 cm (6-18 in) thick, very dark brown (10YR 2/2) sandy clay loam A horizon, underlain by a 'B' horizon of dark grayish brown (10YR 4/2) sandy clay with gravel. Several shovel tests in the eastern portion of the APE revealed disturbed soil profiles. No artifacts, archaeological features, or cultural materials were identified during the survey.

Conclusions and Recommendations

From November 11-14, 2019, Commonwealth conducted archaeological survey for proposed redevelopment of the Oak Ridge Hotel and Conference Center in Carver County, Minnesota. The archaeological survey included shovel testing and pedestrian survey. No archaeological sites, artifacts, or features were identified in the APE. Therefore, Commonwealth concludes that the proposed Project will have no effect on historic properties and no additional cultural resources investigations of the project area are recommended.

If you have any questions or concerns, please contact me directly at (414) 446-4121 (ext. 104), or electronically at rwatson@chg-inc.com.

Sincerely,



Robert J. Watson, PhD, RPA
Principal Investigator

References Cited

- Minnesota Department of Natural Resources [MDNR]
2019 Ecological Classification System. Electronic document,
<http://www.dnr.state.mn.us/ecs/index.html>, accessed November 2019.
- Natural Resources Conservation Service (NRCS)
2019 Web Soil Survey. Online database, <https://websoilsurvey.sc.egov.usda.gov/App/HomePage.htm>,
accessed November 2019.

Oak Ridge Conference Center
Chaska, Carver County, Minnesota

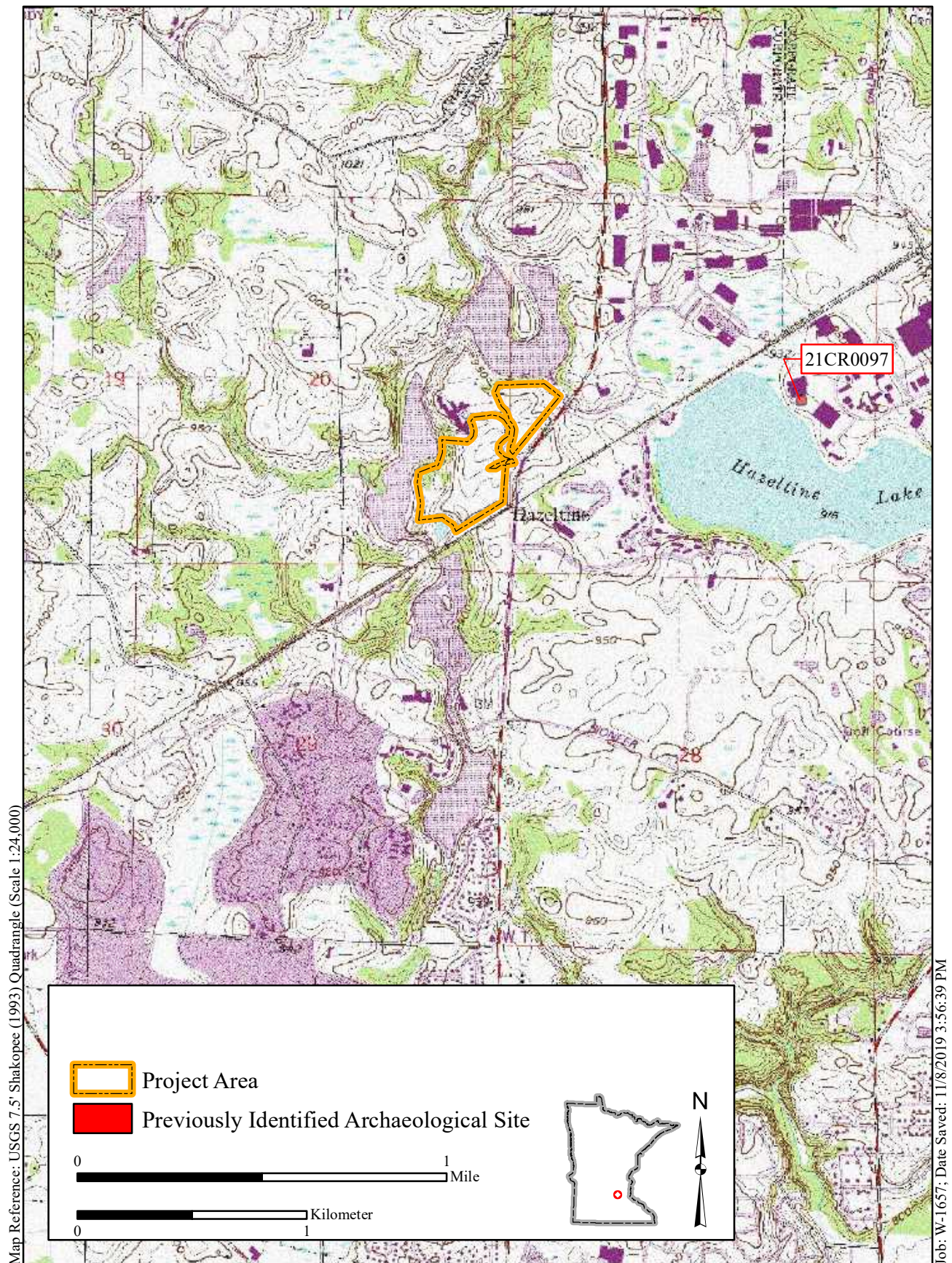


Figure 1. Project Location and Previously Identified Archaeological Sites within One Mile

Oak Ridge Conference Center Chaska, Carver County, Minnesota

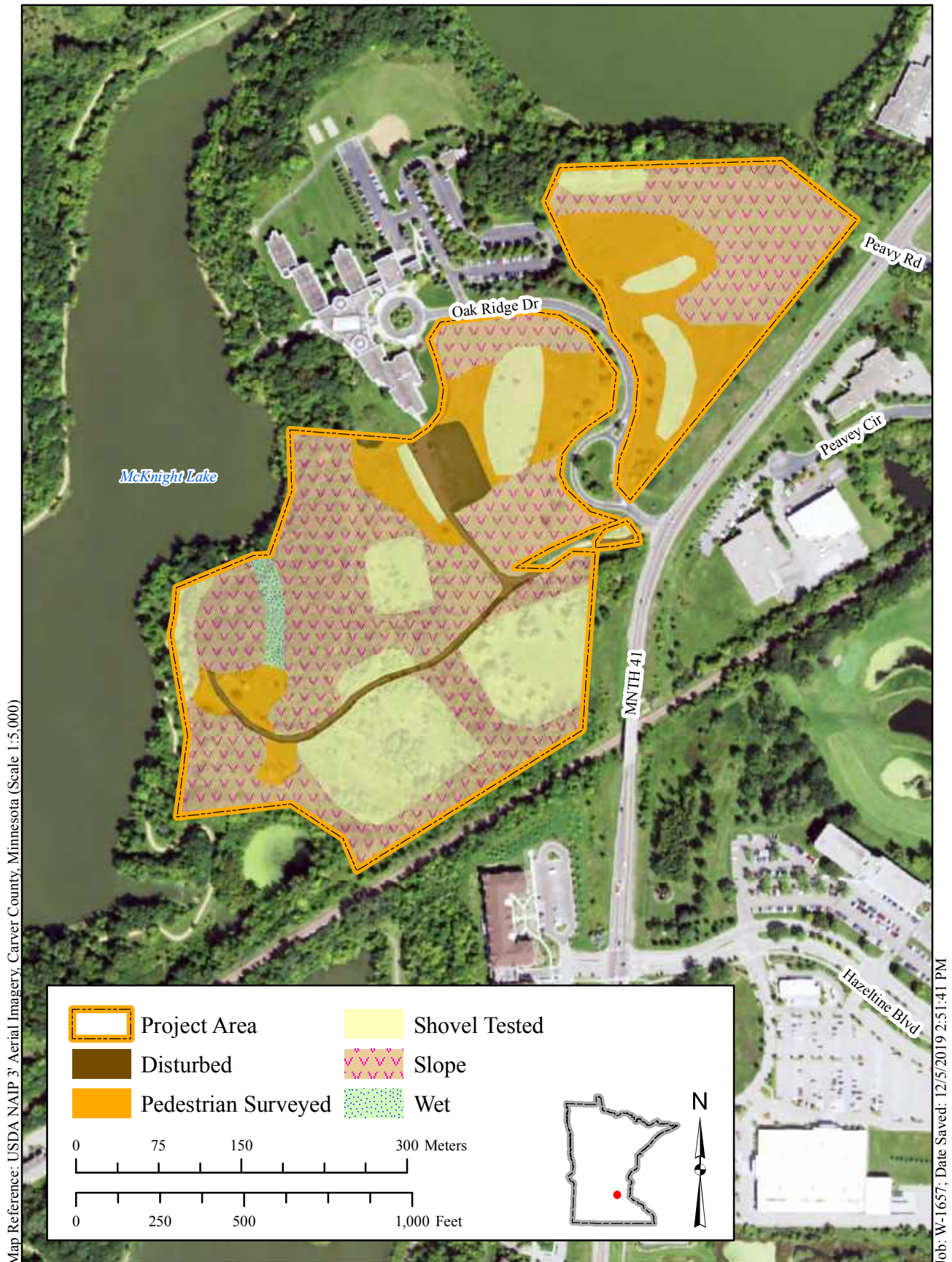


Figure 2. Project Area and Survey Coverage

Oak Ridge Conference Center
Chaska, Carver County, Minnesota



Figure 3. Project Overview, Sloped and Disturbed Area along Oakridge Drive, View West



Figure 4. Project Overview, Disturbed Central Parking Area, View Northeast

Oak Ridge Conference Center
Chaska, Carver County, Minnesota



Figure 5. Project Overview, Pedestrian Surveyed Obstacle Course, View Northeast



Figure 6. Project Overview, Shovel Tested Grassy Area, View West

Attachment 7

Traffic Impact Analysis Report



TRAFFIC IMPACT ANALYSIS

OAK RIDGE DEVELOPMENT

CHASKA, MINNESOTA

Prepared for:

RCS-RCA Oak Ridge, LLC

Prepared By:

Kimley-Horn and Associates, Inc.

767 N Eustis Street, Suite 100
St. Paul, MN 55114

NOVEMBER 2019

Kimley»Horn

TRAFFIC IMPACT ANALYSIS

OAK RIDGE DEVELOPMENT

CHASKA, MINNESOTA

REPORT CERTIFICATION

I hereby certify that this report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.

Date: November 27, 2019

Jacob A. Rojer, P.E.

License No. 56767

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APPENDIX

- A. Exhibits**
- B. Raw Turning Movement Counts**
- C. SRF Intersection Control Evaluation, 2017**
- D. Site Plan**
- E. Signal Warrant Results**
- F. SimTraffic Analysis Results**

INTRODUCTION

RCS-RCA Oak Ridge, LLC is proposing a 161,000-square foot discount club, 160 units of multifamily housing, 375 units of senior housing, and a 16,000-square foot retail building on the 66.8-acre site on the west side of Trunk Highway (TH) 41 in Chaska, MN. The Oak Ridge Hotel & Conference Center currently occupies approximately 14.5 acres of the total site with one access roadway onto TH 41 at Oakridge Drive. The existing hotel and conference center will continue to operate, and the proposed development will be built on the remaining 52.3 acres with an additional access at Peavey Road & TH 41. **Exhibit 1** in **Appendix A** shows the proposed project location.

EXISTING ROADWAY CONDITIONS

The proposed development on the existing Oak Ridge Hotel & Conference Center site in Chaska, Minnesota. Oak Ridge Hotel & Conference Center has access to TH 41 via Oakridge Drive. The following study intersections are included in the traffic analysis.

- TH 41 (Hazeltine Boulevard) & CSAH 18 (Lyman Boulevard)
- TH 41 (Hazeltine Boulevard) & Peavey Road
- TH 41 (Hazeltine Boulevard) & Oakridge Drive
- TH 41 (Hazeltine Boulevard) & CSAH 14 (Pioneer Trail)

The study intersections listed above are shown in **Exhibit 1** in **Appendix A**.

EXISTING ROADWAYS

The Oak Ridge Development site access will remain at the existing Oakridge Drive & TH 41 intersection and a second access will be constructed at Peavey Road & TH 41. The new Peavey Road/Site Access & TH 41 access will be the main access. Other major roadways in the study area are CSAH 18 and CSAH 14. Following provides a detailed description of these roadways.

Trunk Highway 41 is a north-south roadway. TH 41 is a two-lane roadway with turn lanes or bypass lanes at accesses and roadway connections. In 2018 TH 41 was expanded to a 4-lane roadway with turn lanes south of the site near CSAH 14. The City of Chaska 2040 Comprehensive Plan classifies TH 41 as an A-Minor Expander. The MnDOT Traffic Mapping Application reports an annual average daily traffic (AADT) of 15,700 vehicles per day within the study area. The posted speed limit on TH 41 is 50 miles per hour.

CSAH 18 (Lyman Boulevard) is a four lane east-west roadway at TH 41, however, approximately 1000 feet east of TH 41 CSAH 18 is a two-lane roadway. CSAH 18 is a dead end approximately a quarter mile west of TH 41, although this roadway could be extended in the future. CSAH 18 is classified as an A-Minor Expander according to the City of Chaska 2040 Comprehensive Plan. The MnDOT Traffic Mapping Application reports the AADT on CSAH 18 west of TH 41 as 1,200 vehicles per day and 6,300 vehicles per day east of TH 41. The current posted speed limit on CSAH 18 is 40 miles per hour.

CSAH 14 (Pioneer Trail) is a four lane east-west roadway with turn lanes at major intersections. CSAH 14 is classified as an A-Minor Expander according to the City of Chaska 2040 Comprehensive Plan. The MnDOT Traffic Mapping Application reports the AADT on CSAH 14 west

of TH 41 as 16,100 vehicles per day and 12,300 vehicles per day east of TH 41. The current posted speed limit on CSAH 18 is 45 miles per hour.

Peavey Road is a two-lane north-south roadway that provides access to businesses. Peavey Road is classified as a local road according to the City of Chaska 2040 Comprehensive Plan. There are no current ADT counts for the roadway. The assumed speed limit on Peavey Road is 30 miles per hour.

Exhibit 2 in **Appendix A** provides the existing intersection geometry and intersection control for the study intersections.

EXISTING TRAFFIC VOLUMES

To analyze the traffic operations at the study intersections, weekday peak period turning movement counts were collected on Wednesday September 17, 2019. **Exhibit 3** in **Appendix A** provides a summary of the weekday AM and PM peak hour turning traffic volumes. The turning movement counts were collected on a typical weekday. The raw turning movement count data is provided in **Appendix B**.

The network AM peak hour was determined to be 7:30 AM to 8:30 AM and the network PM peak hour was determined to be 4:00 PM to 5:00 PM. The network peak hour factors for the AM and PM peak hours were calculated to be 0.92 and 0.97 respectively. These peak hour factors were applied to all the study intersections in the traffic analysis as appropriate for the AM and PM analysis periods.

The turning movement counts included crosswalk counts at all the study intersections. The crosswalk volumes were included in the capacity analysis at the study intersections.

ROADWAY IMPROVEMENTS

The intersection of TH 41 & CSAH 18 is going to be converted from a signalized intersection to a roundabout in 2020. Based on the Intersection Control Evaluation completed by SRF Consulting Group in 2017, provided in **Appendix C**, the roundabout will be a single lane roundabout on opening day but will have the capacity to be expanded to a 2-lane roundabout as traffic volumes increase in the area.

As stated in the City of Chaska 2040 Comprehensive Plan, TH 41 is over capacity within the study area. While there are no current plans to expand TH 41 from a 2-lane to a 4-lane roadway by the time the development is built out (2022), it is known that these improvements will be needed in future.

BACKGROUND GROWTH

The proposed development is anticipated to be completed and open by 2022. Historical AADT data provided by MnDOT's Interactive Traffic Data Application was reviewed to develop a background growth rate to develop forecast peak hour volumes at the study intersections for Opening Year (2022) and Horizon Year (2040).

Table 1 provides a summary of the AADT information and the resultant growth rate. Based on the growth rates, a 1% annual growth rate was applied to the Existing (2019) traffic volumes to develop the Opening Year No-Build (2022) turning movement volumes.

Table 1 – Annual Growth Rate Calculation

Street Segment	Most Recent AADT		Projected 2040 AADT		Annual Growth Rate
	Year	Volume	Year	Volume	
TH 41, south of CSAH 18	2017	16,400	2040	20,000	0.9%
CSAH 18, east of TH 41	2017	6,300	2040	8,700	1.4%
CSAH 14, east of TH 41	2017	12,300	2040	15,100	0.9%

Exhibit 4 in Appendix A shows the Opening Year No-Build (2022) turning movement volumes.

PROPOSED DEVELOPMENT

SITE TRIP GENERATION

The trip-generating potential of the proposed development was calculated using the Institute of Transportation Engineers (ITE) *Trip Generation Manual, Tenth Edition*. Standard ITE trip rates were used to develop the total trips generated by the site. A pass-by reduction was applied to the total site generated trips to account for trips that are already on the roadway network. The proposed new land uses for the site are listed below.

- A 160-unit multifamily housing building
- 375 units of senior housing in three buildings
- A 161,000 square foot discount club with a 24-pump gas station
- A 16,000 square foot retail building

The average rate for ITE land uses were used to calculate the trip generation potential of the site. **Table 2** provides a summary of the number of trips anticipated to be generated during the weekday AM and PM peak hours. It should be noted that the 24-pump gas station is accounted for in the ITE land use “Discount Club”. As shown, the site is anticipated to generate an additional 223 new trips during the AM peak hour (103 entering, 120 exiting) and 510 new trips during the PM peak hour (267 entering, 243 exiting). During the AM peak hour there are no pass by trips because the retail trips during this time period would be mostly workers and deliveries, not customers. During the PM peak, it is anticipated that 32% of the trips would be pass-by trips. At the site driveways, an additional 752 trips during the PM peak hour (388 entering, 364 exiting) are expected with the pass-by trips included.

Table 2 – Site Trip Generation

Land Use Description	Size	AM Peak Hour			PM Peak Hour		
		In	Out	Total	In	Out	Total
Multifamily Housing (Mid-Rise) (ITE 221)	160 Units	15	43	57	23	16	39
Senior Adult Housing (ITE 252)	375 Units	25	48	74	29	25	54
Shopping Center (ITE 820)	16,000 sq. ft.	9	6	15	27	28	55
Discount Club (ITE 857)	161,000 sq. ft.	54	23	77	309	295	604
Total Site Generated Trips		103	120	223	388	364	752
Pass-By Trip Reduction (32% Pass-By Trips) PM Peak Only		0	0	0	121	121	242
Total Net New Traffic		103	120	223	267	243	510

SITE TRIP DISTRIBUTION AND ASSIGNMENT

The site trips were distributed to adjacent roadways based on the current traffic patterns in the area and a general assessment of the major regional roadways surrounding the study area. In general, the following global trip distribution was assumed for the development:

- 35% north on TH 41
- 10% east on CSAH 18
- 10% east on CSAH 14
- 15% west on CASH 14
- 30% south on TH 41

The trip distribution for the site-generated traffic is shown in **Exhibit 5** in **Appendix A**.

There are two proposed site accesses, the existing Oakridge Drive access and a new access that lines up with Peavey Road. The Peavey Road access will be the main access. This intersection will be reconstructed to provide dedicated left and right turn lanes on all four approaches. It was assumed that a new signal would be installed at this intersection, as discussed in the following section. MnDOT access spacing states that there should be a quarter mile spacing (1,320 feet) between full accesses on TH 41. The existing Oakridge Drive access is 1,100 feet from the proposed access at Peavey Road, this is a couple hundred feet short of the MnDOT access spacing guidelines. However, it is recommended that the existing Oakridge Drive & TH 41 intersection be converted to a $\frac{3}{4}$ access. Based on the existing north-south peak hour through volumes on TH 41 there would not be adequate gaps to maintain a reasonable level of service for left turning vehicles with the proposed site trip generation. The proposed site plan is included in **Appendix D**. The site trips were assigned to the study intersections as shown in **Exhibit 6** in **Appendix A**. **Exhibit 6** shows total site generated traffic which includes the total net new traffic as well as the pass-by reductions.

SIGNAL WARRANT

TH 41 & Peavey Road is currently a three-legged intersection with a dedicated northbound right turn lane onto Peavey Road and a southbound bypass lane. Existing 13-hour turning movement counts were collected at TH 41 & Peavey Road. These volumes can be found in **Appendix A**.

In the build condition, the TH 41 & Peavey intersection will be converted into a four-legged intersection with dedicated left and right turn lanes on all approaches. To determine the future volumes for the eastbound approach, the total peak hour trip generation values were compared to the anticipated eastbound left turns based on the site distribution percentage at TH 41 & Peavey Road to determine the number of site trips that would make the left turn. The ITE trip generation manual was then used to determine the anticipated trip generation throughout the day. Finally, to determine the anticipated hourly volumes the left turn percentage was then multiplied by the hourly trip generation.

All right turns were omitted from the signal warrant analysis in accordance with MnDOT Metro District policy. This review showed that Warrant 1a (eight-hour vehicular volume) was met for 8 out of 8 required hours, Warrant 1b (eight-hour vehicular volume) was met for 11 out of 8 required hours, Warrant 2 (four-hour vehicular volume) was met for 10 out of 4 required hours, and Warrant 3 (Peak hour) was met for 7 out of the 1 required hour. The signal warrant analysis with the projected peak hour volumes can be found in **Appendix E**.

With the proposed intersection configuration meeting warrants 1a, 1b, 2, and 3, it is recommended that a signal be installed at TH 41 & Peavey Road/Site Access.

CAPACITY ANALYSIS

A capacity analysis was performed to quantify the delay and level of service at the study intersections during the weekday AM and PM peak hours. The capacity analysis was performed using Synchro/SimTraffic.

The capacity of an intersection quantifies its ability to accommodate traffic volumes and is measured in average delay per vehicle. It is expressed in terms of level of service (LOS) which ranges from A to F, with LOS A as the highest (best traffic flow and least delay), LOS E as saturated or at-capacity conditions, and LOS F as the lowest (oversaturated conditions). The LOS grades shown below, which are provided in the Transportation Research Board's Highway Capacity Manual (HCM), quantify and categorize the driver's discomfort, frustration, fuel consumption, and travel times experienced as a result of intersection control and the resulting traffic queuing. A detailed description of each LOS rating can be found in **Table 3**. The range of control delay for each rating (as detailed in the HCM) is also shown in Table 3. Because signalized intersections are expected to carry a larger volume of vehicles and stopping is required during red time, higher delays are tolerated for the corresponding LOS ratings. For Side Street stop intersections, the intersection LOS is reported as the worst side street movement.

Table 3 – Level of Service Information

Level of Service	Average Control Delay (seconds/vehicle)	Description
A	0-10 (Unsignalized); 0-10 (Signalized)	Minimal control delay; traffic operates at primarily free-flow conditions; unimpeded movement within traffic stream.
B	>10-15 (Unsignalized); >10-20 (Signalized)	Minor control delay at signalized intersections; traffic operates at a fairly unimpeded level with slightly restricted movement within traffic stream.
C	>15-25 (Unsignalized); >20-35 (Signalized)	Moderate control delay; movement within traffic stream more restricted than at LOS B; formation of queues contributes to lower average travel speeds.
D	>25-35 (Unsignalized); >35-55 (Signalized)	Considerable control delay that may be substantially increased by small increases in flow; average travel speeds continue to decrease.
E	>35-50 (Unsignalized); >55-80 (Signalized)	High control delay; average travel speed no more than 33 percent of free flow speed.
F	>50 (Unsignalized); >80 (Signalized)	Extremely high control delay; extensive queuing and high volumes create exceedingly restricted traffic flow.

Traffic models for each scenario were developed using Synchro/SimTraffic, and the delay and queueing were evaluated for each scenario. The scenarios that were analyzed are as follows:

- Existing (2019)
- Opening Year No-Build (2022)
- Opening Year Build (2022)

EXISTING YEAR (2019) CONDITIONS

The traffic volumes shown in **Exhibit 3** in **Appendix A** were used in the Existing Year (2019) analysis. **Table 4** shows the LOS and delay for the study intersections under Existing Year (2019) conditions during the AM and PM peak hour.

Based on the analysis, the study intersections are currently operating at a LOS D or better during the AM peak hour. In the PM peak hour, TH 41 & Peavy Road experiences excessive delays for the left turn movements from Peavy Road onto TH 41. TH 41 & Oakridge Drive side street stop operates at LOS E in the PM peak. With the amount of north/south traffic on TH 41 this is not unexpected. The SimTraffic reports are provided in **Appendix F**.

Table 4 – Existing (2019) Intersection Analysis

Intersection			Left		Through		Right		Intersection	
			Delay (s/veh)	LOS	Delay (s/veh)	LOS	Delay (s/veh)	LOS	Delay (s/veh)	LOS
AM Peak Hour										
TH 41 & CSAH 18	Signalized	EB	70.3	E	43.9	D	5.4	A	21.4	C
		WB	47.8	D	44.8	D	13.8	B		
		NB	63.2	E	20.9	C	10.4	B		
		SB	48.4	D	7.4	A	2.6	A		
TH 41 & Peavey Road	East-West Stop Controlled	EB							28.7	D
		WB	28.7	D			10.4	B		
		NB			2.3	A	1.4	A		
		SB	9.5	A	3.5	A				
TH 41 & Oakridge Drive	East-West Stop Controlled	EB	17.1	B			3.6	A	17.1	B
		WB								
		NB	5.7	A	4.5	A				
		SB			1.2	A	0.6	A		
TH 41 & CSAH 14	Signalized	EB	33.0	C	29.5	C	6.6	A	27.5	C
		WB	31.6	C	44.6	D	12.8	B		
		NB	60.9	E	28.9	C	6.6	A		
		SB	50.1	D	17.3	B	4.0	A		
PM Peak Hour										
TH 41 & CSAH 18	Signalized	EB	32.1	C	29.6	C	12.0	B	19.8	B
		WB	39.4	D	38.3	D	12.0	B		
		NB	0.0	A	20.5	C	7.6	A		
		SB	53.5	D	12.9	B	4.3	A		
TH 41 & Peavey Road	East-West Stop Controlled	EB							116.3	F
		WB	116.3	F			85.5	F		
		NB			1.6	A	0.7	A		
		SB	9.0	A	6.9	A				
TH 41 & Oakridge Drive	East-West Stop Controlled	EB	43.1	E			9.8	A	43.1	E
		WB								
		NB	2.7	A	2.3	A				
		SB			2.3	A	1.3	A		
TH 41 & CSAH 14	Signalized	EB	33.0	C	38.2	D	9.8	A	28.1	C
		WB	31.3	C	37.6	D	23.6	C		
		NB	50.4	D	23.3	C	4.7	A		
		SB	49.9	D	24.2	C	9.2	A		

OPENING YEAR NO-BUILD (2022) CONDITIONS

A capacity analysis was performed for Opening Year No-Build (2022) conditions in order to develop baseline operating conditions for the opening year. The analysis was performed using Synchro/SimTraffic with existing intersection except for at TH 41 & CSAH 18 where a roundabout will replace the existing signal. The existing peak hour factors and signal timing information was used for the study intersections. The traffic volumes are shown in **Exhibit 4 in Appendix A**.

The results of the analysis are provided in **Table 5** for the weekday AM and PM peak hours. Based on the Opening Year No-Build (2022) capacity analysis, TH 41 & Oakridge Drive and TH 41 & CSAH 14 are expected to operate acceptably in both the AM and PM peak hours. TH 41 & Peavey Road has excessive side street delays, similar to the existing conditions. The newly constructed roundabout at TH 41 & CSAH 18 is expected to have excessive delays on TH 41 in both the AM and PM peak hour. In the AM peak the northbound movements at TH 41 & CSAH 18 operate at LOS F and in the PM peak hour the southbound movements operate at LOS F. These delays are a product of only having a single northbound and southbound lane in each direction. TH 41 is over capacity and would benefit from expanding it from a two-lane to a four-lane roadway. The SimTraffic reports are provided in **Appendix F**.

Table 5 – Opening Year No-Build (2022) Intersection Analysis

Intersection			Left		Through		Right		Intersection	
			Delay (s/veh)	LOS	Delay (s/veh)	LOS	Delay (s/veh)	LOS	Delay (s/veh)	LOS
AM Peak Hour										
TH 41 & CSAH 18	Roundabout	EB	4.1	A	5.3	A	2.4	A	51.7	F
		WB	5.7	A	8.1	A	2.4	A		
		NB	86.2	F	91.6	F	64.8	F		
		SB	10.6	B	14.2	B	6.3	A		
TH 41 & Peavey Road	East-West Stop Controlled	EB							60.4	F
		WB	60.4	F			42.5	E		
		NB			2.7	A	1.5	A		
		SB	10.7	B	2.1	A				
TH 41 & Oakridge Drive	East-West Stop Controlled	EB	30.4	D			4.2	A	30.4	D
		WB								
		NB	6.4	A	4.7	A				
		SB			1.1	A	0.5	A		
TH 41 & CSAH 14	Signalized	EB	33.9	C	29.5	C	7.0	A	29.4	C
		WB	31.2	C	47.0	D	16.3	B		
		NB	61.5	E	32.6	C	6.5	A		
		SB	59.2	E	18.9	B	4.2	A		
PM Peak Hour										
TH 41 & CSAH 18	Roundabout	EB	14.9	B	12.8	B	2.9	A	49.4	E
		WB	11.5	B	9.8	A	2.6	A		
		NB	18.1	C	15.6	C	8.5	A		
		SB	109.0	F	112.6	F	47.9	E		
TH 41 & Peavey Road	East-West Stop Controlled	EB							163.8	F
		WB	163.8	F			136.6	F		
		NB			1.6	A	0.5	A		
		SB	4.5	A	4.9	A				

TH 41 & Oakridge Drive	East-West Stop Controlled	EB	26.4	D			9.4	A	26.4	D
		WB								
		NB	9.7	A	2.9	A				
		SB			2.1	A	1.0	A		
TH 41 & CSAH 14	Signalized	EB	33.9	C	39.1	D	9.6	A	28.9	C
		WB	33.1	C	39.6	D	23.3	C		
		NB	53.5	D	23.3	C	4.6	A		
		SB	52.8	D	23.1	C	9.5	A		

Based on the capacity analysis results for the roundabout at TH 41 & CASH 18 it should be monitored once completed to determine when the roundabout should be expanded. It should be noted that the traffic volumes provided in the SRF Intersection Control Evaluation (ICE) from 2017 were similar for CSAH 18 at TH 41 but the north and southbound through volumes on TH 41 were significantly lower than what was counted as part of this study. The 2019 counts were similar to the 2040 projections from the ICE report. The current traffic volumes were collected on a typical weekday with no known detour routes in the area.

OPENING YEAR BUILD (2022) CONDITIONS

Opening Year Build (2022) conditions were analyzed to determine any traffic impacts from the addition of the site traffic. Opening Year Build (2022) turning movement volumes were developed by adding the site trips in **Exhibit 6** in **Appendix A** to the Opening Year No-Build (2022) turning movement volumes in **Exhibit 4** in **Appendix A**. The Opening Year Build (2022) turning movement volumes are shown in **Exhibit 7** in **Appendix A**.

It was assumed that TH 41 & Peavey Road would be a signalized intersection with dedicated turn lanes on all approaches and that Oakridge Drive & TH 41 would be converted from full access to ¾ access.

The results of the analysis are provided in **Table 6** for the weekday AM and PM peak hours. Based on the Opening Year Build (2022) capacity analysis, the study intersections are anticipated to operate at LOS C or better in the both the AM and PM peak hours except for TH 41 & CSAH 18. TH 41 & CSAH 18 will operate at LOS F in both the AM & PM peak hours. The southbound and northbound movements at roundabout have excessive delays and will require mitigation. The SimTraffic reports are provided in **Appendix F**.

Table 6 – Opening Year Build (2022) Intersection Analysis

Intersection		Left		Through		Right		Intersection	
		Delay (s/veh)	LOS	Delay (s/veh)	LOS	Delay (s/veh)	LOS	Delay (s/veh)	LOS
AM Peak Hour									
TH 41 & CSAH 18	Roundabout	EB	5.7	A	6.4	A	2.1	A	65.3
		WB	6.0	A	7.6	A	2.4	A	
		NB	110.7	F	117.1	F	86.9	F	
		SB	12.9	B	17.4	C	7.3	A	
TH 41 & Peavey Road	Signalized	EB	24.8	C	0.0	A	6.9	A	9.7
		WB	29.3	C	0.0	A	16.8	B	
		NB	9.8	A	10.9	B	5.3	A	
		SB	22.5	C	6.2	A	2.5	A	

TH 41 & Oakridge Drive	East-West Stop Controlled	EB					4.8	A	4.8	A
		WB								
		NB	6.9	A	4.8	A				
		SB			2.7	A	1.7	A		
TH 41 & CSAH 14	Signalized	EB	34.6	C	29.8	C	7.2	A	30.2	C
		WB	30.0	C	46.0	D	15.3	B		
		NB	63.8	E	34.7	C	7.2	A		
		SB	55.2	E	20.7	C	5.0	A		
PM Peak Hour										
TH 41 & CSAH 18	Roundabout	EB	8.4	A	9.4	A	2.9	A	138.0	F
		WB	18.1	C	17.3	C	2.6	A		
		NB	15.2	C	19.1	C	10.7	B		
		SB	351.0	F	355.0	F	307.0	F		
TH 41 & Peavey Road	Signalized	EB	39.4	D	0.0	A	25.9	C	20.7	C
		WB	46.9	D	0.0	A	9.3	A		
		NB	30.3	C	7.3	A	2.2	A		
		SB	23.2	C	23.4	C	10.0	B		
TH 41 & Oakridge Drive	East-West Stop Controlled	EB					22.7	C	22.7	C
		WB								
		NB	23.3	C	3.6	A				
		SB			7.2	A	5.6	A		
TH 41 & CSAH 14	Signalized	EB	33.0	C	36.2	D	10.8	B	30.2	C
		WB	31.9	C	40.6	D	25.0	C		
		NB	55.6	E	28.2	C	5.4	A		
		SB	51.4	D	26.7	C	10.1	B		

As a single lane roundabout TH 41 & CSAH 18 will operate at LOS F during peak periods. This intersection was also analyzed as a 2 by 1 roundabout, two northbound/southbound lanes through the roundabout and one eastbound/westbound lane through the roundabout. With the roundabout expanded, it will operate acceptably in both the AM and PM peak hours. **Table 7** shows the SimTraffic results for the roundabout in AM and PM peak hours.

Table 7 – Opening Year Build (2022) Expanded Roundabout Analysis

Intersection			Left		Through		Right		Intersection	
			Delay (s/veh)	LOS	Delay (s/veh)	LOS	Delay (s/veh)	LOS	Delay (s/veh)	LOS
AM Peak Hour										
TH 41 & CSAH 18	Roundabout (2x1)	EB	5.6	A	6.4	A	2.6	A	12.9	B
		WB	8.8	A	8.3	A	3.8	A		
		NB	14.9	B	17.4	C	13.7	B		
		SB	7.3	A	10.4	B	6.0	A		
PM Peak Hour										
TH 41 & CSAH 18	Roundabout (2X1)	EB	13.0	B	12.7	B	3.8	A	11.7	B
		WB	16.8	C	14.1	B	4.4	A		
		NB	12.9	B	13.1	B	9.7	A		
		SB	8.1	A	11.3	B	6.4	A		

CONCLUSIONS AND RECOMMENDATIONS

RCS-RCA Oak Ridge, LLC is proposing a 161,000-square foot discount club, 160 units of multifamily housing, 375 units of senior housing, and a 16,000-square foot retail building on the 66.8-acre site on the west side of Trunk Highway 41 in Chaska, MN. The is anticipated to generate an additional 223 new trips during the AM peak hour (103 entering, 120 exiting) and 510 new trips during the PM peak hour (267 entering, 243 exiting). During the AM peak hour there are no pass by trips because the retail trips during this time period would be mostly workers and deliveries, not customers. At the site driveways, an additional 752 trips during the PM peak hour (388 entering, 364 exiting) are expected with the pass-by trips included.

There are two proposed site accesses, the existing Oakridge Drive access and a new access that lines up with Peavey Road. The Peavey Road access will be the main access and it was assumed the intersection will be reconstructed to provide dedicated left and right turn lanes on all four approaches. A signal warrant analysis was completed for the proposed intersection and it met Warrants 1a, 1b, 2, and 3. Therefore it is recommended that signal be installed at TH 41 & Peavey Road when the development is built. It is recommended that the existing Oakridge Drive & TH 41 intersection be converted to a $\frac{3}{4}$ access based on access spacing and the peak hour traffic volumes on TH 41.

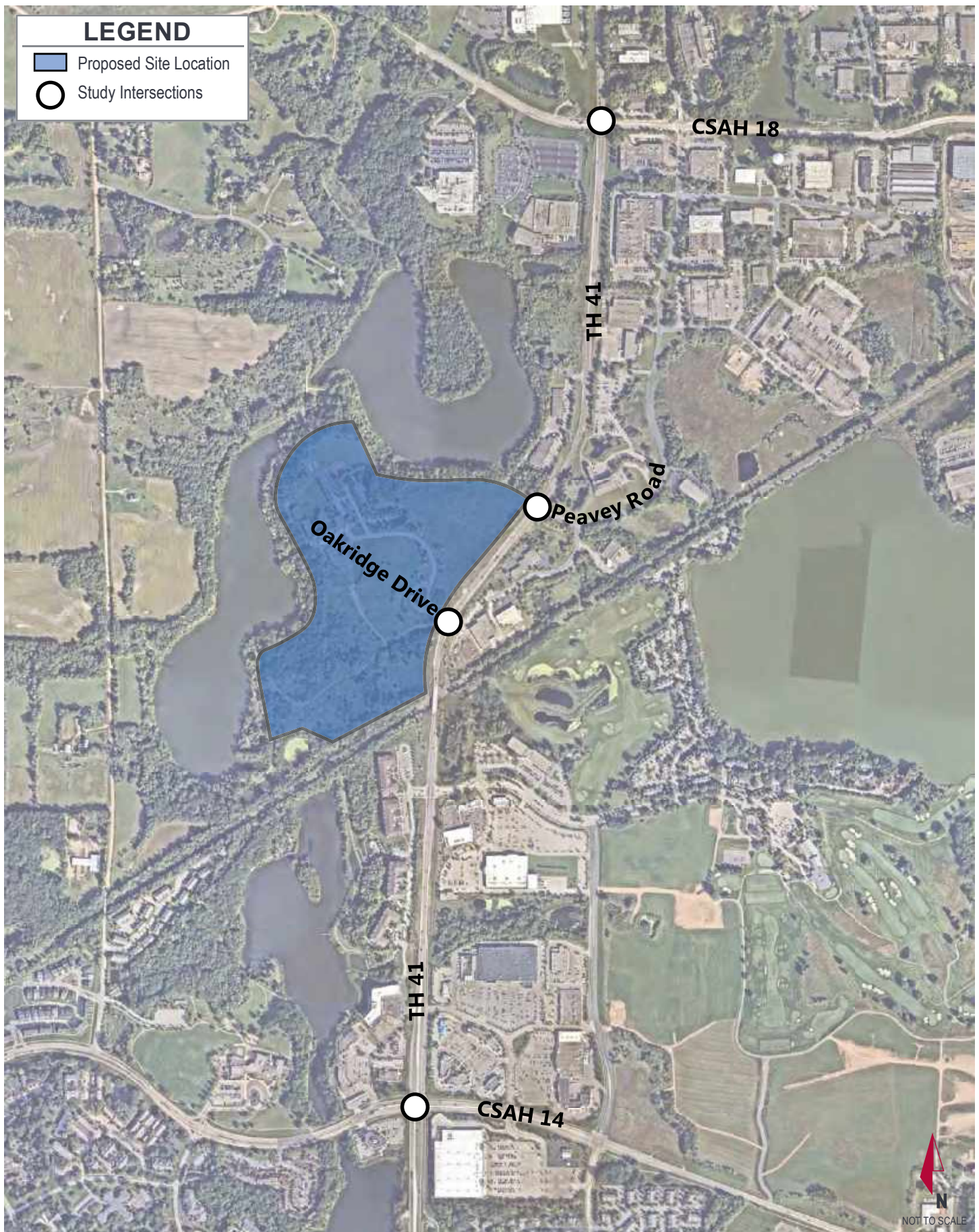
A capacity analysis was performed for Existing (2019), Opening Year No-Build (2022), and Opening Year Build (2022). The Existing operations at the signalized intersections, TH 41 & CSAH 14 and TH 41 & CSAH 18, operated at LOS C or better in both the AM and PM peak hours. TH 41 & Peavey Road and TH 41 & Oakridge Road had significant delays on the side streets during the peak hours.

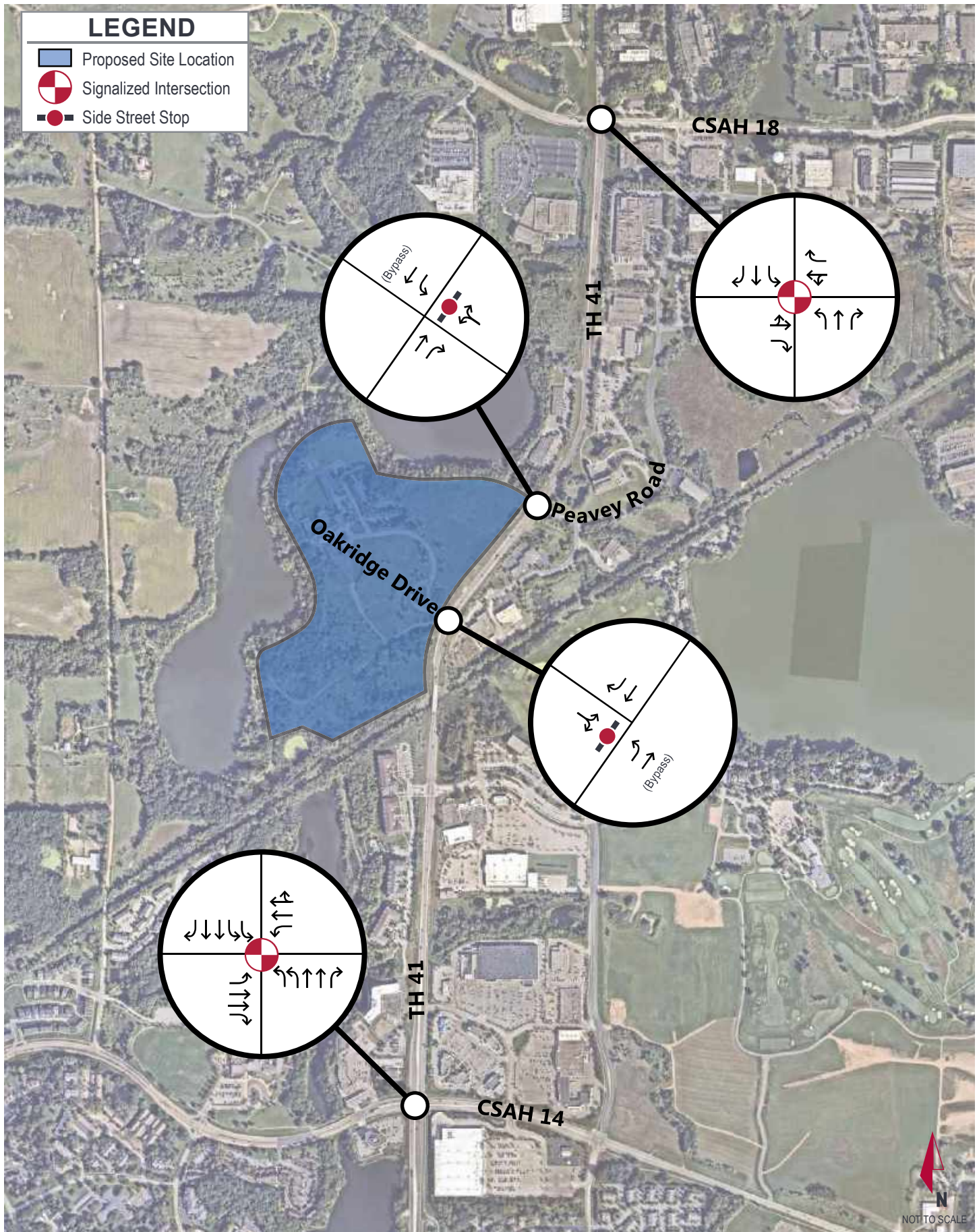
In the Opening Year No-Build (2022) scenarios, TH 41 & CSAH 18 will be a roundabout instead of the existing signal. It was determined that the traffic volumes on TH 41 are anticipated to be significantly higher in the 2022 scenarios than what was originally projected in the 2017 Intersection Control Evaluation completed in 2017. It is anticipated that the northbound movements during the AM peak hour and the southbound movements during the PM peak hour will experience excessive delay at the single lane roundabout. All other intersections are anticipated to operate similarly to the existing conditions.

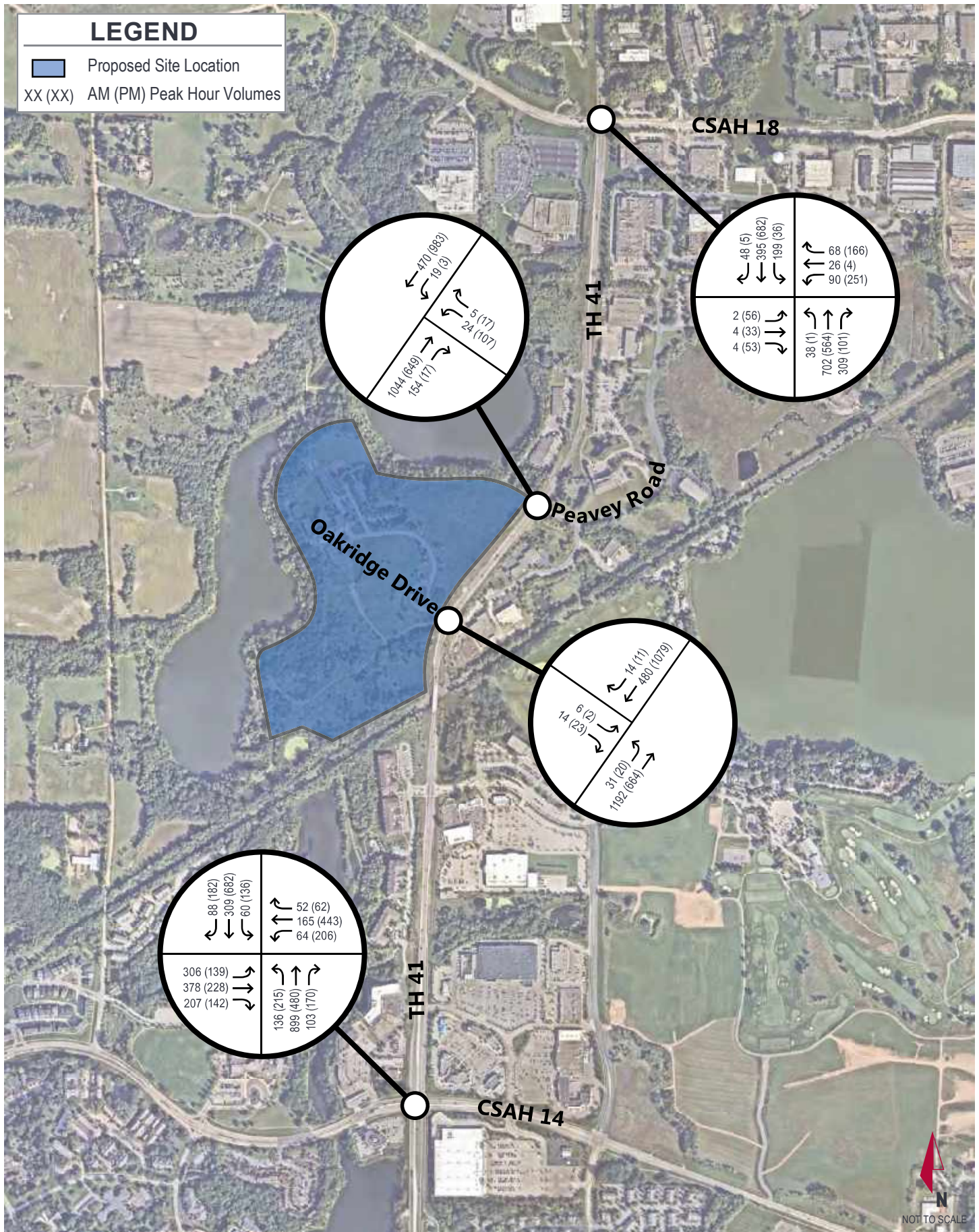
In the Opening Year Build (2022) scenarios, the site access will operate at LOS C or better in the AM and PM peak hours. The TH 41 & CSAH 18 roundabout will need to be expanded from a single lane roundabout to a 2 by 1 roundabout with 2 lanes in the northbound and southbound directions through the roundabout and 1 lane in the eastbound and westbound directions through the roundabout. Without expanding the roundabout, it is anticipated to operate at LOS F in both the AM and PM scenarios. With the expanded roundabout, it is anticipated to operate at LOS B in both the AM and PM peak hours. It is recommended that the roundabout be expanded to a 2 by 1 roundabout prior to the completion of the Oak Ridge Development.

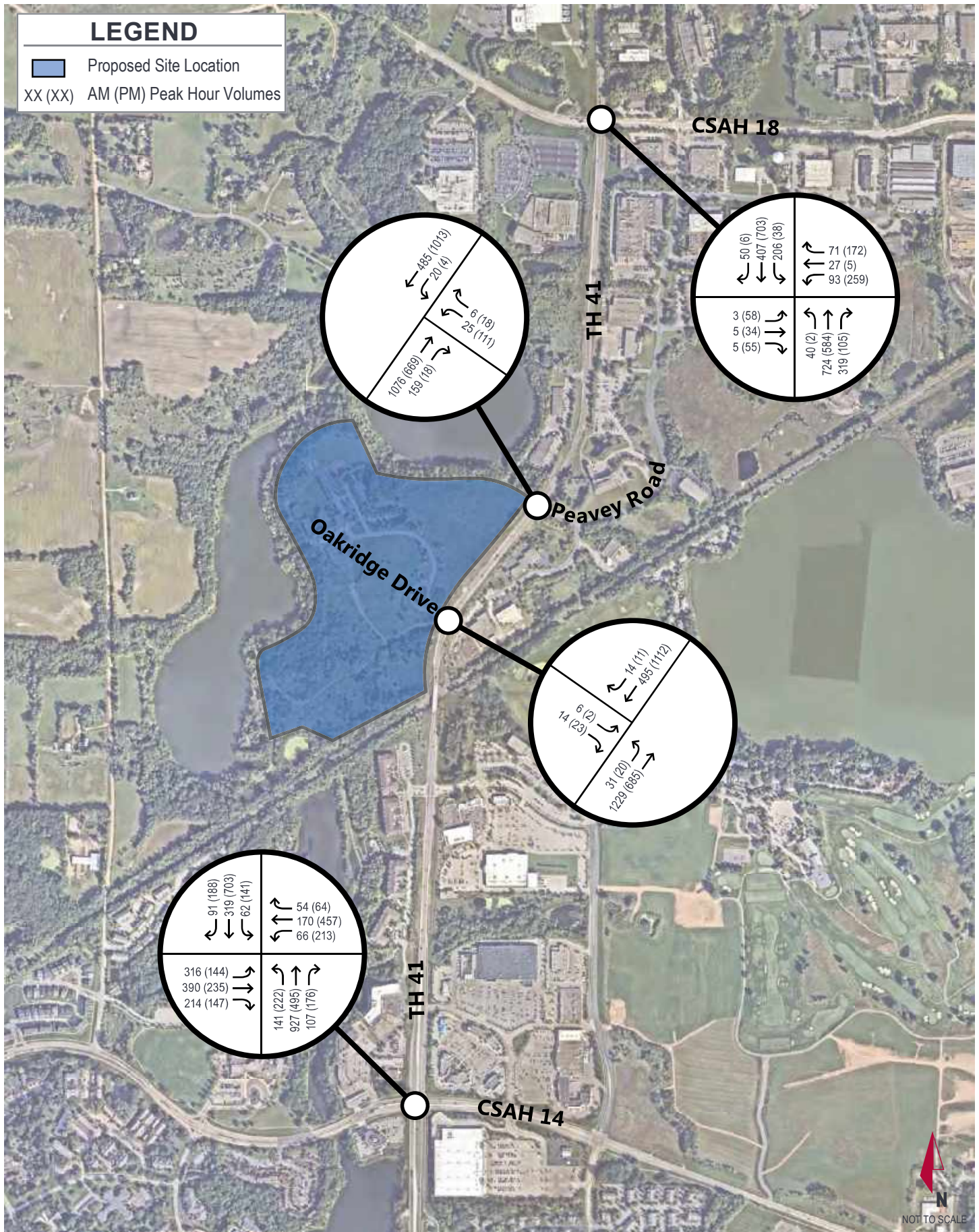
APPENDIX

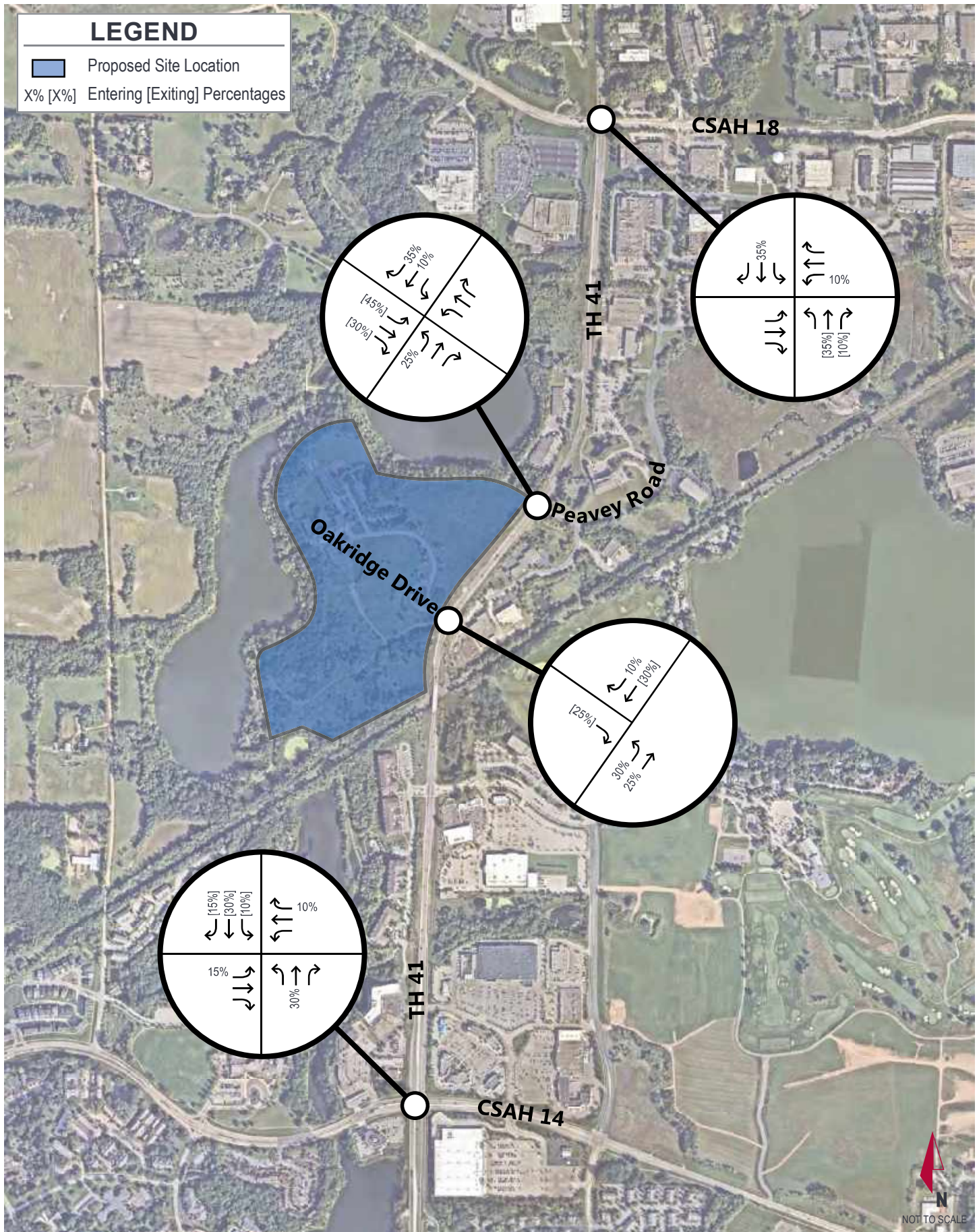
- A. Exhibits**
- B. Raw Turning Movement Counts**
- C. SRF Intersection Control Evaluation, 2017**
- D. Site Plan**
- E. Signal Warrant Results**
- F. SimTraffic Analysis Results**

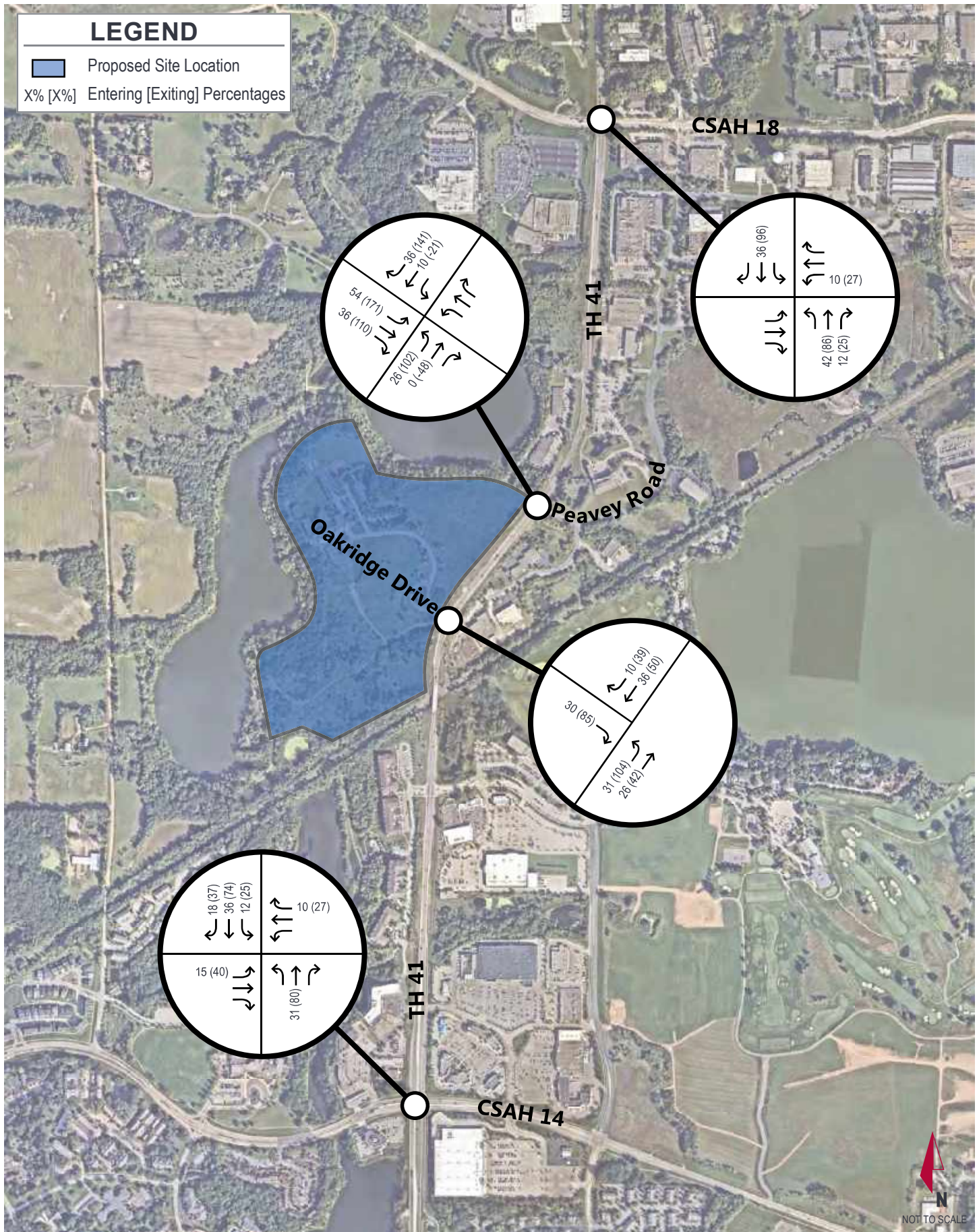


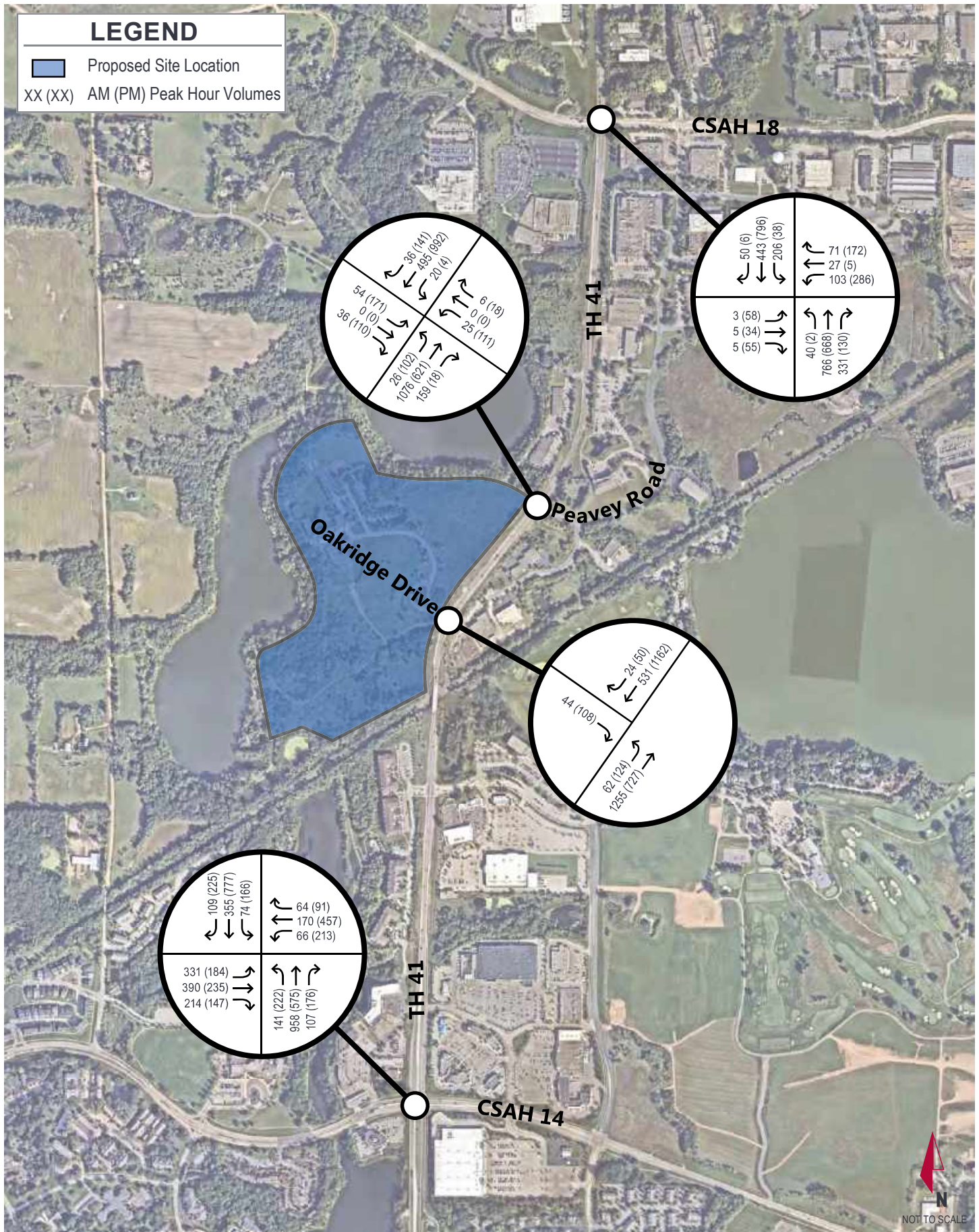






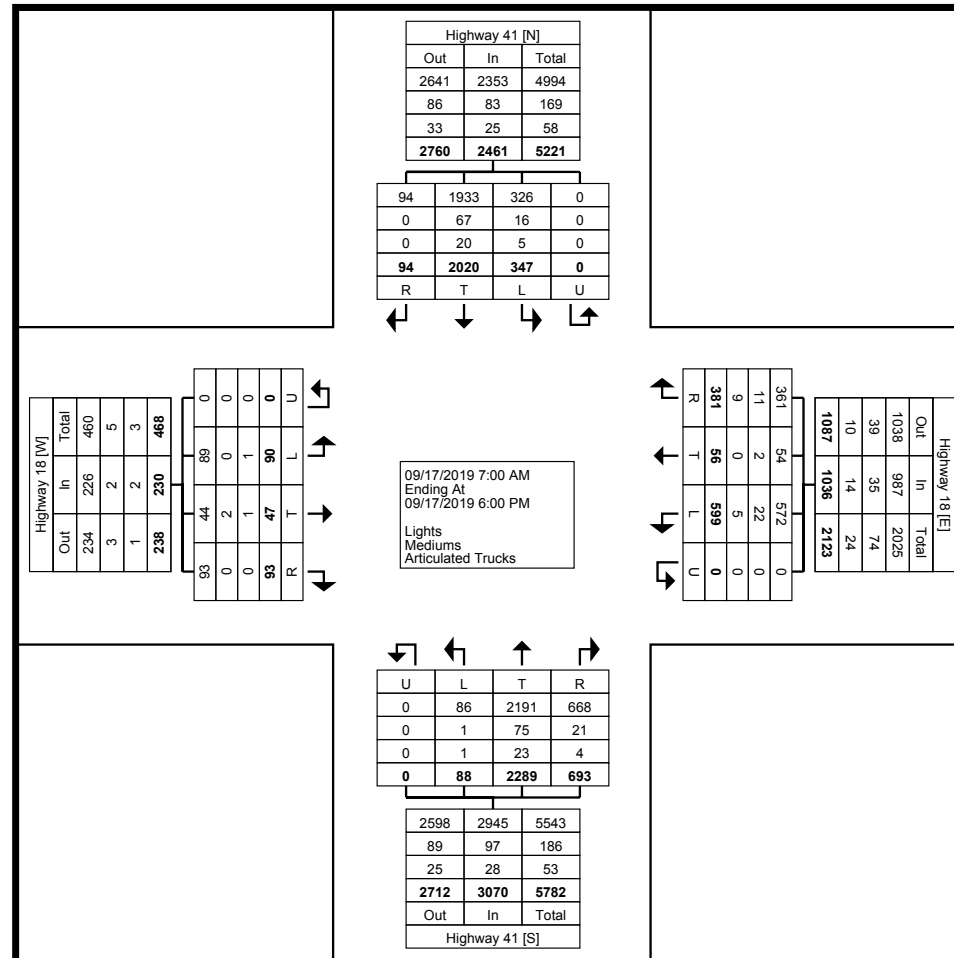






Turning Movement Data

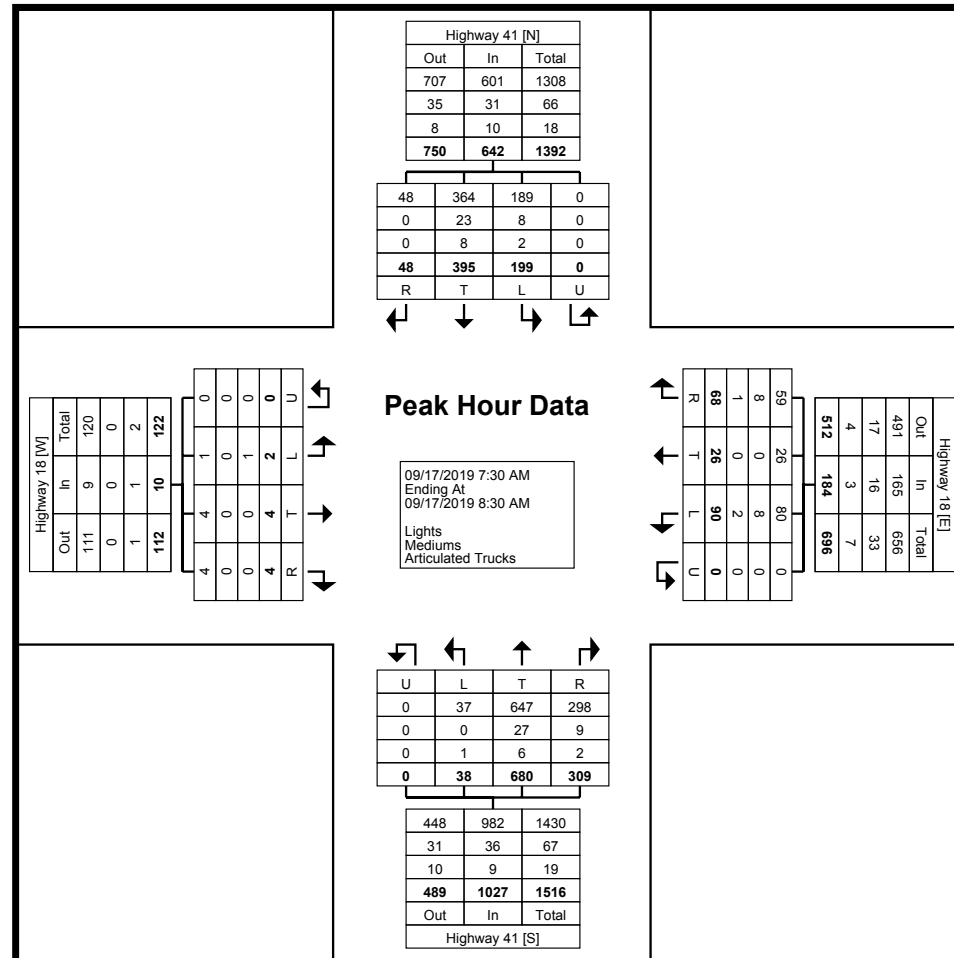
Start Time	Highway 18 Westbound					Highway 18 Eastbound					Highway 41 Southbound					Highway 41 Northbound					Int. Total
	Left	Thru	Right	U-Turn	App. Total	Left	Thru	Right	U-Turn	App. Total	Left	Thru	Right	U-Turn	App. Total	Left	Thru	Right	U-Turn	App. Total	
7:00 AM	16	3	10	0	29	3	2	1	0	6	23	58	12	0	93	14	142	40	0	196	324
7:15 AM	13	12	13	0	38	0	0	0	0	0	21	63	11	0	95	12	155	68	0	235	368
7:30 AM	30	1	20	0	51	1	1	1	0	3	68	89	15	0	172	9	144	103	0	256	482
7:45 AM	25	5	21	0	51	1	1	1	0	3	66	122	12	0	200	10	173	95	0	278	532
Hourly Total	84	21	64	0	169	5	4	3	0	12	178	332	50	0	560	45	614	306	0	965	1706
8:00 AM	19	12	18	0	49	0	0	2	0	2	35	100	10	0	145	11	207	59	0	277	473
8:15 AM	16	8	9	0	33	0	2	0	0	2	30	84	11	0	125	8	156	52	0	216	376
8:30 AM	18	5	16	0	39	0	0	2	0	2	24	95	5	0	124	7	153	33	0	193	358
8:45 AM	13	3	10	0	26	0	1	1	0	2	16	92	6	0	114	4	135	15	0	154	296
Hourly Total	66	28	53	0	147	0	3	5	0	8	105	371	32	0	508	30	651	159	0	840	1503
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4:00 PM	57	1	39	0	97	10	8	9	0	27	9	174	1	0	184	0	146	26	0	172	480
4:15 PM	74	3	44	0	121	10	5	9	0	24	7	176	1	0	184	0	112	41	0	153	482
4:30 PM	60	0	41	0	101	24	14	20	0	58	10	170	3	0	183	1	150	15	0	166	508
4:45 PM	60	0	42	0	102	12	6	15	0	33	10	146	0	0	156	0	113	19	0	132	423
Hourly Total	251	4	166	0	421	56	33	53	0	142	36	666	5	0	707	1	521	101	0	623	1893
5:00 PM	60	1	28	0	89	10	5	13	0	28	6	180	0	0	186	4	135	27	0	166	469
5:15 PM	53	1	26	0	80	5	0	12	0	17	4	180	0	0	184	3	135	19	0	157	438
5:30 PM	35	1	25	0	61	9	1	2	0	12	9	158	1	0	168	4	104	34	0	142	383
5:45 PM	50	0	19	0	69	5	1	5	0	11	9	133	6	0	148	1	129	47	0	177	405
Hourly Total	198	3	98	0	299	29	7	32	0	68	28	651	7	0	686	12	503	127	0	642	1695
Grand Total	599	56	381	0	1036	90	47	93	0	230	347	2020	94	0	2461	88	2289	693	0	3070	6797
Approach %	57.8	5.4	36.8	0.0	-	39.1	20.4	40.4	0.0	-	14.1	82.1	3.8	0.0	-	2.9	74.6	22.6	0.0	-	-
Total %	8.8	0.8	5.6	0.0	15.2	1.3	0.7	1.4	0.0	3.4	5.1	29.7	1.4	0.0	36.2	1.3	33.7	10.2	0.0	45.2	-
Lights	572	54	361	0	987	89	44	93	0	226	326	1933	94	0	2353	86	2191	668	0	2945	6511
% Lights	95.5	96.4	94.8	-	95.3	98.9	93.6	100.0	-	98.3	93.9	95.7	100.0	-	95.6	97.7	95.7	96.4	-	95.9	95.8
Mediums	22	2	11	0	35	0	2	0	0	2	16	67	0	0	83	1	75	21	0	97	217
% Mediums	3.7	3.6	2.9	-	3.4	0.0	4.3	0.0	-	0.9	4.6	3.3	0.0	-	3.4	1.1	3.3	3.0	-	3.2	3.2
Articulated Trucks	5	0	9	0	14	1	1	0	0	2	5	20	0	0	25	1	23	4	0	28	69
% Articulated Trucks	0.8	0.0	2.4	-	1.4	1.1	2.1	0.0	-	0.9	1.4	1.0	0.0	-	1.0	1.1	1.0	0.6	-	0.9	1.0



Turning Movement Data Plot

Turning Movement Peak Hour Data (7:30 AM)

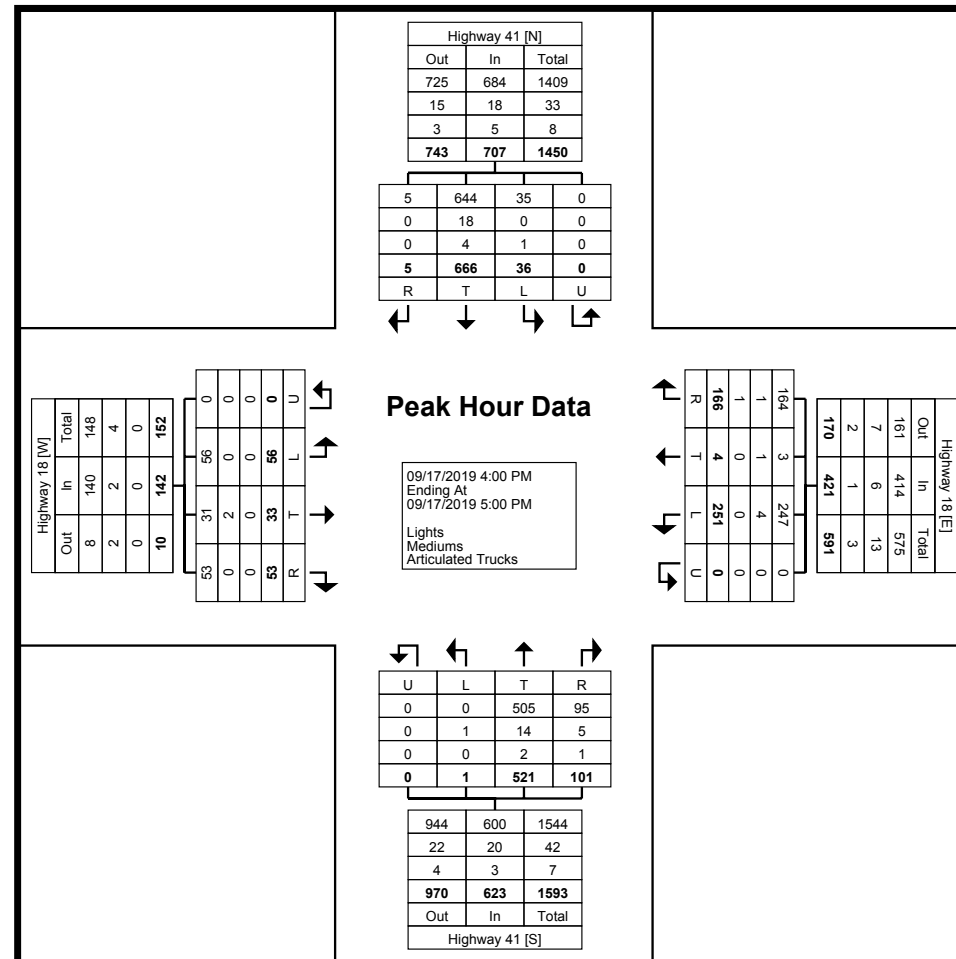
Start Time	Highway 18 Westbound					Highway 18 Eastbound					Highway 41 Southbound					Highway 41 Northbound					Int. Total
	Left	Thru	Right	U-Turn	App. Total	Left	Thru	Right	U-Turn	App. Total	Left	Thru	Right	U-Turn	App. Total	Left	Thru	Right	U-Turn	App. Total	
7:30 AM	30	1	20	0	51	1	1	1	0	3	68	89	15	0	172	9	144	103	0	256	482
7:45 AM	25	5	21	0	51	1	1	1	0	3	66	122	12	0	200	10	173	95	0	278	532
8:00 AM	19	12	18	0	49	0	0	2	0	2	35	100	10	0	145	11	207	59	0	277	473
8:15 AM	16	8	9	0	33	0	2	0	0	2	30	84	11	0	125	8	156	52	0	216	376
Total	90	26	68	0	184	2	4	4	0	10	199	395	48	0	642	38	680	309	0	1027	1863
Approach %	48.9	14.1	37.0	0.0	-	20.0	40.0	40.0	0.0	-	31.0	61.5	7.5	0.0	-	3.7	66.2	30.1	0.0	-	-
Total %	4.8	1.4	3.7	0.0	9.9	0.1	0.2	0.2	0.0	0.5	10.7	21.2	2.6	0.0	34.5	2.0	36.5	16.6	0.0	55.1	-
PHF	0.750	0.542	0.810	0.000	0.902	0.500	0.500	0.500	0.000	0.833	0.732	0.809	0.800	0.000	0.803	0.864	0.821	0.750	0.000	0.924	0.875
Lights	80	26	59	0	165	1	4	4	0	9	189	364	48	0	601	37	647	298	0	982	1757
% Lights	88.9	100.0	86.8	-	89.7	50.0	100.0	100.0	-	90.0	95.0	92.2	100.0	-	93.6	97.4	95.1	96.4	-	95.6	94.3
Mediums	8	0	8	0	16	0	0	0	0	0	8	23	0	0	31	0	27	9	0	36	83
% Mediums	8.9	0.0	11.8	-	8.7	0.0	0.0	0.0	-	0.0	4.0	5.8	0.0	-	4.8	0.0	4.0	2.9	-	3.5	4.5
Articulated Trucks	2	0	1	0	3	1	0	0	0	1	2	8	0	0	10	1	6	2	0	9	23
% Articulated Trucks	2.2	0.0	1.5	-	1.6	50.0	0.0	0.0	-	10.0	1.0	2.0	0.0	-	1.6	2.6	0.9	0.6	-	0.9	1.2



Turning Movement Peak Hour Data Plot (7:30 AM)

Turning Movement Peak Hour Data (4:00 PM)

Start Time	Highway 18 Westbound					Highway 18 Eastbound					Highway 41 Southbound					Highway 41 Northbound					Int. Total
	Left	Thru	Right	U-Turn	App. Total	Left	Thru	Right	U-Turn	App. Total	Left	Thru	Right	U-Turn	App. Total	Left	Thru	Right	U-Turn	App. Total	
4:00 PM	57	1	39	0	97	10	8	9	0	27	9	174	1	0	184	0	146	26	0	172	480
4:15 PM	74	3	44	0	121	10	5	9	0	24	7	176	1	0	184	0	112	41	0	153	482
4:30 PM	60	0	41	0	101	24	14	20	0	58	10	170	3	0	183	1	150	15	0	166	508
4:45 PM	60	0	42	0	102	12	6	15	0	33	10	146	0	0	156	0	113	19	0	132	423
Total	251	4	166	0	421	56	33	53	0	142	36	666	5	0	707	1	521	101	0	623	1893
Approach %	59.6	1.0	39.4	0.0	-	39.4	23.2	37.3	0.0	-	5.1	94.2	0.7	0.0	-	0.2	83.6	16.2	0.0	-	-
Total %	13.3	0.2	8.8	0.0	22.2	3.0	1.7	2.8	0.0	7.5	1.9	35.2	0.3	0.0	37.3	0.1	27.5	5.3	0.0	32.9	-
PHF	0.848	0.333	0.943	0.000	0.870	0.583	0.589	0.663	0.000	0.612	0.900	0.946	0.417	0.000	0.961	0.250	0.868	0.616	0.000	0.906	0.932
Lights	247	3	164	0	414	56	31	53	0	140	35	644	5	0	684	0	505	95	0	600	1838
% Lights	98.4	75.0	98.8	-	98.3	100.0	93.9	100.0	-	98.6	97.2	96.7	100.0	-	96.7	0.0	96.9	94.1	-	96.3	97.1
Mediums	4	1	1	0	6	0	2	0	0	2	0	18	0	0	18	1	14	5	0	20	46
% Mediums	1.6	25.0	0.6	-	1.4	0.0	6.1	0.0	-	1.4	0.0	2.7	0.0	-	2.5	100.0	2.7	5.0	-	3.2	2.4
Articulated Trucks	0	0	1	0	1	0	0	0	0	0	1	4	0	0	5	0	2	1	0	3	9
% Articulated Trucks	0.0	0.0	0.6	-	0.2	0.0	0.0	0.0	-	0.0	2.8	0.6	0.0	-	0.7	0.0	0.4	1.0	-	0.5	0.5



Turning Movement Peak Hour Data Plot (4:00 PM)

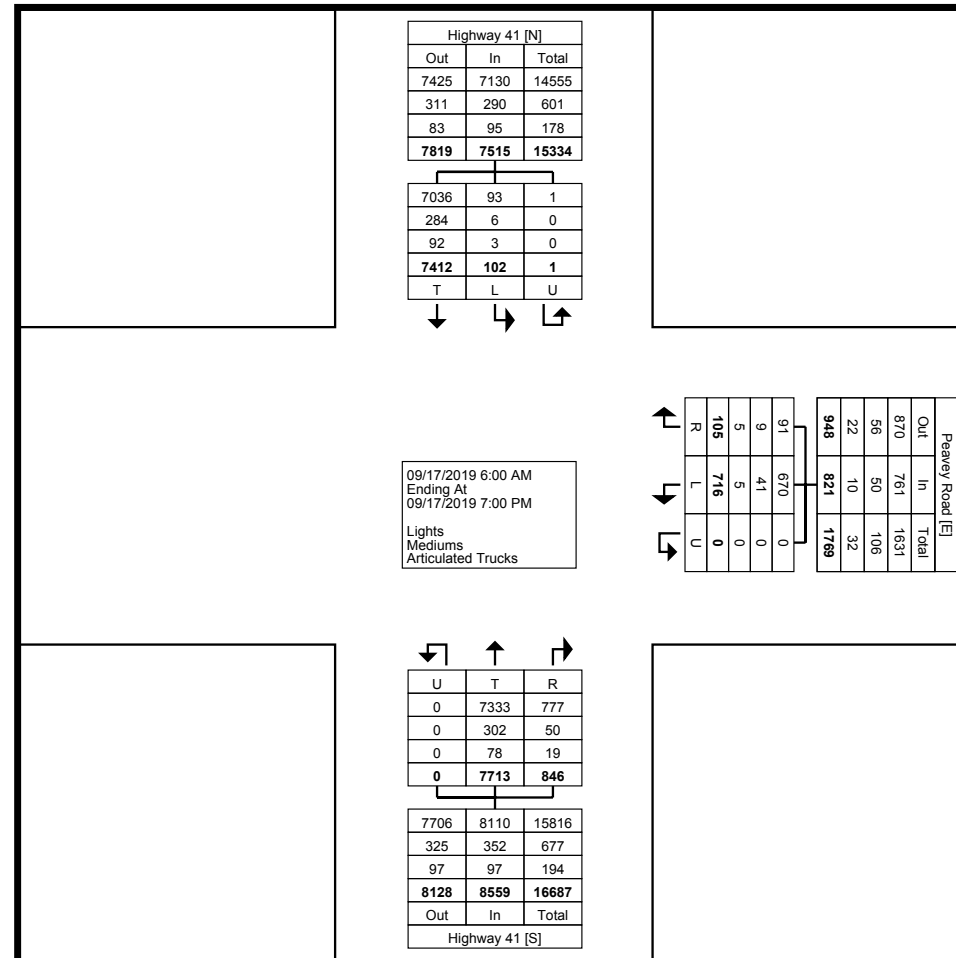
Kimley-Horn : Lisle (IL)
1001 Warrenville Road, Suite 350
Lisle, Illinois, United States 60532
331.481.7332 jack.olsson@kimley-horn.com

