Application

17072 - 2022 Roadway Expansion

17495 - Interstate 35E/County Road J Interchange Replacement and County Road J Improvements

Regional Solicitation - Roadways Including Multimodal Elements

Status:	Submitted
Submitted Date:	04/13/2022 8:08 AM

Primary Contact

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What Grant Programs are you most interested in?	Regional Solicitation - Roadways Including Multimodal Elements			

Organization Information

Name:	RAMSEY COUNTY

Jurisdictional Agency (if different):	
Organization Type:	County Government
Organization Website:	
Address:	DEPT OF PUBLIC WORKS 1425 PAUL KIRKWOOD DR
*	ARDEN HILLS (City) Minnesota (State/Province) 55112 (Postal Code/Zip)
County:	Ramsey
Phone:*	651-266-7100 Ext.
Fax:	
PeopleSoft Vendor Number	0000023983A30

Project Information

Project Name	I-35E/County Road J Interchange Replacement and County Road J Improvements
Primary County where the Project is Located	Ramsey
Cities or Townships where the Project is Located:	City of North Oaks, City of Lino Lakes, White Bear Township
Jurisdictional Agency (If Different than the Applicant):	

Brief Project Description (Include location, road name/functional class, type of improvement, etc.)

Existing Conditions

The existing I-35E/County Road J interchange provides regional access to the communities of North Oaks and White Bear Township in Ramsey County and Lino Lakes in Anoka County. This interchange currently provides access from County Road J to southbound I-35E and from northbound I-35E to County Road J via a half-diamond interchange configuration. There is currently no ramp access from southbound I-35E to County J or from County Road J to I-35E northbound. As a result, these movements are currently accommodated by the Main Street/I-35E interchange approximately three miles to the north.

County Road J from Centerville Road to Otter Lake Road is a two-lane roadway with varying width paved shoulders. There are four existing intersections along County Road J. The Centerville Road/County Road J and Otter Lake Road/County Road J intersections are controlled with all-way stops. The east and west ramp terminal intersections are controlled by signals (see attached Project Location Map).

During the a.m. peak period, there is a heavy movement from southbound Centerville Road to eastbound County Road J to the southbound I-35E ramp. During the p.m. peak period, the northbound I-35E ramp to westbound County Road J movement also experiences significant backups, with queues regularly extending onto northbound I-35E. MnDOT has expressed concerns about these backups and has provided a photo from the Regional Traffic Management Center illustrating the queue (see attached Project Site Photos). The project segment of County Road J from Centerville Road to Otter Lake Road also lacks pedestrian and

bicycle facilities and the County Road J Bridge over I-35E has a vertical curve that creates sight distance issues.

Future Conditions

Replacement of the existing ramps to the south, replacement of the existing interchange bridge, and addition of ramps to the north will provide a new full movement interchange at County Road J/I-35E. This improved interchange access will enhance nearby land development potential for the communities of North Oaks, White Bear Township and Lino Lakes and will also improve overall operations of the Main Street/I35E interchange to the north. The two existing all-way stop intersections and two signalized intersections along County Road J between Otter Lake Road and Centerville Road will also be replaced with three roundabouts as part of the project . Collectively, these three roundabouts will improve overall peak hour operations and safety along the County Road J corridor and I-35E/County Road J interchange area. Other project benefits include addition of a separated multiuse trail along the south side of County Road J and correcting a vertical curve issue on the existing interchange bridge.

(Limit 2,800 characters; approximately 400 words)

TRANSPORTATION IMPROVEMENT PROGRAM (TIP) DESCRIPTION - will be used in TIP if the project is selected for funding. See MnDOT's TIP description guidance.

I-35E/County Road J Interchange & County Road J (CR 81/CSAH 60)

Include both the CSAH/MSAS/TH references and their corresponding street names in the TIP Description (see Resources link on Regional Solicitation webpage for examples).

Project Length (Miles)

0.47

to the nearest one-tenth of a mile

Project Funding

Are you applying for competitive funds from another source(s) to implement this project?

No

If yes, please identify the source(s)

Federal Amount $10,000,000.00

Match Amount $4,549,729.00

Minimum of 20% of project total

Project Total $14,549,729.00

For transit projects, the total cost for the application is total cost minus fare revenues.

Match Percentage 31.27%

Minimum of 20%
Compute the match percentage by dividing the match amount by the project total

Source of Match Funds State Bond Funds, CSAH and local

A minimum of 20% of the total project cost must come from non-federal sources; additional match funds over the 20% minimum can come from other federal sources

Preferred Program Year

Select one: 2026

Select 2024 or 2025 for TDM and Unique projects only. For all other applications, select 2026 or 2027.

Additional Program Years: 2024, 2025

Select all years that are feasible if funding in an earlier year becomes available.

Project Information-Roadways

County, City, or Lead Agency Ramsey County

Functional Class of Road A Minor Arterial Expander

Road System CSAH, County Road, Interstate Highway

TH, CSAH, MSAS, CO. RD., TWP. RD., CITY STREET

Road/Route No. 81

i.e., 53 for CSAH 53

Name of Road

County Road J/Ash Street (Ramsey CR 81/CSAH 60)
Centerville Road (Ramsey CSAH 59/Anoka CSAH 21)
Otter Lake Road (Ramsey CSAH 60/Anoka CSAH 84)
20th Avenue (Anoka CSAH 54)

Example; 1st ST., MAIN AVE

Zip Code where Majority of Work is Being Performed 55110

(Approximate) Begin Construction Date 04/01/2024

(Approximate) End Construction Date	07/01/2025

TERMINI:(Termini listed must be within 0.3 miles of any work)

From: **(Intersection or Address)**	Centerville Road
To: **(Intersection or Address)**	Otter Lake Road

DO NOT INCLUDE LEGAL DESCRIPTION

Or At

Miles of Sidewalk (nearest 0.1 miles)	0
Miles of Trail (nearest 0.1 miles)	0.6
Miles of Trail on the Regional Bicycle Transportation Network (nearest 0.1 miles)	0.1
Primary Types of Work *Examples: GRADE, AGG BASE, BIT BASE, BIT SURF, SIDEWALK, CURB AND GUTTER,STORM SEWER, SIGNALS, LIGHTING, GUARDRAIL, BIKE PATH, PED RAMPS, BRIDGE, PARK AND RIDE, ETC.*	Grading, Aggregate Base, Bituminous Surfacing, Bridge Construction, Ramp Construction, Roundabout Construction, Multiuse Trail

BRIDGE/CULVERT PROJECTS (IF APPLICABLE)

Old Bridge/Culvert No.:	62836
New Bridge/Culvert No.:	TBD
Structure is Over/Under **(Bridge or culvert name):**	I-35E

Requirements - All Projects

All Projects

1.The project must be consistent with the goals and policies in these adopted regional plans: Thrive MSP 2040 (2014), the 2040 Transportation Policy Plan (2018), the 2040 Regional Parks Policy Plan (2018), and the 2040 Water Resources Policy Plan (2015).

Check the box to indicate that the project meets this requirement. Yes

2.The project must be consistent with the 2040 Transportation Policy Plan. Reference the 2040 Transportation Plan goals, objectives, and strategies that relate to the project.

Briefly list the goals, objectives, strategies, and associated pages:

A. Transportation System Stewardship (P 2.2-2.4)

Bridge construction will be staged and/or accelerated to minimize impacts to users (especially emergency and commercial vehicles) to maintain traffic flows of the operating system.

B. Safety/Security (P 2.5-2.9)

The project will correct a vertical curve issue on the bridge impacting sight distance. Also, construction of new I-35E interchange exit and entrance ramps north of County Road J will provide improved response times for emergency personnel traveling to the Waverly Gardens senior housing facility along Centerville Road and tenants of the industrial park south of County Road J. The new separated multiuse bicycle and pedestrian trail on the south side of County Road J will also remove the need for bikers and walkers to travel on the existing roadway paved shoulder.

C. Access to Destinations (P 2.10-2.25)

Key destinations directly benefiting from the project improvement include Schwing America, Emajine Movie Theatre, Waverly Gardens retirement community, Wilkinson Soccer Field, Tria Restaurant Bar and Event Center, Otter Lake and Bald Eagle-Otter Lake Regional Park.

D. Competitive Economy (P 2.26-2.29)

The project will directly improve a Tier 2 truck corridor along 20th Avenue and County Road J and will also provide improved access to I-35E, a Tier 1

truck corridor. The trail element of the project along County Road J will also directly connect to a Tier 2 RBTN along Centerville Road. Replacing the existing interchange along with associated County Road J improvements will ensure that users of this project area, especially oversized loads and freight deliveries from I-35E serving the industrial park south of County Road J, can continue to rely on this route.

E. Healthy and Equitable Communities (P 2.30-2.34)

Replacing the existing bridge with a separated multimodal trail that will extend along the entire County Road J corridor from Centerville Road to Otter Lake Road and including ADA compliant ramps and center median refuges for pedestrians will connect a significant nearby equity population at Waverly Garden senior community to nearby attractions.

F. Leverage Transportation Investments that Guide Land Use (P 2.35-2.41)

Provision of new I-35E exit and entrance ramps north of County Road J will provide a full movement interchange at this location will enhance economic development opportunities in the project area. Anoka County is currently in discussions with a developer about constructing a large development west of Centerville Road and north of County Road J in close proximity to the I-35E/County Road J interchange as a result of the proposed project (see attached North Oaks Proposed Development).

Limit 2,800 characters, approximately 400 words

3.The project or the transportation problem/need that the project addresses must be in a local planning or programming document. Reference the name of the appropriate comprehensive plan, regional/statewide plan, capital improvement program, corridor study document [studies on trunk highway must be approved by the Minnesota Department of Transportation and the Metropolitan Council], or other official plan or program of the applicant agency [includes Safe Routes to School Plans] that the project is included in and/or a transportation problem/need that the project addresses.

List the applicable documents and pages: Unique projects are exempt from this qualifying requirement because of their innovative nature.

Ramsey County 2022-2026 Transportation Improvement Program (TIP) - attached.

Ramsey County Bike Plan - attached.

Anoka County 2022-2026 Transportation Improvement Program (TIP) - attached.

City of Lino Lakes 2040 Comprehensive Plan (pages 3-13, 3-32, 6-4, 6-23, 6-25, 6-27, 6-28, 12-5, 12-6)

https://linolakes.us/compplan

White Bear Township Draft 2040 Comprehensive Plan (page 4-56)

http://www.ci.white-bear-township.mn.us/DocumentCenter/View/626/2040-Comp-Plan---Draft-PDF

Limit 2,800 characters, approximately 400 words

4.The project must exclude costs for studies, preliminary engineering, design, or construction engineering. Right-of-way costs are only eligible as part of transit stations/stops, transit terminals, park-and-ride facilities, or pool-and-ride lots. Noise barriers, drainage projects, fences, landscaping, etc., are not eligible for funding as a standalone project, but can be included as part of the larger submitted project, which is otherwise eligible. Unique project costs are limited to those that are federally eligible.

Check the box to indicate that the project meets this requirement. Yes

5.Applicant is a public agency (e.g., county, city, tribal government, transit provider, etc.) or non-profit organization (TDM and Unique Projects applicants only). Applicants that are not State Aid cities or counties in the seven-county metro area with populations over 5,000 must contact the MnDOT Metro State Aid Office prior to submitting their application to determine if a public agency sponsor is required.

Check the box to indicate that the project meets this requirement. Yes

6.Applicants must not submit an application for the same project elements in more than one funding application category.

Check the box to indicate that the project meets this requirement. Yes

7.The requested funding amount must be more than or equal to the minimum award and less than or equal to the maximum award. The cost of preparing a project for funding authorization can be substantial. For that reason, minimum federal amounts apply. Other federal funds may be combined with the requested funds for projects exceeding the maximum award, but the source(s) must be identified in the application. Funding amounts by application category are listed below in Table 1. For unique projects, the minimum award is $500,000 and the maximum award is the total amount available each funding cycle (approximately $4,000,000 for the 2022 funding cycle).
Strategic Capacity (Roadway Expansion): *$1,000,000 to $10,000,000*
Roadway Reconstruction/Modernization: *$1,000,000 to $7,000,000*
Traffic Management Technologies (Roadway System Management): *$500,000 to $3,500,000*
Spot Mobility and Safety: *$1,000,000 to $3,500,000*
Bridges Rehabilitation/Replacement: *$1,000,000 to $7,000,000*

Check the box to indicate that the project meets this requirement. Yes

8.The project must comply with the Americans with Disabilities Act (ADA).

Check the box to indicate that the project meets this requirement. Yes

9.In order for a selected project to be included in the Transportation Improvement Program (TIP) and approved by USDOT, the public agency sponsor must either have a current Americans with Disabilities Act (ADA) self-evaluation or transition plan that covers the public right of way/transportation, as required under Title II of the ADA. The plan must be completed by the local agency before the Regional Solicitation application deadline. For the 2022 Regional Solicitation funding cycle, this requirement may include that the plan is updated within the past five years.

The applicant is a public agency that employs 50 or more people and has a completed ADA transition plan that covers the public right of way/transportation. Yes

(TDM and Unique Project Applicants Only) The applicant is not a public agency subject to the self-evaluation requirements in Title II of the ADA.

Date plan completed:

Link to plan:

The applicant is a public agency that employs fewer than 50 people and has a completed ADA self-evaluation that covers the public right of way/transportation.

Date self-evaluation completed:

Link to plan:

Upload plan or self-evaluation if there is no link 1647882324870_1997 RC ADA Transition Plan.pdf

Upload as PDF

10.The project must be accessible and open to the general public.

Check the box to indicate that the project meets this requirement. Yes

11.The owner/operator of the facility must operate and maintain the project year-round for the useful life of the improvement, per FHWA direction established 8/27/2008 and updated 6/27/2017. Unique projects are exempt from this qualifying requirement.

Check the box to indicate that the project meets this requirement. Yes

12.The project must represent a permanent improvement with independent utility. The term independent utility means the project provides benefits described in the application by itself and does not depend on any construction elements of the project being funded from other sources outside the regional solicitation, excluding the required non-federal match. Projects that include traffic management or transit operating funds as part of a construction project are exempt from this policy.

Check the box to indicate that the project meets this requirement. Yes

13.The project must not be a temporary construction project. A temporary construction project is defined as work that must be replaced within five years and is ineligible for funding. The project must also not be staged construction where the project will be replaced as part of future stages. Staged construction is eligible for funding as long as future stages build on, rather than replace, previous work.

Check the box to indicate that the project meets this requirement. Yes

14.The project applicant must send written notification regarding the proposed project to all affected state and local units of government prior to submitting the application.

Check the box to indicate that the project meets this requirement. Yes

Roadways Including Multimodal Elements

1.All roadway and bridge projects must be identified as a principal arterial (non-freeway facilities only) or A-minor arterial as shown on the latest TAB approved roadway functional classification map.

Check the box to indicate that the project meets this requirement. Yes

Roadway Strategic Capacity and Reconstruction/Modernization and Spot Mobility projects only:

2.The project must be designed to meet 10-ton load limit standards.

Check the box to indicate that the project meets this requirement. Yes

Bridge Rehabilitation/Replacement and Strategic Capacity projects only:

3.Projects requiring a grade-separated crossing of a principal arterial freeway must be limited to the federal share of those project costs identified as local (non-MnDOT) cost responsibility using MnDOTs Cost Participation for Cooperative Construction Projects and Maintenance Responsibilities manual. In the case of a federally funded trunk highway project, the policy guidelines should be read as if the funded trunk highway route is under local jurisdiction.

Check the box to indicate that the project meets this requirement.

4.The bridge must carry vehicular traffic. Bridges can carry traffic from multiple modes. However, bridges that are exclusively for bicycle or pedestrian traffic must apply under one of the Bicycle and Pedestrian Facilities application categories. Rail-only bridges are ineligible for funding.

Check the box to indicate that the project meets this requirement.

Bridge Rehabilitation/Replacement projects only:

5.The length of the bridge clear span must exceed 20 feet.

Check the box to indicate that the project meets this requirement.

6. The bridge must have a National Bridge Inventory Rating of 6 or less for rehabilitation projects and 4 or less for replacement projects.

Check the box to indicate that the project meets this requirement.

Roadway Expansion, Reconstruction/Modernization, and Bridge Rehabilitation/Replacement projects only:

7. All roadway projects that involve the construction of a new/expanded interchange or new interchange ramps must have approval by the Metropolitan Council/MnDOT Interchange Planning Review Committee prior to application submittal. Please contact Michael Corbett at MnDOT (Michael.J.Corbett@state.mn.us or 651-234-7793) to determine whether your project needs to go through this process as described in Appendix F of the 2040 Transportation Policy Plan.

Check the box to indicate that the project meets this requirement. Yes

Requirements - Roadways Including Multimodal Elements

Specific Roadway Elements

CONSTRUCTION PROJECT ELEMENTS/COST ESTIMATES	Cost
Mobilization (approx. 5% of total cost)	$581,107.00
Removals (approx. 5% of total cost)	$380,940.00
Roadway (grading, borrow, etc.)	$925,859.00
Roadway (aggregates and paving)	$2,582,246.00
Subgrade Correction (muck)	$0.00
Storm Sewer	$861,662.00
Ponds	$0.00
Concrete Items (curb & gutter, sidewalks, median barriers)	$401,300.00
Traffic Control	$215,415.00
Striping	$0.00
Signing	$0.00
Lighting	$620,000.00
Turf - Erosion & Landscaping	$275,415.00
Bridge	$3,018,980.00
Retaining Walls	$1,480,000.00
Noise Wall (not calculated in cost effectiveness measure)	$0.00
Traffic Signals	$0.00
Wetland Mitigation	$0.00
Other Natural and Cultural Resource Protection	$0.00
RR Crossing	$0.00
Roadway Contingencies	$1,765,378.00
Other Roadway Elements	$796,522.00
Totals	**$13,904,824.00**

Specific Bicycle and Pedestrian Elements

CONSTRUCTION PROJECT ELEMENTS/COST ESTIMATES	Cost
Path/Trail Construction	$398,905.00
Sidewalk Construction	$0.00
On-Street Bicycle Facility Construction	$0.00
Right-of-Way	$0.00
Pedestrian Curb Ramps (ADA)	$246,000.00

Crossing Aids (e.g., Audible Pedestrian Signals, HAWK)	$0.00
Pedestrian-scale Lighting	$0.00
Streetscaping	$0.00
Wayfinding	$0.00
Bicycle and Pedestrian Contingencies	$0.00
Other Bicycle and Pedestrian Elements	$0.00
Totals	**$644,905.00**

Specific Transit and TDM Elements

CONSTRUCTION PROJECT ELEMENTS/COST ESTIMATES	Cost
Fixed Guideway Elements	$0.00
Stations, Stops, and Terminals	$0.00
Support Facilities	$0.00
Transit Systems (e.g. communications, signals, controls, fare collection, etc.)	$0.00
Vehicles	$0.00
Contingencies	$0.00
Right-of-Way	$0.00
Other Transit and TDM Elements	$0.00
Totals	**$0.00**

Transit Operating Costs

Number of Platform hours	0
Cost Per Platform hour (full loaded Cost)	$0.00
Subtotal	$0.00
Other Costs - Administration, Overhead,etc.	$0.00

Totals

Total Cost	$14,549,729.00
Construction Cost Total	$14,549,729.00
Transit Operating Cost Total	$0.00

Congestion within Project Area:

The measure will analyze the level of congestion within the project area. Council staff will provide travel speed data on the "Level of Congestion" map. The analysis will compare the peak hour travel speed within the project area to fee-flow conditions.

Free-Flow Travel Speed:	33
Peak Hour Travel Speed:	27
Percentage Decrease in Travel Speed in Peak Hour compared to Free-Flow:	18.18%
Upload Level of Congestion map:	1647892726858_Level of Congestion Map.pdf

Congestion on adjacent Parallel Routes:

Adjacent Parallel Corridor	Anoka CSAH 14

Adjacent Parallel Corridor Start and End Points:

Start Point:	Anoka CSAH 54
End Point:	I-35E West Ramp
Free-Flow Travel Speed:	39

The Free-Flow Travel Speed is black number.

Peak Hour Travel Speed:	32

The Peak Hour Travel Speed is red number.

Percentage Decrease in Travel Speed in Peak Hour Compared to Free-Flow:	17.95%
Upload Level of Congestion Map:	1647893661867_Adjacent Parallel Corridor Congestion Map.PNG

Principal Arterial Intersection Conversion Study:

Proposed interchange or at-grade project that reduces delay at a High Priority Intersection:

(80 Points)

Proposed at-grade project that reduces delay at a Medium Priority Intersection:

(60 Points)

Proposed at-grade project that reduces delay at a Low Priority Intersection:

(50 Points)

Proposed interchange project that reduces delay at a Medium Priority Intersection:

(40 Points)

Proposed interchange project that reduces delay at a Low Priority Intersection:

(0 Points)

Not listed as a priority in the study:	Yes

(0 Points)

Measure B: Project Location Relative to Jobs, Manufacturing, and Education

Existing Employment within 1 Mile:	1864
Existing Manufacturing/Distribution-Related Employment within 1 Mile:	850
Existing Post-Secondary Students within 1 Mile:	0
Upload Map	1647892651645_Regional Economy Map.pdf

Please upload attachment in PDF form.

Measure C: Current Heavy Commercial Traffic

RESPONSE: Select one for your project, based on the updated 2021 Regional Truck Corridor Study:

Along Tier 1:	Yes
Miles:	0.7
(to the nearest 0.1 miles)	
Along Tier 2:	
Miles:	0
(to the nearest 0.1 miles)	
Along Tier 3:	Yes
Miles:	0.5
(to the nearest 0.1 miles)	
The project provides a direct and immediate connection (i.e., intersects) with either a Tier 1, Tier 2, or Tier 3 corridor:	Yes
None of the tiers:	

Measure A: Current Daily Person Throughput

Location	County Road J: Centerville Road to West I-35E Ramp
Current AADT Volume	10500
Existing Transit Routes on the Project	275

For New Roadways only, list transit routes that will likely be diverted to the new proposed roadway (if applicable).

Upload Transit Connections Map	1647894540160_Transit Connections Map.pdf

Please upload attachment in PDF form.

Response: Current Daily Person Throughput

Average Annual Daily Transit Ridership	0

Current Daily Person Throughput	13650.0

Measure B: 2040 Forecast ADT

Use Metropolitan Council model to determine forecast (2040) ADT volume	Yes
If checked, METC Staff will provide Forecast (2040) ADT volume	
OR	
Identify the approved county or city travel demand model to determine forecast (2040) ADT volume	
Forecast (2040) ADT volume	

Measure A: Engagement

i.Describe any Black, Indigenous, and People of Color populations, low-income populations, disabled populations, youth, or older adults within a ½ mile of the proposed project. Describe how these populations relate to regional context. Location of affordable housing will be addressed in Measure C.

ii.Describe how Black, Indigenous, and People of Color populations, low-income populations, persons with disabilities, youth, older adults, and residents in affordable housing were engaged, whether through community planning efforts, project needs identification, or during the project development process.

iii.Describe the progression of engagement activities in this project. A full response should answer these questions:

Response:

Ramsey County, in cooperation with Anoka County, White Bear Township, the City of Lino Lakes, the City of Oak Park and MnDOT have collaborated to conduct extensive public engagement to develop the I-35E/County Road J interchange project. As part of this outreach, a May 24th open house meeting is planned from 4 pm to 7 pm at Tamarack Nature Center. 1,025 direct mailings are planned to businesses and residents in the project area for this meeting. 100 flyers were personally distributed to 16 businesses in the immediate project area in early April about the project and upcoming May 24, 2022 open house.

Public engagement has also included a project website that went live in late summer of 2021 (https://www.ramseycounty.us/residents/roads-transportation/future-road-projects/future-road-construction-projects/county-road-j-i-35e-interchange). Since this website was launched, it has collected over 1,400 views. Online engagement has also included social media posts on Facebook, Twitter and Instagram collecting more than 8,000 impressions. Over the last year, North Metro TV, the Star-Tribune newspaper and the Press Pub newspaper have all also ran stories about the project.

In December 2021 and January 2022, Ramsey County engaged the equity populations associated with the senior housing and businesses within a ½ mile of I-35 and County Road J. These specific meetings revealed the following information related to equity populations associated with these establishments and their transportation needs within the project area:

Waverly Gardens Retirement Community: 20

percent of their 400 residents represent BIPOC populations. 40 percent of their 300 employees represent BIPOC populations.

Par Aide: More than half of their employees travel from the north and would benefit from the new north I-35E ramps.

Specialty Manufacturing: 80 percent of staff represent BIPOC (Hmong and Hispanic). 90 percent of staff use I-35E ramps.

Schwing America: 10 percent of their employees represent BIPOC (Hispanic and Hmong) populations and less fluent in English. Bike, walk, and driving are their mode of transportation. A significant amount of truck traffic associated with their business and rely on safe access to and from I-35E. Large seven axle truck and mounted boom trucks.

(See attached Business Survey Comments).

193 comments were received from the Ramsey County on-line mapping tool regarding the project scope, including the following key highlights:

- 26 comments favoring the need for a multiuse trail.

- 21 comments favoring the need for ramp access to and from the north.

- 49 comments favoring the need for roundabouts to replace existing all-way stop and signalized intersections.

(See attached On-Line Mapping Tool Public Comments).

(Limit 2,800 characters; approximately 400 words):

Measure B: Equity Population Benefits and Impacts

Describe the projects benefits to Black, Indigenous, and People of Color populations, low-income populations, children, people with disabilities, youth, and older adults. Benefits could relate to:
This is not an exhaustive list. A full response will support the benefits claimed, identify benefits specific to Equity populations residing or engaged in activities near the project area, identify benefits addressing a transportation issue affecting Equity populations specifically identified through engagement, and substantiate benefits with data.
Acknowledge and describe any negative project impacts to Black, Indigenous, and People of Color populations, low-income populations, children, people with disabilities, youth, and older adults. Describe measures to mitigate these impacts. Unidentified or unmitigated negative impacts may result in a reduction in points.
Below is a list of potential negative impacts. This is not an exhaustive list.

Response:

The recent business survey (see attached Survey Comments) revealed that Schwing, Specialty Manufacturing and Waverly Gardens Retirement Community, all located immediately adjacent to the project, collectively employ approximately 625 staff, including 205 BIPOC. This survey revealed that approximately 90 percent of the equity populations employed by these businesses depend on the I-35E/County Road J interchange, County Road J and Centerville Road through the project area to drive to and from work. Visitors, delivery drivers and emergency response personnel supporting the 400 residents at Waverly Gardens Retirement Community also rely heavily on the I-35E/County Road J interchange, County Road J and Centerville Road to access this facility.

Travel times for emergency response calls to Waverly Gardens are expected to improve as a result of the new full movement interchange and replacement of stop control and signal control intersections with roundabouts along County Road J. Provision of the full movement interchange will also allow equity populations living in Lino Lakes and other communities north of the interchange to have improved travel times and more direct travel paths to and from Schwing, Specialty Manufacturing, Waverly Gardens and other businesses serving or employing equity populations in the vicinity of the I-35E/County Road J interchange.

As a result of the project, the 205 BIPOC employees at Schwing, Specialty Manufacturing, and Waverly Gardens as well as the 482 disabled individuals, the 771 elderly 65 or older and the 1,411 youth under 18 within a ½ mile of the project will be able to bike or walk along the new County Road J separated and ADA compliant multiuse trail. The Wilkinson Soccer Field, located just south of County Road J along Centerville Road regularly

hosts youth soccer games and will also benefit from the new County Road J/Ash Street trail. The new trail will greatly improve the overall biking and walking experience and personal health for all equity populations living and working in the vicinity of the project. The new trail will also greatly improve safety by negating the need for equity populations to walk and bike along the roadway shoulder in close proximity to heavy truck traffic serving the nearby industrial park and traffic volumes of 10,500 AADT along County Road J. All of the above referenced improvements will benefit equity populations while avoiding negative impacts to these users.

(Limit 2,800 characters; approximately 400 words):

Measure C: Affordable Housing Access

Describe any affordable housing developmentsexisting, under construction, or plannedwithin ½ mile of the proposed project. The applicant should note the number of existing subsidized units, which will be provided on the Socio-Economic Conditions map. Applicants can also describe other types of affordable housing (e.g., naturally-occurring affordable housing, manufactured housing) and under construction or planned affordable housing that is within a half mile of the project. If applicable, the applicant can provide self-generated PDF maps to support these additions. Applicants are encouraged to provide a self-generated PDF map describing how a project connects affordable housing residents to destinations (e.g., childcare, grocery stores, schools, places of worship).

Describe the projects benefits to current and future affordable housing residents within ½ mile of the project. Benefits must relate to affordable housing residents. Examples may include:

This is not an exhaustive list. Since residents of affordable housing are more likely not to own a private vehicle, higher points will be provided to roadway projects that include other multimodal access improvements. A full response will support the benefits claimed, identify benefits specific to residents of affordable housing, identify benefits addressing a transportation issue affecting residents of affordable housing specifically identified through engagement, and substantiate benefits with data.

Response:

There are no publicly subsidized housing units within ½ mile of the project, however, of the approximately 2,072 households within this area, 168 (8 percent) have an annual income of less than the poverty threshold of $35,000. Three-hundred thirty-seven (16 percent) of households within ½ mile of the project are also cost burdened, spending more than 30 percent of their income on housing costs (see attached Equity and Housing Profile).

The new interchange ramps north of County Road J/Ash Street and new roundabouts along County Road J/Ash Street will improve travel times and provide a safer driving experience for financially disadvantaged housing residents traveling to and from major destinations in the interchange area such as Schwing, Specialty Manufacturing, Waverly Gardens, Wilkinson Soccer Field, Tria Restaurant Bar and Event Center, Bald Eagle-Otter Lake Regional Park and Emagine White Bear movie theatre. Reduced congestion at the I-35E/Main Street interchange located approximately three miles north of the I-35E/County Road J interchange will also benefit the 28 publicly subsidized housing units located within a ½ mile of that interchange (see attached I-35E_Main Street Socio-Economic Conditions map).

The new separated ADA compliant trail along the south side of County Road J/Ash Street will allow residents living in the financially disadvantaged housing units within a ½ mile of the I-35E/County Road J interchange to bike and walk on a safe multimodal facility separated from the roadway, instead of using the dangerous roadway shoulder in close proximity to heavy truck traffic and traffic volumes of 10,500 AADT. The ADA ramps connecting the trail to the roadway will also benefit disabled individuals, bikers and parents with baby strollers living in nearby financially disadvantaged

housing units.

(Limit 2,800 characters; approximately 400 words):

Measure D: BONUS POINTS

Project is located in an Area of Concentrated Poverty:	
Projects census tracts are above the regional average for population in poverty or population of color (Regional Environmental Justice Area):	
Project located in a census tract that is below the regional average for population in poverty or populations of color (Regional Environmental Justice Area):	Yes
Upload the Socio-Economic Conditions map used for this measure.	1647979705794_Socio Economic Map.pdf

Measure A: Infrastructure Age

Year of Original Roadway Construction or Most Recent Reconstruction	Segment Length	Calculation	Calculation 2
1935.0	0.47	909.45	1935.0
	0	**909**	**1935**

Average Construction Year

Weighted Year	1935.0

Total Segment Length (Miles)

Total Segment Length	0.47

Measure A: Congestion Reduction/Air Quality

Total Peak Hour Delay Per Vehicle Without The Project (Seconds/ Vehicle)	Total Peak Hour Delay Per Vehicle With The Project (Seconds/ Vehicle)	Total Peak Hour Delay Per Vehicle Reduced by Project (Seconds/ Vehicle)	Volume without the Project (Vehicles per hour)	Volume with the Project (Vehicles Per Hour):	Total Peak Hour Delay Reduced by the Project:	Total Peak Hour Delay Reduced by the Project:	EXPLANATION of methodology used to calculate railroad crossing delay, if applicable.	Synchro or HCM Reports
15.0	15.0	0	1585	1495	0	0	N/A	1648152946402_I-35E_Cty Rd J Synchro Traffic Analysis.pdf
14.0	15.0	-1	1480	1405	-1480	-1405	N/A	1648153004045_I-35E_Cty Rd J Synchro Traffic Analysis.pdf
0	0	0	1655	1650	0	0	N/A	1648153059535_I-35E_Cty Rd J Synchro Traffic Analysis.pdf
11.0	10.0	1.0	2470	2520	2470.0	2520.0	N/A	1648153171635_I-35E_Cty Rd J Synchro Traffic Analysis.pdf

20.0	17.0	3.0	2520	2500	7560.0	7500.0	N/A	1648153266721_I-35E_Cty Rd J Synchro Traffic Analysis.pdf
85.0	10.0	75.0	1703	1830	127725.0	137250.0	N/A	1648153314954_I-35E_Cty Rd J Synchro Traffic Analysis.pdf
3.0	13.0	-10	1410	1635	-14100	-16350	N/A	1648153363062_I-35E_Cty Rd J Synchro Traffic Analysis.pdf
36.0	32.0	4.0	1215	1573	4860.0	6292.0	N/A	1648153420389_I-35E_Cty Rd J Synchro Traffic Analysis.pdf
13.0	0	13.0	957	0	12441.0	0	N/A	1648153512956_I-35E_Cty Rd J Synchro Traffic Analysis.pdf
						135807		

Vehicle Delay Reduced

Total Peak Hour Delay Reduced	139476.0
Total Peak Hour Delay Reduced	135807.0

Measure B:Roadway projects that do not include new roadway segments or railroad grade-separation elements

Total (CO, NOX, and VOC) Peak Hour Emissions without the Project (Kilograms):	Total (CO, NOX, and VOC) Peak Hour Emissions with the Project (Kilograms):	Total (CO, NOX, and VOC) Peak Hour Emissions Reduced by the Project (Kilograms):
25.59	21.32	4.27
26	**21**	**4**

Total

Total Emissions Reduced:	4.27
Upload Synchro Report	1648153918678_I-35E_Cty Rd J Synchro Traffic Analysis.pdf

Please upload attachment in PDF form. (Save Form, then click 'Edit' in top right to upload file.)

Measure B: Roadway projects that are constructing new roadway segments, but do not include railroad grade-separation elements (for Roadway Expansion applications only):

Total (CO, NOX, and VOC) Peak Hour Emissions without the Project (Kilograms):	Total (CO, NOX, and VOC) Peak Hour Emissions with the Project (Kilograms):	Total (CO, NOX, and VOC) Peak Hour Emissions Reduced by the Project (Kilograms):
0	**0**	**0**

Total Parallel Roadway

Emissions Reduced on Parallel Roadways	0
Upload Synchro Report	

Please upload attachment in PDF form. (Save Form, then click 'Edit' in top right to upload file.)

New Roadway Portion:

Cruise speed in miles per hour with the project:	0
Vehicle miles traveled with the project:	0
Total delay in hours with the project:	0
Total stops in vehicles per hour with the project:	0
Fuel consumption in gallons:	0
Total (CO, NOX, and VOC) Peak Hour Emissions Reduced or Produced on New Roadway (Kilograms):	0

EXPLANATION of methodology and assumptions used:(Limit 1,400 characters; approximately 200 words)	
Total (CO, NOX, and VOC) Peak Hour Emissions Reduced by the Project (Kilograms):	0.0

Measure B:Roadway projects that include railroad grade-separation elements

Cruise speed in miles per hour without the project:	0
Vehicle miles traveled without the project:	0
Total delay in hours without the project:	0
Total stops in vehicles per hour without the project:	0
Cruise speed in miles per hour with the project:	0
Vehicle miles traveled with the project:	0
Total delay in hours with the project:	0
Total stops in vehicles per hour with the project:	0
Fuel consumption in gallons (F1)	0
Fuel consumption in gallons (F2)	0
Fuel consumption in gallons (F3)	0
Total (CO, NOX, and VOC) Peak Hour Emissions Reduced by the Project (Kilograms):	0
EXPLANATION of methodology and assumptions used:(Limit 1,400 characters; approximately 200 words)	

Measure A: Benefit of Crash Reduction

Crash Modification Factor Used:	Convert side street stop to Roundabout, convert stop controlled intersection to roundabout, and crash reductions based on volume reductions.

(Limit 700 Characters; approximately 100 words)

Rationale for Crash Modification Selected:	The CMF used for roundabouts was found to be the most applicable for the intersection improvements. Engineering judgement was used to determine that angle and left-turn crashes will no longer occur at the roundabouts, as those types of movements are eliminated, therefore, a CMF of 0.00 can be used. For the crash reductions based on the volumes at the Anoka CSAH 14 intersections, there are no specific intersection improvements, but as a result of the new on and off ramps at County Road J, there is a reduction in traffic volumes at some of the intersections. Therefore, a crash analysis was completed to determine how many crashes would be reduced with the volume reductions in order to have a similar intersection crash rate in the before/after analysis.

(Limit 1400 Characters; approximately 200 words)

Project Benefit ($) from B/C Ratio:	$5,446,705.00
Total Fatal (K) Crashes:	0
Total Serious Injury (A) Crashes:	0
Total Non-Motorized Fatal and Serious Injury Crashes:	0
Total Crashes:	61
Total Fatal (K) Crashes Reduced by Project:	0
Total Serious Injury (A) Crashes Reduced by Project:	0
Total Non-Motorized Fatal and Serious Injury Crashes Reduced by Project:	0
Total Crashes Reduced by Project:	13
Worksheet Attachment	1648845734146_2019-2021 Crash Analysis and Benefit Cost.pdf

Please upload attachment in PDF form.

Roadway projects that include railroad grade-separation elements:

Current AADT volume:	0
Average daily trains:	0
Crash Risk Exposure eliminated:	0

Measure A: Pedestrian Safety

Determine if these measures do not apply to your project. *Does the project match either of the following descriptions?*
If either of the items are checked yes, then ***score for entire pedestrian safety measure is zero****. Applicant does not need to respond to the sub-measures and can proceed to the next section.*

Project is primarily a freeway (or transitioning to a freeway) and does not provide safe and comfortable pedestrian facilities and crossings.	No
Existing location lacks any pedestrian facilities (e.g., sidewalks, marked crossings, wide shoulders in rural contexts) and project does not add pedestrian elements (e.g., reconstruction of a roadway without sidewalks, that doesnt also add pedestrian crossings and sidewalk or sidepath on one or both sides).	No

SUB-MEASURE 1: Project-Based Pedestrian Safety Enhancements and Risk Elements
To receive maximum points in this category, pedestrian safety countermeasures selected for implementation in projects should be, to the greatest extent feasible, consistent with the countermeasure recommendations in the Regional Pedestrian Safety Action Plan and state and national best practices. Links to resources are provided on the Regional Solicitation Resources web page.
Please answer the following two questions with as much detail as possible based on the known attributes of the proposed design. If any aspect referenced in this section is not yet determined, describe the range of options being considered, to the greatest extent available. If there are project elements that may increase pedestrian risk, describe how these risks are being mitigated.
1. Describe how this project will address the safety needs of people crossing the street at signalized intersections, unsignalized intersections, midblock locations, and roundabouts.
Treatments and countermeasures should be well-matched to the roadways context (e.g., appropriate for the speed, volume, crossing distance, and other location attributes). Refer to the Regional Solicitation Resources web page for guidance links.

There are currently no bicycle or pedestrian facilities along the existing County Road J project segment extending from Centerville Road to Otter Lake Road. The existing project segment is posted at 40 miles per hour and has an existing AADT of 10,500. The existing cross section includes a two-lane roadway with paved shoulders of varying widths and right-turn lanes along County Road J approaching Otter Lake Road and Centerville Road. The existing intersections of County Road J/Centerville Road and County Road J/Otter Lake Road are stop controlled. The existing east and west ramp terminal intersections of I-35E/County Road J are both controlled with signals. There are no marked pedestrian crossings and no Accessible Pedestrian Signals (APS) along the project segment at mid-block locations or intersections.

Response:

The project will address the safety needs of pedestrians and bicyclists crossing the street at the County Road J intersections. Improvements will include pedestrian safety strategies identified in PEDSAFE, such as the replacement of four existing stop controlled/signal controlled intersections along County Road J with roundabouts and raised center medians for all approaches. Other countermeasures to improve pedestrian safety and mobility include the construction of a separated multiuse trail on the south side of County Road J from Otter Lake Road to Centerville Road, including the County Road J bridge over I-35 E. The new trail will extend around the perimeter of all three roundabouts and will include ADA compliant pedestrian ramps at all roadway and trail transition areas. All three roundabouts will include marked pedestrian crossings and center median pedestrian refuge islands at all approaches. These ADA improvements are consistent with the MnDOT's Best Practices for Pedestrians/Bicycle Safety.

The final result of the project will be a much safer and comfortable user experience for pedestrians by providing a new trail separated from heavy vehicle and truck traffic driving at high speeds. Crossing locations will also be well signed and marked with ample lighting. Pedestrian crossing distances will also be significantly reduced from a maximum of approximately 75 feet today under current conditions to a maximum of approximately 12 feet under the new design with removal of exiting right turn lanes and construction of roundabouts with center median refuges.

(Limit 2,800 characters; approximately 400 words)

Is the distance in between signalized intersections increasing (e.g., removing a signal)?

Select one: No

If yes, describe what measures are being used to fill the gap between protected crossing opportunities for pedestrians (e.g., adding High-Intensity Activated Crosswalk beacons to help motorists yield and help pedestrians find a suitable gap for crossing, turning signal into a roundabout to slow motorist speed, etc.).

Response:

(Limit 1,400 characters; approximately 200 words)

Will your design increase the crossing distance or crossing time across any leg of an intersection? (e.g., by adding turn or through lanes, widening lanes, using a multi-phase crossing, prohibiting crossing on any leg of an intersection, pedestrian bridge requiring length detour, etc.). This does not include any increases to crossing distances solely due to the addition of bike lanes (i.e., no other through or turn lanes being added or widened).

Select one: No

If yes,
How many intersections will likely be affected?

Response: 0

Describe what measures are being used to reduce exposure and delay for pedestrians (e.g., median crossing islands, curb bulb-outs, etc.)

Response: N/A

(Limit 1,400 characters; approximately 200 words)

If grade separated pedestrian crossings are being added and increasing crossing time, describe any features that are included that will reduce the detour required of pedestrians and make the separated crossing a more appealing option (e.g., shallow tunnel that doesnt require much elevation change instead of pedestrian bridge with numerous switchbacks).

Response: N/A

(Limit 1,400 characters; approximately 200 words)

If mid-block crossings are restricted or blocked, explain why this is necessary and how pedestrian crossing needs and safety are supported in other ways (e.g., nearest protected or enhanced crossing opportunity).

Response: N/A

(Limit 1,400 characters; approximately 200 words)

2. Describe how motorist speed will be managed in the project design, both for through traffic and turning movements. *Describe any project-related factors that may affect speed directly or indirectly, even if speed is not the intended outcome (e.g., wider lanes and turning radii to facilitate freight movements, adding turn lanes to alleviate peak hour congestion, etc.). Note any strategies or treatments being considered that are intended to help motorists drive slower (e.g., visual narrowing, narrow lanes, truck aprons to mitigate wide turning radii, etc.) or protect pedestrians if increasing motorist speed (e.g., buffers or other separation from moving vehicles, crossing treatments appropriate for higher speed roadways, etc.).*

Response:

The project will replace four existing stop controlled/signal controlled intersections with turn lanes at two locations and no center median refuges with three roundabouts that have center median refuges at all approaches. The new raised center median along the entire County Road J project segment in conjunction with the curvilinear design of the roundabouts are expected to have a calming affect on motorist speeds. The roundabouts will also be designed with mountable center aprons to accommodate freight movement and mitigate the need for wide turning radii.

(Limit 2,800 characters; approximately 400 words)

If known, what are the existing and proposed design, operation, and posted speeds? Is this an increase or decrease from existing conditions?

Response:

The existing design along County Road J has a posted speed is 40 MPH. The existing design along County Road J has an operating speed of 40 MPH.

The new design along County Road J will have a posted speed of 40 MPH. The new design along County Road J will have an operating speed of 40 MPH.

(Limit 1,400 characters; approximately 200 words)

SUB-MEASURE 2: Existing Location-Based Pedestrian Safety Risk Factors

These factors are based on based on trends and patterns observed in pedestrian crash analysis done for the Regional Pedestrian Safety Action Plan. Check off how many of the following factors are present. Applicants receive more points if more risk factors are present.

Existing road configuration is a One-way, 3+ through lanes
or

Existing road configuration is a Two-way, 4+ through lanes

Existing road has a design speed, posted speed limit, or speed study/data showing 85th percentile travel speeds in excess of 30 MPH or more

Yes

Existing road has AADT of greater than 15,000 vehicles per day

List the AADT

SUB-MEASURE 3: Existing Location-Based Pedestrian Safety Exposure Factors

These factors are based on based on trends and patterns observed in pedestrian crash analysis done for the Regional Pedestrian Safety Action Plan. Check off how many of the following existing location exposure factors are present. Applicants receive more points if more risk factors are present.

Existing road has transit running on or across it with 1+ transit stops in the project area (If flag-stop route with no fixed stops, then 1+ locations in the project area where roadside stops are allowed. Do not count portions of transit routes with no stops, such as non-stop freeway sections of express or limited-stop routes. If service was temporarily reduced for the pandemic but is expected to return to 2019 levels, consider 2019 service for this item.)

Existing road has high-frequency transit running on or across it and 1+ high-frequency stops in the project area (high-frequency defined as service at least every 15 minutes from 6am to 7pm weekdays and 9am to 6pm Saturdays. If service frequency was temporarily reduced for the pandemic but is expected to return to 2019 levels, consider 2019 frequency for this item.)

Existing road is within 500 of 1+ shopping, dining, or entertainment destinations (e.g., grocery store, restaurant)

Yes

If checked, please describe:

Tria Restaurant Bar and Event Center

5959 Centerville Road

North Oaks, MN 55127

(Limit 1,400 characters; approximately 200 words)

Existing road is within 500 of other known pedestrian generators (e.g., school, civic/community center, senior housing, multifamily housing, regulatorily-designated affordable housing)

Yes

If checked, please describe:

Waverly Gardens Retirement Community

5919 Centerville Road

North Oaks, MN 55127

(Limit 1,400 characters; approximately 200 words)

Measure A: Multimodal Elements and Existing Connections

Response:

The I-35E/County Road J interchange project improves the travel experience and safety for all modes of transportation.

Bicycles and Pedestrians

There are no existing bicycle or pedestrian facilities along County Road J from Centerville Road to Otter Lake Road, including the I-35E bridge crossing. I-35E is an "expressway barrier" and County Road J is a Tier 1 barrier crossing as depicted on Figure 3 defined in the 2040 TPP and May 2019 Technical Addendum.

The proposed trail on the south side of County Road J from Centerville Road to Otter Lake Road will connect to a planned Tier 2 RBTN along Centerville Road and will provide an improved crossing of the County Road J and I-35E barriers. As a result of the trail improvement, Waverly Gardens senior housing residents will be able to travel to retail destinations such as the Emagine movie theater and restaurants to the east. Families living east of I-35E will also have a safe pedestrian facility over the freeway to access retail to the east of the Interstate. These multimodal improvements also provide a healthy alternative for the elderly and families to exercise daily.

The proposed project involves Ramsey County, Anoka County, Lino Lakes, North Oaks and White Bear Township. Ramsey County's Bike Plan (attached) includes planned east-west trails along County Road J, continuing along Centerville Road and Otter Lake Road. The I-35E/County Road J trail project fulfills a commitment by Ramsey County in these plans to address a key trail barrier across I-35E that can be built upon by other

communities.

Transit

The project area is defined by Metropolitan Council in the 2040 Transportation Policy Plan (TPP) as Transit Market Area IV, characterized by a high rate of auto ownership and suburban edge and emerging suburban edge land use densities. Currently, the project at I-35E connects with Metro Transit Route 275, an express route from Lino Lakes to downtown St. Paul with a park-and-ride to the north at CSAH 14. Although Route 275 does not currently stop along County Road J, the additional ramp access would enable consideration of a future stop as the area continues to develop. Metro Mobility services within the project area are provided by Metro East Zone: First Transit.

ADA

The Ramsey County ADA Transition Plan (attached) does not specifically identify deficient ADA project locations throughout the county. However, proposed ADA improvements as part of the I-35E/County Road J interchange project are consistent with general strategies outlined in the Ramsey County ADA
Transition Plan.

(Limit 2,800 characters; approximately 400 words)

Transit Projects Not Requiring Construction

If the applicant is completing a transit application that is operations only, check the box and do not complete the remainder of the form. These projects will receive full points for the Risk Assessment.
Park-and-Ride and other transit construction projects require completion of the Risk Assessment below.

Check Here if Your Transit Project Does Not Require Construction

Measure A: Risk Assessment - Construction Projects

1.Public Involvement (20 Percent of Points)

Projects that have been through a public process with residents and other interested public entities are more likely than others to be successful. The project applicant must indicate that events and/or targeted outreach (e.g., surveys and other web-based input) were held to help identify the transportation problem, how the potential solution was selected instead of other options, and the public involvement completed to date on the project. The focus of this section is on the opportunity for public input as opposed to the quality of input. NOTE: A written response is required and failure to respond will result in zero points.

Multiple types of targeted outreach efforts (such as meetings or online/mail outreach) specific to this project with the general public and partner agencies have been used to help identify the project need.

Yes

100%

At least one meeting specific to this project with the general public has been used to help identify the project need.

50%

At least online/mail outreach effort specific to this project with the general public has been used to help identify the project need.

50%

No meeting or outreach specific to this project was conducted, but the project was identified through meetings and/or outreach related to a larger planning effort.

25%

No outreach has led to the selection of this project.

0%

Describe the type(s) of outreach selected for this project (i.e., online or in-person meetings, surveys, demonstration projects), the method(s) used to announce outreach opportunities, and how many people participated. Include any public website links to outreach opportunities.

Response:

Ramsey County, in cooperation with Anoka County, White Bear Township, the City of Lino Lakes, the City of North Oaks and MnDOT have collaborated to conduct extensive public engagement for the I-35E/County Road J interchange project. As part of this outreach, a May 24th open house meeting is planned from 4 pm to 7 pm at Tamarack Nature Center. 1,025 direct mailings are planned to businesses and residents in the project area for this meeting. 100 flyers were also personally distributed to 16 businesses in the immediate project area in early April overviewing the project and the upcoming open house.

Online engagement has included 6 separate social media posts on Facebook, Twitter and Instagram collecting more than 8,000 impressions. Over the last year, North Metro TV, the Star-Tribune newspaper and the Press Pub newspaper have all also ran stories about the project.

A project website collecting over 1,400 views was launched in late summer of 2021. This website link provides further information about the web page content:

https://www.ramseycounty.us/residents/roads-transportation/future-road-projects/future-road-construction-projects/county-road-j-i-35e-interchange

As part of the project website, an online interactive mapping tool was also used to collect public input (see attached On-Line Mapping Tool Public Comments). One-hundred-ninety two individual comments were received from the public via this on-line mapping tool regarding the proposed project scope and other project issues. In-person surveys were also conducted in December 2021 and January 2022 with key employers near the project

to better understand how they use the I-35E/County Road J interchange and County Road J corridor. Businesses interviewed included Par Aide Products, Schwing America, Inc., Specialty Manufacturing and Waverly Gardens Senior Living Community (see attached Survey Comments).

Project partner, Anoka County, has also assisted with public engagement with development of their own project website, solicitation of feedback through an online survey and a web-based mapping interface. Residents could also connect with Anoka County staff about the project via an online live chat feature on the project website on March 30th from 11 am to 2 pm and March 31st from 11 am to 1 pm. The project website and online ?Live Chat? opportunity was advertised through press releases and social media (see attached Anoka County Project Website for I-35E_CR J Interchange).

(Limit 2,800 characters; approximately 400 words)

2.Layout (25 Percent of Points)

Layout includes proposed geometrics and existing and proposed right-of-way boundaries. A basic layout should include a base map (north arrow; scale; legend; city and/or county limits; existing ROW, labeled; existing signals;* and bridge numbers*) and design data (proposed alignments; bike and/or roadway lane widths; shoulder width;* proposed signals;* and proposed ROW). An aerial photograph with a line showing the projects termini does not suffice and will be awarded zero points. *If applicable*

Layout approved by the applicant and all impacted jurisdictions (i.e., cities/counties/MnDOT. If a MnDOT trunk highway is impacted, approval by MnDOT must have occurred to receive full points. A PDF of the layout must be attached along with letters from each jurisdiction to receive points.

100%

A layout does not apply (signal replacement/signal timing, stand-alone streetscaping, minor intersection improvements). Applicants that are not certain whether a layout is required should contact Colleen Brown at MnDOT Metro State Aid colleen.brown@state.mn.us.

100%

For projects where MnDOT trunk highways are impacted and a MnDOT Staff Approved layout is required. Layout approved by the applicant and all impacted local jurisdictions (i.e., cities/counties), and layout review and approval by MnDOT is pending. A PDF of the layout must be attached along with letters from each jurisdiction to receive points.

75%

Layout completed but not approved by all jurisdictions. A PDF of the layout must be attached to receive points. Yes

50%

Layout has been started but is not complete. A PDF of the layout must be attached to receive points.

25%

Layout has not been started

0%

Attach Layout 1648561591900_County Road J_I-35E Interchange Layout.pdf

Please upload attachment in PDF form.

Additional Attachments

Please upload attachment in PDF form.

3.Review of Section 106 Historic Resources (15 Percent of Points)

No known historic properties eligible for or listed in the National Register of Historic Places are located in the project area, and project is not located on an identified historic bridge Yes

100%

There are historical/archeological properties present but determination of no historic properties affected is anticipated.

100%

Historic/archeological property impacted; determination of no adverse effect anticipated

80%

Historic/archeological property impacted; determination of adverse effect anticipated

40%

Unsure if there are any historic/archaeological properties in the project area.

0%

Project is located on an identified historic bridge

4.Right-of-Way (25 Percent of Points)

Right-of-way, permanent or temporary easements, and MnDOT agreement/limited-use permit either not required or all have been acquired

100%

Right-of-way, permanent or temporary easements, and/or MnDOT agreement/limited-use permit required - plat, legal descriptions, or official map complete

50%

Right-of-way, permanent or temporary easements, and/or MnDOT agreement/limited-use permit required - parcels identified

25%

Right-of-way, permanent or temporary easements, and/or MnDOT agreement/limited-use permit required - parcels not all identified Yes

0%

5.Railroad Involvement (15 Percent of Points)

No railroad involvement on project or railroad Right-of-Way agreement is executed (include signature page, if applicable) Yes

100%

Signature Page

Please upload attachment in PDF form.

Railroad Right-of-Way Agreement required; negotiations have begun

50%

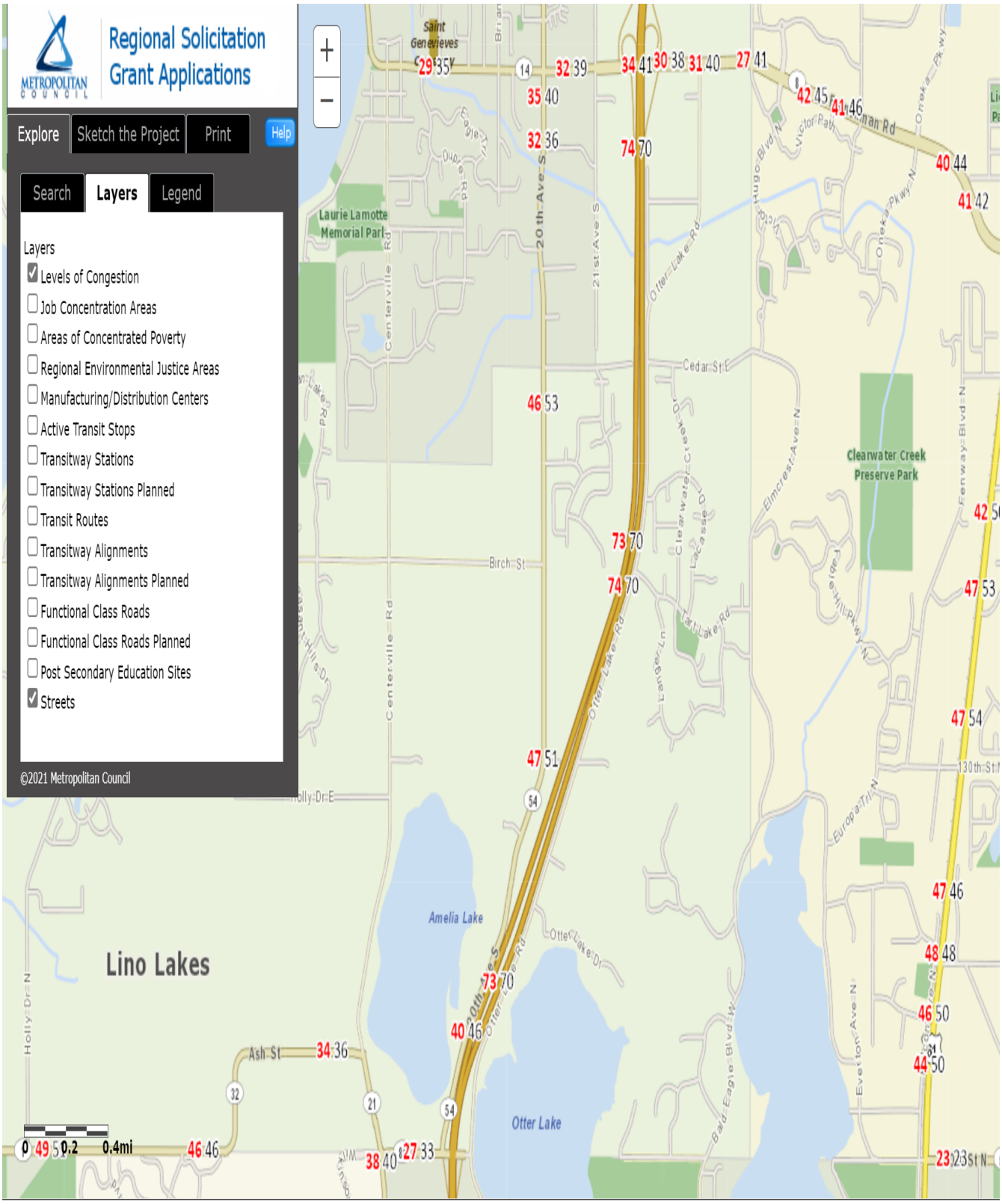
Railroad Right-of-Way Agreement required; negotiations have not begun.

0%

Measure A: Cost Effectiveness

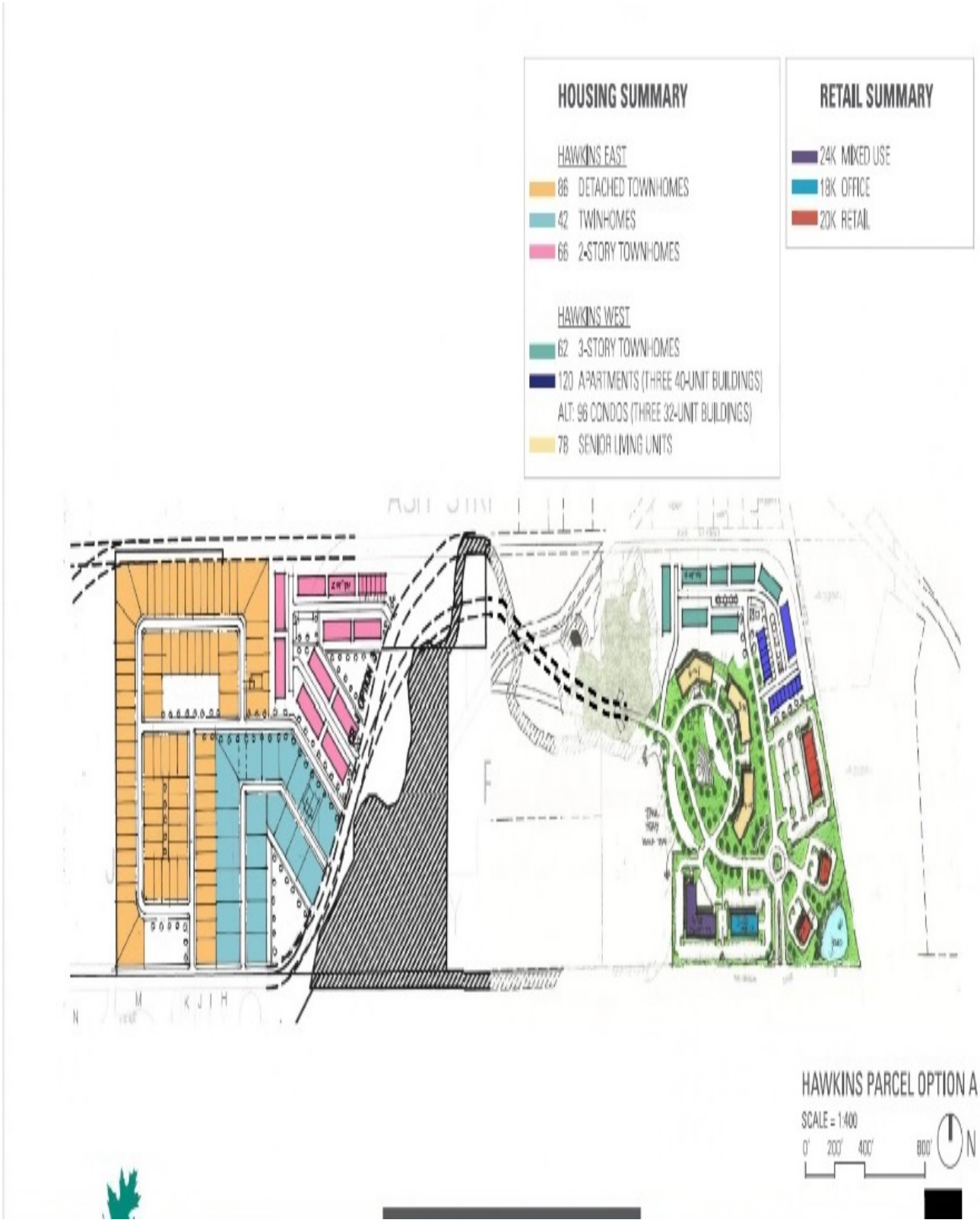
Total Project Cost (entered in Project Cost Form):	$14,549,729.00
Enter Amount of the Noise Walls:	$0.00
Total Project Cost subtract the amount of the noise walls:	$14,549,729.00
Enter amount of any outside, competitive funding:	$0.00
Attach documentation of award:	
Points Awarded in Previous Criteria	
Cost Effectiveness	$0.00

Other Attachments



Adjacent Parallel Corridor Congestion

1.0 MB



North Oaks Proposed Development

115 KB

HOUSING SUMMARY

HAWKINS EAST

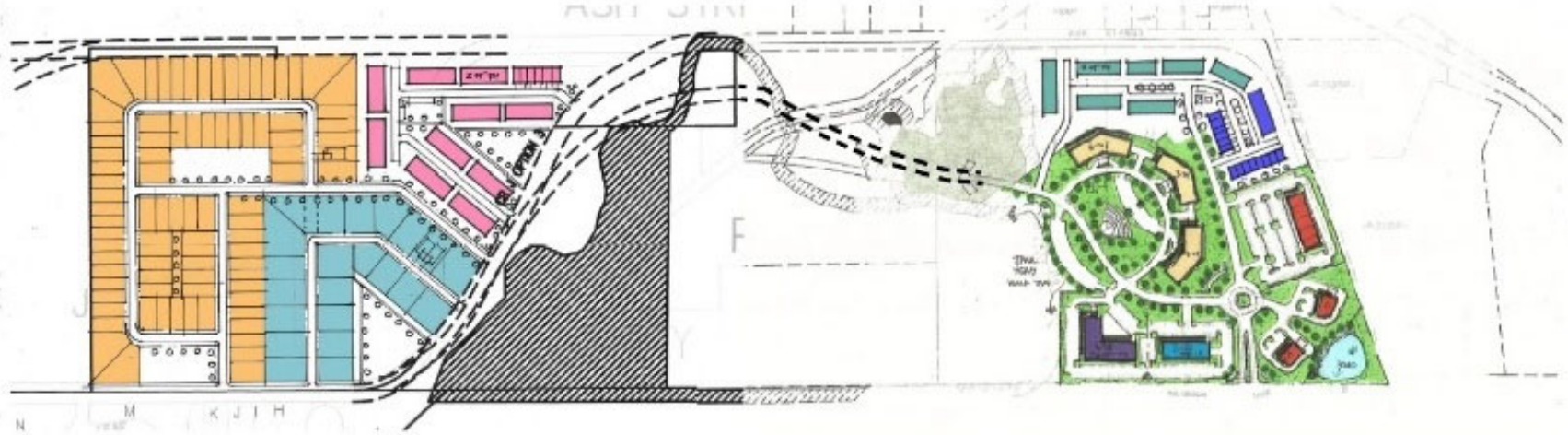
- 86 DETACHED TOWNHOMES
- 42 TWINHOMES
- 66 2-STORY TOWNHOMES

HAWKINS WEST

- 62 3-STORY TOWNHOMES
- 120 APARTMENTS (THREE 40-UNIT BUILDINGS)
  ALT: 96 CONDOS (THREE 32-UNIT BUILDINGS)
- 78 SENIOR LIVING UNITS

RETAIL SUMMARY

- 24K MIXED USE
- 18K OFFICE
- 20K RETAIL



HAWKINS PARCEL OPTION A

SCALE = 1:400

0' 200' 400' 800' N

File Name	Description	File Size
1997 RC ADA Transition Plan.pdf	Ramsey County ADA Transition Plan, 1997	256 KB
2019-2021 Crash Analysis and Benefit Cost.pdf	2019-2021 Crash and Benefit Cost Analysis	521 KB
Advancing Racial and Health Equity and Shared Community Power _ Ramsey County.pdf	Ramsey County Racial and Health Equity and Shared Community Power Strategy	365 KB
Anoka County Project Website for I-35E_CR J Interchange.pdf	Anoka County Project Website for I-35E/CR J Interchange	590 KB
Anoka County TIP - Project Reference.pdf	Anoka County 2022-2026 TIP Project Reference	74 KB
County Road J_I-35E Interchange Layout.pdf	I-35E/County Road J Design Concept Layout	2.2 MB
Economic Competitiveness and Inclusion _ Ramsey County.pdf	Ramsey County Economic Competitiveness and Inclusion Strategy	368 KB
Engineer's Detailed Cost Estimate.pdf	Engineer's Preliminary Detailed Cost Estimate	109 KB
Equity and Housing Profile.pdf	US Census Equity and Housing Profile	658 KB
I-35E_CR J Interchange One-Pager.pdf	I-35E/CR J Interchange One-Page Project Summary	245 KB
I-35E_Main Street Socio-Economic Conditions.pdf	I-35E/Main Street Socio-Economic Conditions	1.5 MB
Letters of Support - All.pdf	Agency Letters of Support	1.3 MB
Level of Congestion Map.pdf	I-35E/County Road J Level of Congestion Map	5.3 MB
NEPA Agency Coordination Schedule.pdf	NEPA Agency Coordination Schedule	129 KB
On-Line Mapping Tool Public Comments.pdf	Project Website Online Mapping Tool Public Comments	114 KB
Project Location Map.pdf	Project Location Map	5.3 MB
Project Site Photos.pdf	Project Site Photos/I-35E NB Ramp Queuing	765 KB
Ramsey County Bike Plan.pdf	Ramsey County Bike Plan	4.7 MB
Ramsey County TIP - Project Reference.pdf	Ramsey County TIP Project Reference	1.4 MB
Regional Economy Map.pdf	I-35E/County Road J Regional Economy Map	2.4 MB
Socio Economic Map.pdf	I-35E/County Road J Socio-Economic Map	2.4 MB

Synchro Traffic Analysis.pdf	Synchro Traffic Operations Tables	666 KB
Transit Connections Map.pdf	I-35E/County Road J Transit Connections Map	2.4 MB

A D A

RAMSEY COUNTY

THE AMERICANS WITH DISABILITIES ACT

COMPLIANCE REPORT & TRANSITION PLAN UPDATE

June, 1997

RAMSEY COUNTY ADA POLICY STATEMENT

Ramsey County and its various departments and divisions are committed to full implementation of both the spirit and the letter of the Americans With Disabilities Act. The County will respond quickly, fully, and fairly to all complaints related to the Americans With Disabilities Act.

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I. COUNTY-WIDE EVALUATION UPDATE

A. INTRODUCTION

The landmark Americans with Disabilities Act of 1990 (ADA), enacted on July 26, 1990, provides comprehensive civil rights protection to individuals with disabilities in the area of employment, public accommodations, state and local government services and telecommunications. This report concentrates on that portion of the Act under Title II that requires all programs, services and activities provided by public entities to be accessible to persons with disabilities.

The ADA requires the County to conduct a self-evaluation regarding compliance and to develop a transition plan to correct those deficiencies. The evaluation and transition plan development took place in 1992/1993: The County and members of its various departments conducted evaluations of the programs, services and activities offered by the County and surveyed the buildings in order to identify any physical barriers.

This report is an update of those previous actions and includes the following:

1. Overview of the ADA
2. County ADA Grievance Procedure
3. County Employee Education Plan
4. Summary of the County's General Compliance Evaluation Process
5. Department Evaluation Process
6. Department's ADA Compliance Procedures
7. Evaluation Updates by Individual Department Including Action and Transition Plans
8. Comments by Interested Persons Within the Community

B. OVERVIEW OF THE AMERICANS WITH DISABILITIES ACT

"The Americans with Disabilities Act (ADA) has set our sights on removing the barriers that deny individuals with disabilities an equal opportunity to share in and contribute to the vitality of American life. The ADA means access to jobs, public accommodations, government services, public transportation and telecommunications -- in other words, full participation in, and access to, all aspects of society."

John R. Dunne,
Assistant U.S. Attorney General
Civil Rights Division

A primary goal of the ADA is the equal participation of individuals with disabilities in the "mainstream" of American society. The major principles of mainstreaming are:

- Individuals with disabilities must be integrated to the maximum extent appropriate;

- Separate programs are permitted where necessary to ensure equal opportunity. A separate program must be appropriate to the particular individual;

- Individuals with disabilities cannot be excluded from the regular program, or required to accept special services or benefits.

The ADA prohibits discrimination against a "qualified individual with a disability". A disability, as defined by the Act, is a physical or mental impairment which places substantial limitations on an individual's major life activities. Three categories of individuals are included:

- Individuals who have a physical or mental impairment that substantially limits one or more major life activities;

- Individuals who have a record of physical or mental impairment that substantially limits one of more of the individual's major life activities;

- Individuals who are regarded as having such an impairment, whether they have the impairment or not.

Title II of the ADA covers all state and local government programs, activities and services. Individuals with a disability must be provided an equally effective opportunity to participate in or benefit from a public service. Programs may not impose eligibility criteria that either screen out or tend to screen out persons with disabilities.

A public entity must reasonably modify its policies, practices, or procedures to avoid discrimination. A public entity's services, when viewed in their entirety, must be readily accessible to and usable by individuals with disabilities. Public entities are not required to make each of their existing facilities accessible but public entities may not deny the benefits of their programs to individuals with disabilities because their facilities are inaccessible. This standard, known as "program accessibility", applies to all existing facilities of public entities. However, the Act does permit exceptions to accessibility where providing accessibility would require a fundamental alteration in the nature of the programs or create undue financial or administrative burden.

There are a variety of means to achieve compliance:

- Re-design equipment;
- Reassignment of services to accessible buildings;
- Provision of personal aides to beneficiaries;
- Home visits, delivery of services at alternate accessible sites;
- Alteration of existing facilities and construction of new facilities;
- Access to facilities through structural methods, such as alteration of existing facilities and acquisition or construction of additional facilities.

All public facilities designed, constructed, or substantially altered after January 26, 1992, must be readily accessible and usable by individuals with disabilities. Where structural changes in facilities are undertaken to comply with the obligations, such changes shall be made by January 26, 1995 or as expeditiously as possible.

C. COUNTY ADA GRIEVANCE PROCEDURE

Ramsey County has adopted an internal grievance procedure for prompt and equitable resolution of complaints alleging any action prohibited by Title II of the Americans With Disabilities Act, which states, in part, that “no qualified individual with a disability shall, on the basis of disability, be excluded from participation in or be denied the benefits of services, programs or activities of a public entity, or be subjected to discrimination by any public entity.”

1. **NOTICE**: Complaints may be addressed to:

ADA Coordinator
Ramsey County Affirmative Action Division
Ramsey County Government Center-West
50 West Kellogg Boulevard
St. Paul, MN 55102
(612) 266-2765
TDD - (612) 266-2728

2. **COMPLAINT**: A complaint may be filed verbally or in writing, should state the name and address of the person making the complaint, and should briefly describe the alleged violation. A complaint should be filed promptly after the complainant becomes aware of the alleged violation.

3. **INVESTIGATION**: An investigation shall follow the filing of a complaint. The investigation shall be conducted by the Coordinator. The investigation shall be impartial and thorough, and shall afford all parties pertinent to the investigation an opportunity to submit evidence relevant to the complaint.

4. **DETERMINATION**: A determination as to the validity of the complaint and a description of the resolution, if any, shall be issued by the Coordinator and a copy forwarded to the complainant no later then 45 days after its filing.

5. **RECORDS:** The Affirmative Action Division shall maintain the files and records of Ramsey County relating to the complaints filed, in accordance with the Minnesota Data Practices Act, and all other pertinent State and Federal laws, rules, and regulation.

6. **RECONSIDERATION:** The complainant may request a reconsideration if s/he is dissatisfied with the determination and/or resolution. The request for reconsideration should be filed with the Affirmative Action Division within 10 working days after receiving the written notice of determination. Within 10 working days following receipt of the request for reconsideration, a determination will be made as to the merits of the request and notice of such determination shall be issued by the Coordinator and a copy to the Complainant.

D. COUNTY EMPLOYEE EDUCATION PLAN

The County and its various departments and divisions will include training on ADA compliance in all new employee orientation to ensure full compliance with the ADA. In addition, the County will immediately address any issues of ADA compliance and educate staff at all locations to properly handle them in the future.

E. COUNTY COMPLIANCE EVALUATION PROCESS

The County began its evaluation on the ADA compliance in the fall of 1991. Representatives from Property Management, the County Attorney's Office and Risk Management met to develop an overall plan for Ramsey County compliance with the ADA.

As a result of these meetings, two groups were formed to deal with the issues presented under Title I and Title II of the ADA. Title I focuses on employment issues. Title II concentrates on the accessibility of the programs, activities and services of public entities. This report focuses on Title II of the ADA.

Title II of the ADA was applicable to the County on January 26, 1992. As of that date, all programs, services and activities of Ramsey County were to be accessible and nondiscriminatory on the basis of disability.

To ensure compliance with the provisions of Title II, a core team of representatives from various departments was formed to develop a compliance plan. The initial goal of the team was to conduct a self-evaluation of the County to:

- identify public use of various County programs and facilities.
- survey programs and buildings for non-compliance.
- evaluate the results of the survey.
- compile the results.
- prioritize deficiencies.
- report and make recommendations for correction.
- seek input from groups representing persons with disabilities.
- monitor plan for completion and compliance during the transition period.

A consultant experienced in ADA issues, Harold Kiewel, assisted the team in developing a program and facility survey to identify existing deficiencies and barriers. Representatives from each department were directed to complete the surveys after training classes were conducted to educate the representatives on the ADA and on how to complete the forms.

A committee of these representatives then evaluated the surveys to identify areas of non-compliance. The committee prioritized deficiencies for correction based on public use, essential services, degree of inaccessibility, and impact on program or service availability.

In a continuing effort to ensure full compliance by the County with Title II of the ADA, the County re-evaluated its compliance efforts in 1996/1997. This compliance report and transition plan update focuses on the remaining barriers to compliance and incorporates comments from the community on the current status of the action and transition plans of individual County departments.

Future Actions:

1. It is the responsibility of the department to ensure that this information is correct and to implement and monitor the action and transition plans. If additional deficiencies outside this report are identified, the departments are responsible for implementing changes to remove these barriers as soon as possible.

2. The County has designated an ADA coordinator to handle claims and grievances under the ADA. This position is identified as a staff member of the Affirmative Action Department. The duties and responsibilities of this position are available through the Affirmative Action Department. All inquires related to the ADA are to be directed through this person.

F. COMMUNITY COMMENTS

To completely evaluate this report, it was necessary to get comments from the Community on the self-evaluation. To do this, notices were sent to various organizations servicing persons with disabilities in Ramsey County. The notices informed the groups and individuals that an updated self-evaluation report was available for their review and that two public meetings would be held at the Roseville Library on June 10, 1997 and June 12, 1997. As a result of these notices, 14 people or organizations requested copies of the report and three sent back comments or attended the meeting. The responses to the report related to specific departments are found under the individual department comment sections. The following responses are directed for the County as a whole.

One individual responded that reading printed materials to visually impaired persons trying to access the various county programs does not allow them to function equally within those programs or have equal access to those programs. If they need to reference some printed materials or forms that were previously read to them, they cannot do this as a sighted person wishing for the same information.

One individual believes that the County has an obligation to inform individuals with disabilities of the services they have which are ADA compliant. For a blind person they could have a message prior to answering the general information lines that some materials, forms, etc are available in alternative media.

One of the sections within a county department offers volunteers a course to represent abused children. They mention course materials but these materials and instructions are not available in an alternative media thus preventing a visually impaired person from participating in this program.

An individual also wanted to know who is the person that is the ADA Coordinator for the County. Since the County has the ability to tax, he felt implementation of the ADA has been a process of foot dragging with money being the excuse. He hopes that his comment will be taken in the vein offered and some substantial improvements will come in the near future.

II. DEPARTMENT EVALUATIONS

A. DEPARTMENT EVALUATION PROCESS

Title II of the Act requires that public entities take several steps designed to achieve compliance with ADA. One step is the completion of a self-evaluation. Each department of the County was evaluated in 1992-93 and re-evaluated in this report. Both evaluations concentrated on the following issues:

- Eligibility, Admission and Participation requirements of programs, services and activities to ensure that they do not discriminate against persons with disabilities.

- Programs to ensure that they communicate with persons with disabilities in a manner that is as effective as their communications with others;

- Procedures and practices to ensure that public employees are familiar with the requirements for the full participation of individuals with disabilities;

- Building restrictions which may limit those with mobility impairments in attending programs and activities;

- Building and construction policies to ensure compliance with ADA standards;

- Evacuation procedures.

B. DEPARTMENT COMPLIANCE PROCEDURES

Upon completion of this report, each department will be provided a copy of the results of its own evaluation and of the following compliance policy.

Each Ramsey County Department shall:

1. Identify an individual responsible authority to coordinate and handle ADA issues for the department.

2. Work with the County's ADA coordinator to ensure proper handling of ADA issues.

3. Accept the recommendations of this Evaluation Report and implement the necessary changes.

4. Add the following language to all contracts:

   No qualified individual with a disability as defined by the Americans with Disabilities Act, 42 U.S.C. Sections 12101-12213 or qualified handicapped person, as defined by United States Department of Health and Human Services regulations, Title 45 Part 84.3 (j) and (k), which implements Section 504 of the Rehabilitation Act of 1973, 29 U.S.C. Section 794, under Executive Order No. 11914 (41 FR 17871, April 28, 1976) shall be:

   a. Denied access to or opportunity to participate in or receive benefits from any service offered by the CONTRACTOR under the terms and provisions of this Agreement, or

   b. Subject to discrimination in employment under any program or activity related to the services provided by the CONTRACTOR under the terms and provisions of this agreement.

5. Immediately forward all claims and grievances to the Affirmative Action Department ADA Coordinator in accordance with the Ramsey County ADA Grievance Procedures.

6. Accept an active role in ensuring the County's compliance with the ADA in accordance with the following statement:

"The Department has responsibility for monitoring compliance with the ADA, and taking the steps necessary to maintain accessibility. This responsibility includes obtaining adequate funding for projects, either through normal budgeting process, grants or the CIP process to remove barriers to programs, services and activities."

7. Develop on-going training/education programs for ADA compliance for all department employees.

C. INDIVIDUAL DEPARTMENT EVALUATIONS, COMPLIANCE PLANS, AND COMMUNITY COMMENTS

AFFIRMATIVE ACTION
455 Government Center-West Building

Affirmative Action is responsible for the active recruiting of and assistance to individuals in protected classes in the application, testing, and employment process throughout Ramsey County. The Division is designated as the ADA Coordinator for the entire County. All complaints and claims under the ADA are handled by this office.

1. PROGRAM EVALUATION

A program evaluation of the Affirmative Action Division was updated on 11/22/96 and found no deficiencies within the division. The division offers alternative formats to meet the needs of individuals applying for employment with the County and ensures that reasonable accommodations are provided to employees. The Division's main objective is to ensure accessibility.

Deficiencies: None

Action Plan: N/A

2. BUILDING EVALUATION

Affirmative Action is located in the Ramsey County Government Center-West Building. Physical barriers in the building are addressed under the Property Management report.

Deficiencies: Accessibility of Ramsey County Government Center-West.

Transition Plan: See Property Management report.

3. COMMUNITY COMMENTS

None.

BOARD OF COUNTY COMMISSIONERS
220 Courthouse

COUNTY MANAGER'S OFFICE
250 Courthouse

Ramsey County's mission is to enhance the quality of life for its citizens by providing progressive and innovative leadership which addresses federal and state directive and changing community needs by delivering services in a responsive, professional and cost effective manner. The Board of County Commissioners is the governing body of the County. It has established fundamental values of the County to ensure the success of the County in meeting its mission. These values include fiscal responsibility, openness of process, caring, integrity and honesty and an ethical workforce. The Board strives to meet the needs of its citizens balancing them with its fiscal responsibility and compliance with state and federal laws.

The County Manager's Office is committed to fostering an environment for County employees that stimulates creativity, innovation and collaboration while meeting the diverse and ever-changing needs of its citizens. The County Manager's Office supports the Board of Commissioners, departments and the community and provides leadership in fulfilling the County's mission.

1. PROGRAM EVALUATION

A program evaluation was conducted on the various functions of the Board of Commissioners and County Manager's Office on 5/14/93 and updated on 12/20/96. Currently the County Board relies on a relay system in order to communicate with persons who are hearing impaired. To date, there has been minimal use of this relay system. If usage increases, the department will consider use of a TDD.

Board meetings are held in a room that is wheelchair accessible. Hearing devices are provided for use in Council Chambers to help those who are hearing impaired. Minutes for the meeting are typed and available to the public. All meetings are tape-recorded and videotaped for viewing on cable T.V. A copy of the tapes are available upon request.

The County Board also appoints members to various advisory committees. A review of the application and selection process indicates there is no discrimination in the areas of eligibility or admission. Once a Committee member is selected, a location and the necessary auxiliary devices are selected to meet the needs of the various committee members.

Deficiencies: Commissioner application should include ADA compliance statement.

Action Plan: Add ADA compliance statement to all commissioner applications.

2. BUILDING EVALUATION

The offices of the Board of Commissioners and the County Manager are located in the City Hall/Courthouse. The major renovation of the building from 1991-1996 addressed issues of accessibility and made the necessary modifications**.**

Deficiencies: None

Transition Plan: N/A

3. COMMUNITY COMMENTS

In the public meeting held on June 10, the following comment was made:
The third floor Council Chambers have double doors. There is no easy access because one of the double doors is always locked and there is no power entrance. It was suggested that both doors remain unlocked while the Chambers are in use. This comment will be forwarded to Building Services so that the appropriate action may be taken.

BUDGETING & ACCOUNTING
270 Courthouse

The Budgeting and Accounting Department is an internal operation serving the Board and County Manager's Office. There is limited public contact. Public contact is generated through calls to the County Board or County Manager's Office.

1. PROGRAM EVALUATION

There are no programs, services or activities issues for this department. Any public access issues are dealt with at the Board/County Manager's Office level. The department meets the ADA and no action plan is necessary.

Deficiencies: None

Action Plan: N/A

2. BUILDING EVALUATION

The Budgeting and Accounting Department is located in the Courthouse. The major renovation of the building from 1991 - 1996 addressed issues of accessibility and made the necessary modifications.

Deficiencies: None

Transition Plan: N/A

3. COMMUNITY COMMENTS

None.

COMMUNITY HUMAN SERVICES
160 Kellogg Boulevard

Community Human Services operates as the social service program of the County. Its mission is to enhance the quality of life for the people of Ramsey County by providing resources to meet basic human needs, assuring protection for the vulnerable, and assisting in achieving self-sufficiency, all in the most cost effective manner. The department is divided into 7 divisions: Administrative Services, Information Services, Income Maintenance, Social Services, Mental Health/Chemical Dependency Services, Lake Owasso Residence and Ramsey Nursing Home. Lake Owasso and Ramsey Nursing Home evaluations are found under separate sections. The other five divisions are included in the following evaluations.

Administrative Services: handles the internal operations of the Department including Human Resources, Budgeting and Accounting, Staff Development and Planning. The division also deals with issues affecting the entire department such as the Data Practices Act, Electronic Benefit Services and Home Delivered Meals of Ramsey County.

Information Services: includes computer support for the Department along with research and evaluation, purchasing, supplies and print shop.

Income Maintenance: provides financial, medical and self-support services to eligible Ramsey County residents in need of these services. Services include Aid to Families with Dependent Children, General Assistance, Emergency Assistance, Food Stamps, General Assistance Medical Care, Medical Assistance, Minnesota Supplemental Aid and Refugee Case Assistance.

Social Services: provides protection for vulnerable adults and children and provides essential culturally sensitive social services to Ramsey County citizens with the most serious needs. The division offers the following services and programs:

- Family & Children Services
- Placement Systems
- Service to Wards
- Purchase of Services
- Adult Services
- Developmental Disabilities

Mental Health/Chemical Dependency Services: provides a variety of assistance to persons with mental illness or chemical dependency issues. The division offers the following services:

- ***Mental Health Clinic*:** provides outpatient mental health services including

psychiatric services (medication monitoring/prescribing) and court evaluations. The target population is serious and persistently mentally ill, lower to middle income, and Medical Assistance clients.

- ***Mental Health Day Treatment*:** provides day treatment for clients with serious and persistent mental illness. Clients participate in group therapy, goal setting, mental health education sessions, and recreational and occupational therapy. Clients are referred to this site from the Intake Section at 529 Jackson.

- ***Mental Health Case Management*:** provides case management services to individuals with serious and persistent mental illness. Program arranges, coordinates, monitors and provides services to individuals living in residential programs, state hospitals or independently.

- ***Mental Health Crisis/Intake Unit*:** provides screening and intake for mental health services; provides mental health crisis outreach and crisis intervention services; assesses all cases referred for civil commitment.

- ***Chemical Assessment And Referral*:** provides access to chemical dependency treatment by determining client financial eligibility and assessing their chemical use history in order to establish an appropriate level of care.

- ***Detox Center*:** provides detoxification services for all people who are intoxicated or experiencing withdrawal. Referrals are from Ramsey County. The Center provides medical treatment and behavioral management for these clients. Length of stay is 24 to 36 hours and the minimum age is 13 years.

1. PROGRAM EVALUATION

Administrative Services: all program, services and activities issues are covered under the various other divisions that deal with the public. No further evaluation is necessary.

Information Services: supports the various other divisions and assists them in contracting for special services. As a support operation, there are no public programs, services or activities. No further evaluation is necessary.

Income Maintenance: an evaluation of the Income Maintenance Division was conducted in May, 1992 and updated in February, 1997. Services under this division have access to TDD, the relay system and sign language interpreters. There are no eligibility or admission requirements that limit the number of qualified persons with disabilities from participating in the various programs. Forms necessary for admission into the programs are usually filled out before the clients are interviewed. Staff is

available to help individuals complete the forms. (No alternate formats are available.) Program information form notifies applicants how to file a complaint if they feel they are treated differently because of disability. Programs do not discriminate against persons with disability in recruitment, eligibility, admission or participation. Any pre-admission inquiries about the nature or extent of a disability are for the purpose of determining eligibility for financial programs.

Deficiencies: None

Action Plan: N/A

Social Services: program evaluations for the various services and programs offered by this division were conducted in 1992 and updated in 1997. Only those programs/services where deficiencies exist are indicated below.

***Child Care*:** establishes eligibility for child care assistance for individuals who are employed or in training. for continued assistance. It provides child care assistance for parents who are unable to give full time care to their children because of medical, social or child protection problems. The program has a TDD and a signer is available to assist applicants and clients. Eligibility requirements include income guidelines and a medical statement verifying incapacity, but do not discriminate on basis of a person's disability.

Deficiencies: Application has no ADA compliance statement.

Action Plan: Add ADA statement to application.

***Home Housekeeping*:** establishes eligibility for housekeeping services for individuals who are elderly and frail or who are severely handicapped and need these services to remain in their own home. This program uses TDD, relay, amplified phone receiver, and signers to assist clients. Staff will assist individuals with completing applications. The program does not discriminate on eligibility, admission or participation. Clients must meet income guidelines and have written medical verification of their disability and need for services.

Deficiencies: Application has no ADA compliance/non-discrimination statement.

Action Plan: Add ADA statement to application.

***Sexual Offense Services* (SOS): SOS** is the sexual assault victim crisis center for Ramsey County. The program offers 24-hour telephone services for victims of sexual assault. Services include crisis intervention, counseling, advocacy, information and referral (telephone and in person); community education and in-service training for

professionals; coordination and planning of services and prevention efforts with other agencies.

A program evaluation was conducted on 7/21/93 and updated in January, 1997. In the program evaluation, it was found that there are no braille or audiotape versions of the brochures/flyers used in this program. There is a relay service provided but since there is an emphasis on phone service in this program, a TDD would provide the best service to the hearing impaired.

Deficiencies:

1. No alternate formats for materials.
2. No TDD service available on site.

Action Plan:

1. Have audio tape or braille version of materials available at request.
2. Evaluate use of Relay System. Add TDD to site if use warrants it. Make sure staff is trained in how to use TDD effectively.

Mental Health/Chemical Dependency Services: conducted evaluations by individual areas in order to identify any deficiencies in the various programs, services and activities offered by this division.

***Mental Health Clinic*:** a program evaluation of the Mental Health Clinic was conducted on 4/21/92 and updated in January, 1997. The program does not discriminate against persons with disabilities in its recruitment, eligibility, admission or participation practices although the ability to accommodate persons with hearing impairments is limited. A serious barrier for the clinic is their lack of a TDD system. They do provide information to the general public over the telephone, so this would definitely inhibit their ability to communicate with the hearing and speech impaired. The clinic has not hired sign language interpreters and does not have taped or brailled information for clients. (They provide brochures explaining general information, confidentiality and program rules.) A staff person can assist a vision impaired client in filling out the paperwork required for admission into the program and the psychological testing can also be tailored to accommodate the vision impaired.

Deficiencies:

1. No auxiliary aids or TDD system used.
2. Brochures, information, application not available in alternate formats.
3. Staff not trained in issues of ADA accommodations.

Action Plan:

1. Plans for using auxiliary aids should be made so that staff can access them as

needed.

2. The department can use a relay system to handle calls from hearing and speech impaired. If usage warrants, department should purchase TDD for on site use and train staff on how to use it.
3. Staff training programs should be modified to include ADA accommodation.
4. Alternate formats of brochures, information and application should be available. Division should look into services to transfer information on tape or in braille for the visually impaired.

***Day Treatment*:** a program evaluation of the Mental Health Day Treatment program was conducted on 5/14/92 and updated in January, 1997. As per the evaluation, there are no auxiliary aids provided to accommodate individuals with hearing, speech or vision impairments. There is no ADA notice on the forms that they use. There are no post-admission inquiries made regarding disability status to make accommodations. There is no in-service training provided to ensure that staff are informed on accommodations/alternate procedures. The facilities would need assistance in planning accommodations for a hearing, speech or vision impaired client.

Deficiencies:

1. No auxiliary aids provided or TDD.
2. No ADA notice of compliance on forms.
3. No staff training on how to accommodate persons with disability.

Action Plan:

1. In planning appropriate treatment program, staff should accommodate individuals with special needs and make arrangements to provide necessary auxiliary aids.
2. The department can use a relay system to handle calls from hearing and speech impaired. If usage warrants, department should purchase TDD for on site and train staff on how to use it.
3. Staff training programs should be modified to include ADA accommodation.
4. Alternate formats of brochures, information and application should be available. Division should look into services to transfer information on tape or in braille for the visually impaired.

Mental Health Case Management: deals with persons with mental disabilities. They do no recruiting or advertising. Persons in program must meet eligibility requirement of having serious and persistent mental illness as defined in law. Intake workers meet with clients at home or in office and helps client complete necessary application forms. (These forms are not available in alternate formats.) The forms carry a non-discrimination statement. Case managers meet with clients throughout program to review level of service and client's level of function to ensure client is receiving appropriate care.

Deficiencies: None

Action Plan: N/A

***Chemical Assessment & Referral*:** offers presentations at a variety of locations and for a variety of organizations. The program has no printed recruitment or advertisements. Eligibility requirements, admissions and participation do not discriminate against persons with disabilities. This program accepts clients by referral and works to ensure that the program is well suited for the clients and is capable of serving the client's individual needs.

Deficiencies:

1. Presentations, meetings and lectures may not be fully accessible.
2. Admission form do not include ADA compliance statement.

Action Plan:

1. Review presentation materials to deal with hearing and visual impairment.
2. Make sure locations are accessible.
3. Add ADA compliance statement on form
4. Be sure staff orientation includes training in issues of ADA accommodation.

***Detox Center* :** a program evaluation was completed on 4/23/92 and updated in January, 1997. Interpreters and telephones are available for persons with hearing impairments. There is no recruitment for participants. Information on the program is given to the public through meetings or oral presentations at seminars or schools. These meetings may not be held at fully accessible locations. There are no admission restrictions based on disability; however, participation in program may be limited based on medical assessment of client.

Deficiencies: Lectures and oral presentations may not be fully accessible.

Action Plan: Presentations initiated by Ramsey County should be held in accessible locations. Registration or information materials for presentations should have a number to contact if a person has special needs. These needs can then be accommodated at presentations. Employee orientation should include ADA training in accommodating persons with disabilities.

2. BUILDING EVALUATION

Administration, Information Services, and the Income Maintenance Divisions operate out of Ramsey County Government Center-East. This building completed a major renovation in 1996. All ADA deficiencies identified in the building at the time

of renovation were corrected. No additional deficiencies have been identified since that time.

Social Services also operates out of the East Building but uses community sites for some of its programs such as Child Protection and Sexual Offense Services (SOS). An evaluation of these facilities is presented below.

Child Protection Services: operates out of two non-owned facilities: Capital View Center and the Bigelow Building. These buildings were evaluated in December, 1996. The Bigelow Building is fully accessible whereas Capital View has some major deficiencies. Capital View is owned by a school district with no plans for renovations to make the building fully accessible.

Deficiencies:

1. Main entrance to lower level has high threshold which limits accessibility.
2. Signage does not indicate accessible entrances or directions to accessible entrances.
3. Bathrooms are not accessible.

Transition Plan: The division will ask the landlord to remove the barriers in the building. The division will look at an alternate site to Capital View to ensure that the program is accessible at this location.

SOS: operates out of a leased facility in St. Paul. A property survey was conducted in March, 1993, and updated in January, 1997. The survey identified several physical barriers at this location but found they do not restrict access to the program, services or activities.

Deficiencies:

1. Inadequate, noncompliant interior signage for public doors.
2. Inadequate knee space under lavatory.
3. Excessive height of toilet room mirrors.

Transition Plan: Contact building owner to provide better signage at public doors and to
modify bathrooms to meet ADA requirements.

Mental Health/Chemical Dependency Services has various sites that were evaluated.

Mental Health Clinic, 529 Jackson St., St. Paul, MN
An evaluation was conducted in June, 1992 and updated in February, 1997. This is a leased site that operates as a Clinic.

Deficiencies:

1. Entry has high threshold and requires excessive force to open door.
2. Excessive projection of wall mounted objects into passageways.
3. Elevator call buttons, floor selector and emergency call buttons are too high.
4. No tactile landing identification signs on elevator door jambs.
5. No audio signals indicating elevator arrival, direction and landing.
6. Non-compliant hardware for common passage doors.
7. Excessive height for telephone, water fountain and fire alarm pulls.
8. Non visual signal for emergency warning system.

Transition Plan: Division should ask owner to address issues of ADA compliance immediately. If building owner is unable to comply, the Division should look for new site that is accessible to persons with disabilities.

Mental Health Day Treatment: Building surveys were conducted in 1992 and updated in 1997 for the 3 Day Treatment Centers. These three centers are all leased facilities. None of the locations are fully accessible. Clients are sent to these programs by referral from the Mental Health Clinic. The centers make the necessary accommodations to assist persons with disabilities at these facilities.

3. COMMUNITY COMMENTS

In program areas, social service decisions are not always made with sensitivity to the client's needs but focus on the system and the concerns of the caregivers. The department should look into its policies of coordinating services in various areas to ensure that the client comes first.

CORRECTIONS
650E Government Center-West Building

The Corrections Department provides services and facilities for adult and juvenile offenders in Ramsey County. The following is a summary of its operations.

The Adult Correction Division provides Investigation, Supervision and Domestic Relation services to the Courts:

- Investigation aids the Courts in providing information used in sentencing decisions including background information on prisons and background information for probation officers supervising offenders.

- The Supervision area provides community based supervision for those convicted offenders ordered by the court to comply with standard and special conditions of supervision. The purpose of this activity is to protect the public, reduce recidivisim and obtain individual or community restitution.

- Domestic Relations serves the area of Family Court. Its services include performing mediation services and custody evaluations to support the work of the Courts and to protect the interests of children. It also enforces/oversees orders for protection.

The Correctional Facility (Workhouse) protects the community by providing security, supervision and treatment alternatives to all men committed by the Courts to this facility. Activities include administration, custody, treatment services, institutional and department services, building operations and maintenance.

Juvenile Probation provides probation supervision to juveniles adjudicated delinquent by the Courts and provides the Courts with information upon which to make dispositional decisions relative to these juveniles.

Juvenile Detention Center provides a 30-bed secure detention program for youth charged with delinquent offenses. Detention programming stresses safety, security, medical screening and emergency care, short-term counseling, individualized education programs, and recreational and motivational activities.

Boys Totem Town is a correctional facility for adolescent boys. It is licensed for 65 beds and offers long term programs (4-6 months). Its mission is to protect the community and to develop living skills in residents that may allow them to be successful in life.

1. PROGRAM EVALUATION

A program evaluation was completed in 1992 and updated in December, 1996 for the various programs offered by Corrections.

Under the **Adult Courts Division** there are no eligibility requirements. All participants are referred into the various programs by the Courts. The division provides sign language interpreters, TDD and relay services. Interviews with participants are conducted at accessible sites where information is provided in written and verbal form.

The Correction Facility (Workhouse) also has no eligibility or admission requirements that would affect persons with disabilities. All inmates are committed by order of the Courts. Signers are provided for inmates with hearing impairments. Orientation sessions have both verbal presentations and written materials to assist new inmates. Staff are trained to assist inmates with disabilities during their incarceration at this facility. Barriers at this facility are discussed under the Building Evaluation section.

Juvenile Probation will provide signers as necessary. They have TDD phone access for assisting persons with hearing or speech impairments. Programs for individuals with special needs are modified to accommodate these individuals while still complying with probation rules. Information is available in written and verbal form.

Juvenile Detention Center and Boys Totem Town make use of signers, TDD, taped materials and audio recordings to accommodate persons with disabilities. Eligibility for these facilities are determined by State Statute. Staff are trained in the ADA. Barriers are discussed under the Building Evaluation section.

Deficiencies: None

Action Plan: N/A

2. BUILDING EVALUATION

The Adult Courts Division has various leased offices to provide services under various programs at the following locations:

710 Arcade, St. Paul
1600 University Ave, St. Paul
650 Marshall, St. Paul

The last two facilities offer accessible sites for all participants in the programs. The Arcade location has several deficiencies.

The Workhouse is a County-owned facility that houses men convicted of felonies and misdemeanors. The facility completed renovation in the fall of 1996 that included removal of barriers to comply with the ADA.

Juvenile Probation has 2 leased offices that are accessible to persons with disabilities; 265 Oneida and 1021 Marion. The third leased office at 715 Edgerton is not fully accessible.

Juvenile Detention Center is a County owned facility that includes Juvenile Court proceedings. There are some barriers in the building that will be addressed during the major renovation and expansion project scheduled to begin in Fall of 1997.

Boys Totem Town is a County owned residential treatment facility. The buildings are old and have numerous deficiencies related to ADA. The facility cannot accommodate a potential resident with special needs and therefore the Courts would not assign a person with special needs to this facility. There are concerns with regard to public areas for visitors to the facility. These concerns are address below under deficiencies.

Deficiencies:

710 Arcade (leased)

1. Absence of direction signage to accessible entrance.
2. Noncompliant interior signage for public doors.
3. Bathroom not fully accessible.

715 Edgerton (leased)

1. Inadequate number of designated accessible parking spaces.
2. Obscured or inconspicuous accessible parking signs.
3. Excessive slope along path to accessible entry.
4. Undesignated accessible entry.
5. Noncompliant interior signage for public doors.
6. Noncompliant toilet room signage.
7. Obstructed threshold to toilet room entry door.

Boys Totem Town

1. Noncompliant site access and entrance.
2. Noncompliant accessibility throughout public areas of building.
3. Noncompliant signage.
4. Noncompliant restroom facilities.

Transition Plan:

For the two leased facilities, alternate sites are available to meet the needs of persons with disabilities; therefore the County is in full compliance with the ADA. However, to ensure greater accessibility, the department should look for alternate sites for these programs upon expiration of the current leases .

Boys Totem Town does not comply with ADA requirement. The County currently has no plans to renovate this facility; however, new juvenile facilities are being explored to meet the increased needs for juvenile detention space in the County. Any new facility must be ADA accessible to be considered as a possible site. All new construction will fully comply with ADA requirements.

3. COMMUNITY COMMENTS

None.

COUNTY ATTORNEY'S OFFICE
315 Government Center-West

The Ramsey County Attorney is an elected official who provides legal and law enforcement services for the citizens of Ramsey County. The County Attorney's Office provides assistance to the County Attorney. Its mission is to protect and provide for the public safety by prosecuting adult and juvenile offenders. In addition, it provides support and assistance to victims of crimes and protects children from neglect and abuse. Furthermore, the office supports children and families by seeking enforcement of child support obligations.

1. PROGRAM EVALUATION

A program evaluation of the County Attorney's Office was completed on 12/3/96. This evaluation revealed that the office uses interpreter services and verbal explanations to assist individuals with disabilities. The department uses TDD services through Ramsey County Telecommunication or the state TDD service. The department does not recruit participants. People in its program are referred by Law Enforcement or other county departments. Meetings are held at places accessible to people with physical disabilities. Upon request, it will make every effort to provide auxiliary aids. Information on Child Support programs is available in written form or on audio tapes. If transportation services are necessary for clients or victims, services are arranged by cab or Metro Mobility.

Deficiencies: None

Action Plan: N/A

2. BUILDING EVALUATION

The County Attorney's Office is located in the Ramsey County Government Center-West Building. Physical barriers in the building are addressed under the Property Management report.

Deficiencies: Accessibility of Ramsey County Government Center-West.

Transition Plan: See Property Management report.

3. COMMUNITY COMMENTS

None.

COURTS
Room 1700, Courthouse

The Courts Division of Ramsey County offers various programs and services for District Court. For a description of these programs and services, please see PROGRAM EVALUATION.

1. PROGRAM EVALUATION

A program evaluation for Courts was completed in 1993 and updated in December, 1996. The results of the evaluation, summarized along with a brief description of each program and service, follows. Deficiencies in the programs and services were identified in the initial evaluation and the necessary changes have been made to eliminate them or handle them administratively.

Domestic Abuse/Harassment Office: This office assists victims of domestic abuse in obtaining and filing orders for protection and harassment restraining orders. Interpreters are provided for the hearing impaired at all stages of the process. Relay Service is available as well. The office supplies written information about the office and process and gives information on the telephone. Occasionally the supervisor gives informational presentations (when requested) regarding the issues. The clerks assist everyone in filling out the forms and read all documents to the parties if they are not able to do so. All clerks explain/review the contents of documents and handouts. The petitioner must meet the statutory requirements to obtain the restraining order. The program does no recruiting. People in wheelchairs can easily access the office without the hindrance of steps.
A video tape showing the process has been produced and will be close captioned. The Domestic Abuse/Harassment forms are being revised in January 1997 and when that occurs the petition and orders will be available in large print format. The program is located in the West Building.

Jury Office: Ramsey County residents are summoned for jury service. Interpreters are provided for the hearing impaired and readers are provided for the visually impaired. The orientation handbook is on tape. The Courthouse is newly renovated and physical access issues aren't a problem. Jurors are summoned randomly according to State law. Relay Service is available. Jurors must fulfill statutory requirements to serve (such as Ramsey County resident).

Criminal Division: This office processes all criminal records. They provide terminals for people to access scheduling and record information in Ramsey County. Fines and bail money are paid and kept by this office. They provide the forms used in the courtroom such as pay or appear forms, warrants of commitment, probation referrals and no-contact orders. They notify the interpreter program if an interpreter is needed for the hearing impaired. People inquire over the phone for scheduling

information and case outcome information. This office also provides touch-tone telephone inquiries on an interactive voice response system for citation information. They do not recruit participants nor advertise. Clerks fill out the paper work. Relay Service is available. A TDD is in place in both rooms 700 and 130 (Violations Bureau) of the Court House**.**

Civil Division - Vital Services: This office does not recruit or advertise. They do assist people seeking passports, driver's license, state identification cards and marriage applications. They also record birth and death certificates for suburban locations in Ramsey County. There is a general information line with taped information on applying for a marriage license, a drivers license, passports and birth and death records. There is a TDD and employees have been trained on it. Statutory requirements must be met to get a license such as a driver's license. Counters are low for the wheelchair bound. Interpreters are provided and Relay Service is available as well. Readers are available.

Divorce Mediation Project - Special Courts: Litigants are given an alternative to litigation. Participants are targeted, that is, parties that are going through contested divorces (property, financial, visitation) are referred to the Program. Parties can ask to be admitted as well. A mediator brings the parties together and they try to reach a settlement. Interpreters for the hearing impaired are utilized as is the Relay Service. One of the parties must be a resident of Ramsey County If a disability is known, the Program will accommodate. Eligibility is determined by the court documents filed. Financial disclosure information must be filled out once a party is in the Program. Mediators meet with the parties and if someone has a special need, the mediator notifies the Program Director. Written information is provided describing the Program.

Civil and Vital Statistics (Accounting): The accounting division receipts general filing fees and other fees rendered for service. They escrow court deposits and maintain those records. Most financial forms utilized are filled out by the accounting staff. Relay Service is available and interpreters can be provided as well. Participants are not recruited but the case must be venued in Ramsey County. Staff will read information to the parties and walk them through the form (minor settlements) if needed. Receipts are provided for payments made and forms are filed for minor settlements. Generally if someone were disabled it would be made known to the staff. Post inquiries are not applicable. Forms generally require a signature only. Staff assists anyone who needs help in filling out the financial worksheet. TDD is available in the conciliation office area several feet away**.**

Juvenile Court - Special Courts: Courts handles case scheduling, record keeping for juvenile court, calendaring, checking the parties in for court, conducts hearings, maintain court files and sends out court orders. Interpreters are provided for all court appearances. Relay Service is also available. Participants are not recruited and there are no eligibility requirements as it is commonly thought of. Usually the crime took place in Ramsey County. Taped information is not appropriate in this case.

Conciliation , Evictions and Housing Court - Civil Division: This office handles the filings for small claims court, filing eviction notices, filing actions against landlords, and filing code violations for housing court. All of the above are described on tape. Interpreters are made available for the hearing impaired and relay service is available as well. Participants are not recruited but the property must be in Ramsey County for evictions and generally the parties filing for conciliation are residents of Ramsey County There is a tape that describes the housing court eviction and conciliation court processes. Participants fill out a form to file for conciliation, evictions, rent escrow, counter claims and appeals. Staff will assist people in filling out the forms. TDD equipment is installed and operational. Staff will read documents to participants.

Civil Division Room 600 Court House: This office opens all new cases and handles all subsequent filings including calendaring and processing Torrens and Trust matters; filing tax petitions; follow up paperwork from harassment proceedings; process appeals to Appellate CT, preparation of Writs of Execution and orders to Show Cause regarding collections on judgments. Default and transcript judgments as well as Pursuant judgments are processed in this office as well. Stipulations of dismissal, foreign judgments, writs of attachment, unsatisfied civil judgments and transcripts to and from other counties are processed. Sign interpreters are made available and Relay Service is available as well. There is a taped message that explains the process for a name change and the filing fees. Participants are not recruited but litigants are likely Ramsey County residents. There are forms that need to be filled out depending upon the matter brought to the court. Staff will read information to individuals if necessary. Many parties are represented by counsel. TDD is available in the conciliation office several feet away.

Family Court Assignment Filings - Special Courts: This office assigns court dates; schedules all calendaring for judges/referees; does file preparation; schedules petit court trials; responds to questions from the public; updates TCIS; provides copies of litigation papers, file orders and affidavits; and provides forms to those parties who are handling their own divorce. Interpreters are provided for the hearing impaired. Relay Service is available as well. Participants are not recruited, however one of the parties must be a Ramsey County resident. Filings are for family related matters such as divorce, change of custody, contempt motions and modification of visitation schedule, etc. Staff will explain which form to fill out and how to do so. If someone is unable to read the form the ombudsman will read the form to that person and help him/her complete it. Several forms are in the process of being revised, and when they are complete (estimated April 1997) large print versions will be prepared.

Assignment Division - Criminal and Civil Cases: This office schedules court dates for various criminal and civil court proceedings. This office is responsible for the assignment and allocation of judicial, parajudicial and administrative resources. Sign interpreters are made available for court appearances and Relay Service is available as well. Information is provided over the telephone to callers and written notices are sent

to the parties. Staff will read information to a litigant if they are visually impaired. Most people are represented by counsel.

Settlement conferences are conducted in the civil arena. Parties file a lawsuit and rule 16 conferences are then set up (settlement conferences) to avoid an actual trial. A notice is sent to the parties by mail as to the settlement conference date and telephone conferences are conducted as well. The parties do exchange forms through the discovery process. Sign interpreters are available as is the Relay Service. Staff will read documents to parties when necessary.

