



Application

13860 - 2020 Roadway Expansion

14074 - TH 610 & East River Road Full Access Interchange

Regional Solicitation - Roadways Including Multimodal Elements

Status: Submitted

Submitted Date: 05/13/2020 3:20 PM

Primary Contact

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What Grant Programs are you most interested in? Regional Solicitation - Bicycle and Pedestrian Facilities

Organization Information

Name: COON RAPIDS,CITY OF

Jurisdictional Agency (if different):

Organization Type:	City		
Organization Website:			
Address:	11155 NW ROBINSON RD		
	COON RAPIDS	Minnesota	55433
	City	State/Province	Postal Code/Zip
County:	Anoka		
Phone:*	763-755-2800		Ext.
Fax:			
PeopleSoft Vendor Number	0000020934A1		

Project Information

Project Name	TH 610 & East River Road Interchange Reconstruction
Primary County where the Project is Located	Anoka
Cities or Townships where the Project is Located:	Coon Rapids
Jurisdictional Agency (If Different than the Applicant):	MnDOT

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

In 2018, Anoka County, in partnership with the City of Coon Rapids, was awarded federal funds for a grade separation (overpass) of Foley Boulevard over the BNSF railroad tracks near TH 610 and Coon Rapids Boulevard. This overpass is currently in the final design phase with construction beginning in 2021. With the City's purchase of available property and funding secured for the Foley Railroad Grade-Separation project, the City and County began collaboration to develop an improved transportation system solution by modifying the existing interchange at TH 610, a Principal Arterial, and East River Road (CSAH 1), an "A" Minor Arterial Expander.

Currently, the TH 610/East River Road interchange exists as a half-diamond configuration consisting of access ramps to and from the west. This project will complete the system by providing a full-access interchange at TH 610 and East River Road. The proposed concept will provide a westbound off-ramp loop and a folded eastbound on-ramp with auxiliary lanes to TH 610 between East River Road and Coon Rapids Boulevard.

While these two projects are not being built together, the design of each project influences the other. The proposed improvements along Foley Boulevard greatly improve the reliability of the local roadway system, and the ability to tie a future full-access interchange at East River Road will be a significant transportation improvement for the area. The County and City agree that a modified East River Road interchange will best serve the County's and City's residents and businesses, as well as Metro Transit customers, by providing a better access to the existing Foley park-and-ride lot.

The purpose of completing the TH 610/East River Road interchange is to provide a more direct route for regional trips originating and destined for this area. The primary land use is industrial, with some commercial mixed use. The industrial uses generate heavier truck volumes that are destined for the regional transportation system. The trips in the area currently exit and enter at the TH 610/University Avenue or TH 10/Foley Boulevard interchanges and must use the local street system, which is non-intuitive to regional users needing to safely access the area.

Furthermore, circuitry is an issue for emergency response teams. The lack of eastbound access to and from TH 610 considerably increases emergency response times. This creates a real challenge for the City when responding to emergencies in the TH 610 eastbound direction between the river and University Avenue.

(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.](#)

TH 610 and East River Road (CSAH 1) Interchange in Coon Rapids, Construct Interchange/New Construction

Project Length (Miles)

0.47

to the nearest one-tenth of a mile

Project Funding

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

No

If yes, please identify the source(s)

Federal Amount

\$9,752,000.00

Match Amount

\$2,438,000.00

Minimum of 20% of project total

Project Total

\$12,190,000.00

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

Match Percentage

20.0%

Minimum of 20%

Compute the match percentage by dividing the match amount by the project total

Source of Match Funds

MnDOT, Anoka County, City of Coon Rapids

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:

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

Project Information-Roadways

County, City, or Lead Agency

City of Coon Rapids

Functional Class of Road

A Minor Arterial Expander

Road System

CSAH

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

Road/Route No.