Count Name: Highway 41 & Highway 18
Site Code:
Start Date: 09/17/2019
Page No: 7

Turning Movement Data

Start Time	Peavey Road Westbound				Highway 41 Southbound				Highway 41 Northbound				Int. Total
	Left	Right	U-Turn	App. Total	Left	Thru	U-Turn	App. Total	Thru	Right	U-Turn	App. Total	
6:00 AM	20	0	0	20	0	37	0	37	78	13	0	91	148
6:15 AM	8	0	0	8	1	47	0	48	90	15	0	105	161
6:30 AM	6	0	0	6	5	38	0	43	149	20	0	169	218
6:45 AM	2	0	0	2	3	45	0	48	195	30	0	225	275
Hourly Total	36	0	0	36	9	167	0	176	512	78	0	590	802
7:00 AM	4	1	0	5	5	79	0	84	191	32	0	223	312
7:15 AM	6	1	0	7	3	65	0	68	236	38	0	274	349
7:30 AM	4	0	0	4	5	119	0	124	272	51	0	323	451
7:45 AM	5	2	0	7	6	131	0	137	293	41	0	334	478
Hourly Total	19	4	0	23	19	394	0	413	992	162	0	1154	1590
8:00 AM	9	3	0	12	7	120	0	127	263	38	0	301	440
8:15 AM	6	0	0	6	1	100	0	101	216	24	0	240	347
8:30 AM	8	2	0	10	1	113	0	114	182	16	0	198	322
8:45 AM	11	1	0	12	1	108	0	109	155	12	0	167	288
Hourly Total	34	6	0	40	10	441	0	451	816	90	0	906	1397
9:00 AM	9	0	0	9	2	121	0	123	128	13	0	141	273
9:15 AM	9	0	0	9	2	98	0	100	158	20	0	178	287
9:30 AM	6	0	0	6	1	111	0	112	116	7	0	123	241
9:45 AM	12	3	0	15	3	76	0	79	103	11	0	114	208
Hourly Total	36	3	0	39	8	406	0	414	505	51	0	556	1009
10:00 AM	7	1	0	8	2	96	0	98	88	11	0	99	205
10:15 AM	6	0	0	6	0	103	0	103	106	15	0	121	230
10:30 AM	7	1	0	8	2	110	0	112	96	11	0	107	227
10:45 AM	11	2	0	13	0	99	0	99	98	9	0	107	219
Hourly Total	31	4	0	35	4	408	0	412	388	46	0	434	881
11:00 AM	21	2	0	23	2	136	0	138	118	13	0	131	292
11:15 AM	23	5	0	28	4	194	0	198	104	16	0	120	346
11:30 AM	19	5	0	24	2	197	0	199	119	24	0	143	366
11:45 AM	17	2	0	19	5	152	0	157	161	20	0	181	357
Hourly Total	80	14	0	94	13	679	0	692	502	73	0	575	1361
12:00 PM	27	3	0	30	1	157	0	158	149	21	0	170	358
12:15 PM	8	3	0	11	0	134	0	134	166	29	0	195	340
12:30 PM	11	1	0	12	2	140	0	142	157	28	0	185	339
12:45 PM	11	0	0	11	1	132	0	133	158	27	0	185	329
Hourly Total	57	7	0	64	4	563	0	567	630	105	0	735	1366
1:00 PM	15	1	0	16	1	153	0	154	151	17	0	168	338
1:15 PM	6	3	0	9	4	131	0	135	119	30	0	149	293
1:30 PM	11	2	0	13	3	98	0	101	138	23	0	161	275
1:45 PM	11	0	0	11	4	106	0	110	130	33	0	163	280

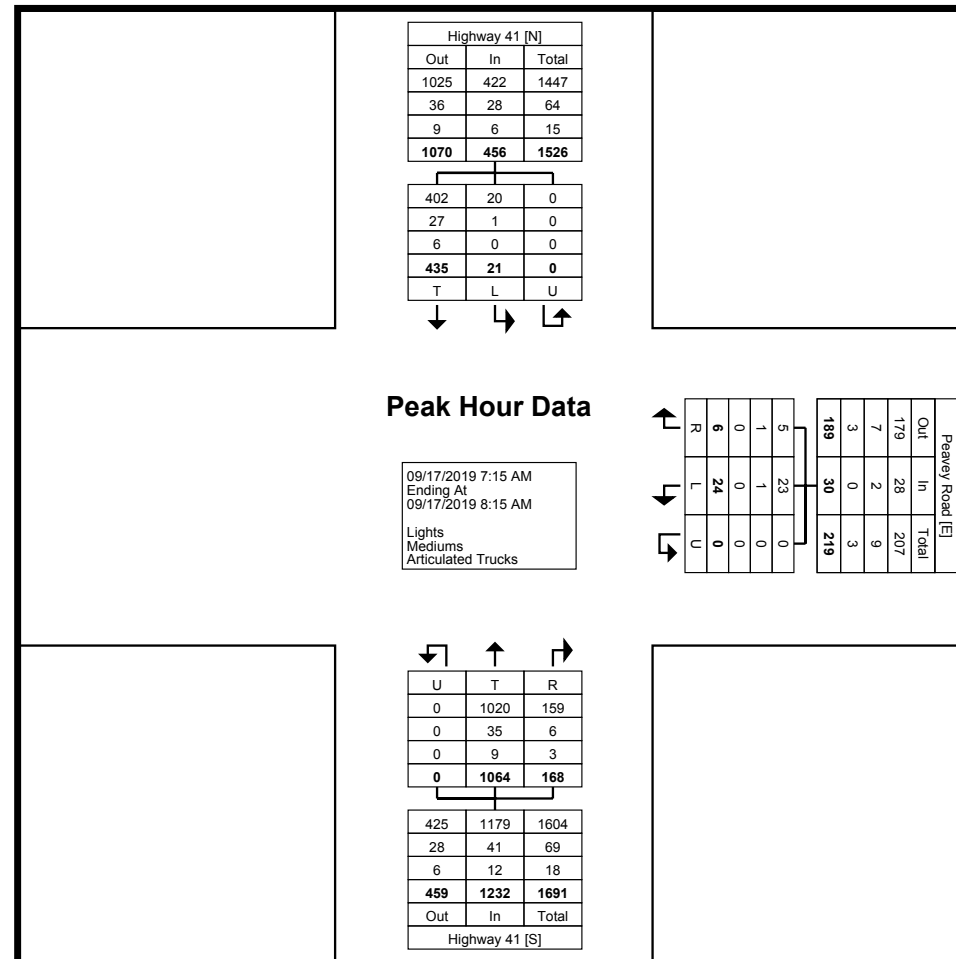
Hourly Total	39	6	0	45	12	488	0	500	538	103	0	641	1186
2:00 PM	29	3	0	32	3	151	0	154	102	20	0	122	308
2:15 PM	15	4	0	19	3	146	0	149	128	21	0	149	317
2:30 PM	52	4	0	56	2	149	0	151	131	13	0	144	351
2:45 PM	26	3	0	29	3	159	0	162	163	7	0	170	361
Hourly Total	122	14	0	136	11	605	0	616	524	61	0	585	1337
3:00 PM	27	4	0	31	2	220	0	222	158	9	0	167	420
3:15 PM	23	1	0	24	2	202	0	204	133	9	0	142	370
3:30 PM	31	6	0	37	0	198	0	198	136	4	0	140	375
3:45 PM	13	3	0	16	0	165	0	165	157	8	0	165	346
Hourly Total	94	14	0	108	4	785	0	789	584	30	0	614	1511
4:00 PM	39	7	0	46	2	244	0	246	173	5	0	178	470
4:15 PM	26	1	0	27	0	268	0	268	151	7	0	158	453
4:30 PM	25	7	0	32	1	252	0	253	160	2	0	162	447
4:45 PM	17	2	0	19	0	219	0	219	136	3	0	139	377
Hourly Total	107	17	0	124	3	983	0	986	620	17	0	637	1747
5:00 PM	17	9	0	26	0	255	0	255	169	6	0	175	456
5:15 PM	11	2	0	13	0	241	0	241	146	5	0	151	405
5:30 PM	10	4	0	14	2	192	0	194	157	5	0	162	370
5:45 PM	4	0	0	4	1	191	0	192	166	4	0	170	366
Hourly Total	42	15	0	57	3	879	0	882	638	20	0	658	1597
6:00 PM	6	0	0	6	1	180	1	182	142	4	0	146	334
6:15 PM	6	0	0	6	0	159	0	159	118	1	0	119	284
6:30 PM	6	1	0	7	1	156	0	157	131	0	0	131	295
6:45 PM	1	0	0	1	0	119	0	119	73	5	0	78	198
Hourly Total	19	1	0	20	2	614	1	617	464	10	0	474	1111
Grand Total	716	105	0	821	102	7412	1	7515	7713	846	0	8559	16895
Approach %	87.2	12.8	0.0	-	1.4	98.6	0.0	-	90.1	9.9	0.0	-	-
Total %	4.2	0.6	0.0	4.9	0.6	43.9	0.0	44.5	45.7	5.0	0.0	50.7	-
Lights	670	91	0	761	93	7036	1	7130	7333	777	0	8110	16001
% Lights	93.6	86.7	-	92.7	91.2	94.9	100.0	94.9	95.1	91.8	-	94.8	94.7
Mediums	41	9	0	50	6	284	0	290	302	50	0	352	692
% Mediums	5.7	8.6	-	6.1	5.9	3.8	0.0	3.9	3.9	5.9	-	4.1	4.1
Articulated Trucks	5	5	0	10	3	92	0	95	78	19	0	97	202
% Articulated Trucks	0.7	4.8	-	1.2	2.9	1.2	0.0	1.3	1.0	2.2	-	1.1	1.2



Turning Movement Data Plot

Turning Movement Peak Hour Data (7:15 AM)

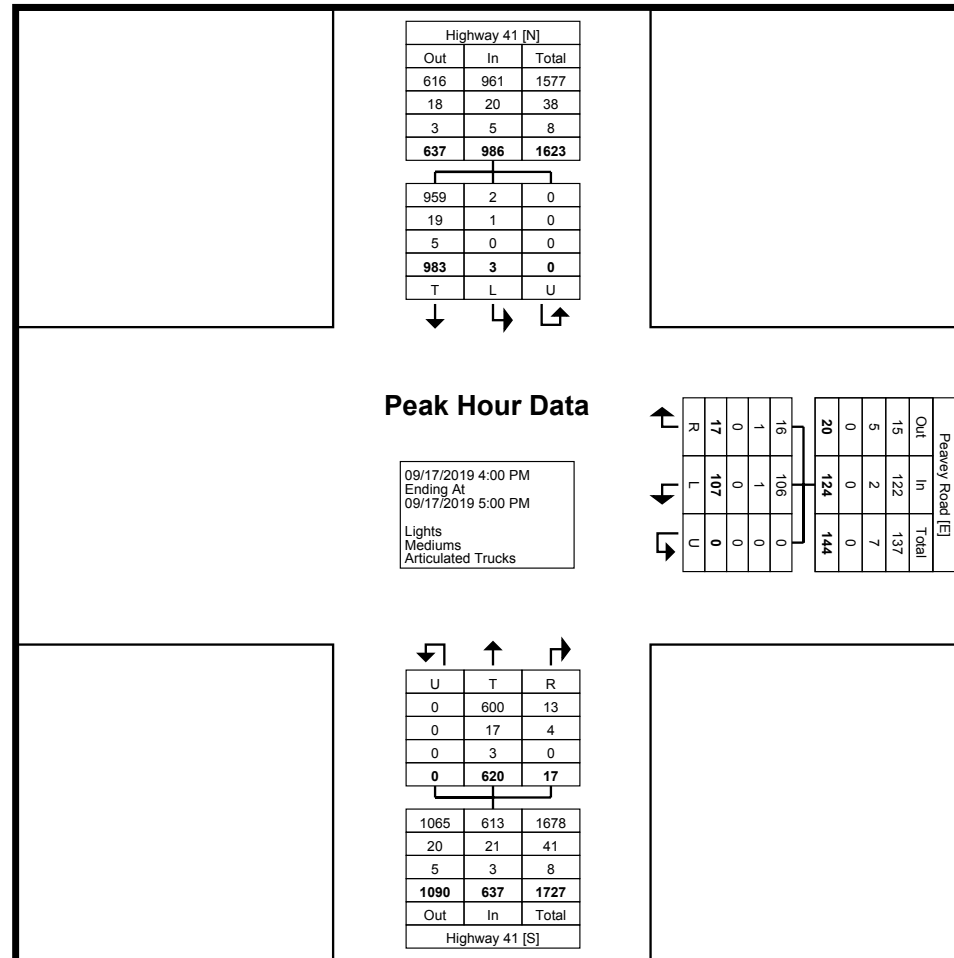
Start Time	Peavey Road Westbound				Highway 41 Southbound				Highway 41 Northbound				Int. Total
	Left	Right	U-Turn	App. Total	Left	Thru	U-Turn	App. Total	Thru	Right	U-Turn	App. Total	
7:15 AM	6	1	0	7	3	65	0	68	236	38	0	274	349
7:30 AM	4	0	0	4	5	119	0	124	272	51	0	323	451
7:45 AM	5	2	0	7	6	131	0	137	293	41	0	334	478
8:00 AM	9	3	0	12	7	120	0	127	263	38	0	301	440
Total	24	6	0	30	21	435	0	456	1064	168	0	1232	1718
Approach %	80.0	20.0	0.0	-	4.6	95.4	0.0	-	86.4	13.6	0.0	-	-
Total %	1.4	0.3	0.0	1.7	1.2	25.3	0.0	26.5	61.9	9.8	0.0	71.7	-
PHF	0.667	0.500	0.000	0.625	0.750	0.830	0.000	0.832	0.908	0.824	0.000	0.922	0.899
Lights	23	5	0	28	20	402	0	422	1020	159	0	1179	1629
% Lights	95.8	83.3	-	93.3	95.2	92.4	-	92.5	95.9	94.6	-	95.7	94.8
Mediums	1	1	0	2	1	27	0	28	35	6	0	41	71
% Mediums	4.2	16.7	-	6.7	4.8	6.2	-	6.1	3.3	3.6	-	3.3	4.1
Articulated Trucks	0	0	0	0	0	6	0	6	9	3	0	12	18
% Articulated Trucks	0.0	0.0	-	0.0	0.0	1.4	-	1.3	0.8	1.8	-	1.0	1.0



Turning Movement Peak Hour Data Plot (7:15 AM)

Turning Movement Peak Hour Data (4:00 PM)

Start Time	Peavey Road Westbound				Highway 41 Southbound				Highway 41 Northbound				Int. Total
	Left	Right	U-Turn	App. Total	Left	Thru	U-Turn	App. Total	Thru	Right	U-Turn	App. Total	
4:00 PM	39	7	0	46	2	244	0	246	173	5	0	178	470
4:15 PM	26	1	0	27	0	268	0	268	151	7	0	158	453
4:30 PM	25	7	0	32	1	252	0	253	160	2	0	162	447
4:45 PM	17	2	0	19	0	219	0	219	136	3	0	139	377
Total	107	17	0	124	3	983	0	986	620	17	0	637	1747
Approach %	86.3	13.7	0.0	-	0.3	99.7	0.0	-	97.3	2.7	0.0	-	-
Total %	6.1	1.0	0.0	7.1	0.2	56.3	0.0	56.4	35.5	1.0	0.0	36.5	-
PHF	0.686	0.607	0.000	0.674	0.375	0.917	0.000	0.920	0.896	0.607	0.000	0.895	0.929
Lights	106	16	0	122	2	959	0	961	600	13	0	613	1696
% Lights	99.1	94.1	-	98.4	66.7	97.6	-	97.5	96.8	76.5	-	96.2	97.1
Mediums	1	1	0	2	1	19	0	20	17	4	0	21	43
% Mediums	0.9	5.9	-	1.6	33.3	1.9	-	2.0	2.7	23.5	-	3.3	2.5
Articulated Trucks	0	0	0	0	0	5	0	5	3	0	0	3	8
% Articulated Trucks	0.0	0.0	-	0.0	0.0	0.5	-	0.5	0.5	0.0	-	0.5	0.5



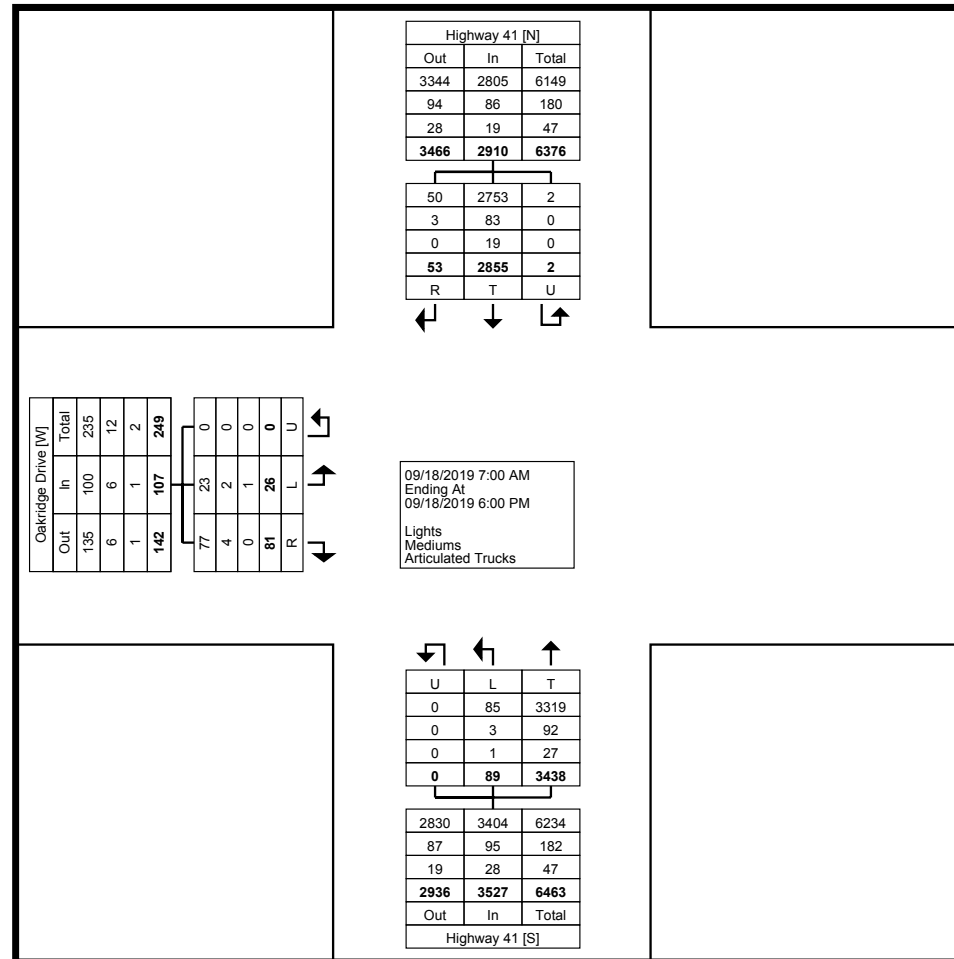
Turning Movement Peak Hour Data Plot (4:00 PM)

Kimley-Horn : Lisle (IL)
1001 Warrenville Road, Suite 350
Lisle, Illinois, United States 60532
331.481.7332 jack.olsson@kimley-horn.com

Count Name: Highway 41 & Peavey Road
Site Code:
Start Date: 09/17/2019
Page No: 8

Turning Movement Data

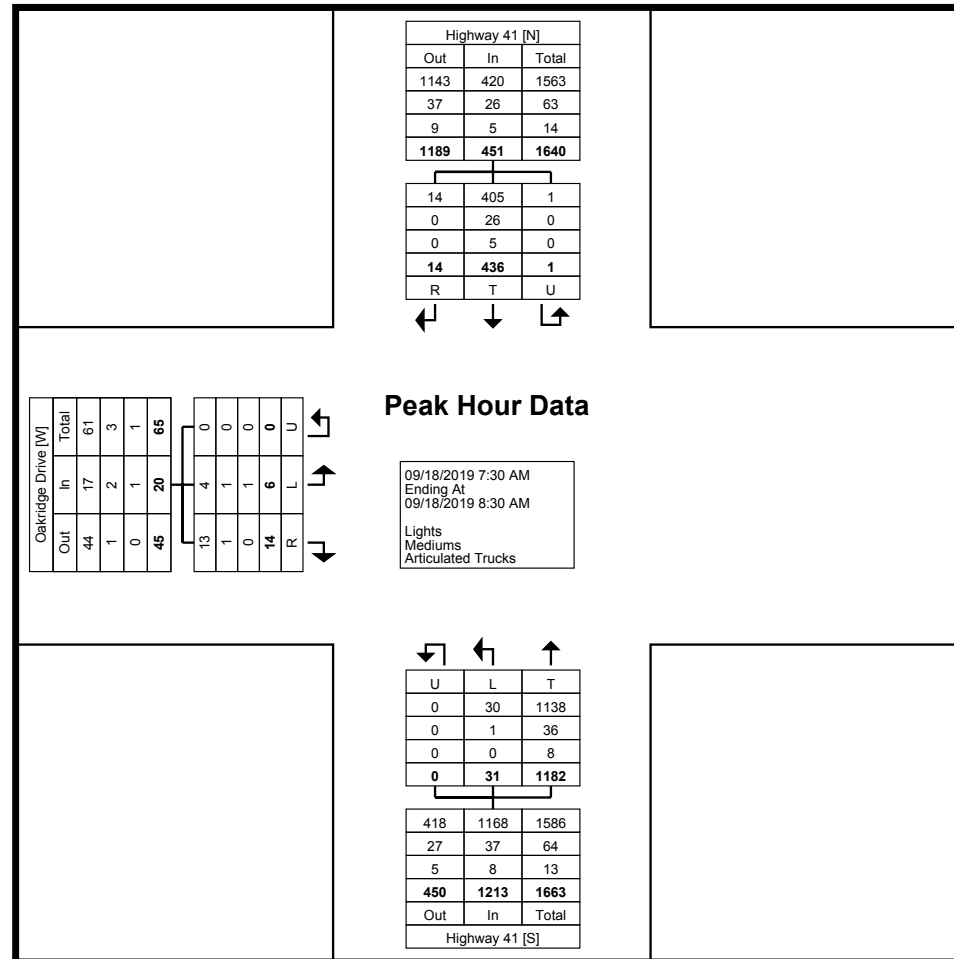
Start Time	Oakridge Drive Eastbound				Highway 41 Southbound				Highway 41 Northbound				Int. Total
	Left	Right	U-Turn	App. Total	Thru	Right	U-Turn	App. Total	Left	Thru	U-Turn	App. Total	
7:00 AM	2	2	0	4	74	7	1	82	14	251	0	265	351
7:15 AM	0	3	0	3	81	3	0	84	3	268	0	271	358
7:30 AM	1	0	0	1	101	7	1	109	9	313	0	322	432
7:45 AM	4	2	0	6	110	4	0	114	8	313	0	321	441
Hourly Total	7	7	0	14	366	21	2	389	34	1145	0	1179	1582
8:00 AM	0	4	0	4	116	2	0	118	7	293	0	300	422
8:15 AM	1	8	0	9	109	1	0	110	7	263	0	270	389
8:30 AM	4	9	0	13	122	5	0	127	5	241	0	246	386
8:45 AM	2	4	0	6	136	1	0	137	1	175	0	176	319
Hourly Total	7	25	0	32	483	9	0	492	20	972	0	992	1516
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-
4:00 PM	0	3	0	3	280	1	0	281	8	192	0	200	484
4:15 PM	1	1	0	2	218	2	0	220	0	148	0	148	370
4:30 PM	0	12	0	12	291	6	0	297	7	155	0	162	471
4:45 PM	1	7	0	8	233	2	0	235	5	169	0	174	417
Hourly Total	2	23	0	25	1022	11	0	1033	20	664	0	684	1742
5:00 PM	3	6	0	9	273	6	0	279	6	162	0	168	456
5:15 PM	4	5	0	9	260	2	0	262	1	153	0	154	425
5:30 PM	1	10	0	11	232	2	0	234	5	172	0	177	422
5:45 PM	2	5	0	7	219	2	0	221	3	170	0	173	401
Hourly Total	10	26	0	36	984	12	0	996	15	657	0	672	1704
Grand Total	26	81	0	107	2855	53	2	2910	89	3438	0	3527	6544
Approach %	24.3	75.7	0.0	-	98.1	1.8	0.1	-	2.5	97.5	0.0	-	-
Total %	0.4	1.2	0.0	1.6	43.6	0.8	0.0	44.5	1.4	52.5	0.0	53.9	-
Lights	23	77	0	100	2753	50	2	2805	85	3319	0	3404	6309
% Lights	88.5	95.1	-	93.5	96.4	94.3	100.0	96.4	95.5	96.5	-	96.5	96.4
Mediums	2	4	0	6	83	3	0	86	3	92	0	95	187
% Mediums	7.7	4.9	-	5.6	2.9	5.7	0.0	3.0	3.4	2.7	-	2.7	2.9
Articulated Trucks	1	0	0	1	19	0	0	19	1	27	0	28	48
% Articulated Trucks	3.8	0.0	-	0.9	0.7	0.0	0.0	0.7	1.1	0.8	-	0.8	0.7



Turning Movement Data Plot

Turning Movement Peak Hour Data (7:30 AM)

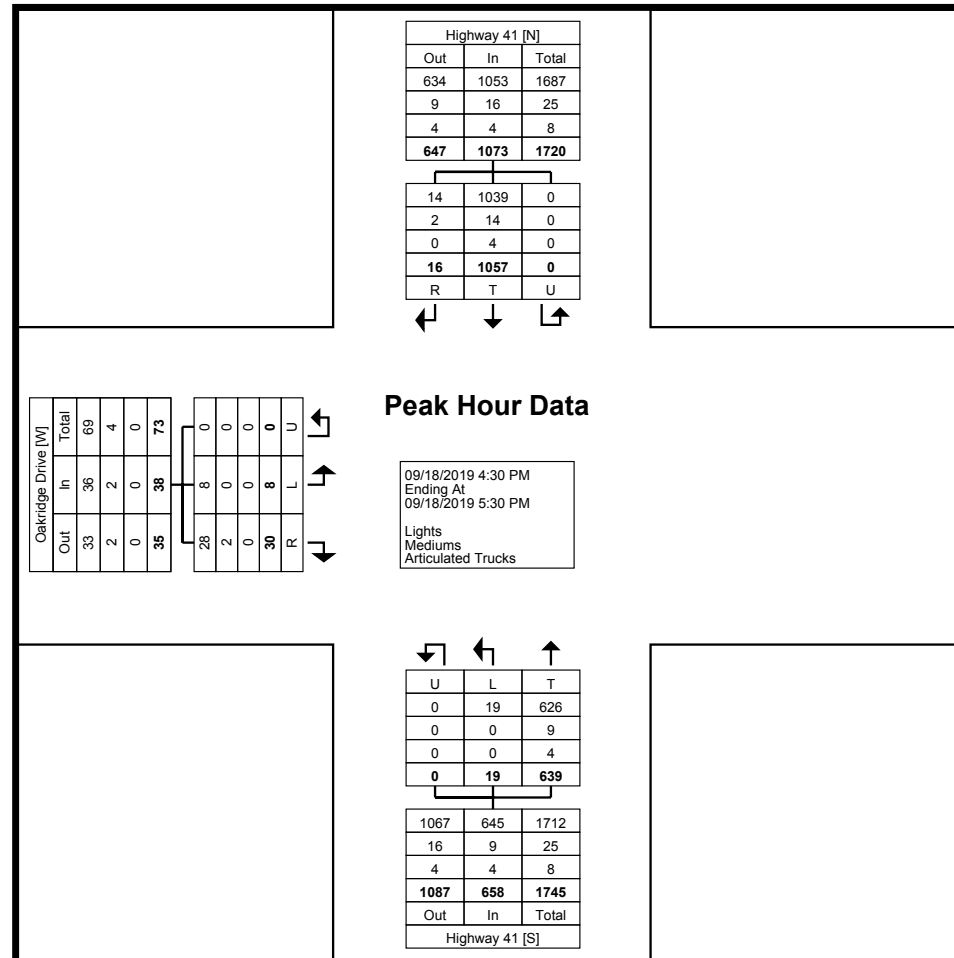
Start Time	Oakridge Drive Eastbound				Highway 41 Southbound				Highway 41 Northbound				Int. Total
	Left	Right	U-Turn	App. Total	Thru	Right	U-Turn	App. Total	Left	Thru	U-Turn	App. Total	
7:30 AM	1	0	0	1	101	7	1	109	9	313	0	322	432
7:45 AM	4	2	0	6	110	4	0	114	8	313	0	321	441
8:00 AM	0	4	0	4	116	2	0	118	7	293	0	300	422
8:15 AM	1	8	0	9	109	1	0	110	7	263	0	270	389
Total	6	14	0	20	436	14	1	451	31	1182	0	1213	1684
Approach %	30.0	70.0	0.0	-	96.7	3.1	0.2	-	2.6	97.4	0.0	-	-
Total %	0.4	0.8	0.0	1.2	25.9	0.8	0.1	26.8	1.8	70.2	0.0	72.0	-
PHF	0.375	0.438	0.000	0.556	0.940	0.500	0.250	0.956	0.861	0.944	0.000	0.942	0.955
Lights	4	13	0	17	405	14	1	420	30	1138	0	1168	1605
% Lights	66.7	92.9	-	85.0	92.9	100.0	100.0	93.1	96.8	96.3	-	96.3	95.3
Mediums	1	1	0	2	26	0	0	26	1	36	0	37	65
% Mediums	16.7	7.1	-	10.0	6.0	0.0	0.0	5.8	3.2	3.0	-	3.1	3.9
Articulated Trucks	1	0	0	1	5	0	0	5	0	8	0	8	14
% Articulated Trucks	16.7	0.0	-	5.0	1.1	0.0	0.0	1.1	0.0	0.7	-	0.7	0.8



Turning Movement Peak Hour Data Plot (7:30 AM)

Turning Movement Peak Hour Data (4:30 PM)

Start Time	Oakridge Drive Eastbound				Highway 41 Southbound				Highway 41 Northbound				Int. Total
	Left	Right	U-Turn	App. Total	Thru	Right	U-Turn	App. Total	Left	Thru	U-Turn	App. Total	
4:30 PM	0	12	0	12	291	6	0	297	7	155	0	162	471
4:45 PM	1	7	0	8	233	2	0	235	5	169	0	174	417
5:00 PM	3	6	0	9	273	6	0	279	6	162	0	168	456
5:15 PM	4	5	0	9	260	2	0	262	1	153	0	154	425
Total	8	30	0	38	1057	16	0	1073	19	639	0	658	1769
Approach %	21.1	78.9	0.0	-	98.5	1.5	0.0	-	2.9	97.1	0.0	-	-
Total %	0.5	1.7	0.0	2.1	59.8	0.9	0.0	60.7	1.1	36.1	0.0	37.2	-
PHF	0.500	0.625	0.000	0.792	0.908	0.667	0.000	0.903	0.679	0.945	0.000	0.945	0.939
Lights	8	28	0	36	1039	14	0	1053	19	626	0	645	1734
% Lights	100.0	93.3	-	94.7	98.3	87.5	-	98.1	100.0	98.0	-	98.0	98.0
Mediums	0	2	0	2	14	2	0	16	0	9	0	9	27
% Mediums	0.0	6.7	-	5.3	1.3	12.5	-	1.5	0.0	1.4	-	1.4	1.5
Articulated Trucks	0	0	0	0	4	0	0	4	0	4	0	4	8
% Articulated Trucks	0.0	0.0	-	0.0	0.4	0.0	-	0.4	0.0	0.6	-	0.6	0.5



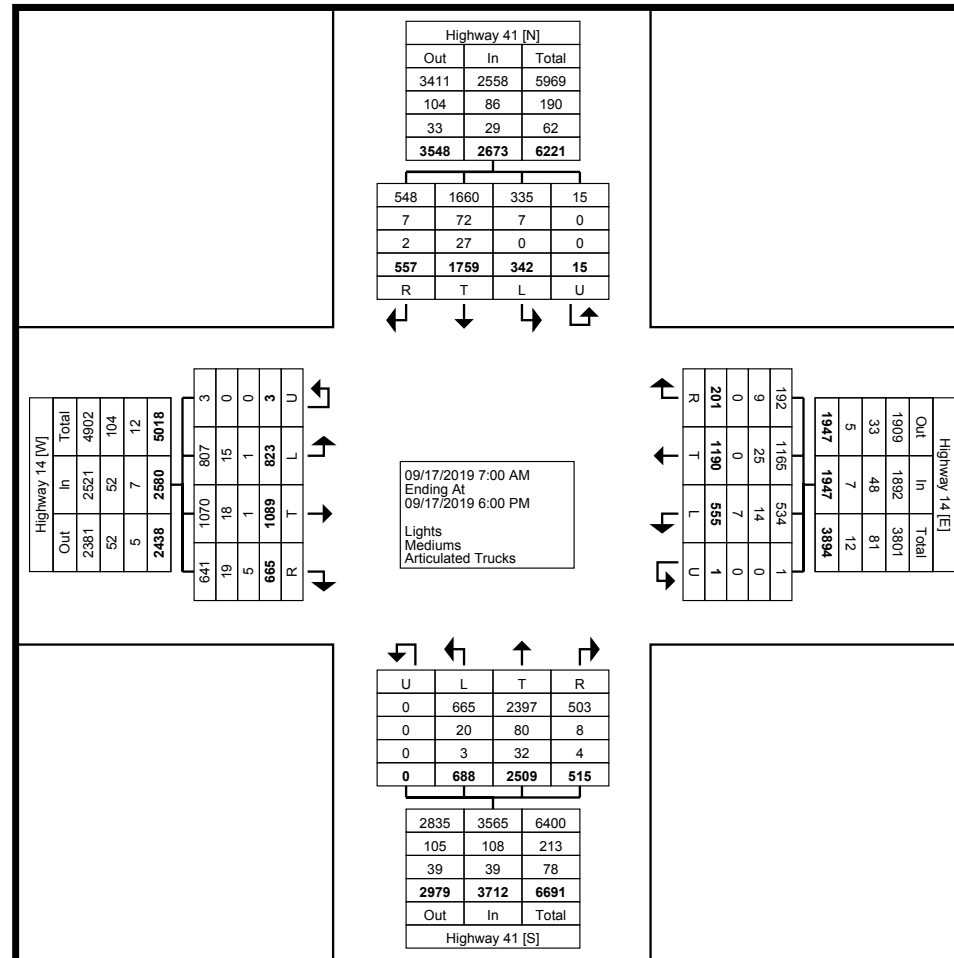
Turning Movement Peak Hour Data Plot (4:30 PM)

Kimley-Horn : Lisle (IL)
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Count Name: Highway 41 & Oakridge Drive
Site Code:
Start Date: 09/18/2019
Page No: 7

Turning Movement Data

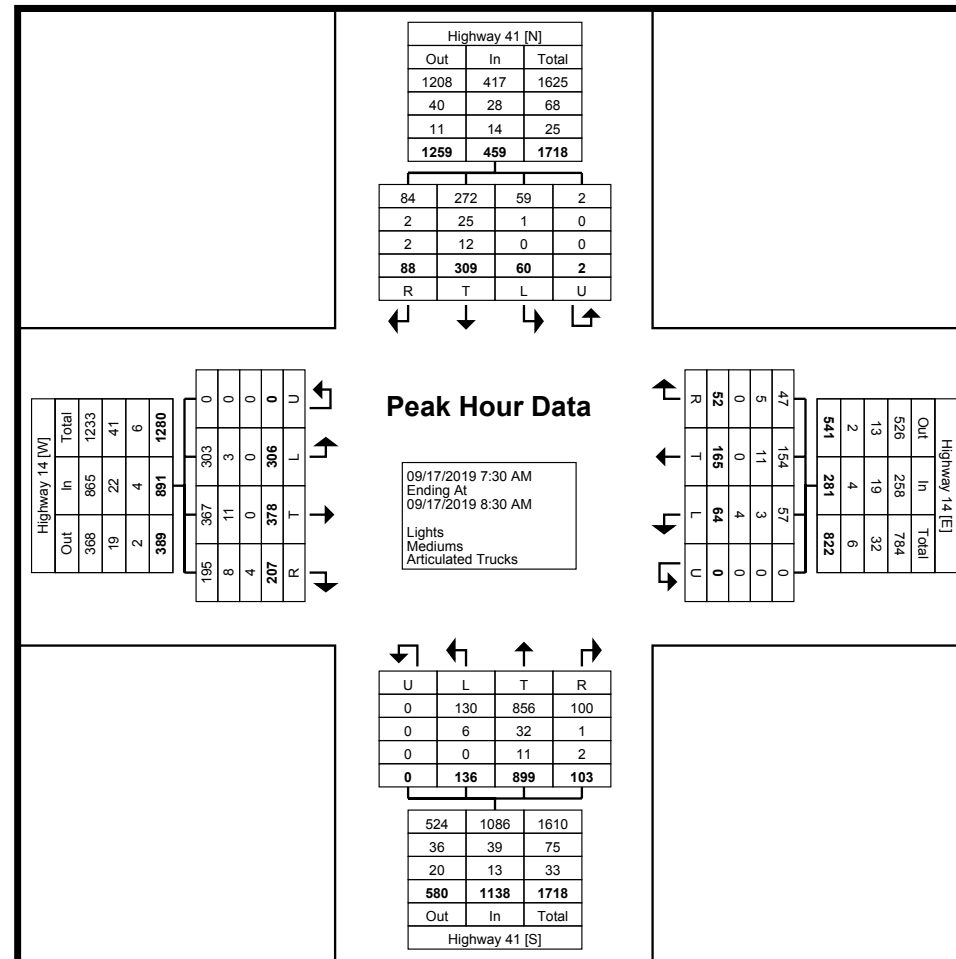
Start Time	Highway 14 Westbound					Highway 14 Eastbound					Highway 41 Southbound					Highway 41 Northbound					Int. Total
	Left	Thru	Right	U-Turn	App. Total	Left	Thru	Right	U-Turn	App. Total	Left	Thru	Right	U-Turn	App. Total	Left	Thru	Right	U-Turn	App. Total	
7:00 AM	10	22	2	0	34	65	50	60	1	176	4	52	10	0	66	16	161	21	0	198	474
7:15 AM	11	27	4	0	42	82	90	44	0	216	16	51	19	0	86	19	186	11	0	216	560
7:30 AM	7	47	11	0	65	107	140	44	0	291	12	80	13	0	105	20	207	21	0	248	709
7:45 AM	17	57	14	0	88	89	133	58	0	280	25	95	16	1	137	43	253	27	0	323	828
Hourly Total	45	153	31	0	229	343	413	206	1	963	57	278	58	1	394	98	807	80	0	985	2571
8:00 AM	16	29	17	0	62	59	50	42	0	151	9	69	32	0	110	38	241	36	0	315	638
8:15 AM	24	32	10	0	66	51	55	63	0	169	14	65	27	1	107	35	198	19	0	252	594
8:30 AM	14	34	15	0	63	45	55	45	0	145	14	70	27	0	111	34	149	29	0	212	531
8:45 AM	18	44	10	0	72	40	42	37	0	119	17	66	16	0	99	22	118	23	0	163	453
Hourly Total	72	139	52	0	263	195	202	187	0	584	54	270	102	1	427	129	706	107	0	942	2216
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4:00 PM	60	97	13	0	170	37	67	22	0	126	35	170	35	1	241	45	126	43	0	214	751
4:15 PM	44	111	22	0	177	38	62	32	0	132	44	163	47	0	254	55	127	37	0	219	782
4:30 PM	56	112	10	0	178	34	49	49	0	132	31	182	51	3	267	61	117	42	0	220	797
4:45 PM	46	123	17	0	186	30	50	39	0	119	26	167	49	3	245	54	110	48	0	212	762
Hourly Total	206	443	62	0	711	139	228	142	0	509	136	682	182	7	1007	215	480	170	0	865	3092
5:00 PM	64	114	13	0	191	26	56	36	0	118	29	147	58	3	237	54	133	24	0	211	757
5:15 PM	56	110	12	0	178	36	69	38	1	144	26	159	58	0	243	72	115	41	0	228	793
5:30 PM	54	127	14	0	195	37	68	26	1	132	16	115	48	1	180	59	134	51	0	244	751
5:45 PM	58	104	17	1	180	47	53	30	0	130	24	108	51	2	185	61	134	42	0	237	732
Hourly Total	232	455	56	1	744	146	246	130	2	524	95	529	215	6	845	246	516	158	0	920	3033
Grand Total	555	1190	201	1	1947	823	1089	665	3	2580	342	1759	557	15	2673	688	2509	515	0	3712	10912
Approach %	28.5	61.1	10.3	0.1	-	31.9	42.2	25.8	0.1	-	12.8	65.8	20.8	0.6	-	18.5	67.6	13.9	0.0	-	-
Total %	5.1	10.9	1.8	0.0	17.8	7.5	10.0	6.1	0.0	23.6	3.1	16.1	5.1	0.1	24.5	6.3	23.0	4.7	0.0	34.0	-
Lights	534	1165	192	1	1892	807	1070	641	3	2521	335	1660	548	15	2558	665	2397	503	0	3565	10536
% Lights	96.2	97.9	95.5	100.0	97.2	98.1	98.3	96.4	100.0	97.7	98.0	94.4	98.4	100.0	95.7	96.7	95.5	97.7	-	96.0	96.6
Mediums	14	25	9	0	48	15	18	19	0	52	7	72	7	0	86	20	80	8	0	108	294
% Mediums	2.5	2.1	4.5	0.0	2.5	1.8	1.7	2.9	0.0	2.0	2.0	4.1	1.3	0.0	3.2	2.9	3.2	1.6	-	2.9	2.7
Articulated Trucks	7	0	0	0	7	1	1	5	0	7	0	27	2	0	29	3	32	4	0	39	82
% Articulated Trucks	1.3	0.0	0.0	0.0	0.4	0.1	0.1	0.8	0.0	0.3	0.0	1.5	0.4	0.0	1.1	0.4	1.3	0.8	-	1.1	0.8



Turning Movement Data Plot

Turning Movement Peak Hour Data (7:30 AM)

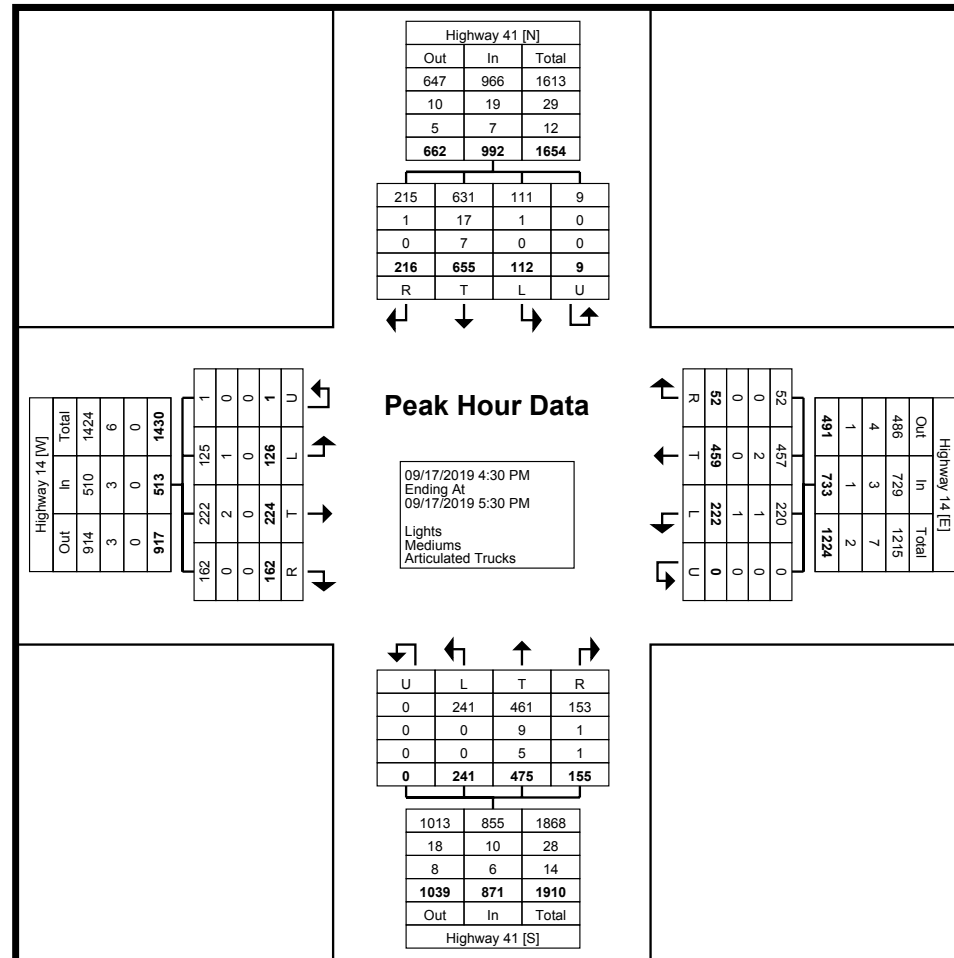
Start Time	Highway 14 Westbound					Highway 14 Eastbound					Highway 41 Southbound					Highway 41 Northbound					Int. Total
	Left	Thru	Right	U-Turn	App. Total	Left	Thru	Right	U-Turn	App. Total	Left	Thru	Right	U-Turn	App. Total	Left	Thru	Right	U-Turn	App. Total	
7:30 AM	7	47	11	0	65	107	140	44	0	291	12	80	13	0	105	20	207	21	0	248	709
7:45 AM	17	57	14	0	88	89	133	58	0	280	25	95	16	1	137	43	253	27	0	323	828
8:00 AM	16	29	17	0	62	59	50	42	0	151	9	69	32	0	110	38	241	36	0	315	638
8:15 AM	24	32	10	0	66	51	55	63	0	169	14	65	27	1	107	35	198	19	0	252	594
Total	64	165	52	0	281	306	378	207	0	891	60	309	88	2	459	136	899	103	0	1138	2769
Approach %	22.8	58.7	18.5	0.0	-	34.3	42.4	23.2	0.0	-	13.1	67.3	19.2	0.4	-	12.0	79.0	9.1	0.0	-	-
Total %	2.3	6.0	1.9	0.0	10.1	11.1	13.7	7.5	0.0	32.2	2.2	11.2	3.2	0.1	16.6	4.9	32.5	3.7	0.0	41.1	-
PHF	0.667	0.724	0.765	0.000	0.798	0.715	0.675	0.821	0.000	0.765	0.600	0.813	0.688	0.500	0.838	0.791	0.888	0.715	0.000	0.881	0.836
Lights	57	154	47	0	258	303	367	195	0	865	59	272	84	2	417	130	856	100	0	1086	2626
% Lights	89.1	93.3	90.4	-	91.8	99.0	97.1	94.2	-	97.1	98.3	88.0	95.5	100.0	90.8	95.6	95.2	97.1	-	95.4	94.8
Mediums	3	11	5	0	19	3	11	8	0	22	1	25	2	0	28	6	32	1	0	39	108
% Mediums	4.7	6.7	9.6	-	6.8	1.0	2.9	3.9	-	2.5	1.7	8.1	2.3	0.0	6.1	4.4	3.6	1.0	-	3.4	3.9
Articulated Trucks	4	0	0	0	4	0	0	4	0	4	0	12	2	0	14	0	11	2	0	13	35
% Articulated Trucks	6.3	0.0	0.0	-	1.4	0.0	0.0	1.9	-	0.4	0.0	3.9	2.3	0.0	3.1	0.0	1.2	1.9	-	1.1	1.3



Turning Movement Peak Hour Data Plot (7:30 AM)

Turning Movement Peak Hour Data (4:30 PM)

Start Time	Highway 14 Westbound					Highway 14 Eastbound					Highway 41 Southbound					Highway 41 Northbound					Int. Total
	Left	Thru	Right	U-Turn	App. Total	Left	Thru	Right	U-Turn	App. Total	Left	Thru	Right	U-Turn	App. Total	Left	Thru	Right	U-Turn	App. Total	
4:30 PM	56	112	10	0	178	34	49	49	0	132	31	182	51	3	267	61	117	42	0	220	797
4:45 PM	46	123	17	0	186	30	50	39	0	119	26	167	49	3	245	54	110	48	0	212	762
5:00 PM	64	114	13	0	191	26	56	36	0	118	29	147	58	3	237	54	133	24	0	211	757
5:15 PM	56	110	12	0	178	36	69	38	1	144	26	159	58	0	243	72	115	41	0	228	793
Total	222	459	52	0	733	126	224	162	1	513	112	655	216	9	992	241	475	155	0	871	3109
Approach %	30.3	62.6	7.1	0.0	-	24.6	43.7	31.6	0.2	-	11.3	66.0	21.8	0.9	-	27.7	54.5	17.8	0.0	-	-
Total %	7.1	14.8	1.7	0.0	23.6	4.1	7.2	5.2	0.0	16.5	3.6	21.1	6.9	0.3	31.9	7.8	15.3	5.0	0.0	28.0	-
PHF	0.867	0.933	0.765	0.000	0.959	0.875	0.812	0.827	0.250	0.891	0.903	0.900	0.931	0.750	0.929	0.837	0.893	0.807	0.000	0.955	0.975
Lights	220	457	52	0	729	125	222	162	1	510	111	631	215	9	966	241	461	153	0	855	3060
% Lights	99.1	99.6	100.0	-	99.5	99.2	99.1	100.0	100.0	99.4	99.1	96.3	99.5	100.0	97.4	100.0	97.1	98.7	-	98.2	98.4
Mediums	1	2	0	0	3	1	2	0	0	3	1	17	1	0	19	0	9	1	0	10	35
% Mediums	0.5	0.4	0.0	-	0.4	0.8	0.9	0.0	0.0	0.6	0.9	2.6	0.5	0.0	1.9	0.0	1.9	0.6	-	1.1	1.1
Articulated Trucks	1	0	0	0	1	0	0	0	0	0	0	7	0	0	7	0	5	1	0	6	14
% Articulated Trucks	0.5	0.0	0.0	-	0.1	0.0	0.0	0.0	0.0	0.0	0.0	1.1	0.0	0.0	0.7	0.0	1.1	0.6	-	0.7	0.5



Turning Movement Peak Hour Data Plot (4:30 PM)

Kimley-Horn : Lisle (IL)
1001 Warrenville Road, Suite 350
Lisle, Illinois, United States 60532
331.481.7332 jack.olsson@kimley-horn.com

Count Name: Highway 41 & Highway 14
Site Code:
Start Date: 09/17/2019
Page No: 7

Intersection Control Evaluation

Trunk Highway 41 at CSAH 18 (Lyman Boulevard)

*Carver County, Minnesota
S.A.P. 010-618-014*

Carver County



August 2017

SRF No. 015 9008

Intersection Control Evaluation

Trunk Highway 41 at CSAH 18 (Lyman Boulevard)

Proposed Letting Date: TBD

Report Certification:

I hereby certify that this report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.

Scott C. Poska

Print Name

47068

Reg. No.

Signature

Date

Approved:

City of Chaska

City Engineer

Carver County
County Engineer

MnDOT

Metro District Traffic Engineer – Program Support

MnDOT

Metro District State Aid Engineer

Date

Date

Date

Date

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Introduction

This report comprises the intersection control evaluation results for the Trunk Highway (TH) 41 at County State Aid Highway (CSAH) 18 (Lyman Boulevard) intersection in the City of Chaska, Carver County, Minnesota (see Figure 1). The purpose of this evaluation was to analyze various intersection control alternatives for the intersection under existing and future conditions to identify a preferred intersection control alternative. The following alternatives were considered applicable:

- Traffic Signal Control
- Roundabout Control

All-way stop and side-street stop control alternatives were determined to be not applicable to this intersection because it is currently under traffic signal control due to the heavy mainline and side street volumes. Detailed warrant, operations, crash, and planning-level cost analyses was performed to determine a preferred intersection control alternative. In addition to the analyses, other factors considered for this evaluation that were applicable to determining the long-term preferred intersection control included:

- Right-of-Way Considerations
- Transportation System Considerations
- Pedestrian Considerations
- Local Acceptance

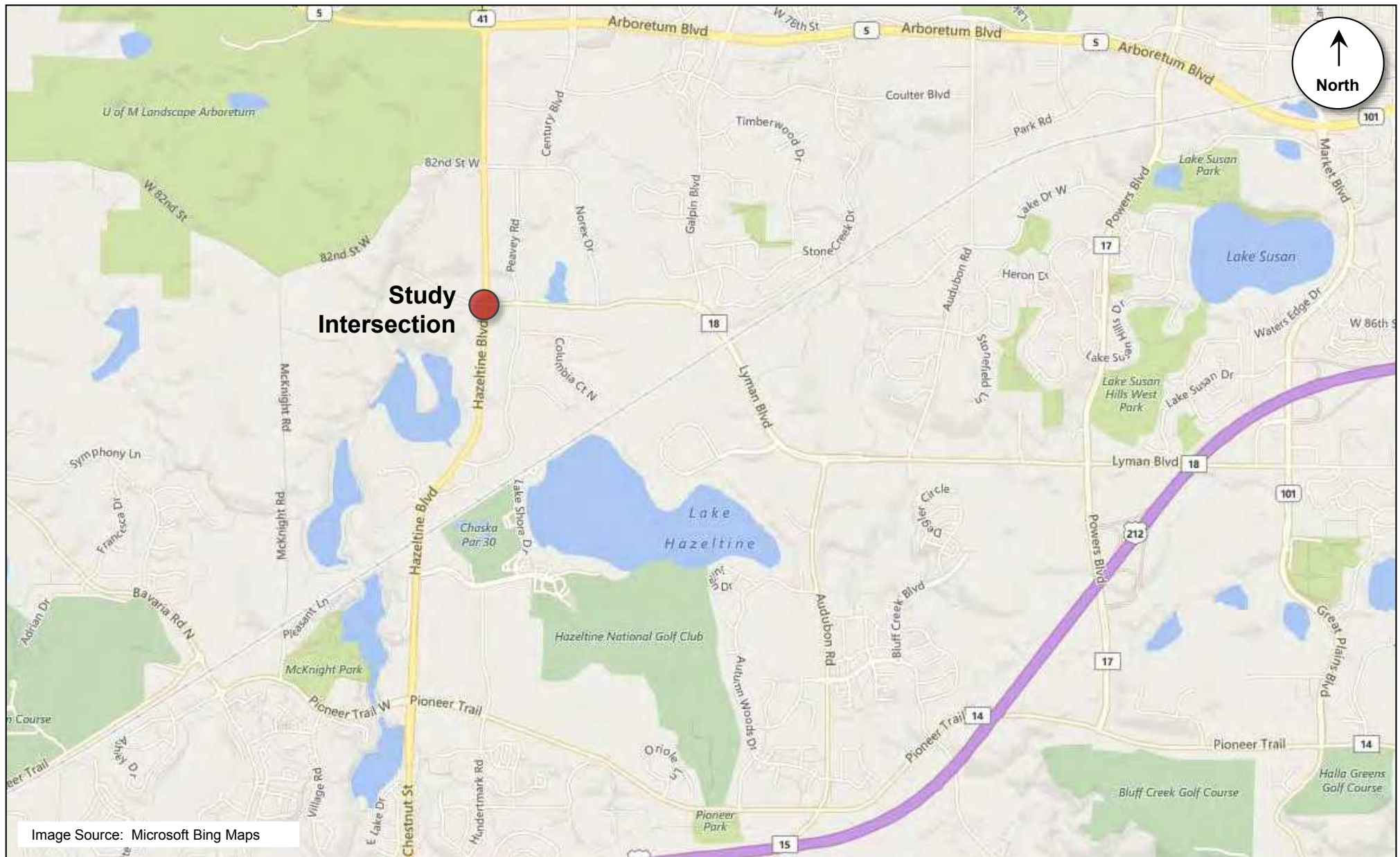


Image Source: Microsoft Bing Maps



Intersection Location

Intersection Control Evaluation
TH 41 at CSAH 18

Figure 1

Intersection Characteristics

Existing Conditions

The Trunk Highway 41 at CSAH 18 (Lyman Boulevard) intersection is currently signalized. TH 41 is a two-lane undivided roadway with a posted speed limit of 50 mph and functionally classified by Carver County as an A Minor Expander. CSAH 18 is a four-lane undivided roadway in the immediate vicinity of the intersection with a posted speed limit of 45 mph and functionally classified by Carver County as an A Minor Expander east of the subject intersection and a B Minor roadway west of the subject intersection. CSAH 18 is a two lane undivided roadway between Peavey Road and Galpin Road. Lyman Boulevard dead-ends 1500 feet west of the subject intersection. The adjacent area is comprised of industrial and commercial land uses. The intersection of CSAH 18 and Peavey Road is located approximately 500 feet west of the subject intersection and is currently side street stop-controlled. Current intersection geometrics are listed below in Table 1 and shown in Figure 2.

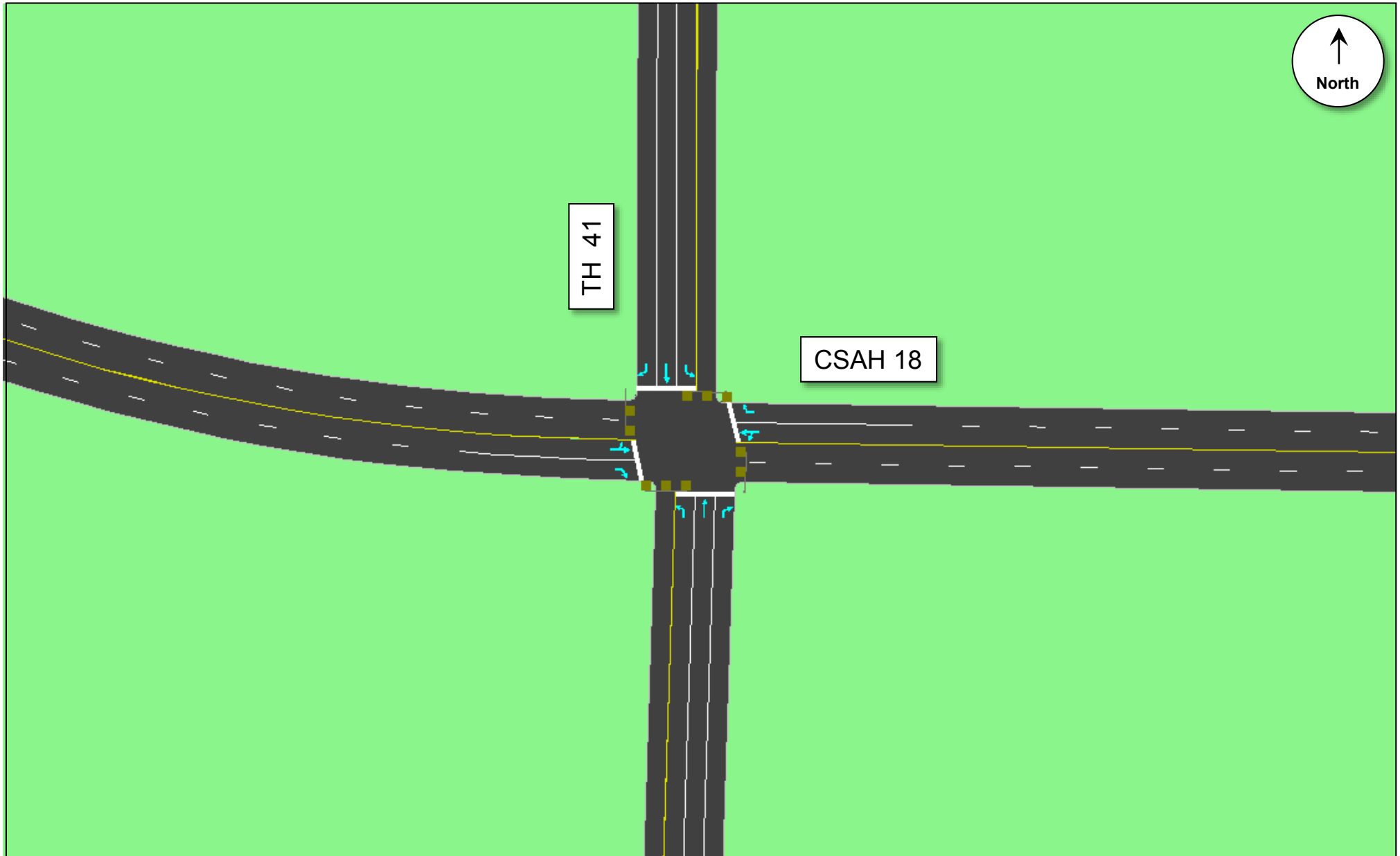
Table 1. Existing Conditions

Approach	Lane Configurations
Northbound TH 41	One left-turn lane, one thru lane, and one right-turn lane
Southbound TH 41	One left-turn lane, one thru lane, and one right-turn lane
Eastbound CSAH 18	One shared left/thru lane and one right-turn lane
Westbound CSAH 18	One shared left/thru lane and one right-turn lane

Crash History

Crash data was obtained from the *CSAH 18 (TH 41 to CSAH 15) – Concept Design Preliminary Traffic Operations and Access* (SRF Consulting Group, Inc., February 2017). The data in this report was obtained from the MnDOT Crash Mapping Analysis Tool (MnCMAT) database for a five-year period from 2011 through 2015. Detailed crash data is provided in the Appendix. Twelve crashes were reported at the study intersection during the analysis period. This results in a crash rate of 0.35 crashes per million entering vehicles, which is below the statewide average of 0.45 for a high volume, high speed signal controlled intersection. This rate is below the critical crash rate of 0.68 crashes per million entering vehicles (0.95 level of confidence) for this intersection. A summary of the crash data is shown below:

- 10 – Property Damage Only Crashes
- 2 – Possible Injury Crashes
- Crash Rate – 0.35 (crashes/million entering vehicles)
- Critical Crash Rate – 0.68 (crashes/million entering vehicles)



Existing Conditions

Intersection Control Evaluation
TH 41 at CSAH 18

Figure 2

Future Conditions

Opening Day Year 2020 lane configurations account for improvements in the vicinity of the subject intersection. These improvements include a conversion of the intersection of CSAH 18 and Peavey Road to roundabout control as well as a widening of CSAH 18 to four lanes between Peavey Road and TH 41. The lane configurations were determined based on the need to maintain acceptable traffic operations. For the traffic signal control alternative, the existing lane configurations were assumed to remain, as shown in Table 2. For the roundabout control alternative, it was determined – through analysis described later in this report – that a multi-lane roundabout would be necessary at the subject intersection by 2040. However, under Opening Day Year 2020 traffic conditions, a single lane roundabout was determined to be sufficient for operations. Therefore, it is anticipated that a multi-lane roundabout at the subject intersection would be constructed but striped as a single-lane roundabout for Opening Day Year 2020. The assumed lane configurations for this alternative are shown in Table 2 and Figure 3.

Table 2. Opening Day Year 2020 Intersection Lane Configurations

Approach	Traffic Signal Control	Roundabout Control
Northbound TH 41	One left-turn lane, one thru lane and one right-turn lane	One shared left-turn/thru lane and one right-turn lane
Southbound TH 41	One left-turn lane, one thru lane and one right-turn lane	One shared left-turn/thru lane and one right-turn lane
Eastbound CSAH 18	One left-turn/thru lane and one right-turn lane	One shared left-turn/thru lane and one right-turn lane
Westbound CSAH 18	One left-turn/thru lane and one right-turn lane	One shared left-turn/thru lane and one right-turn lane

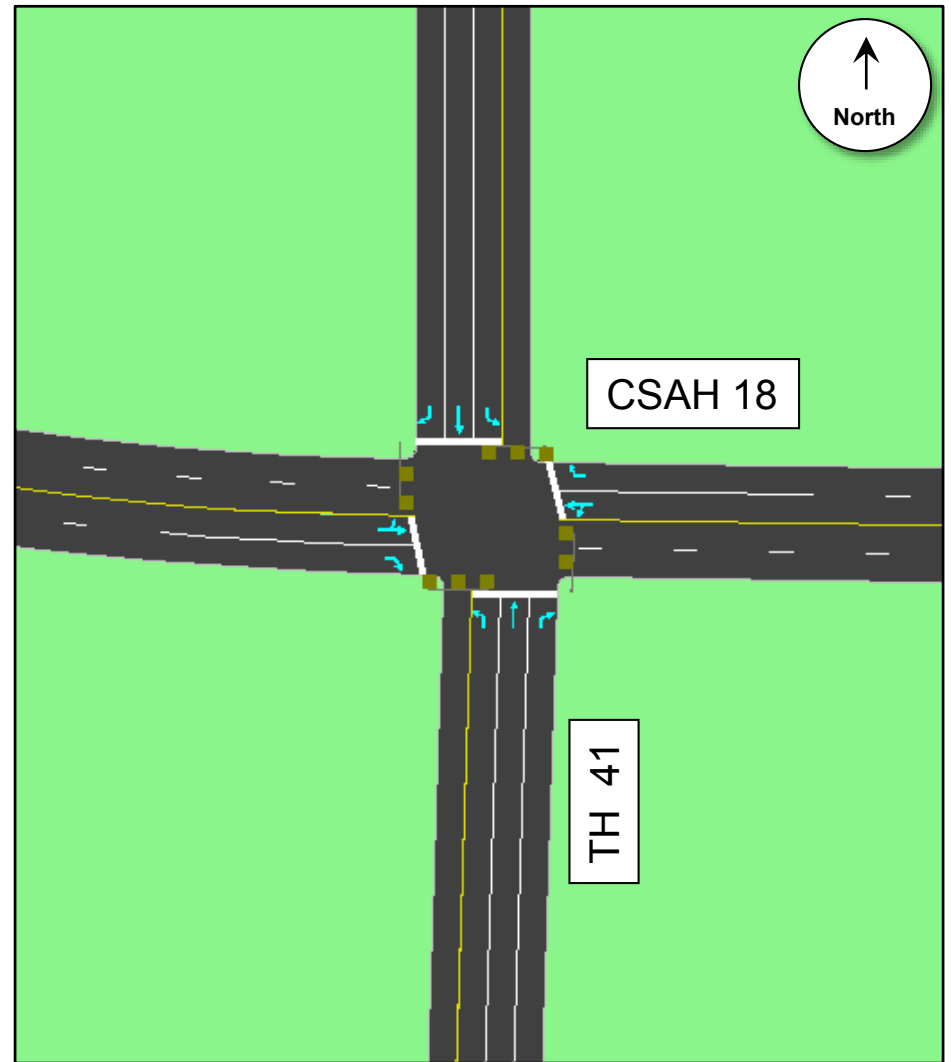
Forecast Year 2040 lane configurations account for the widening of TH 41 to four lanes and the extension of CSAH 18 to the west, which is forecasted to significantly increase east-west traffic volumes. Additionally, a conversion of the nearby TH 41 and Peavey Road intersection to right-in, right-out control was assumed, which will affect future traffic patterns. The proposed lane configurations also take into consideration the proposed roundabout at the nearby CSAH 18/Peavey Road intersection. A summary of these proposed lane configurations for the study intersection under Forecast Year 2040 conditions is shown in Table 3 and Figure 4.

Table 3. Forecast Year 2040 Intersection Lane Configurations

Approach	Traffic Signal Control	Roundabout Control
Northbound TH 41	One left-turn lane, two thru lanes and one right-turn lane	One shared left-turn/thru lane and one shared thru/right-turn lane
Southbound TH 41	One left-turn lane, two thru lanes and one right-turn lane	One shared left-turn/thru lane and one shared thru/right-turn lane
Eastbound CSAH 18	One left-turn lane, one thru lane and one shared thru/right-turn lane	One shared left-turn/thru lane and one shared thru/right-turn lane
Westbound CSAH 18	One left-turn lane, one thru lane and one shared thru/right-turn lane	One shared left-turn/thru lane and one shared thru/right-turn lane



Roundabout Alternative



Traffic Signal Alternative



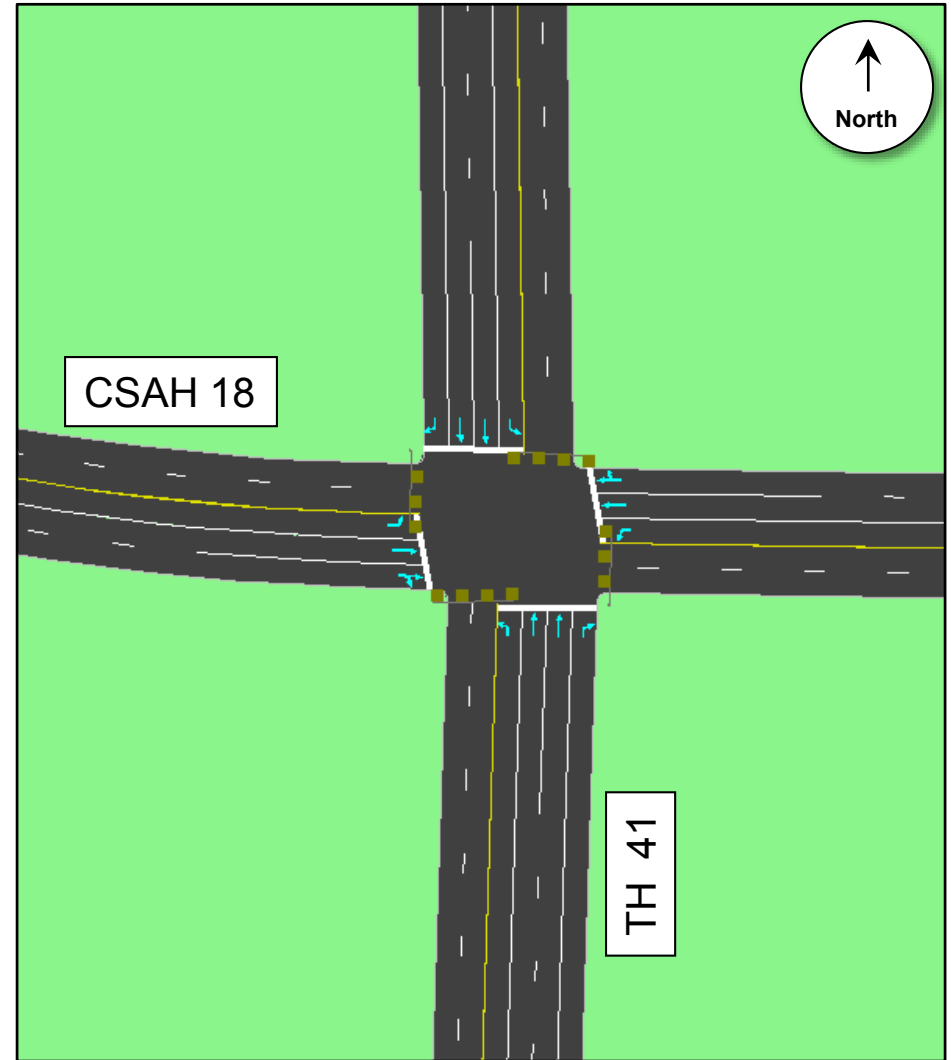
Opening Day Year 2020 Conditions

Intersection Control Evaluation
TH 41 at CSAH 18

Figure 3



Roundabout Alternative



Traffic Signal Alternative



Forecast Year 2040 Conditions

Intersection Control Evaluation
TH 41 at CSAH 18

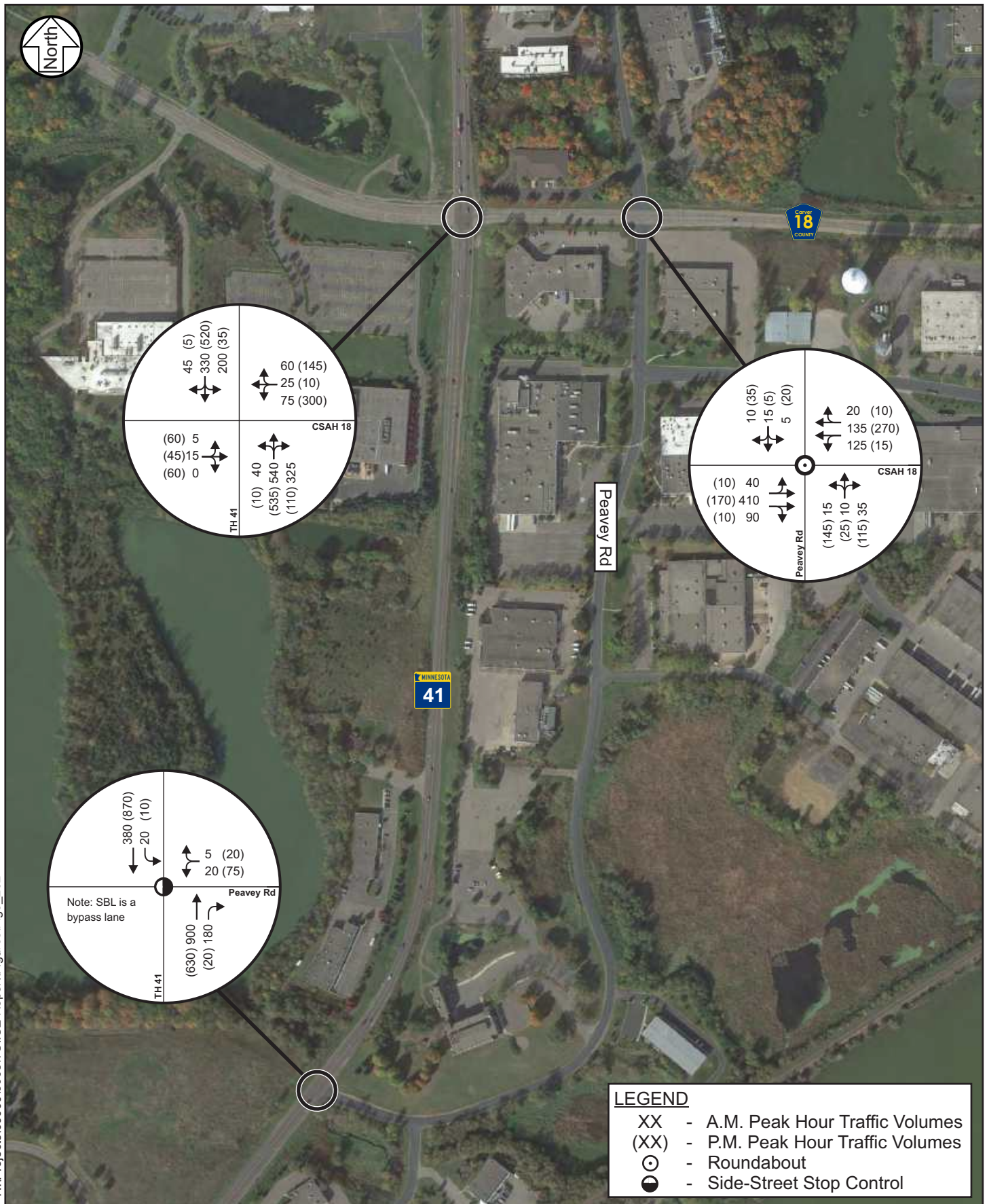
Figure 4

Traffic Volumes

Existing hourly approach volumes at the study intersection were collected in October of 2015 and are shown in the Appendix.

Opening Day Year 2020 and Forecast Year 2040 a.m. and p.m. peak turning movement volumes used in the analysis were based on existing and forecasted daily volumes developed for the *CSAH 18 (TH 41 to CSAH 15) – Concept Design Alternatives Evaluation* (SRF Consulting Group, Inc., February 2017). These forecasted volumes account for planned development in the area and a future extension of CSAH 18 to the west.

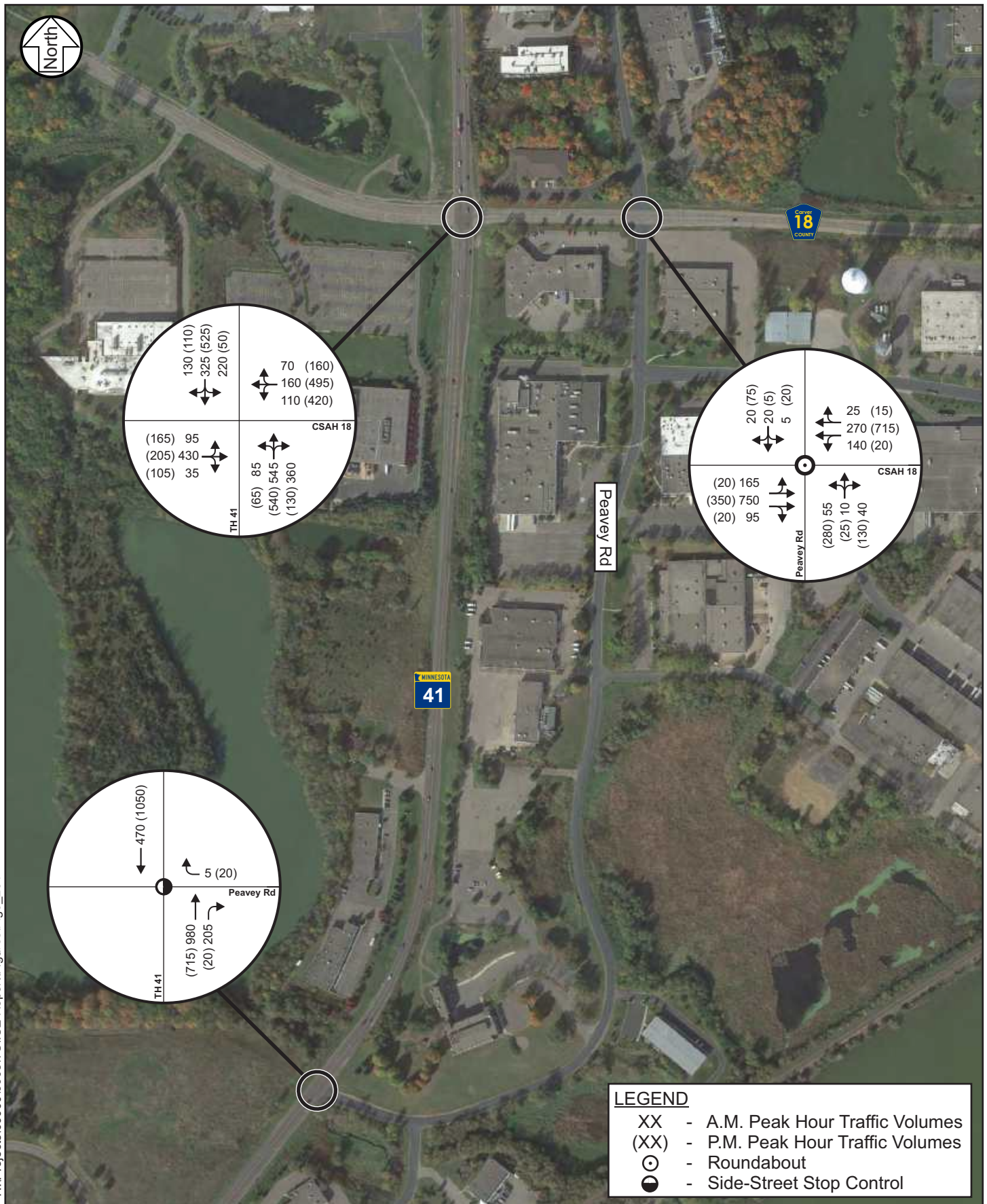
Opening Day Year 2020 and Forecast Year 2040 peak hour turning movement volumes, including assumed lane configurations, are shown in Figures 5 and 6, respectively.



Opening Day Year 2020 Volumes

Intersection Control Evaluation

Figure 5



Forecast Year 2040 Volumes

Intersection Control Evaluation

Figure 6

Analysis of Alternatives

The evaluation of intersection control alternatives included warrant, operations, crash, and planning-level cost analyses. Opening Day Year 2020 and Forecast Year 2040 volumes and lane configurations were used in this analysis. The following intersection control alternatives were analyzed:

- Traffic Signal Control
- Roundabout Control

Warrant Analysis

A warrants analysis was performed for the traffic signal control alternative as outlined in the February 2015 *Minnesota Manual on Uniform Traffic Control Devices* (MnMUTCD). Analysis of signal warrants 1-3 was performed for Opening Day Year 2020 and Forecast Year 2040 volumes. Signal warrants 4-9 were investigated and were determined to be not applicable for the study intersection. The lane geometry and approach speeds assumed for the warrant analysis are shown in Table 4.

Table 4. Warrants Analysis Assumptions

Approach	Geometry		Speed Limit
	Opening Day Year 2020	Forecast Year 2040	
Northbound TH 41 (Major)	Two or more approach lanes	Two or more approach lanes	50 mph
Southbound TH 41 (Major)	Two or more approach lanes	Two or more approach lanes	50 mph
Eastbound CSAH 18 (Minor)	One approach lane	Two or more approach lanes	45 mph
Westbound CSAH 18 (Minor)	One approach lane	Two or more approach lanes	45 mph

Because of the change in traffic patterns due to access changes near the subject intersection as well as the extension of CSAH 18 to the west, existing daily traffic profiles were determined to be not applicable for the future conditions. Therefore, using engineering judgement, the 8th Highest Hour was estimated to be 50% of the PM peak hour. As a result, it was assumed that if the AM peak hour, the PM peak hour, and the 8th Highest Hour met the warrant requirements, the remaining 5 hours would meet as well.

For the Opening Year 2020 analysis, right-turn volumes on the minor street approaches were excluded from the warrant analysis because these movements have exclusive right-turn lanes and so these turns can be easily made and would not benefit from the addition of a signal. The right-turn lane capacity was analyzed and it was verified that there is sufficient capacity for these movements. Using engineering judgement, the exclusive right-turn lanes were not considered approach lanes. For the Forecast Year 2040 analysis, right-turn volumes on the minor street approaches was included due to the shared thru/right-turn lanes.

The 70 percent traffic volume factor was used for the warrant analysis, as proposed conditions meet the necessary criteria (mainline roadway speed limits are expected to remain greater than 40 mph). Therefore, our warrants analysis results are valid for any post-construction posted speeds of 40 mph or greater. Table 5 provides a summary of the warrant analysis results, while the detailed volume-based warrant analysis is shown in the Appendix.

Table 5. Warrant Analysis Summary

MnMUTCD Signal Warrant	Hours Required	Opening Day Year 2020 Volumes		Forecast Year 2040 Volumes	
		Hours Met	Warrant Met?	Hours Met	Warrant Met?
Warrant 1A: Minimum Vehicular Volume	8	2	No	3	Yes*
Warrant 1B: Interruption of Continuous Traffic	8	2	No	3	Yes*
Warrant 1C: Combination of Warrants	8	3	Yes*	3	Yes*
Warrant 2: Four-Hour Volume	4	3	Yes*	3	Yes*
Warrant 3B: Peak Hour Volume	1	3	Yes	3	Yes
Warrants 4-9	Not Applicable				

* If the a.m. peak, p.m. peak, and 8th highest hours satisfy the conditions of a warrant, then it was assumed that the remaining five hours also satisfy the warrant thresholds.

The results of the signal warrant analysis indicate that the intersection meets MnMUTCD Warrants 1C, 2, and 3B under Opening Day Year 2020 volume conditions and Warrants 1, 2, and 3B under Forecast Year 2040 volume conditions.