Maplewood Branch - Criminal Division: This Court serves the suburban municipalities of Ramsey County by handling many of the same matters held in as the main branch in St. Paul. They have a Violations Bureau which deals with parking and petty moving violations. There is a hearing officer available to hear and issue rulings on these matters. Arraignment court is conducted at this location with more serious traffic and criminal matters. This office is also responsible for maintaining accurate dispositional, financial and case history records. Interpreters for the hearing impaired are provided for court appearances. Participants are not recruited nor are their eligibility requirements per se. The accused is purported to have committed the crime in Ramsey County. Information regarding court dates, fines dispositions etc. is given out to the public via the telephone if an inquiry is made. Information is also given out at the front desk. The office collects fine payments and grants fine payment extensions. The hearing officer meets with defendants to discuss possible resolutions to lesser traffic offenses. Written notices concerning court appearances is provided to the litigant. The information is communicated verbally upon request, or if someone has a visual impairment. Defendants may fill out a financial eligibility form to determine if they qualify for a public defender to represent them. Pay or Appear type forms are filled out by court staff. Relay Service is available as well.

Violations Bureau - Criminal Division: The Violations Bureau is the initial point of contact for all City of St. Paul and ordinance offenders. It provides citation information to the public for all traffic and ordinance citations. The Violations Bureau collects fines, sets up court dates for offenders and provides an appeal option for non-moving petty misdemeanors. Permanent records for traffic and ordinance violations are kept in the Violation Bureau. The Bureau refers cases for collection and requests suspension of drivers licenses when an offender fails to meet the obligation of the citation. Sign interpreters are available when meeting with a hearing officer and for court appearances. There is an operational TDD. Relay Service is available as well. Employees will read information to litigants. Participants are not recruited but the offense would have to have occurred in Ramsey County.

Guardian ad Litem Program - Special Courts: Volunteers are recruited and trained to act as Guardian ad Litem for abused and neglected children. The volunteers gather information concerning the child and provide an independent report to the Court that focuses on the best interests of the child. Participants are not recruited. Once a family has been brought into the system as a result of an allegation of abuse or neglect, a

Guardian ad Litem is assigned . The volunteer interviews relevant parties and makes a recommendation to the court. Participants are not recruited and the cases assigned to the program are families already in the juvenile court system. Interpreters for the hearing impaired are provided. Relay Service is available as well. Taped information is not applicable. There is printed material that describes the Program and it is used in an effort to recruit volunteers. The volunteers must meet certain requirements - 21 years of age, have 3 references, etc. Volunteers are interviewed and their criminal history is checked. Volunteers receive an orientation regarding the Program and the training consists of 40 hours of pre-service training, a 250 p. manual, viewing 6 video tapes and more. Volunteers conduct interviews, provide written reports to the Court, appear in court and make recommendations verbally.

Interpreter Office - Admin. Services: This office arranges interpreters for persons with communication issues. This includes the hearing impaired as well as the non-English speaking population. Interpreters are provided for court appearances, appearances with a hearing officer, interviews for restraining orders and interviews conducted by the court visitor. Relay Service is available and there is a TDD in the office.

New Brighton Court - Criminal Division: This office serves specifically as a mail payment center for payable fines that have occurred in Ramsey County. No court cases are heard in New Brighton. Targeted participants are those persons accused of offenses within the Court's jurisdictional limit and geographic boundaries. Litigants are not recruited but the crime would have occurred in Ramsey County. Relay Service is available. Staff will read information to individuals and answer questions over the telephone. The hearing officer meets with defendants to discuss possible resolution to lesser traffic offenses. Arrangements are made for sign language interpreters when requested. Permanent records for traffic and ordinance violations are kept in New Brighton. Information regarding fine disposition is given out to the public via the telephone or in person upon request.

Civil Commitment - Special Courts: The Civil Commitment Office handles commitment petitions filed with the Court by the County Attorney's office for persons who are alleged to be mentally ill, chemically dependent, mentally retarded, mentally ill and dangerous, or have psychopathic personalities. Interpreters are provided at all stages of the court process and Relay Service is also available. The proceedings are conducted primarily at Ramsey Hospital, but the Court will relocate to other hospitals if the patient cannot be transported to court. Parties are not recruited but those committed must meet the statutory requirements as determined by the judiciary. Documents are read and explained by the person's attorney and a Guardian ad Litem who is appointed. The hospital staff or the Human Services Department notifies the Court if there is a need for an interpreter at any point.

Personnel Office - District Court: The Personnel Office sends out job postings and accepts applications for various positions. Training for employees is coordinated through this office. All personnel records are located in this office for both State and

County employees of District Court as are medical records and First Reports of Injury etc. All personnel type related matters are handled through this office. Interviews are conducted for various positions. There is a TDD and Relay Service available. The application form is available in Braille. Employees will read information to people upon request.

Deficiencies: None

Action Plan: N/A

2. BUILDING EVALUATION

Courts has four facilities that are used for its operations. These facilities include Ramsey County's Courthouse, the Juvenile Service Center located at 480 St. Peter Street, New Brighton Court at 803-5th Avenue, and Maplewood Court at 2785 White Bear Ave. Building surveys were conducted at each facility in 1993 and reviewed in 1996. All deficiencies initially identified have been removed.

Courthouse: The major renovation of the Courthouse from 1991 - 1996 addressed issues of accessibility and made the necessary modifications. Nine of the twenty-five courtrooms were redesigned to fully accommodate persons with disabilities. Department staff work with the various parties to ensure that accessible courtrooms are available when necessary.

Juvenile Center: The Center is used to conduct juvenile court proceedings. There are some barriers in the building that still need to be addressed for full compliance. The removal of these barriers are the responsibility of Corrections and are addressed in that portion of the report.

New Brighton Court: Clerk of Court service counter is 42" high. A small table 29" high has been provided for customer use to accommodate persons with disabilities.

Maplewood Court: The service counter height in the Court Offices is at 41-1/2". A low table has been provided for customer use to overcome this barrier.
The private restrooms in the jury deliberation room are noncompliant. Accessible restrooms are available in the building that can be used by jury members if necessary.

3. COMMUNITY COMMENTS

In the public meeting on June 10, 1997, a comment was made that both individuals present had wanted all of the courtrooms fully accessible to meet possible future needs. When the Courthouse was renovated in 1992 - 1996, ADA requirements were used to

design the courtrooms. Nine of the twenty-six courtrooms are fully accessible. This meets the requirements of the ADA in effect at the time of renovation. No further action is necessary.

EMERGENCY SERVICES
3383 N. Rice St.

Emergency Services is a department which deals with state and federal emergency management office and local units of government in Ramsey County. Emergency Services has minimal contact with the public. They are set up to help local government units when a disaster occurs. Services may include assistance with completing small business administration forms and reports to state and federal offices in order to obtain funds for affected communities.

1. PROGRAM EVALUATION

Emergency Services was evaluated for program accessibility on 1/6/92 and updated on 12/2/96. According to the evaluation, Emergency Services does not have access to a TDD but uses a Relay System to communicate with persons with hearing and speech impairments. The department rarely receives calls from the general public. It is not involved in recruitment, eligibility, admission or participation in its program, services or activities, since its main operation is dealing with other units of government.

Deficiencies: None

Action Plan: N/A

2. BUILDING EVALUATION

A building evaluation was completed as part of the Public Works building since Emergency Services is located in the lower level of the building. There is no elevator access to the lower level. Although the public may seek shelter in the building in case of an emergency, there is usually no public contact with this agency.

Deficiencies: No elevator access to lower level. See Public Works for additional detail.

Transition Plan: Since there is little, if any, contact with the public on premises, there is no recommendation to modify this barrier at the present time. Any other accommodations will be handled administratively as needs arise.

3. COMMUNITY COMMENTS

None.

EXTENSION SERVICES
2020 White Bear Avenue, Maplewood

The Extension Service is part of the University of Minnesota, Metro Area Cluster Program. The program is found in the seven county metropolitan area. Its mission is to involve people in improving the quality of life and enhancing the economy and environment through education, applied research and the resources of the University. Its programs include Expanded Food and Nutrition Education Program, Job $ense, yard waste reduction, and Dads Make a Difference Project.

1. PROGRAM EVALUATION

An evaluation of Extension Services was conducted in 1993 and reevaluated in 1996. The results of this evaluation are found under Deficiencies.

Deficiencies: Printed materials do not contain language regarding ADA or publicize the availability of services for persons with special needs.

Action Plan: Add ADA compliance and special needs language to literature at next printing.

2. BUILDING EVALUATION

Extension Services is located in the Ramsey County Barn built in 1918. A property survey was completed in May, 1992 and updated in October, 1996. Since the original survey, public restrooms have been renovated to ADA standards but lack the proper signage.

Deficiencies:

1. Inadequate signage to identify accessible entrance at exterior doors and from parking area.
2. Teller/Service counters do not have optional lower height for wheel chair accessibility.
3. Self-service displays are too high.
4. Restrooms do not have signage to indicate accessibility.
5. No access to second floor.
6. Main exit door closes too fast.

Transition Plan:

1. Add signage to identify accessible entrances, directions to that entrance, restrooms, emergency and non-entrance doors and non-accessible entrances.

2. Teller/Service Counter is a permanent structure. Staff can overcome this barrier by having a service table off to the side to assist persons with disabilities.
3. Staff will be trained in assisting and responding to customers with disabilities
4. Displays will be lowered to be serviced by persons in wheelchairs.
5. Department will limit use of second floor. Programs and training will be offered on lower level to ensure accessibility.

3. COMMUNITY COMMENTS

None.

INFORMATION SERVICES
550 Government Center-West Building

Information Services is an internal operation serving all County departments and divisions. It provides computer assistance and training to County departments. It develops computer applications and helps identify future computer hardware and software needs for the County.

1. PROGRAM EVALUATION

Since Information Services is an internal department, there are no public issues. The program evaluation conducted on 2/11/92 and reviewed in December of 1996 showed that there are no programs, services or activities issues for this department.

Although not a public issue, the department does hold computer training classes for Ramsey County employees and employees of the City of St. Paul. Classes are held in accessible locations and accommodations are made as necessary. These classes are not open to the general public. The department complies with the ADA and no action plan is necessary.

Deficiencies: None

Action Plan: N/A

2. BUILDING EVALUATION

Information Services is located in the Ramsey County Government Center-West Building. Physical barriers of this building and its transition plan are addressed under the Property Management Department.

Deficiencies: Accessibility of Ramsey County Government Center—West.

Transition Plan: See Property Management Report.

3. COMMUNITY COMMENTS

None.

JOB TRAINING
1945 Manton
Maplewood, MN

Ramsey County Job Training (RCJT) provides vocational assessment, case management, training, job seeking skills, supportive services, and placement to individuals who are public assistance recipients, dislocated workers, low income youth, and low income older workers. RCJT strives to provide individuals in need of employment a chance to gain and retain employment at a livable wage.

1. PROGRAM EVALUATION

An ADA program evaluation was conducted in December of 1992 and updated in December of 1996. The program provides sign interpreters and qualified readers on an as needed basis. Clients with speech and hearing impairments have access to programs through Ramsey County Human Services Department Relay System.

Recruitment and advertising materials are usually in written form. Readers are available for persons with visual impairments. Eligibility and admission requirements depend on the specific program requirements. Written math and reading tests may have a negative impact on persons with visual impairments. For some programs, readers are provided for tests and some written tests can be waived for persons with disabilities according to Federal JTPA policies.

Deficiencies:

1. Forms do not contain notice of ADA compliance.
2. Some forms refer to persons as handicapped.
3. Relay System is used to answer phone inquiries instead of TDD. Although this is acceptable, if there is a frequent use of relay system, department should consider purchase of TDD.

Action Plan:

1. ADA compliance statement or disability disclaimer should be added to all application forms and to “Participants Rights and Responsibilities”.
2. Any reference to handicapped should be changed to disability on all forms and handouts.

2. BUILDING EVALUATION

A building evaluation was conducted on 10/19/92 and updated on 12/12/96. According to the evaluation, the building has several deficiencies that do not meet

ADA guidelines. RCJT has met with the owner of the building and discussed proposed changes to make the building ADA accessible. At the present time, the owner does not plan to update the building. RCJT along with several State and local programs is in the process of looking for new office space. The move is scheduled to take place in the Fall of 1997. In the interim, RCJT has temporarily located a site at the Ramsey County Workforce Center Office in St. Paul. This office is ADA compliant and can be used by the general public seeking job training services.

Deficiencies: Numerous in Gladstone Community Center.

Transition Plan: Relocate offices in Fall of 1997 to ADA compliant location.

3. COMMUNITY COMMENTS

None.

LAKE OWASSO RESIDENCE
210 N. Owasso Boulevard

Lake Owasso Residence is a residential treatment service for ambulatory people who are developmentally delayed and with related conditions. It serves a population of persons ages 16 through adult. The facility is licensed as a Class B Supervised Living Facility by the State Department of Health.

1. PROGRAM EVALUATION

An evaluation of Lake Owasso was conducted in 1992 and updated in December, 1996. The facility recruits residents through Ramsey County Social Services. Eligibility and admission requirements are limited to serve only those meeting license criteria. Any pre-admission screening conducted is to ensure Lake Owasso can fit the needs of the client, since each program is specifically designed to meet those needs. The program evaluation indicates that Lake Owasso uses a Relay System for the hearing impaired. There is little use of this service and appears to be adequate for this operation; therefore, it is not recommended that Lake Owasso purchase a TDD at this time.

Deficiencies: None

Action Plan: N/A

2. BUILDING EVALUATION

A building evaluation for Lake Owasso was completed in December of 1996. This facility did not conduct an original evaluation since it was scheduled for closure by the State. Since the initial report was completed, the facility has remained open with no definite date of closure planned; therefore, it was necessary to evaluate the public areas of this operation for accessibility.

There are four (4) buildings at Lake Owasso Residence. The three residence halls (upstairs Main Building, Taylor and Davis) along with the school house are not open to the public. The administration offices (downstairs Main Building) have limited public access. Visitors must go to the administration area to sign in and can meet with resident and staff in its conference room or cafeteria.

Deficiencies: The following deficiencies were found in the public portion of the Administration Building and surrounding area:

1. Noncompliant passenger loading zone.
2. Obstructive entrance threshold.

3. Non-compliant entry door latch hardware.
4. Undesignated accessible entrance.
5. Absence of directional signage to accessible entrance.
6. Inadequate clear usable opening for common passage doors (not in public areas; nurse's office, bathrooms).
1. Noncompliant door latch hardware for common passage doors.

Transition Plan: In 1997, Lake Owasso will:

1. Stripe parking area to show pedestrian aisle.
2. Building supervisor to adjust door threshold.
3. Change front door and common door hardware to lever handle or push/pull mechanism.
4. Add signage to mark accessible entry door and direct people from parking lot to entrance.

Deficiency #6 addresses non-public areas that may on occasion be entered by the public under certain circumstances. This item will not be addressed until closure decision of the facility has been firmly decided because of the age and general condition of the building.

3. COMMUNITY COMMENTS

None.

LAW LIBRARY
1815 Courthouse

The Law Library provides a collection of law books for the use of lawyers and the public.

1. PROGRAM EVALUATION

The Law Library was evaluated in 1992 and updated in December, 1996. There are no eligibility, recruitment or admission requirements to use the library. Parties interested in using the library have access to all the materials available. Staff are available to assist persons with physical disabilities in retrieving books and periodicals. Books in the library are in written forms. Alternative forms are not available. Because of the nature of this services, there are no auxiliary aids to accommodate persons with visual impairments. The department can use the relay service to provide information to callers . No action plan is necessary at this time.

Deficiencies: Texts are available in written form only.

Action Plan: The nature of the law library does not allow for books to be available in alternate formats without changing the intent and purpose of the service. Individuals that seek to convert information into alternative formats would do so at their own expense.

2. BUILDING EVALUATION

The Law Library is located in the Courthouse. The major renovation of the building from 1991-1996 addressed issues of accessibility and made the necessary modifications.

Deficiencies: Doors into library and restrooms are extremely heavy.

Transition Plan: Building Services will adjust door closers to reduce pull needed to open. They will also check into leaving library doors open during business hours taking into account fire codes and HVAC accommodations.

3. COMMUNITY COMMENTS

None.

LIBRARIES
4570 N. Victoria St.
Shoreview, MN

The libraries are a system of seven locations that offers library services to the residents of Ramsey County and the surrounding metropolitan area. Its mission is to assure that all persons can easily obtain, without charge, the cultural, recreational, and factual resources they need to improve or enrich their lives.

1. PROGRAM EVALUATION

A program evaluation was conducted on the various activities performed at the seven libraries. The evaluations were initially conducted in 1992 and updated in July, 1996.

Deficiencies:

1. Libraries use Relay System to communicate by telephone with the hearing impaired.
2. Most of the advertising and information about the libraries is available in print only.
3. Program registration materials do not offer place to indicate special accommodations.
4. Brochures do not properly identify which libraries are fully accessible.
5. No visual alarm in building.

Action Plan:

1. Libraries should consider purchase of TDD to provide more efficient communication with clients who are hearing or speech impaired.
2. Advertisements and information about the libraries should utilize multi-media formats.
3. Registration materials shall include place to indicate if special accommodations are needed.
4. Brochures on the libraries will indicate which libraries are fully accessible.
5. Emergency procedures will be amended to address evacuation of persons with disabilities.

2. BUILDING EVALUATION

The libraries, as a whole, meet ADA accessibility requirements although individual libraries have physical barriers that may limit accessibility at some locations. The new Roseville, Maplewood and Shoreview libraries have eliminated almost all barriers found in the surveys. Those barriers that remain will be handled administratively.

Mounds View library has some minor barriers that are scheduled to be corrected in the

near future. North St. Paul, White Bear Lake and Arden Hills libraries have many barriers that need to be corrected. These deficiencies are addressed in the Transition Plan and staff at these libraries are actively seeking funds to address these issues.

Deficiencies:

1. Need power-assisted door openers at Arden Hills, North St. Paul and Moundsview.
2. Public counters do not have accessible area (Arden Hills, North St. Paul and Moundsview).
3. Exposed pipes under sinks needs insulation - All locations.
4. Drinking fountains not accessible (Arden Hills, North St. Paul and White Bear Lake).
5. Restrooms not fully accessible (Arden Hills, North St. Paul and White Bear Lake).
6. Curb cuts do not have different texture (Arden Hills, North St. Paul).

Transition Plan:

1. Power doors added 1996/1997.
2. Counters modified 1996/1997. Specific areas near counters designated for use for persons with disabilities.
3. Pipes will be insulated 1996/1997.
4. Drinking fountains will be modified 1996/1997.
5. Funds for remodeling restrooms to be requested in 1998 Grant/Capital Improvement Applications.
6. Funds to modify curb cuts requested in 1997 Grant/Capital Improvement Applications.

3. COMMUNITY COMMENTS

At the public meeting on June 10, 1997, a person made that comment that he does not like the wording under the Building Evaluation section of this report that states: “The libraries, as a whole, meet ADA accessibility requirements….” He felt this gave the County Commissioners the impression that everything is okay and that nothing further needed to be done at the libraries.

In addition, the Roseville library was made for easy access from cars but not directly accessible from both sides of the library for someone walking or in a wheelchair.

MEDICAL EXAMINER'S OFFICE
300 East University Avenue

The Medical Examiner's Office was established for the purpose of investigating deaths occurring within Ramsey County, as mandated by Minnesota State Law. One of its objectives is to provide information and assistance to surviving family members at the time of death including identification of bodies and autopsy results.

1. PROGRAM EVALUATION

A program evaluation of the Medical Examiner's Office was completed on 8/24/92 and updated on 11/19/96. The evaluation reveals that this department's public access is limited to the identification of bodies by family members. From an ADA perspective, the department assists families as needed who may have a member with a disability and will get personal aides if necessary. The department complies with the ADA and there are no recommendations at this time.

Deficiencies: None

Action Plan: N/A

2. BUILDING EVALUATION

The Medical Examiner's Office moved to its new location at 300 University Avenue in March of 1994. The new facility was built incorporating ADA guidelines in existence at the time of the construction.

Deficiencies: None

Transition Plan: N/A

3. COMMUNITY COMMENTS

None.

PARK AND RECREATION
2015 North Van Dyke Street
Maplewood

The Park and Recreation Department offers a variety of activities for people of all ages. Biking, hiking, swimming, boating, fishing, picnicking, golfing, skating, and cross country skiing are just a few of the activities enjoyed by the public and offered by this department.

The County has five regional parks, a nature center, four golf courses, a golf dome, ten public ice arenas and numerous picnic and beach areas. The department offers classes to the public including cross country ski lessons, skating and golf instruction. The department is dedicated to providing recreational facilities and programs to all guests of its park system.

1. PROGRAM EVALUATION

An ADA program evaluation was conducted in 1992/93 and updated in December, 1997. The following is a brief overview of the programs and activities offered by this department.

Archery, bicycling, cross country skiing, golf, hiking, horseshoes, skating, swimming and interpretive programs are some of the activities open to the public. For all these activities, there are no eligibility or participation requirements. The department produces a variety of brochures, flyers and other publications to advertise and promote these activities. Persons interested in activities can call the administration office for any information. Inherent in these programs are areas that may limit accessibility to persons with disabilities. Archery, bicycling, cross country skiing and golf require persons with minimum visual ability to perform these activities safely. No individual aids are provided to individuals to overcome these barriers and none are required under the ADA guidelines. For some activities the terrain may present barriers to individuals with limited mobility. Again the nature of the activities makes some programs inaccessible; however, for the hiking and nature interpretive trails, the County provides some trails that are fully accessible.

The department offers concerts at the various parks. These events are advertised in multi-media formats including radio and television. Concerts are open to all. There is no permanent seating offered for these concerts. Most are held in grassy areas that may offer challenges to persons with mobility impairments; however, there are paved trails at most concert sites.

The department also rents out its arenas for “dry floor” events. The arenas have some physical barriers which will be discussed under the Building Evaluation section of this

report.

There is a nature center that offers programs on nature interpretation. No aids are provided for these programs although they are available upon request. The department has use of a TDD and the Relay System to answer questions by phone. Because of the nature of these programs, there are some accessibility issues. The County and the department try to offer these programs in the most accessible settings while retaining the nature and intent of the programs. Information on the programs are not available in braille or large print. Interpretive signs are not in braille. Some of the trails used in the interpretive programs are difficult for persons with mobility impairments and provide poor traction for wheel chairs. Volunteers are used in the program and are trained to assist persons with disabilities.

Picnic areas, children's play areas and beaches are not all fully accessible. Some picnic areas have accessible shelters and accessible scattered free-standing tables (see schedule). The department plans to have all play areas fully accessible by 1999 (see schedule). Persons with mobility impairments may have limited access to certain facilities.

People interested in fishing can use the fishing piers on Island, Long and Beaver Lake along with the lake at Keller Regional Park. Shoreline fishing has no paved path to the designated shoreline which may limit access to persons with physical impairments.

Watercraft launching requires participants to be capable of launching their own boat. The department offers no assistance in using this service.

On the whole, the programs, services and activities offered by the Parks & Recreation Department are moving toward maximum accessibility within the fundamental nature of the programs offered.

Deficiencies: None

Action Plan: N/A

2. BUILDING EVALUATION

Deficiencies: Evaluations of the various facilities are presented in the following pages.

Transition Plan: The plan developed by the Parks and Recreation Department is outlined in the following pages.

3. COMMUNITY COMMENTS

At the public meeting on June 10, 1997, the comment was made that the department should make sure that all picnic tables are spaced so that persons in wheelchairs are able to move in close to the table.

PERSONNEL
430 Government Center-West Building

The Personnel Department is responsible for recruiting job applicants for employment positions in the County personnel system, administering employment tests, and referring candidates for consideration by employing departments. They are also responsible for dealing with the on-going personnel issues of employees.

1. PROGRAM EVALUATION

A review of the ADA Program Evaluation for the Personnel Department was completed in August, 1992 and updated in December, 1996. The County does not discriminate against persons with disabilities in the recruitment, application and eligibility requirements for employment. Applications for employment are available at Ramsey County Government Center West. An applicant has the option of completing a job application on site. If help is needed completing the application, staff are available to assist.

Deficiencies: Applications for employment do not have a statement showing compliance with ADA.
Action Plan: All applications should have a statement regarding Ramsey County compliance with ADA.
Note: Any ADA issues relating to employment are not covered in this report. Risk Management and Personnel have addressed employment issues separately.

2. BUILDING EVALUATION

The Personnel Department is located in the Ramsey County Government Center-West Building. The physical barriers within the department and in the building are addressed under the Property Management report. To overcome these barriers, the department uses alternate accessible sites to ensure applicants have equal access to employment opportunities.

Deficiencies: Accessibility of Ramsey County Government Center-West.
Transition Plan: See Property Management report.

3. COMMUNITY COMMENT

At the public meeting on June 10, 1997, there were some questions raised about employment issues. It was explained that this report dealt with public accessibility of programs, services and activities offered by the County. Employment issues were handled separately by the Personnel Department.

PROPERTY RECORDS AND REVENUE
845 Government Center-West Building

The Property Records and Revenue Department of Ramsey County deals with recording and taxation of real property located in Ramsey County and elections/voter registration. With respect to the property, the department is responsible to properly value and classify all property in the County for the purpose of assessing property taxes. It collects property taxes and processes tax payments, deed taxes and mortgage registration taxes. The department also notifies property owners of any tax delinquencies. It provides information by phone or in person regarding taxes, values, classification and ownership of property. The department is also involved in public auctions of those properties that have been forfeited to the State for non-payment of real estate taxes.

In addition, the department is responsible for elections and voter registration. It conducts elections either at specified polling places or by providing an opportunity for all eligible voters to vote by mail or at the County Auditor's Office. It also offers the opportunity for citizens who are eligible to vote to register to do so.

1. PROGRAM EVALUATION

A program evaluation for this department was conducted in 1992 and completely redone in 1997 to provide a more comprehensive evaluation of the programs, services and activities it offers. Comprised of three major divisions, Valuation, Revenue Records and Property Records, the department is set up with various functions related to property taxation in Ramsey County. It values properties for taxation purposes, sends out tax notifications, holds public Truth In Taxation hearings, records property information in County records, and conducts public auctions for tax forfeited lands. The division has daily contact with the public either by phone or in person. There is a person on staff who can sign and is available to assist persons with hearing impairments. Staff are trained to meet customers' needs and will assist customers with disabilities. The division has access to a TDD and also uses Relay and fax systems to communicate. Information is advertised in the newspaper and through the County Board cable program. Meetings for the public are held at accessible sites. The department has no eligibility or admission requirements to its programs and services and there are no barriers to participation in these programs.

Revenue: Information on property taxes and valuations are mailed to each property owner. A Board of Equalization has been established to afford property owners the chance to appeal values. There is a special classification for properties owned and occupied by persons who are physically impaired. To be eligible for the special tax classification, the owner must obtain certification from his/her doctor and submit a request to the state. The state determines eligibility for this program. All property

owners who seek this special classification must be re-certified every year.

Deficiencies: None

Action Plan: N/A

Elections/Voter Registration: This division is responsible for elections and offers voter registration to all eligible citizens. Requirements for voter eligibility are determined by the state. The County does not discriminate against persons with disabilities.

Elections are held at various polling places throughout the County. These sites are chosen by the various cities. Ramsey County is responsible for verifying site accessibility and providing the necessary equipment and judges at the sites. Accessible voter stations are available at each precinct polling location. No voter materials are available in braille or taped formats, although some large type material is available. The election judges and election staff are trained to assist voters with disabilities that are unable to vote unassisted. Ballots are marked and an affidavit of assistance is signed when assistance is given to voters.

Deficiencies:

1. Some individuals need assistance of election judges to vote. Ballots are marked accordingly and an affidavit is signed by the assisting judge as required by statute.
2. Large print material is available for elections only.

Action Plan:

1. The process to assist voters with disabilities has been established by Minnesota Statute and includes wheel chair height voting booths and election judge assistance. Any changes in this process need to come from the State level.
2. Review operations to see where additional large print or braille materials should be used.

2. BUILDING EVALUATION

Property Records and Revenue is located in the Ramsey County Government Center-West Building. Physical barriers in the building are addressed under the Property Management report.

Deficiencies: Accessibility of Ramsey County Government Center-West.

Transition Plan: See Property Management report.

3. COMMUNITY COMMENTS

An individual responded to the County's request for public comment by interoffice memo. He stated that the Department of Property, Records and Revenue should have an action plan since they administer programs such as This Old House Law along with appeals of property values. The department also sends out tax notices, valuation forms and notifications of public meetings. A visually impaired person could not possibly take advantage of these programs or know of the information provided by the department unless they make things available in some manner other than print. He also felt that voting should be totally independent of assistance and the election section of the department should research and implement law changes to accomplish this.

As an employee of this department, he was not aware who the ADA representative for the department is or that the employees have had any training on assistance to a person covered under the ADA.

PROPERTY MANAGEMENT
660 Government Center-West Building

The Property Management Department is an internal operation serving the various departments and tenants of Ramsey County-owned buildings. It is responsible for maintaining the various properties and ensuring the buildings are safe and usable for all people entering the buildings.

1. PROGRAM EVALUATION

No program evaluation was conducted for the department. All issues related to program, services, and activities fall under the physical barriers of the various buildings. These issues are addressed under BUILDING EVALUATION.

Deficiencies: None

Action Plan: N/A

2. BUILDING EVALUATION

Property Management is responsible for the operation and maintenance of three County-owned facilities; Courthouse, Government Center-West, and Government Center-East. In addition, the department consults with various departments in acquiring, constructing, renovating and leasing properties. Building issues related to the various departments are found under the appropriate departments. The three main building are discussed below.

For the Courthouse and Government Center-East, major renovations occurred from 1991 - 1996. Issues of accessibility and the necessary modifications were addressed at that time based upon the ADA guidelines in effect during that period.

The Government Center-West was not part of a major building renovation, however, an evaluation of the building was performed by Wold Architects where accessibility issues were identified. Since that time, the following ADA upgrades have been completed at this facility:

- Lobby was remodeled, new accessible power doors were added to the main entrance.
- New fire alarm system with audio and visual assists is currently being installed. Estimated completion date is July 1997.
- Twenty-two handicap parking spaces were added near the rear entrance of the building.

- Signage in some areas of the building were upgraded and include braille identifications.
- One hand/one motion or lever handle door hardware was installed in remodeled areas.
- Wheel chair accessible ramp/tunnel was installed connecting ADC and West.
- Wheel chair accessible ramp was installed connecting E and F buildings of West.
- Wheel chair accessible ramp was installed connecting cafeteria and roof deck.
- Kellogg Plaza Deck was remodeled removing gates and barriers and installing curb cuts for wheel chair access.

Deficiencies:

1. Signage in portions of the building does not meet ADA guidelines.
2. Each floor should have accessible restrooms with accessible routes within building to those restrooms.
   3. Drinking fountains are not all accessible. At a minimum, one on each floor should meet ADA Guidelines.
4. No accessible entry from Shepard Road into building.
5. Provide signage at Shepard Road entry showing location of accessible entry.
   6 Provide directional signage in building F identifying accessible routes to other buildings within West.
   7. Upgrade remaining bathrooms, drinking fountains, door hardware, signage and directories to remove all barriers within the building.

Transition Plan : **West Building**

1997 - $125,000 budgeted for ADA modifications to restrooms.

2001 - $254,544 budgeted for design and construction of accessible entrance on Shepard Road, drinking fountain upgrades and signage.

2002 - $254,544 budgeted for additional restrooms, drinking fountains and signage modifications.

3. COMMUNITY COMMENTS

At the public meeting on June 10, 1997, a comment was made that there is no direct access from the two sets of doors in the lobby of the West Building at the Kellogg Main Entrance. Why were the two power doors placed at different ends of the entrance.

In addition, the two people attending the meeting did not like the direct path accessiblity of the West Building. They both felt more money needs to be spent to ensure that the building is as accessible as possible.

It was also noted that the drinking fountains that are scheduled for replacement should be looked at carefully to ensure that the replacements are the most accessible ones available. Some of the “accessible” fountains offer only limited accessibility.

The final comment that deals with all property owned by the County is that this self-evaluation was conducted by employees. One of the respondents felt that an outside consultant should be hired to do all the building evaluations again to make sure that the employees did it correctly. This comment was noted but no action will be taken on it.

One individual who responded in writing commented that the he has worked in the West Building for many years and sees little if any improvement to the things in the building that would assist blind persons such as braille labels on elevators, braille designations on bathroom doors and making the cafeteria machines etc. accessible to a blind person.

PUBLIC DEFENDERS OFFICE
1808 Firstar Bank Building

The Public Defenders Office is a criminal defense office representing indigent persons charged with crimes in Ramsey County. It provides the necessary legal services for those individuals that qualify for assistance under the program.

1. PROGRAM EVALUATION

A program evaluation for the Public Defender's Office was conducted in September, 1992 and updated in December, 1996. The report revealed that the department does not recruit participants or set eligibility requirements that would discriminate based on a person's disabilities. The Department accommodates clients with limitations and provides the necessary aids and accommodations to ensure that individuals are given adequate legal service under this program.

Deficiencies: None

Action Plan: N/A

2. BUILDING EVALUATION

An individual building evaluation was completed at this location in September, 1992 and updated in December, 1996. The Department reported that the building and office are accessible. Although there are not fully accessible bathrooms on the 18th floor, access is available on the 19th floor through elevator service.

Deficiencies: None

Transition Plan: N/A

3. COMMUNITY COMMENTS

None.

PUBLIC HEALTH
Suite 930, RCGC-West

Ramsey County Public Health Department is responsible for Public Health Nursing, Nutrition, Environmental Health and Solid Waste. The Program Evaluation section offers a brief description of the various programs offered along with identifying any deficiencies found within the programs.

1. PROGRAM EVALUATION

Program Evaluation of the various divisions of Public Health were conducted in 1992 and re-evaluated in February 1997 to reflect the current organizational structure of the department. The department is entering into a Joint Powers Agreement with St. Paul Public Health Department effective July 1, 1997 and its impact is not reflected in this report.

Public Health Administration: Administrative offices of Public health are located in the West Building. Department staff may use (a) the telecommunication device (TDD) located at the West Building reception, (b) Administration funds for American Sign Language interpreters, or (c) the Minnesota Relay System to serve hearing impaired clients.

Deficiencies: Some information is only available in written form.

Action Plan: Have alternate formats (written and verbal) available for clients.

Community Health Development Division: In 1993 and 1994 the Health Education Division became the Community Health Development Division (CHD) with two major programs - Community Services and Correctional Health Services. CHD creates and participates in partnerships which address specific community or institutional health needs by using a community health promotion model and approach and by recognizing and reflecting cultural competence in health promotion.

Community Services staff are housed at RCGC West. Services include adolescent health education, family violence initiatives, HIV/AIDS prevention activities, and other community health education activities. Services are delivered at RCGC West and at other community sites by invitation. Ramsey County Corrections Department contracts with CHD for health services for the Adult Detention Center , Workhouse , Boys Totem Town and Juvenile Detention Center. The Corrections Department is responsible for Correctional Health program and site surveys.

Deficiencies: None

Action Plan: N/A

Environmental Health Division: The Environmental Health Division is located in the basement of the Ramsey County Maplewood Branch Library. The Division enforces Ramsey County ordinances pertaining to hazardous waste, food establishments, lodging facilities, public swimming pools, manufactured home parks, childrens camps, and abatement of public health nuisances.

Training sites include conference rooms at the Maplewood Library and the New Brighton Community Center. The Maplewood Library is used for hazardous waste seminars, the Hazardous Waste Advisory Council, and the Food Protection Advisory Council. The New Brighton Community Center site is used for the pool operators and artification course.

Deficiencies:

1. Forms including results of reports, license applications, and licenses and seminar notices are not available in alternative formats, but the nature of the program is unlikely to require alternatives.
2. Food license forms and seminar schedules do not include a statement regarding ADA II compliance.

Action Plan:

1. When the public calls in for program reservations, staff will ask if special arrangements are needed.
2. Add ADA compliance statement to forms and brochures.

Solid Waste Division: The Solid Waste Division is co-located with Environmental Health in the basement of the Ramsey County Maplewood Branch Library. Solid waste management includes:

- yard waste collection and composting
- household hazardous waste collection
- processing of recyclables
- regulation of licensed haulers and facilities and non-licensed solid waste activities
- public information in all the above areas

Solid waste programs include:

1. Public information through meetings and written materials.
2. Yard waste collection and composting at 8 drive-in sites. Site monitors can assist the disabled with dumping and have cellular phones for emergencies.
3. Drive-in hazardous waste collection at one year-round and four seasonal sites.
4. Collection and processing of recyclables at Ramsey County Recycling Center

which is leased to Supercycle and Greenwing. Only Greenwing is open to the public.
5. Information on solid waste management through telephone, TDD, and written media.
6. Regulation.

Public meetings are held in accessible public buildings such as Maplewood Library, park buildings, and city halls. Information regarding solid waste programs is mailed to Ramsey County residents or distributed as city news inserts or at meetings. Information is also available by phone. Minnesota Relay Service can be utilized for the hearing impaired. Recruitment for boards is through standard county recruitment efforts.

Deficiencies: None

Action Plan: N/A

Nursing Division: Programs and service delivery sites of the Division of Nursing change regularly. Currently the three major programs of the Division are Family Health, Adult Health Management, and Disease Prevention and Control (DP&C). Increasingly, the focus of services is on assessment and referral of individuals and health education to groups. Family Health, Adult Health, and DP&C services are provided in homes or at shelters, clinics, schools, family centers, and other community sites. When Nursing is invited to do a presentation, the host group is responsible for assuring accessibility. If Nursing sponsors activities, meetings are held in accessible spaces and materials are available in different formats upon request. For in-home services, Nursing assesses the physical limitations by phone at intake and on the first visit. In-home services include assessment, nursing care, and health teaching. Immunization clinic services include injections and health teaching. For these services, clients would need to call in to request special services such as interpreters.

Written communication, TDD, sign language interpreters, and MN Relay Services are used for the hearing impaired. Verbal communication is the primary method for the visually impaired. Staff training includes orientation to Department services for hearing impaired.

Deficiencies: The client's Bill of Rights uses the term handicapped.

Action Plan: Change use of the term handicapped to disabled in next printing.

Nutrition Division: The Division provides nutrition services and professional training at community locations. Their mission is to alleviate hunger and improve the health of county residents through nutrition services at public clinics; professional training on

request; and provision of nutrition information via media and community programs and home visits. Services are targeted to low income, minority groups. Services include counseling on doctors orders; small group presentations; and advice to parents and interpretation of children's growth data. Currently St. Paul/Ramsey County WIC Program services and sites are managed by City of St. Paul Nutrition staff, and other Ramsey County nutrition services and sites are managed by Ramsey County Nutrition Division staff.

Programs provide sign language interpreters as needed. Assessment tools for the elderly are tape recorded and mention the nutrition program. The tape is marketed and housed for loan by St. Paul Society for the Blind. They also have large print materials for visually impaired. The Division has the use of the Department's TDD. When groups invite Nutrition Division to speak, the group is responsible for their own recruitment and arrangements for interpreters, etc.

If disabled persons seek services at Main Street Health and have other assigned clinics for health care, Nutrition cannot counsel them but will assist with hunger issues or answer questions about nutrition.

The Division sponsors joint public health service announcements with Metro and Minnesota Department of Health WIC Programs, Children's Defense Fund, First Call For Help, and Senior News Letters.

There is one application form for this program. If applicant needs assistance to complete application, assistance will be provided by staff. Application form does not contain ADA compliance statement but does carry discrimination disclaimer. Orientation for participants is done verbally and supplemented with written information.

Deficiencies: Forms should publicize availability of auxiliary aids if needed.

Action Plan: Include place on form to indicate if applicant has special needs so that appropriate accommodations can be made.

2. BUILDING EVALUATION

Public Health has various sites throughout Ramsey County both as permanent sites and temporary locations that offer services to the general public. Evaluation of the various sites were conducted in 1992/93 and updated in early 1997. New sites were surveyed and the results are found below.

Administration: Offices are located in the West Building. Evaluation of this

building was conducted under the Property Management portion of this report.

Community Health Development Division: Services for this division are located in the West Building and at other public sites. There are no accessibility issues for this division.

Environmental Health Division: This division is located in the Maplewood Library. Physical barriers for this location was addressed under the report for the libraries. The division holds some meetings and seminars at the New Brighton Family Service Center. An evaluation of this location is found under the Nursing Division portion of the Building Evaluations.

Solid Waste Division, Ramsey County Recycling Center
Greenwing Office, 475 Rice Street, St. Paul, MN

The Recycling Center is a drop-off for various recycleables. People drive in, drop off materials and drive off. Traffic flows in a one way direction to avoid congestion. This site is an alternative to curbside recycling offered in the various communities of Ramsey County. At one time, the building on site was used as a redemption center. Now the public has no access to building, therefore, no further evaluation of this facility is necessary.

Deficiencies: None

Transition Plan: N/A

Nursing Division: This division utilizes many sites in providing services to the community. Adult Health services are currently delivered at Psychiatric Medication Clinics at Ramsey County Mental Health Center and will expand to public high rises in 1997.

Family Health services are delivered at:

- 1245 St. Anthony (clinic for residents)
- RCGC East Lobby
- Other Community sites upon invitation

Site locations were not conducted at these sites but these sites are set up to accommodate population service.

Disease Prevention and Control services are delivered at regular immunization clinics, seasonal flu clinics, and client homes, shelters, and other sites as necessary and/or upon invitation. There are 4 locations that are used as regular immunization sites. The sites are used three to six hours monthly. Sites are selected to offer convenient

locations to suburban communities. None of these sites are owned by the County. Evaluations were conducted at these sites and the results shown below:

1. Mounds View City Hall, 2401 Highway 10, Mounds View, MN
2. New Brighton Family Service Center, 400 10th St. NW, New Brighton, MN 55112

Deficiencies: None

Transition Plan: N/A

3. Fairview Community Education Center, 1910 West County Rd. B, Roseville, MN

Deficiencies:
1. Non-compliant door latch hardware for common passage doors.
2. Absence of compliant toilet room signage.
3. Absence of audio signals indicating elevator arrival, direction and landing.
4. No visual or no audible signal for emergency warning system.

Transition Plan: Department will request building owner to comply with ADA and remove above deficiencies. If owner is unable to comply, department should look into alternate sites for clinic, taking into account the limited use of facility and other accessible sites under program. These deficiencies do not affect the accessibility of the program, services and activities offered on site. Note: It would be helpful if this facility provided signage in County Rd. B parking lot to direct persons with disabilities to go along the (L) road to the southeast lot for accessible parking, doors and elevator.

4. St. Stephens Lutheran Church, 1925 E. County Rd. E, White Bear Lake, MN

Deficiencies:
1. No audible or visual signal alarm.
2. Undesignated accessible entrance(s).

Transition Plan:
1. Staff will be trained on how to respond to emergencies in building without alarm system. Staff should be knowledgeable of emergency exits and shelters within the building and be sure clients are out of the area in the event of an evacuation/emergency.
2. Owner will be asked to install signage that designates accessible entrances.

Nutrition Division: This division has 11 non-owned sites serving the County. The

site usage is limited to 3 hours/week. Evaluations were conducted and transition plans developed for each site.

1. Face-To-Face Clinic, 1165 Arcade St., St. Paul, MN 55106
2. Model Cities Abrams Clinic, 491 University Ave. W, St. Paul, MN 55103
3. Normandy Education Center, 2482 E. County Rd. F, White Bear Lake, MN 55110

Deficiencies: None

Transition Plan: N/A

4. Model Cities Clinic, 430 N. Dale St., St. Paul, MN
5. Dorothy Day Center,183 Old 6th Street, St. Paul, MN 55102

Deficiencies: Nonvisual or nonaudible signal for emergency warning system.

Transition Plan: Facility is used on a very limited basis. To overcome this deficiency, staff will be trained on how to respond to emergencies in building without alarm system. Staff should be knowledgeable of emergency exits and shelters within the building and be sure clients are out of the area in the event of an evacuation/emergency.

6. North End Medical Center, 153 Manitoba, St. Paul, MN

Deficiencies:

1. Absence of accessible entrance to building (accessible outer door requires a helper to open door from inside as it is kept permanently locked and cannot be opened by a disabled person alone).
2. Undesignated accessible entrance(s).
3. Noncompliant entry door latch hardware.
4. Nonvisual or nonaudible signal for emergency warning system.

Transition Plan: Access to site is limited because of entry to this building. Any information in brochures or information materials should show this site as not accessible and indicate which sites are accessible. Since there are alternate sites available under this program, it is not necessary to relocate this site but the department should evaluate this area to see if there is an alternate accessible site available.

Staff will be trained on how to respond to emergencies in building without alarm system. Staff should be knowledgeable of emergency exits and shelters within the building and be sure clients are out of the area in the event of an evacuation/emergency.

7. Women's Advocates, 584 Grand Ave., St. Paul, MN

Deficiencies:

1. No accessible parking.
2. No accessible entry.
3. No accessible sanitation facilities.

Transition Plan: This location is not accessible to persons with physical impairments; however, other sites are available that are accessible. The department should evaluate this area to see if there is an alternate site available that would be more accessible. Be sure all materials and information indicate that this site is inaccessible.

8. Faith Lutheran Church, Charles Avenue & Mackubin, St. Paul, MN

Deficiencies:

1. No audible signal for elevators. (Has little impact on services at this site.)
2. People must ring bell for entry. (This deficiency is handled administratively by attendant who opens door as necessary.)
3. No audible or visual signal for fire alarms.

Transition Plan: Staff will be trained on how to respond to emergencies in building without alarm system. Staff should be knowledgeable of emergency exits and shelters within the building and be sure clients are out of the area in the event of an evacuation/emergency.

9. Naomi Family Center, 77 E. Ninth St., St. Paul, MN
10. Lowry Family Shelter, 347 N. Wabasha St., St. Paul, MN

There are many deficiencies in these buildings and these sites serve a targeted population that cannot be effectively served elsewhere. Other locations are available that are accessible and therefore no recommendations are made for these sites.

11. St. Mark's Lutheran Church, 2499 N. Helen St., No. St. Paul, MN

Deficiencies:

1. No accessible bathrooms.
2. No visual fire alarm.

Transition Plan:

1. Although the site has limited usage, the division should look for an alternative location in the area that would provide accessible bathrooms to participants in the program.

2. Staff will be trained on how to respond to emergencies in building without alarm system. Staff should be knowledgeable of emergency exits and shelters within the building and be sure clients are out of the area in the event of an evacuation/emergency.

3. COMMUNITY COMMENTS

None.

PUBLIC WORKS
910 Government Center-West Building

The Public Works Department is responsible for providing and maintaining safe and efficient road systems in Ramsey County that coordinate with the needs of other governmental agencies. The department facilitates the preservation of lakes and other water resources through effective resource management. It also provides a system of uniform land records to ensure proper recording of properties. It coordinates the public works programs with federal, state and local agencies.

The Public Works Department is responsible for developing highway systems within Ramsey County. It is involved in reviewing highway needs and planning and constructing the roads including bridges, traffic control lights and warning systems. The Department also maintains the highways including snow removal. In addition, it provides information on roads and properties within the County to the public by phone, in person or by mail.

1. PROGRAM EVALUATION

An evaluation of Public Works was conducted in 1993 and updated in November, 1996. According to the evaluation, the department uses various mediums to communicate information to the public. It has a newsletter, Second Season, that is sent to interested individuals. Calls into the department by persons with hearing and speech impairments are received through the Relay System. At the present time, there is limited use of the Relay System. Most contact with the public is very limited in nature. The public may visit one of the facilities to pick up information. If a signer is needed, the department can request the services of one through the county. At the present time, the department has not needed these services.

The Public Works Department currently is involved in constructing pedestrian curb ramps or cutting curbing to comply with ADA requirements. In the 1997 construction season, the Public Works Department will construct 122 pedestrian curb ramps. In the past five years, the Public Works Department has completed 652 curb depressions.

Deficiencies: None

Action Plan: The department has access to the Relay System for calls from persons with hearing and speech impairments. It should monitor the use of this system to see if the department should install a TDD phone.

2. BUILDING EVALUATION

The administrative offices of Public Works are located in the Government Center-West. Barriers within this building are handled by Property Management.

Public Works has limited public contact at its two locations on Rice Street. Although the current buildings have accessibility problems, the department is searching for a possible new location to house its operations. At both #3377 and #3401, there are accessibility issues in entering the building. These issues must be dealt with if the department plans to stay at these locations and public areas should be limited to portions of the buildings that are accessible.

Deficiencies: **Building 3377 Rice St. and 3401 Rice St.**

1. Path to entrance of building inadequately maintained.
2. Entrance to basement area inaccessible (16 steps and no ramp or lift).
3. Entry area inaccessible—threshold too high, landing too narrow, and hardware too high.
4. Interior signage on public doors does not comply with ADA guidelines.
5. Interior passageway obstructed.
6. Toilets and signage not in compliance.
7. No visual emergency warning system.

Transition Plan: The Public Works Rice Street facility does not meet ADA standards for accessibility. The facility, built in 1947, is in need of a major rehabilitation. Funds for the building rehabilitation have been requested for 1998. Funds for a new facility have also been requested. ADA standards will be taken into consideration if either the present building is rehabilitated or a new facility is constructed.

3. COMMUNITY COMMENTS

None.

RAMSEY NURSING HOME
2000 White Bear Avenue, Maplewood

Ramsey Nursing Home is a long term care facility providing residence and health care for adults over eighteen years of age. It is dedicated to provide quality care with compassion and respect for human dignity for those residents of Ramsey County who need long-term or rehabilitative care and cannot be cared for in their own home including those who are difficult to place in private sector nursing homes.

1. PROGRAM EVALUATION

The Nursing Home conducted a program evaluation in January, 1997. The evaluation revealed that the Nursing Home does not recruit or advertise for participants in its programs. Eligibility criteria is set by the Nursing Home's license as a long term skilled health care facility. In addition to this criteria, residents must be eighteen years old and residents of Ramsey County. The eligibility requirements do not discriminate against persons with disabilities. Residents in the program are interviewed by nursing, social services, dietary and activities to determine the needs of residents and how to best meet those needs. These interviews are not discriminating and are intended to provide residents with a custom program that meets their needs.

Large print materials are available to residents such as calendars, menus and activity announcements. Staff and volunteers are trained to assist persons with disabilities and do so as needed.

Deficiencies: None

Action Plan: N/A

2. BUILDING EVALUATION

All program, services and activities are offered at 2000 White Bear Avenue. A property survey of this location was conducted in May, 1992 and updated in January, 1997. There is one public entrance to this facility which is accessible. The loading area at this entrance is extremely wide for easy assistance to residents. There are several deficiencies noted in the report. The transition plan deals with correcting them in a timely manner.

Deficiencies:

1. Signage in parking area is obscured. Need to raise the signs higher.
2. Need one additional accessible parking space.
3. Interior signage is posted at incorrect height and does not include braille text.
4. No audio signals when elevator arrives or when floors are passed.

5. Public restrooms are not fully accessible, signage at public restrooms inaccurately states accessibility.
6. There are four public phones in the building, none are TDD equipped and the handset cord length is too short.

Transition Plan:

1. Use an extender to increase height of accessible parking signs in parking lot. Target Date: Immediately. Costs: Minimal.
2. Add one additional accessible parking spot to lot. Target Date: Spring. Costs: Minimal.
3. Change signage in the building to meet ADA guidelines. Target Date: Request 1999 CIP funds. Costs: Estimated $75/sign
4. Upgrade elevators to provide audio signals. Target Date: The Nursing Home has only two floors so that passengers are not passing floors. This issue is not critical to ensure accessibility of the Nursing Home's program, services and activities. There are no immediate plans to remedy this deficiency.
5. Remove accessible signage from public restrooms that are not fully accessible. Target Date: Immediately. Costs: None.
6. Remove one public phone or add TDD public phone. Change handset cord lengths on all public phones. Target Date: Immediately. Cost: Minimal.

3. COMMUNITY COMMENTS

None.

REGIONAL RAIL AUTHORITY
665 Government Center-West Building

The Ramsey County Regional Rail Authority (RRA) is dedicated to a long-range vision of transit services to meet changing need for today and for succeeding generations. RRA is committed to planning of integrated transportation services in cooperation with other agencies. The RRA Board consists of the seven County Commissioners. In addition to planning the rail transit system, RRA is involved in the acquisition of land for light rail corridors.

1. PROGRAM EVALUATION

A program evaluation of this operation was conducted in 1996. At the present time, the Regional Rail Authority does not offer any programs, services or activities to the public. ADA issues will be incorporated into transit systems which are operated by other agencies.

Deficiencies: None

Action Plan: N/A

2. BUILDING EVALUATION

Regional Rail Authority is located in the Ramsey County Government Center-West Building. Physical barriers in the building are addressed under the Property Management report.

Regional Rail Authority Board meetings are conducted at the Ramsey County Courthouse. The major renovation of the building from 1991-1996 addressed issues of accessibility and made the necessary modifications.

Deficiencies: Accessibility of Ramsey County Government Center-West.

Transition Plan: See Property Management report.

3. COMMUNITY COMMENTS

None.

RESOURCE RECOVERY
6989 N. 55th Street, Suite C
Oakdale, MN

The Resource Recovery Project is a multi-government agency established by Ramsey and Washington Counties to reduce the amount of municipal solid waste sent to landfills by providing a processing facility to turn waste into fuel. It works with solid waste haulers, NRG Resource Recovery and governmental agencies to ensure effective operations of the Newport facility in order to reduce dependence on landfills for waste disposal.

1. PROGRAM EVALUATION

An ADA program evaluation was conducted for Resource Recovery on 3/9/92 and updated on 11/22/96. The evaluation found that the agency has limited public contact, generating approximately 20 phone calls per month and few, if any, public visits to its location. The evaluation found that its programs, services and activities are not discriminatory to persons with disabilities. The Department complies with the ADA and no action plan is necessary.

Deficiencies: None
Action Plan: N/A

2. BUILDING EVALUATION

A building survey was conducted on this leased facility on 3/20/92 that identified several barriers under the ADA. As of 12/20/96, these barriers are still in place.

Deficiencies: The following is a list of barriers prioritized in order of importance.

1. Entrance to the building:
--A water trough limits access to the building entrance for wheelchairs
--Excessive force is necessary to open exterior door
2. Signage does not designate accessible entrance.
3. Substandard public service counter dimensions.

Transition Plan: The current lease at this location expires in 1997. Resource Recovery plans to move to the Maplewood Library which is fully accessible.

3. COMMUNITY COMMENTS

None.

RISK MANAGEMENT
1020 Government Center-West Building

The mission of the Risk Management Department is to preserve the financial integrity and assets of the County from the risk of fortuitous loss. It deals with issues related to liability, employee benefits, workers' compensation, safety and wellness.

1. PROGRAM EVALUATION

A program evaluation of the Risk Management Department was completed on 12/14/92 and updated 12/20/96. The evaluation indicates that the department has limited public contact. Public contact consists of interaction on claims made against the County by third parties. The department will accept claims made in writing, over the phone or in person. The department is flexible in meeting the needs of persons with disabilities.

The department deals with employee issues related to health, safety and workers compensation. The ADA issues relating to employment are not covered in this report. Personnel and Risk Management have addressed the employment issues separately.

Deficiencies: None

Action Plan: N/A

2. BUILDING EVALUATION

The Risk Management Department is located in the Ramsey County Government Center-West Building. Physical barriers in the building are addressed under the Property Management report.

Deficiencies: Accessibility of Ramsey County Government Center-West.

Transition Plan: See Property Management report.

3. COMMUNITY COMMENTS

None.

SHERIFF'S DEPARTMENT
Adult Detention Center
14 W. Kellogg Boulevard

The Ramsey County Sheriff's Department is responsible for law enforcement in the County under the direction of the Ramsey County Sheriff, an elected official. The Department is responsible for apprehending and booking suspects, and investigating crimes. It also offers programs to the public in water safety, snowmobile safety and DARE. The following is a brief description of the department by program areas:

- **911 Dispatching:** Receives emergency calls for assistance from the public and dispatches appropriate responses via radio. It is also responsible for answering queries from police officers for information on computerized criminal data bases.

- **Patrol Investigation:** Is responsible for investigating crimes within the County. They meet with victims, interrogate suspects and gather evidence at crime scenes.

- **Police Records Section:** Receives non-emergency calls from the public. They gather information, enter it into the computer and access it as necessary. They also are responsible for completing forms and issuing correspondence on this information.

- **Snowmobile Safety:** Provides snowmobile safety instruction to youth to achieve a State required certificate. Program recruitment, content and materials are provided by the Minnesota Department of Natural Resources.

- **Boat and Water Safety:** Is operated by the Ramsey County Lake and Trail Volunteers. It provides information to the public on the safe operation of boats.

- **DARE (Drug Abuse Resistance Education):** Is a drug prevention program taught by uniformed officers in elementary schools. The program targets 5th and 6th graders teaching them skills to resist peer pressure to experiment with drugs, alcohol and tobacco.

- **School Safety Program:** Involves teaching elementary school children proper behavior for riding the school bus, crossing streets and biking. Training is provided for school crossing guards and bus safety officers.

1. PROGRAM EVALUATION

Program evaluations were completed in April/May, 1992 and updated in December, 1996.

911 Dispatching, Patrol Investigation and Police Records Section all involve contact with the public to perform duties of the Sheriff's Department. The services offered have no eligibility, admission or participation restrictions. TDD and sign language interpreters are available.

Deficiencies: None

Action Plan: N/A

Snowmobile and Boat Safety classes are geared for its operators, those persons with adequate vision and the ability to properly handle the machinery. No alternate formats are available for the visually impaired. To alter the safety classes for persons with visual impairments would require a fundamental alteration in the nature of the program. The programs provide no auxiliary aids for persons with speech or hearing impairments.

Deficiencies: No auxiliary aids for speech or hearing impairments.

Action Plan: During registration for classes, give interested parties the opportunity to indicate if they have special needs and then accommodate those needs within the framework of the program.

Dare and School Safety Patrol are programs offered in conjunction with school districts. The school districts provide all classroom sites and any classroom aids. Businesses, rotary clubs, and service organizations provide financial support for these programs. The selection of participants for the School Safety Patrol is done by the schools and is not the responsibility of the Sheriff's Department.

Deficiencies: None
Action Plan: N/A

2. BUILDING EVALUATION

Property surveys were conducted for the department's two facilities in 1993 and were updated in December, 1996. According to the surveys, several deficiencies were found. Since public access to these facilities is limited, certain issues should be addressed that allow public access into the buildings. These issues are outlined below:

Adult Detention Center (ADC)

The ADC houses the administration offices of the Ramsey County Sheriff . Public access to the building is through tunnels from Ramsey County Government Center-

West and the Courthouse or from the Kellogg Street entrance. All entrances are accessible although the tunnel from the Courthouse may be difficult because of its length and slope.

Deficiencies:

1. Tunnel from Courthouse to ADC does not meet current ADA guidelines for rise and landings.
2. Elevators lack audio signaling and call buttons are too high.
3. Highest operable part of public telephone is too high.
4. Water fountain is too high.
5. Service counter has no accessible surface.
6. Public doors marked with permanent signage are not upper case nor engraved in braille.
7. Internal fire alarms are audio only, not visual.

Transition Plan:

1997:

1. Persons staffing service counter will accommodate persons that need lower service counter administratively by offering alternate table to accommodate individual needs.
2. Lower telephone to appropriate height.

1998:

1. Signage in building will be reviewed and plans implemented to change signage on public doors to meet ADA guidelines (cost $75.00 per sign).

In 5 Years:

1. Add audio signal and change height of elevator call button to coincide with update of elevator.
2. Modify internal fire alarm for both audio and visual signage. Current evacuation plans require staff in ADC to evacuate civilians in building as part of its security program.

Note: With regard to the tunnel, since access into the building is possible through the West Building tunnel or the Kellogg Street entrance, it is recommended that no action is taken on this issue.

Patrol Station, 655 W. County Road E

The Patrol Station has one public entrance. Other entrances are for employee use only. Public access to the building is restricted to certain areas of the building.

Deficiencies:

1. Water fountain too high.
2. Unisex bathroom has following issues of non-compliance:

a) Door hardware is round knob type.
b) Hot water and waste water piping not insulated or shield placed under sink.
c) Mirrors, towel dispenser and soap dispenser too high.
d) Grab bars do not meet standards for length and offset from rear wall.

Transition Plan:
1997 - Current Operating Budget
a) Change door hardware.
b) Insulate hot water and waste water piping.
c) Install new grab bars.
1998 - Future Operating Budget
a) Adjust mirror, towel and soap dispensers.
b) CIP - request funds to replace water fountain (est. cost $2,000)

3. COMMUNITY COMMENTS

None.

VETERANS SERVICES
88 Courthouse

Veterans Services assists veterans and their dependents in obtaining and clarifying the various state and federal benefits associated with the multitude of Veteran's entitlement programs.

1. PROGRAM EVALUATION

A program evaluation of Veteran Services was completed on 8/11/92 and updated on 11/22/96. The evaluation indicates that Veterans Service has frequent public contact by telephone with limited in-person contact. The department has a TDD available to handle calls for the hearing and speech impaired. There are no program barriers in recruitment, eligibility admission or participation.

Deficiencies: The Department has one brochure that they mail out upon request. It does not carry an ADA statement or discrimination disclaimer.

Action Plan: Add ADA statement to next brochure printing.

2. BUILDING EVALUATION

Veterans Service is located in the Courthouse. The major renovation of the building from 1991-1996 addressed issues of accessibility and made the necessary modifications.

Deficiencies: None

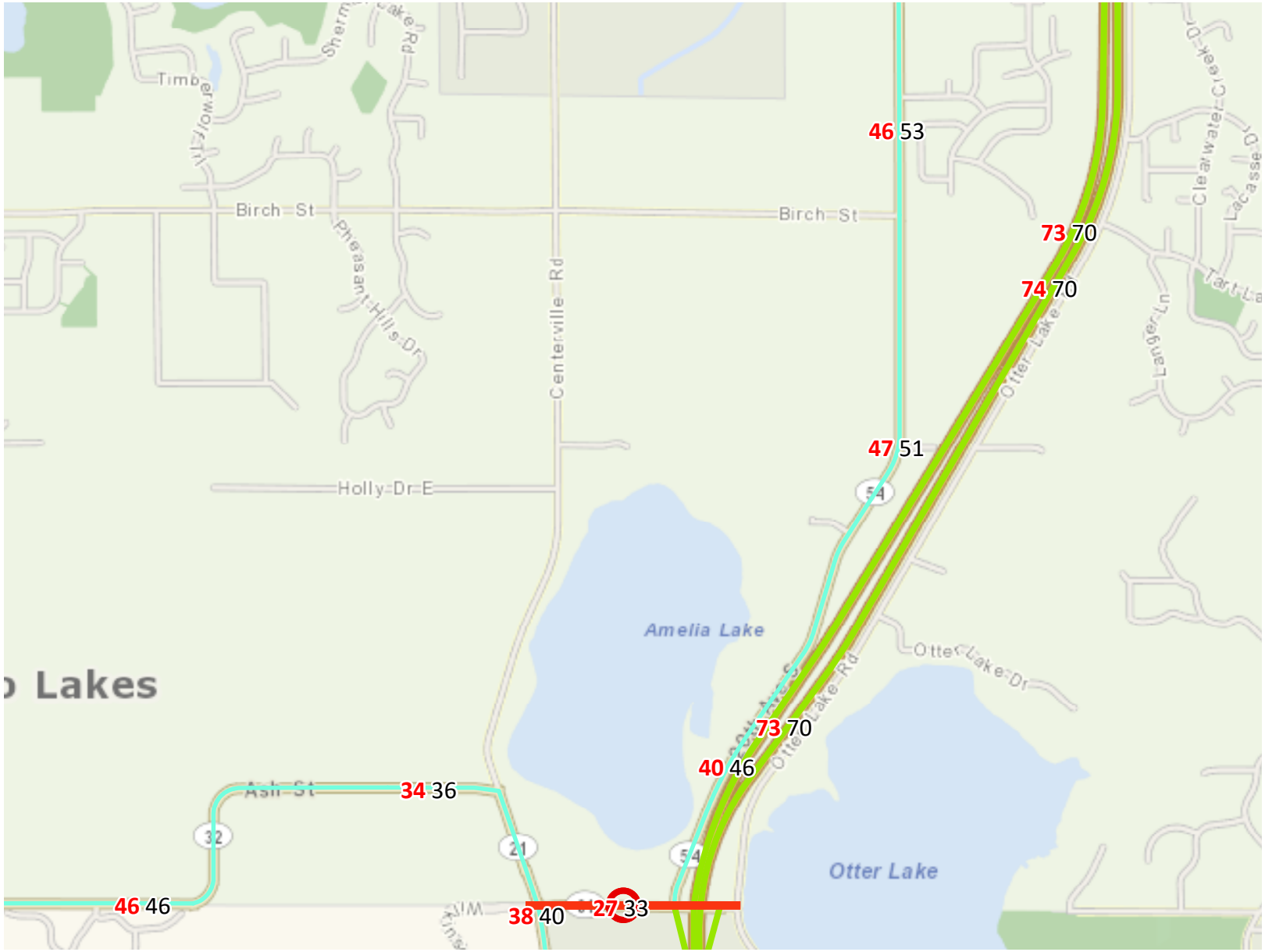
Transition Plan: N/A

3. COMMUNITY COMMENTS

None.

Level of Congestion

Strategic Capacity Project: I-35E/County Road J Interchange | Map ID: 1647002835536



Project Points — Principal Arterials — Principal Arterials Planned

Project — A Minor Arterials — A Minor Arterials Planned

0 0.2 0.4 0.8 1.2 1.6 Miles

Created: 3/11/2022
LandscapeRSA1

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https://giswebsite.metc.state.mn.us/gissite/notice.aspx

METROPOLITAN COUNCIL

Regional Economy

Strategic Capacity Project: I-35E/County Road J Interchange | Map ID: 1647002835536

Results

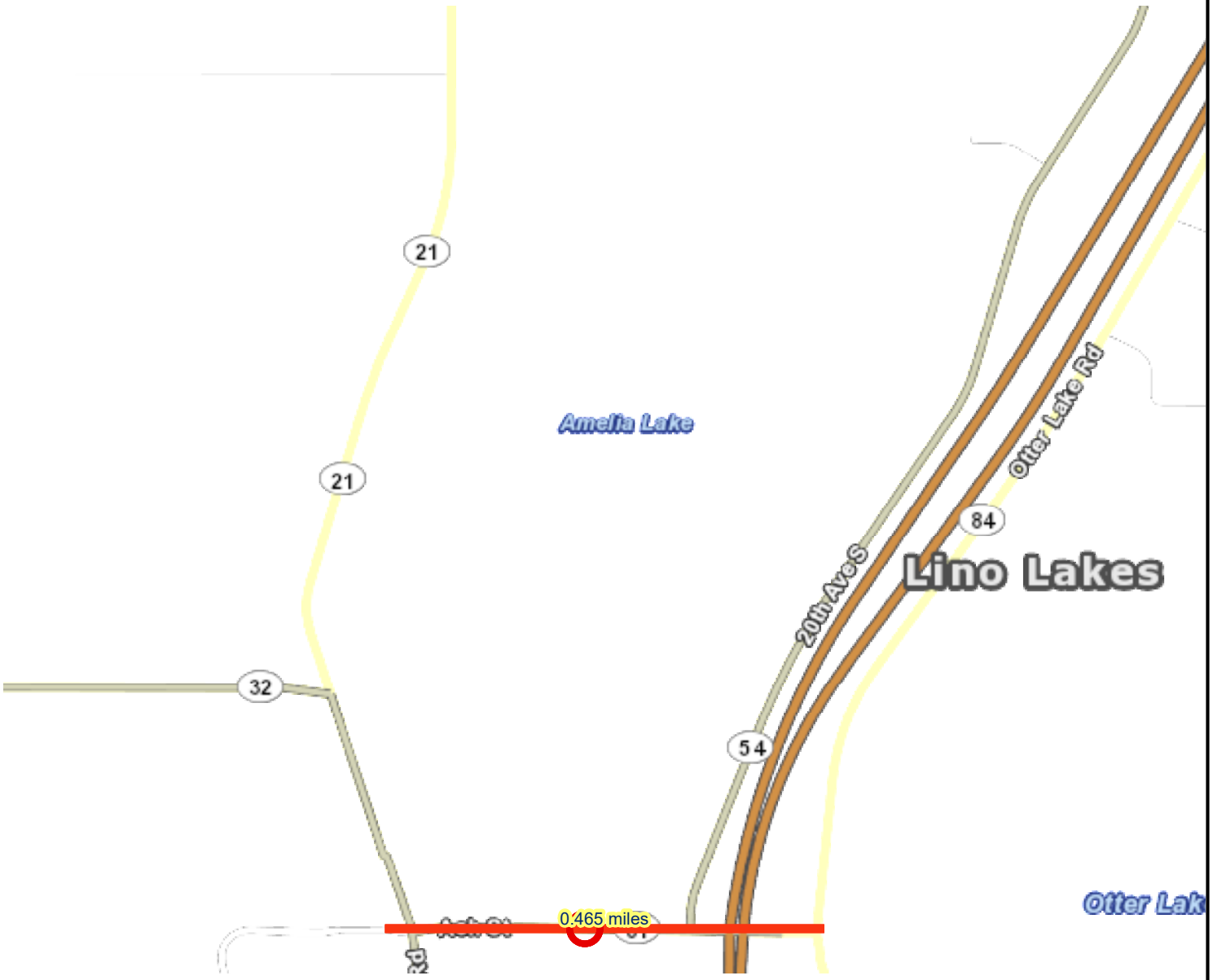
WITHIN ONE MI of project:
Postsecondary Students: 0

Totals by City:

Lino Lakes
Population: 4662
Employment: 959
Mfg and Dist Employment: 494

North Oaks
Population: 1824
Employment: 399
Mfg and Dist Employment: 6

White Bear Twp.
Population: 2218
Employment: 506
Mfg and Dist Employment: 350



Project Points
Project
Manfacturing/Distribution Centers
Job Concentration Centers

0 0.1 0.2 0.4 0.6 0.8 Miles

Created: 3/11/2022
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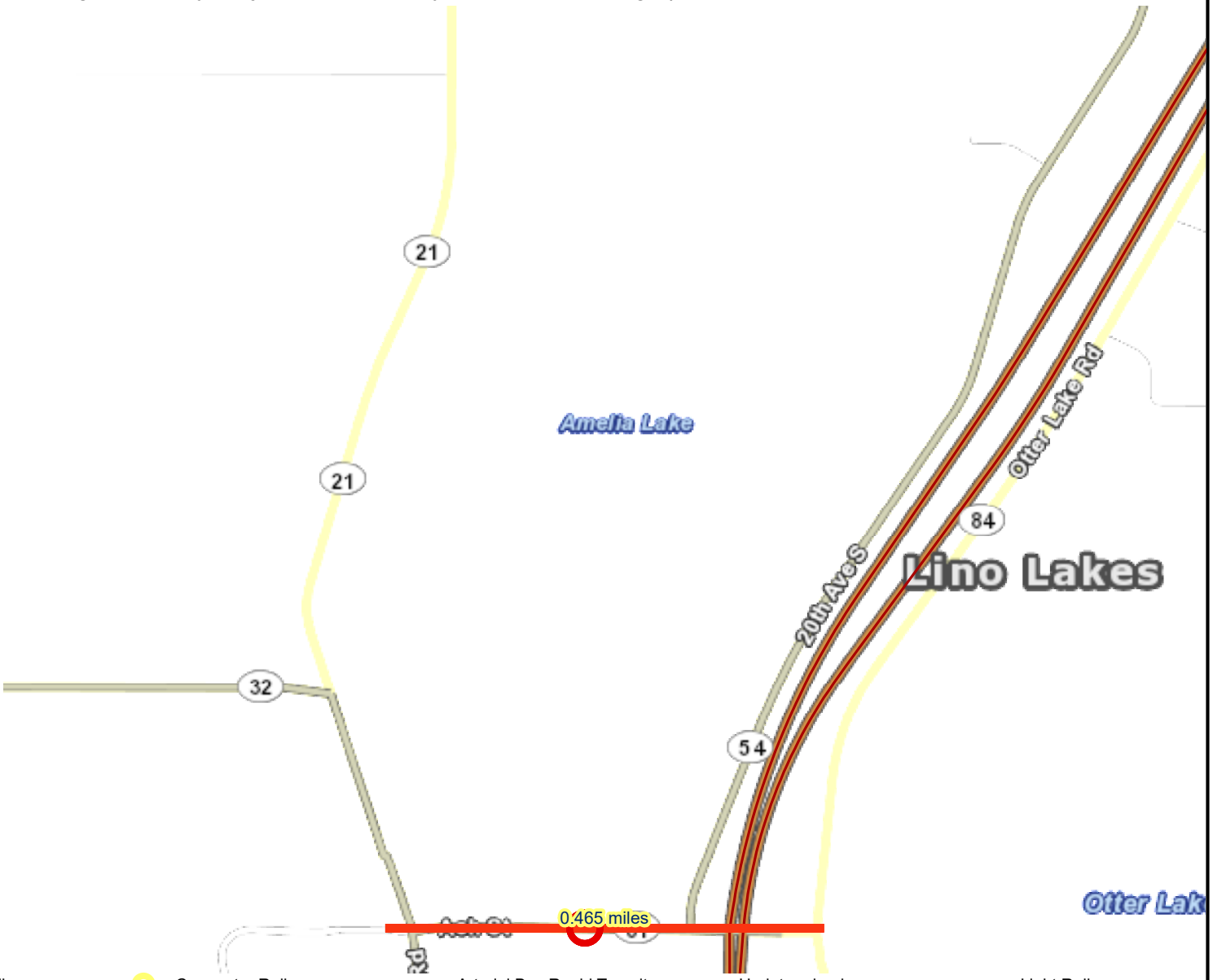
METROPOLITAN COUNCIL

Transit Connections

Strategic Capacity Project: I-35E/County Road J Interchange | Map ID: 1647002835536



Results

Transit with a Direct Connection to project:
275

**indicates Planned Alignments*

Transit Market areas: 4

Created: 3/11/2022
LandscapeRSA3

METROPOLITAN COUNCIL

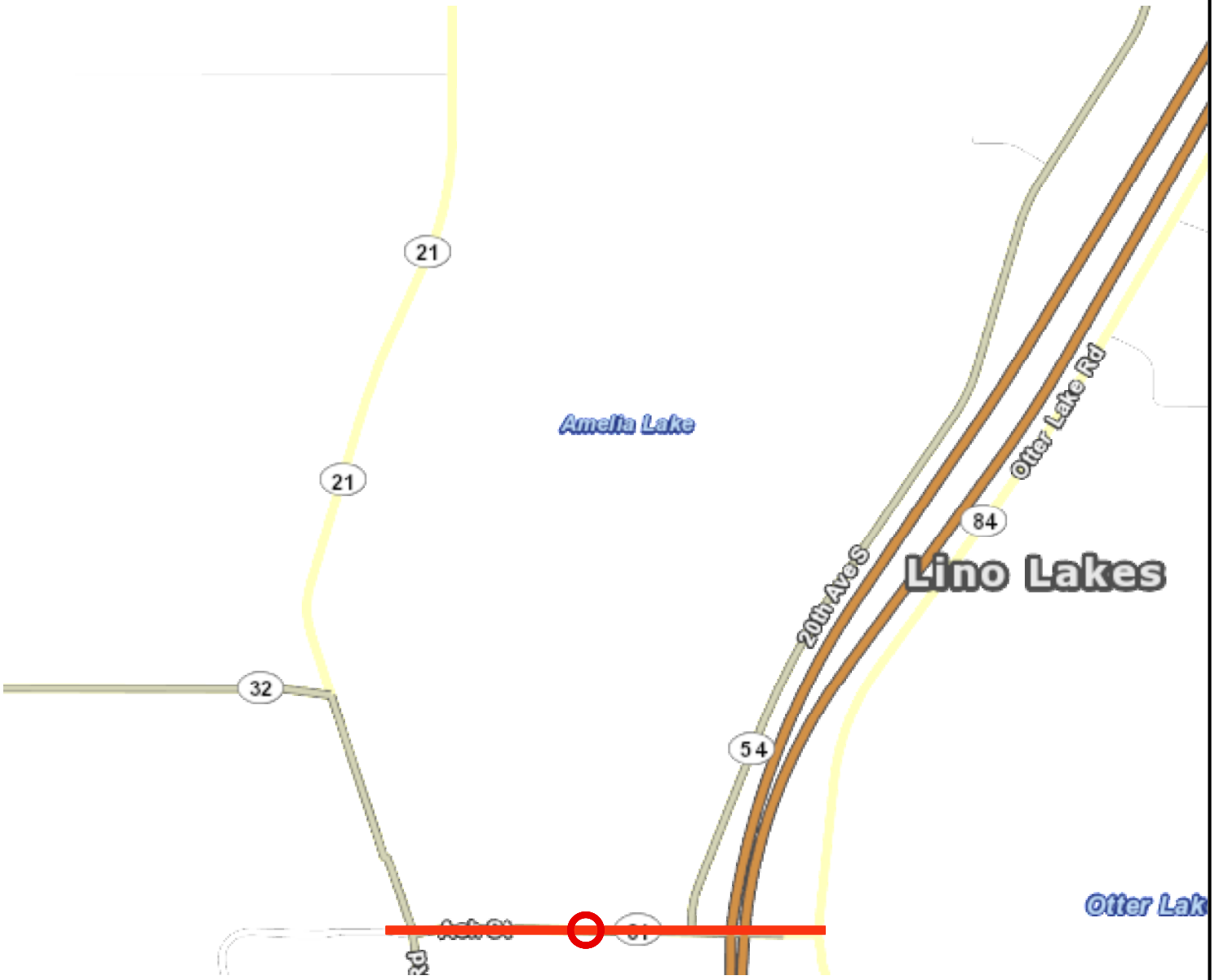
Socio-Economic Conditions

Strategic Capacity Project: I-35E/County Road J Interchange | Map ID: 1647002835536

Results

Total of publicly subsidized rental housing units in census tracts within 1/2 mile: 0

Project located in census tracts that are BELOW the regional average for population in poverty or population of color.



Points
Area of Concentrated Poverty
Lines

0 0.1 0.2 0.4 0.6 0.8 Miles

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LandscapeRSA2

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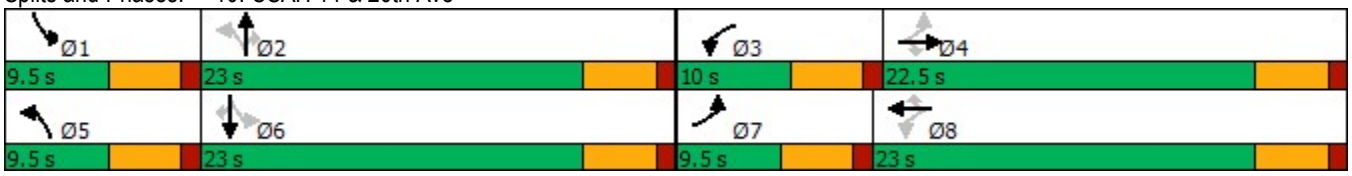
METROPOLITAN COUNCIL

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	35	370	20	140	460	90	55	110	200	60	30	15
Future Volume (vph)	35	370	20	140	460	90	55	110	200	60	30	15
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8		8	2		2	6		6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	22.5	22.5	9.5	22.5	22.5	9.5	22.5	22.5	9.5	22.5	22.5
Total Split (s)	9.5	22.5	22.5	10.0	23.0	23.0	9.5	23.0	23.0	9.5	23.0	23.0
Total Split (%)	14.6%	34.6%	34.6%	15.4%	35.4%	35.4%	14.6%	35.4%	35.4%	14.6%	35.4%	35.4%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	None	None	None	Max	Max
Act Effct Green (s)	16.4	12.6	12.6	18.8	16.9	16.9	22.1	19.5	19.5	22.1	19.5	19.5
Actuated g/C Ratio	0.30	0.23	0.23	0.35	0.31	0.31	0.41	0.36	0.36	0.41	0.36	0.36
v/c Ratio	0.11	0.49	0.04	0.41	0.45	0.16	0.10	0.09	0.31	0.06	0.05	0.02
Control Delay	12.0	21.1	0.1	15.7	17.7	1.1	10.8	15.8	4.6	10.3	16.4	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	12.0	21.1	0.1	15.7	17.7	1.1	10.8	15.8	4.6	10.3	16.4	0.1
LOS	B	C	A	B	B	A	B	B	A	B	B	A
Approach Delay		19.4			15.1			8.9			10.6	
Approach LOS		B			B			A			B	

Intersection Summary	
Cycle Length: 65	
Actuated Cycle Length: 54	
Natural Cycle: 65	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.49	
Intersection Signal Delay: 14.5	Intersection LOS: B
Intersection Capacity Utilization 38.9%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 10: CSAH 14 & 20th Ave



Lane Group	EBT	WBL	WBT	NBL	NBR	SBL	SBT	SBR
Lane Configurations								
Traffic Volume (vph)	555	20	605	20	50	145	5	80
Future Volume (vph)	555	20	605	20	50	145	5	80
Turn Type	NA	Perm	NA	Prot	Perm	pm+pt	NA	Perm
Protected Phases	4		8	5		1	6	
Permitted Phases		8			2	6		6
Detector Phase	4	8	8	5	2	1	6	6
Switch Phase								
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5	22.5	22.5	9.5	22.5	9.5	22.5	22.5
Total Split (s)	22.5	22.5	22.5	9.5	22.5	10.0	23.0	23.0
Total Split (%)	40.9%	40.9%	40.9%	17.3%	40.9%	18.2%	41.8%	41.8%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag				Lead	Lag	Lead	Lag	Lag
Lead-Lag Optimize?				Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	Max	None	Max	Max
Act Effct Green (s)	14.7	14.7	14.7	5.1	18.6	25.4	24.4	24.4
Actuated g/C Ratio	0.29	0.29	0.29	0.10	0.37	0.51	0.49	0.49
v/c Ratio	0.32	0.10	0.63	0.12	0.08	0.18	0.01	0.10
Control Delay	14.4	14.4	18.6	24.6	0.7	7.6	10.0	2.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	14.4	14.4	18.6	24.6	0.7	7.6	10.0	2.2
LOS	B	B	B	C	A	A	A	A
Approach Delay	14.4		18.5				5.8	
Approach LOS	B		B				A	

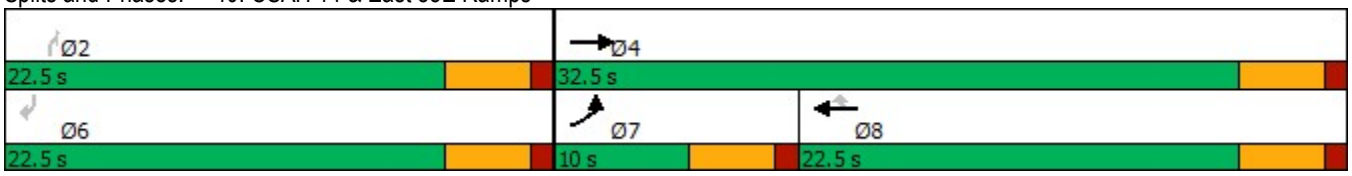
Intersection Summary	
Cycle Length: 55	
Actuated Cycle Length: 50	
Natural Cycle: 55	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.63	
Intersection Signal Delay: 14.5	Intersection LOS: B
Intersection Capacity Utilization 36.3%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 20: CSAH 14 & West 35E Ramps

Lane Group	EBL	EBT	WBT	WBR	NBR	SBR
Lane Configurations						
Traffic Volume (vph)	115	565	565	250	685	290
Future Volume (vph)	115	565	565	250	685	290
Turn Type	Prot	NA	NA	Perm	Perm	Perm
Protected Phases	7	4	8			
Permitted Phases				8	2	6
Detector Phase	7	4	8	8	2	6
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	22.5	22.5	22.5	22.5	22.5
Total Split (s)	10.0	32.5	22.5	22.5	22.5	22.5
Total Split (%)	18.2%	59.1%	40.9%	40.9%	40.9%	40.9%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag	Lead		Lag	Lag		
Lead-Lag Optimize?	Yes		Yes	Yes		
Recall Mode	None	None	None	None	Max	Max
Act Effct Green (s)	5.6	20.9	13.3	13.3	18.4	18.4
Actuated g/C Ratio	0.12	0.43	0.27	0.27	0.38	0.38
v/c Ratio	0.61	0.40	0.44	0.43	0.57	0.22
Control Delay	39.6	9.8	15.8	4.7	8.4	0.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	39.6	9.8	15.8	4.7	8.4	0.4
LOS	D	A	B	A	A	A
Approach Delay		14.8	12.4			
Approach LOS		B	B			

Intersection Summary	
Cycle Length: 55	
Actuated Cycle Length: 48.5	
Natural Cycle: 55	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.61	
Intersection Signal Delay: 10.5	Intersection LOS: B
Intersection Capacity Utilization 47.1%	ICU Level of Service A
Analysis Period (min) 15	

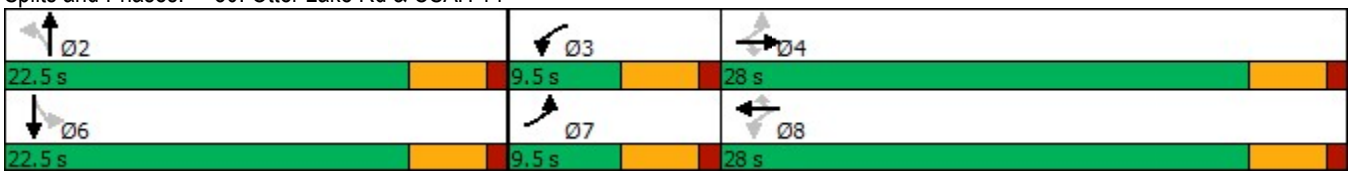
Splits and Phases: 40: CSAH 14 & East 35E Ramps



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	30	1245	70	55	765	20	95	10	20	10
Future Volume (vph)	30	1245	70	55	765	20	95	10	20	10
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	Perm	NA	Perm	NA
Protected Phases	7	4		3	8			2		6
Permitted Phases	4		4	8		8	2		6	
Detector Phase	7	4	4	3	8	8	2	2	6	6
Switch Phase										
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	22.5	22.5	9.5	22.5	22.5	22.5	22.5	22.5	22.5
Total Split (s)	9.5	28.0	28.0	9.5	28.0	28.0	22.5	22.5	22.5	22.5
Total Split (%)	15.8%	46.7%	46.7%	15.8%	46.7%	46.7%	37.5%	37.5%	37.5%	37.5%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag				
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes				
Recall Mode	None	None	None	None	None	None	Max	Max	Max	Max
Act Effct Green (s)	26.5	23.7	23.7	27.3	25.4	25.4	18.1	18.1	18.1	18.1
Actuated g/C Ratio	0.47	0.42	0.42	0.49	0.45	0.45	0.32	0.32	0.32	0.32
v/c Ratio	0.10	0.91	0.10	0.22	0.52	0.03	0.24	0.31	0.06	0.08
Control Delay	7.1	28.1	1.9	8.6	13.3	0.1	17.3	5.1	15.7	8.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	7.1	28.1	1.9	8.6	13.3	0.1	17.3	5.1	15.7	8.3
LOS	A	C	A	A	B	A	B	A	B	A
Approach Delay		26.3			12.7			9.3		10.7
Approach LOS		C			B			A		B

Intersection Summary	
Cycle Length: 60	
Actuated Cycle Length: 56.2	
Natural Cycle: 65	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.91	
Intersection Signal Delay: 19.5	Intersection LOS: B
Intersection Capacity Utilization 66.5%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 50: Otter Lake Rd & CSAH 14



10: CSAH 14 & 20th Ave

Direction	All
Future Volume (vph)	1585
Total Delay / Veh (s/v)	15
CO Emissions (kg)	1.85
NOx Emissions (kg)	0.36
VOC Emissions (kg)	0.43

20: CSAH 14 & West 35E Ramps

Direction	All
Future Volume (vph)	1480
Total Delay / Veh (s/v)	14
CO Emissions (kg)	1.65
NOx Emissions (kg)	0.32
VOC Emissions (kg)	0.38

30: SB On Ramp & CSAH 14

Direction	All
Future Volume (vph)	1655
Total Delay / Veh (s/v)	0
CO Emissions (kg)	0.40
NOx Emissions (kg)	0.08
VOC Emissions (kg)	0.09

40: CSAH 14 & East 35E Ramps

Direction	All
Future Volume (vph)	2470
Total Delay / Veh (s/v)	11
CO Emissions (kg)	2.17
NOx Emissions (kg)	0.42
VOC Emissions (kg)	0.50

50: Otter Lake Rd & CSAH 14

Direction	All
Future Volume (vph)	2520
Total Delay / Veh (s/v)	20
CO Emissions (kg)	2.85
NOx Emissions (kg)	0.55
VOC Emissions (kg)	0.66

100: Centerville Rd & Wilkinson Lake Blvd/CR J

Direction	All
Future Volume (vph)	1703
Total Delay / Veh (s/v)	85
CO Emissions (kg)	4.56
NOx Emissions (kg)	0.89
VOC Emissions (kg)	1.06

200: SB I-35E/CSAH 54 & CR J

Direction	All
Future Volume (vph)	1410
Total Delay / Veh (s/v)	3
CO Emissions (kg)	1.14
NOx Emissions (kg)	0.22
VOC Emissions (kg)	0.26

300: NB I-35E & CR J

Direction	All
Future Volume (vph)	1215
Total Delay / Veh (s/v)	36
CO Emissions (kg)	2.05
NOx Emissions (kg)	0.40
VOC Emissions (kg)	0.47

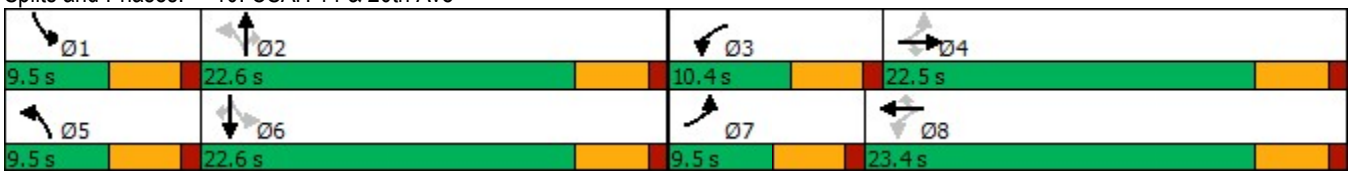
400: Otter Lake Rd & CR J

Direction	All
Future Volume (vph)	957
Total Delay / Veh (s/v)	13
CO Emissions (kg)	1.28
NOx Emissions (kg)	0.25
VOC Emissions (kg)	0.30

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	35	370	15	110	455	80	55	110	170	60	20	15
Future Volume (vph)	35	370	15	110	455	80	55	110	170	60	20	15
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8		8	2		2	6		6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	22.5	22.5	9.5	22.5	22.5	9.5	22.5	22.5	9.5	22.5	22.5
Total Split (s)	9.5	22.5	22.5	10.4	23.4	23.4	9.5	22.6	22.6	9.5	22.6	22.6
Total Split (%)	14.6%	34.6%	34.6%	16.0%	36.0%	36.0%	14.6%	34.8%	34.8%	14.6%	34.8%	34.8%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	None	None	None	Max	Max
Act Effct Green (s)	16.1	12.3	12.3	18.9	16.9	16.9	21.7	19.1	19.1	21.7	19.1	19.1
Actuated g/C Ratio	0.30	0.23	0.23	0.35	0.32	0.32	0.40	0.36	0.36	0.40	0.36	0.36
v/c Ratio	0.11	0.49	0.03	0.32	0.44	0.14	0.10	0.10	0.27	0.06	0.03	0.02
Control Delay	11.9	21.3	0.1	13.8	17.5	0.5	10.9	15.9	4.7	10.3	16.6	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	11.9	21.3	0.1	13.8	17.5	0.5	10.9	15.9	4.7	10.3	16.6	0.1
LOS	B	C	A	B	B	A	B	B	A	B	B	A
Approach Delay		19.8			14.7			9.4			10.1	
Approach LOS		B			B			A			B	

Intersection Summary	
Cycle Length: 65	
Actuated Cycle Length: 53.6	
Natural Cycle: 65	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.49	
Intersection Signal Delay: 14.7	Intersection LOS: B
Intersection Capacity Utilization 37.7%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 10: CSAH 14 & 20th Ave



Lane Group	EBT	WBL	WBT	NBL	NBR	SBL	SBR
Lane Configurations							
Traffic Volume (vph)	525	20	590	20	50	145	5	50
Future Volume (vph)	525	20	590	20	50	145	5	50
Turn Type	NA	Perm	NA	Prot	Perm	pm+pt	NA	Perm
Protected Phases	4		8	5		1	6	
Permitted Phases		8			2	6		6
Detector Phase	4	8	8	5	2	1	6	6
Switch Phase								
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5	22.5	22.5	9.5	22.5	9.5	22.5	22.5
Total Split (s)	22.5	22.5	22.5	9.5	22.5	10.0	23.0	23.0
Total Split (%)	40.9%	40.9%	40.9%	17.3%	40.9%	18.2%	41.8%	41.8%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag				Lead	Lag	Lead	Lag	Lag
Lead-Lag Optimize?				Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	Max	None	Max	Max
Act Effct Green (s)	14.5	14.5	14.5	5.1	18.6	25.3	24.3	24.3
Actuated g/C Ratio	0.29	0.29	0.29	0.10	0.37	0.51	0.49	0.49
v/c Ratio	0.31	0.10	0.62	0.12	0.08	0.18	0.01	0.06
Control Delay	14.3	14.3	18.5	24.5	0.7	7.6	10.0	0.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	14.3	14.3	18.5	24.5	0.7	7.6	10.0	0.6
LOS	B	B	B	C	A	A	A	A
Approach Delay	14.3		18.3				5.9	
Approach LOS	B		B				A	

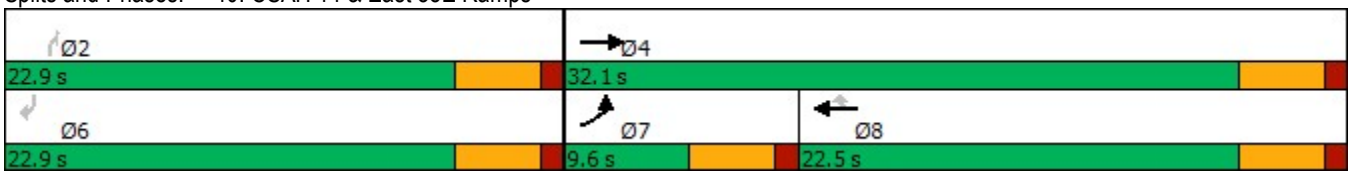
Intersection Summary	
Cycle Length: 55	
Actuated Cycle Length: 49.8	
Natural Cycle: 55	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.62	
Intersection Signal Delay: 14.5	Intersection LOS: B
Intersection Capacity Utilization 35.9%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 20: CSAH 14 & West 35E Ramps

Lane Group	EBL	EBT	WBT	WBR	NBR	SBR
Lane Configurations						
Traffic Volume (vph)	85	565	590	245	745	290
Future Volume (vph)	85	565	590	245	745	290
Turn Type	Prot	NA	NA	Perm	Perm	Perm
Protected Phases	7	4	8			
Permitted Phases				8	2	6
Detector Phase	7	4	8	8	2	6
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	22.5	22.5	22.5	22.5	22.5
Total Split (s)	9.6	32.1	22.5	22.5	22.9	22.9
Total Split (%)	17.5%	58.4%	40.9%	40.9%	41.6%	41.6%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag	Lead		Lag	Lag		
Lead-Lag Optimize?	Yes		Yes	Yes		
Recall Mode	None	None	None	None	Max	Max
Act Effct Green (s)	5.2	20.9	13.7	13.7	18.8	18.8
Actuated g/C Ratio	0.11	0.43	0.28	0.28	0.38	0.38
v/c Ratio	0.49	0.41	0.45	0.42	0.62	0.23
Control Delay	34.3	10.0	15.8	4.6	9.6	0.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	34.3	10.0	15.8	4.6	9.6	0.4
LOS	C	A	B	A	A	A
Approach Delay		13.2	12.5			
Approach LOS		B	B			

Intersection Summary	
Cycle Length: 55	
Actuated Cycle Length: 48.9	
Natural Cycle: 55	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.62	
Intersection Signal Delay: 10.4	Intersection LOS: B
Intersection Capacity Utilization 49.2%	ICU Level of Service A
Analysis Period (min) 15	

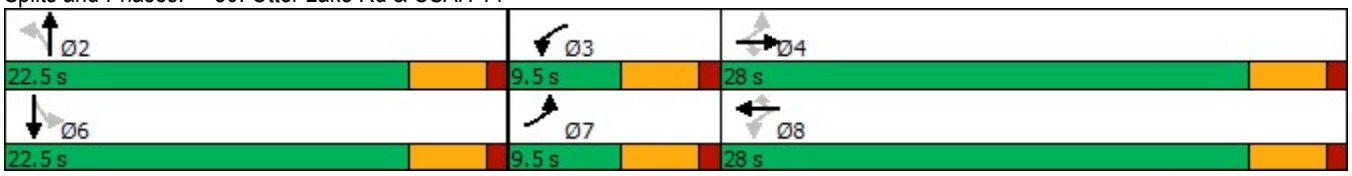
Splits and Phases: 40: CSAH 14 & East 35E Ramps



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	30	1305	70	15	805	20	75	10	20	10
Future Volume (vph)	30	1305	70	15	805	20	75	10	20	10
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	Perm	NA	Perm	NA
Protected Phases	7	4		3	8			2		6
Permitted Phases	4		4	8		8	2		6	
Detector Phase	7	4	4	3	8	8	2	2	6	6
Switch Phase										
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	22.5	22.5	9.5	22.5	22.5	22.5	22.5	22.5	22.5
Total Split (s)	9.5	28.0	28.0	9.5	28.0	28.0	22.5	22.5	22.5	22.5
Total Split (%)	15.8%	46.7%	46.7%	15.8%	46.7%	46.7%	37.5%	37.5%	37.5%	37.5%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag				
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes				
Recall Mode	None	None	None	None	None	None	Max	Max	Max	Max
Act Effct Green (s)	26.3	25.4	25.4	25.5	23.7	23.7	18.1	18.1	18.1	18.1
Actuated g/C Ratio	0.48	0.47	0.47	0.47	0.44	0.44	0.33	0.33	0.33	0.33
v/c Ratio	0.10	0.86	0.10	0.06	0.57	0.03	0.18	0.21	0.05	0.08
Control Delay	7.3	21.3	1.9	6.9	14.1	0.1	15.8	5.5	14.8	8.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	7.3	21.3	1.9	6.9	14.1	0.1	15.8	5.5	14.8	8.1
LOS	A	C	A	A	B	A	B	A	B	A
Approach Delay		20.0			13.6			9.4		10.3
Approach LOS		C			B			A		B

Intersection Summary	
Cycle Length: 60	
Actuated Cycle Length: 54.3	
Natural Cycle: 65	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.86	
Intersection Signal Delay: 16.8	Intersection LOS: B
Intersection Capacity Utilization 54.4%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 50: Otter Lake Rd & CSAH 14



10: CSAH 14 & 20th Ave

Direction	All
Future Volume (vph)	1495
Total Delay / Veh (s/v)	15
CO Emissions (kg)	1.76
NOx Emissions (kg)	0.34
VOC Emissions (kg)	0.41

20: CSAH 14 & West 35E Ramps

Direction	All
Future Volume (vph)	1405
Total Delay / Veh (s/v)	15
CO Emissions (kg)	1.56
NOx Emissions (kg)	0.30
VOC Emissions (kg)	0.36

30: SB On Ramp & CSAH 14

Direction	All
Future Volume (vph)	1650
Total Delay / Veh (s/v)	0
CO Emissions (kg)	0.41
NOx Emissions (kg)	0.08
VOC Emissions (kg)	0.10

40: CSAH 14 & East 35E Ramps

Direction	All
Future Volume (vph)	2520
Total Delay / Veh (s/v)	10
CO Emissions (kg)	2.23
NOx Emissions (kg)	0.43
VOC Emissions (kg)	0.52

50: Otter Lake Rd & CSAH 14

Direction	All
Future Volume (vph)	2501
Total Delay / Veh (s/v)	17
CO Emissions (kg)	2.76
NOx Emissions (kg)	0.54
VOC Emissions (kg)	0.64

100: Centerville Rd & Wilkinson Lake Blvd/CR J

Direction	All
Future Volume (vph)	1830
Total Delay / Veh (s/v)	0
CO Emissions (kg)	2.69
NOx Emissions (kg)	0.52
VOC Emissions (kg)	0.62

200: SB I-35E Ramps & CR J & CSAH 54

Direction	All
Future Volume (vph)	1635
Total Delay / Veh (s/v)	0
CO Emissions (kg)	1.86
NOx Emissions (kg)	0.36
VOC Emissions (kg)	0.43

300: NB I-35E Ramps & CSAH 60 & CR J/CSAH 84

Direction	All
Future Volume (vph)	1573
Total Delay / Veh (s/v)	0
CO Emissions (kg)	1.68
NOx Emissions (kg)	0.33
VOC Emissions (kg)	0.39

Intersection	
Intersection Delay, s/veh	10.4
Intersection LOS	B

Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	42	648	569	730
Demand Flow Rate, veh/h	43	668	592	754
Vehicles Circulating, veh/h	822	349	575	94
Vehicles Exiting, veh/h	17	565	289	345
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	6.9	11.2	10.0	10.1
Approach LOS	A	B	A	B

Lane	Left	Left	Bypass	Left	Bypass	Left	Bypass
Designated Moves	LTR	LT	R	LT	R	LT	R
Assumed Moves	LTR	LT	R	LT	R	LT	R
RT Channelized			Yield		Yield		Yield
Lane Util	1.000	1.000		1.000		1.000	
Follow-Up Headway, s	2.609	2.609		2.609		2.609	
Critical Headway, s	4.976	4.976	578	4.976	253	4.976	9
Entry Flow, veh/h	43	90	971	339	775	745	1356
Cap Entry Lane, veh/h	597	967	0.971	768	0.962	1254	0.971
Entry HV Adj Factor	0.988	0.964	561	0.962	243	0.968	9
Flow Entry, veh/h	42	87	942	326	746	721	1317
Cap Entry, veh/h	590	932	0.595	738	0.326	1214	0.007
V/C Ratio	0.072	0.093	12.3	0.442	8.8	0.594	2.8
Control Delay, s/veh	6.9	4.7	B	10.9	A	10.2	A
LOS	A	A	4	B	1	B	0
95th %tile Queue, veh	0	0		2		4	

Intersection	
Intersection Delay, s/veh	12.5
Intersection LOS	B

Approach	EB	WB	NB	SB
Entry Lanes	1	1	0	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	731	862	0	64
Demand Flow Rate, veh/h	756	900	0	68
Vehicles Circulating, veh/h	173	79	479	851
Vehicles Exiting, veh/h	746	400	450	172
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	12.3	13.3	0.0	8.0
Approach LOS	B	B	-	A

Lane	Left	Left	Left
Designated Moves	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR
RT Channelized			
Lane Util	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976
Entry Flow, veh/h	756	900	68
Cap Entry Lane, veh/h	1157	1273	579
Entry HV Adj Factor	0.967	0.958	0.946
Flow Entry, veh/h	731	862	64
Cap Entry, veh/h	1119	1219	548
V/C Ratio	0.654	0.707	0.117
Control Delay, s/veh	12.3	13.3	8.0
LOS	B	B	A
95th %tile Queue, veh	5	6	0

Intersection	
Intersection Delay, s/veh	
Intersection LOS	

Approach	SW
Entry Lanes	1
Conflicting Circle Lanes	1
Adj Approach Flow, veh/h	120
Demand Flow Rate, veh/h	123
Vehicles Circulating, veh/h	900
Vehicles Exiting, veh/h	79
Ped Vol Crossing Leg, #/h	0
Ped Cap Adj	1.000
Approach Delay, s/veh	9.7
Approach LOS	A

Lane	Left
Designated Moves	LR
Assumed Moves	LR
RT Channelized	
Lane Util	1.000
Follow-Up Headway, s	2.609
Critical Headway, s	4.976
Entry Flow, veh/h	123
Cap Entry Lane, veh/h	551
Entry HV Adj Factor	0.978
Flow Entry, veh/h	120
Cap Entry, veh/h	539
V/C Ratio	0.223
Control Delay, s/veh	9.7
LOS	A
95th %tile Queue, veh	1

Intersection	
Intersection Delay, s/veh	31.8
Intersection LOS	D

Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	0
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	377	187	827	0
Demand Flow Rate, veh/h	388	192	863	0
Vehicles Circulating, veh/h	59	986	446	1012
Vehicles Exiting, veh/h	953	397	0	166
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	5.6	13.7	49.7	0.0
Approach LOS	A	B	E	-

Lane	Left	Left	Left
Designated Moves	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR
RT Channelized			
Lane Util	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976
Entry Flow, veh/h	388	192	863
Cap Entry Lane, veh/h	1299	505	876
Entry HV Adj Factor	0.972	0.974	0.958
Flow Entry, veh/h	377	187	827
Cap Entry, veh/h	1263	492	839
V/C Ratio	0.299	0.380	0.986
Control Delay, s/veh	5.6	13.7	49.7
LOS	A	B	E
95th %tile Queue, veh	1	2	17

Intersection	
Intersection Delay, s/veh	
Intersection LOS	

Approach	NW
Entry Lanes	1
Conflicting Circle Lanes	1
Adj Approach Flow, veh/h	319
Demand Flow Rate, veh/h	326
Vehicles Circulating, veh/h	1057
Vehicles Exiting, veh/h	252
Ped Vol Crossing Leg, #/h	0
Ped Cap Adj	1.000
Approach Delay, s/veh	27.3
Approach LOS	D

Lane	Left
Designated Moves	LR
Assumed Moves	LR
RT Channelized	
Lane Util	1.000
Follow-Up Headway, s	2.609
Critical Headway, s	4.976
Entry Flow, veh/h	326
Cap Entry Lane, veh/h	470
Entry HV Adj Factor	0.979
Flow Entry, veh/h	319
Cap Entry, veh/h	459
V/C Ratio	0.694
Control Delay, s/veh	27.3
LOS	D
95th %tile Queue, veh	5

Cty Rd J Application

1	Main St/20th Ave		
	Existing Volume	1585	vehicles
	Existing Delay	15	sec/veh
	Existing Total Delay	23775	seconds
	Future Volume	1495	vehicles
	Future Delay	15	sec/veh
	Future Total Delay	22425	seconds
	Total Delay Reduction	1350	seconds

2	Main St/West Ramps		
	Existing Volume	1480	vehicles
	Existing Delay	14	sec/veh
	Existing Total Delay	20720	seconds
	Future Volume	1405	vehicles
	Future Delay	15	sec/veh
	Future Total Delay	21075	seconds
	Total Delay Reduction	-355	seconds

3	Main St/SB On Ramp		
	Existing Volume	1655	vehicles
	Existing Delay	0	sec/veh
	Existing Total Delay	0	seconds
	Future Volume	1650	vehicles
	Future Delay	0	sec/veh
	Future Total Delay	0	seconds
	Total Delay Reduction	0	seconds

4	Main St/East Ramps		
	Existing Volume	2470	vehicles
	Existing Delay	11	sec/veh
	Existing Total Delay	27170	seconds
	Future Volume	2520	vehicles
	Future Delay	10	sec/veh
	Future Total Delay	25200	seconds
	Total Delay Reduction	1970	seconds

5	Main St/Otter Lake Rd		
	Existing Volume	2520	vehicles
	Existing Delay	20	sec/veh
	Existing Total Delay	50400	seconds
	Future Volume	2500	vehicles
	Future Delay	17	sec/veh
	Future Total Delay	42500	seconds
	Total Delay Reduction	7900	seconds

6	CR J/Centerville Rd		
	Existing Volume	1703	vehicles
	Existing Delay	85	sec/veh
	Existing Total Delay	144755	seconds
	Future Volume	1830	vehicles
	Future Delay	10	sec/veh
	Future Total Delay	18300	seconds
	Total Delay Reduction	126455	seconds

7	CR J/West Ramps		
	Existing Volume	1410	vehicles
	Existing Delay	3	sec/veh
	Existing Total Delay	4230	seconds
	Future Volume	1635	vehicles
	Future Delay	13	sec/veh
	Future Total Delay	21255	seconds
	Total Delay Reduction	-17025	seconds

8	CR J/East Ramps		
	Existing Volume	1215	vehicles
	Existing Delay	36	sec/veh
	Existing Total Delay	43740	seconds
	Future Volume	1573	vehicles
	Future Delay	32	sec/veh
	Future Total Delay	50336	seconds
	Total Delay Reduction	-6596	seconds

CR J/Otter Lake Rd		
Existing Volume	957	vehicles
Existing Delay	13	sec/veh
Existing Total Delay	12441	seconds
Future Volume	0	vehicles
Future Delay	0	sec/veh
Future Total Delay	0	seconds
Total Delay Reduction	12441	seconds

Total Network Delay Reduction	**126140**	**seconds**

Emissions

Existing	1	2	3	4	5	6	7	8	9	Total
CO	1.85	1.65	0.4	2.17	2.85	4.56	1.14	2.05	1.28	17.95
NO	0.36	0.32	0.08	0.42	0.55	0.89	0.22	0.4	0.25	3.49
VOC	0.43	0.38	0.09	0.5	0.66	1.06	0.26	0.47	0.3	4.15
								Network Total		25.59