1

i.e., 53 for CSAH 53

Name of Road

East River Road

Example; 1st ST., MAIN AVE

Zip Code where Majority of Work is Being Performed

55433

(Approximate) Begin Construction Date

04/01/2025

(Approximate) End Construction Date

11/03/2025

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

From:

(Intersection or Address)

Foley Boulevard

To:

(Intersection or Address)

TH 610 on-ramp

DO NOT INCLUDE LEGAL DESCRIPTION

Or At

Miles of Sidewalk (nearest 0.1 miles)

0

Miles of Trail (nearest 0.1 miles)

0

Miles of Trail on the Regional Bicycle Transportation Network (nearest 0.1 miles)

0

Primary Types of Work

GRADE, AGG BASE, BIT BASE, BIT SURF, CURB AND GUTTER, GUARDRAIL, PED RAMPS, SIGNALS

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.

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 B: Safety and Security

Objective: Reduce crashes and improve safety and security for all modes of passenger travel and freight transportation.

Strategies: B1, B6 (Page 2.7)

Goal C: Access to Destinations

Objective: Increase the availability of multimodal travel options, especially in congested highway corridors.

Objective: Increase travel time reliability and predictability for travel on highway and transit systems.

Objective: Increase transit ridership and share of trips taken using transit bicycling and walking.

Objective: improve multimodal travel options for people of all ages and abilities to connect to jobs and other opportunities, particularly for historically underrepresented populations.

Strategies: C1, C2, C8, C9, C10, C12, C13, C14, C15, C16, C17, and C18 (Page 2.8-2.10)

Goal D: Competitive Economy

Objective: Invest in a multimodal transportation system to attract and retain businesses and residents.

Objective: Support the region's economic competitiveness through the efficient movement of freight.

Strategies: D1, D3 (Page 2.11)

Goal E: Healthy Environment

Objective: Increase the availability and attractiveness of transit, bicycling, and walking to encourage healthy communities and active car-free lifestyles.

Objective: Provide a transportation system that promotes community cohesion and connectivity for historically underrepresented populations.

Strategies: E3, E6, and E7 (Page 2.12-2.13)

Goal F: Leveraging Transportation Investments to Guide Land Use.

Objective: Encourage local land use design that integrates highways, streets, transit, walking, and bicycling.

Strategies: F2, F3, F6, F7, F8, and F9 (Page 2.14-2.15)

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.

- 2040 Coon Rapids Comprehensive Plan. Chapter 3: Transportation (Page 3-7, and 3-9)

- Coon Rapids Boulevard / East River Road Corridor Study

- TH 610 and County Road 3 (Coon Rapids Boulevard) - Interchange Study

- Highway Interchange Request: TH 610 at East River Road (CSAH 1) application and supporting documentation dated July 16, 2019

- Interchange Review Committee Approval Letter from MnDOT dated August 20, 2019

List the applicable documents and pages:

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:

03/06/2018

Link to plan:

<https://www.coonrapidsmn.gov/DocumentCenter/View/5889/ADA-Transition-Plan-Final?bidId=>

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

1589291659954_ADA Transition Plan.pdf

Upload as PDF

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

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

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

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 MnDOT's 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)	\$500,000.00
Removals (approx. 5% of total cost)	\$500,000.00
Roadway (grading, borrow, etc.)	\$1,400,000.00
Roadway (aggregates and paving)	\$2,700,000.00
Subgrade Correction (muck)	\$80,000.00
Storm Sewer	\$500,000.00
Ponds	\$150,000.00
Concrete Items (curb & gutter, sidewalks, median barriers)	\$380,000.00
Traffic Control	\$150,000.00
Striping	\$30,000.00
Signing	\$100,000.00
Lighting	\$150,000.00

Turf - Erosion & Landscaping	\$450,000.00
Bridge	\$1,200,000.00
Retaining Walls	\$800,000.00
Noise Wall (not calculated in cost effectiveness measure)	\$1,000,000.00
Traffic Signals	\$350,000.00
Wetland Mitigation	\$50,000.00
Other Natural and Cultural Resource Protection	\$0.00
RR Crossing	\$0.00
Roadway Contingencies	\$1,700,000.00
Other Roadway Elements	\$0.00
Totals	\$12,190,000.00

Specific Bicycle and Pedestrian Elements

CONSTRUCTION PROJECT ELEMENTS/COST ESTIMATES	Cost
Path/Trail Construction	\$0.00
Sidewalk Construction	\$0.00
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	\$0.00

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	\$12,190,000.00
Construction Cost Total	\$12,190,000.00
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:	38
Peak Hour Travel Speed:	30
Percentage Decrease in Travel Speed in Peak Hour compared to Free-Flow:	21.05%
Upload Level of Congestion map:	1589294711412_Level of Congestion.pdf

Congestion on adjacent Parallel Routes:

Adjacent Parallel Corridor	Coon Rapids Boulevard
Adjacent Parallel Corridor Start and End Points:	
Start Point:	Foley Boulevard
End Point:	95th Avenue
Free-Flow Travel Speed:	36

The Free-Flow Travel Speed is black number.