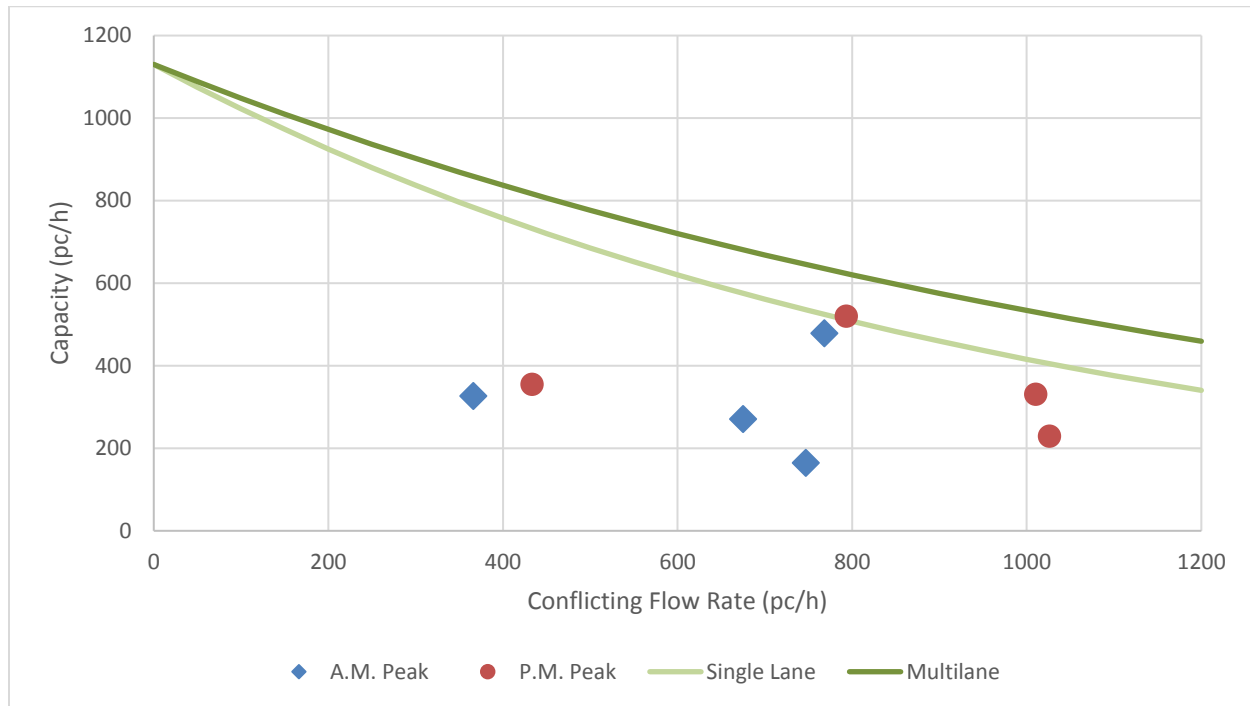
Operations Analysis

An initial planning-level analysis was performed for the roundabout control alternative based on HCM methods found in *Roundabouts, An Informational Guide, 2nd Edition* (National Cooperative Highway Research Program Report 672, 2010). Planning-level analysis results for Forecast Year 2040 volumes are shown in Figure 7. As can be seen, the Forecast Year 2040 volumes are below the theoretical capacity of a multi-lane roundabout but near or at capacity on some approaches for a single lane roundabout. Therefore, a multi-lane roundabout was used for analysis of Forecast Year 2040 conditions.

The operations analysis identified a Level of Service (LOS) which indicates how well an intersection is operating based on delay per vehicle. Delay is calculated based on procedures outlined in the HCM. Intersections are given a ranking from LOS A to LOS F. LOS A indicates the best traffic operation and LOS F indicates an intersection where demand exceeds capacity. LOS A through LOS D are generally considered acceptable.

Operational analysis of the traffic signal and roundabout control alternatives was performed using VISSIM. VISSIM is a microscopic simulation software program that is capable of modeling complex multimodal transportation networks.

Figure 7. TH 41 at CSAH 18 Roundabout Entry Lane Capacity (Forecast Year 2040 volumes)



Supplemental operations analysis of the roundabout control alternative was performed using Highway Capacity Software Version 7 (HCS 7). HCS 7 is based on methodologies found in the Highway Capacity Manual, Sixth Edition, which is considered a conservative approach to determining the capacity of a roundabout.

Supplemental operational analysis of the traffic signal control alternative was performed using methods outlined in the 2010 Highway Capacity Manual (HCM) using Synchro/SimTraffic Version 9.1. Synchro/SimTraffic is a macroscopic analysis and optimization tool based on study procedures outlined in the HCM. Synchro/SimTraffic is capable of calculating various measures of effectiveness such as control delay, queuing, and total travel time impacts. SimTraffic results are reported for the analysis.

Results of the operations analysis indicate that both alternatives would perform at acceptable levels of service under Opening Day Year 2020 volumes and proposed lane configurations with the roundabout alternative overall having less delay. Table 6 provides a summary of the Opening Day Year 2020 operations analysis. The Opening Day Year 2020 detailed operations analysis results are shown in the Appendix.

Table 6. Opening Day Year 2020 Operations Analysis Results

Alternative	Analysis Tool	AM Peak Hour		PM Peak Hour	
		Delay ⁽¹⁾ (sec/veh)	LOS	Delay ⁽¹⁾ (sec/veh)	LOS
Traffic Signal Control	VISSIM	13.5 / 47.1	B/D	17.4 / 27.7	B/C
	Synchro/SimTraffic	8.8 / 36.6	A/D	17.5 / 28.5	B/C
Roundabout Control	VISSIM	6.8 / 7.8	A/A	8.5 / 11.1	A/B
	HCS 7	6.5 / 7.4	A/A	8.4 / 11.6	A/B

(1) Overall results are followed by the worst approach results

The detailed operations analysis results can be found in the Appendix. Table 7 provides a summary of the Forecast Year 2040 operations analysis. Results of the operations analysis indicate that traffic under both alternatives would continue to operate at acceptable levels of service under Forecast Year 2040 volumes and proposed lane configurations with the roundabout alternatives overall having less delay.

Table 7. Forecast Year 2040 Operations Analysis Results

Alternative	Analysis Tool	AM Peak Hour		PM Peak Hour	
		Delay ⁽¹⁾ (sec/veh)	LOS	Delay ⁽¹⁾ (sec/veh)	LOS
Traffic Signal Control	VISSIM	31.6 / 34.8	C/C	29.6 / 31.5	C/C
	Synchro/SimTraffic	24.5 / 38.6	C/D	25.1 / 27.6	C/C
Roundabout Control	VISSIM	11.2 / 19.5	B/C	10.3 / 12.7	B/B
	HCS 7	13.4 / 21.6	B/C	19.0 / 27.9	C/D

(1) Overall results are followed by the worst approach results

Due to the close proximity of the CSAH 18 & Peavey Road intersection, queues on the westbound approach to the subject intersection are a concern due to spillback potentially causing the adjacent roundabout to fail. There is approximately 400 feet of storage for queued vehicles between the two intersections. Results of the operational analysis indicate that under Forecast Year 2040 volume conditions, the traffic signal alternative is expected to have a maximum queue of approximately 375 feet, while the roundabout alternative is expected to have a maximum queue of 250 feet. As a result, neither alternative experienced queues over the critical length, however under atypically high volume conditions the traffic signal alternative may experience queueing issues. See the Appendix for the detailed queueing results of the modelling.

Crash Analysis

A crash analysis was performed to determine the projected crashes per year for each traffic control alternative for the Opening Day Year 2020 and Forecast Year 2040 conditions for the study intersection. Crash rates from the MnDOT Intersection Green Sheets (2013-2015 data) were used for the crash analysis of the traffic signal control alternative.

Typically, roundabouts have fewer conflict points than conventional intersections and the geometry of a roundabout induces lower speeds for vehicles approaching and traversing an intersection. With lower speeds, the severity of the crashes is decreased. A roundabout virtually eliminates right-angle and left-turn head-on crashes.

Recent research conducted on roundabout safety in Wisconsin¹ indicates that the conversion of a signalized intersection to a multi-lane roundabout is not expected to significantly change the crash rate/frequency. This research did, however, indicate that a conversion to roundabout control is expected to significantly decrease the severity of crashes. Therefore, overall crash rates for the roundabout control scenarios were assumed to be the same as a signalized intersection, and therefore have the same number of forecasted crashes. The proportion of crashes resulting in serious injuries, however, is expected to decrease. A summary of the crash analysis is shown in Table 8.

Table 8. Crash Analysis Results

Alternative	Intersection ADT		Average Crash Rate ⁽¹⁾	Projected Crashes/Year	
	Opening Day Year 2020	Forecast Year 2040		Opening Day Year 2020	Forecast Year 2040
Traffic Signal Control	20,200	27,400	0.45 ⁽²⁾	3	5
Roundabout Control			0.45 ⁽³⁾	3	5

(1) Per million entering vehicles.

(2) Based on MnDOT average crash rate for type of intersection and control.

(3) Estimated to be the same as the rate of traffic signal control.

¹ X. Qin, A. Bill, M. Chitturi, D. Noyce, *Evaluation of Roundabout Safety*. Transportation Research Board Annual Meeting, 2013

Planning-Level Cost Analysis

Capital Costs

Due to the need for an additional thru lane on each approach by 2040, both traffic signal and roundabout controls would require geometric changes to the existing signalized intersection. Traffic signals generally have higher capital costs due to the cost of signal equipment. Typically, roundabouts require more right-of-way acquisition than traffic signals, however traffic signals may require additional right-of-way on the approaches due to the need to develop turn lanes.

Operation and Maintenance Costs

Traffic signals typically have higher operation and maintenance costs because of the electricity required to operate the signal and routine maintenance required to keep the signal in operation. Operation and maintenance costs associated with a roundabout can vary depending on the amount of illumination required or landscaping alternatives used for the center island.

Alternatives Assessment

Right-of-Way Considerations

Typically, roundabouts require more right-of-way acquisition than traffic signals, however traffic signals may require additional right-of-way on the approaches due to the need to develop turn lanes.

Transportation System Considerations

The subject intersection is a critical part of the local transportation system, particularly for access to the industrial center on the southeast corner of the subject intersection. According to *CSAH 18 (TH 41 to CSAH 15) – Concept Design Alternatives Evaluation* (SRF Consulting Group, Inc., February 2017) the nearby intersection of Peavey Road and CSAH 18 (located approximately 500 feet east of the subject intersection) is recommended to operate with roundabout control. Under this scenario, a roundabout at the subject intersection would be a more consistent form of traffic control along the corridor and avoids potential operational issues caused by westbound traffic queues at the subject intersection spilling back into the roundabout at Peavey Road and CSAH 18. For further details on recommended intersection control in the vicinity of the subject intersection, see the Appendix.

The intersection of Peavey Road and TH 41, located approximately ½ mile south of the subject intersection, is currently side street stop controlled and is operating at failing levels of service on the minor approach. A signal at the subject intersection would help form platoons in the traffic flow, creating more opportunities for acceptable gaps.

Pedestrian Considerations

Pedestrian accommodations could be included in either traffic control alternative. The design of signalized intersections can create a safer environment for pedestrian crossings with the use of pedestrian signal phasing. This phasing allows pedestrians to safely cross an intersection while vehicular movements are served. The design of a roundabout allows pedestrians to cross one direction of traffic at a time on each leg of the roundabout. Their route is slightly longer since they are kept to the outside of the inscribed circle. Although signalized intersections can provide indications showing pedestrian right-of-way, potential conflicts can come from red-light running through vehicles and permissive turning traffic.

Local Acceptance

Roundabouts are a relatively new form of traffic control in Carver County. However, there are a number of existing intersections with roundabout control so drivers are becoming more familiar with this form of control. Drivers are familiar with traveling through signalized intersections since the majority of other major intersections in Carver County are under this type of traffic control, including the subject intersection.

Conclusions and Recommendations

The following intersection control evaluation conclusions and recommendations are provided for the Trunk Highway 41 at CSAH 18 (Lyman Boulevard) intersection in Carver County, Minnesota:

- *Warrants Analysis*
The results of the warrants analysis indicate that traffic signal control is warranted under Opening Day Year 2020 and Forecast Year 2040 volumes. Traffic signal control is warranted by meeting MnMUTCD Warrants 1C, 2, and 3B under Opening Day Year 2020 traffic volume conditions and Warrants 1, 2, and 3B under Forecast Year 2040 volume conditions.
- *Operations Analysis*
Results of the operations analysis indicate that both alternatives would perform at acceptable levels of service under both Opening Day Year 2020 and Forecast Year 2040 volume conditions and proposed lane configurations with the roundabout alternative overall having less delay.
- *Crash Analysis*
Based on average crash rates by intersection type, both alternatives are projected to have similar numbers of crashes. However, under roundabout control these crashes are expected to be less severe.
- *Planning-Level Cost Analysis*
Both traffic signal and roundabout controls would require large capital investments. Traffic signals typically have higher operation and maintenance costs because of the electricity required to operate the signal and routine maintenance required to keep the signal in operation. Operation and maintenance costs associated with a roundabout can vary depending on the amount of illumination required or landscaping alternatives used for the center island.
- *Right-of-Way Considerations*
Typically, roundabouts require more right-of-way acquisition than traffic signals, however traffic signals may require additional right-of-way on the approaches due to the need to develop turn lanes.
- *Transportation System Considerations*
The subject intersection is a critical part of the local transportation system, particularly for access to the industrial center on the southeast corner of the subject intersection. The nearby intersection of CSAH 18 and Peavey Road is proposed to have roundabout control. Under this scenario, a roundabout at the subject intersection would be a more consistent form of traffic control along the corridor and avoids operational issues caused by westbound traffic queues at the subject intersection spilling back into the roundabout at Peavey Road and CSAH 18.
- *Pedestrian Considerations*
Pedestrian accommodations could be included in either traffic control alternative. The design of signalized intersections can create a safer environment for pedestrian crossings with the use of

pedestrian signal phasing. The design of a roundabout allows pedestrians to cross one direction of traffic at a time on each leg of the roundabout.

Based on the results of this Intersection Control Evaluation, roundabout control is recommended for the intersection of TH 41 at CSAH 18. Roundabout control would be consistent with the proposed roundabout control at the intersection of CSAH 18 and Peavey Avenue. Roundabout control would result in the best operations between both intersections. A single lane roundabout at the subject intersection would operate at acceptable levels of service in Opening Year 2020, while a multi lane roundabout would at acceptable levels of service under Forecast Year 2040 conditions. Roundabout control is expected to significantly reduce the rate of severe crashes. Finally, the design of a roundabout allows pedestrians to cross one direction of traffic at a time on each leg of the roundabout.

Appendix

- 2011-2015 Crash History
- Year 2015 Intersection Turning Movement Counts
- Opening Day Year 2020 Signal Warrant Analysis
- Forecast Year 2040 Signal Warrant Analysis
- Opening Day Year 2020 Detailed Operations Analysis
- Forecast Year 2040 Detailed Operations Analysis
- CSAH 18 (TH 41 to CSAH 15) – Concept Design Alternatives Evaluation

2011-2015 Crash History

Crash Detail Report

Report Version 1.0 March 2010

Crash ID: 111650275	Date: 06/10/2011	Time: 1330	Sys: 03-NM
County: CARVER	City: CHASKA	Route: 00000041	006+00.230

Severity: PROPERTY DAMAGE Road Type: NOT SPECIFIED Road Char: NOT SPECIFIED Crash Type: COLL W/MV IN TRANSPORT Surf Cond: DRY Light Cond: DAYLIGHT Weather 1: CLEAR Weather 2: NOT SPECIFIED	First Event: NOT SPECIFIED To Junction: NOT SPECIFIED Traffic Device: TRAFFIC SIGNALS Speed Limit: 50 Diagram: REAR END Officer: Reliability: CONFIDENT # of Vehicles: 2.00
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Unit 1 Trav Dir: MC Veh Act: STOPPED TRAFFIC Veh Type: SPORT UTILITY VEHICLE Age: 29 Gender: M Cond: NOT SPECIFIED Cont Fact 1 NOT SPECIFIED Cont Fact 2 NOT SPECIFIED	Unit 2 Trav Dir: MC Veh Act: PED, INATTENTION/DISTRACTIO Veh Type: PASSENGER CAR Age: 19 Gender: M Cond: NOT SPECIFIED Cont Fact 1 NOT SPECIFIED Cont Fact 2 NOT SPECIFIED	Unit 3
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Crash ID: 112110032 County: CARVER	Date: 07/27/2011 City: CHASKA	Time: 0843 Sys: 03-NM Route: 00000041	006+00.230
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Severity: POSSIBLE INJURY Road Type: 2 LANES UNDIV 2 WAY Road Char: STRAIGHT AND LEVEL Crash Type: COLL W/MV IN TRANSPORT Surf Cond: WET Light Cond: DAYLIGHT Weather 1: RAIN Weather 2: NOT SPECIFIED	First Event: ON ROADWAY To Junction: 4-LEGGED INTERSECTION Traffic Device: TRAFFIC SIGNALS Speed Limit: 50 Diagram: REAR END Officer: Reliability: CONFIDENT # of Vehicles: 2.00
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Unit 1 Trav Dir: S Veh Act: STRAIGHT AHEAD Veh Type: PICKUP TRUCK Age: 20 Gender: M Cond: NORMAL Cont Fact 1 DISTRACTION Cont Fact 2 NOT SPECIFIED	Unit 2 Trav Dir: S Veh Act: STOPPED TRAFFIC Veh Type: PASSENGER CAR Age: 46 Gender: F Cond: NORMAL Cont Fact 1 NO IMPROPER DRIVING Cont Fact 2 NOT SPECIFIED	Unit 3
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02/22/2017

MnCMAT 1.0.0

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Crash ID: 113200090	Date: 10/12/2011	Time: 9998	Sys: 03-NM
County: CARVER	City: CHASKA	Route: 00000041	006+00.230

Severity: PROPERTY DAMAGE Road Type: NOT SPECIFIED Road Char: NOT SPECIFIED Crash Type: COLL W/MV IN TRANSPORT Surf Cond: WET Light Cond: DAYLIGHT Weather 1: RAIN Weather 2: NOT SPECIFIED	First Event: NOT SPECIFIED To Junction: NOT SPECIFIED Traffic Device: TRAFFIC SIGNALS Speed Limit: Diagram: REAR END Officer: Reliability: LESS CONFIDENT # of Vehicles: 2.00
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Unit 1 Trav Dir: S Veh Act: STOPPED TRAFFIC Veh Type: SPORT UTILITY VEHICLE Age: 49 Gender: F Cond: NOT SPECIFIED Cont Fact 1 NOT SPECIFIED Cont Fact 2 NOT SPECIFIED	Unit 2 Trav Dir: S Veh Act: STRAIGHT AHEAD Veh Type: PASSENGER CAR Age: 31 Gender: M Cond: NOT SPECIFIED Cont Fact 1 NOT SPECIFIED Cont Fact 2 NOT SPECIFIED	Unit 3
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Crash ID: 120010089 County: CARVER	Date: 01/01/2012 City: CHASKA	Time: 1030 Sys: 04-CSAH Route: 10000018	003+00.31
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Severity: PROPERTY DAMAGE Road Type: 2 LANES UNDIV 2 WAY Road Char: STRAIGHT AND GRADE Crash Type: COLL W/OTHER FIXED OBJECT Surf Cond: ICE/PAKED SNOW Light Cond: DAYLIGHT Weather 1: SNOW Weather 2: SLEET/HAUL/FREEZE-RAIN	First Event: ON ROADWAY To Junction: T-INTERSECTION Traffic Device: NOT APPLICABLE Speed Limit: 35 Diagram: NOT APPLICABLE Officer: Reliability: CONFIDENT # of Vehicles: 1.00
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Unit 1 Trav Dir: W Veh Act: LEFT TURN Veh Type: PASSENGER CAR Age: 22 Gender: M Cond: NORMAL Cont Fact 1 NO IMPROPER DRIVING Cont Fact 2 NO IMPROPER DRIVING	Unit 2	Unit 3
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02/22/2017

MnCMAT 1.0.0

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Crash ID: 130740171 Date: 03/15/2013 Time: 1559
County: CARVER City: CHASKA

Sys: 03-NM
Route: 00000041 006+00.230

Severity: PROPERTY DAMAGE
Road Type: OTHER DIVIDED HIGHWAY
Road Char: STRAIGHT AND LEVEL
Crash Type: COLL W/MV IN TRANSPORT
Surf Cond: WET
Light Cond: DAYLIGHT
Weather 1: CLOUDY
Weather 2: NOT SPECIFIED

First Event: ON ROADWAY
To Junction: 4-LEGGED INTERSECTION
Traffic Device: TRAFFIC SIGNALS
Speed Limit: 40
Diagram: LEFT TURN INTO TRAFFIC
Officer:
Reliability: CONFIDENT
of Vehicles: 2.00

Unit 1

Trav Dir: EAST
Veh Act: STRAIGHT AHEAD
Veh Type: PASSENGER CAR
Age: 53
Gender: M
Cond: NORMAL

Unit 2

S
LEFT TURN
PASSENGER CAR
30
F
NORMAL
FAIL TO YIELD ROW
NOT SPECIFIED

Unit 3

Crash ID: 133510536 Date: 12/13/2013 Time: 1722
County: CARVER City: CHASKA

Sys: 04-CSAH
Route: 10000018 003+00.353

Severity: PROPERTY DAMAGE
Road Type: 2 LANES UNDIV 2 WAY
Road Char: STRAIGHT AND GRADE
Crash Type: COLL W/MV IN TRANSPORT
Surf Cond: SNOW
Light Cond: DARK - STREET LIGHTS ON
Weather 1: CLOUDY
Weather 2: NOT SPECIFIED

First Event: ON ROADWAY
To Junction: NON-JUNCTION
Traffic Device: TRAFFIC SIGNALS
Speed Limit: 30
Diagram: REAR END
Officer:
Reliability: CONFIDENT
of Vehicles: 3.00

Unit 1

Trav Dir: W
Veh Act: STOPPED TRAFFIC
Veh Type: SPORT UTILITY VEHICLE
Age: 41
Gender: F
Cond: NORMAL

Unit 2

W
STOPPED TRAFFIC
PASSENGER CAR
20
F
NORMAL
NO IMPROPER DRIVING
NOT SPECIFIED

Unit 3

W
STRAIGHT AHEAD
SPORT UTILITY VEHICLE
42
F
UNDER THE INFLUENCE
CHEMICAL IMPAIRMENT
FOLLOWING TOO CLOSELY

Crash ID: 141900238 Date: 07/07/2014 Time: 1725
County: CARVER City: CHASKA

Sys: 03-NM
Route: 00000041 006+00.230

Severity: PROPERTY DAMAGE
Road Type: 2 LANES UNDIV 2 WAY
Road Char: STRAIGHT AND LEVEL
Crash Type: COLL W/MV IN TRANSPORT
Surf Cond: WET
Light Cond: DAYLIGHT
Weather 1: RAIN
Weather 2: NOT SPECIFIED

First Event: ON ROADWAY
To Junction: NON-JUNCTION
Traffic Device: NOT APPLICABLE
Speed Limit: 55
Diagram: REAR END
Officer:
Reliability: CONFIDENT
of Vehicles: 2.00

Unit 1

Trav Dir: EAST
Veh Act: SLOWING TRAFFIC
Veh Type: PICKUP TRUCK
Age: 30
Gender: M
Cond: NORMAL

Unit 2

E
SLOWING TRAFFIC
PASSENGER CAR
26
M
NORMAL
FOLLOWING TOO CLOSELY
NOT SPECIFIED

Unit 3

Crash ID: 150340220 Date: 02/03/2015 Time: 1526
County: CARVER City: CHASKA

Sys: 03-NM
Route: 00000041 006+00.230

Severity: PROPERTY DAMAGE
Road Type: 4 6 LANES UNDIV 2 WAY
Road Char: STRAIGHT AND LEVEL
Crash Type: COLL W/MV IN TRANSPORT
Surf Cond: SNOW
Light Cond: DAYLIGHT
Weather 1: SNOW
Weather 2: NOT SPECIFIED

First Event: ON ROADWAY
To Junction: 4-LEGGED INTERSECTION
Traffic Device: TRAFFIC SIGNALS
Speed Limit: 50
Diagram: REAR END
Officer:
Reliability: CONFIDENT
of Vehicles: 2.00

Unit 1

Trav Dir: S
Veh Act: SLOWING TRAFFIC
Veh Type: VAN OR MINIVAN
Age: 56
Gender: M
Cond: NORMAL

Unit 2

S
STOPPED TRAFFIC
SPORT UTILITY VEHICLE
33
F
NORMAL
NO IMPROPER DRIVING
NOT SPECIFIED

Unit 3

WEATHER
DISTRACTION
NOT SPECIFIED

Crash ID: 151540146	Date: 06/03/2015	Time: 1905	Sys: 04-CSAH
County: CARVER	City: CHASKA	Route: 10000018	003+00.347

Severity: PROPERTY DAMAGE Road Type: 2 LANES UNDIV 2 WAY Road Chn: STRAIGHT AND GRADE Crash Type: COLL W/MV IN TRANSPORT Surf Cond: WET Light Cond: DAYLIGHT Weather 1: CLEAR Weather 2: RAIN	First Event: ON ROADWAY To Junction: T-INTERSECTION Traffic Device: STOP SIGN OTHER Speed Limit: 45 Diagram: RIGHT ANGLE Officer: Reliability: CONFIDENT # of Vehicles: 2.00
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Trav Dir: N Veh Act: LEFT TURN Veh Type: SPORT UTILITY VEHICLE Age: 29 Gender: M Cond: NORMAL	Unit 1 N STRAIGHT AHEAD PASSENGER CAR 16 M NORMAL	Unit 2 W STRAIGHT AHEAD PASSENGER CAR 16 M NORMAL	Unit 3
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Cont Fact 1 DISTRACTION	Cont Fact 2 NOT SPECIFIED	Cont Fact 1 DISTRACTION	Cont Fact 2 NOT SPECIFIED
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Crash ID: 152330136	Date: 08/21/2015	Time: 1629	Sys: 03-NM
County: CARVER	City: CHASKA	Route: 00000041	006+00.230

Severity: PROPERTY DAMAGE Road Type: 2 LANES UNDIV 2 WAY Road Chn: STRAIGHT AND LEVEL Crash Type: COLL W/MV IN TRANSPORT Surf Cond: DRY Light Cond: DAYLIGHT Weather 1: CLEAR Weather 2: CLEAR	First Event: ON ROADWAY To Junction: 4-LEGGED INTERSECTION Traffic Device: TRAFFIC SIGNALS Speed Limit: 50 Diagram: REAR END Officer: Reliability: CONFIDENT # of Vehicles: 2.00
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Trav Dir: N Veh Act: STRAIGHT AHEAD Veh Type: PICKUP TRUCK Age: 36 Gender: M Cond: NORMAL	Unit 1 N STOPPED TRAFFIC PASSENGER CAR 24 F NORMAL	Unit 2 N STOPPED TRAFFIC PASSENGER CAR 24 F NORMAL	Unit 3
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Cont Fact 1 DISTRACTION	Cont Fact 2 DISTRACTION	Cont Fact 1 DISTRACTION	Cont Fact 2 DISTRACTION
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Crash ID: 152640134	Date: 09/20/2015	Time: 1700	Sys: 03-NM
County: CARVER	City: CHASKA	Route: 00000041	006+00.224

Severity: POSSIBLE INJURY Road Type: 2 LANES UNDIV 2 WAY Road Chn: STRAIGHT AND GRADE Crash Type: COLL W/MV IN TRANSPORT Surf Cond: WET Light Cond: DAYLIGHT Weather 1: RAIN Weather 2: CLOUDY	First Event: ON ROADWAY To Junction: NON-JUNCTION Traffic Device: TRAFFIC SIGNALS Speed Limit: 50 Diagram: REAR END Officer: Reliability: LESS CONFIDENT # of Vehicles: 2.00
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Trav Dir: N Veh Act: SLOWING TRAFFIC Veh Type: PICKUP TRUCK Age: 44 Gender: M Cond: NORMAL	Unit 1 N SLOWING TRAFFIC PICKUP TRUCK 44 M NORMAL	Unit 2 N SLOWING TRAFFIC PASSENGER CAR 62 M NORMAL	Unit 3
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Cont Fact 1 IMPROPERLY PARKED	Cont Fact 2 NOT SPECIFIED	Cont Fact 1 IMPROPERLY PARKED	Cont Fact 2 NOT SPECIFIED
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Crash ID: 153480317	Date: 12/11/2015	Time: 1729	Sys: 03-NM
County: CARVER	City: CHASKA	Route: 00000041	006+00.231

Severity: PROPERTY DAMAGE Road Type: 2 LANES UNDIV 2 WAY Road Chn: STRAIGHT AND LEVEL Crash Type: COLL W/MV IN TRANSPORT Surf Cond: DRY Light Cond: DARK - STREET LIGHTS ON Weather 1: CLEAR Weather 2: NOT SPECIFIED	First Event: ON ROADWAY To Junction: 4-LEGGED INTERSECTION Traffic Device: TRAFFIC SIGNALS Speed Limit: 50 Diagram: REAR END Officer: Reliability: CONFIDENT # of Vehicles: 3.00
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Trav Dir: S Veh Act: STRAIGHT AHEAD Veh Type: SPORT UTILITY VEHICLE Age: 61 Gender: F Cond: NORMAL	Unit 1 S STOPPED TRAFFIC SPORT UTILITY VEHICLE 42 M NORMAL	Unit 2 S STOPPED TRAFFIC SPORT UTILITY VEHICLE 42 M NORMAL	Unit 3 S STOPPED TRAFFIC PASSENGER CAR 33 F NORMAL
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Cont Fact 1 DISTRACTION	Cont Fact 2 NOT SPECIFIED	Cont Fact 1 DISTRACTION	Cont Fact 2 NOT SPECIFIED
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Year 2015 Intersection Turning Movement Counts

SRF Consulting Group Turning Movement Count

Count Date: 10/20/2015

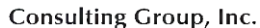
Start Time	EB				WB				NB				SB				15 min Veh. Total	15 min Ped Total	% Trucks
	L	T	R	Ped	L	T	R	Ped	L	T	R	Ped	L	T	R	Ped			
0000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
0015	-	-	-	-	-	-	-	-	-	3	-	-	1	3	-	-	7	-	14%
0030	-	-	4	-	2	-	2	-	1	10	-	-	6	-	-	-	25	-	12%
0045	-	2	1	-	1	-	1	-	-	10	-	-	6	-	-	-	21	-	5%
0100	2	2	2	-	1	-	7	-	-	2	-	-	1	1	-	-	18	-	11%
0115	-	-	-	-	-	-	2	-	-	4	-	-	-	4	-	-	10	-	-
0130	-	-	-	-	1	-	2	-	-	4	-	-	-	4	-	-	11	-	-
0145	-	-	-	-	6	-	-	-	-	1	-	-	1	1	-	-	9	-	-
0200	-	-	1	-	1	-	2	-	-	4	-	-	-	1	-	-	9	-	11%
0215	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
0230	-	-	-	-	-	-	1	-	-	6	5	-	-	5	-	-	17	-	29%
0245	-	-	-	-	2	-	1	-	-	-	2	-	1	1	-	-	7	-	14%
0300	-	-	-	-	4	-	1	-	-	2	2	-	3	3	-	-	15	-	7%
0315	-	-	-	-	2	-	-	-	1	3	-	-	1	2	-	-	9	-	11%
0330	-	-	-	-	-	-	-	-	-	2	2	-	6	3	-	-	13	-	15%
0345	-	-	-	-	-	-	-	-	-	2	4	-	2	3	-	-	11	-	-
0400	-	-	1	-	3	-	1	-	-	7	5	-	1	2	1	-	21	-	10%
0415	-	-	-	-	1	-	-	-	1	4	6	-	2	2	-	-	16	-	13%
0430	-	-	-	-	2	-	2	-	-	7	5	-	9	6	-	-	31	-	10%
0445	1	-	-	-	-	2	1	-	5	14	10	-	10	9	4	-	56	-	2%
0500	-	-	-	-	-	-	3	-	1	13	13	-	7	6	-	-	43	-	-
0515	-	-	-	-	2	-	1	-	2	20	18	-	14	13	2	-	72	-	1%
0530	-	-	-	-	2	1	3	-	3	29	31	-	20	17	6	-	112	-	1%
0545	-	-	-	-	4	1	2	-	6	39	33	-	24	26	13	-	148	-	2%
0600	-	1	-	-	3	3	7	-	3	35	14	-	7	26	3	-	102	-	2%
0615	-	-	-	-	5	4	2	-	7	49	38	-	11	40	8	-	164	-	5%
0630	-	-	-	1	4	4	5	-	6	79	36	-	17	34	12	-	197	1	8%
0645	-	-	-	-	3	7	6	-	14	117	48	-	15	62	14	-	286	-	5%
0700	-	3	3	-	27	9	1	-	15	91	35	-	11	72	9	-	276	-	4%
0715	-	-	-	-	17	2	2	-	7	101	51	-	34	68	13	-	295	-	5%
0730	1	-	-	-	9	9	4	-	6	141	60	-	43	77	8	-	358	-	4%
0745	1	2	-	-	25	6	11	-	20	116	103	-	61	86	11	-	442	-	6%
0800	2	-	-	-	19	8	25	-	6	119	82	-	50	174	11	-	496	-	6%
0815	-	-	-	-	11	6	7	-	10	115	53	-	19	94	10	-	325	-	9%
0830	-	-	1	-	27	3	9	-	6	114	28	-	20	87	4	-	299	-	14%
0845	-	1	-	-	11	5	10	-	3	99	36	-	14	312	7	-	498	-	6%
0900	2	-	3	-	17	7	7	-	1	112	27	-	8	75	4	-	263	-	12%
0915	3	-	-	-	17	3	11	-	7	109	20	-	7	58	8	-	243	-	16%
0930	1	-	1	-	16	2	7	-	2	90	17	-	2	72	1	-	211	-	9%
0945	3	-	1	-	12	3	5	-	6	137	22	-	9	92	2	-	292	-	14%
1000	2	3	2	-	13	1	9	-	-	102	12	-	6	68	1	-	219	-	13%
1015	3	5	2	-	9	2	2	-	1	77	12	-	7	74	-	-	194	-	8%
1030	1	1	1	-	18	2	7	-	1	67	11	-	2	70	3	-	184	-	16%
1045	3	2	4	-	18	1	10	-	6	86	12	-	6	81	3	-	232	-	8%
1100	4	2	6	-	23	1	10	-	1	71	14	-	6	81	-	-	219	-	11%
1115	5	1	6	-	26	2	11	-	1	74	22	-	10	78	2	-	238	-	9%
1130	6	1	7	-	39	2	14	-	4	102	24	-	8	84	1	-	292	-	9%
1145	2	3	6	-	24	1	8	-	9	111	18	-	7	98	5	-	292	-	12%
1200	8	1	7	-	65	3	9	-	5	84	30	-	4	92	6	-	314	-	9%
1215	4	3	12	-	19	3	10	-	10	100	33	-	10	100	3	-	307	-	8%
1230	8	1	12	-	18	3	15	-	5	97	31	-	19	82	3	-	294	-	8%
1245	3	1	7	-	24	4	12	-	10	104	39	-	14	91	9	-	318	-	6%
1300	3	5	5	-	27	6	16	-	15	99	32	-	11	89	7	-	315	-	8%
1315	2	6	2	-	19	-	8	-	6	83	25	-	5	83	1	-	240	-	9%
1330	3	5	2	-	21	-	13	-	7	91	29	-	6	92	3	-	272	-	8%
1345	4	1	2	-	13	4	7	-	3	96	20	-	11	91	5	-	257	-	9%
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1415	1	-	2	-	25	1	22	-	2	102	18	-	7	88	3	-	271	-	5%
1430	5	3	9	-	38	6	29	-	3	118	19	-	6	118	-	-	354	-	7%
1445	4	4	3	-	33	2	16	-	3	112	33	-	18	123	3	-	354	-	9%
1500	10	2	3	-	94	2	41	-	-	120	26	-	15	126	1	-	440	-	5%
1515	11	12	6	-	57	1	26	-	1	109	21	-	12	108	3	-	367	-	7%
1530	12	6	11	-	59	2	33	-	-	103	26	-	5	138	2	-	397	-	5%
1545	7	5	9	-	46	2	24	-	1	115	25	-	9	107	1	-	351	-	6%
1600	8	6	7	-	81	1	32	-	-	115	16	-	7	115	1	-	389	-	5%
1615	1	5	8	-	59	1	31	-	2	126	19	-	4	120	-	-	376	-	5%
1630	21	8	15	1	85	3	33	-	3	135	25	-	10	127	2	-	467	1	3%
1645	19	8	17	-	63	1	28	-	1	133	24	-	6	126	2	-	428	-	2%
1700	18	7	15	-	74	2	40	-	1	123	38	-	14	140	1	-	473	-	2%
1715	12	4	6	-	66	-	25	-	1	107	28	-	7	116	2	-	374	-	1%
1730	10	2	9	-	39	-	25	-	1	96	18	-	8	150	1	-	359	-	1%
1745	4	2	4	1	24	-	20	-	1	112	18	-	3	143	2	-	333	1	4%
1800	4	2	1	-	38	1	24	-	1	111	26	-	7	100	-	-	315	-	2%
1815	2	2	-	1	31	-	24	-	-	100	25	-	21	121	-	-	326	1	2%
1830	1	1	-	-	33	-	12	-	1	105	25	-	10	95	-	-	283	-	2%
1845	2	3	2	-	13	-	4	-	-	71	21	-	12	102	-	-	230	-	2%
1900	1	1	6	-	33	-	12	-	2	55	19	-	3	90	3	-	225	-	2%
1915	1	-	1	-	20	-	6	-	-	60	13	-	3	79	-	-	183	-	1%
1930	-	-	-	-	20	-	2	-	1	74	27	-	1	79	1	-	205	-	1%
1945	2	-	1	-	12	-	19	-	-	72	14	-	3	75	-	-	198	-	2%
2000	1	-	3	-	34	2	11	-	-	45	12	-	6	89	1	-	204	-	-
2015	-	1	1	-	6	1	2	-	1	44	10	-	7	75	2	-	150	-	1%
2030	-	1	-	-	14	2	5	-	1	39	6	-	2	60	-	-	130	-	1%
2045	-	-	-	-	25	-	6	-	-	37	7	-	2	40	-	-	117	-	2%
2100	-	-	1	-	15	-	1	-	-	43	5	-	1	46	-	-	112	-	-
2115	-	-	1	-	6	-	3	-	-	42	9	-	2	31	1	-	95	-	4%
2130	-	-	1	-	5	-	9	-	-	28	10	-	5	44	-	-	102	-	3%
2145	2	-	-	-	5	-	1	-	-	18	9	-	5	51	-	-	91	-	2%
2200	-	-	1	-	8	-	10	-	-	18	5	-	5	27	-	-	74	-	4%
2215	1	-	-	1	9	-	1	-	-	23	6	-	2	23	-	-	65	1	-
2230	1	-	-	-	2	-	2	-	-	18	10	-	1	15	-	-	49	-	2%
2245	-	-	-	-	5	-	3	-	-	11	7	-	-	11	-	-	37	-	3%
2300	1	-	-	-	4	-	1	-	-	8	1	-	1	20	-	-	36	-	3%
2315	1	-	-	1	4	1	1	-	-	6	-	-	1	17	-	-	31	1	6%
2330	1	1	-	-	3	1	2	-	-	8	2	-	-	9					

SRF Consulting Group Turning Movement Count

Count Date: 10/21/2015

Start Time	EB				WB				NB				SB				15 min Veh. Total	15 min Ped Total	% Trucks
	L	T	R	Ped	L	T	R	Ped	L	T	R	Ped	L	T	R	Ped			
0000	1	-	-	-	2	-	1	-	-	3	-	-	-	5	-	-	12	-	17%
0015	-	-	-	-	2	-	-	-	-	2	1	-	-	5	-	-	10	-	10%
0030	-	-	3	-	1	-	1	-	-	3	-	-	-	3	-	-	11	-	-
0045	2	2	-	-	1	-	-	-	-	6	-	-	-	5	-	-	16	-	-
0100	-	1	2	-	-	-	6	-	-	6	-	-	1	2	-	-	18	-	6%
0115	1	-	2	-	-	-	1	-	-	1	-	-	-	5	-	-	10	-	10%
0130	-	-	-	-	1	-	-	-	-	4	-	-	-	5	-	-	10	-	10%
0145	-	-	1	-	6	-	-	-	-	2	-	-	-	2	-	-	11	-	9%
0200	-	-	-	-	1	-	2	-	-	4	-	-	-	1	-	-	8	-	25%
0215	-	-	-	-	-	-	-	-	-	3	-	-	-	2	-	-	5	-	20%
0230	-	-	-	-	-	-	1	-	-	1	2	-	-	4	-	-	8	-	-
0245	-	-	-	-	-	-	1	-	-	1	3	-	-	3	2	-	10	-	-
0300	-	-	-	-	5	-	2	-	-	-	-	-	2	2	-	-	11	-	9%
0315	-	-	-	-	-	-	-	-	1	3	3	-	-	1	-	-	8	-	-
0330	-	-	-	-	-	1	-	-	-	4	3	-	-	5	3	-	16	-	6%
0345	-	-	-	-	3	-	-	-	-	1	6	-	-	3	2	-	15	-	13%
0400	-	-	-	-	1	1	1	-	-	6	1	-	3	4	-	-	17	-	6%
0415	-	-	1	-	-	-	-	-	1	6	4	-	1	3	1	-	17	-	-
0430	-	-	-	-	1	-	2	-	1	8	9	-	6	7	-	-	34	-	6%
0445	1	-	-	-	-	1	1	-	3	15	9	-	14	9	4	-	57	-	4%
0500	1	-	-	-	1	-	2	-	1	19	6	-	8	6	-	-	44	-	2%
0515	1	-	-	-	1	1	-	-	2	25	21	-	21	13	4	-	89	-	3%
0530	-	-	-	-	3	-	7	-	1	23	33	-	21	16	9	-	113	-	2%
0545	-	-	-	-	3	4	1	-	9	46	30	-	25	25	7	-	150	-	5%
0600	-	1	-	-	7	2	9	-	4	27	14	-	10	28	3	-	105	-	2%
0615	-	-	1	1	3	4	1	-	7	51	40	-	11	36	6	-	160	1	4%
0630	-	1	-	-	3	9	6	-	5	68	41	-	13	45	6	-	197	-	7%
0645	-	1	-	1	7	1	5	-	12	118	61	-	19	38	15	-	277	1	4%
0700	1	-	-	-	26	10	4	-	6	117	42	-	9	72	8	-	295	-	6%
0715	-	-	-	-	20	4	7	-	10	111	58	-	36	70	13	-	329	-	5%
0730	-	-	-	-	9	7	6	-	10	148	63	-	45	73	13	-	374	-	4%
0745	-	1	-	-	29	6	11	-	16	114	106	-	68	90	11	-	452	-	5%
0800	-	-	-	-	15	10	29	-	16	118	91	-	51	74	12	-	416	-	5%
0815	-	-	-	-	12	6	7	-	6	141	38	-	18	95	10	-	333	-	6%
0830	-	-	1	-	27	3	10	-	1	86	37	-	24	89	4	-	282	-	12%
0845	-	-	-	-	12	5	9	-	5	146	33	-	13	89	7	-	319	-	10%
0900	-	1	1	-	18	4	11	-	3	143	27	-	19	79	7	-	313	-	11%
0915	-	-	2	-	23	3	2	-	2	118	22	-	10	75	3	-	260	-	15%
0930	2	1	1	-	19	3	9	-	5	84	20	-	8	72	3	-	227	-	11%
0945	-	3	4	-	7	2	6	-	2	79	18	-	9	82	5	-	217	-	12%
1000	2	2	-	-	12	1	6	-	1	74	15	-	6	61	1	-	181	-	15%
1015	1	1	1	-	13	3	12	-	4	73	14	-	2	89	4	-	217	-	7%
1030	4	2	-	-	19	1	8	-	1	72	13	-	7	58	2	-	187	-	11%
1045	3	1	4	-	19	4	10	-	2	78	14	-	4	85	2	-	226	-	11%
1100	6	3	8	-	27	1	10	-	1	75	20	-	9	81	1	-	242	-	10%
1115	4	4	11	-	25	1	8	-	4	88	37	-	10	86	1	-	279	-	7%
1130	2	2	7	-	29	4	14	-	4	86	23	-	13	121	3	-	308	-	10%
1145	5	5	13	-	41	3	11	-	6	71	26	-	9	100	2	-	292	-	7%
1200	9	4	11	-	48	2	9	-	4	88	25	-	7	126	10	-	343	-	9%
1215	1	-	7	-	34	3	17	-	7	101	32	-	7	93	6	-	308	-	6%
1230	4	2	11	-	29	4	15	-	10	106	34	-	9	108	3	-	335	-	7%
1245	4	6	2	-	26	6	8	-	16	109	38	-	8	107	8	1	338	1	7%
1300	2	1	4	-	26	-	9	-	6	119	29	-	14	91	3	-	304	-	8%
1315	3	1	2	-	21	2	7	-	7	86	25	-	16	96	5	1	271	1	7%
1330	1	1	4	-	29	3	11	-	6	106	29	-	11	95	-	-	296	-	5%
1345	1	3	2	-	25	2	9	-	5	107	29	-	15	94	3	-	295	-	7%
1400	3	2	1	-	38	3	30	-	3	99	24	-	5	107	1	-	316	-	10%
1415	1	2	3	-	19	2	17	-	1	96	19	-	8	88	1	-	257	-	8%
1430	6	3	8	-	37	3	31	-	1	109	21	-	8	95	3	-	325	-	8%
1445	5	2	8	-	35	3	24	-	4	110	35	-	15	82	3	-	326	-	9%
1500	3	2	4	-	95	2	40	-	3	112	22	-	14	115	1	-	413	-	6%
1515	11	2	4	-	48	-	29	-	1	98	26	-	8	127	1	-	355	-	8%
1530	10	8	11	-	55	1	25	-	1	105	20	-	6	134	1	-	377	-	7%
1545	5	3	9	-	35	-	21	-	3	128	29	-	10	113	1	-	357	-	6%
1600	8	6	6	-	66	-	41	-	-	127	26	-	4	144	-	-	428	-	4%
1615	12	3	10	-	61	-	37	-	2	115	25	-	12	115	1	-	393	-	5%
1630	12	6	13	1	87	2	36	-	-	135	21	-	8	116	-	-	436	1	3%
1645	13	9	17	1	56	1	28	-	1	136	21	-	6	121	1	-	410	1	2%
1700	13	9	22	-	72	-	34	-	1	131	30	-	6	158	-	-	476	-	1%
1715	13	10	9	-	48	1	17	-	1	142	24	-	11	123	2	-	401	-	1%
1730	12	1	7	-	50	2	26	-	1	96	20	-	8	128	-	-	351	-	2%
1745	4	1	2	-	35	2	13	-	1	123	32	-	7	114	-	-	334	-	1%
1800	4	2	1	-	40	1	20	-	1	116	23	-	6	98	-	-	312	-	2%
1815	1	2	-	1	30	-	23	-	-	97	28	-	21	121	-	-	323	1	2%
1830	2	1	-	-	30	-	13	-	1	102	27	-	11	100	-	-	287	-	2%
1845	2	2	1	-	11	-	6	-	-	74	20	-	15	103	-	-	234	-	2%
1900	1	1	5	-	35	-	7	-	1	57	17	-	2	90	4	-	220	-	2%
1915	-	-	1	-	21	-	6	-	-	58	15	-	1	77	-	-	179	-	1%
1930	-	-	-	-	20	-	1	-	1	72	27	-	2	79	1	-	203	-	1%
1945	2	-	2	-	10	-	18	-	-	73	14	-	5	74	-	-	198	-	3%
2000	1	-	3	-	31	1	7	-	1	48	9	-	6	92	1	-	200	-	-
2015	-	1	1	-	6	1	2	-	1	46	10	-	7	74	2	-	151	-	1%
2030	-	1	-	-	14	1	6	-	2	39	6	-	3	59	-	-	131	-	1%
2045	-	-	-	-	26	-	6	-	-	38	7	-	2	41	-	-	120	-	2%
2100	-	-	1	-	13	-	1	-	-	43	5	-	1	46	-	-	110	-	-
2115	-	-	1	-	5	-	4	-	-	42	9	-	2	33	1	-	97	-	4%
2130	-	-	1	-	5	-	10	-	-	28	10	-	5	44	-	-	103	-	3%
2145	2	-	-	-	5	-	2	-	-	16	9	-	5	50	1	-	90	-	2%
2200	-	-	1	-	7	-	10	-	-	18	4	-	5	26	-	-	71	-	4%
2215	1	-	-	-	9	-	1	-	-	22	6	-	2	21	-	-	62	-	-
2230	1	-	-	-	2	-	2	-	-	18	10	-	1	15	-	-	49	-	4%
2245	-	-	-	-	5	-	3	-	-	12	7	-	-	11	-	-	38	-	3%
2300	1	-	-	-	4	-	1	-	-	8	1	-	1	19	-	-	35	-	3%
2315	1	-	-	1	4	1	1	-	-	6	-	-	1	17	-	-	31	1	6%
2330	1	1	-	-	3	1	2	-	-	8	2								

Opening Day Year 2020 Signal Warrant Analysis



TH 41 at CSAH 18
CSAH 18 (TH 41 to CSAH 15) - Concept Design
Carver County, Minnesota

Opening Day Year 2020

Background Information	Location :	Carver County, Minnesota	Speed (mph)	Lanes	Approach	
	Date:	2/8/2017	50	2 or more	Major Approach 1:	Northbound TH 41
	Analysis Prepared By:	Nathan Poole	50	2 or more	Major Approach 3:	Southbound TH 41
	Population Less than 10,000:	No	45	1	Minor Approach 2:	Eastbound CSAH 18
	Seventy Percent Factor Used:	Yes	45	1	Minor Approach 4:	Westbound CSAH 18

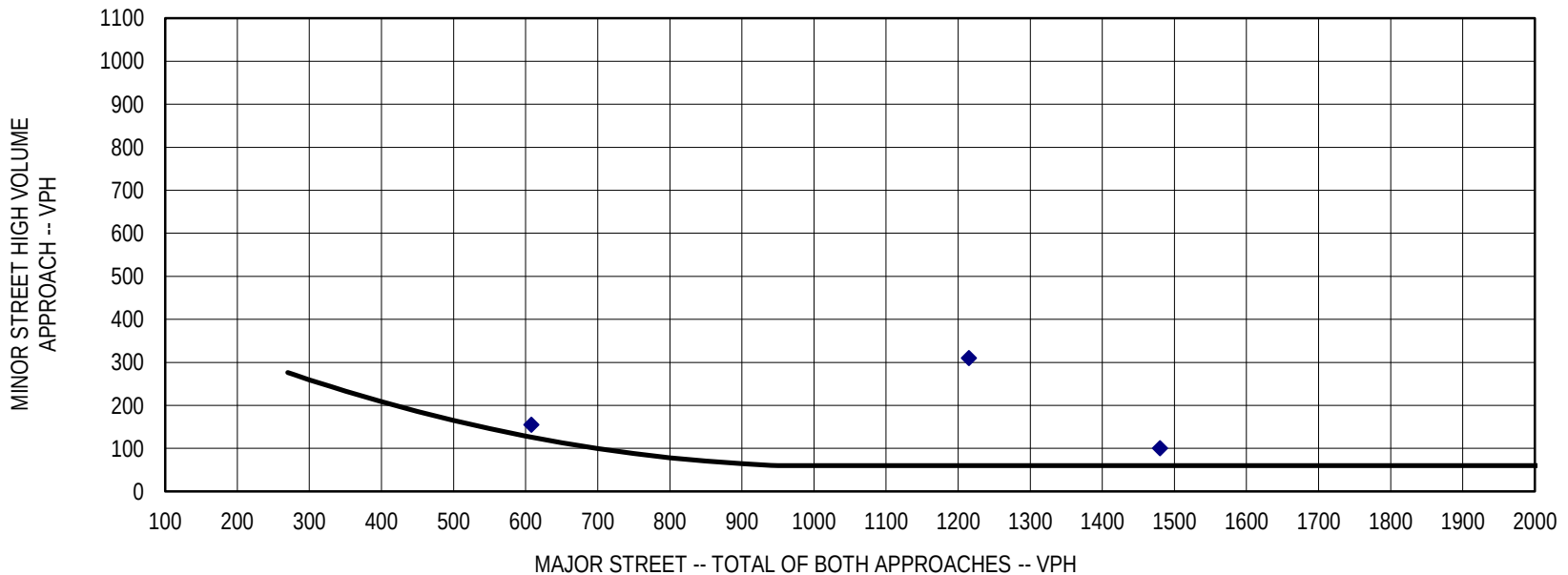
Warrants Analysis: Warrants 1A, 1B and 1C	Hour	Major Approach 1	Major Approach 3	Total 1 + 3	Warrant Met		Minor Approach 2	Minor Approach 4	Largest Minor App.	Warrant Met		Met Same Hours		Combination		MWSA (C)		
					420	630				105	53	Condition A	Condition B	A	B	210	140	
	AM Peak	905	575	1480	X	X	20	100	100		X		X	X	X	X	X	
	PM Peak	655	560	1215	X	X	105	310	310	X	X	X	X	X	X	X	X	
	8th Highest Hour	328	280	608	X		53	155	155	X	X	X		X	X	X	X	
												2	2	3	3	2		
Warrant Summary	Warrant and Description						Hours Met		Hours Required		Met/Not Met							
	Warrant 1A:	Minimum Vehicular Volume						2		8		Not Met						
	Warrant 1B:	Interruption of Continuous Traffic						2		8		Not Met						
	Warrant 1C:	Combination of Warrants						3		8		Met - Warrant 1C Satisfied*						
	Warrant 2:	Four-Hour Vehicular Volume						3		4		Met - Warrant 2 Satisfied*						
	Warrant 3B:	Peak Hour						2		1		Met - Warrant 3B Satisfied						
	MWSA (C):	Multiway Stop Applications Condition C						2		8		Not Met						

*Based on 8th highest Hour Assumption

TH 41 at CSAH 18
CSAH 18 (TH 41 to CSAH 15) - Concept Design
Carver County, Minnesota

Warrants Analysis: Warrant 2

WARRANT 2 - FOUR-HOUR VEHICULAR VOLUME



Number of Hours Satisfying Requirements:

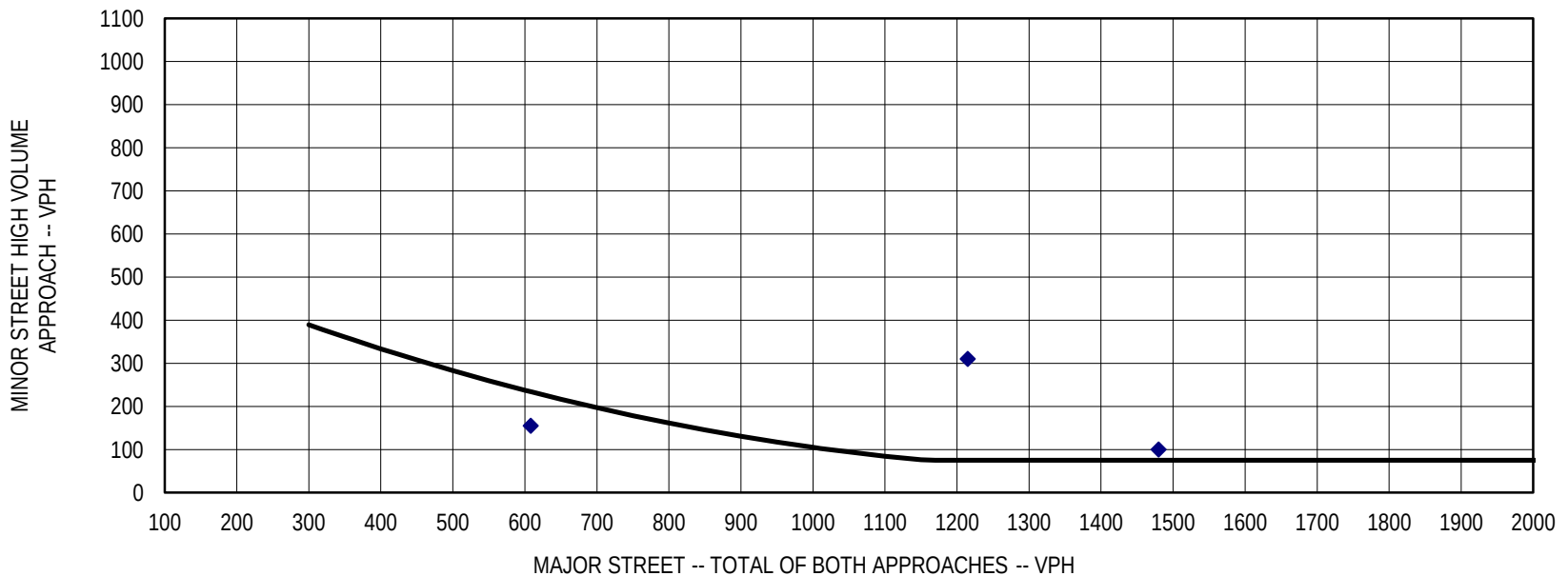
3

- Notes:
1. 80 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACH WITH TWO OR MORE LANES AND 60 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACHING WITH ONE LANE.
 2. INTERSECTION IS EITHER (1) WITHIN A COMMUNITY LESS THAN 10,000 POPULATION OR (2) HAS SPEEDS ABOVE 40 MPH ON MAJOR STREET.

TH 41 at CSAH 18
CSAH 18 (TH 41 to CSAH 15) - Concept Design
Carver County, Minnesota

Warrants Analysis: Warrant 3

WARRANT 3 - PEAK HOUR



Number of Hours Satisfying Requirements:

2

- Notes:
1. 100 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACH WITH TWO OR MORE LANES AND 75 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACHING WITH ONE LANE.
 2. INTERSECTION IS EITHER (1) WITHIN A COMMUNITY LESS THAN 10,000 POPULATION OR (2) HAS SPEEDS ABOVE 40 MPH ON MAJOR STREET.

Forecast Year 2040 Signal Warrant Analysis



WARRANTS ANALYSIS

Forecast Year 2040

TH 41 at CSAH 18
CSAH 18 (TH 41 to CSAH 15) - Concept Design
Carver County, Minnesota

Background Information	Location :	Carver County, Minnesota	Speed (mph)	Lanes	Approach	
	Date:	2/8/2017	50	2 or more	Major Approach 1:	Northbound TH 41
	Analysis Prepared By:	Nathan Poole	50	2 or more	Major Approach 3:	Southbound TH 41
	Population Less than 10,000:	No	45	2 or more	Minor Approach 2:	Eastbound CSAH 18
	Seventy Percent Factor Used:	Yes	45	2 or more	Minor Approach 4:	Westbound CSAH 18

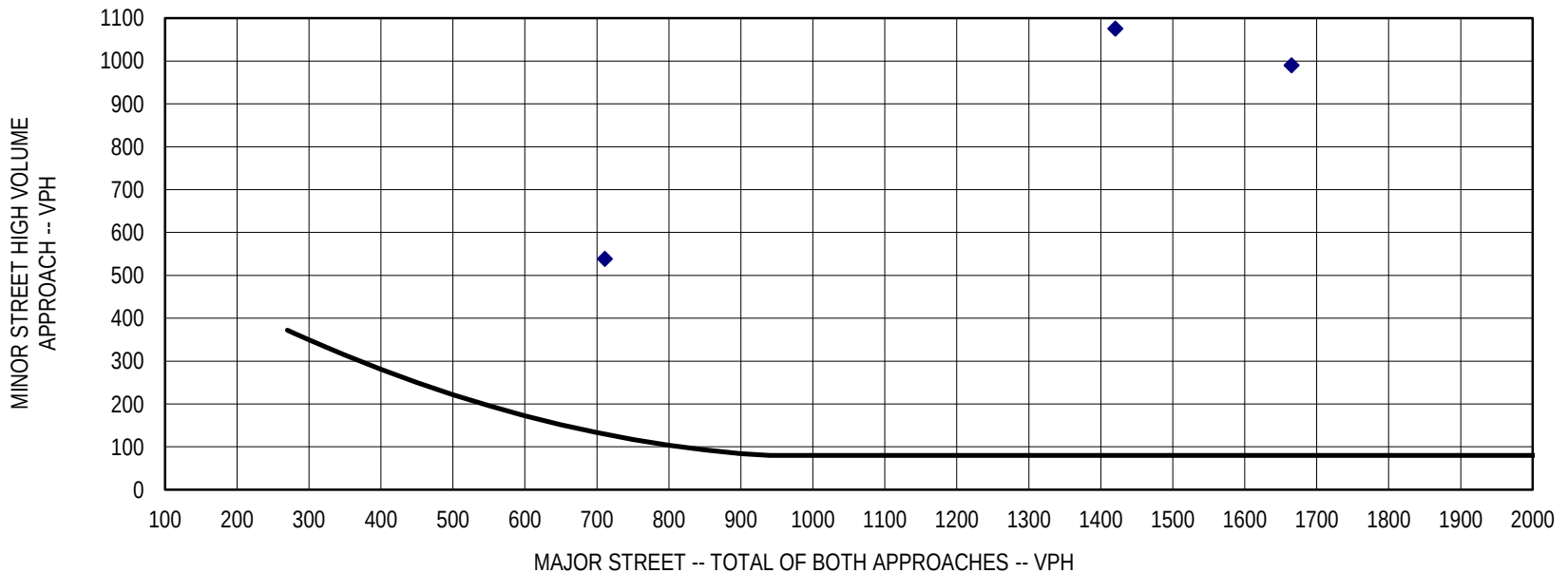
Warrants Analysis: Warrants 1A, 1B and 1C	Hour	Major Approach 1	Major Approach 3	Total 1 + 3	Warrant Met		Minor Approach 2	Minor Approach 4	Largest Minor App.	Warrant Met		Met Same Hours		Combination		MWSA (C)	
					420	630				140	70	Condition A	Condition B	A	B	210	140
	AM Peak	990	675	1665	X	X	340	990	990	X	X	X	X	X	X	X	X
	PM Peak	735	685	1420	X	X	1075	735	1075	X	X	X	X	X	X	X	X
Warrant Summary	8th Highest Hour	368	343	711	X	X	538	368	538	X	X	X	X	X	X	X	X
												3	3	3	3	3	
	Warrant and Description						Hours Met		Hours Required		Met/Not Met						
	Warrant 1A:	Minimum Vehicular Volume					3		8		Met - Warrant 1A Satisfied*						
	Warrant 1B:	Interruption of Continuous Traffic					3		8		Met - Warrant 1B Satisfied*						
	Warrant 1C:	Combination of Warrants					3		8		Met - Warrant 1C Satisfied*						
	Warrant 2:	Four-Hour Vehicular Volume					3		4		Met - Warrant 2 Satisfied*						
	Warrant 3B:	Peak Hour					3		1		Met - Warrant 3B Satisfied						
	MWSA (C):	Multiway Stop Applications Condition C					3		8		Met - Multiway Stop Applications*						

*Based on 8th highest Hour Assumption

TH 41 at CSAH 18
CSAH 18 (TH 41 to CSAH 15) - Concept Design
Carver County, Minnesota

Warrants Analysis: Warrant 2

WARRANT 2 - FOUR-HOUR VEHICULAR VOLUME



Number of Hours Satisfying Requirements:

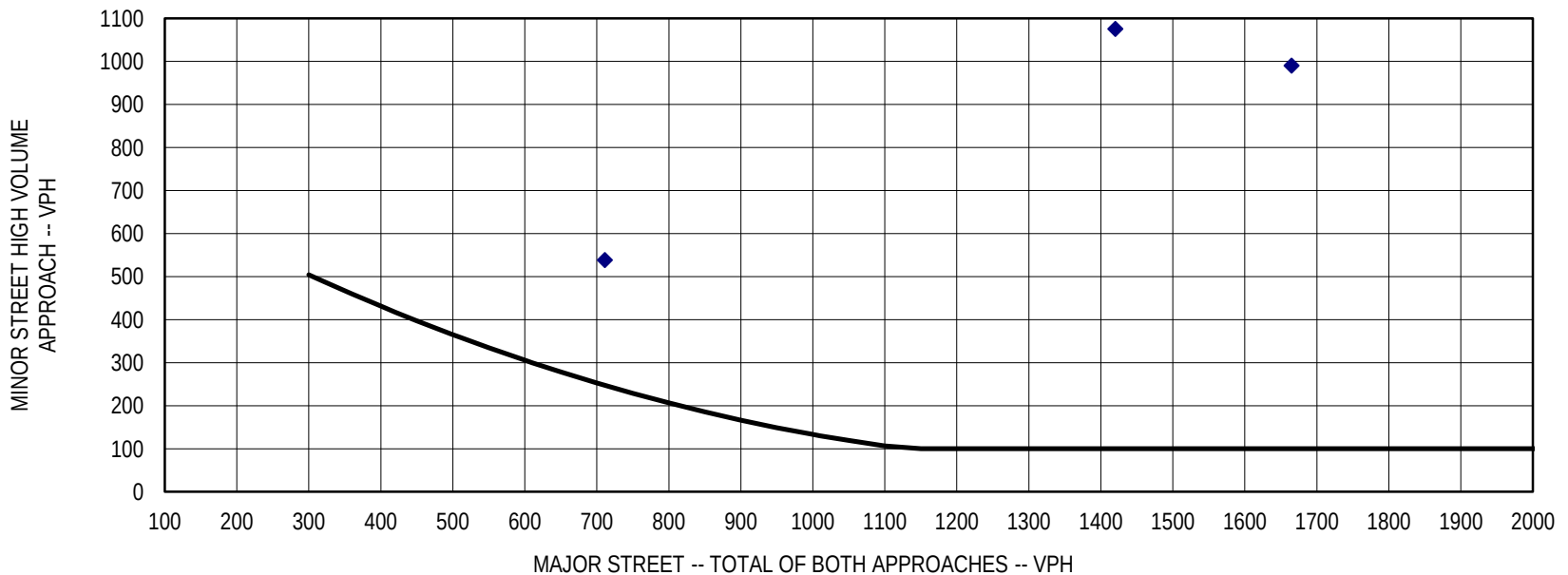
3

- Notes:
1. 80 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACH WITH TWO OR MORE LANES AND 60 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACHING WITH ONE LANE.
 2. INTERSECTION IS EITHER (1) WITHIN A COMMUNITY LESS THAN 10,000 POPULATION OR (2) HAS SPEEDS ABOVE 40 MPH ON MAJOR STREET.

TH 41 at CSAH 18
CSAH 18 (TH 41 to CSAH 15) - Concept Design
Carver County, Minnesota

Warrants Analysis: Warrant 3

WARRANT 3 - PEAK HOUR



Number of Hours Satisfying Requirements:

3

- Notes:
1. 100 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACH WITH TWO OR MORE LANES AND 75 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACHING WITH ONE LANE.
 2. INTERSECTION IS EITHER (1) WITHIN A COMMUNITY LESS THAN 10,000 POPULATION OR (2) HAS SPEEDS ABOVE 40 MPH ON MAJOR STREET.

Opening Day Year 2020 Detailed Operations Analysis

2020 VISSIM Model: Traffic Signal
CSAH 18 (TH 41 to CSAH 15)- Concept Design
Arterial MOEs (A.M. Peak Hour)



TH 41/Peavey Road

(Unsignalized)

Approach	Movement	Volume (vph)	Average Queue (ft)	Maximum Queue (ft)	Movement Delay (sec/veh)	Movement LOS	Approach Delay (sec/veh)	Approach LOS	Overall Delay (sec/veh)	Overall LOS
Northbound	Thru	907	0	0	3.7	A	3.9	A	4.2	A
	Right	170	0	0	5.2	A				
Southbound	Left	20	6	126	12.6	B	3.2	A		
	Thru	376	4	107	2.7	A				
Westbound	Left	19	5	46	41.0	E	37.0	E		
	Right	3	0	27	11.7	B				

Target Volume (vph)	Simulated Volume (vph)	Difference (vph)
899	907	8
180	170	-10
19	20	1
379	376	-3
20	19	-1
2	3	1

TH 41/CSAH 18

(Signal)

Approach	Movement	Volume (vph)	Average Queue (ft)	Maximum Queue (ft)	Movement Delay (sec/veh)	Movement LOS	Approach Delay (sec/veh)	Approach LOS	Overall Delay (sec/veh)	Overall LOS		
Northbound	Left	42	1	34	10.9	B	11.8	B	13.5	B		
	Thru	546	19	174	13.3	B						
	Right	322	7	119	9.3	A						
Southbound	Left	195	17	142	20.7	C	11.4	B				
	Thru	329	8	102	6.9	A						
	Right	40	0	37	2.5	A						
Eastbound	Left	4	1	18	38.4	D	47.1	D				
	Thru	13	3	31	49.8	D						
	Right	0	-	-	-	A						
Westbound	Left	69	14	93	37.4	D	27.9	C				
	Thru	29	6	58	37.4	D						
	Right	58	6	81	11.9	B						

Target Volume (vph)	Simulated Volume (vph)	Difference (vph)
40	42	2
536	546	10
325	322	-3
196	195	-1
327	329	2
42	40	-2
4	4	0
14	13	-1
0	0	0
71	69	-2
25	29	4
56	58	2

CSAH 18/Peavey Road

(Roundabout)

Approach	Movement	Volume (vph)	Average Queue (ft)	Maximum Queue (ft)	Movement Delay (sec/veh)	Movement LOS	Approach Delay (sec/veh)	Approach LOS	Overall Delay (sec/veh)	Overall LOS		
Northbound	Left	15	0	33	4.6	A	2.8	A	2.6	A		
	Thru	7	0	34	4.8	A						
	Right	31	0	33	1.5	A						
Southbound	Left	1	0	15	1.6	A	2.0	A				
	Thru	13	0	12	2.6	A						
	Right	8	0	12	1.1	A						
Eastbound	Left	37	0	32	3.6	A	2.6	A				
	Thru	405	0	32	2.5	A						
	Right	85	0	32	2.6	A						
Westbound	Left	116	0	19	3.4	A	2.8	A				
	Thru	133	0	19	2.5	A						
	Right	20	0	19	1.9	A						

Target Volume (vph)	Simulated Volume (vph)	Difference (vph)
13	15	2
8	7	-1
33	31	-2
2	1	-1
14	13	-1
8	8	0
37	37	0
407	405	-2
90	85	-5
122	116	-6
131	133	2
20	20	0

CSAH 18/Norex Drive

(Roundabout)

Approach	Movement	Volume (vph)	Average Queue (ft)	Maximum Queue (ft)	Movement Delay (sec/veh)	Movement LOS	Approach Delay (sec/veh)	Approach LOS	Overall Delay (sec/veh)	Overall LOS
Southbound	Left	60	1	36	3.5	A	3.3	A	4.0	A
	Right	24	1	36	2.7	A				
Eastbound	Left	48	0	35	3.6	A	3.2	A		
	Thru	390	0	35	3.2	A				
Westbound	Thru	248	1	66	5.3	A	5.1	A		
	Right	93	1	65	4.5	A				

Target Volume (vph)	Simulated Volume (vph)	Difference (vph)
62	60	-2
22	24	2
51	48	-3
392	390	-2
250	248	-2
91	93	2

CSAH 18/Galpin Boulevard

(Signal)

CSST to Galpin Boulevard											Signal
Approach	Movement	Volume (vph)	Average Queue (ft)	Maximum Queue (ft)	Movement Delay (sec/veh)	Movement LOS	Approach Delay (sec/veh)	Approach LOS	Overall Delay (sec/veh)	Overall LOS	
Northbound	Left	0	-	-	-	A	#DIV/0!	#DIV/0!	19.9	B	
	Thru	0	-	-	-	A					
	Right	0	-	-	-	A					
Southbound	Left	341	80	332	38.2	D	34.5	C			
	Thru	0	-	-	-	A					
	Right	43	2	73	5.3	A					
Eastbound	Left	96	23	123	44.1	D	15.7	B			
	Thru	350	8	88	7.9	A					
	Right	0	-	-	-	A					
Westbound	Left	0	-	-	-	A	11.8	B			
	Thru	296	21	158	15.4	B					
	Right	168	5	106	5.4	A					

Target Volume (vph)	Simulated Volume (vph)	Difference (vph)
0	0	0
0	0	0
0	0	0
340	341	1
0	0	0
45	43	-2
98	96	-2
356	350	-6
0	0	0
0	0	0
297	296	-1
172	168	-4

2: TH 41 & CSAH 18 Performance by approach

Approach	EB	WB	NB	SB	All
Denied Delay (hr)	0.0	0.0	0.0	0.3	0.3
Denied Del/Veh (s)	0.1	0.0	0.0	1.9	0.7
Total Delay (hr)	0.2	1.3	1.4	1.2	4.1
Total Del/Veh (s)	36.6	28.8	5.5	7.7	8.8

Total Network Performance

Denied Delay (hr)	0.5
Denied Del/Veh (s)	1.1
Total Delay (hr)	5.4
Total Del/Veh (s)	11.6

Intersection: 2: TH 41 & CSAH 18

Movement	EB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	LT	LT	R	L	T	R	L	T	R
Maximum Queue (ft)	53	126	61	66	198	83	144	124	38
Average Queue (ft)	14	61	20	18	85	36	70	37	5
95th Queue (ft)	43	106	45	50	172	71	123	93	23
Link Distance (ft)	924	545	545		606			1241	
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (ft)				275		275	250		250
Storage Blk Time (%)									
Queuing Penalty (veh)									

Network Summary

Network wide Queuing Penalty: 0

2020 VISSIM Model: Roundabout
CSAH 18 (TH 41 to CSAH 15)- Concept Design
Arterial MOEs (A.M. Peak Hour)



TH 41/Peavey Road

(Unsignalized)

Approach	Movement	Volume (vph)	Average Queue (ft)	Maximum Queue (ft)	Movement Delay (sec/veh)	Movement LOS	Approach Delay (sec/veh)	Approach LOS	Overall Delay (sec/veh)	Overall LOS
Northbound	Thru	908	0	0	4.2	A	4.4	A	4.4	A
	Right	170	0	0	5.5	A				
Southbound	Left	20	5	122	11.9	B	2.7	A		
	Thru	378	3	89	2.2	A				
Westbound	Left	19	5	53	42.1	E	38.3	E		
	Right	3	0	26	13.9	B				

Target Volume (vph)	Simulated Volume (vph)	Difference (vph)
899	908	9
180	170	-10
19	20	1
379	378	-1
20	19	-1
2	3	1

TH 41/CSAH 18

(Roundabout)

Approach	Movement	Volume (vph)	Average Queue (ft)	Maximum Queue (ft)	Movement Delay (sec/veh)	Movement LOS	Approach Delay (sec/veh)	Approach LOS	Overall Delay (sec/veh)	Overall LOS
Northbound	Left	41	6	178	9.0	A	7.8	A	6.8	A
	Thru	543	6	180	9.2	A				
	Right	322	5	186	5.4	A				
Southbound	Left	194	2	97	6.0	A	5.3	A		
	Thru	329	2	97	5.3	A				
	Right	40	1	100	1.7	A				
Eastbound	Left	4	0	14	5.1	A	4.1	A		
	Thru	13	0	14	3.8	A				
	Right	0	-	-	-	A				
Westbound	Left	69	2	72	7.0	A	6.2	A		
	Thru	30	2	72	7.1	A				
	Right	57	2	77	4.8	A				

Target Volume (vph)	Simulated Volume (vph)	Difference (vph)
40	41	1
536	543	7
325	322	-3
196	194	-2
327	329	2
42	40	-2
4	4	0
14	13	-1
0	0	0
71	69	-2
25	30	5
56	57	1

CSAH 18/Peavey Road

(Roundabout)

Approach	Movement	Volume (vph)	Average Queue (ft)	Maximum Queue (ft)	Movement Delay (sec/veh)	Movement LOS	Approach Delay (sec/veh)	Approach LOS	Overall Delay (sec/veh)	Overall LOS
Northbound	Left	14	0	33	3.8	A	2.7	A	2.8	A
	Thru	7	0	33	4.9	A				
	Right	31	0	33	1.7	A				
Southbound	Left	1	0	11	3.6	A	1.9	A		
	Thru	13	0	12	2.4	A				
	Right	8	0	14	1.0	A				
Eastbound	Left	37	1	51	3.8	A	2.8	A		
	Thru	405	1	51	2.7	A				
	Right	84	1	51	2.8	A				
Westbound	Left	116	0	23	3.7	A	3.1	A		
	Thru	133	0	23	2.7	A				
	Right	20	0	24	1.9	A				

Target Volume (vph)	Simulated Volume (vph)	Difference (vph)
13	14	1
8	7	-1
33	31	-2
2	1	-1
14	13	-1
8	8	0
37	37	0
407	405	-2
90	84	-6
122	116	-6
131	133	2
20	20	0

CSAH 18/Norex Drive

(Roundabout)

Approach	Movement	Volume (vph)	Average Queue (ft)	Maximum Queue (ft)	Movement Delay (sec/veh)	Movement LOS	Approach Delay (sec/veh)	Approach LOS	Overall Delay (sec/veh)	Overall LOS
Southbound	Left	60	1	36	3.5	A	3.3	A	4.2	A
	Right	24	1	37	2.9	A				
Eastbound	Left	48	0	47	4.1	A	3.8	A		
	Thru	390	0	47	3.7	A				
Westbound	Thru	247	1	67	5.2	A	5.0	A		
	Right	93	1	67	4.3	A				

Target Volume (vph)	Simulated Volume (vph)	Difference (vph)
62	60	-2
22	24	2
51	48	-3
392	390	-2
250	247	-3
91	93	2

CSAH 18/Galpin Boulevard

(Signal)

Approach	Movement	Volume (vph)	Average Queue (ft)	Maximum Queue (ft)	Movement Delay (sec/veh)	Movement LOS	Approach Delay (sec/veh)	Approach LOS	Overall Delay (sec/veh)	Overall LOS
Northbound	Left	0	-	-	-	A	#DIV/0!	#DIV/0!	20.5	C
	Thru	0	-	-	-	A				
	Right	0	-	-	-	A				
Southbound	Left	343	99	360	44.7	D	40.5	D		
	Thru	0	-	-	-	A				
	Right	43	2	79	6.7	A				
Eastbound	Left	98	23	127	40.2	D	13.9	B		
	Thru	348	6	78	6.5	A				
	Right	0	-	-	-	A				
Westbound	Left	0	-	-	-	A	10.3	B		
	Thru	296	17	159	13.2	B				
	Right	169	5	115	5.3	A				

Target Volume (vph)	Simulated Volume (vph)	Difference (vph)
0	0	0
0	0	0
0	0	0
340	343	3
0	0	0
45	43	-2
98	98	0
356	348	-8
0	0	0
0	0	0
297	296	-1
172	169	-3

HCS7 Roundabouts Report

General Information

Analyst	Nathan Poole
Agency or Co.	SRF Consulting
Date Performed	2/13/2017
Analysis Year	2017
Time Period	2020 PM
Project Description	TH 41 & CSAH 18

Site Information

Intersection	TH 41 & CSAH 18
E/W Street Name	CSAH 18
N/S Street Name	TH 41
Analysis Time Period (hrs)	0.25
Peak Hour Factor	1.00
Jurisdiction	

Volume Adjustments and Site Characteristics

Approach	EB				WB				NB				SB			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Number of Lanes (N)	0	0	1	0	0	0	1	0	0	0	1	0	0	0	1	0
Lane Assignment	LT				LT				LT				LT			
Volume (V), veh/h	0	5	15	0	0	75	25	60	0	40	540	325	0	200	330	45
Percent Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Flow Rate (v_{pce}), pc/h	0	5	15	0	0	77	26	62	0	41	556	335	0	206	340	46
Right-Turn Bypass	Non-Yielding				Non-Yielding				Non-Yielding				Non-Yielding			
Conflicting Lanes	1				1				1				1			
Pedestrians Crossing, p/h	0				0				0				0			

Critical and Follow-Up Headway Adjustment

Approach	EB			WB			NB			SB		
Lane	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Critical Headway (s)		4.9763			4.9763			4.9763			4.9763	
Follow-Up Headway (s)		2.6087			2.6087			2.6087			2.6087	

Flow Computations, Capacity and v/c Ratios

Approach	EB			WB			NB			SB		
Lane	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Entry Flow (v_e), pc/h		20	0		103	62		597	335		546	46
Entry Volume veh/h		19	0		100	60		580	325		530	45
Circulating Flow (v_c), pc/h	623			602			226			144		
Exiting Flow (v_{ex}), pc/h	221			67			561			417		
Capacity (C_{pce}), pc/h		731			747			1096			1191	
Capacity (c), veh/h		710			725			1064			1157	
v/c Ratio (x)		0.03			0.14			0.54			0.46	

Delay and Level of Service

Approach	EB			WB			NB			SB		
Lane	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Lane Control Delay (d), s/veh		5.4	0.0		6.4	0.0		10.1	0.0		8.0	0.0
Lane LOS		A	A		A	A		B	A		A	A
95% Queue, veh		0.1			0.5			3.4			2.5	
Approach Delay, s/veh	5.4			4.0			6.5			7.4		
Approach LOS	A			A			A			A		

2020 VISSIM Model: Traffic Signal
CSAH 18 (TH 41 to CSAH 15)- Concept Design
Arterial MOEs (P.M. Peak Hour)



TH 41/Peavey Road

(Unsignalized)

TH 41+ Heavy Road							Right-Handed			
Approach	Movement	Volume (vph)	Average Queue (ft)	Maximum Queue (ft)	Movement Delay (sec/veh)	Movement LOS	Approach Delay (sec/veh)	Approach LOS	Overall Delay (sec/veh)	Overall LOS
Northbound	Thru	627	0	0	3.7	A	3.7	A	12.4	B
	Right	16	0	0	4.9	A				
Southbound	Left	7	2	82	4.8	A	1.2	A		
	Thru	855	2	63	1.1	A				
Westbound	Left	74	119	253	196.6	F	180.8	F		
	Right	17	11	60	111.9	F				

Target Volume (vph)	Simulated Volume (vph)	Difference (vph)
628	627	-1
16	16	0
7	7	0
868	855	-13
75	74	-1
17	17	0

TH 41/CSAH 18

(Signal)

Approach	Movement	Volume (vph)	Average Queue (ft)	Maximum Queue (ft)	Movement Delay (sec/veh)	Movement LOS	Approach Delay (sec/veh)	Approach LOS	Overall Delay (sec/veh)	Overall LOS
Northbound	Left	8	0	14	24.7	C	12.5	B	17.4	B
	Thru	531	20	181	13.8	B				
	Right	103	1	66	5.2	A				
Southbound	Left	36	2	40	19.2	B	13.3	B		
	Thru	517	25	173	12.9	B				
	Right	4	0	8	2.1	A				
Eastbound	Left	58	9	70	27.7	C	27.7	C		
	Thru	46	10	70	41.9	D				
	Right	54	5	72	15.6	B				
Westbound	Left	295	56	275	33.0	C	25.8	C		
	Thru	8	3	78	31.7	C				
	Right	140	8	110	10.3	B				

Target Volume (vph)	Simulated Volume (vph)	Difference (vph)
7	8	1
531	531	0
107	103	-4
34	36	2
520	517	-3
5	4	-1
60	58	-2
44	46	2
56	54	-2
300	295	-5
7	8	1
144	140	-4

CSAH 18/Peavey Road

(Roundabout)

Approach	Movement	Volume (vph)	Average Queue (ft)	Maximum Queue (ft)	Movement Delay (sec/veh)	Movement LOS	Approach Delay (sec/veh)	Approach LOS	Overall Delay (sec/veh)	Overall LOS
Northbound	Left	141	1	64	4.4	A	3.4	A	2.9	A
	Thru	22	1	63	4.2	A				
	Right	114	1	64	2.1	A				
Southbound	Left	16	0	22	3.7	A	2.7	A		
	Thru	4	0	23	3.0	A				
	Right	35	0	23	2.2	A				
Eastbound	Left	9	0	7	2.6	A	1.6	A		
	Thru	170	0	6	1.6	A				
	Right	9	0	7	1.3	A				
Westbound	Left	17	1	45	3.9	A	3.3	A		
	Thru	266	1	43	3.3	A				
	Right	11	1	42	2.3	A				

Target Volume (vph)	Simulated Volume (vph)	Difference (vph)
145	141	-4
22	22	0
113	114	1
18	16	-2
3	4	1
34	35	1
9	9	0
168	170	2
8	9	1
15	17	2
271	266	-5
10	11	1

CSAH 18/Norex Drive

(Roundabout)

Approach	Movement	Volume (vph)	Average Queue (ft)	Maximum Queue (ft)	Movement Delay (sec/veh)	Movement LOS	Approach Delay (sec/veh)	Approach LOS	Overall Delay (sec/veh)	Overall LOS
Southbound	Left	99	1	47	3.7	A	3.6	A	3.2	A
	Right	37	1	48	3.1	A				
Eastbound	Left	9	0	34	3.1	A	2.7	A		
	Thru	289	0	34	2.7	A				
Westbound	Thru	257	0	18	3.6	A	3.4	A		
	Right	45	0	18	2.7	A				

Target Volume (vph)	Simulated Volume (vph)	Difference (vph)
101	99	-2
37	37	0
7	9	2
293	289	-4
259	257	-2
44	45	1

CSAH 18/Galpin Boulevard

(Signal)

CSAH to Galpin Boulevard										Signal
Approach	Movement	Volume (vph)	Average Queue (ft)	Maximum Queue (ft)	Movement Delay (sec/veh)	Movement LOS	Approach Delay (sec/veh)	Approach LOS	Overall Delay (sec/veh)	Overall LOS
Northbound	Left	0	-	-	-	A	#DIV/0!	#DIV/0!	13.5	B
	Thru	0	-	-	-	A				
	Right	0	-	-	-	A				
Southbound	Left	180	39	191	37.0	D	26.6	C		
	Thru	0	-	-	-	A				
	Right	87	3	86	5.2	A				
Eastbound	Left	67	16	93	40.7	D	11.2	B		
	Thru	318	4	68	5.0	A				
	Right	0	-	-	-	A				
Westbound	Left	0	-	-	-	A	7.5	A		
	Thru	213	8	101	10.0	A				
	Right	213	5	110	5.0	A				

Target Volume (vph)	Simulated Volume (vph)	Difference (vph)
0	0	0
0	0	0
0	0	0
182	180	-2
0	0	0
85	87	2
69	67	-2
325	318	-7
0	0	0
0	0	0
218	213	-5
212	213	1

2: TH 41 & CSAH 18 Performance by approach

Approach	EB	WB	NB	SB	All
Denied Delay (hr)	0.0	0.0	0.0	0.1	0.1
Denied Del/Veh (s)	0.2	0.0	0.0	0.7	0.2
Total Delay (hr)	1.0	3.5	2.3	2.1	8.9
Total Del/Veh (s)	20.5	28.5	12.7	13.4	17.5

Total Network Performance

Denied Delay (hr)	0.2
Denied Del/Veh (s)	0.5
Total Delay (hr)	11.1
Total Del/Veh (s)	21.5

Intersection: 2: TH 41 & CSAH 18

Movement	EB	EB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	LT	R	LT	R	L	T	R	L	T	R
Maximum Queue (ft)	134	69	331	96	38	352	62	77	314	20
Average Queue (ft)	62	26	173	37	6	146	21	19	128	1
95th Queue (ft)	116	57	273	78	26	279	48	53	242	7
Link Distance (ft)	924	924	545	545		606			1241	
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)					275		275	250		250
Storage Blk Time (%)						1			1	
Queuing Penalty (veh)						1			0	

Network Summary

Network wide Queuing Penalty: 1

2020 VISSIM Model: Roundabout
CSAH 18 (TH 41 to CSAH 15)- Concept Design
Arterial MOEs (P.M. Peak Hour)



TH 41/Peavey Road

(Unsignalized)

Approach	Movement	Volume (vph)	Average Queue (ft)	Maximum Queue (ft)	Movement Delay (sec/veh)	Movement LOS	Approach Delay (sec/veh)	Approach LOS	Overall Delay (sec/veh)	Overall LOS
Northbound	Thru	627	0	0	3.8	A	3.8	A	19.0	C
	Right	16	0	0	5.1	A				
Southbound	Left	7	1	51	5.7	A	0.9	A		
	Thru	856	0	24	0.9	A				
Westbound	Left	72	206	350	323.0	F	306.1	F		
	Right	16	167	319	229.7	F				

Target Volume (vph)	Simulated Volume (vph)	Difference (vph)
628	627	-1
16	16	0
7	7	0
868	856	-12
75	72	-3
17	16	-1

TH 41/CSAH 18

(Roundabout)

Approach	Movement	Volume (vph)	Average Queue (ft)	Maximum Queue (ft)	Movement Delay (sec/veh)	Movement LOS	Approach Delay (sec/veh)	Approach LOS	Overall Delay (sec/veh)	Overall LOS
Northbound	Left	8	3	163	7.2	A	7.2	A	8.5	A
	Thru	528	3	168	8.0	A				
	Right	103	3	175	3.0	A				
Southbound	Left	37	7	163	8.5	A	8.2	A		
	Thru	517	7	167	8.2	A				
	Right	4	5	166	2.1	A				
Eastbound	Left	58	6	83	12.8	B	11.1	B		
	Thru	46	6	82	10.8	B				
	Right	54	6	94	9.4	A				
Westbound	Left	294	13	164	11.5	B	9.9	A		
	Thru	7	13	166	10.5	B				
	Right	141	13	170	6.3	A				

Target Volume (vph)	Simulated Volume (vph)	Difference (vph)
7	8	1
531	528	-3
107	103	-4
34	37	3
520	517	-3
5	4	-1
60	58	-2
44	46	2
56	54	-2
300	294	-6
7	7	0
144	141	-3

CSAH 18/Peavey Road

(Roundabout)

Approach	Movement	Volume (vph)	Average Queue (ft)	Maximum Queue (ft)	Movement Delay (sec/veh)	Movement LOS	Approach Delay (sec/veh)	Approach LOS	Overall Delay (sec/veh)	Overall LOS
Northbound	Left	141	1	69	4.6	A	3.6	A	3.0	A
	Thru	22	1	71	4.6	A				
	Right	113	1	70	2.3	A				
Southbound	Left	16	0	25	3.8	A	2.4	A		
	Thru	4	0	25	2.9	A				
	Right	35	0	26	1.7	A				
Eastbound	Left	9	0	3	2.6	A	1.5	A		
	Thru	168	0	3	1.5	A				
	Right	9	0	3	1.4	A				
Westbound	Left	17	1	47	4.1	A	3.5	A		
	Thru	265	1	46	3.5	A				
	Right	11	1	46	2.9	A				

Target Volume (vph)	Simulated Volume (vph)	Difference (vph)
145	141	-4
22	22	0
113	113	0
18	16	-2
3	4	1
34	35	1
9	9	0
168	168	0
8	9	1
15	17	2
271	265	-6
10	11	1

CSAH 18/Norex Drive

(Roundabout)

Approach	Movement	Volume (vph)	Average Queue (ft)	Maximum Queue (ft)	Movement Delay (sec/veh)	Movement LOS	Approach Delay (sec/veh)	Approach LOS	Overall Delay (sec/veh)	Overall LOS
Southbound	Left	99	1	49	3.8	A	3.6	A	3.3	A
	Right	37	1	50	3.2	A				
Eastbound	Left	9	0	48	3.1	A	3.0	A		
	Thru	289	0	48	3.0	A				
Westbound	Thru	257	0	24	3.7	A	3.6	A		
	Right	45	0	24	2.8	A				

Target Volume (vph)	Simulated Volume (vph)	Difference (vph)
101	99	-2
37	37	0
7	9	2
293	289	-4
259	257	-2
44	45	1

CSAH 18/Galpin Boulevard

(Signal)

CSAP to Galpin Boulevard											Signal
Approach	Movement	Volume (vph)	Average Queue (ft)	Maximum Queue (ft)	Movement Delay (sec/veh)	Movement LOS	Approach Delay (sec/veh)	Approach LOS	Overall Delay (sec/veh)	Overall LOS	
Northbound	Left	0	-	-	-	A	#DIV/0!	#DIV/0!	13.6	B	
	Thru	0	-	-	-	A					
	Right	0	-	-	-	A					
Southbound	Left	179	40	202	36.9	D	26.6	C			
	Thru	0	-	-	-	A					
	Right	87	3	90	5.2	A					
Eastbound	Left	67	16	102	40.7	D	11.2	B			
	Thru	318	4	69	5.0	A					
	Right	0	-	-	-	A					
Westbound	Left	0	-	-	-	A	7.6	A			
	Thru	213	9	105	10.1	B					
	Right	213	5	119	5.2	A					

Target Volume (vph)	Simulated Volume (vph)	Difference (vph)
0	0	0
0	0	0
0	0	0
182	179	-3
0	0	0
85	87	2
69	67	-2
325	318	-7
0	0	0
0	0	0
218	213	-5
212	213	1

HCS7 Roundabouts Report

General Information

Analyst	Nathan Poole
Agency or Co.	SRF Consulting
Date Performed	2/13/2017
Analysis Year	2017
Time Period	2020 PM
Project Description	TH 41 & CSAH 18

Site Information

Intersection	TH 41 & CSAH 18
E/W Street Name	CSAH 18
N/S Street Name	TH 41
Analysis Time Period (hrs)	0.25
Peak Hour Factor	1.00
Jurisdiction	

Volume Adjustments and Site Characteristics

Approach	EB				WB				NB				SB			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Number of Lanes (N)	0	0	1	0	0	0	1	0	0	0	1	0	0	0	1	0
Lane Assignment	LT				LT				LT				LT			
Volume (V), veh/h	0	60	45	60	0	300	10	145	0	10	535	110	0	35	520	5
Percent Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Flow Rate (v_{pce}), pc/h	0	62	46	62	0	309	10	149	0	10	551	113	0	36	536	5
Right-Turn Bypass	Non-Yielding				Non-Yielding				Non-Yielding				Non-Yielding			
Conflicting Lanes	1				1				1				1			
Pedestrians Crossing, p/h	0				0				0				0			

Critical and Follow-Up Headway Adjustment

Approach	EB			WB			NB			SB		
Lane	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Critical Headway (s)		4.9763			4.9763			4.9763			4.9763	
Follow-Up Headway (s)		2.6087			2.6087			2.6087			2.6087	

Flow Computations, Capacity and v/c Ratios

Approach	EB			WB			NB			SB		
Lane	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Entry Flow (v_e), pc/h		108	62		319	149		561	113		572	5
Entry Volume veh/h		105	60		310	145		545	110		555	5
Circulating Flow (v_c), pc/h	881			623			144			329		
Exiting Flow (v_{ex}), pc/h	82			20			613			845		
Capacity (C_{pce}), pc/h		562			731			1191			987	
Capacity (c), veh/h		545			710			1157			958	
v/c Ratio (x)		0.19			0.44			0.47			0.58	

Delay and Level of Service

Approach	EB			WB			NB			SB		
Lane	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Lane Control Delay (d), s/veh		9.1	0.0		11.1	0.0		8.2	0.0		11.7	0.0
Lane LOS		A	A		B	A		A	A		B	A
95% Queue, veh		0.7			2.2			2.6			3.8	
Approach Delay, s/veh	5.8			7.6			6.8			11.6		
Approach LOS	A			A			A			B		

Forecast Year 2040 Detailed Operations Analysis

2040 VISSIM Model: Traffic Signal
CSAH 18 (TH 41 to CSAH 15)- Concept Design
Arterial MOEs (A.M. Peak Hour)



TH 41/Peavey Road

(Unsignalized)

Approach	Movement	Volume (vph)	Average Queue (ft)	Maximum Queue (ft)	Movement Delay (sec/veh)	Movement LOS	Approach Delay (sec/veh)	Approach LOS	Overall Delay (sec/veh)	Overall LOS
Northbound	Thru	977	0	0	3.9	A	4.1	A	3.2	A
	Right	193	0	0	5.4	A				
Southbound	Thru	461	0	0	0.6	A	0.6	A		
Westbound	Right	0	-	-	-	A	#VALUE!	#VALUE!		