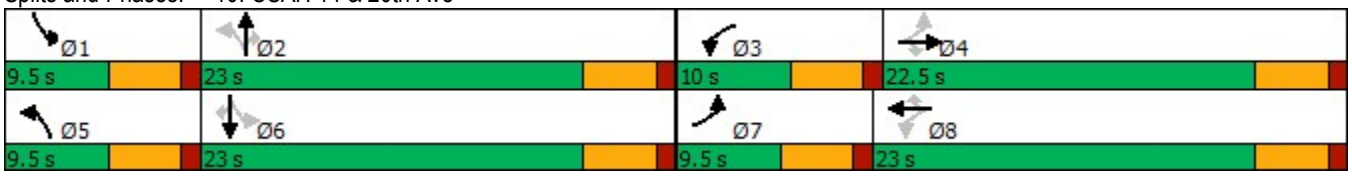
Build	1	2	3	4	5	6	7	8	9	Total
CO	1.76	1.56	0.41	2.23	2.76	2.69	1.86	1.68	0	14.95
NO	0.34	0.3	0.08	0.43	0.54	0.52	0.36	0.33	0	2.9
VOC	0.41	0.36	0.1	0.52	0.64	0.62	0.43	0.39	0	3.47
								Network Total		21.32

Reduction	**4.27**

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	35	370	20	140	460	90	55	110	200	60	30	15
Future Volume (vph)	35	370	20	140	460	90	55	110	200	60	30	15
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8		8	2		2	6		6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	22.5	22.5	9.5	22.5	22.5	9.5	22.5	22.5	9.5	22.5	22.5
Total Split (s)	9.5	22.5	22.5	10.0	23.0	23.0	9.5	23.0	23.0	9.5	23.0	23.0
Total Split (%)	14.6%	34.6%	34.6%	15.4%	35.4%	35.4%	14.6%	35.4%	35.4%	14.6%	35.4%	35.4%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	None	None	None	Max	Max
Act Effct Green (s)	16.4	12.6	12.6	18.8	16.9	16.9	22.1	19.5	19.5	22.1	19.5	19.5
Actuated g/C Ratio	0.30	0.23	0.23	0.35	0.31	0.31	0.41	0.36	0.36	0.41	0.36	0.36
v/c Ratio	0.11	0.49	0.04	0.41	0.45	0.16	0.10	0.09	0.31	0.06	0.05	0.02
Control Delay	12.0	21.1	0.1	15.7	17.7	1.1	10.8	15.8	4.6	10.3	16.4	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	12.0	21.1	0.1	15.7	17.7	1.1	10.8	15.8	4.6	10.3	16.4	0.1
LOS	B	C	A	B	B	A	B	B	A	B	B	A
Approach Delay		19.4			15.1			8.9			10.6	
Approach LOS		B			B			A			B	

Intersection Summary	
Cycle Length: 65	
Actuated Cycle Length: 54	
Natural Cycle: 65	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.49	
Intersection Signal Delay: 14.5	Intersection LOS: B
Intersection Capacity Utilization 38.9%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 10: CSAH 14 & 20th Ave



Lane Group	EBT	WBL	WBT	NBL	NBR	SBL	SBT	SBR
Lane Configurations								
Traffic Volume (vph)	555	20	605	20	50	145	5	80
Future Volume (vph)	555	20	605	20	50	145	5	80
Turn Type	NA	Perm	NA	Prot	Perm	pm+pt	NA	Perm
Protected Phases	4		8	5		1	6	
Permitted Phases		8			2	6		6
Detector Phase	4	8	8	5	2	1	6	6
Switch Phase								
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5	22.5	22.5	9.5	22.5	9.5	22.5	22.5
Total Split (s)	22.5	22.5	22.5	9.5	22.5	10.0	23.0	23.0
Total Split (%)	40.9%	40.9%	40.9%	17.3%	40.9%	18.2%	41.8%	41.8%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag				Lead	Lag	Lead	Lag	Lag
Lead-Lag Optimize?				Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	Max	None	Max	Max
Act Effct Green (s)	14.7	14.7	14.7	5.1	18.6	25.4	24.4	24.4
Actuated g/C Ratio	0.29	0.29	0.29	0.10	0.37	0.51	0.49	0.49
v/c Ratio	0.32	0.10	0.63	0.12	0.08	0.18	0.01	0.10
Control Delay	14.4	14.4	18.6	24.6	0.7	7.6	10.0	2.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	14.4	14.4	18.6	24.6	0.7	7.6	10.0	2.2
LOS	B	B	B	C	A	A	A	A
Approach Delay	14.4		18.5				5.8	
Approach LOS	B		B				A	

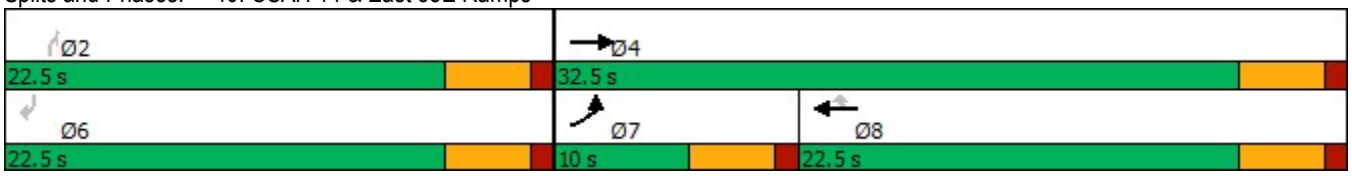
Intersection Summary	
Cycle Length: 55	
Actuated Cycle Length: 50	
Natural Cycle: 55	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.63	
Intersection Signal Delay: 14.5	Intersection LOS: B
Intersection Capacity Utilization 36.3%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 20: CSAH 14 & West 35E Ramps

Lane Group	EBL	EBT	WBT	WBR	NBR	SBR
Lane Configurations						
Traffic Volume (vph)	115	565	565	250	685	290
Future Volume (vph)	115	565	565	250	685	290
Turn Type	Prot	NA	NA	Perm	Perm	Perm
Protected Phases	7	4	8			
Permitted Phases				8	2	6
Detector Phase	7	4	8	8	2	6
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	22.5	22.5	22.5	22.5	22.5
Total Split (s)	10.0	32.5	22.5	22.5	22.5	22.5
Total Split (%)	18.2%	59.1%	40.9%	40.9%	40.9%	40.9%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag	Lead		Lag	Lag		
Lead-Lag Optimize?	Yes		Yes	Yes		
Recall Mode	None	None	None	None	Max	Max
Act Effct Green (s)	5.6	20.9	13.3	13.3	18.4	18.4
Actuated g/C Ratio	0.12	0.43	0.27	0.27	0.38	0.38
v/c Ratio	0.61	0.40	0.44	0.43	0.57	0.22
Control Delay	39.6	9.8	15.8	4.7	8.4	0.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	39.6	9.8	15.8	4.7	8.4	0.4
LOS	D	A	B	A	A	A
Approach Delay		14.8	12.4			
Approach LOS		B	B			

Intersection Summary	
Cycle Length: 55	
Actuated Cycle Length: 48.5	
Natural Cycle: 55	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.61	
Intersection Signal Delay: 10.5	Intersection LOS: B
Intersection Capacity Utilization 47.1%	ICU Level of Service A
Analysis Period (min) 15	

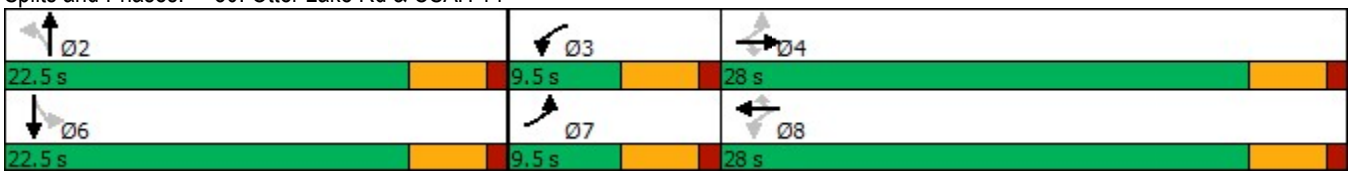
Splits and Phases: 40: CSAH 14 & East 35E Ramps



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	30	1245	70	55	765	20	95	10	20	10
Future Volume (vph)	30	1245	70	55	765	20	95	10	20	10
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	Perm	NA	Perm	NA
Protected Phases	7	4		3	8			2		6
Permitted Phases	4		4	8		8	2		6	
Detector Phase	7	4	4	3	8	8	2	2	6	6
Switch Phase										
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	22.5	22.5	9.5	22.5	22.5	22.5	22.5	22.5	22.5
Total Split (s)	9.5	28.0	28.0	9.5	28.0	28.0	22.5	22.5	22.5	22.5
Total Split (%)	15.8%	46.7%	46.7%	15.8%	46.7%	46.7%	37.5%	37.5%	37.5%	37.5%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag				
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes				
Recall Mode	None	None	None	None	None	None	Max	Max	Max	Max
Act Effct Green (s)	26.5	23.7	23.7	27.3	25.4	25.4	18.1	18.1	18.1	18.1
Actuated g/C Ratio	0.47	0.42	0.42	0.49	0.45	0.45	0.32	0.32	0.32	0.32
v/c Ratio	0.10	0.91	0.10	0.22	0.52	0.03	0.24	0.31	0.06	0.08
Control Delay	7.1	28.1	1.9	8.6	13.3	0.1	17.3	5.1	15.7	8.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	7.1	28.1	1.9	8.6	13.3	0.1	17.3	5.1	15.7	8.3
LOS	A	C	A	A	B	A	B	A	B	A
Approach Delay		26.3			12.7			9.3		10.7
Approach LOS		C			B			A		B

Intersection Summary	
Cycle Length: 60	
Actuated Cycle Length: 56.2	
Natural Cycle: 65	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.91	
Intersection Signal Delay: 19.5	Intersection LOS: B
Intersection Capacity Utilization 66.5%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 50: Otter Lake Rd & CSAH 14



10: CSAH 14 & 20th Ave

Direction	All
Future Volume (vph)	1585
Total Delay / Veh (s/v)	15
CO Emissions (kg)	1.85
NOx Emissions (kg)	0.36
VOC Emissions (kg)	0.43

20: CSAH 14 & West 35E Ramps

Direction	All
Future Volume (vph)	1480
Total Delay / Veh (s/v)	14
CO Emissions (kg)	1.65
NOx Emissions (kg)	0.32
VOC Emissions (kg)	0.38

30: SB On Ramp & CSAH 14

Direction	All
Future Volume (vph)	1655
Total Delay / Veh (s/v)	0
CO Emissions (kg)	0.40
NOx Emissions (kg)	0.08
VOC Emissions (kg)	0.09

40: CSAH 14 & East 35E Ramps

Direction	All
Future Volume (vph)	2470
Total Delay / Veh (s/v)	11
CO Emissions (kg)	2.17
NOx Emissions (kg)	0.42
VOC Emissions (kg)	0.50

50: Otter Lake Rd & CSAH 14

Direction	All
Future Volume (vph)	2520
Total Delay / Veh (s/v)	20
CO Emissions (kg)	2.85
NOx Emissions (kg)	0.55
VOC Emissions (kg)	0.66

100: Centerville Rd & Wilkinson Lake Blvd/CR J

Direction	All
Future Volume (vph)	1703
Total Delay / Veh (s/v)	85
CO Emissions (kg)	4.56
NOx Emissions (kg)	0.89
VOC Emissions (kg)	1.06

200: SB I-35E/CSAH 54 & CR J

Direction	All
Future Volume (vph)	1410
Total Delay / Veh (s/v)	3
CO Emissions (kg)	1.14
NOx Emissions (kg)	0.22
VOC Emissions (kg)	0.26

300: NB I-35E & CR J

Direction	All
Future Volume (vph)	1215
Total Delay / Veh (s/v)	36
CO Emissions (kg)	2.05
NOx Emissions (kg)	0.40
VOC Emissions (kg)	0.47

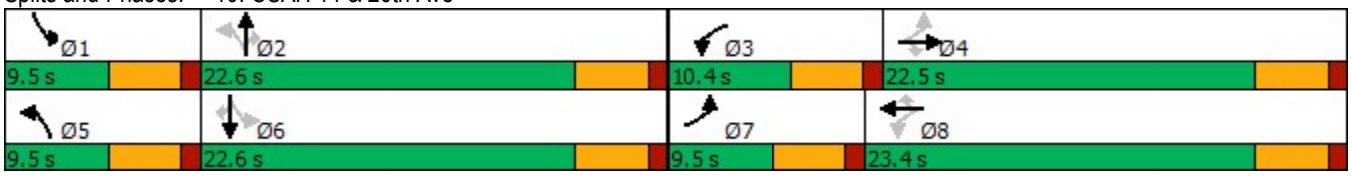
400: Otter Lake Rd & CR J

Direction	All
Future Volume (vph)	957
Total Delay / Veh (s/v)	13
CO Emissions (kg)	1.28
NOx Emissions (kg)	0.25
VOC Emissions (kg)	0.30

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	35	370	15	110	455	80	55	110	170	60	20	15
Future Volume (vph)	35	370	15	110	455	80	55	110	170	60	20	15
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8		8	2		2	6		6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	22.5	22.5	9.5	22.5	22.5	9.5	22.5	22.5	9.5	22.5	22.5
Total Split (s)	9.5	22.5	22.5	10.4	23.4	23.4	9.5	22.6	22.6	9.5	22.6	22.6
Total Split (%)	14.6%	34.6%	34.6%	16.0%	36.0%	36.0%	14.6%	34.8%	34.8%	14.6%	34.8%	34.8%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	None	None	None	Max	Max
Act Effct Green (s)	16.1	12.3	12.3	18.9	16.9	16.9	21.7	19.1	19.1	21.7	19.1	19.1
Actuated g/C Ratio	0.30	0.23	0.23	0.35	0.32	0.32	0.40	0.36	0.36	0.40	0.36	0.36
v/c Ratio	0.11	0.49	0.03	0.32	0.44	0.14	0.10	0.10	0.27	0.06	0.03	0.02
Control Delay	11.9	21.3	0.1	13.8	17.5	0.5	10.9	15.9	4.7	10.3	16.6	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	11.9	21.3	0.1	13.8	17.5	0.5	10.9	15.9	4.7	10.3	16.6	0.1
LOS	B	C	A	B	B	A	B	B	A	B	B	A
Approach Delay		19.8			14.7			9.4			10.1	
Approach LOS		B			B			A			B	

Intersection Summary	
Cycle Length: 65	
Actuated Cycle Length: 53.6	
Natural Cycle: 65	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.49	
Intersection Signal Delay: 14.7	Intersection LOS: B
Intersection Capacity Utilization 37.7%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 10: CSAH 14 & 20th Ave



Lane Group	EBT	WBL	WBT	NBL	NBR	SBL	SBR
Lane Configurations							
Traffic Volume (vph)	525	20	590	20	50	145	5	50
Future Volume (vph)	525	20	590	20	50	145	5	50
Turn Type	NA	Perm	NA	Prot	Perm	pm+pt	NA	Perm
Protected Phases	4		8	5		1	6	
Permitted Phases		8			2	6		6
Detector Phase	4	8	8	5	2	1	6	6
Switch Phase								
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5	22.5	22.5	9.5	22.5	9.5	22.5	22.5
Total Split (s)	22.5	22.5	22.5	9.5	22.5	10.0	23.0	23.0
Total Split (%)	40.9%	40.9%	40.9%	17.3%	40.9%	18.2%	41.8%	41.8%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag				Lead	Lag	Lead	Lag	Lag
Lead-Lag Optimize?				Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	Max	None	Max	Max
Act Effct Green (s)	14.5	14.5	14.5	5.1	18.6	25.3	24.3	24.3
Actuated g/C Ratio	0.29	0.29	0.29	0.10	0.37	0.51	0.49	0.49
v/c Ratio	0.31	0.10	0.62	0.12	0.08	0.18	0.01	0.06
Control Delay	14.3	14.3	18.5	24.5	0.7	7.6	10.0	0.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	14.3	14.3	18.5	24.5	0.7	7.6	10.0	0.6
LOS	B	B	B	C	A	A	A	A
Approach Delay	14.3		18.3				5.9	
Approach LOS	B		B				A	

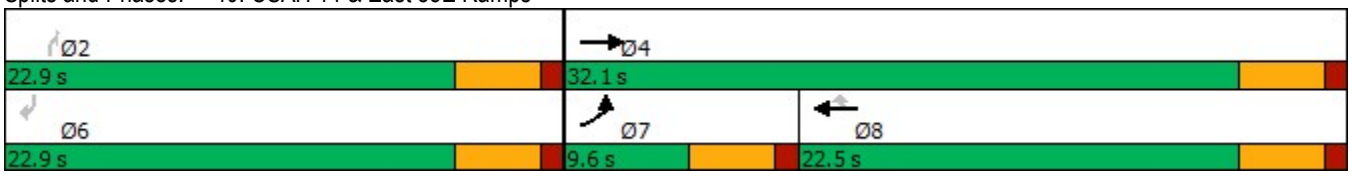
Intersection Summary	
Cycle Length: 55	
Actuated Cycle Length: 49.8	
Natural Cycle: 55	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.62	
Intersection Signal Delay: 14.5	Intersection LOS: B
Intersection Capacity Utilization 35.9%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 20: CSAH 14 & West 35E Ramps

Lane Group	EBL	EBT	WBT	WBR	NBR	SBR
Lane Configurations						
Traffic Volume (vph)	85	565	590	245	745	290
Future Volume (vph)	85	565	590	245	745	290
Turn Type	Prot	NA	NA	Perm	Perm	Perm
Protected Phases	7	4	8			
Permitted Phases				8	2	6
Detector Phase	7	4	8	8	2	6
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	22.5	22.5	22.5	22.5	22.5
Total Split (s)	9.6	32.1	22.5	22.5	22.9	22.9
Total Split (%)	17.5%	58.4%	40.9%	40.9%	41.6%	41.6%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag	Lead		Lag	Lag		
Lead-Lag Optimize?	Yes		Yes	Yes		
Recall Mode	None	None	None	None	Max	Max
Act Effct Green (s)	5.2	20.9	13.7	13.7	18.8	18.8
Actuated g/C Ratio	0.11	0.43	0.28	0.28	0.38	0.38
v/c Ratio	0.49	0.41	0.45	0.42	0.62	0.23
Control Delay	34.3	10.0	15.8	4.6	9.6	0.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	34.3	10.0	15.8	4.6	9.6	0.4
LOS	C	A	B	A	A	A
Approach Delay		13.2	12.5			
Approach LOS		B	B			

Intersection Summary	
Cycle Length: 55	
Actuated Cycle Length: 48.9	
Natural Cycle: 55	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.62	
Intersection Signal Delay: 10.4	Intersection LOS: B
Intersection Capacity Utilization 49.2%	ICU Level of Service A
Analysis Period (min) 15	

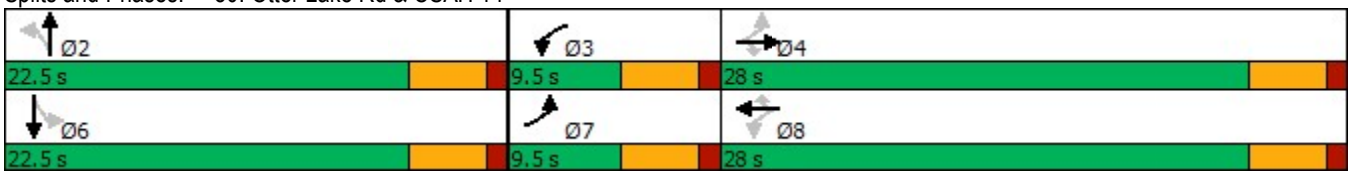
Splits and Phases: 40: CSAH 14 & East 35E Ramps



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	30	1305	70	15	805	20	75	10	20	10
Future Volume (vph)	30	1305	70	15	805	20	75	10	20	10
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	Perm	NA	Perm	NA
Protected Phases	7	4		3	8			2		6
Permitted Phases	4		4	8		8	2		6	
Detector Phase	7	4	4	3	8	8	2	2	6	6
Switch Phase										
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	22.5	22.5	9.5	22.5	22.5	22.5	22.5	22.5	22.5
Total Split (s)	9.5	28.0	28.0	9.5	28.0	28.0	22.5	22.5	22.5	22.5
Total Split (%)	15.8%	46.7%	46.7%	15.8%	46.7%	46.7%	37.5%	37.5%	37.5%	37.5%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag				
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes				
Recall Mode	None	None	None	None	None	None	Max	Max	Max	Max
Act Effct Green (s)	26.3	25.4	25.4	25.5	23.7	23.7	18.1	18.1	18.1	18.1
Actuated g/C Ratio	0.48	0.47	0.47	0.47	0.44	0.44	0.33	0.33	0.33	0.33
v/c Ratio	0.10	0.86	0.10	0.06	0.57	0.03	0.18	0.21	0.05	0.08
Control Delay	7.3	21.3	1.9	6.9	14.1	0.1	15.8	5.5	14.8	8.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	7.3	21.3	1.9	6.9	14.1	0.1	15.8	5.5	14.8	8.1
LOS	A	C	A	A	B	A	B	A	B	A
Approach Delay		20.0			13.6			9.4		10.3
Approach LOS		C			B			A		B

Intersection Summary	
Cycle Length: 60	
Actuated Cycle Length: 54.3	
Natural Cycle: 65	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.86	
Intersection Signal Delay: 16.8	Intersection LOS: B
Intersection Capacity Utilization 54.4%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 50: Otter Lake Rd & CSAH 14



10: CSAH 14 & 20th Ave

Direction	All
Future Volume (vph)	1495
Total Delay / Veh (s/v)	15
CO Emissions (kg)	1.76
NOx Emissions (kg)	0.34
VOC Emissions (kg)	0.41

20: CSAH 14 & West 35E Ramps

Direction	All
Future Volume (vph)	1405
Total Delay / Veh (s/v)	15
CO Emissions (kg)	1.56
NOx Emissions (kg)	0.30
VOC Emissions (kg)	0.36

30: SB On Ramp & CSAH 14

Direction	All
Future Volume (vph)	1650
Total Delay / Veh (s/v)	0
CO Emissions (kg)	0.41
NOx Emissions (kg)	0.08
VOC Emissions (kg)	0.10

40: CSAH 14 & East 35E Ramps

Direction	All
Future Volume (vph)	2520
Total Delay / Veh (s/v)	10
CO Emissions (kg)	2.23
NOx Emissions (kg)	0.43
VOC Emissions (kg)	0.52

50: Otter Lake Rd & CSAH 14

Direction	All
Future Volume (vph)	2501
Total Delay / Veh (s/v)	17
CO Emissions (kg)	2.76
NOx Emissions (kg)	0.54
VOC Emissions (kg)	0.64

100: Centerville Rd & Wilkinson Lake Blvd/CR J

Direction	All
Future Volume (vph)	1830
Total Delay / Veh (s/v)	0
CO Emissions (kg)	2.69
NOx Emissions (kg)	0.52
VOC Emissions (kg)	0.62

200: SB I-35E Ramps & CR J & CSAH 54

Direction	All
Future Volume (vph)	1635
Total Delay / Veh (s/v)	0
CO Emissions (kg)	1.86
NOx Emissions (kg)	0.36
VOC Emissions (kg)	0.43

300: NB I-35E Ramps & CSAH 60 & CR J/CSAH 84

Direction	All
Future Volume (vph)	1573
Total Delay / Veh (s/v)	0
CO Emissions (kg)	1.68
NOx Emissions (kg)	0.33
VOC Emissions (kg)	0.39

Intersection	
Intersection Delay, s/veh	10.4
Intersection LOS	B

Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	42	648	569	730
Demand Flow Rate, veh/h	43	668	592	754
Vehicles Circulating, veh/h	822	349	575	94
Vehicles Exiting, veh/h	17	565	289	345
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	6.9	11.2	10.0	10.1
Approach LOS	A	B	A	B

Lane	Left	Left	Bypass	Left	Bypass	Left	Bypass
Designated Moves	LTR	LT	R	LT	R	LT	R
Assumed Moves	LTR	LT	R	LT	R	LT	R
RT Channelized			Yield		Yield		Yield
Lane Util	1.000	1.000		1.000		1.000	
Follow-Up Headway, s	2.609	2.609		2.609		2.609	
Critical Headway, s	4.976	4.976	578	4.976	253	4.976	9
Entry Flow, veh/h	43	90	971	339	775	745	1356
Cap Entry Lane, veh/h	597	967	0.971	768	0.962	1254	0.971
Entry HV Adj Factor	0.988	0.964	561	0.962	243	0.968	9
Flow Entry, veh/h	42	87	942	326	746	721	1317
Cap Entry, veh/h	590	932	0.595	738	0.326	1214	0.007
V/C Ratio	0.072	0.093	12.3	0.442	8.8	0.594	2.8
Control Delay, s/veh	6.9	4.7	B	10.9	A	10.2	A
LOS	A	A	4	B	1	B	0
95th %tile Queue, veh	0	0		2		4	

Intersection	
Intersection Delay, s/veh	12.5
Intersection LOS	B

Approach	EB	WB	NB	SB
Entry Lanes	1	1	0	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	731	862	0	64
Demand Flow Rate, veh/h	756	900	0	68
Vehicles Circulating, veh/h	173	79	479	851
Vehicles Exiting, veh/h	746	400	450	172
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	12.3	13.3	0.0	8.0
Approach LOS	B	B	-	A

Lane	Left	Left	Left
Designated Moves	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR
RT Channelized			
Lane Util	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976
Entry Flow, veh/h	756	900	68
Cap Entry Lane, veh/h	1157	1273	579
Entry HV Adj Factor	0.967	0.958	0.946
Flow Entry, veh/h	731	862	64
Cap Entry, veh/h	1119	1219	548
V/C Ratio	0.654	0.707	0.117
Control Delay, s/veh	12.3	13.3	8.0
LOS	B	B	A
95th %tile Queue, veh	5	6	0

Intersection	
Intersection Delay, s/veh	
Intersection LOS	

Approach	SW
Entry Lanes	1
Conflicting Circle Lanes	1
Adj Approach Flow, veh/h	120
Demand Flow Rate, veh/h	123
Vehicles Circulating, veh/h	900
Vehicles Exiting, veh/h	79
Ped Vol Crossing Leg, #/h	0
Ped Cap Adj	1.000
Approach Delay, s/veh	9.7
Approach LOS	A

Lane	Left
Designated Moves	LR
Assumed Moves	LR
RT Channelized	
Lane Util	1.000
Follow-Up Headway, s	2.609
Critical Headway, s	4.976
Entry Flow, veh/h	123
Cap Entry Lane, veh/h	551
Entry HV Adj Factor	0.978
Flow Entry, veh/h	120
Cap Entry, veh/h	539
V/C Ratio	0.223
Control Delay, s/veh	9.7
LOS	A
95th %tile Queue, veh	1

Intersection	
Intersection Delay, s/veh	31.8
Intersection LOS	D

Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	0
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	377	187	827	0
Demand Flow Rate, veh/h	388	192	863	0
Vehicles Circulating, veh/h	59	986	446	1012
Vehicles Exiting, veh/h	953	397	0	166
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	5.6	13.7	49.7	0.0
Approach LOS	A	B	E	-

Lane	Left	Left	Left
Designated Moves	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR
RT Channelized			
Lane Util	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976
Entry Flow, veh/h	388	192	863
Cap Entry Lane, veh/h	1299	505	876
Entry HV Adj Factor	0.972	0.974	0.958
Flow Entry, veh/h	377	187	827
Cap Entry, veh/h	1263	492	839
V/C Ratio	0.299	0.380	0.986
Control Delay, s/veh	5.6	13.7	49.7
LOS	A	B	E
95th %tile Queue, veh	1	2	17

Intersection	
Intersection Delay, s/veh	
Intersection LOS	

Approach	NW
Entry Lanes	1
Conflicting Circle Lanes	1
Adj Approach Flow, veh/h	319
Demand Flow Rate, veh/h	326
Vehicles Circulating, veh/h	1057
Vehicles Exiting, veh/h	252
Ped Vol Crossing Leg, #/h	0
Ped Cap Adj	1.000
Approach Delay, s/veh	27.3
Approach LOS	D

Lane	Left
Designated Moves	LR
Assumed Moves	LR
RT Channelized	
Lane Util	1.000
Follow-Up Headway, s	2.609
Critical Headway, s	4.976
Entry Flow, veh/h	326
Cap Entry Lane, veh/h	470
Entry HV Adj Factor	0.979
Flow Entry, veh/h	319
Cap Entry, veh/h	459
V/C Ratio	0.694
Control Delay, s/veh	27.3
LOS	D
95th %tile Queue, veh	5

Cty Rd J Application

1	Main St/20th Ave		
	Existing Volume	1585	vehicles
	Existing Delay	15	sec/veh
	Existing Total Delay	23775	seconds
	Future Volume	1495	vehicles
	Future Delay	15	sec/veh
	Future Total Delay	22425	seconds
	Total Delay Reduction	1350	seconds

2	Main St/West Ramps		
	Existing Volume	1480	vehicles
	Existing Delay	14	sec/veh
	Existing Total Delay	20720	seconds
	Future Volume	1405	vehicles
	Future Delay	15	sec/veh
	Future Total Delay	21075	seconds
	Total Delay Reduction	-355	seconds

3	Main St/SB On Ramp		
	Existing Volume	1655	vehicles
	Existing Delay	0	sec/veh
	Existing Total Delay	0	seconds
	Future Volume	1650	vehicles
	Future Delay	0	sec/veh
	Future Total Delay	0	seconds
	Total Delay Reduction	0	seconds

4	Main St/East Ramps		
	Existing Volume	2470	vehicles
	Existing Delay	11	sec/veh
	Existing Total Delay	27170	seconds
	Future Volume	2520	vehicles
	Future Delay	10	sec/veh
	Future Total Delay	25200	seconds
	Total Delay Reduction	1970	seconds

5	Main St/Otter Lake Rd		
	Existing Volume	2520	vehicles
	Existing Delay	20	sec/veh
	Existing Total Delay	50400	seconds
	Future Volume	2500	vehicles
	Future Delay	17	sec/veh
	Future Total Delay	42500	seconds
	Total Delay Reduction	7900	seconds

6	CR J/Centerville Rd		
	Existing Volume	1703	vehicles
	Existing Delay	85	sec/veh
	Existing Total Delay	144755	seconds
	Future Volume	1830	vehicles
	Future Delay	10	sec/veh
	Future Total Delay	18300	seconds
	Total Delay Reduction	126455	seconds

7	CR J/West Ramps		
	Existing Volume	1410	vehicles
	Existing Delay	3	sec/veh
	Existing Total Delay	4230	seconds
	Future Volume	1635	vehicles
	Future Delay	13	sec/veh
	Future Total Delay	21255	seconds
	Total Delay Reduction	-17025	seconds

8	CR J/East Ramps		
	Existing Volume	1215	vehicles
	Existing Delay	36	sec/veh
	Existing Total Delay	43740	seconds
	Future Volume	1573	vehicles
	Future Delay	32	sec/veh
	Future Total Delay	50336	seconds
	Total Delay Reduction	-6596	seconds

CR J/Otter Lake Rd		
Existing Volume	957	vehicles
Existing Delay	13	sec/veh
Existing Total Delay	12441	seconds
Future Volume	0	vehicles
Future Delay	0	sec/veh
Future Total Delay	0	seconds
Total Delay Reduction	12441	seconds

Total Network Delay Reduction	**126140**	**seconds**

Emissions

Existing	1	2	3	4	5	6	7	8	9	Total
CO	1.85	1.65	0.4	2.17	2.85	4.56	1.14	2.05	1.28	17.95
NO	0.36	0.32	0.08	0.42	0.55	0.89	0.22	0.4	0.25	3.49
VOC	0.43	0.38	0.09	0.5	0.66	1.06	0.26	0.47	0.3	4.15
								Network Total		25.59

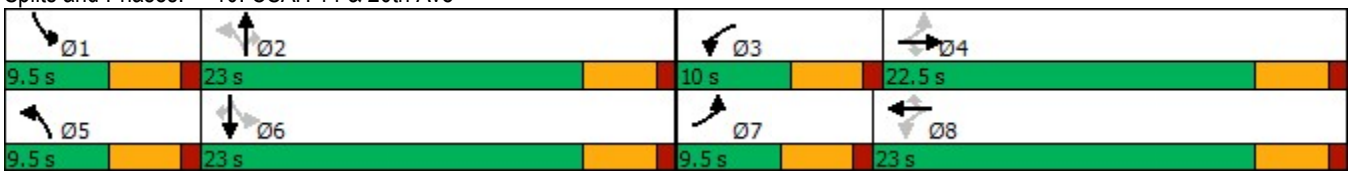
Build	1	2	3	4	5	6	7	8	9	Total
CO	1.76	1.56	0.41	2.23	2.76	2.69	1.86	1.68	0	14.95
NO	0.34	0.3	0.08	0.43	0.54	0.52	0.36	0.33	0	2.9
VOC	0.41	0.36	0.1	0.52	0.64	0.62	0.43	0.39	0	3.47
								Network Total		21.32

Reduction	**4.27**

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	35	370	20	140	460	90	55	110	200	60	30	15
Future Volume (vph)	35	370	20	140	460	90	55	110	200	60	30	15
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8		8	2		2	6		6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	22.5	22.5	9.5	22.5	22.5	9.5	22.5	22.5	9.5	22.5	22.5
Total Split (s)	9.5	22.5	22.5	10.0	23.0	23.0	9.5	23.0	23.0	9.5	23.0	23.0
Total Split (%)	14.6%	34.6%	34.6%	15.4%	35.4%	35.4%	14.6%	35.4%	35.4%	14.6%	35.4%	35.4%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	None	None	None	Max	Max
Act Effct Green (s)	16.4	12.6	12.6	18.8	16.9	16.9	22.1	19.5	19.5	22.1	19.5	19.5
Actuated g/C Ratio	0.30	0.23	0.23	0.35	0.31	0.31	0.41	0.36	0.36	0.41	0.36	0.36
v/c Ratio	0.11	0.49	0.04	0.41	0.45	0.16	0.10	0.09	0.31	0.06	0.05	0.02
Control Delay	12.0	21.1	0.1	15.7	17.7	1.1	10.8	15.8	4.6	10.3	16.4	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	12.0	21.1	0.1	15.7	17.7	1.1	10.8	15.8	4.6	10.3	16.4	0.1
LOS	B	C	A	B	B	A	B	B	A	B	B	A
Approach Delay		19.4			15.1			8.9			10.6	
Approach LOS		B			B			A			B	

Intersection Summary	
Cycle Length: 65	
Actuated Cycle Length: 54	
Natural Cycle: 65	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.49	
Intersection Signal Delay: 14.5	Intersection LOS: B
Intersection Capacity Utilization 38.9%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 10: CSAH 14 & 20th Ave



Lane Group	EBT	WBL	WBT	NBL	NBR	SBL	SBT	SBR
Lane Configurations								
Traffic Volume (vph)	555	20	605	20	50	145	5	80
Future Volume (vph)	555	20	605	20	50	145	5	80
Turn Type	NA	Perm	NA	Prot	Perm	pm+pt	NA	Perm
Protected Phases	4		8	5		1	6	
Permitted Phases		8			2	6		6
Detector Phase	4	8	8	5	2	1	6	6
Switch Phase								
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5	22.5	22.5	9.5	22.5	9.5	22.5	22.5
Total Split (s)	22.5	22.5	22.5	9.5	22.5	10.0	23.0	23.0
Total Split (%)	40.9%	40.9%	40.9%	17.3%	40.9%	18.2%	41.8%	41.8%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag				Lead	Lag	Lead	Lag	Lag
Lead-Lag Optimize?				Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	Max	None	Max	Max
Act Effct Green (s)	14.7	14.7	14.7	5.1	18.6	25.4	24.4	24.4
Actuated g/C Ratio	0.29	0.29	0.29	0.10	0.37	0.51	0.49	0.49
v/c Ratio	0.32	0.10	0.63	0.12	0.08	0.18	0.01	0.10
Control Delay	14.4	14.4	18.6	24.6	0.7	7.6	10.0	2.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	14.4	14.4	18.6	24.6	0.7	7.6	10.0	2.2
LOS	B	B	B	C	A	A	A	A
Approach Delay	14.4		18.5				5.8	
Approach LOS	B		B				A	

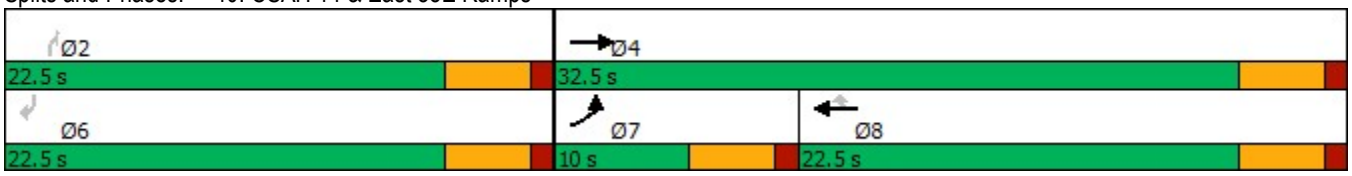
Intersection Summary	
Cycle Length: 55	
Actuated Cycle Length: 50	
Natural Cycle: 55	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.63	
Intersection Signal Delay: 14.5	Intersection LOS: B
Intersection Capacity Utilization 36.3%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 20: CSAH 14 & West 35E Ramps

Lane Group	EBL	EBT	WBT	WBR	NBR	SBR
Lane Configurations						
Traffic Volume (vph)	115	565	565	250	685	290
Future Volume (vph)	115	565	565	250	685	290
Turn Type	Prot	NA	NA	Perm	Perm	Perm
Protected Phases	7	4	8			
Permitted Phases				8	2	6
Detector Phase	7	4	8	8	2	6
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	22.5	22.5	22.5	22.5	22.5
Total Split (s)	10.0	32.5	22.5	22.5	22.5	22.5
Total Split (%)	18.2%	59.1%	40.9%	40.9%	40.9%	40.9%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag	Lead		Lag	Lag		
Lead-Lag Optimize?	Yes		Yes	Yes		
Recall Mode	None	None	None	None	Max	Max
Act Effct Green (s)	5.6	20.9	13.3	13.3	18.4	18.4
Actuated g/C Ratio	0.12	0.43	0.27	0.27	0.38	0.38
v/c Ratio	0.61	0.40	0.44	0.43	0.57	0.22
Control Delay	39.6	9.8	15.8	4.7	8.4	0.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	39.6	9.8	15.8	4.7	8.4	0.4
LOS	D	A	B	A	A	A
Approach Delay		14.8	12.4			
Approach LOS		B	B			

Intersection Summary	
Cycle Length: 55	
Actuated Cycle Length: 48.5	
Natural Cycle: 55	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.61	
Intersection Signal Delay: 10.5	Intersection LOS: B
Intersection Capacity Utilization 47.1%	ICU Level of Service A
Analysis Period (min) 15	

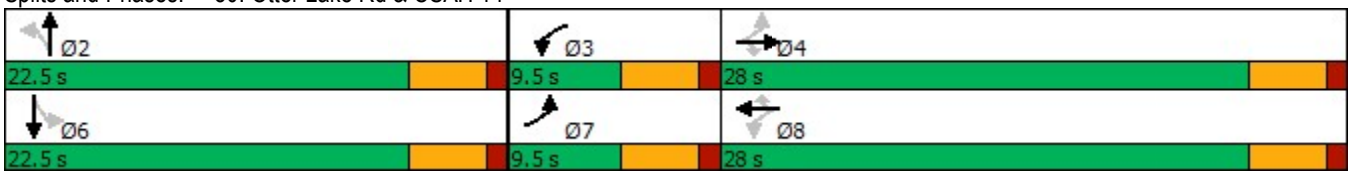
Splits and Phases: 40: CSAH 14 & East 35E Ramps



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	30	1245	70	55	765	20	95	10	20	10
Future Volume (vph)	30	1245	70	55	765	20	95	10	20	10
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	Perm	NA	Perm	NA
Protected Phases	7	4		3	8			2		6
Permitted Phases	4		4	8		8	2		6	
Detector Phase	7	4	4	3	8	8	2	2	6	6
Switch Phase										
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	22.5	22.5	9.5	22.5	22.5	22.5	22.5	22.5	22.5
Total Split (s)	9.5	28.0	28.0	9.5	28.0	28.0	22.5	22.5	22.5	22.5
Total Split (%)	15.8%	46.7%	46.7%	15.8%	46.7%	46.7%	37.5%	37.5%	37.5%	37.5%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag				
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes				
Recall Mode	None	None	None	None	None	None	Max	Max	Max	Max
Act Effct Green (s)	26.5	23.7	23.7	27.3	25.4	25.4	18.1	18.1	18.1	18.1
Actuated g/C Ratio	0.47	0.42	0.42	0.49	0.45	0.45	0.32	0.32	0.32	0.32
v/c Ratio	0.10	0.91	0.10	0.22	0.52	0.03	0.24	0.31	0.06	0.08
Control Delay	7.1	28.1	1.9	8.6	13.3	0.1	17.3	5.1	15.7	8.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	7.1	28.1	1.9	8.6	13.3	0.1	17.3	5.1	15.7	8.3
LOS	A	C	A	A	B	A	B	A	B	A
Approach Delay		26.3			12.7			9.3		10.7
Approach LOS		C			B			A		B

Intersection Summary	
Cycle Length: 60	
Actuated Cycle Length: 56.2	
Natural Cycle: 65	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.91	
Intersection Signal Delay: 19.5	Intersection LOS: B
Intersection Capacity Utilization 66.5%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 50: Otter Lake Rd & CSAH 14



10: CSAH 14 & 20th Ave

Direction	All
Future Volume (vph)	1585
Total Delay / Veh (s/v)	15
CO Emissions (kg)	1.85
NOx Emissions (kg)	0.36
VOC Emissions (kg)	0.43

20: CSAH 14 & West 35E Ramps

Direction	All
Future Volume (vph)	1480
Total Delay / Veh (s/v)	14
CO Emissions (kg)	1.65
NOx Emissions (kg)	0.32
VOC Emissions (kg)	0.38

30: SB On Ramp & CSAH 14

Direction	All
Future Volume (vph)	1655
Total Delay / Veh (s/v)	0
CO Emissions (kg)	0.40
NOx Emissions (kg)	0.08
VOC Emissions (kg)	0.09

40: CSAH 14 & East 35E Ramps

Direction	All
Future Volume (vph)	2470
Total Delay / Veh (s/v)	11
CO Emissions (kg)	2.17
NOx Emissions (kg)	0.42
VOC Emissions (kg)	0.50

50: Otter Lake Rd & CSAH 14

Direction	All
Future Volume (vph)	2520
Total Delay / Veh (s/v)	20
CO Emissions (kg)	2.85
NOx Emissions (kg)	0.55
VOC Emissions (kg)	0.66

100: Centerville Rd & Wilkinson Lake Blvd/CR J

Direction	All
Future Volume (vph)	1703
Total Delay / Veh (s/v)	85
CO Emissions (kg)	4.56
NOx Emissions (kg)	0.89
VOC Emissions (kg)	1.06

200: SB I-35E/CSAH 54 & CR J

Direction	All
Future Volume (vph)	1410
Total Delay / Veh (s/v)	3
CO Emissions (kg)	1.14
NOx Emissions (kg)	0.22
VOC Emissions (kg)	0.26

300: NB I-35E & CR J

Direction	All
Future Volume (vph)	1215
Total Delay / Veh (s/v)	36
CO Emissions (kg)	2.05
NOx Emissions (kg)	0.40
VOC Emissions (kg)	0.47

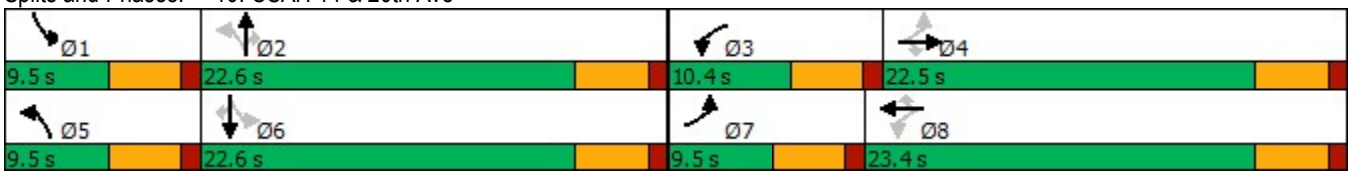
400: Otter Lake Rd & CR J

Direction	All
Future Volume (vph)	957
Total Delay / Veh (s/v)	13
CO Emissions (kg)	1.28
NOx Emissions (kg)	0.25
VOC Emissions (kg)	0.30

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	35	370	15	110	455	80	55	110	170	60	20	15
Future Volume (vph)	35	370	15	110	455	80	55	110	170	60	20	15
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8		8	2		2	6		6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	22.5	22.5	9.5	22.5	22.5	9.5	22.5	22.5	9.5	22.5	22.5
Total Split (s)	9.5	22.5	22.5	10.4	23.4	23.4	9.5	22.6	22.6	9.5	22.6	22.6
Total Split (%)	14.6%	34.6%	34.6%	16.0%	36.0%	36.0%	14.6%	34.8%	34.8%	14.6%	34.8%	34.8%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	None	None	None	Max	Max
Act Effct Green (s)	16.1	12.3	12.3	18.9	16.9	16.9	21.7	19.1	19.1	21.7	19.1	19.1
Actuated g/C Ratio	0.30	0.23	0.23	0.35	0.32	0.32	0.40	0.36	0.36	0.40	0.36	0.36
v/c Ratio	0.11	0.49	0.03	0.32	0.44	0.14	0.10	0.10	0.27	0.06	0.03	0.02
Control Delay	11.9	21.3	0.1	13.8	17.5	0.5	10.9	15.9	4.7	10.3	16.6	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	11.9	21.3	0.1	13.8	17.5	0.5	10.9	15.9	4.7	10.3	16.6	0.1
LOS	B	C	A	B	B	A	B	B	A	B	B	A
Approach Delay		19.8			14.7			9.4			10.1	
Approach LOS		B			B			A			B	

Intersection Summary	
Cycle Length: 65	
Actuated Cycle Length: 53.6	
Natural Cycle: 65	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.49	
Intersection Signal Delay: 14.7	Intersection LOS: B
Intersection Capacity Utilization 37.7%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 10: CSAH 14 & 20th Ave



Lane Group	EBT	WBL	WBT	NBL	NBR	SBL	SBR
Lane Configurations							
Traffic Volume (vph)	525	20	590	20	50	145	5	50
Future Volume (vph)	525	20	590	20	50	145	5	50
Turn Type	NA	Perm	NA	Prot	Perm	pm+pt	NA	Perm
Protected Phases	4		8	5		1	6	
Permitted Phases		8			2	6		6
Detector Phase	4	8	8	5	2	1	6	6
Switch Phase								
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5	22.5	22.5	9.5	22.5	9.5	22.5	22.5
Total Split (s)	22.5	22.5	22.5	9.5	22.5	10.0	23.0	23.0
Total Split (%)	40.9%	40.9%	40.9%	17.3%	40.9%	18.2%	41.8%	41.8%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag				Lead	Lag	Lead	Lag	Lag
Lead-Lag Optimize?				Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	Max	None	Max	Max
Act Effct Green (s)	14.5	14.5	14.5	5.1	18.6	25.3	24.3	24.3
Actuated g/C Ratio	0.29	0.29	0.29	0.10	0.37	0.51	0.49	0.49
v/c Ratio	0.31	0.10	0.62	0.12	0.08	0.18	0.01	0.06
Control Delay	14.3	14.3	18.5	24.5	0.7	7.6	10.0	0.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	14.3	14.3	18.5	24.5	0.7	7.6	10.0	0.6
LOS	B	B	B	C	A	A	A	A
Approach Delay	14.3		18.3				5.9	
Approach LOS	B		B				A	

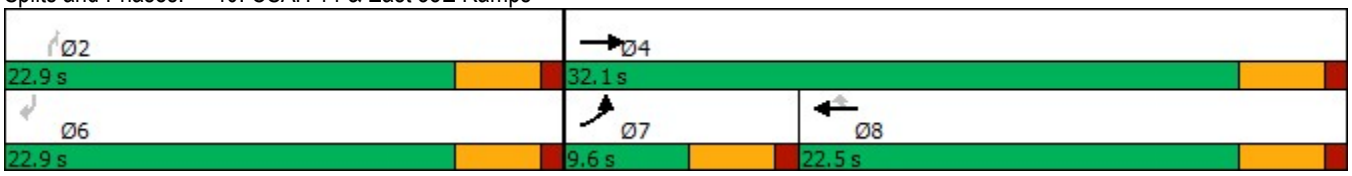
Intersection Summary	
Cycle Length: 55	
Actuated Cycle Length: 49.8	
Natural Cycle: 55	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.62	
Intersection Signal Delay: 14.5	Intersection LOS: B
Intersection Capacity Utilization 35.9%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 20: CSAH 14 & West 35E Ramps

Lane Group	EBL	EBT	WBT	WBR	NBR	SBR
Lane Configurations						
Traffic Volume (vph)	85	565	590	245	745	290
Future Volume (vph)	85	565	590	245	745	290
Turn Type	Prot	NA	NA	Perm	Perm	Perm
Protected Phases	7	4	8			
Permitted Phases				8	2	6
Detector Phase	7	4	8	8	2	6
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	22.5	22.5	22.5	22.5	22.5
Total Split (s)	9.6	32.1	22.5	22.5	22.9	22.9
Total Split (%)	17.5%	58.4%	40.9%	40.9%	41.6%	41.6%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag	Lead		Lag	Lag		
Lead-Lag Optimize?	Yes		Yes	Yes		
Recall Mode	None	None	None	None	Max	Max
Act Effct Green (s)	5.2	20.9	13.7	13.7	18.8	18.8
Actuated g/C Ratio	0.11	0.43	0.28	0.28	0.38	0.38
v/c Ratio	0.49	0.41	0.45	0.42	0.62	0.23
Control Delay	34.3	10.0	15.8	4.6	9.6	0.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	34.3	10.0	15.8	4.6	9.6	0.4
LOS	C	A	B	A	A	A
Approach Delay		13.2	12.5			
Approach LOS		B	B			

Intersection Summary	
Cycle Length: 55	
Actuated Cycle Length: 48.9	
Natural Cycle: 55	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.62	
Intersection Signal Delay: 10.4	Intersection LOS: B
Intersection Capacity Utilization 49.2%	ICU Level of Service A
Analysis Period (min) 15	

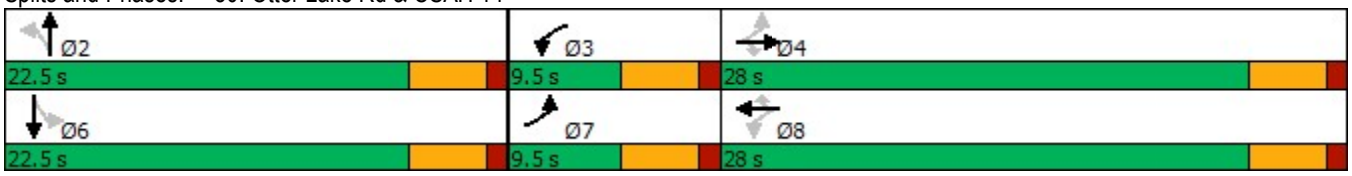
Splits and Phases: 40: CSAH 14 & East 35E Ramps



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	30	1305	70	15	805	20	75	10	20	10
Future Volume (vph)	30	1305	70	15	805	20	75	10	20	10
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	Perm	NA	Perm	NA
Protected Phases	7	4		3	8			2		6
Permitted Phases	4		4	8		8	2		6	
Detector Phase	7	4	4	3	8	8	2	2	6	6
Switch Phase										
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	22.5	22.5	9.5	22.5	22.5	22.5	22.5	22.5	22.5
Total Split (s)	9.5	28.0	28.0	9.5	28.0	28.0	22.5	22.5	22.5	22.5
Total Split (%)	15.8%	46.7%	46.7%	15.8%	46.7%	46.7%	37.5%	37.5%	37.5%	37.5%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag				
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes				
Recall Mode	None	None	None	None	None	None	Max	Max	Max	Max
Act Effct Green (s)	26.3	25.4	25.4	25.5	23.7	23.7	18.1	18.1	18.1	18.1
Actuated g/C Ratio	0.48	0.47	0.47	0.47	0.44	0.44	0.33	0.33	0.33	0.33
v/c Ratio	0.10	0.86	0.10	0.06	0.57	0.03	0.18	0.21	0.05	0.08
Control Delay	7.3	21.3	1.9	6.9	14.1	0.1	15.8	5.5	14.8	8.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	7.3	21.3	1.9	6.9	14.1	0.1	15.8	5.5	14.8	8.1
LOS	A	C	A	A	B	A	B	A	B	A
Approach Delay		20.0			13.6			9.4		10.3
Approach LOS		C			B			A		B

Intersection Summary	
Cycle Length: 60	
Actuated Cycle Length: 54.3	
Natural Cycle: 65	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.86	
Intersection Signal Delay: 16.8	Intersection LOS: B
Intersection Capacity Utilization 54.4%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 50: Otter Lake Rd & CSAH 14



10: CSAH 14 & 20th Ave

Direction	All
Future Volume (vph)	1495
Total Delay / Veh (s/v)	15
CO Emissions (kg)	1.76
NOx Emissions (kg)	0.34
VOC Emissions (kg)	0.41

20: CSAH 14 & West 35E Ramps

Direction	All
Future Volume (vph)	1405
Total Delay / Veh (s/v)	15
CO Emissions (kg)	1.56
NOx Emissions (kg)	0.30
VOC Emissions (kg)	0.36

30: SB On Ramp & CSAH 14

Direction	All
Future Volume (vph)	1650
Total Delay / Veh (s/v)	0
CO Emissions (kg)	0.41
NOx Emissions (kg)	0.08
VOC Emissions (kg)	0.10

40: CSAH 14 & East 35E Ramps

Direction	All
Future Volume (vph)	2520
Total Delay / Veh (s/v)	10
CO Emissions (kg)	2.23
NOx Emissions (kg)	0.43
VOC Emissions (kg)	0.52

50: Otter Lake Rd & CSAH 14

Direction	All
Future Volume (vph)	2501
Total Delay / Veh (s/v)	17
CO Emissions (kg)	2.76
NOx Emissions (kg)	0.54
VOC Emissions (kg)	0.64

100: Centerville Rd & Wilkinson Lake Blvd/CR J

Direction	All
Future Volume (vph)	1830
Total Delay / Veh (s/v)	0
CO Emissions (kg)	2.69
NOx Emissions (kg)	0.52
VOC Emissions (kg)	0.62

200: SB I-35E Ramps & CR J & CSAH 54

Direction	All
Future Volume (vph)	1635
Total Delay / Veh (s/v)	0
CO Emissions (kg)	1.86
NOx Emissions (kg)	0.36
VOC Emissions (kg)	0.43

300: NB I-35E Ramps & CSAH 60 & CR J/CSAH 84

Direction	All
Future Volume (vph)	1573
Total Delay / Veh (s/v)	0
CO Emissions (kg)	1.68
NOx Emissions (kg)	0.33
VOC Emissions (kg)	0.39

Intersection	
Intersection Delay, s/veh	10.4
Intersection LOS	B

Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	42	648	569	730
Demand Flow Rate, veh/h	43	668	592	754
Vehicles Circulating, veh/h	822	349	575	94
Vehicles Exiting, veh/h	17	565	289	345
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	6.9	11.2	10.0	10.1
Approach LOS	A	B	A	B

Lane	Left	Left	Bypass	Left	Bypass	Left	Bypass
Designated Moves	LTR	LT	R	LT	R	LT	R
Assumed Moves	LTR	LT	R	LT	R	LT	R
RT Channelized			Yield		Yield		Yield
Lane Util	1.000	1.000		1.000		1.000	
Follow-Up Headway, s	2.609	2.609		2.609		2.609	
Critical Headway, s	4.976	4.976	578	4.976	253	4.976	9
Entry Flow, veh/h	43	90	971	339	775	745	1356
Cap Entry Lane, veh/h	597	967	0.971	768	0.962	1254	0.971
Entry HV Adj Factor	0.988	0.964	561	0.962	243	0.968	9
Flow Entry, veh/h	42	87	942	326	746	721	1317
Cap Entry, veh/h	590	932	0.595	738	0.326	1214	0.007
V/C Ratio	0.072	0.093	12.3	0.442	8.8	0.594	2.8
Control Delay, s/veh	6.9	4.7	B	10.9	A	10.2	A
LOS	A	A	4	B	1	B	0
95th %tile Queue, veh	0	0		2		4	

Intersection	
Intersection Delay, s/veh	12.5
Intersection LOS	B

Approach	EB	WB	NB	SB
Entry Lanes	1	1	0	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	731	862	0	64
Demand Flow Rate, veh/h	756	900	0	68
Vehicles Circulating, veh/h	173	79	479	851
Vehicles Exiting, veh/h	746	400	450	172
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	12.3	13.3	0.0	8.0
Approach LOS	B	B	-	A

Lane	Left	Left	Left
Designated Moves	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR
RT Channelized			
Lane Util	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976
Entry Flow, veh/h	756	900	68
Cap Entry Lane, veh/h	1157	1273	579
Entry HV Adj Factor	0.967	0.958	0.946
Flow Entry, veh/h	731	862	64
Cap Entry, veh/h	1119	1219	548
V/C Ratio	0.654	0.707	0.117
Control Delay, s/veh	12.3	13.3	8.0
LOS	B	B	A
95th %tile Queue, veh	5	6	0

Intersection	
Intersection Delay, s/veh	
Intersection LOS	

Approach	SW
Entry Lanes	1
Conflicting Circle Lanes	1
Adj Approach Flow, veh/h	120
Demand Flow Rate, veh/h	123
Vehicles Circulating, veh/h	900
Vehicles Exiting, veh/h	79
Ped Vol Crossing Leg, #/h	0
Ped Cap Adj	1.000
Approach Delay, s/veh	9.7
Approach LOS	A

Lane	Left
Designated Moves	LR
Assumed Moves	LR
RT Channelized	
Lane Util	1.000
Follow-Up Headway, s	2.609
Critical Headway, s	4.976
Entry Flow, veh/h	123
Cap Entry Lane, veh/h	551
Entry HV Adj Factor	0.978
Flow Entry, veh/h	120
Cap Entry, veh/h	539
V/C Ratio	0.223
Control Delay, s/veh	9.7
LOS	A
95th %tile Queue, veh	1

Intersection	
Intersection Delay, s/veh	31.8
Intersection LOS	D

Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	0
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	377	187	827	0
Demand Flow Rate, veh/h	388	192	863	0
Vehicles Circulating, veh/h	59	986	446	1012
Vehicles Exiting, veh/h	953	397	0	166
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	5.6	13.7	49.7	0.0
Approach LOS	A	B	E	-

Lane	Left	Left	Left
Designated Moves	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR
RT Channelized			
Lane Util	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976
Entry Flow, veh/h	388	192	863
Cap Entry Lane, veh/h	1299	505	876
Entry HV Adj Factor	0.972	0.974	0.958
Flow Entry, veh/h	377	187	827
Cap Entry, veh/h	1263	492	839
V/C Ratio	0.299	0.380	0.986
Control Delay, s/veh	5.6	13.7	49.7
LOS	A	B	E
95th %tile Queue, veh	1	2	17

Intersection	
Intersection Delay, s/veh	
Intersection LOS	

Approach	NW
Entry Lanes	1
Conflicting Circle Lanes	1
Adj Approach Flow, veh/h	319
Demand Flow Rate, veh/h	326
Vehicles Circulating, veh/h	1057
Vehicles Exiting, veh/h	252
Ped Vol Crossing Leg, #/h	0
Ped Cap Adj	1.000
Approach Delay, s/veh	27.3
Approach LOS	D

Lane	Left
Designated Moves	LR
Assumed Moves	LR
RT Channelized	
Lane Util	1.000
Follow-Up Headway, s	2.609
Critical Headway, s	4.976
Entry Flow, veh/h	326
Cap Entry Lane, veh/h	470
Entry HV Adj Factor	0.979
Flow Entry, veh/h	319
Cap Entry, veh/h	459
V/C Ratio	0.694
Control Delay, s/veh	27.3
LOS	D
95th %tile Queue, veh	5

Cty Rd J Application

1	Main St/20th Ave		
	Existing Volume	1585	vehicles
	Existing Delay	15	sec/veh
	Existing Total Delay	23775	seconds
	Future Volume	1495	vehicles
	Future Delay	15	sec/veh
	Future Total Delay	22425	seconds
	Total Delay Reduction	1350	seconds

2	Main St/West Ramps		
	Existing Volume	1480	vehicles
	Existing Delay	14	sec/veh
	Existing Total Delay	20720	seconds
	Future Volume	1405	vehicles
	Future Delay	15	sec/veh
	Future Total Delay	21075	seconds
	Total Delay Reduction	-355	seconds

3	Main St/SB On Ramp		
	Existing Volume	1655	vehicles
	Existing Delay	0	sec/veh
	Existing Total Delay	0	seconds
	Future Volume	1650	vehicles
	Future Delay	0	sec/veh
	Future Total Delay	0	seconds
	Total Delay Reduction	0	seconds

4	Main St/East Ramps		
	Existing Volume	2470	vehicles
	Existing Delay	11	sec/veh
	Existing Total Delay	27170	seconds
	Future Volume	2520	vehicles
	Future Delay	10	sec/veh
	Future Total Delay	25200	seconds
	Total Delay Reduction	1970	seconds

5	Main St/Otter Lake Rd		
	Existing Volume	2520	vehicles
	Existing Delay	20	sec/veh
	Existing Total Delay	50400	seconds
	Future Volume	2500	vehicles
	Future Delay	17	sec/veh
	Future Total Delay	42500	seconds
	Total Delay Reduction	7900	seconds

6	CR J/Centerville Rd		
	Existing Volume	1703	vehicles
	Existing Delay	85	sec/veh
	Existing Total Delay	144755	seconds
	Future Volume	1830	vehicles
	Future Delay	10	sec/veh
	Future Total Delay	18300	seconds
	Total Delay Reduction	126455	seconds

7	CR J/West Ramps		
	Existing Volume	1410	vehicles
	Existing Delay	3	sec/veh
	Existing Total Delay	4230	seconds
	Future Volume	1635	vehicles
	Future Delay	13	sec/veh
	Future Total Delay	21255	seconds
	Total Delay Reduction	-17025	seconds

8	CR J/East Ramps		
	Existing Volume	1215	vehicles
	Existing Delay	36	sec/veh
	Existing Total Delay	43740	seconds
	Future Volume	1573	vehicles
	Future Delay	32	sec/veh
	Future Total Delay	50336	seconds
	Total Delay Reduction	-6596	seconds

CR J/Otter Lake Rd		
Existing Volume	957	vehicles
Existing Delay	13	sec/veh
Existing Total Delay	12441	seconds
Future Volume	0	vehicles
Future Delay	0	sec/veh
Future Total Delay	0	seconds
Total Delay Reduction	12441	seconds

Total Network Delay Reduction	**126140**	**seconds**

Emissions

Existing	1	2	3	4	5	6	7	8	9	Total
CO	1.85	1.65	0.4	2.17	2.85	4.56	1.14	2.05	1.28	17.95
NO	0.36	0.32	0.08	0.42	0.55	0.89	0.22	0.4	0.25	3.49
VOC	0.43	0.38	0.09	0.5	0.66	1.06	0.26	0.47	0.3	4.15
								Network Total		25.59

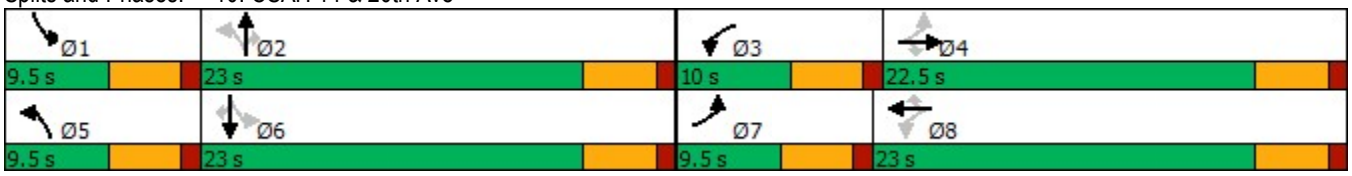
Build	1	2	3	4	5	6	7	8	9	Total
CO	1.76	1.56	0.41	2.23	2.76	2.69	1.86	1.68	0	14.95
NO	0.34	0.3	0.08	0.43	0.54	0.52	0.36	0.33	0	2.9
VOC	0.41	0.36	0.1	0.52	0.64	0.62	0.43	0.39	0	3.47
								Network Total		21.32

Reduction	**4.27**

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	35	370	20	140	460	90	55	110	200	60	30	15
Future Volume (vph)	35	370	20	140	460	90	55	110	200	60	30	15
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8		8	2		2	6		6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	22.5	22.5	9.5	22.5	22.5	9.5	22.5	22.5	9.5	22.5	22.5
Total Split (s)	9.5	22.5	22.5	10.0	23.0	23.0	9.5	23.0	23.0	9.5	23.0	23.0
Total Split (%)	14.6%	34.6%	34.6%	15.4%	35.4%	35.4%	14.6%	35.4%	35.4%	14.6%	35.4%	35.4%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	None	None	None	Max	Max
Act Effct Green (s)	16.4	12.6	12.6	18.8	16.9	16.9	22.1	19.5	19.5	22.1	19.5	19.5
Actuated g/C Ratio	0.30	0.23	0.23	0.35	0.31	0.31	0.41	0.36	0.36	0.41	0.36	0.36
v/c Ratio	0.11	0.49	0.04	0.41	0.45	0.16	0.10	0.09	0.31	0.06	0.05	0.02
Control Delay	12.0	21.1	0.1	15.7	17.7	1.1	10.8	15.8	4.6	10.3	16.4	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	12.0	21.1	0.1	15.7	17.7	1.1	10.8	15.8	4.6	10.3	16.4	0.1
LOS	B	C	A	B	B	A	B	B	A	B	B	A
Approach Delay		19.4			15.1			8.9			10.6	
Approach LOS		B			B			A			B	

Intersection Summary	
Cycle Length: 65	
Actuated Cycle Length: 54	
Natural Cycle: 65	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.49	
Intersection Signal Delay: 14.5	Intersection LOS: B
Intersection Capacity Utilization 38.9%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 10: CSAH 14 & 20th Ave



Lane Group	EBT	WBL	WBT	NBL	NBR	SBL	SBT	SBR
Lane Configurations								
Traffic Volume (vph)	555	20	605	20	50	145	5	80
Future Volume (vph)	555	20	605	20	50	145	5	80
Turn Type	NA	Perm	NA	Prot	Perm	pm+pt	NA	Perm
Protected Phases	4		8	5		1	6	
Permitted Phases		8			2	6		6
Detector Phase	4	8	8	5	2	1	6	6
Switch Phase								
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5	22.5	22.5	9.5	22.5	9.5	22.5	22.5
Total Split (s)	22.5	22.5	22.5	9.5	22.5	10.0	23.0	23.0
Total Split (%)	40.9%	40.9%	40.9%	17.3%	40.9%	18.2%	41.8%	41.8%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag				Lead	Lag	Lead	Lag	Lag
Lead-Lag Optimize?				Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	Max	None	Max	Max
Act Effct Green (s)	14.7	14.7	14.7	5.1	18.6	25.4	24.4	24.4
Actuated g/C Ratio	0.29	0.29	0.29	0.10	0.37	0.51	0.49	0.49
v/c Ratio	0.32	0.10	0.63	0.12	0.08	0.18	0.01	0.10
Control Delay	14.4	14.4	18.6	24.6	0.7	7.6	10.0	2.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	14.4	14.4	18.6	24.6	0.7	7.6	10.0	2.2
LOS	B	B	B	C	A	A	A	A
Approach Delay	14.4		18.5				5.8	
Approach LOS	B		B				A	

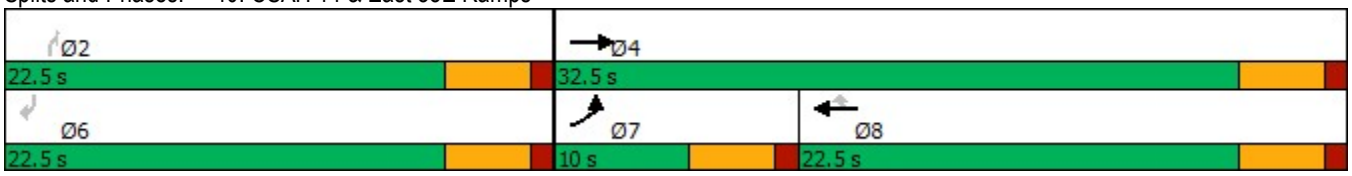
Intersection Summary	
Cycle Length: 55	
Actuated Cycle Length: 50	
Natural Cycle: 55	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.63	
Intersection Signal Delay: 14.5	Intersection LOS: B
Intersection Capacity Utilization 36.3%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 20: CSAH 14 & West 35E Ramps

Lane Group	EBL	EBT	WBT	WBR	NBR	SBR
Lane Configurations						
Traffic Volume (vph)	115	565	565	250	685	290
Future Volume (vph)	115	565	565	250	685	290
Turn Type	Prot	NA	NA	Perm	Perm	Perm
Protected Phases	7	4	8			
Permitted Phases				8	2	6
Detector Phase	7	4	8	8	2	6
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	22.5	22.5	22.5	22.5	22.5
Total Split (s)	10.0	32.5	22.5	22.5	22.5	22.5
Total Split (%)	18.2%	59.1%	40.9%	40.9%	40.9%	40.9%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag	Lead		Lag	Lag		
Lead-Lag Optimize?	Yes		Yes	Yes		
Recall Mode	None	None	None	None	Max	Max
Act Effct Green (s)	5.6	20.9	13.3	13.3	18.4	18.4
Actuated g/C Ratio	0.12	0.43	0.27	0.27	0.38	0.38
v/c Ratio	0.61	0.40	0.44	0.43	0.57	0.22
Control Delay	39.6	9.8	15.8	4.7	8.4	0.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	39.6	9.8	15.8	4.7	8.4	0.4
LOS	D	A	B	A	A	A
Approach Delay		14.8	12.4			
Approach LOS		B	B			

Intersection Summary	
Cycle Length: 55	
Actuated Cycle Length: 48.5	
Natural Cycle: 55	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.61	
Intersection Signal Delay: 10.5	Intersection LOS: B
Intersection Capacity Utilization 47.1%	ICU Level of Service A
Analysis Period (min) 15	

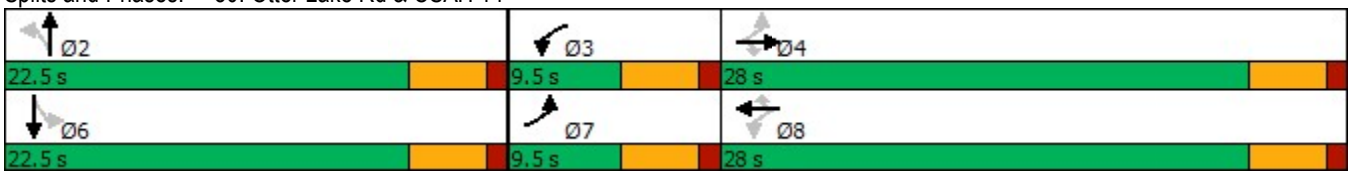
Splits and Phases: 40: CSAH 14 & East 35E Ramps



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	30	1245	70	55	765	20	95	10	20	10
Future Volume (vph)	30	1245	70	55	765	20	95	10	20	10
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	Perm	NA	Perm	NA
Protected Phases	7	4		3	8			2		6
Permitted Phases	4		4	8		8	2		6	
Detector Phase	7	4	4	3	8	8	2	2	6	6
Switch Phase										
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	22.5	22.5	9.5	22.5	22.5	22.5	22.5	22.5	22.5
Total Split (s)	9.5	28.0	28.0	9.5	28.0	28.0	22.5	22.5	22.5	22.5
Total Split (%)	15.8%	46.7%	46.7%	15.8%	46.7%	46.7%	37.5%	37.5%	37.5%	37.5%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag				
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes				
Recall Mode	None	None	None	None	None	None	Max	Max	Max	Max
Act Effct Green (s)	26.5	23.7	23.7	27.3	25.4	25.4	18.1	18.1	18.1	18.1
Actuated g/C Ratio	0.47	0.42	0.42	0.49	0.45	0.45	0.32	0.32	0.32	0.32
v/c Ratio	0.10	0.91	0.10	0.22	0.52	0.03	0.24	0.31	0.06	0.08
Control Delay	7.1	28.1	1.9	8.6	13.3	0.1	17.3	5.1	15.7	8.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	7.1	28.1	1.9	8.6	13.3	0.1	17.3	5.1	15.7	8.3
LOS	A	C	A	A	B	A	B	A	B	A
Approach Delay		26.3			12.7			9.3		10.7
Approach LOS		C			B			A		B

Intersection Summary	
Cycle Length: 60	
Actuated Cycle Length: 56.2	
Natural Cycle: 65	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.91	
Intersection Signal Delay: 19.5	Intersection LOS: B
Intersection Capacity Utilization 66.5%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 50: Otter Lake Rd & CSAH 14



10: CSAH 14 & 20th Ave

Direction	All
Future Volume (vph)	1585
Total Delay / Veh (s/v)	15
CO Emissions (kg)	1.85
NOx Emissions (kg)	0.36
VOC Emissions (kg)	0.43

20: CSAH 14 & West 35E Ramps

Direction	All
Future Volume (vph)	1480
Total Delay / Veh (s/v)	14
CO Emissions (kg)	1.65
NOx Emissions (kg)	0.32
VOC Emissions (kg)	0.38

30: SB On Ramp & CSAH 14

Direction	All
Future Volume (vph)	1655
Total Delay / Veh (s/v)	0
CO Emissions (kg)	0.40
NOx Emissions (kg)	0.08
VOC Emissions (kg)	0.09

40: CSAH 14 & East 35E Ramps

Direction	All
Future Volume (vph)	2470
Total Delay / Veh (s/v)	11
CO Emissions (kg)	2.17
NOx Emissions (kg)	0.42
VOC Emissions (kg)	0.50

50: Otter Lake Rd & CSAH 14

Direction	All
Future Volume (vph)	2520
Total Delay / Veh (s/v)	20
CO Emissions (kg)	2.85
NOx Emissions (kg)	0.55
VOC Emissions (kg)	0.66

100: Centerville Rd & Wilkinson Lake Blvd/CR J

Direction	All
Future Volume (vph)	1703
Total Delay / Veh (s/v)	85
CO Emissions (kg)	4.56
NOx Emissions (kg)	0.89
VOC Emissions (kg)	1.06

200: SB I-35E/CSAH 54 & CR J

Direction	All
Future Volume (vph)	1410
Total Delay / Veh (s/v)	3
CO Emissions (kg)	1.14
NOx Emissions (kg)	0.22
VOC Emissions (kg)	0.26

300: NB I-35E & CR J

Direction	All
Future Volume (vph)	1215
Total Delay / Veh (s/v)	36
CO Emissions (kg)	2.05
NOx Emissions (kg)	0.40
VOC Emissions (kg)	0.47

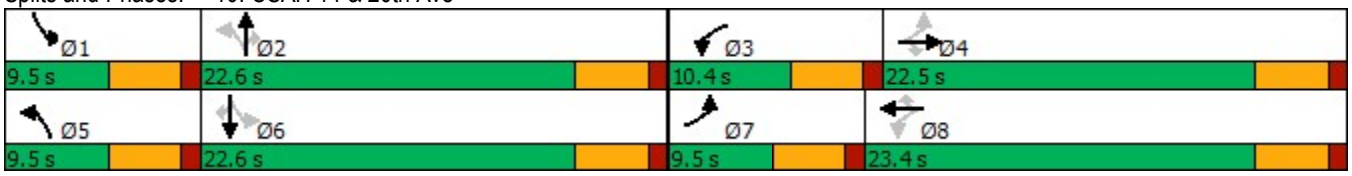
400: Otter Lake Rd & CR J

Direction	All
Future Volume (vph)	957
Total Delay / Veh (s/v)	13
CO Emissions (kg)	1.28
NOx Emissions (kg)	0.25
VOC Emissions (kg)	0.30

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	35	370	15	110	455	80	55	110	170	60	20	15
Future Volume (vph)	35	370	15	110	455	80	55	110	170	60	20	15
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8		8	2		2	6		6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	22.5	22.5	9.5	22.5	22.5	9.5	22.5	22.5	9.5	22.5	22.5
Total Split (s)	9.5	22.5	22.5	10.4	23.4	23.4	9.5	22.6	22.6	9.5	22.6	22.6
Total Split (%)	14.6%	34.6%	34.6%	16.0%	36.0%	36.0%	14.6%	34.8%	34.8%	14.6%	34.8%	34.8%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	None	None	None	Max	Max
Act Effct Green (s)	16.1	12.3	12.3	18.9	16.9	16.9	21.7	19.1	19.1	21.7	19.1	19.1
Actuated g/C Ratio	0.30	0.23	0.23	0.35	0.32	0.32	0.40	0.36	0.36	0.40	0.36	0.36
v/c Ratio	0.11	0.49	0.03	0.32	0.44	0.14	0.10	0.10	0.27	0.06	0.03	0.02
Control Delay	11.9	21.3	0.1	13.8	17.5	0.5	10.9	15.9	4.7	10.3	16.6	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	11.9	21.3	0.1	13.8	17.5	0.5	10.9	15.9	4.7	10.3	16.6	0.1
LOS	B	C	A	B	B	A	B	B	A	B	B	A
Approach Delay		19.8			14.7			9.4			10.1	
Approach LOS		B			B			A			B	

Intersection Summary	
Cycle Length: 65	
Actuated Cycle Length: 53.6	
Natural Cycle: 65	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.49	
Intersection Signal Delay: 14.7	Intersection LOS: B
Intersection Capacity Utilization 37.7%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 10: CSAH 14 & 20th Ave



Lane Group	EBT	WBL	WBT	NBL	NBR	SBL	SBR
Lane Configurations							
Traffic Volume (vph)	525	20	590	20	50	145	5	50
Future Volume (vph)	525	20	590	20	50	145	5	50
Turn Type	NA	Perm	NA	Prot	Perm	pm+pt	NA	Perm
Protected Phases	4		8	5		1	6	
Permitted Phases		8			2	6		6
Detector Phase	4	8	8	5	2	1	6	6
Switch Phase								
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5	22.5	22.5	9.5	22.5	9.5	22.5	22.5
Total Split (s)	22.5	22.5	22.5	9.5	22.5	10.0	23.0	23.0
Total Split (%)	40.9%	40.9%	40.9%	17.3%	40.9%	18.2%	41.8%	41.8%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag				Lead	Lag	Lead	Lag	Lag
Lead-Lag Optimize?				Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	Max	None	Max	Max
Act Effct Green (s)	14.5	14.5	14.5	5.1	18.6	25.3	24.3	24.3
Actuated g/C Ratio	0.29	0.29	0.29	0.10	0.37	0.51	0.49	0.49
v/c Ratio	0.31	0.10	0.62	0.12	0.08	0.18	0.01	0.06
Control Delay	14.3	14.3	18.5	24.5	0.7	7.6	10.0	0.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	14.3	14.3	18.5	24.5	0.7	7.6	10.0	0.6
LOS	B	B	B	C	A	A	A	A
Approach Delay	14.3		18.3				5.9	
Approach LOS	B		B				A	

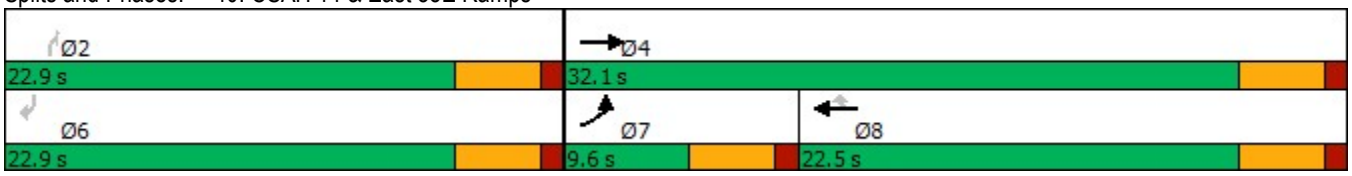
Intersection Summary	
Cycle Length: 55	
Actuated Cycle Length: 49.8	
Natural Cycle: 55	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.62	
Intersection Signal Delay: 14.5	Intersection LOS: B
Intersection Capacity Utilization 35.9%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 20: CSAH 14 & West 35E Ramps

Lane Group	EBL	EBT	WBT	WBR	NBR	SBR
Lane Configurations						
Traffic Volume (vph)	85	565	590	245	745	290
Future Volume (vph)	85	565	590	245	745	290
Turn Type	Prot	NA	NA	Perm	Perm	Perm
Protected Phases	7	4	8			
Permitted Phases				8	2	6
Detector Phase	7	4	8	8	2	6
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	22.5	22.5	22.5	22.5	22.5
Total Split (s)	9.6	32.1	22.5	22.5	22.9	22.9
Total Split (%)	17.5%	58.4%	40.9%	40.9%	41.6%	41.6%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag	Lead		Lag	Lag		
Lead-Lag Optimize?	Yes		Yes	Yes		
Recall Mode	None	None	None	None	Max	Max
Act Effct Green (s)	5.2	20.9	13.7	13.7	18.8	18.8
Actuated g/C Ratio	0.11	0.43	0.28	0.28	0.38	0.38
v/c Ratio	0.49	0.41	0.45	0.42	0.62	0.23
Control Delay	34.3	10.0	15.8	4.6	9.6	0.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	34.3	10.0	15.8	4.6	9.6	0.4
LOS	C	A	B	A	A	A
Approach Delay		13.2	12.5			
Approach LOS		B	B			

Intersection Summary	
Cycle Length: 55	
Actuated Cycle Length: 48.9	
Natural Cycle: 55	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.62	
Intersection Signal Delay: 10.4	Intersection LOS: B
Intersection Capacity Utilization 49.2%	ICU Level of Service A
Analysis Period (min) 15	

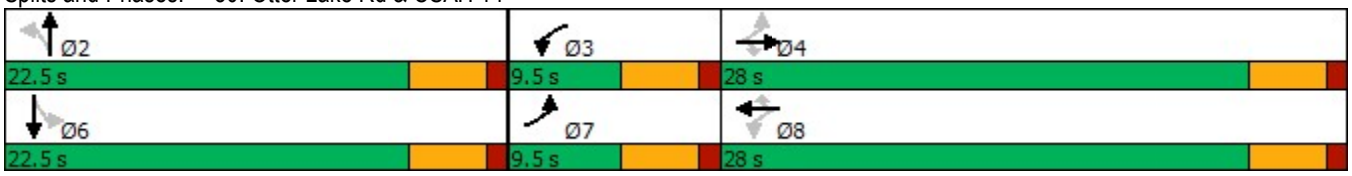
Splits and Phases: 40: CSAH 14 & East 35E Ramps



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	30	1305	70	15	805	20	75	10	20	10
Future Volume (vph)	30	1305	70	15	805	20	75	10	20	10
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	Perm	NA	Perm	NA
Protected Phases	7	4		3	8			2		6
Permitted Phases	4		4	8		8	2		6	
Detector Phase	7	4	4	3	8	8	2	2	6	6
Switch Phase										
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	22.5	22.5	9.5	22.5	22.5	22.5	22.5	22.5	22.5
Total Split (s)	9.5	28.0	28.0	9.5	28.0	28.0	22.5	22.5	22.5	22.5
Total Split (%)	15.8%	46.7%	46.7%	15.8%	46.7%	46.7%	37.5%	37.5%	37.5%	37.5%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag				
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes				
Recall Mode	None	None	None	None	None	None	Max	Max	Max	Max
Act Effct Green (s)	26.3	25.4	25.4	25.5	23.7	23.7	18.1	18.1	18.1	18.1
Actuated g/C Ratio	0.48	0.47	0.47	0.47	0.44	0.44	0.33	0.33	0.33	0.33
v/c Ratio	0.10	0.86	0.10	0.06	0.57	0.03	0.18	0.21	0.05	0.08
Control Delay	7.3	21.3	1.9	6.9	14.1	0.1	15.8	5.5	14.8	8.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	7.3	21.3	1.9	6.9	14.1	0.1	15.8	5.5	14.8	8.1
LOS	A	C	A	A	B	A	B	A	B	A
Approach Delay		20.0			13.6			9.4		10.3
Approach LOS		C			B			A		B

Intersection Summary	
Cycle Length: 60	
Actuated Cycle Length: 54.3	
Natural Cycle: 65	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.86	
Intersection Signal Delay: 16.8	Intersection LOS: B
Intersection Capacity Utilization 54.4%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 50: Otter Lake Rd & CSAH 14



10: CSAH 14 & 20th Ave

Direction	All
Future Volume (vph)	1495
Total Delay / Veh (s/v)	15
CO Emissions (kg)	1.76
NOx Emissions (kg)	0.34
VOC Emissions (kg)	0.41

20: CSAH 14 & West 35E Ramps

Direction	All
Future Volume (vph)	1405
Total Delay / Veh (s/v)	15
CO Emissions (kg)	1.56
NOx Emissions (kg)	0.30
VOC Emissions (kg)	0.36

30: SB On Ramp & CSAH 14

Direction	All
Future Volume (vph)	1650
Total Delay / Veh (s/v)	0
CO Emissions (kg)	0.41
NOx Emissions (kg)	0.08
VOC Emissions (kg)	0.10

40: CSAH 14 & East 35E Ramps

Direction	All
Future Volume (vph)	2520
Total Delay / Veh (s/v)	10
CO Emissions (kg)	2.23
NOx Emissions (kg)	0.43
VOC Emissions (kg)	0.52

50: Otter Lake Rd & CSAH 14

Direction	All
Future Volume (vph)	2501
Total Delay / Veh (s/v)	17
CO Emissions (kg)	2.76
NOx Emissions (kg)	0.54
VOC Emissions (kg)	0.64

100: Centerville Rd & Wilkinson Lake Blvd/CR J

Direction	All
Future Volume (vph)	1830
Total Delay / Veh (s/v)	0
CO Emissions (kg)	2.69
NOx Emissions (kg)	0.52
VOC Emissions (kg)	0.62

200: SB I-35E Ramps & CR J & CSAH 54

Direction	All
Future Volume (vph)	1635
Total Delay / Veh (s/v)	0
CO Emissions (kg)	1.86
NOx Emissions (kg)	0.36
VOC Emissions (kg)	0.43

300: NB I-35E Ramps & CSAH 60 & CR J/CSAH 84

Direction	All
Future Volume (vph)	1573
Total Delay / Veh (s/v)	0
CO Emissions (kg)	1.68
NOx Emissions (kg)	0.33
VOC Emissions (kg)	0.39

Intersection	
Intersection Delay, s/veh	10.4
Intersection LOS	B

Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	42	648	569	730
Demand Flow Rate, veh/h	43	668	592	754
Vehicles Circulating, veh/h	822	349	575	94
Vehicles Exiting, veh/h	17	565	289	345
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	6.9	11.2	10.0	10.1
Approach LOS	A	B	A	B

Lane	Left	Left	Bypass	Left	Bypass	Left	Bypass
Designated Moves	LTR	LT	R	LT	R	LT	R
Assumed Moves	LTR	LT	R	LT	R	LT	R
RT Channelized			Yield		Yield		Yield
Lane Util	1.000	1.000		1.000		1.000	
Follow-Up Headway, s	2.609	2.609		2.609		2.609	
Critical Headway, s	4.976	4.976	578	4.976	253	4.976	9
Entry Flow, veh/h	43	90	971	339	775	745	1356
Cap Entry Lane, veh/h	597	967	0.971	768	0.962	1254	0.971
Entry HV Adj Factor	0.988	0.964	561	0.962	243	0.968	9
Flow Entry, veh/h	42	87	942	326	746	721	1317
Cap Entry, veh/h	590	932	0.595	738	0.326	1214	0.007
V/C Ratio	0.072	0.093	12.3	0.442	8.8	0.594	2.8
Control Delay, s/veh	6.9	4.7	B	10.9	A	10.2	A
LOS	A	A	4	B	1	B	0
95th %tile Queue, veh	0	0		2		4	

Intersection	
Intersection Delay, s/veh	12.5
Intersection LOS	B

Approach	EB	WB	NB	SB
Entry Lanes	1	1	0	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	731	862	0	64
Demand Flow Rate, veh/h	756	900	0	68
Vehicles Circulating, veh/h	173	79	479	851
Vehicles Exiting, veh/h	746	400	450	172
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	12.3	13.3	0.0	8.0
Approach LOS	B	B	-	A

Lane	Left	Left	Left
Designated Moves	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR
RT Channelized			
Lane Util	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976
Entry Flow, veh/h	756	900	68
Cap Entry Lane, veh/h	1157	1273	579
Entry HV Adj Factor	0.967	0.958	0.946
Flow Entry, veh/h	731	862	64
Cap Entry, veh/h	1119	1219	548
V/C Ratio	0.654	0.707	0.117
Control Delay, s/veh	12.3	13.3	8.0
LOS	B	B	A
95th %tile Queue, veh	5	6	0

Intersection	
Intersection Delay, s/veh	
Intersection LOS	

Approach	SW
Entry Lanes	1
Conflicting Circle Lanes	1
Adj Approach Flow, veh/h	120
Demand Flow Rate, veh/h	123
Vehicles Circulating, veh/h	900
Vehicles Exiting, veh/h	79
Ped Vol Crossing Leg, #/h	0
Ped Cap Adj	1.000
Approach Delay, s/veh	9.7
Approach LOS	A

Lane	Left
Designated Moves	LR
Assumed Moves	LR
RT Channelized	
Lane Util	1.000
Follow-Up Headway, s	2.609
Critical Headway, s	4.976
Entry Flow, veh/h	123
Cap Entry Lane, veh/h	551
Entry HV Adj Factor	0.978
Flow Entry, veh/h	120
Cap Entry, veh/h	539
V/C Ratio	0.223
Control Delay, s/veh	9.7
LOS	A
95th %tile Queue, veh	1

Intersection	
Intersection Delay, s/veh	31.8
Intersection LOS	D

Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	0
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	377	187	827	0
Demand Flow Rate, veh/h	388	192	863	0
Vehicles Circulating, veh/h	59	986	446	1012
Vehicles Exiting, veh/h	953	397	0	166
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	5.6	13.7	49.7	0.0
Approach LOS	A	B	E	-

Lane	Left	Left	Left
Designated Moves	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR
RT Channelized			
Lane Util	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976
Entry Flow, veh/h	388	192	863
Cap Entry Lane, veh/h	1299	505	876
Entry HV Adj Factor	0.972	0.974	0.958
Flow Entry, veh/h	377	187	827
Cap Entry, veh/h	1263	492	839
V/C Ratio	0.299	0.380	0.986
Control Delay, s/veh	5.6	13.7	49.7
LOS	A	B	E
95th %tile Queue, veh	1	2	17

Intersection	
Intersection Delay, s/veh	
Intersection LOS	

Approach	NW
Entry Lanes	1
Conflicting Circle Lanes	1
Adj Approach Flow, veh/h	319
Demand Flow Rate, veh/h	326
Vehicles Circulating, veh/h	1057
Vehicles Exiting, veh/h	252
Ped Vol Crossing Leg, #/h	0
Ped Cap Adj	1.000
Approach Delay, s/veh	27.3
Approach LOS	D

Lane	Left
Designated Moves	LR
Assumed Moves	LR
RT Channelized	
Lane Util	1.000
Follow-Up Headway, s	2.609
Critical Headway, s	4.976
Entry Flow, veh/h	326
Cap Entry Lane, veh/h	470
Entry HV Adj Factor	0.979
Flow Entry, veh/h	319
Cap Entry, veh/h	459
V/C Ratio	0.694
Control Delay, s/veh	27.3
LOS	D
95th %tile Queue, veh	5

Cty Rd J Application

1	Main St/20th Ave		
	Existing Volume	1585	vehicles
	Existing Delay	15	sec/veh
	Existing Total Delay	23775	seconds
	Future Volume	1495	vehicles
	Future Delay	15	sec/veh
	Future Total Delay	22425	seconds
	Total Delay Reduction	1350	seconds

2	Main St/West Ramps		
	Existing Volume	1480	vehicles
	Existing Delay	14	sec/veh
	Existing Total Delay	20720	seconds
	Future Volume	1405	vehicles
	Future Delay	15	sec/veh
	Future Total Delay	21075	seconds
	Total Delay Reduction	-355	seconds

3	Main St/SB On Ramp		
	Existing Volume	1655	vehicles
	Existing Delay	0	sec/veh
	Existing Total Delay	0	seconds
	Future Volume	1650	vehicles
	Future Delay	0	sec/veh
	Future Total Delay	0	seconds
	Total Delay Reduction	0	seconds

4	Main St/East Ramps		
	Existing Volume	2470	vehicles
	Existing Delay	11	sec/veh
	Existing Total Delay	27170	seconds
	Future Volume	2520	vehicles
	Future Delay	10	sec/veh
	Future Total Delay	25200	seconds
	Total Delay Reduction	1970	seconds

5	Main St/Otter Lake Rd		
	Existing Volume	2520	vehicles
	Existing Delay	20	sec/veh
	Existing Total Delay	50400	seconds
	Future Volume	2500	vehicles
	Future Delay	17	sec/veh
	Future Total Delay	42500	seconds
	Total Delay Reduction	7900	seconds

6	CR J/Centerville Rd		
	Existing Volume	1703	vehicles
	Existing Delay	85	sec/veh
	Existing Total Delay	144755	seconds
	Future Volume	1830	vehicles
	Future Delay	10	sec/veh
	Future Total Delay	18300	seconds
	Total Delay Reduction	126455	seconds

7	CR J/West Ramps		
	Existing Volume	1410	vehicles
	Existing Delay	3	sec/veh
	Existing Total Delay	4230	seconds
	Future Volume	1635	vehicles
	Future Delay	13	sec/veh
	Future Total Delay	21255	seconds
	Total Delay Reduction	-17025	seconds

8	CR J/East Ramps		
	Existing Volume	1215	vehicles
	Existing Delay	36	sec/veh
	Existing Total Delay	43740	seconds
	Future Volume	1573	vehicles
	Future Delay	32	sec/veh
	Future Total Delay	50336	seconds
	Total Delay Reduction	-6596	seconds

CR J/Otter Lake Rd		
Existing Volume	957	vehicles
Existing Delay	13	sec/veh
Existing Total Delay	12441	seconds
Future Volume	0	vehicles
Future Delay	0	sec/veh
Future Total Delay	0	seconds
Total Delay Reduction	12441	seconds

Total Network Delay Reduction	**126140**	**seconds**

Emissions

Existing	1	2	3	4	5	6	7	8	9	Total
CO	1.85	1.65	0.4	2.17	2.85	4.56	1.14	2.05	1.28	17.95
NO	0.36	0.32	0.08	0.42	0.55	0.89	0.22	0.4	0.25	3.49
VOC	0.43	0.38	0.09	0.5	0.66	1.06	0.26	0.47	0.3	4.15
								Network Total		25.59

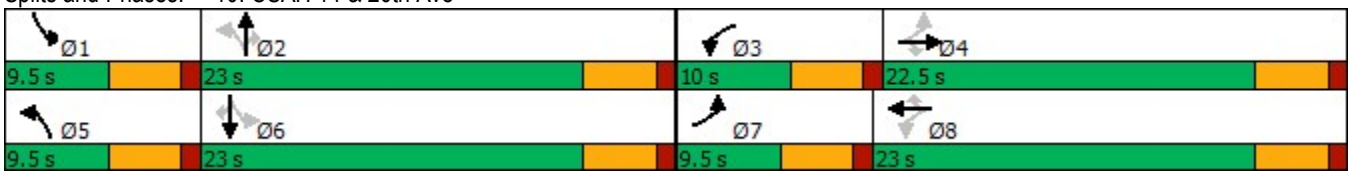
Build	1	2	3	4	5	6	7	8	9	Total
CO	1.76	1.56	0.41	2.23	2.76	2.69	1.86	1.68	0	14.95
NO	0.34	0.3	0.08	0.43	0.54	0.52	0.36	0.33	0	2.9
VOC	0.41	0.36	0.1	0.52	0.64	0.62	0.43	0.39	0	3.47
								Network Total		21.32

Reduction	**4.27**

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	35	370	20	140	460	90	55	110	200	60	30	15
Future Volume (vph)	35	370	20	140	460	90	55	110	200	60	30	15
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8		8	2		2	6		6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	22.5	22.5	9.5	22.5	22.5	9.5	22.5	22.5	9.5	22.5	22.5
Total Split (s)	9.5	22.5	22.5	10.0	23.0	23.0	9.5	23.0	23.0	9.5	23.0	23.0
Total Split (%)	14.6%	34.6%	34.6%	15.4%	35.4%	35.4%	14.6%	35.4%	35.4%	14.6%	35.4%	35.4%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	None	None	None	Max	Max
Act Effct Green (s)	16.4	12.6	12.6	18.8	16.9	16.9	22.1	19.5	19.5	22.1	19.5	19.5
Actuated g/C Ratio	0.30	0.23	0.23	0.35	0.31	0.31	0.41	0.36	0.36	0.41	0.36	0.36
v/c Ratio	0.11	0.49	0.04	0.41	0.45	0.16	0.10	0.09	0.31	0.06	0.05	0.02
Control Delay	12.0	21.1	0.1	15.7	17.7	1.1	10.8	15.8	4.6	10.3	16.4	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	12.0	21.1	0.1	15.7	17.7	1.1	10.8	15.8	4.6	10.3	16.4	0.1
LOS	B	C	A	B	B	A	B	B	A	B	B	A
Approach Delay		19.4			15.1			8.9			10.6	
Approach LOS		B			B			A			B	

Intersection Summary	
Cycle Length: 65	
Actuated Cycle Length: 54	
Natural Cycle: 65	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.49	
Intersection Signal Delay: 14.5	Intersection LOS: B
Intersection Capacity Utilization 38.9%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 10: CSAH 14 & 20th Ave



Lane Group	EBT	WBL	WBT	NBL	NBR	SBL	SBT	SBR
Lane Configurations								
Traffic Volume (vph)	555	20	605	20	50	145	5	80
Future Volume (vph)	555	20	605	20	50	145	5	80
Turn Type	NA	Perm	NA	Prot	Perm	pm+pt	NA	Perm
Protected Phases	4		8	5		1	6	
Permitted Phases		8			2	6		6
Detector Phase	4	8	8	5	2	1	6	6
Switch Phase								
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5	22.5	22.5	9.5	22.5	9.5	22.5	22.5
Total Split (s)	22.5	22.5	22.5	9.5	22.5	10.0	23.0	23.0
Total Split (%)	40.9%	40.9%	40.9%	17.3%	40.9%	18.2%	41.8%	41.8%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag				Lead	Lag	Lead	Lag	Lag
Lead-Lag Optimize?				Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	Max	None	Max	Max
Act Effct Green (s)	14.7	14.7	14.7	5.1	18.6	25.4	24.4	24.4
Actuated g/C Ratio	0.29	0.29	0.29	0.10	0.37	0.51	0.49	0.49
v/c Ratio	0.32	0.10	0.63	0.12	0.08	0.18	0.01	0.10
Control Delay	14.4	14.4	18.6	24.6	0.7	7.6	10.0	2.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	14.4	14.4	18.6	24.6	0.7	7.6	10.0	2.2
LOS	B	B	B	C	A	A	A	A
Approach Delay	14.4		18.5				5.8	
Approach LOS	B		B				A	

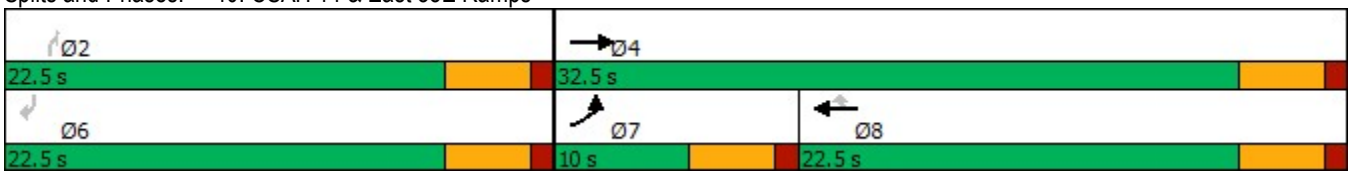
Intersection Summary	
Cycle Length: 55	
Actuated Cycle Length: 50	
Natural Cycle: 55	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.63	
Intersection Signal Delay: 14.5	Intersection LOS: B
Intersection Capacity Utilization 36.3%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 20: CSAH 14 & West 35E Ramps

Lane Group	EBL	EBT	WBT	WBR	NBR	SBR
Lane Configurations						
Traffic Volume (vph)	115	565	565	250	685	290
Future Volume (vph)	115	565	565	250	685	290
Turn Type	Prot	NA	NA	Perm	Perm	Perm
Protected Phases	7	4	8			
Permitted Phases				8	2	6
Detector Phase	7	4	8	8	2	6
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	22.5	22.5	22.5	22.5	22.5
Total Split (s)	10.0	32.5	22.5	22.5	22.5	22.5
Total Split (%)	18.2%	59.1%	40.9%	40.9%	40.9%	40.9%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag	Lead		Lag	Lag		
Lead-Lag Optimize?	Yes		Yes	Yes		
Recall Mode	None	None	None	None	Max	Max
Act Effct Green (s)	5.6	20.9	13.3	13.3	18.4	18.4
Actuated g/C Ratio	0.12	0.43	0.27	0.27	0.38	0.38
v/c Ratio	0.61	0.40	0.44	0.43	0.57	0.22
Control Delay	39.6	9.8	15.8	4.7	8.4	0.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	39.6	9.8	15.8	4.7	8.4	0.4
LOS	D	A	B	A	A	A
Approach Delay		14.8	12.4			
Approach LOS		B	B			

Intersection Summary	
Cycle Length: 55	
Actuated Cycle Length: 48.5	
Natural Cycle: 55	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.61	
Intersection Signal Delay: 10.5	Intersection LOS: B
Intersection Capacity Utilization 47.1%	ICU Level of Service A
Analysis Period (min) 15	

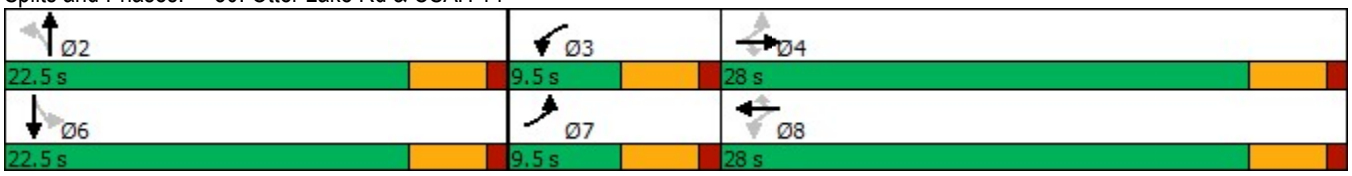
Splits and Phases: 40: CSAH 14 & East 35E Ramps



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	30	1245	70	55	765	20	95	10	20	10
Future Volume (vph)	30	1245	70	55	765	20	95	10	20	10
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	Perm	NA	Perm	NA
Protected Phases	7	4		3	8			2		6
Permitted Phases	4		4	8		8	2		6	
Detector Phase	7	4	4	3	8	8	2	2	6	6
Switch Phase										
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	22.5	22.5	9.5	22.5	22.5	22.5	22.5	22.5	22.5
Total Split (s)	9.5	28.0	28.0	9.5	28.0	28.0	22.5	22.5	22.5	22.5
Total Split (%)	15.8%	46.7%	46.7%	15.8%	46.7%	46.7%	37.5%	37.5%	37.5%	37.5%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag				
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes				
Recall Mode	None	None	None	None	None	None	Max	Max	Max	Max
Act Effct Green (s)	26.5	23.7	23.7	27.3	25.4	25.4	18.1	18.1	18.1	18.1
Actuated g/C Ratio	0.47	0.42	0.42	0.49	0.45	0.45	0.32	0.32	0.32	0.32
v/c Ratio	0.10	0.91	0.10	0.22	0.52	0.03	0.24	0.31	0.06	0.08
Control Delay	7.1	28.1	1.9	8.6	13.3	0.1	17.3	5.1	15.7	8.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	7.1	28.1	1.9	8.6	13.3	0.1	17.3	5.1	15.7	8.3
LOS	A	C	A	A	B	A	B	A	B	A
Approach Delay		26.3			12.7			9.3		10.7
Approach LOS		C			B			A		B

Intersection Summary	
Cycle Length: 60	
Actuated Cycle Length: 56.2	
Natural Cycle: 65	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.91	
Intersection Signal Delay: 19.5	Intersection LOS: B
Intersection Capacity Utilization 66.5%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 50: Otter Lake Rd & CSAH 14



10: CSAH 14 & 20th Ave

Direction	All
Future Volume (vph)	1585
Total Delay / Veh (s/v)	15
CO Emissions (kg)	1.85
NOx Emissions (kg)	0.36
VOC Emissions (kg)	0.43

20: CSAH 14 & West 35E Ramps

Direction	All
Future Volume (vph)	1480
Total Delay / Veh (s/v)	14
CO Emissions (kg)	1.65
NOx Emissions (kg)	0.32
VOC Emissions (kg)	0.38

30: SB On Ramp & CSAH 14

Direction	All
Future Volume (vph)	1655
Total Delay / Veh (s/v)	0
CO Emissions (kg)	0.40
NOx Emissions (kg)	0.08
VOC Emissions (kg)	0.09

40: CSAH 14 & East 35E Ramps

Direction	All
Future Volume (vph)	2470
Total Delay / Veh (s/v)	11
CO Emissions (kg)	2.17
NOx Emissions (kg)	0.42
VOC Emissions (kg)	0.50

50: Otter Lake Rd & CSAH 14

Direction	All
Future Volume (vph)	2520
Total Delay / Veh (s/v)	20
CO Emissions (kg)	2.85
NOx Emissions (kg)	0.55
VOC Emissions (kg)	0.66

100: Centerville Rd & Wilkinson Lake Blvd/CR J

Direction	All
Future Volume (vph)	1703
Total Delay / Veh (s/v)	85
CO Emissions (kg)	4.56
NOx Emissions (kg)	0.89
VOC Emissions (kg)	1.06

200: SB I-35E/CSAH 54 & CR J

Direction	All
Future Volume (vph)	1410
Total Delay / Veh (s/v)	3
CO Emissions (kg)	1.14
NOx Emissions (kg)	0.22
VOC Emissions (kg)	0.26

300: NB I-35E & CR J

Direction	All
Future Volume (vph)	1215
Total Delay / Veh (s/v)	36
CO Emissions (kg)	2.05
NOx Emissions (kg)	0.40
VOC Emissions (kg)	0.47

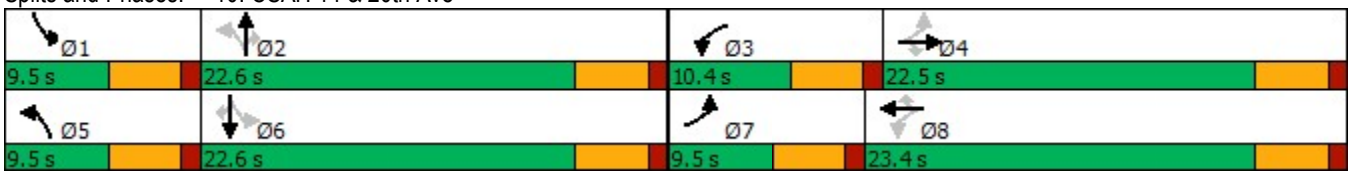
400: Otter Lake Rd & CR J

Direction	All
Future Volume (vph)	957
Total Delay / Veh (s/v)	13
CO Emissions (kg)	1.28
NOx Emissions (kg)	0.25
VOC Emissions (kg)	0.30

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	35	370	15	110	455	80	55	110	170	60	20	15
Future Volume (vph)	35	370	15	110	455	80	55	110	170	60	20	15
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8		8	2		2	6		6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	22.5	22.5	9.5	22.5	22.5	9.5	22.5	22.5	9.5	22.5	22.5
Total Split (s)	9.5	22.5	22.5	10.4	23.4	23.4	9.5	22.6	22.6	9.5	22.6	22.6
Total Split (%)	14.6%	34.6%	34.6%	16.0%	36.0%	36.0%	14.6%	34.8%	34.8%	14.6%	34.8%	34.8%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	None	None	None	Max	Max
Act Effct Green (s)	16.1	12.3	12.3	18.9	16.9	16.9	21.7	19.1	19.1	21.7	19.1	19.1
Actuated g/C Ratio	0.30	0.23	0.23	0.35	0.32	0.32	0.40	0.36	0.36	0.40	0.36	0.36
v/c Ratio	0.11	0.49	0.03	0.32	0.44	0.14	0.10	0.10	0.27	0.06	0.03	0.02
Control Delay	11.9	21.3	0.1	13.8	17.5	0.5	10.9	15.9	4.7	10.3	16.6	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	11.9	21.3	0.1	13.8	17.5	0.5	10.9	15.9	4.7	10.3	16.6	0.1
LOS	B	C	A	B	B	A	B	B	A	B	B	A
Approach Delay		19.8			14.7			9.4			10.1	
Approach LOS		B			B			A			B	

Intersection Summary	
Cycle Length: 65	
Actuated Cycle Length: 53.6	
Natural Cycle: 65	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.49	
Intersection Signal Delay: 14.7	Intersection LOS: B
Intersection Capacity Utilization 37.7%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 10: CSAH 14 & 20th Ave



Lane Group	EBT	WBL	WBT	NBL	NBR	SBL	SBR
Lane Configurations							
Traffic Volume (vph)	525	20	590	20	50	145	5	50
Future Volume (vph)	525	20	590	20	50	145	5	50
Turn Type	NA	Perm	NA	Prot	Perm	pm+pt	NA	Perm
Protected Phases	4		8	5		1	6	
Permitted Phases		8			2	6		6
Detector Phase	4	8	8	5	2	1	6	6
Switch Phase								
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5	22.5	22.5	9.5	22.5	9.5	22.5	22.5
Total Split (s)	22.5	22.5	22.5	9.5	22.5	10.0	23.0	23.0
Total Split (%)	40.9%	40.9%	40.9%	17.3%	40.9%	18.2%	41.8%	41.8%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag				Lead	Lag	Lead	Lag	Lag
Lead-Lag Optimize?				Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	Max	None	Max	Max
Act Effct Green (s)	14.5	14.5	14.5	5.1	18.6	25.3	24.3	24.3
Actuated g/C Ratio	0.29	0.29	0.29	0.10	0.37	0.51	0.49	0.49
v/c Ratio	0.31	0.10	0.62	0.12	0.08	0.18	0.01	0.06
Control Delay	14.3	14.3	18.5	24.5	0.7	7.6	10.0	0.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	14.3	14.3	18.5	24.5	0.7	7.6	10.0	0.6
LOS	B	B	B	C	A	A	A	A
Approach Delay	14.3		18.3				5.9	
Approach LOS	B		B				A	

