Application

13860 - 2020 Roadway Expansion

14139 - US 10 at CSAH 56 (Ramsey Blvd) Interchange Project in Ramsey

Regional Solicitation - Roadways Including Multimodal Elements

Status:	Submitted
Submitted Date:	05/15/2020 1:23 PM

Primary Contact

Name:*	Mr.	Jack	L	Forslund
	Salutation	First Name	Middle Name	Last Name
Title:	Transportation Planner			
Department:	Anoka County Transportation Division			
Email:	jack.forslund@co.anoka.mn.us			
Address:	1440 Bunker Lake Boulevard NW			
*	Andover	Minnesota	55304-4005	
	City	State/Province	Postal Code/Zip	
Phone:*	763-324-3179			
	Phone		Ext.	
Fax:	763-324-3020			
What Grant Programs are you most interested in?	Regional Solicitation - Roadways Including Multimodal Elements			

Organization Information

Name:	ANOKA COUNTY

Jurisdictional Agency (if different):	
Organization Type:	County Government
Organization Website:	
Address:	1440 BUNKER LAKE BLVD

*	ANDOVER	Minnesota	55304
	City	State/Province	Postal Code/Zip

County:	Anoka
Phone:*	763-324-3100 Ext.
Fax:	763-324-3020
PeopleSoft Vendor Number	0000003633A15

Project Information

Project Name	CSAH 56 (Ramsey Blvd) & Highway 10 Interchange
Primary County where the Project is Located	Anoka
Cities or Townships where the Project is Located:	Ramsey, MN
Jurisdictional Agency (If Different than the Applicant):	MN Dept of Transportation and City of Ramsey

The current Highway 10 corridor within the City of Ramsey is plagued with significant crash and congestion issues, for vehicles, trucks, pedestrians, and trains alike, and is impacting the movement of goods and people between Minneapolis/St Paul and northern Minnesota. This contributes to significant travel delays during AM and PM peak periods.

Beginning in 2022, fully funded projects in Anoka and Elk River will replace at-grade signalized intersections with grade-separated interchanges and transition Highway 10 into a freeway on either side of Ramsey. Ramsey will become the bottleneck, with increased traffic, crash, and congestion issues at the two remaining at-grade traffic signals on Highway 10 in the metro area.

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

Anoka County is requesting $10 million in Regional Solicitation funds to grade-separate CSAH 56 (Ramsey Blvd) over Highway 10 and the parallel BNSF railway. This intersection has a higher crash rate than the statewide average for similar intersections. A five-year crash analysis shows 51 crashes, most of which were rear end crashes at the traffic signal. A ten-year analysis shows one fatal pedestrian crash.

In addition to the issues at the at-grade traffic signal, the busiest BNSF railway within the state parallels the highway at approximately 400'. Although trains move through at high speeds, the frequency is high and trains block CSAH 56 for two to three hours per day while causing northbound backups onto Highway 10. This is a highly expressed public concern and documented issue for emergency response vehicles responding to common crashes on Highway 10.

CSAH 56 serves as the primary connection to the COR (Center of Ramsey) development. Already underway, this 400-acre serves as Ramsey's downtown and includes residential, commercial, retail, educational, and recreational land uses. The catalyst for this development is the Northstar Commuter Rail line, located just northwest of the CSAH 56 and Highway 10 intersection of which ridership and operations will also benefit greatly from the proposed project. As a primary COR gateway, improvements to the CSAH 56 intersection with Hwy 10 are the highest priority in the Ramsey Gateway Project and is so reflected in this application.

This project will remove the traffic signal at CSAH 56 (Ramsey Blvd) and Highway 10 and replace it with a grade-separated folded tight-diamond interchange including a grade-separated railway crossing and a frontage road connection between Ramsey and Sunfish Lake Blvds to improve local mobility. ADA accessible and continuous pedestrian and bicycle facilities are included throughout.

(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.	Construct/Reconstruct
Project Length (Miles) *to the nearest one-tenth of a mile*	1.6

Project Funding

Are you applying for competitive funds from another source(s) to implement this project?	Yes
If yes, please identify the source(s)	2020 INFRA; 2020 BUILD Resubmittal; MnDOT-Hwy Freight Program, Transportation Economic Development Program, Transportation Economic Development Infrastructure Program; 2020 State LRIP bonding bill.

Federal Amount	$10,000,000.00
Match Amount	$19,300,000.00
Minimum of 20% of project total	
Project Total	$29,300,000.00
For transit projects, the total cost for the application is total cost minus fare revenues.	
Match Percentage	65.87%
Minimum of 20% *Compute the match percentage by dividing the match amount by the project total*	
Source of Match Funds	Anoka County, City of Ramsey, Awarded State Legislative Bonding Funds
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:	2025
Select 2022 or 2023 for TDM projects only. For all other applications, select 2024 or 2025.	
Additional Program Years:	2022, 2023
Select all years that are feasible if funding in an earlier year becomes available.	

Project Information-Roadways

County, City, or Lead Agency	Anoka County
Functional Class of Road	Principal Arterial
Road System	Trunk Highway, U.S. Highway
TH, CSAH, MSAS, CO. RD., TWP. RD., CITY STREET	
Road/Route No.	10
i.e., 53 for CSAH 53	
Name of Road	Highway 10 and CSAH 56
Example; 1st ST., MAIN AVE	
Zip Code where Majority of Work is Being Performed	55303
(Approximate) Begin Construction Date	01/01/2023
(Approximate) End Construction Date	10/31/2024

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

From: **(Intersection or Address)**	Traprock St. NW
To: **(Intersection or Address)**	
DO NOT INCLUDE LEGAL DESCRIPTION	
Or At	Approximately 280 east of Dolomite St NW

Miles of Sidewalk (nearest 0.1 miles)	1.5
Miles of Trail (nearest 0.1 miles)	0.4
Miles of Trail on the Regional Bicycle Transportation Network (nearest 0.1 miles)	0.4
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.*	INTERCHANGE CONSTRUCTION, RR BRIDGE CONSTRUCTION, GRADE, AGG BASE, BIT BASE, BIT SURF, CURB & GUTTER, STORM SEWER, LIGHTING, SIDEWALK/TRAIL, ADA

BRIDGE/CULVERT PROJECTS (IF APPLICABLE)

Old Bridge/Culvert No.:

New Bridge/Culvert No.:

Structure is Over/Under (Bridge or culvert name):

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:

Goal: Safety/Security, p44

Obj: Reduce fatal/serious injury crashes & improve safety & security for all modes of passenger travel & freight transport (p44); Strategy: Safety & security considerations for all modes and users (p2.5); Support vision of zero traffic fatalities & serious injuries, including educational & enforcement programs (p2.7)

Goal: Access to Destinations, p46

Obj: Increase travel time reliability & predictability for travel on highway & transit; Improve availability & quality of multimodal travel options for people of all ages & abilities, particularly for historically underrepresented populations (p46); Strategy: Maintain Congestion Management Process for region's Principal and A-minor arterials meeting federal requirements & coordinate activities of MnDOT, transit providers, counties, cities & transportation mgmt organizations to increase multimodal efficiency & people-moving capacity of road network (p2.13); Manage & optimize performance of the Principal Arterial system (p2.16); Support investments in A-minor arterials that build, manage, or improve system's ability to supplement capacity of Principal Arterial system & support access to region's job, activity, and industrial & manufacturing concentrations (p2.17); Manage access to Principal and A-minor arterials to preserve & enhance safety & capacity. Invest in prioritized non-freeway Principal arterial intersections in accordance with Principal Arterial Intersection Conversion Study (p2.18)

Goal: Competitive Economy, p48

Obj: Support economic competitiveness through

efficient movement of freight (p48); Strategy: Coordinate with other agencies planning & pursuing transportation investments that strengthen connections to other regions in MN & Upper Midwest, the nation, & world including intercity bus & passenger rail, highway corridors, air service, & freight infrastructure (p2.27); Invest in transportation system providing travel conditions that compete with peer metropolitan areas (p2.28); Work with transportation partners to identify impacts of highway congestion on freight and ID cost-effective mitigation (p2.28)

Goal: Healthy/Equitable Communities, p50

Obj: Reduce transportation-related air emissions; Provide transportation system promoting community cohesion & connectivity for people of all abilities, particularly for historically under-represented populations (p50); Strategy: Consider reductions in transportation-related emissions of air pollutants and greenhouse gases when prioritizing transportation investments (p2.31); Variety of communication methods/eliminate barriers to foster public engagement in transportation planning inc. special efforts to engage members of historically underrepresented communities ensuring that their concerns & issues are considered (p2.34)

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.

MnDOT Highway 10 Access Planning Study

http://www.dot.state.mn.us/metro/projects/hwy10study/executivesummary.html

- Realignment of Hwy 10 between Ramsey and Sunfish Lake Blvds, with construction of a northern frontage road, identified as an immediate priority. Extension of frontage road would connect to City of Anoka, providing local connections, removing local trips from Hwy 10.
- Providing grade separations at Ramsey Blvd and Sunfish Lake intersections.

- RR grade-separations at Sunfish Lake Blvd and Ramsey Blvd.

List the applicable documents and pages:

City of Ramsey 2040 Comprehensive Plan Update (2018): p.56, 64, 69, 77, 86, 92, 161
http://www.ci.ramsey.mn.us/DocumentCenter/View/1605/Comprehensive-Plan-for-Adjacent-Review

- The COR (Center of Ramsey) is mixed-use development surrounding Northstar Transit Station along Hwy 10 between Ramsey Blvd and Armstrong Blvd. The area is about 50% developed (as of 2018) and is expected to see considerable development over the next 10 years. Planned development is expected to be a combination of office, retail, and public uses.

- The City has identified creating both a corridor and a traffic plan for Hwy 10 as a key strategy to improve safety and mobility on the Hwy. The city's current priorities include the following: Full Access Grade-Separated Interchange at Ramsey Blvd/CSAH 56; Frontage roads to support interchange and removal of private, direct accesses on U.S. Hwy 10/169;

Anoka County 2040 Transportation Plan Update (2018): p.64, 97, 105, Appendix F.6, Appendix F.25, Appendix G.4
http://www.sehinc.com/files/online/Anoka-County-2040-Transportation-Plan_DRAFT-2019-03-12.pdf

- The Transportation Plan lists the top high crash locations. The intersection of Hwy 10 and Ramsey Blvd is ranked 26th.
- In 2040 traffic volume modeling, the County modeled US Hwy 10 as freeway; showed that much of the traffic using parallel routes to avoid congestion would remain on Hwy 10, alleviating traffic on county and local roads.

City of Ramsey Capital Improvement Program 2019-2028: p.15, 197, 251
http://www.ci.ramsey.mn.us/DocumentCenter/View/1977/FINAL-Capital-Improvement-Plan-2019-2028-PDF?bidId=

- The City has laid out the project details for the Ramsey Blvd RR grade-separated crossing and the North Hwy 10 Frontage Road connecting Ramsey Blvd to Sunfish Lake Blvd.

Met Council and MnDOT Principal Arterial Intersection Conversion Study (2017): p.14, 20
https://metrocouncil.org/Transportation/Planning-2/Transit-Plans,-Studies-Reports/Highways-Roads/Principal-Arterial-Intersection-Conversion-Study/PAIS-Draft-Project-Report.aspx

MnDOT Rail & Safety Coordination

- MnDOT rail safety department has identified both Ramsey Blvd(2ndplace) and Sunfish Lake Blvd (3rd place) as in the top tier of currently unfunded railroad grade separations.

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.

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

5.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.
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): *$250,000 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

Date plan completed: 03/01/2018

Link to plan: http://anokacountyada.com/

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

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.

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 Expansion 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 must equal or 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)	$1,050,000.00
Removals (approx. 5% of total cost)	$650,000.00
Roadway (grading, borrow, etc.)	$1,800,000.00
Roadway (aggregates and paving)	$2,500,000.00
Subgrade Correction (muck)	$0.00
Storm Sewer	$500,000.00
Ponds	$150,000.00
Concrete Items (curb & gutter, sidewalks, median barriers)	$1,350,000.00
Traffic Control	$1,050,000.00
Striping	$300,000.00
Signing	$300,000.00
Lighting	$450,000.00
Turf - Erosion & Landscaping	$1,500,000.00
Bridge	$6,900,000.00
Retaining Walls	$5,800,000.00
Noise Wall (not calculated in cost effectiveness measure)	$0.00
Traffic Signals	$300,000.00
Wetland Mitigation	$0.00
Other Natural and Cultural Resource Protection	$0.00
RR Crossing	$0.00
Roadway Contingencies	$4,100,000.00
Other Roadway Elements	$250,000.00
Totals	**$28,950,000.00**

Specific Bicycle and Pedestrian Elements

CONSTRUCTION PROJECT ELEMENTS/COST ESTIMATES	Cost
Path/Trail Construction	$0.00
Sidewalk Construction	$350,000.00
On-Street Bicycle Facility Construction	$0.00
Right-of-Way	$0.00
Pedestrian Curb Ramps (ADA)	$0.00
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	**$350,000.00**

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	$29,300,000.00
Construction Cost Total	$29,300,000.00
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:	56
Peak Hour Travel Speed:	43
Percentage Decrease in Travel Speed in Peak Hour compared to Free-Flow:	23.21%
Upload Level of Congestion map:	1589477836851_LevelCongestion_Ramsey Gateway.pdf

Congestion on adjacent Parallel Routes:

Adjacent Parallel Corridor	Bunker Lake Blvd

Adjacent Parallel Corridor Start and End Points:

Start Point:	Sunwood Drive NW
End Point:	Civic Center Dr
Free-Flow Travel Speed:	39

The Free-Flow Travel Speed is black number.

Peak Hour Travel Speed:	33

The Peak Hour Travel Speed is red number.

Percentage Decrease in Travel Speed in Peak Hour Compared to Free-Flow:	15.38%
Upload Level of Congestion Map:	1589477836851_LevelCongestion_Ramsey Gateway.pdf

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: Yes

(0 Points)

Not listed as a priority in the study:

(0 Points)

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

Existing Employment within 1 Mile: 4131

Existing Manufacturing/Distribution-Related Employment within 1 Mile: 1765

Existing Post-Secondary Students within 1 Mile: 0

Upload Map 1589477888720_RegionalEconomy_Ramsey Gateway.pdf

Please upload attachment in PDF form.

Measure C: Current Heavy Commercial Traffic

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

Along Tier 1:

Miles: 0

(to the nearest 0.1 miles)

Along Tier 2: Yes

Miles: 1.2

(to the nearest 0.1 miles)

Along Tier 3:

Miles: 0

(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:

None of the tiers:

Measure A: Current Daily Person Throughput

Location	U.S. Highway 10 at CSAH 56 (Ramsey Blvd)
Current AADT Volume	45100
Existing Transit Routes on the Project	887, 888-Northstar Commuter Rail

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

Upload Transit Connections Map	1589479043483_TransitConnections_Ramsey Gateway.pdf

Please upload attachment in PDF form.

Response: Current Daily Person Throughput

Average Annual Daily Transit Ridership	0
Current Daily Person Throughput	58630.0

Measure B: 2040 Forecast ADT

Use Metropolitan Council model to determine forecast (2040) ADT volume

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	The forecasting was completed using the Metropolitan Council Activity Based Model with updates from the Anoka County Transportation Plan incorporated.
Forecast (2040) ADT volume	60300

Measure A: Connection to disadvantaged populations and projects benefits, impacts, and mitigation

*1.**Sub-measure**: Equity Population Engagement: A successful project is one that is the result of active engagement of low-income populations, people of color, persons with disabilities, youth and the elderly. Engagement should occur prior to and during a projects development, with the intent to provide direct benefits to, or solve, an expressed transportation issue, while also limiting and mitigating any negative impacts. Describe and map the location of any low-income populations, people of color, disabled populations, youth or the elderly within a ½ mile of the proposed project. Describe how these specific populations were engaged and provided outreach to, whether through community planning efforts, project needs identification, or during the project development process. Describe what engagement methods and tools were used and how the input is reflected in the projects purpose and need and design. Elements of quality engagement include: outreach and engagement to specific communities and populations that are likely to be directly impacted by the project; techniques to reach out to populations traditionally not involved in community engagement related to transportation projects; feedback from these populations identifying potential positive and negative elements of the proposed project through engagement, study recommendations, or plans that provide feedback from populations that may be impacted by the proposed project. If relevant, describe how NEPA or Title VI regulations will guide engagement activities.*

This corridor has been a major concern for decades - studied numerous times - but little has occurred to improve the issues. Public engagement precedes the 2014 Hwy 10 Access Planning Study which included three public meetings. Additionally, the City of Ramsey provided a project focus in their 2040 Comp Plan utilizing public input from community workshops and surveys.

Anoka County in partnership with Ramsey and MnDOT, lead the Gateway Study to reach a right-sized and fully supported vision. One open house and multiple business/property owner meetings were held. RamseyGateway.com provides information about process, concepts, and engagement tools/efforts.

Response:

Due to COVID-19, project partners postponed engagement with the Oak Terrace Estates mobile home park (affordable housing area). Community liaisons were to discuss project benefits and construction staging impacts and gather input.

The Mississippi West Regional Park 2017 Master Plan included engagement to underrepresented populations, children, and elderly with information about the park and Hwy 10 needs. Voting boards, pop-up events, transportation access surveys, and social media posts in English, Spanish, & Somali reached over 8k people. 40%+ engaged were populations under-represented in the parks and trail system. This project will provide multimodal connectivity where none exist today in an area with three pedestrian fatalities since 2008.

(Limit 2,800 characters; approximately 400 words)

*2.**Sub-measure**: Equity Population Benefits and Impacts: A successful project is one that has been designed to provide direct benefits to low-income populations, people of color, persons with disabilities, youth and the elderly. All projects must mitigate potential negative benefits as required under federal law. Projects that are designed to provide benefits go beyond the mitigation requirement to proactively provide transportation benefits and solve transportation issues experienced by Equity populations.*

a.Describe the projects benefits to low-income populations, people of color, children, people with disabilities, and the elderly. Benefits could relate to pedestrian and bicycle safety improvements; public health benefits; direct access improvements for residents or improved access to destinations such as jobs, school, health care or other; travel time improvements; gap closures; new transportation services or modal options, leveraging of other beneficial projects and investments; and/or community connection and cohesion improvements. Note that this is not an exhaustive list.

Ramsey is a dynamically growing community with nearly 50-percent population growth and 32-percent employment growth projected by 2040. Elk River, to the west, has also projected significant growth from 23,172 (2015) projected to grow to 34,890 by 2035.

This project will improve regional and local connections for all populations to transit, affordable housing, services, and growing employment centers in the downtown COR (Center of Ramsey) and surrounding region accessed by Highway 10. This project will decrease congestion at an intersection that directly serves the downtown COR and regional commuters and freight movement on Highway 10. Traffic backups along this route will approach one-mile by 2025 and four-miles by 2045 if this project is not completed.

Response:

The census tract surrounding the project includes the following populations: 13.5% residents of color; 7.3% foreign-born residents; 22% cost-burdened residents; and 6.3% living with a disability.

Cost burdened households often rely on public transportation, walking/biking, or a single vehicle. This project improves non-motorized access to the Northstar Commuter Rail and daily needs. Decreasing peak hour delays on both CSAH 56 (Ramsey Blvd) and Highway 10, reduces commute stress levels for all users and inactive time spent sitting in a vehicle.

Existing at-grade crossings at CSAH 56's intersections with Highway 10 are not ADA compliant and are challenging for pedestrians and bicyclists. Currently pedestrians have to cross six lanes of traffic on CSAH 56, seven lanes of traffic on Highway 10, and two tracks of an 80-mph rail

line, creating drastically increased difficulty for those with a disability and/or the elderly. The project will remove these existing non-motorized travel barriers and increase safety and user experience by providing ADA compliant facilities completely separated from the railway and high-speed Highway 10 traffic and freight.

The grade-separated crossing and increased access to transit will provide better local and regional connectivity to the Mississippi West Regional Park and the Mississippi River & Central Anoka County Regional Trails, meeting a major county goal of equitable access to parks and trails. Providing access to green space, recreation opportunities, and active transportation options will provide all populations healthy lifestyle choices and exposure to natural areas, proven to reduce stress levels and improve mental health.

In summary this project will provide equitable local and regional access to accessing daily needs, including jobs and retail, medical, and restaurant services; many of which are provided in the downtown COR.

(Limit 2,800 characters; approximately 400 words)

b. Describe any negative impacts to low-income populations, people of color, children, people with disabilities, and the elderly created by the project, along with measures that will be taken to mitigate them. Negative impacts that are not adequately mitigated can result in a reduction in points.
Below is a list of negative impacts. Note that this is not an exhaustive list.
Increased difficulty in street crossing caused by increased roadway width, increased traffic speed, wider turning radii, or other elements that negatively impact pedestrian access.
Increased noise.
Decreased pedestrian access through sidewalk removal / narrowing, placement of barriers along the walking path, increase in auto-oriented curb cuts, etc.
Project elements that are detrimental to location-based air quality by increasing stop/start activity at intersections, creating vehicle idling areas, directing an increased number of vehicles to a particular point, etc.
Increased speed and/or cut-through traffic.
Removed or diminished safe bicycle access.
Inclusion of some other barrier to access to jobs and other destinations.
Displacement of residents and businesses.
Mitigation of temporary construction/implementation impacts such as dust; noise; reduced access for travelers and to businesses; disruption of utilities; and eliminated street crossings.
Other

Response:

Anoka County does not anticipate any negative impacts to low-income populations, people of color, children, people with disabilities, and the elderly created by the project. Construction efforts will take great care to maintain access to businesses, neighborhoods around the intersections including Oak Terrance Mobile Home Park, public transportation including the Northstar Commuter Rail Ramsey Blvd Station, affordable housing units near the intersection, the Mississippi West Regional Park, and all existing pedestrian and bicycle connections.

Throughout construction, signage and routine construction notification updates will be used to ensure that community members, commuters, and travelers understand what is currently under construction; where vehicular, bicycle, and pedestrian detour routes are located; and how to access businesses and neighborhoods. Particular attention will be dedicated to ensuring that access to transit services are maintained.

The project will improve pedestrian and bicycle access considerably over existing conditions, reducing the lanes of traffic needed to cross, providing continuous facilities, and improving ADA accessibility. The project will address congestion at the intersection of Highway 10 and CSAH 56, which will improve safety by addressing conditions that contribute to rear end crashes. Local connections will improve along with regional mobility. Additionally, the grade separation of the intersection will reduce conflict points, therefore reducing crash potential for all users. The project will result in positive impacts to air quality.

Creating grade separation of county roads and

Highway 10 within the City of Ramsey, the project may introduce noise impacts to nearby land uses. Noise analysis will be conducted in the NEPA process. All applicable federal and state noise requirements, including mitigations, will be followed as part of this project.

This project is anticipated to result in 9 full and 3 partial property acquisitions of adjacent properties, majority being highway commercial businesses. The City of Ramsey has already purchased eight of the properties associated with this project, over the past decade in preparation for Highway 10 improvements using the Metropolitan Council?s Right-of-Way Acquisition Loan Fund (Appendix B) The city initiated early conversations with several business owners on potential relocations elsewhere within the city.

(Limit 2,800 characters; approximately 400 words)

Select one:

*3.**Sub-measure: Bonus Points** Those projects that score at least 80% of the maximum total points available through sub-measures 1 and 2 will be awarded bonus points based on the geographic location of the project. These points will be assigned as follows, based on the highest-scoring geography the project contacts:*
a.25 points to projects within an Area of Concentrated Poverty with 50% or more people of color
b.20 points to projects within an Area of Concentrated Poverty
c.15 points to projects within census tracts with the percent of population in poverty or population of color above the regional average percent
d.10 points for all other areas

Project is located in an Area of Concentrated Poverty where 50% or more of residents are people of color (ACP50):	
Project located in Area of Concentrated Poverty:	
Projects census tracts are above the regional average for population in poverty or population of color:	
Project located in a census tract that is below the regional average for population in poverty or populations of color or includes children, people with disabilities, or the elderly:	Yes

(up to 40% of maximum score)

Upload the "Socio-Economic Conditions" map used for this measure. The second map created for sub measure A1 can be uploaded on the Other Attachments Form, or can be combined with the "Socio-Economic Conditions" map into a single PDF and uploaded here.

Upload Map 1589479473679_SocioEconConditions_Ramsey Gateway.pdf

Measure B: Part 1: Housing Performance Score

City	Segment Length (For stand-alone projects, enter population from Regional Economy map) within each City/Township	Segment Length/Total Project Length	Score	Housing Score Multiplied by Segment percent
Ramsey	7775.0	0.88	74.0	65.336
Dayton	1031.0	0.12	44.0	5.151

Total Project Length

Total Project Length 1.6

Project length entered on the Project Information - General form.

Housing Performance Score

Total Project Length (Miles) or Population 8806.0

Total Housing Score 70.487

Affordable Housing Scoring

Part 2: Affordable Housing Access

Reference Access to Affordable Housing Guidance located under Regional Solicitation Resources for information on how to respond to this measure and create the map.
If text box is not showing, click Edit or "Add" in top right of page.

Response:

The project area includes many affordable housing developments with a total of 835 units affordable at or below 80% AMI.

- The Seasons Townhomes: new construction; 49 units at 60% AMI; 2 & 3BR units; affordability guaranteed until 7/1/2043 though LIHTC 9%

- Sunwood Village: new construction; 47 units at 30% & 60% AMI; 1-3BR units; affordability guaranteed until 3/1/2047 through LIHTC 4%, LHIA, LMIR, county funding & bonds

- Greenway Terrace: new construction; 54 units at 30% & 50% AMI; 1-4BR units; affordability guaranteed until 7/1/2047 through LIHTC 9%, HOME loans & LHIA

- Symphony at Town Center: 180 units at 50% AMI
- Rivenwick Village: 210 units at 50% AMI

- Affinity at Ramsey: 174 units for 55+
- Parkview East: 121 units at 0% AMI

- Oak Terrace Estates: mobile home park, 89 lots

Ramsey is committed to providing affordable housing options, and in coordination with Anoka County regional trail connections, reliable access to transit, non-motorized transportation, employment centers, and educational facilities. Many of the residents living in the above units are likely single-vehicle or car-free households, increasing the importance of multimodal options and efficient roadways. By decreasing traffic delays during peak travel hours, this project will minimize travel time and increase safety for cyclists and pedestrians.

The Northstar Commuter Rail serves as a vital connection between Big Lake and downtown Minneapolis, stopping at stations in Elk River, Ramsey, Anoka, Coon Rapids and Fridley. Many of the residents living in affordable housing units in Ramsey must travel along Hwy 10 and/or CSAH 56 to get to the Station. Heavy traffic at the intersection during peak travel hours causes stress & delays for residents attempting to get to the train platform by car and safety issues for residents on foot or bicycle. Decreased delays as a result of the proposed interchange will allow residents to safely & efficiently arrive at the transit station while planning for increased travel demand at the intersection in the future.