Peak Hour Travel Speed: 23

The Peak Hour Travel Speed is red number.

Percentage Decrease in Travel Speed in Peak Hour Compared to Free-Flow: 36.11%

Upload Level of Congestion Map: 1589294711412_Level of Congestion.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:

(0 Points)

Not listed as a priority in the study: Yes

(0 Points)

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

Existing Employment within 1 Mile: 10285

Existing Manufacturing/Distribution-Related Employment within 1 Mile: 3094

Existing Post-Secondary Students within 1 Mile: 0

Upload Map 1589294923062_Regional Economy.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: 0

(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 East River Road north of TH 610

Current AADT Volume 12800

Existing Transit Routes on the Project 850, 865, 887

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

Upload Transit Connections Map 1589295226371_Transit Connections.pdf

Please upload attachment in PDF form.

Response: Current Daily Person Throughput

Average Annual Daily Transit Ridership 0

Current Daily Person Throughput 16640.0

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 Anoka County 2040 Transportation Plan

Forecast (2040) ADT volume 14400

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.*

It is the City's belief that inequities in their transportation systems, services, and decision-making processes disproportionately impact underserved and underrepresented communities. The proposed project seeks to utilize an inclusive process through active engagement, specifically with the low-income populations, people of color, persons with disabilities, youth and the elderly. During the project process, the City sent letters to the property and business owners within the project area, as shown on the attached populations map, informing them of the project and open house opportunities. Input from these stakeholders was considered during the alternative development stage of the process.

Response:

Two open houses were held, one by the City for this project and the other by the County for the Foley Railroad Grade-Separation project. Each open house included both projects. The City also utilized other avenues to reach out to as many citizens, underrepresented or otherwise. This included social media, news outlets, informational postcards, and website postings. The City's website includes a specific page to communicate with residents, business owners, and any other stakeholders impacted by this project.

Furthermore, Coon Rapids provides appropriate aids for effective communication for persons with disabilities so they can participate equally in the engagement activities of Coon Rapids.

(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.*

As noted in the Socio-Econ Met Council generated map, the project is in an area above the regional average for population in poverty or population of color. The proposed project will provide transportation benefits for these equity populations where access to a vehicle is limited, placing pressure on public transit and alternative modes of transportation. The proposed project supports transit users by improving access and routing for the current and future transit routes serving the Foley Park-and-Ride, as well as current employment and residential developments in the area. In addition, direct access improvements to the Foley Park-and-Ride will also provide benefits to these transit users relying on express service to job destinations in downtown Minneapolis.

Response:

The proposed interchange also supports regional connections to existing and expanding job opportunities for these low-income and underrepresented populations in one of the highest employment areas in the City. The proposed project is located near large areas of industrial land uses. The improved interchange access will provide greater opportunities to link populations in poverty and underrepresented populations to these manufacturing and distribution jobs that typically offer employment opportunities for various educational levels.

Furthermore, in a meeting with elected officials (February 2019), the project area was identified as the City's highest potential development/redevelopment priority area. The City's Comprehensive Plan also identifies several locations within the project area with vacant industrial space anticipated to be redeveloped into mixed-use commercial with strong employment growth. In addition, the project area includes

several freight termini. The proposed development of a 132,000 Sq. Ft. industrial building by Golden Valley Distribution will only add more trucks to the local routes. The construction of the proposed TH 610/East River Road project will better serve freight to the existing and planned development.

The sidewalk/trail connection by way of the Foley Railroad Grade-Separation project will provide safer and more convenient bicycle and pedestrian connections between neighborhoods, businesses and transit facilities. Low-income populations who rely on bicycling/walking will benefit from improved connections across three major barriers: East River Road, BNSF Railroad, and Coon Rapids Boulevard. These connections will provide an alternative route and access to the Foley Park-and-Ride facility, the Northtown Mall area, and other businesses in the area such as Head Start-ACCAP. ACCAP is an independent nonprofit organization that is committed to helping disadvantaged individuals out of poverty and into the community as productive citizens.