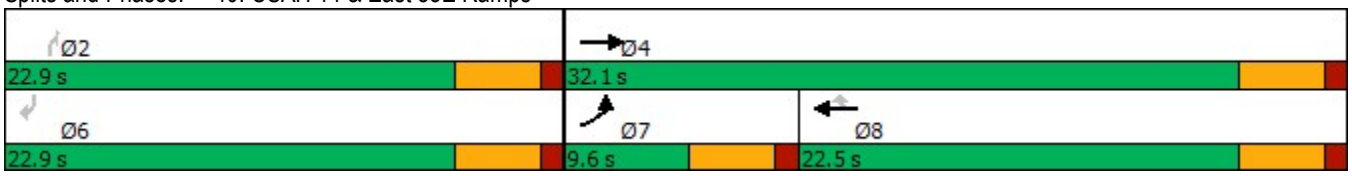
Intersection Summary	
Cycle Length: 55	
Actuated Cycle Length: 49.8	
Natural Cycle: 55	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.62	
Intersection Signal Delay: 14.5	Intersection LOS: B
Intersection Capacity Utilization 35.9%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 20: CSAH 14 & West 35E Ramps

Lane Group	EBL	EBT	WBT	WBR	NBR	SBR
Lane Configurations						
Traffic Volume (vph)	85	565	590	245	745	290
Future Volume (vph)	85	565	590	245	745	290
Turn Type	Prot	NA	NA	Perm	Perm	Perm
Protected Phases	7	4	8			
Permitted Phases				8	2	6
Detector Phase	7	4	8	8	2	6
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	22.5	22.5	22.5	22.5	22.5
Total Split (s)	9.6	32.1	22.5	22.5	22.9	22.9
Total Split (%)	17.5%	58.4%	40.9%	40.9%	41.6%	41.6%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag	Lead		Lag	Lag		
Lead-Lag Optimize?	Yes		Yes	Yes		
Recall Mode	None	None	None	None	Max	Max
Act Effct Green (s)	5.2	20.9	13.7	13.7	18.8	18.8
Actuated g/C Ratio	0.11	0.43	0.28	0.28	0.38	0.38
v/c Ratio	0.49	0.41	0.45	0.42	0.62	0.23
Control Delay	34.3	10.0	15.8	4.6	9.6	0.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	34.3	10.0	15.8	4.6	9.6	0.4
LOS	C	A	B	A	A	A
Approach Delay		13.2	12.5			
Approach LOS		B	B			

Intersection Summary	
Cycle Length: 55	
Actuated Cycle Length: 48.9	
Natural Cycle: 55	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.62	
Intersection Signal Delay: 10.4	Intersection LOS: B
Intersection Capacity Utilization 49.2%	ICU Level of Service A
Analysis Period (min) 15	

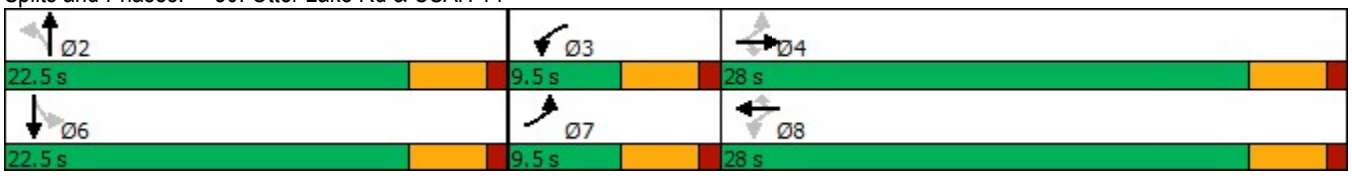
Splits and Phases: 40: CSAH 14 & East 35E Ramps



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	30	1305	70	15	805	20	75	10	20	10
Future Volume (vph)	30	1305	70	15	805	20	75	10	20	10
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	Perm	NA	Perm	NA
Protected Phases	7	4		3	8			2		6
Permitted Phases	4		4	8		8	2		6	
Detector Phase	7	4	4	3	8	8	2	2	6	6
Switch Phase										
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	22.5	22.5	9.5	22.5	22.5	22.5	22.5	22.5	22.5
Total Split (s)	9.5	28.0	28.0	9.5	28.0	28.0	22.5	22.5	22.5	22.5
Total Split (%)	15.8%	46.7%	46.7%	15.8%	46.7%	46.7%	37.5%	37.5%	37.5%	37.5%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag				
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes				
Recall Mode	None	None	None	None	None	None	Max	Max	Max	Max
Act Effct Green (s)	26.3	25.4	25.4	25.5	23.7	23.7	18.1	18.1	18.1	18.1
Actuated g/C Ratio	0.48	0.47	0.47	0.47	0.44	0.44	0.33	0.33	0.33	0.33
v/c Ratio	0.10	0.86	0.10	0.06	0.57	0.03	0.18	0.21	0.05	0.08
Control Delay	7.3	21.3	1.9	6.9	14.1	0.1	15.8	5.5	14.8	8.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	7.3	21.3	1.9	6.9	14.1	0.1	15.8	5.5	14.8	8.1
LOS	A	C	A	A	B	A	B	A	B	A
Approach Delay		20.0			13.6			9.4		10.3
Approach LOS		C			B			A		B

Intersection Summary	
Cycle Length: 60	
Actuated Cycle Length: 54.3	
Natural Cycle: 65	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.86	
Intersection Signal Delay: 16.8	Intersection LOS: B
Intersection Capacity Utilization 54.4%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 50: Otter Lake Rd & CSAH 14



10: CSAH 14 & 20th Ave

Direction	All
Future Volume (vph)	1495
Total Delay / Veh (s/v)	15
CO Emissions (kg)	1.76
NOx Emissions (kg)	0.34
VOC Emissions (kg)	0.41

20: CSAH 14 & West 35E Ramps

Direction	All
Future Volume (vph)	1405
Total Delay / Veh (s/v)	15
CO Emissions (kg)	1.56
NOx Emissions (kg)	0.30
VOC Emissions (kg)	0.36

30: SB On Ramp & CSAH 14

Direction	All
Future Volume (vph)	1650
Total Delay / Veh (s/v)	0
CO Emissions (kg)	0.41
NOx Emissions (kg)	0.08
VOC Emissions (kg)	0.10

40: CSAH 14 & East 35E Ramps

Direction	All
Future Volume (vph)	2520
Total Delay / Veh (s/v)	10
CO Emissions (kg)	2.23
NOx Emissions (kg)	0.43
VOC Emissions (kg)	0.52

50: Otter Lake Rd & CSAH 14

Direction	All
Future Volume (vph)	2501
Total Delay / Veh (s/v)	17
CO Emissions (kg)	2.76
NOx Emissions (kg)	0.54
VOC Emissions (kg)	0.64

100: Centerville Rd & Wilkinson Lake Blvd/CR J

Direction	All
Future Volume (vph)	1830
Total Delay / Veh (s/v)	0
CO Emissions (kg)	2.69
NOx Emissions (kg)	0.52
VOC Emissions (kg)	0.62

200: SB I-35E Ramps & CR J & CSAH 54

Direction	All
Future Volume (vph)	1635
Total Delay / Veh (s/v)	0
CO Emissions (kg)	1.86
NOx Emissions (kg)	0.36
VOC Emissions (kg)	0.43

300: NB I-35E Ramps & CSAH 60 & CR J/CSAH 84

Direction	All
Future Volume (vph)	1573
Total Delay / Veh (s/v)	0
CO Emissions (kg)	1.68
NOx Emissions (kg)	0.33
VOC Emissions (kg)	0.39

Intersection	
Intersection Delay, s/veh	10.4
Intersection LOS	B

Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	42	648	569	730
Demand Flow Rate, veh/h	43	668	592	754
Vehicles Circulating, veh/h	822	349	575	94
Vehicles Exiting, veh/h	17	565	289	345
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	6.9	11.2	10.0	10.1
Approach LOS	A	B	A	B

Lane	Left	Left	Bypass	Left	Bypass	Left	Bypass
Designated Moves	LTR	LT	R	LT	R	LT	R
Assumed Moves	LTR	LT	R	LT	R	LT	R
RT Channelized			Yield		Yield		Yield
Lane Util	1.000	1.000		1.000		1.000	
Follow-Up Headway, s	2.609	2.609		2.609		2.609	
Critical Headway, s	4.976	4.976	578	4.976	253	4.976	9
Entry Flow, veh/h	43	90	971	339	775	745	1356
Cap Entry Lane, veh/h	597	967	0.971	768	0.962	1254	0.971
Entry HV Adj Factor	0.988	0.964	561	0.962	243	0.968	9
Flow Entry, veh/h	42	87	942	326	746	721	1317
Cap Entry, veh/h	590	932	0.595	738	0.326	1214	0.007
V/C Ratio	0.072	0.093	12.3	0.442	8.8	0.594	2.8
Control Delay, s/veh	6.9	4.7	B	10.9	A	10.2	A
LOS	A	A	4	B	1	B	0
95th %tile Queue, veh	0	0		2		4	

Intersection	
Intersection Delay, s/veh	12.5
Intersection LOS	B

Approach	EB	WB	NB	SB
Entry Lanes	1	1	0	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	731	862	0	64
Demand Flow Rate, veh/h	756	900	0	68
Vehicles Circulating, veh/h	173	79	479	851
Vehicles Exiting, veh/h	746	400	450	172
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	12.3	13.3	0.0	8.0
Approach LOS	B	B	-	A

Lane	Left	Left	Left
Designated Moves	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR
RT Channelized			
Lane Util	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976
Entry Flow, veh/h	756	900	68
Cap Entry Lane, veh/h	1157	1273	579
Entry HV Adj Factor	0.967	0.958	0.946
Flow Entry, veh/h	731	862	64
Cap Entry, veh/h	1119	1219	548
V/C Ratio	0.654	0.707	0.117
Control Delay, s/veh	12.3	13.3	8.0
LOS	B	B	A
95th %tile Queue, veh	5	6	0

Intersection	
Intersection Delay, s/veh	
Intersection LOS	

Approach	SW
Entry Lanes	1
Conflicting Circle Lanes	1
Adj Approach Flow, veh/h	120
Demand Flow Rate, veh/h	123
Vehicles Circulating, veh/h	900
Vehicles Exiting, veh/h	79
Ped Vol Crossing Leg, #/h	0
Ped Cap Adj	1.000
Approach Delay, s/veh	9.7
Approach LOS	A

Lane	Left
Designated Moves	LR
Assumed Moves	LR
RT Channelized	
Lane Util	1.000
Follow-Up Headway, s	2.609
Critical Headway, s	4.976
Entry Flow, veh/h	123
Cap Entry Lane, veh/h	551
Entry HV Adj Factor	0.978
Flow Entry, veh/h	120
Cap Entry, veh/h	539
V/C Ratio	0.223
Control Delay, s/veh	9.7
LOS	A
95th %tile Queue, veh	1

Intersection	
Intersection Delay, s/veh	31.8
Intersection LOS	D

Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	0
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	377	187	827	0
Demand Flow Rate, veh/h	388	192	863	0
Vehicles Circulating, veh/h	59	986	446	1012
Vehicles Exiting, veh/h	953	397	0	166
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	5.6	13.7	49.7	0.0
Approach LOS	A	B	E	-

Lane	Left	Left	Left
Designated Moves	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR
RT Channelized			
Lane Util	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976
Entry Flow, veh/h	388	192	863
Cap Entry Lane, veh/h	1299	505	876
Entry HV Adj Factor	0.972	0.974	0.958
Flow Entry, veh/h	377	187	827
Cap Entry, veh/h	1263	492	839
V/C Ratio	0.299	0.380	0.986
Control Delay, s/veh	5.6	13.7	49.7
LOS	A	B	E
95th %tile Queue, veh	1	2	17

Intersection	
Intersection Delay, s/veh	
Intersection LOS	

Approach	NW
Entry Lanes	1
Conflicting Circle Lanes	1
Adj Approach Flow, veh/h	319
Demand Flow Rate, veh/h	326
Vehicles Circulating, veh/h	1057
Vehicles Exiting, veh/h	252
Ped Vol Crossing Leg, #/h	0
Ped Cap Adj	1.000
Approach Delay, s/veh	27.3
Approach LOS	D

Lane	Left
Designated Moves	LR
Assumed Moves	LR
RT Channelized	
Lane Util	1.000
Follow-Up Headway, s	2.609
Critical Headway, s	4.976
Entry Flow, veh/h	326
Cap Entry Lane, veh/h	470
Entry HV Adj Factor	0.979
Flow Entry, veh/h	319
Cap Entry, veh/h	459
V/C Ratio	0.694
Control Delay, s/veh	27.3
LOS	D
95th %tile Queue, veh	5

Cty Rd J Application

1	Main St/20th Ave		
	Existing Volume	1585	vehicles
	Existing Delay	15	sec/veh
	Existing Total Delay	23775	seconds
	Future Volume	1495	vehicles
	Future Delay	15	sec/veh
	Future Total Delay	22425	seconds
	Total Delay Reduction	1350	seconds

2	Main St/West Ramps		
	Existing Volume	1480	vehicles
	Existing Delay	14	sec/veh
	Existing Total Delay	20720	seconds
	Future Volume	1405	vehicles
	Future Delay	15	sec/veh
	Future Total Delay	21075	seconds
	Total Delay Reduction	-355	seconds

3	Main St/SB On Ramp		
	Existing Volume	1655	vehicles
	Existing Delay	0	sec/veh
	Existing Total Delay	0	seconds
	Future Volume	1650	vehicles
	Future Delay	0	sec/veh
	Future Total Delay	0	seconds
	Total Delay Reduction	0	seconds

4	Main St/East Ramps		
	Existing Volume	2470	vehicles
	Existing Delay	11	sec/veh
	Existing Total Delay	27170	seconds
	Future Volume	2520	vehicles
	Future Delay	10	sec/veh
	Future Total Delay	25200	seconds
	Total Delay Reduction	1970	seconds

5	Main St/Otter Lake Rd		
	Existing Volume	2520	vehicles
	Existing Delay	20	sec/veh
	Existing Total Delay	50400	seconds
	Future Volume	2500	vehicles
	Future Delay	17	sec/veh
	Future Total Delay	42500	seconds
	Total Delay Reduction	7900	seconds

6	CR J/Centerville Rd		
	Existing Volume	1703	vehicles
	Existing Delay	85	sec/veh
	Existing Total Delay	144755	seconds
	Future Volume	1830	vehicles
	Future Delay	10	sec/veh
	Future Total Delay	18300	seconds
	Total Delay Reduction	126455	seconds

7	CR J/West Ramps		
	Existing Volume	1410	vehicles
	Existing Delay	3	sec/veh
	Existing Total Delay	4230	seconds
	Future Volume	1635	vehicles
	Future Delay	13	sec/veh
	Future Total Delay	21255	seconds
	Total Delay Reduction	-17025	seconds

8	CR J/East Ramps		
	Existing Volume	1215	vehicles
	Existing Delay	36	sec/veh
	Existing Total Delay	43740	seconds
	Future Volume	1573	vehicles
	Future Delay	32	sec/veh
	Future Total Delay	50336	seconds
	Total Delay Reduction	-6596	seconds

CR J/Otter Lake Rd		
Existing Volume	957	vehicles
Existing Delay	13	sec/veh
Existing Total Delay	12441	seconds
Future Volume	0	vehicles
Future Delay	0	sec/veh
Future Total Delay	0	seconds
Total Delay Reduction	12441	seconds

Total Network Delay Reduction	**126140**	**seconds**

Emissions

Existing	1	2	3	4	5	6	7	8	9	Total
CO	1.85	1.65	0.4	2.17	2.85	4.56	1.14	2.05	1.28	17.95
NO	0.36	0.32	0.08	0.42	0.55	0.89	0.22	0.4	0.25	3.49
VOC	0.43	0.38	0.09	0.5	0.66	1.06	0.26	0.47	0.3	4.15
								Network Total		25.59

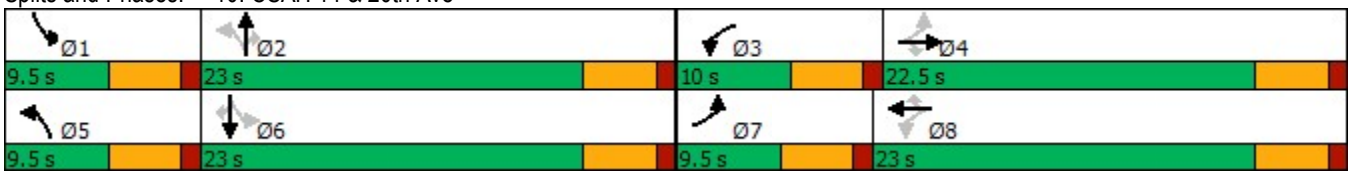
Build	1	2	3	4	5	6	7	8	9	Total
CO	1.76	1.56	0.41	2.23	2.76	2.69	1.86	1.68	0	14.95
NO	0.34	0.3	0.08	0.43	0.54	0.52	0.36	0.33	0	2.9
VOC	0.41	0.36	0.1	0.52	0.64	0.62	0.43	0.39	0	3.47
								Network Total		21.32

Reduction	**4.27**

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	35	370	20	140	460	90	55	110	200	60	30	15
Future Volume (vph)	35	370	20	140	460	90	55	110	200	60	30	15
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8		8	2		2	6		6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	22.5	22.5	9.5	22.5	22.5	9.5	22.5	22.5	9.5	22.5	22.5
Total Split (s)	9.5	22.5	22.5	10.0	23.0	23.0	9.5	23.0	23.0	9.5	23.0	23.0
Total Split (%)	14.6%	34.6%	34.6%	15.4%	35.4%	35.4%	14.6%	35.4%	35.4%	14.6%	35.4%	35.4%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	None	None	None	Max	Max
Act Effct Green (s)	16.4	12.6	12.6	18.8	16.9	16.9	22.1	19.5	19.5	22.1	19.5	19.5
Actuated g/C Ratio	0.30	0.23	0.23	0.35	0.31	0.31	0.41	0.36	0.36	0.41	0.36	0.36
v/c Ratio	0.11	0.49	0.04	0.41	0.45	0.16	0.10	0.09	0.31	0.06	0.05	0.02
Control Delay	12.0	21.1	0.1	15.7	17.7	1.1	10.8	15.8	4.6	10.3	16.4	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	12.0	21.1	0.1	15.7	17.7	1.1	10.8	15.8	4.6	10.3	16.4	0.1
LOS	B	C	A	B	B	A	B	B	A	B	B	A
Approach Delay		19.4			15.1			8.9			10.6	
Approach LOS		B			B			A			B	

Intersection Summary	
Cycle Length: 65	
Actuated Cycle Length: 54	
Natural Cycle: 65	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.49	
Intersection Signal Delay: 14.5	Intersection LOS: B
Intersection Capacity Utilization 38.9%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 10: CSAH 14 & 20th Ave



Lane Group	EBT	WBL	WBT	NBL	NBR	SBL	SBT	SBR
Lane Configurations								
Traffic Volume (vph)	555	20	605	20	50	145	5	80
Future Volume (vph)	555	20	605	20	50	145	5	80
Turn Type	NA	Perm	NA	Prot	Perm	pm+pt	NA	Perm
Protected Phases	4		8	5		1	6	
Permitted Phases		8			2	6		6
Detector Phase	4	8	8	5	2	1	6	6
Switch Phase								
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5	22.5	22.5	9.5	22.5	9.5	22.5	22.5
Total Split (s)	22.5	22.5	22.5	9.5	22.5	10.0	23.0	23.0
Total Split (%)	40.9%	40.9%	40.9%	17.3%	40.9%	18.2%	41.8%	41.8%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag				Lead	Lag	Lead	Lag	Lag
Lead-Lag Optimize?				Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	Max	None	Max	Max
Act Effct Green (s)	14.7	14.7	14.7	5.1	18.6	25.4	24.4	24.4
Actuated g/C Ratio	0.29	0.29	0.29	0.10	0.37	0.51	0.49	0.49
v/c Ratio	0.32	0.10	0.63	0.12	0.08	0.18	0.01	0.10
Control Delay	14.4	14.4	18.6	24.6	0.7	7.6	10.0	2.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	14.4	14.4	18.6	24.6	0.7	7.6	10.0	2.2
LOS	B	B	B	C	A	A	A	A
Approach Delay	14.4		18.5				5.8	
Approach LOS	B		B				A	

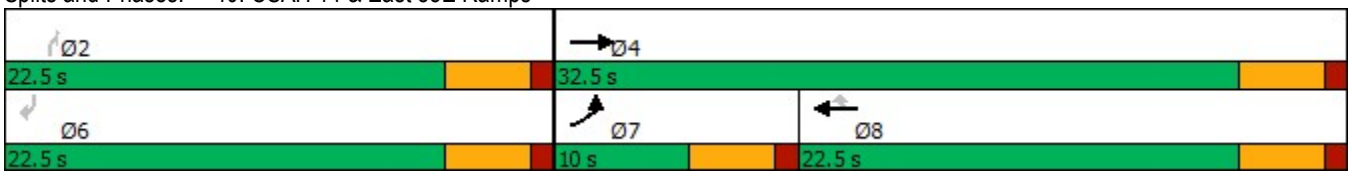
Intersection Summary	
Cycle Length: 55	
Actuated Cycle Length: 50	
Natural Cycle: 55	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.63	
Intersection Signal Delay: 14.5	Intersection LOS: B
Intersection Capacity Utilization 36.3%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 20: CSAH 14 & West 35E Ramps

Lane Group	EBL	EBT	WBT	WBR	NBR	SBR
Lane Configurations						
Traffic Volume (vph)	115	565	565	250	685	290
Future Volume (vph)	115	565	565	250	685	290
Turn Type	Prot	NA	NA	Perm	Perm	Perm
Protected Phases	7	4	8			
Permitted Phases				8	2	6
Detector Phase	7	4	8	8	2	6
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	22.5	22.5	22.5	22.5	22.5
Total Split (s)	10.0	32.5	22.5	22.5	22.5	22.5
Total Split (%)	18.2%	59.1%	40.9%	40.9%	40.9%	40.9%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag	Lead		Lag	Lag		
Lead-Lag Optimize?	Yes		Yes	Yes		
Recall Mode	None	None	None	None	Max	Max
Act Effct Green (s)	5.6	20.9	13.3	13.3	18.4	18.4
Actuated g/C Ratio	0.12	0.43	0.27	0.27	0.38	0.38
v/c Ratio	0.61	0.40	0.44	0.43	0.57	0.22
Control Delay	39.6	9.8	15.8	4.7	8.4	0.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	39.6	9.8	15.8	4.7	8.4	0.4
LOS	D	A	B	A	A	A
Approach Delay		14.8	12.4			
Approach LOS		B	B			

Intersection Summary	
Cycle Length: 55	
Actuated Cycle Length: 48.5	
Natural Cycle: 55	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.61	
Intersection Signal Delay: 10.5	Intersection LOS: B
Intersection Capacity Utilization 47.1%	ICU Level of Service A
Analysis Period (min) 15	

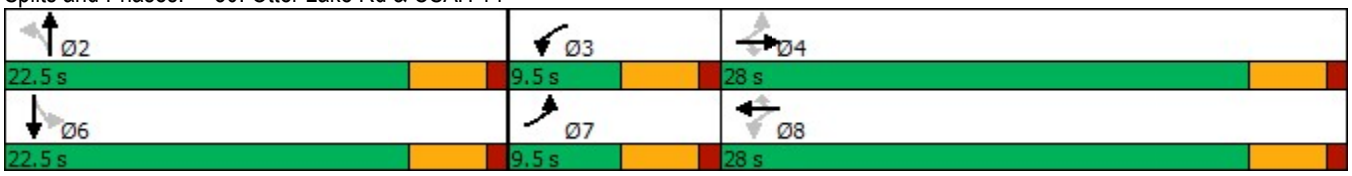
Splits and Phases: 40: CSAH 14 & East 35E Ramps



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	30	1245	70	55	765	20	95	10	20	10
Future Volume (vph)	30	1245	70	55	765	20	95	10	20	10
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	Perm	NA	Perm	NA
Protected Phases	7	4		3	8			2		6
Permitted Phases	4		4	8		8	2		6	
Detector Phase	7	4	4	3	8	8	2	2	6	6
Switch Phase										
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	22.5	22.5	9.5	22.5	22.5	22.5	22.5	22.5	22.5
Total Split (s)	9.5	28.0	28.0	9.5	28.0	28.0	22.5	22.5	22.5	22.5
Total Split (%)	15.8%	46.7%	46.7%	15.8%	46.7%	46.7%	37.5%	37.5%	37.5%	37.5%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag				
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes				
Recall Mode	None	None	None	None	None	None	Max	Max	Max	Max
Act Effct Green (s)	26.5	23.7	23.7	27.3	25.4	25.4	18.1	18.1	18.1	18.1
Actuated g/C Ratio	0.47	0.42	0.42	0.49	0.45	0.45	0.32	0.32	0.32	0.32
v/c Ratio	0.10	0.91	0.10	0.22	0.52	0.03	0.24	0.31	0.06	0.08
Control Delay	7.1	28.1	1.9	8.6	13.3	0.1	17.3	5.1	15.7	8.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	7.1	28.1	1.9	8.6	13.3	0.1	17.3	5.1	15.7	8.3
LOS	A	C	A	A	B	A	B	A	B	A
Approach Delay		26.3			12.7			9.3		10.7
Approach LOS		C			B			A		B

Intersection Summary	
Cycle Length: 60	
Actuated Cycle Length: 56.2	
Natural Cycle: 65	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.91	
Intersection Signal Delay: 19.5	Intersection LOS: B
Intersection Capacity Utilization 66.5%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 50: Otter Lake Rd & CSAH 14



10: CSAH 14 & 20th Ave

Direction	All
Future Volume (vph)	1585
Total Delay / Veh (s/v)	15
CO Emissions (kg)	1.85
NOx Emissions (kg)	0.36
VOC Emissions (kg)	0.43

20: CSAH 14 & West 35E Ramps

Direction	All
Future Volume (vph)	1480
Total Delay / Veh (s/v)	14
CO Emissions (kg)	1.65
NOx Emissions (kg)	0.32
VOC Emissions (kg)	0.38

30: SB On Ramp & CSAH 14

Direction	All
Future Volume (vph)	1655
Total Delay / Veh (s/v)	0
CO Emissions (kg)	0.40
NOx Emissions (kg)	0.08
VOC Emissions (kg)	0.09

40: CSAH 14 & East 35E Ramps

Direction	All
Future Volume (vph)	2470
Total Delay / Veh (s/v)	11
CO Emissions (kg)	2.17
NOx Emissions (kg)	0.42
VOC Emissions (kg)	0.50

50: Otter Lake Rd & CSAH 14

Direction	All
Future Volume (vph)	2520
Total Delay / Veh (s/v)	20
CO Emissions (kg)	2.85
NOx Emissions (kg)	0.55
VOC Emissions (kg)	0.66

100: Centerville Rd & Wilkinson Lake Blvd/CR J

Direction	All
Future Volume (vph)	1703
Total Delay / Veh (s/v)	85
CO Emissions (kg)	4.56
NOx Emissions (kg)	0.89
VOC Emissions (kg)	1.06

200: SB I-35E/CSAH 54 & CR J

Direction	All
Future Volume (vph)	1410
Total Delay / Veh (s/v)	3
CO Emissions (kg)	1.14
NOx Emissions (kg)	0.22
VOC Emissions (kg)	0.26

300: NB I-35E & CR J

Direction	All
Future Volume (vph)	1215
Total Delay / Veh (s/v)	36
CO Emissions (kg)	2.05
NOx Emissions (kg)	0.40
VOC Emissions (kg)	0.47

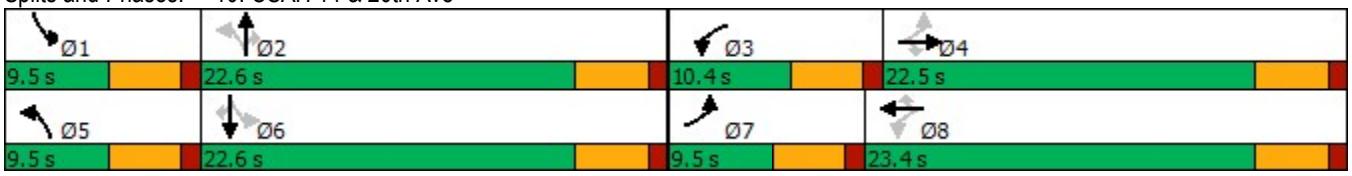
400: Otter Lake Rd & CR J

Direction	All
Future Volume (vph)	957
Total Delay / Veh (s/v)	13
CO Emissions (kg)	1.28
NOx Emissions (kg)	0.25
VOC Emissions (kg)	0.30

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	35	370	15	110	455	80	55	110	170	60	20	15
Future Volume (vph)	35	370	15	110	455	80	55	110	170	60	20	15
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8		8	2		2	6		6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	22.5	22.5	9.5	22.5	22.5	9.5	22.5	22.5	9.5	22.5	22.5
Total Split (s)	9.5	22.5	22.5	10.4	23.4	23.4	9.5	22.6	22.6	9.5	22.6	22.6
Total Split (%)	14.6%	34.6%	34.6%	16.0%	36.0%	36.0%	14.6%	34.8%	34.8%	14.6%	34.8%	34.8%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	None	None	None	Max	Max
Act Effct Green (s)	16.1	12.3	12.3	18.9	16.9	16.9	21.7	19.1	19.1	21.7	19.1	19.1
Actuated g/C Ratio	0.30	0.23	0.23	0.35	0.32	0.32	0.40	0.36	0.36	0.40	0.36	0.36
v/c Ratio	0.11	0.49	0.03	0.32	0.44	0.14	0.10	0.10	0.27	0.06	0.03	0.02
Control Delay	11.9	21.3	0.1	13.8	17.5	0.5	10.9	15.9	4.7	10.3	16.6	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	11.9	21.3	0.1	13.8	17.5	0.5	10.9	15.9	4.7	10.3	16.6	0.1
LOS	B	C	A	B	B	A	B	B	A	B	B	A
Approach Delay		19.8			14.7			9.4			10.1	
Approach LOS		B			B			A			B	

Intersection Summary	
Cycle Length: 65	
Actuated Cycle Length: 53.6	
Natural Cycle: 65	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.49	
Intersection Signal Delay: 14.7	Intersection LOS: B
Intersection Capacity Utilization 37.7%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 10: CSAH 14 & 20th Ave



Lane Group	EBT	WBL	WBT	NBL	NBR	SBL	SBR
Lane Configurations							
Traffic Volume (vph)	525	20	590	20	50	145	5	50
Future Volume (vph)	525	20	590	20	50	145	5	50
Turn Type	NA	Perm	NA	Prot	Perm	pm+pt	NA	Perm
Protected Phases	4		8	5		1	6	
Permitted Phases		8			2	6		6
Detector Phase	4	8	8	5	2	1	6	6
Switch Phase								
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5	22.5	22.5	9.5	22.5	9.5	22.5	22.5
Total Split (s)	22.5	22.5	22.5	9.5	22.5	10.0	23.0	23.0
Total Split (%)	40.9%	40.9%	40.9%	17.3%	40.9%	18.2%	41.8%	41.8%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag				Lead	Lag	Lead	Lag	Lag
Lead-Lag Optimize?				Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	Max	None	Max	Max
Act Effct Green (s)	14.5	14.5	14.5	5.1	18.6	25.3	24.3	24.3
Actuated g/C Ratio	0.29	0.29	0.29	0.10	0.37	0.51	0.49	0.49
v/c Ratio	0.31	0.10	0.62	0.12	0.08	0.18	0.01	0.06
Control Delay	14.3	14.3	18.5	24.5	0.7	7.6	10.0	0.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	14.3	14.3	18.5	24.5	0.7	7.6	10.0	0.6
LOS	B	B	B	C	A	A	A	A
Approach Delay	14.3		18.3				5.9	
Approach LOS	B		B				A	

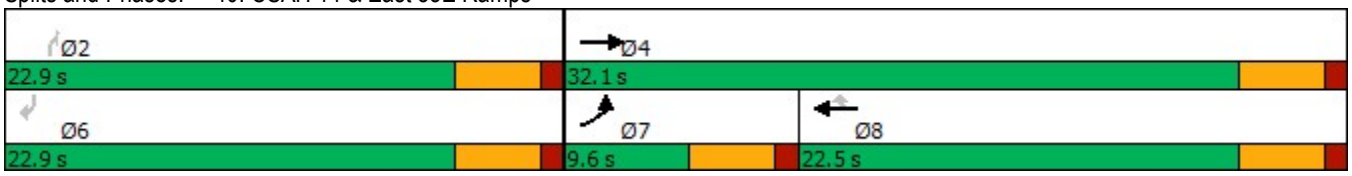
Intersection Summary	
Cycle Length: 55	
Actuated Cycle Length: 49.8	
Natural Cycle: 55	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.62	
Intersection Signal Delay: 14.5	Intersection LOS: B
Intersection Capacity Utilization 35.9%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 20: CSAH 14 & West 35E Ramps

Lane Group	EBL	EBT	WBT	WBR	NBR	SBR
Lane Configurations						
Traffic Volume (vph)	85	565	590	245	745	290
Future Volume (vph)	85	565	590	245	745	290
Turn Type	Prot	NA	NA	Perm	Perm	Perm
Protected Phases	7	4	8			
Permitted Phases				8	2	6
Detector Phase	7	4	8	8	2	6
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	22.5	22.5	22.5	22.5	22.5
Total Split (s)	9.6	32.1	22.5	22.5	22.9	22.9
Total Split (%)	17.5%	58.4%	40.9%	40.9%	41.6%	41.6%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag	Lead		Lag	Lag		
Lead-Lag Optimize?	Yes		Yes	Yes		
Recall Mode	None	None	None	None	Max	Max
Act Effct Green (s)	5.2	20.9	13.7	13.7	18.8	18.8
Actuated g/C Ratio	0.11	0.43	0.28	0.28	0.38	0.38
v/c Ratio	0.49	0.41	0.45	0.42	0.62	0.23
Control Delay	34.3	10.0	15.8	4.6	9.6	0.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	34.3	10.0	15.8	4.6	9.6	0.4
LOS	C	A	B	A	A	A
Approach Delay		13.2	12.5			
Approach LOS		B	B			

Intersection Summary	
Cycle Length: 55	
Actuated Cycle Length: 48.9	
Natural Cycle: 55	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.62	
Intersection Signal Delay: 10.4	Intersection LOS: B
Intersection Capacity Utilization 49.2%	ICU Level of Service A
Analysis Period (min) 15	

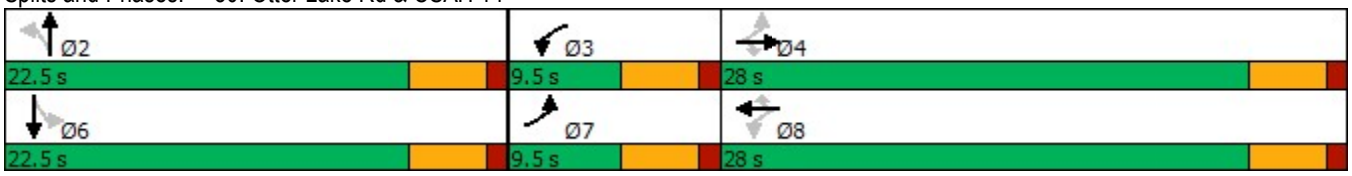
Splits and Phases: 40: CSAH 14 & East 35E Ramps



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	30	1305	70	15	805	20	75	10	20	10
Future Volume (vph)	30	1305	70	15	805	20	75	10	20	10
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	Perm	NA	Perm	NA
Protected Phases	7	4		3	8			2		6
Permitted Phases	4		4	8		8	2		6	
Detector Phase	7	4	4	3	8	8	2	2	6	6
Switch Phase										
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	22.5	22.5	9.5	22.5	22.5	22.5	22.5	22.5	22.5
Total Split (s)	9.5	28.0	28.0	9.5	28.0	28.0	22.5	22.5	22.5	22.5
Total Split (%)	15.8%	46.7%	46.7%	15.8%	46.7%	46.7%	37.5%	37.5%	37.5%	37.5%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag				
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes				
Recall Mode	None	None	None	None	None	None	Max	Max	Max	Max
Act Effct Green (s)	26.3	25.4	25.4	25.5	23.7	23.7	18.1	18.1	18.1	18.1
Actuated g/C Ratio	0.48	0.47	0.47	0.47	0.44	0.44	0.33	0.33	0.33	0.33
v/c Ratio	0.10	0.86	0.10	0.06	0.57	0.03	0.18	0.21	0.05	0.08
Control Delay	7.3	21.3	1.9	6.9	14.1	0.1	15.8	5.5	14.8	8.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	7.3	21.3	1.9	6.9	14.1	0.1	15.8	5.5	14.8	8.1
LOS	A	C	A	A	B	A	B	A	B	A
Approach Delay		20.0			13.6			9.4		10.3
Approach LOS		C			B			A		B

Intersection Summary	
Cycle Length: 60	
Actuated Cycle Length: 54.3	
Natural Cycle: 65	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.86	
Intersection Signal Delay: 16.8	Intersection LOS: B
Intersection Capacity Utilization 54.4%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 50: Otter Lake Rd & CSAH 14



10: CSAH 14 & 20th Ave

Direction	All
Future Volume (vph)	1495
Total Delay / Veh (s/v)	15
CO Emissions (kg)	1.76
NOx Emissions (kg)	0.34
VOC Emissions (kg)	0.41

20: CSAH 14 & West 35E Ramps

Direction	All
Future Volume (vph)	1405
Total Delay / Veh (s/v)	15
CO Emissions (kg)	1.56
NOx Emissions (kg)	0.30
VOC Emissions (kg)	0.36

30: SB On Ramp & CSAH 14

Direction	All
Future Volume (vph)	1650
Total Delay / Veh (s/v)	0
CO Emissions (kg)	0.41
NOx Emissions (kg)	0.08
VOC Emissions (kg)	0.10

40: CSAH 14 & East 35E Ramps

Direction	All
Future Volume (vph)	2520
Total Delay / Veh (s/v)	10
CO Emissions (kg)	2.23
NOx Emissions (kg)	0.43
VOC Emissions (kg)	0.52

50: Otter Lake Rd & CSAH 14

Direction	All
Future Volume (vph)	2501
Total Delay / Veh (s/v)	17
CO Emissions (kg)	2.76
NOx Emissions (kg)	0.54
VOC Emissions (kg)	0.64

100: Centerville Rd & Wilkinson Lake Blvd/CR J

Direction	All
Future Volume (vph)	1830
Total Delay / Veh (s/v)	0
CO Emissions (kg)	2.69
NOx Emissions (kg)	0.52
VOC Emissions (kg)	0.62

200: SB I-35E Ramps & CR J & CSAH 54

Direction	All
Future Volume (vph)	1635
Total Delay / Veh (s/v)	0
CO Emissions (kg)	1.86
NOx Emissions (kg)	0.36
VOC Emissions (kg)	0.43

300: NB I-35E Ramps & CSAH 60 & CR J/CSAH 84

Direction	All
Future Volume (vph)	1573
Total Delay / Veh (s/v)	0
CO Emissions (kg)	1.68
NOx Emissions (kg)	0.33
VOC Emissions (kg)	0.39

Intersection	
Intersection Delay, s/veh	10.4
Intersection LOS	B

Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	42	648	569	730
Demand Flow Rate, veh/h	43	668	592	754
Vehicles Circulating, veh/h	822	349	575	94
Vehicles Exiting, veh/h	17	565	289	345
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	6.9	11.2	10.0	10.1
Approach LOS	A	B	A	B

Lane	Left	Left	Bypass	Left	Bypass	Left	Bypass
Designated Moves	LTR	LT	R	LT	R	LT	R
Assumed Moves	LTR	LT	R	LT	R	LT	R
RT Channelized			Yield		Yield		Yield
Lane Util	1.000	1.000		1.000		1.000	
Follow-Up Headway, s	2.609	2.609		2.609		2.609	
Critical Headway, s	4.976	4.976	578	4.976	253	4.976	9
Entry Flow, veh/h	43	90	971	339	775	745	1356
Cap Entry Lane, veh/h	597	967	0.971	768	0.962	1254	0.971
Entry HV Adj Factor	0.988	0.964	561	0.962	243	0.968	9
Flow Entry, veh/h	42	87	942	326	746	721	1317
Cap Entry, veh/h	590	932	0.595	738	0.326	1214	0.007
V/C Ratio	0.072	0.093	12.3	0.442	8.8	0.594	2.8
Control Delay, s/veh	6.9	4.7	B	10.9	A	10.2	A
LOS	A	A	4	B	1	B	0
95th %tile Queue, veh	0	0		2		4	

Intersection	
Intersection Delay, s/veh	12.5
Intersection LOS	B

Approach	EB	WB	NB	SB
Entry Lanes	1	1	0	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	731	862	0	64
Demand Flow Rate, veh/h	756	900	0	68
Vehicles Circulating, veh/h	173	79	479	851
Vehicles Exiting, veh/h	746	400	450	172
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	12.3	13.3	0.0	8.0
Approach LOS	B	B	-	A

Lane	Left	Left	Left
Designated Moves	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR
RT Channelized			
Lane Util	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976
Entry Flow, veh/h	756	900	68
Cap Entry Lane, veh/h	1157	1273	579
Entry HV Adj Factor	0.967	0.958	0.946
Flow Entry, veh/h	731	862	64
Cap Entry, veh/h	1119	1219	548
V/C Ratio	0.654	0.707	0.117
Control Delay, s/veh	12.3	13.3	8.0
LOS	B	B	A
95th %tile Queue, veh	5	6	0

Intersection	
Intersection Delay, s/veh	
Intersection LOS	

Approach	SW
Entry Lanes	1
Conflicting Circle Lanes	1
Adj Approach Flow, veh/h	120
Demand Flow Rate, veh/h	123
Vehicles Circulating, veh/h	900
Vehicles Exiting, veh/h	79
Ped Vol Crossing Leg, #/h	0
Ped Cap Adj	1.000
Approach Delay, s/veh	9.7
Approach LOS	A

Lane	Left
Designated Moves	LR
Assumed Moves	LR
RT Channelized	
Lane Util	1.000
Follow-Up Headway, s	2.609
Critical Headway, s	4.976
Entry Flow, veh/h	123
Cap Entry Lane, veh/h	551
Entry HV Adj Factor	0.978
Flow Entry, veh/h	120
Cap Entry, veh/h	539
V/C Ratio	0.223
Control Delay, s/veh	9.7
LOS	A
95th %tile Queue, veh	1

Intersection	
Intersection Delay, s/veh	31.8
Intersection LOS	D

Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	0
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	377	187	827	0
Demand Flow Rate, veh/h	388	192	863	0
Vehicles Circulating, veh/h	59	986	446	1012
Vehicles Exiting, veh/h	953	397	0	166
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	5.6	13.7	49.7	0.0
Approach LOS	A	B	E	-

Lane	Left	Left	Left
Designated Moves	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR
RT Channelized			
Lane Util	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976
Entry Flow, veh/h	388	192	863
Cap Entry Lane, veh/h	1299	505	876
Entry HV Adj Factor	0.972	0.974	0.958
Flow Entry, veh/h	377	187	827
Cap Entry, veh/h	1263	492	839
V/C Ratio	0.299	0.380	0.986
Control Delay, s/veh	5.6	13.7	49.7
LOS	A	B	E
95th %tile Queue, veh	1	2	17

Intersection	
Intersection Delay, s/veh	
Intersection LOS	

Approach	NW
Entry Lanes	1
Conflicting Circle Lanes	1
Adj Approach Flow, veh/h	319
Demand Flow Rate, veh/h	326
Vehicles Circulating, veh/h	1057
Vehicles Exiting, veh/h	252
Ped Vol Crossing Leg, #/h	0
Ped Cap Adj	1.000
Approach Delay, s/veh	27.3
Approach LOS	D

Lane	Left
Designated Moves	LR
Assumed Moves	LR
RT Channelized	
Lane Util	1.000
Follow-Up Headway, s	2.609
Critical Headway, s	4.976
Entry Flow, veh/h	326
Cap Entry Lane, veh/h	470
Entry HV Adj Factor	0.979
Flow Entry, veh/h	319
Cap Entry, veh/h	459
V/C Ratio	0.694
Control Delay, s/veh	27.3
LOS	D
95th %tile Queue, veh	5

Cty Rd J Application

1	Main St/20th Ave		
	Existing Volume	1585	vehicles
	Existing Delay	15	sec/veh
	Existing Total Delay	23775	seconds
	Future Volume	1495	vehicles
	Future Delay	15	sec/veh
	Future Total Delay	22425	seconds
	Total Delay Reduction	1350	seconds

2	Main St/West Ramps		
	Existing Volume	1480	vehicles
	Existing Delay	14	sec/veh
	Existing Total Delay	20720	seconds
	Future Volume	1405	vehicles
	Future Delay	15	sec/veh
	Future Total Delay	21075	seconds
	Total Delay Reduction	-355	seconds

3	Main St/SB On Ramp		
	Existing Volume	1655	vehicles
	Existing Delay	0	sec/veh
	Existing Total Delay	0	seconds
	Future Volume	1650	vehicles
	Future Delay	0	sec/veh
	Future Total Delay	0	seconds
	Total Delay Reduction	0	seconds

4	Main St/East Ramps		
	Existing Volume	2470	vehicles
	Existing Delay	11	sec/veh
	Existing Total Delay	27170	seconds
	Future Volume	2520	vehicles
	Future Delay	10	sec/veh
	Future Total Delay	25200	seconds
	Total Delay Reduction	1970	seconds

5	Main St/Otter Lake Rd		
	Existing Volume	2520	vehicles
	Existing Delay	20	sec/veh
	Existing Total Delay	50400	seconds
	Future Volume	2500	vehicles
	Future Delay	17	sec/veh
	Future Total Delay	42500	seconds
	Total Delay Reduction	7900	seconds

6	CR J/Centerville Rd		
	Existing Volume	1703	vehicles
	Existing Delay	85	sec/veh
	Existing Total Delay	144755	seconds
	Future Volume	1830	vehicles
	Future Delay	10	sec/veh
	Future Total Delay	18300	seconds
	Total Delay Reduction	126455	seconds

7	CR J/West Ramps		
	Existing Volume	1410	vehicles
	Existing Delay	3	sec/veh
	Existing Total Delay	4230	seconds
	Future Volume	1635	vehicles
	Future Delay	13	sec/veh
	Future Total Delay	21255	seconds
	Total Delay Reduction	-17025	seconds

8	CR J/East Ramps		
	Existing Volume	1215	vehicles
	Existing Delay	36	sec/veh
	Existing Total Delay	43740	seconds
	Future Volume	1573	vehicles
	Future Delay	32	sec/veh
	Future Total Delay	50336	seconds
	Total Delay Reduction	-6596	seconds

CR J/Otter Lake Rd		
Existing Volume	957	vehicles
Existing Delay	13	sec/veh
Existing Total Delay	12441	seconds
Future Volume	0	vehicles
Future Delay	0	sec/veh
Future Total Delay	0	seconds
Total Delay Reduction	12441	seconds

Total Network Delay Reduction	**126140**	**seconds**

Emissions

Existing	1	2	3	4	5	6	7	8	9	Total
CO	1.85	1.65	0.4	2.17	2.85	4.56	1.14	2.05	1.28	17.95
NO	0.36	0.32	0.08	0.42	0.55	0.89	0.22	0.4	0.25	3.49
VOC	0.43	0.38	0.09	0.5	0.66	1.06	0.26	0.47	0.3	4.15
								Network Total		25.59

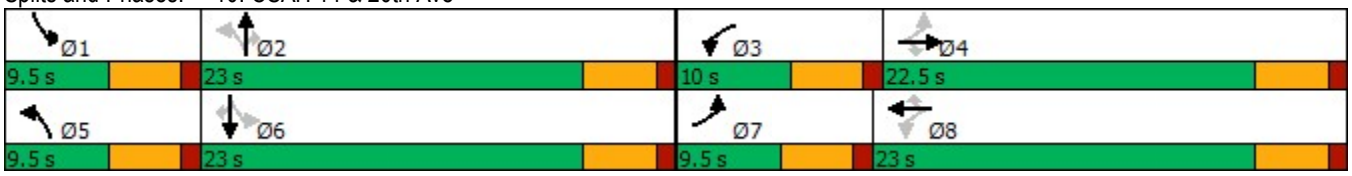
Build	1	2	3	4	5	6	7	8	9	Total
CO	1.76	1.56	0.41	2.23	2.76	2.69	1.86	1.68	0	14.95
NO	0.34	0.3	0.08	0.43	0.54	0.52	0.36	0.33	0	2.9
VOC	0.41	0.36	0.1	0.52	0.64	0.62	0.43	0.39	0	3.47
								Network Total		21.32

Reduction	**4.27**

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	35	370	20	140	460	90	55	110	200	60	30	15
Future Volume (vph)	35	370	20	140	460	90	55	110	200	60	30	15
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8		8	2		2	6		6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	22.5	22.5	9.5	22.5	22.5	9.5	22.5	22.5	9.5	22.5	22.5
Total Split (s)	9.5	22.5	22.5	10.0	23.0	23.0	9.5	23.0	23.0	9.5	23.0	23.0
Total Split (%)	14.6%	34.6%	34.6%	15.4%	35.4%	35.4%	14.6%	35.4%	35.4%	14.6%	35.4%	35.4%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	None	None	None	Max	Max
Act Effct Green (s)	16.4	12.6	12.6	18.8	16.9	16.9	22.1	19.5	19.5	22.1	19.5	19.5
Actuated g/C Ratio	0.30	0.23	0.23	0.35	0.31	0.31	0.41	0.36	0.36	0.41	0.36	0.36
v/c Ratio	0.11	0.49	0.04	0.41	0.45	0.16	0.10	0.09	0.31	0.06	0.05	0.02
Control Delay	12.0	21.1	0.1	15.7	17.7	1.1	10.8	15.8	4.6	10.3	16.4	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	12.0	21.1	0.1	15.7	17.7	1.1	10.8	15.8	4.6	10.3	16.4	0.1
LOS	B	C	A	B	B	A	B	B	A	B	B	A
Approach Delay		19.4			15.1			8.9			10.6	
Approach LOS		B			B			A			B	

Intersection Summary	
Cycle Length: 65	
Actuated Cycle Length: 54	
Natural Cycle: 65	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.49	
Intersection Signal Delay: 14.5	Intersection LOS: B
Intersection Capacity Utilization 38.9%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 10: CSAH 14 & 20th Ave



Lane Group	EBT	WBL	WBT	NBL	NBR	SBL	SBT	SBR
Lane Configurations								
Traffic Volume (vph)	555	20	605	20	50	145	5	80
Future Volume (vph)	555	20	605	20	50	145	5	80
Turn Type	NA	Perm	NA	Prot	Perm	pm+pt	NA	Perm
Protected Phases	4		8	5		1	6	
Permitted Phases		8			2	6		6
Detector Phase	4	8	8	5	2	1	6	6
Switch Phase								
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5	22.5	22.5	9.5	22.5	9.5	22.5	22.5
Total Split (s)	22.5	22.5	22.5	9.5	22.5	10.0	23.0	23.0
Total Split (%)	40.9%	40.9%	40.9%	17.3%	40.9%	18.2%	41.8%	41.8%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag				Lead	Lag	Lead	Lag	Lag
Lead-Lag Optimize?				Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	Max	None	Max	Max
Act Effct Green (s)	14.7	14.7	14.7	5.1	18.6	25.4	24.4	24.4
Actuated g/C Ratio	0.29	0.29	0.29	0.10	0.37	0.51	0.49	0.49
v/c Ratio	0.32	0.10	0.63	0.12	0.08	0.18	0.01	0.10
Control Delay	14.4	14.4	18.6	24.6	0.7	7.6	10.0	2.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	14.4	14.4	18.6	24.6	0.7	7.6	10.0	2.2
LOS	B	B	B	C	A	A	A	A
Approach Delay	14.4		18.5				5.8	
Approach LOS	B		B				A	

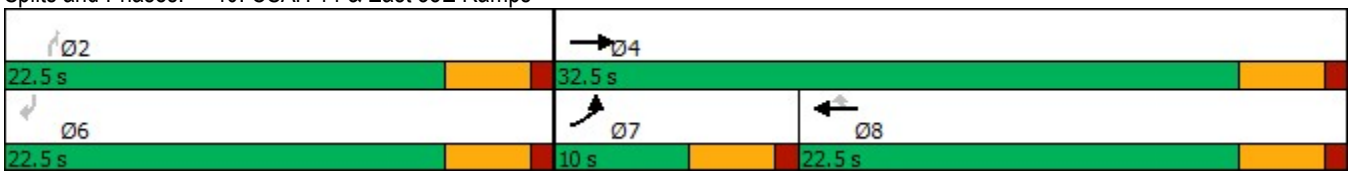
Intersection Summary	
Cycle Length: 55	
Actuated Cycle Length: 50	
Natural Cycle: 55	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.63	
Intersection Signal Delay: 14.5	Intersection LOS: B
Intersection Capacity Utilization 36.3%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 20: CSAH 14 & West 35E Ramps

Lane Group	EBL	EBT	WBT	WBR	NBR	SBR
Lane Configurations						
Traffic Volume (vph)	115	565	565	250	685	290
Future Volume (vph)	115	565	565	250	685	290
Turn Type	Prot	NA	NA	Perm	Perm	Perm
Protected Phases	7	4	8			
Permitted Phases				8	2	6
Detector Phase	7	4	8	8	2	6
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	22.5	22.5	22.5	22.5	22.5
Total Split (s)	10.0	32.5	22.5	22.5	22.5	22.5
Total Split (%)	18.2%	59.1%	40.9%	40.9%	40.9%	40.9%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag	Lead		Lag	Lag		
Lead-Lag Optimize?	Yes		Yes	Yes		
Recall Mode	None	None	None	None	Max	Max
Act Effct Green (s)	5.6	20.9	13.3	13.3	18.4	18.4
Actuated g/C Ratio	0.12	0.43	0.27	0.27	0.38	0.38
v/c Ratio	0.61	0.40	0.44	0.43	0.57	0.22
Control Delay	39.6	9.8	15.8	4.7	8.4	0.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	39.6	9.8	15.8	4.7	8.4	0.4
LOS	D	A	B	A	A	A
Approach Delay		14.8	12.4			
Approach LOS		B	B			

Intersection Summary	
Cycle Length: 55	
Actuated Cycle Length: 48.5	
Natural Cycle: 55	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.61	
Intersection Signal Delay: 10.5	Intersection LOS: B
Intersection Capacity Utilization 47.1%	ICU Level of Service A
Analysis Period (min) 15	

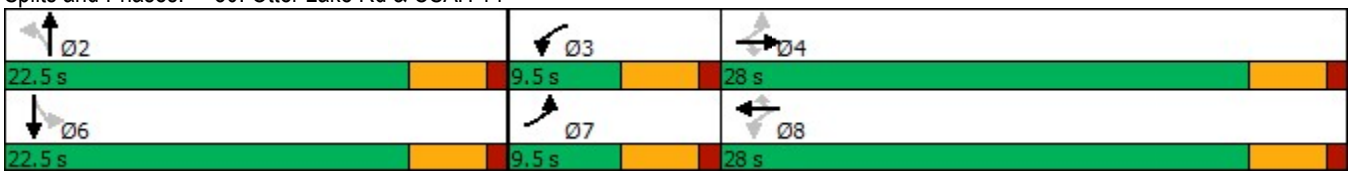
Splits and Phases: 40: CSAH 14 & East 35E Ramps



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	30	1245	70	55	765	20	95	10	20	10
Future Volume (vph)	30	1245	70	55	765	20	95	10	20	10
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	Perm	NA	Perm	NA
Protected Phases	7	4		3	8			2		6
Permitted Phases	4		4	8		8	2		6	
Detector Phase	7	4	4	3	8	8	2	2	6	6
Switch Phase										
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	22.5	22.5	9.5	22.5	22.5	22.5	22.5	22.5	22.5
Total Split (s)	9.5	28.0	28.0	9.5	28.0	28.0	22.5	22.5	22.5	22.5
Total Split (%)	15.8%	46.7%	46.7%	15.8%	46.7%	46.7%	37.5%	37.5%	37.5%	37.5%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag				
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes				
Recall Mode	None	None	None	None	None	None	Max	Max	Max	Max
Act Effct Green (s)	26.5	23.7	23.7	27.3	25.4	25.4	18.1	18.1	18.1	18.1
Actuated g/C Ratio	0.47	0.42	0.42	0.49	0.45	0.45	0.32	0.32	0.32	0.32
v/c Ratio	0.10	0.91	0.10	0.22	0.52	0.03	0.24	0.31	0.06	0.08
Control Delay	7.1	28.1	1.9	8.6	13.3	0.1	17.3	5.1	15.7	8.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	7.1	28.1	1.9	8.6	13.3	0.1	17.3	5.1	15.7	8.3
LOS	A	C	A	A	B	A	B	A	B	A
Approach Delay		26.3			12.7			9.3		10.7
Approach LOS		C			B			A		B

Intersection Summary	
Cycle Length: 60	
Actuated Cycle Length: 56.2	
Natural Cycle: 65	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.91	
Intersection Signal Delay: 19.5	Intersection LOS: B
Intersection Capacity Utilization 66.5%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 50: Otter Lake Rd & CSAH 14



10: CSAH 14 & 20th Ave

Direction	All
Future Volume (vph)	1585
Total Delay / Veh (s/v)	15
CO Emissions (kg)	1.85
NOx Emissions (kg)	0.36
VOC Emissions (kg)	0.43

20: CSAH 14 & West 35E Ramps

Direction	All
Future Volume (vph)	1480
Total Delay / Veh (s/v)	14
CO Emissions (kg)	1.65
NOx Emissions (kg)	0.32
VOC Emissions (kg)	0.38

30: SB On Ramp & CSAH 14

Direction	All
Future Volume (vph)	1655
Total Delay / Veh (s/v)	0
CO Emissions (kg)	0.40
NOx Emissions (kg)	0.08
VOC Emissions (kg)	0.09

40: CSAH 14 & East 35E Ramps

Direction	All
Future Volume (vph)	2470
Total Delay / Veh (s/v)	11
CO Emissions (kg)	2.17
NOx Emissions (kg)	0.42
VOC Emissions (kg)	0.50

50: Otter Lake Rd & CSAH 14

Direction	All
Future Volume (vph)	2520
Total Delay / Veh (s/v)	20
CO Emissions (kg)	2.85
NOx Emissions (kg)	0.55
VOC Emissions (kg)	0.66

100: Centerville Rd & Wilkinson Lake Blvd/CR J

Direction	All
Future Volume (vph)	1703
Total Delay / Veh (s/v)	85
CO Emissions (kg)	4.56
NOx Emissions (kg)	0.89
VOC Emissions (kg)	1.06

200: SB I-35E/CSAH 54 & CR J

Direction	All
Future Volume (vph)	1410
Total Delay / Veh (s/v)	3
CO Emissions (kg)	1.14
NOx Emissions (kg)	0.22
VOC Emissions (kg)	0.26

300: NB I-35E & CR J

Direction	All
Future Volume (vph)	1215
Total Delay / Veh (s/v)	36
CO Emissions (kg)	2.05
NOx Emissions (kg)	0.40
VOC Emissions (kg)	0.47

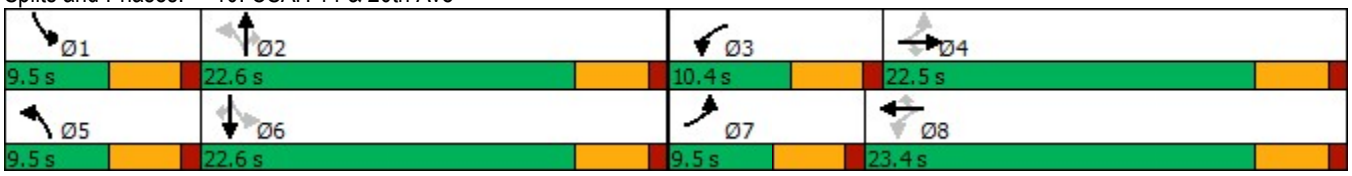
400: Otter Lake Rd & CR J

Direction	All
Future Volume (vph)	957
Total Delay / Veh (s/v)	13
CO Emissions (kg)	1.28
NOx Emissions (kg)	0.25
VOC Emissions (kg)	0.30

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	35	370	15	110	455	80	55	110	170	60	20	15
Future Volume (vph)	35	370	15	110	455	80	55	110	170	60	20	15
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8		8	2		2	6		6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	22.5	22.5	9.5	22.5	22.5	9.5	22.5	22.5	9.5	22.5	22.5
Total Split (s)	9.5	22.5	22.5	10.4	23.4	23.4	9.5	22.6	22.6	9.5	22.6	22.6
Total Split (%)	14.6%	34.6%	34.6%	16.0%	36.0%	36.0%	14.6%	34.8%	34.8%	14.6%	34.8%	34.8%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	None	None	None	Max	Max
Act Effct Green (s)	16.1	12.3	12.3	18.9	16.9	16.9	21.7	19.1	19.1	21.7	19.1	19.1
Actuated g/C Ratio	0.30	0.23	0.23	0.35	0.32	0.32	0.40	0.36	0.36	0.40	0.36	0.36
v/c Ratio	0.11	0.49	0.03	0.32	0.44	0.14	0.10	0.10	0.27	0.06	0.03	0.02
Control Delay	11.9	21.3	0.1	13.8	17.5	0.5	10.9	15.9	4.7	10.3	16.6	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	11.9	21.3	0.1	13.8	17.5	0.5	10.9	15.9	4.7	10.3	16.6	0.1
LOS	B	C	A	B	B	A	B	B	A	B	B	A
Approach Delay		19.8			14.7			9.4			10.1	
Approach LOS		B			B			A			B	

Intersection Summary	
Cycle Length: 65	
Actuated Cycle Length: 53.6	
Natural Cycle: 65	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.49	
Intersection Signal Delay: 14.7	Intersection LOS: B
Intersection Capacity Utilization 37.7%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 10: CSAH 14 & 20th Ave



Lane Group	EBT	WBL	WBT	NBL	NBR	SBL	SBR
Lane Configurations							
Traffic Volume (vph)	525	20	590	20	50	145	5	50
Future Volume (vph)	525	20	590	20	50	145	5	50
Turn Type	NA	Perm	NA	Prot	Perm	pm+pt	NA	Perm
Protected Phases	4		8	5		1	6	
Permitted Phases		8			2	6		6
Detector Phase	4	8	8	5	2	1	6	6
Switch Phase								
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5	22.5	22.5	9.5	22.5	9.5	22.5	22.5
Total Split (s)	22.5	22.5	22.5	9.5	22.5	10.0	23.0	23.0
Total Split (%)	40.9%	40.9%	40.9%	17.3%	40.9%	18.2%	41.8%	41.8%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag				Lead	Lag	Lead	Lag	Lag
Lead-Lag Optimize?				Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	Max	None	Max	Max
Act Effct Green (s)	14.5	14.5	14.5	5.1	18.6	25.3	24.3	24.3
Actuated g/C Ratio	0.29	0.29	0.29	0.10	0.37	0.51	0.49	0.49
v/c Ratio	0.31	0.10	0.62	0.12	0.08	0.18	0.01	0.06
Control Delay	14.3	14.3	18.5	24.5	0.7	7.6	10.0	0.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	14.3	14.3	18.5	24.5	0.7	7.6	10.0	0.6
LOS	B	B	B	C	A	A	A	A
Approach Delay	14.3		18.3				5.9	
Approach LOS	B		B				A	

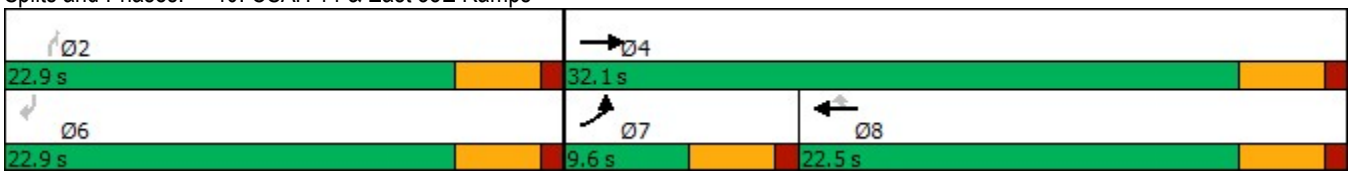
Intersection Summary	
Cycle Length: 55	
Actuated Cycle Length: 49.8	
Natural Cycle: 55	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.62	
Intersection Signal Delay: 14.5	Intersection LOS: B
Intersection Capacity Utilization 35.9%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 20: CSAH 14 & West 35E Ramps

Lane Group	EBL	EBT	WBT	WBR	NBR	SBR
Lane Configurations						
Traffic Volume (vph)	85	565	590	245	745	290
Future Volume (vph)	85	565	590	245	745	290
Turn Type	Prot	NA	NA	Perm	Perm	Perm
Protected Phases	7	4	8			
Permitted Phases				8	2	6
Detector Phase	7	4	8	8	2	6
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	22.5	22.5	22.5	22.5	22.5
Total Split (s)	9.6	32.1	22.5	22.5	22.9	22.9
Total Split (%)	17.5%	58.4%	40.9%	40.9%	41.6%	41.6%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag	Lead		Lag	Lag		
Lead-Lag Optimize?	Yes		Yes	Yes		
Recall Mode	None	None	None	None	Max	Max
Act Effct Green (s)	5.2	20.9	13.7	13.7	18.8	18.8
Actuated g/C Ratio	0.11	0.43	0.28	0.28	0.38	0.38
v/c Ratio	0.49	0.41	0.45	0.42	0.62	0.23
Control Delay	34.3	10.0	15.8	4.6	9.6	0.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	34.3	10.0	15.8	4.6	9.6	0.4
LOS	C	A	B	A	A	A
Approach Delay		13.2	12.5			
Approach LOS		B	B			

Intersection Summary	
Cycle Length: 55	
Actuated Cycle Length: 48.9	
Natural Cycle: 55	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.62	
Intersection Signal Delay: 10.4	Intersection LOS: B
Intersection Capacity Utilization 49.2%	ICU Level of Service A
Analysis Period (min) 15	

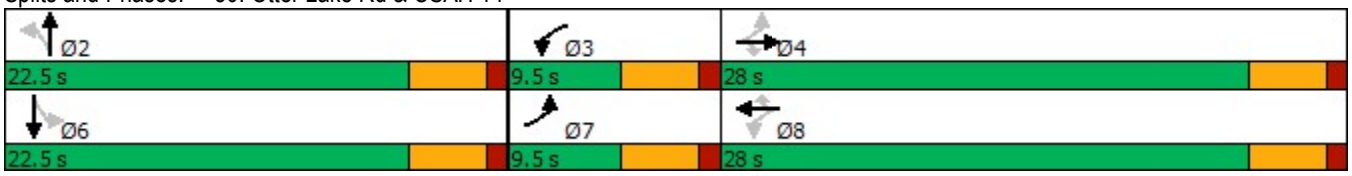
Splits and Phases: 40: CSAH 14 & East 35E Ramps



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	30	1305	70	15	805	20	75	10	20	10
Future Volume (vph)	30	1305	70	15	805	20	75	10	20	10
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	Perm	NA	Perm	NA
Protected Phases	7	4		3	8			2		6
Permitted Phases	4		4	8		8	2		6	
Detector Phase	7	4	4	3	8	8	2	2	6	6
Switch Phase										
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	22.5	22.5	9.5	22.5	22.5	22.5	22.5	22.5	22.5
Total Split (s)	9.5	28.0	28.0	9.5	28.0	28.0	22.5	22.5	22.5	22.5
Total Split (%)	15.8%	46.7%	46.7%	15.8%	46.7%	46.7%	37.5%	37.5%	37.5%	37.5%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag				
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes				
Recall Mode	None	None	None	None	None	None	Max	Max	Max	Max
Act Effct Green (s)	26.3	25.4	25.4	25.5	23.7	23.7	18.1	18.1	18.1	18.1
Actuated g/C Ratio	0.48	0.47	0.47	0.47	0.44	0.44	0.33	0.33	0.33	0.33
v/c Ratio	0.10	0.86	0.10	0.06	0.57	0.03	0.18	0.21	0.05	0.08
Control Delay	7.3	21.3	1.9	6.9	14.1	0.1	15.8	5.5	14.8	8.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	7.3	21.3	1.9	6.9	14.1	0.1	15.8	5.5	14.8	8.1
LOS	A	C	A	A	B	A	B	A	B	A
Approach Delay		20.0			13.6			9.4		10.3
Approach LOS		C			B			A		B

Intersection Summary	
Cycle Length: 60	
Actuated Cycle Length: 54.3	
Natural Cycle: 65	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.86	
Intersection Signal Delay: 16.8	Intersection LOS: B
Intersection Capacity Utilization 54.4%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 50: Otter Lake Rd & CSAH 14



10: CSAH 14 & 20th Ave

Direction	All
Future Volume (vph)	1495
Total Delay / Veh (s/v)	15
CO Emissions (kg)	1.76
NOx Emissions (kg)	0.34
VOC Emissions (kg)	0.41

20: CSAH 14 & West 35E Ramps

Direction	All
Future Volume (vph)	1405
Total Delay / Veh (s/v)	15
CO Emissions (kg)	1.56
NOx Emissions (kg)	0.30
VOC Emissions (kg)	0.36

30: SB On Ramp & CSAH 14

Direction	All
Future Volume (vph)	1650
Total Delay / Veh (s/v)	0
CO Emissions (kg)	0.41
NOx Emissions (kg)	0.08
VOC Emissions (kg)	0.10

40: CSAH 14 & East 35E Ramps

Direction	All
Future Volume (vph)	2520
Total Delay / Veh (s/v)	10
CO Emissions (kg)	2.23
NOx Emissions (kg)	0.43
VOC Emissions (kg)	0.52

50: Otter Lake Rd & CSAH 14

Direction	All
Future Volume (vph)	2501
Total Delay / Veh (s/v)	17
CO Emissions (kg)	2.76
NOx Emissions (kg)	0.54
VOC Emissions (kg)	0.64

100: Centerville Rd & Wilkinson Lake Blvd/CR J

Direction	All
Future Volume (vph)	1830
Total Delay / Veh (s/v)	0
CO Emissions (kg)	2.69
NOx Emissions (kg)	0.52
VOC Emissions (kg)	0.62

200: SB I-35E Ramps & CR J & CSAH 54

Direction	All
Future Volume (vph)	1635
Total Delay / Veh (s/v)	0
CO Emissions (kg)	1.86
NOx Emissions (kg)	0.36
VOC Emissions (kg)	0.43

300: NB I-35E Ramps & CSAH 60 & CR J/CSAH 84

Direction	All
Future Volume (vph)	1573
Total Delay / Veh (s/v)	0
CO Emissions (kg)	1.68
NOx Emissions (kg)	0.33
VOC Emissions (kg)	0.39

Intersection	
Intersection Delay, s/veh	10.4
Intersection LOS	B

Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	42	648	569	730
Demand Flow Rate, veh/h	43	668	592	754
Vehicles Circulating, veh/h	822	349	575	94
Vehicles Exiting, veh/h	17	565	289	345
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	6.9	11.2	10.0	10.1
Approach LOS	A	B	A	B

Lane	Left	Left	Bypass	Left	Bypass	Left	Bypass
Designated Moves	LTR	LT	R	LT	R	LT	R
Assumed Moves	LTR	LT	R	LT	R	LT	R
RT Channelized			Yield		Yield		Yield
Lane Util	1.000	1.000		1.000		1.000	
Follow-Up Headway, s	2.609	2.609		2.609		2.609	
Critical Headway, s	4.976	4.976	578	4.976	253	4.976	9
Entry Flow, veh/h	43	90	971	339	775	745	1356
Cap Entry Lane, veh/h	597	967	0.971	768	0.962	1254	0.971
Entry HV Adj Factor	0.988	0.964	561	0.962	243	0.968	9
Flow Entry, veh/h	42	87	942	326	746	721	1317
Cap Entry, veh/h	590	932	0.595	738	0.326	1214	0.007
V/C Ratio	0.072	0.093	12.3	0.442	8.8	0.594	2.8
Control Delay, s/veh	6.9	4.7	B	10.9	A	10.2	A
LOS	A	A	4	B	1	B	0
95th %tile Queue, veh	0	0		2		4	

Intersection	
Intersection Delay, s/veh	12.5
Intersection LOS	B

Approach	EB	WB	NB	SB
Entry Lanes	1	1	0	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	731	862	0	64
Demand Flow Rate, veh/h	756	900	0	68
Vehicles Circulating, veh/h	173	79	479	851
Vehicles Exiting, veh/h	746	400	450	172
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	12.3	13.3	0.0	8.0
Approach LOS	B	B	-	A

Lane	Left	Left	Left
Designated Moves	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR
RT Channelized			
Lane Util	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976
Entry Flow, veh/h	756	900	68
Cap Entry Lane, veh/h	1157	1273	579
Entry HV Adj Factor	0.967	0.958	0.946
Flow Entry, veh/h	731	862	64
Cap Entry, veh/h	1119	1219	548
V/C Ratio	0.654	0.707	0.117
Control Delay, s/veh	12.3	13.3	8.0
LOS	B	B	A
95th %tile Queue, veh	5	6	0

Intersection	
Intersection Delay, s/veh	
Intersection LOS	

Approach	SW
Entry Lanes	1
Conflicting Circle Lanes	1
Adj Approach Flow, veh/h	120
Demand Flow Rate, veh/h	123
Vehicles Circulating, veh/h	900
Vehicles Exiting, veh/h	79
Ped Vol Crossing Leg, #/h	0
Ped Cap Adj	1.000
Approach Delay, s/veh	9.7
Approach LOS	A

Lane	Left
Designated Moves	LR
Assumed Moves	LR
RT Channelized	
Lane Util	1.000
Follow-Up Headway, s	2.609
Critical Headway, s	4.976
Entry Flow, veh/h	123
Cap Entry Lane, veh/h	551
Entry HV Adj Factor	0.978
Flow Entry, veh/h	120
Cap Entry, veh/h	539
V/C Ratio	0.223
Control Delay, s/veh	9.7
LOS	A
95th %tile Queue, veh	1

Intersection	
Intersection Delay, s/veh	31.8
Intersection LOS	D

Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	0
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	377	187	827	0
Demand Flow Rate, veh/h	388	192	863	0
Vehicles Circulating, veh/h	59	986	446	1012
Vehicles Exiting, veh/h	953	397	0	166
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	5.6	13.7	49.7	0.0
Approach LOS	A	B	E	-

Lane	Left	Left	Left
Designated Moves	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR
RT Channelized			
Lane Util	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976
Entry Flow, veh/h	388	192	863
Cap Entry Lane, veh/h	1299	505	876
Entry HV Adj Factor	0.972	0.974	0.958
Flow Entry, veh/h	377	187	827
Cap Entry, veh/h	1263	492	839
V/C Ratio	0.299	0.380	0.986
Control Delay, s/veh	5.6	13.7	49.7
LOS	A	B	E
95th %tile Queue, veh	1	2	17

Intersection	
Intersection Delay, s/veh	
Intersection LOS	

Approach	NW
Entry Lanes	1
Conflicting Circle Lanes	1
Adj Approach Flow, veh/h	319
Demand Flow Rate, veh/h	326
Vehicles Circulating, veh/h	1057
Vehicles Exiting, veh/h	252
Ped Vol Crossing Leg, #/h	0
Ped Cap Adj	1.000
Approach Delay, s/veh	27.3
Approach LOS	D

Lane	Left
Designated Moves	LR
Assumed Moves	LR
RT Channelized	
Lane Util	1.000
Follow-Up Headway, s	2.609
Critical Headway, s	4.976
Entry Flow, veh/h	326
Cap Entry Lane, veh/h	470
Entry HV Adj Factor	0.979
Flow Entry, veh/h	319
Cap Entry, veh/h	459
V/C Ratio	0.694
Control Delay, s/veh	27.3
LOS	D
95th %tile Queue, veh	5

Cty Rd J Application

1	Main St/20th Ave		
	Existing Volume	1585	vehicles
	Existing Delay	15	sec/veh
	Existing Total Delay	23775	seconds
	Future Volume	1495	vehicles
	Future Delay	15	sec/veh
	Future Total Delay	22425	seconds
	Total Delay Reduction	1350	seconds

2	Main St/West Ramps		
	Existing Volume	1480	vehicles
	Existing Delay	14	sec/veh
	Existing Total Delay	20720	seconds
	Future Volume	1405	vehicles
	Future Delay	15	sec/veh
	Future Total Delay	21075	seconds
	Total Delay Reduction	-355	seconds

3	Main St/SB On Ramp		
	Existing Volume	1655	vehicles
	Existing Delay	0	sec/veh
	Existing Total Delay	0	seconds
	Future Volume	1650	vehicles
	Future Delay	0	sec/veh
	Future Total Delay	0	seconds
	Total Delay Reduction	0	seconds

4	Main St/East Ramps		
	Existing Volume	2470	vehicles
	Existing Delay	11	sec/veh
	Existing Total Delay	27170	seconds
	Future Volume	2520	vehicles
	Future Delay	10	sec/veh
	Future Total Delay	25200	seconds
	Total Delay Reduction	1970	seconds

5	Main St/Otter Lake Rd		
	Existing Volume	2520	vehicles
	Existing Delay	20	sec/veh
	Existing Total Delay	50400	seconds
	Future Volume	2500	vehicles
	Future Delay	17	sec/veh
	Future Total Delay	42500	seconds
	Total Delay Reduction	7900	seconds

6	CR J/Centerville Rd		
	Existing Volume	1703	vehicles
	Existing Delay	85	sec/veh
	Existing Total Delay	144755	seconds
	Future Volume	1830	vehicles
	Future Delay	10	sec/veh
	Future Total Delay	18300	seconds
	Total Delay Reduction	126455	seconds

7	CR J/West Ramps		
	Existing Volume	1410	vehicles
	Existing Delay	3	sec/veh
	Existing Total Delay	4230	seconds
	Future Volume	1635	vehicles
	Future Delay	13	sec/veh
	Future Total Delay	21255	seconds
	Total Delay Reduction	-17025	seconds

8	CR J/East Ramps		
	Existing Volume	1215	vehicles
	Existing Delay	36	sec/veh
	Existing Total Delay	43740	seconds
	Future Volume	1573	vehicles
	Future Delay	32	sec/veh
	Future Total Delay	50336	seconds
	Total Delay Reduction	-6596	seconds

CR J/Otter Lake Rd		
Existing Volume	957	vehicles
Existing Delay	13	sec/veh
Existing Total Delay	12441	seconds
Future Volume	0	vehicles
Future Delay	0	sec/veh
Future Total Delay	0	seconds
Total Delay Reduction	12441	seconds

Total Network Delay Reduction	**126140**	**seconds**

Emissions

Existing	1	2	3	4	5	6	7	8	9	Total
CO	1.85	1.65	0.4	2.17	2.85	4.56	1.14	2.05	1.28	17.95
NO	0.36	0.32	0.08	0.42	0.55	0.89	0.22	0.4	0.25	3.49
VOC	0.43	0.38	0.09	0.5	0.66	1.06	0.26	0.47	0.3	4.15
								Network Total		25.59

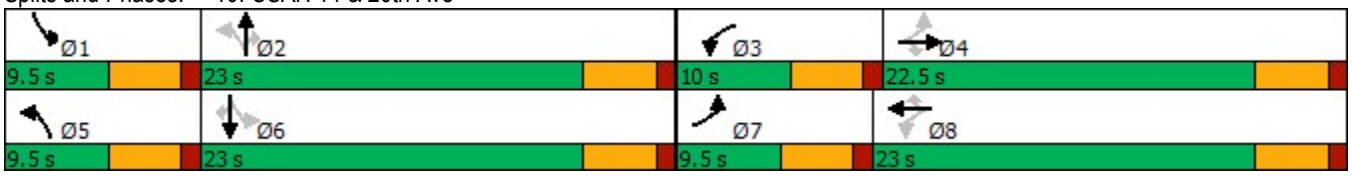
Build	1	2	3	4	5	6	7	8	9	Total
CO	1.76	1.56	0.41	2.23	2.76	2.69	1.86	1.68	0	14.95
NO	0.34	0.3	0.08	0.43	0.54	0.52	0.36	0.33	0	2.9
VOC	0.41	0.36	0.1	0.52	0.64	0.62	0.43	0.39	0	3.47
								Network Total		21.32

Reduction	**4.27**

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	35	370	20	140	460	90	55	110	200	60	30	15
Future Volume (vph)	35	370	20	140	460	90	55	110	200	60	30	15
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8		8	2		2	6		6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	22.5	22.5	9.5	22.5	22.5	9.5	22.5	22.5	9.5	22.5	22.5
Total Split (s)	9.5	22.5	22.5	10.0	23.0	23.0	9.5	23.0	23.0	9.5	23.0	23.0
Total Split (%)	14.6%	34.6%	34.6%	15.4%	35.4%	35.4%	14.6%	35.4%	35.4%	14.6%	35.4%	35.4%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	None	None	None	Max	Max
Act Effct Green (s)	16.4	12.6	12.6	18.8	16.9	16.9	22.1	19.5	19.5	22.1	19.5	19.5
Actuated g/C Ratio	0.30	0.23	0.23	0.35	0.31	0.31	0.41	0.36	0.36	0.41	0.36	0.36
v/c Ratio	0.11	0.49	0.04	0.41	0.45	0.16	0.10	0.09	0.31	0.06	0.05	0.02
Control Delay	12.0	21.1	0.1	15.7	17.7	1.1	10.8	15.8	4.6	10.3	16.4	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	12.0	21.1	0.1	15.7	17.7	1.1	10.8	15.8	4.6	10.3	16.4	0.1
LOS	B	C	A	B	B	A	B	B	A	B	B	A
Approach Delay		19.4			15.1			8.9			10.6	
Approach LOS		B			B			A			B	

Intersection Summary	
Cycle Length: 65	
Actuated Cycle Length: 54	
Natural Cycle: 65	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.49	
Intersection Signal Delay: 14.5	Intersection LOS: B
Intersection Capacity Utilization 38.9%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 10: CSAH 14 & 20th Ave



Lane Group	EBT	WBL	WBT	NBL	NBR	SBL	SBT	SBR
Lane Configurations								
Traffic Volume (vph)	555	20	605	20	50	145	5	80
Future Volume (vph)	555	20	605	20	50	145	5	80
Turn Type	NA	Perm	NA	Prot	Perm	pm+pt	NA	Perm
Protected Phases	4		8	5		1	6	
Permitted Phases		8			2	6		6
Detector Phase	4	8	8	5	2	1	6	6
Switch Phase								
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5	22.5	22.5	9.5	22.5	9.5	22.5	22.5
Total Split (s)	22.5	22.5	22.5	9.5	22.5	10.0	23.0	23.0
Total Split (%)	40.9%	40.9%	40.9%	17.3%	40.9%	18.2%	41.8%	41.8%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag				Lead	Lag	Lead	Lag	Lag
Lead-Lag Optimize?				Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	Max	None	Max	Max
Act Effct Green (s)	14.7	14.7	14.7	5.1	18.6	25.4	24.4	24.4
Actuated g/C Ratio	0.29	0.29	0.29	0.10	0.37	0.51	0.49	0.49
v/c Ratio	0.32	0.10	0.63	0.12	0.08	0.18	0.01	0.10
Control Delay	14.4	14.4	18.6	24.6	0.7	7.6	10.0	2.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	14.4	14.4	18.6	24.6	0.7	7.6	10.0	2.2
LOS	B	B	B	C	A	A	A	A
Approach Delay	14.4		18.5				5.8	
Approach LOS	B		B				A	

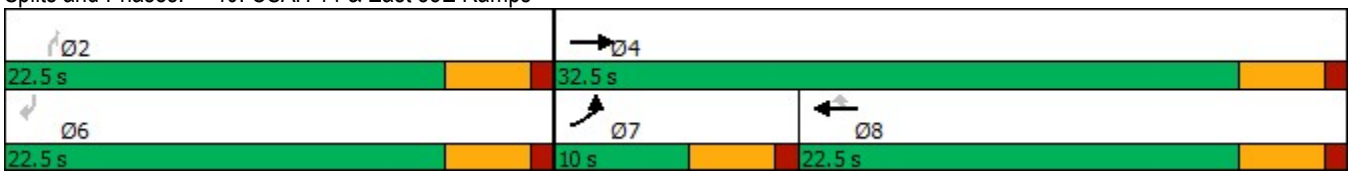
Intersection Summary	
Cycle Length: 55	
Actuated Cycle Length: 50	
Natural Cycle: 55	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.63	
Intersection Signal Delay: 14.5	Intersection LOS: B
Intersection Capacity Utilization 36.3%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 20: CSAH 14 & West 35E Ramps

Lane Group	EBL	EBT	WBT	WBR	NBR	SBR
Lane Configurations						
Traffic Volume (vph)	115	565	565	250	685	290
Future Volume (vph)	115	565	565	250	685	290
Turn Type	Prot	NA	NA	Perm	Perm	Perm
Protected Phases	7	4	8			
Permitted Phases				8	2	6
Detector Phase	7	4	8	8	2	6
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	22.5	22.5	22.5	22.5	22.5
Total Split (s)	10.0	32.5	22.5	22.5	22.5	22.5
Total Split (%)	18.2%	59.1%	40.9%	40.9%	40.9%	40.9%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag	Lead		Lag	Lag		
Lead-Lag Optimize?	Yes		Yes	Yes		
Recall Mode	None	None	None	None	Max	Max
Act Effct Green (s)	5.6	20.9	13.3	13.3	18.4	18.4
Actuated g/C Ratio	0.12	0.43	0.27	0.27	0.38	0.38
v/c Ratio	0.61	0.40	0.44	0.43	0.57	0.22
Control Delay	39.6	9.8	15.8	4.7	8.4	0.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	39.6	9.8	15.8	4.7	8.4	0.4
LOS	D	A	B	A	A	A
Approach Delay		14.8	12.4			
Approach LOS		B	B			

Intersection Summary	
Cycle Length: 55	
Actuated Cycle Length: 48.5	
Natural Cycle: 55	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.61	
Intersection Signal Delay: 10.5	Intersection LOS: B
Intersection Capacity Utilization 47.1%	ICU Level of Service A
Analysis Period (min) 15	

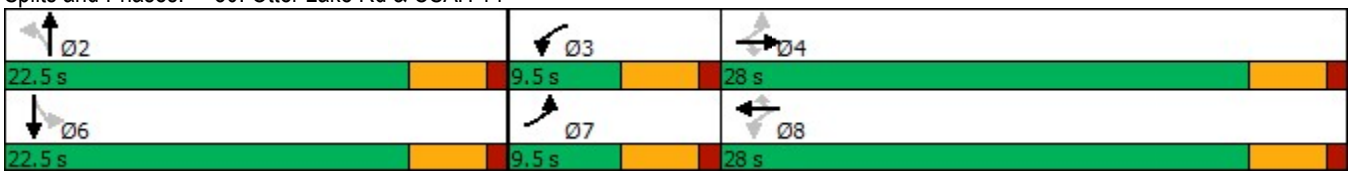
Splits and Phases: 40: CSAH 14 & East 35E Ramps



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	30	1245	70	55	765	20	95	10	20	10
Future Volume (vph)	30	1245	70	55	765	20	95	10	20	10
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	Perm	NA	Perm	NA
Protected Phases	7	4		3	8			2		6
Permitted Phases	4		4	8		8	2		6	
Detector Phase	7	4	4	3	8	8	2	2	6	6
Switch Phase										
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	22.5	22.5	9.5	22.5	22.5	22.5	22.5	22.5	22.5
Total Split (s)	9.5	28.0	28.0	9.5	28.0	28.0	22.5	22.5	22.5	22.5
Total Split (%)	15.8%	46.7%	46.7%	15.8%	46.7%	46.7%	37.5%	37.5%	37.5%	37.5%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag				
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes				
Recall Mode	None	None	None	None	None	None	Max	Max	Max	Max
Act Effct Green (s)	26.5	23.7	23.7	27.3	25.4	25.4	18.1	18.1	18.1	18.1
Actuated g/C Ratio	0.47	0.42	0.42	0.49	0.45	0.45	0.32	0.32	0.32	0.32
v/c Ratio	0.10	0.91	0.10	0.22	0.52	0.03	0.24	0.31	0.06	0.08
Control Delay	7.1	28.1	1.9	8.6	13.3	0.1	17.3	5.1	15.7	8.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	7.1	28.1	1.9	8.6	13.3	0.1	17.3	5.1	15.7	8.3
LOS	A	C	A	A	B	A	B	A	B	A
Approach Delay		26.3			12.7			9.3		10.7
Approach LOS		C			B			A		B

Intersection Summary	
Cycle Length: 60	
Actuated Cycle Length: 56.2	
Natural Cycle: 65	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.91	
Intersection Signal Delay: 19.5	Intersection LOS: B
Intersection Capacity Utilization 66.5%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 50: Otter Lake Rd & CSAH 14



10: CSAH 14 & 20th Ave

Direction	All
Future Volume (vph)	1585
Total Delay / Veh (s/v)	15
CO Emissions (kg)	1.85
NOx Emissions (kg)	0.36
VOC Emissions (kg)	0.43

20: CSAH 14 & West 35E Ramps

Direction	All
Future Volume (vph)	1480
Total Delay / Veh (s/v)	14
CO Emissions (kg)	1.65
NOx Emissions (kg)	0.32
VOC Emissions (kg)	0.38

30: SB On Ramp & CSAH 14

Direction	All
Future Volume (vph)	1655
Total Delay / Veh (s/v)	0
CO Emissions (kg)	0.40
NOx Emissions (kg)	0.08
VOC Emissions (kg)	0.09

40: CSAH 14 & East 35E Ramps

Direction	All
Future Volume (vph)	2470
Total Delay / Veh (s/v)	11
CO Emissions (kg)	2.17
NOx Emissions (kg)	0.42
VOC Emissions (kg)	0.50

50: Otter Lake Rd & CSAH 14

Direction	All
Future Volume (vph)	2520
Total Delay / Veh (s/v)	20
CO Emissions (kg)	2.85
NOx Emissions (kg)	0.55
VOC Emissions (kg)	0.66

100: Centerville Rd & Wilkinson Lake Blvd/CR J

Direction	All
Future Volume (vph)	1703
Total Delay / Veh (s/v)	85
CO Emissions (kg)	4.56
NOx Emissions (kg)	0.89
VOC Emissions (kg)	1.06

200: SB I-35E/CSAH 54 & CR J

Direction	All
Future Volume (vph)	1410
Total Delay / Veh (s/v)	3
CO Emissions (kg)	1.14
NOx Emissions (kg)	0.22
VOC Emissions (kg)	0.26

300: NB I-35E & CR J

Direction	All
Future Volume (vph)	1215
Total Delay / Veh (s/v)	36
CO Emissions (kg)	2.05
NOx Emissions (kg)	0.40
VOC Emissions (kg)	0.47

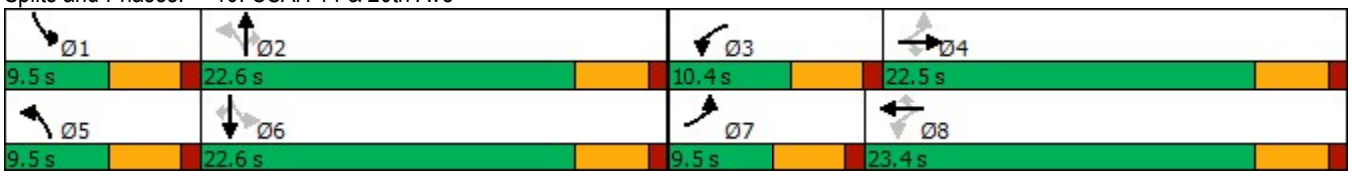
400: Otter Lake Rd & CR J

Direction	All
Future Volume (vph)	957
Total Delay / Veh (s/v)	13
CO Emissions (kg)	1.28
NOx Emissions (kg)	0.25
VOC Emissions (kg)	0.30

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	35	370	15	110	455	80	55	110	170	60	20	15
Future Volume (vph)	35	370	15	110	455	80	55	110	170	60	20	15
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8		8	2		2	6		6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	22.5	22.5	9.5	22.5	22.5	9.5	22.5	22.5	9.5	22.5	22.5
Total Split (s)	9.5	22.5	22.5	10.4	23.4	23.4	9.5	22.6	22.6	9.5	22.6	22.6
Total Split (%)	14.6%	34.6%	34.6%	16.0%	36.0%	36.0%	14.6%	34.8%	34.8%	14.6%	34.8%	34.8%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	None	None	None	Max	Max
Act Effct Green (s)	16.1	12.3	12.3	18.9	16.9	16.9	21.7	19.1	19.1	21.7	19.1	19.1
Actuated g/C Ratio	0.30	0.23	0.23	0.35	0.32	0.32	0.40	0.36	0.36	0.40	0.36	0.36
v/c Ratio	0.11	0.49	0.03	0.32	0.44	0.14	0.10	0.10	0.27	0.06	0.03	0.02
Control Delay	11.9	21.3	0.1	13.8	17.5	0.5	10.9	15.9	4.7	10.3	16.6	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	11.9	21.3	0.1	13.8	17.5	0.5	10.9	15.9	4.7	10.3	16.6	0.1
LOS	B	C	A	B	B	A	B	B	A	B	B	A
Approach Delay		19.8			14.7			9.4			10.1	
Approach LOS		B			B			A			B	

Intersection Summary	
Cycle Length: 65	
Actuated Cycle Length: 53.6	
Natural Cycle: 65	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.49	
Intersection Signal Delay: 14.7	Intersection LOS: B
Intersection Capacity Utilization 37.7%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 10: CSAH 14 & 20th Ave



Lane Group	EBT	WBL	WBT	NBL	NBR	SBL	SBR
Lane Configurations							
Traffic Volume (vph)	525	20	590	20	50	145	5	50
Future Volume (vph)	525	20	590	20	50	145	5	50
Turn Type	NA	Perm	NA	Prot	Perm	pm+pt	NA	Perm
Protected Phases	4		8	5		1	6	
Permitted Phases		8			2	6		6
Detector Phase	4	8	8	5	2	1	6	6
Switch Phase								
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5	22.5	22.5	9.5	22.5	9.5	22.5	22.5
Total Split (s)	22.5	22.5	22.5	9.5	22.5	10.0	23.0	23.0
Total Split (%)	40.9%	40.9%	40.9%	17.3%	40.9%	18.2%	41.8%	41.8%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag				Lead	Lag	Lead	Lag	Lag
Lead-Lag Optimize?				Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	Max	None	Max	Max
Act Effct Green (s)	14.5	14.5	14.5	5.1	18.6	25.3	24.3	24.3
Actuated g/C Ratio	0.29	0.29	0.29	0.10	0.37	0.51	0.49	0.49
v/c Ratio	0.31	0.10	0.62	0.12	0.08	0.18	0.01	0.06
Control Delay	14.3	14.3	18.5	24.5	0.7	7.6	10.0	0.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	14.3	14.3	18.5	24.5	0.7	7.6	10.0	0.6
LOS	B	B	B	C	A	A	A	A
Approach Delay	14.3		18.3				5.9	
Approach LOS	B		B				A	

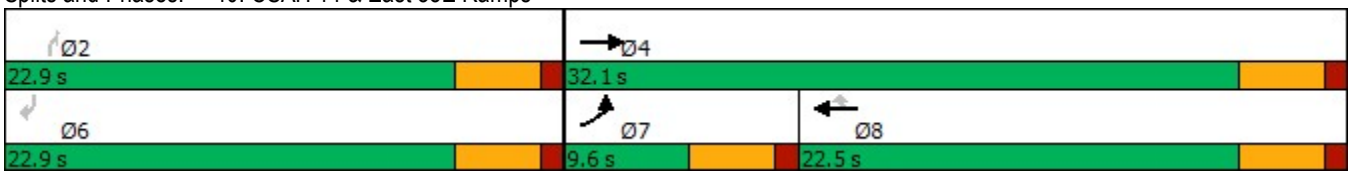
Intersection Summary	
Cycle Length: 55	
Actuated Cycle Length: 49.8	
Natural Cycle: 55	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.62	
Intersection Signal Delay: 14.5	Intersection LOS: B
Intersection Capacity Utilization 35.9%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 20: CSAH 14 & West 35E Ramps

Lane Group	EBL	EBT	WBT	WBR	NBR	SBR
Lane Configurations						
Traffic Volume (vph)	85	565	590	245	745	290
Future Volume (vph)	85	565	590	245	745	290
Turn Type	Prot	NA	NA	Perm	Perm	Perm
Protected Phases	7	4	8			
Permitted Phases				8	2	6
Detector Phase	7	4	8	8	2	6
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	22.5	22.5	22.5	22.5	22.5
Total Split (s)	9.6	32.1	22.5	22.5	22.9	22.9
Total Split (%)	17.5%	58.4%	40.9%	40.9%	41.6%	41.6%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag	Lead		Lag	Lag		
Lead-Lag Optimize?	Yes		Yes	Yes		
Recall Mode	None	None	None	None	Max	Max
Act Effct Green (s)	5.2	20.9	13.7	13.7	18.8	18.8
Actuated g/C Ratio	0.11	0.43	0.28	0.28	0.38	0.38
v/c Ratio	0.49	0.41	0.45	0.42	0.62	0.23
Control Delay	34.3	10.0	15.8	4.6	9.6	0.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	34.3	10.0	15.8	4.6	9.6	0.4
LOS	C	A	B	A	A	A
Approach Delay		13.2	12.5			
Approach LOS		B	B			

Intersection Summary	
Cycle Length: 55	
Actuated Cycle Length: 48.9	
Natural Cycle: 55	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.62	
Intersection Signal Delay: 10.4	Intersection LOS: B
Intersection Capacity Utilization 49.2%	ICU Level of Service A
Analysis Period (min) 15	

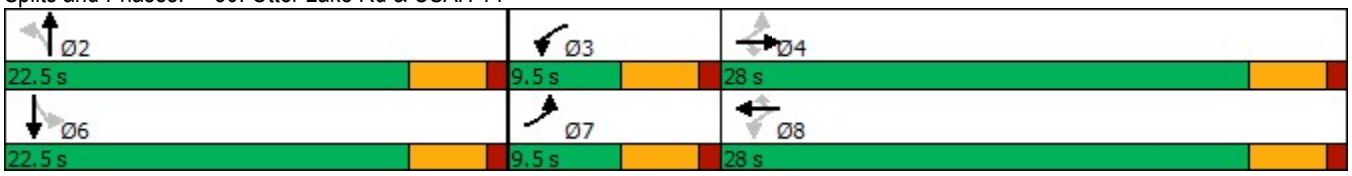
Splits and Phases: 40: CSAH 14 & East 35E Ramps



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	30	1305	70	15	805	20	75	10	20	10
Future Volume (vph)	30	1305	70	15	805	20	75	10	20	10
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	Perm	NA	Perm	NA
Protected Phases	7	4		3	8			2		6
Permitted Phases	4		4	8		8	2		6	
Detector Phase	7	4	4	3	8	8	2	2	6	6
Switch Phase										
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	22.5	22.5	9.5	22.5	22.5	22.5	22.5	22.5	22.5
Total Split (s)	9.5	28.0	28.0	9.5	28.0	28.0	22.5	22.5	22.5	22.5
Total Split (%)	15.8%	46.7%	46.7%	15.8%	46.7%	46.7%	37.5%	37.5%	37.5%	37.5%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag				
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes				
Recall Mode	None	None	None	None	None	None	Max	Max	Max	Max
Act Effct Green (s)	26.3	25.4	25.4	25.5	23.7	23.7	18.1	18.1	18.1	18.1
Actuated g/C Ratio	0.48	0.47	0.47	0.47	0.44	0.44	0.33	0.33	0.33	0.33
v/c Ratio	0.10	0.86	0.10	0.06	0.57	0.03	0.18	0.21	0.05	0.08
Control Delay	7.3	21.3	1.9	6.9	14.1	0.1	15.8	5.5	14.8	8.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	7.3	21.3	1.9	6.9	14.1	0.1	15.8	5.5	14.8	8.1
LOS	A	C	A	A	B	A	B	A	B	A
Approach Delay		20.0			13.6			9.4		10.3
Approach LOS		C			B			A		B

Intersection Summary	
Cycle Length: 60	
Actuated Cycle Length: 54.3	
Natural Cycle: 65	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.86	
Intersection Signal Delay: 16.8	Intersection LOS: B
Intersection Capacity Utilization 54.4%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 50: Otter Lake Rd & CSAH 14



10: CSAH 14 & 20th Ave

Direction	All
Future Volume (vph)	1495
Total Delay / Veh (s/v)	15
CO Emissions (kg)	1.76
NOx Emissions (kg)	0.34
VOC Emissions (kg)	0.41

20: CSAH 14 & West 35E Ramps

Direction	All
Future Volume (vph)	1405
Total Delay / Veh (s/v)	15
CO Emissions (kg)	1.56
NOx Emissions (kg)	0.30
VOC Emissions (kg)	0.36

30: SB On Ramp & CSAH 14

Direction	All
Future Volume (vph)	1650
Total Delay / Veh (s/v)	0
CO Emissions (kg)	0.41
NOx Emissions (kg)	0.08
VOC Emissions (kg)	0.10

40: CSAH 14 & East 35E Ramps

Direction	All
Future Volume (vph)	2520
Total Delay / Veh (s/v)	10
CO Emissions (kg)	2.23
NOx Emissions (kg)	0.43
VOC Emissions (kg)	0.52

50: Otter Lake Rd & CSAH 14

Direction	All
Future Volume (vph)	2501
Total Delay / Veh (s/v)	17
CO Emissions (kg)	2.76
NOx Emissions (kg)	0.54
VOC Emissions (kg)	0.64

100: Centerville Rd & Wilkinson Lake Blvd/CR J

Direction	All
Future Volume (vph)	1830
Total Delay / Veh (s/v)	0
CO Emissions (kg)	2.69
NOx Emissions (kg)	0.52
VOC Emissions (kg)	0.62

200: SB I-35E Ramps & CR J & CSAH 54

Direction	All
Future Volume (vph)	1635
Total Delay / Veh (s/v)	0
CO Emissions (kg)	1.86
NOx Emissions (kg)	0.36
VOC Emissions (kg)	0.43

300: NB I-35E Ramps & CSAH 60 & CR J/CSAH 84

Direction	All
Future Volume (vph)	1573
Total Delay / Veh (s/v)	0
CO Emissions (kg)	1.68
NOx Emissions (kg)	0.33
VOC Emissions (kg)	0.39

Intersection	
Intersection Delay, s/veh	10.4
Intersection LOS	B

Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	42	648	569	730
Demand Flow Rate, veh/h	43	668	592	754
Vehicles Circulating, veh/h	822	349	575	94
Vehicles Exiting, veh/h	17	565	289	345
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	6.9	11.2	10.0	10.1
Approach LOS	A	B	A	B

Lane	Left	Left	Bypass	Left	Bypass	Left	Bypass
Designated Moves	LTR	LT	R	LT	R	LT	R
Assumed Moves	LTR	LT	R	LT	R	LT	R
RT Channelized			Yield		Yield		Yield
Lane Util	1.000	1.000		1.000		1.000	
Follow-Up Headway, s	2.609	2.609		2.609		2.609	
Critical Headway, s	4.976	4.976	578	4.976	253	4.976	9
Entry Flow, veh/h	43	90	971	339	775	745	1356
Cap Entry Lane, veh/h	597	967	0.971	768	0.962	1254	0.971
Entry HV Adj Factor	0.988	0.964	561	0.962	243	0.968	9
Flow Entry, veh/h	42	87	942	326	746	721	1317
Cap Entry, veh/h	590	932	0.595	738	0.326	1214	0.007
V/C Ratio	0.072	0.093	12.3	0.442	8.8	0.594	2.8
Control Delay, s/veh	6.9	4.7	B	10.9	A	10.2	A
LOS	A	A	4	B	1	B	0
95th %tile Queue, veh	0	0		2		4	

Intersection	
Intersection Delay, s/veh	12.5
Intersection LOS	B

Approach	EB	WB	NB	SB
Entry Lanes	1	1	0	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	731	862	0	64
Demand Flow Rate, veh/h	756	900	0	68
Vehicles Circulating, veh/h	173	79	479	851
Vehicles Exiting, veh/h	746	400	450	172
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	12.3	13.3	0.0	8.0
Approach LOS	B	B	-	A

Lane	Left	Left	Left
Designated Moves	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR
RT Channelized			
Lane Util	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976
Entry Flow, veh/h	756	900	68
Cap Entry Lane, veh/h	1157	1273	579
Entry HV Adj Factor	0.967	0.958	0.946
Flow Entry, veh/h	731	862	64
Cap Entry, veh/h	1119	1219	548
V/C Ratio	0.654	0.707	0.117
Control Delay, s/veh	12.3	13.3	8.0
LOS	B	B	A
95th %tile Queue, veh	5	6	0

Intersection	
Intersection Delay, s/veh	
Intersection LOS	

Approach	SW
Entry Lanes	1
Conflicting Circle Lanes	1
Adj Approach Flow, veh/h	120
Demand Flow Rate, veh/h	123
Vehicles Circulating, veh/h	900
Vehicles Exiting, veh/h	79
Ped Vol Crossing Leg, #/h	0
Ped Cap Adj	1.000
Approach Delay, s/veh	9.7
Approach LOS	A

Lane	Left
Designated Moves	LR
Assumed Moves	LR
RT Channelized	
Lane Util	1.000
Follow-Up Headway, s	2.609
Critical Headway, s	4.976
Entry Flow, veh/h	123
Cap Entry Lane, veh/h	551
Entry HV Adj Factor	0.978
Flow Entry, veh/h	120
Cap Entry, veh/h	539
V/C Ratio	0.223
Control Delay, s/veh	9.7
LOS	A
95th %tile Queue, veh	1

Intersection	
Intersection Delay, s/veh	31.8
Intersection LOS	D

Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	0
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	377	187	827	0
Demand Flow Rate, veh/h	388	192	863	0
Vehicles Circulating, veh/h	59	986	446	1012
Vehicles Exiting, veh/h	953	397	0	166
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	5.6	13.7	49.7	0.0
Approach LOS	A	B	E	-

Lane	Left	Left	Left
Designated Moves	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR
RT Channelized			
Lane Util	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976
Entry Flow, veh/h	388	192	863
Cap Entry Lane, veh/h	1299	505	876
Entry HV Adj Factor	0.972	0.974	0.958
Flow Entry, veh/h	377	187	827
Cap Entry, veh/h	1263	492	839
V/C Ratio	0.299	0.380	0.986
Control Delay, s/veh	5.6	13.7	49.7
LOS	A	B	E
95th %tile Queue, veh	1	2	17

Intersection	
Intersection Delay, s/veh	
Intersection LOS	

Approach	NW
Entry Lanes	1
Conflicting Circle Lanes	1
Adj Approach Flow, veh/h	319
Demand Flow Rate, veh/h	326
Vehicles Circulating, veh/h	1057
Vehicles Exiting, veh/h	252
Ped Vol Crossing Leg, #/h	0
Ped Cap Adj	1.000
Approach Delay, s/veh	27.3
Approach LOS	D

Lane	Left
Designated Moves	LR
Assumed Moves	LR
RT Channelized	
Lane Util	1.000
Follow-Up Headway, s	2.609
Critical Headway, s	4.976
Entry Flow, veh/h	326
Cap Entry Lane, veh/h	470
Entry HV Adj Factor	0.979
Flow Entry, veh/h	319
Cap Entry, veh/h	459
V/C Ratio	0.694
Control Delay, s/veh	27.3
LOS	D
95th %tile Queue, veh	5

Cty Rd J Application

1	Main St/20th Ave		
	Existing Volume	1585	vehicles
	Existing Delay	15	sec/veh
	Existing Total Delay	23775	seconds
	Future Volume	1495	vehicles
	Future Delay	15	sec/veh
	Future Total Delay	22425	seconds
	Total Delay Reduction	1350	seconds

2	Main St/West Ramps		
	Existing Volume	1480	vehicles
	Existing Delay	14	sec/veh
	Existing Total Delay	20720	seconds
	Future Volume	1405	vehicles
	Future Delay	15	sec/veh
	Future Total Delay	21075	seconds
	Total Delay Reduction	-355	seconds

3	Main St/SB On Ramp		
	Existing Volume	1655	vehicles
	Existing Delay	0	sec/veh
	Existing Total Delay	0	seconds
	Future Volume	1650	vehicles
	Future Delay	0	sec/veh
	Future Total Delay	0	seconds
	Total Delay Reduction	0	seconds

4	Main St/East Ramps		
	Existing Volume	2470	vehicles
	Existing Delay	11	sec/veh
	Existing Total Delay	27170	seconds
	Future Volume	2520	vehicles
	Future Delay	10	sec/veh
	Future Total Delay	25200	seconds
	Total Delay Reduction	1970	seconds

5	Main St/Otter Lake Rd		
	Existing Volume	2520	vehicles
	Existing Delay	20	sec/veh
	Existing Total Delay	50400	seconds
	Future Volume	2500	vehicles
	Future Delay	17	sec/veh
	Future Total Delay	42500	seconds
	Total Delay Reduction	7900	seconds

6	CR J/Centerville Rd		
	Existing Volume	1703	vehicles
	Existing Delay	85	sec/veh
	Existing Total Delay	144755	seconds
	Future Volume	1830	vehicles
	Future Delay	10	sec/veh
	Future Total Delay	18300	seconds
	Total Delay Reduction	126455	seconds