(Limit 2,100 characters; approximately 300 words)

Upload map: 1589480539710_Ramsey Gateway_Affordable Housing Developments.pdf

Measure A: Infrastructure Age

Year of Original Roadway Construction or Most Recent Reconstruction	Segment Length	Calculation	Calculation 2
1921.0	1.1	2113.1	960.5
1939.0	1.1	2132.9	969.5
	2	**4246**	**1930**

Average Construction Year

Weighted Year 1930.0

Total Segment Length (Miles)

Total Segment Length 2.2

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

63.0	26.0	37.0	4043	4157	149591.0	153809.0	Since this roadway project includes the grade separation of an existing railroad crossing at CSAH 56 (Ramsey Blvd), field work was conducted to determine the frequency of trains during the peak hour and how long the gate arms are down blocking vehicles along CSAH 56 (Ramsey Blvd) when a train is present. The existing railroad crossing was modeled in Synchro as a pretimed signalized intersection in addition to the existing at grade signalized intersection	1589481321829_Synchro Reports and Explanation.pdf

at TH 10 & CSAH 56. The field analysis showed that three trains pass through the project area during the peak hour. Each train blocks the crossing for an average of 2.5 minutes. Based on this information a pretimed signal was included in the existing model that has a 20-minute cycle length giving CSAH 56 a 17.5 minute phase followed by a 2.5 minute phase for the railroad. This would represent three trains passing through during the peak hour. This methodology to

	simulate operations along CSAH 56 at the railroad crossing was discussed with and approved by Met Council staff. Additionally, since the project will grade separate TH 10 at CSAH 56, two build models were created so that emissions could be correctly calculated for the new interchange intersections in addition to traffic along TH 10.	
153809		

Vehicle Delay Reduced

Total Peak Hour Delay Reduced	149591.0
Total Peak Hour Delay Reduced	153809.0

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):
24.73	15.2	9.53
25	**15**	**10**

Total

Total Emissions Reduced:	9.53
Upload Synchro Report	1589481541361_Synchro Reports and Explanation.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: *(Limit 700 Characters; approximately 100 words)*	CMF ID: 459 Convert at-grade intersection into grade-separated interchange
Rationale for Crash Modification Selected: *(Limit 1400 Characters; approximately 200 words)*	This project will convert the currently signalized at grade intersection of TH 10 at CSAH 56 (Ramsey Blvd) to a grade separated interchange, so CMF ID 459 was selected. The crash modification factor is 0.58 (42% reduction). This was applied to all crash types and all crash severities.
Project Benefit ($) from B/C Ratio:	$21,909,684.00
Total Fatal (K) Crashes:	0
Total Serious Injury (A) Crashes:	3
Total Non-Motorized Fatal and Serious Injury Crashes:	0
Total Crashes:	57
Total Fatal (K) Crashes Reduced by Project:	0

Total Serious Injury (A) Crashes Reduced by Project:	1
Total Non-Motorized Fatal and Serious Injury Crashes Reduced by Project:	0
Total Crashes Reduced by Project:	24
Worksheet Attachment	1589481894564_Part 6_HSIP Benefit-Cost - Ramsey.pdf

Please upload attachment in PDF form.

Roadway projects that include railroad grade-separation elements:

Current AADT volume:	9800.0
Average daily trains:	58.0
Crash Risk Exposure eliminated:	568400.0

Measure A: Multimodal Elements and Existing Connections

Safety and connectivity of bikes and peds is a top priority for the project and was a guiding project goal. Hwy 10 is a 4-lane divided principal arterial connecting MSP to Fargo and carrying up to 47,500 vehicles (4% heavy truck) through the City of Ramsey per day. Between 2008 and 2017, five ped crashes occurred within the project area, three being fatal along Hwy 10 and one fatality at the CSAH 56 (Ramsey Blvd) intersection. When responding to calls for service, emergency vehicles are not able to cross the RR tracks or Hwy 10 when trains are present, resulting in delays of several minutes or more.

Response:

The new interchange will drastically mitigate the possibility of another fatal pedestrian crash and overall increase ped safety by providing complete separation from Hwy 10 and high-speed BNSF rail traffic, This will eliminate points of conflict on Hwy 10 and eliminate the hwy as a barrier separating housing, commercial, and recreational activity. It would especially benefit single-vehicle or vehicle-free households by increasing pedestrian safety and roadway efficiency during peak travel hours (6.3% of residents in the census tract surrounding the project site have a disability and 22% are cost burdened).

There is only one other grade-separated crossing of Hwy 10 in the City. The Armstrong Blvd Interchange adds 1.7 miles or a 35-minute walk for those trying to access the Northstar Station or Center of Ramsey. This project will provide an additional safe crossing point, reducing travel time to get around the city.

In addition to providing a grade-separated interchange, the project includes sidewalk and trail

connections along CSAH 56, strengthening the Central Anoka County Regional Trail corridor. Sidewalks along the frontage road system will improve access to area businesses and the transit station. This continuity in non-motorized facilities will provide designated travel space for pedestrians and reduce the risk of pedestrian crashes.

Accessibility throughout the project is of paramount importance. Ped ramps meeting current ADA standards will be installed at all intersections. Signalized crossing improvements include the installation of APS push buttons and countdown timers to reduce the risk for vehicle-to-pedestrian crashes.

The Hwy 10 vision recognizes the importance of providing continuous and safe non-motorized connections to reduce the need for local motorized trips, contributing to reduced highway congestion & an overall healthier community. By reducing congestion, providing a direct route over the free-flow of traffic along Hwy 10 and the RR track, decreasing points of conflict, and improving ADA accessibility, the proposed project will create a more welcoming & safe environment for travelers of all modes, ages, & abilities.

(Limit 2,800 characters; approximately 400 words)

Measure A: Multimodal Elements and Existing Connections

Response:

The current non-motorized facilities at CSAH 56 (Ramsey Blvd) and Highway 10 require users to cross six lanes of traffic on CSAH 56 and seven lanes of traffic on Highway 10. While a push button at-grade crossing exists, the high traffic volumes, high speeds, and highway conditions do not support a safe, comfortable user experience, encouraging multi-modal transportation options.

Identified as an RBTN Tier One Corridor, high-quality non-motorized improvements are a priority of the Ramsey Gateway Project. With the Northstar Commuter Rail station 1.0-mile northwest of the intersection and the Mississippi West Regional Park bordering the south side of the project, this interchange project will greatly improve the safety, connectivity, and level of comfort for all users of the roadway. The project will support trail facilities along CSAH 56. for the existing Central Anoka County Regional Trail corridor and will tie into the Mississippi River Regional Trail on the south side of Highway 10.

The Highway 10 corridor is identified as an expressway barrier in the Regional Bicycle Barrier Study. The bicycle crossing spacing criteria locates crossings 0.3 miles to the east and west of the CSAH 56 intersection (points IDs A010 and A012). With additional bicycle crossings identified at both Sunfish Lake Blvd (ID #A014) and Armstrong Blvd (ID #A009) - the adjacent highway crossings - it would be reasonable to assume the natural and most cost-effective location for this intermediary crossing is at CSAH 56.

As part of the MnDOT ADA transition plan, the current Highway 10 & CSAH 56 intersection scored a 91 in the statewide Accessible Pedestrian Signal (APS) prioritization ? this indicates a greater need

for conversion to an APS signal at this location. With the improved, grade-separated crossing it is expected that all crossings will be ADA compliant. The ADA conditions of impacted intersections (Highway 10/ CSAH 56 and 143rd Ave NW/CSAH 56) were not identified as part of the Anoka County ADA Transition plan.

The Northstar Commuter Rail Station serves as a corner stone to the COR. With a 350-car park and ride and 35-minute commute to downtown Minneapolis, access to this transit station exponentially expands the reach of the community to outside job centers and destinations. The proposed interchange will improve multi-modal access to this station both from the south side of highway 10 and from the east side of CSAH 56.

(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)Layout (25 Percent of Points)

Layout should include proposed geometrics and existing and proposed right-of-way boundaries.

Layout approved by the applicant and all impacted jurisdictions (i.e., cities/counties that the project goes through or agencies that maintain the roadway(s)). A PDF of the layout must be attached along with letters from each jurisdiction to receive points.

Yes

100%

Attach Layout

1589483860793_Project Layout_8.5x11.pdf

Please upload attachment in PDF form.

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

50%

Attach Layout

Please upload attachment in PDF form.

Layout has not been started

0%

Anticipated date or date of completion 02/01/2021

2)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

100%

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

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

3)Right-of-Way (25 Percent of Points)

Right-of-way, permanent or temporary easements either not required or all have been acquired

100%

Right-of-way, permanent or temporary easements required, plat, legal descriptions, or official map complete

50%

Right-of-way, permanent or temporary easements required, parcels identified Yes

25%

Right-of-way, permanent or temporary easements required, parcels not all identified

0%

Anticipated date or date of acquisition 01/12/2022

4)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%

Anticipated date or date of executed Agreement

5) 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. List Dates of most recent meetings and outreach specific to this project:

Meeting with general public:	06/04/2019
Meeting with partner agencies:	09/01/2019
Targeted online/mail outreach:	06/21/2019
Number of respondents:	351
Meetings specific to this project with the general public and partner agencies have been used to help identify the project need.	Yes

100%

Targeted outreach to this project with the general public and partner agencies have been used to help identify the project need.

75%

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

50%

At least one meeting specific to this project with key partner agencies 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%

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

Public & Agency engagement for the proposed interchange has been ongoing for many years. Public engagement began with the Highway 10 Access Planning Study which utilized public input from three open houses over 18 months. Following the Highway 10 Access Planning study, Ramsey conducted a 2040 Comprehensive Plan update which included many community and neighborhood workshops as well as online interactive mapping surveys over 24 months. Within this same timeframe, Anoka County completed the 2017 Mississippi West Regional Park Master Plan with a 'Plan your Parks' marketing strategy to gather input including transportation options highlighting Highway 10 as a barrier. Engagement activities targeted the general population as well as traditionally underrepresented stakeholders. Social media in several languages, online surveys, voting boards placed in the community, and two pop-up events were among the strategies used to reach over 8,000 people.

The City of Ramsey then initiated the Ramsey Gateway Project and website to provide information and updates to the public. Throughout project development, Ramsey hosted two business and property owner meetings to provide stakeholders with the opportunity to learn about the range of improvement options for the project and voice their feedback in a small group setting. Ramsey also hosted a public open house to allow the community to provide feedback on design options. Input from these stakeholder meetings, as well as the online public comments, was considered when evaluating design alternatives to maximize efficiency and minimize negative impacts. It is clear from public comment that the community supports this project and would like to see it completed in a cost-effective and efficient manner.

Coordination with the BNSF Railway took place in the very early stages of the Ramsey Gateway Project to understand how to address railway needs and concerns and mitigate negative impacts with design solutions. All parties understood the need and statewide priority to grade-separate the CSAH 56 crossing of the BNSF railway. Through discussions, a roadway overpass became the recommended solution as it would result in minimal to no impact to railroad operations, is more cost effective, and mitigates property and groundwater impacts.

Measure A: Cost Effectiveness

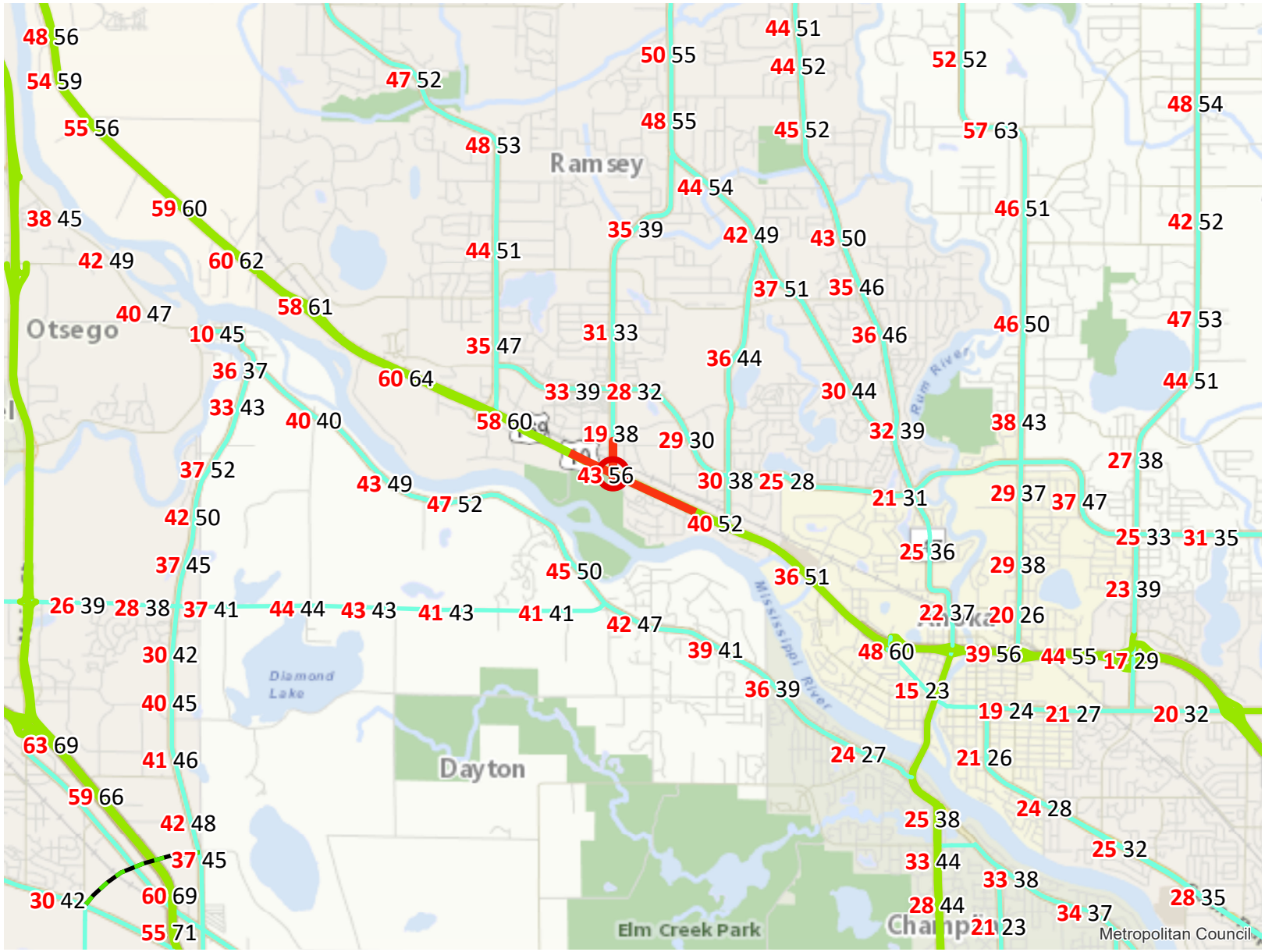
Total Project Cost (entered in Project Cost Form):	$29,300,000.00
Enter Amount of the Noise Walls:	$0.00
Total Project Cost subtract the amount of the noise walls:	$29,300,000.00
Enter amount of any outside, competitive funding:	$3,500,000.00
Attach documentation of award:	1589556691681_Secured Funding Documentation.pdf
Points Awarded in Previous Criteria	
Cost Effectiveness	$0.00

Other Attachments

File Name	Description	File Size
2016-2018 Crash Data from MnDOT.pdf	2016-2018 Crash Data from MnDOT	67 KB
4_COR-Master-Plan-PDF.pdf	Center of Ramsey (COR) Master Plan	2.3 MB
5_City Purchased Properties.pdf	City Purchased Properties	638 KB
9_TrafficConditions_11x17L.pdf	Crash Data - Safety Analysis	3.4 MB
All MetC Maps.pdf	All MetC Maps.pdf	8.4 MB
All Public and Agency Meetings.pdf	All Public and Agency Meetings.pdf	65 KB
CMF ID 459.pdf	Crash Modification Factor	127 KB
Combined Letters of Support.pdf	Combined letters of support: MnDOT; County Board of Commissioners (Resolution #2020-50); Anoka Area Chamber of Commerce; Met Council; Congress of the United States; Local Business Owner	3.0 MB
Existing Conditions Photos.pdf	Existing Conditions Photo	1.1 MB
Project Layout_8.5x11.pdf	Project Layout_8.5x11.pdf	2.8 MB
Public Engagement Summaries.pdf	Public Engagement Summaries	266 KB
Ramsey Gateway_Ramsey Blvd One Page Description.pdf	Ramsey Gateway_Ramsey Blvd One Page Description.pdf	496 KB

Level of Congestion

Roadway Expansion Project: Ramsey Gateway | Map ID: 1585782035886



Project Points
Project
Principal Arterials
A Minor Arterials
Principal Arterials Planned
A Minor Arterials Planned

0 0.75 1.5 3 4.5 6 Miles

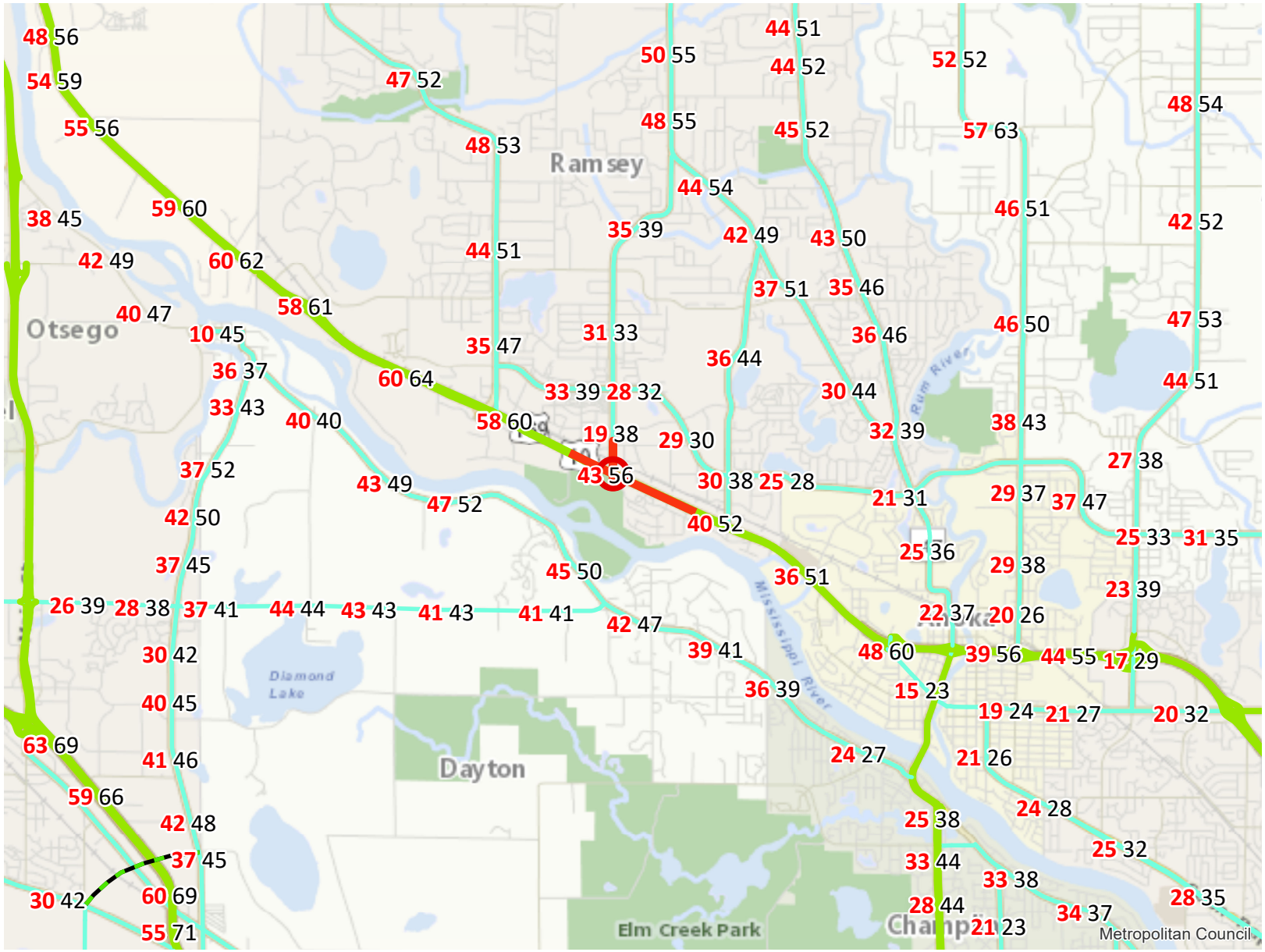
Created: 4/1/2020
LandscapeRSA1

For complete disclaimer of accuracy, please visit https://giswebsite.metc.state.mn.us/gissite/notice.aspx

METROPOLITAN COUNCIL

Level of Congestion

Roadway Expansion Project: Ramsey Gateway | Map ID: 1585782035886



Project Points
Project
Principal Arterials
A Minor Arterials
Principal Arterials Planned
A Minor Arterials Planned

0 0.75 1.5 3 4.5 6 Miles

Created: 4/1/2020
LandscapeRSA1

For complete disclaimer of accuracy, please visit https://giswebsite.metc.state.mn.us/gissite/notice.aspx

METROPOLITAN COUNCIL

Regional Economy

Roadway Expansion Project: Ramsey Gateway | Map ID: 1585782035886

Results

WITHIN ONE MI of project:
Postsecondary Students: 0

Totals by City:

Dayton
Population: 1031
Employment: 44
Mfg and Dist Employment: 2

Ramsey
Population: 7775
Employment: 4087
Mfg and Dist Employment: 1763

Project Points
Project
Manfacturing/Distribution Centers
Job Concentration Centers

0 0.175 0.35 0.7 1.05 1.4 Miles

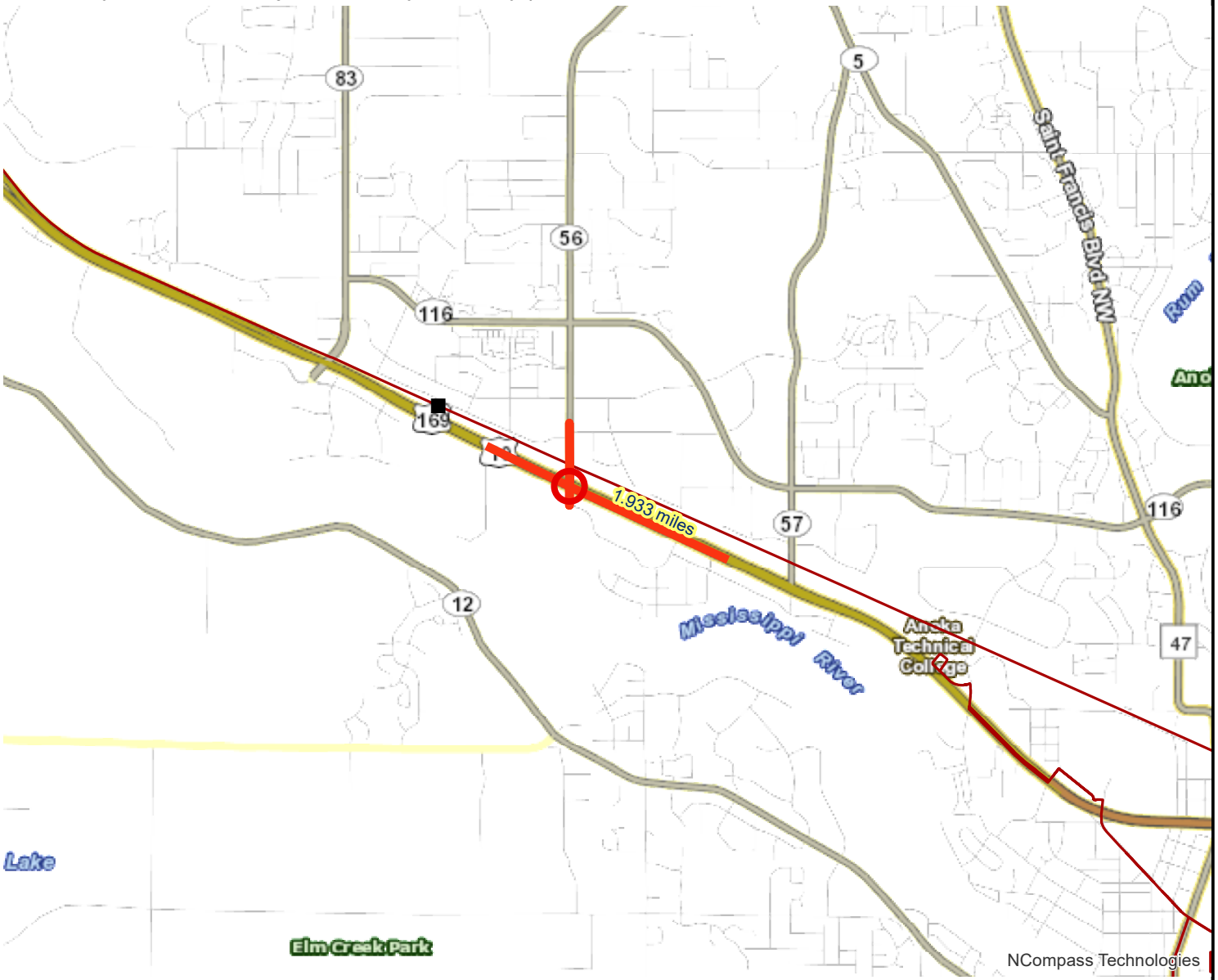
Created: 4/1/2020
LandscapeRSA5

For complete disclaimer of accuracy, please visit
http://giswebsite.metc.state.mn.us/gissitenew/notice.aspx

METROPOLITAN COUNCIL

Transit Connections

Roadway Expansion Project: Ramsey Gateway | Map ID: 1585782035886



Results

Transit with a Direct Connection to project:
888
*Northstar

**indicates Planned Alignments*

Transit Market areas: 5

Project Points
Project
Project Area

Transitway Stations

Northstar Line
Transit Routes

0 0.425 0.85 1.7 2.55 3.4 Miles

Created: 4/1/2020
LandscapeRSA3

METROPOLITAN COUNCIL

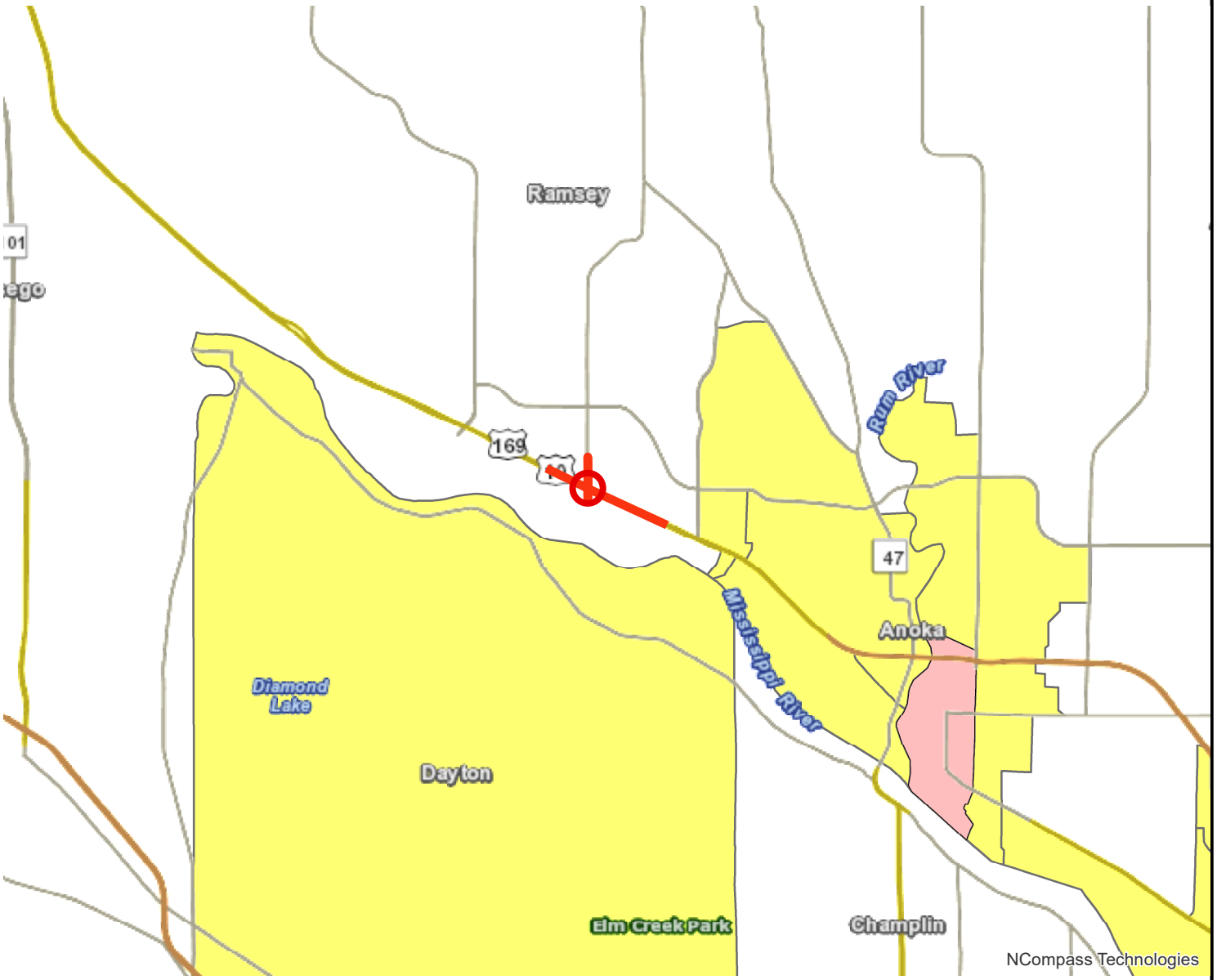
Socio-Economic Conditions

Roadway Expansion Project: Ramsey Gateway | Map ID: 1585782035886

Results

Project located in
a census tract that is below
the regional average for
population in poverty
or populations of color,
or includes children,
people with disabilities,
or the elderly:
(0 to 12 Points)