Target Volume (vph)	Simulated Volume (vph)	Difference (vph)
979	977	-2
205	193	-12
468	461	-7
3	0	-3

TH 41/CSAH 18

(Signal)

Approach	Movement	Volume (vph)	Average Queue (ft)	Maximum Queue (ft)	Movement Delay (sec/veh)	Movement LOS	Approach Delay (sec/veh)	Approach LOS	Overall Delay (sec/veh)	Overall LOS		
Northbound	Left	83	14	101	36.7	D	31.6	C	31.6	C		
	Thru	550	59	276	35.5	D						
	Right	353	41	294	24.3	C						
Southbound	Left	216	62	247	49.4	D	30.7	C				
	Thru	322	36	167	28.7	C						
	Right	133	2	62	5.3	A						
Eastbound	Left	94	13	99	27.1	C	34.8	C				
	Thru	427	101	438	38.6	D						
	Right	33	1	55	7.9	A						
Westbound	Left	110	17	120	30.5	C	28.1	C				
	Thru	158	22	121	29.9	C						
	Right	68	24	144	19.9	B						

Target Volume (vph)	Simulated Volume (vph)	Difference (vph)
84	83	-1
542	550	8
356	353	-3
218	216	-2
324	322	-2
129	133	4
92	94	2
430	427	-3
34	33	-1
110	110	0
160	158	-2
68	68	0

CSAH 18/Peavey Road

(Roundabout)

CSAR to Heavy Road							(Roundabout)			
Approach	Movement	Volume (vph)	Average Queue (ft)	Maximum Queue (ft)	Movement Delay (sec/veh)	Movement LOS	Approach Delay (sec/veh)	Approach LOS	Overall Delay (sec/veh)	Overall LOS
Northbound	Left	50	3	62	9.9	A	7.4	A	4.3	A
	Thru	10	3	63	9.7	A				
	Right	39	2	62	3.8	A				
Southbound	Left	4	0	24	4.9	A	2.7	A		
	Thru	18	0	24	3.4	A				
	Right	20	0	24	1.7	A				
Eastbound	Left	164	2	77	5.4	A	4.2	A		
	Thru	742	2	77	3.9	A				
	Right	89	2	77	3.8	A				
Westbound	Left	139	1	51	5.0	A	4.1	A		
	Thru	267	1	51	3.8	A				
	Right	25	1	51	3.1	A				

Target Volume (vph)	Simulated Volume (vph)	Difference (vph)
52	50	-2
10	10	0
40	39	-1
5	4	-1
20	18	-2
17	20	3
165	164	-1
747	742	-5
92	89	-3
140	139	-1
269	267	-2
25	25	0

CSAH 18/Norex Drive

(Roundabout)

Approach	Movement	Volume (vph)	Average Queue (ft)	Maximum Queue (ft)	Movement Delay (sec/veh)	Movement LOS	Approach Delay (sec/veh)	Approach LOS	Overall Delay (sec/veh)	Overall LOS
Southbound	Left	68	2	57	6.8	A	5.9	A	7.2	A
	Right	36	2	57	4.2	A				
Eastbound	Left	88	2	115	6.9	A	6.5	A		
	Thru	692	2	114	6.4	A				
Westbound	Thru	399	3	154	8.9	A	8.6	A		
	Right	101	3	154	7.5	A				

Target Volume (vph)	Simulated Volume (vph)	Difference (vph)
70	68	-2
35	36	1
91	88	-3
701	692	-9
399	399	0
105	101	-4

CSAH 18/Galpin Boulevard

(Signal)

CGAR To Galpin Boulevard										Signal
Approach	Movement	Volume (vph)	Average Queue (ft)	Maximum Queue (ft)	Movement Delay (sec/veh)	Movement LOS	Approach Delay (sec/veh)	Approach LOS	Overall Delay (sec/veh)	Overall LOS
Northbound	Left	0	-	-	-	A	#DIV/0!	#DIV/0!	20.5	C
	Thru	0	-	-	-	A				
	Right	0	-	-	-	A				
Southbound	Left	390	90	369	37.8	D	33.2	C		
	Thru	0	-	-	-	A				
	Right	68	2	76	6.4	A				
Eastbound	Left	159	46	186	48.1	D	17.5	B		
	Thru	594	15	126	9.3	A				
	Right	0	-	-	-	A				
Westbound	Left	0	-	-	-	A	14.9	B		
	Thru	429	37	220	18.9	B				
	Right	200	7	113	6.4	A				

Target Volume (vph)	Simulated Volume (vph)	Difference (vph)
0	0	0
0	0	0
0	0	0
390	390	0
0	0	0
69	68	-1
167	159	-8
604	594	-10
0	0	0
0	0	0
435	429	-6
200	200	0

2: TH 41 (Hazeltine Blvd) & Lyman Blvd Performance by approach

Approach	EB	WB	NB	SB	All
Denied Delay (hr)	0.1	0.0	0.0	0.3	0.5
Denied Del/Veh (s)	0.9	0.0	0.0	1.8	0.7
Total Delay (hr)	6.1	2.3	5.4	4.0	17.8
Total Del/Veh (s)	38.6	24.8	19.3	20.6	24.5

Total Network Performance

Denied Delay (hr)	0.7
Denied Del/Veh (s)	1.0
Total Delay (hr)	22.4
Total Del/Veh (s)	30.4

Intersection: 2: TH 41 (Hazeltine Blvd) & Lyman Blvd

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	SB	SB
Directions Served	L	T	TR	L	T	TR	L	T	T	R	L	T
Maximum Queue (ft)	194	324	303	168	128	125	123	249	235	154	225	198
Average Queue (ft)	52	190	121	59	46	52	52	129	119	62	120	76
95th Queue (ft)	146	299	266	114	95	105	105	206	201	111	199	146
Link Distance (ft)		912	912		533	533		600	600			1235
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	300			300			275			275	250	
Storage Blk Time (%)		1						1	1		0	0
Queuing Penalty (veh)		1						1	2		0	0

Intersection: 2: TH 41 (Hazeltine Blvd) & Lyman Blvd

Movement	SB	SB
Directions Served	T	R
Maximum Queue (ft)	143	61
Average Queue (ft)	54	30
95th Queue (ft)	112	51
Link Distance (ft)	1235	
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		250
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 3: Bend

Movement	EB
Directions Served	T
Maximum Queue (ft)	337
Average Queue (ft)	15
95th Queue (ft)	164
Link Distance (ft)	533
Upstream Blk Time (%)	0
Queuing Penalty (veh)	0
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Network Summary

Network wide Queuing Penalty: 5

2040 VISSIM Model: Roundabout
CSAH 18 (TH 41 to CSAH 15)- Concept Design
Arterial MOEs (A.M. Peak Hour)



TH 41/Peavey Road

(Unsignalized)

Approach	Movement	Volume (vph)	Average Queue (ft)	Maximum Queue (ft)	Movement Delay (sec/veh)	Movement LOS	Approach Delay (sec/veh)	Approach LOS	Overall Delay (sec/veh)	Overall LOS
Northbound	Thru	977	0	0	4.5	A	4.7	A	3.5	A
	Right	193	0	0	5.7	A				
Southbound	Thru	463	0	0	0.3	A	0.3	A		
Westbound	Right	0	-	-	-	A	#VALUE!	#VALUE!		

Target Volume (vph)	Simulated Volume (vph)	Difference (vph)
979	977	-2
205	193	-12
468	463	-5
3	0	-3

TH 41/CSAH 18

(Roundabout)

Approach	Movement	Volume (vph)	Average Queue (ft)	Maximum Queue (ft)	Movement Delay (sec/veh)	Movement LOS	Approach Delay (sec/veh)	Approach LOS	Overall Delay (sec/veh)	Overall LOS
Northbound	Left	83	48	323	18.6	C	19.5	C	11.2	B
	Thru	550	48	324	18.0	C				
	Right	353	49	324	21.9	C				
Southbound	Left	216	4	106	7.3	A	5.3	A		
	Thru	319	4	105	4.7	A				
	Right	133	4	106	3.5	A				
Eastbound	Left	94	5	96	7.6	A	6.7	A		
	Thru	429	5	97	6.6	A				
	Right	33	5	97	5.7	A				
Westbound	Left	109	3	86	7.2	A	6.1	A		
	Thru	158	3	87	5.6	A				
	Right	68	4	92	5.3	A				

Target Volume (vph)	Simulated Volume (vph)	Difference (vph)
84	83	-1
542	550	8
356	353	-3
218	216	-2
324	319	-5
129	133	4
92	94	2
430	429	-1
34	33	-1
110	109	-1
160	158	-2
68	68	0

CSAH 18/Peavey Road

(Roundabout)

CSAR 10/Heavy Road										(Roundabout)		
Approach	Movement	Volume (vph)	Average Queue (ft)	Maximum Queue (ft)	Movement Delay (sec/veh)	Movement LOS	Approach Delay (sec/veh)	Approach LOS	Overall Delay (sec/veh)	Overall LOS		
Northbound	Left	51	3	73	10.3	B	7.8	A	4.3	A		
	Thru	10	3	72	10.0	A						
	Right	39	3	73	4.0	A						
Southbound	Left	4	0	23	4.3	A	2.5	A				
	Thru	18	0	23	3.3	A						
	Right	20	0	24	1.4	A						
Eastbound	Left	164	2	81	5.4	A	4.1	A				
	Thru	743	2	81	3.8	A						
	Right	89	2	81	3.8	A						
Westbound	Left	140	1	68	5.3	A	4.3	A				
	Thru	267	1	69	3.9	A						
	Right	25	1	69	3.4	A						

Target Volume (vph)	Simulated Volume (vph)	Difference (vph)
52	51	-1
10	10	0
40	39	-1
5	4	-1
20	18	-2
17	20	3
165	164	-1
747	743	-4
92	89	-3
140	140	0
269	267	-2
25	25	0

CSAH 18/Norex Drive

(Roundabout)

Approach	Movement	Volume (vph)	Average Queue (ft)	Maximum Queue (ft)	Movement Delay (sec/veh)	Movement LOS	Approach Delay (sec/veh)	Approach LOS	Overall Delay (sec/veh)	Overall LOS
Southbound	Left	68	2	55	6.1	A	5.5	A	7.2	A
	Right	36	2	55	4.5	A				
Eastbound	Left	88	2	107	6.9	A	6.7	A		
	Thru	693	2	107	6.6	A				
Westbound	Thru	399	3	144	8.6	A	8.4	A		
	Right	101	3	142	7.6	A				

Target Volume (vph)	Simulated Volume (vph)	Difference (vph)
70	68	-2
35	36	1
91	88	-3
701	693	-8
399	399	0
105	101	-4

CSAH 18/Galpin Boulevard

(Signal)

CGAR To Galpin Boulevard											Original
Approach	Movement	Volume (vph)	Average Queue (ft)	Maximum Queue (ft)	Movement Delay (sec/veh)	Movement LOS	Approach Delay (sec/veh)	Approach LOS	Overall Delay (sec/veh)	Overall LOS	
Northbound	Left	0	-	-	-	A	#DIV/0!	#DIV/0!	22.5	C	
	Thru	0	-	-	-	A					
	Right	0	-	-	-	A					
Southbound	Left	389	140	471	53.3	D	46.9	D			
	Thru	0	-	-	-	A					
	Right	68	3	85	10.4	B					
Eastbound	Left	162	49	189	48.8	D	16.2	B			
	Thru	597	11	115	7.3	A					
	Right	0	-	-	-	A					
Westbound	Left	0	-	-	-	A	12.5	B			
	Thru	429	29	209	15.3	B					
	Right	199	7	126	6.5	A					

Target Volume (vph)	Simulated Volume (vph)	Difference (vph)
0	0	0
0	0	0
0	0	0
390	389	-1
0	0	0
69	68	-1
167	162	-5
604	597	-7
0	0	0
0	0	0
435	429	-6
200	199	-1

HCS7 Roundabouts Report

General Information

Analyst	Nathan Poole
Agency or Co.	SRF Consulting
Date Performed	2/13/2017
Analysis Year	2017
Time Period	2040 PM
Project Description	TH 41 & CSAH 18

Site Information

Intersection	TH 41 & CSAH 18
E/W Street Name	CSAH 18
N/S Street Name	TH 41
Analysis Time Period (hrs)	0.25
Peak Hour Factor	1.00
Jurisdiction	

Volume Adjustments and Site Characteristics

Approach	EB				WB				NB				SB			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Number of Lanes (N)	0	0	2	0	0	0	2	0	0	0	2	0	0	0	2	0
Lane Assignment	LT		TR		LT		TR		LT		TR		LT		TR	
Volume (V), veh/h	0	95	430	35	0	110	160	70	0	85	545	360	0	220	325	130
Percent Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Flow Rate (V_{PCE}), pc/h	0	98	443	36	0	113	165	72	0	88	561	371	0	227	335	134
Right-Turn Bypass	None				None				None				None			
Conflicting Lanes	2				2				2				2			
Pedestrians Crossing, p/h	0				0				0				0			

Critical and Follow-Up Headway Adjustment

Approach	EB			WB			NB			SB		
Lane	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Critical Headway (s)	4.6453	4.3276		4.6453	4.3276		4.6453	4.3276		4.6453	4.3276	
Follow-Up Headway (s)	2.6667	2.5352		2.6667	2.5352		2.6667	2.5352		2.6667	2.5352	

Flow Computations, Capacity and v/c Ratios

Approach	EB			WB			NB			SB		
Lane	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Entry Flow (v_e), pc/h	271	306		165	186		479	541		327	369	
Entry Volume veh/h	263	297		160	180		465	525		318	358	
Circulating Flow (v_c), pc/h	675			747			768			366		
Exiting Flow (v_{ex}), pc/h	1041			387			731			484		
Capacity (C_{PCE}), pc/h	725	800		679	753		666	739		964	1040	
Capacity (c), veh/h	704	777		659	731		647	718		936	1010	
v/c Ratio (x)	0.37	0.38		0.24	0.25		0.72	0.73		0.34	0.35	

Delay and Level of Service

Approach	EB			WB			NB			SB		
Lane	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Lane Control Delay (d), s/veh	10.0	9.4		8.4	7.8		22.1	21.1		7.5	7.3	
Lane LOS	A	A		A	A		C	C		A	A	
95% Queue, veh	1.7	1.8		0.9	1.0		6.1	6.4		1.5	1.6	
Approach Delay, s/veh	9.7			8.1			21.6			7.4		
Approach LOS	A			A			C			A		

2040 VISSIM Model: Traffic Signal
CSAH 18 (TH 41 to CSAH 15)- Concept Design
Arterial MOEs (P.M. Peak Hour)



TH 41/Peavey Road

(Unsignalized)

Approach	Movement	Volume (vph)	Average Queue (ft)	Maximum Queue (ft)	Movement Delay (sec/veh)	Movement LOS	Approach Delay (sec/veh)	Approach LOS	Overall Delay (sec/veh)	Overall LOS
Northbound	Thru	704	0	0	4.0	A	4.0	A	2.2	A
	Right	19	0	0	5.3	A				
Southbound	Thru	1,026	0	0	0.8	A	0.8	A		
Westbound	Right	17	1	67	9.4	A	9.4	A		

Target Volume (vph)	Simulated Volume (vph)	Difference (vph)
711	704	-7
20	19	-1
1,046	1,026	-20
19	17	-2

TH 41/CSAH 18

(Signal)

Approach	Movement	Volume (vph)	Average Queue (ft)	Maximum Queue (ft)	Movement Delay (sec/veh)	Movement LOS	Approach Delay (sec/veh)	Approach LOS	Overall Delay (sec/veh)	Overall LOS
Northbound	Left	58	11	80	43.2	D	29.2	C	29.6	C
	Thru	540	54	258	32.4	C				
	Right	126	4	83	8.9	A				
Southbound	Left	51	9	69	40.2	D	28.1	C		
	Thru	517	61	245	31.5	C				
	Right	112	3	69	6.7	A				
Eastbound	Left	165	22	153	27.4	C	28.5	C		
	Thru	201	43	213	37.2	D				
	Right	103	8	89	13.3	B				
Westbound	Left	408	76	383	31.3	C	31.5	C		
	Thru	487	70	329	32.2	C				
	Right	159	80	351	29.7	C				

Target Volume (vph)	Simulated Volume (vph)	Difference (vph)
61	58	-3
539	540	1
130	126	-4
49	51	2
524	517	-7
110	112	2
164	165	1
205	201	-4
105	103	-2
417	408	-9
493	487	-6
157	159	2

CSAH 18/Peavey Road

(Roundabout)

Approach	Movement	Volume (vph)	Average Queue (ft)	Maximum Queue (ft)	Movement Delay (sec/veh)	Movement LOS	Approach Delay (sec/veh)	Approach LOS	Overall Delay (sec/veh)	Overall LOS
Northbound	Left	276	7	153	8.5	A	7.6	A	5.6	A
	Thru	26	7	154	7.6	A				
	Right	129	7	154	5.5	A				
Southbound	Left	20	2	57	14.6	B	7.2	A		
	Thru	4	2	57	16.6	C				
	Right	76	2	57	4.8	A				
Eastbound	Left	20	0	10	3.5	A	2.3	A		
	Thru	343	0	10	2.3	A				
	Right	15	0	10	2.0	A				
Westbound	Left	19	3	90	6.7	A	5.9	A		
	Thru	711	3	89	5.9	A				
	Right	17	3	89	4.3	A				

Target Volume (vph)	Simulated Volume (vph)	Difference (vph)
278	276	-2
25	26	1
130	129	-1
20	20	0
5	4	-1
75	76	1
19	20	1
348	343	-5
17	15	-2
20	19	-1
714	711	-3
15	17	2

CSAH 18/Norex Drive

(Roundabout)

Approach	Movement	Volume (vph)	Average Queue (ft)	Maximum Queue (ft)	Movement Delay (sec/veh)	Movement LOS	Approach Delay (sec/veh)	Approach LOS	Overall Delay (sec/veh)	Overall LOS
Southbound	Left	111	16	136	15.6	C	16.1	C	8.5	A
	Right	80	16	135	16.7	C				
Eastbound	Left	13	1	69	5.3	A	4.7	A		
	Thru	475	1	69	4.6	A				
Westbound	Thru	670	0	71	9.2	A	9.1	A		
	Right	46	0	72	8.1	A				

Target Volume (vph)	Simulated Volume (vph)	Difference (vph)
115	111	-4
79	80	1
12	13	1
486	475	-11
670	670	0
50	46	-4

CSAH 18/Galpin Boulevard

(Signal)

CGAP To Galpin Boulevard											Original
Approach	Movement	Volume (vph)	Average Queue (ft)	Maximum Queue (ft)	Movement Delay (sec/veh)	Movement LOS	Approach Delay (sec/veh)	Approach LOS	Overall Delay (sec/veh)	Overall LOS	
Northbound	Left	0	-	-	-	A	#DIV/0!	#DIV/0!	13.9	B	
	Thru	0	-	-	-	A					
	Right	0	-	-	-	A					
Southbound	Left	210	44	198	36.4	D	22.9	C			
	Thru	0	-	-	-	A					
	Right	171	7	102	6.3	A					
Eastbound	Left	103	24	125	42.1	D	12.4	B			
	Thru	480	7	93	6.0	A					
	Right	0	-	-	-	A					
Westbound	Left	0	-	-	-	A	10.7	B			
	Thru	544	30	227	12.8	B					
	Right	243	7	122	5.8	A					

Target Volume (vph)	Simulated Volume (vph)	Difference (vph)
0	0	0
0	0	0
0	0	0
210	210	0
0	0	0
168	171	3
105	103	-2
496	480	-16
0	0	0
0	0	0
552	544	-8
245	243	-2

2: TH 41 (Hazeltine Blvd) & Lyman Blvd Performance by approach

Approach	EB	WB	NB	SB	All
Denied Delay (hr)	0.2	0.0	0.0	0.2	0.3
Denied Del/Veh (s)	1.4	0.0	0.0	0.8	0.4
Total Delay (hr)	3.7	7.9	4.3	4.9	20.8
Total Del/Veh (s)	27.6	26.6	21.1	25.2	25.1

Total Network Performance

Denied Delay (hr)	0.6
Denied Del/Veh (s)	0.7
Total Delay (hr)	25.0
Total Del/Veh (s)	29.8

Intersection: 2: TH 41 (Hazeltine Blvd) & Lyman Blvd

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	SB	SB
Directions Served	L	T	TR	L	T	TR	L	T	T	R	L	T
Maximum Queue (ft)	161	204	146	318	355	296	108	200	189	75	103	238
Average Queue (ft)	73	100	42	183	130	149	50	115	111	29	38	143
95th Queue (ft)	129	177	93	306	256	246	97	186	179	57	83	209
Link Distance (ft)		912	912		533	533		600	600			1235
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	300			300			275			275	250	
Storage Blk Time (%)				2								0
Queuing Penalty (veh)				4								0

Intersection: 2: TH 41 (Hazeltine Blvd) & Lyman Blvd

Movement	SB	SB
Directions Served	T	R
Maximum Queue (ft)	210	67
Average Queue (ft)	113	28
95th Queue (ft)	188	54
Link Distance (ft)	1235	
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		250
Storage Blk Time (%)	0	
Queuing Penalty (veh)	0	

Network Summary

Network wide Queuing Penalty: 4

2040 VISSIM Model: Roundabout
CSAH 18 (TH 41 to CSAH 15)- Concept Design
Arterial MOEs (P.M. Peak Hour)



TH 41/Peavey Road

(Unsignalized)

Approach	Movement	Volume (vph)	Average Queue (ft)	Maximum Queue (ft)	Movement Delay (sec/veh)	Movement LOS	Approach Delay (sec/veh)	Approach LOS	Overall Delay (sec/veh)	Overall LOS
Northbound	Thru	704	0	0	3.9	A	3.9	A	2.1	A
	Right	19	0	0	5.2	A				
Southbound	Thru	1,028	0	0	0.6	A	0.6	A		
Westbound	Right	17	1	63	9.6	A	9.6	A		

Target Volume (vph)	Simulated Volume (vph)	Difference (vph)
711	704	-7
20	19	-1
1,046	1,028	-18
19	17	-2

TH 41/CSAH 18

(Roundabout)

Approach	Movement	Volume (vph)	Average Queue (ft)	Maximum Queue (ft)	Movement Delay (sec/veh)	Movement LOS	Approach Delay (sec/veh)	Approach LOS	Overall Delay (sec/veh)	Overall LOS
Northbound	Left	59	3	100	7.5	A	6.7	A	10.3	B
	Thru	544	3	100	6.6	A				
	Right	127	3	100	6.6	A				
Southbound	Left	50	17	144	12.7	B	10.6	B		
	Thru	516	17	146	10.6	B				
	Right	111	17	146	10.0	B				
Eastbound	Left	166	10	118	11.7	B	10.3	B		
	Thru	201	10	118	9.1	A				
	Right	105	10	118	10.5	B				
Westbound	Left	410	27	250	15.1	C	12.7	B		
	Thru	490	27	251	11.2	B				
	Right	160	29	258	10.7	B				

Target Volume (vph)	Simulated Volume (vph)	Difference (vph)
61	59	-2
539	544	5
130	127	-3
49	50	1
524	516	-8
110	111	1
164	166	2
205	201	-4
105	105	0
417	410	-7
493	490	-3
157	160	3

CSAH 18/Peavey Road

(Roundabout)

CSAR to Heavy Road										(Roundabout)	
Approach	Movement	Volume (vph)	Average Queue (ft)	Maximum Queue (ft)	Movement Delay (sec/veh)	Movement LOS	Approach Delay (sec/veh)	Approach LOS	Overall Delay (sec/veh)	Overall LOS	
Northbound	Left	276	5	129	7.9	A	7.0	A	5.2	A	
	Thru	26	5	130	7.1	A					
	Right	129	5	129	5.0	A					
Southbound	Left	19	2	55	12.5	B	6.0	A			
	Thru	4	2	55	16.9	C					
	Right	76	2	55	3.8	A					
Eastbound	Left	19	0	12	3.1	A	1.8	A			
	Thru	344	0	12	1.8	A					
	Right	15	0	12	1.4	A					
Westbound	Left	19	3	84	7.0	A	5.7	A			
	Thru	712	3	84	5.7	A					
	Right	18	3	85	4.4	A					

Target Volume (vph)	Simulated Volume (vph)	Difference (vph)
278	276	-2
25	26	1
130	129	-1
20	19	-1
5	4	-1
75	76	1
19	19	0
348	344	-4
17	15	-2
20	19	-1
714	712	-2
15	18	3

CSAH 18/Norex Drive

(Roundabout)

Approach	Movement	Volume (vph)	Average Queue (ft)	Maximum Queue (ft)	Movement Delay (sec/veh)	Movement LOS	Approach Delay (sec/veh)	Approach LOS	Overall Delay (sec/veh)	Overall LOS
Southbound	Left	111	16	135	15.6	C	16.0	C	8.3	A
	Right	80	15	135	16.6	C				
Eastbound	Left	13	1	69	4.2	A	4.0	A		
	Thru	475	1	68	4.0	A				
Westbound	Thru	670	1	79	9.3	A	9.2	A		
	Right	46	1	80	8.1	A				

Target Volume (vph)	Simulated Volume (vph)	Difference (vph)
115	111	-4
79	80	1
12	13	1
486	475	-11
670	670	0
50	46	-4

CSAH 18/Galpin Boulevard

(Signal)

CGAP To Galpin Boulevard											Original
Approach	Movement	Volume (vph)	Average Queue (ft)	Maximum Queue (ft)	Movement Delay (sec/veh)	Movement LOS	Approach Delay (sec/veh)	Approach LOS	Overall Delay (sec/veh)	Overall LOS	
Northbound	Left	0	-	-	-	A	#DIV/0!	#DIV/0!	13.9	B	
	Thru	0	-	-	-	A					
	Right	0	-	-	-	A					
Southbound	Left	209	44	197	36.6	D	23.0	C			
	Thru	0	-	-	-	A					
	Right	171	7	103	6.3	A					
Eastbound	Left	104	24	128	42.6	D	12.4	B			
	Thru	481	7	88	5.8	A					
	Right	0	-	-	-	A					
Westbound	Left	0	-	-	-	A	10.7	B			
	Thru	543	30	235	12.8	B					
	Right	243	7	121	5.8	A					

Target Volume (vph)	Simulated Volume (vph)	Difference (vph)
0	0	0
0	0	0
0	0	0
210	209	-1
0	0	0
168	171	3
105	104	-1
496	481	-15
0	0	0
0	0	0
552	543	-9
245	243	-2

HCS7 Roundabouts Report

General Information

Analyst	Nathan Poole
Agency or Co.	SRF Consulting
Date Performed	2/13/2017
Analysis Year	2017
Time Period	2040 PM
Project Description	TH 41 & CSAH 18

Site Information

Intersection	TH 41 & CSAH 18
E/W Street Name	CSAH 18
N/S Street Name	TH 41
Analysis Time Period (hrs)	0.25
Peak Hour Factor	1.00
Jurisdiction	

Volume Adjustments and Site Characteristics

Approach	EB				WB				NB				SB			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Number of Lanes (N)	0	0	2	0	0	0	2	0	0	0	2	0	0	0	2	0
Lane Assignment	LT		TR		LT		TR		LT		TR		LT		TR	
Volume (V), veh/h	0	165	205	105	0	420	495	160	0	65	540	130	0	50	525	110
Percent Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Flow Rate (v_{pc}), pc/h	0	170	211	108	0	433	510	165	0	67	556	134	0	52	541	113
Right-Turn Bypass	None				None				None				None			
Conflicting Lanes	2				2				2				2			
Pedestrians Crossing, p/h	0				0				0				0			

Critical and Follow-Up Headway Adjustment

Approach	EB			WB			NB			SB		
Lane	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Critical Headway (s)	4.6453	4.3276		4.6453	4.3276		4.6453	4.3276		4.6453	4.3276	
Follow-Up Headway (s)	2.6667	2.5352		2.6667	2.5352		2.6667	2.5352		2.6667	2.5352	

Flow Computations, Capacity and v/c Ratios

Approach	EB			WB			NB			SB		
Lane	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Entry Flow (v_e), pc/h	230	259		521	587		356	401		332	374	
Entry Volume veh/h	223	252		506	570		345	390		322	363	
Circulating Flow (v_c), pc/h	1026			793			433			1010		
Exiting Flow (v_{ex}), pc/h	397			690			891			1082		
Capacity (C_{pc}), pc/h	525	594		651	724		906	983		533	602	
Capacity (c), veh/h	510	576		632	703		880	954		518	584	
v/c Ratio (x)	0.44	0.44		0.80	0.81		0.39	0.41		0.62	0.62	

Delay and Level of Service

Approach	EB			WB			NB			SB		
Lane	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Lane Control Delay (d), s/veh	14.6	13.2		28.5	27.3		8.7	8.4		20.9	18.9	
Lane LOS	B	B		D	D		A	A		C	C	
95% Queue, veh	2.2	2.2		8.0	8.5		1.9	2.0		4.2	4.3	
Approach Delay, s/veh	13.9			27.9			8.5			19.8		
Approach LOS	B			D			A			C		

CSAH 18 (TH 41 to CSAH 15) – Concept Design Alternatives Evaluation

To: Scott Poska, PE, PTOE

From: Leif Garnass, PE, PTOE, Senior Associate
Philip Kulis, Engineer

Date: March 2, 2017

Subject: CSAH 18 (TH 41 to CSAH 15)- Concept Design
Alternatives Evaluation

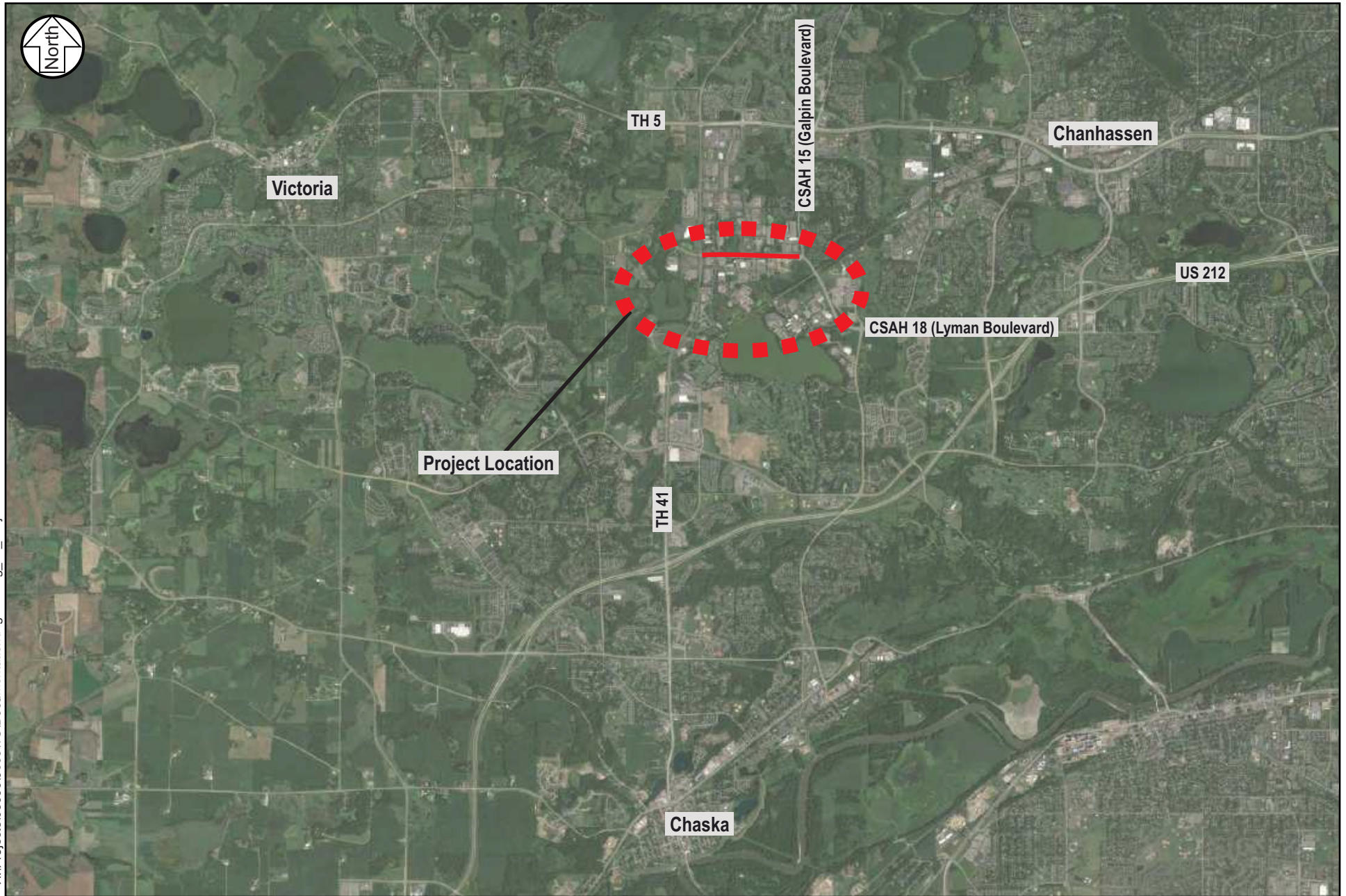
Introduction

SRF Consulting Group is developing a MnDOT Level 2 layout for the reconstruction of CSAH 18 (Lyman Boulevard) from TH 41 (Hazeltine Boulevard) to CSAH 15 (Galpin Boulevard) in Carver County, Minnesota (see Figure 1). CSAH 18 was recently reconstructed to a four-lane roadway to the east of CSAH 15, and this project will reconstruct the remainder of CSAH 18 west of CSAH 15 to TH 41. SRF previously documented the existing conditions, crash history, and access considerations of the corridor in the memorandum titled *CSAH 18 (TH 41 to CSAH 15)- Concept Design: Preliminary Traffic Operations and Access*. This memorandum documents the evaluation for various traffic control alternatives along CSAH 18 that will assist in determining the preferred concept for the corridor and inform the Intersection Control Evaluation (ICE) being prepared for the TH 41/CSAH 18 intersection.

Access Considerations

As previously determined, the CSAH 18/Peavey Road intersection should remain full-access in the future. This determination was based on the following:

- If the intersection remains side-street stop control, maintaining full-access would allow drivers to determine gaps in traffic on a slower speed roadway (CSAH 18) instead of a higher speed roadway (TH 41), which they would have to do with any access restriction that forces drivers to use the TH 41/Peavey intersection.
- By maintaining full-access at the CSAH 18/Peavey Road intersection long-term improvements are not expected to be needed at any of the key study intersections, except the TH 41/Peavey Road intersection. This intersection is currently full-access and it is expected that vehicles on the minor approach (Peavey Road) will have more difficulty finding acceptable gaps as traffic volumes increase on TH 41. Ultimately access restrictions or other improvements will likely be needed here; if access is restricted at the CSAH 18/Peavey Road intersection, the need for these access restrictions/improvements will be expedited.



Project Location

CSAH 18 (TH 41 to CSAH 15)- Concept Design

Carroll County

However, side-street stop control is not expected to provide acceptable traffic operations in the future and vehicles on the minor approach are expected to have difficulty finding acceptable gaps to enter traffic on CSAH 18. This could potentially lead to safety concerns of drivers becoming more aggressive and accepting smaller gaps. Therefore, a traffic control change at this intersection is recommended.

Preliminary Concept Evaluation

Existing Traffic Control

The existing traffic control along the CSAH 18 corridor from TH 41 to Galpin Boulevard is as follows:

- TH 41/CSAH 18 - Traffic signal
- CSAH 18/Peavey Road - Side-street stop
- CSAH 18/Norex Drive - Side-street stop
- CSAH 18/Galpin Boulevard - Traffic signal

Preliminary Alternatives

The traffic control at the TH 41/CSAH 18, CSAH 18/Peavey Road, and CSAH 18/Norex Drive intersections was evaluated to determine which one(s) are expected to provide acceptable traffic operations in year 2040. Table 1 shows the traffic control alternatives that were evaluated at each intersection.

Table 1. Alternatives Evaluated by Intersection

Alternative	Intersection		
	TH 41/CSAH 18	CSAH 18/Peavey Road	CSAH 18/Norex Drive
Side-Street Stop Control: Full-access			X
Side-Street Stop Control: Right-in/Right-Out (RIRO)		X	X
Traffic Signal	X	X	
Single-Lane Roundabout		X	X
Multi-Lane Roundabout	X	X	

Note:

- 1) The multi-lane roundabout alternative at TH 41/CSAH 18 is a full multi-lane roundabout with two lanes on all approaches. The multi-lane roundabout at CSAH 18/Peavey Road has two lanes on CSAH 18 and one lane on Peavey Road.

It was previously determined that the CSAH 18/Peavey Road intersection should remain full-access, but an alternative with RIRO at this intersection and a single-lane roundabout at CSAH 18/Norex Drive was evaluated to determine if there is an alternative that would provide acceptable operations with restricted access at Peavey Road.

The traffic control at Galpin Boulevard is assumed to remain a traffic signal since no operational issues are expected at this intersection and the eastbound, westbound, and southbound approaches are already fully constructed.

Alternatives Evaluation

Nine combinations of traffic control were evaluated to assess the alternatives with respect to traffic operations. The alternatives were evaluated based on intersection operations, impacts to operations at adjacent intersections, and out-of-direction travel as a result of access restrictions. The alternatives evaluation was based on year 2040 volumes and assumed TH 41/Peavey Road was RIRO. This assumption was made to ensure that the traffic control implemented along CSAH 18 would be able to accommodate the additional traffic from this access restriction that has the potential to occur in the future. Table 2 summarizes the evaluation of the alternatives.

Table 2. Alternatives Evaluation

Alternative	Intersection				Comments ⁽¹⁾
	TH 41/ CSAH 18	CSAH 18/ Peavey Rd	CSAH 18/ Norex Dr	CSAH 18/ Galpin Blvd	
1	Multi-Lane Roundabout	Single-Lane Roundabout	Single-Lane Roundabout	Traffic Signal	- All intersections operate acceptably in the a.m. and p.m. peak hours. The CSAH 18/Peavey Rd intersection is near capacity during the a.m. and p.m. peak hours. - CSAH 18/Peavey Rd intersection is near capacity during the a.m. and p.m. peak hours.
2	Multi-Lane Roundabout	Multi-Lane Roundabout	Single-Lane Roundabout	Traffic Signal	- All intersections operate acceptably in the a.m. and p.m. peak hours. - Greatest ability to accommodate additional traffic (i.e. most reserve capacity)
3	Multi-Lane Roundabout	Single-Lane Roundabout	RIRO	Traffic Signal	- Addition of U-turns at CSAH 18/Peavey Rd creates additional conflicting flow for eastbound vehicles. This additional conflicting flow creates a longer eastbound queue at CSAH 18/Peavey Rd that prevents northbound vehicles at TH 41/CSAH 18 from entering the roundabout, causing northbound vehicles at TH 41/CSAH 18 to experience an increase in delay and longer queues in the a.m. peak hour. - Southbound approach at CSAH 18/Peavey Rd operates at a worse LOS F from the additional conflicting flow. - Westbound approach at CSAH 18/Peavey Rd operates at LOS E in the p.m. peak hour and has significantly longer queues from the addition of the U-turns required to make this movement. - Southbound left-turns at Norex Dr experience an additional 68(108) seconds of delay and eastbound left-turns experience an additional 118(105) seconds of delay as a result of the out-of-direction travel from the U-turns.
4	Multi-Lane Roundabout	RIRO	Single-Lane Roundabout	Traffic Signal	- Westbound left-turn vehicles at CSAH 18/Peavey Rd are required to enter the TH 41/CSAH 18 roundabout to access Peavey Rd. - Addition of U-turns at CSAH 18/Norex Dr creates additional conflicting flow for westbound and southbound vehicles. This additional conflicting flow increases the delay and creates longer queues for westbound vehicles. There are too many conflicting vehicles for southbound vehicles at CSAH 18/Norex Dr to find acceptable gaps to enter the roundabout and this approach operates at LOS F in the p.m. peak hour. The intersection decreases to LOS E in the p.m. peak hour. - Northbound left-turns, throughs, and eastbound left-turns at Peavey Rd experience an additional 76(69) seconds of delay and southbound left-turns and throughs and westbound left-turns experience an additional 49(53) seconds of delay as a result of the out-of-direction travel from the required U-turns.
5	Multi-Lane Roundabout	Multi-Lane Roundabout	RIRO	Traffic Signal	- All intersections operate acceptably in the a.m. and p.m. peak hours. - Southbound left-turns at Norex Dr experience an additional 64(68) seconds of delay and the eastbound left-turns at Norex Dr experience an additional 115(104) seconds of delay as a result of the out-of-direction travel from the U-turns.
6	Traffic Signal	Traffic Signal	Side-Street Stop	Traffic Signal	- All intersections operate acceptably in the a.m. and p.m. peak hours. - Westbound through queue at TH 41/CSAH 18 nearly extends to Peavey Rd in the p.m. peak hour. - Limited ability to accommodate additional traffic (i.e. low reserve capacity).
7	Traffic Signal	Traffic Signal	RIRO	Traffic Signal	- Assumes there would be a protected eastbound/westbound left-turn phase at CSAH 18/Peavey Rd due to the addition of U-turns at this intersection. - Westbound through queue at TH 41/CSAH 18 nearly extends to Peavey Rd in the p.m. peak hour. - Eastbound queue at CSAH 18/Peavey Rd spillsback through TH 41/CSAH 18 during the a.m. peak hour. - Southbound left-turns at Norex Dr experience an additional 56(75) seconds of delay and eastbound left-turns at Norex Dr experience an additional 78(72) seconds of delay as a result of the out-of-direction travel from the U-turns.
8	Traffic Signal	Single-Lane Roundabout	Single-Lane Roundabout	Traffic Signal	- Queued westbound traffic at TH 41/CSAH 18 spillsback through CSAH 18/Peavey Rd during the p.m. peak hour. This queue causes the westbound approach at CSAH 18/Peavey Rd to operate at LOS F in the p.m. peak hour and the westbound queue extends back to Norex Dr. - The queue spilling back to Norex Dr causes the southbound Norex Dr approach to operate at LOS D from the reduced number of acceptable gaps to enter the roundabout. - Provides acceptable operations in the near-term.
9	Traffic Signal	Multi-Lane Roundabout	Single-Lane Roundabout	Traffic Signal	- All intersections operate acceptably in the a.m. and p.m. peak hours. - Westbound queue at TH/41 CSAH 18 extends to Peavey Rd in the p.m. peak hour. This queue is not expected to propagate and cause operational issues at other intersections.

Note:
1) XX(XX)- A.M.(P.M.) delay

The results of the alternatives evaluation indicate the following:

- Any concept with a traffic signal at the TH 41/CSAH 18 intersection has the potential for the westbound queue at this intersection to spillback through the CSAH 18/Peavey Road intersection.
 - If CSAH 18/Peavey Road is a single-lane roundabout, the queue propagates and ultimately spillsback to CSAH 18/Norex Drive intersection.
- Restricting access at the CSAH 18/Peavey Road or CSAH 18/Norex Drive intersection creates out-of-direction travel that is as follows:
 - CSAH 18/Peavey Road RIRO
 - Approximately 3,000 feet for northbound left-turn and through vehicles
 - Approximately 1,300 feet for westbound left-turn vehicles
 - CSAH 18/Norex Drive RIRO
 - Approximately 3,000 feet for southbound left-turn vehicles
 - Approximately 3,800 feet for westbound left-turn vehicles
- Restricting access at CSAH 18/Peavey Road would create operational issues at the CSAH 18/Norex Drive intersection.
- The CSAH 18/Peavey Road intersection operates more efficiently as either a single-lane or multi-lane roundabout compared to a traffic signal.
 - The single-lane roundabout is expected to be near capacity during the a.m. and p.m. peak hours based on year 2040 forecast.
 - A multi-lane roundabout would have reserve capacity to accommodate additional traffic beyond year 2040 forecast.
- A roundabout at the CASH 18/Norex Drive intersection provides more efficient traffic operations compared to side-street stop control.
 - A roundabout also eliminates the need to expand the roadway width for turn-lanes. Expanding the roadway beyond the existing roadbed is undesirable since the soils are poor in this area and the time for consolidation is a concern.

Intersection Geometry

A roundabout at CSAH 18/Peavey Road would allow for a narrow cross-section between TH 41/CSAH 18 and CSAH 18/Peavey Road compared to a traffic signal. A traffic signal would require a wider cross-section to develop the required turn lanes. By having a narrow cross-section through this area, there would be less impacts to the parcels to the north and south of CSAH 18 and less right-of-way (ROW) would be required.

Due to the westbound approach requirements at the TH 41/CSAH 18 intersection, the impacts to adjacent properties would be similar between a single-lane roundabout on all approaches and a roundabout with two lanes on the east and west approaches.

Roundabout at CSAH 18/Peavey Road

Based on the alternatives evaluation, the CSAH 18/Peavey Road intersection is recommended to be a roundabout. While a single-lane roundabout is expected to provide acceptable operations based on year 2040 volumes, the intersection is expected to be near capacity. A multi-lane roundabout would have reserve capacity to accommodate additional traffic beyond that forecasted in year 2040.

As previously discussed, there would be limited additional impacts with construction a multi-lane roundabout compared to a single-lane roundabout. Since a single lane roundabout is expected to provide acceptable operations until year 2040, the roundabout could initially be constructed to only have one through lane on CASH 18 and one lane would be a trap right-turn lane. By limiting the westbound and eastbound approaches to only one through lane, the number of conflict points would be reduced, therefore likely reducing the risk for crashes at this intersection.

The trap right-turn lane could be achieved through striping and flexible bollards installed in the circulatory roadway that prevents the outside lane from continuing straight through the roundabout. An example of this is exist at the CSAH 18 (Bailey Road)/CSAH 13 (Radio Drive) intersection in Washington County, Minnesota. The westbound and eastbound approaches at this roundabout are a shared left-turn through lane and a right-turn lane; there is striping and bollards in the circulatory roadway on the north and south side of the roundabout. This intersection is shown in Figure 2.



Figure 2. Bailey Road/Radio Drive Intersection in Washington County

TH 41/Peavey Road Intersection

Vehicles on the minor approach (westbound) at the TH 41/Peavey Road intersection currently experience delay in excess of 60 seconds at times during the p.m. peak hour. This approach is expected to experience additional delay in the future as traffic increases on TH 41 and the number of acceptable gaps in the traffic on TH 41 decreases. Access restriction (i.e. 3/4 access or RIRO) will likely be needed at this intersection in the future due to the limited gaps.

Implementing a roundabout at the TH 41/CSAH 18 intersection will likely accelerate this access restriction compared to a traffic signal. This is due to vehicles continuously departing the roundabout and not being broken up into platoons as would happen with a traffic signal. With access restriction at this intersection (i.e. no left-turn onto TH 41), vehicles would be required to use the CSAH 18/Peavey Road intersection. A roundabout at the CSAH 18/Peavey Road intersection would be able to accommodate this additional traffic.

Findings and Recommendations

SRF Consulting Group has completed an alternatives evaluation for the CSAH 18 (TH 41 to CSAH 15) concept design project. Previous analysis indicates that the CSAH 18/Peavey Road intersection should remain a full-access intersection; however, the northbound approach is expected to have difficulty finding acceptable gaps to enter traffic on CSAH 18 if it remains side-street stop control. Various traffic control alternatives at the study intersections were evaluated to determine which alternatives would provide acceptable operations. The results of the alternatives evaluation indicate the following:

- CSAH 18/Peavey Road and CSAH 18/Norex Drive should remain full-access.
 - With access restrictions at these two intersections, there would be out-of-direction travel and the operations at adjacent intersections would be negatively impacted.
- A multi-lane roundabout (two lanes on all approaches) at the TH 41/CSAH 18 intersection provides more efficient operations compared to a traffic signal.
 - With a traffic signal at this intersection, there are times when the westbound queue is expected to spillback through the CSAH 18/Peavey Road intersection and impact operations.
- A roundabout at the CSAH 18/Peavey Road intersection would provide acceptable operations.
 - A single-lane roundabout is expected to operate acceptably based on year 2040 forecast volumes. However, the roundabout is expected to be near capacity during the a.m. and p.m. peak hours.
 - A multi-lane roundabout (two lanes on CSAH 18 and one lane on Peavey Road) would provide additional capacity to accommodate traffic volumes greater than the year 2040 forecast.
- A roundabout at the CSAH 18/Norex Drive intersection would provide more efficient traffic operations compared to side-street stop control.

- A roundabout would also keep the roadway on the existing roadbed since turn lanes would not need to be developed.

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SIGNAL WARRANTS ANALYSIS



LOCATION:		TH-41 AT PEAVEY ROAD											
COUNTY:		CARVER											
REF. POINT:													
DATE:		11/19/2019											
OPERATOR:		KH											
0.70 FACTOR USED?		yes											
POPULATION < 10,000?		no											
EXISTING SIGNAL ?		no											
THRESHOLDS 1A/1B:													
				420	630	105	53			105	53		
HOUR	MAJOR APP. 1	MAJOR APP. 3	TOTAL 1+3	MAJOR 1A	MAJOR 1B	MINOR APP. 2	MINOR 2 1A	MINOR 2 1B	MINOR APP. 4	MINOR 4 1A	MINOR 4 1B	MAJ & MIN 1A	MAJ & MIN 1B
0:00 - 1:00			0										
1:00 - 2:00			0										
2:00 - 3:00			0										
3:00 - 4:00			0										
4:00 - 5:00			0										
5:00 - 6:00			0										
6:00 - 7:00	512	176	688	X	X	14			36				
7:00 - 8:00	992	413	1405	X	X	35			19				
8:00 - 9:00	816	451	1267	X	X	57		X	34				X
9:00 - 10:00	505	414	919	X	X	84		X	36				X
10:00 - 11:00	388	412	800	X	X	108	X	X	31			X	X
11:00 - 12:00	502	692	1194	X	X	132	X	X	80		X	X	X
12:00 - 13:00	630	567	1197	X	X	143	X	X	57		X	X	X
13:00 - 14:00	538	500	1038	X	X	137	X	X	39			X	X
14:00 - 15:00	524	616	1140	X	X	138	X	X	122	X	X	X	X
15:00 - 16:00	584	789	1373	X	X	138	X	X	94		X	X	X
16:00 - 17:00	620	986	1606	X	X	138	X	X	107	X	X	X	X
17:00 - 18:00	638	882	1520	X	X	137	X	X	42			X	X
18:00 - 19:00	464	616	1080	X	X	77		X	19				X
19:00 - 20:00			0										
20:00 - 21:00			0										
21:00 - 22:00			0										
22:00 - 23:00			0										
23:00 - 24:00			0										
	Met (Hr)	Required (Hr)											
Warrant 1a	8	8	Satisfied										
Warrant 1b	11	8	Satisfied										
Warrant 2	10	4	Satisfied										
Warrant 3	7	1	Satisfied										
Warrant 7	0	8	Not satisfied										

1: Hazeltine Blvd & Lyman Blvd 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	0.2	0.2	0.1	0.0	0.0	0.0	3.2	0.9	3.3
Total Del/Veh (s)	70.3	43.9	5.4	47.8	44.8	13.8	63.2	20.9	10.4	48.4	7.4	2.6

1: Hazeltine Blvd & Lyman Blvd Performance by movement

Movement	All
Denied Del/Veh (s)	0.7
Total Del/Veh (s)	21.4

2: Hazeltine Blvd & Peavy Rd Performance by movement

Movement	WBL	WBR	NBT	NBR	SBL	SBT	All
Denied Del/Veh (s)	0.1	0.1	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	28.7	10.4	2.3	1.4	9.5	3.5	3.0

3: Hazeltine Blvd & Oak Ridge Dr Performance by movement

Movement	EBL	EBR	NBL	NBT	SBT	SBR	All
Denied Del/Veh (s)	0.1	4.3	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	17.1	3.6	5.7	4.5	1.2	0.6	3.6

4: Hazeltine Blvd & Pioneer Trail Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	3.0	0.3	2.9	3.6	0.1	0.2	2.6	0.6	2.5	0.0	0.0	0.0
Total Del/Veh (s)	33.0	29.5	6.6	31.6	44.6	12.8	60.9	28.9	6.6	50.1	17.3	4.0

4: Hazeltine Blvd & Pioneer Trail Performance by movement

Movement	All
Denied Del/Veh (s)	1.1
Total Del/Veh (s)	27.5

Total Network Performance

Movement	All
Denied Del/Veh (s)	1.3
Total Del/Veh (s)	47.4

Queuing and Blocking Report
Oak Ridge Development

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Intersection: 1: Hazeltine Blvd & Lyman Blvd

Movement	EB	EB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	LT	R	LT	R	L	T	R	L	T	R
Maximum Queue (ft)	28	27	183	86	200	416	275	256	183	51
Average Queue (ft)	5	3	88	29	40	183	71	147	63	8
95th Queue (ft)	20	17	153	65	109	340	199	232	142	32
Link Distance (ft)	1291	1291	734	734		2917			1500	
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)					250		250	250		250
Storage Blk Time (%)						3	0	1		
Queuing Penalty (veh)						10	0	3		

Intersection: 2: Hazeltine Blvd & Peavy Rd

Movement	WB	NB	SB
Directions Served	LR	R	L
Maximum Queue (ft)	51	4	34
Average Queue (ft)	18	0	10
95th Queue (ft)	47	3	31
Link Distance (ft)	353		
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)		250	125
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 3: Hazeltine Blvd & Oak Ridge Dr

Movement	EB	EB	NB	B13
Directions Served	L	R	L	T
Maximum Queue (ft)	23	39	40	665
Average Queue (ft)	4	13	11	45
95th Queue (ft)	17	40	33	346
Link Distance (ft)	606			946
Upstream Blk Time (%)				0
Queuing Penalty (veh)				0
Storage Bay Dist (ft)		25	125	
Storage Blk Time (%)	2	1		
Queuing Penalty (veh)	0	0		

Queuing and Blocking Report

Oak Ridge Development

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Intersection: 4: Hazeltine Blvd & Pioneer Trail

Movement	EB	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	NB
Directions Served	L	T	T	R	L	T	TR	L	L	T	T	R
Maximum Queue (ft)	204	309	240	146	99	149	128	90	249	406	376	138
Average Queue (ft)	148	129	85	44	38	72	41	28	83	229	187	26
95th Queue (ft)	223	245	172	91	79	126	100	73	164	346	322	89
Link Distance (ft)		677	677			664	664			1136	1136	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	180			125	240			380	380			240
Storage Blk Time (%)	6	1	2	0						0	1	0
Queuing Penalty (veh)	12	2	4	0						1	1	0

Intersection: 4: Hazeltine Blvd & Pioneer Trail

Movement	SB	SB	SB	SB	SB
Directions Served	L	L	T	T	R
Maximum Queue (ft)	64	73	117	129	56
Average Queue (ft)	19	34	60	65	26
95th Queue (ft)	50	67	103	115	51
Link Distance (ft)			946		
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)	350	350		450	450
Storage Blk Time (%)					
Queuing Penalty (veh)					

Network Summary

Network wide Queuing Penalty: 33

1: Hazeltine Blvd & Lyman Blvd Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.1	0.2	0.1	0.3	0.2	0.2		0.0	0.0	3.1	0.7	3.1
Total Del/Veh (s)	32.1	29.6	12.0	39.4	38.3	12.0		20.5	7.6	53.5	12.9	4.3

1: Hazeltine Blvd & Lyman Blvd Performance by movement

Movement	All
Denied Del/Veh (s)	0.4
Total Del/Veh (s)	19.8

2: Hazeltine Blvd & Peavy Rd Performance by movement

Movement	WBL	WBR	NBT	NBR	SBL	SBT	All
Denied Del/Veh (s)	0.3	0.5	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	116.3	85.5	1.6	0.7	9.0	6.9	12.4

3: Hazeltine Blvd & Oak Ridge Dr Performance by movement

Movement	EBL	EBR	NBL	NBT	SBT	SBR	All
Denied Del/Veh (s)	0.2	4.1	0.0	0.0	0.0	0.0	0.1
Total Del/Veh (s)	43.1	9.8	11.1	2.7	2.3	1.3	2.7

4: Hazeltine Blvd & Pioneer Trail Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	3.4	0.2	3.3	3.0	0.2	0.3	2.9	0.6	2.7	0.0	0.0	0.0
Total Del/Veh (s)	33.0	38.2	9.8	31.3	37.6	23.6	50.4	23.3	4.7	49.9	24.2	9.2

4: Hazeltine Blvd & Pioneer Trail Performance by movement

Movement	All
Denied Del/Veh (s)	1.0
Total Del/Veh (s)	28.1

Total Network Performance

Movement	All
Denied Del/Veh (s)	1.1
Total Del/Veh (s)	48.6

Queuing and Blocking Report
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Intersection: 1: Hazeltine Blvd & Lyman Blvd

Movement	EB	EB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	LT	R	LT	R	L	T	R	L	T	R
Maximum Queue (ft)	112	87	321	123	5	396	185	158	379	117
Average Queue (ft)	52	30	154	49	0	173	33	38	151	4
95th Queue (ft)	98	63	266	98	2	327	134	98	286	41
Link Distance (ft)	1291	1291	734	734		2917			1500	
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)					250		250	250		250
Storage Blk Time (%)						3	0		1	0
Queuing Penalty (veh)						3	0		1	0

Intersection: 2: Hazeltine Blvd & Peavy Rd

Movement	WB	SB
Directions Served	LR	L
Maximum Queue (ft)	303	23
Average Queue (ft)	133	2
95th Queue (ft)	286	12
Link Distance (ft)	353	
Upstream Blk Time (%)	2	
Queuing Penalty (veh)	0	
Storage Bay Dist (ft)		125
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 3: Hazeltine Blvd & Oak Ridge Dr

Movement	EB	EB	NB
Directions Served	L	R	L
Maximum Queue (ft)	23	42	41
Average Queue (ft)	3	21	11
95th Queue (ft)	15	48	35
Link Distance (ft)	606		
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)		25	125
Storage Blk Time (%)	3	2	
Queuing Penalty (veh)	1	0	

Queuing and Blocking Report

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Intersection: 4: Hazeltine Blvd & Pioneer Trail

Movement	EB	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	NB
Directions Served	L	T	T	R	L	T	TR	L	L	T	T	R
Maximum Queue (ft)	167	190	159	107	200	240	206	159	183	264	225	76
Average Queue (ft)	76	97	52	42	98	139	119	57	112	138	80	28
95th Queue (ft)	134	163	122	77	173	210	196	135	172	222	192	57
Link Distance (ft)		677	677			664	664			1136	1136	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	180			125	240			380	380			240
Storage Blk Time (%)	0	0	0	0	0	0					0	
Queuing Penalty (veh)	0	0	0	0	0	0					0	

Intersection: 4: Hazeltine Blvd & Pioneer Trail

Movement	SB	SB	SB	SB	SB
Directions Served	L	L	T	T	R
Maximum Queue (ft)	100	115	256	234	105
Average Queue (ft)	41	62	148	152	45
95th Queue (ft)	82	103	230	221	85
Link Distance (ft)			946		
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)	350	350		450	450
Storage Blk Time (%)					
Queuing Penalty (veh)					

Network Summary

Network wide Queuing Penalty: 6

1: Hazeltine Blvd & Lyman Blvd Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.1	0.1	0.2	0.2	0.2	0.1	0.0	0.0	0.8	0.6	0.5	1.7
Total Del/Veh (s)	4.1	5.3	2.4	5.7	8.1	2.4	86.2	91.6	64.8	10.6	14.2	6.3

1: Hazeltine Blvd & Lyman Blvd Performance by movement

Movement	All
Denied Del/Veh (s)	0.4
Total Del/Veh (s)	51.7

2: Hazeltine Blvd & Peavy Rd Performance by movement

Movement	WBL	WBR	NBT	NBR	SBL	SBT	All
Denied Del/Veh (s)	0.1	0.1	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	60.4	42.5	2.7	1.5	10.7	2.1	3.4

3: Hazeltine Blvd & Oak Ridge Dr Performance by movement

Movement	EBL	EBR	NBL	NBT	SBT	SBR	All
Denied Del/Veh (s)	0.1	4.3	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	30.4	4.2	6.4	4.7	1.1	0.5	3.8

4: Hazeltine Blvd & Pioneer Trail Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	2.8	0.4	2.8	3.6	0.1	0.2	2.6	0.6	2.4	0.0	0.0	0.0
Total Del/Veh (s)	33.9	29.5	7.0	31.2	47.0	16.3	61.5	32.6	6.5	59.2	18.9	4.2

4: Hazeltine Blvd & Pioneer Trail Performance by movement

Movement	All
Denied Del/Veh (s)	1.1
Total Del/Veh (s)	29.4

Total Network Performance

Movement	All
Denied Del/Veh (s)	1.2
Total Del/Veh (s)	67.2

Queuing and Blocking Report

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Intersection: 1: Hazeltine Blvd & Lyman Blvd

Movement	EB	EB	WB	NB	NB	SB
Directions Served	LT	R	LT	LT	R	LT
Maximum Queue (ft)	25	28	74	1878	275	193
Average Queue (ft)	3	1	35	733	167	67
95th Queue (ft)	17	12	66	2000	388	156
Link Distance (ft)	1238	1238	684	2865		2453
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)					250	
Storage Blk Time (%)				38	1	
Queuing Penalty (veh)				122	5	

Intersection: 2: Hazeltine Blvd & Peavy Rd

Movement	WB	NB	NB	SB
Directions Served	LR	T	R	L
Maximum Queue (ft)	73	16	9	38
Average Queue (ft)	28	1	0	13
95th Queue (ft)	67	12	0	35
Link Distance (ft)	353	1063		
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)			250	125
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 3: Hazeltine Blvd & Oak Ridge Dr

Movement	EB	EB	NB	B13
Directions Served	L	R	L	T
Maximum Queue (ft)	23	42	30	603
Average Queue (ft)	4	13	9	26
95th Queue (ft)	18	40	30	255
Link Distance (ft)	606			946
Upstream Blk Time (%)				0
Queuing Penalty (veh)				0
Storage Bay Dist (ft)		25	125	
Storage Blk Time (%)	5	1		
Queuing Penalty (veh)	1	0		

Queuing and Blocking Report

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Intersection: 4: Hazeltine Blvd & Pioneer Trail

Movement	EB	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	NB
Directions Served	L	T	T	R	L	T	TR	L	L	T	T	R
Maximum Queue (ft)	205	334	286	150	97	153	143	141	251	404	370	143
Average Queue (ft)	158	141	94	50	38	77	42	35	87	249	209	25
95th Queue (ft)	225	272	196	103	77	137	103	96	170	360	327	88
Link Distance (ft)		677	677			664	664			1136	1136	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	180			125	240			380	380			240
Storage Blk Time (%)	9	1	2	0						0	2	
Queuing Penalty (veh)	18	3	4	1						1	2	

Intersection: 4: Hazeltine Blvd & Pioneer Trail

Movement	SB	SB	SB	SB	SB
Directions Served	L	L	T	T	R
Maximum Queue (ft)	69	77	125	142	69
Average Queue (ft)	21	37	68	66	26
95th Queue (ft)	55	73	115	119	52
Link Distance (ft)			946		
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)	350	350		450	450
Storage Blk Time (%)					
Queuing Penalty (veh)					

Network Summary

Network wide Queuing Penalty: 154

1: Hazeltine Blvd & Lyman Blvd Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.1	0.2	0.1	0.2	0.3	0.2	0.0	0.0	0.0	0.7	0.7	1.6
Total Del/Veh (s)	14.9	12.8	2.9	11.5	9.8	2.6	18.1	15.6	8.5	109.0	112.6	47.9

1: Hazeltine Blvd & Lyman Blvd Performance by movement

Movement	All
Denied Del/Veh (s)	0.3
Total Del/Veh (s)	49.4

2: Hazeltine Blvd & Peavy Rd Performance by movement

Movement	WBL	WBR	NBT	NBR	SBL	SBT	All
Denied Del/Veh (s)	8.6	11.8	0.0	0.0	0.0	0.0	0.6
Total Del/Veh (s)	163.8	126.6	1.6	0.5	4.5	4.9	14.7

3: Hazeltine Blvd & Oak Ridge Dr Performance by movement

Movement	EBL	EBR	NBL	NBT	SBT	SBR	All
Denied Del/Veh (s)	0.1	4.1	0.0	0.0	0.0	0.0	0.1
Total Del/Veh (s)	26.4	9.4	9.7	2.9	2.1	1.0	2.6

4: Hazeltine Blvd & Pioneer Trail Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	3.3	0.2	3.3	3.0	0.2	0.3	2.9	0.6	2.8	0.0	0.0	0.0
Total Del/Veh (s)	33.9	39.1	9.6	33.1	39.6	23.3	53.5	23.3	4.6	52.8	23.1	9.5

4: Hazeltine Blvd & Pioneer Trail Performance by movement

Movement	All
Denied Del/Veh (s)	1.0
Total Del/Veh (s)	28.9

Total Network Performance

Movement	All
Denied Del/Veh (s)	1.4
Total Del/Veh (s)	65.2

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Intersection: 1: Hazeltine Blvd & Lyman Blvd

Movement	EB	EB	WB	NB	NB	SB	SB
Directions Served	LT	R	LT	LT	R	LT	R
Maximum Queue (ft)	134	48	165	236	55	1605	275
Average Queue (ft)	38	14	67	67	2	665	25
95th Queue (ft)	93	48	125	161	40	1546	157
Link Distance (ft)	1238	1238	684	2865		2453	
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)					250		250
Storage Blk Time (%)				0		68	0
Queuing Penalty (veh)				0		4	0

Intersection: 2: Hazeltine Blvd & Peavy Rd

Movement	WB	SB
Directions Served	LR	L
Maximum Queue (ft)	306	11
Average Queue (ft)	173	1
95th Queue (ft)	361	9
Link Distance (ft)	353	
Upstream Blk Time (%)	13	
Queuing Penalty (veh)	0	
Storage Bay Dist (ft)		125
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 3: Hazeltine Blvd & Oak Ridge Dr

Movement	EB	EB	NB
Directions Served	L	R	L
Maximum Queue (ft)	18	39	43
Average Queue (ft)	1	19	10
95th Queue (ft)	10	46	33
Link Distance (ft)	606		
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)		25	125
Storage Blk Time (%)	1	2	
Queuing Penalty (veh)	0	0	

Intersection: 4: Hazeltine Blvd & Pioneer Trail

Movement	EB	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	NB
Directions Served	L	T	T	R	L	T	TR	L	L	T	T	R
Maximum Queue (ft)	151	173	162	120	235	258	216	176	200	236	206	74
Average Queue (ft)	82	96	54	40	107	149	129	68	118	138	77	27
95th Queue (ft)	140	158	123	80	189	231	211	161	187	211	180	53
Link Distance (ft)		677	677			664	664			1136	1136	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	180			125	240			380	380			240
Storage Blk Time (%)	0	0	1	0	0	0					0	
Queuing Penalty (veh)	0	0	1	0	1	1					0	

Intersection: 4: Hazeltine Blvd & Pioneer Trail

Movement	SB	SB	SB	SB	SB
Directions Served	L	L	T	T	R
Maximum Queue (ft)	101	117	219	215	126
Average Queue (ft)	48	68	143	147	51
95th Queue (ft)	89	109	206	199	97
Link Distance (ft)			946		
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)	350	350		450	450
Storage Blk Time (%)					
Queuing Penalty (veh)					

Network Summary

Network wide Queuing Penalty: 9

1: Hazeltine Blvd & Lyman Blvd 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	0.2	0.2	0.1	0.0	0.6	0.5	0.6	0.6	1.7
Total Del/Veh (s)	5.7	6.4	2.1	6.0	7.6	2.4	110.7	117.1	86.9	12.9	17.4	7.3

1: Hazeltine Blvd & Lyman Blvd Performance by movement

Movement	All
Denied Del/Veh (s)	0.6
Total Del/Veh (s)	65.3

2: Hazeltine Blvd & Peavy Rd Performance by movement

Movement	EBL	EBR	WBL	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	4.0	4.0	4.1	4.2	0.0	0.0	0.0	0.0	0.0	0.0	0.3
Total Del/Veh (s)	24.8	6.9	29.3	16.8	9.8	10.9	5.3	22.5	6.2	2.5	9.7

3: Hazeltine Blvd & Oak Ridge Dr Performance by movement

Movement	EBR	NBL	NBT	SBT	SBR	All
Denied Del/Veh (s)	0.1	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	4.8	6.9	4.8	2.7	1.7	4.3

4: Hazeltine Blvd & Pioneer Trail Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	2.9	0.4	2.8	3.6	0.1	0.1	2.6	0.6	2.5	0.0	0.0	0.0
Total Del/Veh (s)	34.6	29.8	7.2	30.0	46.0	15.3	63.8	34.7	7.2	55.2	20.7	5.0

4: Hazeltine Blvd & Pioneer Trail Performance by movement

Movement	All
Denied Del/Veh (s)	1.1
Total Del/Veh (s)	30.2

Total Network Performance

Movement	All
Denied Del/Veh (s)	1.4
Total Del/Veh (s)	76.9

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Intersection: 1: Hazeltine Blvd & Lyman Blvd

Movement	EB	EB	WB	NB	NB	SB	SB
Directions Served	LT	R	LT	LT	R	LT	R
Maximum Queue (ft)	31	9	110	1653	275	276	55
Average Queue (ft)	5	0	36	946	233	88	6
95th Queue (ft)	23	7	74	1957	395	214	71
Link Distance (ft)	1238	1238	684	2834		2474	
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)					250		250
Storage Blk Time (%)				54	1	2	0
Queuing Penalty (veh)				177	7	1	0

Intersection: 2: Hazeltine Blvd & Peavy Rd

Movement	EB	EB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	R	L	R	L	T	R	L	T	R
Maximum Queue (ft)	84	60	52	28	45	324	139	30	125	3
Average Queue (ft)	34	23	13	6	10	115	17	9	31	0
95th Queue (ft)	70	54	37	24	33	230	60	25	86	2
Link Distance (ft)						1039			2834	
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)	300	300	200	200	300		250	125		250
Storage Blk Time (%)						1			0	
Queuing Penalty (veh)						1			0	

Intersection: 3: Hazeltine Blvd & Oak Ridge Dr

Movement	EB	NB	B13	B13
Directions Served	R	L	T	
Maximum Queue (ft)	59	48	903	317
Average Queue (ft)	19	15	56	22
95th Queue (ft)	40	39	411	236
Link Distance (ft)	605		946	946
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)		300		
Storage Blk Time (%)				
Queuing Penalty (veh)				

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Intersection: 4: Hazeltine Blvd & Pioneer Trail

Movement	EB	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	NB
Directions Served	L	T	T	R	L	T	TR	L	L	T	T	R
Maximum Queue (ft)	249	297	228	142	82	159	135	135	261	437	376	262
Average Queue (ft)	164	128	86	49	33	78	42	34	90	262	222	31
95th Queue (ft)	249	242	168	99	70	136	96	97	170	383	342	103
Link Distance (ft)		677	677			664	664			1136	1136	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	225			125	240			380	380			240
Storage Blk Time (%)	4	0	2	0						1	2	0
Queuing Penalty (veh)	8	1	5	0						1	2	0

Intersection: 4: Hazeltine Blvd & Pioneer Trail

Movement	SB	SB	SB	SB	SB
Directions Served	L	L	T	T	R
Maximum Queue (ft)	75	95	148	162	79
Average Queue (ft)	21	45	78	83	30
95th Queue (ft)	53	80	132	143	61
Link Distance (ft)			946		
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)	350	350		450	450
Storage Blk Time (%)					
Queuing Penalty (veh)					

Network Summary

Network wide Queuing Penalty: 203

1: Hazeltine Blvd & Lyman Blvd Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	0.2	0.2	0.1	0.3	0.1	0.2	0.0	0.0	0.2	99.8	109.7	108.2
Total Del/Veh (s)	8.4	9.4	2.9	18.1	17.3	2.6	15.2	19.1	10.7	351.0	355.1	307.0

1: Hazeltine Blvd & Lyman Blvd Performance by movement

Movement	All
Denied Del/Veh (s)	41.0
Total Del/Veh (s)	138.0

2: Hazeltine Blvd & Peavy Rd Performance by movement

Movement	EBL	EBR	WBL	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	3.8	3.7	3.9	3.8	0.0	0.0	0.0	0.0	0.0	0.0	0.7
Total Del/Veh (s)	39.4	25.9	46.9	9.3	30.3	7.3	2.2	23.2	23.4	10.0	20.7

3: Hazeltine Blvd & Oak Ridge Dr Performance by movement

Movement	EBR	NBL	NBT	SBT	SBR	All
Denied Del/Veh (s)	0.2	0.0	0.0	0.0	0.1	0.0
Total Del/Veh (s)	22.7	23.3	3.6	7.2	5.6	7.6

4: Hazeltine Blvd & Pioneer Trail Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	3.2	0.3	3.2	3.0	0.3	0.3	2.8	0.6	2.8	0.0	0.0	0.0
Total Del/Veh (s)	33.0	36.2	10.8	31.9	40.6	25.0	55.6	28.2	5.4	51.4	26.7	10.1

4: Hazeltine Blvd & Pioneer Trail Performance by movement

Movement	All
Denied Del/Veh (s)	1.0
Total Del/Veh (s)	30.2

Total Network Performance

Denied Del/Veh (s)	22.7
Total Del/Veh (s)	112.9

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Intersection: 1: Hazeltine Blvd & Lyman Blvd

Movement	EB	EB	WB	NB	NB	SB	SB
Directions Served	LT	R	LT	LT	R	LT	R
Maximum Queue (ft)	72	64	202	270	160	2525	275
Average Queue (ft)	35	14	92	82	10	2134	53
95th Queue (ft)	65	51	169	209	92	3037	232
Link Distance (ft)	1238	1238	684	2834		2474	
Upstream Blk Time (%)						56	
Queuing Penalty (veh)						0	
Storage Bay Dist (ft)					250		250
Storage Blk Time (%)				1	0	100	
Queuing Penalty (veh)				2	0	6	

Intersection: 2: Hazeltine Blvd & Peavy Rd

Movement	EB	EB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	R	L	R	L	T	R	L	T	R
Maximum Queue (ft)	251	123	177	45	111	208	22	74	395	273
Average Queue (ft)	101	59	75	13	50	80	2	4	225	30
95th Queue (ft)	192	105	141	38	98	167	12	34	354	159
Link Distance (ft)						1039			2834	
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)	300	300	200	200	300		250	125		250
Storage Blk Time (%)	0		0			0			18	0
Queuing Penalty (veh)	0		0			0			26	0

Intersection: 3: Hazeltine Blvd & Oak Ridge Dr

Movement	EB	NB	SB
Directions Served	R	L	R
Maximum Queue (ft)	110	136	9
Average Queue (ft)	41	59	0
95th Queue (ft)	84	108	7
Link Distance (ft)	605		
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)		300	300
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 4: Hazeltine Blvd & Pioneer Trail

Movement	EB	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	NB
Directions Served	L	T	T	R	L	T	TR	L	L	T	T	R
Maximum Queue (ft)	199	216	152	119	208	250	221	177	198	259	245	76
Average Queue (ft)	98	89	49	46	102	153	137	71	121	171	118	31
95th Queue (ft)	170	157	110	95	180	229	208	161	179	245	231	60
Link Distance (ft)		677	677			664	664			1136	1136	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	180			125	240			380	380			240
Storage Blk Time (%)	2	0	0	0	0	0					0	
Queuing Penalty (veh)	2	0	0	0	0	1					0	

Intersection: 4: Hazeltine Blvd & Pioneer Trail

Movement	SB	SB	SB	SB	SB
Directions Served	L	L	T	T	R
Maximum Queue (ft)	117	146	258	238	112
Average Queue (ft)	55	74	158	159	54
95th Queue (ft)	100	126	235	230	94
Link Distance (ft)			946		
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)	350	350		450	450
Storage Blk Time (%)					
Queuing Penalty (veh)					

Network Summary

Network wide Queuing Penalty: 39

1: Hazeltine Blvd & Lyman Blvd 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	0.2	0.1	0.1	0.1	0.0	0.1	0.5	0.5	1.6
Total Del/Veh (s)	5.6	6.4	2.6	8.8	8.3	3.8	14.9	17.4	13.7	7.3	10.4	6.0

1: Hazeltine Blvd & Lyman Blvd Performance by movement

Movement	All
Denied Del/Veh (s)	0.2
Total Del/Veh (s)	12.9

2: Hazeltine Blvd & Peavy Rd Performance by movement

Movement	EBL	EBR	WBL	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	4.0	4.0	4.1	4.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3
Total Del/Veh (s)	25.2	7.2	29.7	18.5	11.8	10.1	5.0	23.9	7.0	1.1	9.6

3: Hazeltine Blvd & Oak Ridge Dr Performance by movement

Movement	EBR	NBL	NBT	SBT	SBR	All
Denied Del/Veh (s)	0.1	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	5.6	7.1	4.8	3.1	2.2	4.3

4: Hazeltine Blvd & Pioneer Trail Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	2.9	0.4	2.9	3.6	0.1	0.2	2.6	0.6	2.7	0.0	0.0	0.0
Total Del/Veh (s)	33.5	30.4	7.3	31.5	45.2	15.0	63.6	33.6	7.6	53.6	20.4	4.8

4: Hazeltine Blvd & Pioneer Trail Performance by movement

Movement	All
Denied Del/Veh (s)	1.1
Total Del/Veh (s)	29.8

Total Network Performance

Movement	All
Denied Del/Veh (s)	1.2
Total Del/Veh (s)	47.2

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Intersection: 1: Hazeltine Blvd & Lyman Blvd

Movement	EB	EB	WB	WB	NB	NB	SB
Directions Served	LT	R	LT	R	LT	TR	LT
Maximum Queue (ft)	31	19	100	67	83	16	104
Average Queue (ft)	4	1	41	18	39	1	36
95th Queue (ft)	22	10	76	49	69	9	78
Link Distance (ft)	1236	1236	682	682	2835		2472
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)					250		
Storage Blk Time (%)							
Queuing Penalty (veh)							

Intersection: 2: Hazeltine Blvd & Peavy Rd

Movement	EB	EB	WB	WB	NB	NB	NB	SB	SB
Directions Served	L	R	L	R	L	T	R	L	T
Maximum Queue (ft)	95	77	52	32	41	244	56	42	175
Average Queue (ft)	34	26	15	7	12	106	14	8	45
95th Queue (ft)	69	60	41	26	34	201	40	26	119
Link Distance (ft)						1039			2835
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (ft)	300	300	200	200	300		250	125	
Storage Blk Time (%)						0			1
Queuing Penalty (veh)						0			0

Intersection: 3: Hazeltine Blvd & Oak Ridge Dr

Movement	EB	NB	B13	B13	SB
Directions Served	R	L	T		R
Maximum Queue (ft)	46	48	518	289	9
Average Queue (ft)	18	16	40	10	0
95th Queue (ft)	40	42	330	153	5
Link Distance (ft)	605		946	946	
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)		300		300	
Storage Blk Time (%)					
Queuing Penalty (veh)					

Queuing and Blocking Report

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Intersection: 4: Hazeltine Blvd & Pioneer Trail

Movement	EB	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	NB
Directions Served	L	T	T	R	L	T	TR	L	L	T	T	R
Maximum Queue (ft)	204	352	310	139	94	174	139	148	326	424	381	264
Average Queue (ft)	149	146	102	50	34	75	45	38	95	258	218	32
95th Queue (ft)	221	277	210	106	72	139	108	107	207	375	341	113
Link Distance (ft)		677	677			664	664			1136	1136	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	180			125	240			380	380			240
Storage Blk Time (%)	8	1	2	0						1	2	0
Queuing Penalty (veh)	15	3	4	0						1	2	0

Intersection: 4: Hazeltine Blvd & Pioneer Trail

Movement	SB	SB	SB	SB	SB
Directions Served	L	L	T	T	R
Maximum Queue (ft)	92	111	153	139	68
Average Queue (ft)	26	45	79	82	28
95th Queue (ft)	71	88	134	135	55
Link Distance (ft)			946		
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)	350	350		450	450
Storage Blk Time (%)					
Queuing Penalty (veh)					

Network Summary

Network wide Queuing Penalty: 27

1: Hazeltine Blvd & Lyman Blvd 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	0.2	0.1	0.2	0.0	0.0	0.2	0.6	0.7	1.9
Total Del/Veh (s)	13.0	12.7	3.8	16.8	14.1	4.4	12.9	13.1	9.7	8.1	11.3	6.4

1: Hazeltine Blvd & Lyman Blvd Performance by movement

Movement	All
Denied Del/Veh (s)	0.3
Total Del/Veh (s)	11.7

2: Hazeltine Blvd & Peavy Rd Performance by movement

Movement	EBL	EBR	WBL	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	3.7	3.7	3.9	3.9	0.0	0.0	0.0	0.0	0.0	0.0	0.7
Total Del/Veh (s)	39.7	32.1	45.3	10.6	33.7	9.2	2.6	39.0	42.1	2.6	29.3

3: Hazeltine Blvd & Oak Ridge Dr Performance by movement

Movement	EBR	NBL	NBT	SBT	SBR	All
Denied Del/Veh (s)	0.2	0.0	0.0	0.0	0.0	0.0
Total Del/Veh (s)	34.3	28.7	3.6	8.0	6.6	9.0

4: Hazeltine Blvd & Pioneer Trail Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	3.2	0.2	3.2	3.0	0.3	0.3	2.7	0.6	2.7	0.0	0.0	0.0
Total Del/Veh (s)	34.2	36.2	10.9	31.3	39.5	25.5	57.5	28.1	5.7	52.1	28.0	10.6

4: Hazeltine Blvd & Pioneer Trail Performance by movement

Movement	All
Denied Del/Veh (s)	0.9
Total Del/Veh (s)	30.7

Total Network Performance

Denied Del/Veh (s)	1.3
Total Del/Veh (s)	55.3

Queuing and Blocking Report
Oak Ridge Development

11/25/2019

Intersection: 1: Hazeltine Blvd & Lyman Blvd

Movement	EB	EB	WB	WB	NB	SB	SB
Directions Served	LT	R	LT	R	LT	LT	TR
Maximum Queue (ft)	95	61	210	83	57	127	26
Average Queue (ft)	40	16	86	34	16	45	1
95th Queue (ft)	74	46	165	67	47	90	19
Link Distance (ft)	1236	1236	682	682	2835	2472	
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)						250	
Storage Blk Time (%)							
Queuing Penalty (veh)							

Intersection: 2: Hazeltine Blvd & Peavy Rd

Movement	EB	EB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	R	L	R	L	T	R	L	T	R
Maximum Queue (ft)	225	144	169	41	152	289	67	40	805	108
Average Queue (ft)	108	66	71	14	58	103	4	2	417	6
95th Queue (ft)	195	121	135	37	106	213	41	24	794	61
Link Distance (ft)						1039			2835	2835
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)	300	300	200	200	300		250	125		
Storage Blk Time (%)	0		0			1			29	
Queuing Penalty (veh)	0		0			1			1	

Intersection: 3: Hazeltine Blvd & Oak Ridge Dr

Movement	EB	NB	NB	SB
Directions Served	R	L	T	R
Maximum Queue (ft)	151	176	60	25
Average Queue (ft)	57	61	2	1
95th Queue (ft)	122	127	44	12
Link Distance (ft)	605		2591	
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)		300		300
Storage Blk Time (%)			0	
Queuing Penalty (veh)			0	

Intersection: 4: Hazeltine Blvd & Pioneer Trail

Movement	EB	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	NB
Directions Served	L	T	T	R	L	T	TR	L	L	T	T	R
Maximum Queue (ft)	196	256	197	112	211	245	237	174	203	279	235	66
Average Queue (ft)	101	103	59	44	106	146	135	69	120	169	119	30
95th Queue (ft)	174	195	139	87	188	218	219	157	189	248	229	57
Link Distance (ft)		677	677			664	664			1136	1136	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	180			125	240			380	380			240
Storage Blk Time (%)	2	0	0	0	0	0					0	
Queuing Penalty (veh)	2	0	0	0	0	1					0	

Intersection: 4: Hazeltine Blvd & Pioneer Trail

Movement	SB	SB	SB	SB	SB
Directions Served	L	L	T	T	R
Maximum Queue (ft)	121	146	250	254	124
Average Queue (ft)	60	81	169	175	56
95th Queue (ft)	107	128	239	239	101
Link Distance (ft)			946		
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)	350	350		450	450
Storage Blk Time (%)					
Queuing Penalty (veh)					

Network Summary

Network wide Queuing Penalty: 6

REQUEST FOR ACTION

CHASKA CITY COUNCIL

05/04/2020

Subject: Adopt Resolution to Establish Parameters for Sale and Issuance of Bonds (Chaska EDA, Series 2020B)

Prepared By: Noel Graczyk, Administrative Services Director
Kelly Grinnell, Finance Manager

Background

On April 14, 2020, the City acquired a parcel of land adjacent to Creek Road for the purpose of future road construction in the SW Chaska Area, realignment of Creek Road, and storm water management. Future special assessments for roadways in the SW Area will be used as a source to fund acquisition of this parcel. Total cost for acquisition of the parcel and estimated costs for issuance of the bonded debt to fund this acquisition are as follows.