7	CR J/West Ramps		
	Existing Volume	1410	vehicles
	Existing Delay	3	sec/veh
	Existing Total Delay	4230	seconds
	Future Volume	1635	vehicles
	Future Delay	13	sec/veh
	Future Total Delay	21255	seconds
	Total Delay Reduction	-17025	seconds

8	CR J/East Ramps		
	Existing Volume	1215	vehicles
	Existing Delay	36	sec/veh
	Existing Total Delay	43740	seconds
	Future Volume	1573	vehicles
	Future Delay	32	sec/veh
	Future Total Delay	50336	seconds
	Total Delay Reduction	-6596	seconds

CR J/Otter Lake Rd		
Existing Volume	957	vehicles
Existing Delay	13	sec/veh
Existing Total Delay	12441	seconds
Future Volume	0	vehicles
Future Delay	0	sec/veh
Future Total Delay	0	seconds
Total Delay Reduction	12441	seconds

Total Network Delay Reduction	**126140**	**seconds**

Emissions

Existing	1	2	3	4	5	6	7	8	9	Total
CO	1.85	1.65	0.4	2.17	2.85	4.56	1.14	2.05	1.28	17.95
NO	0.36	0.32	0.08	0.42	0.55	0.89	0.22	0.4	0.25	3.49
VOC	0.43	0.38	0.09	0.5	0.66	1.06	0.26	0.47	0.3	4.15
								Network Total		25.59

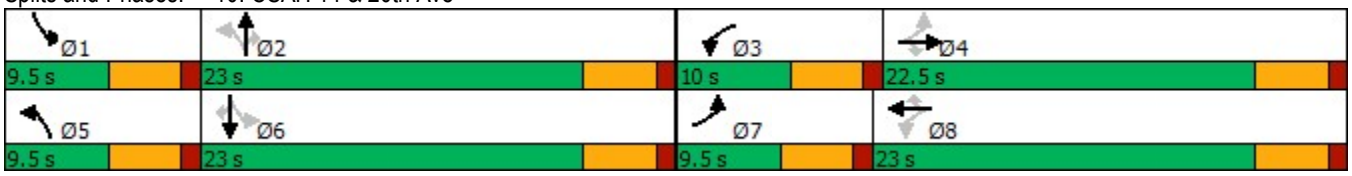
Build	1	2	3	4	5	6	7	8	9	Total
CO	1.76	1.56	0.41	2.23	2.76	2.69	1.86	1.68	0	14.95
NO	0.34	0.3	0.08	0.43	0.54	0.52	0.36	0.33	0	2.9
VOC	0.41	0.36	0.1	0.52	0.64	0.62	0.43	0.39	0	3.47
								Network Total		21.32

Reduction	**4.27**

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	35	370	20	140	460	90	55	110	200	60	30	15
Future Volume (vph)	35	370	20	140	460	90	55	110	200	60	30	15
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8		8	2		2	6		6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	22.5	22.5	9.5	22.5	22.5	9.5	22.5	22.5	9.5	22.5	22.5
Total Split (s)	9.5	22.5	22.5	10.0	23.0	23.0	9.5	23.0	23.0	9.5	23.0	23.0
Total Split (%)	14.6%	34.6%	34.6%	15.4%	35.4%	35.4%	14.6%	35.4%	35.4%	14.6%	35.4%	35.4%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	None	None	None	Max	Max
Act Effct Green (s)	16.4	12.6	12.6	18.8	16.9	16.9	22.1	19.5	19.5	22.1	19.5	19.5
Actuated g/C Ratio	0.30	0.23	0.23	0.35	0.31	0.31	0.41	0.36	0.36	0.41	0.36	0.36
v/c Ratio	0.11	0.49	0.04	0.41	0.45	0.16	0.10	0.09	0.31	0.06	0.05	0.02
Control Delay	12.0	21.1	0.1	15.7	17.7	1.1	10.8	15.8	4.6	10.3	16.4	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	12.0	21.1	0.1	15.7	17.7	1.1	10.8	15.8	4.6	10.3	16.4	0.1
LOS	B	C	A	B	B	A	B	B	A	B	B	A
Approach Delay		19.4			15.1			8.9			10.6	
Approach LOS		B			B			A			B	

Intersection Summary	
Cycle Length: 65	
Actuated Cycle Length: 54	
Natural Cycle: 65	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.49	
Intersection Signal Delay: 14.5	Intersection LOS: B
Intersection Capacity Utilization 38.9%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 10: CSAH 14 & 20th Ave



Lane Group	EBT	WBL	WBT	NBL	NBR	SBL	SBT	SBR
Lane Configurations								
Traffic Volume (vph)	555	20	605	20	50	145	5	80
Future Volume (vph)	555	20	605	20	50	145	5	80
Turn Type	NA	Perm	NA	Prot	Perm	pm+pt	NA	Perm
Protected Phases	4		8	5		1	6	
Permitted Phases		8			2	6		6
Detector Phase	4	8	8	5	2	1	6	6
Switch Phase								
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5	22.5	22.5	9.5	22.5	9.5	22.5	22.5
Total Split (s)	22.5	22.5	22.5	9.5	22.5	10.0	23.0	23.0
Total Split (%)	40.9%	40.9%	40.9%	17.3%	40.9%	18.2%	41.8%	41.8%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag				Lead	Lag	Lead	Lag	Lag
Lead-Lag Optimize?				Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	Max	None	Max	Max
Act Effct Green (s)	14.7	14.7	14.7	5.1	18.6	25.4	24.4	24.4
Actuated g/C Ratio	0.29	0.29	0.29	0.10	0.37	0.51	0.49	0.49
v/c Ratio	0.32	0.10	0.63	0.12	0.08	0.18	0.01	0.10
Control Delay	14.4	14.4	18.6	24.6	0.7	7.6	10.0	2.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	14.4	14.4	18.6	24.6	0.7	7.6	10.0	2.2
LOS	B	B	B	C	A	A	A	A
Approach Delay	14.4		18.5				5.8	
Approach LOS	B		B				A	

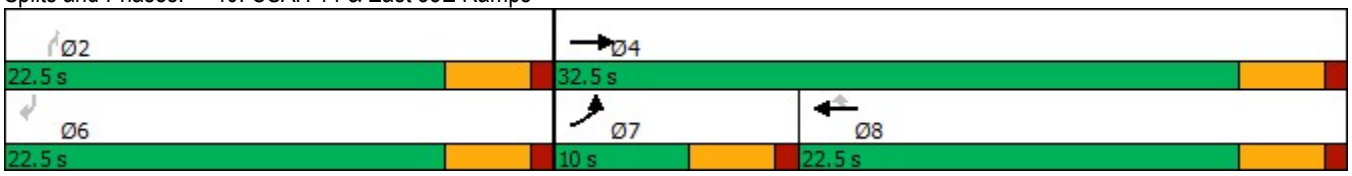
Intersection Summary	
Cycle Length: 55	
Actuated Cycle Length: 50	
Natural Cycle: 55	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.63	
Intersection Signal Delay: 14.5	Intersection LOS: B
Intersection Capacity Utilization 36.3%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 20: CSAH 14 & West 35E Ramps

Lane Group	EBL	EBT	WBT	WBR	NBR	SBR
Lane Configurations						
Traffic Volume (vph)	115	565	565	250	685	290
Future Volume (vph)	115	565	565	250	685	290
Turn Type	Prot	NA	NA	Perm	Perm	Perm
Protected Phases	7	4	8			
Permitted Phases				8	2	6
Detector Phase	7	4	8	8	2	6
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	22.5	22.5	22.5	22.5	22.5
Total Split (s)	10.0	32.5	22.5	22.5	22.5	22.5
Total Split (%)	18.2%	59.1%	40.9%	40.9%	40.9%	40.9%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag	Lead		Lag	Lag		
Lead-Lag Optimize?	Yes		Yes	Yes		
Recall Mode	None	None	None	None	Max	Max
Act Effct Green (s)	5.6	20.9	13.3	13.3	18.4	18.4
Actuated g/C Ratio	0.12	0.43	0.27	0.27	0.38	0.38
v/c Ratio	0.61	0.40	0.44	0.43	0.57	0.22
Control Delay	39.6	9.8	15.8	4.7	8.4	0.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	39.6	9.8	15.8	4.7	8.4	0.4
LOS	D	A	B	A	A	A
Approach Delay		14.8	12.4			
Approach LOS		B	B			

Intersection Summary	
Cycle Length: 55	
Actuated Cycle Length: 48.5	
Natural Cycle: 55	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.61	
Intersection Signal Delay: 10.5	Intersection LOS: B
Intersection Capacity Utilization 47.1%	ICU Level of Service A
Analysis Period (min) 15	

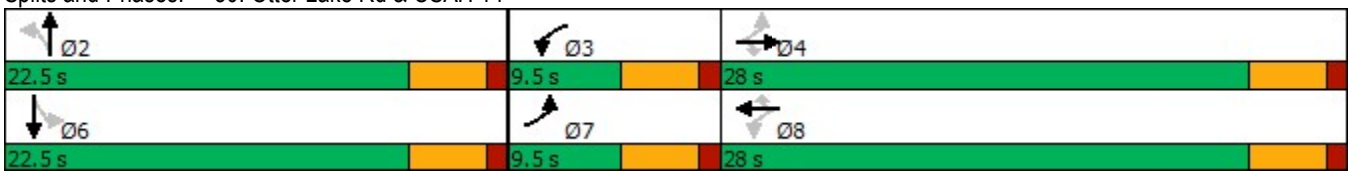
Splits and Phases: 40: CSAH 14 & East 35E Ramps



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	30	1245	70	55	765	20	95	10	20	10
Future Volume (vph)	30	1245	70	55	765	20	95	10	20	10
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	Perm	NA	Perm	NA
Protected Phases	7	4		3	8			2		6
Permitted Phases	4		4	8		8	2		6	
Detector Phase	7	4	4	3	8	8	2	2	6	6
Switch Phase										
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	22.5	22.5	9.5	22.5	22.5	22.5	22.5	22.5	22.5
Total Split (s)	9.5	28.0	28.0	9.5	28.0	28.0	22.5	22.5	22.5	22.5
Total Split (%)	15.8%	46.7%	46.7%	15.8%	46.7%	46.7%	37.5%	37.5%	37.5%	37.5%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag				
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes				
Recall Mode	None	None	None	None	None	None	Max	Max	Max	Max
Act Effct Green (s)	26.5	23.7	23.7	27.3	25.4	25.4	18.1	18.1	18.1	18.1
Actuated g/C Ratio	0.47	0.42	0.42	0.49	0.45	0.45	0.32	0.32	0.32	0.32
v/c Ratio	0.10	0.91	0.10	0.22	0.52	0.03	0.24	0.31	0.06	0.08
Control Delay	7.1	28.1	1.9	8.6	13.3	0.1	17.3	5.1	15.7	8.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	7.1	28.1	1.9	8.6	13.3	0.1	17.3	5.1	15.7	8.3
LOS	A	C	A	A	B	A	B	A	B	A
Approach Delay		26.3			12.7			9.3		10.7
Approach LOS		C			B			A		B

Intersection Summary	
Cycle Length: 60	
Actuated Cycle Length: 56.2	
Natural Cycle: 65	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.91	
Intersection Signal Delay: 19.5	Intersection LOS: B
Intersection Capacity Utilization 66.5%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 50: Otter Lake Rd & CSAH 14



10: CSAH 14 & 20th Ave

Direction	All
Future Volume (vph)	1585
Total Delay / Veh (s/v)	15
CO Emissions (kg)	1.85
NOx Emissions (kg)	0.36
VOC Emissions (kg)	0.43

20: CSAH 14 & West 35E Ramps

Direction	All
Future Volume (vph)	1480
Total Delay / Veh (s/v)	14
CO Emissions (kg)	1.65
NOx Emissions (kg)	0.32
VOC Emissions (kg)	0.38

30: SB On Ramp & CSAH 14

Direction	All
Future Volume (vph)	1655
Total Delay / Veh (s/v)	0
CO Emissions (kg)	0.40
NOx Emissions (kg)	0.08
VOC Emissions (kg)	0.09

40: CSAH 14 & East 35E Ramps

Direction	All
Future Volume (vph)	2470
Total Delay / Veh (s/v)	11
CO Emissions (kg)	2.17
NOx Emissions (kg)	0.42
VOC Emissions (kg)	0.50

50: Otter Lake Rd & CSAH 14

Direction	All
Future Volume (vph)	2520
Total Delay / Veh (s/v)	20
CO Emissions (kg)	2.85
NOx Emissions (kg)	0.55
VOC Emissions (kg)	0.66

100: Centerville Rd & Wilkinson Lake Blvd/CR J

Direction	All
Future Volume (vph)	1703
Total Delay / Veh (s/v)	85
CO Emissions (kg)	4.56
NOx Emissions (kg)	0.89
VOC Emissions (kg)	1.06

200: SB I-35E/CSAH 54 & CR J

Direction	All
Future Volume (vph)	1410
Total Delay / Veh (s/v)	3
CO Emissions (kg)	1.14
NOx Emissions (kg)	0.22
VOC Emissions (kg)	0.26

300: NB I-35E & CR J

Direction	All
Future Volume (vph)	1215
Total Delay / Veh (s/v)	36
CO Emissions (kg)	2.05
NOx Emissions (kg)	0.40
VOC Emissions (kg)	0.47

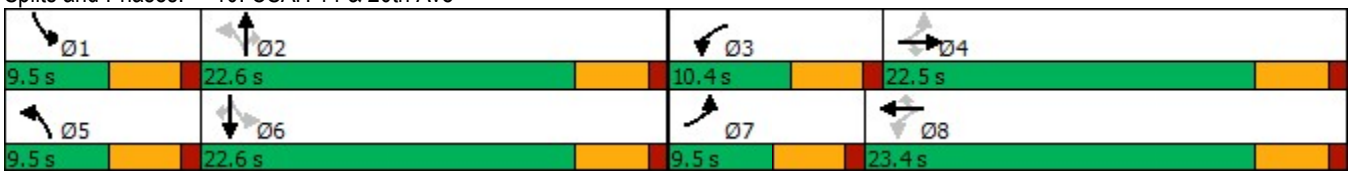
400: Otter Lake Rd & CR J

Direction	All
Future Volume (vph)	957
Total Delay / Veh (s/v)	13
CO Emissions (kg)	1.28
NOx Emissions (kg)	0.25
VOC Emissions (kg)	0.30

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	35	370	15	110	455	80	55	110	170	60	20	15
Future Volume (vph)	35	370	15	110	455	80	55	110	170	60	20	15
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8		8	2		2	6		6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	22.5	22.5	9.5	22.5	22.5	9.5	22.5	22.5	9.5	22.5	22.5
Total Split (s)	9.5	22.5	22.5	10.4	23.4	23.4	9.5	22.6	22.6	9.5	22.6	22.6
Total Split (%)	14.6%	34.6%	34.6%	16.0%	36.0%	36.0%	14.6%	34.8%	34.8%	14.6%	34.8%	34.8%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	None	None	None	Max	Max
Act Effct Green (s)	16.1	12.3	12.3	18.9	16.9	16.9	21.7	19.1	19.1	21.7	19.1	19.1
Actuated g/C Ratio	0.30	0.23	0.23	0.35	0.32	0.32	0.40	0.36	0.36	0.40	0.36	0.36
v/c Ratio	0.11	0.49	0.03	0.32	0.44	0.14	0.10	0.10	0.27	0.06	0.03	0.02
Control Delay	11.9	21.3	0.1	13.8	17.5	0.5	10.9	15.9	4.7	10.3	16.6	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	11.9	21.3	0.1	13.8	17.5	0.5	10.9	15.9	4.7	10.3	16.6	0.1
LOS	B	C	A	B	B	A	B	B	A	B	B	A
Approach Delay		19.8			14.7			9.4			10.1	
Approach LOS		B			B			A			B	

Intersection Summary	
Cycle Length: 65	
Actuated Cycle Length: 53.6	
Natural Cycle: 65	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.49	
Intersection Signal Delay: 14.7	Intersection LOS: B
Intersection Capacity Utilization 37.7%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 10: CSAH 14 & 20th Ave



Lane Group	EBT	WBL	WBT	NBL	NBR	SBL	SBR
Lane Configurations							
Traffic Volume (vph)	525	20	590	20	50	145	5	50
Future Volume (vph)	525	20	590	20	50	145	5	50
Turn Type	NA	Perm	NA	Prot	Perm	pm+pt	NA	Perm
Protected Phases	4		8	5		1	6	
Permitted Phases		8			2	6		6
Detector Phase	4	8	8	5	2	1	6	6
Switch Phase								
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5	22.5	22.5	9.5	22.5	9.5	22.5	22.5
Total Split (s)	22.5	22.5	22.5	9.5	22.5	10.0	23.0	23.0
Total Split (%)	40.9%	40.9%	40.9%	17.3%	40.9%	18.2%	41.8%	41.8%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag				Lead	Lag	Lead	Lag	Lag
Lead-Lag Optimize?				Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	Max	None	Max	Max
Act Effct Green (s)	14.5	14.5	14.5	5.1	18.6	25.3	24.3	24.3
Actuated g/C Ratio	0.29	0.29	0.29	0.10	0.37	0.51	0.49	0.49
v/c Ratio	0.31	0.10	0.62	0.12	0.08	0.18	0.01	0.06
Control Delay	14.3	14.3	18.5	24.5	0.7	7.6	10.0	0.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	14.3	14.3	18.5	24.5	0.7	7.6	10.0	0.6
LOS	B	B	B	C	A	A	A	A
Approach Delay	14.3		18.3				5.9	
Approach LOS	B		B				A	

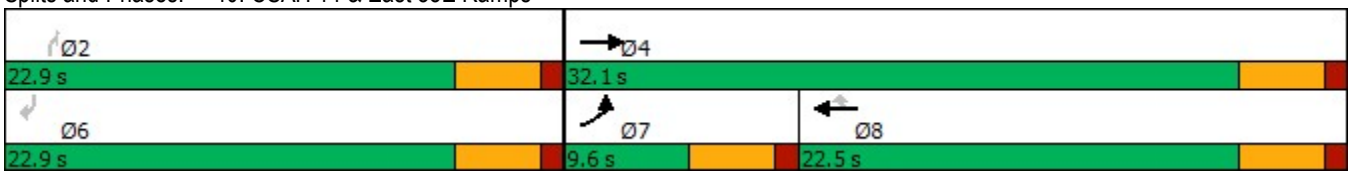
Intersection Summary	
Cycle Length: 55	
Actuated Cycle Length: 49.8	
Natural Cycle: 55	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.62	
Intersection Signal Delay: 14.5	Intersection LOS: B
Intersection Capacity Utilization 35.9%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 20: CSAH 14 & West 35E Ramps

Lane Group	EBL	EBT	WBT	WBR	NBR	SBR
Lane Configurations						
Traffic Volume (vph)	85	565	590	245	745	290
Future Volume (vph)	85	565	590	245	745	290
Turn Type	Prot	NA	NA	Perm	Perm	Perm
Protected Phases	7	4	8			
Permitted Phases				8	2	6
Detector Phase	7	4	8	8	2	6
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	22.5	22.5	22.5	22.5	22.5
Total Split (s)	9.6	32.1	22.5	22.5	22.9	22.9
Total Split (%)	17.5%	58.4%	40.9%	40.9%	41.6%	41.6%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag	Lead		Lag	Lag		
Lead-Lag Optimize?	Yes		Yes	Yes		
Recall Mode	None	None	None	None	Max	Max
Act Effct Green (s)	5.2	20.9	13.7	13.7	18.8	18.8
Actuated g/C Ratio	0.11	0.43	0.28	0.28	0.38	0.38
v/c Ratio	0.49	0.41	0.45	0.42	0.62	0.23
Control Delay	34.3	10.0	15.8	4.6	9.6	0.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	34.3	10.0	15.8	4.6	9.6	0.4
LOS	C	A	B	A	A	A
Approach Delay		13.2	12.5			
Approach LOS		B	B			

Intersection Summary	
Cycle Length: 55	
Actuated Cycle Length: 48.9	
Natural Cycle: 55	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.62	
Intersection Signal Delay: 10.4	Intersection LOS: B
Intersection Capacity Utilization 49.2%	ICU Level of Service A
Analysis Period (min) 15	

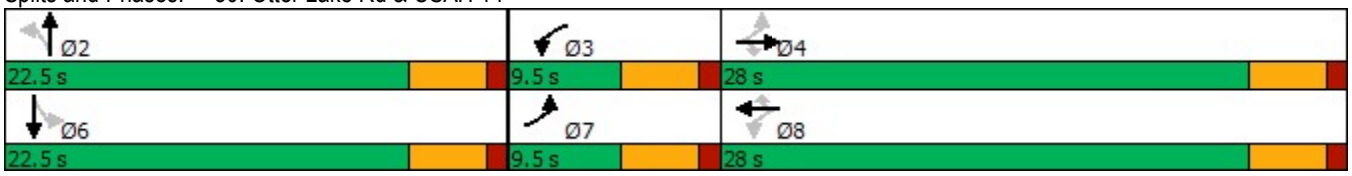
Splits and Phases: 40: CSAH 14 & East 35E Ramps



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	30	1305	70	15	805	20	75	10	20	10
Future Volume (vph)	30	1305	70	15	805	20	75	10	20	10
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	Perm	NA	Perm	NA
Protected Phases	7	4		3	8			2		6
Permitted Phases	4		4	8		8	2		6	
Detector Phase	7	4	4	3	8	8	2	2	6	6
Switch Phase										
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	22.5	22.5	9.5	22.5	22.5	22.5	22.5	22.5	22.5
Total Split (s)	9.5	28.0	28.0	9.5	28.0	28.0	22.5	22.5	22.5	22.5
Total Split (%)	15.8%	46.7%	46.7%	15.8%	46.7%	46.7%	37.5%	37.5%	37.5%	37.5%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag				
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes				
Recall Mode	None	None	None	None	None	None	Max	Max	Max	Max
Act Effct Green (s)	26.3	25.4	25.4	25.5	23.7	23.7	18.1	18.1	18.1	18.1
Actuated g/C Ratio	0.48	0.47	0.47	0.47	0.44	0.44	0.33	0.33	0.33	0.33
v/c Ratio	0.10	0.86	0.10	0.06	0.57	0.03	0.18	0.21	0.05	0.08
Control Delay	7.3	21.3	1.9	6.9	14.1	0.1	15.8	5.5	14.8	8.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	7.3	21.3	1.9	6.9	14.1	0.1	15.8	5.5	14.8	8.1
LOS	A	C	A	A	B	A	B	A	B	A
Approach Delay		20.0			13.6			9.4		10.3
Approach LOS		C			B			A		B

Intersection Summary	
Cycle Length: 60	
Actuated Cycle Length: 54.3	
Natural Cycle: 65	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.86	
Intersection Signal Delay: 16.8	Intersection LOS: B
Intersection Capacity Utilization 54.4%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 50: Otter Lake Rd & CSAH 14



10: CSAH 14 & 20th Ave

Direction	All
Future Volume (vph)	1495
Total Delay / Veh (s/v)	15
CO Emissions (kg)	1.76
NOx Emissions (kg)	0.34
VOC Emissions (kg)	0.41

20: CSAH 14 & West 35E Ramps

Direction	All
Future Volume (vph)	1405
Total Delay / Veh (s/v)	15
CO Emissions (kg)	1.56
NOx Emissions (kg)	0.30
VOC Emissions (kg)	0.36

30: SB On Ramp & CSAH 14

Direction	All
Future Volume (vph)	1650
Total Delay / Veh (s/v)	0
CO Emissions (kg)	0.41
NOx Emissions (kg)	0.08
VOC Emissions (kg)	0.10

40: CSAH 14 & East 35E Ramps

Direction	All
Future Volume (vph)	2520
Total Delay / Veh (s/v)	10
CO Emissions (kg)	2.23
NOx Emissions (kg)	0.43
VOC Emissions (kg)	0.52

50: Otter Lake Rd & CSAH 14

Direction	All
Future Volume (vph)	2501
Total Delay / Veh (s/v)	17
CO Emissions (kg)	2.76
NOx Emissions (kg)	0.54
VOC Emissions (kg)	0.64

100: Centerville Rd & Wilkinson Lake Blvd/CR J

Direction	All
Future Volume (vph)	1830
Total Delay / Veh (s/v)	0
CO Emissions (kg)	2.69
NOx Emissions (kg)	0.52
VOC Emissions (kg)	0.62

200: SB I-35E Ramps & CR J & CSAH 54

Direction	All
Future Volume (vph)	1635
Total Delay / Veh (s/v)	0
CO Emissions (kg)	1.86
NOx Emissions (kg)	0.36
VOC Emissions (kg)	0.43

300: NB I-35E Ramps & CSAH 60 & CR J/CSAH 84

Direction	All
Future Volume (vph)	1573
Total Delay / Veh (s/v)	0
CO Emissions (kg)	1.68
NOx Emissions (kg)	0.33
VOC Emissions (kg)	0.39

Intersection	
Intersection Delay, s/veh	10.4
Intersection LOS	B

Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	42	648	569	730
Demand Flow Rate, veh/h	43	668	592	754
Vehicles Circulating, veh/h	822	349	575	94
Vehicles Exiting, veh/h	17	565	289	345
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	6.9	11.2	10.0	10.1
Approach LOS	A	B	A	B

Lane	Left	Left	Bypass	Left	Bypass	Left	Bypass
Designated Moves	LTR	LT	R	LT	R	LT	R
Assumed Moves	LTR	LT	R	LT	R	LT	R
RT Channelized			Yield		Yield		Yield
Lane Util	1.000	1.000		1.000		1.000	
Follow-Up Headway, s	2.609	2.609		2.609		2.609	
Critical Headway, s	4.976	4.976	578	4.976	253	4.976	9
Entry Flow, veh/h	43	90	971	339	775	745	1356
Cap Entry Lane, veh/h	597	967	0.971	768	0.962	1254	0.971
Entry HV Adj Factor	0.988	0.964	561	0.962	243	0.968	9
Flow Entry, veh/h	42	87	942	326	746	721	1317
Cap Entry, veh/h	590	932	0.595	738	0.326	1214	0.007
V/C Ratio	0.072	0.093	12.3	0.442	8.8	0.594	2.8
Control Delay, s/veh	6.9	4.7	B	10.9	A	10.2	A
LOS	A	A	4	B	1	B	0
95th %tile Queue, veh	0	0		2		4	

Intersection	
Intersection Delay, s/veh	12.5
Intersection LOS	B

Approach	EB	WB	NB	SB
Entry Lanes	1	1	0	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	731	862	0	64
Demand Flow Rate, veh/h	756	900	0	68
Vehicles Circulating, veh/h	173	79	479	851
Vehicles Exiting, veh/h	746	400	450	172
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	12.3	13.3	0.0	8.0
Approach LOS	B	B	-	A

Lane	Left	Left	Left
Designated Moves	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR
RT Channelized			
Lane Util	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976
Entry Flow, veh/h	756	900	68
Cap Entry Lane, veh/h	1157	1273	579
Entry HV Adj Factor	0.967	0.958	0.946
Flow Entry, veh/h	731	862	64
Cap Entry, veh/h	1119	1219	548
V/C Ratio	0.654	0.707	0.117
Control Delay, s/veh	12.3	13.3	8.0
LOS	B	B	A
95th %tile Queue, veh	5	6	0

Intersection	
Intersection Delay, s/veh	
Intersection LOS	

Approach	SW
Entry Lanes	1
Conflicting Circle Lanes	1
Adj Approach Flow, veh/h	120
Demand Flow Rate, veh/h	123
Vehicles Circulating, veh/h	900
Vehicles Exiting, veh/h	79
Ped Vol Crossing Leg, #/h	0
Ped Cap Adj	1.000
Approach Delay, s/veh	9.7
Approach LOS	A

Lane	Left
Designated Moves	LR
Assumed Moves	LR
RT Channelized	
Lane Util	1.000
Follow-Up Headway, s	2.609
Critical Headway, s	4.976
Entry Flow, veh/h	123
Cap Entry Lane, veh/h	551
Entry HV Adj Factor	0.978
Flow Entry, veh/h	120
Cap Entry, veh/h	539
V/C Ratio	0.223
Control Delay, s/veh	9.7
LOS	A
95th %tile Queue, veh	1

Intersection	
Intersection Delay, s/veh	31.8
Intersection LOS	D

Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	0
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	377	187	827	0
Demand Flow Rate, veh/h	388	192	863	0
Vehicles Circulating, veh/h	59	986	446	1012
Vehicles Exiting, veh/h	953	397	0	166
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	5.6	13.7	49.7	0.0
Approach LOS	A	B	E	-

Lane	Left	Left	Left
Designated Moves	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR
RT Channelized			
Lane Util	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976
Entry Flow, veh/h	388	192	863
Cap Entry Lane, veh/h	1299	505	876
Entry HV Adj Factor	0.972	0.974	0.958
Flow Entry, veh/h	377	187	827
Cap Entry, veh/h	1263	492	839
V/C Ratio	0.299	0.380	0.986
Control Delay, s/veh	5.6	13.7	49.7
LOS	A	B	E
95th %tile Queue, veh	1	2	17

Intersection	
Intersection Delay, s/veh	
Intersection LOS	

Approach	NW
Entry Lanes	1
Conflicting Circle Lanes	1
Adj Approach Flow, veh/h	319
Demand Flow Rate, veh/h	326
Vehicles Circulating, veh/h	1057
Vehicles Exiting, veh/h	252
Ped Vol Crossing Leg, #/h	0
Ped Cap Adj	1.000
Approach Delay, s/veh	27.3
Approach LOS	D

Lane	Left
Designated Moves	LR
Assumed Moves	LR
RT Channelized	
Lane Util	1.000
Follow-Up Headway, s	2.609
Critical Headway, s	4.976
Entry Flow, veh/h	326
Cap Entry Lane, veh/h	470
Entry HV Adj Factor	0.979
Flow Entry, veh/h	319
Cap Entry, veh/h	459
V/C Ratio	0.694
Control Delay, s/veh	27.3
LOS	D
95th %tile Queue, veh	5

Cty Rd J Application

1	Main St/20th Ave		
	Existing Volume	1585	vehicles
	Existing Delay	15	sec/veh
	Existing Total Delay	23775	seconds
	Future Volume	1495	vehicles
	Future Delay	15	sec/veh
	Future Total Delay	22425	seconds
	Total Delay Reduction	1350	seconds

2	Main St/West Ramps		
	Existing Volume	1480	vehicles
	Existing Delay	14	sec/veh
	Existing Total Delay	20720	seconds
	Future Volume	1405	vehicles
	Future Delay	15	sec/veh
	Future Total Delay	21075	seconds
	Total Delay Reduction	-355	seconds

3	Main St/SB On Ramp		
	Existing Volume	1655	vehicles
	Existing Delay	0	sec/veh
	Existing Total Delay	0	seconds
	Future Volume	1650	vehicles
	Future Delay	0	sec/veh
	Future Total Delay	0	seconds
	Total Delay Reduction	0	seconds

4	Main St/East Ramps		
	Existing Volume	2470	vehicles
	Existing Delay	11	sec/veh
	Existing Total Delay	27170	seconds
	Future Volume	2520	vehicles
	Future Delay	10	sec/veh
	Future Total Delay	25200	seconds
	Total Delay Reduction	1970	seconds

5	Main St/Otter Lake Rd		
	Existing Volume	2520	vehicles
	Existing Delay	20	sec/veh
	Existing Total Delay	50400	seconds
	Future Volume	2500	vehicles
	Future Delay	17	sec/veh
	Future Total Delay	42500	seconds
	Total Delay Reduction	7900	seconds

6	CR J/Centerville Rd		
	Existing Volume	1703	vehicles
	Existing Delay	85	sec/veh
	Existing Total Delay	144755	seconds
	Future Volume	1830	vehicles
	Future Delay	10	sec/veh
	Future Total Delay	18300	seconds
	Total Delay Reduction	126455	seconds

7	CR J/West Ramps		
	Existing Volume	1410	vehicles
	Existing Delay	3	sec/veh
	Existing Total Delay	4230	seconds
	Future Volume	1635	vehicles
	Future Delay	13	sec/veh
	Future Total Delay	21255	seconds
	Total Delay Reduction	-17025	seconds

8	CR J/East Ramps		
	Existing Volume	1215	vehicles
	Existing Delay	36	sec/veh
	Existing Total Delay	43740	seconds
	Future Volume	1573	vehicles
	Future Delay	32	sec/veh
	Future Total Delay	50336	seconds
	Total Delay Reduction	-6596	seconds

CR J/Otter Lake Rd		
Existing Volume	957	vehicles
Existing Delay	13	sec/veh
Existing Total Delay	12441	seconds
Future Volume	0	vehicles
Future Delay	0	sec/veh
Future Total Delay	0	seconds
Total Delay Reduction	12441	seconds

Total Network Delay Reduction	**126140**	**seconds**

Emissions

Existing	1	2	3	4	5	6	7	8	9	Total
CO	1.85	1.65	0.4	2.17	2.85	4.56	1.14	2.05	1.28	17.95
NO	0.36	0.32	0.08	0.42	0.55	0.89	0.22	0.4	0.25	3.49
VOC	0.43	0.38	0.09	0.5	0.66	1.06	0.26	0.47	0.3	4.15
								Network Total		25.59

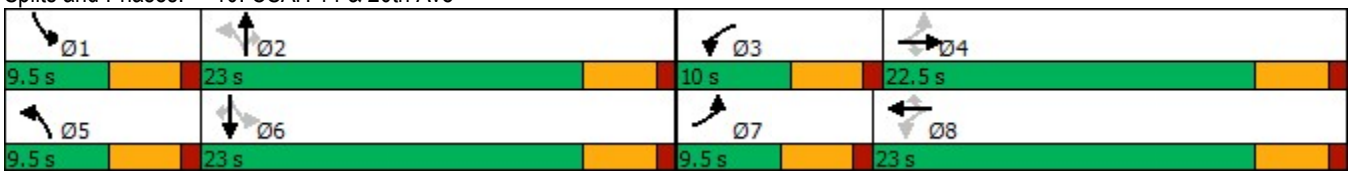
Build	1	2	3	4	5	6	7	8	9	Total
CO	1.76	1.56	0.41	2.23	2.76	2.69	1.86	1.68	0	14.95
NO	0.34	0.3	0.08	0.43	0.54	0.52	0.36	0.33	0	2.9
VOC	0.41	0.36	0.1	0.52	0.64	0.62	0.43	0.39	0	3.47
								Network Total		21.32

Reduction	**4.27**

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	35	370	20	140	460	90	55	110	200	60	30	15
Future Volume (vph)	35	370	20	140	460	90	55	110	200	60	30	15
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8		8	2		2	6		6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	22.5	22.5	9.5	22.5	22.5	9.5	22.5	22.5	9.5	22.5	22.5
Total Split (s)	9.5	22.5	22.5	10.0	23.0	23.0	9.5	23.0	23.0	9.5	23.0	23.0
Total Split (%)	14.6%	34.6%	34.6%	15.4%	35.4%	35.4%	14.6%	35.4%	35.4%	14.6%	35.4%	35.4%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	None	None	None	Max	Max
Act Effct Green (s)	16.4	12.6	12.6	18.8	16.9	16.9	22.1	19.5	19.5	22.1	19.5	19.5
Actuated g/C Ratio	0.30	0.23	0.23	0.35	0.31	0.31	0.41	0.36	0.36	0.41	0.36	0.36
v/c Ratio	0.11	0.49	0.04	0.41	0.45	0.16	0.10	0.09	0.31	0.06	0.05	0.02
Control Delay	12.0	21.1	0.1	15.7	17.7	1.1	10.8	15.8	4.6	10.3	16.4	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	12.0	21.1	0.1	15.7	17.7	1.1	10.8	15.8	4.6	10.3	16.4	0.1
LOS	B	C	A	B	B	A	B	B	A	B	B	A
Approach Delay		19.4			15.1			8.9			10.6	
Approach LOS		B			B			A			B	

Intersection Summary	
Cycle Length: 65	
Actuated Cycle Length: 54	
Natural Cycle: 65	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.49	
Intersection Signal Delay: 14.5	Intersection LOS: B
Intersection Capacity Utilization 38.9%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 10: CSAH 14 & 20th Ave



Lane Group	EBT	WBL	WBT	NBL	NBR	SBL	SBT	SBR
Lane Configurations								
Traffic Volume (vph)	555	20	605	20	50	145	5	80
Future Volume (vph)	555	20	605	20	50	145	5	80
Turn Type	NA	Perm	NA	Prot	Perm	pm+pt	NA	Perm
Protected Phases	4		8	5		1	6	
Permitted Phases		8			2	6		6
Detector Phase	4	8	8	5	2	1	6	6
Switch Phase								
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5	22.5	22.5	9.5	22.5	9.5	22.5	22.5
Total Split (s)	22.5	22.5	22.5	9.5	22.5	10.0	23.0	23.0
Total Split (%)	40.9%	40.9%	40.9%	17.3%	40.9%	18.2%	41.8%	41.8%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag				Lead	Lag	Lead	Lag	Lag
Lead-Lag Optimize?				Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	Max	None	Max	Max
Act Effct Green (s)	14.7	14.7	14.7	5.1	18.6	25.4	24.4	24.4
Actuated g/C Ratio	0.29	0.29	0.29	0.10	0.37	0.51	0.49	0.49
v/c Ratio	0.32	0.10	0.63	0.12	0.08	0.18	0.01	0.10
Control Delay	14.4	14.4	18.6	24.6	0.7	7.6	10.0	2.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	14.4	14.4	18.6	24.6	0.7	7.6	10.0	2.2
LOS	B	B	B	C	A	A	A	A
Approach Delay	14.4		18.5				5.8	
Approach LOS	B		B				A	

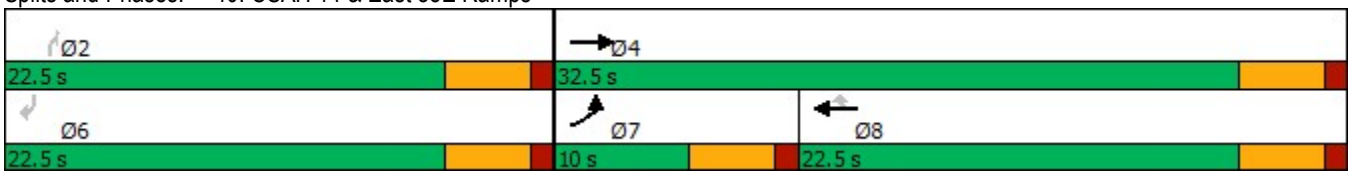
Intersection Summary	
Cycle Length: 55	
Actuated Cycle Length: 50	
Natural Cycle: 55	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.63	
Intersection Signal Delay: 14.5	Intersection LOS: B
Intersection Capacity Utilization 36.3%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 20: CSAH 14 & West 35E Ramps

Lane Group	EBL	EBT	WBT	WBR	NBR	SBR
Lane Configurations						
Traffic Volume (vph)	115	565	565	250	685	290
Future Volume (vph)	115	565	565	250	685	290
Turn Type	Prot	NA	NA	Perm	Perm	Perm
Protected Phases	7	4	8			
Permitted Phases				8	2	6
Detector Phase	7	4	8	8	2	6
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	22.5	22.5	22.5	22.5	22.5
Total Split (s)	10.0	32.5	22.5	22.5	22.5	22.5
Total Split (%)	18.2%	59.1%	40.9%	40.9%	40.9%	40.9%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag	Lead		Lag	Lag		
Lead-Lag Optimize?	Yes		Yes	Yes		
Recall Mode	None	None	None	None	Max	Max
Act Effct Green (s)	5.6	20.9	13.3	13.3	18.4	18.4
Actuated g/C Ratio	0.12	0.43	0.27	0.27	0.38	0.38
v/c Ratio	0.61	0.40	0.44	0.43	0.57	0.22
Control Delay	39.6	9.8	15.8	4.7	8.4	0.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	39.6	9.8	15.8	4.7	8.4	0.4
LOS	D	A	B	A	A	A
Approach Delay		14.8	12.4			
Approach LOS		B	B			

Intersection Summary	
Cycle Length: 55	
Actuated Cycle Length: 48.5	
Natural Cycle: 55	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.61	
Intersection Signal Delay: 10.5	Intersection LOS: B
Intersection Capacity Utilization 47.1%	ICU Level of Service A
Analysis Period (min) 15	

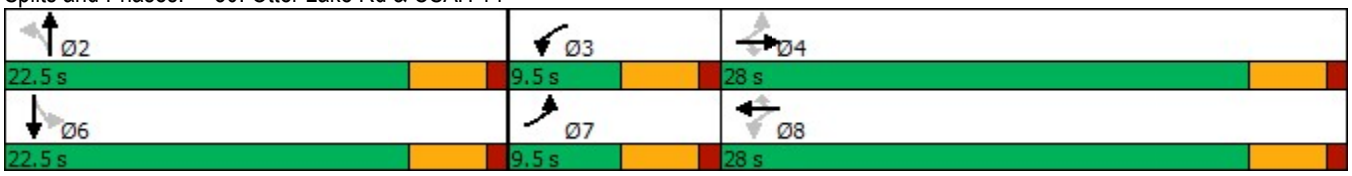
Splits and Phases: 40: CSAH 14 & East 35E Ramps



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	30	1245	70	55	765	20	95	10	20	10
Future Volume (vph)	30	1245	70	55	765	20	95	10	20	10
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	Perm	NA	Perm	NA
Protected Phases	7	4		3	8			2		6
Permitted Phases	4		4	8		8	2		6	
Detector Phase	7	4	4	3	8	8	2	2	6	6
Switch Phase										
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	22.5	22.5	9.5	22.5	22.5	22.5	22.5	22.5	22.5
Total Split (s)	9.5	28.0	28.0	9.5	28.0	28.0	22.5	22.5	22.5	22.5
Total Split (%)	15.8%	46.7%	46.7%	15.8%	46.7%	46.7%	37.5%	37.5%	37.5%	37.5%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag				
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes				
Recall Mode	None	None	None	None	None	None	Max	Max	Max	Max
Act Effct Green (s)	26.5	23.7	23.7	27.3	25.4	25.4	18.1	18.1	18.1	18.1
Actuated g/C Ratio	0.47	0.42	0.42	0.49	0.45	0.45	0.32	0.32	0.32	0.32
v/c Ratio	0.10	0.91	0.10	0.22	0.52	0.03	0.24	0.31	0.06	0.08
Control Delay	7.1	28.1	1.9	8.6	13.3	0.1	17.3	5.1	15.7	8.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	7.1	28.1	1.9	8.6	13.3	0.1	17.3	5.1	15.7	8.3
LOS	A	C	A	A	B	A	B	A	B	A
Approach Delay		26.3			12.7			9.3		10.7
Approach LOS		C			B			A		B

Intersection Summary	
Cycle Length: 60	
Actuated Cycle Length: 56.2	
Natural Cycle: 65	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.91	
Intersection Signal Delay: 19.5	Intersection LOS: B
Intersection Capacity Utilization 66.5%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 50: Otter Lake Rd & CSAH 14



10: CSAH 14 & 20th Ave

Direction	All
Future Volume (vph)	1585
Total Delay / Veh (s/v)	15
CO Emissions (kg)	1.85
NOx Emissions (kg)	0.36
VOC Emissions (kg)	0.43

20: CSAH 14 & West 35E Ramps

Direction	All
Future Volume (vph)	1480
Total Delay / Veh (s/v)	14
CO Emissions (kg)	1.65
NOx Emissions (kg)	0.32
VOC Emissions (kg)	0.38

30: SB On Ramp & CSAH 14

Direction	All
Future Volume (vph)	1655
Total Delay / Veh (s/v)	0
CO Emissions (kg)	0.40
NOx Emissions (kg)	0.08
VOC Emissions (kg)	0.09

40: CSAH 14 & East 35E Ramps

Direction	All
Future Volume (vph)	2470
Total Delay / Veh (s/v)	11
CO Emissions (kg)	2.17
NOx Emissions (kg)	0.42
VOC Emissions (kg)	0.50

50: Otter Lake Rd & CSAH 14

Direction	All
Future Volume (vph)	2520
Total Delay / Veh (s/v)	20
CO Emissions (kg)	2.85
NOx Emissions (kg)	0.55
VOC Emissions (kg)	0.66

100: Centerville Rd & Wilkinson Lake Blvd/CR J

Direction	All
Future Volume (vph)	1703
Total Delay / Veh (s/v)	85
CO Emissions (kg)	4.56
NOx Emissions (kg)	0.89
VOC Emissions (kg)	1.06

200: SB I-35E/CSAH 54 & CR J

Direction	All
Future Volume (vph)	1410
Total Delay / Veh (s/v)	3
CO Emissions (kg)	1.14
NOx Emissions (kg)	0.22
VOC Emissions (kg)	0.26

300: NB I-35E & CR J

Direction	All
Future Volume (vph)	1215
Total Delay / Veh (s/v)	36
CO Emissions (kg)	2.05
NOx Emissions (kg)	0.40
VOC Emissions (kg)	0.47

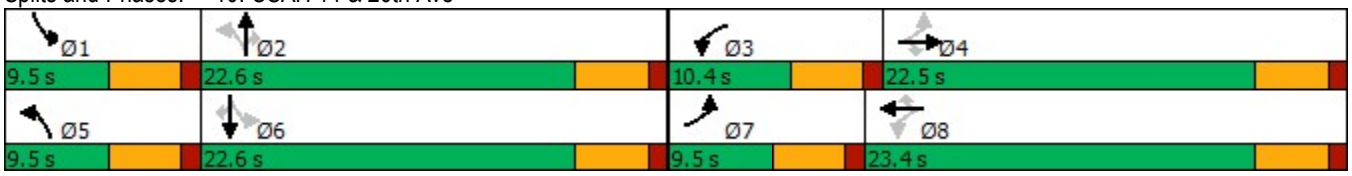
400: Otter Lake Rd & CR J

Direction	All
Future Volume (vph)	957
Total Delay / Veh (s/v)	13
CO Emissions (kg)	1.28
NOx Emissions (kg)	0.25
VOC Emissions (kg)	0.30

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	35	370	15	110	455	80	55	110	170	60	20	15
Future Volume (vph)	35	370	15	110	455	80	55	110	170	60	20	15
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8		8	2		2	6		6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	22.5	22.5	9.5	22.5	22.5	9.5	22.5	22.5	9.5	22.5	22.5
Total Split (s)	9.5	22.5	22.5	10.4	23.4	23.4	9.5	22.6	22.6	9.5	22.6	22.6
Total Split (%)	14.6%	34.6%	34.6%	16.0%	36.0%	36.0%	14.6%	34.8%	34.8%	14.6%	34.8%	34.8%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	None	None	None	Max	Max
Act Effct Green (s)	16.1	12.3	12.3	18.9	16.9	16.9	21.7	19.1	19.1	21.7	19.1	19.1
Actuated g/C Ratio	0.30	0.23	0.23	0.35	0.32	0.32	0.40	0.36	0.36	0.40	0.36	0.36
v/c Ratio	0.11	0.49	0.03	0.32	0.44	0.14	0.10	0.10	0.27	0.06	0.03	0.02
Control Delay	11.9	21.3	0.1	13.8	17.5	0.5	10.9	15.9	4.7	10.3	16.6	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	11.9	21.3	0.1	13.8	17.5	0.5	10.9	15.9	4.7	10.3	16.6	0.1
LOS	B	C	A	B	B	A	B	B	A	B	B	A
Approach Delay		19.8			14.7			9.4			10.1	
Approach LOS		B			B			A			B	

Intersection Summary	
Cycle Length: 65	
Actuated Cycle Length: 53.6	
Natural Cycle: 65	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.49	
Intersection Signal Delay: 14.7	Intersection LOS: B
Intersection Capacity Utilization 37.7%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 10: CSAH 14 & 20th Ave



Lane Group	EBT	WBL	WBT	NBL	NBR	SBL	SBR
Lane Configurations							
Traffic Volume (vph)	525	20	590	20	50	145	5	50
Future Volume (vph)	525	20	590	20	50	145	5	50
Turn Type	NA	Perm	NA	Prot	Perm	pm+pt	NA	Perm
Protected Phases	4		8	5		1	6	
Permitted Phases		8			2	6		6
Detector Phase	4	8	8	5	2	1	6	6
Switch Phase								
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5	22.5	22.5	9.5	22.5	9.5	22.5	22.5
Total Split (s)	22.5	22.5	22.5	9.5	22.5	10.0	23.0	23.0
Total Split (%)	40.9%	40.9%	40.9%	17.3%	40.9%	18.2%	41.8%	41.8%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag				Lead	Lag	Lead	Lag	Lag
Lead-Lag Optimize?				Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	Max	None	Max	Max
Act Effct Green (s)	14.5	14.5	14.5	5.1	18.6	25.3	24.3	24.3
Actuated g/C Ratio	0.29	0.29	0.29	0.10	0.37	0.51	0.49	0.49
v/c Ratio	0.31	0.10	0.62	0.12	0.08	0.18	0.01	0.06
Control Delay	14.3	14.3	18.5	24.5	0.7	7.6	10.0	0.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	14.3	14.3	18.5	24.5	0.7	7.6	10.0	0.6
LOS	B	B	B	C	A	A	A	A
Approach Delay	14.3		18.3				5.9	
Approach LOS	B		B				A	

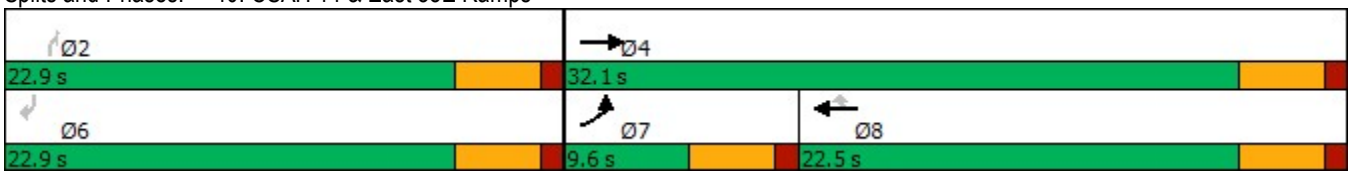
Intersection Summary	
Cycle Length: 55	
Actuated Cycle Length: 49.8	
Natural Cycle: 55	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.62	
Intersection Signal Delay: 14.5	Intersection LOS: B
Intersection Capacity Utilization 35.9%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 20: CSAH 14 & West 35E Ramps

Lane Group	EBL	EBT	WBT	WBR	NBR	SBR
Lane Configurations						
Traffic Volume (vph)	85	565	590	245	745	290
Future Volume (vph)	85	565	590	245	745	290
Turn Type	Prot	NA	NA	Perm	Perm	Perm
Protected Phases	7	4	8			
Permitted Phases				8	2	6
Detector Phase	7	4	8	8	2	6
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	22.5	22.5	22.5	22.5	22.5
Total Split (s)	9.6	32.1	22.5	22.5	22.9	22.9
Total Split (%)	17.5%	58.4%	40.9%	40.9%	41.6%	41.6%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag	Lead		Lag	Lag		
Lead-Lag Optimize?	Yes		Yes	Yes		
Recall Mode	None	None	None	None	Max	Max
Act Effct Green (s)	5.2	20.9	13.7	13.7	18.8	18.8
Actuated g/C Ratio	0.11	0.43	0.28	0.28	0.38	0.38
v/c Ratio	0.49	0.41	0.45	0.42	0.62	0.23
Control Delay	34.3	10.0	15.8	4.6	9.6	0.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	34.3	10.0	15.8	4.6	9.6	0.4
LOS	C	A	B	A	A	A
Approach Delay		13.2	12.5			
Approach LOS		B	B			

Intersection Summary	
Cycle Length: 55	
Actuated Cycle Length: 48.9	
Natural Cycle: 55	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.62	
Intersection Signal Delay: 10.4	Intersection LOS: B
Intersection Capacity Utilization 49.2%	ICU Level of Service A
Analysis Period (min) 15	

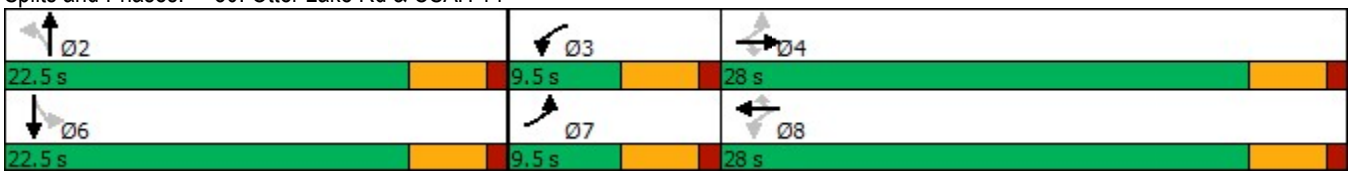
Splits and Phases: 40: CSAH 14 & East 35E Ramps



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	30	1305	70	15	805	20	75	10	20	10
Future Volume (vph)	30	1305	70	15	805	20	75	10	20	10
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	Perm	NA	Perm	NA
Protected Phases	7	4		3	8			2		6
Permitted Phases	4		4	8		8	2		6	
Detector Phase	7	4	4	3	8	8	2	2	6	6
Switch Phase										
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	22.5	22.5	9.5	22.5	22.5	22.5	22.5	22.5	22.5
Total Split (s)	9.5	28.0	28.0	9.5	28.0	28.0	22.5	22.5	22.5	22.5
Total Split (%)	15.8%	46.7%	46.7%	15.8%	46.7%	46.7%	37.5%	37.5%	37.5%	37.5%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag				
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes				
Recall Mode	None	None	None	None	None	None	Max	Max	Max	Max
Act Effct Green (s)	26.3	25.4	25.4	25.5	23.7	23.7	18.1	18.1	18.1	18.1
Actuated g/C Ratio	0.48	0.47	0.47	0.47	0.44	0.44	0.33	0.33	0.33	0.33
v/c Ratio	0.10	0.86	0.10	0.06	0.57	0.03	0.18	0.21	0.05	0.08
Control Delay	7.3	21.3	1.9	6.9	14.1	0.1	15.8	5.5	14.8	8.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	7.3	21.3	1.9	6.9	14.1	0.1	15.8	5.5	14.8	8.1
LOS	A	C	A	A	B	A	B	A	B	A
Approach Delay		20.0			13.6			9.4		10.3
Approach LOS		C			B			A		B

Intersection Summary	
Cycle Length: 60	
Actuated Cycle Length: 54.3	
Natural Cycle: 65	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.86	
Intersection Signal Delay: 16.8	Intersection LOS: B
Intersection Capacity Utilization 54.4%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 50: Otter Lake Rd & CSAH 14



10: CSAH 14 & 20th Ave

Direction	All
Future Volume (vph)	1495
Total Delay / Veh (s/v)	15
CO Emissions (kg)	1.76
NOx Emissions (kg)	0.34
VOC Emissions (kg)	0.41

20: CSAH 14 & West 35E Ramps

Direction	All
Future Volume (vph)	1405
Total Delay / Veh (s/v)	15
CO Emissions (kg)	1.56
NOx Emissions (kg)	0.30
VOC Emissions (kg)	0.36

30: SB On Ramp & CSAH 14

Direction	All
Future Volume (vph)	1650
Total Delay / Veh (s/v)	0
CO Emissions (kg)	0.41
NOx Emissions (kg)	0.08
VOC Emissions (kg)	0.10

40: CSAH 14 & East 35E Ramps

Direction	All
Future Volume (vph)	2520
Total Delay / Veh (s/v)	10
CO Emissions (kg)	2.23
NOx Emissions (kg)	0.43
VOC Emissions (kg)	0.52

50: Otter Lake Rd & CSAH 14

Direction	All
Future Volume (vph)	2501
Total Delay / Veh (s/v)	17
CO Emissions (kg)	2.76
NOx Emissions (kg)	0.54
VOC Emissions (kg)	0.64

100: Centerville Rd & Wilkinson Lake Blvd/CR J

Direction	All
Future Volume (vph)	1830
Total Delay / Veh (s/v)	0
CO Emissions (kg)	2.69
NOx Emissions (kg)	0.52
VOC Emissions (kg)	0.62

200: SB I-35E Ramps & CR J & CSAH 54

Direction	All
Future Volume (vph)	1635
Total Delay / Veh (s/v)	0
CO Emissions (kg)	1.86
NOx Emissions (kg)	0.36
VOC Emissions (kg)	0.43

300: NB I-35E Ramps & CSAH 60 & CR J/CSAH 84

Direction	All
Future Volume (vph)	1573
Total Delay / Veh (s/v)	0
CO Emissions (kg)	1.68
NOx Emissions (kg)	0.33
VOC Emissions (kg)	0.39

Intersection	
Intersection Delay, s/veh	10.4
Intersection LOS	B

Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	42	648	569	730
Demand Flow Rate, veh/h	43	668	592	754
Vehicles Circulating, veh/h	822	349	575	94
Vehicles Exiting, veh/h	17	565	289	345
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	6.9	11.2	10.0	10.1
Approach LOS	A	B	A	B

Lane	Left	Left	Bypass	Left	Bypass	Left	Bypass
Designated Moves	LTR	LT	R	LT	R	LT	R
Assumed Moves	LTR	LT	R	LT	R	LT	R
RT Channelized			Yield		Yield		Yield
Lane Util	1.000	1.000		1.000		1.000	
Follow-Up Headway, s	2.609	2.609		2.609		2.609	
Critical Headway, s	4.976	4.976	578	4.976	253	4.976	9
Entry Flow, veh/h	43	90	971	339	775	745	1356
Cap Entry Lane, veh/h	597	967	0.971	768	0.962	1254	0.971
Entry HV Adj Factor	0.988	0.964	561	0.962	243	0.968	9
Flow Entry, veh/h	42	87	942	326	746	721	1317
Cap Entry, veh/h	590	932	0.595	738	0.326	1214	0.007
V/C Ratio	0.072	0.093	12.3	0.442	8.8	0.594	2.8
Control Delay, s/veh	6.9	4.7	B	10.9	A	10.2	A
LOS	A	A	4	B	1	B	0
95th %tile Queue, veh	0	0		2		4	

Intersection	
Intersection Delay, s/veh	12.5
Intersection LOS	B

Approach	EB	WB	NB	SB
Entry Lanes	1	1	0	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	731	862	0	64
Demand Flow Rate, veh/h	756	900	0	68
Vehicles Circulating, veh/h	173	79	479	851
Vehicles Exiting, veh/h	746	400	450	172
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	12.3	13.3	0.0	8.0
Approach LOS	B	B	-	A

Lane	Left	Left	Left
Designated Moves	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR
RT Channelized			
Lane Util	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976
Entry Flow, veh/h	756	900	68
Cap Entry Lane, veh/h	1157	1273	579
Entry HV Adj Factor	0.967	0.958	0.946
Flow Entry, veh/h	731	862	64
Cap Entry, veh/h	1119	1219	548
V/C Ratio	0.654	0.707	0.117
Control Delay, s/veh	12.3	13.3	8.0
LOS	B	B	A
95th %tile Queue, veh	5	6	0

Intersection	
Intersection Delay, s/veh	
Intersection LOS	

Approach	SW
Entry Lanes	1
Conflicting Circle Lanes	1
Adj Approach Flow, veh/h	120
Demand Flow Rate, veh/h	123
Vehicles Circulating, veh/h	900
Vehicles Exiting, veh/h	79
Ped Vol Crossing Leg, #/h	0
Ped Cap Adj	1.000
Approach Delay, s/veh	9.7
Approach LOS	A

Lane	Left
Designated Moves	LR
Assumed Moves	LR
RT Channelized	
Lane Util	1.000
Follow-Up Headway, s	2.609
Critical Headway, s	4.976
Entry Flow, veh/h	123
Cap Entry Lane, veh/h	551
Entry HV Adj Factor	0.978
Flow Entry, veh/h	120
Cap Entry, veh/h	539
V/C Ratio	0.223
Control Delay, s/veh	9.7
LOS	A
95th %tile Queue, veh	1

Intersection	
Intersection Delay, s/veh	31.8
Intersection LOS	D

Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	0
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	377	187	827	0
Demand Flow Rate, veh/h	388	192	863	0
Vehicles Circulating, veh/h	59	986	446	1012
Vehicles Exiting, veh/h	953	397	0	166
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	5.6	13.7	49.7	0.0
Approach LOS	A	B	E	-

Lane	Left	Left	Left
Designated Moves	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR
RT Channelized			
Lane Util	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976
Entry Flow, veh/h	388	192	863
Cap Entry Lane, veh/h	1299	505	876
Entry HV Adj Factor	0.972	0.974	0.958
Flow Entry, veh/h	377	187	827
Cap Entry, veh/h	1263	492	839
V/C Ratio	0.299	0.380	0.986
Control Delay, s/veh	5.6	13.7	49.7
LOS	A	B	E
95th %tile Queue, veh	1	2	17

Intersection	
Intersection Delay, s/veh	
Intersection LOS	

Approach	NW
Entry Lanes	1
Conflicting Circle Lanes	1
Adj Approach Flow, veh/h	319
Demand Flow Rate, veh/h	326
Vehicles Circulating, veh/h	1057
Vehicles Exiting, veh/h	252
Ped Vol Crossing Leg, #/h	0
Ped Cap Adj	1.000
Approach Delay, s/veh	27.3
Approach LOS	D

Lane	Left
Designated Moves	LR
Assumed Moves	LR
RT Channelized	
Lane Util	1.000
Follow-Up Headway, s	2.609
Critical Headway, s	4.976
Entry Flow, veh/h	326
Cap Entry Lane, veh/h	470
Entry HV Adj Factor	0.979
Flow Entry, veh/h	319
Cap Entry, veh/h	459
V/C Ratio	0.694
Control Delay, s/veh	27.3
LOS	D
95th %tile Queue, veh	5

Cty Rd J Application

1	Main St/20th Ave		
	Existing Volume	1585	vehicles
	Existing Delay	15	sec/veh
	Existing Total Delay	23775	seconds
	Future Volume	1495	vehicles
	Future Delay	15	sec/veh
	Future Total Delay	22425	seconds
	Total Delay Reduction	1350	seconds

2	Main St/West Ramps		
	Existing Volume	1480	vehicles
	Existing Delay	14	sec/veh
	Existing Total Delay	20720	seconds
	Future Volume	1405	vehicles
	Future Delay	15	sec/veh
	Future Total Delay	21075	seconds
	Total Delay Reduction	-355	seconds

3	Main St/SB On Ramp		
	Existing Volume	1655	vehicles
	Existing Delay	0	sec/veh
	Existing Total Delay	0	seconds
	Future Volume	1650	vehicles
	Future Delay	0	sec/veh
	Future Total Delay	0	seconds
	Total Delay Reduction	0	seconds

4	Main St/East Ramps		
	Existing Volume	2470	vehicles
	Existing Delay	11	sec/veh
	Existing Total Delay	27170	seconds
	Future Volume	2520	vehicles
	Future Delay	10	sec/veh
	Future Total Delay	25200	seconds
	Total Delay Reduction	1970	seconds

5	Main St/Otter Lake Rd		
	Existing Volume	2520	vehicles
	Existing Delay	20	sec/veh
	Existing Total Delay	50400	seconds
	Future Volume	2500	vehicles
	Future Delay	17	sec/veh
	Future Total Delay	42500	seconds
	Total Delay Reduction	7900	seconds

6	CR J/Centerville Rd		
	Existing Volume	1703	vehicles
	Existing Delay	85	sec/veh
	Existing Total Delay	144755	seconds
	Future Volume	1830	vehicles
	Future Delay	10	sec/veh
	Future Total Delay	18300	seconds
	Total Delay Reduction	126455	seconds

7	CR J/West Ramps		
	Existing Volume	1410	vehicles
	Existing Delay	3	sec/veh
	Existing Total Delay	4230	seconds
	Future Volume	1635	vehicles
	Future Delay	13	sec/veh
	Future Total Delay	21255	seconds
	Total Delay Reduction	-17025	seconds

8	CR J/East Ramps		
	Existing Volume	1215	vehicles
	Existing Delay	36	sec/veh
	Existing Total Delay	43740	seconds
	Future Volume	1573	vehicles
	Future Delay	32	sec/veh
	Future Total Delay	50336	seconds
	Total Delay Reduction	-6596	seconds

CR J/Otter Lake Rd		
Existing Volume	957	vehicles
Existing Delay	13	sec/veh
Existing Total Delay	12441	seconds
Future Volume	0	vehicles
Future Delay	0	sec/veh
Future Total Delay	0	seconds
Total Delay Reduction	12441	seconds

Total Network Delay Reduction	**126140**	**seconds**

Emissions

Existing	1	2	3	4	5	6	7	8	9	Total
CO	1.85	1.65	0.4	2.17	2.85	4.56	1.14	2.05	1.28	17.95
NO	0.36	0.32	0.08	0.42	0.55	0.89	0.22	0.4	0.25	3.49
VOC	0.43	0.38	0.09	0.5	0.66	1.06	0.26	0.47	0.3	4.15
								Network Total		25.59

Build	1	2	3	4	5	6	7	8	9	Total
CO	1.76	1.56	0.41	2.23	2.76	2.69	1.86	1.68	0	14.95
NO	0.34	0.3	0.08	0.43	0.54	0.52	0.36	0.33	0	2.9
VOC	0.41	0.36	0.1	0.52	0.64	0.62	0.43	0.39	0	3.47
								Network Total		21.32

Reduction	**4.27**

Benefit Cost Summary Table

COSTS	Total Project Cost		$14,549,729
CRASH REDUCTION BENEFITS (ANOKA CO)	Benefits from Volume Reduction (and therefore crash reduction) at CSAH 14 (Main St. in Anoka Co.) and 20th Ave	$	428,759
	Benefits from Volume Reduction (and therefore crash reduction) at CSAH 14 and West 35E Ramp	$	237,487
	Benefits from Volume Reduction (and therefore crash reduction) at CSAH 14 and East 35E Ramp	$	-
	Benefits from Volume Reduction (and therefore crash reduction) at CSAH 14 and Otter Lake Rd.	$	-
CRASH REDUCTION BENEFITS (RAMSEY CO)	Conversion of stop-controlled intersection into single-lane roundabout at CSAH 81 (County Road J in Ramsey Co.) and Centerville Rd. (S. Junction)	$	113,873
	Conversion of stop-controlled intersection into single-lane roundabout at CSAH 81 and West 35E Ramp	$	2,908,961
	Conversion of stop-controlled intersection into single-lane roundabout at CSAH 81 and East 35E Ramp/Otter Lake Rd.	$	1,757,625
	Total Benefits	$	5,446,705

Calculated Benefit Cost Ratio for Entire Project	0.4

Traffic Safety Benefit-Cost Calculation

Highway Safety Improvement Program (HSIP) Reactive Project

DEPARTMENT OF TRANSPORTATION

A. Roadway Description

Route	CSAH 14	**District**		**County**	Ramsey/Anoka
Begin RP		**End RP**		**Miles**	
Location	Intersection with 20th				

B. Project Description

Proposed Work	Adding NB on and SB off ramps at CR J to the south		
Project Cost*	$14,549,729	**Installation Year**	2024
Project Service Life	20 years	**Traffic Growth Factor**	2.0%

** exclude Right of Way from Project Cost*

C. Crash Modification Factor

0.83	**Fatal (K) Crashes**	**Reference**	Crash Analysis
0.83	**Serious Injury (A) Crashes**		
0.83	**Moderate Injury (B) Crashes**	**Crash Type**	All
0.83	**Possible Injury (C) Crashes**		
0.83	**Property Damage Only Crashes**		www.CMFclearinghouse.org

D. Crash Modification Factor (optional second CMF)

	Fatal (K) Crashes	**Reference**	
	Serious Injury (A) Crashes		
	Moderate Injury (B) Crashes	**Crash Type**	
	Possible Injury (C) Crashes		
	Property Damage Only Crashes		www.CMFclearinghouse.org

E. Crash Data

Begin Date	1/1/2019	**End Date**	12/31/2021	3 years
Data Source	MnDOT MnCMAT			

Crash Severity	**All**	**< optional 2nd CMF >**
K crashes		
A crashes		
B crashes	1	
C crashes		
PDO crashes	8	

F. Benefit-Cost Calculation

$428,759	**Benefit (present value)**	**B/C Ratio = 0.03**
$14,549,729	**Cost**	

Proposed project expected to reduce 1 crashes annually, 0 of which involving fatality or serious injury.

F. Analysis Assumptions

Crash Severity	Crash Cost
K crashes	$1,500,000
A crashes	$750,000
B crashes	$230,000
C crashes	$120,000
PDO crashes	$13,000

Link: mndot.gov/planning/program/appendix_a.html

Real Discount Rate	0.7%
Traffic Growth Rate	2.0%
Project Service Life	20 years

G. Annual Benefit

Crash Severity	Crash Reduction	Annual Reduction	Annual Benefit
K crashes	0.00	0.00	$0
A crashes	0.00	0.00	$0
B crashes	0.17	0.06	$13,033
C crashes	0.00	0.00	$0
PDO crashes	1.36	0.45	$5,893
			$18,927

H. Amortized Benefit

Year	Crash Benefits	Present Value
2024	$18,927	$18,927
2025	$19,305	$19,171
2026	$19,691	$19,418
2027	$20,085	$19,669
2028	$20,487	$19,923
2029	$20,897	$20,180
2030	$21,315	$20,441
2031	$21,741	$20,705
2032	$22,176	$20,972
2033	$22,619	$21,243
2034	$23,072	$21,517
2035	$23,533	$21,795
2036	$24,004	$22,076
2037	$24,484	$22,361
2038	$24,973	$22,650
2039	$25,473	$22,942
2040	$25,982	$23,238
2041	$26,502	$23,538
2042	$27,032	$23,842
2043	$27,573	$24,150
0	$0	$0
0	$0	$0
0	$0	$0
0	$0	$0
0	$0	$0
0	$0	$0
0	$0	$0
0	$0	$0
0	$0	$0
0	$0	$0
0	$0	$0

Total = $428,759

Traffic Safety Benefit-Cost Calculation

Highway Safety Improvement Program (HSIP) Reactive Project

DEPARTMENT OF TRANSPORTATION

A. Roadway Description

Route	CSAH 14	**District**		**County**	Ramsey/Anoka
Begin RP		**End RP**		**Miles**	
Location	Intersection with West 35E Ramp				

B. Project Description

Proposed Work	Adding NB on and SB off ramps at CR J to the south		
Project Cost*	$14,549,729	**Installation Year**	2024
Project Service Life	20 years	**Traffic Growth Factor**	2.0%

** exclude Right of Way from Project Cost*

C. Crash Modification Factor

0.83	**Fatal (K) Crashes**	**Reference**	Crash Analysis
0.83	**Serious Injury (A) Crashes**		
0.83	**Moderate Injury (B) Crashes**	**Crash Type**	All
0.83	**Possible Injury (C) Crashes**		
0.83	**Property Damage Only Crashes**		www.CMFclearinghouse.org

D. Crash Modification Factor (optional second CMF)

	Fatal (K) Crashes	**Reference**	
	Serious Injury (A) Crashes		
	Moderate Injury (B) Crashes	**Crash Type**	
	Possible Injury (C) Crashes		
	Property Damage Only Crashes		www.CMFclearinghouse.org

E. Crash Data

Begin Date 1/1/2019 **End Date** 12/31/2021 3 years

Data Source

Crash Severity	All	< optional 2nd CMF >
K crashes		
A crashes		
B crashes		
C crashes	1	
PDO crashes	5	

F. Benefit-Cost Calculation

$237,487	**Benefit (present value)**	**B/C Ratio = 0.02**
$14,549,729	**Cost**	

Proposed project expected to reduce 1 crashes annually, 0 of which involving fatality or serious injury.

F. Analysis Assumptions

Crash Severity	Crash Cost
K crashes	$1,500,000
A crashes	$750,000
B crashes	$230,000
C crashes	$120,000
PDO crashes	$13,000

Link: mndot.gov/planning/program/appendix_a.html

Real Discount Rate	0.7%
Traffic Growth Rate	2.0%
Project Service Life	20 years

G. Annual Benefit

Crash Severity	Crash Reduction	Annual Reduction	Annual Benefit
K crashes	0.00	0.00	$0
A crashes	0.00	0.00	$0
B crashes	0.00	0.00	$0
C crashes	0.17	0.06	$6,800
PDO crashes	0.85	0.28	$3,683
			$10,483

H. Amortized Benefit

Year	Crash Benefits	Present Value
2024	$10,483	$10,483
2025	$10,693	$10,619
2026	$10,907	$10,756
2027	$11,125	$10,895
2028	$11,347	$11,035
2029	$11,574	$11,178
2030	$11,806	$11,322
2031	$12,042	$11,468
2032	$12,283	$11,616
2033	$12,529	$11,766
2034	$12,779	$11,918
2035	$13,035	$12,072
2036	$13,295	$12,228
2037	$13,561	$12,386
2038	$13,833	$12,546
2039	$14,109	$12,707
2040	$14,391	$12,872
2041	$14,679	$13,038
2042	$14,973	$13,206
2043	$15,272	$13,377
0	$0	$0
0	$0	$0
0	$0	$0
0	$0	$0
0	$0	$0
0	$0	$0
0	$0	$0
0	$0	$0
0	$0	$0
0	$0	$0
0	$0	$0

Total = $237,487

Traffic Safety Benefit-Cost Calculation

Highway Safety Improvement Program (HSIP) Reactive Project

DEPARTMENT OF TRANSPORTATION

A. Roadway Description

Route	CSAH 14	**District**		**County**	Ramsey/Anoka
Begin RP		**End RP**		**Miles**	
Location	Intersection with East 35E Ramp				

B. Project Description

Proposed Work	Adding NB on and SB off ramps at CR J to the south		
Project Cost*	$14,549,729	**Installation Year**	2024
Project Service Life	20 years	**Traffic Growth Factor**	2.0%

** exclude Right of Way from Project Cost*

C. Crash Modification Factor

1.00	**Fatal (K) Crashes**	**Reference**	Crash Analysis
1.00	**Serious Injury (A) Crashes**		
1.00	**Moderate Injury (B) Crashes**	**Crash Type**	All
1.00	**Possible Injury (C) Crashes**		
1.00	**Property Damage Only Crashes**		www.CMFclearinghouse.org

D. Crash Modification Factor (optional second CMF)

	Fatal (K) Crashes	**Reference**	
	Serious Injury (A) Crashes		
	Moderate Injury (B) Crashes	**Crash Type**	
	Possible Injury (C) Crashes		
	Property Damage Only Crashes		www.CMFclearinghouse.org

E. Crash Data

Begin Date	1/1/2019	**End Date**	12/31/2021	3 years
Data Source				

Crash Severity	All	< optional 2nd CMF >
K crashes		
A crashes		
B crashes	1	
C crashes	2	
PDO crashes	18	

F. Benefit-Cost Calculation

$0	**Benefit (present value)**	**B/C Ratio = 0.00**
$14,549,729	**Cost**	

Proposed project expected to reduce 0 crashes annually, 0 of which involving fatality or serious injury.

F. Analysis Assumptions

Crash Severity	Crash Cost
K crashes	$1,500,000
A crashes	$750,000
B crashes	$230,000
C crashes	$120,000
PDO crashes	$13,000

Link: mndot.gov/planning/program/appendix_a.html

Real Discount Rate 0.7%

Traffic Growth Rate 2.0%

Project Service Life 20 years

G. Annual Benefit

Crash Severity	Crash Reduction	Annual Reduction	Annual Benefit
K crashes	0.00	0.00	$0
A crashes	0.00	0.00	$0
B crashes	0.00	0.00	$0
C crashes	0.00	0.00	$0
PDO crashes	0.00	0.00	$0
			$0

H. Amortized Benefit

Total = $0

Year	Crash Benefits	Present Value
2024	$0	$0
2025	$0	$0
2026	$0	$0
2027	$0	$0
2028	$0	$0
2029	$0	$0
2030	$0	$0
2031	$0	$0
2032	$0	$0
2033	$0	$0
2034	$0	$0
2035	$0	$0
2036	$0	$0
2037	$0	$0
2038	$0	$0
2039	$0	$0
2040	$0	$0
2041	$0	$0
2042	$0	$0
2043	$0	$0
0	$0	$0
0	$0	$0
0	$0	$0
0	$0	$0
0	$0	$0
0	$0	$0
0	$0	$0
0	$0	$0
0	$0	$0
0	$0	$0
0	$0	$0

Traffic Safety Benefit-Cost Calculation

Highway Safety Improvement Program (HSIP) Reactive Project

DEPARTMENT OF TRANSPORTATION

A. Roadway Description

Route	CSAH 14	**District**		**County**	Ramsey/Anoka
Begin RP		**End RP**		**Miles**	
Location	Intersection with Otter Lake Rd				

B. Project Description

Proposed Work	Adding NB on and SB off ramps at CR J to the south		
Project Cost*	$14,549,729	**Installation Year**	2024
Project Service Life	20 years	**Traffic Growth Factor**	2.0%

** exclude Right of Way from Project Cost*

C. Crash Modification Factor

1.00	**Fatal (K) Crashes**	**Reference**	Crash Analysis
1.00	**Serious Injury (A) Crashes**		
1.00	**Moderate Injury (B) Crashes**	**Crash Type**	All
1.00	**Possible Injury (C) Crashes**		
1.00	**Property Damage Only Crashes**		www.CMFclearinghouse.org

D. Crash Modification Factor (optional second CMF)

	Fatal (K) Crashes	**Reference**	
	Serious Injury (A) Crashes		
	Moderate Injury (B) Crashes	**Crash Type**	
	Possible Injury (C) Crashes		
	Property Damage Only Crashes		www.CMFclearinghouse.org

E. Crash Data

Begin Date	1/1/2019	**End Date**	12/31/2021	3 years
Data Source				

Crash Severity	All	< optional 2nd CMF >
K crashes		
A crashes		
B crashes		
C crashes	2	
PDO crashes	9	

F. Benefit-Cost Calculation

$0	**Benefit (present value)**	**B/C Ratio = 0.00**
$14,549,729	**Cost**	

Proposed project expected to reduce 0 crashes annually, 0 of which involving fatality or serious injury.

F. Analysis Assumptions

Crash Severity	Crash Cost
K crashes	$1,500,000
A crashes	$750,000
B crashes	$230,000
C crashes	$120,000
PDO crashes	$13,000

Link: mndot.gov/planning/program/appendix_a.html

Real Discount Rate 0.7%

Traffic Growth Rate 2.0%

Project Service Life 20 years

G. Annual Benefit

Crash Severity	Crash Reduction	Annual Reduction	Annual Benefit
K crashes	0.00	0.00	$0
A crashes	0.00	0.00	$0
B crashes	0.00	0.00	$0
C crashes	0.00	0.00	$0
PDO crashes	0.00	0.00	$0
			$0

H. Amortized Benefit

Total = $0

Year	Crash Benefits	Present Value
2024	$0	$0
2025	$0	$0
2026	$0	$0
2027	$0	$0
2028	$0	$0
2029	$0	$0
2030	$0	$0
2031	$0	$0
2032	$0	$0
2033	$0	$0
2034	$0	$0
2035	$0	$0
2036	$0	$0
2037	$0	$0
2038	$0	$0
2039	$0	$0
2040	$0	$0
2041	$0	$0
2042	$0	$0
2043	$0	$0
0	$0	$0
0	$0	$0
0	$0	$0
0	$0	$0
0	$0	$0
0	$0	$0
0	$0	$0
0	$0	$0
0	$0	$0
0	$0	$0
0	$0	$0

Traffic Safety Benefit-Cost Calculation

Highway Safety Improvement Program (HSIP) Reactive Project

DEPARTMENT OF TRANSPORTATION

A. Roadway Description

Route	CSAH 81 (CR J)	**District**	1	**County**	Ramsey
Begin RP	0	**End RP**	0	**Miles**	0.000
Location	Intersection with Centerville Rd. (S. Junction)				

B. Project Description

Proposed Work	Conversion of stop-controlled intersection into single-lane roundabout		
Project Cost*	$14,549,729	**Installation Year**	2024
Project Service Life	20 years	**Traffic Growth Factor**	2.0%

** exclude Right of Way from Project Cost*

C. Crash Modification Factor

0.18	**Fatal (K) Crashes**	**Reference**	CMF Clearinghouse
0.18	**Serious Injury (A) Crashes**		
0.18	**Moderate Injury (B) Crashes**	**Crash Type**	All
0.42	**Possible Injury (C) Crashes**		
0.42	**Property Damage Only Crashes**		www.CMFclearinghouse.org

D. Crash Modification Factor (optional second CMF)

	Fatal (K) Crashes	**Reference**	
	Serious Injury (A) Crashes		
	Moderate Injury (B) Crashes	**Crash Type**	
	Possible Injury (C) Crashes		
	Property Damage Only Crashes		www.CMFclearinghouse.org

E. Crash Data

Begin Date 1/1/2019 **End Date** 12/31/2021 3 years

Data Source

Crash Severity	All	< optional 2nd CMF >
K crashes		
A crashes		
B crashes		
C crashes		
PDO crashes	2	

F. Benefit-Cost Calculation

$113,873	**Benefit (present value)**	**B/C Ratio = 0.01**
$14,549,729	**Cost**	

Proposed project expected to reduce 1 crashes annually, 0 of which involving fatality or serious injury.

F. Analysis Assumptions

Crash Severity	Crash Cost
K crashes	$1,500,000
A crashes	$750,000
B crashes	$230,000
C crashes	$120,000
PDO crashes	$13,000

Link: mndot.gov/planning/program/appendix_a.html

Real Discount Rate 0.7%

Traffic Growth Rate 2.0%

Project Service Life 20 years

G. Annual Benefit

Crash Severity	Crash Reduction	Annual Reduction	Annual Benefit
K crashes	0.00	0.00	$0
A crashes	0.00	0.00	$0
B crashes	0.00	0.00	$0
C crashes	0.00	0.00	$0
PDO crashes	1.16	0.39	$5,027
			$5,027

H. Amortized Benefit

Year	Crash Benefits	Present Value
2024	$5,027	$5,027
2025	$5,127	$5,092
2026	$5,230	$5,157
2027	$5,334	$5,224
2028	$5,441	$5,291
2029	$5,550	$5,360
2030	$5,661	$5,429
2031	$5,774	$5,499
2032	$5,890	$5,570
2033	$6,007	$5,642
2034	$6,127	$5,715
2035	$6,250	$5,788
2036	$6,375	$5,863
2037	$6,503	$5,939
2038	$6,633	$6,015
2039	$6,765	$6,093
2040	$6,901	$6,172
2041	$7,039	$6,251
2042	$7,179	$6,332
2043	$7,323	$6,414
0	$0	$0
0	$0	$0
0	$0	$0
0	$0	$0
0	$0	$0
0	$0	$0
0	$0	$0
0	$0	$0
0	$0	$0
0	$0	$0

Total = $113,873

Traffic Safety Benefit-Cost Calculation

Highway Safety Improvement Program (HSIP) Reactive Project

DEPARTMENT OF TRANSPORTATION

A. Roadway Description

Route	CSAH 81 (CR J)	**District**	1	**County**	Ramsey
Begin RP	0.328	**End RP**	0.328	**Miles**	0.000
Location	Intersection with 20th Ave/West 35E W. Ramp				

B. Project Description

Proposed Work	Conversion from a side-street stop controlled to roundabout intersection		
Project Cost*	$14,549,729	**Installation Year**	2024
Project Service Life	20 years	**Traffic Growth Factor**	2.0%

** exclude Right of Way from Project Cost*

C. Crash Modification Factor

0.13	**Fatal (K) Crashes**	**Reference**	CMF Clearinghouse
0.13	**Serious Injury (A) Crashes**		
0.13	**Moderate Injury (B) Crashes**	**Crash Type**	All
0.29	**Possible Injury (C) Crashes**		
0.29	**Property Damage Only Crashes**		www.CMFclearinghouse.org

D. Crash Modification Factor (optional second CMF)

0.00	**Fatal (K) Crashes**	**Reference**	Engineering Judgement
0.00	**Serious Injury (A) Crashes**		
0.00	**Moderate Injury (B) Crashes**	**Crash Type**	Left Turn and Angle Crashes
0.00	**Possible Injury (C) Crashes**		
0.00	**Property Damage Only Crashes**		www.CMFclearinghouse.org

E. Crash Data

Begin Date 1/1/2019 **End Date** 12/31/2021 3 years

Data Source

Crash Severity	All	Left Turn and Angle Crashes
K crashes		
A crashes		
B crashes		1
C crashes		1
PDO crashes	1	2

F. Benefit-Cost Calculation

$2,908,961	**Benefit (present value)**	**B/C Ratio = 0.20**
$14,549,729	**Cost**	

Proposed project expected to reduce 2 crashes annually, 0 of which involving fatality or serious injury.

F. Analysis Assumptions

Crash Severity	Crash Cost
K crashes	$1,500,000
A crashes	$750,000
B crashes	$230,000
C crashes	$120,000
PDO crashes	$13,000

Link: mndot.gov/planning/program/appendix_a.html

Real Discount Rate 0.7%

Traffic Growth Rate 2.0%

Project Service Life 20 years

G. Annual Benefit

Crash Severity	Crash Reduction	Annual Reduction	Annual Benefit
K crashes	0.00	0.00	$0
A crashes	0.00	0.00	$0
B crashes	1.00	0.33	$76,667
C crashes	1.00	0.33	$40,000
PDO crashes	2.71	0.90	$11,743
			$128,410

H. Amortized Benefit

Year	Crash Benefits	Present Value
2024	$128,410	$128,410
2025	$130,978	$130,068
2026	$133,598	$131,747
2027	$136,270	$133,448
2028	$138,995	$135,170
2029	$141,775	$136,915
2030	$144,611	$138,683
2031	$147,503	$140,473
2032	$150,453	$142,287
2033	$153,462	$144,124
2034	$156,531	$145,984
2035	$159,662	$147,869
2036	$162,855	$149,778
2037	$166,112	$151,711
2038	$169,434	$153,670
2039	$172,823	$155,654
2040	$176,279	$157,663
2041	$179,805	$159,698
2042	$183,401	$161,760
2043	$187,069	$163,848
0	$0	$0
0	$0	$0
0	$0	$0
0	$0	$0
0	$0	$0
0	$0	$0
0	$0	$0
0	$0	$0
0	$0	$0
0	$0	$0
0	$0	$0

Total = $2,908,961

Traffic Safety Benefit-Cost Calculation

Highway Safety Improvement Program (HSIP) Reactive Project

DEPARTMENT OF TRANSPORTATION

A. Roadway Description

Route	CSAH 81 (CR J)	**District**	1	**County**	Ramsey
Begin RP	0.364	**End RP**	0.427	**Miles**	0.000
Location	Intersection with East 35E Ramp and Otter Lake Rd				

B. Project Description

Proposed Work	Convert intersection with minor-road stop control to modern roundabout		
Project Cost*	$14,549,729	**Installation Year**	2024
Project Service Life	20 years	**Traffic Growth Factor**	2.0%

** exclude Right of Way from Project Cost*

C. Crash Modification Factor

0.18	**Fatal (K) Crashes**	**Reference**	CMF Clearinghouse
0.18	**Serious Injury (A) Crashes**		
0.18	**Moderate Injury (B) Crashes**	**Crash Type**	All
0.42	**Possible Injury (C) Crashes**		
0.42	**Property Damage Only Crashes**		www.CMFclearinghouse.org

D. Crash Modification Factor (optional second CMF)

0.00	**Fatal (K) Crashes**	**Reference**	Engineering Judgement
0.00	**Serious Injury (A) Crashes**		
0.00	**Moderate Injury (B) Crashes**	**Crash Type**	Left Turn and Angle Crashes
0.00	**Possible Injury (C) Crashes**		
0.00	**Property Damage Only Crashes**		www.CMFclearinghouse.org

E. Crash Data

Begin Date 1/1/2019 **End Date** 12/31/2021 3 years

Data Source

Crash Severity	All	Left Turn and Angle Crashes
K crashes		
A crashes		
B crashes		
C crashes	1	1
PDO crashes	4	1

F. Benefit-Cost Calculation

$1,757,625	**Benefit (present value)**	**B/C Ratio = 0.13**
$14,549,729	**Cost**	

Proposed project expected to reduce 2 crashes annually, 0 of which involving fatality or serious injury.

F. Analysis Assumptions

Crash Severity	Crash Cost
K crashes	$1,500,000
A crashes	$750,000
B crashes	$230,000
C crashes	$120,000
PDO crashes	$13,000

Link: mndot.gov/planning/program/appendix_a.html

Real Discount Rate	0.7%
Traffic Growth Rate	2.0%
Project Service Life	20 years

G. Annual Benefit

Crash Severity	Crash Reduction	Annual Reduction	Annual Benefit
K crashes	0.00	0.00	$0
A crashes	0.00	0.00	$0
B crashes	0.00	0.00	$0
C crashes	1.58	0.53	$63,200
PDO crashes	3.32	1.11	$14,387
			$77,587

H. Amortized Benefit

Year	Crash Benefits	Present Value
2024	$77,587	$77,587
2025	$79,138	$78,588
2026	$80,721	$79,603
2027	$82,336	$80,630
2028	$83,982	$81,671
2029	$85,662	$82,726
2030	$87,375	$83,794
2031	$89,123	$84,875
2032	$90,905	$85,971
2033	$92,723	$87,081
2034	$94,578	$88,205
2035	$96,469	$89,344
2036	$98,399	$90,497
2037	$100,367	$91,666
2038	$102,374	$92,849
2039	$104,421	$94,048
2040	$106,510	$95,262
2041	$108,640	$96,491
2042	$110,813	$97,737
2043	$113,029	$98,999
0	$0	$0
0	$0	$0
0	$0	$0
0	$0	$0
0	$0	$0
0	$0	$0
0	$0	$0
0	$0	$0
0	$0	$0
0	$0	$0
0	$0	$0

Total = $1,757,625

CSAH 14 Crash Analysis March 2021 supporting the Cty Rd J Interchange Modification Regional Solicitation Application

Crash reduction along CSAH 14 (Anoka County) due to redirection of traffic

	Intersections	Total Number of Crashes	Years of Data	ADT*	Calculated Crash Rate (Million Entering Vehicles)
Existing	CSAH 14 and 20th Ave	9	3	20175	**0.41**
Future	CSAH 14 and 20th Ave	8	3	19325	**0.38**
Existing	CSAH 14 and West 35E Ramps	6	3	22150	**0.25**
Future	CSAH 14 and West 35E Ramps	5	3	21150	**0.22**
Existing	CSAH 14 and East 35E Ramps	21	3	28750	**0.67**
Future	CSAH 14 and East 35E Ramps	21	3	29050	**0.67**
Existing	CSAH 14 and Otter Lake Rd	11	3	27600	**0.37**
Future	CSAH 14 and Otter Lake Rd	11	3	27600	**0.37**

	Crashes	
Existing	47	
Future	45	
	2	*Less Crashes Post-implementation*

Reduction based on decreased volumes from Cty J Interchange

Modification		**CMF**
20th Ave	**17%**	**0.83**
West 35E Ramp	**17%**	**0.83**
East 35E Ramps	**0%**	**1.00**
Otter Lake Rd	**0%**	**1.00**

CSAH 14 Crash Analysis March 2021 supporting the Cty Rd J Interchange Modification Regional Solicitation Application

	Intersections	Total Number of Crashes	Years of Data	ADT*	Calculated Crash Rate (Million Entering Vehicles)
Existing	CSAH 81 and Centerville Rd. (South)	2	3	15050	**0.13**
Future	CSAH 81 and Centerville Rd. (South)	1	3	15050	**0.07**
Existing	CSAH 81 and 20th Ave/West 35E Ramp	5	3	11100	**0.42**
Future	CSAH 81 and 20th Ave/West 35E Ramp	0	3	11100	**0.00**
Existing	CSAH 81 and East 35E Ramp	7	3	13000	**0.50**
Future	CSAH 81 and East 35E Ramp	2	3	13000	**0.15**
Existing	CSAH 81 and Otter Lake Rd	0	3	9300	**0.00**
Future	CSAH 81 and Otter Lake Rd	0	3	9300	**0.00**

	Crashes	
Existing	14	
Future	3	
	11	*Less Crashes Post-project implementation*

Reduction based on decreased volumes from Cty J Interchange

Modification	CMF		Severity or Type
Centerville Rd. (South)	**82%**	**0.18**	**K/A**
	58%	**0.42**	**B/C/PDO**
20th Ave/West 35E Ramp	**87%**	**0.13**	**K/A**
	71%	**0.29**	**B/C/PDO**
	100%	**0.00**	**Left Turn/Angle**
East 35E Ramp	**82%**	**0.18**	**K/A**
	58%	**0.42**	**B/C/PDO**
	100%	**0.00**	**Left Turn/Angle**
Otter Lake Rd	**82%**	**0.18**	**K/A**
	58%	**0.42**	**B/C/PDO**

▼ Countermeasure: Convert intersection with minor-road stop control to modern roundabout

Compare	CMF	CRF(%)	Quality	Crash Type	Crash Severity	Area Type	Reference	Comments
☐	0.56 [B]	44	★★★★★	All	All	All	RODEGERDTS ET AL., 2007	Countermeasure name changed from "convert ... [*READ MORE*]
☐	0.18 [B]	82	★★★★★	All	Serious Injury,Minor Injury	All	RODEGERDTS ET AL., 2007	Countermeasure name changed from "convert ... [*READ MORE*]
☐	0.29 [B]	71	★★★★★	All	All	Rural	RODEGERDTS ET AL., 2007	Countermeasure name changed from "convert ... [*READ MORE*]
☐	0.13 [B]	87	★★★★★	All	Serious Injury,Minor Injury	Rural	RODEGERDTS ET AL., 2007	Countermeasure name changed from "convert ... [*READ MORE*]

▼ Countermeasure: Conversion of stop-controlled intersection into single-lane roundabout

Compare	CMF	CRF(%)	Quality	Crash Type	Crash Severity	Area Type	Reference	Comments
☐	0.28	72	★★★★☆	All	All	Urban	PERSAUD ET AL., 2001	
☐	0.42	58	★★★★☆	All	All	Rural	PERSAUD ET AL., 2001	
☐	0.12	88	★★★★☆	All	Serious injury,Minor injury	Urban	PERSAUD ET AL., 2001	
☐	0.18	82	★★★★☆	All	Serious injury,Minor injury	Rural	PERSAUD ET AL., 2001	

Compare Reset Compare

*NOTE: You can compare CMFs across countermeasures, subcategories, and categories.