Tracts within half-mile:
26910 50227 50228



Points
Lines
Area of Concentrated Povertry > 50% residents of color
Area of Concentrated Poverty
Above reg'l avg conc of race/poverty

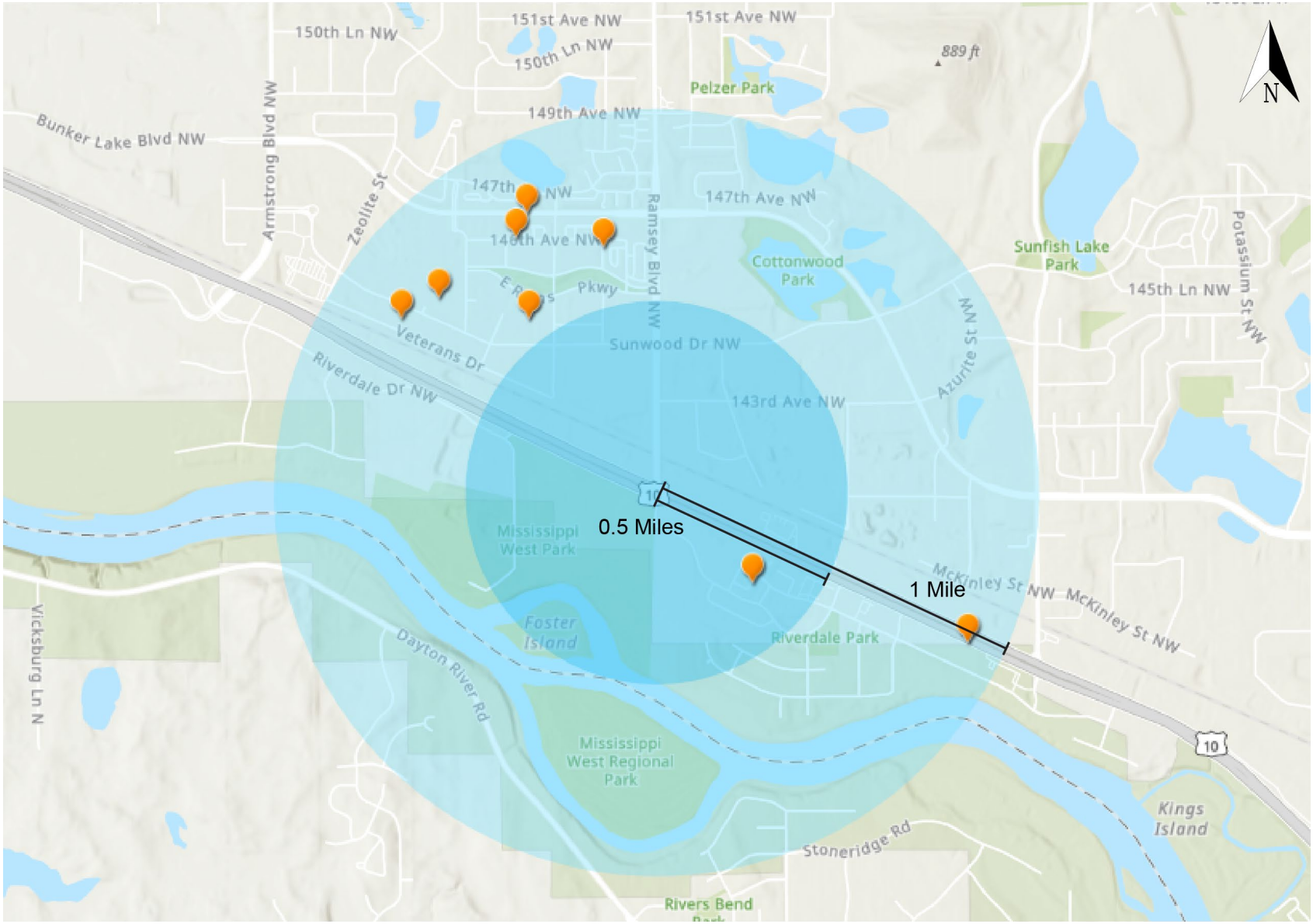
0 0.75 1.5 3 4.5 6 Miles

Created: 4/1/2020
LandscapeRSA2

METROPOLITAN COUNCIL

Hwy 10 & CSAH 56 (Ramsey Blvd):

Affordable Housing Developments



Affordable housing units within one-mile of the project site are included in this analysis due to their direct relationship with the Hwy 10 & CSAH 56 (Ramsey Blvd) intersection. Residents living in the affordable housing units south of the site must use the intersection to complete daily tasks and access goods and services, such as jobs, public transportation, educational facilities, medical centers, retail and restaurants.

Attachments for Part 5. Congestion Reduction/Air Quality

This roadway project includes grade separating the railroad crossing along CSAH 56 (Ramsey Blvd) in addition to grade separating the intersection of TH 10 and CSAH 56. Since the delay and emissions at the existing intersection of TH 10 at CSAH 56 can be determined through modeling the intersection in Synchro, the railroad crossing was also modeled as an intersection in the synchro model. Field observation was conducted during the peak hour to determine how many trains pass through and how long the trains stop traffic along CSAH 56. The field analysis showed that three trains pass through the project area during the peak hour. Each train blocks the crossing for an average of 2.5 minutes. Based on this information a pretimed signal was included in the existing model that has a 20-minute cycle length giving CSAH 56 a 17.5 minute phase followed by a 2.5 minute phase for the railroad. This would represent three trains passing through during the peak hour. This methodology to simulate operations along CSAH 56 at the railroad crossing was discussed with and approved by Met Council staff.

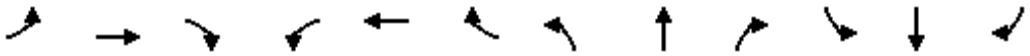
By simulating the railroad crossing the delay and emissions at the railroad crossing are included in the Synchro output just like they would be for a typical intersection. This ensures consistency in the results throughout this section as everything can be determined in Synchro instead of some in Synchro and some through hand calculations based on assumptions.

Additionally, since the project will grade separate TH 10 at CSAH 56, two build models were created so that emissions could be correctly calculated for the new interchange intersections (shown in one model) in addition to traffic along TH 10 (shown in a second model). The emissions in the two build models were added together to get the total emissions with the project.

Since the emissions were all determined from the Synchro models, the results were detailed out in the “Roadway projects that do not include new roadway segments or railroad grade-separation elements” section. While our project does in fact include railroad grade separated elements, we were able to show a railroad crossing in the Synchro model. By replicating the railroad crossing in the Synchro model, the emissions can directly calculated in Synchro rather than assuming vehicle speed, miles traveled, delay and total stops to calculate the emissions by hand as the “Roadway projects that include railroad grade-separation elements” section shows.

Lanes, Volumes, Timings
2: Ramsey Boulevard & Railroad Crossing

03/17/2020



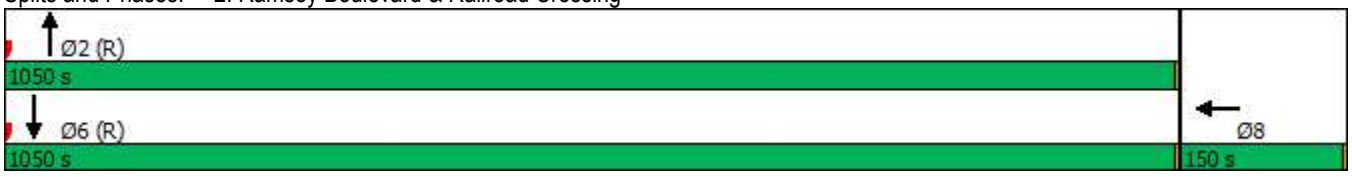
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	0	0	0	0	403	0	0	405	0
Future Volume (vph)	0	0	0	0	0	0	0	403	0	0	405	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	0		0	640		0
Storage Lanes	0		0	0		0	0		0	1		0
Taper Length (ft)	25			25			25			120		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.91	1.00
Frt												
Flt Protected												
Satd. Flow (prot)	0	0	0	0	1863	0	0	3539	0	0	5085	0
Flt Permitted												
Satd. Flow (perm)	0	0	0	0	1863	0	0	3539	0	0	5085	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)												
Link Speed (mph)		30			30			55			55	
Link Distance (ft)		515			687			522			840	
Travel Time (s)		11.7			15.6			6.5			10.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	0	0	0	0	438	0	0	440	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	0	0	0	438	0	0	440	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type								NA			NA	
Protected Phases					8			2			6	
Permitted Phases												
Minimum Split (s)					22.5			840.0			840.0	
Total Split (s)					150.0			1050.0			1050.0	
Total Split (%)					12.5%			87.5%			87.5%	
Maximum Green (s)					145.5			1045.5			1045.5	
Yellow Time (s)					3.5			3.5			3.5	
All-Red Time (s)					1.0			1.0			1.0	
Lost Time Adjust (s)					0.0			0.0			0.0	
Total Lost Time (s)					4.5			4.5			4.5	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)					7.0			7.0			7.0	
Flash Dont Walk (s)					11.0			11.0			11.0	
Pedestrian Calls (#/hr)					0			0			0	
Act Effct Green (s)								1045.5			1045.5	
Actuated g/C Ratio								0.87			0.87	
v/c Ratio								0.14			0.10	

Lanes, Volumes, Timings
2: Ramsey Boulevard & Railroad Crossing 03/17/2020

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay								11.5			10.9	
Queue Delay								8.9			0.0	
Total Delay								20.4			10.9	
LOS								C			B	
Approach Delay								20.4			10.9	
Approach LOS								C			B	
Stops (vph)								58			57	
Fuel Used(gal)								3			4	
CO Emissions (g/hr)								234			288	
NOx Emissions (g/hr)								46			56	
VOC Emissions (g/hr)								54			67	
Dilemma Vehicles (#)								2			2	
Queue Length 50th (ft)								271			182	
Queue Length 95th (ft)								278			186	
Internal Link Dist (ft)		435			607			442			760	
Turn Bay Length (ft)												
Base Capacity (vph)								3083			4430	
Starvation Cap Reductn								2600			0	
Spillback Cap Reductn								0			0	
Storage Cap Reductn								0			0	
Reduced v/c Ratio								0.91			0.10	

Intersection Summary			
Area Type:	Other		
Cycle Length: 1200			
Actuated Cycle Length: 1200			
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green			
Natural Cycle: 865			
Control Type: Pretimed			
Maximum v/c Ratio: 0.14			
Intersection Signal Delay: 15.7		Intersection LOS: B	
Intersection Capacity Utilization 14.9%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 2: Ramsey Boulevard & Railroad Crossing



Lanes, Volumes, Timings
27: Ramsey Boulevard & TH 10

03/17/2020

Lane Group	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBU
Lane Configurations												
Traffic Volume (vph)	6	43	1194	62	12	33	1868	317	47	40	16	3
Future Volume (vph)	6	43	1194	62	12	33	1868	317	47	40	16	3
Ideal Flow (vphpl)	1900	1900	2000	1900	1900	1900	2000	1900	1900	1900	1900	1900
Storage Length (ft)		665		564		882		315	275		225	
Storage Lanes		1		1		1		1	2		1	
Taper Length (ft)		25				25			25			
Lane Util. Factor	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.97	1.00	1.00	1.00
Frt				0.850				0.850			0.850	
Flt Protected		0.950				0.950			0.950			
Satd. Flow (prot)	0	1770	3725	1583	0	1770	3725	1583	3433	1863	1583	0
Flt Permitted		0.222				0.250			0.950			
Satd. Flow (perm)	0	414	3725	1583	0	466	3725	1583	3433	1863	1583	0
Right Turn on Red				Yes				Yes			Yes	
Satd. Flow (RTOR)				184				200			184	
Link Speed (mph)			65				60			35		
Link Distance (ft)			5144				5761			956		
Travel Time (s)			54.0				65.5			18.6		
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	6	43	1194	62	12	33	1868	317	47	40	16	3
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	49	1194	62	0	45	1868	317	47	40	16	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	R NA	Left	Left	Right	R NA	Left	Left	Right	Left	Left	Right	R NA
Median Width(ft)			36				36			36		
Link Offset(ft)			0				0			0		
Crosswalk Width(ft)			16				16			16		
Two way Left Turn Lane												
Headway Factor	1.00	1.00	0.94	1.00	1.00	1.00	0.94	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	9	15		9	9	15		9	15		10	9
Number of Detectors	2	2	1	0	2	2	1	0	1	2	0	2
Detector Template	Left				Left							Left
Leading Detector (ft)	56	46	556	0	56	46	556	0	60	126	0	56
Trailing Detector (ft)	0	10	550	0	0	10	550	0	10	5	0	0
Detector 1 Position(ft)	0	10	550	0	0	10	550	0	10	5	0	0
Detector 1 Size(ft)	20	6	6	20	20	6	6	20	50	21	20	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (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
Detector 1 Queue (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
Detector 1 Delay (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
Detector 2 Position(ft)	50	40			50	40				120		50
Detector 2 Size(ft)	6	6			6	6				6		6
Detector 2 Type	Cl+Ex	Cl+Ex			Cl+Ex	Cl+Ex				Cl+Ex		Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)	0.0	0.0			0.0	0.0				0.0		0.0
Turn Type	custom	Prot	NA	Perm	custom	Prot	NA	Perm	Prot	NA	Perm	custom
Protected Phases		5	2			1	6		3	8		
Permitted Phases	5			2	1			6			8	7

Lanes, Volumes, Timings
27: Ramsey Boulevard & TH 10

03/17/2020

Lane Group	SBL	SBT	SBR
Lane Configurations			
Traffic Volume (vph)	260	31	111
Future Volume (vph)	260	31	111
Ideal Flow (vphpl)	1900	1900	1900
Storage Length (ft)	0		295
Storage Lanes	2		1
Taper Length (ft)	25		
Lane Util. Factor	0.97	1.00	1.00
Frt			0.850
Flt Protected	0.950		
Satd. Flow (prot)	3433	1863	1583
Flt Permitted	0.731		
Satd. Flow (perm)	2642	1863	1583
Right Turn on Red			Yes
Satd. Flow (RTOR)			166
Link Speed (mph)		55	
Link Distance (ft)		522	
Travel Time (s)		6.5	
Peak Hour Factor	1.00	1.00	1.00
Adj. Flow (vph)	260	31	111
Shared Lane Traffic (%)			
Lane Group Flow (vph)	263	31	111
Enter Blocked Intersection	No	No	No
Lane Alignment	Left	Left	Right
Median Width(ft)		36	
Link Offset(ft)		0	
Crosswalk Width(ft)		16	
Two way Left Turn Lane			
Headway Factor	1.00	1.00	1.00
Turning Speed (mph)	15		10
Number of Detectors	1	2	0
Detector Template			
Leading Detector (ft)	60	306	0
Trailing Detector (ft)	10	5	0
Detector 1 Position(ft)	10	5	0
Detector 1 Size(ft)	50	21	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel			
Detector 1 Extend (s)	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0
Detector 2 Position(ft)		300	
Detector 2 Size(ft)		6	
Detector 2 Type		Cl+Ex	
Detector 2 Channel			
Detector 2 Extend (s)		0.0	
Turn Type	Prot	NA	Perm
Protected Phases	7	4	
Permitted Phases			4

Lanes, Volumes, Timings
27: Ramsey Boulevard & TH 10

03/17/2020

Lane Group	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBU
Detector Phase	5	5	2	2	1	1	6	6	3	8	8	7
Switch Phase												
Minimum Initial (s)	7.0	7.0	20.0	20.0	7.0	7.0	20.0	20.0	7.0	7.0	7.0	7.0
Minimum Split (s)	12.0	12.0	27.5	27.5	12.0	12.0	29.5	29.5	12.0	39.5	39.5	12.0
Total Split (s)	16.0	16.0	68.5	68.5	21.0	21.0	73.5	73.5	12.0	39.5	39.5	16.0
Total Split (%)	11.0%	11.0%	47.2%	47.2%	14.5%	14.5%	50.7%	50.7%	8.3%	27.2%	27.2%	11.0%
Maximum Green (s)	11.0	11.0	61.0	61.0	16.0	16.0	66.0	66.0	7.0	32.0	32.0	11.0
Yellow Time (s)	3.0	3.0	6.0	6.0	3.0	3.0	6.0	6.0	3.0	3.5	3.5	3.0
All-Red Time (s)	2.0	2.0	1.5	1.5	2.0	2.0	1.5	1.5	2.0	4.0	4.0	2.0
Lost Time Adjust (s)		0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)		5.0	7.5	7.5		5.0	7.5	7.5	5.0	7.5	7.5	
Lead/Lag	Lead	Lead	Lead	Lead	Lag	Lag	Lag	Lag	Lead	Lead	Lead	Lag
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	6.0	6.0	3.0	3.0	6.0	6.0	3.0	3.0	3.0	3.0
Minimum Gap (s)	0.2	0.2	4.0	4.0	0.2	0.2	4.0	4.0	0.2	0.2	0.2	0.2
Time Before Reduce (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
Time To Reduce (s)	0.0	0.0	30.0	30.0	0.0	0.0	30.0	30.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	C-Max	C-Max	None	None	C-Max	C-Max	None	None	None	None
Walk Time (s)			7.0	7.0			7.0	7.0		20.0	20.0	
Flash Dont Walk (s)			13.0	13.0			15.0	15.0		12.0	12.0	
Pedestrian Calls (#/hr)			0	0			0	0		0	0	
Act Effct Green (s)		18.0	71.7	71.7		16.0	69.7	69.7	7.0	8.7	8.7	
Actuated g/C Ratio		0.12	0.49	0.49		0.11	0.48	0.48	0.05	0.06	0.06	
v/c Ratio		0.96	0.65	0.07		0.88	1.04	0.37	0.28	0.36	0.06	
Control Delay		176.5	29.8	0.2		157.6	70.8	10.1	71.2	73.8	0.4	
Queue Delay		0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay		176.5	29.8	0.2		157.6	70.8	10.1	71.2	73.8	0.4	
LOS		F	C	A		F	E	B	E	E	A	
Approach Delay			33.9				63.9			61.2		
Approach LOS			C				E			E		
90th %ile Green (s)	17.8	17.8	67.8	67.8	16.0	16.0	66.0	66.0	7.0	11.5	11.5	24.7
90th %ile Term Code	Max	Max	Coord	Coord	Max	Max	Coord	Coord	Max	Gap	Gap	Gap
70th %ile Green (s)	20.5	20.5	70.5	70.5	16.0	16.0	66.0	66.0	7.0	9.7	9.7	23.8
70th %ile Term Code	Max	Max	Coord	Coord	Max	Max	Coord	Coord	Max	Gap	Gap	Gap
50th %ile Green (s)	19.8	19.8	71.3	71.3	16.0	16.0	67.5	67.5	7.0	8.4	8.4	24.3
50th %ile Term Code	Gap	Gap	Coord	Coord	Max	Max	Coord	Coord	Max	Gap	Gap	Gap
30th %ile Green (s)	17.9	17.9	70.6	70.6	16.0	16.0	68.7	68.7	7.0	7.1	7.1	26.3
30th %ile Term Code	Gap	Gap	Coord	Coord	Max	Max	Coord	Coord	Max	Gap	Gap	Gap
10th %ile Green (s)	14.1	14.1	78.2	78.2	16.0	16.0	80.1	80.1	0.0	0.0	0.0	33.3
10th %ile Term Code	Gap	Gap	Coord	Coord	Hold	Hold	Coord	Coord	Skip	Skip	Skip	Gap
Stops (vph)		39	871	0		35	1582	75	44	38	0	
Fuel Used(gal)		4	71	2		4	132	14	1	1	0	
CO Emissions (g/hr)		313	4984	151		272	9194	988	93	81	8	
NOx Emissions (g/hr)		61	970	29		53	1789	192	18	16	2	
VOC Emissions (g/hr)		72	1155	35		63	2131	229	22	19	2	
Dilemma Vehicles (#)		0	41	0		0	58	0	0	1	0	
Queue Length 50th (ft)		46	434	0		43	~1032	63	22	37	0	
Queue Length 95th (ft)		#136	537	0		#126	#1187	138	45	77	0	
Internal Link Dist (ft)			5064				5681			876		

Lanes, Volumes, Timings
27: Ramsey Boulevard & TH 10

03/17/2020

Lane Group	SBL	SBT	SBR
Detector Phase	7	4	4
Switch Phase			
Minimum Initial (s)	7.0	7.0	7.0
Minimum Split (s)	12.0	17.5	17.5
Total Split (s)	16.0	43.5	43.5
Total Split (%)	11.0%	30.0%	30.0%
Maximum Green (s)	11.0	36.0	36.0
Yellow Time (s)	3.0	3.5	3.5
All-Red Time (s)	2.0	4.0	4.0
Lost Time Adjust (s)	0.0	0.0	0.0
Total Lost Time (s)	5.0	7.5	7.5
Lead/Lag	Lag	Lag	Lag
Lead-Lag Optimize?			
Vehicle Extension (s)	3.0	4.5	4.5
Minimum Gap (s)	0.2	0.2	0.2
Time Before Reduce (s)	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0
Recall Mode	None	None	None
Walk Time (s)			
Flash Dont Walk (s)			
Pedestrian Calls (#/hr)			
Act Effct Green (s)	26.5	27.7	27.7
Actuated g/C Ratio	0.18	0.19	0.19
v/c Ratio	0.55	0.09	0.25
Control Delay	59.4	49.4	2.4
Queue Delay	0.0	0.0	0.0
Total Delay	59.4	49.4	2.4
LOS	E	D	A
Approach Delay		43.0	
Approach LOS		D	
90th %ile Green (s)	24.7	29.2	29.2
90th %ile Term Code	Gap	Hold	Hold
70th %ile Green (s)	23.8	26.5	26.5
70th %ile Term Code	Gap	Hold	Hold
50th %ile Green (s)	24.3	25.7	25.7
50th %ile Term Code	Gap	Hold	Hold
30th %ile Green (s)	26.3	26.4	26.4
30th %ile Term Code	Gap	Hold	Hold
10th %ile Green (s)	33.3	30.8	30.8
10th %ile Term Code	Gap	Hold	Hold
Stops (vph)	236	27	2
Fuel Used(gal)	8	1	0
CO Emissions (g/hr)	590	64	32
NOx Emissions (g/hr)	115	12	6
VOC Emissions (g/hr)	137	15	7
Dilemma Vehicles (#)	0	0	0
Queue Length 50th (ft)	120	25	0
Queue Length 95th (ft)	168	55	8
Internal Link Dist (ft)		442	

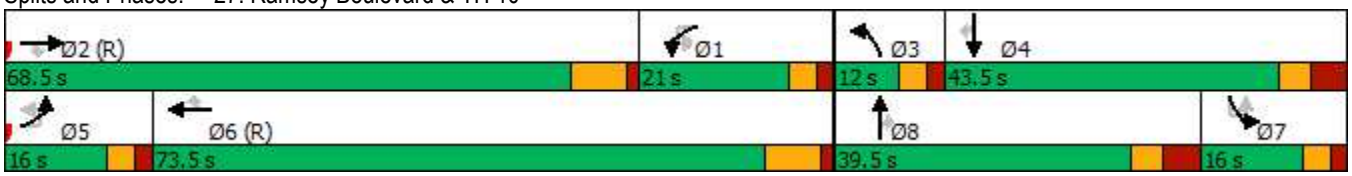
Lanes, Volumes, Timings
27: Ramsey Boulevard & TH 10

03/17/2020

Lane Group	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBU
Turn Bay Length (ft)		665		564		882		315	275		225	
Base Capacity (vph)		51	1841	875		51	1789	864	165	411	492	
Starvation Cap Reductn		0	0	0		0	0	0	0	0	0	
Spillback Cap Reductn		0	0	0		0	0	0	0	0	0	
Storage Cap Reductn		0	0	0		0	0	0	0	0	0	
Reduced v/c Ratio		0.96	0.65	0.07		0.88	1.04	0.37	0.28	0.10	0.03	

Intersection Summary			
Area Type:	Other		
Cycle Length: 145			
Actuated Cycle Length: 145			
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of 1st Green			
Natural Cycle: 145			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.04			
Intersection Signal Delay: 52.1		Intersection LOS: D	
Intersection Capacity Utilization 78.4%		ICU Level of Service D	
Analysis Period (min) 15			
~ Volume exceeds capacity, queue is theoretically infinite.			
Queue shown is maximum after two cycles.			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

Splits and Phases: 27: Ramsey Boulevard & TH 10



Lanes, Volumes, Timings
27: Ramsey Boulevard & TH 10 03/17/2020

Lane Group	SBL	SBT	SBR
Turn Bay Length (ft)			295
Base Capacity (vph)	482	462	517
Starvation Cap Reductn	0	0	0
Spillback Cap Reductn	0	0	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	0.55	0.07	0.21

Intersection Summary

Measures of Effectiveness

03/17/2020

Network Totals

Number of Intersections	2
Total Delay (hr)	62
Stops (#)	3064
Average Speed (mph)	31
Total Travel Time (hr)	125
Distance Traveled (mi)	3867
Fuel Consumed (gal)	248
Fuel Economy (mpg)	15.6
Unserved Vehicles (#)	78
Vehicles in dilemma zone (#)	104
Performance Index	70.5

Detailed Measures of Effectiveness

03/17/2020

2: Ramsey Boulevard & Railroad Crossing

Direction	NB	SB	All
Future Volume (vph)	403	405	808
Control Delay / Veh (s/v)	11	11	11
Queue Delay / Veh (s/v)	9	0	4
Total Delay / Veh (s/v)	20	11	16
Total Delay (hr)	2	1	4
Stops / Veh	0.14	0.14	0.14
Stops (#)	58	57	115
Average Speed (mph)	13	27	19
Total Travel Time (hr)	3	2	5
Distance Traveled (mi)	40	64	104
Fuel Consumed (gal)	4	4	8
Fuel Economy (mpg)	9.8	15.7	12.7
CO Emissions (kg)	0.29	0.29	0.57
NOx Emissions (kg)	0.06	0.06	0.11
VOC Emissions (kg)	0.07	0.07	0.13
Unserved Vehicles (#)	0	0	0
Vehicles in dilemma zone (#)	2	2	4