(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

As with most construction projects, there will be construction activities that will directly impact the traveling public, nearby residents and businesses. Project construction will incorporate proper noise, dust, traffic management mitigation, and access management for drivers, bicyclists, and pedestrians as well as planned detour routes consistent with adopted City policies.

As part of the Foley Grade-Separation project, an embankment will be constructed to raise the grade of Foley Boulevard to facilitate the grade separation of the railroad crossing. The embankment will impact the Park-and-Ride access and require modifications to the Park-and-Ride's internal circulation and access with Foley Boulevard. An alternatives analysis of the Park-and-Ride circulation was conducted to evaluate the potential changes and determine required improvements to the Park-and-Ride facility.

Response:

A traffic study was also conducted due to the project's impacts on corridor operations. The study addressed the primary question of what geometry and traffic control is necessary to service the existing and future traffic volumes based on the proposed layout. As a result, there will be traffic signals at the East River Road/Foley Boulevard intersection and the Coon Rapids Boulevard/Foley Boulevard intersection. New traffic signals will be installed for the Park-and-Ride/Foley Boulevard intersection and the East River Road/WB TH 610 entrance ramp intersection as well. The traffic study also evaluated the number and length of turn lanes required throughout the project limits.

To accommodate the two new ramps at the TH 610 and East River Road interchange, the existing

ramps will have to be realigned. There will be impacts to some residential properties on the west side of East River Road north of TH 610, including changes to some of the existing residential streets. Nevertheless, the proposed eastbound on-ramp at East River Road would have significantly less property impacts than the other alternative roadways considered for this project.

While the City understands the potential concerns associated with possible property acquisitions, there is a benefit to the project being planned in conjunction with the Foley Grade-Separation project that results in fewer property impacts. Stakeholders believe these coordinated projects will ultimately result in a greater good for the community.

Overall, the proposed interchange project will benefit the underrepresented populations by improving connections throughout the local and regional transportation systems. It will also provide greater opportunities to link these populations to job concentration centers as the corridor is a mixed use of residential, industrial and commercial.

(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:

Yes

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:

(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

1589295590246_Socio-Economic Conditions.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
Coon Rapids	0.47	1.0	100.0	100.0

Total Project Length

Total Project Length	0.47
----------------------	------

Project length entered on the Project Information - General form.

Housing Performance Score

Total Project Length (Miles) or Population	0.47
Total Housing Score	100.0

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.

The City of Coon Rapids has a diverse housing stock with the dominant housing type being the detached single-family home. According to the City's Comprehensive Plan, most of the housing in the City is owner-occupied where roughly 90 percent of the supply is considered to be affordable household incomes at or below 80 percent area median income (AMI).

The proposed TH 610/East River Road Interchange project will improve access for residents of the following affordable housing developments within ½ mile of the project area, as shown in the attached map:

-Villas On Palm, 812-854 98th Avenue

- o Existing development

- o 20 total units

- o 14 affordable units - 11-2BR, 3-3BR

- o LIHTC 9 percent tax credit

-Tralee Terrace, 9900 Redwood Street

- o Existing development

- o 38 total units

- o 68 affordable units - 17-1BR, 34-2BR, 17-3BR

- o LIHTC 4 and LIHTC 9 percent tax credit

-Spring House, 9401 Springbrook Drive

- o Under construction

- o 168 total units

Response:

- o 168 affordable units - 56-1BR, 72-2BR, 40-3BR
- o LIHTC 4 percent tax credit, bonds, TIF

In an area above the regional average for population in poverty or population of color, a large portion of the project area is zoned residential and occupied by households living below the poverty level, including the three affordable housing developments. Other affordable housing slightly outside the ½ mile area include Oak Crest Apartments, Parkview Estates, Drake Apartments, and Creekside estates Mobile Home Park. The construction of this project, along with the connectivity to the proposed railroad overpass, sidewalk/trails as part of the Foley Railroad Grade-Separation project, will improve overall access for these residents traveling by all modes of transportation - automobiles, transit, bicycles and pedestrians, as well as connect the neighborhoods with destinations important to its current car-less residents such as retail centers and the transit station at the Park-and-Ride facility.