CSAH14-W35ERamp

INCIDENTI	RTESYSCOI	RTENUMBI	MEASURE	COUNTY_S	CITY_NAM	TOWNSHIP	MNDOT_D	STATE_PAT	TRIBAL_GC	LOCALID	ACCIDENT_	CRASH_MC	CRASH_DA	CRASH_YE/	CRASH_DA	CRASH_HO	DIVIDEDRD	CRASHSEVI	NUMBERKI	NUMBERO	MANNERO	FIRSTHARN	RELATIONT	LIGHTCONI	WEATHERF	WEATHERS	RDWYSURF	WORKZON
818864	22	6545	0.353	2	Lino Lakes		M	25		20505438	2.02E+08	7	8	2020	Wed	11	S		4	0	2	12	10	26	1	1		1	98
820615	22	6549	0.017	2	Lino Lakes		M	25		20175741	2.02E+08	7	20	2020	Mon	6	S		5	0	2	10	10	25	1	1		1	98
691550	4	14	18.814	2	Lino Lakes		M	25		19045637	1.91E+08	2	24	2019	Sun	13	W		5	0	2	12	10	4	1	7		3	98
845617	4	14	18.88	2	Lino Lakes		M	25		20250941	2.03E+08	10	10	2020	Sat	15	E		5	0	2	10	10	26	1	1		1	98
885904	22	6545	0.27	2	Lino Lakes		M	25		20511278	2.04E+08	12	23	2020	Wed	18	S		5	0	2	12	10	3	4	4		3	98
753638	4	14	18.818	2	Lino Lakes		M	25		19259315	1.93E+08	10	9	2019	Wed	20		98	5	0	2	5	10	10	4	1		1	98

CSAH14-E35ERamp

INCIDENTI	RTESYSCOI	RTENUMBI	MEASURE	COUNTY_S	CITY_NAM	TOWNSHIP	MNDOT_D	STATE_PAT	TRIBAL_GC	LOCALID	ACCIDENT_	CRASH_MC	CRASH_DA	CRASH_YE/	CRASH_DA	CRASH_HO	DIVIDEDRD	CRASHSEVI	NUMBERKI	NUMBERO	MANNERO	FIRSTHARN	RELATIONT	LIGHTCONI	WEATHERF	WEATHERS	RDWYSURF	WORKZON
695578	4	14	19.01	2	Lino Lakes		M	25		19053086	1.91E+08	3	5	2019	Tue	19	E		3	0	2	13	10	10	4	1		1	98
751918	22	6550	0.3	2	Lino Lakes		M	25		19252258	1.93E+08	10	2	2019	Wed	14	N		4	0	2	12	10	3	1	3	2	2	98
974316	22	6550	0.306	2	2395725			25		21261180	2.13E+08	11	17	2021	Wed	15		98	4	0	2	12	10	27	1	1		1	98
942723	4	14	18.988	2	Lino Lakes		M	25		21216128	2.13E+08	9	24	2021	Fri	16	W		5	0	2	5	10	27	1	1		1	98
673422	4	14	18.997	2	Lino Lakes		M	25		19000438	1.9E+08	1	1	2019	Tue	17	W		5	0	2	5	10	10	3	2		1	98
820135	4	14	19	2	Lino Lakes		M	25		20505668	2.02E+08	7	15	2020	Wed	15	N		5	0	2	12	10	26	1	1		1	98
745917	4	14	19.006	2	Lino Lakes		M	25		19228421	1.93E+08	9	7	2019	Sat	17	E		5	0	2	5	10	10	1	2	1	1	98
726010	4	14	19.007	2	Lino Lakes		M	25		19141019	1.92E+08	6	11	2019	Tue	7	E		5	0	1		47	27	1	1		1	98
933781	4	14	19.008	2	Lino Lakes		M	25		21179660	2.12E+08	8	12	2021	Thu	11	E		5	0	2	5	10	3	1	1		1	98
931153	4	14	19.009	2	Lino Lakes		M	25		21168072	2.12E+08	7	29	2021	Thu	15		98	5	0	2	12	10	3	1	1		1	98
780865	4	14	19.012	2	Lino Lakes		M	25		20015538	2E+08	1	18	2020	Sat	15	E		5	0	2	5	10	4	1	1		3	98
822712	4	14	19.021	2	Lino Lakes		M	25		20185120	2.02E+08	7	30	2020	Thu	12	W		5	0	2	12	10	29	1	1		1	98
754234	22	6547	0.194	2	Lino Lakes		M	25		19261517	1.93E+08	10	12	2019	Sat	10		98	5	0	2	12	10	27	1	4	3	2	98
729631	22	6550	0.198	2	Lino Lakes		M	25		19507435	1.92E+08	6	13	2019	Thu	20	N		5	0	2	12	10	2	1	1		1	98
868249	22	6550	0.212	2	Lino Lakes		M	25		20510675	2.03E+08	12	13	2020	Sun	18	N		5	0	2	10	10	27	4	2		5	98
872260	22	6550	0.231	2	Lino Lakes		M	25		20511097	2.04E+08	12	24	2020	Thu	11	N		5	0	2	12	10	4	1	2		5	98
769797	22	6550	0.258	2	Lino Lakes		M	25		19515014	1.93E+08	12	9	2019	Mon	15	N		5	0	2	12	10	27	1	4		3	98
814805	22	6550	0.288	2	Lino Lakes		M	25		20504821	2.02E+08	6	16	2020	Tue	14	N		5	0	2	12	10	3	1	1		1	98
811918	22	6550	0.303	2	Lino Lakes		M	25		20123020	2.01E+08	5	27	2020	Wed	14	E		5	0	2	90	10	27	1	1		1	98
909612	22	6550	0.303	2	Lino Lakes		M	25		21117661	2.12E+08	6	3	2021	Thu	15	E		5	0	2	5	10	26	1	1		1	6
979773	22	6550	0.305	2	Lino Lakes		M	25		21280292	2.13E+08	12	11	2021	Sat	13		98	5	0	2	12	10	27	1	1		2	98

CSAH14-OLR

INCIDENTI	RTESYSCOI	RTENUMBI	MEASURE	COUNTY_S	CITY_NAM	TOWNSHIP	MNDOT_D	STATE_PAT	TRIBAL_GC	LOCALID	ACCIDENT_	CRASH_MC	CRASH_DA	CRASH_YE/	CRASH_DA	CRASH_HO	DIVIDEDRD	CRASHSEVI	NUMBERKI	NUMBERO	MANNERO	FIRSTHARN	RELATIONT	LIGHTCONI	WEATHERF	WEATHERS	RDWYSURF	WORKZON
751788	4	14	19.191	2	Lino Lakes		M	25		19251330	1.93E+08	10	1	2019	Tue	14	E		5	0	2	12	10	3	1	2		1	98
742827	4	14	19.196	2	Lino Lakes		M	25		19216348	1.92E+08	8	26	2019	Mon	6	E		4	0	2	12	10	3	1	2		1	98
870317	4	14	19.198	2	Lino Lakes		M	25		20307252	2.04E+08	12	24	2020	Thu	18	E		5	0	2		11	3	4	1		5	98
943108	4	14	19.199	2	Lino Lakes		M	25		21217800	2.13E+08	9	26	2021	Sun	17	E		4	0	3		11	3	1	1		1	98
939816	4	14	19.2	2	Lino Lakes		M	25		21202232	2.13E+08	9	8	2021	Wed	16	E		5	0	2	10	10	3	1	1		1	98
916405	4	14	19.209	2	Lino Lakes		M	25		21147054	2.12E+08	7	5	2021	Mon	14		98	5	0	2	5	10	3	1	1		1	98
705912	7	84	3.101	2	Lino Lakes		M	25		19095609	1.91E+08	4	24	2019	Wed	17		98	5	0	2	12	10	3	1	1		1	98
754331	7	84	3.115	2	Lino Lakes		M	25		19262573	1.93E+08	10	13	2019	Sun	18	W		5	0	2	5	10	3	3	1		2	98
734493	10	435	0.001	2	Lino Lakes		M	25		19179815	1.92E+08	7	18	2019	Thu	20	W		5	0	2	5	10	10	1	1		1	98
784592	10	435	0.001	2	Lino Lakes		M	25		20025390	2E+08	1	30	2020	Thu	10			5	0	2	13	10	3	1	2		1	98
743932	10	435	0.036	2	Lino Lakes		M	25		19220361	1.92E+08	8	30	2019	Fri	8	N		5	0	2	12	10	2	1	1		1	98

CRJ-C'ville (S)

INCIDENTI	RTESYSCOI	RTENUMBI	MEASURE	COUNTY_S	CITY_NAM	TOWNSHIP	MNDOT_D	STATE_PAT	TRIBAL_GC	LOCALID	ACCIDENT_	CRASH_MC	CRASH_DA	CRASH_YE/	CRASH_DA	CRASH_HO	DIVIDEDRD	CRASHSEVI	NUMBERKI	NUMBERO	MANNERO	FIRSTHARN	RELATIONT	LIGHTCONI	WEATHERF	WEATHERS	RDWYSURF	WORKZON
774943	4	59	5.926	62	North Oaks		M	24		19062900	1.93E+08	12	12	2019	Thu	13			5	0	2	12	10	3	1	4		3	98
673183	4	59	5.929	62	North Oaks		M	24		19000070	1.9E+08	1	1	2019	Tue	20	S		5	0	2	12	10	3	7	1		5	98

20th-I35E W Ramp

INCIDENTI	RTESYSCOI	RTENUMBI	MEASURE	COUNTY_S	CITY_NAM	TOWNSHIP	MNDOT_D	STATE_PAT	TRIBAL_GC	LOCALID	ACCIDENT_	CRASH_MC	CRASH_DA	CRASH_YE/	CRASH_DA	CRASH_HO	DIVIDEDRD	CRASHSEVI	NUMBERKI	NUMBERO	MANNERO	FIRSTHARN	RELATIONT	LIGHTCONI	WEATHERF	WEATHERS	RDWYSURF	WORKZON
721515	4	54	0.012	2	Lino Lakes		M	25		19120120	1.91E+08	5	21	2019	Tue	21		98	4	0	2	90	10	4	7	3	90	2	98
833905	7	81	0.297	2	Lino Lakes		M	25		20192195	2.02E+08	8	6	2020	Thu	17	S		5	0	2	5	10	10	1	1		1	98
761190	7	81	0.3	2	Lino Lakes		M	25		19287191	1.93E+08	11	9	2019	Sat	15		98	3	0	2	5	10	3	1	3		2	98
733143	7	81	0.308	2	Lino Lakes		M	25		19033869	1.92E+08	7	12	2019	Fri	21			5	0	2	5	10	4	6	1		1	98
978218	22	225	0.015	62		White Bear	M	24		21407905	2.13E+08	12	5	2021	Sun	6	S		5	0	1		28	27	4	1		4	98

I35E E Ramp&OLR

INCIDENTI	RTESYSCOI	RTENUMBI	MEASURE	COUNTY_S	CITY_NAM	TOWNSHIP	MNDOT_D	STATE_PAT	TRIBAL_GC	LOCALID	ACCIDENT_	CRASH_MC	CRASH_DA	CRASH_YE/	CRASH_DA	CRASH_HO	DIVIDEDRD	CRASHSEVI	NUMBERKI	NUMBERO	MANNERO	FIRSTHARN	RELATIONT	LIGHTCONI	WEATHERF	WEATHERS	RDWYSURF	WORKZON
751255	1	35E	120.431	62		665982		24		19408248	1.93E+08	9	17	2019	Tue	12			5	0	1		62	2	1	1		1	98
929674	1	35E	120.436	62		665982		24		21506063	2.12E+08	7	1	2021	Thu	16	N		5	0	2	12	10	2	1	1		1	98
740848	1	35E	120.523	62		665982		24		19407296	1.92E+08	8	16	2019	Fri	15	N		5	0	2	12	10	2	1	1		1	98
750397	22	4464	0.014	62		White Bear	M	24		19407719	1.92E+08	8	30	2019	Fri	15	N		4	0	2	12	10	2	1	2		1	98
867965	22	4464	0.14	62		665982		24		20407572	2.03E+08	12	13	2020	Sun	15		98	5	0	2	12	10	3	1	4		3	98
674093	22	4464	0.173	62		White Bear	M	24		19000518	1.9E+08	1	4	2019	Fri	17	E		4	0	2	90	10	4	3	1		1	98
932179	22	4464	0.182	62		White Bear	M	24		21404833	2.12E+08	8	3	2021	Tue	14	N		5	0	2	5	10	26	1	1		1	98

ROADWAY	INTERSECT	ROUTE_ID	BASIC_TYP	UNITTYPE1	VEHICLETY	DIRECTION	PRECRASHI	AGEU1	SEXU1	PHYSICALC	CONTRIBF/	CONTRIBF/	NONMOTC	NONMOTC	RDWYDESI	TRAFFICCO	SPEEDLIMI	ALIGNMEN	GRADEU1	UNITTYPE1	VEHICLETY	DIRECTION	PRECRASHI	AGEU2	SEXU2	PHYSICALC	CONTRIBF/	CONTRIBF/
RAMP545		220000659	7	2	2	2	21	37	M	5	4				11	20	40	11	21	2	2	2	34	56	M	5	1	
RAMP549		220000659	5	2	2	2	21	51	F	5	1				11	9	70	11	24	2	49	2	21	20	M	5	68	
MAIN ST		040000659	7	2	4	2	21	31	M	5	1				12	20	30	11	23	2	2	4	21	21	F	5	1	
MAIN ST		040000659	5	2	4	3	24	35	M	5	1				14	20	45	11	23	2	4	3	24	73	M	5	10	
RAMP545		220000659	7	2	3	2	34	62	M	5	1				11	20	45	11	23	1	4	2	21					
MAIN ST	RAMP559	040000659	90	2	2	2	24	23	F	5	1				90	20	50	11	21	2	3	2	24	60	M	5	68	

ROADWAY	INTERSECT	ROUTE_ID	BASIC_TYP	UNITTYPE1	VEHICLETY	DIRECTION	PRECRASHI	AGEU1	SEXU1	PHYSICALC	CONTRIBF/	CONTRIBF/	NONMOTC	NONMOTC	RDWYDESI	TRAFFICCO	SPEEDLIMI	ALIGNMEN	GRADEU1	UNITTYPE1	VEHICLETY	DIRECTION	PRECRASHI	AGEU2	SEXU2	PHYSICALC	CONTRIBF/	CONTRIBF/
MAIN ST		040000659	8	2	4	4	21	28	F	10	70	68			15	20	50	11	23	2	2	3	21	35	F	5	1	
RAMP550		220000659	7	2	3	1	26	21	M	5	1				11	20	45	11	23	2	6	1	34	40	M	5	1	
RAMP550		220000659	7	2	2	1	21	17	M	5	99				11	20		11	21	2	4	1	34	34	F	5	1	
MAIN ST		040000659	10	2	3	4	23	64	M	5	10				14	20	50	11	23	2	2	4	21	16	F	5	1	
MAIN ST	RAMP547	040000659	10	2	2	4	21	24	F	5	63				14	20	50	11	21	2	2	2	23	30	M	5	1	
N/B ISTH 35E @ MAIN		040000659	7	2	2	1	34	67	F	5	1				11	20	70	11	21	2	2	1	21	19	F	5	4	90
MAIN ST	RAMP558	040000659	10	2	2	3	28	44	M	5	10	2			15	20	50	11	24	2	4	3	21	57	M	5	1	
MAIN ST		040000659	3	2	2	1	24	75	F	5	65	68			15	20	50	11	21									
MAIN ST	RAMP558	040000659	10	2	3	1	23	18	F	5	2				12	20		11	21	2	2	3	21	16	F	5	1	
MAIN ST		040000659	7	2	4	3	21	23	F	5	99				14	20	50	13	21	2	5	3	34	26	F	5	99	
MAIN ST		040000659	10	2	4	1	21	17	M	5	63	75			11	20	70	11	23	2	4	3	21	37	F	5	1	
MAIN ST		040000659	7	2	49	4	21	57	M	5	99				14	20	50	11	21	2	4	4	34	24	M	5	1	
RAMP547		220000659	7	2	48	2	34	51	M	5	1				90	20	70	11	21	2	2	2	21	16	F	5	70	
NB 35E RAMP TO MAI		220000659	7	2	2	1	21	35	M	5	70				11	9	60	11	23	2	2	1	21	22	M	5	70	
NB 35E TO MAIN ST		220000659	5	2	4	1	21	46	F	5	1				11	20	70	11	23	2	4	1	26	34	F	5	68	
NB 35E TO MAIN ST		220000659	7	2	4	1	34	56	M	5	1				11	20	70	11	23	2	4	1	26	26	M	5	4	
RAMP FROM I35E NB T		220000659	7	2	2	1	21	15	F	5	4				11	20	65	11	23	2	2	1	21	62	F	5	1	
NB ISTH 35E RAMP TO		220000659	7	2	4	1	26	20	F	5	1				11	20	70	11	22	2	3	1	21	21	M	5	74	4
RAMP550		220000659	90	2	2	1	23	16	M	5	2				14	20	45	11	23	2	2	3	21	21	M	5	1	
RAMP550		220000659	10	2	4	3	23	37	M	5	1				11	20	50	11	23	4	22	4	33	25	M	5	2	
RAMP550	MAIN ST	220000659	7	2	2	1	23	22	F	5	99				90	20		11	21	2	2	1	23	68	F	5	99	

ROADWAY	INTERSECT	ROUTE_ID	BASIC_TYP	UNITTYPE1	VEHICLETY	DIRECTION	PRECRASHI	AGEU1	SEXU1	PHYSICALC	CONTRIBF/	CONTRIBF/	NONMOTC	NONMOTC	RDWYDESI	TRAFFICCO	SPEEDLIMI	ALIGNMEN	GRADEU1	UNITTYPE1	VEHICLETY	DIRECTION	PRECRASHI	AGEU2	SEXU2	PHYSICALC	CONTRIBF/	CONTRIBF/
MAIN ST		040000659	7	2	2	3	21	63	M	5	1				15	20	50	11	21	2	6	3	21	54	M	5	4	
MAIN ST	OTTER LAK	040000659	7	2	2	3	21	20	M	9	90				15	20	50	11	21	2	4	3	34	54	F	5	1	
MAIN ST		040000659	90	3	3	3	34	60	M	5	1				14	20	45	11	21	2	2	3	21	18	F	5	99	
MAIN ST	OTTER LAK	040000659	90	2	2	3	21	23	M	5	99				14	20		11	24	3	2	3	34	33	M	5	1	
MAIN ST	OTTER LAK	040000659	5	2	4	3	34	40	F	5	1				14	20	50	11	21	1		3	25					
MAIN ST		040000659	10	2	3	1	24	33	M	5	1				14	20	50	11	21	2	2	4	21	41	M	5	74	
OTTER LAK	MAIN ST	070000659	7	2	2	1	23	30	F	5	1				12	20	55	11	21	2	3	1	23	60	M	5	99	
OTTER LAKE RD		070000659	10	2	3	2	21	51	M	5	1				14	20	50	11	21	2	4	2	21	31	M	5	70	
OTTER LAK	MAIN ST	100002395	10	2	4	4	21	31	M	5	70	63			14	20	50	11	21	2	2	1	21	17	M	5	1	
OTTER LAKE RD		100002395	8	2	4	3	24	62	M	5	1				14	20	50	11	21	2	2	4	21	18	M	5	74	63
OTTER LAKE RD		100002395	7	2	3	1	34	67	M	5	1				12	98	30	11	21	2	2	1	21	17	M	5	99	

ROADWAY	INTERSECT	ROUTE_ID	BASIC_TYP	UNITTYPE1	VEHICLETY	DIRECTION	PRECRASHI	AGEU1	SEXU1	PHYSICALC	CONTRIBF/	CONTRIBF/	NONMOTC	NONMOTC	RDWYDESI	TRAFFICCO	SPEEDLIMI	ALIGNMEN	GRADEU1	UNITTYPE1	VEHICLETY	DIRECTION	PRECRASHI	AGEU2	SEXU2	PHYSICALC	CONTRIBF/	CONTRIBF/
CENTERVILLE RD		040000659	7	2	4	1	34	56	M	5	1				12	23	50	11	21	2	4	1	21	57	F	5	4	
CENTERVILLE RD		040000659	7	2	2	2	34	39	F	5	1				12	23	45	11	21	1	3	2	21					

ROADWAY	INTERSECT	ROUTE_ID	BASIC_TYP	UNITTYPE1	VEHICLETY	DIRECTION	PRECRASHI	AGEU1	SEXU1	PHYSICALC	CONTRIBF/	CONTRIBF/	NONMOTC	NONMOTC	RDWYDESI	TRAFFICCO	SPEEDLIMI	ALIGNMEN	GRADEU1	UNITTYPE1	VEHICLETY	DIRECTION	PRECRASHI	AGEU2	SEXU2	PHYSICALC	CONTRIBF/	CONTRIBF/
20TH AVE S	ASH ST	040000659	90	2	4	2	20	44	M	5	2				12	23	50	11	21	2	2	4	21	60	M	5	1	
ASH ST		070000659	10	2	49	2	31	60	M	5	2				12	23	30	11	22	2	2	4	21	17	F	5	1	
ASH ST		070000659	10	2	4	2	21	38	F	5	2				12	23	50	11	21	2	3	4	21	65	M	5	1	
ASH ST		070000659	10	2	2	3	21	33	F	5	1				12	23	40	11	21	2	4	3	24	32	F	5	2	
RAMP225	COUNTY J	220000659	3	2	2	2	21	26	F	5	68	72			15	9	70	11	24									

ROADWAY	INTERSECT	ROUTE_ID	BASIC_TYP	UNITTYPE1	VEHICLETY	DIRECTION	PRECRASHI	AGEU1	SEXU1	PHYSICALC	CONTRIBF/	CONTRIBF/	NONMOTC	NONMOTC	RDWYDESI	TRAFFICCO	SPEEDLIMI	ALIGNMEN	GRADEU1	UNITTYPE1	VEHICLETY	DIRECTION	PRECRASHI	AGEU2	SEXU2	PHYSICALC	CONTRIBF/	CONTRIBF/
35		010000000	3	2	2	1	30	60	F	5	72				15	9	70	11	21									
N/B ISTH 35E @ ASH S		010000000	7	2	2	1	21	39	M	5	1				15	9	70	11	21	2	2	1	21	44	F	5	4	
35		010000000	7	2	4	1	26	56	F	5	1				15	9	70	11	21	2	2	1	21	54	M	5	74	4
NB I-35E SOUTH OF CT		220000659	7	2	2	1	21	21	F	5	74				15	9	70	11	21	2	2	1	26	52	M	5	1	
RAMP464		220000659	7	2	2	1	90	28	M	5	1				90	20	40	11	23	1	5	1	21					
RAMP464		220000659	90	2	2	4	24	39	M	5	1				12	23	40	13	24	2	3	3	21	50	M	5	64	
RAMP464	COUNTY RI	220000659	10	2	4	3	21	81	M	5	1				12	20	30	11	24	2	4	1	21	39	M	5	1	

NONMOTC	NONMOTC	RDWYDESI	TRAFFICCO	SPEEDLIMI	ALIGNMEN	GRADEU2	UNITTYPEL	VEHICLETY	DIRECTION	PRECRASHI	AGEU3	SEXU3	PHYSICALC	CONTRIBF/	CONTRIBF/	NONMOTC	NONMOTC	RDWYDESI	TRAFFICCO	SPEEDLIMI	ALIGNMEN	GRADEU3	UNITTYPEL	VEHICLETY	DIRECTION	PRECRASHI	AGEU4	SEXU4
		11	20	40	11	21																						
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NONMOTC	NONMOTC	RDWYDESI	TRAFFICCO	SPEEDLIMI	ALIGNMEN	GRADEU2	UNITTYPEL	VEHICLETY	DIRECTION	PRECRASHI	AGEU3	SEXU3	PHYSICALC	CONTRIBF/	CONTRIBF/	NONMOTC	NONMOTC	RDWYDESI	TRAFFICCO	SPEEDLIMI	ALIGNMEN	GRADEU3	UNITTYPEL	VEHICLETY	DIRECTION	PRECRASHI	AGEU4	SEXU4
		15	20	50	11	24																						
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NONMOTC	NONMOTC	RDWYDESI	TRAFFICCO	SPEEDLIMI	ALIGNMEN	GRADEU2	UNITTYPEL	VEHICLETY	DIRECTION	PRECRASHI	AGEU3	SEXU3	PHYSICALC	CONTRIBF/	CONTRIBF/	NONMOTC	NONMOTC	RDWYDESI	TRAFFICCO	SPEEDLIMI	ALIGNMEN	GRADEU3	UNITTYPEL	VEHICLETY	DIRECTION	PRECRASHI	AGEU4	SEXU4
		15	20	50	11	21																						
		15	20	50	11	21																						
		14	20	45	11	21																						
		14	20	50	11	24	3	4	3	34	68	F	5	1		14	20	50	11	24							
		14	20	50	11	21																						
		14	20	50	11	21																						
		12	20	55	11	21																						
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		13	20	55	11	21																						
		14	20	50	11	21																						
		12	98	30	11	21																						

NONMOTC	NONMOTC	RDWYDESI	TRAFFICCO	SPEEDLIMI	ALIGNMEN	GRADEU2	UNITTYPEL	VEHICLETY	DIRECTION	PRECRASHI	AGEU3	SEXU3	PHYSICALC	CONTRIBF/	CONTRIBF/	NONMOTC	NONMOTC	RDWYDESI	TRAFFICCO	SPEEDLIMI	ALIGNMEN	GRADEU3	UNITTYPEL	VEHICLETY	DIRECTION	PRECRASHI	AGEU4	SEXU4
		12	23	50	11	21																						
		12	23	45	11	21																						

NONMOTC	NONMOTC	RDWYDESI	TRAFFICCO	SPEEDLIMI	ALIGNMEN	GRADEU2	UNITTYPEL	VEHICLETY	DIRECTION	PRECRASHI	AGEU3	SEXU3	PHYSICALC	CONTRIBF/	CONTRIBF/	NONMOTC	NONMOTC	RDWYDESI	TRAFFICCO	SPEEDLIMI	ALIGNMEN	GRADEU3	UNITTYPEL	VEHICLETY	DIRECTION	PRECRASHI	AGEU4	SEXU4
		12	9	40	11	21																						
		12	9	45	11	21																						
		12	9	45	11	22																						
		12	23	40	11	21																						

NONMOTC	NONMOTC	RDWYDESI	TRAFFICCO	SPEEDLIMI	ALIGNMEN	GRADEU2	UNITTYPEL	VEHICLETY	DIRECTION	PRECRASHI	AGEU3	SEXU3	PHYSICALC	CONTRIBF/	CONTRIBF/	NONMOTC	NONMOTC	RDWYDESI	TRAFFICCO	SPEEDLIMI	ALIGNMEN	GRADEU3	UNITTYPEL	VEHICLETY	DIRECTION	PRECRASHI	AGEU4	SEXU4
		15	9	70	11	21																						
		15	9	70	11	21																						
		15	9	70	11	21																						
		90	20	40	11	23																						
		12	23	40	13	24																						
		11	9	30	11	21																						

PHYSICALC	CONTRIBFA	CONTRIBFA	NONMOTC	NONMOTC	RDWYDESI	TRAFFICCO	SPEEDLIMI	ALIGNMEN	GRADEU4	UTMX	UTMY	LATITUDE	LONGITUD	CRASH_DA	STATUS	STATUS_NA	AGENCY_O	AGENCY_O	NARRATIVE
										497374.3	5001216	45.16442	-93.0334	########	Accepted	Reportable	MNMHP04	State Patro	TOP OF
										497463.7	5001148	45.16381	-93.0323	########	Accepted	Reportable	MN002070	Police	MN MSD334 which was driven by Maureen Angley was traveling east on Main St and was turning south onto the r
										497360.9	5001181	45.16411	-93.0336	########	Accepted	Reportable	MN002070	Police	UNIT 1
										497467.1	5001184	45.16414	-93.0322	########	Accepted	Reportable	MN002070	Police	10/10/20
										497408.9	5001340	45.16554	-93.033	########	Accepted	Reportable	MNMHP04	State Patro	VEHICLE
										497375.1	5001159	45.16391	-93.0334	########	Accepted	Reportable	MN002070	Police	VEHICLE 1 WAS TURNING ONTO EASTBOUND MAIN ST FROM SOUTHBOUND I35E AND WAS IN THE RIGHT OF 2 TU

PHYSICALC	CONTRIBFA	CONTRIBFA	NONMOTC	NONMOTC	RDWYDESI	TRAFFICCO	SPEEDLIMI	ALIGNMEN	GRADEU4	UTMX	UTMY	LATITUDE	LONGITUD	CRASH_DA	STATUS	STATUS_NA	AGENCY_O	AGENCY_O	NARRATIVE
										497683.3	5001170	45.16401	-93.0295	########	Accepted	Reportable	MN002070	Police	Veh. 1 was w/b Main St, crossed over into the e/b traffic lanes. Veh. 2 was e/b Main and slowed or stopped as Ve
										497682.7	5001157	45.1639	-93.0295	########	Accepted	Reportable	MN002070	Police	Unit 1 was traveling northbound and rear ended Unit 2, while Unit 2 was stationary at the stoplight (which was re
										497686.6	5001167	45.16398	-93.0294	########	Accepted	Reportable	MN002070	Police	The driver of unit 1 was traveling northbound in the inner right turn lane on the off ramp of 35E North and Main S
										497640.6	5001186	45.16415	-93.03	########	Accepted	Reportable	MN002070	Police	09/24/21
										497655	5001186	45.16415	-93.0298	########	Accepted	Reportable	MN002070	Police	VEHICLE 1 WAS WB MAIN ST APPROACHING I35E AND RAN THE RED LIGHT. VEHICLE 2 WAS ENTERING MAIN ST. A
										497667.2	5001170	45.16401	-93.0297	########	Accepted	Reportable	MNMHP04	State Patro	N/B ISTH
										497676.9	5001170	45.16401	-93.0296	########	Accepted	Reportable	MN002070	Police	vehicle 1 was eastbound main st in the turn lane to go north on I35E. vehicle 1 needed to make a u-turn but could
										497678.8	5001170	45.16401	-93.0295	########	Accepted	Reportable	MN002070	Police	Kaiser exited from northbound 35E to eastbound Main St. However did did not want to go eastbound, so she turr
										497674.1	5001186	45.16416	-93.0296	########	Accepted	Reportable	MN002070	Police	I was
										497682.5	5001170	45.16401	-93.0295	########	Accepted	Reportable	MN002070	Police	unit one was at the light to exit from 35E onto Eastbound Main St and rear ended unit two. Unit one believed uni
										497686.5	5001170	45.16401	-93.0294	########	Accepted	Reportable	MN002070	Police	01/18/20
										497694.5	5001187	45.16416	-93.0293	########	Accepted	Reportable	MN002070	Police	UNIT 2 WAS TRAVELING WEST ON MAIN ST AND WAS STOPPED AT THE INTERSECTION WITH THE OFF-RAMP FRON
										497657.8	5001195	45.16424	-93.0298	########	Accepted	Reportable	MN002070	Police	Vehicle #1 was stopped at the stop light when it was rear ended by vehicle #2. The driver for vehicle #2 was cited
										497620.8	5001007	45.16254	-93.0303	########	Accepted	Reportable	MNMHP04	State Patro	Northbou
										497628.9	5001026	45.16272	-93.0302	########	Accepted	Reportable	MNMHP04	State Patro	BOTH
										497640.7	5001055	45.16298	-93.03	########	Accepted	Reportable	MNMHP04	State Patro	BOTH
										497657.4	5001096	45.16335	-93.0298	########	Accepted	Reportable	MNMHP04	State Patro	Both vehicle traveling on exit ramp from I35E NB to Main Street. Both vehicles in right lane to take right hand turn
										497675.4	5001140	45.16374	-93.0296	########	Accepted	Reportable	MNMHP04	State Patro	Unit 1 was
										497684.7	5001162	45.16394	-93.0295	########	Accepted	Reportable	MN002070	Police	Officers
										497684.8	5001162	45.16395	-93.0295	########	Accepted	Reportable	MN002070	Police	06/02/21
										497686.3	5001166	45.16398	-93.0294	########	Accepted	Reportable	MN002070	Police	UNIT ONE

PHYSICALC	CONTRIBFA	CONTRIBFA	NONMOTC	NONMOTC	RDWYDESI	TRAFFICCO	SPEEDLIMI	ALIGNMEN	GRADEU4	UTMX	UTMY	LATITUDE	LONGITUD	CRASH_DA	STATUS	STATUS_NA	AGENCY_O	AGENCY_O	NARRATIVE
										497975.3	5001175	45.16406	-93.0258	########	Accepted	Reportable	MN002070	Police	UNIT 2
										497983.4	5001175	45.16406	-93.0257	########	Accepted	Reportable	MN002070	Police	Driver of vehicle 1 rear-ended vehicle 2 which was stopped for the red light at the intersection. Driver of vehicle 1
										497985.3	5001175	45.16406	-93.0256	########	Accepted	Reportable	MN002070	Police	12/24/20
										497987	5001175	45.16406	-93.0256	########	Accepted	Reportable	MN002070	Police	09/26/21
										497989	5001175	45.16406	-93.0256	########	Accepted	Reportable	MN002070	Police	UNIT 1 WAS STOPPED AT THE RED LIGHT TO CONTINUE EAST ON MAIN ST. UNIT 2 MADE A U-TURN AT THE INTER
										497997.3	5001196	45.16425	-93.0255	########	Accepted	Reportable	MN002070	Police	UNIT ONE WAS STOP AT A RED SEMAPHORE WAITING TO TURN NORHTBOUND ON OTTER LAKE RD. UNIT ONE'S S
										498000.1	5001173	45.16404	-93.0255	########	Accepted	Reportable	MN002070	Police	vehicle 1 was northbound otter lake rd to turn east on main st. vehicle 1 started to go then stopped and was rear
										498000.2	5001196	45.16425	-93.0255	########	Accepted	Reportable	MN002070	Police	Unit 1 was traveling southbound on Otter Lake Road entering through the intersection while Unit 2 was traveling
										498000.4	5001197	45.16426	-93.0255	########	Accepted	Reportable	MN002070	Police	Unit 1 was traveling westbound on Main St and proceeded through the red light at the intersection at Otter Lake R
										498000.3	5001197	45.16426	-93.0255	########	Accepted	Reportable	MN002070	Police	VEHICLE
										498003.6	5001253	45.16476	-93.0254	########	Accepted	Reportable	MN002070	Police	UNIT 1

PHYSICALC	CONTRIBFA	CONTRIBFA	NONMOTC	NONMOTC	RDWYDESI	TRAFFICCO	SPEEDLIMI	ALIGNMEN	GRADEU4	UTMX	UTMY	LATITUDE	LONGITUD	CRASH_DA	STATUS	STATUS_NA	AGENCY_O	AGENCY_O	NARRATIVE
										495533.9	4996715	45.1239	-93.0568	########	Accepted	Reportable	MN062000	Sheriff	On
										495532.7	4996720	45.12395	-93.0568	########	Accepted	Reportable	MN062000	Sheriff	Unit 1 was stopped at the 4 way intersection of Centerville Rd/County J. Unit 1 was traveling southbound Centervi

PHYSICALC	CONTRIBFA	CONTRIBFA	NONMOTC	NONMOTC	RDWYDESI	TRAFFICCO	SPEEDLIMI	ALIGNMEN	GRADEU4	UTMX	UTMY	LATITUDE	LONGITUD	CRASH_DA	STATUS	STATUS_NA	AGENCY_O	AGENCY_O	NARRATIVE
										496008.3	4996746	45.12418	-93.0508	########	Accepted	Reportable	MN002070	Police	Unit #1 was stopped at a stop sign, facing southbound on 20th Avenue. Unit #2 was westbound on County road J.
										496008.7	4996727	45.12402	-93.0508	########	Accepted	Reportable	MN002070	Police	Veh #2 was westbound Ash St, passing 20th Ave (right of way). Veh #1 was stopped at the stop sign on S/B 20th A
										496014.8	4996727	45.12402	-93.0507	########	Accepted	Reportable	MN002070	Police	Veh.1 was stopped at stop sign for s/b 20th Ave. Veh. 2 was w/b Ash St. Veh.1 pulled onto Ash St. to cross to 35E
										496027.4	4996727	45.12402	-93.0505	########	Accepted	Reportable	MN062000	Sheriff	Peters
										496012.7	4996704	45.12381	-93.0507	########	Accepted	Reportable	MNMHP01	State Patro	Unit 1

PHYSICALC	CONTRIBFA	CONTRIBFA	NONMOTC	NONMOTC	RDWYDESI	TRAFFICCO	SPEEDLIMI	ALIGNMEN	GRADEU4	UTMX	UTMY	LATITUDE	LONGITUD	CRASH_DA	STATUS	STATUS_NA	AGENCY_O	AGENCY_O	NARRATIVE
										496092.6	4996402	45.12108	-93.0497	########	Accepted	Reportable	MNMHP01	State Patro	D1 IN THE LEFT LANE. D1 STATED DID NOT KNOW WHAT HAPPENED AND ALL OF A SUDDEN LOST CONTROL. UNIT
										496105.3	4996419	45.12123	-93.0495	########	Accepted	Reportable	MNMHP04	State Patro	N/B ISTH
										496092.6	4996559	45.12249	-93.0497	########	Accepted	Reportable	MNMHP01	State Patro	The crash
										496108.4	4996449	45.12151	-93.0495	########	Accepted	Reportable	MNMHP01	State Patro	Vehicle #1
										496160.4	4996644	45.12325	-93.0488	########	Accepted	Reportable	MNMHP01	State Patro	ON THE RAMP TO COUNTY RD J FROM NB35E, UNIT 1 WAS STOPPED AT THE LIGHT WHEN HE WAS HIT FROM BEH
										496169.8	4996697	45.12375	-93.0487	########	Accepted	Reportable	MN062000	Sheriff	On 1/4/19 at 1708 hours I Deputy Walsh assigned as 2267 was dispatched to property damage accident at Hwy 35
										496173.7	4996710	45.12386	-93.0487	########	Accepted	Reportable	MNMHP01	State Patro	On 8/3/2021 at approximately 1430hrs Unit 1 was traveling eastbound on County Rd J at the intersection of the o

ramp to 35E S. Angley was in the far left lane. MN YBU2171 (friven by Cole Grant) was also traveling east and turning south onto the ramp but was in the right lane (next to Angley). Angley stated as she started to go down the ramp MN YBU2171 started to merge into her lane. Angley honked her horn repeatedly but the the truck a

JRN LANES. VEHICLE 2 WAS TURNING ONTO EASTBOUND MAIN ST FROM SOUTHBOUND I35E AND WAS IN THE LEFT OF 2 TURN LANES. VEHICLE 2 TURNED TOO WIDE AND HIT THE BACK CORNER OF VEHICLE 1.

h. 1 was heading towards Veh.2 Veh.1 hit Veh.2 head on. Driver of Veh.1 stopped momentarily but then fled. Witness followed suspect vehicle and stayed with it until officers arrived. Veh.1 driver was arrested for DWI etc.
d) at Main Street while exiting off 35E northbound.
t. The driver of unit 1 stated he thought unit 2 was moving forward, but unit 1 rear ended unit 2.

T I35E AND WAS STRUCK BY VEHICLE 1. VEHICLE 2 HAD A GREEN LIGHT.

not legally do so at that location so the driver pulled back out into the eastbound lane of traffic and struck vehicle 2.
ed against signs and went the wrong way westbound Main St. She stated was looking for oncoming traffic and did not see the median and signs and struck them.

t two was moving, which was when unit one rear ended unit two.

I 35E. UNIT 1 WAS BEHIND UNIT 2 ALSO TRAVELING WEST ON MAIN ST. THE DRIVER OF UNIT 2 REPORTED HE WAS STOPPED, THE LIGHT WAS RED AND HE WAS HIT FROM BEHIND BY UNIT 1. THE DRIVER OF UNIT 1 REPORTED THE LIGHT TURNED GREEN, UNIT 2 STARTED TO MOVE FORWARD BUT THEN STOPPED, AND AS A RESUL
for driving with a permit and not having an adult present and failure to drive with due care.

on Main Street. Vehicle two stopped due to red light, vehicle one rear ended vehicle two. Vehicle one was not able to stop due to snowy conditions and slick roadway.

said he worked all night and "spaced out"

SECTION AND THE REAR OF THE CAMPER TRAILER THAT UNIT 2 WAS PULLING HIT UNIT 1. UNIT 2 ACKNOWLEDGED THE INCIDENT AND KEPT DRIVING.
EMAPHORE TURNED TO A GREEN ARROW, WHILE TURNING LEFT UNIT TWO RAN A RED SEMAPHORE CAUSING HIM TO HIT UNIT ONE. UNIT TWO WAS TRAVELING WESTBOUND ON MAIN ST, WHEN THE DRIVER RECEIVED A PHONE CALL THAT HE TRIED TO DECLINE. WHILE DOING THIS, THE SEMAPHORE TURNED RED AND THE DRIVI
ended by vehicle 2.
westbound on Main Street driving through a red light at the intersection and made contact with Unit 1.
Rd and Main St. Unit 2 had a green light and was traveling northbound on Otter Lake Rd and proceeded through the intersection at Otter Lake Rd and Main. Unit 2 crashed into the side of unit 1 while both were traveling through the intersection.

ille. Unit 2 made contact with the rear of Unit 1 when Unit 1 was stopped at the stop sign. Unit 1 suffered damages to the rear of vehicle, no injuries. Unit 2 was described as a dark colored, possibly blue, possibly dodge, pick up truck. NFI.

Unit #1 observed eastbound traffic on County Road J stopped and believed the intersection was a 4-way stop. Unit #1 began to enter the intersection and struck Unit #2 on the passenger side of the vehicle. Both vehicles then pulled onto the north shoulder of County Road J. Unit #1 provided valid insurance and had no injuries. Un
ve. The driver of Veh #1 pulled out into the traffic lane and struck the rear right bumper of veh #2 with its front right bumper. The driver of Veh #1 said that he did not see veh #1 because of the signs that were placed alongside 20th Ave at Ash St. The driver of Veh #1 was cited for failure to yield right of way.
on-ramp. Veh.1 driver thought Veh.2 had signaled for a right turn onto 20th Ave. Veh. 1 pulled out in front of Veh.2 and the vehicles collided. Driver of Veh.2 was travelling to a destination to the west of the intersection for which a right turn would not have been needed. Veh. 2 had the right of way.

1 THEN DRIFTED LEFT HITTING THE CABLE WIRE AND THEN DRIFTED RIGHT HITTING THE GUARDRAIL. NO INJURIES NO CITATIONS.

IND BY UNIT 2. THE DRIVER OF UNIT 1 STATED UNIT 2 TOOK OFF FROM THE SCENE TO THE EAST. UNIT 1 CAPTURED THE PLATE OF UNIT 2 AND A DESCRIPTION OF THE VEHICLE. THEY MATCHED UP AND A LETTER WAS SENT TO OWNER OF UNIT 2.
E NB ramp and County RD J, WBT. I arrived and found Unit #2 a 2004 Pontiac Grand AM bearing MN 694-VRJ driven by Reynolds, Brian with moderate disabling damage in the middle of the roadway partially blocking the 2 way traffic. I spoke with Brian and received his insurance info, phone number, and he stated several times t
ff ramp from northbound ISTH 35E. Unit 1 was traveling northbound on the off ramp from ISTH 35E to County Rd J turning right onto eastbound County J. Unit 1 driver stated he had a yellow light and was proceeding through the intersection when he observed Unit 2 fail to yield to his right away. Unit 2 stated he had a green light

nd trailer side swiped her vehicle before swerving back into the right lane and eventually stopping in the center of the ramp where the two lanes start to come together. Grant confirmed his trailer side swiped Angley's vehicle.

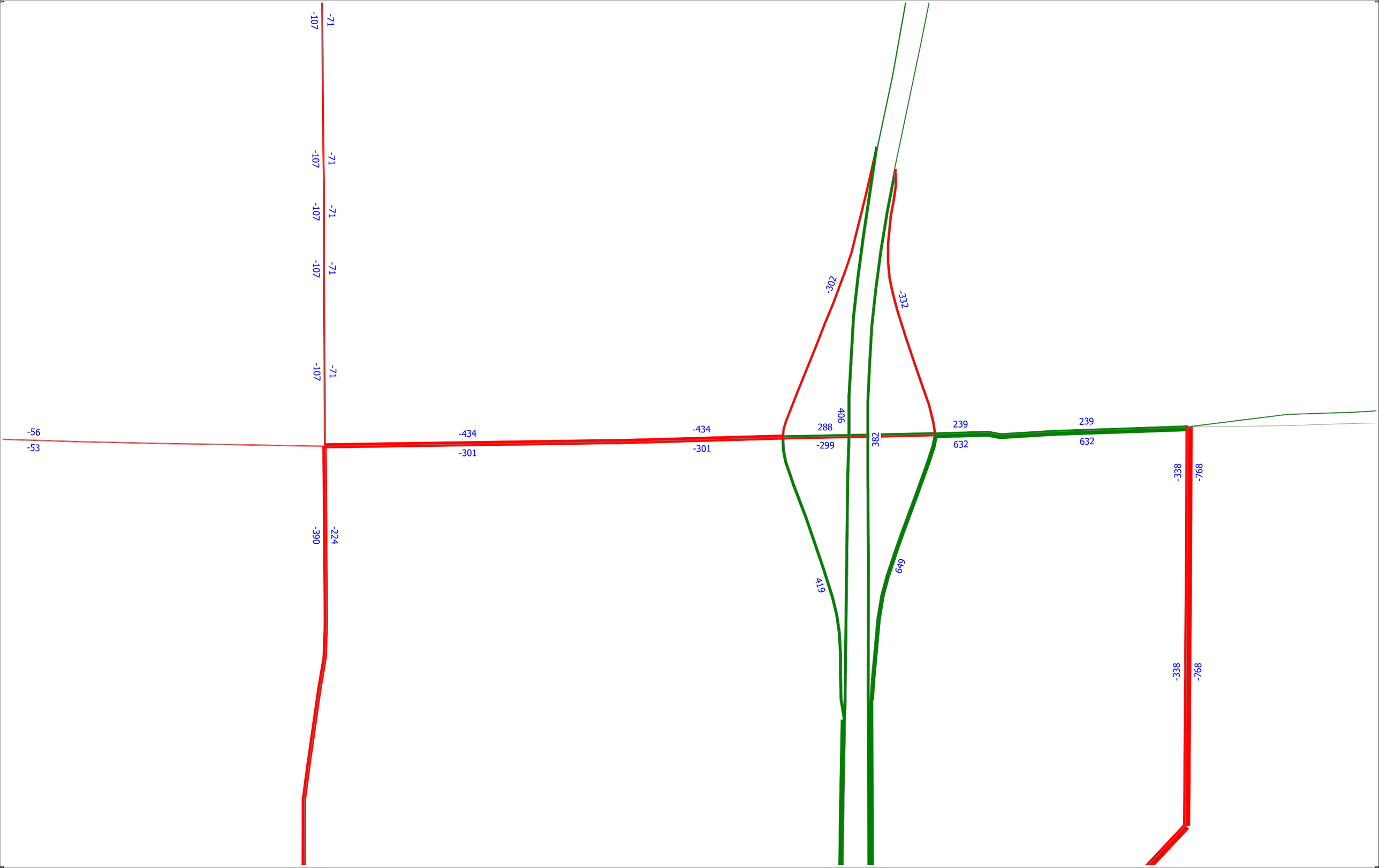
-T, UNIT 1 RAN INTO THE BACK OF UNIT 2. MINOR DAMAGE, NO INJURIES. BOTH VEHICLES DRIVEABLE.

ER WENT THROUGH THE RED SEMAPHORE. DAMAGE WAS OVER $1,000.00 FOR UNIT ONE BUT DID NOT APPEAR TO BE OVER $1,000.00 FOR UNIT TWO. VEHICLES WERE STILL OPERABLE. UNIT TWO RECEIVED A CITATION FOR FAILING TO STOP AT A TRAFFIC CONTROL SIGNAL.

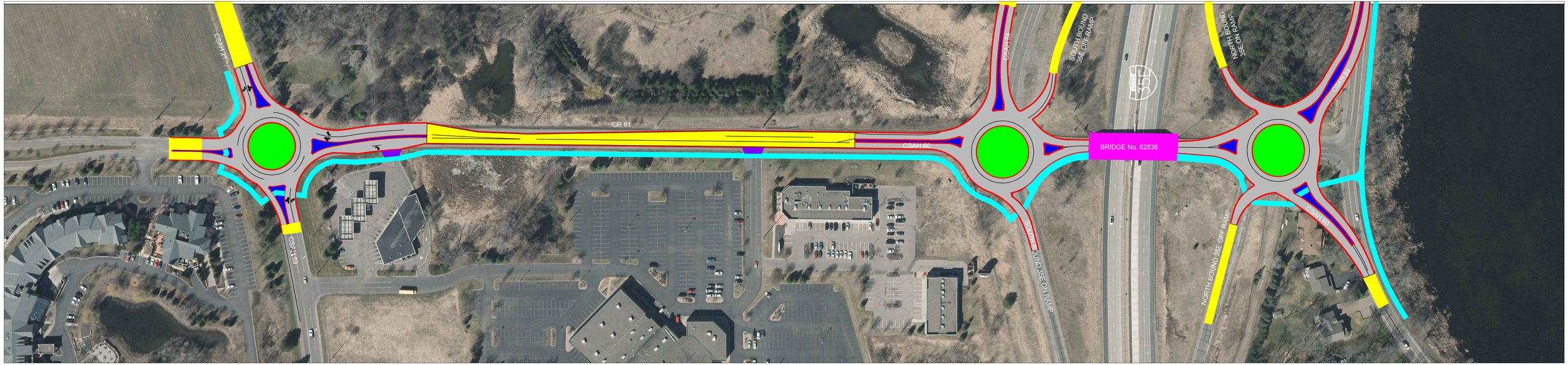
ıit #2 provided valid insurance and both passengers stated they had back and neck pain. Both passengers were evaluated by EMS and declined to be transported. Unit #2 was towed due to damage by Twin Cities Towing. The driver of Unit #1 was issued a citation for fail to drive with due care.

ɔ me when asked if he was okay and if he needed any medical attention he declined. I had Twin cities towing arrive and tow the vehicle, it was towed to Brian's location request. Brian told me he had the right of way exiting NB 35E ramp onto WB Co RD J when he was struck (T-bone) driver side by UNIT #1 who was traveling EB CC and pulled out into the intersection and was struck by Unit 1 (angle crash). Intersection light was working properly. No injuries were reported at the time of the crash. Nothing further.

) RD J. His vehicle had damage from front bumper to read passenger side door. No airbags were deployed. Brian said as he entered the intersection he saw the truck coming and realized it was not stopping and jumped toward the passenger seat. I spoke with a witnes



PRELIMINARY CONCEPTUAL SKETCH
COUNTY ROAD J (ASH STREET, COUNTY ROAD 81)
CENTERVILLE ROAD TO OTTER LAKE ROAD



A D A

RAMSEY COUNTY

THE AMERICANS WITH DISABILITIES ACT

COMPLIANCE REPORT & TRANSITION PLAN UPDATE

June, 1997

RAMSEY COUNTY ADA POLICY STATEMENT

Ramsey County and its various departments and divisions are committed to full implementation of both the spirit and the letter of the Americans With Disabilities Act. The County will respond quickly, fully, and fairly to all complaints related to the Americans With Disabilities Act.

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A. Department Evaluation Process

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I. COUNTY-WIDE EVALUATION UPDATE

A. INTRODUCTION

The landmark Americans with Disabilities Act of 1990 (ADA), enacted on July 26, 1990, provides comprehensive civil rights protection to individuals with disabilities in the area of employment, public accommodations, state and local government services and telecommunications. This report concentrates on that portion of the Act under Title II that requires all programs, services and activities provided by public entities to be accessible to persons with disabilities.

The ADA requires the County to conduct a self-evaluation regarding compliance and to develop a transition plan to correct those deficiencies. The evaluation and transition plan development took place in 1992/1993: The County and members of its various departments conducted evaluations of the programs, services and activities offered by the County and surveyed the buildings in order to identify any physical barriers.

This report is an update of those previous actions and includes the following:

1. Overview of the ADA
2. County ADA Grievance Procedure
3. County Employee Education Plan
4. Summary of the County's General Compliance Evaluation Process
5. Department Evaluation Process
6. Department's ADA Compliance Procedures
7. Evaluation Updates by Individual Department Including Action and Transition Plans
8. Comments by Interested Persons Within the Community

B. OVERVIEW OF THE AMERICANS WITH DISABILITIES ACT

"The Americans with Disabilities Act (ADA) has set our sights on removing the barriers that deny individuals with disabilities an equal opportunity to share in and contribute to the vitality of American life. The ADA means access to jobs, public accommodations, government services, public transportation and telecommunications -- in other words, full participation in, and access to, all aspects of society."

John R. Dunne,
Assistant U.S. Attorney General
Civil Rights Division

A primary goal of the ADA is the equal participation of individuals with disabilities in the "mainstream" of American society. The major principles of mainstreaming are:

- Individuals with disabilities must be integrated to the maximum extent appropriate;

- Separate programs are permitted where necessary to ensure equal opportunity. A separate program must be appropriate to the particular individual;

- Individuals with disabilities cannot be excluded from the regular program, or required to accept special services or benefits.

The ADA prohibits discrimination against a "qualified individual with a disability". A disability, as defined by the Act, is a physical or mental impairment which places substantial limitations on an individual's major life activities. Three categories of individuals are included:

- Individuals who have a physical or mental impairment that substantially limits one or more major life activities;

- Individuals who have a record of physical or mental impairment that substantially limits one of more of the individual's major life activities;

- Individuals who are regarded as having such an impairment, whether they have the impairment or not.

Title II of the ADA covers all state and local government programs, activities and services. Individuals with a disability must be provided an equally effective opportunity to participate in or benefit from a public service. Programs may not impose eligibility criteria that either screen out or tend to screen out persons with disabilities.

A public entity must reasonably modify its policies, practices, or procedures to avoid discrimination. A public entity's services, when viewed in their entirety, must be readily accessible to and usable by individuals with disabilities. Public entities are not required to make each of their existing facilities accessible but public entities may not deny the benefits of their programs to individuals with disabilities because their facilities are inaccessible. This standard, known as "program accessibility", applies to all existing facilities of public entities. However, the Act does permit exceptions to accessibility where providing accessibility would require a fundamental alteration in the nature of the programs or create undue financial or administrative burden.

There are a variety of means to achieve compliance:

- Re-design equipment;
- Reassignment of services to accessible buildings;
- Provision of personal aides to beneficiaries;
- Home visits, delivery of services at alternate accessible sites;
- Alteration of existing facilities and construction of new facilities;
- Access to facilities through structural methods, such as alteration of existing facilities and acquisition or construction of additional facilities.

All public facilities designed, constructed, or substantially altered after January 26, 1992, must be readily accessible and usable by individuals with disabilities. Where structural changes in facilities are undertaken to comply with the obligations, such changes shall be made by January 26, 1995 or as expeditiously as possible.

C. COUNTY ADA GRIEVANCE PROCEDURE

Ramsey County has adopted an internal grievance procedure for prompt and equitable resolution of complaints alleging any action prohibited by Title II of the Americans With Disabilities Act, which states, in part, that “no qualified individual with a disability shall, on the basis of disability, be excluded from participation in or be denied the benefits of services, programs or activities of a public entity, or be subjected to discrimination by any public entity.”

1. **NOTICE**: Complaints may be addressed to:

ADA Coordinator
Ramsey County Affirmative Action Division
Ramsey County Government Center-West
50 West Kellogg Boulevard
St. Paul, MN 55102
(612) 266-2765
TDD - (612) 266-2728

2. **COMPLAINT**: A complaint may be filed verbally or in writing, should state the name and address of the person making the complaint, and should briefly describe the alleged violation. A complaint should be filed promptly after the complainant becomes aware of the alleged violation.

3. **INVESTIGATION**: An investigation shall follow the filing of a complaint. The investigation shall be conducted by the Coordinator. The investigation shall be impartial and thorough, and shall afford all parties pertinent to the investigation an opportunity to submit evidence relevant to the complaint.

4. **DETERMINATION**: A determination as to the validity of the complaint and a description of the resolution, if any, shall be issued by the Coordinator and a copy forwarded to the complainant no later then 45 days after its filing.

5. **RECORDS:** The Affirmative Action Division shall maintain the files and records of Ramsey County relating to the complaints filed, in accordance with the Minnesota Data Practices Act, and all other pertinent State and Federal laws, rules, and regulation.

6. **RECONSIDERATION:** The complainant may request a reconsideration if s/he is dissatisfied with the determination and/or resolution. The request for reconsideration should be filed with the Affirmative Action Division within 10 working days after receiving the written notice of determination. Within 10 working days following receipt of the request for reconsideration, a determination will be made as to the merits of the request and notice of such determination shall be issued by the Coordinator and a copy to the Complainant.

D. COUNTY EMPLOYEE EDUCATION PLAN

The County and its various departments and divisions will include training on ADA compliance in all new employee orientation to ensure full compliance with the ADA. In addition, the County will immediately address any issues of ADA compliance and educate staff at all locations to properly handle them in the future.

E. COUNTY COMPLIANCE EVALUATION PROCESS

The County began its evaluation on the ADA compliance in the fall of 1991. Representatives from Property Management, the County Attorney's Office and Risk Management met to develop an overall plan for Ramsey County compliance with the ADA.

As a result of these meetings, two groups were formed to deal with the issues presented under Title I and Title II of the ADA. Title I focuses on employment issues. Title II concentrates on the accessibility of the programs, activities and services of public entities. This report focuses on Title II of the ADA.

Title II of the ADA was applicable to the County on January 26, 1992. As of that date, all programs, services and activities of Ramsey County were to be accessible and nondiscriminatory on the basis of disability.

To ensure compliance with the provisions of Title II, a core team of representatives from various departments was formed to develop a compliance plan. The initial goal of the team was to conduct a self-evaluation of the County to:

- identify public use of various County programs and facilities.
- survey programs and buildings for non-compliance.
- evaluate the results of the survey.
- compile the results.
- prioritize deficiencies.
- report and make recommendations for correction.
- seek input from groups representing persons with disabilities.
- monitor plan for completion and compliance during the transition period.

A consultant experienced in ADA issues, Harold Kiewel, assisted the team in developing a program and facility survey to identify existing deficiencies and barriers. Representatives from each department were directed to complete the surveys after training classes were conducted to educate the representatives on the ADA and on how to complete the forms.

A committee of these representatives then evaluated the surveys to identify areas of non-compliance. The committee prioritized deficiencies for correction based on public use, essential services, degree of inaccessibility, and impact on program or service availability.

In a continuing effort to ensure full compliance by the County with Title II of the ADA, the County re-evaluated its compliance efforts in 1996/1997. This compliance report and transition plan update focuses on the remaining barriers to compliance and incorporates comments from the community on the current status of the action and transition plans of individual County departments.

Future Actions:

1. It is the responsibility of the department to ensure that this information is correct and to implement and monitor the action and transition plans. If additional deficiencies outside this report are identified, the departments are responsible for implementing changes to remove these barriers as soon as possible.

2. The County has designated an ADA coordinator to handle claims and grievances under the ADA. This position is identified as a staff member of the Affirmative Action Department. The duties and responsibilities of this position are available through the Affirmative Action Department. All inquires related to the ADA are to be directed through this person.

F. COMMUNITY COMMENTS

To completely evaluate this report, it was necessary to get comments from the Community on the self-evaluation. To do this, notices were sent to various organizations servicing persons with disabilities in Ramsey County. The notices informed the groups and individuals that an updated self-evaluation report was available for their review and that two public meetings would be held at the Roseville Library on June 10, 1997 and June 12, 1997. As a result of these notices, 14 people or organizations requested copies of the report and three sent back comments or attended the meeting. The responses to the report related to specific departments are found under the individual department comment sections. The following responses are directed for the County as a whole.

One individual responded that reading printed materials to visually impaired persons trying to access the various county programs does not allow them to function equally within those programs or have equal access to those programs. If they need to reference some printed materials or forms that were previously read to them, they cannot do this as a sighted person wishing for the same information.

One individual believes that the County has an obligation to inform individuals with disabilities of the services they have which are ADA compliant. For a blind person they could have a message prior to answering the general information lines that some materials, forms, etc are available in alternative media.

One of the sections within a county department offers volunteers a course to represent abused children. They mention course materials but these materials and instructions are not available in an alternative media thus preventing a visually impaired person from participating in this program.

An individual also wanted to know who is the person that is the ADA Coordinator for the County. Since the County has the ability to tax, he felt implementation of the ADA has been a process of foot dragging with money being the excuse. He hopes that his comment will be taken in the vein offered and some substantial improvements will come in the near future.

II. DEPARTMENT EVALUATIONS

A. DEPARTMENT EVALUATION PROCESS

Title II of the Act requires that public entities take several steps designed to achieve compliance with ADA. One step is the completion of a self-evaluation. Each department of the County was evaluated in 1992-93 and re-evaluated in this report. Both evaluations concentrated on the following issues:

- Eligibility, Admission and Participation requirements of programs, services and activities to ensure that they do not discriminate against persons with disabilities.

- Programs to ensure that they communicate with persons with disabilities in a manner that is as effective as their communications with others;

- Procedures and practices to ensure that public employees are familiar with the requirements for the full participation of individuals with disabilities;

- Building restrictions which may limit those with mobility impairments in attending programs and activities;

- Building and construction policies to ensure compliance with ADA standards;

- Evacuation procedures.

B. DEPARTMENT COMPLIANCE PROCEDURES

Upon completion of this report, each department will be provided a copy of the results of its own evaluation and of the following compliance policy.

Each Ramsey County Department shall:

1. Identify an individual responsible authority to coordinate and handle ADA issues for the department.

2. Work with the County's ADA coordinator to ensure proper handling of ADA issues.

3. Accept the recommendations of this Evaluation Report and implement the necessary changes.

4. Add the following language to all contracts:

   No qualified individual with a disability as defined by the Americans with Disabilities Act, 42 U.S.C. Sections 12101-12213 or qualified handicapped person, as defined by United States Department of Health and Human Services regulations, Title 45 Part 84.3 (j) and (k), which implements Section 504 of the Rehabilitation Act of 1973, 29 U.S.C. Section 794, under Executive Order No. 11914 (41 FR 17871, April 28, 1976) shall be:

   a. Denied access to or opportunity to participate in or receive benefits from any service offered by the CONTRACTOR under the terms and provisions of this Agreement, or

   b. Subject to discrimination in employment under any program or activity related to the services provided by the CONTRACTOR under the terms and provisions of this agreement.

5. Immediately forward all claims and grievances to the Affirmative Action Department ADA Coordinator in accordance with the Ramsey County ADA Grievance Procedures.

6. Accept an active role in ensuring the County's compliance with the ADA in accordance with the following statement:

"The Department has responsibility for monitoring compliance with the ADA, and taking the steps necessary to maintain accessibility. This responsibility includes obtaining adequate funding for projects, either through normal budgeting process, grants or the CIP process to remove barriers to programs, services and activities."

7. Develop on-going training/education programs for ADA compliance for all department employees.

C. INDIVIDUAL DEPARTMENT EVALUATIONS, COMPLIANCE PLANS, AND COMMUNITY COMMENTS

AFFIRMATIVE ACTION
455 Government Center-West Building

Affirmative Action is responsible for the active recruiting of and assistance to individuals in protected classes in the application, testing, and employment process throughout Ramsey County. The Division is designated as the ADA Coordinator for the entire County. All complaints and claims under the ADA are handled by this office.

1. PROGRAM EVALUATION

A program evaluation of the Affirmative Action Division was updated on 11/22/96 and found no deficiencies within the division. The division offers alternative formats to meet the needs of individuals applying for employment with the County and ensures that reasonable accommodations are provided to employees. The Division's main objective is to ensure accessibility.

Deficiencies: None

Action Plan: N/A

2. BUILDING EVALUATION

Affirmative Action is located in the Ramsey County Government Center-West Building. Physical barriers in the building are addressed under the Property Management report.

Deficiencies: Accessibility of Ramsey County Government Center-West.

Transition Plan: See Property Management report.

3. COMMUNITY COMMENTS

None.

BOARD OF COUNTY COMMISSIONERS
220 Courthouse

COUNTY MANAGER'S OFFICE
250 Courthouse

Ramsey County's mission is to enhance the quality of life for its citizens by providing progressive and innovative leadership which addresses federal and state directive and changing community needs by delivering services in a responsive, professional and cost effective manner. The Board of County Commissioners is the governing body of the County. It has established fundamental values of the County to ensure the success of the County in meeting its mission. These values include fiscal responsibility, openness of process, caring, integrity and honesty and an ethical workforce. The Board strives to meet the needs of its citizens balancing them with its fiscal responsibility and compliance with state and federal laws.

The County Manager's Office is committed to fostering an environment for County employees that stimulates creativity, innovation and collaboration while meeting the diverse and ever-changing needs of its citizens. The County Manager's Office supports the Board of Commissioners, departments and the community and provides leadership in fulfilling the County's mission.

1. PROGRAM EVALUATION

A program evaluation was conducted on the various functions of the Board of Commissioners and County Manager's Office on 5/14/93 and updated on 12/20/96. Currently the County Board relies on a relay system in order to communicate with persons who are hearing impaired. To date, there has been minimal use of this relay system. If usage increases, the department will consider use of a TDD.

Board meetings are held in a room that is wheelchair accessible. Hearing devices are provided for use in Council Chambers to help those who are hearing impaired. Minutes for the meeting are typed and available to the public. All meetings are tape-recorded and videotaped for viewing on cable T.V. A copy of the tapes are available upon request.

The County Board also appoints members to various advisory committees. A review of the application and selection process indicates there is no discrimination in the areas of eligibility or admission. Once a Committee member is selected, a location and the necessary auxiliary devices are selected to meet the needs of the various committee members.

Deficiencies: Commissioner application should include ADA compliance statement.

Action Plan: Add ADA compliance statement to all commissioner applications.

2. BUILDING EVALUATION

The offices of the Board of Commissioners and the County Manager are located in the City Hall/Courthouse. The major renovation of the building from 1991-1996 addressed issues of accessibility and made the necessary modifications**.**

Deficiencies: None

Transition Plan: N/A

3. COMMUNITY COMMENTS

In the public meeting held on June 10, the following comment was made:
The third floor Council Chambers have double doors. There is no easy access because one of the double doors is always locked and there is no power entrance. It was suggested that both doors remain unlocked while the Chambers are in use. This comment will be forwarded to Building Services so that the appropriate action may be taken.

BUDGETING & ACCOUNTING
270 Courthouse

The Budgeting and Accounting Department is an internal operation serving the Board and County Manager's Office. There is limited public contact. Public contact is generated through calls to the County Board or County Manager's Office.

1. PROGRAM EVALUATION

There are no programs, services or activities issues for this department. Any public access issues are dealt with at the Board/County Manager's Office level. The department meets the ADA and no action plan is necessary.

Deficiencies: None

Action Plan: N/A

2. BUILDING EVALUATION

The Budgeting and Accounting Department is located in the Courthouse. The major renovation of the building from 1991 - 1996 addressed issues of accessibility and made the necessary modifications.

Deficiencies: None

Transition Plan: N/A

3. COMMUNITY COMMENTS

None.

COMMUNITY HUMAN SERVICES
160 Kellogg Boulevard

Community Human Services operates as the social service program of the County. Its mission is to enhance the quality of life for the people of Ramsey County by providing resources to meet basic human needs, assuring protection for the vulnerable, and assisting in achieving self-sufficiency, all in the most cost effective manner. The department is divided into 7 divisions: Administrative Services, Information Services, Income Maintenance, Social Services, Mental Health/Chemical Dependency Services, Lake Owasso Residence and Ramsey Nursing Home. Lake Owasso and Ramsey Nursing Home evaluations are found under separate sections. The other five divisions are included in the following evaluations.

Administrative Services: handles the internal operations of the Department including Human Resources, Budgeting and Accounting, Staff Development and Planning. The division also deals with issues affecting the entire department such as the Data Practices Act, Electronic Benefit Services and Home Delivered Meals of Ramsey County.

Information Services: includes computer support for the Department along with research and evaluation, purchasing, supplies and print shop.

Income Maintenance: provides financial, medical and self-support services to eligible Ramsey County residents in need of these services. Services include Aid to Families with Dependent Children, General Assistance, Emergency Assistance, Food Stamps, General Assistance Medical Care, Medical Assistance, Minnesota Supplemental Aid and Refugee Case Assistance.

Social Services: provides protection for vulnerable adults and children and provides essential culturally sensitive social services to Ramsey County citizens with the most serious needs. The division offers the following services and programs:

- Family & Children Services
- Placement Systems
- Service to Wards
- Purchase of Services
- Adult Services
- Developmental Disabilities

Mental Health/Chemical Dependency Services: provides a variety of assistance to persons with mental illness or chemical dependency issues. The division offers the following services:

- ***Mental Health Clinic*:** provides outpatient mental health services including

psychiatric services (medication monitoring/prescribing) and court evaluations. The target population is serious and persistently mentally ill, lower to middle income, and Medical Assistance clients.

- ***Mental Health Day Treatment*:** provides day treatment for clients with serious and persistent mental illness. Clients participate in group therapy, goal setting, mental health education sessions, and recreational and occupational therapy. Clients are referred to this site from the Intake Section at 529 Jackson.

- ***Mental Health Case Management*:** provides case management services to individuals with serious and persistent mental illness. Program arranges, coordinates, monitors and provides services to individuals living in residential programs, state hospitals or independently.

- ***Mental Health Crisis/Intake Unit*:** provides screening and intake for mental health services; provides mental health crisis outreach and crisis intervention services; assesses all cases referred for civil commitment.

- ***Chemical Assessment And Referral*:** provides access to chemical dependency treatment by determining client financial eligibility and assessing their chemical use history in order to establish an appropriate level of care.

- ***Detox Center*:** provides detoxification services for all people who are intoxicated or experiencing withdrawal. Referrals are from Ramsey County. The Center provides medical treatment and behavioral management for these clients. Length of stay is 24 to 36 hours and the minimum age is 13 years.

1. PROGRAM EVALUATION

Administrative Services: all program, services and activities issues are covered under the various other divisions that deal with the public. No further evaluation is necessary.

Information Services: supports the various other divisions and assists them in contracting for special services. As a support operation, there are no public programs, services or activities. No further evaluation is necessary.

Income Maintenance: an evaluation of the Income Maintenance Division was conducted in May, 1992 and updated in February, 1997. Services under this division have access to TDD, the relay system and sign language interpreters. There are no eligibility or admission requirements that limit the number of qualified persons with disabilities from participating in the various programs. Forms necessary for admission into the programs are usually filled out before the clients are interviewed. Staff is

available to help individuals complete the forms. (No alternate formats are available.) Program information form notifies applicants how to file a complaint if they feel they are treated differently because of disability. Programs do not discriminate against persons with disability in recruitment, eligibility, admission or participation. Any pre-admission inquiries about the nature or extent of a disability are for the purpose of determining eligibility for financial programs.

Deficiencies: None

Action Plan: N/A

Social Services: program evaluations for the various services and programs offered by this division were conducted in 1992 and updated in 1997. Only those programs/services where deficiencies exist are indicated below.

***Child Care*:** establishes eligibility for child care assistance for individuals who are employed or in training. for continued assistance. It provides child care assistance for parents who are unable to give full time care to their children because of medical, social or child protection problems. The program has a TDD and a signer is available to assist applicants and clients. Eligibility requirements include income guidelines and a medical statement verifying incapacity, but do not discriminate on basis of a person's disability.

Deficiencies: Application has no ADA compliance statement.

Action Plan: Add ADA statement to application.

***Home Housekeeping*:** establishes eligibility for housekeeping services for individuals who are elderly and frail or who are severely handicapped and need these services to remain in their own home. This program uses TDD, relay, amplified phone receiver, and signers to assist clients. Staff will assist individuals with completing applications. The program does not discriminate on eligibility, admission or participation. Clients must meet income guidelines and have written medical verification of their disability and need for services.

Deficiencies: Application has no ADA compliance/non-discrimination statement.

Action Plan: Add ADA statement to application.

***Sexual Offense Services* (SOS): SOS** is the sexual assault victim crisis center for Ramsey County. The program offers 24-hour telephone services for victims of sexual assault. Services include crisis intervention, counseling, advocacy, information and referral (telephone and in person); community education and in-service training for

professionals; coordination and planning of services and prevention efforts with other agencies.

A program evaluation was conducted on 7/21/93 and updated in January, 1997. In the program evaluation, it was found that there are no braille or audiotape versions of the brochures/flyers used in this program. There is a relay service provided but since there is an emphasis on phone service in this program, a TDD would provide the best service to the hearing impaired.

Deficiencies:

1. No alternate formats for materials.
2. No TDD service available on site.

Action Plan:

1. Have audio tape or braille version of materials available at request.
2. Evaluate use of Relay System. Add TDD to site if use warrants it. Make sure staff is trained in how to use TDD effectively.

Mental Health/Chemical Dependency Services: conducted evaluations by individual areas in order to identify any deficiencies in the various programs, services and activities offered by this division.

***Mental Health Clinic*:** a program evaluation of the Mental Health Clinic was conducted on 4/21/92 and updated in January, 1997. The program does not discriminate against persons with disabilities in its recruitment, eligibility, admission or participation practices although the ability to accommodate persons with hearing impairments is limited. A serious barrier for the clinic is their lack of a TDD system. They do provide information to the general public over the telephone, so this would definitely inhibit their ability to communicate with the hearing and speech impaired. The clinic has not hired sign language interpreters and does not have taped or brailled information for clients. (They provide brochures explaining general information, confidentiality and program rules.) A staff person can assist a vision impaired client in filling out the paperwork required for admission into the program and the psychological testing can also be tailored to accommodate the vision impaired.

Deficiencies:

1. No auxiliary aids or TDD system used.
2. Brochures, information, application not available in alternate formats.
3. Staff not trained in issues of ADA accommodations.

Action Plan:

1. Plans for using auxiliary aids should be made so that staff can access them as

needed.

2. The department can use a relay system to handle calls from hearing and speech impaired. If usage warrants, department should purchase TDD for on site use and train staff on how to use it.
3. Staff training programs should be modified to include ADA accommodation.
4. Alternate formats of brochures, information and application should be available. Division should look into services to transfer information on tape or in braille for the visually impaired.

***Day Treatment*:** a program evaluation of the Mental Health Day Treatment program was conducted on 5/14/92 and updated in January, 1997. As per the evaluation, there are no auxiliary aids provided to accommodate individuals with hearing, speech or vision impairments. There is no ADA notice on the forms that they use. There are no post-admission inquiries made regarding disability status to make accommodations. There is no in-service training provided to ensure that staff are informed on accommodations/alternate procedures. The facilities would need assistance in planning accommodations for a hearing, speech or vision impaired client.

Deficiencies:

1. No auxiliary aids provided or TDD.
2. No ADA notice of compliance on forms.
3. No staff training on how to accommodate persons with disability.

Action Plan:

1. In planning appropriate treatment program, staff should accommodate individuals with special needs and make arrangements to provide necessary auxiliary aids.
2. The department can use a relay system to handle calls from hearing and speech impaired. If usage warrants, department should purchase TDD for on site and train staff on how to use it.
3. Staff training programs should be modified to include ADA accommodation.
4. Alternate formats of brochures, information and application should be available. Division should look into services to transfer information on tape or in braille for the visually impaired.

Mental Health Case Management: deals with persons with mental disabilities. They do no recruiting or advertising. Persons in program must meet eligibility requirement of having serious and persistent mental illness as defined in law. Intake workers meet with clients at home or in office and helps client complete necessary application forms. (These forms are not available in alternate formats.) The forms carry a non-discrimination statement. Case managers meet with clients throughout program to review level of service and client's level of function to ensure client is receiving appropriate care.

Deficiencies: None

Action Plan: N/A

***Chemical Assessment & Referral*:** offers presentations at a variety of locations and for a variety of organizations. The program has no printed recruitment or advertisements. Eligibility requirements, admissions and participation do not discriminate against persons with disabilities. This program accepts clients by referral and works to ensure that the program is well suited for the clients and is capable of serving the client's individual needs.

Deficiencies:

1. Presentations, meetings and lectures may not be fully accessible.
2. Admission form do not include ADA compliance statement.

Action Plan:

1. Review presentation materials to deal with hearing and visual impairment.
2. Make sure locations are accessible.
3. Add ADA compliance statement on form
4. Be sure staff orientation includes training in issues of ADA accommodation.

***Detox Center* :** a program evaluation was completed on 4/23/92 and updated in January, 1997. Interpreters and telephones are available for persons with hearing impairments. There is no recruitment for participants. Information on the program is given to the public through meetings or oral presentations at seminars or schools. These meetings may not be held at fully accessible locations. There are no admission restrictions based on disability; however, participation in program may be limited based on medical assessment of client.

Deficiencies: Lectures and oral presentations may not be fully accessible.

Action Plan: Presentations initiated by Ramsey County should be held in accessible locations. Registration or information materials for presentations should have a number to contact if a person has special needs. These needs can then be accommodated at presentations. Employee orientation should include ADA training in accommodating persons with disabilities.

2. BUILDING EVALUATION

Administration, Information Services, and the Income Maintenance Divisions operate out of Ramsey County Government Center-East. This building completed a major renovation in 1996. All ADA deficiencies identified in the building at the time

of renovation were corrected. No additional deficiencies have been identified since that time.

Social Services also operates out of the East Building but uses community sites for some of its programs such as Child Protection and Sexual Offense Services (SOS). An evaluation of these facilities is presented below.

Child Protection Services: operates out of two non-owned facilities: Capital View Center and the Bigelow Building. These buildings were evaluated in December, 1996. The Bigelow Building is fully accessible whereas Capital View has some major deficiencies. Capital View is owned by a school district with no plans for renovations to make the building fully accessible.

Deficiencies:

1. Main entrance to lower level has high threshold which limits accessibility.
2. Signage does not indicate accessible entrances or directions to accessible entrances.
3. Bathrooms are not accessible.

Transition Plan: The division will ask the landlord to remove the barriers in the building. The division will look at an alternate site to Capital View to ensure that the program is accessible at this location.

SOS: operates out of a leased facility in St. Paul. A property survey was conducted in March, 1993, and updated in January, 1997. The survey identified several physical barriers at this location but found they do not restrict access to the program, services or activities.

Deficiencies:

1. Inadequate, noncompliant interior signage for public doors.
2. Inadequate knee space under lavatory.
3. Excessive height of toilet room mirrors.

Transition Plan: Contact building owner to provide better signage at public doors and to
modify bathrooms to meet ADA requirements.

Mental Health/Chemical Dependency Services has various sites that were evaluated.

Mental Health Clinic, 529 Jackson St., St. Paul, MN
An evaluation was conducted in June, 1992 and updated in February, 1997. This is a leased site that operates as a Clinic.

Deficiencies:

1. Entry has high threshold and requires excessive force to open door.
2. Excessive projection of wall mounted objects into passageways.
3. Elevator call buttons, floor selector and emergency call buttons are too high.
4. No tactile landing identification signs on elevator door jambs.
5. No audio signals indicating elevator arrival, direction and landing.
6. Non-compliant hardware for common passage doors.
7. Excessive height for telephone, water fountain and fire alarm pulls.
8. Non visual signal for emergency warning system.

Transition Plan: Division should ask owner to address issues of ADA compliance immediately. If building owner is unable to comply, the Division should look for new site that is accessible to persons with disabilities.

Mental Health Day Treatment: Building surveys were conducted in 1992 and updated in 1997 for the 3 Day Treatment Centers. These three centers are all leased facilities. None of the locations are fully accessible. Clients are sent to these programs by referral from the Mental Health Clinic. The centers make the necessary accommodations to assist persons with disabilities at these facilities.

3. COMMUNITY COMMENTS

In program areas, social service decisions are not always made with sensitivity to the client's needs but focus on the system and the concerns of the caregivers. The department should look into its policies of coordinating services in various areas to ensure that the client comes first.

CORRECTIONS
650E Government Center-West Building

The Corrections Department provides services and facilities for adult and juvenile offenders in Ramsey County. The following is a summary of its operations.

The Adult Correction Division provides Investigation, Supervision and Domestic Relation services to the Courts:

- Investigation aids the Courts in providing information used in sentencing decisions including background information on prisons and background information for probation officers supervising offenders.

- The Supervision area provides community based supervision for those convicted offenders ordered by the court to comply with standard and special conditions of supervision. The purpose of this activity is to protect the public, reduce recidivisim and obtain individual or community restitution.

- Domestic Relations serves the area of Family Court. Its services include performing mediation services and custody evaluations to support the work of the Courts and to protect the interests of children. It also enforces/oversees orders for protection.

The Correctional Facility (Workhouse) protects the community by providing security, supervision and treatment alternatives to all men committed by the Courts to this facility. Activities include administration, custody, treatment services, institutional and department services, building operations and maintenance.

Juvenile Probation provides probation supervision to juveniles adjudicated delinquent by the Courts and provides the Courts with information upon which to make dispositional decisions relative to these juveniles.

Juvenile Detention Center provides a 30-bed secure detention program for youth charged with delinquent offenses. Detention programming stresses safety, security, medical screening and emergency care, short-term counseling, individualized education programs, and recreational and motivational activities.

Boys Totem Town is a correctional facility for adolescent boys. It is licensed for 65 beds and offers long term programs (4-6 months). Its mission is to protect the community and to develop living skills in residents that may allow them to be successful in life.

1. PROGRAM EVALUATION

A program evaluation was completed in 1992 and updated in December, 1996 for the various programs offered by Corrections.

Under the **Adult Courts Division** there are no eligibility requirements. All participants are referred into the various programs by the Courts. The division provides sign language interpreters, TDD and relay services. Interviews with participants are conducted at accessible sites where information is provided in written and verbal form.

The Correction Facility (Workhouse) also has no eligibility or admission requirements that would affect persons with disabilities. All inmates are committed by order of the Courts. Signers are provided for inmates with hearing impairments. Orientation sessions have both verbal presentations and written materials to assist new inmates. Staff are trained to assist inmates with disabilities during their incarceration at this facility. Barriers at this facility are discussed under the Building Evaluation section.

Juvenile Probation will provide signers as necessary. They have TDD phone access for assisting persons with hearing or speech impairments. Programs for individuals with special needs are modified to accommodate these individuals while still complying with probation rules. Information is available in written and verbal form.

Juvenile Detention Center and Boys Totem Town make use of signers, TDD, taped materials and audio recordings to accommodate persons with disabilities. Eligibility for these facilities are determined by State Statute. Staff are trained in the ADA. Barriers are discussed under the Building Evaluation section.

Deficiencies: None

Action Plan: N/A

2. BUILDING EVALUATION

The Adult Courts Division has various leased offices to provide services under various programs at the following locations:

710 Arcade, St. Paul
1600 University Ave, St. Paul
650 Marshall, St. Paul

The last two facilities offer accessible sites for all participants in the programs. The Arcade location has several deficiencies.

The Workhouse is a County-owned facility that houses men convicted of felonies and misdemeanors. The facility completed renovation in the fall of 1996 that included removal of barriers to comply with the ADA.

Juvenile Probation has 2 leased offices that are accessible to persons with disabilities; 265 Oneida and 1021 Marion. The third leased office at 715 Edgerton is not fully accessible.

Juvenile Detention Center is a County owned facility that includes Juvenile Court proceedings. There are some barriers in the building that will be addressed during the major renovation and expansion project scheduled to begin in Fall of 1997.

Boys Totem Town is a County owned residential treatment facility. The buildings are old and have numerous deficiencies related to ADA. The facility cannot accommodate a potential resident with special needs and therefore the Courts would not assign a person with special needs to this facility. There are concerns with regard to public areas for visitors to the facility. These concerns are address below under deficiencies.

Deficiencies:

710 Arcade (leased)

1. Absence of direction signage to accessible entrance.
2. Noncompliant interior signage for public doors.
3. Bathroom not fully accessible.

715 Edgerton (leased)

1. Inadequate number of designated accessible parking spaces.
2. Obscured or inconspicuous accessible parking signs.
3. Excessive slope along path to accessible entry.
4. Undesignated accessible entry.
5. Noncompliant interior signage for public doors.
6. Noncompliant toilet room signage.
7. Obstructed threshold to toilet room entry door.

Boys Totem Town

1. Noncompliant site access and entrance.
2. Noncompliant accessibility throughout public areas of building.
3. Noncompliant signage.
4. Noncompliant restroom facilities.

Transition Plan:

For the two leased facilities, alternate sites are available to meet the needs of persons with disabilities; therefore the County is in full compliance with the ADA. However, to ensure greater accessibility, the department should look for alternate sites for these programs upon expiration of the current leases .

Boys Totem Town does not comply with ADA requirement. The County currently has no plans to renovate this facility; however, new juvenile facilities are being explored to meet the increased needs for juvenile detention space in the County. Any new facility must be ADA accessible to be considered as a possible site. All new construction will fully comply with ADA requirements.

3. COMMUNITY COMMENTS

None.

COUNTY ATTORNEY'S OFFICE
315 Government Center-West

The Ramsey County Attorney is an elected official who provides legal and law enforcement services for the citizens of Ramsey County. The County Attorney's Office provides assistance to the County Attorney. Its mission is to protect and provide for the public safety by prosecuting adult and juvenile offenders. In addition, it provides support and assistance to victims of crimes and protects children from neglect and abuse. Furthermore, the office supports children and families by seeking enforcement of child support obligations.

1. PROGRAM EVALUATION

A program evaluation of the County Attorney's Office was completed on 12/3/96. This evaluation revealed that the office uses interpreter services and verbal explanations to assist individuals with disabilities. The department uses TDD services through Ramsey County Telecommunication or the state TDD service. The department does not recruit participants. People in its program are referred by Law Enforcement or other county departments. Meetings are held at places accessible to people with physical disabilities. Upon request, it will make every effort to provide auxiliary aids. Information on Child Support programs is available in written form or on audio tapes. If transportation services are necessary for clients or victims, services are arranged by cab or Metro Mobility.

Deficiencies: None

Action Plan: N/A

2. BUILDING EVALUATION

The County Attorney's Office is located in the Ramsey County Government Center-West Building. Physical barriers in the building are addressed under the Property Management report.

Deficiencies: Accessibility of Ramsey County Government Center-West.

Transition Plan: See Property Management report.

3. COMMUNITY COMMENTS

None.

COURTS
Room 1700, Courthouse

The Courts Division of Ramsey County offers various programs and services for District Court. For a description of these programs and services, please see PROGRAM EVALUATION.

1. PROGRAM EVALUATION

A program evaluation for Courts was completed in 1993 and updated in December, 1996. The results of the evaluation, summarized along with a brief description of each program and service, follows. Deficiencies in the programs and services were identified in the initial evaluation and the necessary changes have been made to eliminate them or handle them administratively.

Domestic Abuse/Harassment Office: This office assists victims of domestic abuse in obtaining and filing orders for protection and harassment restraining orders. Interpreters are provided for the hearing impaired at all stages of the process. Relay Service is available as well. The office supplies written information about the office and process and gives information on the telephone. Occasionally the supervisor gives informational presentations (when requested) regarding the issues. The clerks assist everyone in filling out the forms and read all documents to the parties if they are not able to do so. All clerks explain/review the contents of documents and handouts. The petitioner must meet the statutory requirements to obtain the restraining order. The program does no recruiting. People in wheelchairs can easily access the office without the hindrance of steps.
A video tape showing the process has been produced and will be close captioned. The Domestic Abuse/Harassment forms are being revised in January 1997 and when that occurs the petition and orders will be available in large print format. The program is located in the West Building.

Jury Office: Ramsey County residents are summoned for jury service. Interpreters are provided for the hearing impaired and readers are provided for the visually impaired. The orientation handbook is on tape. The Courthouse is newly renovated and physical access issues aren't a problem. Jurors are summoned randomly according to State law. Relay Service is available. Jurors must fulfill statutory requirements to serve (such as Ramsey County resident).

Criminal Division: This office processes all criminal records. They provide terminals for people to access scheduling and record information in Ramsey County. Fines and bail money are paid and kept by this office. They provide the forms used in the courtroom such as pay or appear forms, warrants of commitment, probation referrals and no-contact orders. They notify the interpreter program if an interpreter is needed for the hearing impaired. People inquire over the phone for scheduling

information and case outcome information. This office also provides touch-tone telephone inquiries on an interactive voice response system for citation information. They do not recruit participants nor advertise. Clerks fill out the paper work. Relay Service is available. A TDD is in place in both rooms 700 and 130 (Violations Bureau) of the Court House**.**

Civil Division - Vital Services: This office does not recruit or advertise. They do assist people seeking passports, driver's license, state identification cards and marriage applications. They also record birth and death certificates for suburban locations in Ramsey County. There is a general information line with taped information on applying for a marriage license, a drivers license, passports and birth and death records. There is a TDD and employees have been trained on it. Statutory requirements must be met to get a license such as a driver's license. Counters are low for the wheelchair bound. Interpreters are provided and Relay Service is available as well. Readers are available.

Divorce Mediation Project - Special Courts: Litigants are given an alternative to litigation. Participants are targeted, that is, parties that are going through contested divorces (property, financial, visitation) are referred to the Program. Parties can ask to be admitted as well. A mediator brings the parties together and they try to reach a settlement. Interpreters for the hearing impaired are utilized as is the Relay Service. One of the parties must be a resident of Ramsey County If a disability is known, the Program will accommodate. Eligibility is determined by the court documents filed. Financial disclosure information must be filled out once a party is in the Program. Mediators meet with the parties and if someone has a special need, the mediator notifies the Program Director. Written information is provided describing the Program.

Civil and Vital Statistics (Accounting): The accounting division receipts general filing fees and other fees rendered for service. They escrow court deposits and maintain those records. Most financial forms utilized are filled out by the accounting staff. Relay Service is available and interpreters can be provided as well. Participants are not recruited but the case must be venued in Ramsey County. Staff will read information to the parties and walk them through the form (minor settlements) if needed. Receipts are provided for payments made and forms are filed for minor settlements. Generally if someone were disabled it would be made known to the staff. Post inquiries are not applicable. Forms generally require a signature only. Staff assists anyone who needs help in filling out the financial worksheet. TDD is available in the conciliation office area several feet away**.**

Juvenile Court - Special Courts: Courts handles case scheduling, record keeping for juvenile court, calendaring, checking the parties in for court, conducts hearings, maintain court files and sends out court orders. Interpreters are provided for all court appearances. Relay Service is also available. Participants are not recruited and there are no eligibility requirements as it is commonly thought of. Usually the crime took place in Ramsey County. Taped information is not appropriate in this case.

Conciliation , Evictions and Housing Court - Civil Division: This office handles the filings for small claims court, filing eviction notices, filing actions against landlords, and filing code violations for housing court. All of the above are described on tape. Interpreters are made available for the hearing impaired and relay service is available as well. Participants are not recruited but the property must be in Ramsey County for evictions and generally the parties filing for conciliation are residents of Ramsey County There is a tape that describes the housing court eviction and conciliation court processes. Participants fill out a form to file for conciliation, evictions, rent escrow, counter claims and appeals. Staff will assist people in filling out the forms. TDD equipment is installed and operational. Staff will read documents to participants.

Civil Division Room 600 Court House: This office opens all new cases and handles all subsequent filings including calendaring and processing Torrens and Trust matters; filing tax petitions; follow up paperwork from harassment proceedings; process appeals to Appellate CT, preparation of Writs of Execution and orders to Show Cause regarding collections on judgments. Default and transcript judgments as well as Pursuant judgments are processed in this office as well. Stipulations of dismissal, foreign judgments, writs of attachment, unsatisfied civil judgments and transcripts to and from other counties are processed. Sign interpreters are made available and Relay Service is available as well. There is a taped message that explains the process for a name change and the filing fees. Participants are not recruited but litigants are likely Ramsey County residents. There are forms that need to be filled out depending upon the matter brought to the court. Staff will read information to individuals if necessary. Many parties are represented by counsel. TDD is available in the conciliation office several feet away.

Family Court Assignment Filings - Special Courts: This office assigns court dates; schedules all calendaring for judges/referees; does file preparation; schedules petit court trials; responds to questions from the public; updates TCIS; provides copies of litigation papers, file orders and affidavits; and provides forms to those parties who are handling their own divorce. Interpreters are provided for the hearing impaired. Relay Service is available as well. Participants are not recruited, however one of the parties must be a Ramsey County resident. Filings are for family related matters such as divorce, change of custody, contempt motions and modification of visitation schedule, etc. Staff will explain which form to fill out and how to do so. If someone is unable to read the form the ombudsman will read the form to that person and help him/her complete it. Several forms are in the process of being revised, and when they are complete (estimated April 1997) large print versions will be prepared.

Assignment Division - Criminal and Civil Cases: This office schedules court dates for various criminal and civil court proceedings. This office is responsible for the assignment and allocation of judicial, parajudicial and administrative resources. Sign interpreters are made available for court appearances and Relay Service is available as well. Information is provided over the telephone to callers and written notices are sent

to the parties. Staff will read information to a litigant if they are visually impaired. Most people are represented by counsel.

Settlement conferences are conducted in the civil arena. Parties file a lawsuit and rule 16 conferences are then set up (settlement conferences) to avoid an actual trial. A notice is sent to the parties by mail as to the settlement conference date and telephone conferences are conducted as well. The parties do exchange forms through the discovery process. Sign interpreters are available as is the Relay Service. Staff will read documents to parties when necessary.

Maplewood Branch - Criminal Division: This Court serves the suburban municipalities of Ramsey County by handling many of the same matters held in as the main branch in St. Paul. They have a Violations Bureau which deals with parking and petty moving violations. There is a hearing officer available to hear and issue rulings on these matters. Arraignment court is conducted at this location with more serious traffic and criminal matters. This office is also responsible for maintaining accurate dispositional, financial and case history records. Interpreters for the hearing impaired are provided for court appearances. Participants are not recruited nor are their eligibility requirements per se. The accused is purported to have committed the crime in Ramsey County. Information regarding court dates, fines dispositions etc. is given out to the public via the telephone if an inquiry is made. Information is also given out at the front desk. The office collects fine payments and grants fine payment extensions. The hearing officer meets with defendants to discuss possible resolutions to lesser traffic offenses. Written notices concerning court appearances is provided to the litigant. The information is communicated verbally upon request, or if someone has a visual impairment. Defendants may fill out a financial eligibility form to determine if they qualify for a public defender to represent them. Pay or Appear type forms are filled out by court staff. Relay Service is available as well.

Violations Bureau - Criminal Division: The Violations Bureau is the initial point of contact for all City of St. Paul and ordinance offenders. It provides citation information to the public for all traffic and ordinance citations. The Violations Bureau collects fines, sets up court dates for offenders and provides an appeal option for non-moving petty misdemeanors. Permanent records for traffic and ordinance violations are kept in the Violation Bureau. The Bureau refers cases for collection and requests suspension of drivers licenses when an offender fails to meet the obligation of the citation. Sign interpreters are available when meeting with a hearing officer and for court appearances. There is an operational TDD. Relay Service is available as well. Employees will read information to litigants. Participants are not recruited but the offense would have to have occurred in Ramsey County.

Guardian ad Litem Program - Special Courts: Volunteers are recruited and trained to act as Guardian ad Litem for abused and neglected children. The volunteers gather information concerning the child and provide an independent report to the Court that focuses on the best interests of the child. Participants are not recruited. Once a family has been brought into the system as a result of an allegation of abuse or neglect, a

Guardian ad Litem is assigned . The volunteer interviews relevant parties and makes a recommendation to the court. Participants are not recruited and the cases assigned to the program are families already in the juvenile court system. Interpreters for the hearing impaired are provided. Relay Service is available as well. Taped information is not applicable. There is printed material that describes the Program and it is used in an effort to recruit volunteers. The volunteers must meet certain requirements - 21 years of age, have 3 references, etc. Volunteers are interviewed and their criminal history is checked. Volunteers receive an orientation regarding the Program and the training consists of 40 hours of pre-service training, a 250 p. manual, viewing 6 video tapes and more. Volunteers conduct interviews, provide written reports to the Court, appear in court and make recommendations verbally.

Interpreter Office - Admin. Services: This office arranges interpreters for persons with communication issues. This includes the hearing impaired as well as the non-English speaking population. Interpreters are provided for court appearances, appearances with a hearing officer, interviews for restraining orders and interviews conducted by the court visitor. Relay Service is available and there is a TDD in the office.

New Brighton Court - Criminal Division: This office serves specifically as a mail payment center for payable fines that have occurred in Ramsey County. No court cases are heard in New Brighton. Targeted participants are those persons accused of offenses within the Court's jurisdictional limit and geographic boundaries. Litigants are not recruited but the crime would have occurred in Ramsey County. Relay Service is available. Staff will read information to individuals and answer questions over the telephone. The hearing officer meets with defendants to discuss possible resolution to lesser traffic offenses. Arrangements are made for sign language interpreters when requested. Permanent records for traffic and ordinance violations are kept in New Brighton. Information regarding fine disposition is given out to the public via the telephone or in person upon request.

Civil Commitment - Special Courts: The Civil Commitment Office handles commitment petitions filed with the Court by the County Attorney's office for persons who are alleged to be mentally ill, chemically dependent, mentally retarded, mentally ill and dangerous, or have psychopathic personalities. Interpreters are provided at all stages of the court process and Relay Service is also available. The proceedings are conducted primarily at Ramsey Hospital, but the Court will relocate to other hospitals if the patient cannot be transported to court. Parties are not recruited but those committed must meet the statutory requirements as determined by the judiciary. Documents are read and explained by the person's attorney and a Guardian ad Litem who is appointed. The hospital staff or the Human Services Department notifies the Court if there is a need for an interpreter at any point.

Personnel Office - District Court: The Personnel Office sends out job postings and accepts applications for various positions. Training for employees is coordinated through this office. All personnel records are located in this office for both State and

County employees of District Court as are medical records and First Reports of Injury etc. All personnel type related matters are handled through this office. Interviews are conducted for various positions. There is a TDD and Relay Service available. The application form is available in Braille. Employees will read information to people upon request.

Deficiencies: None

Action Plan: N/A

2. BUILDING EVALUATION

Courts has four facilities that are used for its operations. These facilities include Ramsey County's Courthouse, the Juvenile Service Center located at 480 St. Peter Street, New Brighton Court at 803-5th Avenue, and Maplewood Court at 2785 White Bear Ave. Building surveys were conducted at each facility in 1993 and reviewed in 1996. All deficiencies initially identified have been removed.

Courthouse: The major renovation of the Courthouse from 1991 - 1996 addressed issues of accessibility and made the necessary modifications. Nine of the twenty-five courtrooms were redesigned to fully accommodate persons with disabilities. Department staff work with the various parties to ensure that accessible courtrooms are available when necessary.

Juvenile Center: The Center is used to conduct juvenile court proceedings. There are some barriers in the building that still need to be addressed for full compliance. The removal of these barriers are the responsibility of Corrections and are addressed in that portion of the report.

New Brighton Court: Clerk of Court service counter is 42" high. A small table 29" high has been provided for customer use to accommodate persons with disabilities.

Maplewood Court: The service counter height in the Court Offices is at 41-1/2". A low table has been provided for customer use to overcome this barrier.
The private restrooms in the jury deliberation room are noncompliant. Accessible restrooms are available in the building that can be used by jury members if necessary.

3. COMMUNITY COMMENTS

In the public meeting on June 10, 1997, a comment was made that both individuals present had wanted all of the courtrooms fully accessible to meet possible future needs. When the Courthouse was renovated in 1992 - 1996, ADA requirements were used to

design the courtrooms. Nine of the twenty-six courtrooms are fully accessible. This meets the requirements of the ADA in effect at the time of renovation. No further action is necessary.

EMERGENCY SERVICES
3383 N. Rice St.

Emergency Services is a department which deals with state and federal emergency management office and local units of government in Ramsey County. Emergency Services has minimal contact with the public. They are set up to help local government units when a disaster occurs. Services may include assistance with completing small business administration forms and reports to state and federal offices in order to obtain funds for affected communities.

1. PROGRAM EVALUATION

Emergency Services was evaluated for program accessibility on 1/6/92 and updated on 12/2/96. According to the evaluation, Emergency Services does not have access to a TDD but uses a Relay System to communicate with persons with hearing and speech impairments. The department rarely receives calls from the general public. It is not involved in recruitment, eligibility, admission or participation in its program, services or activities, since its main operation is dealing with other units of government.

Deficiencies: None

Action Plan: N/A

2. BUILDING EVALUATION

A building evaluation was completed as part of the Public Works building since Emergency Services is located in the lower level of the building. There is no elevator access to the lower level. Although the public may seek shelter in the building in case of an emergency, there is usually no public contact with this agency.

Deficiencies: No elevator access to lower level. See Public Works for additional detail.

Transition Plan: Since there is little, if any, contact with the public on premises, there is no recommendation to modify this barrier at the present time. Any other accommodations will be handled administratively as needs arise.

3. COMMUNITY COMMENTS

None.

EXTENSION SERVICES
2020 White Bear Avenue, Maplewood

The Extension Service is part of the University of Minnesota, Metro Area Cluster Program. The program is found in the seven county metropolitan area. Its mission is to involve people in improving the quality of life and enhancing the economy and environment through education, applied research and the resources of the University. Its programs include Expanded Food and Nutrition Education Program, Job $ense, yard waste reduction, and Dads Make a Difference Project.

1. PROGRAM EVALUATION

An evaluation of Extension Services was conducted in 1993 and reevaluated in 1996. The results of this evaluation are found under Deficiencies.

Deficiencies: Printed materials do not contain language regarding ADA or publicize the availability of services for persons with special needs.

Action Plan: Add ADA compliance and special needs language to literature at next printing.

2. BUILDING EVALUATION

Extension Services is located in the Ramsey County Barn built in 1918. A property survey was completed in May, 1992 and updated in October, 1996. Since the original survey, public restrooms have been renovated to ADA standards but lack the proper signage.

Deficiencies:

1. Inadequate signage to identify accessible entrance at exterior doors and from parking area.
2. Teller/Service counters do not have optional lower height for wheel chair accessibility.
3. Self-service displays are too high.
4. Restrooms do not have signage to indicate accessibility.
5. No access to second floor.
6. Main exit door closes too fast.

Transition Plan:

1. Add signage to identify accessible entrances, directions to that entrance, restrooms, emergency and non-entrance doors and non-accessible entrances.

2. Teller/Service Counter is a permanent structure. Staff can overcome this barrier by having a service table off to the side to assist persons with disabilities.
3. Staff will be trained in assisting and responding to customers with disabilities
4. Displays will be lowered to be serviced by persons in wheelchairs.
5. Department will limit use of second floor. Programs and training will be offered on lower level to ensure accessibility.

3. COMMUNITY COMMENTS

None.

INFORMATION SERVICES
550 Government Center-West Building

Information Services is an internal operation serving all County departments and divisions. It provides computer assistance and training to County departments. It develops computer applications and helps identify future computer hardware and software needs for the County.

1. PROGRAM EVALUATION

Since Information Services is an internal department, there are no public issues. The program evaluation conducted on 2/11/92 and reviewed in December of 1996 showed that there are no programs, services or activities issues for this department.

Although not a public issue, the department does hold computer training classes for Ramsey County employees and employees of the City of St. Paul. Classes are held in accessible locations and accommodations are made as necessary. These classes are not open to the general public. The department complies with the ADA and no action plan is necessary.

Deficiencies: None

Action Plan: N/A

2. BUILDING EVALUATION

Information Services is located in the Ramsey County Government Center-West Building. Physical barriers of this building and its transition plan are addressed under the Property Management Department.

Deficiencies: Accessibility of Ramsey County Government Center—West.

Transition Plan: See Property Management Report.

3. COMMUNITY COMMENTS

None.

JOB TRAINING
1945 Manton
Maplewood, MN

Ramsey County Job Training (RCJT) provides vocational assessment, case management, training, job seeking skills, supportive services, and placement to individuals who are public assistance recipients, dislocated workers, low income youth, and low income older workers. RCJT strives to provide individuals in need of employment a chance to gain and retain employment at a livable wage.

1. PROGRAM EVALUATION

An ADA program evaluation was conducted in December of 1992 and updated in December of 1996. The program provides sign interpreters and qualified readers on an as needed basis. Clients with speech and hearing impairments have access to programs through Ramsey County Human Services Department Relay System.

Recruitment and advertising materials are usually in written form. Readers are available for persons with visual impairments. Eligibility and admission requirements depend on the specific program requirements. Written math and reading tests may have a negative impact on persons with visual impairments. For some programs, readers are provided for tests and some written tests can be waived for persons with disabilities according to Federal JTPA policies.

Deficiencies:

1. Forms do not contain notice of ADA compliance.
2. Some forms refer to persons as handicapped.
3. Relay System is used to answer phone inquiries instead of TDD. Although this is acceptable, if there is a frequent use of relay system, department should consider purchase of TDD.

Action Plan:

1. ADA compliance statement or disability disclaimer should be added to all application forms and to “Participants Rights and Responsibilities”.
2. Any reference to handicapped should be changed to disability on all forms and handouts.

2. BUILDING EVALUATION

A building evaluation was conducted on 10/19/92 and updated on 12/12/96. According to the evaluation, the building has several deficiencies that do not meet

ADA guidelines. RCJT has met with the owner of the building and discussed proposed changes to make the building ADA accessible. At the present time, the owner does not plan to update the building. RCJT along with several State and local programs is in the process of looking for new office space. The move is scheduled to take place in the Fall of 1997. In the interim, RCJT has temporarily located a site at the Ramsey County Workforce Center Office in St. Paul. This office is ADA compliant and can be used by the general public seeking job training services.

Deficiencies: Numerous in Gladstone Community Center.

Transition Plan: Relocate offices in Fall of 1997 to ADA compliant location.

3. COMMUNITY COMMENTS

None.

LAKE OWASSO RESIDENCE
210 N. Owasso Boulevard

Lake Owasso Residence is a residential treatment service for ambulatory people who are developmentally delayed and with related conditions. It serves a population of persons ages 16 through adult. The facility is licensed as a Class B Supervised Living Facility by the State Department of Health.

1. PROGRAM EVALUATION

An evaluation of Lake Owasso was conducted in 1992 and updated in December, 1996. The facility recruits residents through Ramsey County Social Services. Eligibility and admission requirements are limited to serve only those meeting license criteria. Any pre-admission screening conducted is to ensure Lake Owasso can fit the needs of the client, since each program is specifically designed to meet those needs. The program evaluation indicates that Lake Owasso uses a Relay System for the hearing impaired. There is little use of this service and appears to be adequate for this operation; therefore, it is not recommended that Lake Owasso purchase a TDD at this time.

Deficiencies: None

Action Plan: N/A

2. BUILDING EVALUATION

A building evaluation for Lake Owasso was completed in December of 1996. This facility did not conduct an original evaluation since it was scheduled for closure by the State. Since the initial report was completed, the facility has remained open with no definite date of closure planned; therefore, it was necessary to evaluate the public areas of this operation for accessibility.

There are four (4) buildings at Lake Owasso Residence. The three residence halls (upstairs Main Building, Taylor and Davis) along with the school house are not open to the public. The administration offices (downstairs Main Building) have limited public access. Visitors must go to the administration area to sign in and can meet with resident and staff in its conference room or cafeteria.

Deficiencies: The following deficiencies were found in the public portion of the Administration Building and surrounding area:

1. Noncompliant passenger loading zone.
2. Obstructive entrance threshold.

3. Non-compliant entry door latch hardware.
4. Undesignated accessible entrance.
5. Absence of directional signage to accessible entrance.
6. Inadequate clear usable opening for common passage doors (not in public areas; nurse's office, bathrooms).
1. Noncompliant door latch hardware for common passage doors.

Transition Plan: In 1997, Lake Owasso will:

1. Stripe parking area to show pedestrian aisle.
2. Building supervisor to adjust door threshold.
3. Change front door and common door hardware to lever handle or push/pull mechanism.
4. Add signage to mark accessible entry door and direct people from parking lot to entrance.

Deficiency #6 addresses non-public areas that may on occasion be entered by the public under certain circumstances. This item will not be addressed until closure decision of the facility has been firmly decided because of the age and general condition of the building.

3. COMMUNITY COMMENTS

None.

LAW LIBRARY
1815 Courthouse

The Law Library provides a collection of law books for the use of lawyers and the public.

1. PROGRAM EVALUATION

The Law Library was evaluated in 1992 and updated in December, 1996. There are no eligibility, recruitment or admission requirements to use the library. Parties interested in using the library have access to all the materials available. Staff are available to assist persons with physical disabilities in retrieving books and periodicals. Books in the library are in written forms. Alternative forms are not available. Because of the nature of this services, there are no auxiliary aids to accommodate persons with visual impairments. The department can use the relay service to provide information to callers . No action plan is necessary at this time.

Deficiencies: Texts are available in written form only.

Action Plan: The nature of the law library does not allow for books to be available in alternate formats without changing the intent and purpose of the service. Individuals that seek to convert information into alternative formats would do so at their own expense.

2. BUILDING EVALUATION

The Law Library is located in the Courthouse. The major renovation of the building from 1991-1996 addressed issues of accessibility and made the necessary modifications.

Deficiencies: Doors into library and restrooms are extremely heavy.

Transition Plan: Building Services will adjust door closers to reduce pull needed to open. They will also check into leaving library doors open during business hours taking into account fire codes and HVAC accommodations.

3. COMMUNITY COMMENTS

None.

LIBRARIES
4570 N. Victoria St.
Shoreview, MN

The libraries are a system of seven locations that offers library services to the residents of Ramsey County and the surrounding metropolitan area. Its mission is to assure that all persons can easily obtain, without charge, the cultural, recreational, and factual resources they need to improve or enrich their lives.

1. PROGRAM EVALUATION

A program evaluation was conducted on the various activities performed at the seven libraries. The evaluations were initially conducted in 1992 and updated in July, 1996.

Deficiencies:

1. Libraries use Relay System to communicate by telephone with the hearing impaired.
2. Most of the advertising and information about the libraries is available in print only.
3. Program registration materials do not offer place to indicate special accommodations.
4. Brochures do not properly identify which libraries are fully accessible.
5. No visual alarm in building.

Action Plan:

1. Libraries should consider purchase of TDD to provide more efficient communication with clients who are hearing or speech impaired.
2. Advertisements and information about the libraries should utilize multi-media formats.
3. Registration materials shall include place to indicate if special accommodations are needed.
4. Brochures on the libraries will indicate which libraries are fully accessible.
5. Emergency procedures will be amended to address evacuation of persons with disabilities.

2. BUILDING EVALUATION

The libraries, as a whole, meet ADA accessibility requirements although individual libraries have physical barriers that may limit accessibility at some locations. The new Roseville, Maplewood and Shoreview libraries have eliminated almost all barriers found in the surveys. Those barriers that remain will be handled administratively.

Mounds View library has some minor barriers that are scheduled to be corrected in the

near future. North St. Paul, White Bear Lake and Arden Hills libraries have many barriers that need to be corrected. These deficiencies are addressed in the Transition Plan and staff at these libraries are actively seeking funds to address these issues.

Deficiencies:

1. Need power-assisted door openers at Arden Hills, North St. Paul and Moundsview.
2. Public counters do not have accessible area (Arden Hills, North St. Paul and Moundsview).
3. Exposed pipes under sinks needs insulation - All locations.
4. Drinking fountains not accessible (Arden Hills, North St. Paul and White Bear Lake).
5. Restrooms not fully accessible (Arden Hills, North St. Paul and White Bear Lake).
6. Curb cuts do not have different texture (Arden Hills, North St. Paul).

Transition Plan:

1. Power doors added 1996/1997.
2. Counters modified 1996/1997. Specific areas near counters designated for use for persons with disabilities.
3. Pipes will be insulated 1996/1997.
4. Drinking fountains will be modified 1996/1997.
5. Funds for remodeling restrooms to be requested in 1998 Grant/Capital Improvement Applications.
6. Funds to modify curb cuts requested in 1997 Grant/Capital Improvement Applications.

3. COMMUNITY COMMENTS

At the public meeting on June 10, 1997, a person made that comment that he does not like the wording under the Building Evaluation section of this report that states: “The libraries, as a whole, meet ADA accessibility requirements….” He felt this gave the County Commissioners the impression that everything is okay and that nothing further needed to be done at the libraries.

In addition, the Roseville library was made for easy access from cars but not directly accessible from both sides of the library for someone walking or in a wheelchair.

MEDICAL EXAMINER'S OFFICE
300 East University Avenue

The Medical Examiner's Office was established for the purpose of investigating deaths occurring within Ramsey County, as mandated by Minnesota State Law. One of its objectives is to provide information and assistance to surviving family members at the time of death including identification of bodies and autopsy results.

1. PROGRAM EVALUATION

A program evaluation of the Medical Examiner's Office was completed on 8/24/92 and updated on 11/19/96. The evaluation reveals that this department's public access is limited to the identification of bodies by family members. From an ADA perspective, the department assists families as needed who may have a member with a disability and will get personal aides if necessary. The department complies with the ADA and there are no recommendations at this time.

Deficiencies: None

Action Plan: N/A

2. BUILDING EVALUATION

The Medical Examiner's Office moved to its new location at 300 University Avenue in March of 1994. The new facility was built incorporating ADA guidelines in existence at the time of the construction.

Deficiencies: None

Transition Plan: N/A

3. COMMUNITY COMMENTS

None.

PARK AND RECREATION
2015 North Van Dyke Street
Maplewood

The Park and Recreation Department offers a variety of activities for people of all ages. Biking, hiking, swimming, boating, fishing, picnicking, golfing, skating, and cross country skiing are just a few of the activities enjoyed by the public and offered by this department.

The County has five regional parks, a nature center, four golf courses, a golf dome, ten public ice arenas and numerous picnic and beach areas. The department offers classes to the public including cross country ski lessons, skating and golf instruction. The department is dedicated to providing recreational facilities and programs to all guests of its park system.

1. PROGRAM EVALUATION

An ADA program evaluation was conducted in 1992/93 and updated in December, 1997. The following is a brief overview of the programs and activities offered by this department.

Archery, bicycling, cross country skiing, golf, hiking, horseshoes, skating, swimming and interpretive programs are some of the activities open to the public. For all these activities, there are no eligibility or participation requirements. The department produces a variety of brochures, flyers and other publications to advertise and promote these activities. Persons interested in activities can call the administration office for any information. Inherent in these programs are areas that may limit accessibility to persons with disabilities. Archery, bicycling, cross country skiing and golf require persons with minimum visual ability to perform these activities safely. No individual aids are provided to individuals to overcome these barriers and none are required under the ADA guidelines. For some activities the terrain may present barriers to individuals with limited mobility. Again the nature of the activities makes some programs inaccessible; however, for the hiking and nature interpretive trails, the County provides some trails that are fully accessible.

The department offers concerts at the various parks. These events are advertised in multi-media formats including radio and television. Concerts are open to all. There is no permanent seating offered for these concerts. Most are held in grassy areas that may offer challenges to persons with mobility impairments; however, there are paved trails at most concert sites.

The department also rents out its arenas for “dry floor” events. The arenas have some physical barriers which will be discussed under the Building Evaluation section of this

report.

There is a nature center that offers programs on nature interpretation. No aids are provided for these programs although they are available upon request. The department has use of a TDD and the Relay System to answer questions by phone. Because of the nature of these programs, there are some accessibility issues. The County and the department try to offer these programs in the most accessible settings while retaining the nature and intent of the programs. Information on the programs are not available in braille or large print. Interpretive signs are not in braille. Some of the trails used in the interpretive programs are difficult for persons with mobility impairments and provide poor traction for wheel chairs. Volunteers are used in the program and are trained to assist persons with disabilities.

Picnic areas, children's play areas and beaches are not all fully accessible. Some picnic areas have accessible shelters and accessible scattered free-standing tables (see schedule). The department plans to have all play areas fully accessible by 1999 (see schedule). Persons with mobility impairments may have limited access to certain facilities.

People interested in fishing can use the fishing piers on Island, Long and Beaver Lake along with the lake at Keller Regional Park. Shoreline fishing has no paved path to the designated shoreline which may limit access to persons with physical impairments.

Watercraft launching requires participants to be capable of launching their own boat. The department offers no assistance in using this service.

On the whole, the programs, services and activities offered by the Parks & Recreation Department are moving toward maximum accessibility within the fundamental nature of the programs offered.

Deficiencies: None

Action Plan: N/A

2. BUILDING EVALUATION

Deficiencies: Evaluations of the various facilities are presented in the following pages.

Transition Plan: The plan developed by the Parks and Recreation Department is outlined in the following pages.

3. COMMUNITY COMMENTS

At the public meeting on June 10, 1997, the comment was made that the department should make sure that all picnic tables are spaced so that persons in wheelchairs are able to move in close to the table.

PERSONNEL
430 Government Center-West Building

The Personnel Department is responsible for recruiting job applicants for employment positions in the County personnel system, administering employment tests, and referring candidates for consideration by employing departments. They are also responsible for dealing with the on-going personnel issues of employees.

1. PROGRAM EVALUATION

A review of the ADA Program Evaluation for the Personnel Department was completed in August, 1992 and updated in December, 1996. The County does not discriminate against persons with disabilities in the recruitment, application and eligibility requirements for employment. Applications for employment are available at Ramsey County Government Center West. An applicant has the option of completing a job application on site. If help is needed completing the application, staff are available to assist.

Deficiencies: Applications for employment do not have a statement showing compliance with ADA.
Action Plan: All applications should have a statement regarding Ramsey County compliance with ADA.
Note: Any ADA issues relating to employment are not covered in this report. Risk Management and Personnel have addressed employment issues separately.

2. BUILDING EVALUATION

The Personnel Department is located in the Ramsey County Government Center-West Building. The physical barriers within the department and in the building are addressed under the Property Management report. To overcome these barriers, the department uses alternate accessible sites to ensure applicants have equal access to employment opportunities.

Deficiencies: Accessibility of Ramsey County Government Center-West.
Transition Plan: See Property Management report.

3. COMMUNITY COMMENT

At the public meeting on June 10, 1997, there were some questions raised about employment issues. It was explained that this report dealt with public accessibility of programs, services and activities offered by the County. Employment issues were handled separately by the Personnel Department.

PROPERTY RECORDS AND REVENUE
845 Government Center-West Building

The Property Records and Revenue Department of Ramsey County deals with recording and taxation of real property located in Ramsey County and elections/voter registration. With respect to the property, the department is responsible to properly value and classify all property in the County for the purpose of assessing property taxes. It collects property taxes and processes tax payments, deed taxes and mortgage registration taxes. The department also notifies property owners of any tax delinquencies. It provides information by phone or in person regarding taxes, values, classification and ownership of property. The department is also involved in public auctions of those properties that have been forfeited to the State for non-payment of real estate taxes.

In addition, the department is responsible for elections and voter registration. It conducts elections either at specified polling places or by providing an opportunity for all eligible voters to vote by mail or at the County Auditor's Office. It also offers the opportunity for citizens who are eligible to vote to register to do so.

1. PROGRAM EVALUATION

A program evaluation for this department was conducted in 1992 and completely redone in 1997 to provide a more comprehensive evaluation of the programs, services and activities it offers. Comprised of three major divisions, Valuation, Revenue Records and Property Records, the department is set up with various functions related to property taxation in Ramsey County. It values properties for taxation purposes, sends out tax notifications, holds public Truth In Taxation hearings, records property information in County records, and conducts public auctions for tax forfeited lands. The division has daily contact with the public either by phone or in person. There is a person on staff who can sign and is available to assist persons with hearing impairments. Staff are trained to meet customers' needs and will assist customers with disabilities. The division has access to a TDD and also uses Relay and fax systems to communicate. Information is advertised in the newspaper and through the County Board cable program. Meetings for the public are held at accessible sites. The department has no eligibility or admission requirements to its programs and services and there are no barriers to participation in these programs.

Revenue: Information on property taxes and valuations are mailed to each property owner. A Board of Equalization has been established to afford property owners the chance to appeal values. There is a special classification for properties owned and occupied by persons who are physically impaired. To be eligible for the special tax classification, the owner must obtain certification from his/her doctor and submit a request to the state. The state determines eligibility for this program. All property

owners who seek this special classification must be re-certified every year.

Deficiencies: None

Action Plan: N/A

Elections/Voter Registration: This division is responsible for elections and offers voter registration to all eligible citizens. Requirements for voter eligibility are determined by the state. The County does not discriminate against persons with disabilities.

Elections are held at various polling places throughout the County. These sites are chosen by the various cities. Ramsey County is responsible for verifying site accessibility and providing the necessary equipment and judges at the sites. Accessible voter stations are available at each precinct polling location. No voter materials are available in braille or taped formats, although some large type material is available. The election judges and election staff are trained to assist voters with disabilities that are unable to vote unassisted. Ballots are marked and an affidavit of assistance is signed when assistance is given to voters.

Deficiencies:

1. Some individuals need assistance of election judges to vote. Ballots are marked accordingly and an affidavit is signed by the assisting judge as required by statute.
2. Large print material is available for elections only.

Action Plan:

1. The process to assist voters with disabilities has been established by Minnesota Statute and includes wheel chair height voting booths and election judge assistance. Any changes in this process need to come from the State level.
2. Review operations to see where additional large print or braille materials should be used.

2. BUILDING EVALUATION

Property Records and Revenue is located in the Ramsey County Government Center-West Building. Physical barriers in the building are addressed under the Property Management report.

Deficiencies: Accessibility of Ramsey County Government Center-West.

Transition Plan: See Property Management report.

3. COMMUNITY COMMENTS

An individual responded to the County's request for public comment by interoffice memo. He stated that the Department of Property, Records and Revenue should have an action plan since they administer programs such as This Old House Law along with appeals of property values. The department also sends out tax notices, valuation forms and notifications of public meetings. A visually impaired person could not possibly take advantage of these programs or know of the information provided by the department unless they make things available in some manner other than print. He also felt that voting should be totally independent of assistance and the election section of the department should research and implement law changes to accomplish this.

As an employee of this department, he was not aware who the ADA representative for the department is or that the employees have had any training on assistance to a person covered under the ADA.

PROPERTY MANAGEMENT
660 Government Center-West Building

The Property Management Department is an internal operation serving the various departments and tenants of Ramsey County-owned buildings. It is responsible for maintaining the various properties and ensuring the buildings are safe and usable for all people entering the buildings.

1. PROGRAM EVALUATION

No program evaluation was conducted for the department. All issues related to program, services, and activities fall under the physical barriers of the various buildings. These issues are addressed under BUILDING EVALUATION.

Deficiencies: None

Action Plan: N/A

2. BUILDING EVALUATION

Property Management is responsible for the operation and maintenance of three County-owned facilities; Courthouse, Government Center-West, and Government Center-East. In addition, the department consults with various departments in acquiring, constructing, renovating and leasing properties. Building issues related to the various departments are found under the appropriate departments. The three main building are discussed below.

For the Courthouse and Government Center-East, major renovations occurred from 1991 - 1996. Issues of accessibility and the necessary modifications were addressed at that time based upon the ADA guidelines in effect during that period.

The Government Center-West was not part of a major building renovation, however, an evaluation of the building was performed by Wold Architects where accessibility issues were identified. Since that time, the following ADA upgrades have been completed at this facility:

- Lobby was remodeled, new accessible power doors were added to the main entrance.
- New fire alarm system with audio and visual assists is currently being installed. Estimated completion date is July 1997.
- Twenty-two handicap parking spaces were added near the rear entrance of the building.

- Signage in some areas of the building were upgraded and include braille identifications.
- One hand/one motion or lever handle door hardware was installed in remodeled areas.
- Wheel chair accessible ramp/tunnel was installed connecting ADC and West.
- Wheel chair accessible ramp was installed connecting E and F buildings of West.
- Wheel chair accessible ramp was installed connecting cafeteria and roof deck.
- Kellogg Plaza Deck was remodeled removing gates and barriers and installing curb cuts for wheel chair access.

Deficiencies:

1. Signage in portions of the building does not meet ADA guidelines.
2. Each floor should have accessible restrooms with accessible routes within building to those restrooms.
   3. Drinking fountains are not all accessible. At a minimum, one on each floor should meet ADA Guidelines.
4. No accessible entry from Shepard Road into building.
5. Provide signage at Shepard Road entry showing location of accessible entry.
   6 Provide directional signage in building F identifying accessible routes to other buildings within West.
   7. Upgrade remaining bathrooms, drinking fountains, door hardware, signage and directories to remove all barriers within the building.

Transition Plan : **West Building**

1997 - $125,000 budgeted for ADA modifications to restrooms.

2001 - $254,544 budgeted for design and construction of accessible entrance on Shepard Road, drinking fountain upgrades and signage.

2002 - $254,544 budgeted for additional restrooms, drinking fountains and signage modifications.

3. COMMUNITY COMMENTS

At the public meeting on June 10, 1997, a comment was made that there is no direct access from the two sets of doors in the lobby of the West Building at the Kellogg Main Entrance. Why were the two power doors placed at different ends of the entrance.

In addition, the two people attending the meeting did not like the direct path accessiblity of the West Building. They both felt more money needs to be spent to ensure that the building is as accessible as possible.

It was also noted that the drinking fountains that are scheduled for replacement should be looked at carefully to ensure that the replacements are the most accessible ones available. Some of the “accessible” fountains offer only limited accessibility.

The final comment that deals with all property owned by the County is that this self-evaluation was conducted by employees. One of the respondents felt that an outside consultant should be hired to do all the building evaluations again to make sure that the employees did it correctly. This comment was noted but no action will be taken on it.

One individual who responded in writing commented that the he has worked in the West Building for many years and sees little if any improvement to the things in the building that would assist blind persons such as braille labels on elevators, braille designations on bathroom doors and making the cafeteria machines etc. accessible to a blind person.