Land Parcel (Cottrell)	\$1,376,000
Capital Interest	119,905
Cost of Issuance	<u>84,095</u>
Total Par	\$1,580,000

Now that the City holds title to this parcel, the City intends to request that the Chaska EDA (EDA) issue bonds to reimburse the City for acquisition costs that have been incurred. Authority and structure for issuance of these bonds is consistent with what the EDA issued earlier this year for costs incurred to acquire land for a future park in the SW Area.

In order to issue bonds, the City will need to transfer this parcel to the EDA and then pledge to make annual payments to the EDA to repurchase the parcel over a twenty-year period. The EDA can then issue bonds secured by this pledge made by the City. Note, this pledge by the City is not a General Obligation (GO) pledge of the full faith and taxing authority of the City. Instead, this pledge commits the City to use available City revenues to make annual payments to the EDA.

Baker Tilley, Municipal Advisor (BT) recommends that the City issue these bonds through placement with a City selected underwriter. This will allow the City and the EDA to work in conjunction with the underwriter as part of the structuring process. The City has used this type of underwriter placement in the past previously selecting Robert W. Baird & Company (Baird) as underwriter. Baird has agreed to again work with the City on issuance of this new series of bonds.

BT also recommends that the City issue bonds using a parameters resolution. This resolution will set maximum amounts for True Interest Costs (TIC) and a maximum PAR amount for

issuance of bonds. City staff can then issue and sell bonds to the underwriter when it is in the best interest of the City to be in the market.

The proposed bonds will be issued as taxable bonds. The City intends to sell a portion of the parcel that is not needed by the City to an adjacent developer at some future date. Sale of land for a future private purpose requires issuance taxable bonds.

Attached is the proposed structure for the Chaska EDA bonds. The estimated PAR amount is \$1,580,000 and is structured over a twenty-year term. The first two years included capitalized interest before repayment on the bond begins in 2022. The estimated TIC 4.1%.

Also attached is a draft of the Installment Sales Agreement to sell the parcel to the EDA and a draft of the Purchase and Sales Agreement for the City to repurchase the parcel from the EDA. The proposed bonds to be issued will be issued by the EDA. The Purchase and Sales Agreement will secure the bonds. The EDA will also be adopting a parameters resolution and entering into a trust agreement to collect revenues from the City for repayment of the bonds. When all EDA bonds have been paid in full title to the parcel will be transferred back to the City.

Enclosed is a draft of the proposed parameter resolution to be adopted by the City. This resolution sets a maximum TIC of 4.25% and a maximum PAR amount of \$1,700,000. This maximum TIC is 0.25% higher than what was used earlier this year. This additional 25 basis points reflects the fact that taxable rates are now higher and more volatile than prior to March of this year.

It is anticipated marketing of these bonds for presale will start in late May. Final pricing is anticipated to be completed the week of June 8th. After sale and issuance of the bonds is complete, a confirming resolution with final terms from the sale presented for adoption by the Council on June 22nd. This confirming resolution for action by Council must be passed by Council at that time.

Recommendation

Staff recommends adoption of the proposed parameters resolution for issuance and sale of Chaska EDA taxable full-term installment purchase revenue bonds, Series 2020B.

CITY COUNCIL ACTION REQUESTED

Motion to adopt Resolution No. 2020-30 approving the issuance of taxable full-term installment purchase revenue bonds, Series 2020B by the Economic Development Authority of the City of Chaska, Minnesota; and authorizing an installment sale agreement and related documents.

\$1,580,000

Economic Development Authority of the City of Chaska, Minnesota
Taxable Full-Term Installment Purchase Revenue Bonds
Series 2020B - Cottrell Project

Sources & Uses

Dated 07/08/2020 | Delivered 07/08/2020

Sources Of Funds

Par Amount of Bonds..... \$1,580,000.00

Total Sources..... \$1,580,000.00

Uses Of Funds

Deposit to Project Construction Fund..... 1,376,000.00

Deposit to Capitalized Interest (CIF) Fund..... 119,904.44

Costs of Issuance..... 65,000.00

Total Underwriter's Discount (1.150%)..... 18,170.00

Rounding Amount..... 925.56

Total Uses..... \$1,580,000.00

\$1,580,000

Economic Development Authority of the City of Chaska, Minnesota
Taxable Full-Term Installment Purchase Revenue Bonds
Series 2020B - Cottrell Project

DEBT SERVICE SCHEDULE

Date	Principal	Coupon	Interest	Total P+I	Fiscal Total
07/08/2020	-	-	-	-	-
06/01/2021	-	-	56,704.44	56,704.44	-
12/01/2021	-	-	31,600.00	31,600.00	88,304.44
06/01/2022	-	-	31,600.00	31,600.00	-
12/01/2022	55,000.00	4.000%	31,600.00	86,600.00	118,200.00
06/01/2023	-	-	30,500.00	30,500.00	-
12/01/2023	60,000.00	4.000%	30,500.00	90,500.00	121,000.00
06/01/2024	-	-	29,300.00	29,300.00	-
12/01/2024	60,000.00	4.000%	29,300.00	89,300.00	118,600.00
06/01/2025	-	-	28,100.00	28,100.00	-
12/01/2025	65,000.00	4.000%	28,100.00	93,100.00	121,200.00
06/01/2026	-	-	26,800.00	26,800.00	-
12/01/2026	65,000.00	4.000%	26,800.00	91,800.00	118,600.00
06/01/2027	-	-	25,500.00	25,500.00	-
12/01/2027	70,000.00	4.000%	25,500.00	95,500.00	121,000.00
06/01/2028	-	-	24,100.00	24,100.00	-
12/01/2028	75,000.00	4.000%	24,100.00	99,100.00	123,200.00
06/01/2029	-	-	22,600.00	22,600.00	-
12/01/2029	75,000.00	4.000%	22,600.00	97,600.00	120,200.00
06/01/2030	-	-	21,100.00	21,100.00	-
12/01/2030	80,000.00	4.000%	21,100.00	101,100.00	122,200.00
06/01/2031	-	-	19,500.00	19,500.00	-
12/01/2031	80,000.00	4.000%	19,500.00	99,500.00	119,000.00
06/01/2032	-	-	17,900.00	17,900.00	-
12/01/2032	85,000.00	4.000%	17,900.00	102,900.00	120,800.00
06/01/2033	-	-	16,200.00	16,200.00	-
12/01/2033	90,000.00	4.000%	16,200.00	106,200.00	122,400.00
06/01/2034	-	-	14,400.00	14,400.00	-
12/01/2034	90,000.00	4.000%	14,400.00	104,400.00	118,800.00
06/01/2035	-	-	12,600.00	12,600.00	-
12/01/2035	95,000.00	4.000%	12,600.00	107,600.00	120,200.00
06/01/2036	-	-	10,700.00	10,700.00	-
12/01/2036	100,000.00	4.000%	10,700.00	110,700.00	121,400.00
06/01/2037	-	-	8,700.00	8,700.00	-
12/01/2037	105,000.00	4.000%	8,700.00	113,700.00	122,400.00
06/01/2038	-	-	6,600.00	6,600.00	-
12/01/2038	105,000.00	4.000%	6,600.00	111,600.00	118,200.00
06/01/2039	-	-	4,500.00	4,500.00	-
12/01/2039	110,000.00	4.000%	4,500.00	114,500.00	119,000.00
06/01/2040	-	-	2,300.00	2,300.00	-
12/01/2040	115,000.00	4.000%	2,300.00	117,300.00	119,600.00
Total	\$1,580,000.00	-	\$794,304.44	\$2,374,304.44	-

SIGNIFICANT DATES

Dated Date..... 7/08/2020
Delivery Date..... 7/08/2020
First Coupon Date..... 6/01/2021

Yield Statistics

Bond Year Dollars..... \$19,857.61
Average Life..... 12.568 Years
Average Coupon..... 4.0000000%

Net Interest Cost (NIC)..... 4.0915014%
True Interest Cost (TIC)..... 4.1196579%
Bond Yield for Arbitrage Purposes..... 3.9970943%
All Inclusive Cost (AIC)..... 4.5750005%

IRS Form 8038

Net Interest Cost..... 4.0000000%
Weighted Average Maturity..... 12.568 Years

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\$1,580,000

Economic Development Authority of the City of Chaska, Minnesota
Taxable Full-Term Installment Purchase Revenue Bonds
Series 2020B - Cottrell Project

NET DEBT SERVICE SCHEDULE

Date	Principal	Coupon	Interest	Total P+I	CIF	Net New D/S	Fiscal Total
07/08/2020	-	-	-	-	-	-	-
06/01/2021	-	-	56,704.44	56,704.44	(56,704.44)	-	-
12/01/2021	-	-	31,600.00	31,600.00	(31,600.00)	-	-
06/01/2022	-	-	31,600.00	31,600.00	(31,600.00)	-	-
12/01/2022	55,000.00	4.000%	31,600.00	86,600.00	-	86,600.00	86,600.00
06/01/2023	-	-	30,500.00	30,500.00	-	30,500.00	-
12/01/2023	60,000.00	4.000%	30,500.00	90,500.00	-	90,500.00	121,000.00
06/01/2024	-	-	29,300.00	29,300.00	-	29,300.00	-
12/01/2024	60,000.00	4.000%	29,300.00	89,300.00	-	89,300.00	118,600.00
06/01/2025	-	-	28,100.00	28,100.00	-	28,100.00	-
12/01/2025	65,000.00	4.000%	28,100.00	93,100.00	-	93,100.00	121,200.00
06/01/2026	-	-	26,800.00	26,800.00	-	26,800.00	-
12/01/2026	65,000.00	4.000%	26,800.00	91,800.00	-	91,800.00	118,600.00
06/01/2027	-	-	25,500.00	25,500.00	-	25,500.00	-
12/01/2027	70,000.00	4.000%	25,500.00	95,500.00	-	95,500.00	121,000.00
06/01/2028	-	-	24,100.00	24,100.00	-	24,100.00	-
12/01/2028	75,000.00	4.000%	24,100.00	99,100.00	-	99,100.00	123,200.00
06/01/2029	-	-	22,600.00	22,600.00	-	22,600.00	-
12/01/2029	75,000.00	4.000%	22,600.00	97,600.00	-	97,600.00	120,200.00
06/01/2030	-	-	21,100.00	21,100.00	-	21,100.00	-
12/01/2030	80,000.00	4.000%	21,100.00	101,100.00	-	101,100.00	122,200.00
06/01/2031	-	-	19,500.00	19,500.00	-	19,500.00	-
12/01/2031	80,000.00	4.000%	19,500.00	99,500.00	-	99,500.00	119,000.00
06/01/2032	-	-	17,900.00	17,900.00	-	17,900.00	-
12/01/2032	85,000.00	4.000%	17,900.00	102,900.00	-	102,900.00	120,800.00
06/01/2033	-	-	16,200.00	16,200.00	-	16,200.00	-
12/01/2033	90,000.00	4.000%	16,200.00	106,200.00	-	106,200.00	122,400.00
06/01/2034	-	-	14,400.00	14,400.00	-	14,400.00	-
12/01/2034	90,000.00	4.000%	14,400.00	104,400.00	-	104,400.00	118,800.00
06/01/2035	-	-	12,600.00	12,600.00	-	12,600.00	-
12/01/2035	95,000.00	4.000%	12,600.00	107,600.00	-	107,600.00	120,200.00
06/01/2036	-	-	10,700.00	10,700.00	-	10,700.00	-
12/01/2036	100,000.00	4.000%	10,700.00	110,700.00	-	110,700.00	121,400.00
06/01/2037	-	-	8,700.00	8,700.00	-	8,700.00	-
12/01/2037	105,000.00	4.000%	8,700.00	113,700.00	-	113,700.00	122,400.00
06/01/2038	-	-	6,600.00	6,600.00	-	6,600.00	-
12/01/2038	105,000.00	4.000%	6,600.00	111,600.00	-	111,600.00	118,200.00
06/01/2039	-	-	4,500.00	4,500.00	-	4,500.00	-
12/01/2039	110,000.00	4.000%	4,500.00	114,500.00	-	114,500.00	119,000.00
06/01/2040	-	-	2,300.00	2,300.00	-	2,300.00	-
12/01/2040	115,000.00	4.000%	2,300.00	117,300.00	-	117,300.00	119,600.00
Total	\$1,580,000.00	-	\$794,304.44	\$2,374,304.44	(119,904.44)	\$2,254,400.00	-

SIGNIFICANT DATES

Dated Date..... 7/08/2020
Delivery Date..... 7/08/2020
First Coupon Date..... 6/01/2021

Yield Statistics

Bond Year Dollars..... \$19,857.61
Average Life..... 12.568 Years
Average Coupon..... 4.0000000%

Net Interest Cost (NIC)..... 4.0915014%
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All Inclusive Cost (AIC)..... 4.5750005%

IRS Form 8038

Net Interest Cost..... 4.0000000%
Weighted Average Maturity..... 12.568 Years

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PURCHASE AND SALE AGREEMENT

This Purchase and Sale Agreement (“Agreement”) is dated as of [July 1], 2020, by and between the CITY OF CHASKA, MINNESOTA, a political subdivision of the State of Minnesota, having its main office at One City Hall Plaza, Chaska, Minnesota, as seller (“Seller”) and the ECONOMIC DEVELOPMENT AUTHORITY OF THE CITY OF CHASKA, MINNESOTA, a body corporate and politic of the State of Minnesota, having its principal office and address at One City Hall Plaza, Chaska, Minnesota, as buyer (“Buyer”). Buyer and Seller are referred to collectively as the “Parties”.

RECITALS

A. Seller owns the real property legally described and depicted in Exhibit A attached hereto (collectively, the “Land”).

B. Seller wishes to sell the Land to Buyer and Buyer wishes to purchase the Land from Seller.

THEREFORE, in consideration of the mutual promises and covenants hereinafter set forth, and for other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the Parties hereby agree as follows:

AGREEMENT

1. PURCHASE AND SALE. Seller hereby agrees to sell, and Buyer hereby agrees to purchase the Land.

2. CONSIDERATION. The total purchase price (“Purchase Price”) to be paid for the Land shall be \$[_____]. The Purchase Price shall be payable to Seller by wire transfer or other immediately available funds or other means acceptable to Seller at Closing.

3. CLOSING. The closing of the purchase and sale contemplated under this Agreement (“Closing”) shall occur on [July 8], 2020, or such date as may be agreed to by the Parties (the “Closing Date”).

(a) At Closing, title to the Land shall pass from the Seller to the Buyer and Seller shall deliver to Buyer any documentation necessary or appropriate to consummate the transaction contemplated by this Agreement.

(b) At Closing, Buyer shall deliver to Seller (i) the Purchase Price and (ii) any other documentation necessary or appropriate to consummate the transaction contemplated by this Agreement.

4. AS-IS; INTENDED USE. Buyer has agreed to purchase the property “as is”, and has waived its right to inspection. The Buyer is purchasing the Land to sell the Land back to the Seller pursuant to an Installment Sale Agreement dated as of the date hereof, between Buyer, as seller, and Seller, as buyer.

5. COUNTERPARTS. This Agreement may be executed in one or more counterparts, each of which shall be deemed an original, and when each of the Parties hereto has executed and delivered to the other Party one or more counterparts this Agreement shall be binding and effective, even though no single counterpart has been executed by both of the Parties.

IN WITNESS WHEREOF, the Parties have executed this Agreement as of the day and year first above written.

SELLER:

CITY OF CHASKA, MINNESOTA

By _____
Mayor

Attest: _____
City Administrator

STATE OF MINNESOTA)
) ss.
COUNTY OF CARVER)

This instrument was acknowledged before me on this _____ day of _____, 2020, by Mark Windschitl and Matt Podhradsky, the Mayor and City Administrator, respectively, of the City of Chaska, Minnesota, a Minnesota political subdivision, on behalf of the political subdivision.

Notary Public

BUYER:

ECONOMIC DEVELOPMENT AUTHORITY OF
THE CITY OF CHASKA, MINNESOTA

By _____
President

Attest: _____
Executive Director

STATE OF MINNESOTA)
) ss.
COUNTY OF CARVER)

This instrument was acknowledged before me on this _____ day of _____, 2020,
by Mark Windschitl and Matt Podhradsky, the President and Executive Director, respectively, of
Economic Development Authority of the City of Chaska, Minnesota, a Minnesota political
subdivision, on behalf of the political subdivision.

Notary Public

EXHIBIT A
PROPERTY DESCRIPTION

Cottrell parcel

[]

INSTALLMENT SALE AGREEMENT

by and between

**ECONOMIC DEVELOPMENT AUTHORITY OF THE CITY OF CHASKA,
MINNESOTA
as Seller**

and the

**CITY OF CHASKA, MINNESOTA
as Buyer**

Dated as of [July 1], 2020

Relating to:

TAXABLE FULL-TERM INSTALLMENT PURCHASE REVENUE BONDS, SERIES 2020B

This instrument drafted by:

Dorsey & Whitney LLP
Suite 1500
50 South Sixth Street
Minneapolis, Minnesota 55402
(612) 340-2600

INSTALLMENT SALE AGREEMENT

This **INSTALLMENT SALE AGREEMENT** dated as of [July 1], 2020 (the “Agreement”), is executed by and between the **ECONOMIC DEVELOPMENT AUTHORITY OF THE CITY OF CHASKA, MINNESOTA**, a body corporate and politic of the State of Minnesota, having its principal office and address at One City Hall Plaza, Chaska, Minnesota, as Seller (the “Seller”), and the **CITY OF CHASKA, MINNESOTA**, a political subdivision of the State of Minnesota, having its main office at One City Hall Plaza, Chaska, Minnesota, as Buyer (the “Buyer”).

RECITALS

WHEREAS, as authorized by the laws of the State of Minnesota, the Seller has agreed to issue its Taxable Full-Term Installment Purchase Revenue Bonds, Series 2020B (the “Bonds”) to finance the acquisition of the real property legally described and depicted in Exhibit A (the “Land”) from the Buyer, and to sell such Land back to the Buyer pursuant hereto.

WHEREAS, the Bonds are being issued pursuant to a Trust Indenture dated as of [July 1], 2020 (the “Trust Indenture”), between the Seller and U.S. Bank National Association, as trustee (the “Trustee”).

WHEREAS, the Buyer is authorized by Minnesota Statutes, including Section 471.64, to acquire the Land by entering into this Installment Sale Agreement; and

WHEREAS, the Buyer and the Seller have determined to enter into this Agreement to finance the acquisition of the Land and provide for debt service payments on the Bonds.

NOW THEREFORE, in the joint and mutual exercise of their powers, and in consideration of the mutual covenants herein contained, the parties hereto recite and agree as follows:

Seller hereby promises to sell and convey to Buyer, and Buyer hereby promises to purchase from Seller the Land.

UPON AND SUBJECT TO THE FOLLOWING TERMS AND CONDITIONS, to-wit:

1. Installment Payments. The purchase price for said Land is \$[_____], payable semiannually in installments as set forth in Exhibit B hereto ("Installment Payments"), five business days before the payment dates set forth in Exhibit B (such dates each an "Installment Payment Date"), provided that the amount of any Installment Payment due may be reduced to the extent of any funds available in the Bond Fund from the sale of Parcel B (as defined herein) pursuant to Section 4 hereof and not previously used to make payments on the Bonds. The Installment Payments due on each Installment Payment Date are payable from any legally available funds of the Buyer and represents a binding full-term obligation of the Buyer, not subject to appropriation, sufficient to pay all principal and interest due on the Bonds as the same become due and payable in accordance with the provisions of the Trust Indenture. The Seller shall deposit Installment Payments received from the Buyer pursuant to the Trust Indenture.

2. Prepayment. On or after December 1, 20[28], the Buyer shall have the option, prior to any Installment Payment date, to prepay all or a portion of the remaining purchase price for the Land.

3. Additional Payments. The Buyer shall, during the Agreement Term, within ten (10) Business Days after written notice that such payment is due, also pay the following amounts of additional payments to the following persons:

- (a) to the Trustee, all reasonable fees and expenses of the Trustee for services rendered under the Trust Indenture, provided that the Seller may contest in good faith the reasonableness of any such fees or expenses other than the Trustee's fees for ordinary services as may be set forth in the Trust Indenture;
- (b) to the Seller, all reasonable expenses incurred by the Seller in connection with the transactions contemplated hereby which are not otherwise required to be paid by the Buyer under the terms of this Agreement; and
- (c) all other costs and expenses specifically required to be paid by the Buyer under the terms of this Agreement or by the Seller under the terms of the Trust Indenture, and in the event the amounts in Exhibit B are insufficient for such purpose, any other sums necessary to pay in full the principal and interest due on the Bonds when the same becomes due and payable.

In the event the Buyer should fail to make any of the payments required by this paragraph, the item in default shall continue as an obligation of the Buyer until the amount in default shall have been fully paid, and the Buyer will pay the same with interest thereon at the rate of 8% per annum, or, if less, at the maximum rate permitted by law.

4. Sale of Land; Proceeds of Land Sale to Developer. The Buyer may dispose of the portion of the Land described as Parcel B in Exhibit A ("Parcel B") after the date hereof; provided, however, that proceeds from the sale of Parcel B by the Buyer shall be paid directly to the Trustee or to the Seller as additional payments under Section 3 hereof (if paid to the Seller, the Seller shall deposit such amounts with the Trustee), and the Buyer or Seller shall provide the Trustee with direction that such sale proceeds are to be deposited in the Bond Fund established under the Trust Indenture and credited against Installment Payments due or to become due. Any sale of Parcel B after the date hereof will not reduce the Installment Payments due or to become due hereunder (such payments shall continue to represent the Installment Payments of the purchase price of all the Land, including Parcel B, notwithstanding the sale thereof), except to the extent amounts may be reduced by funds on hand in the Bond Fund as permitted under Section 1 hereof.

5. Agreement Term. This Agreement shall be and remain in effect with respect to the acquisition of the Land for an Agreement Term commencing on its date of execution and continuing until no Bonds remain Outstanding (as such term is defined in the Trust Indenture), or upon the payment by the Buyer of all Installment Payments and other amounts due hereunder, together with any fees and expenses due the Seller or the Trustee hereunder or under the Trust Indenture.

6. Possession and Enjoyment. The Seller hereby covenants to provide the Buyer, during the Agreement Term, with the quiet use and enjoyment of the Land; and the Buyer shall, during the Agreement Term, peaceably and quietly have and hold and enjoy the Land without suit, trouble or hindrance from the Seller, except as expressly set forth in this Agreement. The Seller will, at the request of the Buyer and at the Buyer's cost, join in any legal action in which the Buyer asserts its right to such possession and enjoyment to the extent the Seller lawfully may do so.

7. Taxes, Other Governmental Charges and Utility Charges. Except as expressly limited by this paragraph, the Buyer shall pay all taxes and other charges of any kind which are at any time lawfully assessed or levied against or with respect to the Land, the Installment Payments or any part thereof, or which become due during the Agreement Term, whether assessed against the Seller or the Buyer. The Buyer shall also pay when due all gas, water, steam, electricity, heat, power, telephone, and other charges incurred in the operation, maintenance, use, occupancy and upkeep of the Land, and all special assessments and charges lawfully made by any governmental body for public improvements that may be secured by a lien on the Land; provided that with respect to special assessments or other governmental charges that may lawfully be paid in installments over a period of years, the Buyer shall be obligated to pay only such installments as are required to be paid during the Agreement Term as and when the same become due. The Buyer shall not be required to pay any federal, state or local income, inheritance, estate, succession, transfer, gift, franchise, gross receipts, profit, excess profit, capital stock, corporate, or other similar tax payable by the Seller, its successors or assigns, unless such tax is made in lieu of or as a substitute for any real estate or other tax upon the Land.

8. Liability and Liability Insurance. Seller shall be free from liability and claims for damages by reason of injuries occurring on or after the date of this Agreement to any person or persons or property while on or about the Land. Buyer shall defend and indemnify Seller to the

extent permitted by law from all liability, loss, cost, and obligations, including reasonable attorneys' fees, on account of or arising out of any such injuries. However, Buyer shall have no liability or obligation to Seller for such injuries which are caused by the negligence or intentional wrongful acts or omissions of Seller.

Buyer shall, at Buyer's own expense, procure and maintain liability insurance against claims for bodily injury, death and property damage occurring on or about the Land in amounts reasonably satisfactory to Seller and naming Seller as an additional insured.

9. Events of Default. The following shall be Events of Default under this Agreement and the terms "events of default" and "default" shall mean, whenever they are used in this Agreement, with respect to the Land, any one or more of the following events :

- (a) Failure by the Buyer to pay any Installment Payments or other payments required to be paid hereunder at the time specified herein, which failure shall continue for a period of five days after written notice given to the Buyer by the Trustee on behalf of the Seller.
- (b) Failure by the Buyer to observe and perform any covenant, condition or agreement on its part to be observed or performed, other than as referred to in (a) of this paragraph, for a period of sixty (60) days after written notice specifying such failure and requesting that it be remedied has been given to the Buyer by the Trustee on behalf of the Seller, unless the Trustee shall agree in writing to an extension of such time prior to its expiration.
- (c) The filing by the Buyer of a voluntary petition in bankruptcy, or failure by the Buyer promptly to lift any execution, garnishment or attachment of such consequence as would impair the ability of the Buyer to buy the Land, or adjudication of the Buyer as a bankrupt, or assignment by the Buyer for the benefit of creditors, or the entry by the Buyer into an agreement of composition with creditors, or the approval by a court of competent jurisdiction of a petition applicable to the Buyer in any proceedings instituted under the provisions of the Federal Bankruptcy Statute, as amended, or under any similar acts which may hereafter be enacted.

The provisions of this paragraph are subject to the following limitation: if by reason of force majeure the Buyer is unable in whole or in part to carry out its obligations under this Agreement with respect to the Land purchase, other than the obligation of the Buyer to pay Installment Payments with respect thereto which shall be paid when due notwithstanding the provisions of this paragraph, the Buyer shall not be deemed in default during the continuance of such inability or during any other delays which are a direct consequence of the force majeure inability. The term "force majeure" as used herein shall mean, without limitation, the following: acts of God; strikes, lockouts or other industrial disturbances; acts of public enemies; orders or restraints of any kind of the government of the United States of America of the State of Minnesota or any of its departments, agencies or officials, or any civil or military authority;

insurrections; riots; landslides; earthquakes; fires; storms; droughts; floods; explosions; or any other cause or event not reasonably within the control of the Buyer and not resulting from its negligence. The Buyer agrees, however, to remedy with all reasonable dispatch the cause or causes preventing it from carrying out its obligations under this Agreement; provided that the settlement of strikes, lockouts and other employment disputes shall be entirely within the discretion of the Buyer.

10. Remedies on Default. Whenever any event of default referred to in paragraph 8 shall have happened and be continuing with respect to the Land purchase, the Trustee, on behalf of the Seller, shall have the right, at its option, to take the following remedial steps: take whatever action at law or in equity may appear necessary or desirable to collect the Installment Payments then due and thereafter to become due with respect to the Land and other amounts due hereunder, or enforce performance and observance of any obligation, agreement or covenant of the Buyer under this Agreement. The Seller covenants to cooperate with the Trustee, upon request, in the exercise of any of the foregoing remedies.

11. Title. Title shall transfer from the Seller to the Buyer on the date hereof. Buyer agrees to take title as-is without warranty or right of inspection.

12. Representations and Covenants of the Buyer. The Buyer represents and covenants as follows:

(a) The Constitution and the laws of the State authorize the Buyer to enter into this Agreement and the transactions contemplated hereby, and to carry out its obligations under this Agreement.

(b) The officers of the Buyer executing this Agreement are duly authorized to execute and deliver this Agreement under the Constitution and laws of the State.

(c) The execution and delivery of this Agreement and the other agreements contemplated hereby to which the Buyer is a party and the consummation of the transactions contemplated hereby and thereby and the fulfillment of the terms hereof and thereof will not conflict with, or constitute on the part of the Buyer a breach of, or a default under, any existing (i) law, or (ii) provisions of any legislative act or other proceeding establishing or relating to the establishment of the Buyer or its affairs or its resolutions, or (iii) agreement, indenture, mortgage, lease or other instrument to which the Buyer is subject or is a party or by which it is bound.

(d) No officer of the Buyer who is authorized to take part in any manner in making this Agreement or any contract contemplated hereby has a personal financial interest in or has personally and financially benefited from this Agreement or any such contract.

(e) There is not pending or overtly threatened, any suit, action or proceeding against or affecting the Buyer before or by any court, arbitrator, administrative agency or other governmental authority which materially and adversely affects the validity, as to the Buyer, of this Agreement, any of the obligations of the Buyer hereunder or any of the transactions contemplated hereby.

The terms and conditions hereof shall extend to and be binding upon the parties hereto, their heirs, successors, personal representatives and assigns.

13. Representations and Covenants of the Seller. The Seller represents and covenants as follows:

(a) The Constitution and the laws of the State authorize the Seller to undertake the sale of the Land, to enter into this Agreement and the Trust Indenture and the transactions contemplated hereby and thereby, and to carry out its obligations under this Agreement and the Trust Indenture.

(b) The officers of the Seller executing this Agreement and the Trust Indenture are duly authorized to execute and deliver this Agreement and the Trust Indenture under the Constitution and laws of the State.

(c) The execution and delivery of this Agreement and the Trust Indenture and the other agreements contemplated hereby to which the Seller is a party and the consummation of the transactions contemplated hereby and thereby and the fulfillment of the terms hereof and thereof will not conflict with, or constitute on the part of the Seller a breach of, or a default under, any existing (i) law, or (ii) provisions of any legislative act or other proceeding establishing or relating to the establishment of the Seller or its affairs or its resolutions, or (iii) agreement, indenture, mortgage, lease or other instrument to which the Seller is subject or is a party or by which it is bound.

(d) No officer of the Seller who is authorized to take part in any manner in making this Agreement or any contract contemplated hereby has a personal financial interest in or has personally and financially benefited from this Agreement or any such contract.

(e) There is not pending or threatened any suit, action or proceeding against or affecting the Seller before or by any court, arbitrator, administrative agency or other governmental Seller which materially and adversely affects the validity, as to the Seller, of this Agreement, any of the obligations of the Seller hereunder or any of the transactions contemplated hereby.

14. Notices. All notices, certificates or other communications hereunder shall be sufficiently given and shall be deemed given on the earlier of (i) delivery or (ii) three days following deposit in the United States mail in first-class form with postage fully prepaid to the addresses shown in the first paragraph hereof. The Seller and the Buyer, by notice given hereunder, and to the Trustee, may designate different addresses to which subsequent notices, certificates or other communications will be sent. Any notice provided hereunder by the Buyer or the Seller shall also be sent to Trustee at the address given in the Trust Indenture.

15. Binding Effect. This Agreement shall inure to the benefit of and shall be binding upon the Seller and the Buyer and their respective successors and assigns.

16. Severability. In the event any provision of this Agreement shall be held invalid or unenforceable by any court of competent jurisdiction, such holding shall not invalidate or render unenforceable any other provision hereof.

17. Amendments, Changes and Modifications. This Agreement may be amended or any of its terms modified only by written amendment authorized and executed by the Buyer and the Seller, and in accordance with Article XII of the Trust Indenture.

18. Further Assurances and Corrective Instruments. The Seller and the Buyer agree that they will, if necessary, execute, acknowledge and deliver, or cause to be executed, acknowledged and delivered, such supplements hereto and such further instruments as may reasonably be required for correcting any inadequate or incorrect description of the Land hereby sold or intended so to be or for carrying out the expressed intention of this Agreement.

19. Execution Counterparts. This Agreement may be simultaneously executed in several counterparts, each of which shall be an original and all of which shall constitute but one and the same instrument.

20. Applicable Law. This Agreement shall be governed by and construed in accordance with the laws of the State of Minnesota.

21. Captions. The captions or headings in this Agreement are for convenience only and in no way define, limit or describe the scope or intent of any provisions or paragraphs of this Agreement.

IN WITNESS WHEREOF, the Seller has caused this Agreement to be executed in its corporate name by its duly authorized officers and the Buyer has caused this Agreement to be executed in its corporate name by its duly authorized officers, all as of the date first above written.

ECONOMIC DEVELOPMENT AUTHORITY OF
THE CITY OF CHASKA, MINNESOTA

By _____
President

Attest: _____
Executive Director

STATE OF MINNESOTA)
) ss.
COUNTY OF CARVER)

This instrument was acknowledged before me on this _____ day of _____, 2020, by Mark Windschitl and Matt Podhradsky, the President and Executive Director, respectively, of Economic Development Authority of the City of Chaska, Minnesota, a Minnesota political subdivision, on behalf of the political subdivision.

Notary Public

CITY OF CHASKA, MINNESOTA

By _____
Mayor

Attest: _____
City Administrator

STATE OF MINNESOTA)
) ss.
COUNTY OF CARVER)

This instrument was acknowledged before me on this _____ day of _____, 2020, by Mark Windschitl and Matt Podhradsky, the Mayor and City Administrator, respectively, of the City of Chaska, Minnesota, a Minnesota political subdivision, on behalf of the political subdivision.

Notary Public

EXHIBIT A
PROPERTY DESCRIPTION

Cottrell parcel

[_____]

EXHIBIT B

INSTALLMENT PAYMENT SCHEDULE

Payment Date*	Representing Principal on the Bonds	Bond Coupon	Representing Interest on the Bonds	Total Installment Payment
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*** The Installment Payments are due from the Buyer (City) to the Seller (Authority) 5 business days before any principal or interest payment date ([June 1 or December 1]) listed in this Exhibit B.**

**CERTIFICATION OF MINUTES RELATING TO THE CITY RESOLUTION
AUTHORIZING THE CITY OF CHASKA ECONOMIC DEVELOPMENT
AUTHORITY TAXABLE FULL-TERM INSTALLMENT PURCHASE REVENUE
BONDS, SERIES 2020B**

Issuer: City of Chaska, Minnesota

Governing Body: City Council

Kind, date, time and place of meeting: A regular meeting held on May 4, 2020, at 7:00 p.m., by virtual means (Zoom platform), as permitted by law. In accordance with the requirements of Minn. Stat. Section 13D.021, Mayor Mark Windschitl has determined that in-person meetings are not practical or prudent because of a health pandemic or an emergency declared under Chapter 12 of the Minnesota Statutes.

Members Present:

Members Absent:

Documents Attached:

Minutes of said meeting (including):

RESOLUTION NO. 2020-30

**RESOLUTION APPROVING THE ISSUANCE OF TAXABLE FULL-TERM
INSTALLMENT PURCHASE REVENUE BONDS, SERIES 2020B BY THE
ECONOMIC DEVELOPMENT AUTHORITY OF THE CITY OF CHASKA,
MINNESOTA; AND AUTHORIZING AN INSTALLMENT SALE
AGREEMENT AND RELATED DOCUMENTS**

I, the undersigned, being the duly qualified and acting recording officer of the public corporation issuing the Bonds referred to in the title of this certificate, certify that the documents attached hereto, as described above, have been carefully compared with the original records of said corporation in my legal custody, from which they have been transcribed; that said documents are a correct and complete transcript of the minutes of a meeting of the governing body of said corporation, and correct and complete copies of all resolutions and other actions taken and of all documents approved by the governing body at said meeting, so far as they relate to said Bonds; and that said meeting was duly held by the governing body at the time and place and was attended throughout by the members indicated above, pursuant to call and notice of such meeting given as required by law.

WITNESS my hand officially as such recording officer on _____, 2020.

City Administrator

Councilmember _____ introduced the following resolution (the “Resolution”) and moved its adoption, which motion was seconded by Councilmember _____:

RESOLUTION APPROVING THE ISSUANCE OF TAXABLE FULL-TERM
INSTALLMENT PURCHASE REVENUE BONDS, SERIES 2020B BY THE
ECONOMIC DEVELOPMENT AUTHORITY OF THE CITY OF CHASKA,
MINNESOTA; AND AUTHORIZING AN INSTALLMENT SALE
AGREEMENT AND RELATED DOCUMENTS

BE IT RESOLVED by the City Council of the City of Chaska, Minnesota (the “City”), as follows:

Section 1. Recitals. The City has heretofore acquired certain real property (the “Project”) known as the Cottrell parcel (the “Land”). In order to finance the Project, the City now finds it necessary and desirable that the Economic Development Authority of the City of Chaska, Minnesota (the “Authority”): (i) purchase the Land from the City; (ii) finance the Land purchase by issuing revenue bonds (the “Bonds”), and (iii) sell the Land back to the City.

Section 2. EDA Request. The Council hereby requests that the Authority authorize the purchase of the Land and the issuance of Bonds, in a principal amount not to exceed \$1,700,000, for the purpose of financing the purchase of the Land from the City.

Section 3. Transfer of Title. It is hereby found, determined and declared to be necessary and desirable and in the best interest of the City to transfer all of the title of the City in and to the Land to the Authority upon the sale of the Land to the Authority. Such transfer and any and all action required by officers of the City to accomplish the same is hereby authorized.

Section 4. Installment Sale Authority. The City is authorized by Minnesota Statutes, Section 471.64 to purchase real property pursuant to an installment sale agreement with the Authority. It is hereby found, determined and declared to be necessary and desirable and in the best interest of the City to enter into an Installment Sale Agreement (the “Installment Sale Agreement”) with the Authority in order to provide for the installment sale of the Land to the City. The Mayor and City Administrator are authorized and directed to execute, attest and deliver the Installment Sale Agreement on behalf of the City.

Section 5. Parameters Resolution. The Council hereby approves the sale and issuance of the Bonds pursuant to the Authority’s parameters resolution and the Indenture (as defined in the Parameters Resolution). Pursuant to the Authority’s parameters resolutions, the sale of the Authority’s Taxable Full-Term Installment Purchase Revenue Bonds, Series 2020B shall be in an amount not to exceed \$1,700,000, provided the true interest costs proposed for any Bonds does not exceed 4.25% per annum.

Upon vote being taken upon the foregoing resolution, the following voted in favor thereof:

and the following voted against the same:

whereupon the resolution was declared duly passed and adopted.

REQUEST FOR ACTION CHASKA CITY COUNCIL 05/04/2020

Subject: Approval of 2019 Interfund Transfers

Prepared By: Noel Graczyk, Administrative Services Director
Kelly Grinnell, Finance Manager

Background

Each year, an independent financial auditor performs fiscal and compliance audits of the City's financial records. The City engaged the services of Malloy, Montague, Karnowski, Radosevich & Co., P.A. (MMKR) to audit the fiscal year ended December 31, 2019.

MMKR completed their onsite audit fieldwork in April. Since then, City staff has been working with MMKR to complete the 2019 Comprehensive Annual Financial Report (CAFR). MMKR has requested that all interfund transfers be approved by the City Council prior to the release of the 2019 CAFR.

Enclosed is a schedule listing 2019 transfers totaling \$20,690,318.62. A description and authorization source for each transfer is included on the schedule. Many of the transfers were authorized in the 2019 Budget. Other transfers have been pledged in accordance with debt issued by the City or in conjunction with projects or agreements authorized by Council. Other transfers have either been reviewed with Council or reflect adjustments that have been identified during the audit.

Recommendation

Staff recommends Council approve the 2019 interfund transfers to be reported as Other Financing Sources and Uses in the 2019 CAFR.

CITY COUNCIL ACTION REQUESTED

Motion to approve 2019 interfund transfers to be reported as Other Financing Sources and Uses in the 2019 Comprehensive Annual Financial Report.

CITY OF CHASKA
2019 INTERFUND TRANSFERS

TRANSFERS OUT		TRANSFERS IN				
Fund	Account Description	Fund	Account Description	Amount	Authorization	Purpose/Description
101	General Fund	448	Equipment Acquisition Fund	\$ 25,000.00	Budget	Budgeted Transfer
101	General Fund	449	Park Development Fund	330,000.00	Budget	Budgeted Transfer
101	General Fund	532	Public Improvement Project Fund	170,000.00	Budget	Budgeted Transfer
251	EDA Fund	451	Community Fund	355,000.00	Budget	Budgeted Transfer
307	\$3,645 GO Imp Bonds Series 2008C	329	\$995 GO Refunding Bonds Series 2017E	57,140.88	n/a	Close Fund
309	\$565 GO Tx TI Bonds Series 2008E	328	\$460 GO Tx Refunding Bonds Series 2017D	20,854.87	n/a	Close Fund
310	\$2,045 GO Imp Rfndng Bonds Series 2009	311	\$3,220 GO Imp Bonds Series 2010A	300,000.00	n/a	Close Fund
310	\$2,045 GO Imp Rfndng Bonds Series 2009	315	\$3,455 Go Bonds Series 2011B	321,025.00	n/a	Close Fund
310	\$2,045 GO Imp Rfndng Bonds Series 2009	401	MSA Revolving Fund	320,080.00	n/a	Close Fund
310	\$2,045 GO Imp Rfndng Bonds Series 2009	402	Water Trunk Fund	354,823.00	n/a	Close Fund
310	\$2,045 GO Imp Rfndng Bonds Series 2009	403	Sanitary Sewer Trunk Fund	170,272.00	n/a	Close Fund
310	\$2,045 GO Imp Rfndng Bonds Series 2009	404	Storm Sewer Trunk Fund	93,053.00	n/a	Close Fund
401	MSA Revolving Fund	532	Public Improvement Project Fund	1,264,327.68	n/a	Project Support
401	MSA Revolving Fund	603	Sewer Fund	104,081.00	Budget	Budgeted Transfer
402	Water Trunk Fund	313	\$2,180 GO Imp Bonds Series 2010C	17,921.00	Bond	D/S Requirements
402	Water Trunk Fund	318	\$4,675 GO Refunding Bonds Series 2012B	92,846.00	Bond	D/S Requirements
402	Water Trunk Fund	320	\$3,330 GO Improvement Bonds Series 2013A	50,000.00	Bond	D/S Requirements
402	Water Trunk Fund	532	Public Improvement Project Fund	200,000.00	n/a	Project Support
402	Water Trunk Fund	602	Water Fund	596,000.00	Budget	Budgeted Transfer
403	Sanitary Sewer Trunk Fund	313	\$2,180 GO Imp Bonds Series 2010C	29,481.00	Bond	D/S Requirements
403	Sanitary Sewer Trunk Fund	320	\$3,330 GO Improvement Bonds Series 2013A	10,000.00	Bond	D/S Requirements
404	Storm Sewer Trunk Fund	313	\$2,180 GO Imp Bonds Series 2010C	19,795.00	Bond	D/S Requirements
404	Storm Sewer Trunk Fund	530	2014 June Flood Event Fund	317,099.81	n/a	Close Fund
404	Storm Sewer Trunk Fund	609	Storm Water Fund	207,768.00	Budget	Budgeted Transfer
428	TIF District # 14 Downtown Redevelopment Fund	321	\$580 Tx GO TI Refunding Bonds Series 2013B	80,000.00	Bond	D/S Requirements
428	TIF District # 14 Downtown Redevelopment Fund	328	\$460 GO Tx Refunding Bonds Series 2017D	45,242.00	Bond	D/S Requirements
448	Equipment Acquisition Fund	323	\$5,785 GO Imp Bonds Series 2014A	79,191.00	Bond	D/S Requirements
448	Equipment Acquisition Fund	326	\$9,570 GO Bonds Series 2017B	82,037.00	Bond	D/S Requirements
448	Equipment Acquisition Fund	451	Community Fund	200,000.00	Budget	Budgeted Transfer
448	Equipment Acquisition Fund	524	Annual Street Replacement Fund	325,000.00	Budget	Budgeted Transfer
449	Park Development Fund	451	Community Fund	443,000.00	n/a	Park Fund Contribution to Community Fund
449	Park Development Fund	532	Public Improvement Project Fund	832,012.00	n/a	Project Support
450	SW Transit Trunk Fund	326	\$9,570 GO Bonds Series 2017B	276,663.00	n/a	Trasfer NE Collector Funds to D/S Account
451	Community Fund	324	\$12,855 EDA Lease Revenue Bonds Series 2015B	634,100.00	Bond	D/S Requirements
451	Community Fund	610	Curling & Event Center Fund	1,590,287.00	Budget	Budgeted Transfer
532	Public Improvement Project Fund	330	Hwy 212 Interchange Temp Improvement Bonds	68,285.43	n/a	Transfer for Interest Coverage
601	Electric Fund	101	General Fund	3,927,340.00	n/a	Electric Franchise Fees
601	Electric Fund	448	Equipment Acquisition Fund	12,000.00	Budget	Budgeted Transfer
601	Electric Fund	451	Community Fund	1,300,000.00	Budget	Budgeted Transfer
601	Electric Fund	604	Community Center Fund	432,000.00	Bond	D/S Requirements
602	Water Fund	448	Equipment Acquisition Fund	6,000.00	Budget	Budgeted Transfer
602	Water Fund	524	Annual Street Replacement Fund	50,000.00	Budget	Budgeted Transfer
602	Water Fund	524	Annual Street Replacement Fund	688,924.32	Bond	D/S Requirements
602	Water Fund	532	Public Improvement Project Fund	78,933.08	n/a	D/S Reimbursement Draw
602	Water Fund	532	Public Improvement Project Fund	635,047.76	n/a	Project Support
603	Sewer Fund	448	Equipment Acquisition Fund	6,000.00	Budget	Budgeted Transfer
603	Sewer Fund	524	Annual Street Replacement Fund	110,000.00	Budget	Budgeted Transfer
603	Sewer Fund	524	Annual Street Replacement Fund	838,053.85	Bond	D/S Requirements
603	Sewer Fund	532	Public Improvement Project Fund	192,645.10	n/a	D/S Reimbursement Draw
603	Sewer Fund	532	Public Improvement Project Fund	364,458.08	n/a	Project Support
606	Chaska Town Course Fund	448	Equipment Acquisition Fund	6,666.00	Bond	D/S Requirements
609	Storm Water Fund	524	Annual Street Replacement Fund	200,000.00	Budget	Budgeted Transfer
609	Storm Water Fund	524	Annual Street Replacement Fund	418,908.40	Bond	D/S Requirements
609	Storm Water Fund	532	Public Improvement Project Fund	30,847.41	n/a	D/S Reimbursement Draw
609	Storm Water Fund	532	Public Improvement Project Fund	283,644.45	n/a	Project Support
702	Self Insurance Fund	101	General Fund	65,857.31	n/a	Insurance Claims for City Hall Boiler Replacement and Other Misc
702	Self Insurance Fund	101	General Fund	308,101.00	n/a	MRA Staffing Study Adjustments
702	Self Insurance Fund	101	General Fund	500,000.00	n/a	Adjustment for Budgeted Premiums/Expenses Prior Years
702	Self Insurance Fund	251	EDA Fund	25,000.00	n/a	Insurance Claim for 314 Walnut St
702	Self Insurance Fund	448	Equipment Acquisition Fund	125,529.00	n/a	Insurance Claim for City Hall Boiler Replacement
702	Self Insurance Fund	606	Chaska Town Course Fund	1,977.19	n/a	Insurance Claim for Damaged Town Course Equipment

Total Transfers In/Out

\$ 20,690,318.62

**REQUEST FOR ACTION
CHASKA CITY COUNCIL
5/4/2020**

Subject: Municipal State Aid Street System Revision

Prepared By: Matt Clark, City Engineer

Chaska is one of many communities in Minnesota with populations over 5,000 that are eligible to receive state Municipal State Aid assistance for construction and maintenance of collector streets. The City's municipal state-aid street (MSAS) system map is attached and is comprised of those roadways that serve as the higher volume and key streets located within the community.

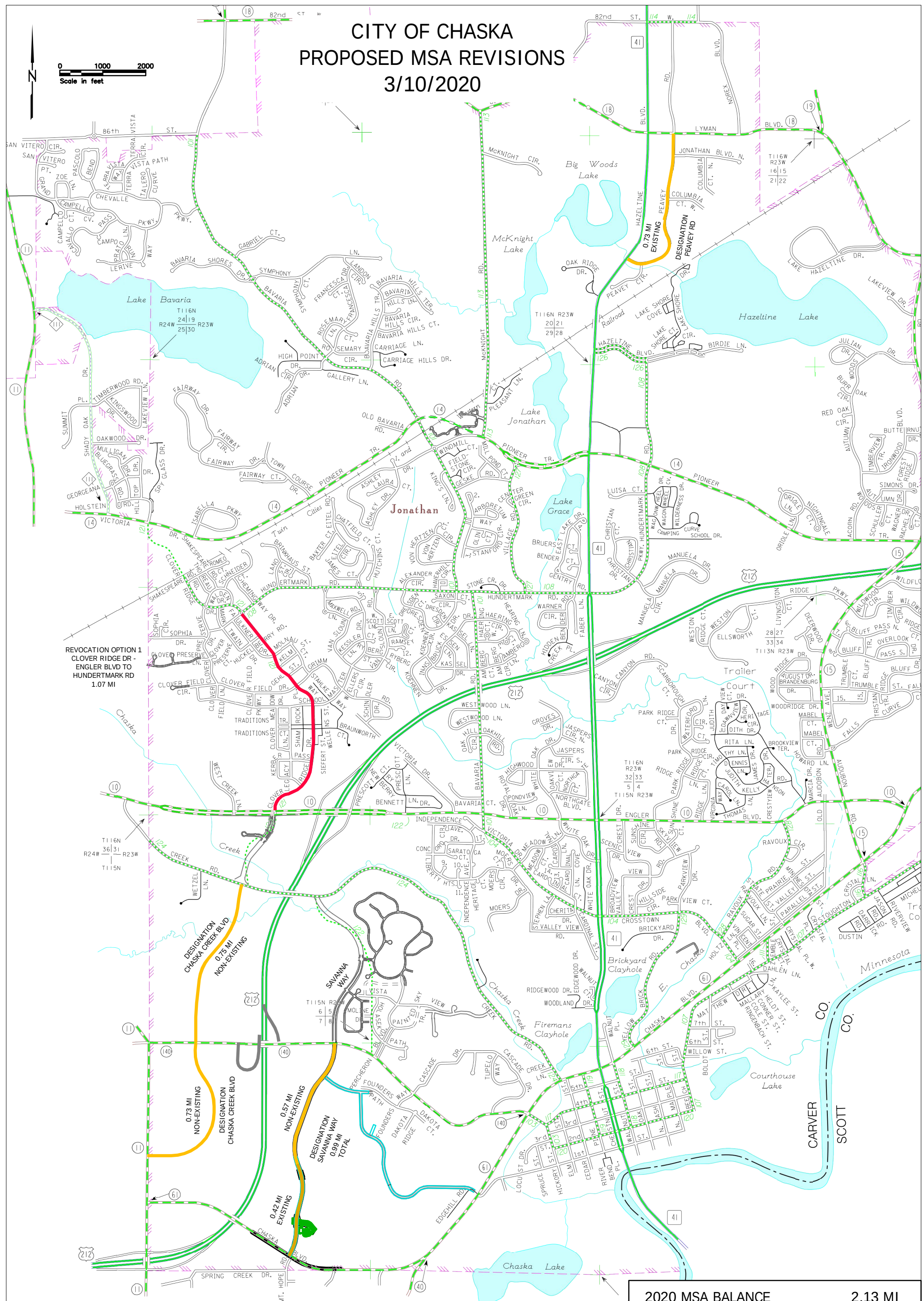
As the City continues to grow in population so does the local neighborhood roadway system and the MSAS program allows for Cities to review and modify the local system annually. At the last City Council work session on April 20th staff shared the planned collector roadway network for southwest Chaska that will serve the overall transportation system for the growth area. With the increased development that has occurred in the southwest, the City is now able to add the future collector roadway network to the City's state aid system. The changes that are proposed to the MSAS system will enable the City access to State funding reimbursement as these collector roads as they are constructed. Council action is needed to amend the current plan.

CITY COUNCIL ACTION REQUESTED

Motion to Adopt a Resolution No. 2020-32 Approving and Amending the Municipal State Aid Streets of the City of Chaska.

CITY OF CHASKA PROPOSED MSA REVISIONS

3/10/2020



LEGEND

MSA - EXISTING

MSA - ADDITION

MSA - REVOCATION

Page 2 of 4

2020 MSA BALANCE	2.13 MI
REVOCATION - PROPOSED	1.07 MI
REVISED BALANCE	3.20 MI
DESIGNATIONS - PROPOSED	3.20 MI
MSA BALANCE - NEW	0.00 MI

MILES ADDED (2015-2019)	3.90 MI
AVE MILES ADDED / YR	0.78 MI

**CITY OF CHASKA
CARVER COUNTY, MINNESOTA**

RESOLUTION

DATE 05/04/2020 **RESOLUTION NO.** 2020-32

MOTION BY COUNCILMEMBER _____ **SECOND BY COUNCILMEMBER** _____

A RESOLUTION FOR MUNICIPAL STATE AID STREET SYSTEM REVISION

WHEREAS, it appears to the City Council of the City of Chaska that the street hereinafter described as a revocation should have the designation as a Municipal State Aid Street removed under the provisions of Minnesota law, and

WHEREAS, it appears to the City Council of the City of Chaska that the streets hereinafter described as designations be designated as a Municipal State Aid Streets under the provisions of Minnesota law.

NOW THEREFORE, BE IT RESOLVED by the City Council of Chaska that the road described as follows, to wit:

Revocation:

Clover Ridge Drive – Engler Boulevard (CSAH 10) to Hundertmark Road (CSAH 44)

be, and hereby is revoked as a Municipal State Aid Street of said City, subject to the approval of the Commissioner of Transportation of the State of Minnesota, and

BE IT FURTHER RESOLVED, by the City Council of Chaska that the roads described as follows, to wit:

Designation:

Savanna Way – Chaska Boulevard to County Road 140 (CSAH 44)

Chaska Creek Boulevard – CSAH 11 to Creek Road

Peavey Road – Hazeltine Boulevard (TH 41) to Lyman Boulevard (CSAH 18)

be, and hereby are established, located, and designated as Municipal State Aid Streets of said City, subject to the approval of the Commissioner of Transportation of the State of Minnesota, and

BE IT FURTHER RESOLVED, that the City Clerk is hereby authorized and directed to forward two certified copies of this resolution to the Commissioner of Transportation for consideration, and that upon approval of the designation of said road or portion thereof, that the same be constructed, improved and maintained as Municipal State Aid Streets of the City of Chaska, to be numbered and known as Municipal State Aid Streets.

Passed and adopted by the City Council of the City of Chaska, Minnesota, this 4th day of May 2020.

Mark Windschitl, Mayor

Attest: _____
Chaska Deputy Clerk

CERTIFICATION

I hereby certify that the above is a true and correct copy of a Resolution duly passed, adopted and approved by the City Council of said City on May 4, 2020

City Clerk
City of Chaska

REQUEST FOR ACTION CHASKA CITY COUNCIL 05/04/2020

Subject: Assessment Hearing for 2020 Downtown Street Reconstruction Project

Prepared By: Matt Clark

The proposed 2020 Street Reconstruction Project continues Chaska's rehabilitation program in the downtown area. The specific streets included in this year's project are noted on the attached Exhibit. The work includes complete replacement/reconstruction of sanitary sewer, watermain, utility services, concrete curb, street and sidewalk, trail, boulevard restoration, and installation of new storm sewer.

Total project costs are estimated at \$4,437,327, with \$278,544 proposed to be assessed to private residential properties and \$118,000 to the Carver County Government Center commercial property. The balance of the project costs are budgeted and will be covered by the City.

In line with State Statute, the City's practice for establishing assessments with projects that have occurred in downtown is to conduct a special benefit consultation. The consultation is performed by an independent appraisal group that analyzes the benefit to the individual properties based on the proposed improvements within the overall project area. The amount that is determined in the consultation is what the City uses to establish each property's assessment amount. Since starting the Downtown Street Reconstruction program, the analysis has consistently concluded the same benefit amount for residential properties since the program began a decade ago.

An overall special assessment exhibit is attached that shows the assessment amounts for the properties in "yellow" that were identified in the consultation as receiving benefit from this year's downtown project. The executive summary of the special benefit consultation report is also attached and lists the benefit between \$7,000 and \$7,500 for residential properties which is consistent with past projects.

Three properties in the consultation were identified as a potential to receive higher benefit. The property located 523 4th Street is a multi-unit rental property which concludes a higher benefit. The properties located at 620 Willow and 634 6th Street East are assumed in the report for a potential lot split. The special benefit consultation is not an appraisal which would further identify the permissible or physical possibility of this occurring. Staff is recommending both properties on Willow and 6th Street be treated the same as all other residential properties which would be consistent with past practice.

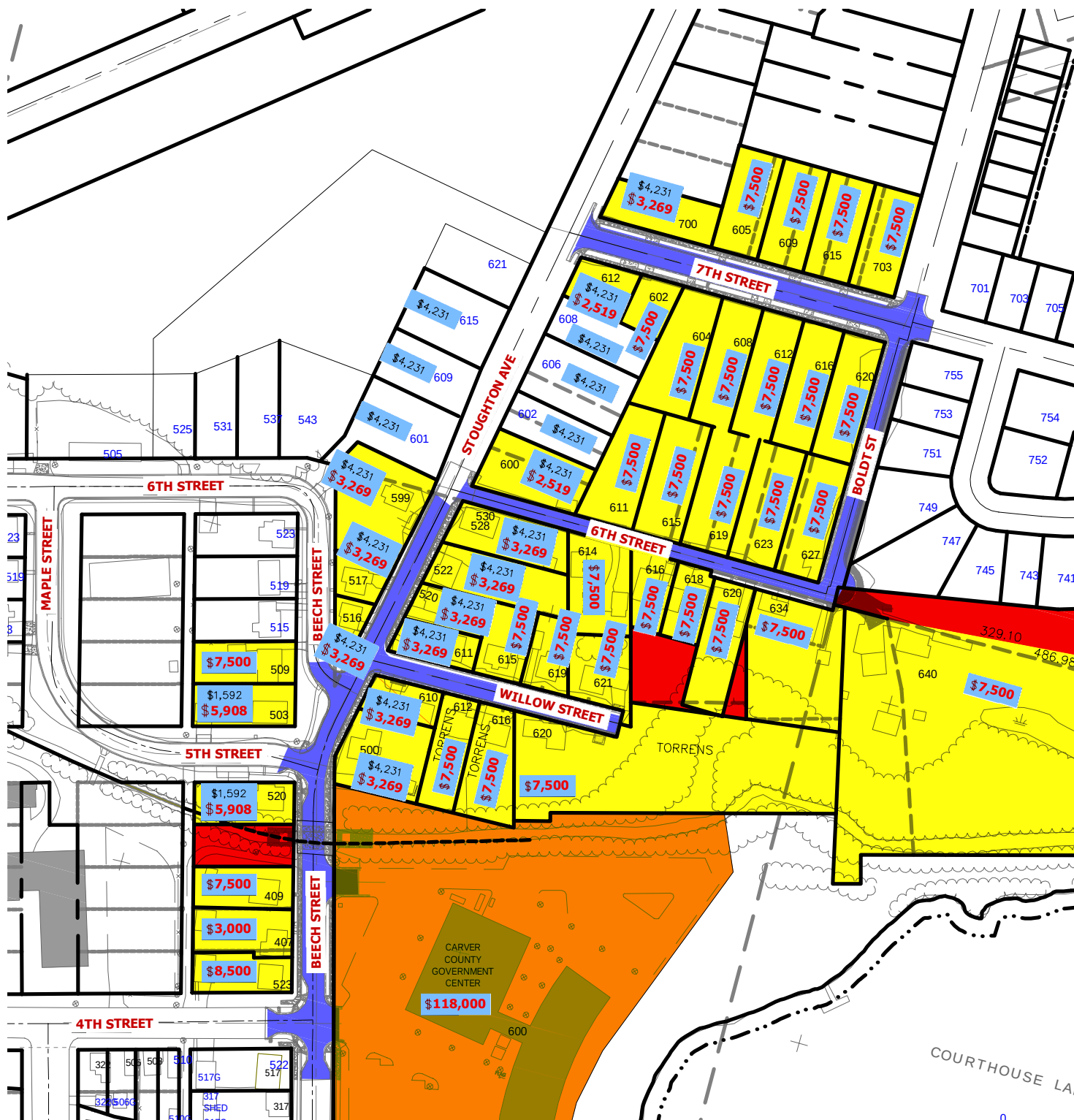
Unique to this year's downtown project, the exhibit does include varying assessment amounts for properties along Stoughton Ave. Prior to this year's project, in 1996 a previous

improvement project occurred along Stoughton Avenue. Properties that abut Stoughton Avenue received assessments for portions of the improvements that were included with that project. As was mentioned above, the special benefit consultation for this year's project determined based on the overall improvements these properties receive the same benefit amount as others in the project area. Although the same benefit amount was determined, residents that were assessed previously are proposed to receive credit for what was paid previous. The previous amounts assessed for those properties are shown on the exhibit and staff is proposing the previous amounts to be credited from the \$7,500 residential amount noted in the benefit analysis.

Because of the impacts of COVID-19 that we are currently experiencing, Staff is recommending to the Council that instead of having a 15 year assessment as we have had in all other downtown projects a 16 year assessment term be imposed with the first year payment only being the interest on the principal, plus \$1. State Statute does not allow a City to outright defer an assessment for one year, but it does allow for interest only plus at least \$1 of principal in a given year to help reduce that year's assessment payment amount. The outcome of this payment structure is to reduce the first-year payment by almost half. Property owners will still have the option to pay off the assessment in total any time before November 15th of this year and avoid interest payments all together if they so choose to pay off the assessment in full within 30 days of the assessment hearing.

CITY COUNCIL ACTION REQUESTED

Motion to Adopt Resolution No. 2020-33 approving the assessment roll for the 2020 Street Reconstruction Project.



2020 DOWNTOWN SPECIAL ASSESSMENTS EXHIBIT

CHASKA, MINNESOTA

FIGURE: 1



733 Marquette Avenue, Suite 1000
Minneapolis, MN 55402
www.stantec.com

2020 DOWNTOWN RECONSTRUCTION

Packet Page 299 of...

SPECIAL BENEFIT CONSULTATION
2020 DOWNTOWN STREET
RECONSTRUCTION PROJECT
CHASKA, MINNESOTA

DATE OF REPORT:
February 18, 2020

PREPARED FOR:
City of Chaska
One City Hall Plaza
Chaska, MN 55318-1962

PREPARED BY:
Patchin Messner Valuation Counselors
Sunset Pond Executive Offices
13961 West Preserve Boulevard
Burnsville, MN 55337

Property Address	PID	Property Type			
Multiple Addresses	Multiple	All Single-Family Residential Properties	\$7,000	to	\$7,500 per Residential Equivalent Unit
Scott Michael Greening 620 Willow Street	30.0091600	Single-Family Residential with Excess Land	\$11,900	to	\$12,750
Highland & Associates 634 6th Street East	30.0092200	Single-Family Residential with Excess Land	\$11,900	to	\$12,750
Andres Michaus & Montserrat Lezama 523 4th Street East	30.0500940	Two-Unit Residential	\$8,000	to	\$8,500
City of Chaska No Access	30.0500910	Vacant Land H & B Use for Open Space	\$700	to	\$750
City of Chaska No Road Frontage	30.0091500	Vacant Land H & B Use for Assemblage	\$4,200	to	\$4,500
City of Chaska Minimal Road Frontage	30.0045010	Vacant Land H & B Use for Assemblage	\$19,500	to	\$21,000
Carver County 600 4th Street East	30.1490010	County Building / Government Center	\$113,000	to	\$123,000

This consultation has been made in conformity with accepted professional, ethical and performance standards of real estate appraisal practice. The "Contingent and Limiting Conditions" section of this report should be thoroughly read and understood before relying on any information or analysis presented herein.

Thank you for allowing our firm to be of assistance in this matter. If you have any questions after reading this report, feel free to contact us at your convenience.

Respectfully submitted,

PATCHIN MESSNER AND DODD



Sherril L. Brumm, MAI
Certified General Real Property Appraiser
Minnesota License 20249948

**CITY OF CHASKA
CARVER COUNTY, MINNESOTA**

RESOLUTION

DATE May 4, 2020 **RESOLUTION NO.** 2020-33

MOTION BY COUNCILMEMBER _____ **SECOND BY COUNCILMEMBER** _____

**Resolution adopting the Special Assessments
for the 2020 Street Reconstruction Project**

WHEREAS, pursuant to proper notice duly given as required by law, the Council has met and heard and passed upon objections to the proposed assessment for the 2020 Street Reconstruction Project;

NOW, THEREFORE, BE IT RESOLVED, by the City Council of the City of Chaska, Minnesota as follows:

1. Such proposed assessment, a copy of which is attached hereto and made a part hereof as Exhibit A, is hereby accepted and shall constitute a special assessment against the lands named therein and each tract of land therein included is hereby found to be benefited by the proposed improvement in the amount of the assessment levied against it.

2. Payments will extend over a period of sixteen (16) years. The first-year payments will consist of the amortized interest of the first year and one dollar of principal. All subsequent installments will be amortized equally over the remaining life of the assessment. Installments are to be payable on or before the first Monday in January 2021 and shall bear interest at a rate of 5.5 percent per annum from the date of adoption of this assessment resolution. To the first installment shall be added interest on the entire assessment from the date of this resolution until December 31, 2021. To each subsequent installment when due shall be added interest for one year on all unpaid installments.

3. The owner of any property so assessed may, at any time prior to certification of the assessment to the County Auditor, pay the whole of the assessment on such property, with interest accrued to the date of payment, to the City Treasurer, except that no interest shall be charged if the entire assessment is paid within 30 days from the adoption of this assessment; and, the owner may, at any time thereafter, pay to the City Treasurer the entire amount of the assessment remaining unpaid, with interest accrued to December 31 of the year in which such payment is made. Such payment must be made on or before November 13 or the interest will be charged through December 31 of the next succeeding year. If you decide not to prepay the assessment before the date given above, the rate of interest that will apply is 5.5 percent per year. The right to partially prepay the assessment is not available.

4. The Clerk shall forthwith transmit a certified duplicate of this assessment to the County Auditor to be extended on the proper tax list of the County and such assessment shall be collected and paid over in the same manner as other municipal taxes.

Passed and adopted by the City Council of the City of Chaska, Minnesota, this 4th day of May 2020.

Mark Windschitl, Mayor

Attest: _____
Chaska Deputy Clerk

Exhibit A

2020 Downtown Street/Utility Reconstruction Project

SA Code: 302101
 Description: Street/Utility Reconstruction Project
 First Yr Payable: 2021
 Term: 16 Years
 Interest: 5.50%
 Extra Days: 241
 SA Admin Fee: 1.5% Special Assessment Administrative Fee has been added to each assessment
 Payment Calc: Equal Payments, Interest Decreasing as Principal Increases, Extra Days Interest Added to 1st Year
 First year payment will be interest and \$1 of principal.
 Remaining years are to be equal payments amortized over remaining life of the assessment.

PID	OWNER	PROP ADD	Total Assessment
30.0090200	GERHARD C & NANCY K WELTER	640 6TH ST E	7,613.00
30.0090600	JOSEPH DEHRER	611 WILLOW ST	3,319.00
30.0090700	THOMAS A & BARBARA L KOCKA	520 STOUGHTON AVE	3,319.00
30.0090800	RICHARD A & ARDYTH C SEILER	615 WILLOW ST	7,613.00
30.0090900	PATRICK ROSVOLD	619 WILLOW ST	7,613.00
30.0091010	LYNNETTE M ORKIN	528 STOUGHTON AVE	3,319.00
30.0091110	GREGORY N VANSICKLE	522 STOUGHTON AVE	3,319.00
30.0091200	THOMAS E & JODI L BARNETT	620 6TH ST E	7,613.00
30.0091300	JOHNNY L JOSHUA	618 6TH ST E	7,613.00
30.0091400	BRYAN FRIENDSHUH	616 6TH ST E	7,613.00
30.0091600	SCOTT MICHAEL GREENING	620 WILLOW ST	7,613.00
30.0092000	MICHAEL N GILBERTSEN	621 WILLOW ST	7,613.00
30.0092100	LYNNETTE M ORKIN	614 6TH ST E	7,613.00
30.0092200	HIGHLAND & ASSOCIATES INC	634 6TH ST E	7,613.00
30.0500880	JONATHAN K MOSIER	509 BEECH ST	7,613.00
30.0500890	PAUL J & SHARON A MAY	503 BEECH ST	5,997.00
30.0500900	BRADLEY L & SUZ-ANNE M HEDMAN	520 5TH ST E	5,997.00
30.0500920	PEGGY A HATFIELD	409 BEECH ST	7,613.00
30.0500930	DENNIS A NIKOLAI	407 BEECH ST	3,045.00
30.0500940	ANDRES DIAZ MICHAUS	523 4TH ST E	8,628.00
30.0760040	VLADISLAV VASKOV GANEV	599 STOUGHTON AVE	3,319.00
30.0760050	MILDRED I ENGELN	517 STOUGHTON AVE	3,319.00
30.0760060	STEVEN M DANN	516 BEECH ST	3,319.00
30.1490010	CARVER COUNTY	600 4th ST E	119,770.00
30.6150010	JOEL P & JAMIE C CASPERS	602 7TH ST E	7,613.00
30.6150020	FRANCES L SCHULTE	612 STOUGHTON AVE	2,557.00
30.6150060	MICHAEL F & TERRI M NUGENT	600 STOUGHTON AVE	2,557.00
30.6150070	CHARLES G & CAROLINE J PIERSON	615 6TH ST E	7,613.00
30.6150080	GERALD L TRAVER	619 6TH ST E	7,613.00
30.6150090	KRISTOFER ALT	623 6TH ST E	7,613.00
30.6150100	SUSAN K CROSS TRUST	627 6TH ST E	7,613.00
30.6150110	CURRENT OCUPANT	620 7TH ST E	7,613.00
30.6150120	EMILY MARIE MAXWELL	616 7TH ST E	7,613.00
30.6150130	DONALD N DELORME	612 7TH ST E	7,613.00
30.6150140	TYREL REEVES	608 7TH ST E	7,613.00
30.6150150	JOANN SCHWARZROCK	604 7TH ST E	7,613.00
30.6150160	CHRISTINE M POPPITZ	611 6TH ST E	7,613.00
30.6150190	REV LIVING TRUST OF IVAN L & DIANE M CLA	700 STOUGHTON AVE	3,319.00
30.6150200	ALLISON M & JOHN R DORFNER	605 7TH ST E	7,613.00
30.6150210	BETTY J UDSETH	609 7TH ST E	7,613.00
30.6150220	MICAH J HOUFEK	615 7TH ST E	7,613.00
30.6150230	CHARLES J AMRHEIN	703 BOLDT ST	7,613.00
30.6850120	CHRISTINE A LAPLANTE	610 WILLOW ST	3,319.00
30.6850130	SHARON BYLLS	500 BEECH ST	3,319.00
30.6850140	GREGORY L & JEANETTE L PRYOR	612 WILLOW ST	7,613.00
30.6850150	GREGORY A ANDERSON	616 WILLOW ST	7,613.00
			<u>\$ 402,518.00</u>

Please note that the above stated special assessment roll has seven (7) unique assessment amounts. The amortization tables for these amounts are shown on the following pages.

Parcels Assessed \$2,557.00

Terms:

Total Assessment:	\$	2,557.00	Date Assessed:	5/4/2020
Interest Rate:		5.50%	Extra Days of 2020 Interest:	241
Number of Years:		16		

First year payment will be interest and \$1 of principal.

Remaining years are to be equal payments amortized over remaining life of the assessment.

Payment #	Payable Year	Projected Additional 1st Year Interest	Projected Interest Amount	Principal Amount	Payment Amount	Remaining Balance Through Nov. 15
-	2020					\$ 2,557.00
1	2021	\$ 92.86	\$ 140.64	\$ 1.00	\$ 234.50	\$ 2,556.00
2	2022	\$ -	\$ 140.58	\$ 114.06	\$ 254.64	\$ 2,441.94
3	2023	\$ -	\$ 134.31	\$ 120.33	\$ 254.64	\$ 2,321.61
4	2024	\$ -	\$ 127.69	\$ 126.95	\$ 254.64	\$ 2,194.66
5	2025	\$ -	\$ 120.71	\$ 133.93	\$ 254.64	\$ 2,060.73
6	2026	\$ -	\$ 113.34	\$ 141.30	\$ 254.64	\$ 1,919.43
7	2027	\$ -	\$ 105.57	\$ 149.07	\$ 254.64	\$ 1,770.36
8	2028	\$ -	\$ 97.37	\$ 157.27	\$ 254.64	\$ 1,613.09
9	2029	\$ -	\$ 88.72	\$ 165.92	\$ 254.64	\$ 1,447.17
10	2030	\$ -	\$ 79.59	\$ 175.05	\$ 254.64	\$ 1,272.12
11	2031	\$ -	\$ 69.97	\$ 184.67	\$ 254.64	\$ 1,087.45
12	2032	\$ -	\$ 59.81	\$ 194.83	\$ 254.64	\$ 892.62
13	2033	\$ -	\$ 49.09	\$ 205.55	\$ 254.64	\$ 687.07
14	2034	\$ -	\$ 37.79	\$ 216.85	\$ 254.64	\$ 470.22
15	2035	\$ -	\$ 25.86	\$ 228.78	\$ 254.64	\$ 241.44
16	2036	\$ -	\$ 13.28	\$ 241.44	\$ 254.72	\$ -

Parcels Assessed \$3,045.00

Terms:

Total Assessment:	\$ 3,045.00	Date Assessed:	5/4/2020
Interest Rate:	5.50%	Extra Days of 2020 Interest:	241
Number of Years:	16		

First year payment will be interest and \$1 of principal.

Remaining years are to be equal payments amortized over remaining life of the assessment.