27: Ramsey Boulevard & TH 10

Direction	EB	WB	NB	SB	All
Future Volume (vph)	1305	2230	103	405	4043
Control Delay / Veh (s/v)	34	64	61	43	52
Queue Delay / Veh (s/v)	0	0	0	0	0
Total Delay / Veh (s/v)	34	64	61	43	52
Total Delay (hr)	12	40	2	5	58
Stops / Veh	0.70	0.76	0.80	0.65	0.73
Stops (#)	910	1692	82	265	2949
Average Speed (mph)	40	30	8	7	31
Total Travel Time (hr)	32	80	2	6	120
Distance Traveled (mi)	1271	2433	19	40	3763
Fuel Consumed (gal)	78	150	3	10	240
Fuel Economy (mpg)	16.3	16.3	7.1	4.1	15.7
CO Emissions (kg)	5.45	10.45	0.18	0.69	16.77
NOx Emissions (kg)	1.06	2.03	0.04	0.13	3.26
VOC Emissions (kg)	1.26	2.42	0.04	0.16	3.89
Unserved Vehicles (#)	0	78	0	0	78
Vehicles in dilemma zone (#)	41	58	1	0	100

Detailed Measures of Effectiveness

03/17/2020

Network Totals

Number of Intersections	2
Control Delay / Veh (s/v)	45
Queue Delay / Veh (s/v)	1
Total Delay / Veh (s/v)	46
Total Delay (hr)	62
Stops / Veh	0.63
Stops (#)	3064
Average Speed (mph)	31
Total Travel Time (hr)	125
Distance Traveled (mi)	3867
Fuel Consumed (gal)	248
Fuel Economy (mpg)	15.6
CO Emissions (kg)	17.34
NOx Emissions (kg)	3.37
VOC Emissions (kg)	4.02
Unserved Vehicles (#)	78
Vehicles in dilemma zone (#)	104
Performance Index	70.5

Lanes, Volumes, Timings
27: Ramsey Boulevard & TH 10

02/13/2020

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	1194	0	0	1868	0	0
Future Volume (vph)	1194	0	0	1868	0	0
Ideal Flow (vphpl)	2000	1900	1900	2000	1900	1900
Storage Length (ft)		564	882		275	225
Storage Lanes		0	0		0	0
Taper Length (ft)			25		25	
Lane Util. Factor	0.95	1.00	1.00	0.95	1.00	1.00
Frt						
Flt Protected						
Satd. Flow (prot)	3725	0	0	3725	0	0
Flt Permitted						
Satd. Flow (perm)	3725	0	0	3725	0	0
Link Speed (mph)	65			60	35	
Link Distance (ft)	5144			5761	956	
Travel Time (s)	54.0			65.5	18.6	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	1194	0	0	1868	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1194	0	0	1868	0	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	36			36	36	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	0.94	1.00	1.00	0.94	1.00	1.00
Turning Speed (mph)		9	15		15	10
Sign Control	Free			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	52.4%	ICU Level of Service	A
Analysis Period (min)	15		

Measures of Effectiveness

02/13/2020

Network Totals

Number of Intersections	1
Total Delay (hr)	0
Stops (#)	0
Average Speed (mph)	62
Total Travel Time (hr)	52
Distance Traveled (mi)	3201
Fuel Consumed (gal)	111
Fuel Economy (mpg)	28.8
Unserved Vehicles (#)	0
Vehicles in dilemma zone (#)	0
Performance Index	0.0

Detailed Measures of Effectiveness

02/13/2020

27: Ramsey Boulevard & TH 10

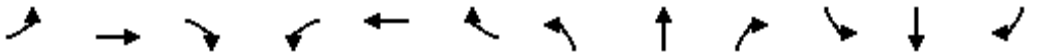
Direction	EB	WB	All
Future Volume (vph)	1194	1868	3062
Control Delay / Veh (s/v)	0	0	0
Queue Delay / Veh (s/v)	0	0	0
Total Delay / Veh (s/v)	0	0	0
Total Delay (hr)	0	0	0
Stops / Veh	0.00	0.00	0.00
Stops (#)	0	0	0
Average Speed (mph)	65	60	62
Total Travel Time (hr)	18	34	52
Distance Traveled (mi)	1163	2038	3201
Fuel Consumed (gal)	41	70	111
Fuel Economy (mpg)	28.1	29.3	28.8
CO Emissions (kg)	2.90	4.87	7.77
NOx Emissions (kg)	0.56	0.95	1.51
VOC Emissions (kg)	0.67	1.13	1.80
Unserved Vehicles (#)	0	0	0
Vehicles in dilemma zone (#)	0	0	0

Network Totals

Number of Intersections	1
Control Delay / Veh (s/v)	0
Queue Delay / Veh (s/v)	0
Total Delay / Veh (s/v)	0
Total Delay (hr)	0
Stops / Veh	0.00
Stops (#)	0
Average Speed (mph)	62
Total Travel Time (hr)	52
Distance Traveled (mi)	3201
Fuel Consumed (gal)	111
Fuel Economy (mpg)	28.8
CO Emissions (kg)	7.77
NOx Emissions (kg)	1.51
VOC Emissions (kg)	1.80
Unserved Vehicles (#)	0
Vehicles in dilemma zone (#)	0
Performance Index	0.0

Lanes, Volumes, Timings
1: Ramsey & WB Exit

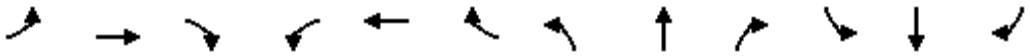
02/13/2020



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	317	20	33	15	40	5	47	93	10	5	291	111
Future Volume (vph)	317	20	33	15	40	5	47	93	10	5	291	111
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		100	300		300	0		150	300		0
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	120			180			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1863	1583	1770	1863	1583	1770	1863	1583	1770	1863	1583
Flt Permitted	0.408			0.755			0.511			0.692		
Satd. Flow (perm)	760	1863	1583	1406	1863	1583	952	1863	1583	1289	1863	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			36			69			69			121
Link Speed (mph)		30			30			30			55	
Link Distance (ft)		5145			5764			515			1040	
Travel Time (s)		116.9			131.0			11.7			12.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	345	22	36	16	43	5	51	101	11	5	316	121
Shared Lane Traffic (%)												
Lane Group Flow (vph)	345	22	36	16	43	5	51	101	11	5	316	121
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	R NA	Left	L NA	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100	20	20	100	20	20	100	20
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	20	6	20	20	6	20	20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (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
Detector 1 Queue (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
Detector 1 Delay (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
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA	Perm	Perm	NA	Perm	Perm	NA	Perm	Perm	NA	Perm
Protected Phases	7	4			8			2			6	
Permitted Phases	4		4	8		8	2		2	6		6

Lanes, Volumes, Timings
1: Ramsey & WB Exit

02/13/2020



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	7	4	4	8	8	8	2	2	2	6	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	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5
Total Split (s)	37.5	60.0	60.0	22.5	22.5	22.5	35.0	35.0	35.0	35.0	35.0	35.0
Total Split (%)	39.5%	63.2%	63.2%	23.7%	23.7%	23.7%	36.8%	36.8%	36.8%	36.8%	36.8%	36.8%
Maximum Green (s)	33.0	55.5	55.5	18.0	18.0	18.0	30.5	30.5	30.5	30.5	30.5	30.5
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	Lag						
Lead-Lag Optimize?	Yes			Yes	Yes	Yes						
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	C-Min	C-Min	C-Min	C-Min	C-Min	C-Min
Walk Time (s)		7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
Flash Dont Walk (s)		11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0
Pedestrian Calls (#/hr)		0	0	0	0	0	0	0	0	0	0	0
Act Effct Green (s)	34.1	34.1	34.1	7.7	7.7	7.7	51.9	51.9	51.9	51.9	51.9	51.9
Actuated g/C Ratio	0.36	0.36	0.36	0.08	0.08	0.08	0.55	0.55	0.55	0.55	0.55	0.55
v/c Ratio	0.63	0.03	0.06	0.14	0.29	0.03	0.10	0.10	0.01	0.01	0.31	0.13
Control Delay	27.7	14.2	4.3	42.3	45.2	0.2	16.3	14.9	0.0	16.6	16.3	4.0
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	27.7	14.2	4.3	42.3	45.2	0.2	16.3	14.9	0.0	16.6	16.3	4.0
LOS	C	B	A	D	D	A	B	B	A	B	B	A
Approach Delay		24.9			41.0			14.3			12.9	
Approach LOS		C			D			B			B	
90th %ile Green (s)	35.4	50.1	50.1	10.2	10.2	10.2	35.9	35.9	35.9	35.9	35.9	35.9
90th %ile Term Code	Gap	Hold	Hold	Gap	Gap	Gap	Coord	Coord	Coord	Coord	Coord	Coord
70th %ile Green (s)	30.0	43.1	43.1	8.6	8.6	8.6	42.9	42.9	42.9	42.9	42.9	42.9
70th %ile Term Code	Gap	Hold	Hold	Gap	Gap	Gap	Coord	Coord	Coord	Coord	Coord	Coord
50th %ile Green (s)	26.1	38.2	38.2	7.6	7.6	7.6	47.8	47.8	47.8	47.8	47.8	47.8
50th %ile Term Code	Gap	Hold	Hold	Gap	Gap	Gap	Coord	Coord	Coord	Coord	Coord	Coord
30th %ile Green (s)	22.2	22.2	22.2	0.0	0.0	0.0	63.8	63.8	63.8	63.8	63.8	63.8
30th %ile Term Code	Gap	Hold	Hold	Skip	Skip	Skip	Coord	Coord	Coord	Coord	Coord	Coord
10th %ile Green (s)	16.7	16.7	16.7	0.0	0.0	0.0	69.3	69.3	69.3	69.3	69.3	69.3
10th %ile Term Code	Gap	Hold	Hold	Skip	Skip	Skip	Coord	Coord	Coord	Coord	Coord	Coord
Stops (vph)	229	12	6	17	38	0	27	50	0	4	167	14
Fuel Used(gal)	16	1	1	1	2	0	0	1	0	0	6	1
CO Emissions (g/hr)	1102	65	97	63	166	16	35	65	3	9	418	76
NOx Emissions (g/hr)	214	13	19	12	32	3	7	13	1	2	81	15
VOC Emissions (g/hr)	255	15	22	15	38	4	8	15	1	2	97	18
Dilemma Vehicles (#)	0	0	0	0	0	0	0	0	0	0	15	0
Queue Length 50th (ft)	151	8	0	9	25	0	15	31	0	2	109	0
Queue Length 95th (ft)	178	17	14	29	57	0	46	75	0	9	216	34
Internal Link Dist (ft)		5065			5684			435			960	
Turn Bay Length (ft)	100		100	300		300			150	300		
Base Capacity (vph)	671	1088	939	266	352	355	520	1018	896	704	1018	920
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0

Lanes, Volumes, Timings
1: Ramsey & WB Exit

02/13/2020

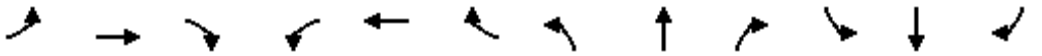
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.51	0.02	0.04	0.06	0.12	0.01	0.10	0.10	0.01	0.01	0.31	0.13

Intersection Summary			
Area Type:	Other		
Cycle Length: 95			
Actuated Cycle Length: 95			
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Natural Cycle: 55			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.63			
Intersection Signal Delay: 19.3		Intersection LOS: B	
Intersection Capacity Utilization 55.0%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 1: Ramsey & WB Exit

Lanes, Volumes, Timings
2: Ramsey & EB Exit

02/13/2020



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	53	0	72	0	0	0	0	97	36	270	69	0
Future Volume (vph)	53	0	72	0	0	0	0	97	36	270	69	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		300	0		0	0		300	0		0
Storage Lanes	1		1	0		0	0		1	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850						0.850			
Flt Protected	0.950									0.950		
Satd. Flow (prot)	1770	0	1583	0	0	0	0	1863	1583	1770	1863	0
Flt Permitted	0.950									0.950		
Satd. Flow (perm)	1770	0	1583	0	0	0	0	1863	1583	1770	1863	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		5143			5760			756			515	
Travel Time (s)		116.9			130.9			17.2			11.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	58	0	78	0	0	0	0	105	39	293	75	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	58	0	78	0	0	0	0	105	39	293	75	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	31.6%	ICU Level of Service	A
Analysis Period (min)	15		

Measures of Effectiveness

02/13/2020

Network Totals

Number of Intersections	2
Total Delay (hr)	6
Stops (#)	1129
Average Speed (mph)	25
Total Travel Time (hr)	28
Distance Traveled (mi)	695
Fuel Consumed (gal)	41
Fuel Economy (mpg)	16.8
Unserved Vehicles (#)	0
Vehicles in dilemma zone (#)	15
Performance Index	9.5

Detailed Measures of Effectiveness

02/13/2020

1: Ramsey & WB Exit

Direction	EB	WB	NB	SB	All
Future Volume (vph)	370	60	150	407	987
Control Delay / Veh (s/v)	25	41	14	13	19
Queue Delay / Veh (s/v)	0	0	0	0	0
Total Delay / Veh (s/v)	25	41	14	13	19
Total Delay (hr)	3	1	1	1	5
Stops / Veh	0.67	0.92	0.51	0.45	0.57
Stops (#)	247	55	77	185	564
Average Speed (mph)	25	23	13	27	24
Total Travel Time (hr)	15	3	1	3	21
Distance Traveled (mi)	361	66	15	80	521
Fuel Consumed (gal)	18	3	1	7	30
Fuel Economy (mpg)	19.9	18.7	10.0	11.2	17.2
CO Emissions (kg)	1.26	0.24	0.10	0.50	2.11
NOx Emissions (kg)	0.25	0.05	0.02	0.10	0.41
VOC Emissions (kg)	0.29	0.06	0.02	0.12	0.49
Unserved Vehicles (#)	0	0	0	0	0
Vehicles in dilemma zone (#)	0	0	0	15	15

2: Ramsey & EB Exit

Direction	EB	NB	SB	All
Future Volume (vph)	125	133	339	597
Control Delay / Veh (s/v)	15	0	6	7
Queue Delay / Veh (s/v)	0	0	0	0
Total Delay / Veh (s/v)	15	0	6	7
Total Delay (hr)	1	0	1	1
Stops / Veh	1.00	0.00	1.30	0.95
Stops (#)	125	0	440	565
Average Speed (mph)	27	30	19	25
Total Travel Time (hr)	5	1	2	7
Distance Traveled (mi)	122	19	33	174
Fuel Consumed (gal)	6	1	4	11
Fuel Economy (mpg)	20.1	NA	7.8	15.7
CO Emissions (kg)	0.42	0.05	0.30	0.78
NOx Emissions (kg)	0.08	0.01	0.06	0.15
VOC Emissions (kg)	0.10	0.01	0.07	0.18
Unserved Vehicles (#)	0	0	0	0
Vehicles in dilemma zone (#)	0	0	0	0

Detailed Measures of Effectiveness

02/13/2020

Network Totals

Number of Intersections	2
Control Delay / Veh (s/v)	15
Queue Delay / Veh (s/v)	0
Total Delay / Veh (s/v)	15
Total Delay (hr)	6
Stops / Veh	0.71
Stops (#)	1129
Average Speed (mph)	25
Total Travel Time (hr)	28
Distance Traveled (mi)	695
Fuel Consumed (gal)	41
Fuel Economy (mpg)	16.8
CO Emissions (kg)	2.89
NOx Emissions (kg)	0.56
VOC Emissions (kg)	0.67
Unserved Vehicles (#)	0
Vehicles in dilemma zone (#)	15
Performance Index	9.5

Attachments for Part 5. Congestion Reduction/Air Quality

This roadway project includes grade separating the railroad crossing along CSAH 56 (Ramsey Blvd) in addition to grade separating the intersection of TH 10 and CSAH 56. Since the delay and emissions at the existing intersection of TH 10 at CSAH 56 can be determined through modeling the intersection in Synchro, the railroad crossing was also modeled as an intersection in the synchro model. Field observation was conducted during the peak hour to determine how many trains pass through and how long the trains stop traffic along CSAH 56. The field analysis showed that three trains pass through the project area during the peak hour. Each train blocks the crossing for an average of 2.5 minutes. Based on this information a pretimed signal was included in the existing model that has a 20-minute cycle length giving CSAH 56 a 17.5 minute phase followed by a 2.5 minute phase for the railroad. This would represent three trains passing through during the peak hour. This methodology to simulate operations along CSAH 56 at the railroad crossing was discussed with and approved by Met Council staff.

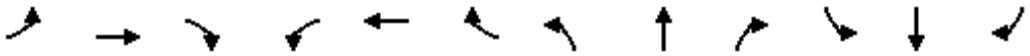
By simulating the railroad crossing the delay and emissions at the railroad crossing are included in the Synchro output just like they would be for a typical intersection. This ensures consistency in the results throughout this section as everything can be determined in Synchro instead of some in Synchro and some through hand calculations based on assumptions.

Additionally, since the project will grade separate TH 10 at CSAH 56, two build models were created so that emissions could be correctly calculated for the new interchange intersections (shown in one model) in addition to traffic along TH 10 (shown in a second model). The emissions in the two build models were added together to get the total emissions with the project.

Since the emissions were all determined from the Synchro models, the results were detailed out in the “Roadway projects that do not include new roadway segments or railroad grade-separation elements” section. While our project does in fact include railroad grade separated elements, we were able to show a railroad crossing in the Synchro model. By replicating the railroad crossing in the Synchro model, the emissions can directly calculated in Synchro rather than assuming vehicle speed, miles traveled, delay and total stops to calculate the emissions by hand as the “Roadway projects that include railroad grade-separation elements” section shows.

Lanes, Volumes, Timings
2: Ramsey Boulevard & Railroad Crossing

03/17/2020



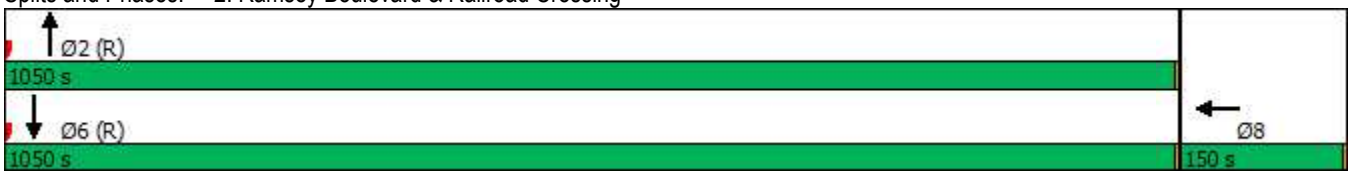
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	0	0	0	0	403	0	0	405	0
Future Volume (vph)	0	0	0	0	0	0	0	403	0	0	405	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	0		0	640		0
Storage Lanes	0		0	0		0	0		0	1		0
Taper Length (ft)	25			25			25			120		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.91	1.00
Frt												
Flt Protected												
Satd. Flow (prot)	0	0	0	0	1863	0	0	3539	0	0	5085	0
Flt Permitted												
Satd. Flow (perm)	0	0	0	0	1863	0	0	3539	0	0	5085	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)												
Link Speed (mph)		30			30			55			55	
Link Distance (ft)		515			687			522			840	
Travel Time (s)		11.7			15.6			6.5			10.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	0	0	0	0	438	0	0	440	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	0	0	0	438	0	0	440	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type								NA			NA	
Protected Phases					8			2			6	
Permitted Phases												
Minimum Split (s)					22.5			840.0			840.0	
Total Split (s)					150.0			1050.0			1050.0	
Total Split (%)					12.5%			87.5%			87.5%	
Maximum Green (s)					145.5			1045.5			1045.5	
Yellow Time (s)					3.5			3.5			3.5	
All-Red Time (s)					1.0			1.0			1.0	
Lost Time Adjust (s)					0.0			0.0			0.0	
Total Lost Time (s)					4.5			4.5			4.5	
Lead/Lag												
Lead-Lag Optimize?												
Walk Time (s)					7.0			7.0			7.0	
Flash Dont Walk (s)					11.0			11.0			11.0	
Pedestrian Calls (#/hr)					0			0			0	
Act Effct Green (s)								1045.5			1045.5	
Actuated g/C Ratio								0.87			0.87	
v/c Ratio								0.14			0.10	

Lanes, Volumes, Timings
2: Ramsey Boulevard & Railroad Crossing 03/17/2020

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay								11.5			10.9	
Queue Delay								8.9			0.0	
Total Delay								20.4			10.9	
LOS								C			B	
Approach Delay								20.4			10.9	
Approach LOS								C			B	
Stops (vph)								58			57	
Fuel Used(gal)								3			4	
CO Emissions (g/hr)								234			288	
NOx Emissions (g/hr)								46			56	
VOC Emissions (g/hr)								54			67	
Dilemma Vehicles (#)								2			2	
Queue Length 50th (ft)								271			182	
Queue Length 95th (ft)								278			186	
Internal Link Dist (ft)		435			607			442			760	
Turn Bay Length (ft)												
Base Capacity (vph)								3083			4430	
Starvation Cap Reductn								2600			0	
Spillback Cap Reductn								0			0	
Storage Cap Reductn								0			0	
Reduced v/c Ratio								0.91			0.10	

Intersection Summary			
Area Type:	Other		
Cycle Length: 1200			
Actuated Cycle Length: 1200			
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green			
Natural Cycle: 865			
Control Type: Pretimed			
Maximum v/c Ratio: 0.14			
Intersection Signal Delay: 15.7		Intersection LOS: B	
Intersection Capacity Utilization 14.9%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 2: Ramsey Boulevard & Railroad Crossing



Lanes, Volumes, Timings
27: Ramsey Boulevard & TH 10

03/17/2020

Lane Group	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBU
Lane Configurations												
Traffic Volume (vph)	6	43	1194	62	12	33	1868	317	47	40	16	3
Future Volume (vph)	6	43	1194	62	12	33	1868	317	47	40	16	3
Ideal Flow (vphpl)	1900	1900	2000	1900	1900	1900	2000	1900	1900	1900	1900	1900
Storage Length (ft)		665		564		882		315	275		225	
Storage Lanes		1		1		1		1	2		1	
Taper Length (ft)		25				25			25			
Lane Util. Factor	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.97	1.00	1.00	1.00
Frt				0.850				0.850			0.850	
Flt Protected		0.950				0.950			0.950			
Satd. Flow (prot)	0	1770	3725	1583	0	1770	3725	1583	3433	1863	1583	0
Flt Permitted		0.222				0.250			0.950			
Satd. Flow (perm)	0	414	3725	1583	0	466	3725	1583	3433	1863	1583	0
Right Turn on Red				Yes				Yes			Yes	
Satd. Flow (RTOR)				184				200			184	
Link Speed (mph)			65				60			35		
Link Distance (ft)			5144				5761			956		
Travel Time (s)			54.0				65.5			18.6		
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	6	43	1194	62	12	33	1868	317	47	40	16	3
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	49	1194	62	0	45	1868	317	47	40	16	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	R NA	Left	Left	Right	R NA	Left	Left	Right	Left	Left	Right	R NA
Median Width(ft)			36				36			36		
Link Offset(ft)			0				0			0		
Crosswalk Width(ft)			16				16			16		
Two way Left Turn Lane												
Headway Factor	1.00	1.00	0.94	1.00	1.00	1.00	0.94	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	9	15		9	9	15		9	15		10	9
Number of Detectors	2	2	1	0	2	2	1	0	1	2	0	2
Detector Template	Left				Left							Left
Leading Detector (ft)	56	46	556	0	56	46	556	0	60	126	0	56
Trailing Detector (ft)	0	10	550	0	0	10	550	0	10	5	0	0
Detector 1 Position(ft)	0	10	550	0	0	10	550	0	10	5	0	0
Detector 1 Size(ft)	20	6	6	20	20	6	6	20	50	21	20	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (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
Detector 1 Queue (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
Detector 1 Delay (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
Detector 2 Position(ft)	50	40			50	40				120		50
Detector 2 Size(ft)	6	6			6	6				6		6
Detector 2 Type	Cl+Ex	Cl+Ex			Cl+Ex	Cl+Ex				Cl+Ex		Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)	0.0	0.0			0.0	0.0				0.0		0.0
Turn Type	custom	Prot	NA	Perm	custom	Prot	NA	Perm	Prot	NA	Perm	custom
Protected Phases		5	2			1	6		3	8		
Permitted Phases	5			2	1			6			8	7

Lanes, Volumes, Timings
27: Ramsey Boulevard & TH 10

03/17/2020

Lane Group	SBL	SBT	SBR
Lane Configurations			
Traffic Volume (vph)	260	31	111
Future Volume (vph)	260	31	111
Ideal Flow (vphpl)	1900	1900	1900
Storage Length (ft)	0		295
Storage Lanes	2		1
Taper Length (ft)	25		
Lane Util. Factor	0.97	1.00	1.00
Frt			0.850
Flt Protected	0.950		
Satd. Flow (prot)	3433	1863	1583
Flt Permitted	0.731		
Satd. Flow (perm)	2642	1863	1583
Right Turn on Red			Yes
Satd. Flow (RTOR)			166
Link Speed (mph)		55	
Link Distance (ft)		522	
Travel Time (s)		6.5	
Peak Hour Factor	1.00	1.00	1.00
Adj. Flow (vph)	260	31	111
Shared Lane Traffic (%)			
Lane Group Flow (vph)	263	31	111
Enter Blocked Intersection	No	No	No
Lane Alignment	Left	Left	Right
Median Width(ft)		36	
Link Offset(ft)		0	
Crosswalk Width(ft)		16	
Two way Left Turn Lane			
Headway Factor	1.00	1.00	1.00
Turning Speed (mph)	15		10
Number of Detectors	1	2	0
Detector Template			
Leading Detector (ft)	60	306	0
Trailing Detector (ft)	10	5	0
Detector 1 Position(ft)	10	5	0
Detector 1 Size(ft)	50	21	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel			
Detector 1 Extend (s)	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0
Detector 2 Position(ft)		300	
Detector 2 Size(ft)		6	
Detector 2 Type		Cl+Ex	
Detector 2 Channel			
Detector 2 Extend (s)		0.0	
Turn Type	Prot	NA	Perm
Protected Phases	7	4	
Permitted Phases			4