PUBLIC DEFENDERS OFFICE
1808 Firstar Bank Building

The Public Defenders Office is a criminal defense office representing indigent persons charged with crimes in Ramsey County. It provides the necessary legal services for those individuals that qualify for assistance under the program.

1. PROGRAM EVALUATION

A program evaluation for the Public Defender's Office was conducted in September, 1992 and updated in December, 1996. The report revealed that the department does not recruit participants or set eligibility requirements that would discriminate based on a person's disabilities. The Department accommodates clients with limitations and provides the necessary aids and accommodations to ensure that individuals are given adequate legal service under this program.

Deficiencies: None

Action Plan: N/A

2. BUILDING EVALUATION

An individual building evaluation was completed at this location in September, 1992 and updated in December, 1996. The Department reported that the building and office are accessible. Although there are not fully accessible bathrooms on the 18th floor, access is available on the 19th floor through elevator service.

Deficiencies: None

Transition Plan: N/A

3. COMMUNITY COMMENTS

None.

PUBLIC HEALTH
Suite 930, RCGC-West

Ramsey County Public Health Department is responsible for Public Health Nursing, Nutrition, Environmental Health and Solid Waste. The Program Evaluation section offers a brief description of the various programs offered along with identifying any deficiencies found within the programs.

1. PROGRAM EVALUATION

Program Evaluation of the various divisions of Public Health were conducted in 1992 and re-evaluated in February 1997 to reflect the current organizational structure of the department. The department is entering into a Joint Powers Agreement with St. Paul Public Health Department effective July 1, 1997 and its impact is not reflected in this report.

Public Health Administration: Administrative offices of Public health are located in the West Building. Department staff may use (a) the telecommunication device (TDD) located at the West Building reception, (b) Administration funds for American Sign Language interpreters, or (c) the Minnesota Relay System to serve hearing impaired clients.

Deficiencies: Some information is only available in written form.

Action Plan: Have alternate formats (written and verbal) available for clients.

Community Health Development Division: In 1993 and 1994 the Health Education Division became the Community Health Development Division (CHD) with two major programs - Community Services and Correctional Health Services. CHD creates and participates in partnerships which address specific community or institutional health needs by using a community health promotion model and approach and by recognizing and reflecting cultural competence in health promotion.

Community Services staff are housed at RCGC West. Services include adolescent health education, family violence initiatives, HIV/AIDS prevention activities, and other community health education activities. Services are delivered at RCGC West and at other community sites by invitation. Ramsey County Corrections Department contracts with CHD for health services for the Adult Detention Center , Workhouse , Boys Totem Town and Juvenile Detention Center. The Corrections Department is responsible for Correctional Health program and site surveys.

Deficiencies: None

Action Plan: N/A

Environmental Health Division: The Environmental Health Division is located in the basement of the Ramsey County Maplewood Branch Library. The Division enforces Ramsey County ordinances pertaining to hazardous waste, food establishments, lodging facilities, public swimming pools, manufactured home parks, childrens camps, and abatement of public health nuisances.

Training sites include conference rooms at the Maplewood Library and the New Brighton Community Center. The Maplewood Library is used for hazardous waste seminars, the Hazardous Waste Advisory Council, and the Food Protection Advisory Council. The New Brighton Community Center site is used for the pool operators and artification course.

Deficiencies:

1. Forms including results of reports, license applications, and licenses and seminar notices are not available in alternative formats, but the nature of the program is unlikely to require alternatives.
2. Food license forms and seminar schedules do not include a statement regarding ADA II compliance.

Action Plan:

1. When the public calls in for program reservations, staff will ask if special arrangements are needed.
2. Add ADA compliance statement to forms and brochures.

Solid Waste Division: The Solid Waste Division is co-located with Environmental Health in the basement of the Ramsey County Maplewood Branch Library. Solid waste management includes:

- yard waste collection and composting
- household hazardous waste collection
- processing of recyclables
- regulation of licensed haulers and facilities and non-licensed solid waste activities
- public information in all the above areas

Solid waste programs include:

1. Public information through meetings and written materials.
2. Yard waste collection and composting at 8 drive-in sites. Site monitors can assist the disabled with dumping and have cellular phones for emergencies.
3. Drive-in hazardous waste collection at one year-round and four seasonal sites.
4. Collection and processing of recyclables at Ramsey County Recycling Center

which is leased to Supercycle and Greenwing. Only Greenwing is open to the public.
5. Information on solid waste management through telephone, TDD, and written media.
6. Regulation.

Public meetings are held in accessible public buildings such as Maplewood Library, park buildings, and city halls. Information regarding solid waste programs is mailed to Ramsey County residents or distributed as city news inserts or at meetings. Information is also available by phone. Minnesota Relay Service can be utilized for the hearing impaired. Recruitment for boards is through standard county recruitment efforts.

Deficiencies: None

Action Plan: N/A

Nursing Division: Programs and service delivery sites of the Division of Nursing change regularly. Currently the three major programs of the Division are Family Health, Adult Health Management, and Disease Prevention and Control (DP&C). Increasingly, the focus of services is on assessment and referral of individuals and health education to groups. Family Health, Adult Health, and DP&C services are provided in homes or at shelters, clinics, schools, family centers, and other community sites. When Nursing is invited to do a presentation, the host group is responsible for assuring accessibility. If Nursing sponsors activities, meetings are held in accessible spaces and materials are available in different formats upon request. For in-home services, Nursing assesses the physical limitations by phone at intake and on the first visit. In-home services include assessment, nursing care, and health teaching. Immunization clinic services include injections and health teaching. For these services, clients would need to call in to request special services such as interpreters.

Written communication, TDD, sign language interpreters, and MN Relay Services are used for the hearing impaired. Verbal communication is the primary method for the visually impaired. Staff training includes orientation to Department services for hearing impaired.

Deficiencies: The client's Bill of Rights uses the term handicapped.

Action Plan: Change use of the term handicapped to disabled in next printing.

Nutrition Division: The Division provides nutrition services and professional training at community locations. Their mission is to alleviate hunger and improve the health of county residents through nutrition services at public clinics; professional training on

request; and provision of nutrition information via media and community programs and home visits. Services are targeted to low income, minority groups. Services include counseling on doctors orders; small group presentations; and advice to parents and interpretation of children's growth data. Currently St. Paul/Ramsey County WIC Program services and sites are managed by City of St. Paul Nutrition staff, and other Ramsey County nutrition services and sites are managed by Ramsey County Nutrition Division staff.

Programs provide sign language interpreters as needed. Assessment tools for the elderly are tape recorded and mention the nutrition program. The tape is marketed and housed for loan by St. Paul Society for the Blind. They also have large print materials for visually impaired. The Division has the use of the Department's TDD. When groups invite Nutrition Division to speak, the group is responsible for their own recruitment and arrangements for interpreters, etc.

If disabled persons seek services at Main Street Health and have other assigned clinics for health care, Nutrition cannot counsel them but will assist with hunger issues or answer questions about nutrition.

The Division sponsors joint public health service announcements with Metro and Minnesota Department of Health WIC Programs, Children's Defense Fund, First Call For Help, and Senior News Letters.

There is one application form for this program. If applicant needs assistance to complete application, assistance will be provided by staff. Application form does not contain ADA compliance statement but does carry discrimination disclaimer. Orientation for participants is done verbally and supplemented with written information.

Deficiencies: Forms should publicize availability of auxiliary aids if needed.

Action Plan: Include place on form to indicate if applicant has special needs so that appropriate accommodations can be made.

2. BUILDING EVALUATION

Public Health has various sites throughout Ramsey County both as permanent sites and temporary locations that offer services to the general public. Evaluation of the various sites were conducted in 1992/93 and updated in early 1997. New sites were surveyed and the results are found below.

Administration: Offices are located in the West Building. Evaluation of this

building was conducted under the Property Management portion of this report.

Community Health Development Division: Services for this division are located in the West Building and at other public sites. There are no accessibility issues for this division.

Environmental Health Division: This division is located in the Maplewood Library. Physical barriers for this location was addressed under the report for the libraries. The division holds some meetings and seminars at the New Brighton Family Service Center. An evaluation of this location is found under the Nursing Division portion of the Building Evaluations.

Solid Waste Division, Ramsey County Recycling Center
Greenwing Office, 475 Rice Street, St. Paul, MN

The Recycling Center is a drop-off for various recycleables. People drive in, drop off materials and drive off. Traffic flows in a one way direction to avoid congestion. This site is an alternative to curbside recycling offered in the various communities of Ramsey County. At one time, the building on site was used as a redemption center. Now the public has no access to building, therefore, no further evaluation of this facility is necessary.

Deficiencies: None

Transition Plan: N/A

Nursing Division: This division utilizes many sites in providing services to the community. Adult Health services are currently delivered at Psychiatric Medication Clinics at Ramsey County Mental Health Center and will expand to public high rises in 1997.

Family Health services are delivered at:

- 1245 St. Anthony (clinic for residents)
- RCGC East Lobby
- Other Community sites upon invitation

Site locations were not conducted at these sites but these sites are set up to accommodate population service.

Disease Prevention and Control services are delivered at regular immunization clinics, seasonal flu clinics, and client homes, shelters, and other sites as necessary and/or upon invitation. There are 4 locations that are used as regular immunization sites. The sites are used three to six hours monthly. Sites are selected to offer convenient

locations to suburban communities. None of these sites are owned by the County. Evaluations were conducted at these sites and the results shown below:

1. Mounds View City Hall, 2401 Highway 10, Mounds View, MN
2. New Brighton Family Service Center, 400 10th St. NW, New Brighton, MN 55112

Deficiencies: None

Transition Plan: N/A

3. Fairview Community Education Center, 1910 West County Rd. B, Roseville, MN

Deficiencies:
1. Non-compliant door latch hardware for common passage doors.
2. Absence of compliant toilet room signage.
3. Absence of audio signals indicating elevator arrival, direction and landing.
4. No visual or no audible signal for emergency warning system.

Transition Plan: Department will request building owner to comply with ADA and remove above deficiencies. If owner is unable to comply, department should look into alternate sites for clinic, taking into account the limited use of facility and other accessible sites under program. These deficiencies do not affect the accessibility of the program, services and activities offered on site. Note: It would be helpful if this facility provided signage in County Rd. B parking lot to direct persons with disabilities to go along the (L) road to the southeast lot for accessible parking, doors and elevator.

4. St. Stephens Lutheran Church, 1925 E. County Rd. E, White Bear Lake, MN

Deficiencies:
1. No audible or visual signal alarm.
2. Undesignated accessible entrance(s).

Transition Plan:
1. Staff will be trained on how to respond to emergencies in building without alarm system. Staff should be knowledgeable of emergency exits and shelters within the building and be sure clients are out of the area in the event of an evacuation/emergency.
2. Owner will be asked to install signage that designates accessible entrances.

Nutrition Division: This division has 11 non-owned sites serving the County. The

site usage is limited to 3 hours/week. Evaluations were conducted and transition plans developed for each site.

1. Face-To-Face Clinic, 1165 Arcade St., St. Paul, MN 55106
2. Model Cities Abrams Clinic, 491 University Ave. W, St. Paul, MN 55103
3. Normandy Education Center, 2482 E. County Rd. F, White Bear Lake, MN 55110

Deficiencies: None

Transition Plan: N/A

4. Model Cities Clinic, 430 N. Dale St., St. Paul, MN
5. Dorothy Day Center,183 Old 6th Street, St. Paul, MN 55102

Deficiencies: Nonvisual or nonaudible signal for emergency warning system.

Transition Plan: Facility is used on a very limited basis. To overcome this deficiency, staff will be trained on how to respond to emergencies in building without alarm system. Staff should be knowledgeable of emergency exits and shelters within the building and be sure clients are out of the area in the event of an evacuation/emergency.

6. North End Medical Center, 153 Manitoba, St. Paul, MN

Deficiencies:

1. Absence of accessible entrance to building (accessible outer door requires a helper to open door from inside as it is kept permanently locked and cannot be opened by a disabled person alone).
2. Undesignated accessible entrance(s).
3. Noncompliant entry door latch hardware.
4. Nonvisual or nonaudible signal for emergency warning system.

Transition Plan: Access to site is limited because of entry to this building. Any information in brochures or information materials should show this site as not accessible and indicate which sites are accessible. Since there are alternate sites available under this program, it is not necessary to relocate this site but the department should evaluate this area to see if there is an alternate accessible site available.

Staff will be trained on how to respond to emergencies in building without alarm system. Staff should be knowledgeable of emergency exits and shelters within the building and be sure clients are out of the area in the event of an evacuation/emergency.

7. Women's Advocates, 584 Grand Ave., St. Paul, MN

Deficiencies:

1. No accessible parking.
2. No accessible entry.
3. No accessible sanitation facilities.

Transition Plan: This location is not accessible to persons with physical impairments; however, other sites are available that are accessible. The department should evaluate this area to see if there is an alternate site available that would be more accessible. Be sure all materials and information indicate that this site is inaccessible.

8. Faith Lutheran Church, Charles Avenue & Mackubin, St. Paul, MN

Deficiencies:

1. No audible signal for elevators. (Has little impact on services at this site.)
2. People must ring bell for entry. (This deficiency is handled administratively by attendant who opens door as necessary.)
3. No audible or visual signal for fire alarms.

Transition Plan: Staff will be trained on how to respond to emergencies in building without alarm system. Staff should be knowledgeable of emergency exits and shelters within the building and be sure clients are out of the area in the event of an evacuation/emergency.

9. Naomi Family Center, 77 E. Ninth St., St. Paul, MN
10. Lowry Family Shelter, 347 N. Wabasha St., St. Paul, MN

There are many deficiencies in these buildings and these sites serve a targeted population that cannot be effectively served elsewhere. Other locations are available that are accessible and therefore no recommendations are made for these sites.

11. St. Mark's Lutheran Church, 2499 N. Helen St., No. St. Paul, MN

Deficiencies:

1. No accessible bathrooms.
2. No visual fire alarm.

Transition Plan:

1. Although the site has limited usage, the division should look for an alternative location in the area that would provide accessible bathrooms to participants in the program.

2. Staff will be trained on how to respond to emergencies in building without alarm system. Staff should be knowledgeable of emergency exits and shelters within the building and be sure clients are out of the area in the event of an evacuation/emergency.

3. COMMUNITY COMMENTS

None.

PUBLIC WORKS
910 Government Center-West Building

The Public Works Department is responsible for providing and maintaining safe and efficient road systems in Ramsey County that coordinate with the needs of other governmental agencies. The department facilitates the preservation of lakes and other water resources through effective resource management. It also provides a system of uniform land records to ensure proper recording of properties. It coordinates the public works programs with federal, state and local agencies.

The Public Works Department is responsible for developing highway systems within Ramsey County. It is involved in reviewing highway needs and planning and constructing the roads including bridges, traffic control lights and warning systems. The Department also maintains the highways including snow removal. In addition, it provides information on roads and properties within the County to the public by phone, in person or by mail.

1. PROGRAM EVALUATION

An evaluation of Public Works was conducted in 1993 and updated in November, 1996. According to the evaluation, the department uses various mediums to communicate information to the public. It has a newsletter, Second Season, that is sent to interested individuals. Calls into the department by persons with hearing and speech impairments are received through the Relay System. At the present time, there is limited use of the Relay System. Most contact with the public is very limited in nature. The public may visit one of the facilities to pick up information. If a signer is needed, the department can request the services of one through the county. At the present time, the department has not needed these services.

The Public Works Department currently is involved in constructing pedestrian curb ramps or cutting curbing to comply with ADA requirements. In the 1997 construction season, the Public Works Department will construct 122 pedestrian curb ramps. In the past five years, the Public Works Department has completed 652 curb depressions.

Deficiencies: None

Action Plan: The department has access to the Relay System for calls from persons with hearing and speech impairments. It should monitor the use of this system to see if the department should install a TDD phone.

2. BUILDING EVALUATION

The administrative offices of Public Works are located in the Government Center-West. Barriers within this building are handled by Property Management.

Public Works has limited public contact at its two locations on Rice Street. Although the current buildings have accessibility problems, the department is searching for a possible new location to house its operations. At both #3377 and #3401, there are accessibility issues in entering the building. These issues must be dealt with if the department plans to stay at these locations and public areas should be limited to portions of the buildings that are accessible.

Deficiencies: **Building 3377 Rice St. and 3401 Rice St.**

1. Path to entrance of building inadequately maintained.
2. Entrance to basement area inaccessible (16 steps and no ramp or lift).
3. Entry area inaccessible—threshold too high, landing too narrow, and hardware too high.
4. Interior signage on public doors does not comply with ADA guidelines.
5. Interior passageway obstructed.
6. Toilets and signage not in compliance.
7. No visual emergency warning system.

Transition Plan: The Public Works Rice Street facility does not meet ADA standards for accessibility. The facility, built in 1947, is in need of a major rehabilitation. Funds for the building rehabilitation have been requested for 1998. Funds for a new facility have also been requested. ADA standards will be taken into consideration if either the present building is rehabilitated or a new facility is constructed.

3. COMMUNITY COMMENTS

None.

RAMSEY NURSING HOME
2000 White Bear Avenue, Maplewood

Ramsey Nursing Home is a long term care facility providing residence and health care for adults over eighteen years of age. It is dedicated to provide quality care with compassion and respect for human dignity for those residents of Ramsey County who need long-term or rehabilitative care and cannot be cared for in their own home including those who are difficult to place in private sector nursing homes.

1. PROGRAM EVALUATION

The Nursing Home conducted a program evaluation in January, 1997. The evaluation revealed that the Nursing Home does not recruit or advertise for participants in its programs. Eligibility criteria is set by the Nursing Home's license as a long term skilled health care facility. In addition to this criteria, residents must be eighteen years old and residents of Ramsey County. The eligibility requirements do not discriminate against persons with disabilities. Residents in the program are interviewed by nursing, social services, dietary and activities to determine the needs of residents and how to best meet those needs. These interviews are not discriminating and are intended to provide residents with a custom program that meets their needs.

Large print materials are available to residents such as calendars, menus and activity announcements. Staff and volunteers are trained to assist persons with disabilities and do so as needed.

Deficiencies: None

Action Plan: N/A

2. BUILDING EVALUATION

All program, services and activities are offered at 2000 White Bear Avenue. A property survey of this location was conducted in May, 1992 and updated in January, 1997. There is one public entrance to this facility which is accessible. The loading area at this entrance is extremely wide for easy assistance to residents. There are several deficiencies noted in the report. The transition plan deals with correcting them in a timely manner.

Deficiencies:

1. Signage in parking area is obscured. Need to raise the signs higher.
2. Need one additional accessible parking space.
3. Interior signage is posted at incorrect height and does not include braille text.
4. No audio signals when elevator arrives or when floors are passed.

5. Public restrooms are not fully accessible, signage at public restrooms inaccurately states accessibility.
6. There are four public phones in the building, none are TDD equipped and the handset cord length is too short.

Transition Plan:

1. Use an extender to increase height of accessible parking signs in parking lot. Target Date: Immediately. Costs: Minimal.
2. Add one additional accessible parking spot to lot. Target Date: Spring. Costs: Minimal.
3. Change signage in the building to meet ADA guidelines. Target Date: Request 1999 CIP funds. Costs: Estimated $75/sign
4. Upgrade elevators to provide audio signals. Target Date: The Nursing Home has only two floors so that passengers are not passing floors. This issue is not critical to ensure accessibility of the Nursing Home's program, services and activities. There are no immediate plans to remedy this deficiency.
5. Remove accessible signage from public restrooms that are not fully accessible. Target Date: Immediately. Costs: None.
6. Remove one public phone or add TDD public phone. Change handset cord lengths on all public phones. Target Date: Immediately. Cost: Minimal.

3. COMMUNITY COMMENTS

None.

REGIONAL RAIL AUTHORITY
665 Government Center-West Building

The Ramsey County Regional Rail Authority (RRA) is dedicated to a long-range vision of transit services to meet changing need for today and for succeeding generations. RRA is committed to planning of integrated transportation services in cooperation with other agencies. The RRA Board consists of the seven County Commissioners. In addition to planning the rail transit system, RRA is involved in the acquisition of land for light rail corridors.

1. PROGRAM EVALUATION

A program evaluation of this operation was conducted in 1996. At the present time, the Regional Rail Authority does not offer any programs, services or activities to the public. ADA issues will be incorporated into transit systems which are operated by other agencies.

Deficiencies: None

Action Plan: N/A

2. BUILDING EVALUATION

Regional Rail Authority is located in the Ramsey County Government Center-West Building. Physical barriers in the building are addressed under the Property Management report.

Regional Rail Authority Board meetings are conducted at the Ramsey County Courthouse. The major renovation of the building from 1991-1996 addressed issues of accessibility and made the necessary modifications.

Deficiencies: Accessibility of Ramsey County Government Center-West.

Transition Plan: See Property Management report.

3. COMMUNITY COMMENTS

None.

RESOURCE RECOVERY
6989 N. 55th Street, Suite C
Oakdale, MN

The Resource Recovery Project is a multi-government agency established by Ramsey and Washington Counties to reduce the amount of municipal solid waste sent to landfills by providing a processing facility to turn waste into fuel. It works with solid waste haulers, NRG Resource Recovery and governmental agencies to ensure effective operations of the Newport facility in order to reduce dependence on landfills for waste disposal.

1. PROGRAM EVALUATION

An ADA program evaluation was conducted for Resource Recovery on 3/9/92 and updated on 11/22/96. The evaluation found that the agency has limited public contact, generating approximately 20 phone calls per month and few, if any, public visits to its location. The evaluation found that its programs, services and activities are not discriminatory to persons with disabilities. The Department complies with the ADA and no action plan is necessary.

Deficiencies: None
Action Plan: N/A

2. BUILDING EVALUATION

A building survey was conducted on this leased facility on 3/20/92 that identified several barriers under the ADA. As of 12/20/96, these barriers are still in place.

Deficiencies: The following is a list of barriers prioritized in order of importance.

1. Entrance to the building:
--A water trough limits access to the building entrance for wheelchairs
--Excessive force is necessary to open exterior door
2. Signage does not designate accessible entrance.
3. Substandard public service counter dimensions.

Transition Plan: The current lease at this location expires in 1997. Resource Recovery plans to move to the Maplewood Library which is fully accessible.

3. COMMUNITY COMMENTS

None.

RISK MANAGEMENT
1020 Government Center-West Building

The mission of the Risk Management Department is to preserve the financial integrity and assets of the County from the risk of fortuitous loss. It deals with issues related to liability, employee benefits, workers' compensation, safety and wellness.

1. PROGRAM EVALUATION

A program evaluation of the Risk Management Department was completed on 12/14/92 and updated 12/20/96. The evaluation indicates that the department has limited public contact. Public contact consists of interaction on claims made against the County by third parties. The department will accept claims made in writing, over the phone or in person. The department is flexible in meeting the needs of persons with disabilities.

The department deals with employee issues related to health, safety and workers compensation. The ADA issues relating to employment are not covered in this report. Personnel and Risk Management have addressed the employment issues separately.

Deficiencies: None

Action Plan: N/A

2. BUILDING EVALUATION

The Risk Management Department is located in the Ramsey County Government Center-West Building. Physical barriers in the building are addressed under the Property Management report.

Deficiencies: Accessibility of Ramsey County Government Center-West.

Transition Plan: See Property Management report.

3. COMMUNITY COMMENTS

None.

SHERIFF'S DEPARTMENT
Adult Detention Center
14 W. Kellogg Boulevard

The Ramsey County Sheriff's Department is responsible for law enforcement in the County under the direction of the Ramsey County Sheriff, an elected official. The Department is responsible for apprehending and booking suspects, and investigating crimes. It also offers programs to the public in water safety, snowmobile safety and DARE. The following is a brief description of the department by program areas:

- **911 Dispatching:** Receives emergency calls for assistance from the public and dispatches appropriate responses via radio. It is also responsible for answering queries from police officers for information on computerized criminal data bases.

- **Patrol Investigation:** Is responsible for investigating crimes within the County. They meet with victims, interrogate suspects and gather evidence at crime scenes.

- **Police Records Section:** Receives non-emergency calls from the public. They gather information, enter it into the computer and access it as necessary. They also are responsible for completing forms and issuing correspondence on this information.

- **Snowmobile Safety:** Provides snowmobile safety instruction to youth to achieve a State required certificate. Program recruitment, content and materials are provided by the Minnesota Department of Natural Resources.

- **Boat and Water Safety:** Is operated by the Ramsey County Lake and Trail Volunteers. It provides information to the public on the safe operation of boats.

- **DARE (Drug Abuse Resistance Education):** Is a drug prevention program taught by uniformed officers in elementary schools. The program targets 5th and 6th graders teaching them skills to resist peer pressure to experiment with drugs, alcohol and tobacco.

- **School Safety Program:** Involves teaching elementary school children proper behavior for riding the school bus, crossing streets and biking. Training is provided for school crossing guards and bus safety officers.

1. PROGRAM EVALUATION

Program evaluations were completed in April/May, 1992 and updated in December, 1996.

911 Dispatching, Patrol Investigation and Police Records Section all involve contact with the public to perform duties of the Sheriff's Department. The services offered have no eligibility, admission or participation restrictions. TDD and sign language interpreters are available.

Deficiencies: None

Action Plan: N/A

Snowmobile and Boat Safety classes are geared for its operators, those persons with adequate vision and the ability to properly handle the machinery. No alternate formats are available for the visually impaired. To alter the safety classes for persons with visual impairments would require a fundamental alteration in the nature of the program. The programs provide no auxiliary aids for persons with speech or hearing impairments.

Deficiencies: No auxiliary aids for speech or hearing impairments.

Action Plan: During registration for classes, give interested parties the opportunity to indicate if they have special needs and then accommodate those needs within the framework of the program.

Dare and School Safety Patrol are programs offered in conjunction with school districts. The school districts provide all classroom sites and any classroom aids. Businesses, rotary clubs, and service organizations provide financial support for these programs. The selection of participants for the School Safety Patrol is done by the schools and is not the responsibility of the Sheriff's Department.

Deficiencies: None
Action Plan: N/A

2. BUILDING EVALUATION

Property surveys were conducted for the department's two facilities in 1993 and were updated in December, 1996. According to the surveys, several deficiencies were found. Since public access to these facilities is limited, certain issues should be addressed that allow public access into the buildings. These issues are outlined below:

Adult Detention Center (ADC)

The ADC houses the administration offices of the Ramsey County Sheriff . Public access to the building is through tunnels from Ramsey County Government Center-

West and the Courthouse or from the Kellogg Street entrance. All entrances are accessible although the tunnel from the Courthouse may be difficult because of its length and slope.

Deficiencies:

1. Tunnel from Courthouse to ADC does not meet current ADA guidelines for rise and landings.
2. Elevators lack audio signaling and call buttons are too high.
3. Highest operable part of public telephone is too high.
4. Water fountain is too high.
5. Service counter has no accessible surface.
6. Public doors marked with permanent signage are not upper case nor engraved in braille.
7. Internal fire alarms are audio only, not visual.

Transition Plan:

1997:

1. Persons staffing service counter will accommodate persons that need lower service counter administratively by offering alternate table to accommodate individual needs.
2. Lower telephone to appropriate height.

1998:

1. Signage in building will be reviewed and plans implemented to change signage on public doors to meet ADA guidelines (cost $75.00 per sign).

In 5 Years:

1. Add audio signal and change height of elevator call button to coincide with update of elevator.
2. Modify internal fire alarm for both audio and visual signage. Current evacuation plans require staff in ADC to evacuate civilians in building as part of its security program.

Note: With regard to the tunnel, since access into the building is possible through the West Building tunnel or the Kellogg Street entrance, it is recommended that no action is taken on this issue.

Patrol Station, 655 W. County Road E

The Patrol Station has one public entrance. Other entrances are for employee use only. Public access to the building is restricted to certain areas of the building.

Deficiencies:

1. Water fountain too high.
2. Unisex bathroom has following issues of non-compliance:

a) Door hardware is round knob type.
b) Hot water and waste water piping not insulated or shield placed under sink.
c) Mirrors, towel dispenser and soap dispenser too high.
d) Grab bars do not meet standards for length and offset from rear wall.

Transition Plan:
1997 - Current Operating Budget
a) Change door hardware.
b) Insulate hot water and waste water piping.
c) Install new grab bars.
1998 - Future Operating Budget
a) Adjust mirror, towel and soap dispensers.
b) CIP - request funds to replace water fountain (est. cost $2,000)

3. COMMUNITY COMMENTS

None.

VETERANS SERVICES
88 Courthouse

Veterans Services assists veterans and their dependents in obtaining and clarifying the various state and federal benefits associated with the multitude of Veteran's entitlement programs.

1. PROGRAM EVALUATION

A program evaluation of Veteran Services was completed on 8/11/92 and updated on 11/22/96. The evaluation indicates that Veterans Service has frequent public contact by telephone with limited in-person contact. The department has a TDD available to handle calls for the hearing and speech impaired. There are no program barriers in recruitment, eligibility admission or participation.

Deficiencies: The Department has one brochure that they mail out upon request. It does not carry an ADA statement or discrimination disclaimer.

Action Plan: Add ADA statement to next brochure printing.

2. BUILDING EVALUATION

Veterans Service is located in the Courthouse. The major renovation of the building from 1991-1996 addressed issues of accessibility and made the necessary modifications.

Deficiencies: None

Transition Plan: N/A

3. COMMUNITY COMMENTS

None.

Benefit Cost Summary Table

COSTS	Total Project Cost		$14,549,729
CRASH REDUCTION BENEFITS (ANOKA CO)	Benefits from Volume Reduction (and therefore crash reduction) at CSAH 14 (Main St. in Anoka Co.) and 20th Ave	$	428,759
	Benefits from Volume Reduction (and therefore crash reduction) at CSAH 14 and West 35E Ramp	$	237,487
	Benefits from Volume Reduction (and therefore crash reduction) at CSAH 14 and East 35E Ramp	$	-
	Benefits from Volume Reduction (and therefore crash reduction) at CSAH 14 and Otter Lake Rd.	$	-
CRASH REDUCTION BENEFITS (RAMSEY CO)	Conversion of stop-controlled intersection into single-lane roundabout at CSAH 81 (County Road J in Ramsey Co.) and Centerville Rd. (S. Junction)	$	113,873
	Conversion of stop-controlled intersection into single-lane roundabout at CSAH 81 and West 35E Ramp	$	2,908,961
	Conversion of stop-controlled intersection into single-lane roundabout at CSAH 81 and East 35E Ramp/Otter Lake Rd.	$	1,757,625
	Total Benefits	$	5,446,705

Calculated Benefit Cost Ratio for Entire Project	0.4

Traffic Safety Benefit-Cost Calculation

Highway Safety Improvement Program (HSIP) Reactive Project

DEPARTMENT OF TRANSPORTATION

A. Roadway Description

Route	CSAH 14	**District**		**County**	Ramsey/Anoka
Begin RP		**End RP**		**Miles**	
Location	Intersection with 20th				

B. Project Description

Proposed Work	Adding NB on and SB off ramps at CR J to the south		
Project Cost*	$14,549,729	**Installation Year**	2024
Project Service Life	20 years	**Traffic Growth Factor**	2.0%

** exclude Right of Way from Project Cost*

C. Crash Modification Factor

0.83	**Fatal (K) Crashes**	**Reference**	Crash Analysis
0.83	**Serious Injury (A) Crashes**		
0.83	**Moderate Injury (B) Crashes**	**Crash Type**	All
0.83	**Possible Injury (C) Crashes**		
0.83	**Property Damage Only Crashes**		www.CMFclearinghouse.org

D. Crash Modification Factor (optional second CMF)

	Fatal (K) Crashes	**Reference**	
	Serious Injury (A) Crashes		
	Moderate Injury (B) Crashes	**Crash Type**	
	Possible Injury (C) Crashes		
	Property Damage Only Crashes		www.CMFclearinghouse.org

E. Crash Data

Begin Date	1/1/2019	**End Date**	12/31/2021	3 years
Data Source	MnDOT MnCMAT			

Crash Severity	**All**	**< optional 2nd CMF >**
K crashes		
A crashes		
B crashes	1	
C crashes		
PDO crashes	8	

F. Benefit-Cost Calculation

$428,759	**Benefit (present value)**	**B/C Ratio = 0.03**
$14,549,729	**Cost**	

Proposed project expected to reduce 1 crashes annually, 0 of which involving fatality or serious injury.

F. Analysis Assumptions

Crash Severity	Crash Cost
K crashes	$1,500,000
A crashes	$750,000
B crashes	$230,000
C crashes	$120,000
PDO crashes	$13,000

Link: mndot.gov/planning/program/appendix_a.html

Real Discount Rate	0.7%
Traffic Growth Rate	2.0%
Project Service Life	20 years

G. Annual Benefit

Crash Severity	Crash Reduction	Annual Reduction	Annual Benefit
K crashes	0.00	0.00	$0
A crashes	0.00	0.00	$0
B crashes	0.17	0.06	$13,033
C crashes	0.00	0.00	$0
PDO crashes	1.36	0.45	$5,893
			$18,927

H. Amortized Benefit

Year	Crash Benefits	Present Value
2024	$18,927	$18,927
2025	$19,305	$19,171
2026	$19,691	$19,418
2027	$20,085	$19,669
2028	$20,487	$19,923
2029	$20,897	$20,180
2030	$21,315	$20,441
2031	$21,741	$20,705
2032	$22,176	$20,972
2033	$22,619	$21,243
2034	$23,072	$21,517
2035	$23,533	$21,795
2036	$24,004	$22,076
2037	$24,484	$22,361
2038	$24,973	$22,650
2039	$25,473	$22,942
2040	$25,982	$23,238
2041	$26,502	$23,538
2042	$27,032	$23,842
2043	$27,573	$24,150
0	$0	$0
0	$0	$0
0	$0	$0
0	$0	$0
0	$0	$0
0	$0	$0
0	$0	$0
0	$0	$0
0	$0	$0
0	$0	$0
0	$0	$0

Total = $428,759

Traffic Safety Benefit-Cost Calculation

Highway Safety Improvement Program (HSIP) Reactive Project

DEPARTMENT OF TRANSPORTATION

A. Roadway Description

Route	CSAH 14	**District**		**County**	Ramsey/Anoka
Begin RP		**End RP**		**Miles**	
Location	Intersection with West 35E Ramp				

B. Project Description

Proposed Work	Adding NB on and SB off ramps at CR J to the south		
Project Cost*	$14,549,729	**Installation Year**	2024
Project Service Life	20 years	**Traffic Growth Factor**	2.0%

** exclude Right of Way from Project Cost*

C. Crash Modification Factor

0.83	**Fatal (K) Crashes**	**Reference**	Crash Analysis
0.83	**Serious Injury (A) Crashes**		
0.83	**Moderate Injury (B) Crashes**	**Crash Type**	All
0.83	**Possible Injury (C) Crashes**		
0.83	**Property Damage Only Crashes**		www.CMFclearinghouse.org

D. Crash Modification Factor (optional second CMF)

	Fatal (K) Crashes	**Reference**	
	Serious Injury (A) Crashes		
	Moderate Injury (B) Crashes	**Crash Type**	
	Possible Injury (C) Crashes		
	Property Damage Only Crashes		www.CMFclearinghouse.org

E. Crash Data

Begin Date 1/1/2019 **End Date** 12/31/2021 3 years

Data Source

Crash Severity	All	< optional 2nd CMF >
K crashes		
A crashes		
B crashes		
C crashes	1	
PDO crashes	5	

F. Benefit-Cost Calculation

$237,487	**Benefit (present value)**	**B/C Ratio = 0.02**
$14,549,729	**Cost**	

Proposed project expected to reduce 1 crashes annually, 0 of which involving fatality or serious injury.

F. Analysis Assumptions

Crash Severity	Crash Cost
K crashes	$1,500,000
A crashes	$750,000
B crashes	$230,000
C crashes	$120,000
PDO crashes	$13,000

Link: mndot.gov/planning/program/appendix_a.html

Real Discount Rate	0.7%
Traffic Growth Rate	2.0%
Project Service Life	20 years

G. Annual Benefit

Crash Severity	Crash Reduction	Annual Reduction	Annual Benefit
K crashes	0.00	0.00	$0
A crashes	0.00	0.00	$0
B crashes	0.00	0.00	$0
C crashes	0.17	0.06	$6,800
PDO crashes	0.85	0.28	$3,683
			$10,483

H. Amortized Benefit

Year	Crash Benefits	Present Value
2024	$10,483	$10,483
2025	$10,693	$10,619
2026	$10,907	$10,756
2027	$11,125	$10,895
2028	$11,347	$11,035
2029	$11,574	$11,178
2030	$11,806	$11,322
2031	$12,042	$11,468
2032	$12,283	$11,616
2033	$12,529	$11,766
2034	$12,779	$11,918
2035	$13,035	$12,072
2036	$13,295	$12,228
2037	$13,561	$12,386
2038	$13,833	$12,546
2039	$14,109	$12,707
2040	$14,391	$12,872
2041	$14,679	$13,038
2042	$14,973	$13,206
2043	$15,272	$13,377
0	$0	$0
0	$0	$0
0	$0	$0
0	$0	$0
0	$0	$0
0	$0	$0
0	$0	$0
0	$0	$0
0	$0	$0
0	$0	$0
0	$0	$0

Total = $237,487

Traffic Safety Benefit-Cost Calculation

Highway Safety Improvement Program (HSIP) Reactive Project

DEPARTMENT OF TRANSPORTATION

A. Roadway Description

Route	CSAH 14	**District**		**County**	Ramsey/Anoka
Begin RP		**End RP**		**Miles**	
Location	Intersection with East 35E Ramp				

B. Project Description

Proposed Work	Adding NB on and SB off ramps at CR J to the south		
Project Cost*	$14,549,729	**Installation Year**	2024
Project Service Life	20 years	**Traffic Growth Factor**	2.0%

** exclude Right of Way from Project Cost*

C. Crash Modification Factor

1.00	**Fatal (K) Crashes**	**Reference**	Crash Analysis
1.00	**Serious Injury (A) Crashes**		
1.00	**Moderate Injury (B) Crashes**	**Crash Type**	All
1.00	**Possible Injury (C) Crashes**		
1.00	**Property Damage Only Crashes**		www.CMFclearinghouse.org

D. Crash Modification Factor (optional second CMF)

	Fatal (K) Crashes	**Reference**	
	Serious Injury (A) Crashes		
	Moderate Injury (B) Crashes	**Crash Type**	
	Possible Injury (C) Crashes		
	Property Damage Only Crashes		www.CMFclearinghouse.org

E. Crash Data

Begin Date	1/1/2019	**End Date**	12/31/2021	3 years
Data Source				

Crash Severity	All	< optional 2nd CMF >
K crashes		
A crashes		
B crashes	1	
C crashes	2	
PDO crashes	18	

F. Benefit-Cost Calculation

$0	**Benefit (present value)**	**B/C Ratio = 0.00**
$14,549,729	**Cost**	

Proposed project expected to reduce 0 crashes annually, 0 of which involving fatality or serious injury.

F. Analysis Assumptions

Crash Severity	Crash Cost
K crashes	$1,500,000
A crashes	$750,000
B crashes	$230,000
C crashes	$120,000
PDO crashes	$13,000

Link: mndot.gov/planning/program/appendix_a.html

Real Discount Rate 0.7%

Traffic Growth Rate 2.0%

Project Service Life 20 years

G. Annual Benefit

Crash Severity	Crash Reduction	Annual Reduction	Annual Benefit
K crashes	0.00	0.00	$0
A crashes	0.00	0.00	$0
B crashes	0.00	0.00	$0
C crashes	0.00	0.00	$0
PDO crashes	0.00	0.00	$0
			$0

H. Amortized Benefit

Total = $0

Year	Crash Benefits	Present Value
2024	$0	$0
2025	$0	$0
2026	$0	$0
2027	$0	$0
2028	$0	$0
2029	$0	$0
2030	$0	$0
2031	$0	$0
2032	$0	$0
2033	$0	$0
2034	$0	$0
2035	$0	$0
2036	$0	$0
2037	$0	$0
2038	$0	$0
2039	$0	$0
2040	$0	$0
2041	$0	$0
2042	$0	$0
2043	$0	$0
0	$0	$0
0	$0	$0
0	$0	$0
0	$0	$0
0	$0	$0
0	$0	$0
0	$0	$0
0	$0	$0
0	$0	$0
0	$0	$0
0	$0	$0

Traffic Safety Benefit-Cost Calculation

Highway Safety Improvement Program (HSIP) Reactive Project

DEPARTMENT OF TRANSPORTATION

A. Roadway Description

Route	CSAH 14	**District**		**County**	Ramsey/Anoka
Begin RP		**End RP**		**Miles**	
Location	Intersection with Otter Lake Rd				

B. Project Description

Proposed Work	Adding NB on and SB off ramps at CR J to the south		
Project Cost*	$14,549,729	**Installation Year**	2024
Project Service Life	20 years	**Traffic Growth Factor**	2.0%

** exclude Right of Way from Project Cost*

C. Crash Modification Factor

1.00	**Fatal (K) Crashes**	**Reference**	Crash Analysis
1.00	**Serious Injury (A) Crashes**		
1.00	**Moderate Injury (B) Crashes**	**Crash Type**	All
1.00	**Possible Injury (C) Crashes**		
1.00	**Property Damage Only Crashes**		www.CMFclearinghouse.org

D. Crash Modification Factor (optional second CMF)

	Fatal (K) Crashes	**Reference**	
	Serious Injury (A) Crashes		
	Moderate Injury (B) Crashes	**Crash Type**	
	Possible Injury (C) Crashes		
	Property Damage Only Crashes		www.CMFclearinghouse.org

E. Crash Data

Begin Date	1/1/2019	**End Date**	12/31/2021	3 years
Data Source				

Crash Severity	All	< optional 2nd CMF >
K crashes		
A crashes		
B crashes		
C crashes	2	
PDO crashes	9	

F. Benefit-Cost Calculation

$0	**Benefit (present value)**	**B/C Ratio = 0.00**
$14,549,729	**Cost**	

Proposed project expected to reduce 0 crashes annually, 0 of which involving fatality or serious injury.

F. Analysis Assumptions

Crash Severity	Crash Cost
K crashes	$1,500,000
A crashes	$750,000
B crashes	$230,000
C crashes	$120,000
PDO crashes	$13,000

Link: mndot.gov/planning/program/appendix_a.html

Real Discount Rate 0.7%

Traffic Growth Rate 2.0%

Project Service Life 20 years

G. Annual Benefit

Crash Severity	Crash Reduction	Annual Reduction	Annual Benefit
K crashes	0.00	0.00	$0
A crashes	0.00	0.00	$0
B crashes	0.00	0.00	$0
C crashes	0.00	0.00	$0
PDO crashes	0.00	0.00	$0
			$0

H. Amortized Benefit

Total = $0

Year	Crash Benefits	Present Value
2024	$0	$0
2025	$0	$0
2026	$0	$0
2027	$0	$0
2028	$0	$0
2029	$0	$0
2030	$0	$0
2031	$0	$0
2032	$0	$0
2033	$0	$0
2034	$0	$0
2035	$0	$0
2036	$0	$0
2037	$0	$0
2038	$0	$0
2039	$0	$0
2040	$0	$0
2041	$0	$0
2042	$0	$0
2043	$0	$0
0	$0	$0
0	$0	$0
0	$0	$0
0	$0	$0
0	$0	$0
0	$0	$0
0	$0	$0
0	$0	$0
0	$0	$0
0	$0	$0
0	$0	$0

Traffic Safety Benefit-Cost Calculation

Highway Safety Improvement Program (HSIP) Reactive Project

DEPARTMENT OF TRANSPORTATION

A. Roadway Description

Route	CSAH 81 (CR J)	**District**	1	**County**	Ramsey
Begin RP	0	**End RP**	0	**Miles**	0.000
Location	Intersection with Centerville Rd. (S. Junction)				

B. Project Description

Proposed Work	Conversion of stop-controlled intersection into single-lane roundabout		
Project Cost*	$14,549,729	**Installation Year**	2024
Project Service Life	20 years	**Traffic Growth Factor**	2.0%

** exclude Right of Way from Project Cost*

C. Crash Modification Factor

0.18	**Fatal (K) Crashes**	**Reference**	CMF Clearinghouse
0.18	**Serious Injury (A) Crashes**		
0.18	**Moderate Injury (B) Crashes**	**Crash Type**	All
0.42	**Possible Injury (C) Crashes**		
0.42	**Property Damage Only Crashes**		www.CMFclearinghouse.org

D. Crash Modification Factor (optional second CMF)

	Fatal (K) Crashes	**Reference**	
	Serious Injury (A) Crashes		
	Moderate Injury (B) Crashes	**Crash Type**	
	Possible Injury (C) Crashes		
	Property Damage Only Crashes		www.CMFclearinghouse.org

E. Crash Data

Begin Date 1/1/2019 **End Date** 12/31/2021 3 years

Data Source

Crash Severity	All	< optional 2nd CMF >
K crashes		
A crashes		
B crashes		
C crashes		
PDO crashes	2	

F. Benefit-Cost Calculation

$113,873	**Benefit (present value)**	**B/C Ratio = 0.01**
$14,549,729	**Cost**	

Proposed project expected to reduce 1 crashes annually, 0 of which involving fatality or serious injury.

F. Analysis Assumptions

Crash Severity	Crash Cost
K crashes	$1,500,000
A crashes	$750,000
B crashes	$230,000
C crashes	$120,000
PDO crashes	$13,000

Link: mndot.gov/planning/program/appendix_a.html

Real Discount Rate 0.7%

Traffic Growth Rate 2.0%

Project Service Life 20 years

G. Annual Benefit

Crash Severity	Crash Reduction	Annual Reduction	Annual Benefit
K crashes	0.00	0.00	$0
A crashes	0.00	0.00	$0
B crashes	0.00	0.00	$0
C crashes	0.00	0.00	$0
PDO crashes	1.16	0.39	$5,027
			$5,027

H. Amortized Benefit

Year	Crash Benefits	Present Value
2024	$5,027	$5,027
2025	$5,127	$5,092
2026	$5,230	$5,157
2027	$5,334	$5,224
2028	$5,441	$5,291
2029	$5,550	$5,360
2030	$5,661	$5,429
2031	$5,774	$5,499
2032	$5,890	$5,570
2033	$6,007	$5,642
2034	$6,127	$5,715
2035	$6,250	$5,788
2036	$6,375	$5,863
2037	$6,503	$5,939
2038	$6,633	$6,015
2039	$6,765	$6,093
2040	$6,901	$6,172
2041	$7,039	$6,251
2042	$7,179	$6,332
2043	$7,323	$6,414
0	$0	$0
0	$0	$0
0	$0	$0
0	$0	$0
0	$0	$0
0	$0	$0
0	$0	$0
0	$0	$0
0	$0	$0
0	$0	$0

Total = $113,873

Traffic Safety Benefit-Cost Calculation

Highway Safety Improvement Program (HSIP) Reactive Project

DEPARTMENT OF TRANSPORTATION

A. Roadway Description

Route	CSAH 81 (CR J)	**District**	1	**County**	Ramsey
Begin RP	0.328	**End RP**	0.328	**Miles**	0.000
Location	Intersection with 20th Ave/West 35E W. Ramp				

B. Project Description

Proposed Work	Conversion from a side-street stop controlled to roundabout intersection		
Project Cost*	$14,549,729	**Installation Year**	2024
Project Service Life	20 years	**Traffic Growth Factor**	2.0%

** exclude Right of Way from Project Cost*

C. Crash Modification Factor

0.13	**Fatal (K) Crashes**	**Reference**	CMF Clearinghouse
0.13	**Serious Injury (A) Crashes**		
0.13	**Moderate Injury (B) Crashes**	**Crash Type**	All
0.29	**Possible Injury (C) Crashes**		
0.29	**Property Damage Only Crashes**		www.CMFclearinghouse.org

D. Crash Modification Factor (optional second CMF)

0.00	**Fatal (K) Crashes**	**Reference**	Engineering Judgement
0.00	**Serious Injury (A) Crashes**		
0.00	**Moderate Injury (B) Crashes**	**Crash Type**	Left Turn and Angle Crashes
0.00	**Possible Injury (C) Crashes**		
0.00	**Property Damage Only Crashes**		www.CMFclearinghouse.org

E. Crash Data

Begin Date 1/1/2019 **End Date** 12/31/2021 3 years

Data Source

Crash Severity	All	Left Turn and Angle Crashes
K crashes		
A crashes		
B crashes		1
C crashes		1
PDO crashes	1	2

F. Benefit-Cost Calculation

$2,908,961	**Benefit (present value)**	**B/C Ratio = 0.20**
$14,549,729	**Cost**	

Proposed project expected to reduce 2 crashes annually, 0 of which involving fatality or serious injury.

F. Analysis Assumptions

Crash Severity	Crash Cost
K crashes	$1,500,000
A crashes	$750,000
B crashes	$230,000
C crashes	$120,000
PDO crashes	$13,000

Link: mndot.gov/planning/program/appendix_a.html

Real Discount Rate 0.7%

Traffic Growth Rate 2.0%

Project Service Life 20 years

G. Annual Benefit

Crash Severity	Crash Reduction	Annual Reduction	Annual Benefit
K crashes	0.00	0.00	$0
A crashes	0.00	0.00	$0
B crashes	1.00	0.33	$76,667
C crashes	1.00	0.33	$40,000
PDO crashes	2.71	0.90	$11,743
			$128,410

H. Amortized Benefit

Year	Crash Benefits	Present Value
2024	$128,410	$128,410
2025	$130,978	$130,068
2026	$133,598	$131,747
2027	$136,270	$133,448
2028	$138,995	$135,170
2029	$141,775	$136,915
2030	$144,611	$138,683
2031	$147,503	$140,473
2032	$150,453	$142,287
2033	$153,462	$144,124
2034	$156,531	$145,984
2035	$159,662	$147,869
2036	$162,855	$149,778
2037	$166,112	$151,711
2038	$169,434	$153,670
2039	$172,823	$155,654
2040	$176,279	$157,663
2041	$179,805	$159,698
2042	$183,401	$161,760
2043	$187,069	$163,848
0	$0	$0
0	$0	$0
0	$0	$0
0	$0	$0
0	$0	$0
0	$0	$0
0	$0	$0
0	$0	$0
0	$0	$0
0	$0	$0
0	$0	$0

Total = $2,908,961

Traffic Safety Benefit-Cost Calculation

Highway Safety Improvement Program (HSIP) Reactive Project

DEPARTMENT OF TRANSPORTATION

A. Roadway Description

Route	CSAH 81 (CR J)	**District**	1	**County**	Ramsey
Begin RP	0.364	**End RP**	0.427	**Miles**	0.000
Location	Intersection with East 35E Ramp and Otter Lake Rd				

B. Project Description

Proposed Work	Convert intersection with minor-road stop control to modern roundabout		
Project Cost*	$14,549,729	**Installation Year**	2024
Project Service Life	20 years	**Traffic Growth Factor**	2.0%

** exclude Right of Way from Project Cost*

C. Crash Modification Factor

0.18	**Fatal (K) Crashes**	**Reference**	CMF Clearinghouse
0.18	**Serious Injury (A) Crashes**		
0.18	**Moderate Injury (B) Crashes**	**Crash Type**	All
0.42	**Possible Injury (C) Crashes**		
0.42	**Property Damage Only Crashes**		www.CMFclearinghouse.org

D. Crash Modification Factor (optional second CMF)

0.00	**Fatal (K) Crashes**	**Reference**	Engineering Judgement
0.00	**Serious Injury (A) Crashes**		
0.00	**Moderate Injury (B) Crashes**	**Crash Type**	Left Turn and Angle Crashes
0.00	**Possible Injury (C) Crashes**		
0.00	**Property Damage Only Crashes**		www.CMFclearinghouse.org

E. Crash Data

Begin Date 1/1/2019 **End Date** 12/31/2021 3 years

Data Source

Crash Severity	All	Left Turn and Angle Crashes
K crashes		
A crashes		
B crashes		
C crashes	1	1
PDO crashes	4	1

F. Benefit-Cost Calculation

$1,757,625	**Benefit (present value)**	**B/C Ratio = 0.13**
$14,549,729	**Cost**	

Proposed project expected to reduce 2 crashes annually, 0 of which involving fatality or serious injury.

F. Analysis Assumptions

Crash Severity	Crash Cost
K crashes	$1,500,000
A crashes	$750,000
B crashes	$230,000
C crashes	$120,000
PDO crashes	$13,000

Link: mndot.gov/planning/program/appendix_a.html

Real Discount Rate	0.7%
Traffic Growth Rate	2.0%
Project Service Life	20 years

G. Annual Benefit

Crash Severity	Crash Reduction	Annual Reduction	Annual Benefit
K crashes	0.00	0.00	$0
A crashes	0.00	0.00	$0
B crashes	0.00	0.00	$0
C crashes	1.58	0.53	$63,200
PDO crashes	3.32	1.11	$14,387
			$77,587

H. Amortized Benefit

Year	Crash Benefits	Present Value
2024	$77,587	$77,587
2025	$79,138	$78,588
2026	$80,721	$79,603
2027	$82,336	$80,630
2028	$83,982	$81,671
2029	$85,662	$82,726
2030	$87,375	$83,794
2031	$89,123	$84,875
2032	$90,905	$85,971
2033	$92,723	$87,081
2034	$94,578	$88,205
2035	$96,469	$89,344
2036	$98,399	$90,497
2037	$100,367	$91,666
2038	$102,374	$92,849
2039	$104,421	$94,048
2040	$106,510	$95,262
2041	$108,640	$96,491
2042	$110,813	$97,737
2043	$113,029	$98,999
0	$0	$0
0	$0	$0
0	$0	$0
0	$0	$0
0	$0	$0
0	$0	$0
0	$0	$0
0	$0	$0
0	$0	$0
0	$0	$0
0	$0	$0

Total = $1,757,625

CSAH 14 Crash Analysis March 2021 supporting the Cty Rd J Interchange Modification Regional Solicitation Application

Crash reduction along CSAH 14 (Anoka County) due to redirection of traffic

	Intersections	Total Number of Crashes	Years of Data	ADT*	Calculated Crash Rate (Million Entering Vehicles)
Existing	CSAH 14 and 20th Ave	9	3	20175	**0.41**
Future	CSAH 14 and 20th Ave	8	3	19325	**0.38**
Existing	CSAH 14 and West 35E Ramps	6	3	22150	**0.25**
Future	CSAH 14 and West 35E Ramps	5	3	21150	**0.22**
Existing	CSAH 14 and East 35E Ramps	21	3	28750	**0.67**
Future	CSAH 14 and East 35E Ramps	21	3	29050	**0.67**
Existing	CSAH 14 and Otter Lake Rd	11	3	27600	**0.37**
Future	CSAH 14 and Otter Lake Rd	11	3	27600	**0.37**

	Crashes	
Existing	47	
Future	45	
	2	*Less Crashes Post-implementation*

Reduction based on decreased volumes from Cty J Interchange

Modification		**CMF**
20th Ave	**17%**	**0.83**
West 35E Ramp	**17%**	**0.83**
East 35E Ramps	**0%**	**1.00**
Otter Lake Rd	**0%**	**1.00**

CSAH 14 Crash Analysis March 2021 supporting the Cty Rd J Interchange Modification Regional Solicitation Application

	Intersections	Total Number of Crashes	Years of Data	ADT*	Calculated Crash Rate (Million Entering Vehicles)
Existing	CSAH 81 and Centerville Rd. (South)	2	3	15050	**0.13**
Future	CSAH 81 and Centerville Rd. (South)	1	3	15050	**0.07**
Existing	CSAH 81 and 20th Ave/West 35E Ramp	5	3	11100	**0.42**
Future	CSAH 81 and 20th Ave/West 35E Ramp	0	3	11100	**0.00**
Existing	CSAH 81 and East 35E Ramp	7	3	13000	**0.50**
Future	CSAH 81 and East 35E Ramp	2	3	13000	**0.15**
Existing	CSAH 81 and Otter Lake Rd	0	3	9300	**0.00**
Future	CSAH 81 and Otter Lake Rd	0	3	9300	**0.00**

	Crashes	
Existing	14	
Future	3	
	11	*Less Crashes Post-project implementation*

Reduction based on decreased volumes from Cty J Interchange

Modification	CMF		Severity or Type
Centerville Rd. (South)	**82%**	**0.18**	**K/A**
	58%	**0.42**	**B/C/PDO**
20th Ave/West 35E Ramp	**87%**	**0.13**	**K/A**
	71%	**0.29**	**B/C/PDO**
	100%	**0.00**	**Left Turn/Angle**
East 35E Ramp	**82%**	**0.18**	**K/A**
	58%	**0.42**	**B/C/PDO**
	100%	**0.00**	**Left Turn/Angle**
Otter Lake Rd	**82%**	**0.18**	**K/A**
	58%	**0.42**	**B/C/PDO**

▼ Countermeasure: Convert intersection with minor-road stop control to modern roundabout

Compare	CMF	CRF(%)	Quality	Crash Type	Crash Severity	Area Type	Reference	Comments
☐	0.56 [B]	44	★★★★★	All	All	All	RODEGERDTS ET AL., 2007	Countermeasure name changed from "convert ... [*READ MORE*]
☐	0.18 [B]	82	★★★★★	All	Serious Injury,Minor Injury	All	RODEGERDTS ET AL., 2007	Countermeasure name changed from "convert ... [*READ MORE*]
☐	0.29 [B]	71	★★★★★	All	All	Rural	RODEGERDTS ET AL., 2007	Countermeasure name changed from "convert ... [*READ MORE*]
☐	0.13 [B]	87	★★★★★	All	Serious Injury,Minor Injury	Rural	RODEGERDTS ET AL., 2007	Countermeasure name changed from "convert ... [*READ MORE*]

▼ Countermeasure: Conversion of stop-controlled intersection into single-lane roundabout

Compare	CMF	CRF(%)	Quality	Crash Type	Crash Severity	Area Type	Reference	Comments
☐	0.28	72	★★★★☆	All	All	Urban	PERSAUD ET AL., 2001	
☐	0.42	58	★★★★☆	All	All	Rural	PERSAUD ET AL., 2001	
☐	0.12	88	★★★★☆	All	Serious injury,Minor injury	Urban	PERSAUD ET AL., 2001	
☐	0.18	82	★★★★☆	All	Serious injury,Minor injury	Rural	PERSAUD ET AL., 2001	

Compare Reset Compare

*NOTE: You can compare CMFs across countermeasures, subcategories, and categories.

CSAH14-W35ERamp

INCIDENTI	RTESYSCOI	RTENUMBI	MEASURE	COUNTY_S	CITY_NAM	TOWNSHIP	MNDOT_D	STATE_PAT	TRIBAL_GC	LOCALID	ACCIDENT_	CRASH_MC	CRASH_DA	CRASH_YE/	CRASH_DA	CRASH_HO	DIVIDEDRD	CRASHSEVI	NUMBERKI	NUMBERO	MANNERO	FIRSTHARN	RELATIONT	LIGHTCONI	WEATHERF	WEATHERS	RDWYSURF	WORKZON
818864	22	6545	0.353	2	Lino Lakes		M	25		20505438	2.02E+08	7	8	2020	Wed	11	S		4	0	2	12	10	26	1	1		1	98
820615	22	6549	0.017	2	Lino Lakes		M	25		20175741	2.02E+08	7	20	2020	Mon	6	S		5	0	2	10	10	25	1	1		1	98
691550	4	14	18.814	2	Lino Lakes		M	25		19045637	1.91E+08	2	24	2019	Sun	13	W		5	0	2	12	10	4	1	7		3	98
845617	4	14	18.88	2	Lino Lakes		M	25		20250941	2.03E+08	10	10	2020	Sat	15	E		5	0	2	10	10	26	1	1		1	98
885904	22	6545	0.27	2	Lino Lakes		M	25		20511278	2.04E+08	12	23	2020	Wed	18	S		5	0	2	12	10	3	4	4		3	98
753638	4	14	18.818	2	Lino Lakes		M	25		19259315	1.93E+08	10	9	2019	Wed	20		98	5	0	2	5	10	10	4	1		1	98

CSAH14-E35ERamp

INCIDENTI	RTESYSCOI	RTENUMBI	MEASURE	COUNTY_S	CITY_NAM	TOWNSHIP	MNDOT_D	STATE_PAT	TRIBAL_GC	LOCALID	ACCIDENT_	CRASH_MC	CRASH_DA	CRASH_YE/	CRASH_DA	CRASH_HO	DIVIDEDRD	CRASHSEVI	NUMBERKI	NUMBERO	MANNERO	FIRSTHARN	RELATIONT	LIGHTCONI	WEATHERF	WEATHERS	RDWYSURF	WORKZON
695578	4	14	19.01	2	Lino Lakes		M	25		19053086	1.91E+08	3	5	2019	Tue	19	E		3	0	2	13	10	10	4	1		1	98
751918	22	6550	0.3	2	Lino Lakes		M	25		19252258	1.93E+08	10	2	2019	Wed	14	N		4	0	2	12	10	3	1	3	2	2	98
974316	22	6550	0.306	2	2395725			25		21261180	2.13E+08	11	17	2021	Wed	15		98	4	0	2	12	10	27	1	1		1	98
942723	4	14	18.988	2	Lino Lakes		M	25		21216128	2.13E+08	9	24	2021	Fri	16	W		5	0	2	5	10	27	1	1		1	98
673422	4	14	18.997	2	Lino Lakes		M	25		19000438	1.9E+08	1	1	2019	Tue	17	W		5	0	2	5	10	10	3	2		1	98
820135	4	14	19	2	Lino Lakes		M	25		20505668	2.02E+08	7	15	2020	Wed	15	N		5	0	2	12	10	26	1	1		1	98
745917	4	14	19.006	2	Lino Lakes		M	25		19228421	1.93E+08	9	7	2019	Sat	17	E		5	0	2	5	10	10	1	2	1	1	98
726010	4	14	19.007	2	Lino Lakes		M	25		19141019	1.92E+08	6	11	2019	Tue	7	E		5	0	1		47	27	1	1		1	98
933781	4	14	19.008	2	Lino Lakes		M	25		21179660	2.12E+08	8	12	2021	Thu	11	E		5	0	2	5	10	3	1	1		1	98
931153	4	14	19.009	2	Lino Lakes		M	25		21168072	2.12E+08	7	29	2021	Thu	15		98	5	0	2	12	10	3	1	1		1	98
780865	4	14	19.012	2	Lino Lakes		M	25		20015538	2E+08	1	18	2020	Sat	15	E		5	0	2	5	10	4	1	1		3	98
822712	4	14	19.021	2	Lino Lakes		M	25		20185120	2.02E+08	7	30	2020	Thu	12	W		5	0	2	12	10	29	1	1		1	98
754234	22	6547	0.194	2	Lino Lakes		M	25		19261517	1.93E+08	10	12	2019	Sat	10		98	5	0	2	12	10	27	1	4	3	2	98
729631	22	6550	0.198	2	Lino Lakes		M	25		19507435	1.92E+08	6	13	2019	Thu	20	N		5	0	2	12	10	2	1	1		1	98
868249	22	6550	0.212	2	Lino Lakes		M	25		20510675	2.03E+08	12	13	2020	Sun	18	N		5	0	2	10	10	27	4	2		5	98
872260	22	6550	0.231	2	Lino Lakes		M	25		20511097	2.04E+08	12	24	2020	Thu	11	N		5	0	2	12	10	4	1	2		5	98
769797	22	6550	0.258	2	Lino Lakes		M	25		19515014	1.93E+08	12	9	2019	Mon	15	N		5	0	2	12	10	27	1	4		3	98
814805	22	6550	0.288	2	Lino Lakes		M	25		20504821	2.02E+08	6	16	2020	Tue	14	N		5	0	2	12	10	3	1	1		1	98
811918	22	6550	0.303	2	Lino Lakes		M	25		20123020	2.01E+08	5	27	2020	Wed	14	E		5	0	2	90	10	27	1	1		1	98
909612	22	6550	0.303	2	Lino Lakes		M	25		21117661	2.12E+08	6	3	2021	Thu	15	E		5	0	2	5	10	26	1	1		1	6
979773	22	6550	0.305	2	Lino Lakes		M	25		21280292	2.13E+08	12	11	2021	Sat	13		98	5	0	2	12	10	27	1	1		2	98

CSAH14-OLR

INCIDENTI	RTESYSCOI	RTENUMBI	MEASURE	COUNTY_S	CITY_NAM	TOWNSHIP	MNDOT_D	STATE_PAT	TRIBAL_GC	LOCALID	ACCIDENT_	CRASH_MC	CRASH_DA	CRASH_YE/	CRASH_DA	CRASH_HO	DIVIDEDRD	CRASHSEVI	NUMBERKI	NUMBERO	MANNERO	FIRSTHARN	RELATIONT	LIGHTCONI	WEATHERF	WEATHERS	RDWYSURF	WORKZON
751788	4	14	19.191	2	Lino Lakes		M	25		19251330	1.93E+08	10	1	2019	Tue	14	E		5	0	2	12	10	3	1	2		1	98
742827	4	14	19.196	2	Lino Lakes		M	25		19216348	1.92E+08	8	26	2019	Mon	6	E		4	0	2	12	10	3	1	2		1	98
870317	4	14	19.198	2	Lino Lakes		M	25		20307252	2.04E+08	12	24	2020	Thu	18	E		5	0	2		11	3	4	1		5	98
943108	4	14	19.199	2	Lino Lakes		M	25		21217800	2.13E+08	9	26	2021	Sun	17	E		4	0	3		11	3	1	1		1	98
939816	4	14	19.2	2	Lino Lakes		M	25		21202232	2.13E+08	9	8	2021	Wed	16	E		5	0	2	10	10	3	1	1		1	98
916405	4	14	19.209	2	Lino Lakes		M	25		21147054	2.12E+08	7	5	2021	Mon	14		98	5	0	2	5	10	3	1	1		1	98
705912	7	84	3.101	2	Lino Lakes		M	25		19095609	1.91E+08	4	24	2019	Wed	17		98	5	0	2	12	10	3	1	1		1	98
754331	7	84	3.115	2	Lino Lakes		M	25		19262573	1.93E+08	10	13	2019	Sun	18	W		5	0	2	5	10	3	3	1		2	98
734493	10	435	0.001	2	Lino Lakes		M	25		19179815	1.92E+08	7	18	2019	Thu	20	W		5	0	2	5	10	10	1	1		1	98
784592	10	435	0.001	2	Lino Lakes		M	25		20025390	2E+08	1	30	2020	Thu	10			5	0	2	13	10	3	1	2		1	98
743932	10	435	0.036	2	Lino Lakes		M	25		19220361	1.92E+08	8	30	2019	Fri	8	N		5	0	2	12	10	2	1	1		1	98

CRJ-C'ville (S)

INCIDENTI	RTESYSCOI	RTENUMBI	MEASURE	COUNTY_S	CITY_NAM	TOWNSHIP	MNDOT_D	STATE_PAT	TRIBAL_GC	LOCALID	ACCIDENT_	CRASH_MC	CRASH_DA	CRASH_YE/	CRASH_DA	CRASH_HO	DIVIDEDRD	CRASHSEVI	NUMBERKI	NUMBERO	MANNERO	FIRSTHARN	RELATIONT	LIGHTCONI	WEATHERF	WEATHERS	RDWYSURF	WORKZON
774943	4	59	5.926	62	North Oaks		M	24		19062900	1.93E+08	12	12	2019	Thu	13			5	0	2	12	10	3	1	4		3	98
673183	4	59	5.929	62	North Oaks		M	24		19000070	1.9E+08	1	1	2019	Tue	20	S		5	0	2	12	10	3	7	1		5	98

20th-I35E W Ramp

INCIDENTI	RTESYSCOI	RTENUMBI	MEASURE	COUNTY_S	CITY_NAM	TOWNSHIP	MNDOT_D	STATE_PAT	TRIBAL_GC	LOCALID	ACCIDENT_	CRASH_MC	CRASH_DA	CRASH_YE/	CRASH_DA	CRASH_HO	DIVIDEDRD	CRASHSEVI	NUMBERKI	NUMBERO	MANNERO	FIRSTHARN	RELATIONT	LIGHTCONI	WEATHERF	WEATHERS	RDWYSURF	WORKZON
721515	4	54	0.012	2	Lino Lakes		M	25		19120120	1.91E+08	5	21	2019	Tue	21		98	4	0	2	90	10	4	7	3	90	2	98
833905	7	81	0.297	2	Lino Lakes		M	25		20192195	2.02E+08	8	6	2020	Thu	17	S		5	0	2	5	10	10	1	1		1	98
761190	7	81	0.3	2	Lino Lakes		M	25		19287191	1.93E+08	11	9	2019	Sat	15		98	3	0	2	5	10	3	1	3		2	98
733143	7	81	0.308	2	Lino Lakes		M	25		19033869	1.92E+08	7	12	2019	Fri	21			5	0	2	5	10	4	6	1		1	98
978218	22	225	0.015	62		White Bear	M	24		21407905	2.13E+08	12	5	2021	Sun	6	S		5	0	1		28	27	4	1		4	98

I35E E Ramp&OLR

INCIDENTI	RTESYSCOI	RTENUMBI	MEASURE	COUNTY_S	CITY_NAM	TOWNSHIP	MNDOT_D	STATE_PAT	TRIBAL_GC	LOCALID	ACCIDENT_	CRASH_MC	CRASH_DA	CRASH_YE/	CRASH_DA	CRASH_HO	DIVIDEDRD	CRASHSEVI	NUMBERKI	NUMBERO	MANNERO	FIRSTHARN	RELATIONT	LIGHTCONI	WEATHERF	WEATHERS	RDWYSURF	WORKZON
751255	1	35E	120.431	62		665982		24		19408248	1.93E+08	9	17	2019	Tue	12			5	0	1		62	2	1	1		1	98
929674	1	35E	120.436	62		665982		24		21506063	2.12E+08	7	1	2021	Thu	16	N		5	0	2	12	10	2	1	1		1	98
740848	1	35E	120.523	62		665982		24		19407296	1.92E+08	8	16	2019	Fri	15	N		5	0	2	12	10	2	1	1		1	98
750397	22	4464	0.014	62		White Bear	M	24		19407719	1.92E+08	8	30	2019	Fri	15	N		4	0	2	12	10	2	1	2		1	98
867965	22	4464	0.14	62		665982		24		20407572	2.03E+08	12	13	2020	Sun	15		98	5	0	2	12	10	3	1	4		3	98
674093	22	4464	0.173	62		White Bear	M	24		19000518	1.9E+08	1	4	2019	Fri	17	E		4	0	2	90	10	4	3	1		1	98
932179	22	4464	0.182	62		White Bear	M	24		21404833	2.12E+08	8	3	2021	Tue	14	N		5	0	2	5	10	26	1	1		1	98

ROADWAY	INTERSECT	ROUTE_ID	BASIC_TYP	UNITTYPE1	VEHICLETY	DIRECTION	PRECRASHI	AGEU1	SEXU1	PHYSICALC	CONTRIBF/	CONTRIBF/	NONMOTC	NONMOTC	RDWYDESI	TRAFFICCO	SPEEDLIMI	ALIGNMEN	GRADEU1	UNITTYPE1	VEHICLETY	DIRECTION	PRECRASHI	AGEU2	SEXU2	PHYSICALC	CONTRIBF/	CONTRIBF/
RAMP545		220000659	7	2	2	2	21	37	M	5	4				11	20	40	11	21	2	2	2	34	56	M	5	1	
RAMP549		220000659	5	2	2	2	21	51	F	5	1				11	9	70	11	24	2	49	2	21	20	M	5	68	
MAIN ST		040000659	7	2	4	2	21	31	M	5	1				12	20	30	11	23	2	2	4	21	21	F	5	1	
MAIN ST		040000659	5	2	4	3	24	35	M	5	1				14	20	45	11	23	2	4	3	24	73	M	5	10	
RAMP545		220000659	7	2	3	2	34	62	M	5	1				11	20	45	11	23	1	4	2	21					
MAIN ST	RAMP559	040000659	90	2	2	2	24	23	F	5	1				90	20	50	11	21	2	3	2	24	60	M	5	68	

ROADWAY	INTERSECT	ROUTE_ID	BASIC_TYP	UNITTYPE1	VEHICLETY	DIRECTION	PRECRASHI	AGEU1	SEXU1	PHYSICALC	CONTRIBF/	CONTRIBF/	NONMOTC	NONMOTC	RDWYDESI	TRAFFICCO	SPEEDLIMI	ALIGNMEN	GRADEU1	UNITTYPE1	VEHICLETY	DIRECTION	PRECRASHI	AGEU2	SEXU2	PHYSICALC	CONTRIBF/	CONTRIBF/
MAIN ST		040000659	8	2	4	4	21	28	F	10	70	68			15	20	50	11	23	2	2	3	21	35	F	5	1	
RAMP550		220000659	7	2	3	1	26	21	M	5	1				11	20	45	11	23	2	6	1	34	40	M	5	1	
RAMP550		220000659	7	2	2	1	21	17	M	5	99				11	20		11	21	2	4	1	34	34	F	5	1	
MAIN ST		040000659	10	2	3	4	23	64	M	5	10				14	20	50	11	23	2	2	4	21	16	F	5	1	
MAIN ST	RAMP547	040000659	10	2	2	4	21	24	F	5	63				14	20	50	11	21	2	2	2	23	30	M	5	1	
N/B ISTH 35E @ MAIN		040000659	7	2	2	1	34	67	F	5	1				11	20	70	11	21	2	2	1	21	19	F	5	4	90
MAIN ST	RAMP558	040000659	10	2	2	3	28	44	M	5	10	2			15	20	50	11	24	2	4	3	21	57	M	5	1	
MAIN ST		040000659	3	2	2	1	24	75	F	5	65	68			15	20	50	11	21									
MAIN ST	RAMP558	040000659	10	2	3	1	23	18	F	5	2				12	20		11	21	2	2	3	21	16	F	5	1	
MAIN ST		040000659	7	2	4	3	21	23	F	5	99				14	20	50	13	21	2	5	3	34	26	F	5	99	
MAIN ST		040000659	10	2	4	1	21	17	M	5	63	75			11	20	70	11	23	2	4	3	21	37	F	5	1	
MAIN ST		040000659	7	2	49	4	21	57	M	5	99				14	20	50	11	21	2	4	4	34	24	M	5	1	
RAMP547		220000659	7	2	48	2	34	51	M	5	1				90	20	70	11	21	2	2	2	21	16	F	5	70	
NB 35E RAMP TO MAI		220000659	7	2	2	1	21	35	M	5	70				11	9	60	11	23	2	2	1	21	22	M	5	70	
NB 35E TO MAIN ST		220000659	5	2	4	1	21	46	F	5	1				11	20	70	11	23	2	4	1	26	34	F	5	68	
NB 35E TO MAIN ST		220000659	7	2	4	1	34	56	M	5	1				11	20	70	11	23	2	4	1	26	26	M	5	4	
RAMP FROM I35E NB T		220000659	7	2	2	1	21	15	F	5	4				11	20	65	11	23	2	2	1	21	62	F	5	1	
NB ISTH 35E RAMP TO		220000659	7	2	4	1	26	20	F	5	1				11	20	70	11	22	2	3	1	21	21	M	5	74	4
RAMP550		220000659	90	2	2	1	23	16	M	5	2				14	20	45	11	23	2	2	3	21	21	M	5	1	
RAMP550		220000659	10	2	4	3	23	37	M	5	1				11	20	50	11	23	4	22	4	33	25	M	5	2	
RAMP550	MAIN ST	220000659	7	2	2	1	23	22	F	5	99				90	20		11	21	2	2	1	23	68	F	5	99	

ROADWAY	INTERSECT	ROUTE_ID	BASIC_TYP	UNITTYPE1	VEHICLETY	DIRECTION	PRECRASHI	AGEU1	SEXU1	PHYSICALC	CONTRIBF/	CONTRIBF/	NONMOTC	NONMOTC	RDWYDESI	TRAFFICCO	SPEEDLIMI	ALIGNMEN	GRADEU1	UNITTYPE1	VEHICLETY	DIRECTION	PRECRASHI	AGEU2	SEXU2	PHYSICALC	CONTRIBF/	CONTRIBF/
MAIN ST		040000659	7	2	2	3	21	63	M	5	1				15	20	50	11	21	2	6	3	21	54	M	5	4	
MAIN ST	OTTER LAK	040000659	7	2	2	3	21	20	M	9	90				15	20	50	11	21	2	4	3	34	54	F	5	1	
MAIN ST		040000659	90	3	3	3	34	60	M	5	1				14	20	45	11	21	2	2	3	21	18	F	5	99	
MAIN ST	OTTER LAK	040000659	90	2	2	3	21	23	M	5	99				14	20		11	24	3	2	3	34	33	M	5	1	
MAIN ST	OTTER LAK	040000659	5	2	4	3	34	40	F	5	1				14	20	50	11	21	1		3	25					
MAIN ST		040000659	10	2	3	1	24	33	M	5	1				14	20	50	11	21	2	2	4	21	41	M	5	74	
OTTER LAK	MAIN ST	070000659	7	2	2	1	23	30	F	5	1				12	20	55	11	21	2	3	1	23	60	M	5	99	
OTTER LAKE RD		070000659	10	2	3	2	21	51	M	5	1				14	20	50	11	21	2	4	2	21	31	M	5	70	
OTTER LAK	MAIN ST	100002395	10	2	4	4	21	31	M	5	70	63			14	20	50	11	21	2	2	1	21	17	M	5	1	
OTTER LAKE RD		100002395	8	2	4	3	24	62	M	5	1				14	20	50	11	21	2	2	4	21	18	M	5	74	63
OTTER LAKE RD		100002395	7	2	3	1	34	67	M	5	1				12	98	30	11	21	2	2	1	21	17	M	5	99	

ROADWAY	INTERSECT	ROUTE_ID	BASIC_TYP	UNITTYPE1	VEHICLETY	DIRECTION	PRECRASHI	AGEU1	SEXU1	PHYSICALC	CONTRIBF/	CONTRIBF/	NONMOTC	NONMOTC	RDWYDESI	TRAFFICCO	SPEEDLIMI	ALIGNMEN	GRADEU1	UNITTYPE1	VEHICLETY	DIRECTION	PRECRASHI	AGEU2	SEXU2	PHYSICALC	CONTRIBF/	CONTRIBF/
CENTERVILLE RD		040000659	7	2	4	1	34	56	M	5	1				12	23	50	11	21	2	4	1	21	57	F	5	4	
CENTERVILLE RD		040000659	7	2	2	2	34	39	F	5	1				12	23	45	11	21	1	3	2	21					

ROADWAY	INTERSECT	ROUTE_ID	BASIC_TYP	UNITTYPE1	VEHICLETY	DIRECTION	PRECRASHI	AGEU1	SEXU1	PHYSICALC	CONTRIBF/	CONTRIBF/	NONMOTC	NONMOTC	RDWYDESI	TRAFFICCO	SPEEDLIMI	ALIGNMEN	GRADEU1	UNITTYPE1	VEHICLETY	DIRECTION	PRECRASHI	AGEU2	SEXU2	PHYSICALC	CONTRIBF/	CONTRIBF/
20TH AVE S	ASH ST	040000659	90	2	4	2	20	44	M	5	2				12	23	50	11	21	2	2	4	21	60	M	5	1	
ASH ST		070000659	10	2	49	2	31	60	M	5	2				12	23	30	11	22	2	2	4	21	17	F	5	1	
ASH ST		070000659	10	2	4	2	21	38	F	5	2				12	23	50	11	21	2	3	4	21	65	M	5	1	
ASH ST		070000659	10	2	2	3	21	33	F	5	1				12	23	40	11	21	2	4	3	24	32	F	5	2	
RAMP225	COUNTY J	220000659	3	2	2	2	21	26	F	5	68	72			15	9	70	11	24									

ROADWAY	INTERSECT	ROUTE_ID	BASIC_TYP	UNITTYPE1	VEHICLETY	DIRECTION	PRECRASHI	AGEU1	SEXU1	PHYSICALC	CONTRIBF/	CONTRIBF/	NONMOTC	NONMOTC	RDWYDESI	TRAFFICCO	SPEEDLIMI	ALIGNMEN	GRADEU1	UNITTYPE1	VEHICLETY	DIRECTION	PRECRASHI	AGEU2	SEXU2	PHYSICALC	CONTRIBF/	CONTRIBF/
35		010000000	3	2	2	1	30	60	F	5	72				15	9	70	11	21									
N/B ISTH 35E @ ASH S		010000000	7	2	2	1	21	39	M	5	1				15	9	70	11	21	2	2	1	21	44	F	5	4	
35		010000000	7	2	4	1	26	56	F	5	1				15	9	70	11	21	2	2	1	21	54	M	5	74	4
NB I-35E SOUTH OF CT		220000659	7	2	2	1	21	21	F	5	74				15	9	70	11	21	2	2	1	26	52	M	5	1	
RAMP464		220000659	7	2	2	1	90	28	M	5	1				90	20	40	11	23	1	5	1	21					
RAMP464		220000659	90	2	2	4	24	39	M	5	1				12	23	40	13	24	2	3	3	21	50	M	5	64	
RAMP464	COUNTY RI	220000659	10	2	4	3	21	81	M	5	1				12	20	30	11	24	2	4	1	21	39	M	5	1	

NONMOTC	NONMOTC	RDWYDESI	TRAFFICCO	SPEEDLIMI	ALIGNMEN	GRADEU2	UNITTYPEL	VEHICLETY	DIRECTION	PRECRASHI	AGEU3	SEXU3	PHYSICALC	CONTRIBF/	CONTRIBF/	NONMOTC	NONMOTC	RDWYDESI	TRAFFICCO	SPEEDLIMI	ALIGNMEN	GRADEU3	UNITTYPEL	VEHICLETY	DIRECTION	PRECRASHI	AGEU4	SEXU4
		11	20	40	11	21																						
		11	9	70	11	24																						
		14	20	50	11	21																						
		14	20	45	11	23																						
		11	20	45	11	23																						
		90	20	50	11	21																						

NONMOTC	NONMOTC	RDWYDESI	TRAFFICCO	SPEEDLIMI	ALIGNMEN	GRADEU2	UNITTYPEL	VEHICLETY	DIRECTION	PRECRASHI	AGEU3	SEXU3	PHYSICALC	CONTRIBF/	CONTRIBF/	NONMOTC	NONMOTC	RDWYDESI	TRAFFICCO	SPEEDLIMI	ALIGNMEN	GRADEU3	UNITTYPEL	VEHICLETY	DIRECTION	PRECRASHI	AGEU4	SEXU4
		15	20	50	11	24																						
		11	20	45	11	23																						
		11	20		11	21																						
		14	20	50	11	23																						
		14	20	50	11	21																						
		11	20	70	11	21																						
		15	20	50	11	24																						
		12	20	45	11	21																						
		14	20	50	13	21																						
		14	20	50	11	24																						
		14	20	50	11	21																						
		90	20	70	11	21																						
		11	9	60	11	23																						
		11	20	70	11	23																						
		11	20	70	11	23																						
		11	20	65	11	23																						
		11	20	70	11	22																						
		15	20	45	11	21																						
		14	20	50	11	23																						
		90	20		11	21																						

NONMOTC	NONMOTC	RDWYDESI	TRAFFICCO	SPEEDLIMI	ALIGNMEN	GRADEU2	UNITTYPEL	VEHICLETY	DIRECTION	PRECRASHI	AGEU3	SEXU3	PHYSICALC	CONTRIBF/	CONTRIBF/	NONMOTC	NONMOTC	RDWYDESI	TRAFFICCO	SPEEDLIMI	ALIGNMEN	GRADEU3	UNITTYPEL	VEHICLETY	DIRECTION	PRECRASHI	AGEU4	SEXU4
		15	20	50	11	21																						
		15	20	50	11	21																						
		14	20	45	11	21																						
		14	20	50	11	24	3	4	3	34	68	F	5	1		14	20	50	11	24							
		14	20	50	11	21																						
		14	20	50	11	21																						
		12	20	55	11	21																						
		14	20	50	11	21																						
		13	20	55	11	21																						
		14	20	50	11	21																						
		12	98	30	11	21																						

NONMOTC	NONMOTC	RDWYDESI	TRAFFICCO	SPEEDLIMI	ALIGNMEN	GRADEU2	UNITTYPEL	VEHICLETY	DIRECTION	PRECRASHI	AGEU3	SEXU3	PHYSICALC	CONTRIBF/	CONTRIBF/	NONMOTC	NONMOTC	RDWYDESI	TRAFFICCO	SPEEDLIMI	ALIGNMEN	GRADEU3	UNITTYPEL	VEHICLETY	DIRECTION	PRECRASHI	AGEU4	SEXU4
		12	23	50	11	21																						
		12	23	45	11	21																						

NONMOTC	NONMOTC	RDWYDESI	TRAFFICCO	SPEEDLIMI	ALIGNMEN	GRADEU2	UNITTYPEL	VEHICLETY	DIRECTION	PRECRASHI	AGEU3	SEXU3	PHYSICALC	CONTRIBF/	CONTRIBF/	NONMOTC	NONMOTC	RDWYDESI	TRAFFICCO	SPEEDLIMI	ALIGNMEN	GRADEU3	UNITTYPEL	VEHICLETY	DIRECTION	PRECRASHI	AGEU4	SEXU4
		12	9	40	11	21																						
		12	9	45	11	21																						
		12	9	45	11	22																						
		12	23	40	11	21																						

NONMOTC	NONMOTC	RDWYDESI	TRAFFICCO	SPEEDLIMI	ALIGNMEN	GRADEU2	UNITTYPEL	VEHICLETY	DIRECTION	PRECRASHI	AGEU3	SEXU3	PHYSICALC	CONTRIBF/	CONTRIBF/	NONMOTC	NONMOTC	RDWYDESI	TRAFFICCO	SPEEDLIMI	ALIGNMEN	GRADEU3	UNITTYPEL	VEHICLETY	DIRECTION	PRECRASHI	AGEU4	SEXU4
		15	9	70	11	21																						
		15	9	70	11	21																						
		15	9	70	11	21																						
		90	20	40	11	23																						
		12	23	40	13	24																						
		11	9	30	11	21																						

PHYSICALC	CONTRIBFA	CONTRIBFA	NONMOTC	NONMOTC	RDWYDESI	TRAFFICCO	SPEEDLIMI	ALIGNMEN	GRADEU4	UTMX	UTMY	LATITUDE	LONGITUD	CRASH_DA	STATUS	STATUS_NA	AGENCY_O	AGENCY_O	NARRATIVE
										497374.3	5001216	45.16442	-93.0334	########	Accepted	Reportable	MNMHP04	State Patro	TOP OF
										497463.7	5001148	45.16381	-93.0323	########	Accepted	Reportable	MN002070	Police	MN MSD334 which was driven by Maureen Angley was traveling east on Main St and was turning south onto the r
										497360.9	5001181	45.16411	-93.0336	########	Accepted	Reportable	MN002070	Police	UNIT 1
										497467.1	5001184	45.16414	-93.0322	########	Accepted	Reportable	MN002070	Police	10/10/20
										497408.9	5001340	45.16554	-93.033	########	Accepted	Reportable	MNMHP04	State Patro	VEHICLE
										497375.1	5001159	45.16391	-93.0334	########	Accepted	Reportable	MN002070	Police	VEHICLE 1 WAS TURNING ONTO EASTBOUND MAIN ST FROM SOUTHBOUND I35E AND WAS IN THE RIGHT OF 2 TU

PHYSICALC	CONTRIBFA	CONTRIBFA	NONMOTC	NONMOTC	RDWYDESI	TRAFFICCO	SPEEDLIMI	ALIGNMEN	GRADEU4	UTMX	UTMY	LATITUDE	LONGITUD	CRASH_DA	STATUS	STATUS_NA	AGENCY_O	AGENCY_O	NARRATIVE
										497683.3	5001170	45.16401	-93.0295	########	Accepted	Reportable	MN002070	Police	Veh. 1 was w/b Main St, crossed over into the e/b traffic lanes. Veh. 2 was e/b Main and slowed or stopped as Ve
										497682.7	5001157	45.1639	-93.0295	########	Accepted	Reportable	MN002070	Police	Unit 1 was traveling northbound and rear ended Unit 2, while Unit 2 was stationary at the stoplight (which was re
										497686.6	5001167	45.16398	-93.0294	########	Accepted	Reportable	MN002070	Police	The driver of unit 1 was traveling northbound in the inner right turn lane on the off ramp of 35E North and Main S
										497640.6	5001186	45.16415	-93.03	########	Accepted	Reportable	MN002070	Police	09/24/21
										497655	5001186	45.16415	-93.0298	########	Accepted	Reportable	MN002070	Police	VEHICLE 1 WAS WB MAIN ST APPROACHING I35E AND RAN THE RED LIGHT. VEHICLE 2 WAS ENTERING MAIN ST. A
										497667.2	5001170	45.16401	-93.0297	########	Accepted	Reportable	MNMHP04	State Patro	N/B ISTH
										497676.9	5001170	45.16401	-93.0296	########	Accepted	Reportable	MN002070	Police	vehicle 1 was eastbound main st in the turn lane to go north on I35E. vehicle 1 needed to make a u-turn but could
										497678.8	5001170	45.16401	-93.0295	########	Accepted	Reportable	MN002070	Police	Kaiser exited from northbound 35E to eastbound Main St. However did did not want to go eastbound, so she turr
										497674.1	5001186	45.16416	-93.0296	########	Accepted	Reportable	MN002070	Police	I was
										497682.5	5001170	45.16401	-93.0295	########	Accepted	Reportable	MN002070	Police	unit one was at the light to exit from 35E onto Eastbound Main St and rear ended unit two. Unit one believed uni
										497686.5	5001170	45.16401	-93.0294	########	Accepted	Reportable	MN002070	Police	01/18/20
										497694.5	5001187	45.16416	-93.0293	########	Accepted	Reportable	MN002070	Police	UNIT 2 WAS TRAVELING WEST ON MAIN ST AND WAS STOPPED AT THE INTERSECTION WITH THE OFF-RAMP FRON
										497657.8	5001195	45.16424	-93.0298	########	Accepted	Reportable	MN002070	Police	Vehicle #1 was stopped at the stop light when it was rear ended by vehicle #2. The driver for vehicle #2 was cited
										497620.8	5001007	45.16254	-93.0303	########	Accepted	Reportable	MNMHP04	State Patro	Northbou
										497628.9	5001026	45.16272	-93.0302	########	Accepted	Reportable	MNMHP04	State Patro	BOTH
										497640.7	5001055	45.16298	-93.03	########	Accepted	Reportable	MNMHP04	State Patro	BOTH
										497657.4	5001096	45.16335	-93.0298	########	Accepted	Reportable	MNMHP04	State Patro	Both vehicle traveling on exit ramp from I35E NB to Main Street. Both vehicles in right lane to take right hand turn
										497675.4	5001140	45.16374	-93.0296	########	Accepted	Reportable	MNMHP04	State Patro	Unit 1 was
										497684.7	5001162	45.16394	-93.0295	########	Accepted	Reportable	MN002070	Police	Officers
										497684.8	5001162	45.16395	-93.0295	########	Accepted	Reportable	MN002070	Police	06/02/21
										497686.3	5001166	45.16398	-93.0294	########	Accepted	Reportable	MN002070	Police	UNIT ONE

PHYSICALC	CONTRIBFA	CONTRIBFA	NONMOTC	NONMOTC	RDWYDESI	TRAFFICCO	SPEEDLIMI	ALIGNMEN	GRADEU4	UTMX	UTMY	LATITUDE	LONGITUD	CRASH_DA	STATUS	STATUS_NA	AGENCY_O	AGENCY_O	NARRATIVE
										497975.3	5001175	45.16406	-93.0258	########	Accepted	Reportable	MN002070	Police	UNIT 2
										497983.4	5001175	45.16406	-93.0257	########	Accepted	Reportable	MN002070	Police	Driver of vehicle 1 rear-ended vehicle 2 which was stopped for the red light at the intersection. Driver of vehicle 1
										497985.3	5001175	45.16406	-93.0256	########	Accepted	Reportable	MN002070	Police	12/24/20
										497987	5001175	45.16406	-93.0256	########	Accepted	Reportable	MN002070	Police	09/26/21
										497989	5001175	45.16406	-93.0256	########	Accepted	Reportable	MN002070	Police	UNIT 1 WAS STOPPED AT THE RED LIGHT TO CONTINUE EAST ON MAIN ST. UNIT 2 MADE A U-TURN AT THE INTER
										497997.3	5001196	45.16425	-93.0255	########	Accepted	Reportable	MN002070	Police	UNIT ONE WAS STOP AT A RED SEMAPHORE WAITING TO TURN NORHTBOUND ON OTTER LAKE RD. UNIT ONE'S S
										498000.1	5001173	45.16404	-93.0255	########	Accepted	Reportable	MN002070	Police	vehicle 1 was northbound otter lake rd to turn east on main st. vehicle 1 started to go then stopped and was rear
										498000.2	5001196	45.16425	-93.0255	########	Accepted	Reportable	MN002070	Police	Unit 1 was traveling southbound on Otter Lake Road entering through the intersection while Unit 2 was traveling
										498000.4	5001197	45.16426	-93.0255	########	Accepted	Reportable	MN002070	Police	Unit 1 was traveling westbound on Main St and proceeded through the red light at the intersection at Otter Lake R
										498000.3	5001197	45.16426	-93.0255	########	Accepted	Reportable	MN002070	Police	VEHICLE
										498003.6	5001253	45.16476	-93.0254	########	Accepted	Reportable	MN002070	Police	UNIT 1

PHYSICALC	CONTRIBFA	CONTRIBFA	NONMOTC	NONMOTC	RDWYDESI	TRAFFICCO	SPEEDLIMI	ALIGNMEN	GRADEU4	UTMX	UTMY	LATITUDE	LONGITUD	CRASH_DA	STATUS	STATUS_NA	AGENCY_O	AGENCY_O	NARRATIVE
										495533.9	4996715	45.1239	-93.0568	########	Accepted	Reportable	MN062000	Sheriff	On
										495532.7	4996720	45.12395	-93.0568	########	Accepted	Reportable	MN062000	Sheriff	Unit 1 was stopped at the 4 way intersection of Centerville Rd/County J. Unit 1 was traveling southbound Centervi

PHYSICALC	CONTRIBFA	CONTRIBFA	NONMOTC	NONMOTC	RDWYDESI	TRAFFICCO	SPEEDLIMI	ALIGNMEN	GRADEU4	UTMX	UTMY	LATITUDE	LONGITUD	CRASH_DA	STATUS	STATUS_NA	AGENCY_O	AGENCY_O	NARRATIVE
										496008.3	4996746	45.12418	-93.0508	########	Accepted	Reportable	MN002070	Police	Unit #1 was stopped at a stop sign, facing southbound on 20th Avenue. Unit #2 was westbound on County road J.
										496008.7	4996727	45.12402	-93.0508	########	Accepted	Reportable	MN002070	Police	Veh #2 was westbound Ash St, passing 20th Ave (right of way). Veh #1 was stopped at the stop sign on S/B 20th A
										496014.8	4996727	45.12402	-93.0507	########	Accepted	Reportable	MN002070	Police	Veh.1 was stopped at stop sign for s/b 20th Ave. Veh. 2 was w/b Ash St. Veh.1 pulled onto Ash St. to cross to 35E
										496027.4	4996727	45.12402	-93.0505	########	Accepted	Reportable	MN062000	Sheriff	Peters
										496012.7	4996704	45.12381	-93.0507	########	Accepted	Reportable	MNMHP01	State Patro	Unit 1

PHYSICALC	CONTRIBFA	CONTRIBFA	NONMOTC	NONMOTC	RDWYDESI	TRAFFICCO	SPEEDLIMI	ALIGNMEN	GRADEU4	UTMX	UTMY	LATITUDE	LONGITUD	CRASH_DA	STATUS	STATUS_NA	AGENCY_O	AGENCY_O	NARRATIVE
										496092.6	4996402	45.12108	-93.0497	########	Accepted	Reportable	MNMHP01	State Patro	D1 IN THE LEFT LANE. D1 STATED DID NOT KNOW WHAT HAPPENED AND ALL OF A SUDDEN LOST CONTROL. UNIT
										496105.3	4996419	45.12123	-93.0495	########	Accepted	Reportable	MNMHP04	State Patro	N/B ISTH
										496092.6	4996559	45.12249	-93.0497	########	Accepted	Reportable	MNMHP01	State Patro	The crash
										496108.4	4996449	45.12151	-93.0495	########	Accepted	Reportable	MNMHP01	State Patro	Vehicle #1
										496160.4	4996644	45.12325	-93.0488	########	Accepted	Reportable	MNMHP01	State Patro	ON THE RAMP TO COUNTY RD J FROM NB35E, UNIT 1 WAS STOPPED AT THE LIGHT WHEN HE WAS HIT FROM BEH
										496169.8	4996697	45.12375	-93.0487	########	Accepted	Reportable	MN062000	Sheriff	On 1/4/19 at 1708 hours I Deputy Walsh assigned as 2267 was dispatched to property damage accident at Hwy 35
										496173.7	4996710	45.12386	-93.0487	########	Accepted	Reportable	MNMHP01	State Patro	On 8/3/2021 at approximately 1430hrs Unit 1 was traveling eastbound on County Rd J at the intersection of the o

ramp to 35E S. Angley was in the far left lane. MN YBU2171 (friven by Cole Grant) was also traveling east and turning south onto the ramp but was in the right lane (next to Angley). Angley stated as she started to go down the ramp MN YBU2171 started to merge into her lane. Angley honked her horn repeatedly but the the truck a

JRN LANES. VEHICLE 2 WAS TURNING ONTO EASTBOUND MAIN ST FROM SOUTHBOUND I35E AND WAS IN THE LEFT OF 2 TURN LANES. VEHICLE 2 TURNED TOO WIDE AND HIT THE BACK CORNER OF VEHICLE 1.

h. 1 was heading towards Veh.2 Veh.1 hit Veh.2 head on. Driver of Veh.1 stopped momentarily but then fled. Witness followed suspect vehicle and stayed with it until officers arrived. Veh.1 driver was arrested for DWI etc.
d) at Main Street while exiting off 35E northbound.
t. The driver of unit 1 stated he thought unit 2 was moving forward, but unit 1 rear ended unit 2.

T I35E AND WAS STRUCK BY VEHICLE 1. VEHICLE 2 HAD A GREEN LIGHT.

not legally do so at that location so the driver pulled back out into the eastbound lane of traffic and struck vehicle 2.
ed against signs and went the wrong way westbound Main St. She stated was looking for oncoming traffic and did not see the median and signs and struck them.

t two was moving, which was when unit one rear ended unit two.

I 35E. UNIT 1 WAS BEHIND UNIT 2 ALSO TRAVELING WEST ON MAIN ST. THE DRIVER OF UNIT 2 REPORTED HE WAS STOPPED, THE LIGHT WAS RED AND HE WAS HIT FROM BEHIND BY UNIT 1. THE DRIVER OF UNIT 1 REPORTED THE LIGHT TURNED GREEN, UNIT 2 STARTED TO MOVE FORWARD BUT THEN STOPPED, AND AS A RESUL
for driving with a permit and not having an adult present and failure to drive with due care.

on Main Street. Vehicle two stopped due to red light, vehicle one rear ended vehicle two. Vehicle one was not able to stop due to snowy conditions and slick roadway.

said he worked all night and "spaced out"

SECTION AND THE REAR OF THE CAMPER TRAILER THAT UNIT 2 WAS PULLING HIT UNIT 1. UNIT 2 ACKNOWLEDGED THE INCIDENT AND KEPT DRIVING.
EMAPHORE TURNED TO A GREEN ARROW, WHILE TURNING LEFT UNIT TWO RAN A RED SEMAPHORE CAUSING HIM TO HIT UNIT ONE. UNIT TWO WAS TRAVELING WESTBOUND ON MAIN ST, WHEN THE DRIVER RECEIVED A PHONE CALL THAT HE TRIED TO DECLINE. WHILE DOING THIS, THE SEMAPHORE TURNED RED AND THE DRIVI
ended by vehicle 2.
westbound on Main Street driving through a red light at the intersection and made contact with Unit 1.
Rd and Main St. Unit 2 had a green light and was traveling northbound on Otter Lake Rd and proceeded through the intersection at Otter Lake Rd and Main. Unit 2 crashed into the side of unit 1 while both were traveling through the intersection.

ille. Unit 2 made contact with the rear of Unit 1 when Unit 1 was stopped at the stop sign. Unit 1 suffered damages to the rear of vehicle, no injuries. Unit 2 was described as a dark colored, possibly blue, possibly dodge, pick up truck. NFI.

Unit #1 observed eastbound traffic on County Road J stopped and believed the intersection was a 4-way stop. Unit #1 began to enter the intersection and struck Unit #2 on the passenger side of the vehicle. Both vehicles then pulled onto the north shoulder of County Road J. Unit #1 provided valid insurance and had no injuries. Un
ve. The driver of Veh #1 pulled out into the traffic lane and struck the rear right bumper of veh #2 with its front right bumper. The driver of Veh #1 said that he did not see veh #1 because of the signs that were placed alongside 20th Ave at Ash St. The driver of Veh #1 was cited for failure to yield right of way.
on-ramp. Veh.1 driver thought Veh.2 had signaled for a right turn onto 20th Ave. Veh. 1 pulled out in front of Veh.2 and the vehicles collided. Driver of Veh.2 was travelling to a destination to the west of the intersection for which a right turn would not have been needed. Veh. 2 had the right of way.

1 THEN DRIFTED LEFT HITTING THE CABLE WIRE AND THEN DRIFTED RIGHT HITTING THE GUARDRAIL. NO INJURIES NO CITATIONS.

IND BY UNIT 2. THE DRIVER OF UNIT 1 STATED UNIT 2 TOOK OFF FROM THE SCENE TO THE EAST. UNIT 1 CAPTURED THE PLATE OF UNIT 2 AND A DESCRIPTION OF THE VEHICLE. THEY MATCHED UP AND A LETTER WAS SENT TO OWNER OF UNIT 2.
E NB ramp and County RD J, WBT. I arrived and found Unit #2 a 2004 Pontiac Grand AM bearing MN 694-VRJ driven by Reynolds, Brian with moderate disabling damage in the middle of the roadway partially blocking the 2 way traffic. I spoke with Brian and received his insurance info, phone number, and he stated several times t
ff ramp from northbound ISTH 35E. Unit 1 was traveling northbound on the off ramp from ISTH 35E to County Rd J turning right onto eastbound County J. Unit 1 driver stated he had a yellow light and was proceeding through the intersection when he observed Unit 2 fail to yield to his right away. Unit 2 stated he had a green light

nd trailer side swiped her vehicle before swerving back into the right lane and eventually stopping in the center of the ramp where the two lanes start to come together. Grant confirmed his trailer side swiped Angley's vehicle.

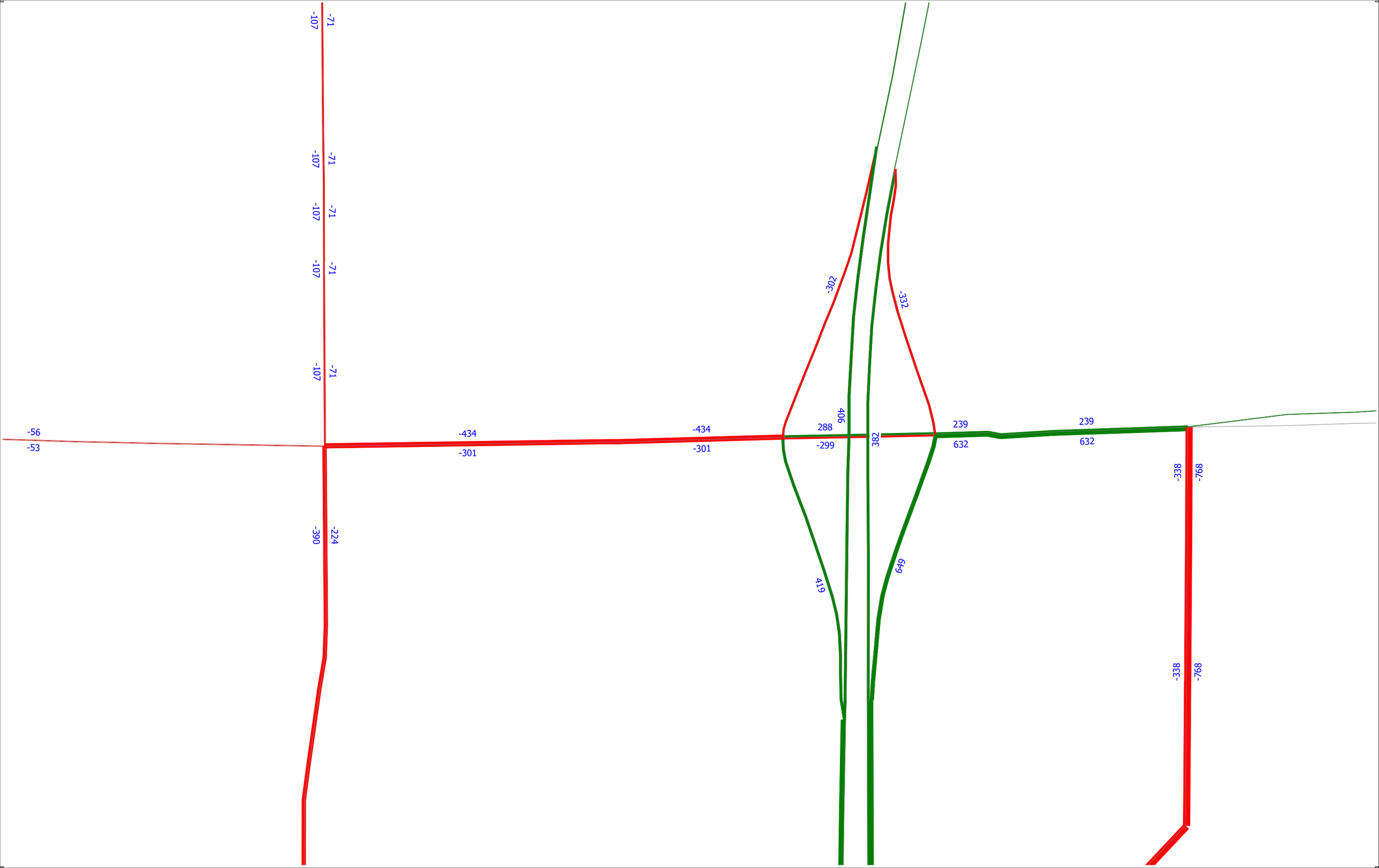
-T, UNIT 1 RAN INTO THE BACK OF UNIT 2. MINOR DAMAGE, NO INJURIES. BOTH VEHICLES DRIVEABLE.

ER WENT THROUGH THE RED SEMAPHORE. DAMAGE WAS OVER $1,000.00 FOR UNIT ONE BUT DID NOT APPEAR TO BE OVER $1,000.00 FOR UNIT TWO. VEHICLES WERE STILL OPERABLE. UNIT TWO RECEIVED A CITATION FOR FAILING TO STOP AT A TRAFFIC CONTROL SIGNAL.

ıit #2 provided valid insurance and both passengers stated they had back and neck pain. Both passengers were evaluated by EMS and declined to be transported. Unit #2 was towed due to damage by Twin Cities Towing. The driver of Unit #1 was issued a citation for fail to drive with due care.

ɔ me when asked if he was okay and if he needed any medical attention he declined. I had Twin cities towing arrive and tow the vehicle, it was towed to Brian's location request. Brian told me he had the right of way exiting NB 35E ramp onto WB Co RD J when he was struck (T-bone) driver side by UNIT #1 who was traveling EB CC and pulled out into the intersection and was struck by Unit 1 (angle crash). Intersection light was working properly. No injuries were reported at the time of the crash. Nothing further.

) RD J. His vehicle had damage from front bumper to read passenger side door. No airbags were deployed. Brian said as he entered the intersection he saw the truck coming and realized it was not stopping and jumped toward the passenger seat. I spoke with a witnes



Advancing Racial and Health Equity and Shared Community Power

Ramsey County will strengthen our countywide approach to leverage programs, processes and policies and prioritize innovations in governance and operations to advance racial and health equity, including addressing historical and long-standing race-based disproportional outcomes. Ramsey County will also deconstruct systemic and organizational barriers to be more fair, inclusive and transparent in how we share power with residents and communities in order to build a more equitable, responsive and effective organization.

Why this is a priority

Ramsey County's vision for a vibrant community where all are valued and thrive is dependent on being a community where all residents can experience fair outcomes including the highest level of health and wellbeing and opportunities for advancement and growth. Many of the communities and residents impacted by county programs and services have not historically had a voice in planning and implementation. Ramsey County must assess and modernize long-standing structures and legacy systems to better meet the emerging needs of all residents. Ramsey County must develop, identify and use a broad range of strategies grounded in sharing power to ensure all residents and communities, especially racial and ethnic groups who are experiencing inequities, have a voice in realizing beneficial outcomes across the county.

Building on previous work and lessons learned

In 2018, this priority has evolved to place racial equity alongside health equity at the center of decision-making. In 2020, Racial and Health Equity was combined with the Community Engagement strategic priority and changed to shared community power. By "power", we mean by sharing power with community to make decisions that are crucial for a specific outcome. This approach lifts up race

and health equity and shared power as countywide principles and drives a framework for how the county operates.

Ensure racial equity and shared power with community is applied

Ramsey County has initiated community-wide conversations on equity to increase awareness and accountability. A broad range of resources and tools, including participatory methods and Results Based Accountability in organizational planning have be applied to structurally advance equity and measure outcomes. Additional learning and development trainings on the Role of Government for Advancing Racial Equity, has also been offered for formal leaders and new employees. Specific relationships with racially and ethnically diverse communities are vital to helping ensure that equity remains a central focus. Honoring community knowledge and wisdom early on and before budgetary investments, program decisions or new projects are launched helps build trust and is critical to helping actively involve our most impacted communities in creating a better future, where all are valued and thrive.

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Anoka County MINNESOTA | 2022 Solicitation for Transportation Funding

Select Language

Map | Satellite

Funding Category

- Roadway Expansion
- Roadway Reconstruction / Modernization
- Roadway Spot Mobility & Safety
- Multi-use Trails & Bicycle Facilities

How do projects get funded? →

Ash Street and Centerville Road Intersection | Lino Lakes

Roadway Spot Mobility & Safety

0.2 miles	Roadway Spot Mobility & Safety	Approximate Construction Cost TBD

This project includes the construction of a roundabout at the intersection at Ash Street (CSAH 32) and Centerville Road (CSAH 21) in Lino Lakes. This improvement is part of a larger project to improve the interchange at I-35E/County Road J, which is being led by Ramsey County.