(Limit 2,100 characters; approximately 300 words)

Upload map:
1589296335487_TH610_Equity_Maps.pdf

Measure A: Infrastructure Age

Year of Original Roadway Construction or Most Recent Reconstruction	Segment Length	Calculation	Calculation 2
2002.0	0.47	940.94	2002.0
	0	941	2002

Average Construction Year

Weighted Year
2002.0

Total Segment Length (Miles)

Total Segment Length

0.47

Measure A: Congestion Reduction/Air Quality

Total Peak Hour Delay Per Vehicle Without The Project (Seconds/ Vehicle)	Total Peak Hour Delay Per Vehicle With The Project (Seconds/ Vehicle)	Total Peak Hour Delay Per Vehicle Reduced by Project (Seconds/ Vehicle)	Volume without the Project (Vehicles per hour)	Volume with the Project (Vehicles Per Hour):	Total Peak Hour Delay Reduced by the Project:	Total Peak Hour Delay Reduced by the Project:	EXPLANA TION of methodolo gy used to calculate railroad crossing delay, if applicable.	Synchro or HCM Reports
64.0	66.0	-2	3873	3733	-7746	-7466	Foley and TH 10 N Ramps	158931475 8921_Coon Rapids Traffic Analysis.pdf
16.0	15.0	1.0	2921	2641	2921.0	2641.0	Foley and TH 10 S Ramps	158931714 4119_Coon Rapids Traffic Analysis.pdf
31.0	18.0	13.0	2861	2582	37193.0	33566.0	Foley and 99th Ave	158931716 0944_Coon Rapids Traffic Analysis.pdf
15.0	24.0	-9	2746	2991	-24714	-26919	East River Road and South TH 610 Ramps	158931718 0508_Coon Rapids Traffic Analysis.pdf
19.0	21.0	-2	2662	2837	-5324	-5674	East River Road and North TH 610 Ramps	158931720 1239_Coon Rapids Traffic Analysis.pdf

Vehicle Delay Reduced

Total Peak Hour Delay Reduced	2330.0
Total Peak Hour Delay Reduced	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):
26.17	25.82	0.35
26	26	0

Total

Total Emissions Reduced:	0.35
Upload Synchro Report	1589297514888_Coon Rapids Traffic Analysis.pdf

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

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

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

Total Parallel Roadway

Emissions Reduced on Parallel Roadways	0
Upload Synchro Report	

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

New Roadway Portion:

Cruise speed in miles per hour with the project:	0
Vehicle miles traveled with the project:	0
Total delay in hours with the project:	0
Total stops in vehicles per hour with the project:	0
Fuel consumption in gallons:	0
Total (CO, NOX, and VOC) Peak Hour Emissions Reduced or Produced on New Roadway (Kilograms):	0
EXPLANATION of methodology and assumptions used:(Limit 1,400 characters; approximately 200 words)	
Total (CO, NOX, and VOC) Peak Hour Emissions Reduced by the Project (Kilograms):	0.0

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

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

Measure A: Benefit of Crash Reduction

Crash Modification Factor Used:

(Limit 700 Characters; approximately 100 words)

The CMF used was a CMF determined by the estimated amount of crashes modified at the East River Road interchange with TH 610 and the Foley Blvd interchange with TH 10. These crashes were estimated by applying the volume modifications assumed for the study intersections and determine how many crashes the intersection will be modified by to match a similar crash rate to existing.

Rationale for Crash Modification Selected:

(Limit 1400 Characters; approximately 200 words)

There is no direct CMF related to a new interchange ramp approach, therefore, the crash analysis method was used as this takes into account the volume modifications assumed as part of the new ramps.

Project Benefit (\$) from B/C Ratio:	\$2,624,178.00
Total Fatal (K) Crashes:	0
Total Serious Injury (A) Crashes:	1
Total Non-Motorized Fatal and Serious Injury Crashes:	0
Total Crashes:	52
Total Fatal (K) Crashes Reduced by Project:	0
Total Serious Injury (A) Crashes Reduced by Project:	0
Total Non-Motorized Fatal and Serious Injury Crashes Reduced by Project:	0
Total Crashes Reduced by Project:	5
Worksheet Attachment	1589298282668_Complete Coon Rapids Safety Analysis.pdf

Please upload attachment in PDF form.