Lanes, Volumes, Timings
27: Ramsey Boulevard & TH 10

03/17/2020

Lane Group	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBU
Detector Phase	5	5	2	2	1	1	6	6	3	8	8	7
Switch Phase												
Minimum Initial (s)	7.0	7.0	20.0	20.0	7.0	7.0	20.0	20.0	7.0	7.0	7.0	7.0
Minimum Split (s)	12.0	12.0	27.5	27.5	12.0	12.0	29.5	29.5	12.0	39.5	39.5	12.0
Total Split (s)	16.0	16.0	68.5	68.5	21.0	21.0	73.5	73.5	12.0	39.5	39.5	16.0
Total Split (%)	11.0%	11.0%	47.2%	47.2%	14.5%	14.5%	50.7%	50.7%	8.3%	27.2%	27.2%	11.0%
Maximum Green (s)	11.0	11.0	61.0	61.0	16.0	16.0	66.0	66.0	7.0	32.0	32.0	11.0
Yellow Time (s)	3.0	3.0	6.0	6.0	3.0	3.0	6.0	6.0	3.0	3.5	3.5	3.0
All-Red Time (s)	2.0	2.0	1.5	1.5	2.0	2.0	1.5	1.5	2.0	4.0	4.0	2.0
Lost Time Adjust (s)		0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)		5.0	7.5	7.5		5.0	7.5	7.5	5.0	7.5	7.5	
Lead/Lag	Lead	Lead	Lead	Lead	Lag	Lag	Lag	Lag	Lead	Lead	Lead	Lag
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	6.0	6.0	3.0	3.0	6.0	6.0	3.0	3.0	3.0	3.0
Minimum Gap (s)	0.2	0.2	4.0	4.0	0.2	0.2	4.0	4.0	0.2	0.2	0.2	0.2
Time Before Reduce (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
Time To Reduce (s)	0.0	0.0	30.0	30.0	0.0	0.0	30.0	30.0	0.0	0.0	0.0	0.0
Recall Mode	None	None	C-Max	C-Max	None	None	C-Max	C-Max	None	None	None	None
Walk Time (s)			7.0	7.0			7.0	7.0		20.0	20.0	
Flash Dont Walk (s)			13.0	13.0			15.0	15.0		12.0	12.0	
Pedestrian Calls (#/hr)			0	0			0	0		0	0	
Act Effct Green (s)		18.0	71.7	71.7		16.0	69.7	69.7	7.0	8.7	8.7	
Actuated g/C Ratio		0.12	0.49	0.49		0.11	0.48	0.48	0.05	0.06	0.06	
v/c Ratio		0.96	0.65	0.07		0.88	1.04	0.37	0.28	0.36	0.06	
Control Delay		176.5	29.8	0.2		157.6	70.8	10.1	71.2	73.8	0.4	
Queue Delay		0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay		176.5	29.8	0.2		157.6	70.8	10.1	71.2	73.8	0.4	
LOS		F	C	A		F	E	B	E	E	A	
Approach Delay			33.9				63.9			61.2		
Approach LOS			C				E			E		
90th %ile Green (s)	17.8	17.8	67.8	67.8	16.0	16.0	66.0	66.0	7.0	11.5	11.5	24.7
90th %ile Term Code	Max	Max	Coord	Coord	Max	Max	Coord	Coord	Max	Gap	Gap	Gap
70th %ile Green (s)	20.5	20.5	70.5	70.5	16.0	16.0	66.0	66.0	7.0	9.7	9.7	23.8
70th %ile Term Code	Max	Max	Coord	Coord	Max	Max	Coord	Coord	Max	Gap	Gap	Gap
50th %ile Green (s)	19.8	19.8	71.3	71.3	16.0	16.0	67.5	67.5	7.0	8.4	8.4	24.3
50th %ile Term Code	Gap	Gap	Coord	Coord	Max	Max	Coord	Coord	Max	Gap	Gap	Gap
30th %ile Green (s)	17.9	17.9	70.6	70.6	16.0	16.0	68.7	68.7	7.0	7.1	7.1	26.3
30th %ile Term Code	Gap	Gap	Coord	Coord	Max	Max	Coord	Coord	Max	Gap	Gap	Gap
10th %ile Green (s)	14.1	14.1	78.2	78.2	16.0	16.0	80.1	80.1	0.0	0.0	0.0	33.3
10th %ile Term Code	Gap	Gap	Coord	Coord	Hold	Hold	Coord	Coord	Skip	Skip	Skip	Gap
Stops (vph)		39	871	0		35	1582	75	44	38	0	
Fuel Used(gal)		4	71	2		4	132	14	1	1	0	
CO Emissions (g/hr)		313	4984	151		272	9194	988	93	81	8	
NOx Emissions (g/hr)		61	970	29		53	1789	192	18	16	2	
VOC Emissions (g/hr)		72	1155	35		63	2131	229	22	19	2	
Dilemma Vehicles (#)		0	41	0		0	58	0	0	1	0	
Queue Length 50th (ft)		46	434	0		43	~1032	63	22	37	0	
Queue Length 95th (ft)		#136	537	0		#126	#1187	138	45	77	0	
Internal Link Dist (ft)			5064				5681			876		

Lanes, Volumes, Timings
27: Ramsey Boulevard & TH 10

03/17/2020

Lane Group	SBL	SBT	SBR
Detector Phase	7	4	4
Switch Phase			
Minimum Initial (s)	7.0	7.0	7.0
Minimum Split (s)	12.0	17.5	17.5
Total Split (s)	16.0	43.5	43.5
Total Split (%)	11.0%	30.0%	30.0%
Maximum Green (s)	11.0	36.0	36.0
Yellow Time (s)	3.0	3.5	3.5
All-Red Time (s)	2.0	4.0	4.0
Lost Time Adjust (s)	0.0	0.0	0.0
Total Lost Time (s)	5.0	7.5	7.5
Lead/Lag	Lag	Lag	Lag
Lead-Lag Optimize?			
Vehicle Extension (s)	3.0	4.5	4.5
Minimum Gap (s)	0.2	0.2	0.2
Time Before Reduce (s)	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0
Recall Mode	None	None	None
Walk Time (s)			
Flash Dont Walk (s)			
Pedestrian Calls (#/hr)			
Act Effct Green (s)	26.5	27.7	27.7
Actuated g/C Ratio	0.18	0.19	0.19
v/c Ratio	0.55	0.09	0.25
Control Delay	59.4	49.4	2.4
Queue Delay	0.0	0.0	0.0
Total Delay	59.4	49.4	2.4
LOS	E	D	A
Approach Delay		43.0	
Approach LOS		D	
90th %ile Green (s)	24.7	29.2	29.2
90th %ile Term Code	Gap	Hold	Hold
70th %ile Green (s)	23.8	26.5	26.5
70th %ile Term Code	Gap	Hold	Hold
50th %ile Green (s)	24.3	25.7	25.7
50th %ile Term Code	Gap	Hold	Hold
30th %ile Green (s)	26.3	26.4	26.4
30th %ile Term Code	Gap	Hold	Hold
10th %ile Green (s)	33.3	30.8	30.8
10th %ile Term Code	Gap	Hold	Hold
Stops (vph)	236	27	2
Fuel Used(gal)	8	1	0
CO Emissions (g/hr)	590	64	32
NOx Emissions (g/hr)	115	12	6
VOC Emissions (g/hr)	137	15	7
Dilemma Vehicles (#)	0	0	0
Queue Length 50th (ft)	120	25	0
Queue Length 95th (ft)	168	55	8
Internal Link Dist (ft)		442	

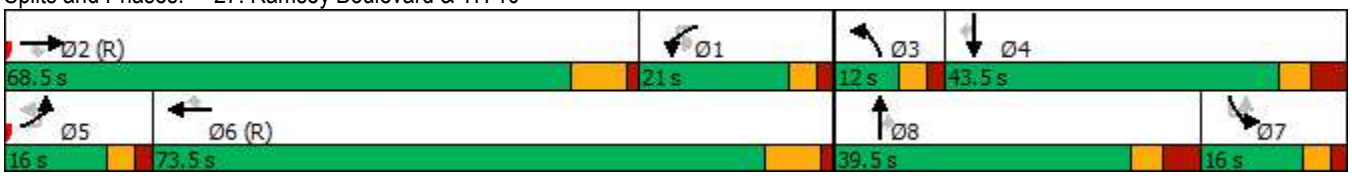
Lanes, Volumes, Timings
27: Ramsey Boulevard & TH 10

03/17/2020

Lane Group	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBU
Turn Bay Length (ft)		665		564		882		315	275		225	
Base Capacity (vph)		51	1841	875		51	1789	864	165	411	492	
Starvation Cap Reductn		0	0	0		0	0	0	0	0	0	
Spillback Cap Reductn		0	0	0		0	0	0	0	0	0	
Storage Cap Reductn		0	0	0		0	0	0	0	0	0	
Reduced v/c Ratio		0.96	0.65	0.07		0.88	1.04	0.37	0.28	0.10	0.03	

Intersection Summary			
Area Type:	Other		
Cycle Length: 145			
Actuated Cycle Length: 145			
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of 1st Green			
Natural Cycle: 145			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.04			
Intersection Signal Delay: 52.1		Intersection LOS: D	
Intersection Capacity Utilization 78.4%		ICU Level of Service D	
Analysis Period (min) 15			
~ Volume exceeds capacity, queue is theoretically infinite.			
Queue shown is maximum after two cycles.			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

Splits and Phases: 27: Ramsey Boulevard & TH 10



Lanes, Volumes, Timings
27: Ramsey Boulevard & TH 10 03/17/2020

Lane Group	SBL	SBT	SBR
Turn Bay Length (ft)			295
Base Capacity (vph)	482	462	517
Starvation Cap Reductn	0	0	0
Spillback Cap Reductn	0	0	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	0.55	0.07	0.21

Intersection Summary

Measures of Effectiveness

03/17/2020

Network Totals

Number of Intersections	2
Total Delay (hr)	62
Stops (#)	3064
Average Speed (mph)	31
Total Travel Time (hr)	125
Distance Traveled (mi)	3867
Fuel Consumed (gal)	248
Fuel Economy (mpg)	15.6
Unserved Vehicles (#)	78
Vehicles in dilemma zone (#)	104
Performance Index	70.5

Detailed Measures of Effectiveness

03/17/2020

2: Ramsey Boulevard & Railroad Crossing

Direction	NB	SB	All
Future Volume (vph)	403	405	808
Control Delay / Veh (s/v)	11	11	11
Queue Delay / Veh (s/v)	9	0	4
Total Delay / Veh (s/v)	20	11	16
Total Delay (hr)	2	1	4
Stops / Veh	0.14	0.14	0.14
Stops (#)	58	57	115
Average Speed (mph)	13	27	19
Total Travel Time (hr)	3	2	5
Distance Traveled (mi)	40	64	104
Fuel Consumed (gal)	4	4	8
Fuel Economy (mpg)	9.8	15.7	12.7
CO Emissions (kg)	0.29	0.29	0.57
NOx Emissions (kg)	0.06	0.06	0.11
VOC Emissions (kg)	0.07	0.07	0.13
Unserved Vehicles (#)	0	0	0
Vehicles in dilemma zone (#)	2	2	4

27: Ramsey Boulevard & TH 10

Direction	EB	WB	NB	SB	All
Future Volume (vph)	1305	2230	103	405	4043
Control Delay / Veh (s/v)	34	64	61	43	52
Queue Delay / Veh (s/v)	0	0	0	0	0
Total Delay / Veh (s/v)	34	64	61	43	52
Total Delay (hr)	12	40	2	5	58
Stops / Veh	0.70	0.76	0.80	0.65	0.73
Stops (#)	910	1692	82	265	2949
Average Speed (mph)	40	30	8	7	31
Total Travel Time (hr)	32	80	2	6	120
Distance Traveled (mi)	1271	2433	19	40	3763
Fuel Consumed (gal)	78	150	3	10	240
Fuel Economy (mpg)	16.3	16.3	7.1	4.1	15.7
CO Emissions (kg)	5.45	10.45	0.18	0.69	16.77
NOx Emissions (kg)	1.06	2.03	0.04	0.13	3.26
VOC Emissions (kg)	1.26	2.42	0.04	0.16	3.89
Unserved Vehicles (#)	0	78	0	0	78
Vehicles in dilemma zone (#)	41	58	1	0	100

Detailed Measures of Effectiveness

03/17/2020

Network Totals

Number of Intersections	2
Control Delay / Veh (s/v)	45
Queue Delay / Veh (s/v)	1
Total Delay / Veh (s/v)	46
Total Delay (hr)	62
Stops / Veh	0.63
Stops (#)	3064
Average Speed (mph)	31
Total Travel Time (hr)	125
Distance Traveled (mi)	3867
Fuel Consumed (gal)	248
Fuel Economy (mpg)	15.6
CO Emissions (kg)	17.34
NOx Emissions (kg)	3.37
VOC Emissions (kg)	4.02
Unserved Vehicles (#)	78
Vehicles in dilemma zone (#)	104
Performance Index	70.5

Lanes, Volumes, Timings
27: Ramsey Boulevard & TH 10

02/13/2020

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	1194	0	0	1868	0	0
Future Volume (vph)	1194	0	0	1868	0	0
Ideal Flow (vphpl)	2000	1900	1900	2000	1900	1900
Storage Length (ft)		564	882		275	225
Storage Lanes		0	0		0	0
Taper Length (ft)			25		25	
Lane Util. Factor	0.95	1.00	1.00	0.95	1.00	1.00
Frt						
Flt Protected						
Satd. Flow (prot)	3725	0	0	3725	0	0
Flt Permitted						
Satd. Flow (perm)	3725	0	0	3725	0	0
Link Speed (mph)	65			60	35	
Link Distance (ft)	5144			5761	956	
Travel Time (s)	54.0			65.5	18.6	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	1194	0	0	1868	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1194	0	0	1868	0	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	36			36	36	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	0.94	1.00	1.00	0.94	1.00	1.00
Turning Speed (mph)		9	15		15	10
Sign Control	Free			Free	Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	52.4%	ICU Level of Service	A
Analysis Period (min)	15		

Measures of Effectiveness

02/13/2020

Network Totals

Number of Intersections	1
Total Delay (hr)	0
Stops (#)	0
Average Speed (mph)	62
Total Travel Time (hr)	52
Distance Traveled (mi)	3201
Fuel Consumed (gal)	111
Fuel Economy (mpg)	28.8
Unserved Vehicles (#)	0
Vehicles in dilemma zone (#)	0
Performance Index	0.0

Detailed Measures of Effectiveness

02/13/2020

27: Ramsey Boulevard & TH 10

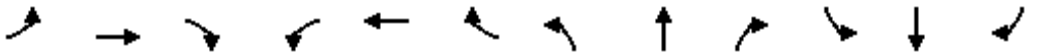
Direction	EB	WB	All
Future Volume (vph)	1194	1868	3062
Control Delay / Veh (s/v)	0	0	0
Queue Delay / Veh (s/v)	0	0	0
Total Delay / Veh (s/v)	0	0	0
Total Delay (hr)	0	0	0
Stops / Veh	0.00	0.00	0.00
Stops (#)	0	0	0
Average Speed (mph)	65	60	62
Total Travel Time (hr)	18	34	52
Distance Traveled (mi)	1163	2038	3201
Fuel Consumed (gal)	41	70	111
Fuel Economy (mpg)	28.1	29.3	28.8
CO Emissions (kg)	2.90	4.87	7.77
NOx Emissions (kg)	0.56	0.95	1.51
VOC Emissions (kg)	0.67	1.13	1.80
Unserved Vehicles (#)	0	0	0
Vehicles in dilemma zone (#)	0	0	0

Network Totals

Number of Intersections	1
Control Delay / Veh (s/v)	0
Queue Delay / Veh (s/v)	0
Total Delay / Veh (s/v)	0
Total Delay (hr)	0
Stops / Veh	0.00
Stops (#)	0
Average Speed (mph)	62
Total Travel Time (hr)	52
Distance Traveled (mi)	3201
Fuel Consumed (gal)	111
Fuel Economy (mpg)	28.8
CO Emissions (kg)	7.77
NOx Emissions (kg)	1.51
VOC Emissions (kg)	1.80
Unserved Vehicles (#)	0
Vehicles in dilemma zone (#)	0
Performance Index	0.0

Lanes, Volumes, Timings
1: Ramsey & WB Exit

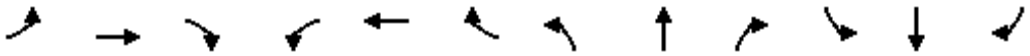
02/13/2020



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	317	20	33	15	40	5	47	93	10	5	291	111
Future Volume (vph)	317	20	33	15	40	5	47	93	10	5	291	111
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		100	300		300	0		150	300		0
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	120			180			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1863	1583	1770	1863	1583	1770	1863	1583	1770	1863	1583
Flt Permitted	0.408			0.755			0.511			0.692		
Satd. Flow (perm)	760	1863	1583	1406	1863	1583	952	1863	1583	1289	1863	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			36			69			69			121
Link Speed (mph)		30			30			30			55	
Link Distance (ft)		5145			5764			515			1040	
Travel Time (s)		116.9			131.0			11.7			12.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	345	22	36	16	43	5	51	101	11	5	316	121
Shared Lane Traffic (%)												
Lane Group Flow (vph)	345	22	36	16	43	5	51	101	11	5	316	121
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	R NA	Left	L NA	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100	20	20	100	20	20	100	20
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	20	6	20	20	6	20	20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (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
Detector 1 Queue (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
Detector 1 Delay (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
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA	Perm	Perm	NA	Perm	Perm	NA	Perm	Perm	NA	Perm
Protected Phases	7	4			8			2			6	
Permitted Phases	4		4	8		8	2		2	6		6

Lanes, Volumes, Timings
1: Ramsey & WB Exit

02/13/2020



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	7	4	4	8	8	8	2	2	2	6	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	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5	22.5
Total Split (s)	37.5	60.0	60.0	22.5	22.5	22.5	35.0	35.0	35.0	35.0	35.0	35.0
Total Split (%)	39.5%	63.2%	63.2%	23.7%	23.7%	23.7%	36.8%	36.8%	36.8%	36.8%	36.8%	36.8%
Maximum Green (s)	33.0	55.5	55.5	18.0	18.0	18.0	30.5	30.5	30.5	30.5	30.5	30.5
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	Lag						
Lead-Lag Optimize?	Yes			Yes	Yes	Yes						
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	C-Min	C-Min	C-Min	C-Min	C-Min	C-Min
Walk Time (s)		7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
Flash Dont Walk (s)		11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0
Pedestrian Calls (#/hr)		0	0	0	0	0	0	0	0	0	0	0
Act Effct Green (s)	34.1	34.1	34.1	7.7	7.7	7.7	51.9	51.9	51.9	51.9	51.9	51.9
Actuated g/C Ratio	0.36	0.36	0.36	0.08	0.08	0.08	0.55	0.55	0.55	0.55	0.55	0.55
v/c Ratio	0.63	0.03	0.06	0.14	0.29	0.03	0.10	0.10	0.01	0.01	0.31	0.13
Control Delay	27.7	14.2	4.3	42.3	45.2	0.2	16.3	14.9	0.0	16.6	16.3	4.0
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	27.7	14.2	4.3	42.3	45.2	0.2	16.3	14.9	0.0	16.6	16.3	4.0
LOS	C	B	A	D	D	A	B	B	A	B	B	A
Approach Delay		24.9			41.0			14.3			12.9	
Approach LOS		C			D			B			B	
90th %ile Green (s)	35.4	50.1	50.1	10.2	10.2	10.2	35.9	35.9	35.9	35.9	35.9	35.9
90th %ile Term Code	Gap	Hold	Hold	Gap	Gap	Gap	Coord	Coord	Coord	Coord	Coord	Coord
70th %ile Green (s)	30.0	43.1	43.1	8.6	8.6	8.6	42.9	42.9	42.9	42.9	42.9	42.9
70th %ile Term Code	Gap	Hold	Hold	Gap	Gap	Gap	Coord	Coord	Coord	Coord	Coord	Coord
50th %ile Green (s)	26.1	38.2	38.2	7.6	7.6	7.6	47.8	47.8	47.8	47.8	47.8	47.8
50th %ile Term Code	Gap	Hold	Hold	Gap	Gap	Gap	Coord	Coord	Coord	Coord	Coord	Coord
30th %ile Green (s)	22.2	22.2	22.2	0.0	0.0	0.0	63.8	63.8	63.8	63.8	63.8	63.8
30th %ile Term Code	Gap	Hold	Hold	Skip	Skip	Skip	Coord	Coord	Coord	Coord	Coord	Coord
10th %ile Green (s)	16.7	16.7	16.7	0.0	0.0	0.0	69.3	69.3	69.3	69.3	69.3	69.3
10th %ile Term Code	Gap	Hold	Hold	Skip	Skip	Skip	Coord	Coord	Coord	Coord	Coord	Coord
Stops (vph)	229	12	6	17	38	0	27	50	0	4	167	14
Fuel Used(gal)	16	1	1	1	2	0	0	1	0	0	6	1
CO Emissions (g/hr)	1102	65	97	63	166	16	35	65	3	9	418	76
NOx Emissions (g/hr)	214	13	19	12	32	3	7	13	1	2	81	15
VOC Emissions (g/hr)	255	15	22	15	38	4	8	15	1	2	97	18
Dilemma Vehicles (#)	0	0	0	0	0	0	0	0	0	0	15	0
Queue Length 50th (ft)	151	8	0	9	25	0	15	31	0	2	109	0
Queue Length 95th (ft)	178	17	14	29	57	0	46	75	0	9	216	34
Internal Link Dist (ft)		5065			5684			435			960	
Turn Bay Length (ft)	100		100	300		300			150	300		
Base Capacity (vph)	671	1088	939	266	352	355	520	1018	896	704	1018	920
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0

Lanes, Volumes, Timings
1: Ramsey & WB Exit

02/13/2020

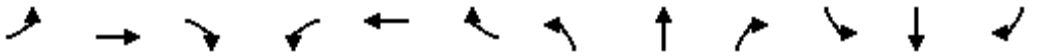
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.51	0.02	0.04	0.06	0.12	0.01	0.10	0.10	0.01	0.01	0.31	0.13

Intersection Summary			
Area Type:	Other		
Cycle Length: 95			
Actuated Cycle Length: 95			
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Natural Cycle: 55			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.63			
Intersection Signal Delay: 19.3		Intersection LOS: B	
Intersection Capacity Utilization 55.0%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 1: Ramsey & WB Exit

Lanes, Volumes, Timings
2: Ramsey & EB Exit

02/13/2020



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	53	0	72	0	0	0	0	97	36	270	69	0
Future Volume (vph)	53	0	72	0	0	0	0	97	36	270	69	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		300	0		0	0		300	0		0
Storage Lanes	1		1	0		0	0		1	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850						0.850			
Flt Protected	0.950									0.950		
Satd. Flow (prot)	1770	0	1583	0	0	0	0	1863	1583	1770	1863	0
Flt Permitted	0.950									0.950		
Satd. Flow (perm)	1770	0	1583	0	0	0	0	1863	1583	1770	1863	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		5143			5760			756			515	
Travel Time (s)		116.9			130.9			17.2			11.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	58	0	78	0	0	0	0	105	39	293	75	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	58	0	78	0	0	0	0	105	39	293	75	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	31.6%	ICU Level of Service	A
Analysis Period (min)	15		

Measures of Effectiveness

02/13/2020

Network Totals

Number of Intersections	2
Total Delay (hr)	6
Stops (#)	1129
Average Speed (mph)	25
Total Travel Time (hr)	28
Distance Traveled (mi)	695
Fuel Consumed (gal)	41
Fuel Economy (mpg)	16.8
Unserved Vehicles (#)	0
Vehicles in dilemma zone (#)	15
Performance Index	9.5

Detailed Measures of Effectiveness

02/13/2020

1: Ramsey & WB Exit

Direction	EB	WB	NB	SB	All
Future Volume (vph)	370	60	150	407	987
Control Delay / Veh (s/v)	25	41	14	13	19
Queue Delay / Veh (s/v)	0	0	0	0	0
Total Delay / Veh (s/v)	25	41	14	13	19
Total Delay (hr)	3	1	1	1	5
Stops / Veh	0.67	0.92	0.51	0.45	0.57
Stops (#)	247	55	77	185	564
Average Speed (mph)	25	23	13	27	24
Total Travel Time (hr)	15	3	1	3	21
Distance Traveled (mi)	361	66	15	80	521
Fuel Consumed (gal)	18	3	1	7	30
Fuel Economy (mpg)	19.9	18.7	10.0	11.2	17.2
CO Emissions (kg)	1.26	0.24	0.10	0.50	2.11
NOx Emissions (kg)	0.25	0.05	0.02	0.10	0.41
VOC Emissions (kg)	0.29	0.06	0.02	0.12	0.49
Unserved Vehicles (#)	0	0	0	0	0
Vehicles in dilemma zone (#)	0	0	0	15	15

2: Ramsey & EB Exit

Direction	EB	NB	SB	All
Future Volume (vph)	125	133	339	597
Control Delay / Veh (s/v)	15	0	6	7
Queue Delay / Veh (s/v)	0	0	0	0
Total Delay / Veh (s/v)	15	0	6	7
Total Delay (hr)	1	0	1	1
Stops / Veh	1.00	0.00	1.30	0.95
Stops (#)	125	0	440	565
Average Speed (mph)	27	30	19	25
Total Travel Time (hr)	5	1	2	7
Distance Traveled (mi)	122	19	33	174
Fuel Consumed (gal)	6	1	4	11
Fuel Economy (mpg)	20.1	NA	7.8	15.7
CO Emissions (kg)	0.42	0.05	0.30	0.78
NOx Emissions (kg)	0.08	0.01	0.06	0.15
VOC Emissions (kg)	0.10	0.01	0.07	0.18
Unserved Vehicles (#)	0	0	0	0
Vehicles in dilemma zone (#)	0	0	0	0

Detailed Measures of Effectiveness

02/13/2020

Network Totals

Number of Intersections	2
Control Delay / Veh (s/v)	15
Queue Delay / Veh (s/v)	0
Total Delay / Veh (s/v)	15
Total Delay (hr)	6
Stops / Veh	0.71
Stops (#)	1129
Average Speed (mph)	25
Total Travel Time (hr)	28
Distance Traveled (mi)	695
Fuel Consumed (gal)	41
Fuel Economy (mpg)	16.8
CO Emissions (kg)	2.89
NOx Emissions (kg)	0.56
VOC Emissions (kg)	0.67
Unserved Vehicles (#)	0
Vehicles in dilemma zone (#)	15
Performance Index	9.5

Traffic Safety Benefit-Cost Calculation

Highway Safety Improvement Program (HSIP) Reactive Project

DEPARTMENT OF TRANSPORTATION

A. Roadway Description

Route	CSAH 56	**District**	Metro	**County**	Anoka
Begin RP	Traprock St NW	**End RP**	Feldspar St NW	**Miles**	1.2 miles
Location	TH 10 at Ramsey Blvd				

B. Project Description

Proposed Work	Interchange, grade-separated railway, roadway reconstruction, frontage roads		
Project Cost*	$29,300,000	**Installation Year**	2026
Project Service Life	30 years	**Traffic Growth Factor**	1.4%

** exclude Right of Way from Project Cost*

C. Crash Modification Factor

0.58	**Fatal (K) Crashes**	**Reference**	CMF ID: 459
0.58	**Serious Injury (A) Crashes**		
0.58	**Moderate Injury (B) Crashes**	**Crash Type**	All
0.58	**Possible Injury (C) Crashes**		
0.58	**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	1/1/2016	**End Date**	12/31/2018	3 years
Data Source	MnDOT			

Crash Severity	**All**	**< optional 2nd CMF >**
K crashes	0	
A crashes	3	
B crashes	7	
C crashes	10	
PDO crashes	37	

F. Benefit-Cost Calculation

$21,909,684	**Benefit (present value)**	**B/C Ratio = 0.75**
$29,300,000	**Cost**	

Proposed project expected to reduce 8 crashes annually, 1 of which involving fatality or serious injury.