Payment #	Payable Year	Projected Additional 1st Year Interest	Projected Interest Amount	Principal Amount	Payment Amount	Remaining Balance Through Nov. 15
-	2020					\$ 3,045.00
1	2021	\$ 110.58	\$ 167.48	\$ 1.00	\$ 279.06	\$ 3,044.00
2	2022	\$ -	\$ 167.42	\$ 135.84	\$ 303.26	\$ 2,908.16
3	2023	\$ -	\$ 159.95	\$ 143.31	\$ 303.26	\$ 2,764.85
4	2024	\$ -	\$ 152.07	\$ 151.19	\$ 303.26	\$ 2,613.66
5	2025	\$ -	\$ 143.75	\$ 159.51	\$ 303.26	\$ 2,454.15
6	2026	\$ -	\$ 134.98	\$ 168.28	\$ 303.26	\$ 2,285.87
7	2027	\$ -	\$ 125.72	\$ 177.54	\$ 303.26	\$ 2,108.33
8	2028	\$ -	\$ 115.96	\$ 187.30	\$ 303.26	\$ 1,921.03
9	2029	\$ -	\$ 105.66	\$ 197.60	\$ 303.26	\$ 1,723.43
10	2030	\$ -	\$ 94.79	\$ 208.47	\$ 303.26	\$ 1,514.96
11	2031	\$ -	\$ 83.32	\$ 219.94	\$ 303.26	\$ 1,295.02
12	2032	\$ -	\$ 71.23	\$ 232.03	\$ 303.26	\$ 1,062.99
13	2033	\$ -	\$ 58.46	\$ 244.80	\$ 303.26	\$ 818.19
14	2034	\$ -	\$ 45.00	\$ 258.26	\$ 303.26	\$ 559.93
15	2035	\$ -	\$ 30.80	\$ 272.46	\$ 303.26	\$ 287.47
16	2036	\$ -	\$ 15.81	\$ 287.47	\$ 303.28	\$ -

Parcels Assessed \$3,319.00

Terms:

Total Assessment:	\$ 3,319.00	Date Assessed:	5/4/2020
Interest Rate:	5.50%	Extra Days of 2020 Interest:	241
Number of Years:	16		

First year payment will be interest and \$1 of principal.

Remaining years are to be equal payments amortized over remaining life of the assessment.

Payment #	Payable Year	Projected Additional 1st Year Interest	Projected Interest Amount	Principal Amount	Payment Amount	Remaining Balance Through Nov. 15
-	2020					\$ 3,319.00
1	2021	\$ 120.53	\$ 182.55	\$ 1.00	\$ 304.08	\$ 3,318.00
2	2022	\$ -	\$ 182.49	\$ 148.07	\$ 330.56	\$ 3,169.93
3	2023	\$ -	\$ 174.35	\$ 156.21	\$ 330.56	\$ 3,013.72
4	2024	\$ -	\$ 165.75	\$ 164.81	\$ 330.56	\$ 2,848.91
5	2025	\$ -	\$ 156.69	\$ 173.87	\$ 330.56	\$ 2,675.04
6	2026	\$ -	\$ 147.13	\$ 183.43	\$ 330.56	\$ 2,491.61
7	2027	\$ -	\$ 137.04	\$ 193.52	\$ 330.56	\$ 2,298.09
8	2028	\$ -	\$ 126.39	\$ 204.17	\$ 330.56	\$ 2,093.92
9	2029	\$ -	\$ 115.17	\$ 215.39	\$ 330.56	\$ 1,878.53
10	2030	\$ -	\$ 103.32	\$ 227.24	\$ 330.56	\$ 1,651.29
11	2031	\$ -	\$ 90.82	\$ 239.74	\$ 330.56	\$ 1,411.55
12	2032	\$ -	\$ 77.64	\$ 252.92	\$ 330.56	\$ 1,158.63
13	2033	\$ -	\$ 63.72	\$ 266.84	\$ 330.56	\$ 891.79
14	2034	\$ -	\$ 49.05	\$ 281.51	\$ 330.56	\$ 610.28
15	2035	\$ -	\$ 33.57	\$ 296.99	\$ 330.56	\$ 313.29
16	2036	\$ -	\$ 17.23	\$ 313.29	\$ 330.52	\$ -

Parcels Assessed \$5,997.00

Terms:

Total Assessment:	\$ 5,997.00	Date Assessed:	5/4/2020
Interest Rate:	5.50%	Extra Days of 2020 Interest:	241
Number of Years:	16		

First year payment will be interest and \$1 of principal.

Remaining years are to be equal payments amortized over remaining life of the assessment.

Payment #	Payable Year	Projected Additional 1st Year Interest	Projected Interest Amount	Principal Amount	Payment Amount	Remaining Balance Through Nov. 15
-	2020					\$ 5,997.00
1	2021	\$ 217.78	\$ 329.84	\$ 1.00	\$ 548.62	\$ 5,996.00
2	2022	\$ -	\$ 329.78	\$ 267.58	\$ 597.36	\$ 5,728.42
3	2023	\$ -	\$ 315.06	\$ 282.30	\$ 597.36	\$ 5,446.12
4	2024	\$ -	\$ 299.54	\$ 297.82	\$ 597.36	\$ 5,148.30
5	2025	\$ -	\$ 283.16	\$ 314.20	\$ 597.36	\$ 4,834.10
6	2026	\$ -	\$ 265.88	\$ 331.48	\$ 597.36	\$ 4,502.62
7	2027	\$ -	\$ 247.64	\$ 349.72	\$ 597.36	\$ 4,152.90
8	2028	\$ -	\$ 228.41	\$ 368.95	\$ 597.36	\$ 3,783.95
9	2029	\$ -	\$ 208.12	\$ 389.24	\$ 597.36	\$ 3,394.71
10	2030	\$ -	\$ 186.71	\$ 410.65	\$ 597.36	\$ 2,984.06
11	2031	\$ -	\$ 164.12	\$ 433.24	\$ 597.36	\$ 2,550.82
12	2032	\$ -	\$ 140.30	\$ 457.06	\$ 597.36	\$ 2,093.76
13	2033	\$ -	\$ 115.16	\$ 482.20	\$ 597.36	\$ 1,611.56
14	2034	\$ -	\$ 88.64	\$ 508.72	\$ 597.36	\$ 1,102.84
15	2035	\$ -	\$ 60.66	\$ 536.70	\$ 597.36	\$ 566.14
16	2036	\$ -	\$ 31.14	\$ 566.14	\$ 597.28	\$ -

Parcels Assessed \$7,613.00

Terms:

Total Assessment:	\$ 7,613.00	Date Assessed:	5/4/2020
Interest Rate:	5.50%	Extra Days of 2020 Interest:	241
Number of Years:	16		

First year payment will be interest and \$1 of principal.

Remaining years are to be equal payments amortized over remaining life of the assessment.

Payment #	Payable Year	Projected Additional 1st Year Interest	Projected Interest Amount	Principal Amount	Payment Amount	Remaining Balance Through Nov. 15
-	2020					\$ 7,613.00
1	2021	\$ 276.47	\$ 418.72	\$ 1.00	\$ 696.19	\$ 7,612.00
2	2022	\$ -	\$ 418.66	\$ 339.69	\$ 758.35	\$ 7,272.31
3	2023	\$ -	\$ 399.98	\$ 358.37	\$ 758.35	\$ 6,913.94
4	2024	\$ -	\$ 380.27	\$ 378.08	\$ 758.35	\$ 6,535.86
5	2025	\$ -	\$ 359.47	\$ 398.88	\$ 758.35	\$ 6,136.98
6	2026	\$ -	\$ 337.53	\$ 420.82	\$ 758.35	\$ 5,716.16
7	2027	\$ -	\$ 314.39	\$ 443.96	\$ 758.35	\$ 5,272.20
8	2028	\$ -	\$ 289.97	\$ 468.38	\$ 758.35	\$ 4,803.82
9	2029	\$ -	\$ 264.21	\$ 494.14	\$ 758.35	\$ 4,309.68
10	2030	\$ -	\$ 237.03	\$ 521.32	\$ 758.35	\$ 3,788.36
11	2031	\$ -	\$ 208.36	\$ 549.99	\$ 758.35	\$ 3,238.37
12	2032	\$ -	\$ 178.11	\$ 580.24	\$ 758.35	\$ 2,658.13
13	2033	\$ -	\$ 146.20	\$ 612.15	\$ 758.35	\$ 2,045.98
14	2034	\$ -	\$ 112.53	\$ 645.82	\$ 758.35	\$ 1,400.16
15	2035	\$ -	\$ 77.01	\$ 681.34	\$ 758.35	\$ 718.82
16	2036	\$ -	\$ 39.54	\$ 718.82	\$ 758.36	\$ -

Parcels Assessed \$8,628.00

Terms:

Total Assessment:	\$ 8,628.00	Date Assessed:	5/4/2020
Interest Rate:	5.50%	Extra Days of 2020 Interest:	241
Number of Years:	16		

First year payment will be interest and \$1 of principal.

Remaining years are to be equal payments amortized over remaining life of the assessment.

Payment #	Payable Year	Projected Additional 1st Year Interest	Projected Interest Amount	Principal Amount	Payment Amount	Remaining Balance Through Nov. 15
-	2020					\$ 8,628.00
1	2021	\$ 313.33	\$ 474.54	\$ 1.00	\$ 788.87	\$ 8,627.00
2	2022	\$ -	\$ 474.49	\$ 384.98	\$ 859.47	\$ 8,242.02
3	2023	\$ -	\$ 453.31	\$ 406.16	\$ 859.47	\$ 7,835.86
4	2024	\$ -	\$ 430.97	\$ 428.50	\$ 859.47	\$ 7,407.36
5	2025	\$ -	\$ 407.40	\$ 452.07	\$ 859.47	\$ 6,955.29
6	2026	\$ -	\$ 382.54	\$ 476.93	\$ 859.47	\$ 6,478.36
7	2027	\$ -	\$ 356.31	\$ 503.16	\$ 859.47	\$ 5,975.20
8	2028	\$ -	\$ 328.64	\$ 530.83	\$ 859.47	\$ 5,444.37
9	2029	\$ -	\$ 299.44	\$ 560.03	\$ 859.47	\$ 4,884.34
10	2030	\$ -	\$ 268.64	\$ 590.83	\$ 859.47	\$ 4,293.51
11	2031	\$ -	\$ 236.14	\$ 623.33	\$ 859.47	\$ 3,670.18
12	2032	\$ -	\$ 201.86	\$ 657.61	\$ 859.47	\$ 3,012.57
13	2033	\$ -	\$ 165.69	\$ 693.78	\$ 859.47	\$ 2,318.79
14	2034	\$ -	\$ 127.53	\$ 731.94	\$ 859.47	\$ 1,586.85
15	2035	\$ -	\$ 87.28	\$ 772.19	\$ 859.47	\$ 814.66
16	2036	\$ -	\$ 44.81	\$ 814.66	\$ 859.47	\$ -

Parcels Assessed \$119,770.00

Terms:

Total Assessment:	\$ 119,770.00	Date Assessed:	5/4/2020
Interest Rate:	5.50%	Extra Days of 2020 Interest:	241
Number of Years:	16		

First year payment will be interest and \$1 of principal.

Remaining years are to be equal payments amortized over remaining life of the assessment.

Payment #	Payable Year	Projected Additional 1st Year Interest	Projected Interest Amount	Principal Amount	Payment Amount	Remaining Balance Through Nov. 15
-	2020					\$ 119,770.00
1	2021	\$ 4,349.46	\$ 6,587.35	\$ 1.00	\$ 10,937.81	\$ 119,769.00
2	2022	\$ -	\$ 6,587.30	\$ 5,344.76	\$ 11,932.06	\$ 114,424.24
3	2023	\$ -	\$ 6,293.33	\$ 5,638.73	\$ 11,932.06	\$ 108,785.51
4	2024	\$ -	\$ 5,983.20	\$ 5,948.86	\$ 11,932.06	\$ 102,836.65
5	2025	\$ -	\$ 5,656.02	\$ 6,276.04	\$ 11,932.06	\$ 96,560.61
6	2026	\$ -	\$ 5,310.83	\$ 6,621.23	\$ 11,932.06	\$ 89,939.38
7	2027	\$ -	\$ 4,946.67	\$ 6,985.39	\$ 11,932.06	\$ 82,953.99
8	2028	\$ -	\$ 4,562.47	\$ 7,369.59	\$ 11,932.06	\$ 75,584.40
9	2029	\$ -	\$ 4,157.14	\$ 7,774.92	\$ 11,932.06	\$ 67,809.48
10	2030	\$ -	\$ 3,729.52	\$ 8,202.54	\$ 11,932.06	\$ 59,606.94
11	2031	\$ -	\$ 3,278.38	\$ 8,653.68	\$ 11,932.06	\$ 50,953.26
12	2032	\$ -	\$ 2,802.43	\$ 9,129.63	\$ 11,932.06	\$ 41,823.63
13	2033	\$ -	\$ 2,300.30	\$ 9,631.76	\$ 11,932.06	\$ 32,191.87
14	2034	\$ -	\$ 1,770.55	\$ 10,161.51	\$ 11,932.06	\$ 22,030.36
15	2035	\$ -	\$ 1,211.67	\$ 10,720.39	\$ 11,932.06	\$ 11,309.97
16	2036	\$ -	\$ 622.05	\$ 11,309.97	\$ 11,932.02	\$ -

CLAIMS ROSTER REPORT

FOR COUNCIL MEETING:

May 4, 2020

Paid and Unpaid Invoices:

Check #'s 332932-333190

\$533,000.45

Paid Electronic Invoices:

Wire #'s 2309-2327

\$2,692,368.29

Amount for Approval-Council Meeting:

May 4, 2020

\$3,225,368.74



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City of Chaska
VENDOR INVOICE LIST

P 2
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INVOICE	P.O.	INV DATE	CHECK RUN	CHECK #	INVOICE NET	DUE DATE	TYPE	STS	INVOICE DESCRIPTION
2007846.002 CHECK DATE: 05/05/2020 108642 ALLARD, JEAN		04/06/2020	050520-2	333073	23.00	05/09/2020	INV	PD	REFUND ACCOUNT BALANCE PAYEE: ALBRECHT, KAREN
2007853.002 CHECK DATE: 05/05/2020 108568 ALVAREZ, TEODORA		04/06/2020	050520-2	333074	29.39	05/06/2020	INV	PD	REFUND ACCOUNT BALANCE PAYEE: ALLARD, JEAN
10012665 CHECK DATE: 05/05/2020 100079 AMERICAN DRY GOODS		04/14/2020	050520	332953	129.79	05/14/2020	INV	PD	METER DEPOSIT REFUND-817
125846 CHECK DATE: 05/05/2020 100088 AMERICAN PLANNING ASSOCIATION		04/01/2020	050520	332954	582.84	05/01/2020	INV	PD	RESALE
217962-2045 CHECK DATE: 05/05/2020 108725 ANANTH, NARAYANEE		04/21/2020	050520	332955	433.00	06/01/2020	INV	PD	APA MEMBERSHIP DUES-KABAT
2007820.002 CHECK DATE: 05/05/2020 100102 ANCOM COMMUNICATIONS INC		04/03/2020	050520-3	333179	472.45	05/03/2020	INV	PD	RFD-INDIAN DANCE RECITAL PAYEE: ANANTH, NARAYANEE
94996 CHECK DATE: 05/05/2020 100103 ANCOM TECHNICAL CENTER		04/23/2020	050520	332956	433.00	05/23/2020	INV	PD	Radio batteries-PD
95014 CHECK DATE: 05/05/2020 108569 ANDERSON, TAMARA		04/24/2020	050520	332957	13.00	05/24/2020	INV	PD	RADIO REPAIR-SHIPING FOR
10004412 CHECK DATE: 05/05/2020 100119 SHAKOPEE VALLEY FORD		04/14/2020	050520	332958	39.43	05/14/2020	INV	PD	METER DEPOSIT REFUND-325



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INVOICE	P.O.	INV DATE	CHECK RUN	CHECK #	INVOICE NET	DUE DATE	TYPE	STS	INVOICE DESCRIPTION
266599FOW CHECK DATE: 05/05/2020		04/22/2020	050520	332959	102.89	05/23/2020	INV	PD	Squad 1142 seat belt
266634FOW CHECK DATE: 05/05/2020		04/14/2020	050520	332959	17.03	05/14/2020	INV	PD	Squad 1162 hose parts
266714FOW CHECK DATE: 05/05/2020		04/15/2020	050520	332959	364.09	05/15/2020	INV	PD	Squad 1141 brake parts
					484.01				
108703 ATKINSON, GRANT									
2007873.002 CHECK DATE: 05/05/2020		04/08/2020	050520-2	333075	49.50	05/09/2020	INV	PD	REFUND ACCOUNT BALANCE-CL PAYEE: ATKINSON, GRANT
108571 BAACK, ZACHERY									
33191 CHECK DATE: 05/05/2020		04/14/2020	050520	332960	129.17	05/14/2020	INV	PD	METER DEPOSIT REFUND-968
108618 BAHN, AVERY									
2007821.002 CHECK DATE: 05/05/2020		04/06/2020	050520-2	333076	45.75	05/06/2020	INV	PD	REFUND ACCOUNT BALANCE PAYEE: BAHN, AVERY
108706 BAILEY, RAYNA									
2007892.002 CHECK DATE: 05/05/2020		04/09/2020	050520-2	333077	11.97	05/14/2020	INV	PD	REFUND ACCOUNT BALANCE PAYEE: BAILEY, RAYNA
104425 BAKKELUND TREE AND LANDSCAPE SERVICE LLC									
2830 CHECK DATE: 05/05/2020		04/03/2020	050520	332961	650.00	05/03/2020	INV	PD	REMOVAL OF HAZARDOUS TREE
108715 BARRETT, CALVIN									
2007912.002 CHECK DATE: 05/05/2020		04/16/2020	050520-2	333078	20.00	05/20/2020	INV	PD	REFUND ACCOUNT BALANCE PAYEE: BARRETT, CALVIN
108701 BATEMAN, SERENA									
2007863.002 CHECK DATE: 05/05/2020		04/07/2020	050520-2	333079	20.00	05/09/2020	INV	PD	REFUND ACCOUNT BALANCE PAYEE: BATEMAN, SERENA
108637 BATHEJA, REBECCA									



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INVOICE	P.O.	INV DATE	CHECK RUN	CHECK #	INVOICE NET	DUE DATE	TYPE	STS	INVOICE DESCRIPTION
2007845.002 CHECK DATE: 05/05/2020		04/06/2020	050520-2	333080	12.00	05/06/2020	INV PD		REFUND ACCOUNT BALANCE PAYEE: BATHEJA, REBECCA
108643 BATT, JESS									
2007854.002 CHECK DATE: 05/05/2020		04/06/2020	050520-2	333081	192.00	05/06/2020	INV PD		REFUND ACCOUNT BALANCE PAYEE: BATT, JESS
100174 BAUER BUILT TIRE AND BATTERY									
180260858 CHECK DATE: 05/05/2020		04/23/2020	050520	332962	505.72	05/23/2020	INV PD		#4720 PARK TRACTOR FRONT
180260878 CHECK DATE: 05/05/2020		04/23/2020	050520	332962	88.00	05/23/2020	INV PD		PARK MOWER TIRES
108652 BAUMAN CLAEYS, AMY					593.72				
2007890.002 CHECK DATE: 05/05/2020		04/09/2020	050520-2	333082	37.96	05/09/2020	INV PD		REFUND ACCOUNT BALANCE PAYEE: BAUMAN CLAEYS, AMY
100182 BECKER ARENA PRODUCTS INC									
1023064 CHECK DATE: 05/05/2020		04/14/2020	050520	332963	815.96	05/14/2020	INV PD		Hockey Nets
108711 BENTLEY, TODD									
2007906.002 CHECK DATE: 05/05/2020		04/15/2020	050520-2	333083	20.60	05/15/2020	INV PD		REFUND ACCOUNT BALANCE PAYEE: BENTLEY, TODD
102539 BICKETT, DEBRA									
2007804.002 CHECK DATE: 05/05/2020		04/01/2020	050520-2	333084	19.00	05/09/2020	INV PD		REFUND ACCOUNT BALANCE PAYEE: BICKETT, DEBRA
108572 BIRKHOLZ, ALEX									
33313 CHECK DATE: 05/05/2020		04/14/2020	050520	332964	113.03	05/14/2020	INV PD		METER DEPOSIT REFUND-3387
104834 BLACK CLOVER ENTERPRISES LLC									
49598 CHECK DATE: 05/05/2020		04/17/2020	050520	332965	1,119.51	05/17/2020	INV PD		RESALE



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INVOICE	P.O.	INV DATE	CHECK RUN	CHECK #	INVOICE NET	DUE DATE	TYPE	STS	INVOICE DESCRIPTION
102279 BOLTON & MENK INC									
0249134		04/21/2020	050520	332966	5,511.00	05/24/2020	INV	PD	2019 DT FUNDING
CHECK DATE: 05/05/2020									
100214 BORDER STATES INDUSTRIES INC									
919801829	200072	04/14/2020	050520	332967	3,033.84	05/25/2020	INV	PD	TAPE, GRD RD CLMP, ELBW S
CHECK DATE: 05/05/2020									
919817123	200074	04/16/2020	050520	332967	2,557.30	05/25/2020	INV	PD	CONNECT PED 4 COV-350,6 C
CHECK DATE: 05/05/2020									
919832773	200078	04/20/2020	050520	332967	855.45	05/25/2020	INV	PD	(6) ELBW 2WAY FEED THUR H
CHECK DATE: 05/05/2020									
919847193	200077	04/22/2020	050520	332967	380.31	05/25/2020	INV	PD	(6) SPLICE SJ1A CLD SHRK,
CHECK DATE: 05/05/2020									
					6,826.90				
108719 BORINTRAGER, BRIEANNE									
2007918.002		04/17/2020	050520-2	333085	17.41	05/22/2020	INV	PD	REFUND ACCOUNT BALANCE
CHECK DATE: 05/05/2020									PAYEE: BORINTRAGER, BRIEANNE
108635 BOUCHARD, ADRIEN									
2007843.002		04/06/2020	050520-2	333086	104.00	05/06/2020	INV	PD	REFUND ACCOUNT BALANCE
CHECK DATE: 05/05/2020									PAYEE: BOUCHARD, ADRIEN
108633 BOUCHARD, GABE									
2007839.002		04/06/2020	050520-2	333087	27.50	05/06/2020	INV	PD	REFUND ACCOUNT BALANCE
CHECK DATE: 05/05/2020									PAYEE: BOUCHARD, GABE
106541 BRAA, DAWN									
2007881.002		04/08/2020	050520-2	333088	35.00	05/09/2020	INV	PD	REFUND ACCOUNT BALANCE-CA
CHECK DATE: 05/05/2020									PAYEE: BRAA, DAWN
108657 BRANDT, CHRISTOPHER									
2007901.002		04/13/2020	050520-2	333089	18.00	05/13/2020	INV	PD	REFUND ACCOUNT BALANCE
CHECK DATE: 05/05/2020									PAYEE: BRANDT, CHRISTOPHER
108624 BRUMM, JASON									



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INVOICE	P.O.	INV DATE	CHECK RUN	CHECK #	INVOICE NET	DUE DATE	TYPE	STS	INVOICE DESCRIPTION
2007829.002 CHECK DATE: 05/05/2020		04/06/2020	050520-2	333090	32.50	05/06/2020	INV PD		REFUND ACCOUNT BALANCE PAYEE: BRUMM, JASON
108644 BRUNSBURG, SUE									
2007882.002 CHECK DATE: 05/05/2020		04/06/2020	050520-2	333091	26.00	05/06/2020	INV PD		REFUND ACCOUNT BALANCE PAYEE: BRUNSBURG, SUE
108636 BUSH, DAXTON									
2007844.002 CHECK DATE: 05/05/2020		04/06/2020	050520-2	333092	78.00	05/06/2020	INV PD		REFUND ACCOUNT BALANCE PAYEE: BUSH, DAXTON
104565 BUTCHART, CHRISTY									
2007813.002 CHECK DATE: 05/05/2020		04/16/2020	050520-2	333093	14.74	05/20/2020	INV PD		REFUND ACCOUNT BALANCE
100275 CALLAWAY GOLF									
931405961 CHECK DATE: 05/05/2020		03/31/2020	050520	332968	225.48	07/29/2020	INV PD		RESALE
108688 CARPENTIER, WILLIAM									
2007814.002 CHECK DATE: 05/05/2020		04/02/2020	050520-2	333094	50.50	05/09/2020	INV PD		REFUND ACCOUNT BALANCE-WI PAYEE: CARPENTIER, WILLIAM
108668 CARROLL, JACOB									
2007787.002 CHECK DATE: 05/05/2020		04/01/2020	050520-2	333095	17.50	05/09/2020	INV PD		REFUND ACCOUNT BALANCE PAYEE: CARROLL, JACOB
100301 CARVER COUNTY									
30.0050100-2020-1 CHECK DATE: 05/05/2020		03/27/2020	050520	332969	812.00	05/15/2020	INV PD		PROP TAX-WALNUT CELL TWR
30.0061200-2020 CHECK DATE: 05/05/2020		03/27/2020	050520	332969	99.00	05/15/2020	INV PD		PROP TAX-4460 BIG WOODS B
30.0280340-2020-1 CHECK DATE: 05/05/2020		03/27/2020	050520	332969	338.00	05/15/2020	INV PD		PROP TAX-HUNDERTMARK CELL
30.0501940-2020-1 CHECK DATE: 05/05/2020		03/27/2020	050520	332969	9,129.00	05/15/2020	INV PD		PROP TAX-314 WALNUT ST N-
30.0502740-2020-1		03/27/2020	050520	332969	634.00	05/15/2020	INV PD		PROP TAX-217 WALNUT ST N



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City of Chaska
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INVOICE	P.O.	INV DATE	CHECK RUN	CHECK #	INVOICE NET	DUE DATE	TYPE	STS	INVOICE DESCRIPTION
CHECK DATE: 05/05/2020									
30.0502750-2020-1		03/27/2020	050520	332969	550.00	05/15/2020	INV	PD	PROP TAX-211 WALNUT ST N-
CHECK DATE: 05/05/2020									
30.0502760-2020		03/27/2020	050520	332969	33.00	05/15/2020	INV	PD	PROP TAX-207 WALNUT ST N-
CHECK DATE: 05/05/2020									
30.1880020-2020-1		03/27/2020	050520	332969	8,446.00	05/15/2020	INV	PD	PROP TAX-2950 CHASKA BLVD
CHECK DATE: 05/05/2020									
30.1890011-2020-1		03/27/2020	050520	332969	45,933.00	05/15/2020	INV	PD	PROP TAX-3210 CHASKA BLVD
CHECK DATE: 05/05/2020									
30.6580020-2020-1		03/27/2020	050520	332969	916.00	05/15/2020	INV	PD	PROP TAX-BLOCK 6 VACANT L
CHECK DATE: 05/05/2020									
30.6580030-2020-1		03/27/2020	050520	332969	2,763.00	05/15/2020	INV	PD	PROP TAX-BLOCK 6 VACANT L
CHECK DATE: 05/05/2020									
30.6800400-2020-1		03/27/2020	050520	332969	6,061.00	05/15/2020	INV	PD	PROP TAX-CLOVER FIELD CEL
CHECK DATE: 05/05/2020									
100314 CARVER COUNTY IS/GIS DEPT					75,714.00				
2493		03/05/2020	050520	332970	265.00	04/05/2020	INV	PD	MAR GIS SERVICE
CHECK DATE: 05/05/2020									
2514		04/17/2020	050520	332970	265.00	05/17/2020	INV	PD	APR GIS SERVICE
CHECK DATE: 05/05/2020									
CSER-863		04/27/2020	050520	332970	3,425.65	05/27/2020	INV	PD	1ST QTR GIS SHARED
CHECK DATE: 05/05/2020									
					3,955.65				
100323 CDW GOVERNMENT INC									
XJK8368		03/24/2020	050520	332971	947.88	04/23/2020	INV	PD	ZOOM ROOM MICROPHONES
CHECK DATE: 05/05/2020									
XJX1198		03/26/2020	050520	332971	1,697.50	04/25/2020	INV	PD	MONITORS (10)
CHECK DATE: 05/05/2020									
XLF2663		04/02/2020	050520	332971	266.87	05/02/2020	INV	PD	VPN APPLIANCE
CHECK DATE: 05/05/2020									
XLN4863		04/04/2020	050520	332971	506.90	05/04/2020	INV	PD	UPS UNITS
CHECK DATE: 05/05/2020									
XPS6368		04/21/2020	050520	332971	203.60	05/21/2020	INV	PD	CPD DVDS
CHECK DATE: 05/05/2020									



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INVOICE	P.O.	INV DATE	CHECK RUN	CHECK #	INVOICE NET	DUE DATE	TYPE	STS	INVOICE DESCRIPTION
100332 CENTERPOINT ENERGY RESOURCES CORP					3,622.75				
80000146268/MAR20		04/10/2020	042420	332933	3,018.62	05/07/2020	INV	PD	MAR GAS SVC
CHECK DATE: 04/24/2020									
80000167843/MAR20		04/10/2020	042420	332933	1,808.49	05/07/2020	INV	PD	MAR GAS SVC
CHECK DATE: 04/24/2020									
100333 CENTERPOINT ENERGY RESOURCES CORP					4,827.11				
80000167793/MAR20		04/10/2020	042420	332934	79.64	05/07/2020	INV	PD	MAR CITY PKS GAS SVC
CHECK DATE: 04/24/2020									
100337 QWEST CORPORATION									
1489972345		04/15/2020	043020	332945	11,942.62	05/15/2020	INV	PD	APR INTERNET SERVICE
CHECK DATE: 04/30/2020									
313048124/APR20		04/11/2020	042420	332935	124.12	05/08/2020	INV	PD	APR TC MAINT LOC PHN SVC
CHECK DATE: 04/24/2020									
313196254/APR20		04/18/2020	050520	332972	579.89	05/15/2020	INV	PD	APR CITY HALL LOC PHN SVC
CHECK DATE: 05/05/2020									
313249294/APR20		04/11/2020	042420	332935	53.49	05/08/2020	INV	PD	APR TC MAINT LOC PHN SVC
CHECK DATE: 04/24/2020									
313692512/APR20		04/01/2020	042420	332935	252.92	04/27/2020	INV	PD	APR TC CLUBHS LOC PHN SVC
CHECK DATE: 04/24/2020									
314238800/APR20		04/18/2020	050520	332972	72.27	05/15/2020	INV	PD	APR LOCAL PHN SVC
CHECK DATE: 05/05/2020									
100338 QWEST CORPORATION					13,025.31				
202000790/APR20		04/21/2020	050520	332973	3,659.04	05/18/2020	INV	PD	APR PHONE & LONG DIST SVC
CHECK DATE: 05/05/2020									
202001327/APR20		04/21/2020	050520	332973	40.95	05/18/2020	INV	PD	APR T1 FOR PHONE SYSTEM
CHECK DATE: 05/05/2020									
108669 CHAMBERLAIN, SHEILA					3,699.99				
2007788.002		04/01/2020	050520-2	333096	29.00	05/09/2020	INV	PD	REFUND ACCOUNT BALANCE
CHECK DATE: 05/05/2020									PAYEE: CHAMBERLAIN, SHEILA

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City of Chaska
VENDOR INVOICE LIST



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INVOICE	P.O.	INV DATE	CHECK RUN	CHECK #	INVOICE NET	DUE DATE	TYPE	STS	INVOICE DESCRIPTION
100374 CHANHASSEN, CITY OF									
77570 CHECK DATE: 05/05/2020		04/17/2020	050520	332974	30.63	05/17/2020	INV	PD	MAR TH 41/82ND ST SIGNAL
108621 CHAPMAN, CARTER									
2007826.002 CHECK DATE: 05/05/2020		04/06/2020	050520-2	333097	17.50	05/06/2020	INV	PD	REFUND ACCOUNT BALANCE PAYEE: CHAPMAN, CARTER
100350 CHASKA, CITY OF									
PAR30-2020 CHECK DATE: 04/20/2020		03/19/2020	042020	332932	450.00	04/20/2020	INV	PD	PAR 30 START-UP CASH-2020
108682 CHRISTENSEN, BODEN									
2007801.002 CHECK DATE: 05/05/2020		04/01/2020	050520-2	333098	16.00	05/09/2020	INV	PD	REFUND ACCOUNT BALANCE PAYEE: CHRISTENSEN, BODEN
108649 CHRISTENSEN, ZACHARY									
2007875.002 CHECK DATE: 05/05/2020		04/08/2020	050520-2	333099	23.69	05/08/2020	INV	PD	REFUND ACCOUNT BALANCE PAYEE: CHRISTENSEN, ZACHARY
108728 CHRISTENSON, CONNIE									
2006689.002 CHECK DATE: 05/05/2020		03/19/2020	050520-3	333180	36.00	05/28/2020	INV	PD	RFD-FIT 4 LIFE WINTER 202 PAYEE: CHRISTENSON, CONNIE
108617 CLEMENT, KEVIN									
2007847.002 CHECK DATE: 05/05/2020		04/06/2020	050520-2	333100	34.62	05/06/2020	INV	PD	REFUND ACCOUNT BALANCE PAYEE: CLEMENT, KEVIN
100428 COBRA GOLF INC									
G2019766 CHECK DATE: 05/05/2020		03/27/2020	050520	332975	2,084.58	07/25/2020	INV	PD	RESALE
G2019784 CHECK DATE: 05/05/2020		03/26/2020	050520	332975	224.43	09/22/2020	INV	PD	DEMO/RENTAL
G2022245 CHECK DATE: 05/05/2020		04/03/2020	050520	332975	531.22	09/30/2020	INV	PD	DEMO/RENTALS



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INVOICE	P.O.	INV DATE	CHECK RUN	CHECK #	INVOICE NET	DUE DATE	TYPE	STS	INVOICE DESCRIPTION
108676 CODDINGTON, JIM					2,840.23				
2007802.002 CHECK DATE: 05/05/2020		04/01/2020	050520-2	333101	26.00	05/09/2020	INV PD		REFUND ACCOUNT BALANCE PAYEE: CODDINGTON, JIM
108707 COLE, KAREN									
2007893.002 CHECK DATE: 05/05/2020		04/09/2020	050520-2	333102	19.98	05/14/2020	INV PD		REFUND ACCOUNT BALANCE PAYEE: COLE, KAREN
108623 COLSON, CHERYL									
2007828.002 CHECK DATE: 05/05/2020		04/06/2020	050520-2	333103	13.74	05/06/2020	INV PD		REFUND ACCOUNT BALANCE PAYEE: COLSON, CHERYL
100436 COMCAST CORPORATION									
0036243/APR20-TC CHECK DATE: 04/24/2020		04/07/2020	042420	332936	247.47	05/02/2020	INV PD		CLUBHOUSE CABLE
0055482/APR20 CHECK DATE: 04/24/2020		04/12/2020	042420	332936	6.75	05/07/2020	INV PD		FD CABLE SUBSCRIPTION
77989 CHECK DATE: 04/30/2020		04/14/2020	043020	332946	183.70	05/09/2020	INV PD		Cable for PD
107686 CONCENTRA HEALTH SERVICES INC					437.92				
14034237 CHECK DATE: 05/05/2020		03/20/2020	050520	332976	150.00	05/22/2020	INV PD		DRUG TESTING
100429 COORDINATED BUSINESS SYSTEMS LTD									
INV77750 CHECK DATE: 05/05/2020		03/17/2020	050520	332977	62.18	05/13/2020	INV PD		HP M401N M425DN Contract
INV80934 CHECK DATE: 05/05/2020		04/07/2020	050520	332978	26.61	04/17/2020	INV PD		TC COPIER CONTRACT
INV82458 CHECK DATE: 05/05/2020		04/15/2020	050520	332977	27.62	05/20/2020	INV PD		HP M401N & M425DN Contract
106301 CORE AND MAIN LP					116.41				
M152883		04/10/2020	050520	332979	1,638.52	05/10/2020	INV PD		CCC WATER MAIN

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INVOICE	P.O.	INV DATE	CHECK RUN	CHECK #	INVOICE NET	DUE DATE	TYPE	STS	INVOICE DESCRIPTION
CHECK DATE: 05/05/2020									
M209287	200075	04/16/2020	050520	332979	605.75	05/16/2020	INV	PD	WATER STOCK HYDRANT FLANG
CHECK DATE: 05/05/2020									
108672 CROUSE, PAULA					2,244.27				
2007797.002		04/01/2020	050520-2	333104	30.00	05/09/2020	INV	PD	REFUND ACCOUNT BALANCE
CHECK DATE: 05/05/2020									
PAYEE: CROUSE, PAULA									
108654 CUAUTLE, BERNARDO									
2007788.002		04/09/2020	050520-2	333105	11.75	05/09/2020	INV	PD	REFUND ACCOUNT BALANCE
CHECK DATE: 05/05/2020									
PAYEE: CUAUTLE, BERNARDO									
108638 DAMEH, XENA									
2007784.002		04/06/2020	050520-2	333106	22.75	05/06/2020	INV	PD	REFUND ACCOUNT BALANCE
CHECK DATE: 05/05/2020									
PAYEE: DAMEH, XENA									
108667 DAUWALTER, JOHN									
2007786.002		04/01/2020	050520-2	333107	14.50	05/09/2020	INV	PD	REFUND ACCOUNT BALANCE
CHECK DATE: 05/05/2020									
PAYEE: DAUWALTER, JOHN									
108664 DEBOWER, STELLA									
2007794.002		04/01/2020	050520-2	333108	24.00	05/09/2020	INV	PD	REFUND ACCOUNT BALANCE
CHECK DATE: 05/05/2020									
PAYEE: DEBOWER, STELLA									
108646 DICKEY, TED									
2007879.002		04/08/2020	050520-2	333109	18.49	05/08/2020	INV	PD	REFUND ACCOUNT BALANCE
CHECK DATE: 05/05/2020									
PAYEE: DICKEY, TED									
108708 DIESSNER, LISA									
2007894.002		04/10/2020	050520-2	333110	36.00	05/14/2020	INV	PD	REFUND ACCOUNT BALANCE
CHECK DATE: 05/05/2020									
PAYEE: DIESSNER, LISA									
108681 DIMINNIE, LISA									
200783.002		04/01/2020	050520-2	333111	52.00	05/09/2020	INV	PD	REFUND ACCOUNT BALANCE-ED
CHECK DATE: 05/05/2020									
PAYEE: DIMINNIE, LISA									



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INVOICE	P.O.	INV DATE	CHECK RUN	CHECK #	INVOICE NET	DUE DATE	TYPE	STS	INVOICE DESCRIPTION
108683 DOCKEN, CRYSTAL LILY									
2007805.002 CHECK DATE: 05/05/2020		04/01/2020	050520-2	333112	50.00	05/09/2020	INV PD		REFUND ACCOUNT BALANCE-CR PAYEE: DOCKEN, CRYSTAL LILY
108712 DORR, REBECCA									
2007907.002 CHECK DATE: 05/05/2020		04/15/2020	050520-2	333113	12.50	05/20/2020	INV PD		REFUND ACCOUNT BALANCE PAYEE: DORR, REBECCA
108717 DUFFY, KECHI BISONG									
2007917.002 CHECK DATE: 05/05/2020		04/17/2020	050520-2	333114	32.06	05/22/2020	INV PD		REFUND ACCOUNT BALANCE PAYEE: DUFFY, KECHI BISONG
100567 DVS RENEWAL									
77539 CHECK DATE: 04/30/2020		04/20/2020	043020	332947	14.25	04/30/2020	INV PD		Registration for Squad 10
108631 EGAN, BETH									
2007837.002 CHECK DATE: 05/05/2020		04/06/2020	050520-2	333115	29.00	05/06/2020	INV PD		REFUND ACCOUNT BALANCE PAYEE: EGAN, BETH
108689 EGGERT, PERRI									
2007813.002 CHECK DATE: 05/05/2020		04/02/2020	050520-2	333116	26.37	05/09/2020	INV PD		REFUND ACCOUNT BALANCE-PE PAYEE: EGGERT, STEVEN
108691 EPPLE, KATE									
2007825.002 CHECK DATE: 05/05/2020		04/06/2020	050520-2	333117	20.00	05/09/2020	INV PD		REFUND ACCOUNT BALANCE-CH PAYEE: EPPLE, KATE
108718 ERHARD, LISA									
2007916.002 CHECK DATE: 05/05/2020		04/17/2020	050520-2	333118	42.00	05/22/2020	INV PD		REFUND ACCOUNT BALANCE PAYEE: ERHARD, LISA
108713 FAHEY, TEDIE									
2007908.002 CHECK DATE: 05/05/2020		04/15/2020	050520-2	333119	11.36	05/20/2020	INV PD		REFUND ACCOUNT BALANCE PAYEE: FAHEY, TEDIE
105908 FAMILY SUPPORT REGISTRY									



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INVOICE	P.O.	INV DATE	CHECK RUN	CHECK #	INVOICE NET	DUE DATE	TYPE	STS	INVOICE DESCRIPTION
PR04242010859189 CHECK DATE: 04/24/2020		04/24/2020	042420	332937	34.00	04/24/2020	INV	PD	04/24/2020 Payroll Child
100650 FEDERAL SIGNAL CORP									
7464524 CHECK DATE: 05/05/2020		04/15/2020	050520	332980	13,337.00	05/15/2020	INV	PD	SIREN #6 REPLACEMENT
100655 FERRELLGAS 7780961									
1111379995 CHECK DATE: 05/05/2020		04/08/2020	050520	332981	91.56	05/08/2020	INV	PD	PROPANE
1111549270 CHECK DATE: 05/05/2020		04/22/2020	050520	332981	91.56	05/22/2020	INV	PD	PROPANE
					183.12				
106973 FLORES, KEYLA									
2007926.002 CHECK DATE: 05/05/2020		04/23/2020	050520-3	333181	850.00	05/23/2020	INV	PD	REFUND DEPOSIT FOR WEDDIN PAYEE: FLORES, KEYLA
108002 FORMACOAT LLC									
70100060-2020-2 CHECK DATE: 05/05/2020		04/08/2020	050520	332982	700.00	05/08/2020	INV	PD	APR REBATE-VFD
100684 FORNER, TOM									
2007841.002 CHECK DATE: 05/05/2020		04/06/2020	050520-2	333120	46.37	05/09/2020	INV	PD	REFUND ACCOUNT BALANCE-TO
100693 FS3 INC									
65594 CHECK DATE: 05/05/2020		02/26/2020	050520	332983	305.36	05/15/2020	INV	PD	BEARINGS FOR WIRE TRAILER
108700 FUENTES, BIANCA									
2007862.002 CHECK DATE: 05/05/2020		04/07/2020	050520-2	333121	15.00	05/09/2020	INV	PD	REFUND ACCOUNT BALANCE PAYEE: FUENTES, BIANCA
108645 FUNK, CARSON									
2007880.002 CHECK DATE: 05/05/2020		04/08/2020	050520-2	333122	22.50	05/08/2020	INV	PD	REFUND ACCOUNT BALANCE PAYEE: FUNK, CARSON



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INVOICE	P.O.	INV DATE	CHECK RUN	CHECK #	INVOICE NET	DUE DATE	TYPE	STS	INVOICE DESCRIPTION
108674 GEBAUER, WILL									
2007799.002 CHECK DATE: 05/05/2020		04/01/2020	050520-2	333123	52.00	05/09/2020	INV PD		REFUND ACCOUNT BALANCE PAYEE: GEBAUER, WILL
100717 GENERAL PARTS LLC									
6167240 CHECK DATE: 05/05/2020		04/03/2020	050520	332984	1,481.99	05/03/2020	INV PD		OAK 19 COOLER REPAIR
108648 GOEHRING, CAROLE									
2007796.002 CHECK DATE: 05/05/2020		04/08/2020	050520-2	333124	15.00	05/08/2020	INV PD		REFUND ACCOUNT BALANCE PAYEE: GOEHRING, CAROLE
108622 GOFF, RICHARD									
2007827.002 CHECK DATE: 05/05/2020		04/06/2020	050520-2	333125	32.22	05/06/2020	INV PD		REFUND ACCOUNT BALANCE PAYEE: GOFF, RICHARD
100682 NBC UNIVERSAL LLC									
INV00005353 CHECK DATE: 05/05/2020		04/20/2020	050520	332985	75.63	05/20/2020	INV PD		SALES TAX ON SOFTWARE LEA
108659 GOODSPEED, BRENNNA									
2007898.002 CHECK DATE: 05/05/2020		04/13/2020	050520-2	333126	15.00	05/13/2020	INV PD		REFUND ACCOUNT BALANCE PAYEE: GOODSPEED, BRENNNA
100759 GRAINGER									
9498846105 CHECK DATE: 05/05/2020		04/08/2020	050520	332986	177.09	05/08/2020	INV PD		LADDER FOR WATER (SMALL T
9500027918 CHECK DATE: 05/05/2020		04/09/2020	050520	332986	78.80	05/09/2020	INV PD		FIRE HOSE ADAPTER (WATER
9504921132 CHECK DATE: 05/05/2020		04/15/2020	050520	332986	33.30	05/15/2020	INV PD		Parts for Pool
9505123324 CHECK DATE: 05/05/2020		04/15/2020	050520	332986	181.35	05/15/2020	INV PD		Sink Faucet for Alphabet
100758 GRAYBAR ELECTRIC COMPANY INC					470.54				



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INVOICE	P.O.	INV DATE	CHECK RUN	CHECK #	INVOICE NET	DUE DATE	TYPE	STS	INVOICE DESCRIPTION
9315504772 CHECK DATE: 05/05/2020	200073	04/14/2020	050520	332987	247.84	05/14/2020	INV	PD	CONDUIT ELBOW 2-90 DEG 36
108573 GRIBBLE, JOHN 33372 CHECK DATE: 05/05/2020		04/14/2020	050520	332988	76.05	05/14/2020	INV	PD	METER DEPOSIT REFUND-133
108627 GUEVARA, ALEX 2007833.002 CHECK DATE: 05/05/2020		04/06/2020	050520-2	333127	20.00	05/06/2020	INV	PD	REFUND ACCOUNT BALANCE PAYEE: GUEVARA, ALEX
100785 HACH COMPANY 11900869 CHECK DATE: 05/05/2020		03/27/2020	050520	332989	243.00	05/20/2020	INV	PD	WTP CHEMICALS (AMMONIA)
108567 HALVORSON, DAVID 10009600 CHECK DATE: 05/05/2020		04/14/2020	050520	332990	103.52	05/14/2020	INV	PD	METER DEPOSIT REFUND-131
108655 HANKINS, STACY 2007887.002 CHECK DATE: 05/05/2020		04/09/2020	050520-2	333128	15.28	05/09/2020	INV	PD	REFUND ACCOUNT BALANCE PAYEE: HANKINS, STACY
100810 HAWKINS INC 4697179 CHECK DATE: 05/05/2020		04/13/2020	050520	332991	2,130.32	05/28/2020	INV	PD	WTP CHEMICALS
4697830 CHECK DATE: 05/05/2020		04/01/2020	050520	332991	142.50	05/16/2020	INV	PD	WTP CHEMICALS
					2,272.82				
100827 HEGERS DAIRY LLC 77567 CHECK DATE: 05/05/2020		04/02/2020	050520	332992	4.70	04/21/2020	INV	PD	Mar Treks & Trails Milk
108686 HEIL, SUSAN 2007816.002 CHECK DATE: 05/05/2020		04/02/2020	050520-2	333129	11.25	05/09/2020	INV	PD	REFUND ACCOUNT BALANCE PAYEE: HEIL, SUSAN



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INVOICE	P.O.	INV DATE	CHECK RUN	CHECK #	INVOICE NET	DUE DATE	TYPE	STS	INVOICE DESCRIPTION
108647 HENDERSON, MELANIE									
2007877.002 CHECK DATE: 05/05/2020		04/08/2020	050520-2	333130	46.31	05/08/2020	INV PD		REFUND ACCOUNT BALANCE PAYEE: HENDERSON, MELANIE
108704 HENDERSON, MICHAEL									
2007878.002 CHECK DATE: 05/05/2020		04/08/2020	050520-2	333131	30.14	05/09/2020	INV PD		REFUND ACCOUNT BALANCE PAYEE: HENDERSON, MICHAEL
108714 HENDRICKSON, GREGG									
2007902.002 CHECK DATE: 05/05/2020		04/14/2020	050520-2	333132	560.00	05/20/2020	INV PD		REFUND ACCOUNT BALANCE PAYEE: HENDRICKSON, GREGG
108716 HERZOG, MARK									
2007911.002 CHECK DATE: 05/05/2020		04/16/2020	050520-2	333133	26.00	05/20/2020	INV PD		REFUND ACCOUNT BALANCE PAYEE: HERZOG, MARK
108640 HERZOG, MELISSA									
2007851.002 CHECK DATE: 05/05/2020		04/06/2020	050520-2	333134	19.50	05/06/2020	INV PD		REFUND ACCOUNT BALANCE PAYEE: HERZOG, MELISSA
100848 HIGH TECH CLEANING INC									
15662 CHECK DATE: 05/05/2020		04/01/2020	050520	332993	202.15	05/01/2020	INV PD		IT DEPARTMENT
105857 HIGHLAND SHORES APARTMENTS									
550003001-2020-1 CHECK DATE: 05/05/2020		04/08/2020	050520	332994	1,370.00	05/08/2020	INV PD		APR REBATE-BUSINESS LIGHT
108639 HONZL, PAMELA									
2007850.002 CHECK DATE: 05/05/2020		04/06/2020	050520-2	333135	36.25	05/06/2020	INV PD		REFUND ACCOUNT BALANCE PAYEE: HONZL, PAMELA
108696 HORNECKER, ZACHARY									
2007842.002 CHECK DATE: 05/05/2020		04/06/2020	050520-2	333136	35.00	05/09/2020	INV PD		REFUND ACCOUNT BALANCE PAYEE: HORNECKER, ZACHARY



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INVOICE	P.O.	INV DATE	CHECK RUN	CHECK #	INVOICE NET	DUE DATE	TYPE	STS	INVOICE DESCRIPTION
108687 HORNER, JOHN									
2007815.002		04/02/2020	050520-2	333137	34.30	05/09/2020	INV	PD	REFUND ACCOUNT BALANCE
CHECK DATE: 05/05/2020									PAYEE: HORNER, JOHN
100874 HOSE/CONVEYORS INC									
00086205		04/22/2020	050520	332995	59.57	05/22/2020	INV	PD	#710 ELEC VACTOR PARTS
CHECK DATE: 05/05/2020									
100889 INTERNATIONAL CITY MGMT ASSN RETIREMENT CORP									
2020/0424-ICMA		04/24/2020	043020	332948	7,538.99	04/24/2020	INV	PD	04/24/20 Payroll 457 & Ro
CHECK DATE: 04/30/2020									
108690 IHRKE, AMY									
2007822.002		04/06/2020	050520-2	333138	46.00	05/06/2020	INV	PD	REFUND ACCOUNT BALANCE-CH
CHECK DATE: 05/05/2020									PAYEE: IHRKE, AMY
100910 INSIGHT PUBLIC SECTOR INC									
1100720216		03/20/2020	050520	332996	2,658.07	04/19/2020	INV	PD	CONFERENCE PHONE SETUP
CHECK DATE: 05/05/2020									
108620 JACOBSON, KAMLA									
2007824.002		04/06/2020	050520-2	333139	31.50	05/06/2020	INV	PD	REFUND ACCOUNT BALANCE
CHECK DATE: 05/05/2020									PAYEE: JACOBSON, KAMLA
108685 JAKOBS, TROY									
2007817.002		04/02/2020	050520-2	333140	21.21	05/09/2020	INV	PD	REFUND ACCOUNT BALANCE
CHECK DATE: 05/05/2020									PAYEE: JAKOBS, TROY
100943 JEFFERSON FIRE & SAFETY INC									
IN117285		04/21/2020	050520	332997	355.00	05/21/2020	INV	PD	FIRE BOOTS FOR FF
CHECK DATE: 05/05/2020									
108705 JOHNSON, NICOLE									
2007891.002		04/09/2020	050520-2	333141	48.00	05/14/2020	INV	PD	REFUND ACCOUNT BALANCE
CHECK DATE: 05/05/2020									PAYEE: JOHNSON, NICOLE



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INVOICE	P.O.	INV DATE	CHECK RUN	CHECK #	INVOICE NET	DUE DATE	TYPE	STS	INVOICE DESCRIPTION
108694 JOHNSON, RHETT									
2007849.002 CHECK DATE: 05/05/2020		04/06/2020	050520-2	333142	54.50	05/09/2020	INV PD		REFUND ACCOUNT BALANCE-RH PAYEE: JOHNSON, RHETT
108699 JOHNSON, SUE									
2007861.002 CHECK DATE: 05/05/2020		04/07/2020	050520-2	333143	28.00	05/09/2020	INV PD		REFUND ACCOUNT BALANCE PAYEE: JOHNSON, SUE
108697 JONES, APRIL									
2007866.002 CHECK DATE: 05/05/2020		04/07/2020	050520-2	333144	20.00	05/09/2020	INV PD		REFUND ACCOUNT BALANCE PAYEE: JONES, JOSHUA
108629 KALLOP, LEO									
2007835.002 CHECK DATE: 05/05/2020		04/06/2020	050520-2	333145	26.00	05/06/2020	INV PD		REFUND ACCOUNT BALANCE PAYEE: KALLOP, LEO
108656 KAMANN, DEAN									
2007900.002 CHECK DATE: 05/05/2020		04/13/2020	050520-2	333146	20.00	05/13/2020	INV PD		REFUND ACCOUNT BALANCE PAYEE: KAMANN, DEAN
108660 KANDIKO, ALEXANDER									
2007899.002 CHECK DATE: 05/05/2020		04/13/2020	050520-2	333147	20.00	05/13/2020	INV PD		REFUND ACCOUNT BALANCE PAYEE: KANDIKO, ALEXANDER
100977 KARIAN/PETERSON POWERLINE CONTRACTING									
1901 CHECK DATE: 05/05/2020		04/02/2020	050520	332998	6,081.25	05/07/2020	INV PD		WO#461 41 DBL OH CIRCUIT
108724 KATRAGADA, KRISHNA									
2007932.002 CHECK DATE: 05/05/2020		04/28/2020	050520-3	333182	325.00	05/28/2020	INV PD		REF-BIRTHDAY PARTY PAYEE: KATRAGADA, KRISHNA
108658 KHWICE, DIANE									
2007897.002 CHECK DATE: 05/05/2020		04/13/2020	050520-2	333148	20.00	05/13/2020	INV PD		REFUND ACCOUNT BALANCE PAYEE: KHWICE, DIANE
108663 KINNEMAN, COLTEN									



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INVOICE	P.O.	INV DATE	CHECK RUN	CHECK #	INVOICE NET	DUE DATE	TYPE	STS	INVOICE DESCRIPTION
2007793.002 CHECK DATE: 05/05/2020		04/01/2020	050520-2	333149	20.00	05/09/2020	INV PD		REFUND ACCOUNT BALANCE PAYEE: KINNEMAN, COLTEN
108726 KREBS, SVENJA									
2006002.002 CHECK DATE: 05/05/2020		03/13/2020	050520-3	333183	134.22	05/28/2020	INV PD		RFD-BIRTHDAY POOL PKG PAYEE: KREBS, SVENJA
108677 LANGE, RILEY									
2007803.002 CHECK DATE: 05/05/2020		04/01/2020	050520-2	333150	20.00	05/09/2020	INV PD		REFUND ACCOUNT BALANCE PAYEE: LANGE, RILEY
108628 LANNON, MICHELLE									
2007834.002 CHECK DATE: 05/05/2020		04/06/2020	050520-2	333151	24.63	05/06/2020	INV PD		REFUND ACCOUNT BALANCE PAYEE: LANNON, MICHELLE
101043 LANO EQUIPMENT INC									
01-743017 CHECK DATE: 05/05/2020		04/14/2020	050520	332999	840.31	05/14/2020	INV PD		TRENCH COMPACTOR REPAIR
101071 LENZEN CHEVROLET BUICK INC									
80708 CHECK DATE: 05/05/2020		04/14/2020	050520	333000	9.16	05/14/2020	INV PD		#2100 PARK TRUCK - DOOR H
108385 LEVELWEAR INC									
322628-S3 CHECK DATE: 05/05/2020		04/28/2020	050520	333001	1,711.10	07/27/2020	INV PD		RESALE
322629-S3 CHECK DATE: 05/05/2020		04/28/2020	050520	333001	1,022.80	07/27/2020	INV PD		RESALE
322630-S3 CHECK DATE: 05/05/2020		04/28/2020	050520	333001	339.39	07/27/2020	INV PD		RESALE
103004 LHB INC					3,073.29				
190939.00-1 CHECK DATE: 05/05/2020		04/15/2020	050520	333002	9,108.70	05/15/2020	INV PD		CITY SQUARE WEST TIF ANAL
107558 LINK, RYAN									



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INVOICE	P.O.	INV DATE	CHECK RUN	CHECK #	INVOICE NET	DUE DATE	TYPE	STS	INVOICE DESCRIPTION
77745 CHECK DATE: 05/05/2020		03/22/2020	050520	333003	51.40	05/29/2020	INV	PD	ELECTRICAL TRAINING & LIC
108577 LONETTI, MICHAEL									
33689 CHECK DATE: 05/05/2020		04/14/2020	050520	333004	85.87	05/14/2020	INV	PD	METER DEPOSIT REFUND-325
105139 LUBE TECH AND PARTNERS LLC									
1591821 CHECK DATE: 05/05/2020		04/20/2020	050520	333005	35.76	05/20/2020	INV	PD	GREASE
1593071 CHECK DATE: 05/05/2020		04/22/2020	050520	333005	6.84	05/22/2020	INV	PD	FREIGHT FOR GREASE INV 15
					42.60				
108671 LUESSI, SAM									
2007796.002 CHECK DATE: 05/05/2020		04/01/2020	050520-2	333152	20.00	05/09/2020	INV	PD	REFUND ACCOUNT BALANCE PAYEE: LUESSI, SAM
108710 LUNDE, STEPHANIE									
2007905.002 CHECK DATE: 05/05/2020		04/15/2020	050520-2	333153	40.00	05/20/2020	INV	PD	REFUND ACCOUNT BALANCE-ST PAYEE: LUNDE, STEPHANIE
108651 LYBECK, KRISTINA									
2007859.002 CHECK DATE: 05/05/2020		04/07/2020	050520-2	333154	32.06	05/07/2020	INV	PD	REFUND ACCOUNT BALANCE PAYEE: LYBECK, KRISTINA
103176 MANSFIELD OIL COMPANY									
21732910 CHECK DATE: 05/05/2020		03/31/2020	050520	333006	2,133.61	04/30/2020	INV	PD	UNLEADED FUEL (ALL DEPART
101139 MAREK, SUSAN									
77454 CHECK DATE: 05/05/2020		03/31/2020	050520	333007	71.60	05/15/2020	INV	PD	PRINTER INK FOR WORK AT H
108684 MARTIN, TANYA									
2007806.002 CHECK DATE: 05/05/2020		04/01/2020	050520-2	333155	20.00	05/09/2020	INV	PD	REFUND ACCOUNT BALANCE PAYEE: MARTIN, TANYA



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INVOICE	P.O.	INV DATE	CHECK RUN	CHECK #	INVOICE NET	DUE DATE	TYPE	STS	INVOICE DESCRIPTION
108666 MATTHEWS, DIANE									
2007785.002		04/01/2020	050520-2	333156	32.65	05/09/2020	INV PD		REFUND ACCOUNT BALANCE
CHECK DATE: 05/05/2020									PAYEE: MATTHEWS, DIANE
108679 MAUS, BETSY									
2007703.002		04/01/2020	050520-2	333157	35.50	05/09/2020	INV PD		REFUND ACCOUNT BALANCE-MA
CHECK DATE: 05/05/2020									PAYEE: MAUS, BETSY
108692 MCCABE, KATHERINE									
2007830.002		04/06/2020	050520-2	333158	20.00	05/09/2020	INV PD		REFUND ACCOUNT BALANCE-JA
CHECK DATE: 05/05/2020									PAYEE: MCCABE, KATHERINE
108619 MELCHERT, JANICE									
2007823.002		04/06/2020	050520-2	333159	31.50	05/06/2020	INV PD		REFUND ACCOUNT BALANCE
CHECK DATE: 05/05/2020									PAYEE: MELCHERT, JANICE
101187 METRO SALES INC									
INV1578111		04/17/2020	050520	333008	165.00	05/17/2020	INV PD		Ricoh/MN C3003 Color Cont
CHECK DATE: 05/05/2020									
INV1579884		04/21/2020	050520	333008	325.65	05/21/2020	INV PD		FD QTRLY COPIER USAGE
CHECK DATE: 05/05/2020									
INV1579899		04/21/2020	050520	333008	568.19	05/21/2020	INV PD		RICOH COPIER (MSB) QTRLY
CHECK DATE: 05/05/2020									
					1,058.84				
108616 MILLER, TOM									
152368770-2020-1		04/08/2020	050520	333009	50.00	05/08/2020	INV PD		APR REBATE-RESIDENTIAL HV
CHECK DATE: 05/05/2020									PAYEE: MILLER, TOM
101287 MINNESOTA BUREAU OF CRIMINAL APPR									
13788		04/17/2020	042420	332938	75.00	05/17/2020	INV PD		Search Warrant training-K
CHECK DATE: 04/24/2020									
101217 MINNESOTA CHILD SUPPORT PMT CTR									
PR0424200014172152		04/24/2020	042420	332940	195.66	04/24/2020	INV PD		042420 Payroll Child Supp
CHECK DATE: 04/24/2020									



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INVOICE	P.O.	INV DATE	CHECK RUN	CHECK #	INVOICE NET	DUE DATE	TYPE	STS	INVOICE DESCRIPTION
PR042420001510208001 CHECK DATE: 04/24/2020		04/24/2020	042420	332939	179.04	04/24/2020	INV	PD	042420 Payroll Child Supp
					374.70				
101229 MINNESOTA DEPT OF EMPLOYMENT									
3 CHECK DATE: 05/05/2020	200033	04/07/2020	050520	333010	2,433.64	05/15/2020	INV	PD	FORMACOAAT LLC LOAN REPAYM
101258 MINNESOTA POLLUTION CONTROL AGENCY									
10000099246 CHECK DATE: 05/05/2020		04/15/2020	050520	333011	312.50	05/15/2020	INV	PD	PBP REIMBURSEMENTS-HOT SP
101276 MINNESOTA VALLEY ELECTRIC COOPERATIVE									
107051510/APR20 CHECK DATE: 05/05/2020		04/21/2020	050520	333012	33.64	05/16/2020	INV	PD	APR 82ND ST & HWY 41 SIGN
778320601/APR20 CHECK DATE: 05/05/2020		04/21/2020	050520	333012	99.93	05/16/2020	INV	PD	APR CHEVALLE LIFT STATION
780272000/APR20 CHECK DATE: 05/05/2020		04/21/2020	050520	333012	10.82	05/16/2020	INV	PD	APR CHEVALLE IRRIGATION B
781385500/MAR20 CHECK DATE: 04/24/2020		04/07/2020	042420	332941	10.74	05/02/2020	INV	PD	MAR 4463 CTY RD 44
					155.13				
105308 MINNESOTA VALLEY UTILITY SERVICES LLC									
1270 CHECK DATE: 05/05/2020		03/31/2020	050520	333013	1,675.00	04/30/2020	INV	PD	GENERAL ENGINEERING FOR M
101281 KRISTIE MITCHELL									
77559 CHECK DATE: 05/05/2020		04/20/2020	050520	333014	647.20	05/20/2020	INV	PD	SKATE LESSONS
101134 MALLOY MONTAGUE KARNOWSKI RADOSEVICH & CO PA									
47902 CHECK DATE: 05/05/2020		04/13/2020	050520	333015	13,250.00	05/13/2020	INV	PD	2019 AUDIT
105853 MOR GOLF AND UTILITY INC									
17190		04/20/2020	050520	333016	184.11	05/20/2020	INV	PD	CART MAINT/REPAIRS



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INVOICE	P.O.	INV DATE	CHECK RUN	CHECK #	INVOICE NET	DUE DATE	TYPE	STS	INVOICE DESCRIPTION
CHECK DATE: 05/05/2020									
101327 MP NEXLEVEL LLC									
1118200A		03/26/2020	050520	333017	283.00	04/26/2020	INV	PD	CURLING-CAMERA CABLE REPA
CHECK DATE: 05/05/2020									
103236 MRA-THE MANAGEMENT ASSOCIATION									
00362149		04/06/2020	050520	333018	700.00	05/06/2020	INV	PD	MAR COMPENSATION SERVICES
CHECK DATE: 05/05/2020									
101356 MTI DISTRIBUTING INC #31380									
1249021-00		03/31/2020	050520	333019	300.69	04/30/2020	INV	PD	#232 PARK WINDOW SUPPLIES
CHECK DATE: 05/05/2020									
1249663-00		04/03/2020	050520	333019	145.96	05/03/2020	INV	PD	#248 HYD OIL FOR MOWER
CHECK DATE: 05/05/2020									
					446.65				
101354 MTI DISTRIBUTING INC #700767									
1250504-00		04/15/2020	050520	333020	125.43	05/15/2020	INV	PD	FUEL SENDER WORKMAN
CHECK DATE: 05/05/2020									
101370 NATIONAL GOLF FOUNDATION									
77611		03/31/2020	050520	333021	250.00	04/30/2020	INV	PD	ANNUAL DUES
CHECK DATE: 05/05/2020									
101253 BUSINESS PLANNING CONCEPTS INC									
383600052020		04/13/2020	050520	333022	144.00	05/10/2020	INV	PD	MAY PERA LIFE PREMIUMS
CHECK DATE: 05/05/2020									
102654 NORTH AMERICAN SAFETY INC									
INV50613		04/23/2020	050520	333023	137.10	05/23/2020	INV	PD	OVERALLS, GLOVES AND EYEW
CHECK DATE: 05/05/2020									
101425 NORTHERN SAFETY TECHNOLOGY INC									
50178		04/07/2020	050520	333024	2,283.86	05/07/2020	INV	PD	#705 SET-UP-LIGHT BAR, CO
CHECK DATE: 05/05/2020									
50179		04/07/2020	050520	333024	2,187.00	05/07/2020	INV	PD	#706 SET-UP-LIGHT BAR, MO



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INVOICE	P.O.	INV DATE	CHECK RUN	CHECK #	INVOICE NET	DUE DATE	TYPE	STS	INVOICE DESCRIPTION
CHECK DATE: 05/05/2020									
101436 NUCO2 INC					4,470.86				
62852919		04/15/2020	050520	333025	28.03	05/15/2020	INV	PD	Pool Chemicals
CHECK DATE: 05/05/2020									
108721 ODLE, MCHELE									
2007904.002		04/14/2020	050520-3	333184	18.25	05/20/2020	INV	PD	RFD-SWIMMING LESSONS
CHECK DATE: 05/05/2020					PAYEE: ODLE, MICHELE				
101445 OFFICE DEPOT									
472084206001		04/07/2020	050520	333027	375.98	05/08/2020	INV	PD	New chair for Chiefs offi
CHECK DATE: 05/05/2020									
472084206002		04/08/2020	050520	333027	34.99	05/08/2020	INV	PD	Floor mat for new chair f
CHECK DATE: 05/05/2020									
473103808001		04/08/2020	050520	333026	49.46	05/09/2020	INV	PD	Receipt Book and 3-hole p
CHECK DATE: 05/05/2020									
473104911001		04/06/2020	050520	333026	7.80	05/09/2020	INV	PD	Blue Index Cards for Util
CHECK DATE: 05/05/2020									
47704553001		04/15/2020	050520	333026	12.99	05/16/2020	INV	PD	Phone Book for messages f
CHECK DATE: 05/05/2020									
104668 OPTUM BANK INC					481.22				
9411740		04/15/2020	050520	333028	673.25	05/15/2020	INV	PD	1ST QTR HSA FEES
CHECK DATE: 05/05/2020									
108653 OTTE, LLOYD									
2007889.002		04/09/2020	050520-2	333160	20.00	05/09/2020	INV	PD	REFUND ACCOUNT BALANCE
CHECK DATE: 05/05/2020					PAYEE: OTTE, LLOYD				
108662 PALAIA, AMY									
2007792.002		04/01/2020	050520-2	333161	20.75	05/09/2020	INV	PD	REFUND ACCOUNT BALANCE
CHECK DATE: 05/05/2020					PAYEE: PALAIA, AMY				
108727 PERSONIUS, JERRY									



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INVOICE	P.O.	INV DATE	CHECK RUN	CHECK #	INVOICE NET	DUE DATE	TYPE	STS	INVOICE DESCRIPTION
2006690.002 CHECK DATE: 05/05/2020		03/19/2020	050520-3	333185	36.00	05/28/2020	INV	PD	RFD-FIT 4 LIFE WINTER 202 PAYEE: PERSONIUS, JERRY
101551 POPPITZ CONSTRUCTION INC									
1157 CHECK DATE: 05/05/2020		04/12/2020	050520	333029	27,419.65	05/12/2020	INV	PD	CCC WATER MAIN
101571 PREMIUM WATERS INC									
417080-03-20 CHECK DATE: 04/24/2020		03/31/2020	042420	332942	96.87	04/30/2020	INV	PD	TC WATER
101591 PUMP AND METER SERVICE INC									
104287 CHECK DATE: 05/05/2020		04/10/2020	050520	333030	754.61	05/10/2020	INV	PD	YARD GAS PUMP REPAIR
104290 QUALITECH COMPANY									
183505000-2020-1 CHECK DATE: 05/05/2020		04/08/2020	050520	333031	3,750.00	05/08/2020	INV	PD	APR REBATE-VFD
103055 QUALITY PROPANE INC									
198972 CHECK DATE: 05/05/2020		04/13/2020	050520	333032	108.02	05/13/2020	INV	PD	LP Gas
108702 RANNO, RANDY									
2007867.002 CHECK DATE: 05/05/2020		04/07/2020	050520-2	333162	100.00	05/07/2020	INV	PD	REFUND ACCOUNT BALANCE PAYEE: RANNO, RANDY
101638 RURAL ELECTRIC SUPPLY COOPERATIVE									
783770-00 CHECK DATE: 05/05/2020	200081	04/21/2020	050520	333033	353.00	05/21/2020	INV	PD	(10) STRAINGLASS INSUL 96
783771-00 CHECK DATE: 05/05/2020	200079	04/21/2020	050520	333033	253.00	05/21/2020	INV	PD	(10) STRAINGLASS INSUL 54
108698 RICE, MOLLY					606.00				
2007860.002 CHECK DATE: 05/05/2020		04/07/2020	050520-2	333163	40.49	05/09/2020	INV	PD	REFUND ACCOUNT BALANCE PAYEE: RICE, MOLLY



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INVOICE	P.O.	INV DATE	CHECK RUN	CHECK #	INVOICE NET	DUE DATE	TYPE	STS	INVOICE DESCRIPTION
108661 RICKE, ELIZABETH									
2007791.002		04/01/2020	050520-2	333164	25.00	05/09/2020	INV	PD	REFUND ACCOUNT BALANCE
CHECK DATE: 05/05/2020									PAYEE: RICKE, ELIZABETH
101668 ROBBS ELECTRIC INC									
35564		04/20/2020	050520	333034	16,196.00	05/23/2020	INV	PD	LED Lights Mens/Family Lo
CHECK DATE: 05/05/2020									
35593		04/21/2020	050520	333034	408.82	05/21/2020	INV	PD	PD DRYER HOOK UP (ELECTRI
CHECK DATE: 05/05/2020									
35598		04/24/2020	050520	333034	226.84	05/24/2020	INV	PD	RECEPTACLE-FIRE CHIEFS OF
CHECK DATE: 05/05/2020									
					16,831.66				
101738 SCHILLING SUPPLY COMPANY									
771343-00		04/22/2020	050520	333035	185.66	05/22/2020	INV	PD	COVID-19 Hand Sanitizer-C
CHECK DATE: 05/05/2020									
108634 SCHWIMMER, HUNTER									
2007840.002		04/06/2020	050520-2	333165	20.50	05/06/2020	INV	PD	REFUND ACCOUNT BALANCE
CHECK DATE: 05/05/2020									PAYEE: SCHWIMMER, HUNTER
108709 SCOTT, JAKOB									
2007895.002		04/10/2020	050520-2	333166	26.00	05/14/2020	INV	PD	REFUND ACCOUNT BALANCE
CHECK DATE: 05/05/2020									PAYEE: SCOTT, JAKOB
108729 SEA FOAM SALES COMPANY									
2007934.002		04/28/2020	050520-3	333186	450.00	05/29/2020	INV	PD	RFD-FACILITY RENTAL
CHECK DATE: 05/05/2020									PAYEE: SEA FOAM SALES COMPANY
101760 SENTRY SYSTEMS INC									
757576		05/01/2020	050520	333036	267.62	05/11/2020	INV	PD	TC SECURITY MONITORING 5/
CHECK DATE: 05/05/2020									
757608		05/01/2020	050520	333036	185.55	05/11/2020	INV	PD	PAR 30 SECURITY 5/1-7/31
CHECK DATE: 05/05/2020									
					453.17				
108574 SEREN HERNANDEZ, JUNIOR									



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INVOICE	P.O.	INV DATE	CHECK RUN	CHECK #	INVOICE NET	DUE DATE	TYPE	STS	INVOICE DESCRIPTION
33383 CHECK DATE: 05/05/2020		04/14/2020	050520	333037	69.43	05/14/2020	INV	PD	METER DEPOSIT REFUND-404
108720 SHAKOPEE AREA CATHOLIC SCHOOLS									
2007924.002 CHECK DATE: 05/05/2020		04/21/2020	050520-3	333187	450.00	05/22/2020	INV	PD	RFD-LEARN TO CURL CANCELL PAYEE: SHAKOPEE AREA CATHOLIC SCHOOLS
104416 KELBRO COMPANY									
2489616 CHECK DATE: 05/05/2020		04/15/2020	050520	333038	260.35	05/15/2020	INV	PD	OAK 19 ICE MACHINE RENTAL
101775 THE SHERWIN-WILLIAMS COMPANY-CHANHASSEN									
4708-6 CHECK DATE: 05/05/2020		04/20/2020	050520	333039	85.38	05/20/2020	INV	PD	CCC Front Desk Paint
4956-1 CHECK DATE: 05/05/2020		04/24/2020	050520	333039	107.89	05/20/2020	INV	PD	Paint for Brick walls-CCC
6104-2 CHECK DATE: 05/05/2020		04/16/2020	050520	333039	84.17	05/20/2020	INV	PD	CCC Front Desk Paint
					277.44				
104827 ROHN INDUSTRIES INC									
526870 CHECK DATE: 05/05/2020		04/20/2020	050520	333040	20.25	05/20/2020	INV	PD	CITY HALL SHREDDING 4/20
105388 SHRED-IT US HOLDCO INC									
8129598777 CHECK DATE: 05/05/2020		04/15/2020	050520	333041	89.46	05/15/2020	INV	PD	Shredding-PD 3/19
108576 SIMPSON, CONNOR									
33568 CHECK DATE: 05/05/2020		04/14/2020	050520	333042	62.69	05/14/2020	INV	PD	METER DEPOSIT REFUND-110
104547 SITEONE LANDSCAPE SUPPLY HOLDING LLC									
98547466-001 CHECK DATE: 05/05/2020		04/24/2020	050520	333043	2,442.70	05/24/2020	INV	PD	HERBICIDE FOR SCHOOL DIST
101857 ST ANDREWS PRODUCT COMPANY									



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INVOICE	P.O.	INV DATE	CHECK RUN	CHECK #	INVOICE NET	DUE DATE	TYPE	STS	INVOICE DESCRIPTION
0000873382 CHECK DATE: 05/05/2020		04/08/2020	050520	333044	184.26	05/08/2020	INV	PD	BULK GOLF TEES
101850 STANTEC CONSULTING SERVICES INC									
1639843 CHECK DATE: 05/05/2020		03/30/2020	050520	333045	10,906.31	04/30/2020	INV	PD	FEB-GENERAL ENGINEERING
1639844 CHECK DATE: 05/05/2020		03/30/2020	050520	333045	558.00	04/30/2020	INV	PD	FEB-ENGINEERING DEPT ASSI
1639845 CHECK DATE: 05/05/2020		03/30/2020	050520	333045	4,358.00	04/30/2020	INV	PD	FEB-MSA
1639846 CHECK DATE: 05/05/2020		03/30/2020	050520	333045	888.00	04/30/2020	INV	PD	FEB-MN RIVER FLOODPLAIN M
1639847 CHECK DATE: 05/05/2020		03/30/2020	050520	333045	3,018.00	04/30/2020	INV	PD	FEB-SW AREA COLLECTOR COR
1639848 CHECK DATE: 05/05/2020		03/30/2020	050520	333045	19,708.75	04/30/2020	INV	PD	FEB-RECORD PLAN/BASE MAP
1639849 CHECK DATE: 05/05/2020		03/30/2020	050520	333045	3,169.00	04/30/2020	INV	PD	FEB-BRIDGE L2724 REPLACEM
1639851 CHECK DATE: 05/05/2020		03/30/2020	050520	333045	3,972.02	04/30/2020	INV	PD	FEB-MCKNIGHT WETLAND BANK
1639852 CHECK DATE: 05/05/2020		03/30/2020	050520	333045	880.00	04/30/2020	INV	PD	FEB-CREEK RD SW COLLECTOR
1639853 CHECK DATE: 05/05/2020		03/30/2020	050520	333045	3,842.00	04/30/2020	INV	PD	FEB-SE COLLECTOR
1639854 CHECK DATE: 05/05/2020		03/30/2020	050520	333045	81.50	04/30/2020	INV	PD	FEB-VETERANS PARK MEMORIA
1639855 CHECK DATE: 05/05/2020		03/30/2020	050520	333045	14,317.25	04/30/2020	INV	PD	FEB-CREEK RD TRUNK SEWER
1639856 CHECK DATE: 05/05/2020		03/30/2020	050520	333045	9,213.50	04/30/2020	INV	PD	FEB-NE COLLECTOR IN SW AR
1639857 CHECK DATE: 05/05/2020		03/30/2020	050520	333045	10,190.25	04/30/2020	INV	PD	FEB-LAKE GRACE TRAIL PHAS
1639858 CHECK DATE: 05/05/2020		03/30/2020	050520	333045	410.00	04/30/2020	INV	PD	FEB-ADA TRANSITION PLAN
1639859 CHECK DATE: 05/05/2020		03/30/2020	050520	333045	58.50	04/30/2020	INV	PD	FEB-PIONEER TRI/MCKNIGHT



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INVOICE	P.O.	INV DATE	CHECK RUN	CHECK #	INVOICE NET	DUE DATE	TYPE	STS	INVOICE DESCRIPTION
1639860 CHECK DATE: 05/05/2020		03/30/2020	050520	333045	678.00	04/30/2020	INV	PD	FEB-2019 DT RECONSTRUCTIO
1639861 CHECK DATE: 05/05/2020		03/30/2020	050520	333045	1,201.50	04/30/2020	INV	PD	FEB-HILL TOWER REVISIONS
1639862 CHECK DATE: 05/05/2020		03/30/2020	050520	333045	1,474.50	04/30/2020	INV	PD	FEB-HAZELTINE BLUFF POND
1639863 CHECK DATE: 05/05/2020		03/30/2020	050520	333045	21,678.50	04/30/2020	INV	PD	FEB-2020 DT RECONSTRUCTIO
1639864 CHECK DATE: 05/05/2020		03/30/2020	050520	333045	1,554.50	04/30/2020	INV	PD	FEB-2019 BRIDGE SAFETY IN
1639865 CHECK DATE: 05/05/2020		03/30/2020	050520	333045	48,539.00	04/30/2020	INV	PD	FEB-PAR 30 GOLF COURSE
1639866 CHECK DATE: 05/05/2020		03/30/2020	050520	333045	4,146.68	04/30/2020	INV	PD	FEB-WELL 9 REHABILITATION
1639867 CHECK DATE: 05/05/2020		03/30/2020	050520	333045	1,578.63	04/30/2020	INV	PD	FEB-PRIVATE-STRUCTURES IN
1639868 CHECK DATE: 05/05/2020		03/30/2020	050520	333045	273.00	04/30/2020	INV	PD	FEB-PRIVATE DEV STORMWATE
1639869 CHECK DATE: 05/05/2020		03/30/2020	050520	333045	3,313.25	04/30/2020	INV	PD	FEB-PRIVATE DEV STORM WAT
101888 STREICHERS					170,008.64				
I1417598 CHECK DATE: 05/05/2020		03/06/2020	050520	333046	250.00	04/06/2020	INV	PD	PD Shoulder Patches (100)
I1420253 CHECK DATE: 05/05/2020		03/19/2020	050520	333046	73.96	04/19/2020	INV	PD	Seibert-Initial Issue-cuf
I1421137 CHECK DATE: 05/05/2020		03/23/2020	050520	333046	15.99	04/23/2020	INV	PD	Seibert-Initial Issue-fla
I1421617 CHECK DATE: 05/05/2020		03/25/2020	050520	333046	1,044.85	04/25/2020	INV	PD	Seibert-Initial Issue-clo
I1422945 CHECK DATE: 05/05/2020		04/01/2020	050520	333046	74.99	05/01/2020	INV	PD	Seibert-Initial Issue-Pan
103677 SUN LIFE ASSURANCE COMPANY OF CANADA					1,459.79				
237741/MAY20 CHECK DATE: 05/05/2020		05/01/2020	050520	333047	4,161.55	05/31/2020	INV	PD	MAY EMP LIFE INS PREMIUMS



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INVOICE	P.O.	INV DATE	CHECK RUN	CHECK #	INVOICE NET	DUE DATE	TYPE	STS	INVOICE DESCRIPTION
108730 SUNDARESAN, VISWANATHAN									
2007936.002		04/28/2020	050520-3	333188	375.81	05/29/2020	INV	PD	REF-FACILITY RENTAL
CHECK DATE: 05/05/2020							PAYEE: SUNDARESAN,		VISANATHAN
101932 TAYLOR MADE GOLF CO INC									
34197035		03/26/2020	050520	333048	326.40	10/01/2020	INV	PD	DEMO/RENTALS
CHECK DATE: 05/05/2020									
34200622		03/30/2020	050520	333048	199.92	05/29/2020	INV	PD	RESALE
CHECK DATE: 05/05/2020									
34202131		03/31/2020	050520	333048	104.50	05/30/2020	INV	PD	DEMO/RENTAL
CHECK DATE: 05/05/2020									
					630.82				
107683 TCF NATIONAL BANK									
6483165		04/11/2020	042420	332943	284.93	05/03/2020	INV	PD	FD EQUIPMENT LEASE PMT 11
CHECK DATE: 04/24/2020									
102151 THE WEATHER APPAREL COMPANY LLC									
A48378		04/07/2020	050520	333049	948.78	05/07/2020	INV	PD	RESALE
CHECK DATE: 05/05/2020									
108670 THOMPSON, JAY									
2007795.002		04/01/2020	050520-2	333167	26.84	05/09/2020	INV	PD	REFUND ACCOUNT BALANCE
CHECK DATE: 05/05/2020							PAYEE: THOMPSON, JAY		
108570 TILEY, NICKI									
32910		04/14/2020	050520	333050	110.25	05/14/2020	INV	PD	METER DEPOSIT REFUND-1220
CHECK DATE: 05/05/2020									
104908 TIMESAVER OFF SITE SECRETARIAL INC									
M25569		04/14/2020	050520	333051	148.00	05/13/2020	INV	PD	MTG MINUTES-PLANNING 4/8
CHECK DATE: 05/05/2020									
101983 TOTAL CONTROL SYSTEMS INC									
9309		04/20/2020	050520	333052	1,401.78	05/20/2020	INV	PD	ARBOR PARK BOOSTER METER
CHECK DATE: 05/05/2020									



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City of Chaska
VENDOR INVOICE LIST