CSAH 32 (Ash Street) at CSAH 21 (Centerville Road) Roundabout Project Area Map

Issues to be Addressed

For more information reach out to: Jack Forslund, Anoka County Transportation Planner | jack.forslund@co.anoka.mn.us | 763-324-3179

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County Road J / Ash Street

Project Background

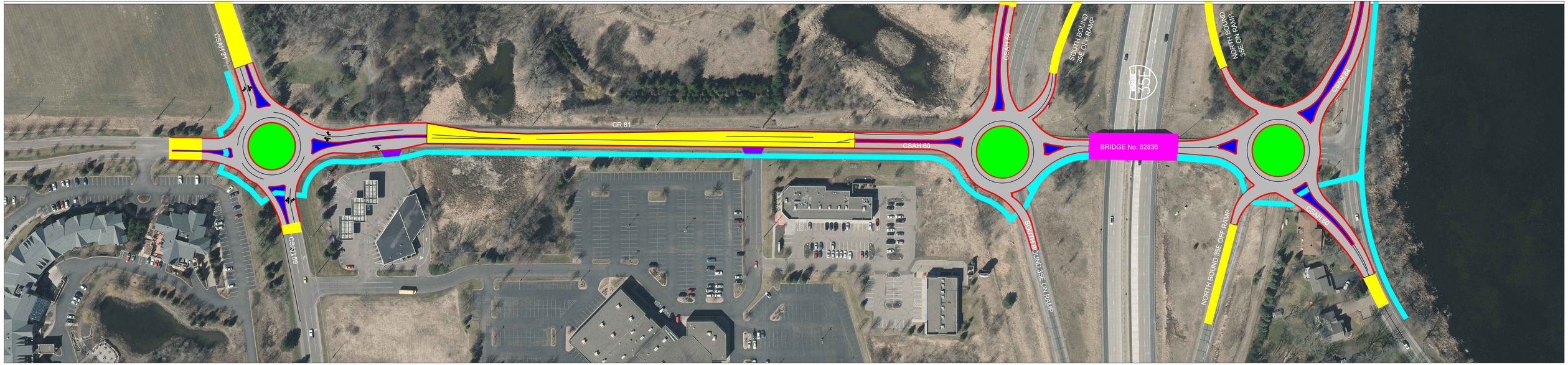
Description

County Road J / Ash Street, from Centerville Road (Anoka County CSAH 21) to Otter Lake Road (Anoka County CSAH 84) including the interchange with I-35E and the segment of Centerville Road (CSAH 21) to Ash Street (Anoka County CSAH 32), is scheduled for reconstruction in 2024. Ramsey County, in partnership with MnDOT, Anoka County, White Bear Township, and the Cities of North Oaks and Lino Lakes, is leading the project.

The existing I-35E and County Road J interchange, and the surrounding area, has several safety, congestion and access issues which impact motorists and all users of the corridor. Additional development is anticipated near the interchange and will increase traffic and public demands for pedestrian facilities; more emphasis will be needed to improve traffic safety.

For additional information, or if you have questions regarding the project, please see Ramsey County's website

PRELIMINARY CONCEPTUAL SKETCH
COUNTY ROAD J (ASH STREET, COUNTY ROAD 81)
CENTERVILLE ROAD TO OTTER LAKE ROAD



Economic Competitiveness and Inclusion

Ramsey County will build and implement strategies that advance economic competitiveness and inclusiveness creating greater prosperity and opportunity for all.

Why this is a priority

Ramsey County Community & Economic Development and partners are currently leading the **Economic Competitiveness & Inclusion Plan**, which will identify a vision and implementation for strategic investments to create opportunities for all residents to prosper. The focus on competitiveness is that our region can prosper from increased investment if we invest strategically and equitably in our residents and businesses.

Racial disparities in employment, educational attainment, income and housing currently hold Ramsey County residents back in the regional economy. Full participation by all residents will create wealth, expand the talent pool and increase wellbeing. Residents' incomes must grow through living wage jobs and stable employment. Ramsey County will focus on four cross-sector workgroups: 1) Housing Development and Affordability, 2) Community Investment and Wealth Building, 3) Jobs and Industry Growth, and 4) Strengthening Place-Based Assets, including transit and commercial corridors.

Building on previous work and lessons learned

Economic prosperity is best achieved through a strong, collaborative approach. Continued engagement with cities, partner agencies, community organizations, businesses and residents will be essential in developing and implementing this work. Beyond the vision plan, the Community & Economic Development department also expanded its programming in 2019 to include the economic development platform, RamseyCountyMeansBusiness.com, the Corridor Revitalization Program and

Open to Business. These programs are budgeted to continue through 2021 in serving residents countywide.

Ensure racial equity and shared power with community is applied

Significant and persistent racial disparities exist between income levels of Ramsey County residents; residents of color make considerably less than their white neighbors. Because of these disparities, racial equity is at the center of the Economic Competitiveness and Inclusion Plan. The Plan will map the history of redlining in Ramsey County and develop strategies to build wealth in terms of both residential and commercial real estate opportunities. All recommendations coming out of the Plan's Community Investment and Wealth Building workgroup, specifically, will keenly focus on eliminating disparities in employment, educational attainment and income through investment in low-income people and communities of color. Additionally, Workforce Solutions and the Workforce Innovation Board (WIB) are a big partner in developing and brainstorming innovative workforce and career pathways for residents. Internally, Ramsey County will be working to track minority workforce inclusion and support construction pathways for people of color in our community. Lastly, the Plan has a strong emphasis in assessing the role of the county in housing affordability and affordable housing. The goal is intended to strategically align future resources to help alleviate the crisis in accessing affordable housing that disproportionately affects communities of color.

Construction Cost Estimate

ALT 1A - Diamond with 5-leg RAB's

Item Description	Units	Unit Cost	Quantity	Total
PAVING AND GRADING (P & G) COSTS				
Bituminous Pavement (1)	ton	$70.00	4,557	$ 318,985
4" Concrete Walk	sq ft	$6.50	61,370	$ 398,905
8" Concrete pavement	sq yd	$70.00	1,068	$ 74,791
Concrete pavement	sq yd	$70.00	28,766	$ 2,013,628
Class 2 Aggregate Shoulder (1)	cu yd	$45.00	0	$ -
Class 6 Aggregate Base (1)	cu yd	$30.00	5,828	$ 174,842
Subgrade Excavation (1)	cu yd	$10.00	16,487	$ 164,873
Common Excavation	cu yd	$10.00	18,351	$ 183,507
Common Borrow	cu yd	$6.00	27,526	$ 247,734
Select Granular Borrow	cu yd	$20.00	16,487	$ 329,745
Mill Pavement	sq yd		0	$ -
Curb and Gutter Design B624	lin ft	$25.00	16,052	$ 401,300
(a) Subtotal Paving and Grading				**$ 4,308,309**
UTILITIES, REMOVALS, DRAINAGE, ETC.				
Removals/Clear and Grub		5.0%		$ 215,415
Minor City Utilities		5.0%		$ 215,415
Signing, Striping, Traffic Control		5.0%		$ 215,415
Erosion Control and Turf Establishment		5.0%		$ 215,415
(b) Subtotal Utilities, Removals, Drainage, Etc.				**$ 861,662**
DRAINAGE				
Storm Sewer		20.0%		$ 861,662
(c) Subtotal Drainage				**$ 861,662**
STRUCTURES/SIGNALS/MISC. COST				
Bridge removal	sqft	$25	6,621	$ 165,525
Bridge rehab	lump sum	$1,100,000		$ -
Bridge	sqft	$230	13,126	$ 3,018,980
Retaining Wall	sqft	$100	10,000	$ 1,000,000
Retaining Block Wall	sqft	$60	8,000	$ 480,000
Lighting	each	$7,000	20	$ 140,000
Interchange Lighting		$480,000	1.0	$ 480,000
Landscaping		$20,000	3	$ 60,000
Intersection ADA	each	$ 6,000.00	41	$ 246,000
Signal System	each	$ 250,000.00		$ -
				$ -
(d) Subtotal Structural				**$ 5,590,505**
(a+b+c+d) Subtotal Construction				**$ 11,622,138**
Roadway Risk		20.0%		$ 1,206,327
Structure Risk		10.0%		$ 559,051
TMP		5.0%		$ 581,107
Mobilization		5.0%		$ 581,107
(e) Subtotal Miscellaneous				**$ 2,927,591**
(a+b+c+d+e) Total Construction				**$ 14,549,729**
Inflation Adjusted Construction Cost for 2024 (1.19 factor)				**$ 17,314,177**
Design & Construction Engineering		20.0%		$ 2,909,946

Total Estimated Cost	**$ 20,224,123**

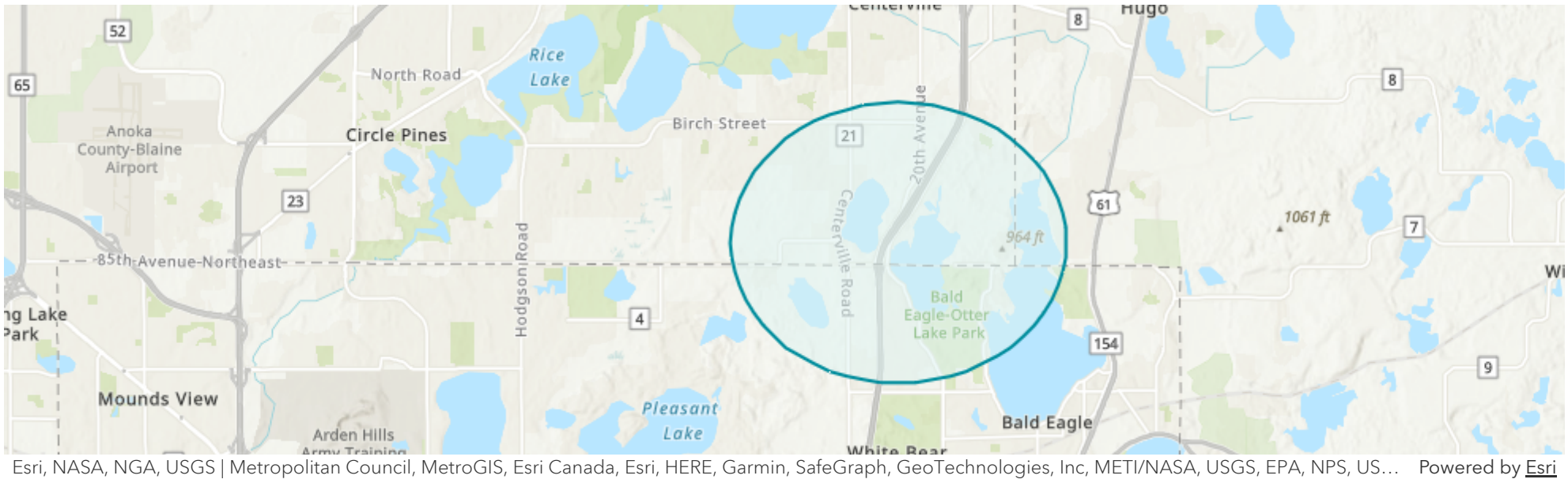
LOCATION PROFILES | BUILD YOUR OWN PROFILE

Saved Profile

Custom Geographic Profile

At-a-glance facts about residents, households, and workforce. Data are largely derived from the U.S. Census Bureau. When a data point is missing or considered unreliable, it will not display or be labeled suppressed. See information about geographic profile sources.

Selected Geography (Custom): Custom area



Collapse sections Show margins

Age

Age (2015-2019)	Custom area	
Total population	5,836	100.0%
Under 5 years	370	6.3%
5-9 years	367	6.3%
10-14 years	422	7.2%
15-17 years	252	4.3%
18-24 years	361	6.2%
25-34 years	592	10.2%
35-44 years	648	11.1%
45-54 years	884	15.1%
55-64 years	1,099	18.8%
65-74 years	542	9.3%
75-84 years	229	3.9%
85 years and older	suppressed	

Sex

Sex (2015-2019)	Custom area	
Male	2,879	49.3%
Female	2,957	50.7%

Race & Ethnicity

Race & Ethnicity (2015-2019)	Custom area	
White	5,322	91.2%
Of Color	suppressed	
Black or African American alone	suppressed	
American Indian and Alaskan Native alone	suppressed	
Asian or Pacific Islander alone	270	4.6%
Other alone	suppressed	
Two or more races alone	suppressed	
Hispanic or Latino (of any race)	suppressed	

Language

Language spoken (2015-2019)	Custom area	
Population (5 years and older)	5,466	100.0%
English only	5,201	95.2%
Language other than English	suppressed	
Speaks English less than "very well"	suppressed	

Disability

Disability status (2015-2019)	Custom area	
Total population for whom disability status is determined	5,823	100.0%
Population with a disability	482	8.3%

Nativity

Nativity (2015-2019)	Custom area	
Foreign-born residents	213	3.7%

Residency

Residence one year ago (2015-2019)	Custom area	
Population (1 year and over in US)	5,777	100.0%
Same residence	5,192	89.9%
Different residence in the U.S.	576	10.0%
Different residence outside the U.S.	suppressed	

Income & Poverty

Household income (2019 dollars) (2015-2019)	Custom area	
Total households	2,072	100.0%
Less than $35,000	168	8.1%
$35,000-$49,999	81	3.9%
$50,000-$74,999	176	8.5%
$75,000-$99,999	326	15.7%
$100,000 or more	1,321	63.8%
Median household income (2019 dollars)	$ 121,062	100.0%

Poverty (2015-2019)	Custom area	
All people for whom poverty status is determined	5,809	100.0%
With income below poverty	suppressed	
With income 100-149 of poverty	suppressed	
With income 150-199 of poverty	suppressed	
With income 200 of poverty or higher	5,368	92.4%
17 years and younger (percent of people under age 18)	suppressed	
18-24 (percent of people age 18-24)	suppressed	
25-34 (percent of people age 25-34)	suppressed	
35-44 (percent of people age 35-44)	suppressed	
45-54 (percent of people age 45-54)	suppressed	
55-64 (percent of people age 55-64)	suppressed	
18-64 (percent of people 18-64)	suppressed	
65 years and older (percent of people age 65+)	suppressed	

Health Coverage

Health coverage (2015-2019)	Custom area	
Total population age 65 and under for whom health insurance coverage status is determined	4,995	85.8%
Population 65 and under without health insurance coverage	suppressed	

Housing

Total housing units (2015-2019)	**Custom area**	
Total housing units	2,116	100.0%

Owned and Rental Housing (2015-2019)	**Custom area**	
Vacant housing units (seasonal units included)	suppressed	
Occupied housing units	2,072	97.9%
Average household size	2.8	100.0%
Owner-occupied	1,882	88.9%
Average household size	2.8	100.0%
Renter-occupied	190	9.0%
Average household size	2.8	100.0%

Year built (2015-2019)	**Custom area**	
2000 or later	517	24.4%
1970-1999	1,175	55.6%
1940-1969	237	11.2%
1939 or earlier	187	8.8%

Households (2015-2019)	**Custom area**	
Total households	2,072	100.0%

Households by type (2015-2019)	**Custom area**	
Family households	1,713	82.7%
With children under 18 years	729	35.2%
Married-couple family households	1,562	75.4%
With children under 18 years	639	30.8%
Single-person family households	151	7.3%
With children under 18 years	suppressed	
Nonfamily households	359	17.3%
Householder living alone	283	13.7%
65 years and over	128	6.2%
Households with one or more children under 18 years	729	35.2%
Households with one or more people 65 years and over	555	26.8%

Year householder moved into unit (2015-2019)	**Custom area**	
Moved in 2010 or later	718	34.7%

Moved in 2000-2009	598	28.9%
Moved in 1990-1999	386	18.7%
Moved in 1989 or earlier	369	17.8%

Cost-burdened households (2015-2019)	**Custom area**	
All households for which cost burden is calculated	2,063	100.0%
Cost-burdened households	337	16.3%
Owner households for which cost burden is calculated	1,882	100.0%
Cost-burdened owner households	260	13.8%
Renter households for which cost burden is calculated	181	100.0%
Cost-burdened renter households	suppressed	

Rent paid (2015-2019)	**Custom area**	
Households paying rent	183	100.0%
Median rent paid (2019 dollars)	$ 1,532	100.0%

Transportation

Vehicles per household (2015-2019)	**Custom area**	
No vehicles	suppressed	
1 vehicle available	254	12.2%
2 vehicles available	1,056	51.0%
3 or more vehicles available	716	34.6%

Transportation to work (2015-2019)	**Custom area**	
Workers (16 years and older)	3,263	100.0%
Car, truck, or van (including passengers)	2,997	91.8%
Public transportation	suppressed	
Walked, biked, worked at home, or other	213	6.5%

Travel time to work (2015-2019)	**Custom area**	
Total workers age 16+ (not home based)	3,066	100.0%
Less than 10 minutes	198	6.5%
10-19 minutes	662	21.6%
20-29 minutes	940	30.7%
30 minutes or longer	1,265	41.3%

Workforce

Educational attainment (2015-2019)	Custom area	
Population (25 years and older)	4,064	100.0%
Less than high school	suppressed	
High school diploma or GED	674	16.6%
Some college or associate's degree	1,172	28.8%
Bachelor's Degree	1,354	33.3%
Graduate or professional degree	785	19.3%
High school graduate or higher	3,986	98.1%
Bachelor's degree or higher	2,140	52.6%

Working Adults (2015-2019)	Custom area	
Total civilian non-institutionalized population, age 18-64	3,584	100.0%
Working age adults who are employed	3,010	84.0%
Civilian labor force	3,054	100.0%
Unemployed	suppressed	

Total employed workers (LEHD) (2018)	Custom area	
Total employed workers	2,445	100.0%

Worker age (2018)	Custom area	
Age 29 or younger	522	21.3%
Age 30 to 54	1,273	52.1%
Age 55 or older	651	26.6%

Workers by earnings (2018)	Custom area	
$15,000 per year or less	398	16.3%
$15,001 to $39,999 per year	507	20.7%
$40,000 or more per year	1,540	63.0%

Workers by industry of employment (2018)	Custom area	
Accommodation and food services	174	7.1%
Administration & support, waste management, and remediation	suppressed	
Agriculture, forestry, fishing and hunting	120	4.9%
Arts, entertainment, and recreation	57	2.3%
Construction	137	5.6%
Educational services	76	3.1%
Finance and insurance	174	7.1%
Health care and social assistance	382	15.6%
Information	50	2.1%

Management of companies and enterprises	170	7.0%
Manufacturing	341	13.9%
Mining, quarrying, and oil and gas extraction	suppressed	
Other services (excluding public administration)	80	3.3%
Professional, scientific, and technical services	199	8.1%
Public administration	suppressed	
Real estate and rental and leasing	29	1.2%
Retail trade	220	9.0%
Transportation and warehousing	68	2.8%
Utilities	suppressed	
Wholesale trade	151	6.2%

Workers by race (2018)	**Custom area**	
White alone	2,250	92.0%
Black or African American alone	43	1.8%
American Indian or Alaska Native alone	suppressed	
Asian alone	120	4.9%
Native Hawaiian or Other Pacific Islander alone	suppressed	
Two or more race groups	25	1.0%
Hispanic or Latino (of any race)	62	2.6%

Workers by educational attainment (2018)	**Custom area**	
Less than high school	128	5.2%
High school or equivalent, no college	456	18.6%
Some college or associate degree	648	26.5%
Bachelor's degree or advanced degree	692	28.3%

RAMSEY COUNTY
Public Works

I-35E/County Road J Interchange Replacement and CR J Improvements - Strategic Capacity (Roadway Expansion)

Applicant:	Ramsey County
Project Location:	I-35E/CR J Interchange & CR J: Centerville Road to Otter Lake Road
Total Project Cost:	$14,549,729
Requested Federal Dollars:	$10,000,000
Local Match Dollars:	$4,549,729

Project Description:
Reconstruction of the existing I-35E and County Road J interchange and County Road J from Centerville Road to Otter Lake Road. Ramsey County is leading the project in cooperation with Anoka County, the City of Lino Lakes, the City of North Oaks, White Bear Township and MnDOT. Preliminary design and preparation of the required federal environmental document are underway with a 2024 construction letting planned.

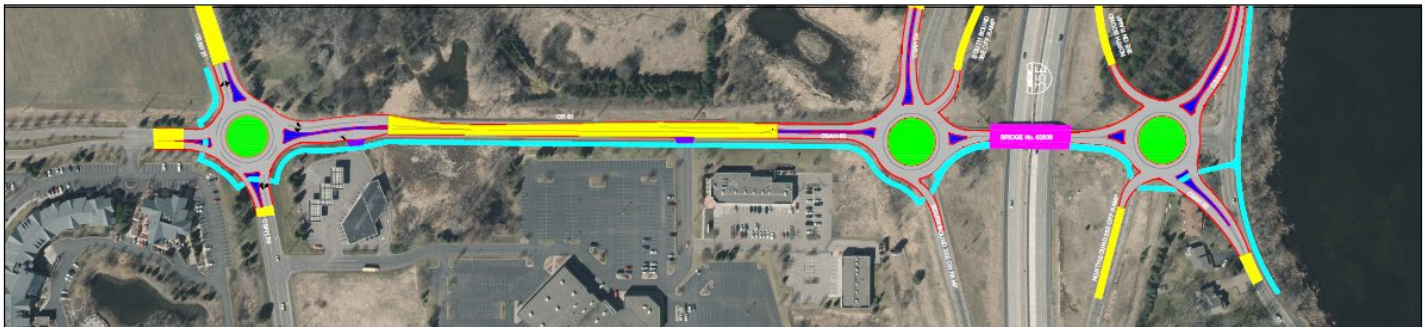
Project Benefits:
Traffic Operations: The project will replace four all-way stop control/signal control intersections with three roundabouts along County Road J at Centerville Road, the 20th Avenue/West Ramps and the Otter Lake Road/East Ramps. This will improve I-35E/County Road J interchange peak hour operations and operations of the I-35E/CSAH 4 interchange three miles to the north.

Access: Addition of I-35E entrance and exit ramps to the north of County Road J will provide improved response times for emergency response vehicles to Waverly Gardens retirement community, reduced travel times for truck freight traffic serving the industrial park located just southwest of the interchange and enhanced economic development opportunities for nearby undeveloped land.

Safety: Construction of roundabouts along with new I-35E exit and entrance ramps north of County Road J will reduce crashes at both the I-35E/County Road J interchange and the I-35E/CSAH 14 interchange. The project will also address a currently unsafe condition of peak hour traffic queues along the northbound I-35E exit ramp to County Road J backing up into the I-35E through lane.

Multimodal: There are no existing bicycle or pedestrian facilities in the project area. Construction of a multiuse trail on the south side of County Road J along with the addition of ADA improvements and center median refuges will negate the need for bikers and walkers to walk along the roadway shoulder, providing a much safer and comfortable multimodal user experience.

Roadway & Bridge: The project will replace a 0.47 mile segment of Country Road J; an aging facility that was constructed in 1935. The project will also correct a vertical curve on the bridge that inhibits sight distance.



I-35E/County Road J Preliminary Conceptual Design Layout

Multimodal Planning
1425 Paul Kirkwold Drive
Arden Hills, MN 55112
651-266-2760
www.ramseycounty.us

Socio-Economic Conditions

Strategic Capacity Project: I-35E/Main Street Interchange | Map ID: 1648143596014

Results

Total of publicly subsidized rental housing units in census tracts within 1/2 mile: 28

Project located in census tracts that are BELOW the regional average for population in poverty or population of color.

Points

Area of Concentrated Poverty

Lines

0 0.075 0.15 0.3 0.45 0.6 Miles

Created: 3/24/2022
LandscapeRSA2

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METROPOLITAN COUNCIL

DEPARTMENT OF TRANSPORTATION

MnDOT Metro District
1500 West County Road B-2
Roseville, MN 55113

April 12, 2022

Scott Mareck, Senior Transportation Planner
Ramsey County

Re: MnDOT Letter for Ramsey County's Metropolitan Council/Transportation Advisory Board 2022 Regional Solicitation Funding Request for the project at County Road J, Ash St and I-35E Interchange

Dear Scott,

This letter documents MnDOT Metro District's recognition for Ramsey County to pursue funding for the Metropolitan Council/Transportation Advisory Board's (TAB) 2022 Regional Solicitation for a project at County Road J, Ash St and I-35E Interchange.

As proposed, this project impacts MnDOT right-of-way on I-35E. As the agency with jurisdiction over I-35E, MnDOT will allow Ramsey County to seek improvements proposed in the application. Details of any future maintenance agreement with the County will need to be determined during the project development to define how the improvements will be maintained for the project's useful life if the project receives funding.

There is no funding from MnDOT currently planned or programmed for this improvement. If your project receives funding, continue to work with MnDOT Area staff to coordinate needs and opportunities for cooperation.

MnDOT Metro District looks forward to continued cooperation with Ramsey County as this project moves forward and as we work together to improve safety and travel options within the Metro Area.

If you have questions or require additional information at this time, please reach out to North Area Manager Melissa Barnes at melissa.barnes@state.mn.us or 651-234-7718.

Sincerely,

Michael Barnes

Digitally signed by Michael Barnes
Date: 2022.04.12 09:53:31 -05'00'

Michael Barnes, PE
Metro District Engineer

CC: Melissa Barnes, Metro District Area Manager; Dan Erickson, Metro State Aid Engineer; Molly McCartney, Metro Program Director

Anoka County
TRANSPORTATION DIVISION
Highway

Joseph J. MacPherson, P.E.
County Engineer

January 28, 2022

Mr. Ted Schoenecker, P.E.
Ramsey County Public Works Director/Engineer
Public Works Facility
1425 Paul Kirkwood Driver
Arden Hills, MN 55112

RE: 2022 Met Council Regional Solicitation Grant Application Letter of Support
I-35E/County Road J Interchange Improvements

Dear Mr. Schoenecker:

Anoka County supports the advancement of the I-35E improvements at the County Road J interchange in the City of Lino Lakes. The County also supports Ramsey County's application for federal funding through the 2022 Met Council Regional Solicitation program to improve safety, mobility, and reduce traffic congestion at this key interchange.

The County recognizes that the impact of these interchange improvements is regionally significant. The I-35E/County Road J interchange is a critical link for commuters, with several county and city roadways converging along a short stretch of roadway to access I-35E. As such, this interchange sees high levels of traffic and frequent delays, including backups during peak PM hours which extend onto the through lanes of northbound I-35E.

Anoka County believes the proposed I-35E/County Road J interchange improvements will reduce traffic congestion at this interchange and greatly improve the safety and reliability of the I-35E corridor for the region. This project will also support the population and traffic growth expected in the region while bolstering economic development.

Sincerely,

Joseph MacPherson

Joe MacPherson, P.E.
Transportation Division Manager / County Engineer

CITY OF LINO LAKES

February 10, 2022

Mr. Ted Schoenecker, P.E.
Ramsey County Public Works Director/Engineer
Public Works Facility
1425 Paul Kirkwood Drive
Arden Hills, MN 55112

RE: 2022 Met Council Regional Solicitation Grant Application Letter of Support
I-35E/County Road J Interchange Improvements

Dear Mr. Schoenecker:

The City of Lino Lakes, Minnesota supports Ramsey County's application for federal funding through the 2022 Metropolitan Council Regional Solicitation program.

The 35E /CR J interchange improvements will reduce traffic congestion at this interchange and greatly improve the safety and reliability of the I-35 corridor. The interchange is a critical link for commuters and businesses with several county and city roadways converging along a short stretch of roadway, to access I-35E.

Sincerely,

Rob Rafferty
Mayor, City of Lino Lakes

600 Town Center Parkway, Lino Lakes, MN 55014
Phone: 651-982-2400 · Fax: 651-982-2499

CITY OF
NorthOaks
Building on a tradition of innovation

March 14, 2022

Ted Schoenecker
Public Works Director/County Engineer
Ramsey County
1425 Paul Kirwood Drive
Arden Hills, MN 55112

Re: **PROPOSED SURFACE TRANSPORTATION PROGRAM FUNDING APPLICATION FOR IMPROVEMENTS TO THE COUNTY ROAD J/I-35E INTERCHANGE**

Dear Mr. Schoenecker:

The City of North Oaks, Minnesota fully supports Ramsey County's efforts to secure federal Surface Transportation Program funding for improvements to the I-35E/County Road J interchange. North Oaks has several new subdivision projects anticipated along Centerville Road within the next 7 years, and the interchange at County Road J / I-35E is going to be an important asset to serving that area of the community.

We appreciate and support efforts to utilize this interchange as efficiently as possible and we look forward to working with you on this project as it moves forward.

Sincerely,

Kevin Kress

Kevin Kress
City Administrator
kkress@northoaksmn.gov

WHITE BEAR TOWNSHIP
1858
RAMSEY COUNTY
MINNESOTA

1281 HAMMOND ROAD
WHITE BEAR TOWNSHIP, MN 55110

651-747-2750
FAX 651-426-2258
Email: wbt@whitebeartownship.org

February 24, 2022

Mr. Ted Schoenecker, P.E.
Ramsey County Public Works Director/Engineer
1425 Paul Kirkwold Drive
Arden Hills, Minnesota 55112

Re: Support of I-35E / County Road J Interchange Improvements

Dear Mr. Schoenecker:

White Bear Township supports Ramsey County's application for Federal funds for the I-35E/County Road J Interchange and Centerville Road and County Road J intersection improvements.

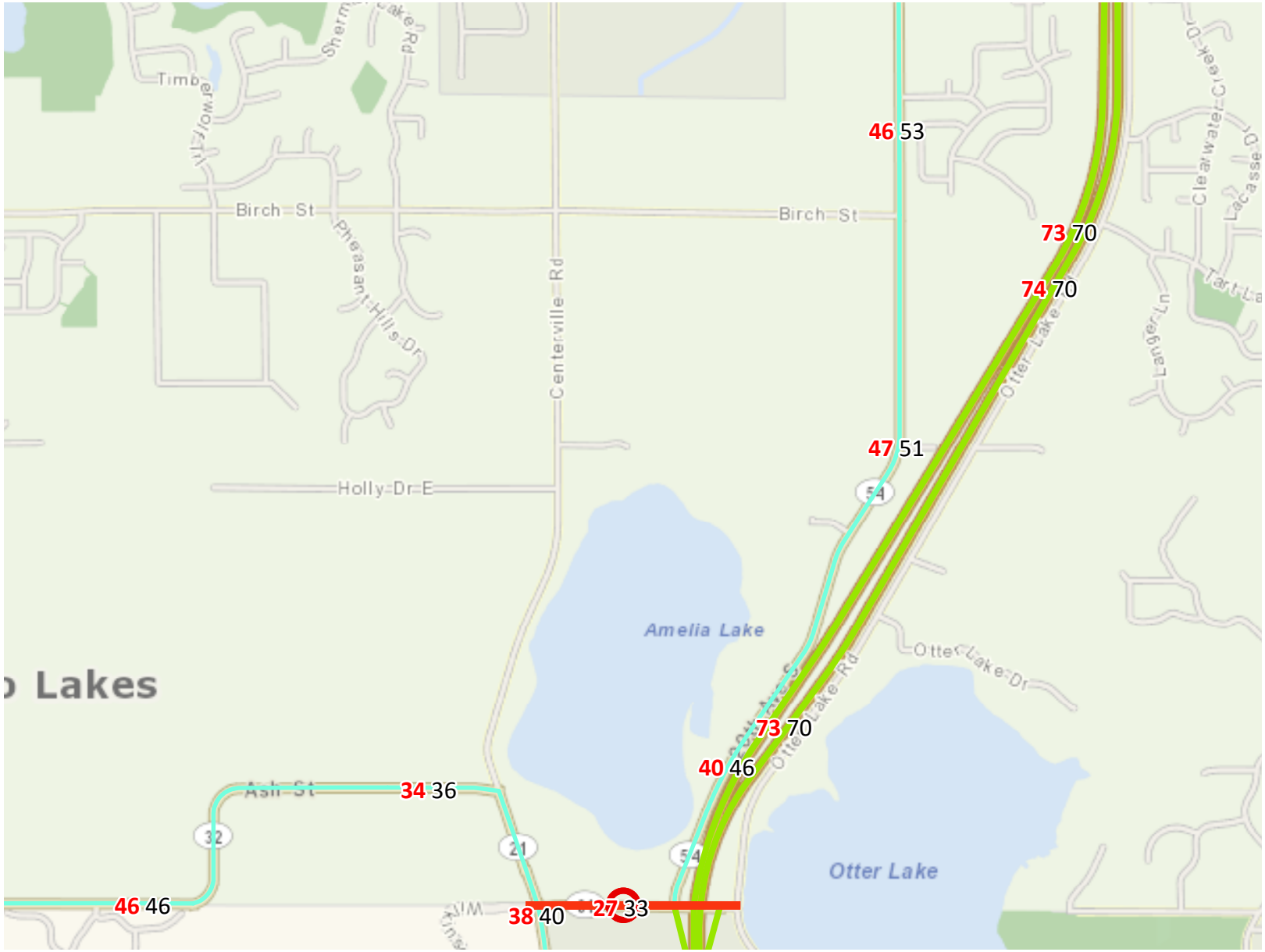
Improvements are needed to address the longstanding and ever increasing safety and access issues related to this important segment of our regional system.

Sincerely,

Patrick Christopherson
Town Clerk

Level of Congestion

Strategic Capacity Project: I-35E/County Road J Interchange | Map ID: 1647002835536



Project Points — Principal Arterials — Principal Arterials Planned

Project — A Minor Arterials — A Minor Arterials Planned

0 0.2 0.4 0.8 1.2 1.6 Miles

Created: 3/11/2022
LandscapeRSA1

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METROPOLITAN COUNCIL

CR J/I-35E Project – Deliverable Development and Review Schedule

2/15/22

1. **Purpose and Need/Evaluation Criteria/Logical Termini**
    a. Metro/CO – OES 15-day Concurrent Review: ends 2/11/22
    b. FHWA 30-day Review: 2/18/22 – 3/21/22
    c. Public Comment - 15 days: 3/28/22 – 4/12/22 (Open House 4/7/22)
    d. FHWA concurrence on Purpose and Need/Evaluation Criteria/Logical Termini: 4/20/22 (PMT Meeting) ★ = FHWA Concurrence Point
2. **Alternatives Analysis**
    a. Develop alternatives that meet Purpose and Need and conduct technical screening: 4/20/22 to 5/17/22
    b. Review results of screening – 15-day concurrent review (FHWA touchpoint): 5/18/22 – 6/2/22
    c. Public Comment Period and Open House Concurrent with IAMR Touchpoint – 30 days: 6/16/22 to 7/15/22
    d. Further analysis of alternatives if required based on feedback received from public: 7/18/22 – 8/1/22
    e. Metro/CO – OES Alternatives Analysis Memo 15-day Concurrent Review: 8/1/22 – 8/16/22
    f. FHWA Alternatives Analysis Memo 30-day Review Concurrent with IAMR Touchpoint: 8/23/22 – 9/21/22
    g. Select Preferred Alternative – FHWA concurrence: 9/21/22 (PMT Meeting) ★ = FHWA Concurrence Point
3. **CATEX/IAMR/Noise Analysis – (assumes mitigation voting process not required)**
    a. Finish CATEX/IAMR/Noise Memo document preparation: 9/23/22 - 10/21/22
    b. Metro/CO - OES 15-day review: 10/21/22 – 11/8/22
    c. FHWA 30-day review: 11/15/22 – 12/14/22
    d. Address any FHWA comments and finalize documents: 12/15/22 – 12/29/22
    e. Obtain signatures 3-weeks (Ramsey Co, OES and FHWA): 12/30/22 - 1/20/23

Notes:

- Time period for 2d – 2f could be compressed depending on level of public comments (item 2c)

★ Denotes a formal FHWA concurrence point.

I-35E/County Road J Interchange Design On-Line Mapping Tool Comments
December 2021 - January 2022

Add an entrance ramp to NB 35E from J.
Add an entrance ramp to NB 35E from J.
Add an entrance ramp to NB 35E from J.

Add an exit ramp from SB 35E to J.

It would be helpful if the project extended from from its current location to going straight east. Currently Co Rd J goes around a farm field adding in a 1/2 mile to every trip that direction. I live on Monarch way. We would also love a bike lane or bike path in order for bikers to be able to access the rice creek trails. I do

It would be helpful if the project extended from from its current location to going straight east. Currently Co Rd J goes around a farm field adding in a 1/2 mile to every trip that direction. I live on Monarch way. We would also love a bike lane or bike path in order for bikers to be able to access the rice creek trails. I do not feel comfortable riding bikes with my young children on co Rd J and it is the main access for us.

This is a dangerous intersection when turning from Ash St. to Centerville Road. Seems like a good spot for a roundabout.

I like how the lights were added over the stop signs. The one thing that is confusing for drivers is getting on to the highway ramp on a red light. Meaning, when you stop for the red light anticipating to turn right onto the highway ramp, you have to pause to see if the car turning left onto the highway ramp is planning to go or not based on if they have the green turn light. So you sit there waiting, wondering if the car will turn left, or if you can go. Maybe add a ramp onto the highway with a Yield Sign, then we can look to see for those turning onto the highway ramp.

Would love to see access to I-35 E north. (and access from the north to Cty Rd J). I lived in this area for over 30 years and found it so annoying that I had to take the frontage road to and from Hugo.
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A series of roundabouts would be nice. They keep traffic moving, similar to 694 and rice street.
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Having traffic lights at both the 35E exit and Otter Lake Road has been problematic. I think the 3way stop at Ash and Otter Lake Roads was better. Coming off the exit I have seen cars driving on Ash St go through a red light there on their way to Otter Lake Road. I understand because when driving east the two lights are so close together that it is confusing.
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I use this route daily, perhaps a round about?
I use this route daily, perhaps a round about?
I use this route daily, perhaps a round about?

I use this route daily, perhaps a round about?

I use this route daily, perhaps a round about?

Temporary traffic signals slow down traffic for 23 out of 24 hours of the day. Take these out and put in roundabouts! 4 compact or single lane roundabouts would fix this corridor.
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Access to 35E N from Cty J, and an exit to Cty J from 35ES

Roundabouts here to ease traffic flow.

Roundabouts here to ease traffic flow.

Roundabouts here to ease traffic flow.
Roundabout to ease traffic flow.
Roundabouts to ease traffic
Please put in a stop light.
Please put in a stop light.
Please give more time for the green arrow, turning left onto 35E.

Please put in a stop light.
Please put in a 3 way stop sign system or a stoplight.
Please put in a sidewalk for walkers/bikers.
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Please put in a sidewalk for walkers/bikers.

Please put in a 3 way stop sign.
Please put in a sidewalk for walkers/bikers.

Please put in a sidewalk for walkers/bikers.
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Please put in a sidewalk for walkers/bikers.
The interchange needs ramps on the north side. The current bridge is too narrow for truck traffic.
Please add sound wall. The noise from 35 is thunderous esp during the summer.
Sound wall badly needed on this stretch. The roar of 35E is constant - even in the back yard. :(Completing a sound wall for that short stretch where houses are close to 35E would make a huge difference.
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Can the power lines be put underground here? They are an eyesore and prevent us from planting trees. Can trees be planted along the East side of Otter Lake Rd?

Sound wall needs to be added along Otter Lake Road.
Sound wall needs to be added along Otter Lake Road.

Sound wall needs to be added along Otter Lake Road.

Bike/walking trail should be added inside sound wall. Biking on Otter Lake Road is so dangerous.

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Bike/walking trail should be added inside sound wall. Biking on Otter Lake Road is so dangerous.
Entrance ramp to go north on 35E would help alleviate traffic on Otter Lake Road. Also speed limit needs to be lowered or enforced on Otter Lake Road going north from Cty J.

sound wall and trail is a GREAT idea from CRJ to Otter Lake Rd

A trail please

A trail please
A trail please
Tie Birch St to Tart Lake Road and but in a north and South bound ramp on 35E to deal with new home population

Most of the traffic exiting East from 35E turns north towards Hugo, by putting in at least an exit at Birch, would remove a lot of traffic on county road J
Make existing ramps longer for saftey

The shoulder is room enough to walk or bike south of Co J, it feels safe.

Take the eyesore of sound wall down. Ask any resident, it does not eliminate any sound, robs the yards of sun light and sunset views not to mention the cost involved. Plant trees!
Roundabouts are very unsafe. The new street lights are short and work well.

Put a north bound 35E lane on H2 or Tart Lake Road to lighten the traffic issues around a Co J/Ash

Put a north bound 35E lane on H2 or Tart Lake Road to lighten the traffic issues around a Co J/Ash
Put a north bound 35E lane on H2 or Tart Lake Road to lighten the traffic issues around a Co J/Ash
I agree a roundabout would be beneficial at this intersection.

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this area is growing and with that I suspect there will be an exit from 35e to Cunty rd J from the north. Turning 20th av to a dead end before reaching Ash (county rd J) would eliminate accidents and congestion. Keep the for crossing bike/ walkers is important. I believe this will also help keep the lake close to this intersection clean. Having everyone go to birch from 20th to Centerville rd will help the freeway intersection but will increase traffic on Centerville rd. so turn lanes and maybe roundabout would need to be put in place. Is this project going to require an EAW thus requiring the developer to discuss ways of mitigating pollution and how it is going to help decrease climate change? I believe this new policy is in place as of 2022 for any large Minnestoa projects that require a EAW.

i agree a roundabout would be beneficial for this intersection at Centerville rd, and County rd. J.

Add southbound exit ramp, and northbound on ramp to help mitigate traffic flowing to Otter and Centerville. Utilize roundabout at Centerville and Ash.

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Add southbound exit ramp, and northbound on ramp to help mitigate traffic flowing to Otter and Centerville. Utilize roundabout at Centerville and Ash.
Widen 20th like it is to the north and make one main arterial from Main St in Centerville to J.
Include mode for pedestrian and bicycle traffic
Please add in a walking trail
Keeping the roundabout conversation going, I think this main entrance to the business should be a roundabout. It would also be nice to see some more business investment in this area on the north side of J. Could become a gem of the area with roundabouts, business development and north side access to on/off 35E. Throw in a bicycle path and the theater and business could be an easy family bike trip activity.
Traffic control at Tart Lake Rd. and Otter Lake Rd. It can be difficult to get out of Tart Lake Rd at times, and when people turn onto Tart Lake from Otter Lake, other drivers pass them in the no-passing zone.
Road noise from 35E is very loud and since they put a noise barrier across the highway, road noise has gotten worse. Is there a way to incorporate a noise barrier along this stretch of 35E on East side of highway
Needs a Turn lane for traffic going to highway
Needs a Turn lane for traffic going to highway
Needs a Turn lane for traffic going to highway
A bridge with no exit to highway would be helpful here to connect the east side of Centennial School district kids with the west side of the district. With all the new houses across the highway the bus route could be shortened too.
Room for a bike/walking path
At high traffic times the exit ramp can be backed up onto highway
Please add a northbound 35E ramp to this interchange. There appears to be adequate space to do so and would save us local drivers several miles of travel to the next-nearest northbound ramps (hiway 96 to the south and Cty 14 to the north.)
Put in a roundabout on each side of 35E including entrance and exit ramps for both north and sound bound 35E
Need to add a multi modal crossing trail over the interchange and along County Road J between Other Lake Road and Shore view.

Could also cut strait through the wetland with a few culverts and a lot of fill.
Have access to both north and south 35E in each direction.

Have access both north and south to 35E from each direction.
Please add biking / walking route along the inside of the new sound wall.
Trail and sound wall definitely needed here. Very noisy and dangerous.
This is the most dangerous spot on Centerville road. Turing left off onto Centerville from Ash is a nightmare all the time - the evening rush hour is especially bad. We would love to see a roundabout here.
Tie Tart Lake Rd to Birch St, with room for Biking and Walking trail/path. Residents of Lino Lakes east of 35E have difficulty accessing the trails around Rice Creek and the schools that their children attend.
Biking and Walking trail across 35E at Tart Lake Rd., tying into trail system on the other side, possibly at Birch St.

NO. There are exit and on ramps already on County 14 for new developments to use going BOTH directions No room on Otter Lake road!
Its too congested NOW. Adding another road of any type would really add congestion! Use County 14. Its already there!
Yes this should be the first thing they do.
You think it is congested NOW. adding another entry onto J would be a BiG mistake!
Yes bike and walkable!
Bike and walkable!
Good spot for a roundabout at Centerville Rd and J. Current left turn is dangerous
Lots going on at county 14 that's new. We don't need a north ramp CRAMMED into the county J area going north or south!!!
I have lived in the area for about the same amount of time and I timed how much time it would save if there was a North bound ramp onto 35 and time between 70mph and 50 mph going the same distance is seconds in time savings and the view is much better. The worst part of taking 35E to 14 is that you cannot take a left turn onto 14, while you can off of Otter lake rd.
And it would cut down a lot of traffic on Otter Lake Rd.
You have got to be kidding. NO room for roundabouts at J and Otter Lake road

I find roundabouts are dangerous, people drive as fast as they can and do not yield. Take that Rice st. mess a few times and you will see what I mean.
Please find room for roundabouts and access from J to North 35E and south from 35E to J
I agree
Keep the stop lights!!!!! Slows people down
More signage or perhaps a flashing warning signal would better alert drivers. Also the corner down to Otter Lake Road can be VERY slippery in winter and thereâ€™s not a lot of stopping room at Otter Lake Road
Widen the bridge for walking and biking. Very scary getting access this bridge.
I think a roundabout here would be ideal. Replace the stopping on otter and the stoplight at the 35n exit ramp with one roundabout. It would increase flow and still keep traffic moving. Thanks for soliciting feedback.
Round abouts preferable to so many stop lights.
NO roundabouts. People don't stop
Semi trucks should NOT be allowed to use County Road J to get on or off. Not enough room
That might make a lot of sense here, with options to go N or S on 35 E or either way on Otter Lake Rd. BTW you're not supposed to stop on a roundabout - that's the point.
If not round about then turn lanes? This is a terrible bottleneck
No roundabout because people don't stop and the corner houses won't be able to get out of their driveways.
Homeowners can't get out of their driveways during peak travel hours. People DO NOT SLOW down getting OFF roundabouts
I agree that the signals stop the traffic. The stop signs worked just fine most people used them just like a roundabout, rolling stops. No cop no stop, all you have to do is pull over and watch. Everybody is in a hurry.
Roundabout would be OK with speed limit at 35 like other side of Ash St.
How do you expect home owners to get out of their driveways with roundabouts??????? LOOK at the area for Pete's sake
How do roundabouts work for pedestrians, bicyclists and snowmobilers?
I think a roundabout would work wonderfully on the west side of the highway, but I don't think there is enough space on the east side for one unless they angle the bridge and start the eastern approach further north on Otter Lake Rd.
Yes stoplights help!
Adding a light to handle traffic for rush hour only is overkill.

need a center turn lane for westbound traffic making left turns into holiday station; the storage should be adequate for a number of vehicles since at pk hrs and shift changes at FCM and Stewing there is considerable delay and safety issues with crossing traffic coming east on J from northbound centerville. Because of truck traffic from old dominion and additional land use development this is not a good roundabout solution.
NO room on the bridge with all the traffic!
Yes a trail needs to be part of the plan
Yes PLEEEEAAASE

The traffic on Otter lake rd has increased over the years, people are going way over the speed limit, rolling through the stop signs and large trucks that can't make the turns in there own lanes. It's time to get rid of the truck traffic and slow the speed down and make it safer for the people who live in the area.

Leave alone. There is no room to widen road because of the lake and too much traffic and BIG TRUCKS that should not be allowed on this county road
There isn't very many walkers and most of the bikers are bikers that use the roadway. They move in a pack and are not the kind of bikers that use paths. Lets face we can't put in a path to everywhere. $$$$$?
Keep big trucks off of County Road J
In the community meeting several years ago the consensus was it is not feasible to add bike/walking paths on Otter Lake Rd from CR J to H2. The road is too curvy and narrow and high banks leave many blind driveways. Better to run bike or walking path down Centerville Rd to H2
Exit ramp from 35e south

Ask home owner with sound wall, they are a joke, they do not make a difference.

Plant trees instead and you will get the same benefits

Yes this is an important addition. We can feel the rumble. I like vibrating furniture but not all the time.

That's a good idea. That would allow for trees on the inside and combined with sound wall on the outside that should make it bearable.

Sound walls don't work. All my sound wall neighbors agree.

No sound walls, but more evergreen trees

Need sound wall. It's proven to make a positive difference. Why deny for others if you don't live in that stretch?

there is no sound wall on the north side of otter lake road .. not necessary in my opinion but otter lake road is too narrow and very dangerous with all the semi traffic if people are walking or riding a bike . a wider road with paved shoulders would be ideal .

There should be a sound wall - that's the point. I lived in an area that had sound wall built and it helped a lot.

Anoka County and/or Lino Lakes need to piggyback on this and widen Otter Lake Rd from County J to Cedar St, installing a big enough shoulder that doesn't force traffic into opposite lanes when mail truck is at mailboxes or people are biking or jogging etc. Otter Lake Rd from Cedar St to County 14 is constructed appropriately and no reason the other half should not be the same.

Yes to all this. It feels like an intense video game trying to exit driveway.

Need a sound wall from J up to either 64th or Main St. Over the years the noise from the freeway has become unbearable. We can't even hear ourselves talk in our front yards any more. We can no longer open windows on the front of our house. It didn't used to be this bad. I'm guessing it is mostly from the change in freeway surface construction, but the traffic is also much heavier than it used to be. Also when the county came through a few years ago and removed everyone's trees that also not only contributed to the noise, but also the eyesore of the freeway.

Adding an on ramp to north 35 and off ramp from south 35 to J.

A sidewalk or trail would be great for bikers/pedestrians from otter lake rd to centerville rd!!!

Yes a trail is badly needed

No it doesn't. You have obviously not walked or biked it on any regular basis. It's more scary than any other part of my bike ride.

I agree with this comment, walls are a waste when beautiful trees could be used to accomplish the same thing.

terrible intersection for semis to turn either from otter lake road onto J or off of 35e onto county road j .

Please keep semis off CR J.

Yes this is needed badly.

Roundabout would be great here.

This is the most dangerous spot on Centerville road. Turing left off onto Centerville from Ash is a nightmare all the time - the evening rush hour is especially bad. We would love to see a roundabout here.

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Round a bout!

Agree with the above. Relieving speeding traffic on Otter Lake Rd is needed.

Yep - this would work if designed well. It would have to be built up.

Please keep in mind that unlike other interchanges you are diverting traffic directly into residential neighborhoods

Please don't expand to the north. The natural, undeveloped land is the best part of this area. Biking and hiking trails would be nice, but keep business consolidated in downtown areas.

Yes!!

Yes!!

Yes!!

Roundabout here please!!!

J should be re-rerouted here. This would eliminate 4 turns and a roundabout, with no impact to a single residence and no need to steal any property owner's land.

Exit ramp from southbound and entrance ramp to northbound need to be added.

I-35E/CR J Interchange Improvement & County Road J Improvements

Project Location Map

Legend

- Proposed Alignment
- Industrial Park
- Restaurants / Entertainment
- Waverly Gardens Retirement Community
- Wetlands
- Parks

Current Stop Control

- Stop Light
- Stop Sign

N

Amelia Lake

Otter Lake

Anoka County

Ramsey County

LINO LAKES

NORTH OAKS

WHITE BEAR TOWNSHIP

21 COUNTY

Ash St

20th Ave S

35E

54 COUNTY

Otter Lake Road

COUNTY 84 ROAD

COUNTY 81 ROAD

County Road J East

STOP ALL WAY

60 COUNTY

Otter View Circle

Otter View Trail

Centerville Road

59 COUNTY

Wilkinson Lake Boulevard

Otter Ridge Road

Halper Way

Location within Ramsey County

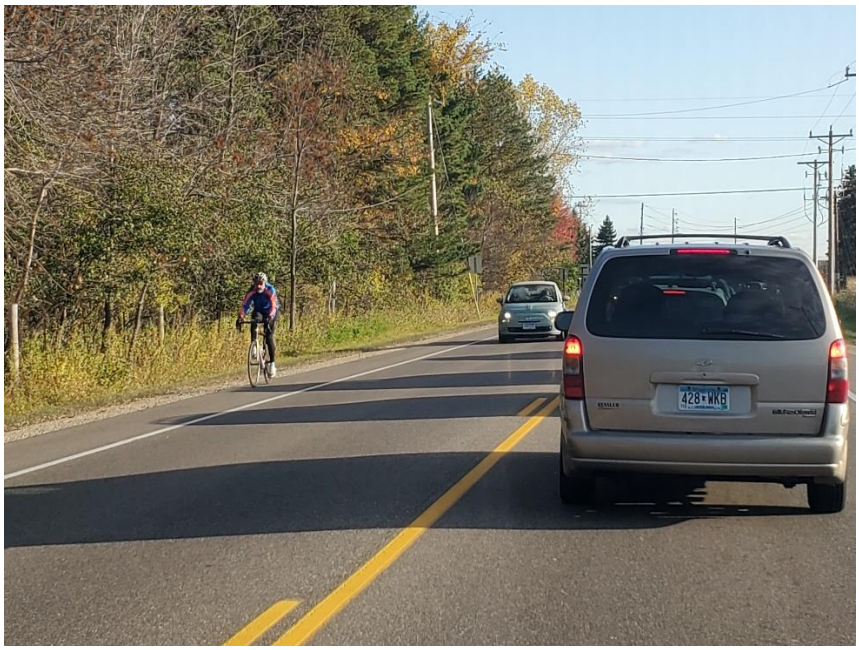
RAMSEY COUNTY

0 250 500 Feet

Westbound County Road J east of I-35E West Ramp

Looking east from southbound Centerville Road

Bicyclists using shoulder on County Road J



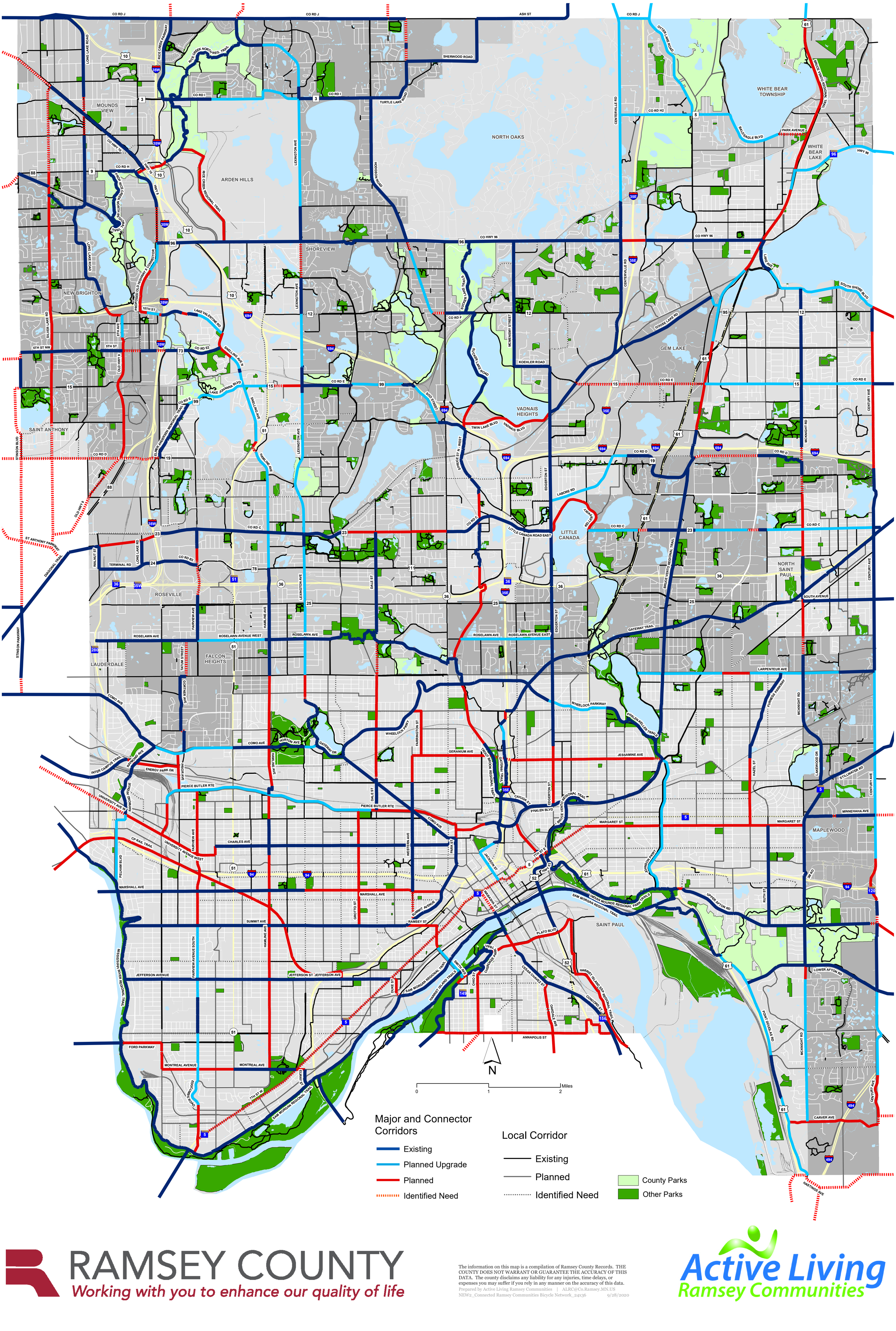
Northbound I-35E queuing south of County Road J exit

RAMSEY COUNTY

Northbound I-35E Queuing south of County Road J exit

RAMSEY COUNTY

Connected Ramsey Communities Bicycle Network



Major and Connector Corridors

- Existing
- Planned Upgrade
- Planned
- Identified Need

Local Corridor

- Existing
- Planned
- Identified Need

- County Parks
- Other Parks

RAMSEY COUNTY

Working with you to enhance our quality of life

Prepared by Active Living Ramsey Communities | ALRC@Co.Ramsey.MN.US
NEW2_Connected Ramsey Communities Bicycle Network_24x36 9/28/2020

Active Living Ramsey Communities

RAMSEY COUNTY
Public Works

2022-2026
TRANSPORTATION IMPROVEMENT PROGRAM

Dale Street bridge reconstruction over I-94 in Saint Paul's Rondo neighborhood.

2024 Projects

Roadway Construction Improvements													
Road Name	Road No.	Termini	Lead Agency	City	Work Type	CSAH	County	County Turnback	Local	State	Federal	Other	Total
County Road C	23	Lexington Ave. to Little Canada Rd.	RC	LC/RV	Planning/Design	$500			$300				$800
County Road D	19	Greenbrier St. to CR D Cir.	RC	LC/MW/VH	Right of way	$350			$350				$700
County Road J	81	Centerville Rd. to Otter Lake Rd.	RC	NO/WBT	Construction	$5,000			$1,900	$15,000	$7,000	$500	$29,400
Eustis Street	127	St Paul Border to Larpenteur Ave.	RC	LD	Right of way		$305		$305				$610
Jackson Street	55	Pennsylvania Ave. to Acker St.	RC	SP	Right of way	$300			$300				$600
Jackson Street	55	Rose Ave. to Arlington Ave.	RC	SP	Right of way	$300			$300				$600
Maryland Avenue	31	Clark St. to Edgerton St.	RC	SP	Planning/Design	$200			$75				$275
Otter Lake Road	60	CSAH 96 to 4th St.	RC	WB	Construction	$4,055			$230				$4,285
Rice Street	49	Maryland Ave. to Wheelock Pkwy	RC	SP	Construction			$5,000	$1,300		$2,000		$8,300
Total						**$10,705**	**$305**	**$5,000**	**$5,060**	**$15,000**	**$9,000**	**$500**	**$45,570**

Roadway Pavement Preservation Improvements													
Road Name	Road No.	Termini	Lead Agency	City	Work Type	CSAH	County	County Turnback	Local	State	Federal	Other	Total
County Road C	23	Hazelwood St. to White Bear Ave.	RC	MW	Preservation		$470						$470
County Road D	19	Silver Lake Rd. to US88	RC	SA/NB/RV	Preservation		$1,170						$1,170
County Road E	99	Victoria St. to 555' East	RC	SV	Preservation		$70						$70
County Road J	81	Everton Ave. to Hugo Rd.	RC	WBT	Preservation		$150						$150
Dale Street	53	Como Ave. to TH36	RC	RV/SP	Preservation/Signals	$650			$650		$2,000		$3,300
Division Street	151	Stillwater Rd. to Park Ave.	RC	WBT	Preservation		$150						$150
Hamline Avenue	50	CR C to Snelling Ave.	RC	RV/AH	Preservation		$717						$717
Long Avenue	152	8th St. to 12th St.	RC	WBL	Preservation		$200						$200
Lower Afton Road	39	McKnight Rd. to Century Ave.	RC	MW	Preservation		$535						$535
Maryland Avenue	31	Lakewood Dr. to TH120	RC	MW	Preservation		$405						$405
McKnight Road	68	Carver Ave. to Londin ln.	RC	MW/SP	Preservation		$770						$770
Northwest Avenue	89	CSAH 96 to Buffalo St.	RC	WBL/WBT	Preservation		$300						$300
Portland Avenue	71	CSAH 96 to Buffalo St.	RC	WBT	Preservation		$300						$300
Silver Lake Road	44	Mississippi Street to Mounds View Blvd	RC	NB/MV	Preservation		$1,130						$1,130
Total						**$650**	**$6,367**	**$0**	**$650**	**$0**	**$2,000**	**$0**	**$9,667**

Regional Economy

Strategic Capacity Project: I-35E/County Road J Interchange | Map ID: 1647002835536

Results

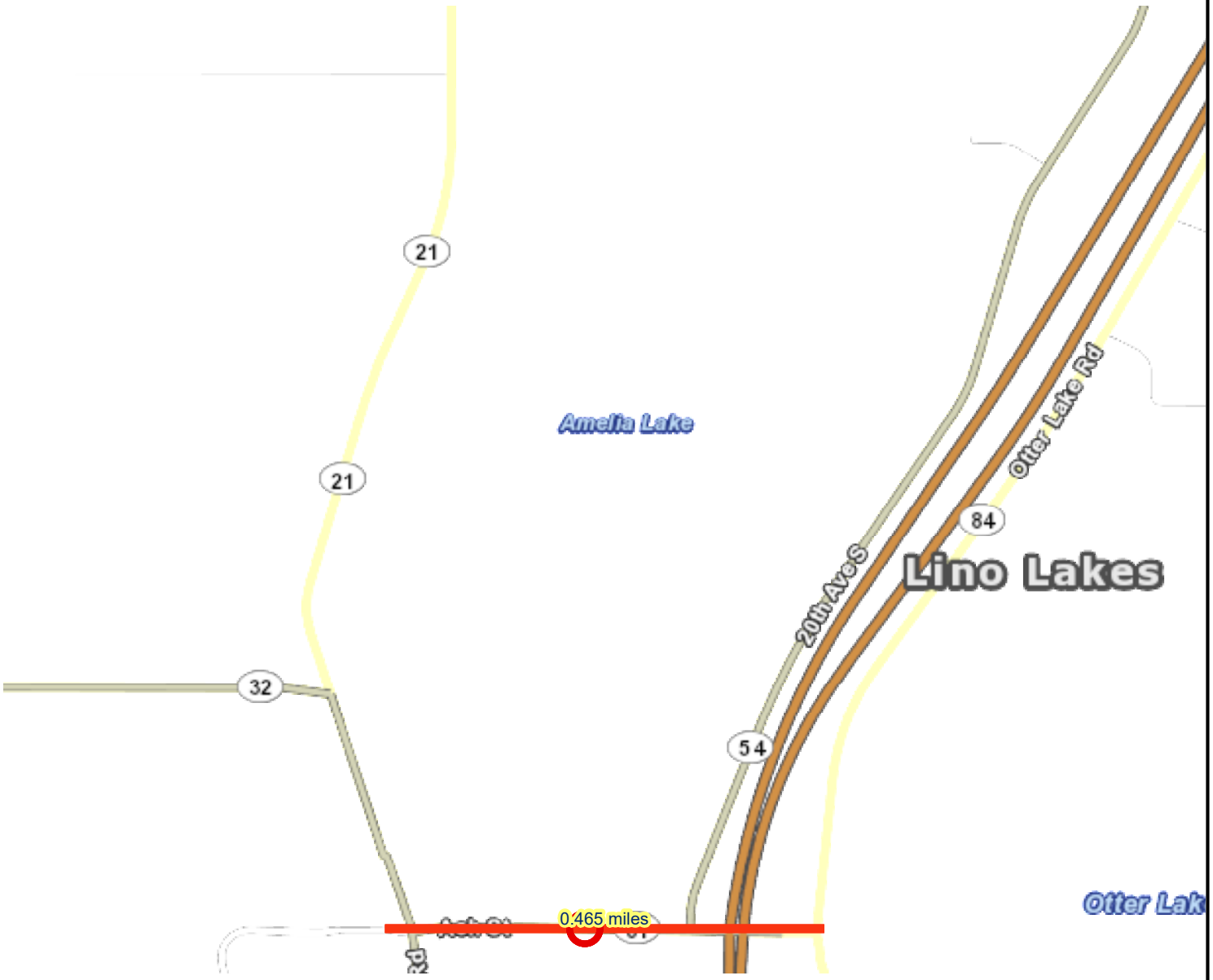
WITHIN ONE MI of project:
Postsecondary Students: 0

Totals by City:

Lino Lakes
Population: 4662
Employment: 959
Mfg and Dist Employment: 494

North Oaks
Population: 1824
Employment: 399
Mfg and Dist Employment: 6

White Bear Twp.
Population: 2218
Employment: 506
Mfg and Dist Employment: 350



Project Points
Project
Manfacturing/Distribution Centers
Job Concentration Centers

0 0.1 0.2 0.4 0.6 0.8 Miles

Created: 3/11/2022
LandscapeRSA5

METROPOLITAN COUNCIL

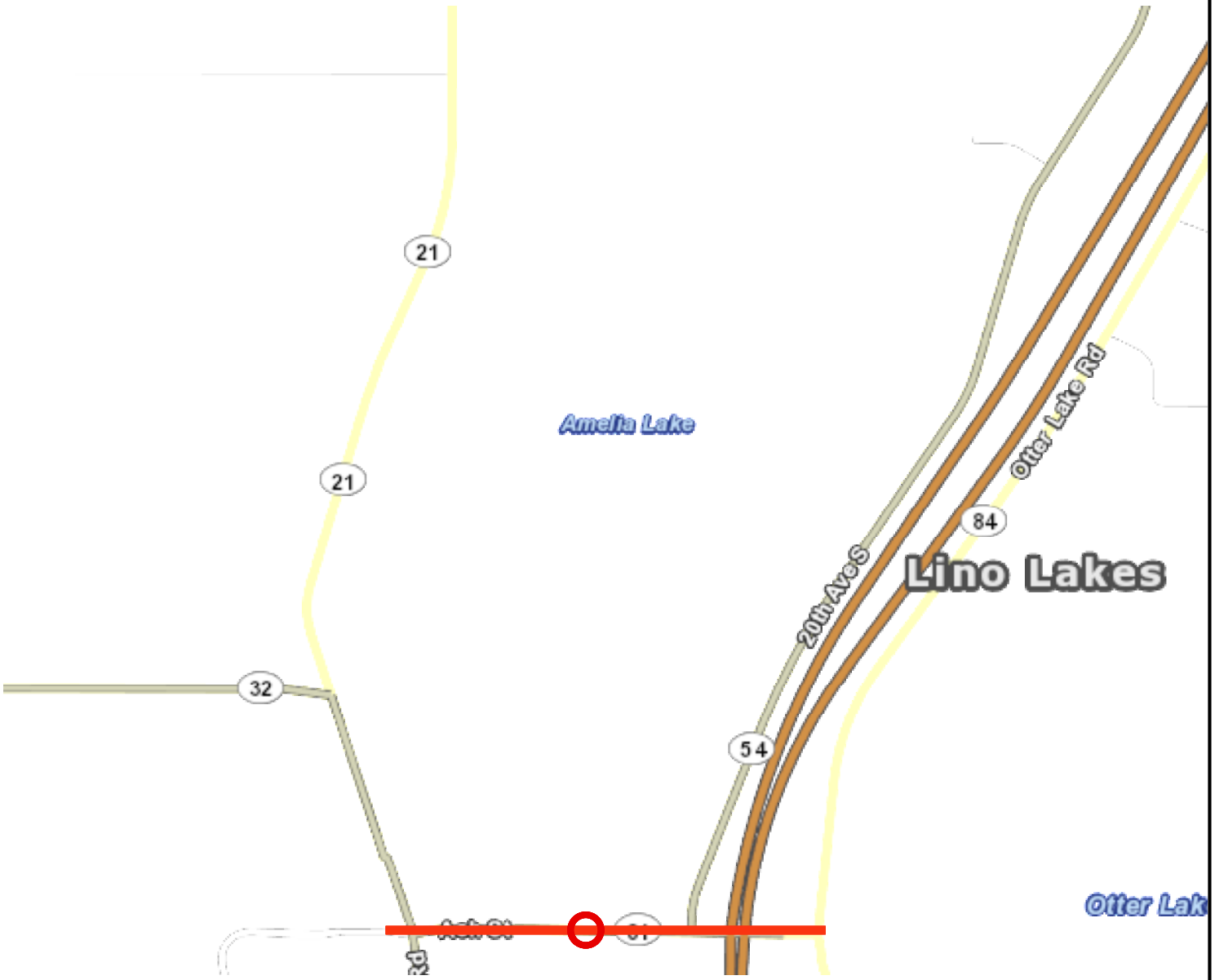
Socio-Economic Conditions

Strategic Capacity Project: I-35E/County Road J Interchange | Map ID: 1647002835536

Results

Total of publicly subsidized rental housing units in census tracts within 1/2 mile: 0

Project located in census tracts that are BELOW the regional average for population in poverty or population of color.



Points
Area of Concentrated Poverty
Lines

0 0.1 0.2 0.4 0.6 0.8 Miles

Created: 3/11/2022
LandscapeRSA2

For complete disclaimer of accuracy, please visit http://giswebsite.metc.state.mn.us/gissite/notice.aspx

METROPOLITAN COUNCIL

Par Aide Products 12/13/2021

Mike Hilliard

Kristin Petersen and Chris Hiniker (S.E.H.)

37 employees

20 are coming from N or NW

Full sized semi trailer trucks (WB-62)

One shift – 6:30-4:00 most business

Maybe a couple people struggle with transportation, or English is second language

Business name

Schwing America, Inc.

Business address

5900 Centerville Road
St. Paul, MN 55127

Point of contact

Bill Murray, CEO

Kristine Zehren,

Rhonda Cuchetto

Name and title

Phone 888-724-9464

Email

Business and employment information

Shift closes at 2:30 pm, business closes at 6 pm.

3 shifts – normal 6-2:30 (125 people), 25 other production people on 2nd (2:30-9)-15 people and 3rd shift (9-6)-10 people

About 200-250 employees

Salaried people work mostly 8-6

Require employees to drive themselves – some come from up north (some carpools, most individually)

What goods or service does your business provide?

How many Full Time Equivalents (FTEs) do you currently employ?

What is the average hourly rate of the FTEs you currently employ?

Wages - $18/hr to $32/hr in shop (average $26/hr)

Is your business BIPOC-owned? Yes No

How many people who identify as Black, Indigenous or a person of color do you employ?

Some employees are less fluent in English – Mexican and Hmong (maybe more than 25)

No parties during COVID

What modes of transportation do your staff use to get to and from work?

- Biking

- Walking
- Transit
- Driving
- Other

Does your business have plans to expand due to the planned CR J/I-35E interchange improvements? Yes No

Does your business have plans to expand for reasons other than the planned CR J/I-35E interchange improvements? Yes No

Are you planning any building expansion and/or new equipment purchases to support these new jobs? Yes No

Do you have any comments or suggestions about the proposed CR J/I-35E interchange improvements?

Would you be willing to write a letter of support for the Ramsey County federal grant submittal to Metropolitan Council outlining the importance of CR J/I-35E interchange improvements to your business? Yes No

NOTES: **many ambulances going to Waverly Gardens, soccer traffic in summer**

Hours – close at 6 – trucks sometimes come after closing and park at the theater.

Have very large seven axle vehicles – but meet state road laws (only need to permit special loads) – 57'1" long longest truck, 8'6" wide - doesn't articulate (last 5'1" is a hang-over part)

Products arriving from Germany – truck mounted boom trucks (20 in/out

Also rehab used vehicles

https://schwing.com/products/truck-mounted-conveyors.html?tx_productfilter_products%5Baction%5D=show&tx_productfilter_products%5Bcategory%5D=2&tx_productfilter_products%5Bcontroller%5D=Product&tx_productfilter_products%5Bproduct%5D=4&cHash=221b90557c968afed93a45025ffb1314

parcel shipments daily (UPS and FEDEX)

10 48' vans that come in every day

Close topped containers from Germany 1-2 containers a week.

Specialty Manufacturing 12-7-21

Jim Hall, Chris Hiniker, Kristin Petersen (S.E.H.)

Kevin Frane, Kent Brunner, Daniel McKeown (Specialty Mftng)

Specialty Manufacturing generally closes at 3 pm (Mike Hiliard) – they occupy 55000 sq ft – warehouse mostly, some manufacturing – seasonal business (lull period is August-October).

Operations – growing – sales plan growing 10-20%/year – additional deliveries every day as grow.

Most deliveries from south

Ramps to north will be more beneficial to employees

Assembly group $15-18/hour 70-75 employees (approximately 45 Hmong – 15 Hispanic)

Most people drive or carpool (<10% carpool)

90% use ramps at 35E

Newsletter goes out next week. Or we can leave flyers for lunchroom.

They do have a simple translater – if not too detailed (Hmong side).

Shift schedules:

Run 2-1/2 shift 1st shift starts 6-7 shop

2nd shift goes to about 1 am

Office – starts about 8 am

Trying to start a 3rd shift

Waverly Gardens Retirement Community Interview

03/28/22

- Anna Degonda from Waverly Gardens (housing director).
    - Phone – 651-765-4000
    - Email - adegonda@preshomes.org

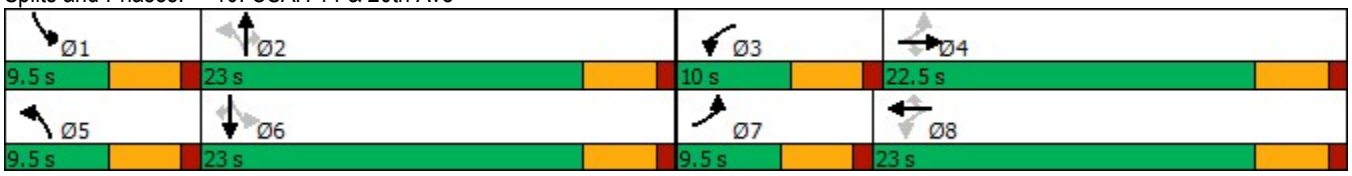
- 400 residents there (senior housing to assisted living to a nursing home). 80% white and 20% BIPOC

- 300 employees and 4 private caregiver companies. 60% white and 40% BIPOC.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	35	370	20	140	460	90	55	110	200	60	30	15
Future Volume (vph)	35	370	20	140	460	90	55	110	200	60	30	15
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8		8	2		2	6		6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	22.5	22.5	9.5	22.5	22.5	9.5	22.5	22.5	9.5	22.5	22.5
Total Split (s)	9.5	22.5	22.5	10.0	23.0	23.0	9.5	23.0	23.0	9.5	23.0	23.0
Total Split (%)	14.6%	34.6%	34.6%	15.4%	35.4%	35.4%	14.6%	35.4%	35.4%	14.6%	35.4%	35.4%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	None	None	None	Max	Max
Act Effct Green (s)	16.4	12.6	12.6	18.8	16.9	16.9	22.1	19.5	19.5	22.1	19.5	19.5
Actuated g/C Ratio	0.30	0.23	0.23	0.35	0.31	0.31	0.41	0.36	0.36	0.41	0.36	0.36
v/c Ratio	0.11	0.49	0.04	0.41	0.45	0.16	0.10	0.09	0.31	0.06	0.05	0.02
Control Delay	12.0	21.1	0.1	15.7	17.7	1.1	10.8	15.8	4.6	10.3	16.4	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	12.0	21.1	0.1	15.7	17.7	1.1	10.8	15.8	4.6	10.3	16.4	0.1
LOS	B	C	A	B	B	A	B	B	A	B	B	A
Approach Delay		19.4			15.1			8.9			10.6	
Approach LOS		B			B			A			B	

Intersection Summary	
Cycle Length: 65	
Actuated Cycle Length: 54	
Natural Cycle: 65	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.49	
Intersection Signal Delay: 14.5	Intersection LOS: B
Intersection Capacity Utilization 38.9%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 10: CSAH 14 & 20th Ave



Lane Group	EBT	WBL	WBT	NBL	NBR	SBL	SBT	SBR
Lane Configurations								
Traffic Volume (vph)	555	20	605	20	50	145	5	80
Future Volume (vph)	555	20	605	20	50	145	5	80
Turn Type	NA	Perm	NA	Prot	Perm	pm+pt	NA	Perm
Protected Phases	4		8	5		1	6	
Permitted Phases		8			2	6		6
Detector Phase	4	8	8	5	2	1	6	6
Switch Phase								
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5	22.5	22.5	9.5	22.5	9.5	22.5	22.5
Total Split (s)	22.5	22.5	22.5	9.5	22.5	10.0	23.0	23.0
Total Split (%)	40.9%	40.9%	40.9%	17.3%	40.9%	18.2%	41.8%	41.8%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag				Lead	Lag	Lead	Lag	Lag
Lead-Lag Optimize?				Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	Max	None	Max	Max
Act Effct Green (s)	14.7	14.7	14.7	5.1	18.6	25.4	24.4	24.4
Actuated g/C Ratio	0.29	0.29	0.29	0.10	0.37	0.51	0.49	0.49
v/c Ratio	0.32	0.10	0.63	0.12	0.08	0.18	0.01	0.10
Control Delay	14.4	14.4	18.6	24.6	0.7	7.6	10.0	2.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	14.4	14.4	18.6	24.6	0.7	7.6	10.0	2.2
LOS	B	B	B	C	A	A	A	A
Approach Delay	14.4		18.5				5.8	
Approach LOS	B		B				A	

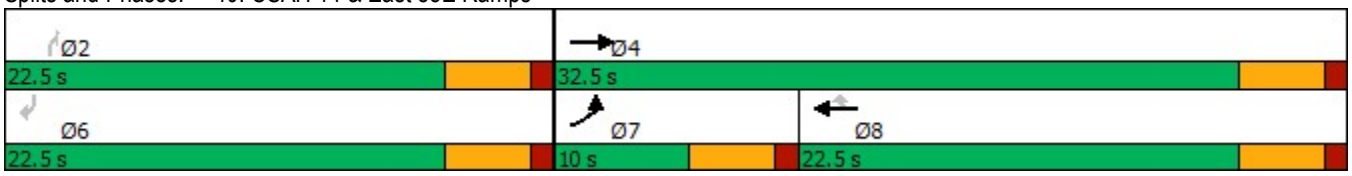
Intersection Summary	
Cycle Length: 55	
Actuated Cycle Length: 50	
Natural Cycle: 55	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.63	
Intersection Signal Delay: 14.5	Intersection LOS: B
Intersection Capacity Utilization 36.3%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 20: CSAH 14 & West 35E Ramps

Lane Group	EBL	EBT	WBT	WBR	NBR	SBR
Lane Configurations						
Traffic Volume (vph)	115	565	565	250	685	290
Future Volume (vph)	115	565	565	250	685	290
Turn Type	Prot	NA	NA	Perm	Perm	Perm
Protected Phases	7	4	8			
Permitted Phases				8	2	6
Detector Phase	7	4	8	8	2	6
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	22.5	22.5	22.5	22.5	22.5
Total Split (s)	10.0	32.5	22.5	22.5	22.5	22.5
Total Split (%)	18.2%	59.1%	40.9%	40.9%	40.9%	40.9%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag	Lead		Lag	Lag		
Lead-Lag Optimize?	Yes		Yes	Yes		
Recall Mode	None	None	None	None	Max	Max
Act Effct Green (s)	5.6	20.9	13.3	13.3	18.4	18.4
Actuated g/C Ratio	0.12	0.43	0.27	0.27	0.38	0.38
v/c Ratio	0.61	0.40	0.44	0.43	0.57	0.22
Control Delay	39.6	9.8	15.8	4.7	8.4	0.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	39.6	9.8	15.8	4.7	8.4	0.4
LOS	D	A	B	A	A	A
Approach Delay		14.8	12.4			
Approach LOS		B	B			

Intersection Summary	
Cycle Length: 55	
Actuated Cycle Length: 48.5	
Natural Cycle: 55	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.61	
Intersection Signal Delay: 10.5	Intersection LOS: B
Intersection Capacity Utilization 47.1%	ICU Level of Service A
Analysis Period (min) 15	

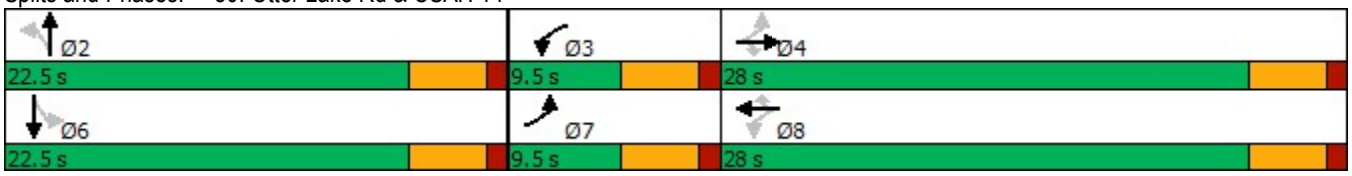
Splits and Phases: 40: CSAH 14 & East 35E Ramps



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	30	1245	70	55	765	20	95	10	20	10
Future Volume (vph)	30	1245	70	55	765	20	95	10	20	10
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	Perm	NA	Perm	NA
Protected Phases	7	4		3	8			2		6
Permitted Phases	4		4	8		8	2		6	
Detector Phase	7	4	4	3	8	8	2	2	6	6
Switch Phase										
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	22.5	22.5	9.5	22.5	22.5	22.5	22.5	22.5	22.5
Total Split (s)	9.5	28.0	28.0	9.5	28.0	28.0	22.5	22.5	22.5	22.5
Total Split (%)	15.8%	46.7%	46.7%	15.8%	46.7%	46.7%	37.5%	37.5%	37.5%	37.5%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag				
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes				
Recall Mode	None	None	None	None	None	None	Max	Max	Max	Max
Act Effct Green (s)	26.5	23.7	23.7	27.3	25.4	25.4	18.1	18.1	18.1	18.1
Actuated g/C Ratio	0.47	0.42	0.42	0.49	0.45	0.45	0.32	0.32	0.32	0.32
v/c Ratio	0.10	0.91	0.10	0.22	0.52	0.03	0.24	0.31	0.06	0.08
Control Delay	7.1	28.1	1.9	8.6	13.3	0.1	17.3	5.1	15.7	8.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	7.1	28.1	1.9	8.6	13.3	0.1	17.3	5.1	15.7	8.3
LOS	A	C	A	A	B	A	B	A	B	A
Approach Delay		26.3			12.7			9.3		10.7
Approach LOS		C			B			A		B

Intersection Summary	
Cycle Length: 60	
Actuated Cycle Length: 56.2	
Natural Cycle: 65	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.91	
Intersection Signal Delay: 19.5	Intersection LOS: B
Intersection Capacity Utilization 66.5%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 50: Otter Lake Rd & CSAH 14



10: CSAH 14 & 20th Ave

Direction	All
Future Volume (vph)	1585
Total Delay / Veh (s/v)	15
CO Emissions (kg)	1.85
NOx Emissions (kg)	0.36
VOC Emissions (kg)	0.43

20: CSAH 14 & West 35E Ramps

Direction	All
Future Volume (vph)	1480
Total Delay / Veh (s/v)	14
CO Emissions (kg)	1.65
NOx Emissions (kg)	0.32
VOC Emissions (kg)	0.38

30: SB On Ramp & CSAH 14

Direction	All
Future Volume (vph)	1655
Total Delay / Veh (s/v)	0
CO Emissions (kg)	0.40
NOx Emissions (kg)	0.08
VOC Emissions (kg)	0.09

40: CSAH 14 & East 35E Ramps

Direction	All
Future Volume (vph)	2470
Total Delay / Veh (s/v)	11
CO Emissions (kg)	2.17
NOx Emissions (kg)	0.42
VOC Emissions (kg)	0.50

50: Otter Lake Rd & CSAH 14

Direction	All
Future Volume (vph)	2520
Total Delay / Veh (s/v)	20
CO Emissions (kg)	2.85
NOx Emissions (kg)	0.55
VOC Emissions (kg)	0.66

100: Centerville Rd & Wilkinson Lake Blvd/CR J

Direction	All
Future Volume (vph)	1703
Total Delay / Veh (s/v)	85
CO Emissions (kg)	4.56
NOx Emissions (kg)	0.89
VOC Emissions (kg)	1.06

200: SB I-35E/CSAH 54 & CR J

Direction	All
Future Volume (vph)	1410
Total Delay / Veh (s/v)	3
CO Emissions (kg)	1.14
NOx Emissions (kg)	0.22
VOC Emissions (kg)	0.26

300: NB I-35E & CR J

Direction	All
Future Volume (vph)	1215
Total Delay / Veh (s/v)	36
CO Emissions (kg)	2.05
NOx Emissions (kg)	0.40
VOC Emissions (kg)	0.47

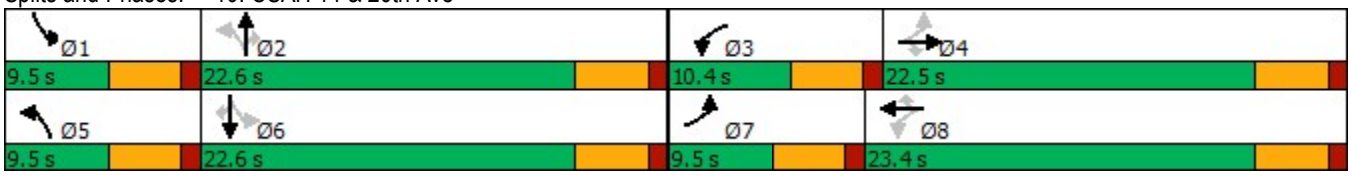
400: Otter Lake Rd & CR J

Direction	All
Future Volume (vph)	957
Total Delay / Veh (s/v)	13
CO Emissions (kg)	1.28
NOx Emissions (kg)	0.25
VOC Emissions (kg)	0.30

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	35	370	15	110	455	80	55	110	170	60	20	15
Future Volume (vph)	35	370	15	110	455	80	55	110	170	60	20	15
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8		8	2		2	6		6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	22.5	22.5	9.5	22.5	22.5	9.5	22.5	22.5	9.5	22.5	22.5
Total Split (s)	9.5	22.5	22.5	10.4	23.4	23.4	9.5	22.6	22.6	9.5	22.6	22.6
Total Split (%)	14.6%	34.6%	34.6%	16.0%	36.0%	36.0%	14.6%	34.8%	34.8%	14.6%	34.8%	34.8%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	None	None	None	Max	Max
Act Effct Green (s)	16.1	12.3	12.3	18.9	16.9	16.9	21.7	19.1	19.1	21.7	19.1	19.1
Actuated g/C Ratio	0.30	0.23	0.23	0.35	0.32	0.32	0.40	0.36	0.36	0.40	0.36	0.36
v/c Ratio	0.11	0.49	0.03	0.32	0.44	0.14	0.10	0.10	0.27	0.06	0.03	0.02
Control Delay	11.9	21.3	0.1	13.8	17.5	0.5	10.9	15.9	4.7	10.3	16.6	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	11.9	21.3	0.1	13.8	17.5	0.5	10.9	15.9	4.7	10.3	16.6	0.1
LOS	B	C	A	B	B	A	B	B	A	B	B	A
Approach Delay		19.8			14.7			9.4			10.1	
Approach LOS		B			B			A			B	

Intersection Summary	
Cycle Length: 65	
Actuated Cycle Length: 53.6	
Natural Cycle: 65	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.49	
Intersection Signal Delay: 14.7	Intersection LOS: B
Intersection Capacity Utilization 37.7%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 10: CSAH 14 & 20th Ave



Lane Group	EBT	WBL	WBT	NBL	NBR	SBL	SBR
Lane Configurations							
Traffic Volume (vph)	525	20	590	20	50	145	5	50
Future Volume (vph)	525	20	590	20	50	145	5	50
Turn Type	NA	Perm	NA	Prot	Perm	pm+pt	NA	Perm
Protected Phases	4		8	5		1	6	
Permitted Phases		8			2	6		6
Detector Phase	4	8	8	5	2	1	6	6
Switch Phase								
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5	22.5	22.5	9.5	22.5	9.5	22.5	22.5
Total Split (s)	22.5	22.5	22.5	9.5	22.5	10.0	23.0	23.0
Total Split (%)	40.9%	40.9%	40.9%	17.3%	40.9%	18.2%	41.8%	41.8%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag				Lead	Lag	Lead	Lag	Lag
Lead-Lag Optimize?				Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	Max	None	Max	Max
Act Effct Green (s)	14.5	14.5	14.5	5.1	18.6	25.3	24.3	24.3
Actuated g/C Ratio	0.29	0.29	0.29	0.10	0.37	0.51	0.49	0.49
v/c Ratio	0.31	0.10	0.62	0.12	0.08	0.18	0.01	0.06
Control Delay	14.3	14.3	18.5	24.5	0.7	7.6	10.0	0.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	14.3	14.3	18.5	24.5	0.7	7.6	10.0	0.6
LOS	B	B	B	C	A	A	A	A
Approach Delay	14.3		18.3				5.9	
Approach LOS	B		B				A	

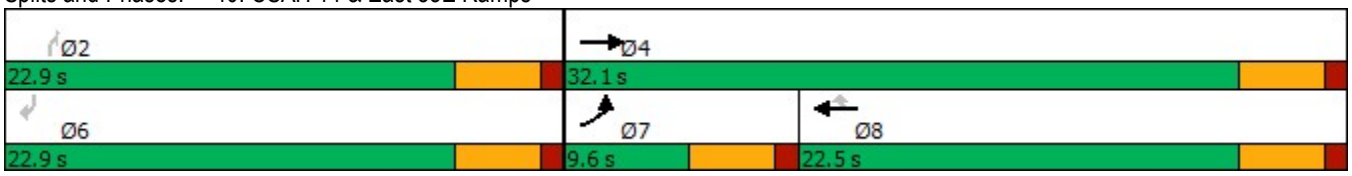
Intersection Summary	
Cycle Length: 55	
Actuated Cycle Length: 49.8	
Natural Cycle: 55	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.62	
Intersection Signal Delay: 14.5	Intersection LOS: B
Intersection Capacity Utilization 35.9%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 20: CSAH 14 & West 35E Ramps

Lane Group	EBL	EBT	WBT	WBR	NBR	SBR
Lane Configurations						
Traffic Volume (vph)	85	565	590	245	745	290
Future Volume (vph)	85	565	590	245	745	290
Turn Type	Prot	NA	NA	Perm	Perm	Perm
Protected Phases	7	4	8			
Permitted Phases				8	2	6
Detector Phase	7	4	8	8	2	6
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	22.5	22.5	22.5	22.5	22.5
Total Split (s)	9.6	32.1	22.5	22.5	22.9	22.9
Total Split (%)	17.5%	58.4%	40.9%	40.9%	41.6%	41.6%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag	Lead		Lag	Lag		
Lead-Lag Optimize?	Yes		Yes	Yes		
Recall Mode	None	None	None	None	Max	Max
Act Effct Green (s)	5.2	20.9	13.7	13.7	18.8	18.8
Actuated g/C Ratio	0.11	0.43	0.28	0.28	0.38	0.38
v/c Ratio	0.49	0.41	0.45	0.42	0.62	0.23
Control Delay	34.3	10.0	15.8	4.6	9.6	0.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	34.3	10.0	15.8	4.6	9.6	0.4
LOS	C	A	B	A	A	A
Approach Delay		13.2	12.5			
Approach LOS		B	B			

Intersection Summary	
Cycle Length: 55	
Actuated Cycle Length: 48.9	
Natural Cycle: 55	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.62	
Intersection Signal Delay: 10.4	Intersection LOS: B
Intersection Capacity Utilization 49.2%	ICU Level of Service A
Analysis Period (min) 15	

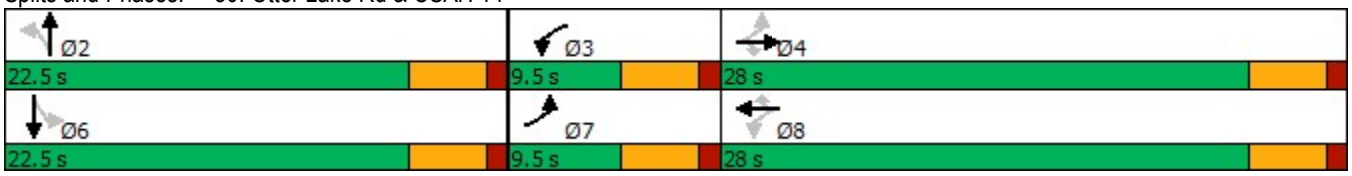
Splits and Phases: 40: CSAH 14 & East 35E Ramps



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	30	1305	70	15	805	20	75	10	20	10
Future Volume (vph)	30	1305	70	15	805	20	75	10	20	10
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	Perm	NA	Perm	NA
Protected Phases	7	4		3	8			2		6
Permitted Phases	4		4	8		8	2		6	
Detector Phase	7	4	4	3	8	8	2	2	6	6
Switch Phase										
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	22.5	22.5	9.5	22.5	22.5	22.5	22.5	22.5	22.5
Total Split (s)	9.5	28.0	28.0	9.5	28.0	28.0	22.5	22.5	22.5	22.5
Total Split (%)	15.8%	46.7%	46.7%	15.8%	46.7%	46.7%	37.5%	37.5%	37.5%	37.5%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag				
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes				
Recall Mode	None	None	None	None	None	None	Max	Max	Max	Max
Act Effct Green (s)	26.3	25.4	25.4	25.5	23.7	23.7	18.1	18.1	18.1	18.1
Actuated g/C Ratio	0.48	0.47	0.47	0.47	0.44	0.44	0.33	0.33	0.33	0.33
v/c Ratio	0.10	0.86	0.10	0.06	0.57	0.03	0.18	0.21	0.05	0.08
Control Delay	7.3	21.3	1.9	6.9	14.1	0.1	15.8	5.5	14.8	8.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	7.3	21.3	1.9	6.9	14.1	0.1	15.8	5.5	14.8	8.1
LOS	A	C	A	A	B	A	B	A	B	A
Approach Delay		20.0			13.6			9.4		10.3
Approach LOS		C			B			A		B

Intersection Summary	
Cycle Length: 60	
Actuated Cycle Length: 54.3	
Natural Cycle: 65	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.86	
Intersection Signal Delay: 16.8	Intersection LOS: B
Intersection Capacity Utilization 54.4%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 50: Otter Lake Rd & CSAH 14



10: CSAH 14 & 20th Ave

Direction	All
Future Volume (vph)	1495
Total Delay / Veh (s/v)	15
CO Emissions (kg)	1.76
NOx Emissions (kg)	0.34
VOC Emissions (kg)	0.41

20: CSAH 14 & West 35E Ramps

Direction	All
Future Volume (vph)	1405
Total Delay / Veh (s/v)	15
CO Emissions (kg)	1.56
NOx Emissions (kg)	0.30
VOC Emissions (kg)	0.36

30: SB On Ramp & CSAH 14

Direction	All
Future Volume (vph)	1650
Total Delay / Veh (s/v)	0
CO Emissions (kg)	0.41
NOx Emissions (kg)	0.08
VOC Emissions (kg)	0.10

40: CSAH 14 & East 35E Ramps

Direction	All
Future Volume (vph)	2520
Total Delay / Veh (s/v)	10
CO Emissions (kg)	2.23
NOx Emissions (kg)	0.43
VOC Emissions (kg)	0.52

50: Otter Lake Rd & CSAH 14

Direction	All
Future Volume (vph)	2501
Total Delay / Veh (s/v)	17
CO Emissions (kg)	2.76
NOx Emissions (kg)	0.54
VOC Emissions (kg)	0.64

100: Centerville Rd & Wilkinson Lake Blvd/CR J

Direction	All
Future Volume (vph)	1830
Total Delay / Veh (s/v)	0
CO Emissions (kg)	2.69
NOx Emissions (kg)	0.52
VOC Emissions (kg)	0.62

200: SB I-35E Ramps & CR J & CSAH 54

Direction	All
Future Volume (vph)	1635
Total Delay / Veh (s/v)	0
CO Emissions (kg)	1.86
NOx Emissions (kg)	0.36
VOC Emissions (kg)	0.43

300: NB I-35E Ramps & CSAH 60 & CR J/CSAH 84

Direction	All
Future Volume (vph)	1573
Total Delay / Veh (s/v)	0
CO Emissions (kg)	1.68
NOx Emissions (kg)	0.33
VOC Emissions (kg)	0.39

Intersection	
Intersection Delay, s/veh	10.4
Intersection LOS	B

Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	42	648	569	730
Demand Flow Rate, veh/h	43	668	592	754
Vehicles Circulating, veh/h	822	349	575	94
Vehicles Exiting, veh/h	17	565	289	345
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	6.9	11.2	10.0	10.1
Approach LOS	A	B	A	B

Lane	Left	Left	Bypass	Left	Bypass	Left	Bypass
Designated Moves	LTR	LT	R	LT	R	LT	R
Assumed Moves	LTR	LT	R	LT	R	LT	R
RT Channelized			Yield		Yield		Yield
Lane Util	1.000	1.000		1.000		1.000	
Follow-Up Headway, s	2.609	2.609		2.609		2.609	
Critical Headway, s	4.976	4.976	578	4.976	253	4.976	9
Entry Flow, veh/h	43	90	971	339	775	745	1356
Cap Entry Lane, veh/h	597	967	0.971	768	0.962	1254	0.971
Entry HV Adj Factor	0.988	0.964	561	0.962	243	0.968	9
Flow Entry, veh/h	42	87	942	326	746	721	1317
Cap Entry, veh/h	590	932	0.595	738	0.326	1214	0.007
V/C Ratio	0.072	0.093	12.3	0.442	8.8	0.594	2.8
Control Delay, s/veh	6.9	4.7	B	10.9	A	10.2	A
LOS	A	A	4	B	1	B	0
95th %tile Queue, veh	0	0		2		4	

Intersection	
Intersection Delay, s/veh	12.5
Intersection LOS	B

Approach	EB	WB	NB	SB
Entry Lanes	1	1	0	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	731	862	0	64
Demand Flow Rate, veh/h	756	900	0	68
Vehicles Circulating, veh/h	173	79	479	851
Vehicles Exiting, veh/h	746	400	450	172
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	12.3	13.3	0.0	8.0
Approach LOS	B	B	-	A

Lane	Left	Left	Left
Designated Moves	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR
RT Channelized			
Lane Util	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976
Entry Flow, veh/h	756	900	68
Cap Entry Lane, veh/h	1157	1273	579
Entry HV Adj Factor	0.967	0.958	0.946
Flow Entry, veh/h	731	862	64
Cap Entry, veh/h	1119	1219	548
V/C Ratio	0.654	0.707	0.117
Control Delay, s/veh	12.3	13.3	8.0
LOS	B	B	A
95th %tile Queue, veh	5	6	0

Intersection	
Intersection Delay, s/veh	
Intersection LOS	

Approach	SW
Entry Lanes	1
Conflicting Circle Lanes	1
Adj Approach Flow, veh/h	120
Demand Flow Rate, veh/h	123
Vehicles Circulating, veh/h	900
Vehicles Exiting, veh/h	79
Ped Vol Crossing Leg, #/h	0
Ped Cap Adj	1.000
Approach Delay, s/veh	9.7
Approach LOS	A

Lane	Left
Designated Moves	LR
Assumed Moves	LR
RT Channelized	
Lane Util	1.000
Follow-Up Headway, s	2.609
Critical Headway, s	4.976
Entry Flow, veh/h	123
Cap Entry Lane, veh/h	551
Entry HV Adj Factor	0.978
Flow Entry, veh/h	120
Cap Entry, veh/h	539
V/C Ratio	0.223
Control Delay, s/veh	9.7
LOS	A
95th %tile Queue, veh	1

Intersection	
Intersection Delay, s/veh	31.8
Intersection LOS	D

Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	0
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	377	187	827	0
Demand Flow Rate, veh/h	388	192	863	0
Vehicles Circulating, veh/h	59	986	446	1012
Vehicles Exiting, veh/h	953	397	0	166
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	5.6	13.7	49.7	0.0
Approach LOS	A	B	E	-

Lane	Left	Left	Left
Designated Moves	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR
RT Channelized			
Lane Util	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976
Entry Flow, veh/h	388	192	863
Cap Entry Lane, veh/h	1299	505	876
Entry HV Adj Factor	0.972	0.974	0.958
Flow Entry, veh/h	377	187	827
Cap Entry, veh/h	1263	492	839
V/C Ratio	0.299	0.380	0.986
Control Delay, s/veh	5.6	13.7	49.7
LOS	A	B	E
95th %tile Queue, veh	1	2	17

Intersection	
Intersection Delay, s/veh	
Intersection LOS	

Approach	NW
Entry Lanes	1
Conflicting Circle Lanes	1
Adj Approach Flow, veh/h	319
Demand Flow Rate, veh/h	326
Vehicles Circulating, veh/h	1057
Vehicles Exiting, veh/h	252
Ped Vol Crossing Leg, #/h	0
Ped Cap Adj	1.000
Approach Delay, s/veh	27.3
Approach LOS	D

Lane	Left
Designated Moves	LR
Assumed Moves	LR
RT Channelized	
Lane Util	1.000
Follow-Up Headway, s	2.609
Critical Headway, s	4.976
Entry Flow, veh/h	326
Cap Entry Lane, veh/h	470
Entry HV Adj Factor	0.979
Flow Entry, veh/h	319
Cap Entry, veh/h	459
V/C Ratio	0.694
Control Delay, s/veh	27.3
LOS	D
95th %tile Queue, veh	5

Cty Rd J Application

1	Main St/20th Ave		
	Existing Volume	1585	vehicles
	Existing Delay	15	sec/veh
	Existing Total Delay	23775	seconds
	Future Volume	1495	vehicles
	Future Delay	15	sec/veh
	Future Total Delay	22425	seconds
	Total Delay Reduction	1350	seconds

2	Main St/West Ramps		
	Existing Volume	1480	vehicles
	Existing Delay	14	sec/veh
	Existing Total Delay	20720	seconds
	Future Volume	1405	vehicles
	Future Delay	15	sec/veh
	Future Total Delay	21075	seconds
	Total Delay Reduction	-355	seconds

3	Main St/SB On Ramp		
	Existing Volume	1655	vehicles
	Existing Delay	0	sec/veh
	Existing Total Delay	0	seconds
	Future Volume	1650	vehicles
	Future Delay	0	sec/veh
	Future Total Delay	0	seconds
	Total Delay Reduction	0	seconds

4	Main St/East Ramps		
	Existing Volume	2470	vehicles
	Existing Delay	11	sec/veh
	Existing Total Delay	27170	seconds
	Future Volume	2520	vehicles
	Future Delay	10	sec/veh
	Future Total Delay	25200	seconds
	Total Delay Reduction	1970	seconds

5	Main St/Otter Lake Rd		
	Existing Volume	2520	vehicles
	Existing Delay	20	sec/veh
	Existing Total Delay	50400	seconds
	Future Volume	2500	vehicles
	Future Delay	17	sec/veh
	Future Total Delay	42500	seconds
	Total Delay Reduction	7900	seconds

6	CR J/Centerville Rd		
	Existing Volume	1703	vehicles
	Existing Delay	85	sec/veh
	Existing Total Delay	144755	seconds
	Future Volume	1830	vehicles
	Future Delay	10	sec/veh
	Future Total Delay	18300	seconds
	Total Delay Reduction	126455	seconds

7	CR J/West Ramps		
	Existing Volume	1410	vehicles
	Existing Delay	3	sec/veh
	Existing Total Delay	4230	seconds
	Future Volume	1635	vehicles
	Future Delay	13	sec/veh
	Future Total Delay	21255	seconds
	Total Delay Reduction	-17025	seconds

8	CR J/East Ramps		
	Existing Volume	1215	vehicles
	Existing Delay	36	sec/veh
	Existing Total Delay	43740	seconds
	Future Volume	1573	vehicles
	Future Delay	32	sec/veh
	Future Total Delay	50336	seconds
	Total Delay Reduction	-6596	seconds

CR J/Otter Lake Rd		
Existing Volume	957	vehicles
Existing Delay	13	sec/veh
Existing Total Delay	12441	seconds
Future Volume	0	vehicles
Future Delay	0	sec/veh
Future Total Delay	0	seconds
Total Delay Reduction	12441	seconds

Total Network Delay Reduction	**126140**	**seconds**

Emissions

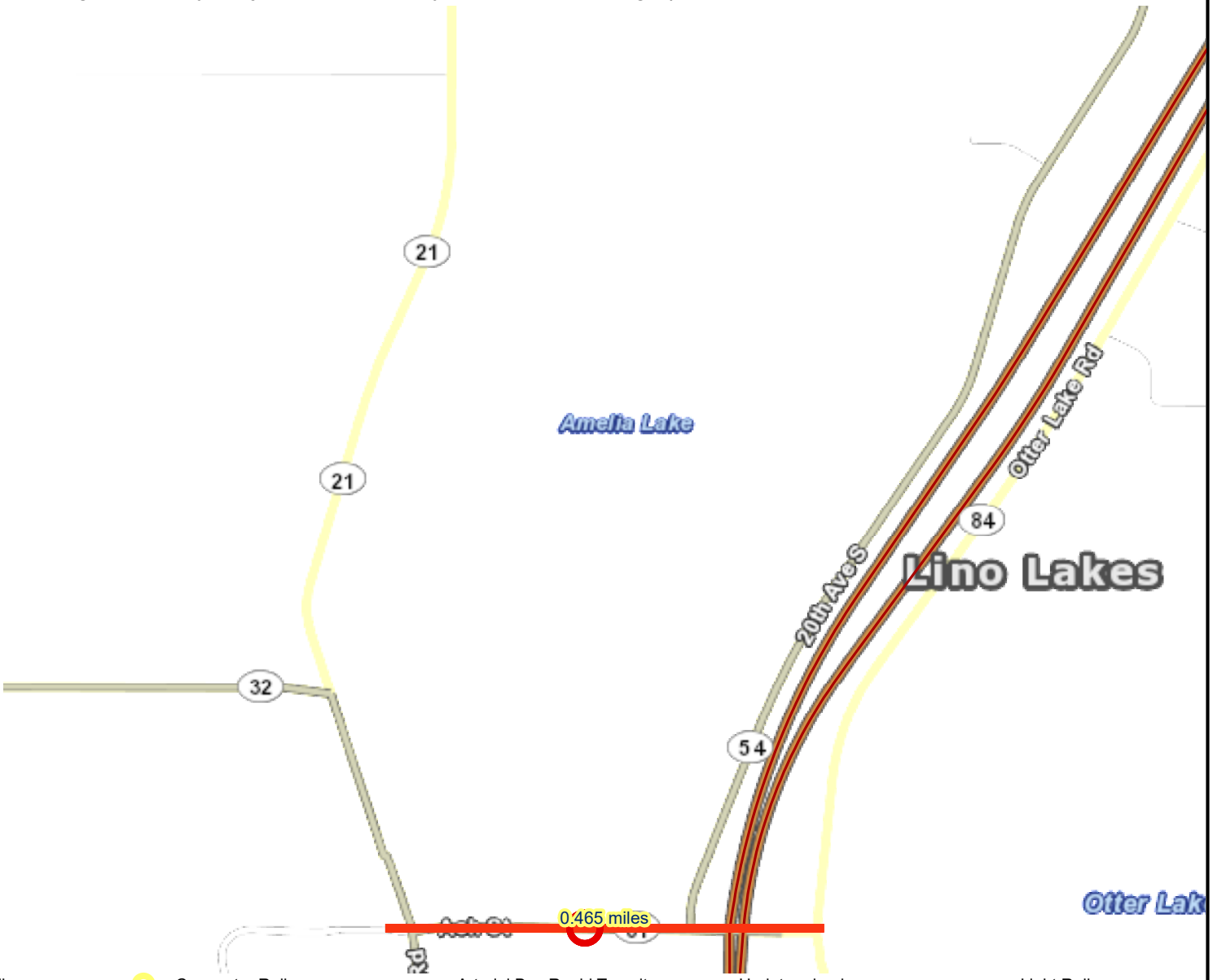
Existing	1	2	3	4	5	6	7	8	9	Total
CO	1.85	1.65	0.4	2.17	2.85	4.56	1.14	2.05	1.28	17.95
NO	0.36	0.32	0.08	0.42	0.55	0.89	0.22	0.4	0.25	3.49
VOC	0.43	0.38	0.09	0.5	0.66	1.06	0.26	0.47	0.3	4.15
								Network Total		25.59

Build	1	2	3	4	5	6	7	8	9	Total
CO	1.76	1.56	0.41	2.23	2.76	2.69	1.86	1.68	0	14.95
NO	0.34	0.3	0.08	0.43	0.54	0.52	0.36	0.33	0	2.9
VOC	0.41	0.36	0.1	0.52	0.64	0.62	0.43	0.39	0	3.47
								Network Total		21.32

Reduction	**4.27**

Transit Connections

Strategic Capacity Project: I-35E/County Road J Interchange | Map ID: 1647002835536



Results

Transit with a Direct Connection to project:
275

**indicates Planned Alignments*

Transit Market areas: 4

Created: 3/11/2022
LandscapeRSA3

METROPOLITAN COUNCIL