F. Analysis Assumptions

Crash Severity	Crash Cost
K crashes	$1,360,000
A crashes	$680,000
B crashes	$210,000
C crashes	$110,000
PDO crashes	$12,000

Link: mndot.gov/planning/program/appendix_a.html

Real Discount Rate 1.2%

Traffic Growth Rate 1.4%

Project Service Life 30 years

G. Annual Benefit

Crash Severity	Crash Reduction	Annual Reduction	Annual Benefit
K crashes	0.00	0.00	$0
A crashes	1.26	0.42	$285,600
B crashes	2.94	0.98	$205,800
C crashes	4.20	1.40	$154,000
PDO crashes	15.54	5.18	$62,160
			$707,560

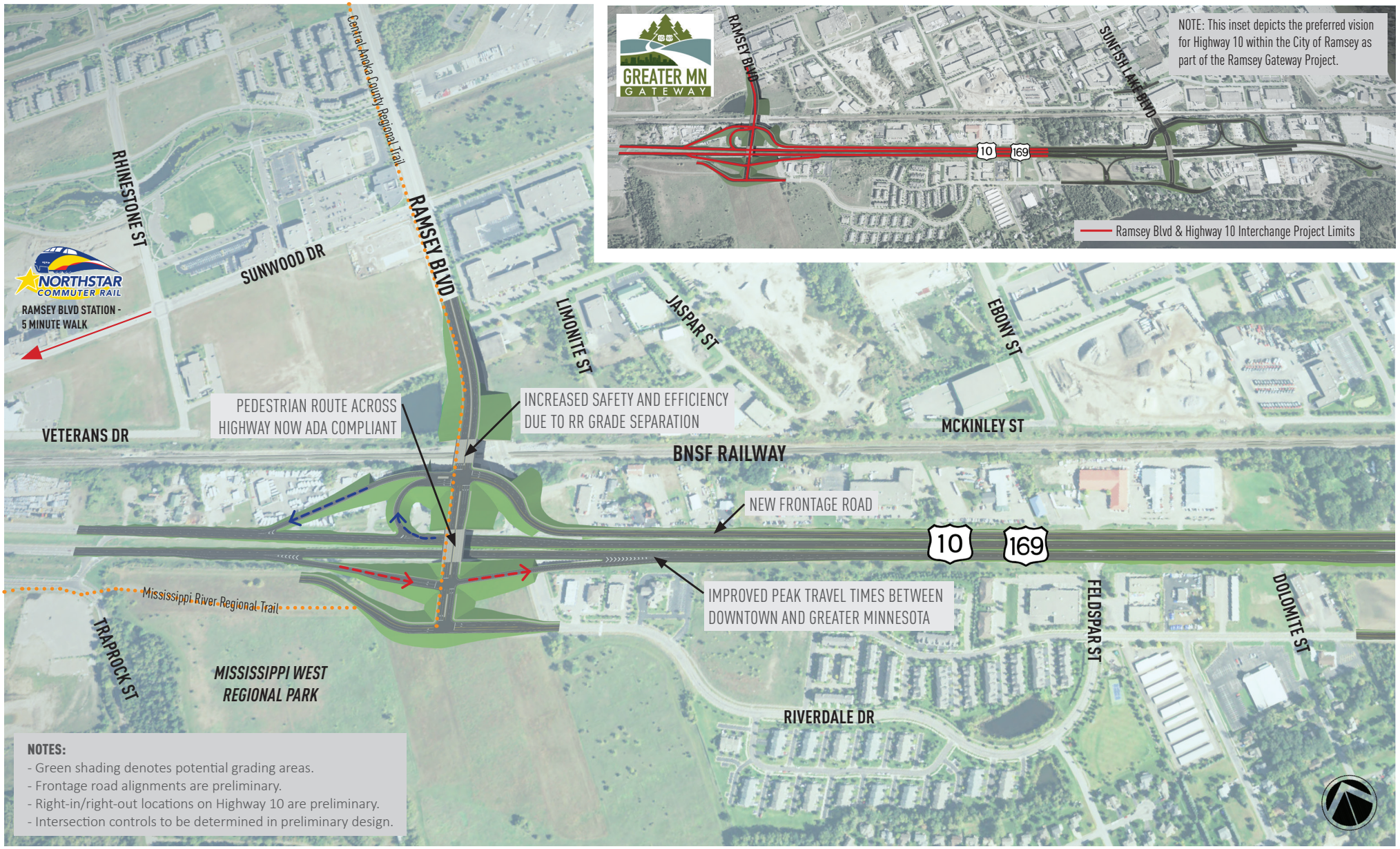
H. Amortized Benefit

Year	Crash Benefits	Present Value
2026	$707,560	$707,560
2027	$717,607	$709,098
2028	$727,797	$710,640
2029	$738,132	$712,185
2030	$748,614	$713,733
2031	$759,244	$715,284
2032	$770,025	$716,839
2033	$780,960	$718,398
2034	$792,049	$719,959
2035	$803,296	$721,525
2036	$814,703	$723,093
2037	$826,272	$724,665
2038	$838,005	$726,240
2039	$849,905	$727,819
2040	$861,973	$729,401
2041	$874,213	$730,987
2042	$886,627	$732,576
2043	$899,217	$734,169
2044	$911,986	$735,765
2045	$924,936	$737,364
2046	$938,070	$738,967
2047	$951,391	$740,574
2048	$964,901	$742,184
2049	$978,602	$743,797
2050	$992,498	$745,414
2051	$1,006,592	$747,034
2052	$1,020,885	$748,658
2053	$1,035,382	$750,286
2054	$1,050,084	$751,917
2055	$1,064,996	$753,552
0	$0	$0

Total = $21,909,684

CSAH 56 (Ramsey Blvd) & Highway 10 Interchange

Anoka County



NOTES:

- Green shading denotes potential grading areas.
- Frontage road alignments are preliminary.
- Right-in/right-out locations on Highway 10 are preliminary.
- Intersection controls to be determined in preliminary design.

Anoka County MINNESOTA Respectful, Innovative, Fiscally Responsible

City of RAMSEY

DEPARTMENT OF TRANSPORTATION

Excerpt from 2018 Legislative Bill:

South, University Avenue to the North, Cedar Street to the East, and the Rev. Dr. Martin Luther King Jr. Boulevard to the West. The commissioner of administration must submit site security design elements to the Capitol Preservation Commission and may not proceed with those elements until the commission approves site security design elements. Notwithstanding Minnesota Statutes, section 16A.642, the bond sale authorization and appropriation of bond proceeds in this subdivision are available until December 31, 2022. The unspent portion of this appropriation, upon written notice to the commissioner of management and budget, is available to design, construct, and complete accessibility improvements to the Capitol grounds and repairs to monuments and memorials located on the Capitol complex.

Sec. 7. **HIGHWAY-RAIL GRADE SEPARATION.**

Subdivision 1. **Appropriation.**

$2,000,000 is appropriated from the bond proceeds account in the state transportation fund to the commissioner of transportation for engineering, design, and right-of-way acquisition required for construction of an underpass on Anoka County State-Aid Highway 56, otherwise known as Ramsey Boulevard, under the Burlington Santa Fe Railroad in the city of Ramsey and associated improvements on U.S. Trunk Highway 10/169 in the city of Ramsey.

Subd. 2. **Bond sale.**

To provide the money appropriated in this section from the bond proceeds account in the state transportation fund, the commissioner of management and budget shall sell and issue bonds of the state in an amount up to $2,000,000 in the manner, upon the terms, and with the effect prescribed by Minnesota Statutes, sections 16A.631 to 16A.675, and by the Minnesota Constitution, article XI, sections 4 to 7.

EFFECTIVE DATE. This section is effective the day following final enactment.

Sec. 8. **ANOKA COUNTY - MARKED U.S. HIGHWAY 10.**

Subdivision 1. **Appropriation.**

$15,000,000 is appropriated from the bond proceeds account in the state transportation fund to the commissioner of transportation for a grant to Anoka County for environmental documentation, preliminary engineering,

Excerpt from 2019 Legislative Bill:

16A.641, subdivision 8, and 167.50, subdivision 4. Notwithstanding Minnesota Statutes, section 16A.642, subdivi
$400,000 of this amount does not cancel under the terms of that subdivision, and is available until December 31, 2028.

Sec. 9. Laws 2018, chapter 214, article 1, section 26, subdivision 1, is amended to read:

Subdivision 1. **Bond proceeds fund.** To provide the money appropriated in this act from the bond proceeds fund, the commissioner of management and budget shall sell and issue bonds of the state in an amount up to ~~$776,699,000~~ $776,639,000 in the manner, upon the terms, and with the effect prescribed by Minnesota Statutes, sections 16A.631 to 16A.675, and by the Minnesota Constitution, article XI, sections 4 to 7.

Sec. 10. Laws 2018, chapter 214, article 3, section 7, subdivision 1, is amended to read:

Subdivision 1. **Appropriation.** $2,000,000 is appropriated from the bond proceeds account in the state transportation fund to the commissioner of transportation for a grant to Anoka County for engineering, design, and right-of-way acquisition required for construction of ~~an underpass~~ a railroad crossing grade separation on Anoka County State-Aid Highway 56, otherwise known as Ramsey Boulevard, ~~under~~ at the Burlington Northern Santa Fe Railroad in the city of Ramsey and associated improvements on U.S. Trunk Highway 10/169 in the city of Ramsey.

Sec. 11. Laws 2018, chapter 214, article 3, section 11, is amended to read:

Sec. 11. **ELY TRAILHEAD DEVELOPMENT; HOSPITAL ACCESS IMPROVEMENTS.** ~~(a)~~ $1,300,000 is appropriated from the bond proceeds fund to the commissioner of natural resources for a grant to the city of Ely to predesign, design, construct, furnish, and equip a trailhead facility with parking, visitor information, and restrooms for trail users on the west end of the city near marked Trunk Highway 169. This appropriation does not require a nonstate contribution. Money from this appropriation not needed to complete the trailhead project may be used to predesign an extension to Pattison Street to provide a direct connection from marked Trunk Highway 169 to St. Louis County Highway 21 and improve access to the Ely Bloomenson Community Hospital campus and emergency services building.

~~(b) To provide the money appropriated in this section from the bond proceeds fund, the commissioner of management and budget shall sell and issue bonds of the state in an amount up to $1,300,000 in the manner, upon the terms, and with the effect prescribed by Minnesota Statutes, sections 16A.631 to 16A.675, and by the Minnesota Constitution, article XI, sections 4 to 7.~~

USTH 10 at Ramsey Blvd and USTH 10 from Traprock to east of Feldspar
2016-2018 Crash Data

objectid	Incident ID	Date and Time	Crash Severity	Number Killed	Number of Vehicles	Officer Narrative	Manner of Collision	Unit1 Vehicle Type
1907674	391361	11/2/2016, 2:24 PM	Minor Injury Crash	0	2	Vehicle 1 was reported weaving in traffic and was traveling WB in the 7000 block of Highv	Front to Rear	Sport Utility Vehicle
2025155	519782	11/22/2017, 6:11 PM	Minor Injury Crash	0	2	VEHICLE #1 WAS TRAVELING WESTBOUND WHEN DEER JUMPED OUT OF CENTER MEDIAN.	DRIVER STATED SHE WAS NAB	Passenger Car
2414857	407980	12/23/2016, 12:36 PM	Minor Injury Crash	0	2	DV2 STATED HE WAS STOPPED IN TRAFFIC WAITING FOR THE LIGHT TO TURN GREEN WH	Front to Rear	Sport Utility Vehicle
2073081	335459	3/13/2016, 9:45 PM	Minor Injury Crash	0	2	Unit #1 and Unit #2 traveling west bound HWY 10 NW at the above location. Unit #1 was	Sideswipe - Same Direction	Passenger Car
2294252	604997	6/13/2018, 6:15 AM	Minor Injury Crash	0	2	On 06/13/18 at 0615 hours dispatched to the above location for a two vehicle personal in	Front to Rear	Sport Utility Vehicle
2025966	621829	7/18/2018, 7:24 PM	Minor Injury Crash	0	2	CHAD GREINER(DRIVER OF UNIT 1) STATED HE WAS TRAVELING WESTBOUND HIGHWAY 1	Front to Rear	Motorcycle
2107991	474976	7/6/2017, 1:41 PM	Minor Injury Crash	0	2	Vehicle 2 was traveling eastbound on Highway 10 NW, approaching Feldspar St NW. Vehi	Angle	Passenger Car
1913587	332798	3/1/2016, 4:10 PM	Possible Injury Crash	0	2	#1 was stopped in traffic waiting for the light to change. The light did change but traffic h	Front to Rear	Passenger Car
2097583	580901	3/1/2018, 9:50 AM	Possible Injury Crash	0	2	UNIT 1 WAS TRAVELING NORTH ON RAMSEY BLVD CROSSING OVER HWY 10. UNIT 2 WAS	Other	Passenger Car
2448866	432511	3/31/2017, 10:35 AM	Possible Injury Crash	0	2	Unit #1 was eastbound stopped in traffic on Highway 10 for the stoplight at Ramsey BLVD	Front to Rear	Sport Utility Vehicle
2317325	590489	4/11/2018, 4:40 PM	Possible Injury Crash	0	3	UNIT#1 WAS TRAVELING WEST ON HWY 10 REAR-ENDING UNIT#2. UNIT#2 WAS PUSHED	Front to Rear	Pickup
1863073	596884	5/11/2018, 8:52 AM	Possible Injury Crash	0	2	BOTH VEHICLES WB USTH 10 E OF RAMSEY BLVD. FOSSEN, D1, SAID SHE WAS IN R LANE (	Sideswipe - Same Direction	Passenger Car
2186373	350571	5/21/2016, 12:20 PM	Possible Injury Crash	0	3	All vehicles were traveling w/b on 10 approaching a work zone where the two lanes merg	Front to Rear	Passenger Car
2336615	470818	6/18/2017, 3:54 PM	Possible Injury Crash	0	2	Driver #1 was heading east. He was slowing to stop for a red light. He was then struck fro	Front to Rear	Pickup
1900754	361487	6/28/2016, 8:32 PM	Possible Injury Crash	0	3	Dispatched to the above location for a personal injury accident. Upon arrival it appeared t	Front to Rear	Passenger Car
2551933	476003	7/4/2017, 11:51 PM	Possible Injury Crash	0	2	On 07/04/17 at 2351 hours dispatched to a personal injury accident at the above location	Front to Rear	Passenger Car
2289842	362760	7/8/2016, 4:50 PM	Possible Injury Crash	0	2	DV2 STATED HE WAS SLOWING DOWN, IN THE RIGHT E/B LN, DUE TO THE TRAFFIC IN FRO	Front to Rear	Passenger Car
1933963	416979	1/18/2017, 11:49 AM	Property Damage Only Crash	0	2	Driver of vehicle #1 stated she was traveling S/B Ramsey Blvd in the left turn lane for E/B H	Front to Rear	Passenger Car
2363112	322409	1/21/2016, 4:50 PM	Property Damage Only Crash	0	2	Property damage accident on east bound hwy 10 at the mentioned location. Unit 1 said h	Front to Rear	Passenger Car
2213588	533572	1/6/2018, 12:49 PM	Property Damage Only Crash	0	2	Driver of vehicle #1 was traveling westbound highway 10 pulling a small cargo trailer with	Angle	Sport Utility Vehicle
2100621	651107	10/10/2018, 7:25 AM	Property Damage Only Crash	0	2	Both vehicles traveling eastbound Highway 10. Veh 1 was slowing for the stop light when	Front to Rear	Passenger Car
2053005	650822	10/10/2018, 7:45 AM	Property Damage Only Crash	0	2	I was responding to assist Officer on a property damage accident at the location. I had my	Front to Rear	Passenger Car
2101034	653632	10/22/2018, 6:39 AM	Property Damage Only Crash	0	3	Unit 1- Eastbound Highway 10 unable to stop in time after noticing traffic stopping and re	Front to Rear	Passenger Car
2139976	654960	10/25/2018, 7:37 AM	Property Damage Only Crash	0	2	E/B USTH 10 at Ramsey BLVD V1 (GMC) was stopped for stopped traffic ahead when V2 (F	Front to Rear	Passenger Car
2366484	389787	10/26/2016, 7:46 AM	Property Damage Only Crash	0	2	DV2 STATED HE WAS STOPPED IN TRAFFIC WHEN HIS VEHICLE WAS REAR-ENDED BY VH1.	Front to Rear	Passenger Car
1875554	505866	10/3/2017, 7:05 AM	Property Damage Only Crash	0	2	Gilyard traveling eastbound 6900 Block Highway 10 nw when he rear ended Hilgers vehicl	Front to Rear	Passenger Car
2214780	384772	10/6/2016, 6:58 PM	Property Damage Only Crash	0	2	Unit 1 and 2 were traveling westbound Highway 10 stopped at the light at Ramsey Blvd. V	Front to Rear	Passenger Car
2166143	650258	10/8/2018, 10:10 AM	Property Damage Only Crash	0	2	Driver #1 was heading south on Ramsey Blvd. He pulled into the on ramp lane to go west	Front to Rear	Sport Utility Vehicle
2609983	659641	11/13/2018, 7:45 AM	Property Damage Only Crash	0	3	Unit 1- Stopped in heavy traffic eastbound Highway 10 and rear ended by unit 2.Unit 2- St	Front to Rear	Passenger Car
2390574	517768	11/16/2017, 6:08 PM	Property Damage Only Crash	0	2	JOSEPH SCHNEIDER STATED HE WAS TRAVELING WESTBOUND HIGHWAY 10 NW IN THE L	Front to Rear	Passenger Car
2363494	660976	11/17/2018, 2:50 PM	Property Damage Only Crash	0	2	Two vehicle property damage accident at the above location. I arrived and spoke with bo	Front to Rear	Pickup
1874955	391272	11/2/2016, 7:34 AM	Property Damage Only Crash	0	3	Due to heavy traffic, vehicles were backed up on EB Highway 10 NW, Ramsey. Vehicle 2 a	Front to Rear	Passenger Car
2214960	393169	11/9/2016, 1:30 PM	Property Damage Only Crash	0	2	Vehicle 1 was behind Vehicle 2 at a red light at Highway 10 NW and Ramsey Blvd NW. As	Front to Rear	Passenger Car
2392495	405509	12/13/2016, 9:22 AM	Property Damage Only Crash	0	2	The driver of unit 1, Williams, stated he was traveling eastbound Hwy 10 NW in the left la	Front to Rear	Passenger Car
1881767	526711	12/20/2017, 1:45 PM	Property Damage Only Crash	0	1	V#1 was driving west on Hwy 10 on icy roads in snow storm. V#1 attempted to use left t		Passenger Car
2294306	674200	12/28/2018, 7:53 PM	Property Damage Only Crash	0	2	Westbound Highway 10 at Ramsey Boulevard.DV1 stated she was traveling westbound on	Rear to Rear	Passenger Car
2160531	329576	2/11/2016, 4:25 PM	Property Damage Only Crash	0	1	V1 MADE REAR END CONTACT WITH A STOPPED V2 AT THE STOPLIGHT. THE DRIVER/OW	Front to Rear	Sport Utility Vehicle
2339777	566471	2/16/2018, 7:37 PM	Property Damage Only Crash	0	2	On February 16, 2018 at approximately 1937 hours officers were on the north side of Higl	Front to Rear	Passenger Car
1966827	567501	2/19/2018, 1:50 PM	Property Damage Only Crash	0	2	Vehicle 2 was traveling eastbound in the above location. Driver 2 observed vehicle 1 in the	Angle	Passenger Car
2240134	567143	2/19/2018, 2:02 PM	Property Damage Only Crash	0	2	Driver #1 was west bound on Hwy 10. He said he was slowing down to stop and skidded (	Sideswipe - Same Direction	Passenger Car
2291415	542752	2/3/2018, 3:31 PM	Property Damage Only Crash	0	2	DRIVER OF VEHICLE #1 STATED SHE WAS IN THE LEFT LANE OF EAST BOUND TRAFFIC APPF	Sideswipe - Same Direction	Passenger Car
2136961	543524	2/6/2018, 7:50 AM	Property Damage Only Crash	0	2	I spoke with Tiffany Schroeder DOB:05/06/1999. Tiffany stated she was traveling eastbou	Front to Rear	Passenger Car
2239943	564524	2/8/2018, 5:59 AM	Property Damage Only Crash	0	2	On February 8, 2018 at approximately 0559 hours I was dispatched to the listed intersecti	Front to Rear	Passenger Car
2261835	432063	3/28/2017, 7:05 PM	Property Damage Only Crash	0	2	Unit #1 driven by Yanka west bound Highway 10 Nw stopped at a green light attempting t	Front to Rear	Passenger Car
2604395	333361	3/4/2016, 12:11 PM	Property Damage Only Crash	0	2	CRASH OCCURRED ON WB HWY 10 APPROX. 1/4 MILE WEST OF RAMSEY BLVD. SNOWING	Other	Passenger Car
2363660	343983	4/22/2016, 3:10 PM	Property Damage Only Crash	0	2	#1 was e/b slowing/stopping in traffic (speed approximately 15 mph at time of crash). #2	Front to Rear	Pickup
1887652	344707	4/6/2016, 5:29 AM	Property Damage Only Crash	0	1	Cordes stated he was traveling east on Highway 10 Nw. A vehicle then cut him off and he		Passenger Car
2289789	348300	5/11/2016, 7:18 AM	Property Damage Only Crash	0	3	V2 WAS STOPPED FOR A RED LIGHT WAITING TO MAKE A LEFT TURN ONTO EB 10. V1 WA	Front to Rear	Passenger Car
2451438	351877	5/26/2016, 11:14 AM	Property Damage Only Crash	0	2	Driver of vehicle #1 was stopping because of traffic in front of him. The traffic was mergin	Front to Rear	Sport Utility Vehicle
2603119	449334	5/3/2017, 6:47 AM	Property Damage Only Crash	0	2	Vehicle 2 was the last vehicle in line, sitting at a red light in the right lane of westbound H	Front to Rear	Sport Utility Vehicle
2364349	373669	8/23/2016, 7:54 AM	Property Damage Only Crash	0	2	Driver #1 said she was stopping in traffic like the vehicles in front of her. She said she was	Front to Rear	nger Van (Seats Installed Behind D
2477488	375054	8/29/2016, 12:15 PM	Property Damage Only Crash	0	2	Both vehicles were traveling w/b on 10. Vehicle #1 was in the left-hand lane and was pas	Sideswipe - Same Direction	Passenger Car
1921310	503037	9/21/2017, 7:50 PM	Property Damage Only Crash	0	2	UNIT 1 WAS SOUTHBOUND RAMSEY BLVD NW STOPPED IN THE RIGHT TURN LANE AT HIG	Front to Rear	nger Van (Seats Installed Behind D
2394676	648446	9/29/2018, 1:36 PM	Property Damage Only Crash	0	2	I arrived and first spoke with Driver #2 who stated he was traveling eastbound on Highway	Front to Rear	Passenger Car
1817040	455447	5/27/2017, 11:23 AM	Serious Injury Crash	0	2	Vehicle 1 was in the right lane of westbound Highway 10 NW, approaching the intersectio		Motorcycle
1881479	376547	9/2/2016, 4:34 PM	Serious Injury Crash	0	2	DV2 STATED SHE WAS HEADING E/B HWY 10 WHEN VH1 ABRUPTLY TURNED LEFT IN FRO	Angle	Passenger Car
1927619	499500	9/7/2017, 9:22 AM	Serious Injury Crash	0	1	Motorcycle was traveling eastbound 6800 block of Highway 10 NW, approximately 60mph, when the front tire failed, cau		Motorcycle

USTH 10 at Ramsey Blvd and USTH 10 from Traprock to east of Feldspar
2016-2018 Crash Data

Unit1 Direction	Unit1 Factor1	Unit1 Vehicle Maneuver	Unit2 Vehicle Type	Unit2 Direction	Unit2 Factor1
Westbound	Operated Motor Vehicle in Careless, Negligent, or Erratic Manner	Moving Forward	Passenger Car	Westbound	No Clear Contributing Action
Westbound	No Clear Contributing Action	Moving Forward	Passenger Car	Westbound	No Clear Contributing Action
Southbound	Driver Distracted	Moving Forward	Sport Utility Vehicle	Southbound	No Clear Contributing Action
Westbound	Improper Turn/Merge	Changing Lanes	Passenger Car	Westbound	No Clear Contributing Action
Eastbound	Driver Distracted	Moving Forward	Pickup	Eastbound	No Clear Contributing Action
Westbound	No Clear Contributing Action	Slowing	Motorcycle	Westbound	Following Too Closely
Southbound	Failure to Yield Right-of-Way	Moving Forward	Pickup	Eastbound	No Clear Contributing Action
Eastbound	No Clear Contributing Action	Vehicle Stopped or Stalled in Roadway	Passenger Car	Eastbound	Operated Motor Vehicle in Careless, Negligent, or Erratic Manner
Northbound	Unknown	Moving Forward	Sport Utility Vehicle	Westbound	No Clear Contributing Action
Eastbound	No Clear Contributing Action	Vehicle Stopped or Stalled in Roadway	Sport Utility Vehicle	Eastbound	Other Contributing Action
Westbound	Unknown	Moving Forward	Passenger Car	Westbound	No Clear Contributing Action
Westbound	No Clear Contributing Action	Moving Forward	Sport Utility Vehicle	Westbound	Improper Turn/Merge
Westbound	No Clear Contributing Action	Vehicle Stopped or Stalled in Roadway	Passenger Car	Westbound	No Clear Contributing Action
Eastbound	No Clear Contributing Action	Slowing	Sport Utility Vehicle	Eastbound	Driver Distracted
Eastbound	Driver Distracted	Roadway (Due to Wind, Slippery Surface, Motor Vehicle,	Passenger Car	Eastbound	No Clear Contributing Action
Westbound	Swerved or Avoided Due to Wind, Slippery Surface, Motor Vehicle, Object, No	Moving Forward	Passenger Car	Westbound	Other Contributing Action
Eastbound	Operated Motor Vehicle in Careless, Negligent, or Erratic Manner	Changing Lanes	Sport Utility Vehicle	Eastbound	No Clear Contributing Action
Southbound	No Clear Contributing Action	Slowing	Passenger Car	Southbound	Failure to Yield Right-of-Way
Eastbound	No Clear Contributing Action	Moving Forward	Passenger Car	Eastbound	No Clear Contributing Action
Westbound	No Clear Contributing Action	Moving Forward	Passenger Car	Westbound	Failure to Yield Right-of-Way
Eastbound	No Clear Contributing Action	Slowing	Passenger Car	Eastbound	Unknown
Eastbound	No Clear Contributing Action	Slowing	Passenger Car	Eastbound	Failure to Yield Right-of-Way
Eastbound	Other Contributing Action	Moving Forward	Passenger Car	Eastbound	Other Contributing Action
Eastbound	No Clear Contributing Action	Vehicle Stopped or Stalled in Roadway	Passenger Car	Eastbound	Operated Motor Vehicle in Careless, Negligent, or Erratic Manner
Eastbound	Other Contributing Action	Moving Forward	Passenger Car	Eastbound	No Clear Contributing Action
Eastbound	No Clear Contributing Action	Moving Forward	bs or Less (No Seats Insta	Eastbound	No Clear Contributing Action
Westbound	No Clear Contributing Action	Vehicle Stopped or Stalled in Roadway	Pickup	Westbound	No Clear Contributing Action
Southbound	No Clear Contributing Action	Moving Forward	Van (Seats Installed Behi	Southbound	Failure to Yield Right-of-Way
Eastbound	Other Contributing Action	Vehicle Stopped or Stalled in Roadway	Passenger Car	Eastbound	Other Contributing Action
Westbound	No Clear Contributing Action	Moving Forward	Passenger Car	Westbound	Failure to Yield Right-of-Way
Eastbound	No Clear Contributing Action	Slowing	Passenger Car	Eastbound	Driver Distracted
Eastbound	No Clear Contributing Action	Slowing	Passenger Car	Eastbound	No Clear Contributing Action
Westbound	No Clear Contributing Action	Moving Forward	Passenger Car	Westbound	No Clear Contributing Action
Eastbound	No Clear Contributing Action	Slowing	Sport Utility Vehicle	Eastbound	Following Too Closely
Westbound	Improper Turn/Merge	Turning Left			
Westbound	No Clear Contributing Action	Moving Forward	Sport Utility Vehicle	Westbound	Operated Motor Vehicle in Careless, Negligent, or Erratic Manner
Eastbound	Following Too Closely	Slowing	Passenger Car	Eastbound	No Clear Contributing Action
Westbound	Driver Distracted	Moving Forward	Passenger Car	Westbound	No Clear Contributing Action
Southbound	Unknown	Turning Left	Van (Seats Installed Behi	Eastbound	No Clear Contributing Action
Westbound	No Clear Contributing Action	Slowing	Pickup	Westbound	Passing on Shoulder
Eastbound	Swerved or Avoided Due to Wind, Slippery Surface, Motor Vehicle, Object, No	Moving Forward	Passenger Car	Eastbound	No Clear Contributing Action
Eastbound	No Clear Contributing Action	Moving Forward	bs or Less (No Seats Insta	Eastbound	No Clear Contributing Action
Northbound	Following Too Closely	Moving Forward	Passenger Car	Northbound	No Clear Contributing Action
Westbound	Improper Turn/Merge	Changing Lanes	Pickup	Westbound	No Clear Contributing Action
Westbound	No Clear Contributing Action	Moving Forward	Passenger Car	Westbound	Other Contributing Action
Eastbound	No Clear Contributing Action	Slowing	Passenger Car	Eastbound	Driver Distracted
Eastbound	Unknown	Overtaking/Passing			
Southbound	Other Contributing Action	Moving Forward	Passenger Car	Southbound	No Clear Contributing Action
Westbound	No Clear Contributing Action	Slowing	Passenger Car	Westbound	Following Too Closely
Westbound	Following Too Closely	Slowing	Passenger Car	Westbound	No Clear Contributing Action
Eastbound	No Clear Contributing Action	Slowing	Passenger Car	Eastbound	Following Too Closely
Westbound	No Clear Contributing Action	Moving Forward	Heavy Trucks (More than	Westbound	Operated Motor Vehicle in Careless, Negligent, or Erratic Manner
Southbound	No Clear Contributing Action	Vehicle Stopped or Stalled in Roadway	Sport Utility Vehicle	Southbound	Following Too Closely
Eastbound	No Clear Contributing Action	Vehicle Stopped or Stalled in Roadway	Passenger Car	Eastbound	Failure to Yield Right-of-Way
Westbound	No Clear Contributing Action	Roadway (Due to Wind, Slippery Surface, Motor Vehicle,	Passenger Car	Westbound	Unknown
Southbound	Failure to Yield Right-of-Way	Turning Left	Pickup	Southbound	No Clear Contributing Action
Eastbound	No Clear Contributing Action	Moving Forward			