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INVOICE	P.O.	INV DATE	CHECK RUN	CHECK #	INVOICE NET	DUE DATE	TYPE	STS	INVOICE DESCRIPTION
9310		04/23/2020	050520	333052	590.70	05/23/2020	INV	PD	WELL #9 START UP, VFD & M
	CHECK DATE: 05/05/2020								
					1,992.48				
	108723 TROPHY FLOORING INC								
1708		04/01/2020	050520-4	333190	31,000.00	05/23/2020	INV	PD	50% CCC Arena Floor Repla
	CHECK DATE: 05/05/2020								
	102026 API GARAGE DOOR INC								
2133064		04/13/2020	050520	333053	365.50	05/13/2020	INV	PD	FD GARAGE DOOR REPAIR
	CHECK DATE: 05/05/2020								
	102028 TWIN CITY WATER CLINIC INC								
14318		04/08/2020	050520	333054	150.00	05/08/2020	INV	PD	BACTERIA TESTING AT CCC
	CHECK DATE: 05/05/2020								
	102250 TYLER BUSINESS FORMS								
Invoice-37862		11/01/2019	050520	333055	1,705.50	05/16/2020	INV	PD	ENVELOPES & CHECKS
	CHECK DATE: 05/05/2020								
	102052 UNIQUE PAVING MATERIALS CORP								
51762		04/09/2020	050520	333056	198.45	05/09/2020	INV	PD	COLD MIX ASPHALT FOR POTH
	CHECK DATE: 05/05/2020								
51763		04/09/2020	050520	333056	205.20	05/09/2020	INV	PD	COLD MIX ASPHALT FOR POTH
	CHECK DATE: 05/05/2020								
					403.65				
	101555 UNITED STATES POSTAL SERVICE								
77679		04/20/2020	050520	333057	240.00	06/04/2020	INV	PD	BRM PERMIT #23500
	CHECK DATE: 05/05/2020								
	107745 US BANK NATIONAL ASSOCIATION								
412518243		04/20/2020	050520	333058	439.53	05/15/2020	INV	PD	CCC COLOR COPIER LEASE PM
	CHECK DATE: 05/05/2020								
	102061 USA BLUE BOOK								
202275		04/09/2020	050520	333059	203.33	05/09/2020	INV	PD	WTP FILTER



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City of Chaska
VENDOR INVOICE LIST

IP 32
apinvlst

INVOICE	P.O.	INV DATE	CHECK RUN	CHECK #	INVOICE NET	DUE DATE	TYPE	STS	INVOICE DESCRIPTION
CHECK DATE: 05/05/2020									
104930 V H BLACKINTON & CO INC									
2993370		04/10/2020	050520	333060	12.00	05/10/2020	INV	PD	Kleber-Badge repair and r
CHECK DATE: 05/05/2020									
108575 VANDENBOOM, DAVID									
33558		04/14/2020	050520	333061	23.63	05/14/2020	INV	PD	METER DEPOSIT REFUND-3363
CHECK DATE: 05/05/2020									
102115 VIKING AUTOMATIC SPRINKLER CO									
1025-F113236		04/10/2020	050520	333062	595.00	05/10/2020	INV	PD	ANNUAL INSP OF FIRE SYS A
CHECK DATE: 05/05/2020									
108675 VOGEL, GAYLE									
2007800.002		04/01/2020	050520-2	333168	41.00	05/09/2020	INV	PD	REFUND ACCOUNT BALANCE
CHECK DATE: 05/05/2020					PAYEE: VOGEL, GAYLE				
102133 WAGNER PRESS & GRAPHICS									
33032		04/20/2020	050520	333063	183.60	05/20/2020	INV	PD	APR UTILITY INSERT
CHECK DATE: 05/05/2020									
33036		04/20/2020	050520	333063	630.00	05/20/2020	INV	PD	CHANGE OF OCCUPANT-METER
CHECK DATE: 05/05/2020									
33046		04/22/2020	050520	333063	121.20	05/22/2020	INV	PD	CORTINA WOODS PARK PLANNI
CHECK DATE: 05/05/2020									
					934.80				
108625 WALSTAD, JUDY									
2007831.002		04/06/2020	050520-2	333169	24.75	05/06/2020	INV	PD	REFUND ACCOUNT BALANCE
CHECK DATE: 05/05/2020					PAYEE: WALSTAD, JUDY				
102141 WASTE MANAGEMENT OF MINNESOTA INC									
7356415-1593-8		04/03/2020	042420	332944	104.50	05/03/2020	INV	PD	APR CLUBHOUSE TRASH/RECYC
CHECK DATE: 04/24/2020									
7356420-1593-8		04/03/2020	042420	332944	305.69	05/03/2020	INV	PD	APR TOWN COURSE MAINT GAR
CHECK DATE: 04/24/2020									



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City of Chaska
VENDOR INVOICE LIST

P 33
apinvlst

INVOICE	P.O.	INV DATE	CHECK RUN	CHECK #	INVOICE NET	DUE DATE	TYPE	STS	INVOICE DESCRIPTION
					410.19				
102146 WATER SPECIALTY OF MINNESOTA INC									
12000		04/14/2020	050520	333064	181.10	05/14/2020	INV	PD	POOL CLEANING SUPPLIES
CHECK DATE: 05/05/2020									
108289 WATSON, AMY									
2007909.002		04/15/2020	050520-3	333189	40.00	05/20/2020	INV	PD	RFD-SWIMMING LESSONS-BROD
CHECK DATE: 05/05/2020									PAYEE: WATSON, AMY
102157 MICHAEL P WELLENS									
6178		04/11/2020	050520	333065	4,081.95	05/11/2020	INV	PD	CCC WATER MAIN
CHECK DATE: 05/05/2020									
102166 WESCO DISTRIBUTION INC									
133409	200076	04/17/2020	050520	333066	1,610.00	05/17/2020	INV	PD	(300) SPLT BOLTS - 4/0 &
CHECK DATE: 05/05/2020									
141003	200080	04/23/2020	050520	333066	12,308.00	05/23/2020	INV	PD	(80) ELBOW 750 MCM 600AMP
CHECK DATE: 05/05/2020									
					13,918.00				
108626 WHITE, JANET									
2007832.002		04/06/2020	050520-2	333170	25.00	05/06/2020	INV	PD	REFUND ACCOUNT BALANCE
CHECK DATE: 05/05/2020									PAYEE: WHITE, JANET
108632 WIENS, AMY									
2007838.002		04/06/2020	050520-2	333171	29.00	05/06/2020	INV	PD	REFUND ACCOUNT BALANCE
CHECK DATE: 05/05/2020									PAYEE: WIENS, AMY
108650 WIKSTROM, JANELLE									
2007874.002		04/08/2020	050520-2	333172	32.00	05/08/2020	INV	PD	REFUND ACCOUNT BALANCE
CHECK DATE: 05/05/2020									PAYEE: WIKSTROM, JANELLE
106951 WILLIAM E YOUNG COMPANY									
19330		04/07/2020	050520	333067	3,481.16	05/07/2020	INV	PD	MAGNETIC FLOWMETER/TRANSM
CHECK DATE: 05/05/2020									
108673 WILSON, KALLIE									

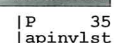


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City of Chaska
VENDOR INVOICE LIST

IP 34
apinvlst

INVOICE	P.O.	INV DATE	CHECK RUN	CHECK #	INVOICE NET	DUE DATE	TYPE	STS	INVOICE DESCRIPTION
2007798.002 CHECK DATE: 05/05/2020		04/01/2020	050520-2	333173	31.36	05/09/2020	INV PD		REFUND ACCOUNT BALANCE PAYEE: WILSON, KALLIE
108630 WULF, BENJAMIN									
2007836.002 CHECK DATE: 05/05/2020		04/06/2020	050520-2	333174	22.50	05/06/2020	INV PD		REFUND ACCOUNT BALANCE PAYEE: WULF, BENJAMIN
100631 NORTHERN STATES POWER COMPANY, MN									
2020.03 CHECK DATE: 05/05/2020		04/16/2020	050520	333068	843.09	04/30/2020	INV PD		MRS OPERATION AND MAINTEN
108678 YOUNG, MAXWELL									
2007818.002 CHECK DATE: 05/05/2020		04/01/2020	050520-2	333175	48.00	05/09/2020	INV PD		REFUND ACCOUNT BALANCE PAYEE: YOUNG, MAXWELL
108665 YOUNGMAN, CARSON									
2007784.002 CHECK DATE: 05/05/2020		04/01/2020	050520-2	333176	27.50	05/09/2020	INV PD		REFUND ACCOUNT BALANCE PAYEE: YOUNGMAN, CARSON
108641 YUHAS, OLIVER									
2007852.002 CHECK DATE: 05/05/2020		04/06/2020	050520-2	333177	26.00	05/06/2020	INV PD		REFUND ACCOUNT BALANCE PAYEE: YUHAS, OLIVER
102226 ZARNOTH BRUSH WORKS INC									
0179517-IN CHECK DATE: 05/05/2020		03/25/2020	050520	333069	2,384.00	04/25/2020	INV PD		12-GUTTER BROOMS & 2- K B
102228 ZEE MEDICAL SERVICE INC									
54127042 CHECK DATE: 05/05/2020		03/20/2020	050520	333070	8.95	04/23/2020	INV PD		HANDSANITIZER MSB ALL DEP
102231 ZIEGLER INC									
SW050339560 CHECK DATE: 05/05/2020		04/13/2020	050520	333071	596.49	05/13/2020	INV PD		WTP GENERATOR REPAIR
					596.49				



** END OF REPORT - Generated by Michelle Robbin **

Electronic Payments



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City of Chaska
VENDOR INVOICE LIST

P 1
lapinvlst

INVOICE	P.O.	INV DATE	CHECK RUN	CHECK #	INVOICE NET	DUE DATE	TYPE	STS	INVOICE DESCRIPTION
105243 ALERUS FINANCIAL									
C91693		04/03/2020	042020	2313	105.70	04/20/2020	DIR	PD	MAR 2020 PARTICIPANT FEES
CHECK DATE:	04/20/2020								
100385 CHASKA FIRE DEPT RELIEF ASSN									
2020/03-CFDRA		04/24/2020	042420	2320	32,501.27	04/24/2020	DIR	PD	MAR FIRE RELIEF ASSOC-CIT
CHECK DATE:	04/24/2020								
107490 GREAT-WEST LIFE & ANNUITY INSURANCE COMPANY									
77641		04/24/2020	042720	2323	1,378.32	04/27/2020	DIR	PD	042420 Payroll HCSP Contr
CHECK DATE:	04/27/2020								
107744 GREAT-WEST LIFE & ANNUITY INSURANCE COMPANY									
77642		04/24/2020	042720	2324	200.00	04/27/2020	DIR	PD	042420 Payroll MNDGP Cont
CHECK DATE:	04/27/2020								
101756 MII LIFE INCORPORATED									
15460724		04/08/2020	042220	2314	301.50	04/22/2020	DIR	PD	APR PARTICIPANT FEES-FSA
CHECK DATE:	04/22/2020								
39406079		04/21/2020	042320	2315	787.29	04/23/2020	DIR	PD	4/23/20 FSA REIMBURSEMENT
CHECK DATE:	04/23/2020								
					1,088.79				
100927 INTERNAL REVENUE SERVICE									
77635		04/24/2020	042420	2317	123,360.05	04/24/2020	DIR	PD	042420 Payroll FICA Feder
CHECK DATE:	04/24/2020								
101346 MINNESOTA COMMISSIONER OF REVENUE									
2020/0331-CC		03/31/2020	041720	2311	7,763.64	04/17/2020	DIR	PD	MAR-20 CARVER CTY TRANSIT
CHECK DATE:	04/17/2020								
2020/0331-SLS/UB		03/31/2020	041720	2309	107,601.51	04/17/2020	DIR	PD	MAR-20 GEN/UB SALES TAX
CHECK DATE:	04/17/2020								
2020/0331-USE		03/31/2020	041720	2310	771.01	04/17/2020	DIR	PD	MAR-20 USE TAX
CHECK DATE:	04/17/2020								
					116,136.16				
101343 MINNESOTA DEPT OF REVENUE-PAYROLL WIRES									



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City of Chaska
VENDOR INVOICE LIST

IP 2
apinvlst

INVOICE	P.O.	INV DATE	CHECK RUN	CHECK #	INVOICE NET	DUE DATE	TYPE	STS	INVOICE DESCRIPTION
77636 CHECK DATE: 04/27/2020		04/24/2020	042720	2321	23,310.82	04/27/2020	DIR	PD	042420 Payroll MN State T
101249 MINNESOTA MUNICIPAL POWER AGENCY									
3243 CHECK DATE: 04/20/2020		04/06/2020	042020	2312	2,183,579.51	04/20/2020	DIR	PD	MAR 2020 ELECTRIC SERVICE
101376 NATIONWIDE RETIREMENT SOLUTIONS(USCM)									
77637 CHECK DATE: 04/24/2020		04/24/2020	042420	2318	10,986.58	04/24/2020	DIR	PD	042420 Payroll 457 Contri
106955 NATIONWIDE RETIREMENT SOLUTIONS(USCM)									
77640 CHECK DATE: 04/24/2020		04/24/2020	042420	2319	2,054.87	04/24/2020	DIR	PD	042420 Payroll Roth Contr
104668 OPTUM BANK INC									
77639 CHECK DATE: 04/27/2020		04/24/2020	042720	2322	13,346.43	04/27/2020	DIR	PD	042420 Payroll HSA Contri
101498 PCARD									
2020/0413-PC CHECK DATE: 04/28/2020		04/13/2020	042820	2327	45,593.69	04/28/2020	DIR	PD	APR 2020 PCARD PURCHASES
101506 PUBLIC EMPLOYEES RETIREMENT ASSOCIATION									
77638 CHECK DATE: 04/24/2020		04/24/2020	042420	2316	90,396.10	04/24/2020	DIR	PD	042420 Payroll PERA Contr
101973 TITLE MARK LLC									
BORGLUND 26 CHECK DATE: 04/23/2020		04/23/2020	042320	2326	5,995.00	04/23/2020	DIR	PD	PARCEL 26 BORGLUND EASEME
CARLSON 13 CHECK DATE: 04/23/2020		04/23/2020	042320	2325	42,335.00	04/23/2020	DIR	PD	PARCEL 13 CARLSON EASEMEN
=====					=====				
19 INVOICES					2,692,368.29				
=====					=====				



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|City of Chaska
|VENDOR INVOICE LIST

|P 3
|apinvlst

INVOICE	P.O.	INV DATE	CHECK RUN	CHECK #	INVOICE NET DUE DATE	TYPE	STS	INVOICE DESCRIPTION
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** END OF REPORT - Generated by Michelle Robbin **

**Biweekly Report
May 4, 2020
By
Matt Podhradsky**

UPCOMING COUNCIL MEETING SCHEDULE

With us now being in the groove of being able to effectively run zoom meetings if we need to for Council meetings, we are now able to solidify our schedule for Council meetings and Work Sessions for the next couple of months. It should be noted that with the Governor now extending the Stay at Home orders until May 18th, we will for certain be having our next two meetings (May 4th and May 18th) via zoom. Beyond that, we are going to be monitoring the situation to see if we can move into in-person meetings again. We will be making those decisions over a week in advance of meetings to make sure that we are able to get proper notice to those residents who might be interested in being involved in a meeting. When we do go back to in-person meetings, we will be continuing to provide a zoom option for residents that don't feel comfortable attending a meeting, and for any of those meetings that we might anticipate a larger audience, we will be moving them into the Event Center at Fireman's Park.

May 4th (Zoom Meeting): We will be having a work session starting at 5:45 pm prior to the meeting on Monday to have Carver County review with us the road study that they have been completing on Highway 10 (Engler Boulevard) through Chaska. The City and the County do have an opportunity to seek funding from the State this summer to help expedite the section of project that is proposed between Bavaria Road and Park Ridge Drive (at the Community Center) and we want to make sure that before we start moving to seek those funds that the Council is comfortable with where the road design is going. Following the work session, we will be having the regular Council meeting. The main item on the agenda for Monday will be the Assessment Hearing for the proposed Downtown Street Reconstruction project for this year. We have been sharing with the homeowners our recommended plan for assessing the properties this year to focus on interest-only payments the first year and extending the assessment period by 1 additional year to take into account challenges some may be having at this point with the COVID 19 pandemic. This is the most that State Statute allows us to do with Chapter 429 assessments. While we had started by trying to defer both principal and interest in the first year, State Statute requires that we charge interest and at least \$1 of principal for this first year, which is what we have done. Our hope is that by doing this and extending out assessments for 1 additional year (16 instead of 15) that this will help with the immediate situation. It should be noted that we have received very good bids for the project should we move forward this summer.

May 18th: We will be having a work session at 5:45 pm prior to this meeting to review the findings of our Utility Cost of Service Study we just completed for our Electric, Water and Sewer Utilities. We complete these studies every few years to make sure that we are properly planning for future capital improvements and that we are appropriately both setting and allocating rates by user class to meet our economic needs but to also be equitable with our rate payers. Following this Work Session, we will have our Council meeting, with the main agenda item at this meeting being the consideration of the Concept Plan for Sagewood 3rd Addition in Clover

Ridge. This will be a Zoom meeting, and we expect that there could be several residents in attendance at this meeting, so if we will be reaching out to make sure that all residents are aware of how to log on and participate in this meeting.

June 1st: We are planning on having a work session this evening from 5:45-7 to have the County give us an update on the status of the Arboretum Area Transportation Study (Highway 5 and 82nd Street). Following the Work Session, we will be having a Council Meeting, with the main agenda item for that night being the consideration of the Preliminary Plat/Zoning/Acceptance of the EAW for the Pinnacle Heights Neighborhood (this is the proposed Dell Webb Project on the Hammer's Property). If this meeting is in person, we will plan on having it at the Event Center as we expect there could be several residents in attendance.

For all Zoom meetings, please try to get logged on around 10 minutes prior to the meeting starting to make sure that we do not see any issues that we need to address. We will have IT help available during the meeting to help with unforeseen issues that may arise. Let me know if you have any questions about these upcoming meetings.

#Chaska Cares Initiative

As we have discussed over the past few weeks, one of the things that I am most proud of during this entire COVID Response is the initiative that a number of our employees put together to help reach out to the community, highlight great things happening in our community, and to bring much needed mental health relief and hope to our community. Led by Marshall Grange, and supported by Julie Janke, Kevin Wright, Erin Link, Sarah Anderson and Joan Seedorf, this team has put together not only communication that highlights some of the great things that our residents and businesses are doing in the community, but also have put together initiatives that have really brought hope and joy to our community as they have been stuck in their homes. Here is a list of the activities that they have been a part of that have really made a difference:

- American Legion Auxiliary's Easter Bunny Parade
- Birthday Patrol (Fire and Police visit homes where kids are having a birthday)-we will do 100 of these "mini parades" in the month of April alone
- Adult Coloring Book Drive for our Senior Living Facilities
- Michael's Foods Food Distribution Event this Saturday-The Chaska Cares team will be delivering boxes of these food kits to shut in seniors and others with transportation issues
- Zoom interviews with different non-profit leaders in the community to highlight ways to help support those in need across the community
- Face Mask Drive this past Saturday which collected over 1900 Masks.

As we get into the month of May, below are some of the initiatives this group will be working to help bring to the community:

- Advertising and distribution of forms identifying vulnerable adults/seniors in the community who may be living alone and who family members would like us to check in on
- Establishment of the Chaska Community Fund to provide an outlet for people in the community to be able to donate dollars to support Chaska-specific initiatives to help better the community and address community-wide needs

- Working with the American Legion and the VFW to tape the Memorial Day ceremony at Veteran's Park so that we can air it on Memorial Day morning. We will also be having interviews with both the Legion and the VFW Commanders to air with this to allow these organizations to help educate the community on what their organizations are all about (both the in-person parade and ceremony have now been officially cancelled)
- Working with the School District/Chaska High School to have a special community recognition of our Chaska High School Seniors-more to come on this over the next 2 weeks

If you have any ideas or suggestions for things Chaska Cares may want to consider working on over this time period, don't hesitate to share those with me and I'll get them to the right people. If you have any questions about this, please let me know

City Code Improvement Project:

Since January, the City has been transitioning its City Code and Zoning Code administration to a self-publishing software system called Muni Code. This improvement results in a single electronic based system for departments and the City Attorney to work collaboratively to update, maintain, and publish City Codes directly on the City website once approved by City Council. The software implementation also results in long-term cost savings because up until this point we have relied on outside services to publish code changes.

Through this process, we have identified additional opportunities to continue improving our codes. These additional opportunities include standardizing language and formatting across code chapters and between the zoning and general code sections, and consolidating Code chapters. Implementing these improvements will improve ongoing code management, create space for future code growth as our community evolves, and most importantly improve the user experience by simplifying the code for residents, businesses, and others to navigate. After these improvements are implemented, the Codes will need to come to Council to be adopted. The adopted changes at that time, will be for the formatting improvements and will not impact the substance of the City Codes.

A second phase following completion of the software implementation and format standardization will be to thoroughly review the contents of the Code to update, refine, and simplify language to properly address our community's current needs and ensure our ability to enforce those priorities. This phase of the project will include a combination of public, staff, and Council input.

Nate will be talking a little bit more about this at the meeting on Monday. If you have any questions on this, please do not hesitate to ask.

Met Council Bus Service Allocation Study

Policy-Makers Meeting

Presented by: Thomas Wittmann

April 22, 2020

TECHNOLOGY INTRODUCTION

Please make sure to download the Zoom desktop or mobile application in advance.
Your functionality will be limited if you access the meeting using your web browser.

If you experience technical difficulties, please use the Zoom chat function

or call (651) 333-4139.

INTRODUCTION

WORKSHOP PARTICIPATION GUIDELINES

- For full functionality use the zoom desktop or mobile applications, not the web client
- Keep yourself muted when you are not speaking
- Use video when speaking and don't forget to unmute yourself
- Type questions or comments into the chat box
- Please do not use the “raise hand” function – it will be hard to see you!

CALENDAR INVITE WILL HAVE THE FOLLOWING INFORMATION:

 Save & Close

Title: Building PowerPoint

Start time: Thu 4/16/2020 11:45 AM Pacific Time (US & Canada) ☐ All day ☒ Time zones

End time: Thu 4/16/2020 12:45 PM Pacific Time (US & Canada) [Make Recurring](#)

Location: <https://zoom.us/j/91203709922>

Inviting you to a scheduled Zoom meeting.

Join Zoom Meeting
<https://zoom.us/j/91203709922>

Meeting ID: 912 0370 9922
Password: 090576

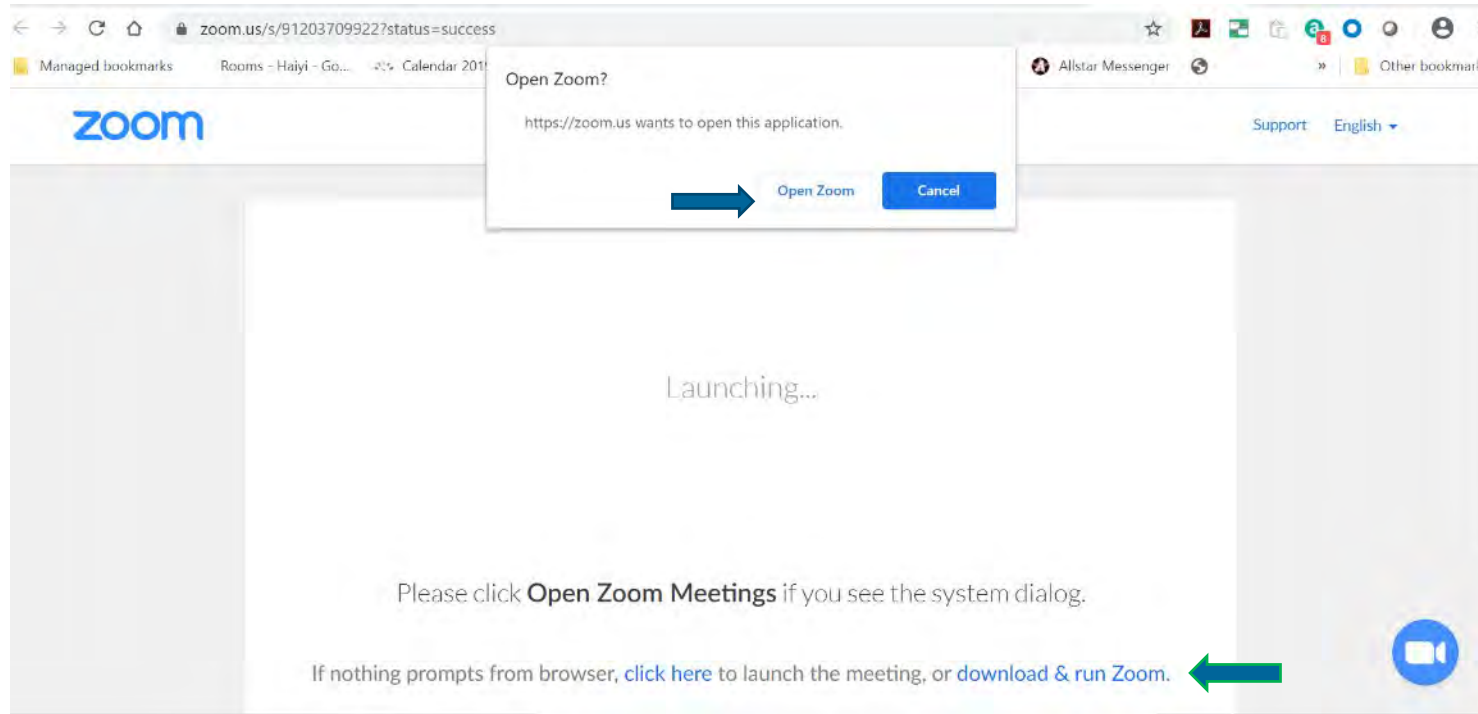
One tap mobile
+13462487799,,91203709922#,,#090576# US (Houston)
+16699009128,,91203709922#,,#090576# US (San Jose)

Dial by your location
+1 346 248 7799 US (Houston)
+1 669 900 9128 US (San Jose)
+1 312 626 6799 US (Chicago)
+1 646 558 8656 US (New York)
+1 253 215 8782 US
+1 301 715 8592 US

Meeting ID: 912 0370 9922
Password: 090576
Find your local number: <https://zoom.us/u/ab8hz03uO>

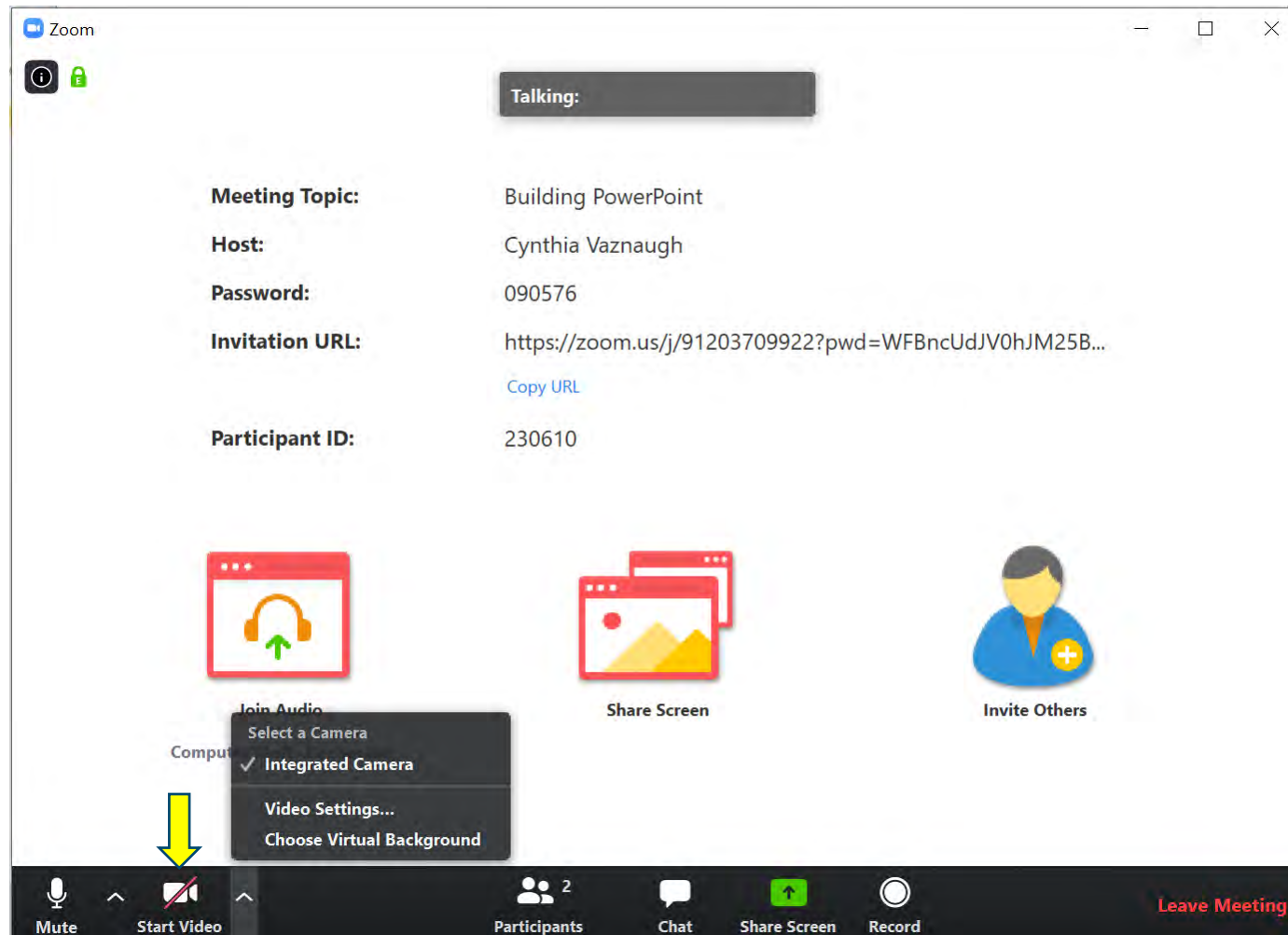
- Link to join meeting (in red)
- Password 
- One tap mobile for phones
- When you join the Zoom meeting you will be asked for a password.

JOINING THE MEETING



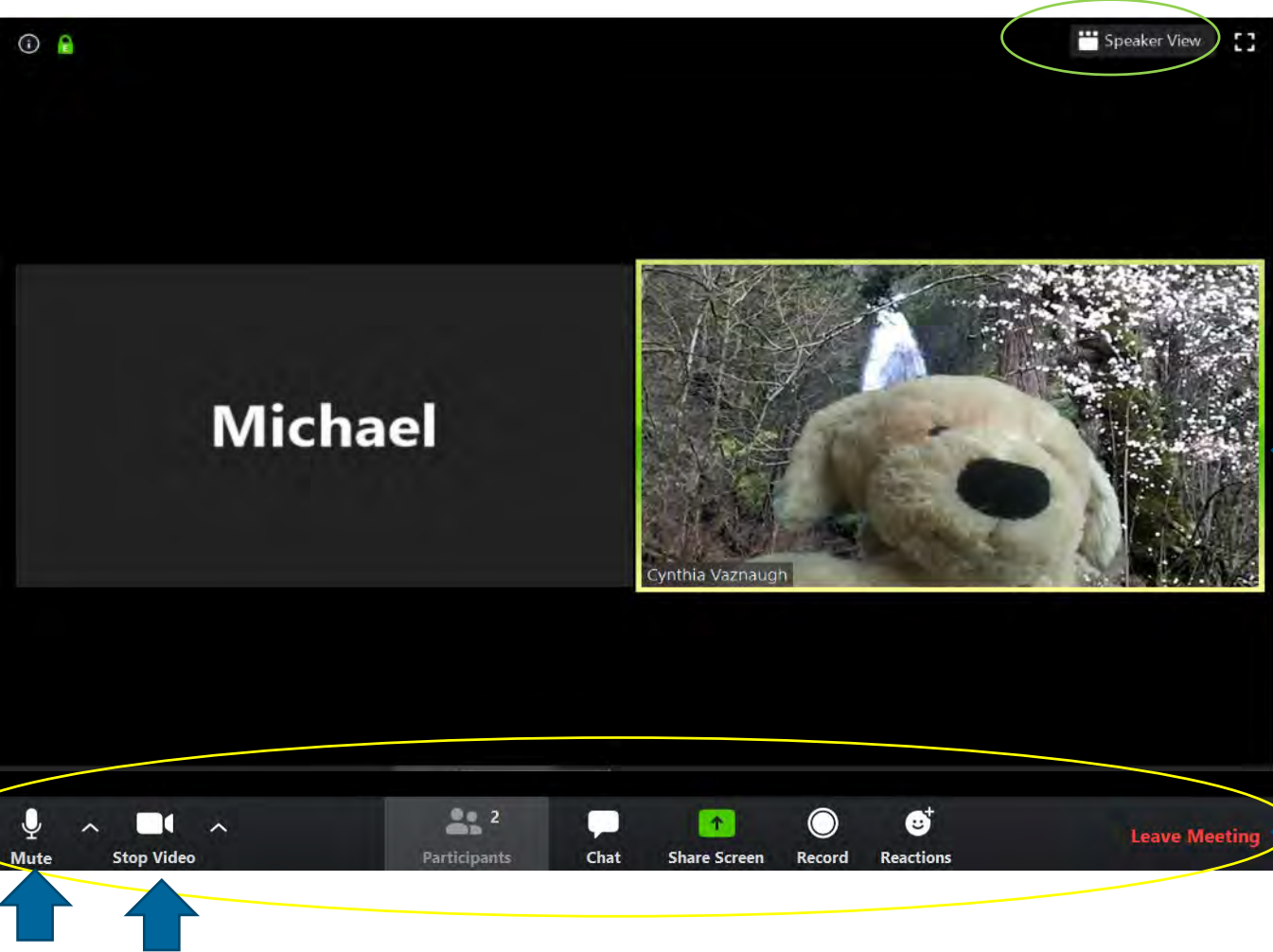
- When you click the meeting link – you will get this screen.
- Click – OPEN ZOOM
- If you do not have Zoom click [download & run Zoom](#)

STARTING YOUR CAMERA FOR VIDEO



- The Mic icon is on because there is no red line through it
- Click video icon to start your camera for the meeting. (yellow arrow)
- If you want to change you background
 - Click carrot to bring up menu
 - Choose virtual background

JOINED MEETING – VIEW AND MENU BARS FOR THE MEETING



Top Menu Bar

- To change your view from tiles to speaker view
 - click the icon in the **green circle**

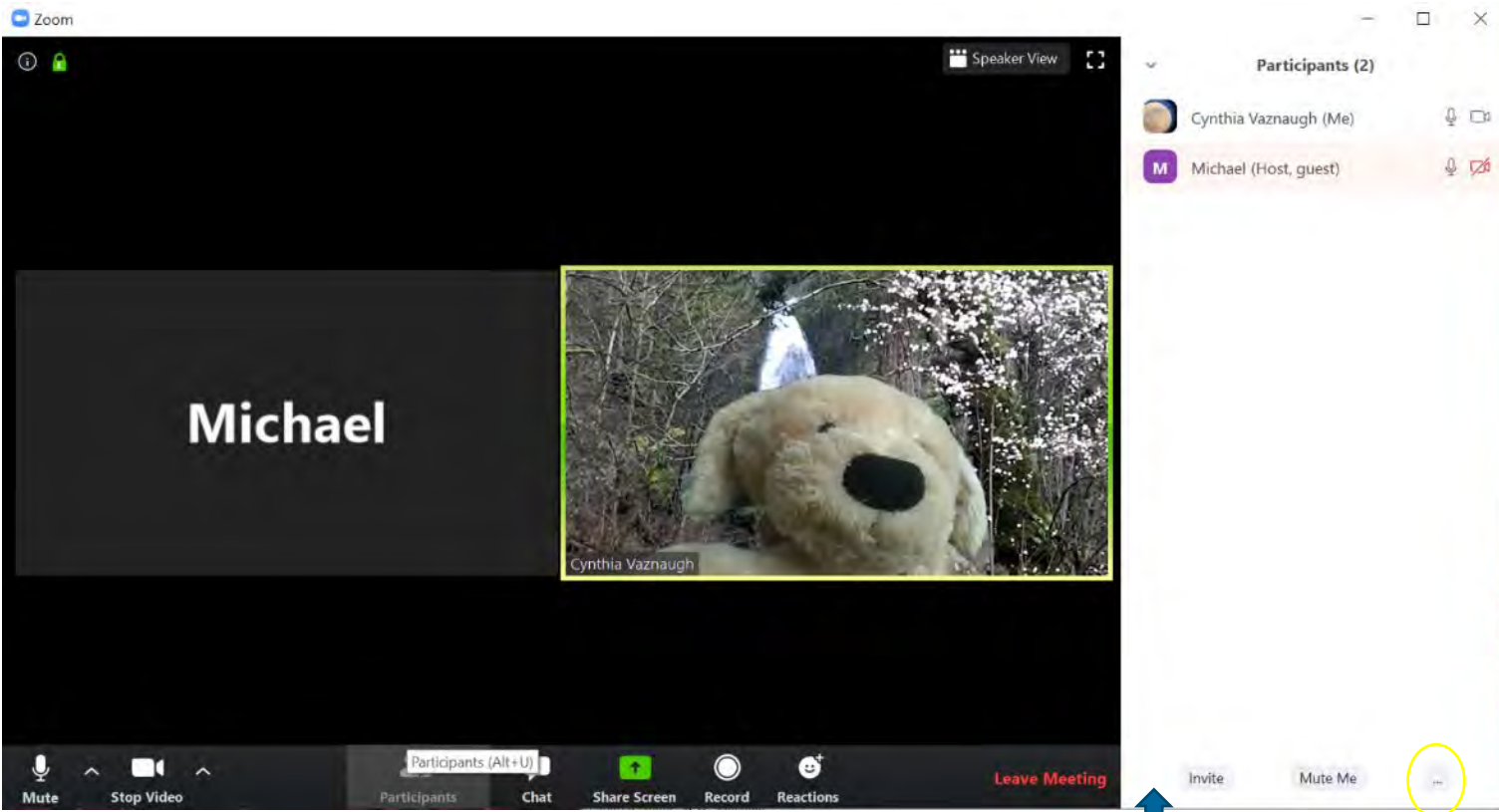
You will be able to see up to 25 participants or you may only see speaker depending on the view you chose.

This meeting only has 2 participants –
Michael – joined with audio only
Cynthia – joined with audio & video

Click **Leave Meeting** to end the meet for you

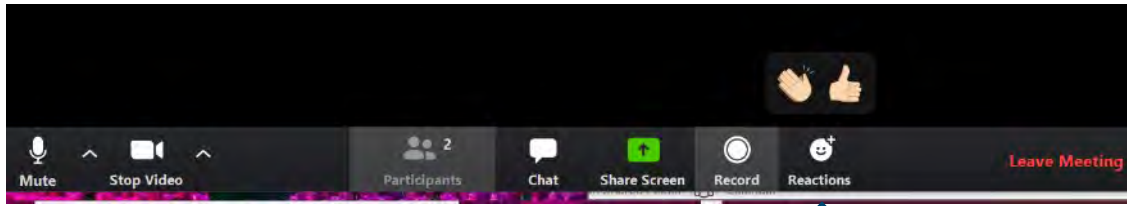
To mute or stop video press the icon a **red line** will cross over the icon so show it is off. Just click icon again to start

TO SEE PARTICIPANTS

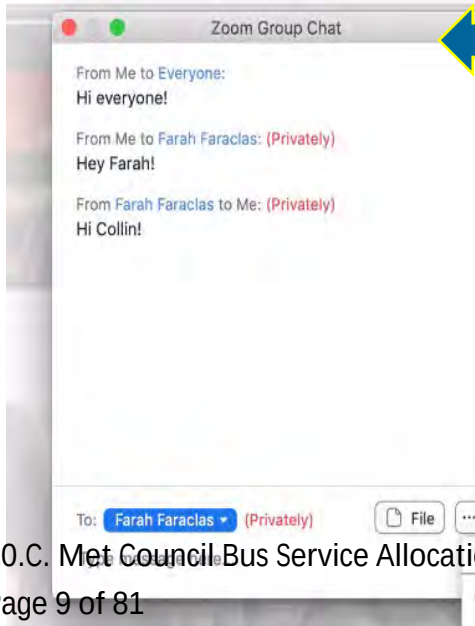


To see participants click on “Participants”
and screen will appear to the right.

TO SHOW REACTION AND CHAT ICON



By clicking on the Reaction Icon.
You can give a clap or thumbs. It will appear in your attendee window at the top left.



By clicking on Chat icon – a window will appear for you to type messages

If you have the “Participants” window open the chat menu will be below it.

STUDY INTRODUCTION

STUDY PURPOSE

- Facilitate regional discussion with policy makers on transit priorities
- Understand region-wide need for better mobility options
- Develop and evaluate a series of expansion scenarios that reflect regional goals
- Document regional values to inform future service investment

ANTICIPATED PROCESS AND TIMELINE

We are here



Existing
Conditions /
Stakeholder
Outreach

Initial Policy
Maker
Workshop

Develop
Three Expansion
Scenarios

Second Policy
Maker
Workshop

Scenario
Evaluation &
Report

WORKSHOP DESIRED OUTCOMES

Understand service adjustment values for transit

Show existing service distribution
and documented values/priorities



Discussion Exercise:
What is important to consider when
adjusting service?



Discussion Exercise:
Define desired outcomes for transit
in the region

- Anticipated Results

- Values from workshop will be used to develop three different service scenarios
- Service scenarios will then be evaluated to see impact of applying values regionally

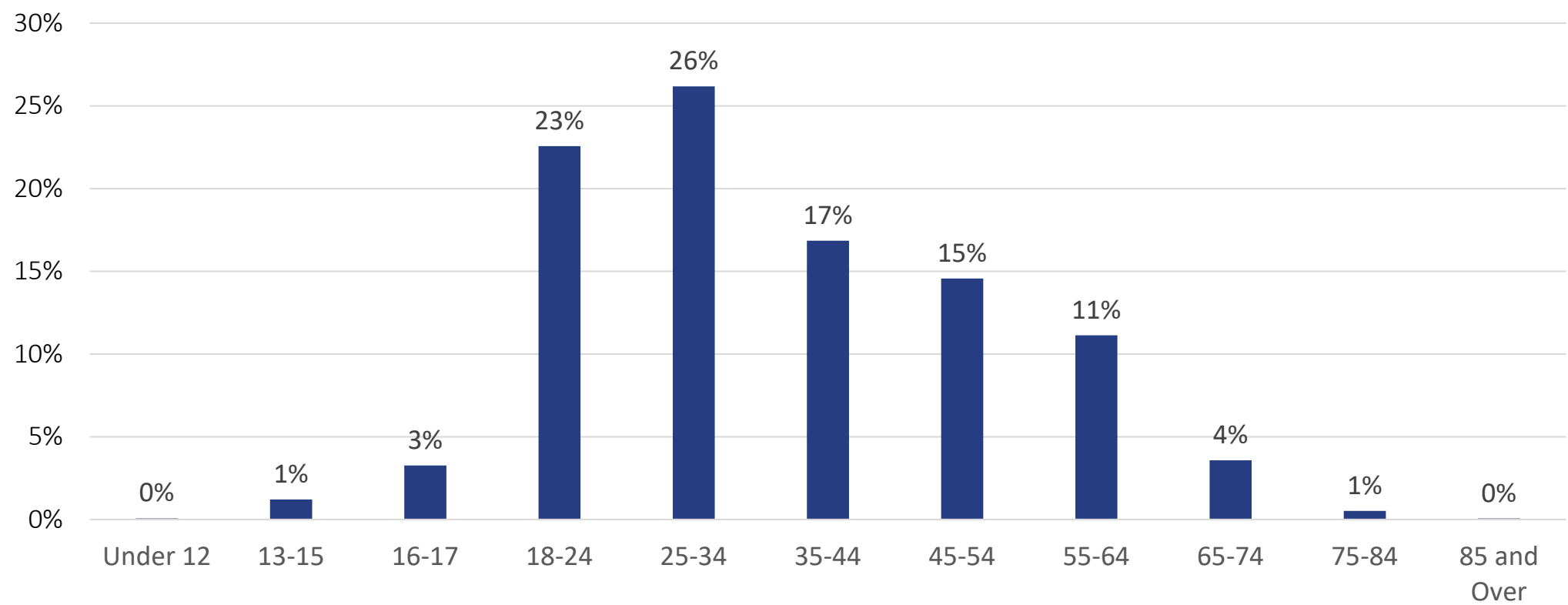
COVID-19 AND SERVICE ALLOCATION

- Transit service and use are down and will likely take time to recover, and travel patterns may be different
- Service allocation study is asking for high-level, long-term policy guidance
- The study is not intended to guide how, where, or when agencies bring services back following the peacetime emergency measures
- For today's workshop, we are focused on expansion opportunities, but will also have small group discussions about regional values if the transit system is being cut back
- The COVID crisis shows the need for considering factors such as social equity when planning for service expansion or contraction

BACKGROUND

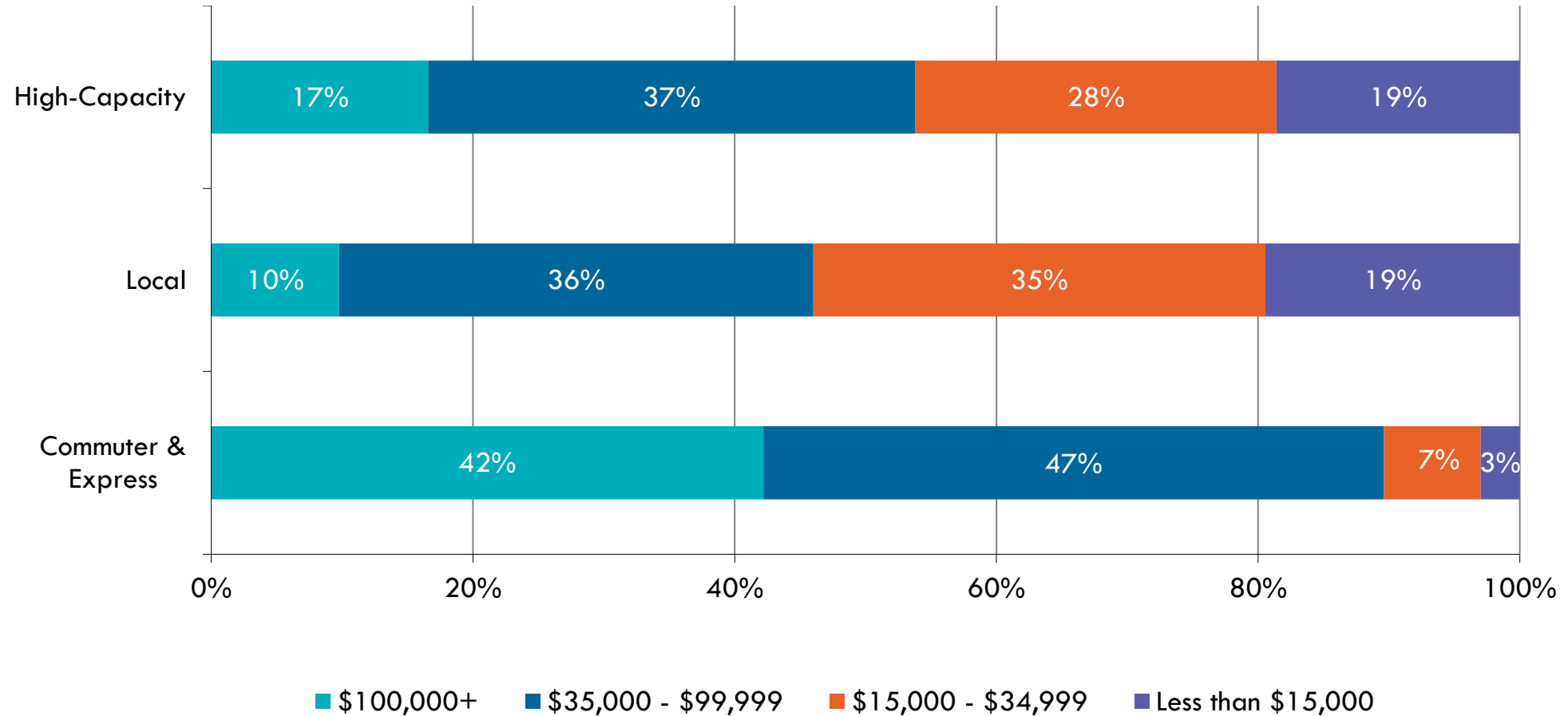
WHO RIDES TRANSIT - 2016 ON-BOARD SURVEY

Rider Age



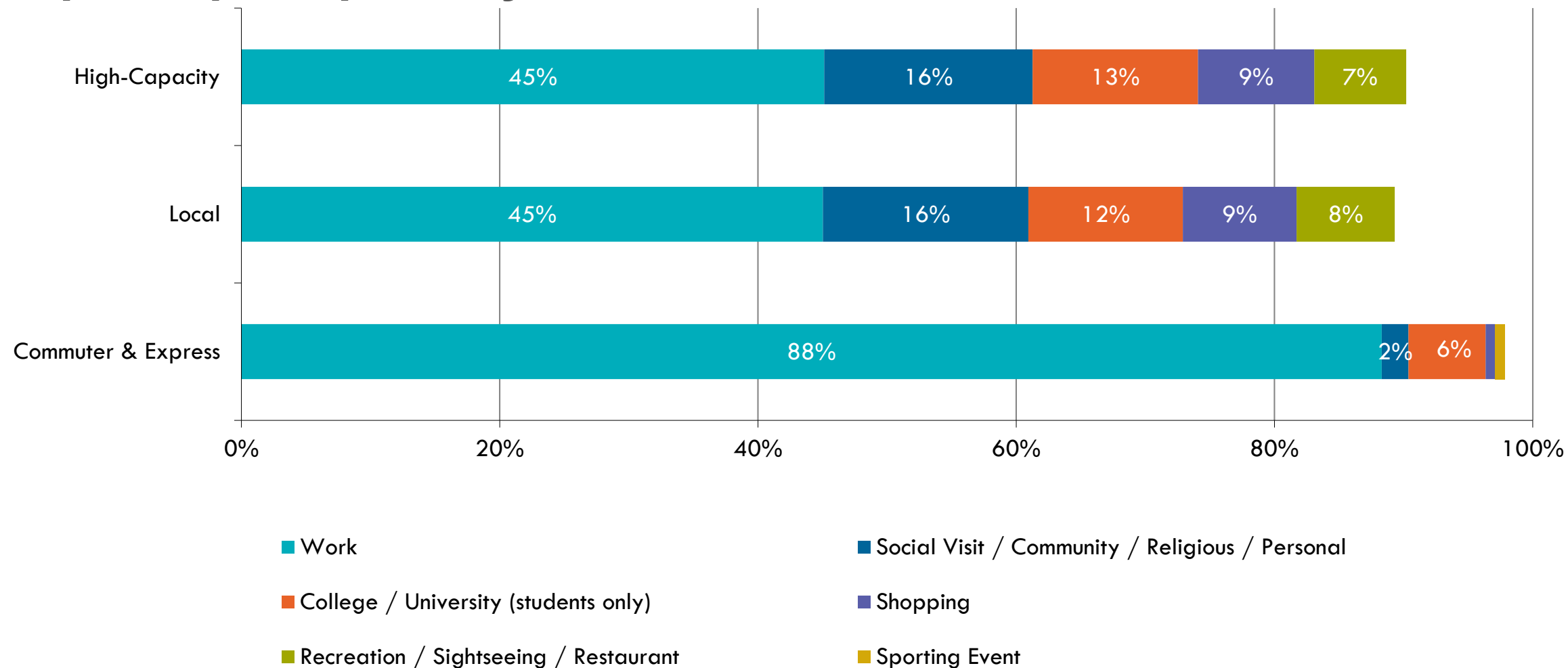
WHO RIDES TRANSIT - 2016 ON-BOARD SURVEY

Income By Service Classification



WHO RIDES TRANSIT - 2016 ON-BOARD SURVEY

Top 5 Trip Purpose by Service Classification



JULY 2019 SERVICE TRADEOFF WORKSHOP

- Service allocation workshop with Met Council and TAB members
- Developed route network using limited resources in hypothetical city
- Key themes:
 - Leveraged rail network
 - Focus on equity
 - Job access to outlying suburban areas
 - Focus on medical and higher education destinations
 - 15-minute service frequency in core areas



AGENCY OUTREACH



OUTREACH OBJECTIVES

- Transit agencies provide an overview of their services
- Understand factors that inform service allocation decisions
- Future planning and service development priorities
- General project input

KEY TAKEAWAYS FROM INTERVIEWS

- All transit agencies use similar industry standard performance to measure:
 - Service efficiency
 - Revenue effectiveness
 - Cost effectiveness
- All transit agencies focus on quality service to areas with highest ridership potential
- All transit agencies noted challenges in providing service in areas with need, but lower ridership demand
- Social equity is important, but applied inconsistently in existing service allocation processes
- Not all agencies have written service allocation processes, but all agencies engage in service allocation annually

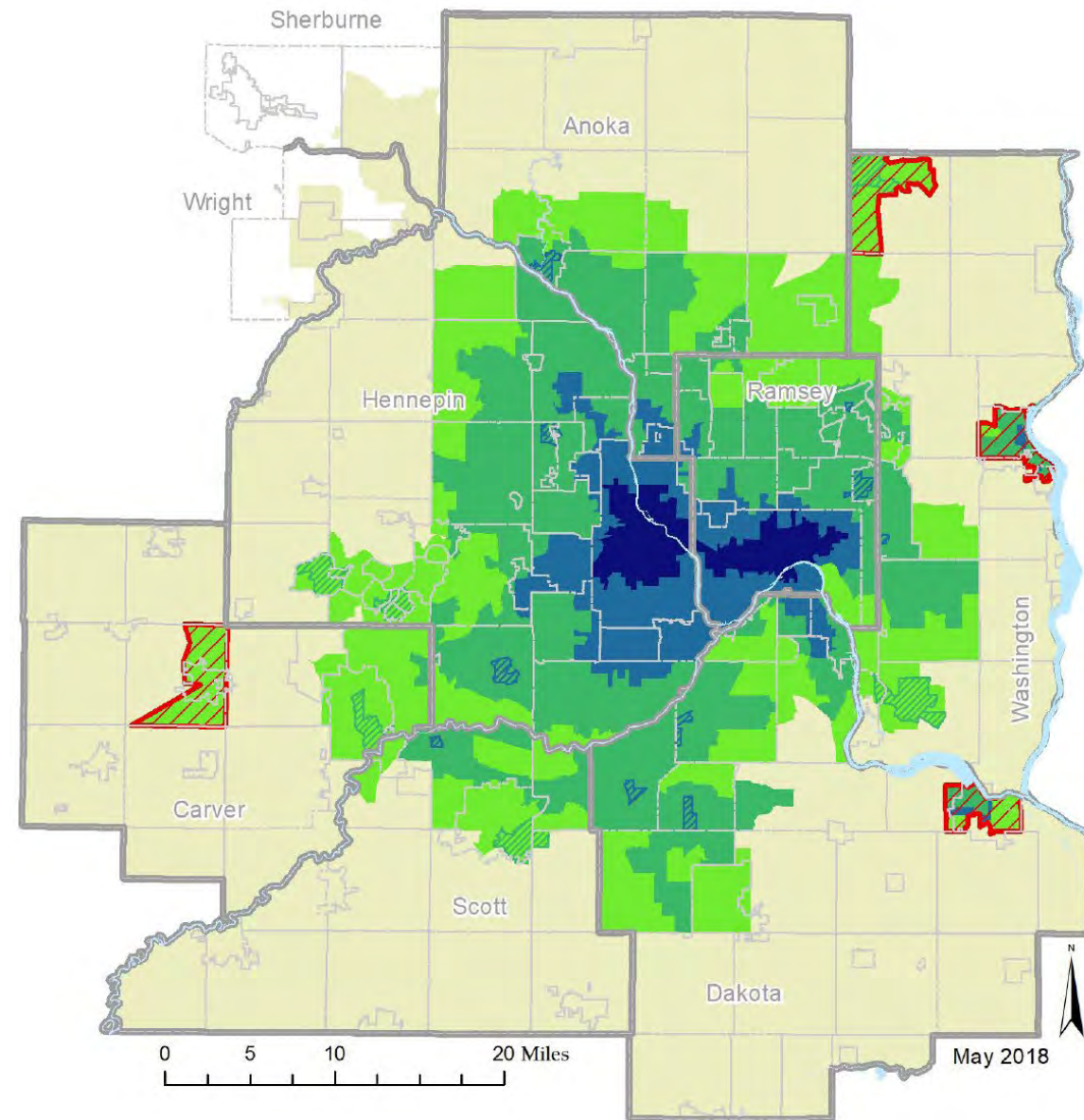
EXISTING FIXED-ROUTE DISTRIBUTION

QUESTIONS FOR PARTICIPANTS TO CONSIDER

- The following slides map the distribution of population, employment, and demographic factors in relation to existing services.
- Which service classification coverage areas stand out to you?
 - Areas without basic service?
 - Areas without high frequency service?
 - Areas without commuter & express service?
- Which types of destinations need more service?
 - Areas with high population density? job density? both?
 - Areas with dispersed jobs and population?
- Which demographic group opportunities should be prioritized, if any?
 - Low-income, non-white, seniors, etc.

MARKET AREAS

- The seven-county metro region is divided into Transit Market Areas representing different levels of potential transit demand
 - Market Area 1 = highest level of transit demand
 - Anticipated demand in Market Area 2 = half of Area 1
 - Anticipated demand in Market Area 3 = half of Area 2



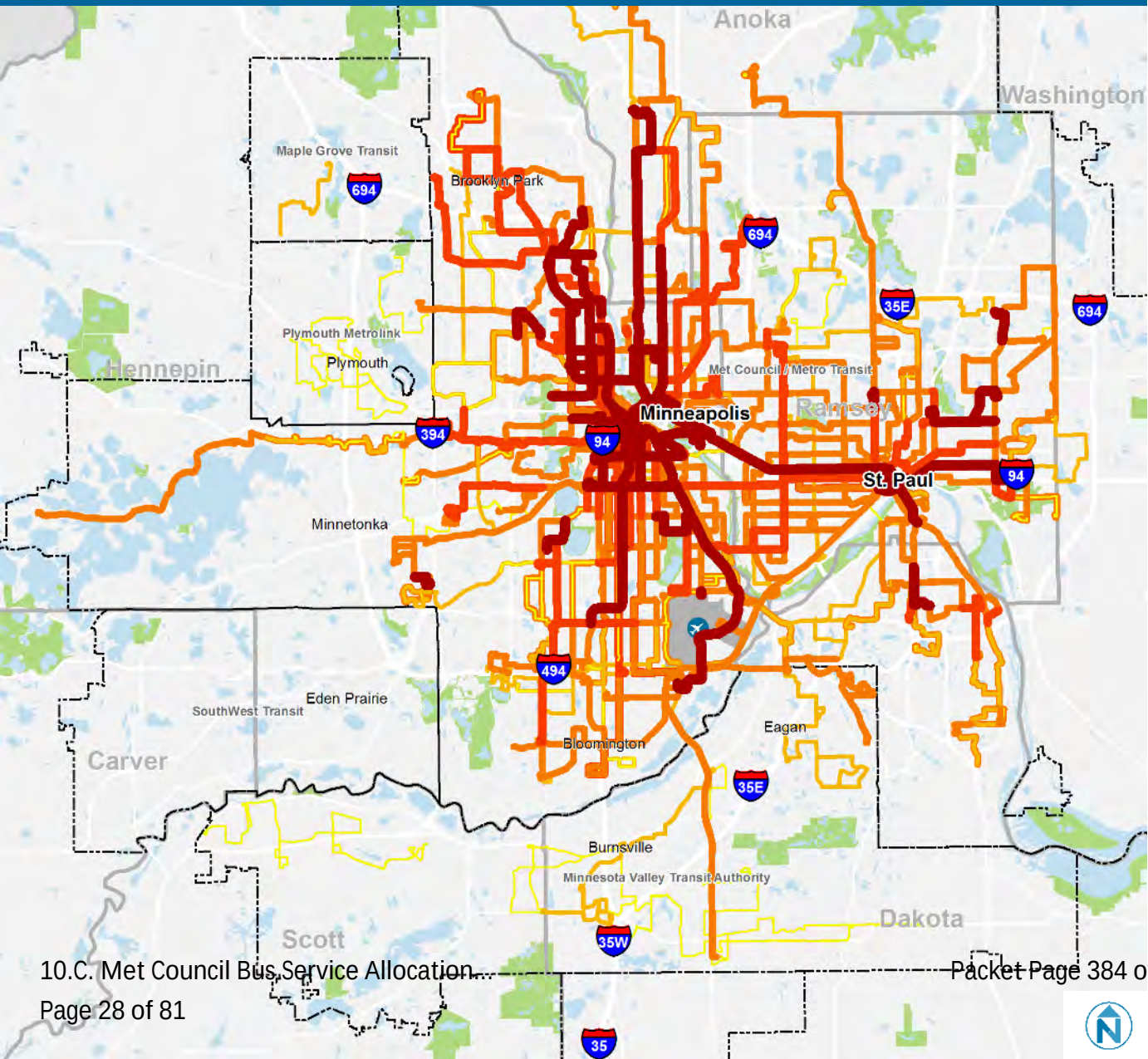
PROPOSED ANALYSIS ROUTE CLASSIFICATIONS

- **High Frequency Network**
 - Service every 15 minutes or better
 - Includes bus, Bus Rapid Transit, and Light Rail
 - Convenient for all trip types, no schedule necessary
- **Local Service**
 - Service at least every 30 minutes
 - Requires a schedule
 - Less flexible than high frequency service, but will support discretionary trips
- **Basic Service**
 - Service more than every 30 minutes
 - Requires a schedule
 - Not conducive to convenient trip making
- **Commuter & Express Service**
 - Any service that has long, non-stop segments
 - Includes peak service to CBD's, reverse commute, and all-day service

KEY TAKEAWAYS FROM PRODUCTIVITY ASSESSMENT

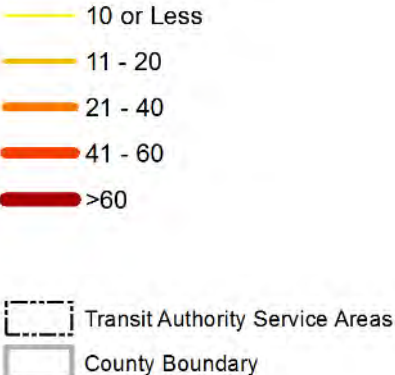
- Almost all routes operate at productivity levels (boardings per service hour) you would expect given the underlying development patterns
- Commuter & express service ridership per trip is good across the system, with just a few exceptions

HIGH FREQUENCY, LOCAL, AND BASIC SERVICE PRODUCTIVITY



Productivity by Segment for High Frequency Transit, Local, and Basic Transit Service

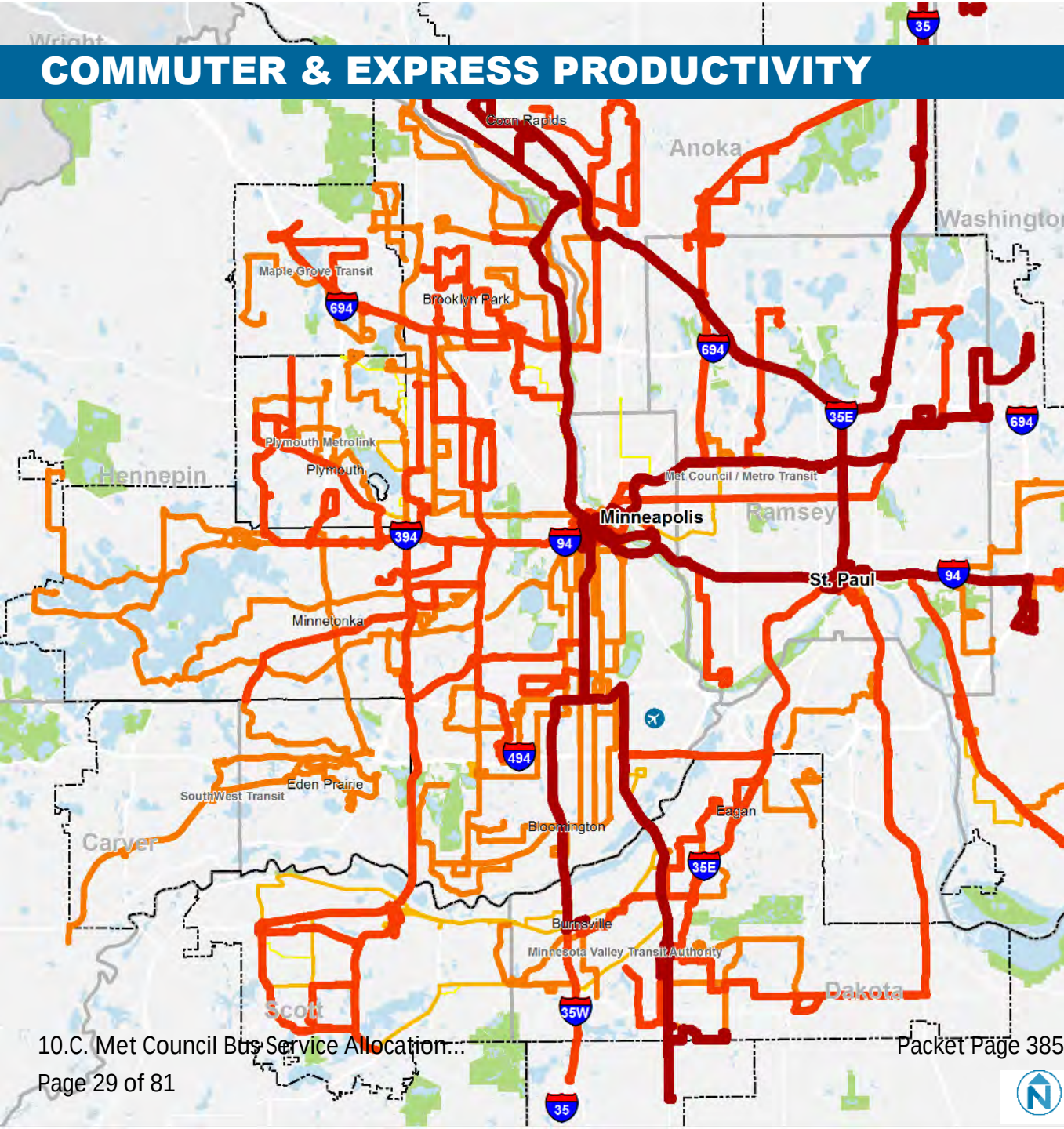
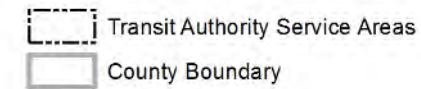
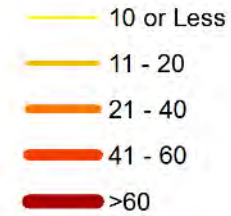
Boardings per In Service Hour



COMMUTER & EXPRESS PRODUCTIVITY

Productivity by Route for Commuter & Express Service

Boardings per Trip



KEY TAKEAWAYS FROM DENSITY ASSESSMENT

- The areas with the highest potential to use transit have access to quality transit
- In Market Area 1, about 95% of the population and employment groups are covered by at least local, 30-minute weekday service
- In Market Area 2, about 85% of all population and employment groups are served by local transit service
- In outlying areas, fixed-route transit access is more limited

GUIDELINES FOR TRANSIT SERVICE LEVELS



45+ residents per acre
25+ employees per acre



30–45 residents per acre
15–25 employees per acre



15–30 residents per acre
10–15 employees per acre



10–15 residents per acre
5–10 employees per acre

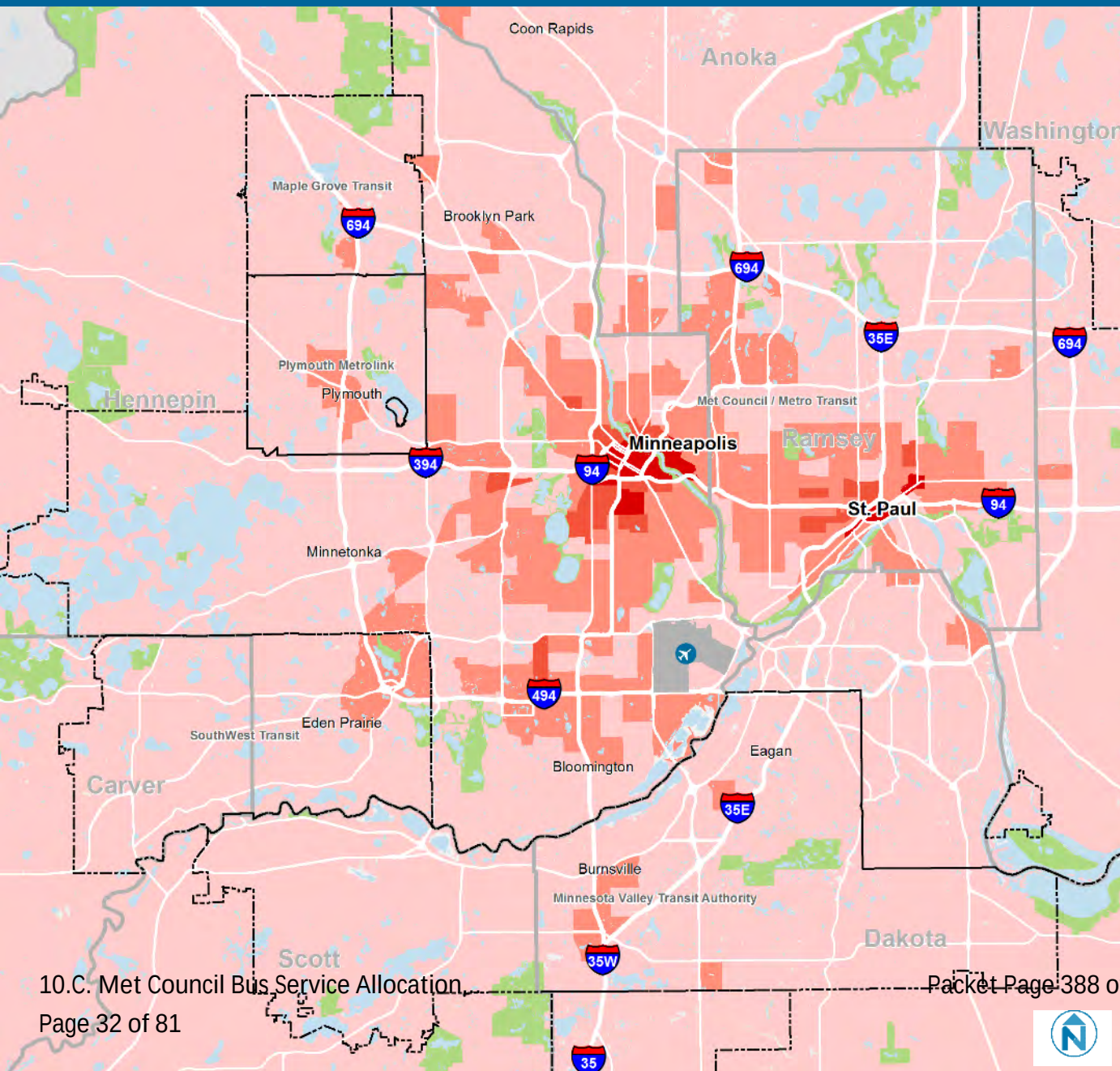


Flexible
and demand
response services



<10 residents per acre
<5 employees per acre

POPULATION AND EMPLOYMENT DENSITY



Residents and jobs per acre (service frequency supported)

- Less than 10 (flexible and demand response services)
- 10 - 25 (service every 30 - 60 minutes)
- 25 - 45 (service every 15 - 30 minutes)
- More than 45 (service every 15 minutes or better)

- Transit Authority Service Areas
- County Boundary

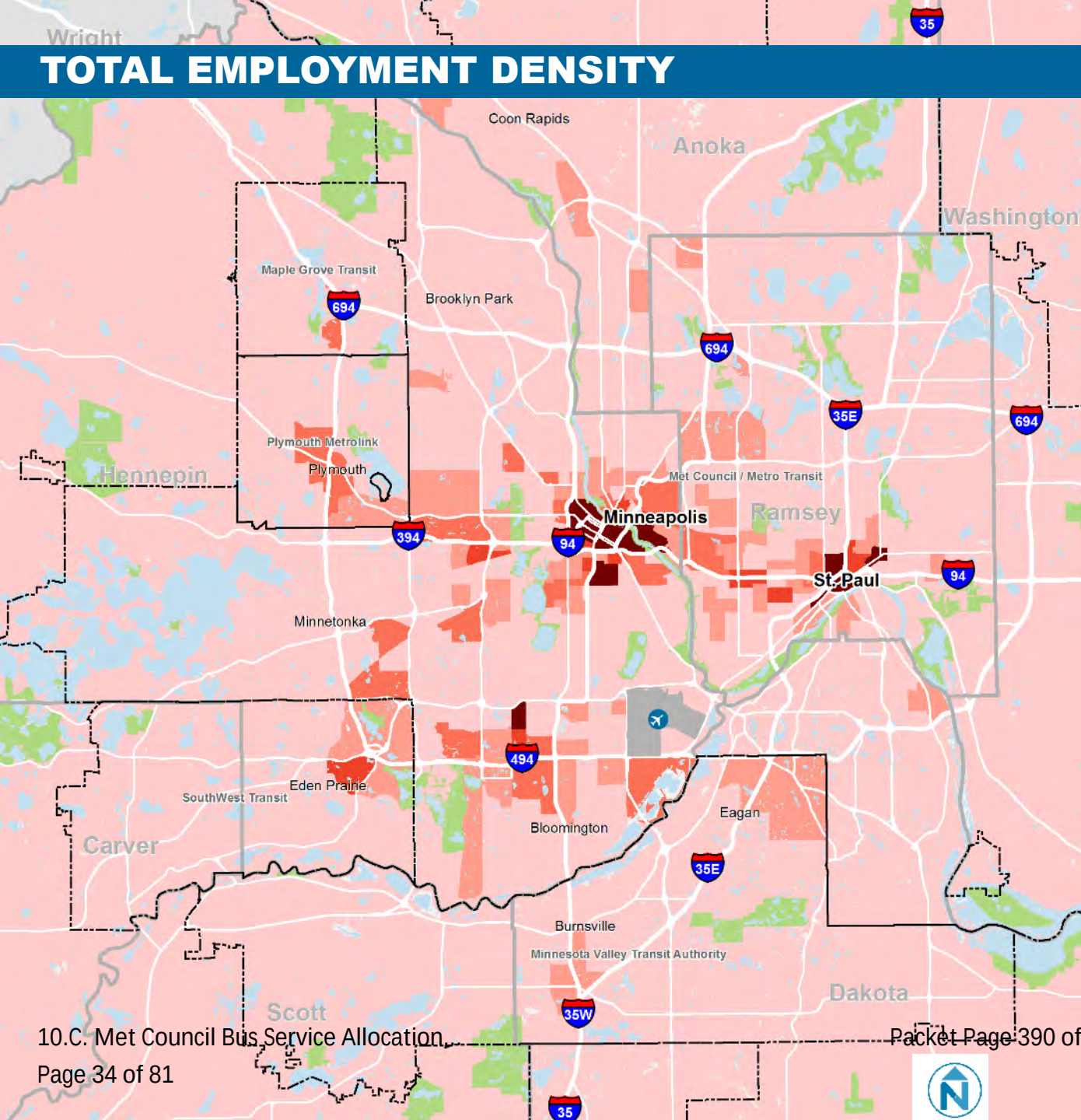


TOTAL POPULATION

Percent of total population served by transit

	Market Area 1	Market Area 2	Market Area 3	Market Area 4	Market Area 5
High Frequency and High Capacity Transit (<15-min frequency)	72%	25%	1%	0%	0%
Local Service (<30-min frequency)	97%	84%	21%	<1%	0%
Basic Service (>30-min frequency)	97%	87%	41%	6%	<1%
Commuter & Express Transit	97%	89%	57%	16%	1%
Demand Response Transit Access Only	3%	11%	43%	84%	99%

TOTAL EMPLOYMENT DENSITY



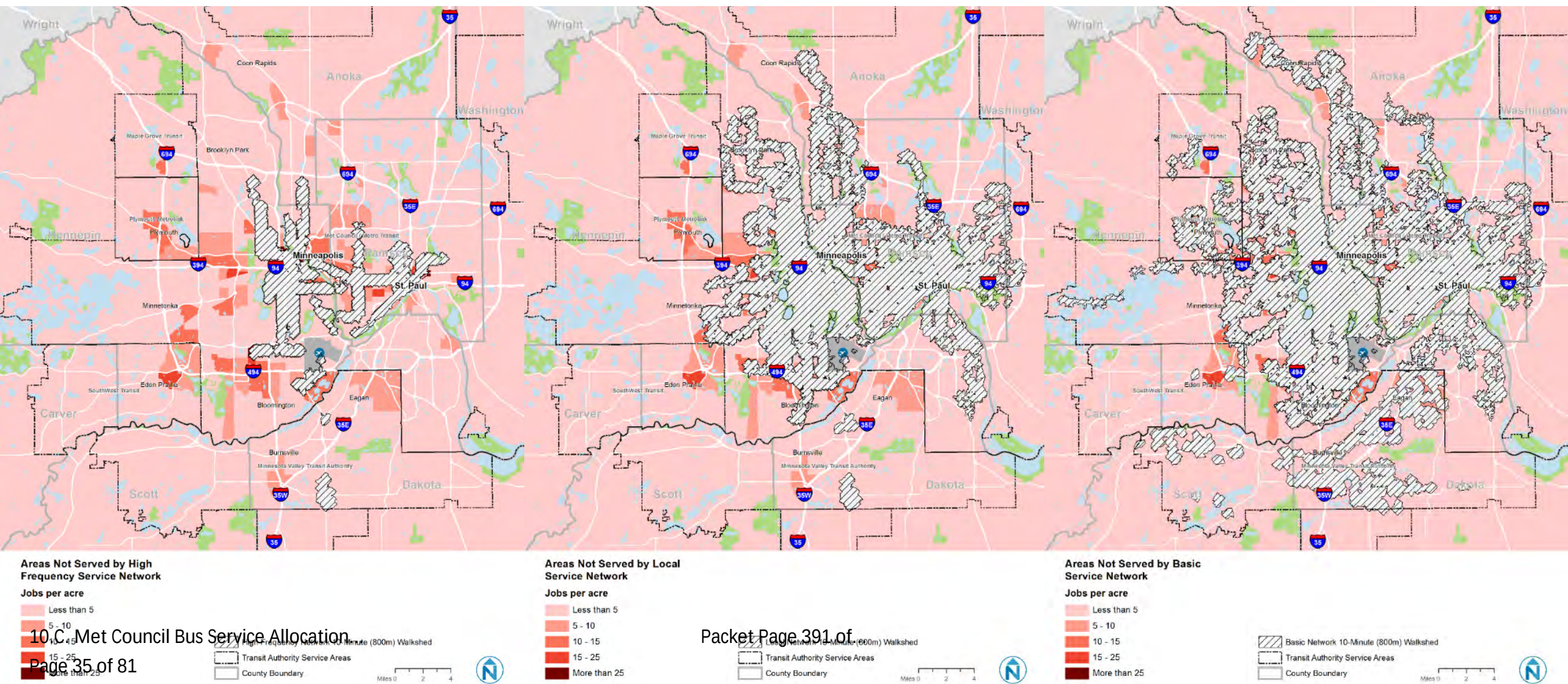
Jobs per acre

- Less than 5
- 5 - 10
- 10 - 15
- 15 - 25
- More than 25

- Transit Authority Service Areas
- County Boundary

TOTAL EMPLOYMENT

Total jobs not served by fixed-route transit



TOTAL EMPLOYMENT

Percent of total jobs served by transit

	Market Area 1	Market Area 2	Market Area 3	Market Area 4	Market Area 5
High Frequency and High Capacity Transit (<15-min frequency)	80%	21%	2%	0%	0%
Local Service (<30-min frequency)	96%	78%	19%	<1%	0%
Basic Service (>30-min frequency)	96%	82%	43%	14%	1%
Commuter & Express Transit	97%	85%	59%	23%	3%
Demand Response Transit Access	3%	15%	41%	77%	97%

SOCIOECONOMIC FACTORS INTRODUCTION

- Purpose:
 - Show areas of potential service opportunity in the region
- How to read the maps:
 -  “Above Average” reflects the top third of tracts with the highest concentration
 -  “Much higher than average” reflects top 17 percent with the highest concentration
- Note: Results of the service distribution analysis do not implicitly suggest that there is a sustainable market for transit in any given area

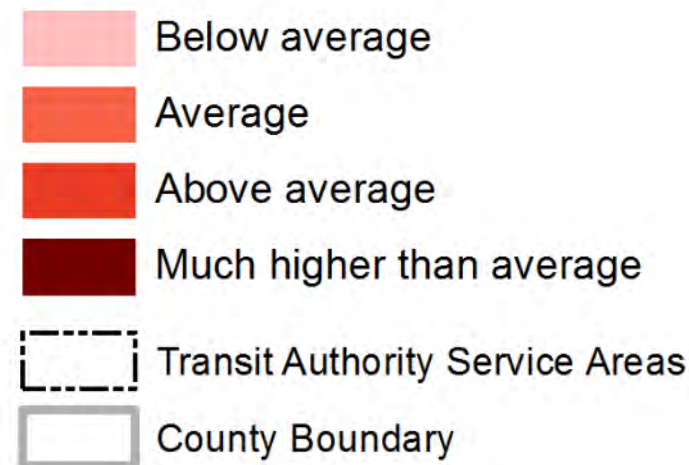
KEY TAKEAWAYS FROM SOCIOECONOMIC ASSESSMENT

- The vast majority of key socioeconomic populations have good access to transit
- In Market Area 1, about 95% of analysis populations are covered by at least local, 30-minute weekday service
- In Market Area 2, about 80% of analysis populations are served by local transit service
- In outlying areas, access is more limited
- Patterns for low-income job coverage are different than most socioeconomic factors. Low-income job coverage in outlying market areas is lower

LOW INCOME POPULATION DENSITY

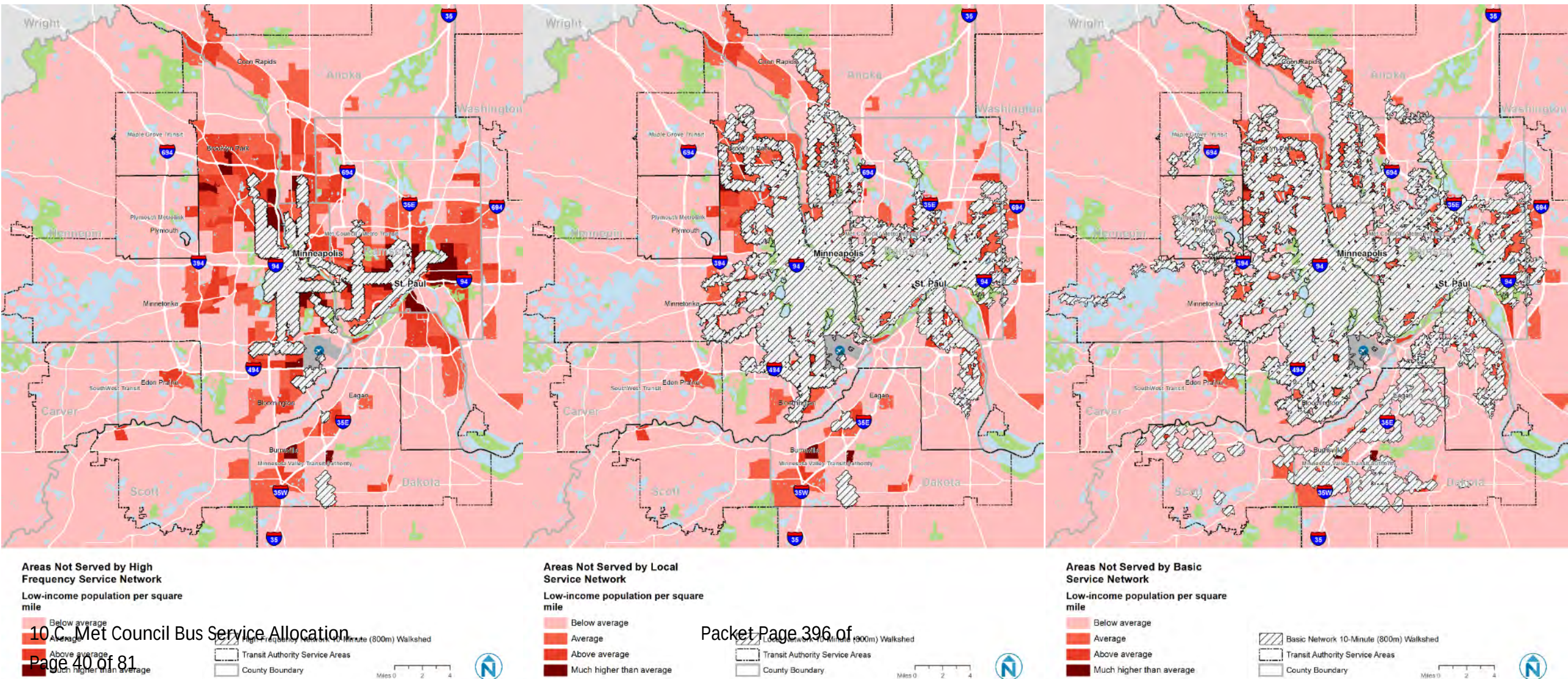
Population Density below 185% of Federal Poverty Line

Low-income population per square mile



LOW-INCOME POPULATION

Population below 185% of Federal Poverty Line not served by fixed-route transit

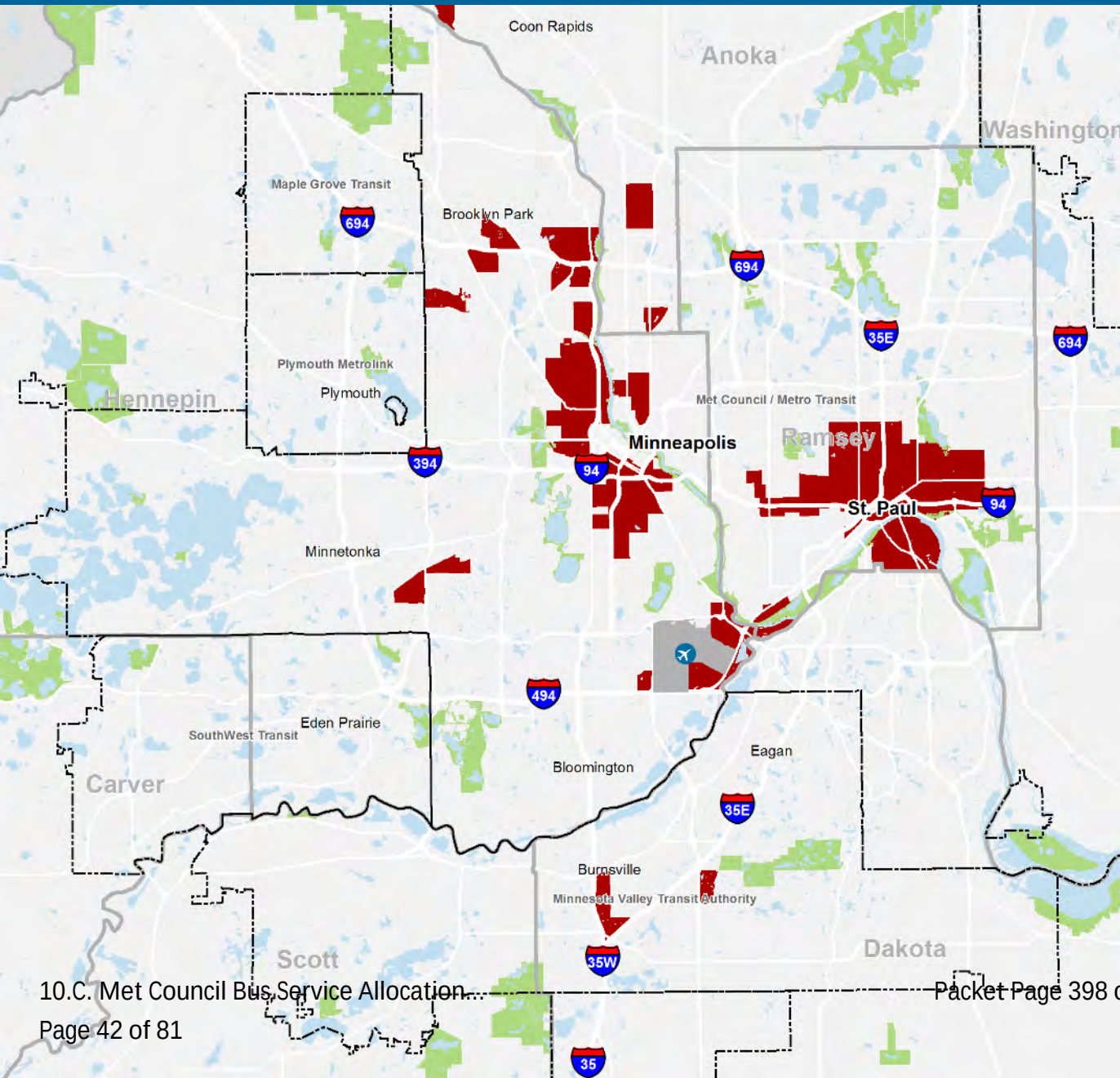


LOW-INCOME POPULATION

Percent of population below 185% of poverty line served by transit

	Market Area 1	Market Area 2	Market Area 3	Market Area 4	Market Area 5
High Frequency and High Capacity Transit (<15-min frequency)	74%	26%	1%	0%	0%
Local Service (<30-min frequency)	97%	85%	27%	<1%	0%
Basic Service (>30-min frequency)	97%	87%	49%	7%	<1%
Commuter & Express Transit	98%	89%	63%	16%	2%
Demand Response Transit Access Only	2%	11%	27%	84%	98%

AREAS OF CONCENTRATED POVERTY

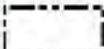


Areas of Concentrated Poverty

- Census tracts where 40% or more of the residents have family or individual incomes that are less than 185% of the federal poverty threshold

Areas of Concentrated Poverty

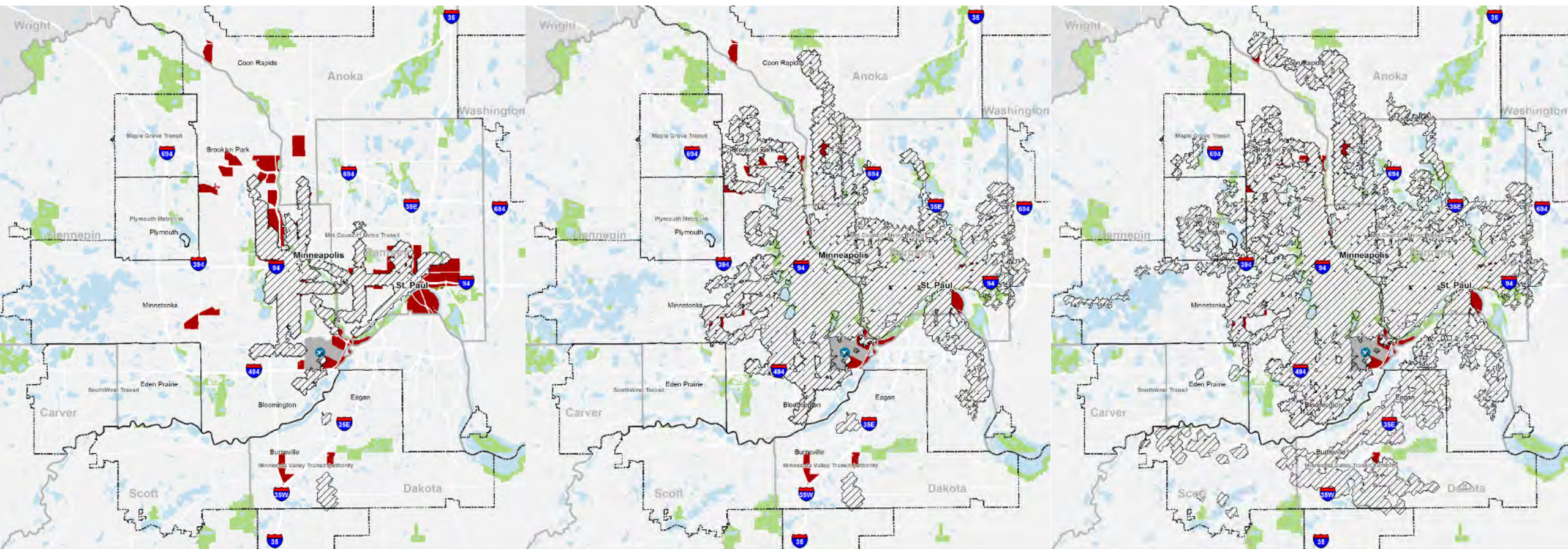
 Areas of Concentrated Poverty

 Transit Authority Service Areas

 County Boundary

AREAS OF CONCENTRATED POVERTY

Areas of Concentrated Poverty (ACPs) not served by fixed-route transit



ACPs Not Served by High Frequency Service Network

ACPs Not Served by High Frequency Service Network

10-C Met Council Bus Service Allocation...

Transit Authority Service Areas

Page 43 of 81

Miles 0 2 4



ACPs Not Served by Local Service Network

ACPs Not Served by Local Service Network

Local Network 10-Minute (800m) Walkshed

Transit Authority Service Areas

County Boundary

Miles 0 2 4



ACPs Not Served by Basic Service Network

ACPs Not Served by Basic Service Network

Lifeline Network 10-Minute (800m) Walkshed

Transit Authority Service Areas

County Boundary

Miles 0 2 4

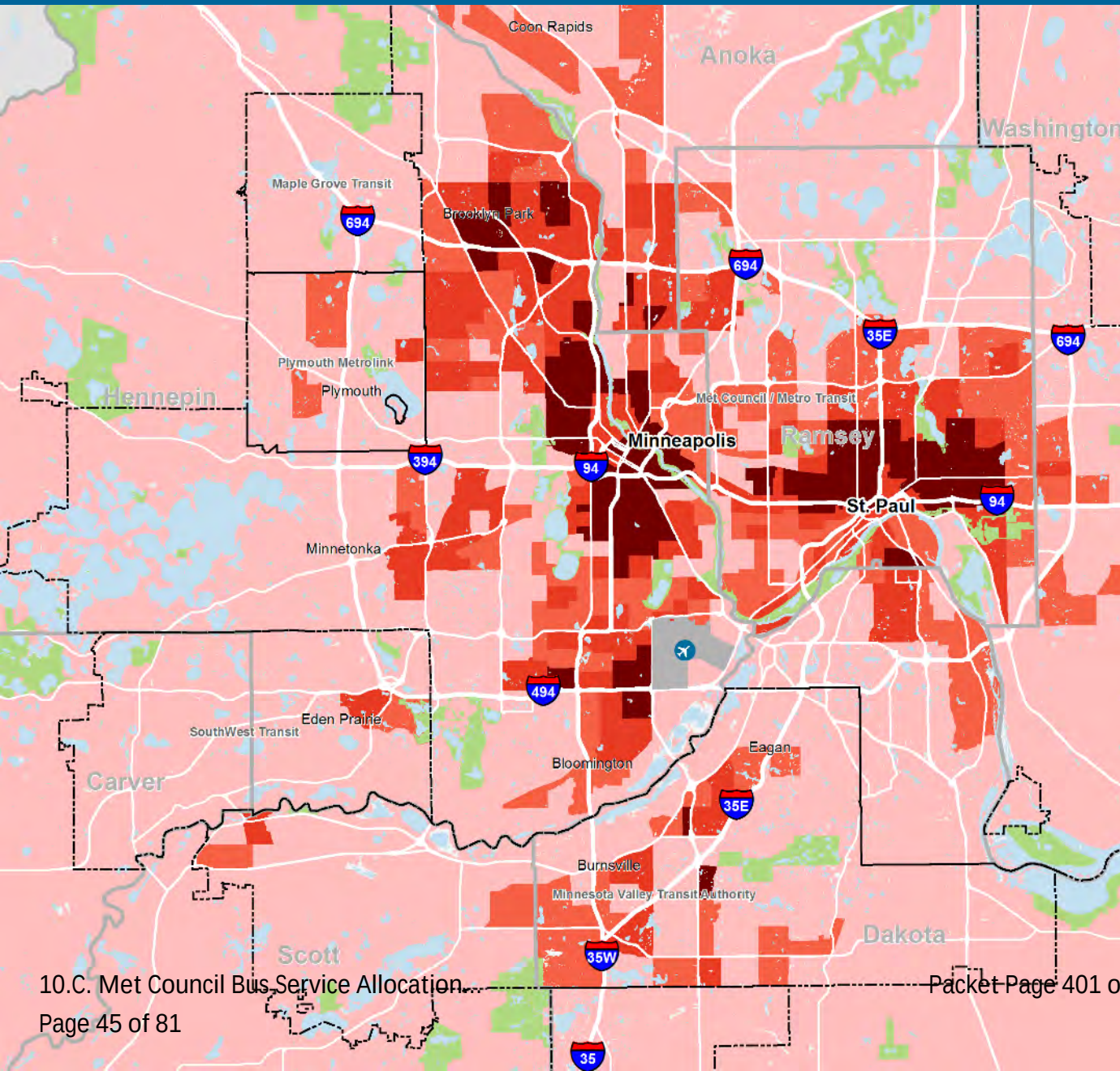


AREAS OF CONCENTRATED POVERTY (ACPS)

Percent of low-income population within ACPs served by transit

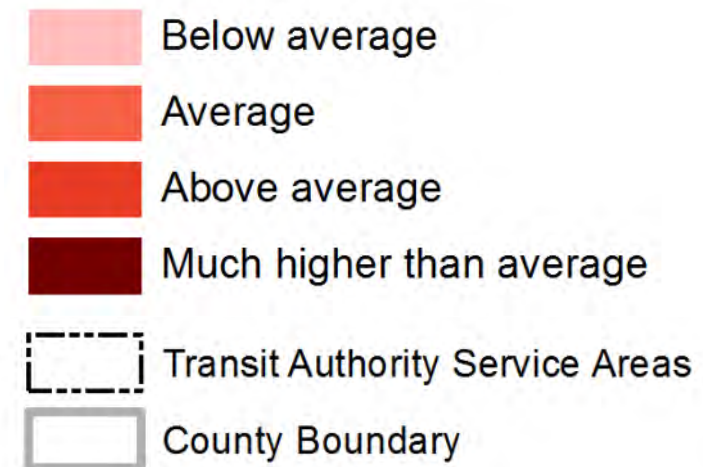
	Market Area 1	Market Area 2	Market Area 3	Market Area 4	Market Area 5
High Frequency and High Capacity Transit (<15-min frequency)	79%	31%	1%	0%	N/A
Local Service (<30-min frequency)	98%	87%	54%	0%	N/A
Basic Service (>30-min frequency)	98%	89%	79%	37%	N/A
Commuter & Express Transit	98%	89%	87%	37%	N/A
Demand Response Transit Access Only	2%	11%	23%	63%	N/A

NON-WHITE POPULATION DENSITY



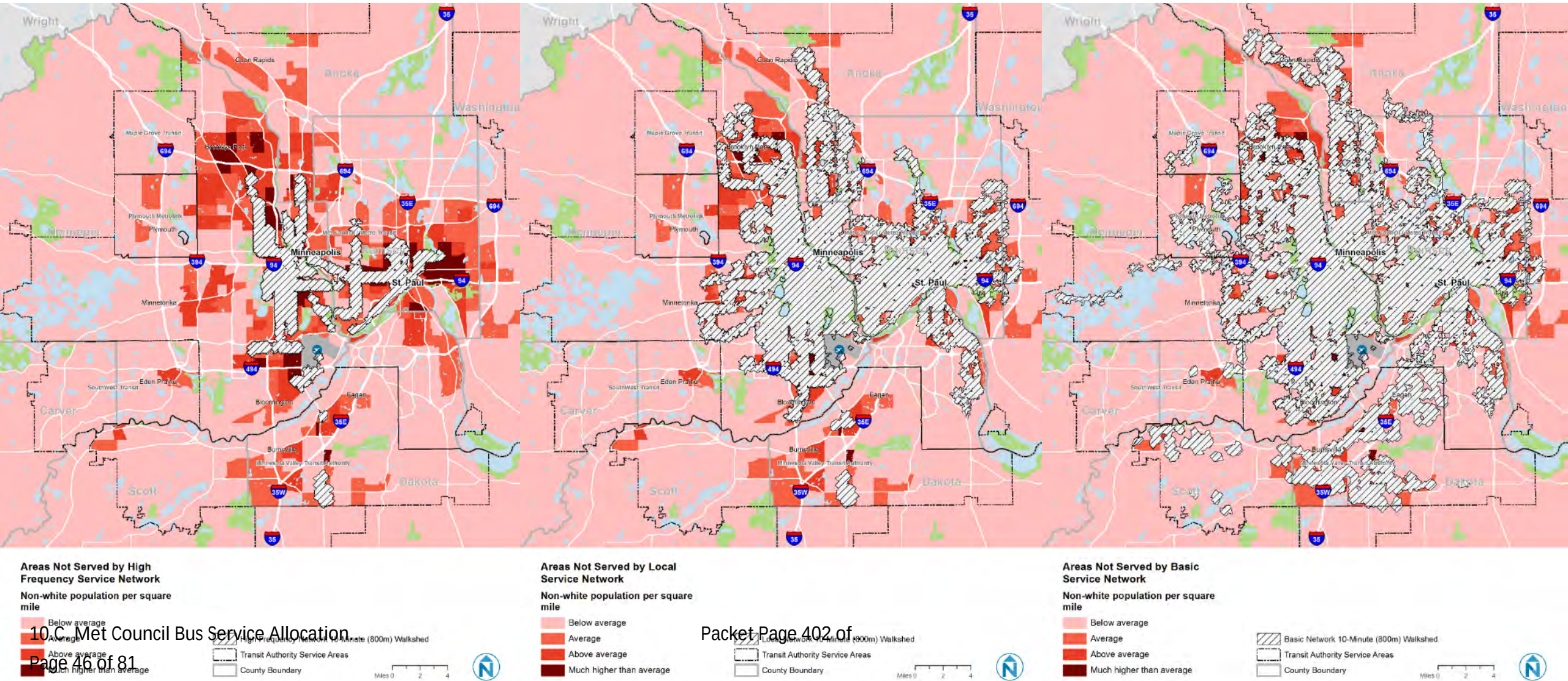
Non-White Population Density

Non-white population per square mile



NON-WHITE POPULATION

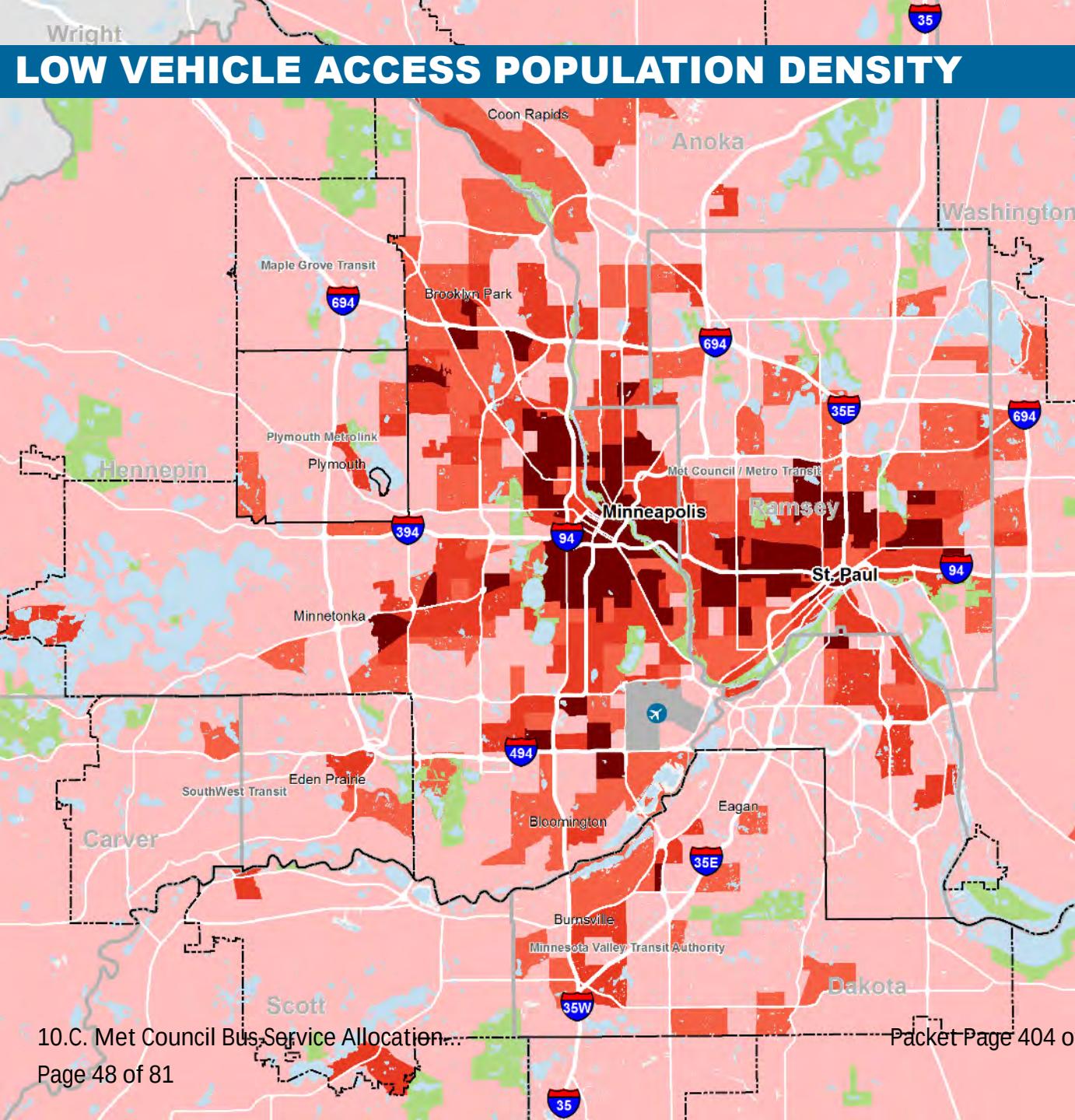
Non-white population not served by fixed-route transit



NON-WHITE POPULATION

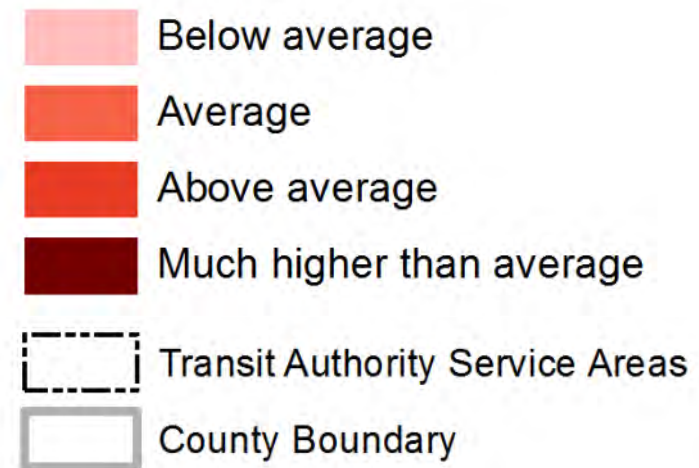
Percent of non-white population served by transit

	Market Area 1	Market Area 2	Market Area 3	Market Area 4	Market Area 5
High Frequency and High Capacity Transit (<15-min frequency)	76%	25%	2%	0%	0%
Local Service (<30-min frequency)	98%	85%	26%	<1%	0%
Basic Service (>30-min frequency)	98%	88%	48%	7%	<1%
Commuter & Express Transit	98%	90%	62%	17%	1%
Demand Response Transit Access Only	2%	10%	28%	83%	99%



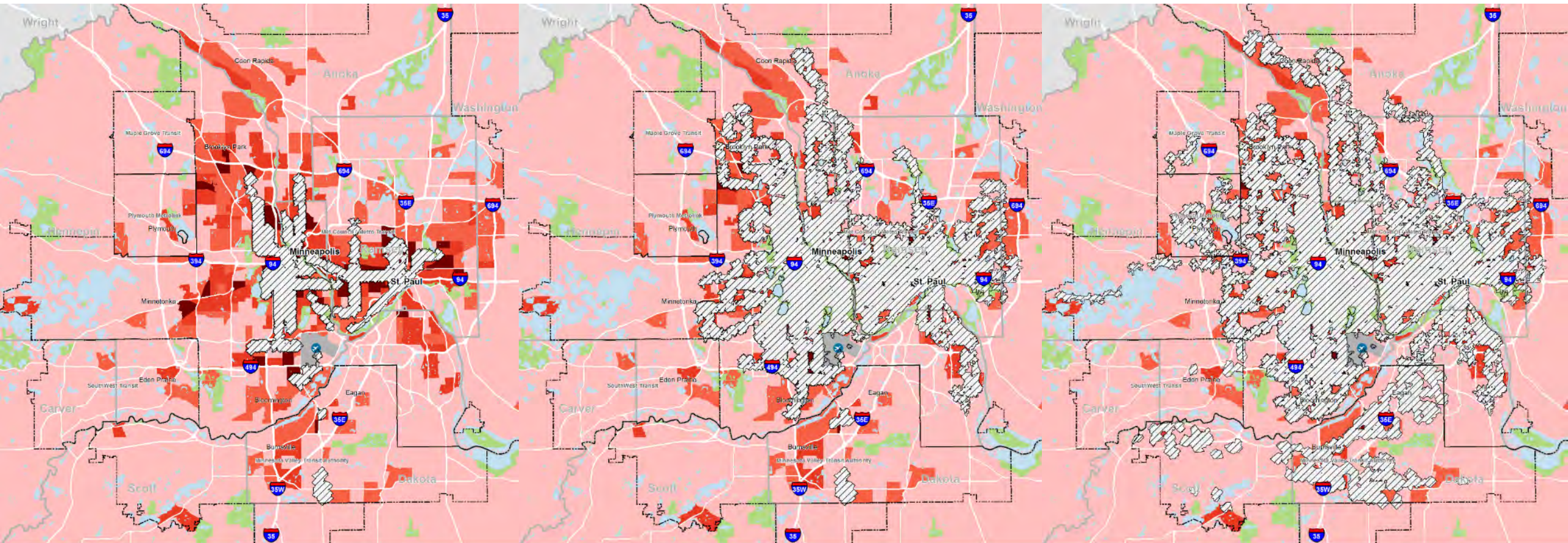
16+ Population without Auto Access Density

Population without access to vehicle per square mile



LOW VEHICLE ACCESS POPULATION

16+ population without auto access not served by fixed-route transit



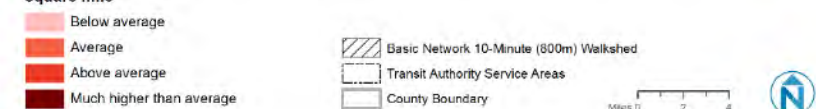
Areas Not Served by High Frequency Service Network
Individuals without auto access per square mile



Areas Not Served by Local Service Network
Individuals without auto access per square mile



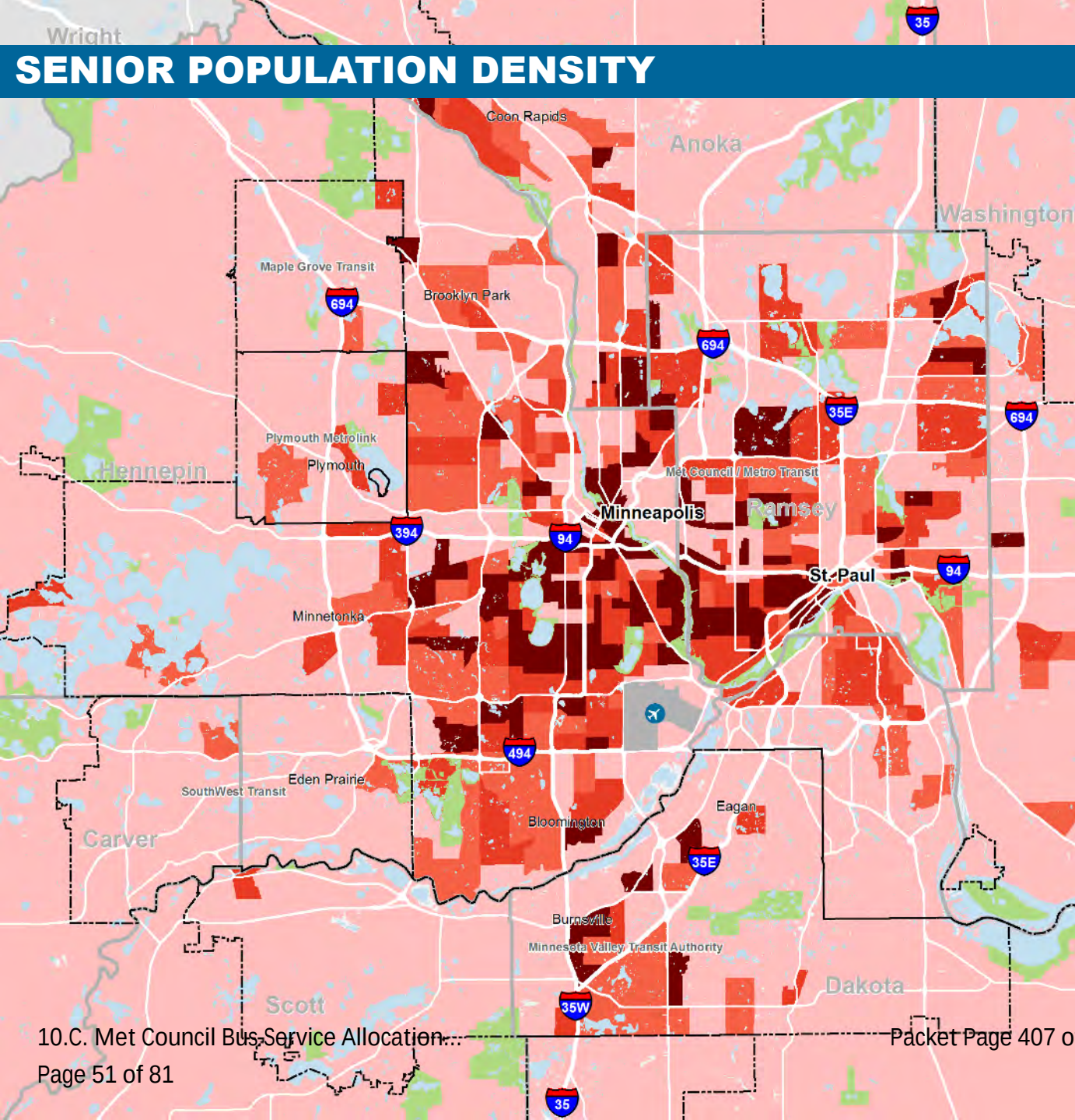
Areas Not Served by Basic Service Network
Individuals without auto access per square mile



LOW VEHICLE ACCESS POPULATION

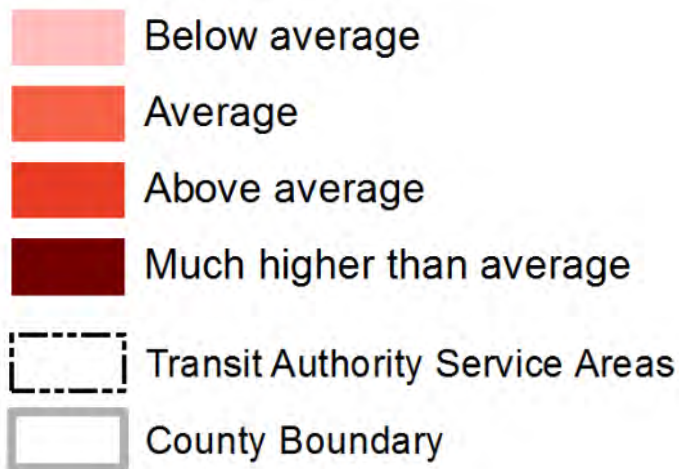
Percent of 16+ population without auto access served by transit

	Market Area 1	Market Area 2	Market Area 3	Market Area 4	Market Area 5
High Frequency and High Capacity Transit (<15-min frequency)	79%	28%	1%	0%	0%
Local Service (<30-min frequency)	97%	85%	27%	<1%	0%
Basic Service (>30-min frequency)	98%	88%	49%	7%	<1%
Commuter & Express Transit	98%	90%	63%	16%	1%
Demand Response Transit Access Only	2%	10%	37%	84%	99%



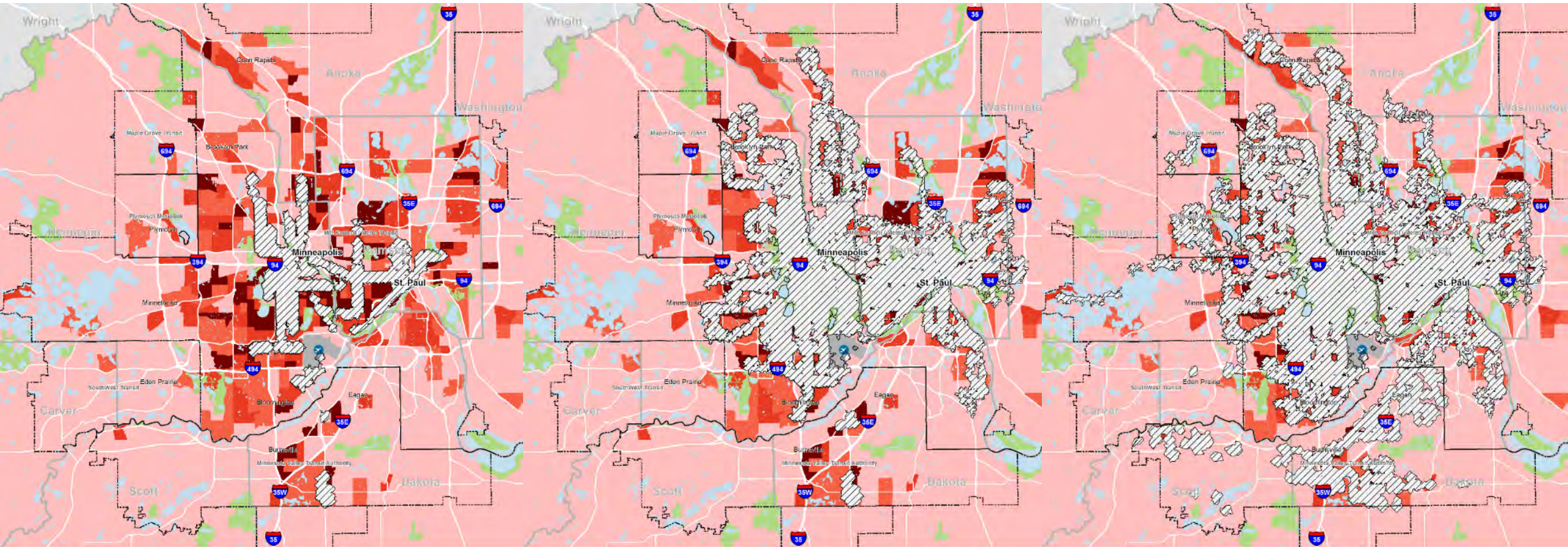
65+ Population Density

Senior population per square mile



SENIOR POPULATION

65+ population not served by fixed-route transit



Areas Not Served by High Frequency Service Network

Senior population per square mile



Areas Not Served by Local Service Network

Senior population per square mile



Areas Not Served by Basic Service Network

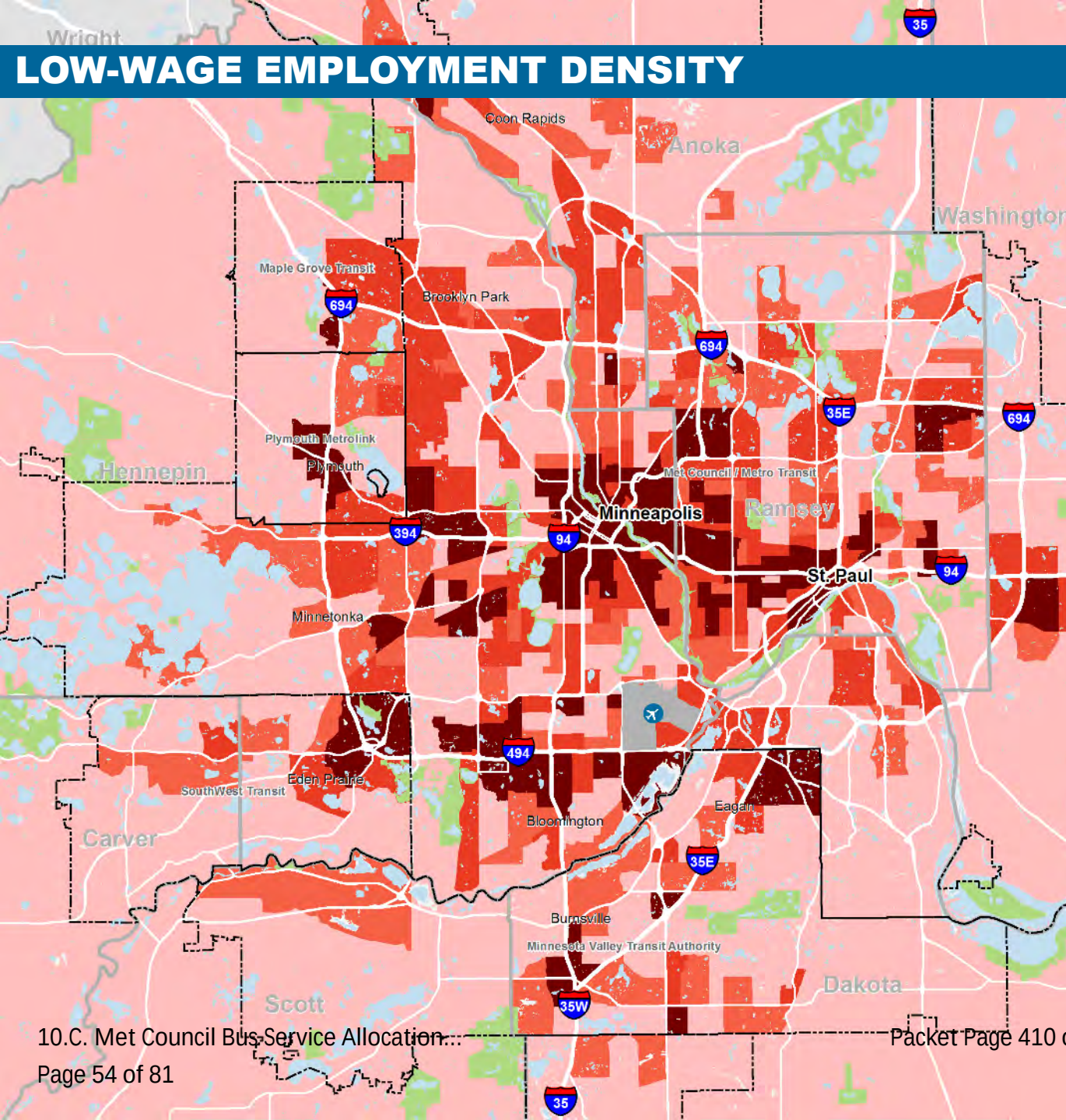
Senior population per square mile



SENIOR POPULATION

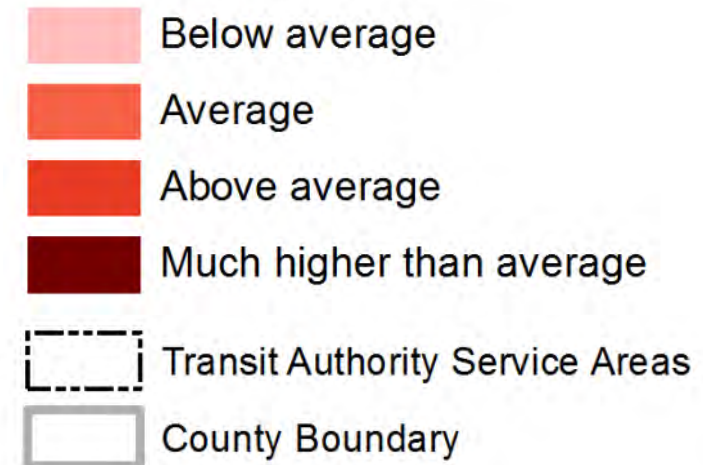
Percent of 65+ population served by transit

	Market Area 1	Market Area 2	Market Area 3	Market Area 4	Market Area 5
High Frequency and High Capacity Transit (<15-min frequency)	71%	25%	2%	0%	0%
Local Service (<30-min frequency)	95%	82%	21%	<1%	0%
Basic Service (>30-min frequency)	95%	86%	43%	7%	1%
Commuter & Express Transit	96%	88%	59%	18%	2%
Demand Response Transit Access Only	4%	12%	41%	82%	98%



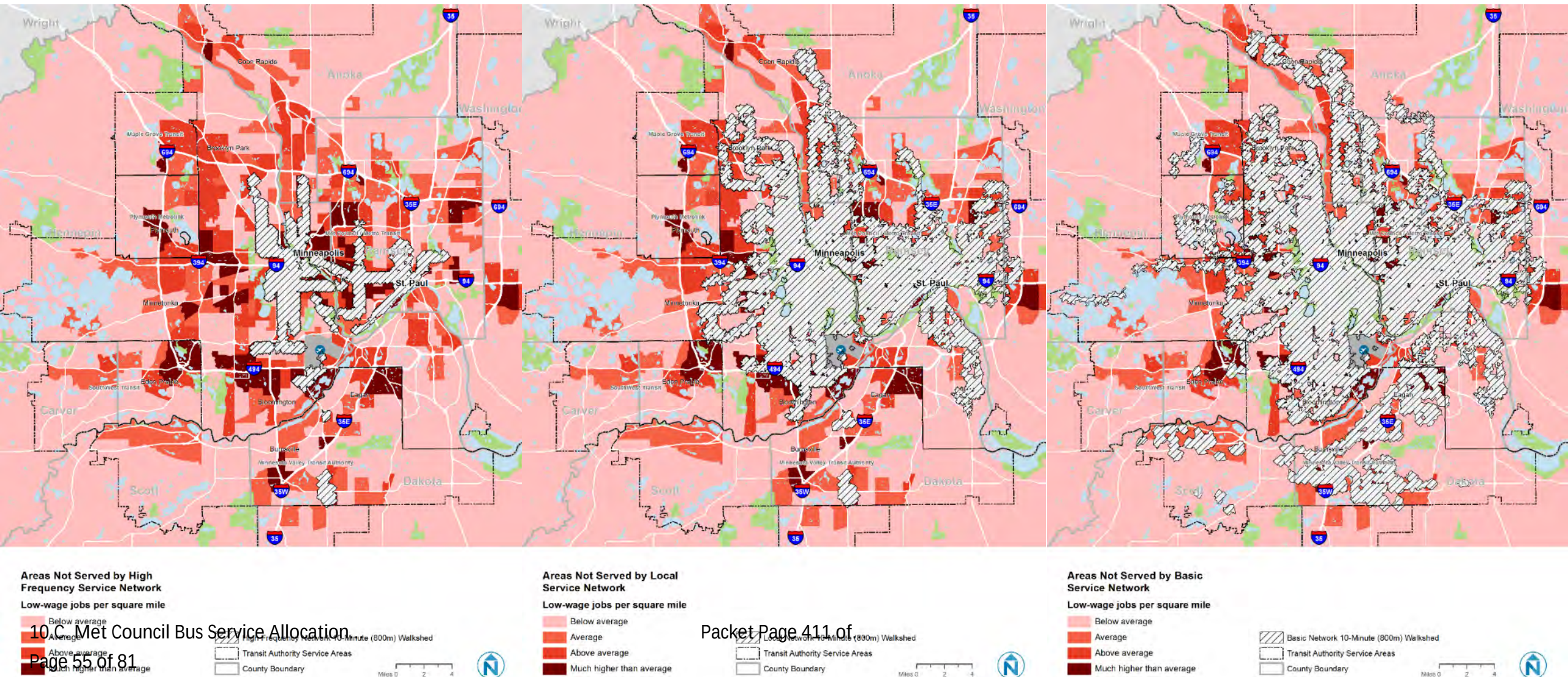
Density of Jobs Earning less than \$40,000 per Year

Low-wage jobs per square mile



LOW-WAGE EMPLOYMENT

Jobs earning <\$40,000 per year not served by fixed-route transit



LOW-WAGE EMPLOYMENT

Percent of jobs earning <\$40,000 per year served by transit

	Market Area 1	Market Area 2	Market Area 3	Market Area 4	Market Area 5
High Frequency and High Capacity Transit (<15-min frequency)	79%	24%	2%	0%	0%
Local Service (<30-min frequency)	96%	79%	20%	<1%	0%
Basic Service (>30-min frequency)	96%	83%	43%	14%	1%
Commuter & Express Transit	97%	85%	58%	23%	3%
Demand Response Transit Access Only	3%	15%	42%	77%	97%

DISCUSSION

QUANTIFYING FUTURE INVESTMENT PRIORITIES

PURPOSE AND METHODOLOGY

- Purpose:
 - Understand how to balance potential investment strategies
- Methodology:
 - Each tradeoff question includes a link to www.menti.com and a code
 - Using a smart phone or your computer, access menti.com and enter the code
 - Please answer the question as best as you can
 - Enter a percentage support for each set of priorities
 - Total should add up to 100%
 - Results will be displayed to all workshop attendees and are anonymous

TRADEOFF:

Add New Routes vs. Improve Existing Routes

- Add New Routes

- Expands geographic coverage to new areas
- Provide fixed-route service to residents who have none
- Serve job centers that are out of reach of current fixed-route network



- Improve Existing Routes

- Add additional trips to existing routes, making service more convenient
- Generally will result in higher ridership

Add New
Routes



Improve
Existing Routes

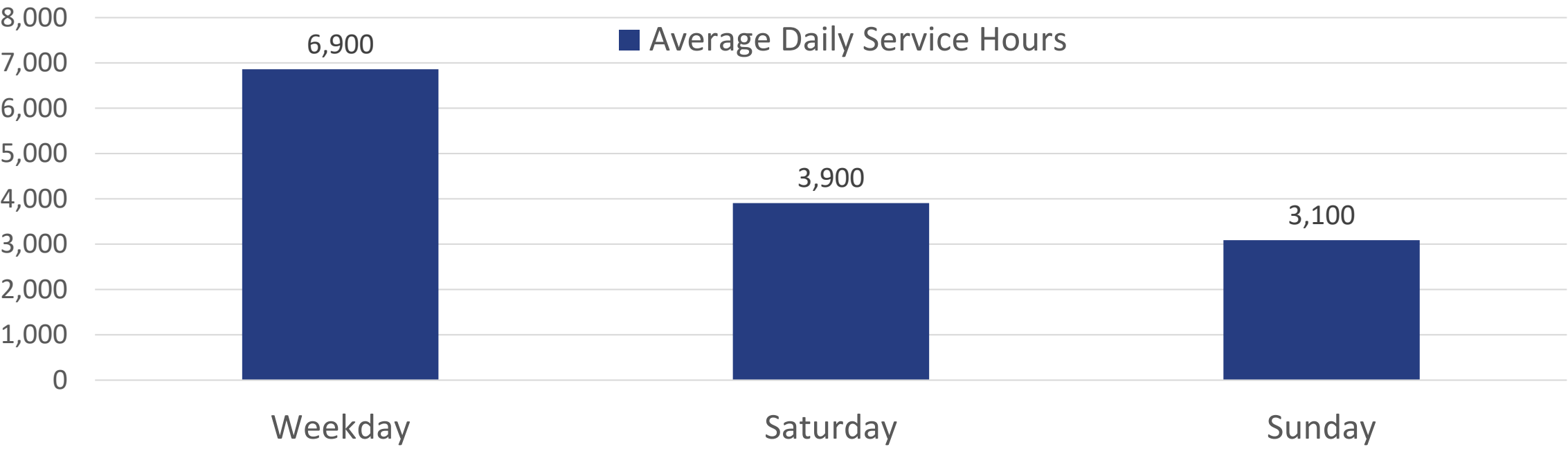
TRADEOFF:

Add New Routes vs. Improve Existing Routes

- Results

TRADEOFF:

Weekday Service vs. Weekend Service



Invest in More
Weekday
Service



Invest in more
Weekend
Service

TRADEOFF:

Weekday Service vs. Weekend Service

- Results

TRADEOFF:

More Frequency vs. Earlier/Later Service

- Invest in more frequency

- Examples:

- More weekday routes upgraded to every 15-minutes
- More Sunday routes upgraded every 15-minutes
- Hourly service is upgraded to 30-minute service

- Invest in earlier/later Service

- Examples:

- More routes start before 5 a.m.
- More routes operate until midnight
- Service begins earlier/later on Sundays

Invest in More
Frequency



Invest in
Earlier/Later
Service

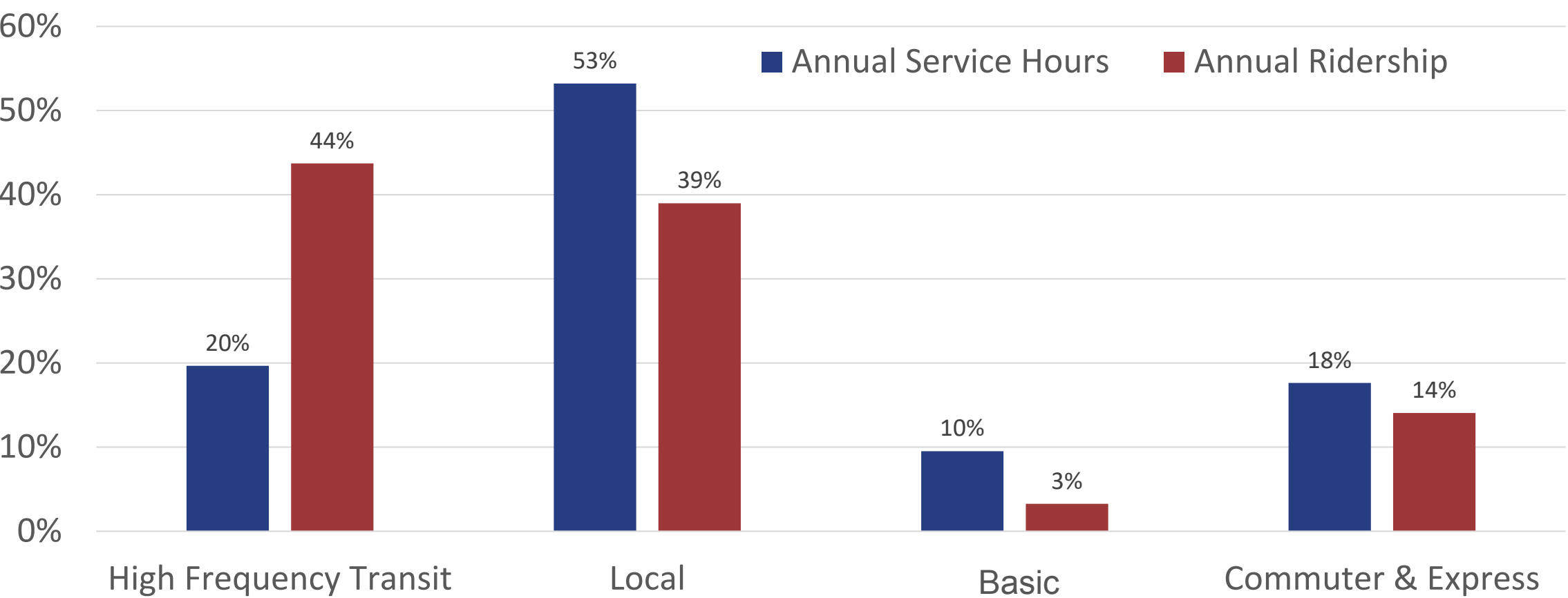
TRADEOFF:

More Frequency vs. Earlier/Later Service

- Results

HOW WOULD YOU DISTRIBUTE NEW FUNDING?

Current Service Distribution by Service Type



TRADEOFF:

How Would You Distribute New Funding?

- Results

SMALL GROUP DISCUSSIONS

SMALL GROUP DISCUSSION TOPICS

Discussion Guide

1. Should new funding resources be allocated to maximize ridership?
2. How should the region invest in better bus service? (e.g. increase weekday frequency, more Saturday service, more commuter service, etc.)
3. What does success look like for area transit?
4. Would your answers change if you were allocating resources under a funding reduction scenario?

RECONVENE LARGER GROUP AND REPORT OUT

- High level themes from discussion

GROUP RANKING EXERCISE

Rank What Success might look like?

- Using a smart phone or your computer, access menti.com and enter the code
- Anonymized results will be displayed to all respondents
- What does success look like for area transit? (rank these three options)
 - More lines on the map (more coverage)
 - More ridership (more productivity, more frequent service on key routes)
 - More service to those who need it most (equity neighborhoods)
- If there are other measures that should be considered, please enter them in the zoom chat box

GROUP RANKING EXERCISE

Rank the different roles of coverage service (more routes)

- Using a smart phone or your computer, access menti.com and enter the code
- Anonymized results will be displayed to all respondents
- Rank the different roles of coverage service (rank the 9 options) in order of importance:
 - Suburb to suburb job access
 - Reverse commute – connecting urban areas to suburban jobs
 - Low-income or high-need neighborhoods
 - Retail and entertainment, including grocery stores
 - Medical services
 - Secondary schools
 - Post-secondary schools/college
 - Visiting friends and family
 - Mobility for seniors
- If there are other measures that should be considered, please enter them in the zoom chat box

SERVICE EXPANSION EVALUATION FRAMEWORK

POSSIBLE EVALUATION FRAMEWORK CONSIDERATIONS FOR ADDITIONAL SERVICES

Brief Definitions

- Improved operations
 - Direct resources to corridors/routes to address on-time performance or overloads
- Productivity
 - Direct resources to those corridors/routes that would generate the highest ridership
- Geographic balance
 - Direct resources in proportion of contribution to regional transit
- Access to major destinations
 - Direct resources to provide connections to major ridership generators such as schools, regional hubs, freestanding town center
- Access to jobs
 - Direct resources to focus on job access, including reverse commute service, and low-wage job access

POSSIBLE EVALUATION FRAMEWORK CONSIDERATIONS FOR ADDITIONAL SERVICES

Brief Definitions

- Social equity – low-income population
 - Direct resources to areas with higher proportions of low-income residents
- Social equity – senior population
 - Direct resources to areas with higher proportions of senior residents
- Social equity – non-white population
 - Direct resources to areas with higher proportions of non-white residents

POSSIBLE EVALUATION FRAMEWORK CONSIDERATIONS FOR ADDITIONAL SERVICES

Other Considerations?

GROUP RANKING EXERCISE

Possible Evaluation Framework Considerations

- Instructions
 - Using a smart phone or your computer, access [menti.com](https://www.menti.com) and enter the code
 - Anonymized results will be displayed to all respondents
- Rank the relative importance of potential options
 - Social equity – low-income population
 - Geographic balance
 - Productivity
 - Social equity – senior population
 - Access to major destinations
 - Social equity – non-white population
 - Access to jobs
 - Addressing operational issues
 - Other

POSSIBLE EVALUATION FRAMEWORK CONSIDERATIONS FOR ADDITIONAL SERVICES

Discussion of Results

- Results

NEXT STEPS

NEXT STEPS

- Values from workshop will be used to develop three different service scenarios
- Service scenarios will then be evaluated to see impact of applying values regionally
- Report back on investment strategies and anticipated results

THANK YOU!



Thomas Wittmann

206.428.1926

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**City of Chaska
Memorandum**

To: Administration, Mayor and City Council

**From: Lisa Nelson
Controller**

Date: April 30, 2020

**RE: Financial Reports –
Year-To-Date (YTD) Ending March 31, 2020**

FINACIAL REPORTS

Enclosed are year-to-date financial reports as of March 31, 2020.

Each fund includes the adopted budget compared to YTD actuals, and the resulting variance. Also presented is the percentage of actual revenue or expenditures compared to the annual budget.

These draft reports include the following revenues and expenditures:

- YTD revenue receipted by the City.
- YTD revenue from invoices issued by the City.
- YTD payroll through check dates in March.
- YTD vendor payments that:
 - 1) were previously approved by the City Council, or
 - 2) are pending approval by the Council at the May 4th meeting.

These draft reports do not include the following revenues and expenditures:

- Workers Comp and Property Insurance allocations.
- Administrative charges and allocations
- General investment earnings revenue (allocated at year-end)
- Depreciation expense (recorded at year-end)

GENERAL FUND
REVENUES, EXPENDITURES AND CHANGES IN FUND BALANCES
BUDGET AND ACTUAL
AS OF MARCH 31, 2020

	2020 BUDGET	ACTUAL AS OF 3/31/2020	VARIANCE POSITIVE (NEGATIVE)	PERCENT OF BUDGET RECEIVED/ EXPENDED
REVENUES:				
Property Taxes *	\$ 6,937,682	\$ -	\$ (6,937,682)	0%
Franchise Fees:				
Cable TV	305,000	-	(305,000)	0%
Gas	460,000	-	(460,000)	0%
Licenses	184,979	89,952	(95,027)	49%
Permits:				
Building	565,500	61,463	(504,037)	11%
Plan Check	200,000	28,561	(171,439)	14%
Mechanical, Plumbing & Other	178,507	30,017	(148,490)	17%
Intergovernmental:				
State Aid - LGA	14,171	-	(14,171)	0%
State Aid - MSA	120,000	120,000	-	100%
State Aid - Police and Fire	399,500	-	(399,500)	0%
State - Other	61,608	1,170	(60,436)	2%
County, School and Local	156,160	-	(156,160)	0%
Charges For Services:				
General Government	166,080	24,122	(141,958)	15%
Public Safety	58,752	28,500	(30,252)	49%
Public Works	121,760	1,215	(120,545)	1%
Parks & Recreation	190,902	1,210	(189,692)	1%
Administrative Charges	4,671,406	-	(4,671,406)	0%
Fines And Forfeitures	70,219	9,941	(60,278)	14%
Investment Earnings	22,000	(2,284)	(24,284)	-10%
Other Revenue	102,484	69,536	(32,948)	68%
TOTAL REVENUES	14,986,708	463,403	(14,523,305)	3%
EXPENDITURES:				
General Government:				
Mayor & Council	132,407	43,538	88,869	33%
Communications	99,774	21,128	78,646	21%
Administration	864,219	222,838	641,381	26%
Human Resources	241,025	72,300	168,725	30%
Elections	33,106	18,651	14,455	56%
Finance/Admin Services	1,743,479	418,410	1,325,069	24%
Information Services/Admin Services	1,277,863	305,729	972,134	24%
Fiber Systems	45,000	20,888	24,112	46%
Legal - City Attorney	80,000	18,615	61,385	23%
Community Development	330,418	126,607	203,811	38%
Engineering	393,501	96,118	297,383	24%
Government Buildings	227,735	46,969	180,766	21%
Facility Maintenance	409,973	2,487	407,486	1%
Total General Government	5,878,500	1,414,278	4,464,222	24%
Public Safety:				
Police	4,689,032	1,197,813	3,491,219	26%
State DUI Forfeitures	5,700	872	4,828	15%
Forfeited Drug Property	1,000	-	1,000	0%
Crime Prevention Program	350	50	300	14%
Fire Protection	2,070,512	447,482	1,623,030	22%
Building Inspections (Comm.Dev)	662,157	140,212	521,945	21%
Civil Defense	5,728	-	5,728	0%
COVID-19	-	7,417	(7,417)	
Total Public Safety	7,434,479	1,786,429	5,648,050	24%
Public Works:				
Administration	366,164	131,474	234,690	36%
Streets & Alleys	1,782,805	284,929	1,497,876	16%
Snow Removal	249,625	127,923	121,702	51%
Signs	11,324	1,167	10,157	10%
Municipal Services/Building	232,202	48,483	183,719	21%
Parks Maintenance	1,096,237	219,420	876,817	20%
ISD #112 Grounds Maintenance	36,225	-	36,225	0%
Tree Control	37,597	2,218	35,379	6%
Total Public Works	3,812,179	815,614	2,996,565	21%
Parks & Recreation:				
Administration	608,218	160,468	447,750	26%
Youth Recreation	175,519	43,298	132,221	25%
Adult Recreation	105,768	28,049	77,719	27%
Beach/Firemen's Park	127,116	9,542	117,574	8%
Hockey & Skating Rinks	8,631	9,135	(504)	106%
Total Parks & Recreation	1,025,252	250,492	774,760	24%
Unallocated	79,298	8,161	71,137	10%
TOTAL EXPENDITURES	18,229,708	4,282,391	13,947,317	23%
OTHER FINANCING SOURCES (USES):				
Transfers In	3,998,000	893,290	(3,104,710)	
Transfers Out	(755,000)	-	(755,000)	
NET TRANSFERS	3,243,000	893,290	(3,859,710)	
NET CHANGE IN FUND BALANCES	-	(2,925,698)	(4,435,698)	

* Tax settlements are received from Carver County in July and December

MOUNT PLEASANT MAINTENANCE FUND
REVENUES, EXPENDITURES AND CHANGES IN FUND BALANCES
BUDGET AND ACTUAL
FOR THE PERIOD ENDED 3/31/2020

	2020 BUDGET	ACTUAL AS OF 3/31/2020	VARIANCE POSITIVE (NEGATIVE)	PERCENT OF BUDGET RECEIVED/ EXPENDED
<u>REVENUES:</u>				
Property Taxes *	\$ 6,000	\$ -	\$ (6,000)	0%
Charges For Services/Lot Sales	2,400	1,000	(1,400)	42%
Investment Earnings	300	-	(300)	0%
TOTAL REVENUES	8,700	1,000	(7,700)	11%
<u>EXPENDITURES:</u>				
Current:				
Public Works:				
Professional Services And Charges	8,500	75	8,425	1%
Capital Outlay	5,000	-	5,000	0%
TOTAL EXPENDITURES	13,500	75	13,425	1%
NET CHANGE IN FUND BALANCES	(4,800)	925	5,725	

* Tax settlements are received from Carver County in July and December

ECONOMIC DEVELOPMENT AUTHORITY (EDA) FUND
REVENUES, EXPENDITURES AND CHANGES IN FUND BALANCES
BUDGET AND ACTUAL
FOR THE PERIOD ENDED 3/31/2020

	2020 BUDGET	ACTUAL AS OF 3/31/2020	VARIANCE POSITIVE (NEGATIVE)	PERCENT OF BUDGET RECEIVED/ EXPENDED
REVENUES:				
Property Taxes *	\$ 165,747	\$ -	\$ (165,747)	0%
Intergovernmental **	-	270,000	270,000	0%
Charges For Services	85,000	-	(85,000)	0%
Special Assessments	40,000	-	(40,000)	0%
Investment Earnings (Charges)	(5,400)	-	5,400	0%
Leases/Rent	31,300	7,715	(23,585)	25%
TOTAL REVENUES	316,647	277,715	(38,932)	88%
EXPENDITURES:				
Current:				
Administration:				
Professional Services	31,243	3,011	28,232	10%
Other Charges and Special Events	46,865	270,033	(223,168)	576%
Administrative Fees	160,957	-	160,957	0%
Economic Development Projects/Programs:				
Professional Services	41,300	29,193	12,107	71%
Other Charges and Special Events	19,382	-	19,382	0%
Debt Service:				
Principal - Promissory Note	13,100	3,208	9,892	24%
Interest - Promissory Note	3,800	992	2,808	26%
Capital Outlay	-	8,858	(8,858)	
TOTAL EXPENDITURES	316,647	315,295	1,352	100%
NET CHANGE IN FUND BALANCES	\$ -	\$ (37,580)	\$ (37,580)	

* Tax settlements are received from Carver County in July and December.

** Intergovernmental Revenue is a Pass-thru MIF Grant for Formacoat. Payment to Formacoat will be reflected in February activity.

EQUIPMENT ACQUISITION FUND
REVENUES, EXPENDITURES AND CHANGES IN FUND BALANCES
BUDGET AND ACTUAL
FOR THE PERIOD ENDED 3/31/2020

	2020 BUDGET	ACTUAL AS OF 3/31/2020	VARIANCE POSITIVE (NEGATIVE)	PERCENT OF BUDGET RECEIVED/ EXPENDED
REVENUES:				
Property Taxes *	\$ 3,182,000	\$ -	\$ (3,182,000)	0%
Intergovernmental	-	-	-	
Charges For Services	4,000	-	(4,000)	0%
Interest Earnings	-	53,549	53,549	
Leases (tower)	125,000	29,557	(95,443)	24%
Donations/Contributions	-	1,600	1,600	
Other Revenue	-	-	-	
TOTAL REVENUES	3,311,000	84,706	(3,226,294)	3%
EXPENDITURES:				
Debt Service:				
Issuance Costs & Fiscal Agent Fees	192,000	-	192,000	
Capital Outlay:				
Furniture And Equipment				
Communications	10,000	-	10,000	0%
Admin. Services-Finance	23,000	-	23,000	0%
Admin. Services-Information Services	52,000	57,867	(5,867)	111%
Police	201,000	-	201,000	0%
Fire	290,000	-	290,000	0%
Public Works	158,000	21,105	136,895	13%
TOTAL EXPENDITURES	926,000	78,972	847,028	9%
OTHER FINANCING SOURCES (USES):				
Transfers In	24,000	-	(24,000)	0%
Transfers Out	(3,468,000)	-	3,468,000	0%
Bonds Issued	440,000	-	(440,000)	0%
Sale of Capital Assets	-	6,150	6,150	
TOTAL OTHER FINANCING SOURCES (USES)	(3,004,000)	6,150	3,010,150	
NET CHANGE IN FUND BALANCES	\$ (619,000)	\$ 11,884	\$ 630,884	

* Tax settlements are received from Carver County in July and December.

ELECTRIC FUND
REVENUES, EXPENSES AND CHANGES IN NET POSITION
BUDGET AND ACTUAL
FOR THE PERIOD ENDED 3/31/2020

	2020 BUDGET	ACTUAL AS OF 3/31/2020	VARIANCE POSITIVE (NEGATIVE)	PERCENT OF BUDGET RECEIVED / EXPENDED
OPERATING REVENUES:				
Residential Sales	\$ 8,581,000	\$ 1,558,722	\$ (7,022,278)	18%
Senior Sales	538,000	99,385	(438,615)	18%
Commercial Sales	1,203,000	261,554	(941,446)	22%
Industrial Sales	26,630,000	4,919,630	(21,710,370)	18%
Intradepartmental	1,010,000	183,503	(826,497)	18%
All Other Sales	1,767,000	322,769	(1,444,231)	18%
TOTAL OPERATING REVENUES	39,729,000	7,345,563	(32,383,437)	18%
OPERATING EXPENSES:				
Purchased Power	25,991,000	6,380,115	19,610,885	25%
Distribution:				
Personnel Services	1,757,725	457,949	1,299,776	26%
Supplies, Services & Other Charges	415,968	82,232	333,736	20%
Administration:				
Personnel Services	334,437	53,713	280,724	16%
Supplies, Services & Other Charges	2,759,015	94,642	2,664,373	3%
Utility Billing:				
Personnel Services	273,016	64,184	208,832	24%
Supplies, Services & Other Charges	145,239	77,553	67,686	53%
Conservation Programs	663,974	90,145	573,829	14%
Capital Outlay	796,500	490,504	305,996	62%
TOTAL OPERATING EXPENSES	33,136,874	7,791,037	25,345,837	24%
OPERATING INCOME	6,592,126	(445,474)	(7,037,600)	-7%
NON-OPERATING REVENUES:				
Investment Earnings	33,500	(6,142)	(39,642)	-18%
NON-OPERATING EXPENSES:				
Debt Service - Principal	484,675	-	484,675	0%
Debt Service - Interest	342,089	147,773	194,316	43%
Debt Service - Agent Fees	450	-	450	
TOTAL NON-OPERATING EXPENSES	827,214	147,773	679,441	18%
INCOME (LOSS) BEFORE CONTRIBUTIONS AND TRANSFERS	5,798,412	(599,389)	(6,397,801)	
CAPITAL CONTRIBUTIONS	-	129,131	129,131	
TRANSFERS IN (OUT):				
Transfers (Out)	(5,784,000)	(893,290)	4,890,710	
CHANGE IN NET POSITION	\$ 14,412	\$ (1,363,548)	\$ (1,377,960)	

WATER FUND
REVENUES, EXPENSES AND CHANGES IN NET POSITION
BUDGET AND ACTUAL
FOR THE PERIOD ENDED 3/31/2020

	2020 BUDGET	ACTUAL AS OF 3/31/2020	VARIANCE POSITIVE (NEGATIVE)	PERCENT OF BUDGET RECEIVED/ EXPENDED
OPERATING REVENUES:				
Residential Sales	\$ 1,302,000	\$ 168,571	\$ (1,133,429)	13%
Commercial Sales	919,000	120,348	(798,652)	13%
Industrial Sales	294,000	56,893	(237,107)	19%
All Other Sales	425,100	96,932	(328,168)	23%
TOTAL OPERATING REVENUES	2,940,100	442,744	(2,497,356)	15%
OPERATING EXPENSES:				
Pumping	240,137	55,940	184,197	23%
Treatment	269,812	64,589	205,223	24%
Distribution:				
Personnel Services	509,931	124,145	385,786	24%
Supplies, Services & Other Charges	306,904	31,927	274,977	10%
Administration :				
Personnel Services	120,861	31,013	89,848	26%
Supplies, Services & Other Charges	590,203	16,741	573,462	3%
Utility Billing:				
Personnel Services	136,511	32,093	104,418	24%
Supplies, Services & Other Charges	35,396	15,744	19,652	44%
Capital Outlay	208,500	49,938	158,562	24%
TOTAL OPERATING EXPENSES	2,418,255	422,130	1,996,125	17%
OPERATING INCOME	521,845	20,614	(501,231)	4%
NON-OPERATING REVENUES:				
Investment Earnings	16,200	(3,238)	(19,438)	-20%
Lease - Bountiful Basket	30,000	7,525	(22,475)	25%
Insurance Claims	-	17,750	17,750	
TOTAL NON-OPERATING REVENUES	46,200	22,037	(24,163)	48%
NON-OPERATING EXPENSES:				
Debt Service - Principal	638,783	40,000	598,783	6%
Debt Service - Principal (Contra Account)	-	(40,000)	40,000	
Debt Service - Interest	350,748	21,764	328,984	6%
Issuance Costs & Fiscal Agent Fees	-	60	(60)	
Old Water Treatment Plant/Bountiful Basket	-	1,015	(1,015)	
TOTAL NON-OPERATING EXPENSES	989,531	22,839	966,692	2%
INCOME (LOSS) BEFORE CONTRIBUTIONS AND TRANSFERS	(421,486)	19,812	441,298	
TRANSFERS IN (OUT):				
Transfers In	485,000	-	(485,000)	
Transfers (Out)	(76,000)	(7,941)	68,059	
NET TRANSFERS IN (OUT)	409,000	(7,941)	(416,941)	
CHANGE IN NET POSITION	\$ (12,486)	\$ 11,871	\$ 24,357	

SEWER FUND
REVENUES, EXPENSES AND CHANGES IN NET POSITION
BUDGET AND ACTUAL
FOR THE PERIOD ENDED 3/31/2020

	2020 BUDGET	ACTUAL AS OF 3/31/2020	VARIANCE POSITIVE (NEGATIVE)	PERCENT OF BUDGET RECEIVED/ EXPENDED
OPERATING REVENUES:				
Residential Sales	\$ 1,510,300	\$ 286,544	\$ (1,223,756)	19%
Commercial Sales	1,081,100	196,028	(885,072)	18%
Industrial Sales	1,091,000	182,268	(908,732)	17%
Other Sales	765,852	192,686	(573,266)	25%
TOTAL OPERATING REVENUE	4,448,252	857,426	(3,590,826)	19%
OPERATING EXPENSES:				
Pumping	49,056	2,249	46,807	5%
Treatment	2,675,539	891,846	1,783,693	33%
Collection:				
Personnel Services	509,933	126,525	383,408	25%
Supplies, Services & Other Charges	157,778	16,097	141,681	10%
Administration:				
Personnel Services	120,858	31,013	89,845	26%
Supplies, Services & Other Charges	579,947	11,055	568,892	2%
Utility Billing:				
Personnel Services	136,511	32,093	104,418	24%
Supplies, Services & Other Charges	35,203	15,975	19,228	45%
Capital Outlay	110,500	46,794	63,706	42%
TOTAL OPERATING EXPENSES	4,375,325	1,173,647	3,201,678	27%
OPERATING INCOME	72,927	(316,221)	(389,148)	
NON-OPERATING REVENUES:				
Investment Earnings	3,600	(546)	(4,146)	-15%
Intergovernmental	-	-	-	
TOTAL NON-OPERATING REVENUES	3,600	(546)	(4,146)	-15%
NON-OPERATING EXPENSES:				
Debt Service - Principal	138,783	125,000	(13,783)	90%
Debt Service - Principal (Contra Account)	-	(125,000)	(125,000)	
Debt Service - Interest	80,253	43,901	(36,352)	55%
Issuance Costs & Fiscal Agent Fees	-	265	265	
TOTAL NON-OPERATING EXPENSES	219,036	44,166	(174,870)	
INCOME (LOSS) BEFORE TRANSFERS	(142,509)	(360,933)	(218,424)	
TRANSFERS IN (OUT):				
Transfers (Out)	(116,000)	(12,291)	103,709	
CHANGE IN NET POSITION	\$ (258,509)	\$ (373,224)	\$ (114,715)	

CHASKA COMMUNITY CENTER FUND
REVENUES, EXPENSES AND CHANGES IN NET POSITION
BUDGET AND ACTUAL
FOR THE PERIOD ENDED 3/31/2020

	2020 BUDGET	ACTUAL AS OF 3/31/2020	VARIANCE POSITIVE (NEGATIVE)	PERCENT OF BUDGET RECEIVED/ EXPENDED
OPERATING REVENUES:				
Admissions	\$ 445,926	\$ 91,392	\$ (354,534)	20%
Memberships	1,116,200	304,255	(811,945)	27%
Rentals	1,076,717	400,562	(676,155)	37%
Charges for Services/Lessons	639,193	118,406	(520,787)	19%
Other Sales	139,540	40,597	(98,943)	29%
TOTAL OPERATING REVENUE	\$ 3,417,576	\$ 955,212	\$ (2,462,364)	28%
OPERATING EXPENSES:				
Personnel Services	2,391,335	645,229	1,746,106	27%
Operating Supplies	201,378	78,066	123,312	39%
Professional Services	735,947	221,016	514,931	30%
Other Charges	296,605	149,364	147,241	50%
TOTAL OPERATING EXPENSES	3,625,265	1,093,675	2,531,590	30%
OPERATING INCOME	(207,689)	(138,463)	69,226	
NON-OPERATING REVENUES:				
Investment Earnings (Charges)	(11,400)	112	11,512	-1%
TOTAL NON-OPERATING REVENUES	(11,400)	112	11,512	-1%
NON-OPERATING EXPENSES:				
Debt Service - Principal	340,000	-	340,000	0%
Debt Service - Interest	154,030	1,605	152,425	1%
Issuance Costs & Fiscal Agent Fees	2,750	1,700	1,050	62%
TOTAL NON-OPERATING EXPENSES	496,780	3,305	493,475	1%
INCOME (LOSS) BEFORE TRANSFERS	(715,869)	(141,656)	574,213	
TRANSFERS IN (OUT):				
Transfers In	474,000	-	(474,000)	
CHANGE IN NET POSITION	\$ (241,869)	\$ (141,656)	\$ 100,213	

CHASKA PAR 30 FUND
REVENUES, EXPENSES AND CHANGES IN NET POSITION
BUDGET AND ACTUAL
FOR THE PERIOD ENDED 3/31/2020

	2020 BUDGET	ACTUAL AS OF 3/31/2020	VARIANCE POSITIVE (NEGATIVE)	PERCENT OF BUDGET RECEIVED/ EXPENDED
OPERATING REVENUES:				
Green Fees	\$ 129,700	\$ 6,875	\$ (122,825)	5%
Cart Rental	10,000	-	(10,000)	0%
Merchandise & Other Sales	6,026	-	(6,026)	0%
TOTAL OPERATING REVENUES	<u>145,726</u>	<u>6,875</u>	<u>(138,851)</u>	5%
OPERATING EXPENSES:				
Golf - Maintenance Dept:				
Personnel Services	82,143	17,302	64,841	21%
Supplies, Services & Other Charges	23,444	26,776	(3,332)	114%
Golf - Club House:				
Personnel Services	39,975	-	39,975	0%
Supplies, Services & Other Charges	44,092	2,147	41,945	5%
Merchandise for Resale	4,080	357	3,723	9%
TOTAL OPERATING EXPENSES	<u>193,734</u>	<u>46,582</u>	<u>147,152</u>	24%
OPERATING INCOME	<u>(48,008)</u>	<u>(39,707)</u>	<u>8,301</u>	
NON-OPERATING REVENUES:				
Investment Earnings (Charges)	(1,500)	-	1,500	
TOTAL NON-OPERATING REVENUES	<u>(1,500)</u>	<u>-</u>	<u>1,500</u>	
CHANGE IN NET POSITION	<u>\$ (49,508)</u>	<u>\$ (39,707)</u>	<u>\$ 9,801</u>	

CHASKA TOWN COURSE FUND
REVENUES, EXPENSES AND CHANGES IN NET POSITION
BUDGET AND ACTUAL
FOR THE PERIOD ENDED 3/31/2020

	2020 BUDGET	ACTUAL AS OF 3/31/2020	VARIANCE POSITIVE (NEGATIVE)	PERCENT OF BUDGET RECEIVED/ EXPENDED
OPERATING REVENUES:				
Green Fees	\$ 1,332,000	\$ 17,021	\$ (1,314,979)	1%
Driving Range	100,000	964	(99,036)	1%
Cart Rental	292,000	-	(292,000)	0%
Merchandise	314,500	14,382	(300,118)	5%
All Other Sales	139,000	57,968	(81,032)	42%
TOTAL OPERATING REVENUE	<u>\$ 2,177,500</u>	<u>\$ 90,335</u>	<u>\$ (2,087,165)</u>	4%
OPERATING EXPENSES:				
Golf - Maintenance Dept:				
Personnel Services	622,361	123,824	498,537	20%
Supplies, Services & Other Charges	276,107	28,527	247,580	10%
Golf - Club House:				
Personnel Services	525,897	89,962	435,935	17%
Supplies, Services & Other Charges	381,076	41,496	339,580	11%
Merchandise for Resale	173,417	99,287	74,130	57%
Capital Outlay	61,180	555	60,625	1%
TOTAL OPERATING EXPENSES	<u>2,040,038</u>	<u>383,651</u>	<u>1,656,387</u>	19%
OPERATING INCOME	<u>137,462</u>	<u>(293,316)</u>	<u>(430,778)</u>	
NON-OPERATING REVENUES:				
Investment Earnings (Charges)	(8,200)	-	8,200	
TOTAL NON-OPERATING REVENUES	<u>(8,200)</u>	<u>-</u>	<u>8,200</u>	
NON-OPERATING EXPENSES:				
Debt Service - Principal	88,900	-	88,900	0%
Debt Service - Interest	19,200	30,009	(10,809)	156%
TOTAL NON-OPERATING EXPENSES	<u>108,100</u>	<u>30,009</u>	<u>78,091</u>	28%
CHANGE IN NET POSITION	<u>\$ 21,162</u>	<u>\$ (323,325)</u>	<u>\$ (344,487)</u>	

TURBINE GENERATOR FUND
REVENUES, EXPENSES AND CHANGES IN NET POSITION
BUDGET AND ACTUAL
FOR THE PERIOD ENDED 3/31/2020

	2020 BUDGET	ACTUAL AS OF 3/31/2020	VARIANCE POSITIVE (NEGATIVE)	PERCENT OF BUDGET RECEIVED/ EXPENDED
OPERATING REVENUES:				
Lease Revenue	\$ 2,486,184	\$ 255,059	\$ (2,231,125)	10%
OPERATING EXPENSES:				
Professional Services	84,000	86,717	(2,717)	103%
Other Charges	298,345	56,586	241,759	19%
TOTAL OPERATING EXPENSES	382,345	143,303	239,042	37%
OPERATING INCOME	2,103,839	111,756	(1,992,083)	
NON-OPERATING REVENUES:				
Investment Earnings	-	(2,660)	(2,660)	
Interfund Loan Payments	104,219	-	(104,219)	0%
TOTAL NON-OPERATING REVENUES	104,219	(2,660)	(106,879)	-3%
NON-OPERATING EXPENSES:				
Debt Service - Principal	1,220,000	-	1,220,000	0%
Debt Service - Principal (Contra Account)	-	-	-	
Debt Service - Interest	862,250	-	862,250	0%
Issuance Costs & Fiscal Agent Fees	4,500	-	4,500	0%
TOTAL NON-OPERATING EXPENSES	2,086,750	-	2,086,750	0%
CHANGE IN NET POSITION	\$ 121,308	\$ 109,096	\$ (12,212)	

STORM WATER FUND
REVENUES, EXPENSES AND CHANGES IN NET POSITION
BUDGET AND ACTUAL
FOR THE PERIOD ENDED 3/31/2020

	2020 BUDGET	ACTUAL AS OF 3/31/2020	VARIANCE POSITIVE (NEGATIVE)	PERCENT OF BUDGET RECEIVED/ EXPENDED
OPERATING REVENUES:				
Residential Sales	\$ 992,000	\$ 340,077	\$ (651,923)	34%
Industrial Sales	758,000	255,526	(502,474)	34%
All Other Sales	3,000	649	(2,351)	22%
TOTAL OPERATING REVENUE	1,753,000	596,252	(1,156,748)	34%
OPERATING EXPENSES:				
Collections:				
Personnel Services	358,600	48,022	310,578	13%
Supplies, Services & Other Charges	355,864	39,956	315,908	11%
Administration :				
Personnel Services	134,417	33,181	101,236	25%
Supplies, Services & Other Charges	438,909	660	438,249	0%
Utility Billing:				
Supplies, Services & Other Charges	23,420	14,155	9,265	60%
Depreciation	30,000	-	30,000	0%
Capital Outlay	125,000	64,571	60,429	52%
TOTAL OPERATING EXPENSES	1,466,210	200,545	1,265,665	14%
OPERATING INCOME	286,790	395,707	108,917	
NON-OPERATING REVENUES:				
Investment Earnings	2,200	(816)	(3,016)	-37%
Intergovernmental	-	-	-	
TOTAL NON-OPERATING REVENUES	2,200	(816)	(3,016)	
NON-OPERATING EXPENSES:				
Debt Service - Principal	137,333	80,000	57,333	58%
Debt Service - Principal (Contra Account)	-	(80,000)	80,000	
Debt Service - Interest	58,864	33,508	25,356	57%
Issuance Costs & Fiscal Agent Fees	-	175	(175)	
TOTAL NON-OPERATING EXPENSES	196,197	33,683	162,514	17%
INCOME (LOSS) BEFORE TRANSFERS	92,793	361,208	268,415	
TRANSFERS IN (OUT):				
Transfers In	206,186	-	(206,186)	0%
Transfers (Out)	(223,000)	(5,058)	217,942	2%
NET TRANSFERS IN (OUT)	(16,814)	(5,058)	11,756	
CHANGE IN NET POSITION	\$ 75,979	\$ 356,150	\$ 280,171	

CHASKA CURLING AND EVENT CENTER FUND
REVENUES, EXPENSES AND CHANGES IN NET POSITION
BUDGET AND ACTUAL
FOR THE PERIOD ENDED 3/31/2020

	2020 BUDGET	ACTUAL AS OF 3/31/2020	VARIANCE POSITIVE (NEGATIVE)	PERCENT OF BUDGET RECEIVED/ EXPENDED
OPERATING REVENUES:				
Memberships	\$ 142,067	\$ 35,285	\$ (106,782)	25%
Rentals	199,257	14,824	(184,433)	7%
Lessons	237,311	79,630	(157,681)	34%
Leagues	219,075	73,088	(145,987)	33%
Leases	409,000	73,820	(335,180)	18%
Other Sales Revenue	68,371	22,204	(46,167)	32%
TOTAL OPERATING REVENUES	1,275,081	298,851	(976,230)	23%
OPERATING EXPENSES:				
Administration:				
Personnel Services	354,757	86,659	268,098	24%
Supplies, Services & Other Charges	345,385	66,994	278,391	19%
Event Center:				
Personnel Services	103,881	25,383	78,498	24%
Supplies, Services & Other Charges	39,953	11,662	28,291	29%
Curling Center:				
Personnel Services	241,359	66,507	174,852	28%
Supplies, Services & Other Charges	117,708	42,704	75,004	36%
Crooked Pint	53,326	12,231	41,095	23%
Curling/ Non-recurring Events	-	-	-	
Capital Outlay	5,000	-	5,000	
TOTAL OPERATING EXPENSES	1,261,369	312,140	949,229	25%
OPERATING INCOME	13,712	(13,289)	(27,001)	
NON-OPERATING REVENUES:				
Investment Earnings (Charges)	(11,800)	585	12,385	
TOTAL NON-OPERATING REVENUES	(11,800)	585	12,385	
NON-OPERATING EXPENSES:				
Debt Service-Principal	1,000,000	1,000,000	-	100%
Debt Service-Principal (Contra Account)	-	(1,000,000)	1,000,000	
Debt Service-Interest	585,877	242,514	343,363	41%
Issuance Costs & Fiscal Agent Fees	1,600	1,600	-	100%
TOTAL NON-OPERATING EXPENSES	1,587,477	244,114	1,343,363	15%
INCOME (LOSS) BEFORE TRANSFERS	(1,585,565)	(256,818)	1,328,747	
TRANSFERS IN (OUT):				
Transfers In	1,587,477	-	(1,587,477)	0%
CHANGE IN NET POSITION	\$ 1,912	\$ (256,818)	\$ (258,730)	