USTH 10 at Ramsey Blvd and USTH 10 from Traprock to east of Feldspar
2016-2018 Crash Data

Unit2 Vehicle Maneuver	Unit3 Vehicle Type	Unit3 Direction	Unit3 Factor1	Unit3 Vehicle Maneuver
Slowing				
Moving Forward				
Vehicle Stopped or Stalled in Roadway				
Moving Forward				
Vehicle Stopped or Stalled in Roadway				
Slowing				
Moving Forward				
Moving Forward				
Moving Forward				
Moving Forward				
Vehicle Stopped or Stalled in Roadway	Passenger Car	Westbound	No Clear Contributing Action	Vehicle Stopped or Stalled in Roadway
Changing Lanes				
Vehicle Stopped or Stalled in Roadway	Pickup	Westbound	Driver Distracted	Moving Forward
Moving Forward				
Vehicle Stopped or Stalled in Roadway	Passenger Car	Eastbound	No Clear Contributing Action	Vehicle Stopped or Stalled in Roadway
Vehicle Stopped or Stalled in Roadway				
Slowing				
Moving Forward				
Moving Forward				
Turning Left				
Slowing				
Moving Forward				
Moving Forward	Pickup	Eastbound	Other Contributing Action	Moving Forward
Moving Forward				
Vehicle Stopped or Stalled in Roadway				
Moving Forward				
Vehicle Stopped or Stalled in Roadway	Pickup	Westbound	Operated Motor Vehicle in Careless, Negligent, or Erratic Manner	Moving Forward
Moving Forward				
Vehicle Stopped or Stalled in Roadway	Passenger Car	Eastbound	Other Contributing Action	Moving Forward
Changing Lanes				
Moving Forward				
Vehicle Stopped or Stalled in Roadway	Passenger Car	Eastbound	No Clear Contributing Action	Vehicle Stopped or Stalled in Roadway
Slowing				
Moving Forward				
Moving Forward				
Vehicle Stopped or Stalled in Roadway				
Vehicle Stopped or Stalled in Roadway				
Moving Forward				
Moving Forward				
Moving Forward				
Moving Forward				
Entering Traffic Lane				
Moving Forward				
Entering Traffic Lane				
Moving Forward				
Vehicle Stopped or Stalled in Roadway	Ieavy Trucks (More thai	Eastbound	No Clear Contributing Action	Moving Forward
Moving Forward				
Vehicle Stopped or Stalled in Roadway				
Moving Forward				
Changing Lanes				
Moving Forward				
Moving Forward				
Slowing				
Moving Forward				

THE COR

RAMSEY, MINNESOTA

DEVELOPMENT STATUS

- EXISTING DEVELOPMENT
- PROPOSED DEVELOPMENT
- ACTIVE DEALS
- UNDER CONTRACT
- COMPLETED

ACCESS

- EXISTING SIGNALIZED INTERSECTION
- FUTURE SIGNALIZED INTERSECTION
- F — FULL INTERSECTION
- 3/4 — NO LEFT OUTBOUND MOVEMENTS
- P — PARKING RAMP

TRAFFIC INFORMATION

ADT INFORMATION TAKEN FROM 2009 ACTUAL COUNTS AND 2030 PROJECTED VOLUMES

NORTH 0 300 600

LANDFORM
From Site to Finish

DEVELOPMENT PLAN 6.0

05.15.2012

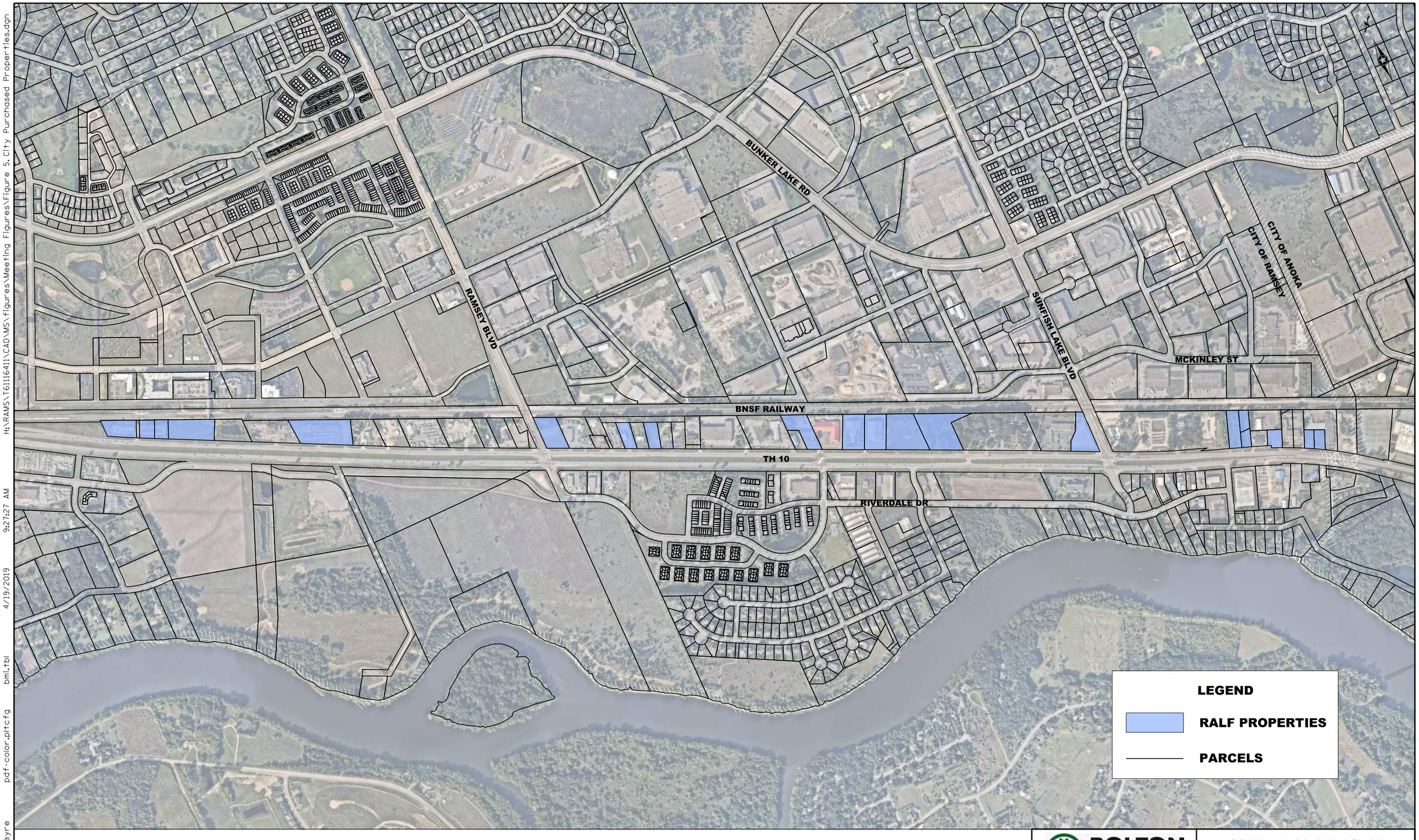


FIGURE 5. CITY PURCHASED PROPERTIES

BOLTON & MENK

HIGHWAY 10 CORRIDOR IMPROVEMENTS

H:\RAMS\T61116411\CAD\MS\figures\Meeting Figures\Figure 5. City Purchased Properties.dgn
9:27:27 AM
4/19/2019
bmi.tbl
pdf-color.pltcfg
kelseyre

City of RAMSEY

Highway 10 Corridor Improvements

Figure 9 - Safety Analysis (2013-2017)

August 2018

BOLTON & MENK
Real People. Real Solutions.

4
6 RIGHT ANGLE CRASHES
10
Jarvis St NW
Cleveland St NW
Alpine Dr
Armstrong Blvd NW
8 RIGHT ANGLE
4 LEFT TURN
1 BICYCLE CRASH
3 PEDESTRIAN RELATED CRASHES
15
Northen Blvd NW
Ramsey Blvd NW
Sunfish Lake Blvd NW
10
169
Puma St NW
Bunker Lake Blvd NW
1
Bunker Lake Blvd NW
5 REAR END CRASHES
10
2
1*
0*
Riverdale Dr NW
Sunwood Dr NW
6
3 LEFT TURN
1 RIGHT ANGLE
143rd Ave NW
8 REAR END CRASHES
4 RIGHT ANGLE CRASHES
16
Bunker Lake Blvd NW
51
43 REAR END CRASHES
6
McKinley St
71 REAR END CRASHES
Riverdale Dr NW
89
1
Thurston Ave
115
76 REAR END CRASHES
Fairoak Ave
192 REAR END CRASHES
286

Legend

- Fatal Pedestrian Crashes (2008-2017)
- Pedestrian/Bike Crashes (2013-2017)
- Fatal Injury (2008-2017)
- # Number of Crashes (2013-2017)
- Intersection Near Project Area Experiencing Crashes Outside Normal Range
- Crashes Outside Normal Range
- Crashes Within Normal Range

** Crashes Reported Since Construction Completed*

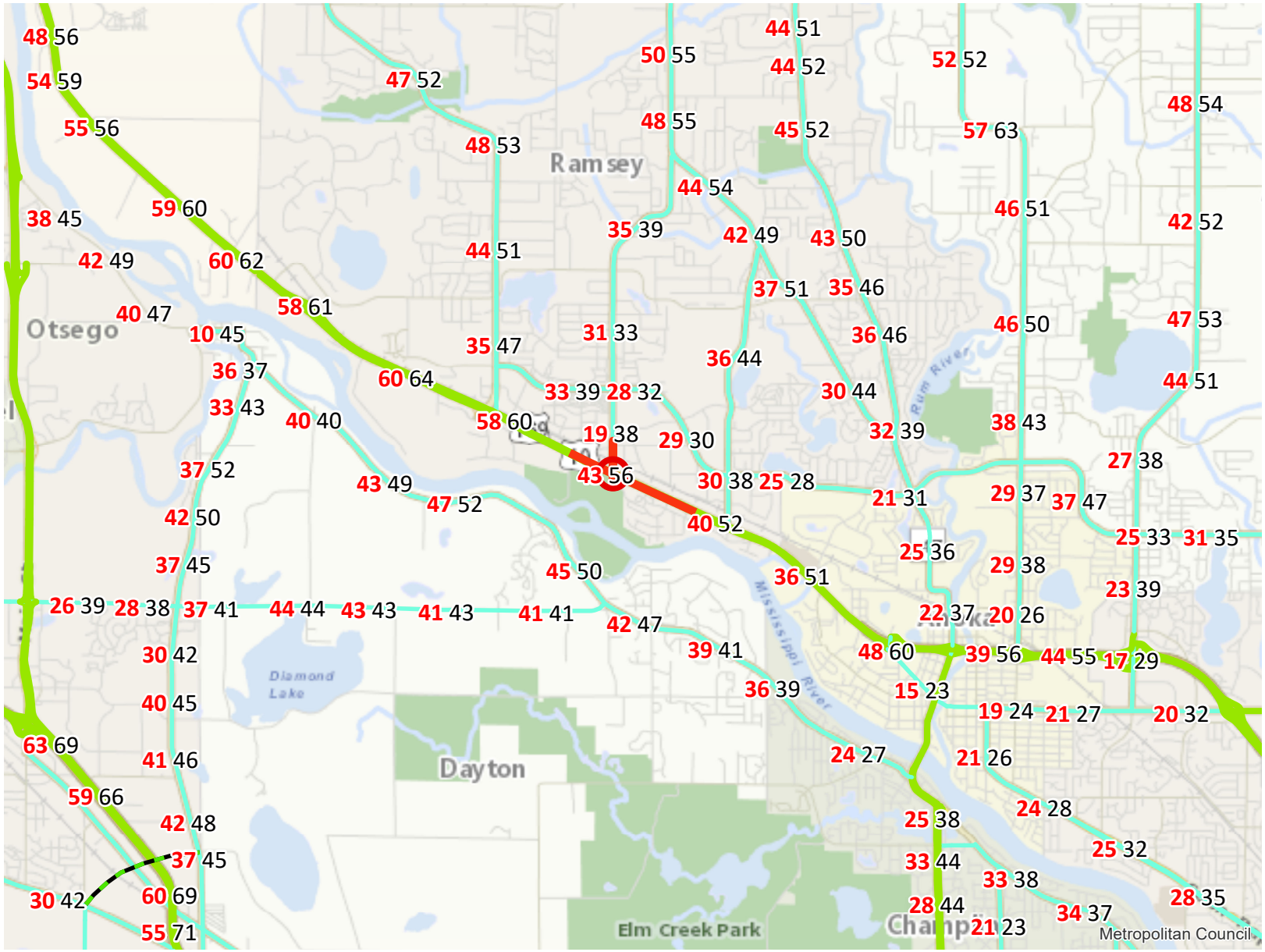
0 2,000 Feet

Source: Anoka County, Sherburne County, MnDOT

Map Document: \\arcserver1\GIS\RAMS\T61\116411\ESRI\Maps\116411_TrafficConditions_11x17L.mxd | Date Saved: 8/7/2018 10:15:04 AM

Level of Congestion

Roadway Expansion Project: Ramsey Gateway | Map ID: 1585782035886



Project Points
Project
Principal Arterials
A Minor Arterials
Principal Arterials Planned
A Minor Arterials Planned

0 0.75 1.5 3 4.5 6 Miles

Created: 4/1/2020
LandscapeRSA1

For complete disclaimer of accuracy, please visit https://giswebsite.metc.state.mn.us/gissite/notice.aspx

METROPOLITAN COUNCIL

Regional Economy

Roadway Expansion Project: Ramsey Gateway | Map ID: 1585782035886

Results

WITHIN ONE MI of project:
Postsecondary Students: 0

Totals by City:

Dayton
Population: 1031
Employment: 44
Mfg and Dist Employment: 2

Ramsey
Population: 7775
Employment: 4087
Mfg and Dist Employment: 1763

Project Points
Project
Manfacturing/Distribution Centers
Job Concentration Centers

0 0.175 0.35 0.7 1.05 1.4 Miles

Created: 4/1/2020
LandscapeRSA5

For complete disclaimer of accuracy, please visit
http://giswebsite.metc.state.mn.us/gissitenew/notice.aspx

METROPOLITAN COUNCIL

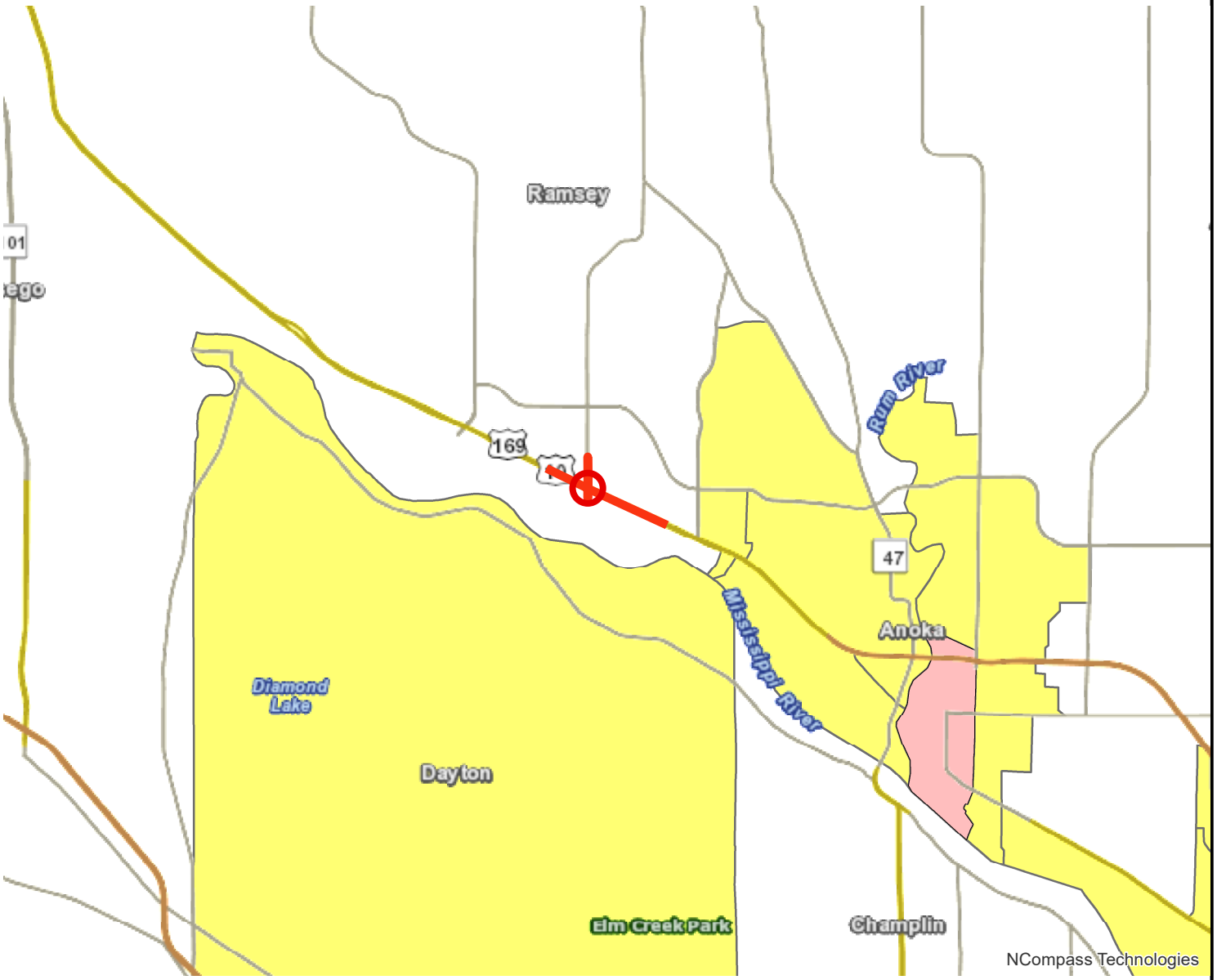
Socio-Economic Conditions

Roadway Expansion Project: Ramsey Gateway | Map ID: 1585782035886

Results

Project located in
a census tract that is below
the regional average for
population in poverty
or populations of color,
or includes children,
people with disabilities,
or the elderly:
(0 to 12 Points)

Tracts within half-mile:
26910 50227 50228



Points
Lines
Area of Concentrated Povertry > 50% residents of color
Area of Concentrated Poverty
Above reg'l avg conc of race/poverty

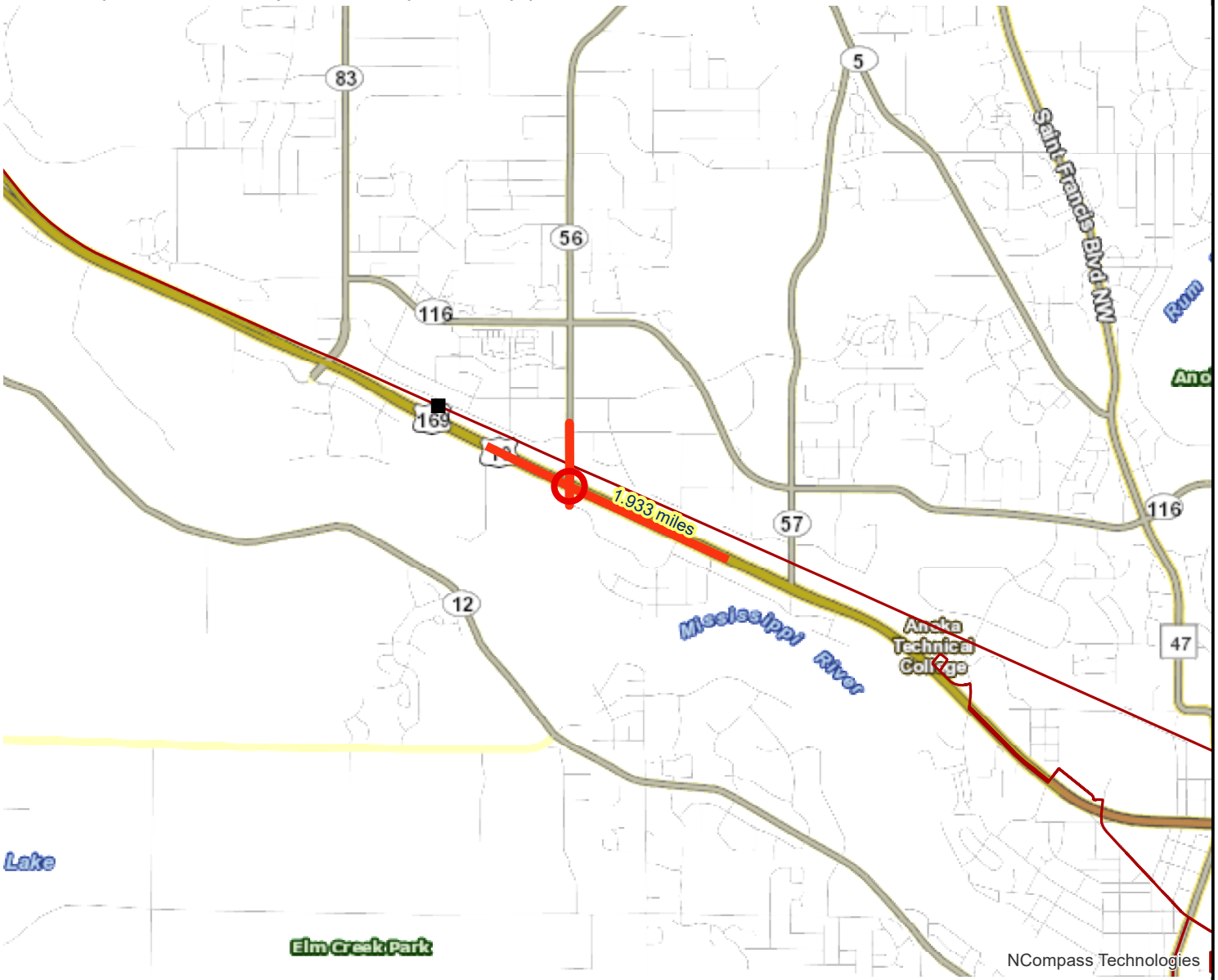
0 0.75 1.5 3 4.5 6 Miles

Created: 4/1/2020
LandscapeRSA2

METROPOLITAN COUNCIL

Transit Connections

Roadway Expansion Project: Ramsey Gateway | Map ID: 1585782035886



Results

Transit with a Direct Connection to project:
888
*Northstar

**indicates Planned Alignments*

Transit Market areas: 5

Project Points
Project
Project Area

Transitway Stations

Northstar Line
Transit Routes

0 0.425 0.85 1.7 2.55 3.4 Miles

Created: 4/1/2020
LandscapeRSA3

METROPOLITAN COUNCIL

List Dates of most recent meetings and outreach specific to this project:

- Meeting with general public: 05/01/2019; 05/23/2019; 06/04/2019;
- Meeting with partner agencies: TAC Meetings: 08/28/2018; 10/23/2018; 11/27/2018; 01/07/2019; 02/21/2019; 03/21/2019; 06/20/2019; 07/18/2019; 09/01/2019 – MnDOT: 07/09/2019; 08/05/2019 – FHWA: 12/12/2018 – City of Elk River: 11/07/2018; Design Workshop (Ramsey, Anoka Cty, MnDOT): 03/08/2019 – Corridor Coalition: 08/23/2018; 06/26/2019 – Ramsey City Council: 09/11/2018; 01/29/2019; 04/09/2019; 07/16/2019 – BNSF Railway: 08/17/2018 – Anoka County: 02/26/2019; 04/01/2019; 07/17/2019
- Targeted online/mail outreach: Six total Ramsey Resident Updates (community newsletter); Online bulletin subscription service
    - Number of respondents: 1,638 mailing parcels; 351 eblast subscriptions

CMF / CRF Details

CMF ID: 459

Convert at-grade intersection into grade-separated interchange

Description:

Prior Condition: ***No Prior Condition(s)***

Category: Interchange design

Study: ***Revision of the Hand Book of Road Safety Measures*, Elvik, R. and Erke, A., 2007**

Star Quality Rating:	★★★★☆

Crash Modification Factor (CMF)	
Value:	0.58
Adjusted Standard Error:	0.1
Unadjusted Standard Error:	0.06

Crash Reduction Factor (CRF)	
Value:	42 *(This value indicates a **decrease** in crashes)*
Adjusted Standard Error:	10

Unadjusted Standard Error:	6

Applicability

Crash Type:	All
Crash Severity:	All
Roadway Types:	Not Specified
Number of Lanes:	
Road Division Type:	
Speed Limit:	
Area Type:	Not Specified
Traffic Volume:	
Time of Day:	

If countermeasure is intersection-based

Intersection Type:	Roadway/roadway (interchange ramp terminal)
Intersection Geometry:	4-leg
Traffic Control:	Not specified
Major Road Traffic Volume:	
Minor Road Traffic Volume:	

Development Details

Date Range of Data Used:	
Municipality:	
State:	

Country:	
Type of Methodology Used:	Meta-analysis
Sample Size Used:	

Other Details

Included in Highway Safety Manual?	Yes. HSM lists this CMF in **bold** font to indicate that it has the highest reliability since it has an adjusted standard error of 0.1 or less.
Date Added to Clearinghouse:	Dec-01-2009
Comments:	

This site is funded by the U.S. Department of Transportation Federal Highway Administration and maintained by the University of North Carolina Highway Safety Research Center

MnDOT Metro District
1500 West County Road B-2
Roseville, MN 55113

May 12, 2020

Jack Forslund
Anoka County Transportation Division
1440 Bunker Lake Boulevard, NW
Andover, MN 55304

Re: MnDOT Letter for Anoka County
Metropolitan Council/Transportation Advisory Board 2020 Regional Solicitation Funding Request for CSAH 56 at US 10 Interchange Project

Dear Jack Forslund,

This letter documents MnDOT Metro District's recognition for the City of Anoka to pursue funding for the Metropolitan Council/Transportation Advisory Board's (TAB) 2020 Regional Solicitation for CSAH 56 at US 10 Interchange Project.

As proposed, this project impacts MnDOT right-of-way on US 10. As the agency with jurisdiction over US 10, MnDOT will allow Anoka County to seek improvements proposed in the application. If funded, 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.

There is no funding from MnDOT currently planned or programmed for this location. Due to expected loss of future state and federal transportation revenues as a result of the COVID-19 pandemic, there is likely to be significant disruptions to the current MnDOT construction program that will surface in the next year. MnDOT does not anticipate partnering on local projects related to the trail project beyond current agreements.

In addition, the Metro District currently does not anticipate any significant discretionary funding in state fiscal years 2024 or 2025 that could fund the project, nor do we have the resources to assist with MnDOT services such as the design or construction engineering of the facility. If your project receives funding, continue to work with MnDOT Area staff to coordinate trail extension and to periodically review needs and opportunities for cooperation.

MnDOT Metro District looks forward to continued cooperation with the Anoka 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 Melissa Barnes, North Area Manager, at Melissa.Barnes@state.mn.us or 651-234-7718.

Sincerely,

Michael Barnes
Digitally signed by Michael Barnes
Date: 2020.05.12 16:50:26 -05'00'

Michael Barnes, PE
Metro District Engineer

CC: Melissa Barnes, Metro District Area Manager
Molly McCartney, Metro Program Director
Dan Erickson, Metro State Aid Engineer

BOARD OF COUNTY COMMISSIONERS

Anoka County, Minnesota

DATE: April 14, 2020 **RESOLUTION #2020-50**

OFFERED BY COMMISSIONER: Schulte

AUTHORIZING SUBMITTAL OF A FEDERAL FUNDING APPLICATION FOR THE US 10 AND CSAH 56 (RAMSEY BOULEVARD NW) INTERCHANGE IMPROVEMENT PROJECT

WHEREAS, the existing at-grade intersection of US Hwy 10/169 (a Principal Arterial route) and CSAH 56 (an "A" Minor Arterial Expander route) and the at-grade railroad crossing on the BNSF railway are unsafe and lead to traffic congestion and mobility issues; and,

WHEREAS, Anoka County and the City of Ramsey propose to grade-separate US Hwy 10/169 at CSAH 56, and the BNSF railway crossing at Ramsey Boulevard NW; and,

WHEREAS, this improvement project is consistent with the goals and objectives of the Highway 10 Access Planning Study completed in 2014 in partnership between the Minnesota Department of Transportation (MnDOT), Anoka County Highway Department, City of Anoka, City of Ramsey, and Metropolitan Council; and,

WHEREAS, the Anoka County Highway Department is proposing to submit an application to the Transportation Advisory Board through the Metropolitan Council's 2020 Regional Solicitation program to receive federal transportation funds to construct an interchange at US Hwy 10/169 and CSAH 56 in the city of Ramsey; and,

WHEREAS, Anoka County has the necessary capabilities to adequately fund its local cost share for this public improvement project:

NOW THEREFORE, BE IT RESOLVED that the Anoka County Highway Department is hereby authorized to submit an application to the Transportation Advisory Board, through the Metropolitan Council's 2020 Regional Solicitation program, in the Roadway Expansion category, to receive federal transportation funds to construct an interchange and associated improvements at US Hwy 10/169 and CSAH 56, in the city of Ramsey.

STATE OF MINNESOTA)
COUNTY OF ANOKA) ss

I, Rhonda Sivarajah, County Administrator, Anoka County, Minnesota, hereby certify that I have compared the foregoing copy of the resolution of the county board of said county with the original record thereof on file in the Administration Office, Anoka County, Minnesota, as stated in the minutes of the proceedings of said board at a meeting duly held on April 14, 2020, and that the same is a true and correct copy of said original record and of the whole thereof, and that said resolution was duly passed by said board at said meeting.

Witness my hand and seal this 14th day of April 2020.

RHONDA SIVARAJAH
COUNTY ADMINISTRATOR

	YES	NO
DISTRICT #1 – LOOK	X	
DISTRICT #2 – BRAASTAD	X	
DISTRICT #3 – WEST	X	
DISTRICT #4 – MEISNER	X	
DISTRICT #5 – GAMACHE	X	
DISTRICT #6 – REINERT	X	
DISTRICT #7 – SCHULTE	X	

Anoka Area CHAMBER of Commerce

April 3, 2020

Mr. Joe MacPherson
County Engineer
Anoka County, Minnesota
2100 3rd Avenue
Anoka, MN 55303

RE: Letter of Support for the Ramsey Gateway Project (US Highway 10)

Dear Mr. MacPherson,

As you know, the Anoka Area Chamber of Commerce represents multiple cities including Ramsey. As President of the Anoka Area Chamber of Commerce, I am aware that the movement of people, goods, and services is drastically impacted by congestion and high crash numbers on Highway 10 numerous hours a day. This negatively impacts businesses in the City of Ramsey and surrounding area, which ultimately has an effect on the overall regional and state economy.

I'm aware that Anoka County and the City of Ramsey are actively pursuing funds to implement the Ramsey Gateway Project which includes a program of Highway 10 improvements within the City. These improvements include grade-separating the Highway 10 intersections at Ramsey Boulevard and Sunfish Lake Boulevard, extensive access management, local roadway connection and circulation improvements, enhanced non-motorized access and accommodations, and railroad crossing grade separation. The improvements in Ramsey will be consistent with the similar Highway 10/169 improvements within the Cities of Anoka and Elk River which are slated to begin construction in 2022/23. The Anoka Area Chamber of Commerce fully supports project partners' efforts to improve mobility and safety on Highway 10.

The proposed improvements will enhance the safety and mobility of traffic operations allowing more efficient movement of people, goods, and services thus positively impacting the community and the region.

Sincerely,

Peter Turok, President
Anoka Area Chamber of Commerce

October 18, 2019

Mr. Kurt Ulrich
City Administrator
City of Ramsey
7550 Sunwood Drive Northwest
Ramsey, MN 55303

RE: Letter of Support for the Ramsey Gateway Project (US Highway 10)

Dear Mr. Ulrich,

The Metropolitan Council is pleased to support the City of Ramsey's grant application for the multi-year planned Ramsey Gateway Project (US Highway 10). This project provides regional benefits to mobility, safety, freight and transit and has been recognized by the Council as a regional priority in the Transportation Policy Plan.

Foremost, thank you for your service in pursuing funds for locally initiated projects to meet regional transportation needs. What you do aligns well with our region's Transportation Policy Plan and with principles of our transit operations at Metro Transit: *"We believe that public transportation is essential to the economic vitality, environmental stability and quality of life in the Twin Cities region."*

As you know, the Northstar Commuter Rail Line will benefit from this project and is all about public transportation, connecting the northwest metropolitan area to many tens of thousands of jobs between Big Lake and Minneapolis and St. Paul. But Northstar also enhances quality of life for metro area residents, allowing affordable transportation and multimodal choices, as well as the opportunity to use Northstar to access regional parks and trails.

The Northstar Commuter Rail Line utilizes the BNSF rail line which closely parallels Highway 10 to the north and is the busiest rail segment in the state with 57-81 freight trains per day. During peak hours, trains cause traffic backups onto the Highway 10. We recognize that the Ramsey Gateway Project includes improvements that will greatly increase safety and operations of all corridor users.

As the region's MPO, the Metropolitan Council is committed to amending the TIP and long-range transportation plan to include this project if the project is fully funded.

For all the above reasons, the Metropolitan Council supports the Ramsey Gateway Project.

Sincerely,

Nora Slawik
Chair
Metropolitan Council

390 Robert Street North | Saint Paul, MN 55101-1805
P. 651.602.1000 | TTY. 651.291.0904 | metrocouncil.org
An Equal Opportunity Employer

METROPOLITAN COUNCIL

TOM EMMER
6TH DISTRICT, MINNESOTA

COMMITTEES
FINANCIAL SERVICES
SUBCOMMITTEES
INVESTOR PROTECTION, ENTREPRENEURSHIP AND CAPITAL MARKETS
NATIONAL SECURITY, INTERNATIONAL DEVELOPMENT AND MONETARY POLICY

Congress of the United States
House of Representatives
Washington, DC 20515–2306

315 CANNON HOUSE OFFICE BUILDING
WASHINGTON, DC 20515
(202) 225–2331

DISTRICT OFFICE
9201 QUADAY AVENUE NE
SUITE 206
OTSEGO, MN 55330
(763) 241–6848

HOUSE REPUBLICAN STEERING

REPUBLICAN WHIP TEAM

DEPUTY WHIP TEAM

August 15, 2019

The Honorable Elaine Chao
Secretary
U.S. Department of Transportation
1200 New Jersey Ave, SE
Washington, DC 20590

Dear Secretary Chao:

I am writing in strong support of the $25 Million Better Utilizing Investments to Leverage Development (BUILD) Grant application submitted by the City of Ramsey, Minnesota for the Ramsey Gateway Highway 10/169 Project. The project is being led by the City of Ramsey with coordination and support from Anoka County, the Minnesota Department of Transportation (MnDOT), the Metropolitan Council regional planning agency, and the neighboring cities of Elk River and Anoka. The project builds upon work completed in a 2014 Access Planning Study led by MnDOT.

US Highway 10/169 is a major artery connecting the Minneapolis/St. Paul metropolitan area to the northern Minnesota tourism industry and freight generating centers in Minnesota and North Dakota. The roadway within the City of Ramsey has a high traffic volume with weekend and holiday traffic, causing frequent and heavy congestion. In addition to addressing congestion and enhancing mobility, the project is designed to reduce high crash statistics. The number of access points is greater than allowed by MnDOT's access spacing guidelines for principle arterials, adding to congestion and safety issues.

I strongly support the Ramsey Gateway Highway 10/169 Project's BUILD grant application. If you have any questions or need additional information, please contact Nick Lunneborg in my office at Nicholas.Lunneborg@mail.house.gov.

Sincerely,

Tom Emmer

Tom Emmer
Member of Congress

B&F FASTENER SUPPLY

7100 Sunwood Drive NW, Ramsey MN 55303
Telephone (763) 252-2300
Fax (763) 252-2399

July 16, 2019

Dear Mr. Sullivan,

As a business owner of a distribution center in Ramsey we completely support the City of Ramsey's initiative to improve the Safety and Traffic flow along the Hwy 10 Corridor. Just as recently as last Friday, July 12th, there was a five-car accident on Hwy 10 in Anoka. Not only is that accident a tragedy because of the injuries, but because of the timing on a Friday as it backed up traffic for several hours.

This very well could have involved one of our Ramsey employees or one of our fleet drivers that operate daily between St. Anthony and Ramsey.

We currently operate a very large fleet of vehicles and are very concerned about the safety of our drivers and the amount of labor hours that are wasted sitting in traffic.

Lastly, in today's job market many prospective employees determine their employment location based on the commute time and hassle factor of that commute time. IE: Stop lights, slow downs and stop and go traffic. The current Hwy 10 corridor has little to no advantage for us in trying to recruit new employees.

Best Regards,

Loren O'Brien

Loren O'Brien

B&F Fastener Supply

CEO | Ramsey, MN

Phone: 763-252-2300 Fax: 763-252-2399

DELIVERING QUALITY PRODUCTS WITH SERVICE YOU CAN TRUST®

DEPARTMENT OF TRANSPORTATION

Transportation Bldg
395 John Ireland Blvd.
Saint Paul, MN 55155-1800

July 15, 2019

Mr. Kurt Ulrich
City Administrator
City of Ramsey
7550 Sunwood Drive Northwest
Ramsey, MN 55303

Dear Mr. Ulrich,

RE: Letter of Support for the Ramsey Gateway Project (US Highway 10)

This letter documents MnDOT's support for the Ramsey Gateway Project within the City of Ramsey that includes a recommended vision for major improvements to US Highway 10. US Highway 10 is a principal arterial roadway carrying up to 55,000 vehicles per day and providing significant transportation connection between Minneapolis – St. Paul to northwestern Minnesota and into North Dakota. Today, mobility throughout the Highway 10 corridor within the City of Ramsey is underserved resulting in miles of back-ups and hours of congestion per day. In addition, over ninety crashes per year have occurred in the past five years and five fatal crashes have occurred in the past ten years.

The Highway 10 vision includes improvements in benefit of Highway 10 for all corridor users. These improvements will address existing safety, access, and mobility issues on the corridor, and will significantly improve regional freight and commuter traffic and enhance economic development.

To the east of the project, Highway 10 in Anoka is planned to be converted from an expressway to a freeway-type design in 2022-2024. To the west of this project in Elk River, connecting US Highway 169 is also planned to be converted to a freeway. Without implementation of the Ramsey Gateway Project, congestion and crashes are anticipated to worsen on Highway 10 within the City of Ramsey.

The Ramsey Gateway Project will remove the existing at-grade signals on Highway 10 and provide frontage road connections for local access to address the immediate safety and mobility needs and future traffic demands of the Highway 10 corridor. The Ramsey Gateway Project was shaped by extensive technical analysis as well as agency and public outreach that helped all stakeholders better understand issues and tailor solutions to community and agency needs. Outreach included business and property owner meetings, a design workshop, several project partner meetings, and public open houses.

The Ramsey Gateway Project is the outgrowth of the *Highway 10 Access Planning Study* which was led by MnDOT and Anoka County approximately five years ago. We are committed to working with our partner agencies to pursue funding for this project from a variety of sources. The Ramsey Gateway Project improvements on Highway 10 also include improvements to the supporting network of local connections. This will require support from State, Federal, County, and City to deliver this project. MnDOT is eager to continue momentum by working with partners to secure the necessary funding and deliver improvements.

Sincerely,

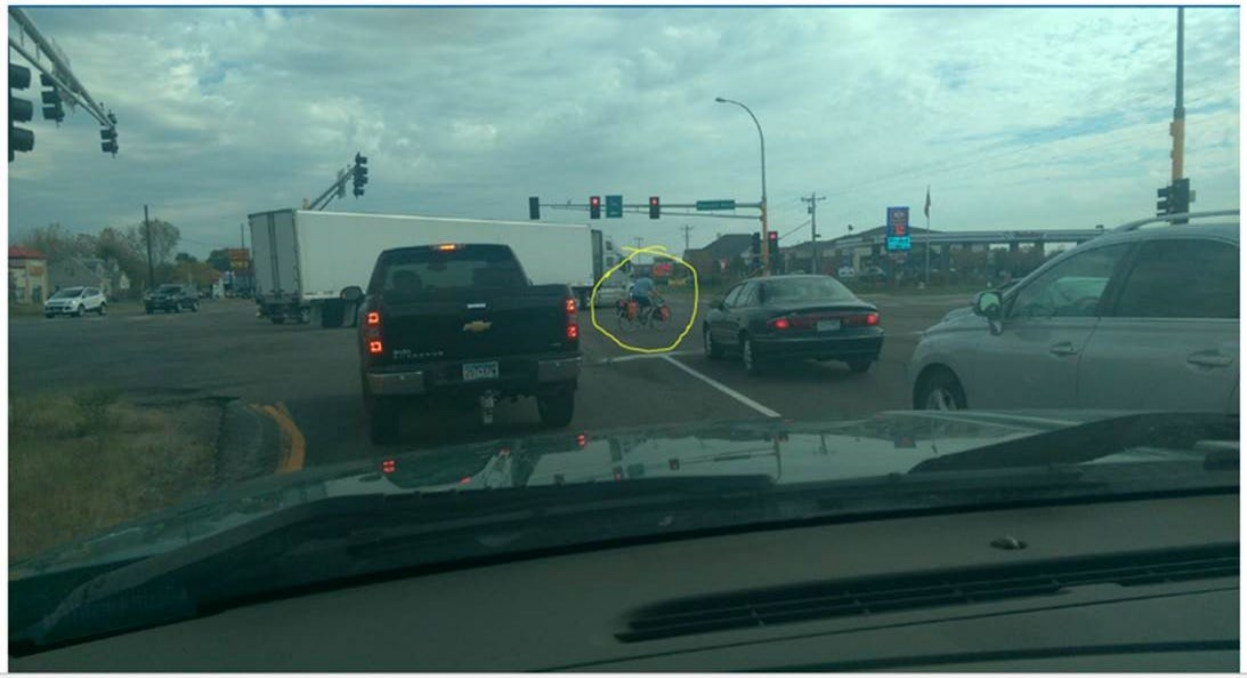
Margaret Anderson Kelliher

Margaret Anderson Kelliher
Commissioner

Existing Conditions: Ramsey Blvd and Highway 10

Congestion at Ramsey Blvd at-grade rail crossing extending towards US Highway 10/169 in the City of Ramsey, Minnesota

Looking southeast at the intersection of Ramsey Blvd and Highway 10

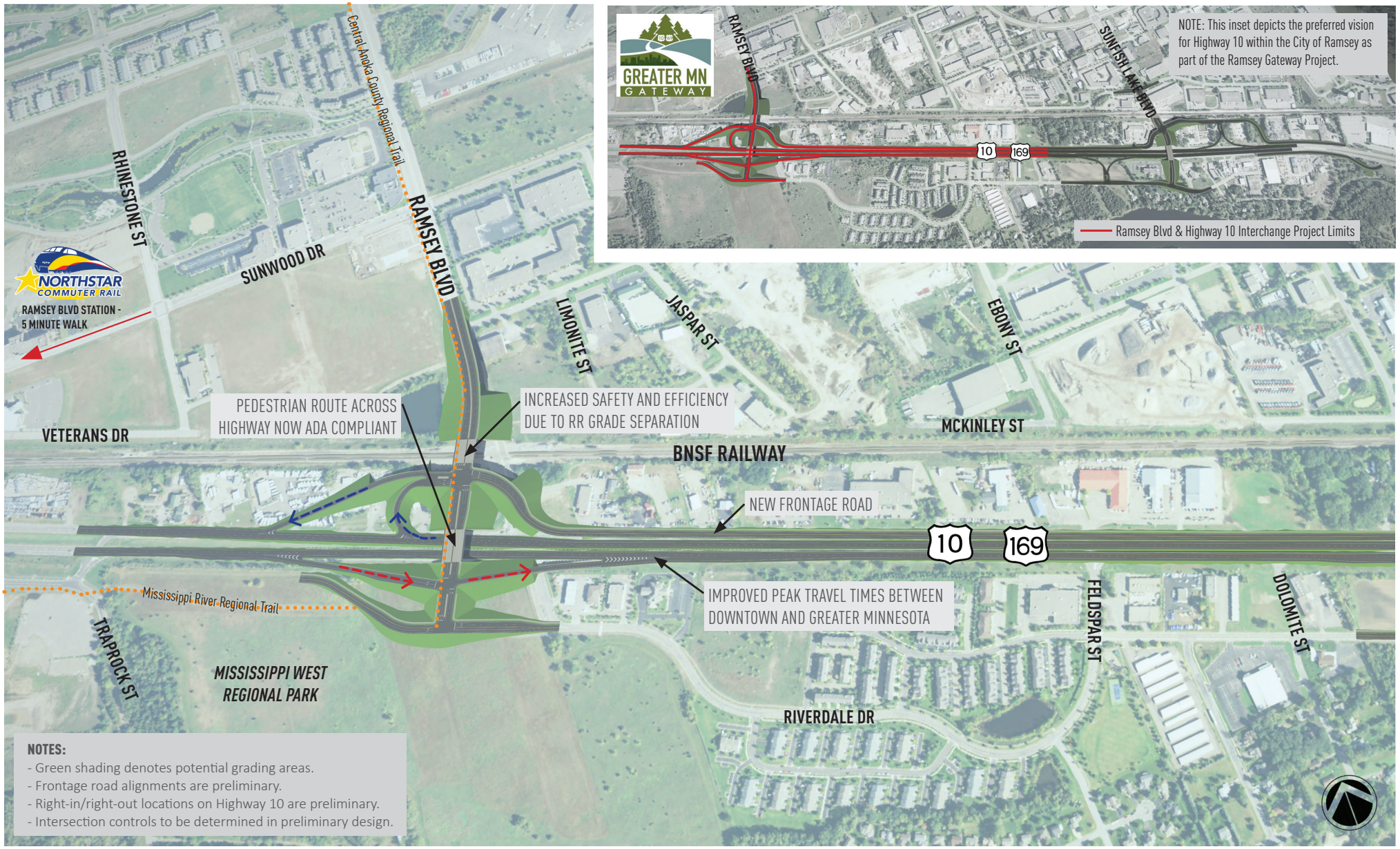


Bicyclist crossing Hwy 10 at Ramsey Blvd to access the regional trail amidst heavy traffic. The proposed skyway project will provide a grade separated crossing of Hwy 10 and will connect directly with the regional trail.

Bicyclist traveling along the road shoulder in the project area. Bicyclists use the project corridor year-round, and the lack of dedicated bicycle connections pushes cyclists onto busy streets.

CSAH 56 (Ramsey Blvd) & Highway 10 Interchange

Anoka County



NOTES:

- Green shading denotes potential grading areas.
- Frontage road alignments are preliminary.
- Right-in/right-out locations on Highway 10 are preliminary.
- Intersection controls to be determined in preliminary design.

Anoka County MINNESOTA Respectful, Innovative, Fiscally Responsible

City of RAMSEY

DEPARTMENT OF TRANSPORTATION

CITY OF RAMSEY GATEWAY

Ramsey Gateway Highway 10 Project

Public Open House

Tuesday, June 4, 2019
Ramsey City Hall
5 pm-7 pm

Open House Format:
Project Informational Boards and Discussion

102
Attendees Signed In

What We Heard

Frontage road connections are important and need to accommodate large trucks to and from businesses

Desire for selection of alternatives that are most **fundable and efficient** as a single vision for Highway 10 in Ramsey

How attendees heard about the open house:
89% Mailing
7% Email
2% Social Media
2% Word-of-Mouth

Desire to know **construction time line and impacts** to properties

Desire to see project sensitivity for environmental resources, planned green space, storm water management, traffic speed enforcement, and cost of lost tax base

Concern for **roundabout safety, efficiency** and **potential backups** on the frontage roads and highway.

Riverdale Drive is heavily used by traffic avoiding backups on Highway 10 and many bicyclists

*Mixed perception on the need for a r**oadway bridge over the railroad** with reconstruction of the Sunfish Lake Blvd and Highway 10 intersection

* Riverdale Drive residents were unsupportive of alternatives that add highway access points and a large amount of frontage road traffic in front their properties

* specific to Sunfish Lake Blvd

GREATER MN GATEWAY
DEPARTMENT OF TRANSPORTATION
Anoka County MINNESOTA Respectful. Innovative. Fiscally Responsible

Ramsey Gateway Highway 10 Project

Business & Property Meetings

Ramsey City Hall - 7:30 - 8:30 am

Wednesday, May 22, 2019
Sunfish Lake Blvd Group

Thursday, May 23, 2019
Ramsey Blvd Group

Meeting Format:
Presentation and Group Discussion

13 Business & Property Owners Signed In

What We Heard

Desire to know **construction time line and impacts** to properties

Desire for **frontage roads** to be constructed before Highway 10 reconstruction and completion of the Anoka Highway 10 project

Concern that **non-traditional Highway 10 access** may confuse customers

Concern for impacts to **recent investments** or **lost** revenue due to unknowns

*Roundabouts are not ideal for industrial park access

Concern with business visibility impacted by potential Highway 10 median barrier.

Riverdale Drive is heavily used by traffic avoiding backups on Highway 10 and many bicyclists

*Space for **snow removal and storage** is an issue

*Sunfish Lake Blvd **roadway bridge over railroad** not perceived as necessary

Drainage is an issue along Highway 10 *

* specific to Sunfish Lake Blvd ** specific to Ramsey Blvd

GREATER MN GATEWAY | DEPARTMENT OF TRANSPORTATION | Anoka County MINNESOTA Respectful. Innovative. Fiscally Responsible

Ramsey Gateway:

CSAH 56 (Ramsey Blvd) & Highway 10 Interchange

Applicant, Location, & Route: Anoka County, U.S. Highway 10 and Ramsey Blvd. within the City of Ramsey

Application Category:
Roadways including Multimodal Elements - **Roadway Expansion**

Funding Information:
Requested Award Amount: $10,000,000
Local Match: $19,300,000
Project Total: $29,300,000

Match $ Sources:

- Anoka County
- City of Ramsey
- MnDOT
- BNSF Railway
- **$3.5M in awarded State Legislative Bonding Funds**

Corridor Fast Facts:

- **55,000 vpd** (1,650 trucks)
- Higher crash rate than state avg; 51 crashes in last 5 years
- 3 fatal ped crashes on Hwy 10 within Ramsey in last 10 years, **1 fatal ped crash at Ramsey Blvd**
- Backups anticipated to reach one-mile by 2025 and almost 4-miles in 2045
- Significant commuter/freight corridor between MSP, NW-MN, and North Dakota
- **Busiest BNSF rail line in Minnesota** with 57-81 freight trains and 14 transit trains
- Regional gateway to northern MN Lakes and outdoor tourism industry

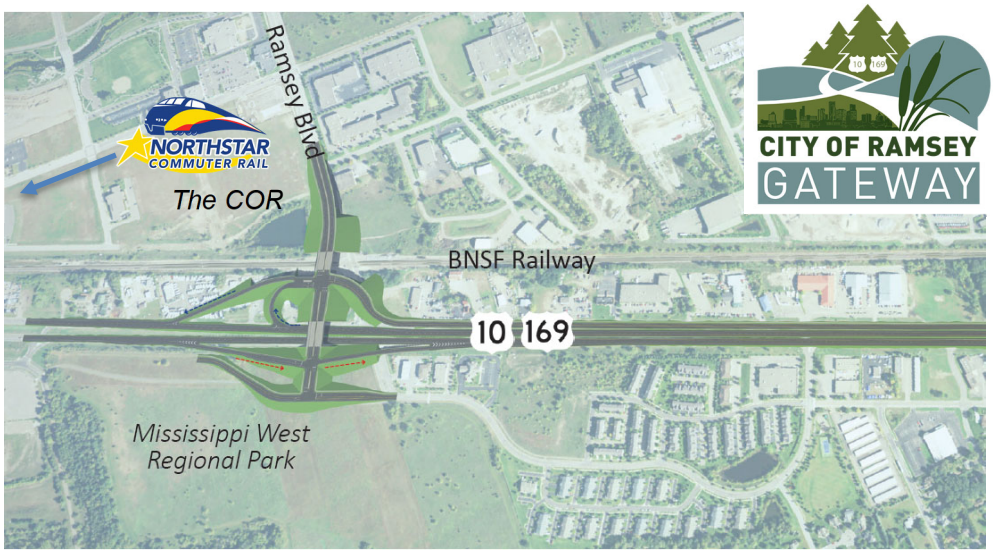
Project Description

This project will remove the traffic signal at Ramsey Blvd and Highway 10 and replace it with a grade-separated folded tight-diamond interchange including a grade-separated railway crossing and frontage road connections. ADA accessible and continuous pedestrian and bicycle facilities are included throughout.

The current Highway 10 corridor within the City of Ramsey is plagued with significant crash and congestion issues, for vehicles, trucks, pedestrians, and trains alike, and is impacting the movement of goods and people between Minneapolis/St Paul and northern Minnesota. In addition, the busiest BNSF railway within the state parallels the highway blocking Ramsey Blvd for two to three hours per day while causing northbound backups onto Highway 10. This is a highly expressed public concern and documented issue for emergency response vehicles responding to common crashes on Highway 10 (watch emergency vehicles blocked by train: https://www.youtube.com/watch?v=VruXJvlrt-g).

Project Benefits

Ramsey Blvd serves as the primary connection to the COR (Center of Ramsey) development, a 400-acre area including residential, commercial, retail, educational, and recreational land uses intended to serve as the downtown of Ramsey, located just northwest of the proposed interchange. Integral to this development is the Northstar Commuter Rail line, of which ridership and operations will benefit greatly from the proposed project. The proposed improvements will increase corridor safety, address congestion and operational issues, eliminate delay from the railroad crossings, and provide safe pedestrian/bicycle crossing of Hwy 10.



The Time is Now

Beginning in 2022, fully funded projects in Anoka and Elk River will transition Highway 10 into a freeway on either side of Ramsey. Ramsey will become the bottleneck, with increased crash and congestion issues at the two remaining at-grade signalized intersections on Highway 10 in the metro area. Improvements to the Ramsey Blvd intersection with Highway 10 are the highest priority in the Ramsey Gateway Project – and is so reflected in this application - which also includes the construction of another interchange at Sunfish Lake Blvd. Improvements in Ramsey will complete the regional vision of converting Highway 10 into a freeway corridor.