Roadway projects that include railroad grade-separation elements:

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

Measure A: Multimodal Elements and Existing Connections

Response:

The proposed project will improve pedestrian safety within the TH 610/East River Road interchange and Foley Boulevard area. While the TH 610/East River Road Interchange and Foley Railroad Grade-Separation projects are not being built together, the design of each project influences the other. The proposed pedestrian improvements for the Foley Railroad Grade-Separation project include a new ADA compliant trail along the south side and sidewalk along the north side of Foley Boulevard, an overpass across the existing BNSF tracks, raised center medians and crossing islands, crosswalk lighting and traffic signals. In addition, a new sidewalk will be constructed along the west side of East River Road between the existing TH 610 westbound on-ramp and 94th Avenue. These pedestrian improvements compliment the TH 610/East River Road Interchange Project to greatly improve the reliability of the local pedestrian system for the area. The sidewalk/trail network will safely connect neighborhoods northwest of the project area, over the BNSF railroad to neighborhoods northeast of the project area.

The scope of the TH 610/East River Road Interchange project will include pedestrian safety strategies identified in MnDOT's Best Practices for Pedestrians/Bicycle Safety, such as ADA compliant crosswalks, crosswalk lighting, traffic signals, and curb ramps to be constructed at the East River Road ramp intersections. These improvements are critical to supporting safe, reliable and affordable connections for all pedestrian users of all abilities to places of employment, education, healthcare services, and other essential services and activities.

(Limit 2,800 characters; approximately 400 words)

Measure A: Multimodal Elements and Existing Connections

Currently the project area is served by five Metro Transit express bus routes that have stops at the Foley Park-and-Ride facility: 850, 852, 865, 887, 888, and a planned Northern Lights Express (NLX) high speed rail service. The proposed grade-separated crossing over the BNSF railroad will make it easier and safer for people to access these transit stops. This project will improve entry, existing, and travel time for the express routes that rely on TH 610 as well as the adjacent highways to get to job centers and other activity areas.

Response:

The existing transit station located near the intersection of East River Road and Foley Boulevard is a well-used Park-and-Ride for express bus service. The City of Coon Rapids recently completed a study of this station, documented in the Foley Boulevard Station Area Plan (April 2009). The improvements outlined in the document focus on efforts to pursue a station for the Northern Lights Express (NLX) high speed rail service planned between the Twin Cities and Duluth. In addition, the current two-level parking structure is designed to accommodate a third level in the future. This Park-and-Ride features a direct access to westbound TH 610 providing a high level of service for transit vehicles crossing the Mississippi River to Hennepin County.

As part of this project, traffic signals, crosswalks, and curb ramps are planned for East River Road at the intersections with the proposed westbound off-ramp and eastbound on-ramp. The City will construct the sidewalks/trails, traffic control signals, bus stops, and curb ramps to achieve ADA compliance in both this project and the Foley Railroad Grade-Separation project. In addition, the City has adopted the Accessibility Guidelines for Pedestrian Facilities in the Public Right of Way

(PROWAG), as adopted by MnDOT, as its design standard.

An interconnected system of trails and sidewalks is an essential part of the City's Comprehensive Plan. In accordance with the Regional Bicycle Transportation Network (RBTN), the City and County adopted the planned bikeway facilities into their plans for the Foley Railroad Grade-Separation project. The proposed project has been identified as part of the Tier 1 RBTN Corridor where there is existing or potentially high bicycle trip demand between the regional destinations and activity centers, such as the Coon Rapids Dam Regional Park and the job centers at the Evergreen Industrial Park.

(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.

100%

Attach Layout

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.

Yes

50%

Attach Layout

1589298860922_Attachment 4 - Current Layout 2-19-2019.pdf

Please upload attachment in PDF form.

Layout has not been started

0%

Anticipated date or date of completion

12/31/2021

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

Yes

100%

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

100%

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

80%

Historic/archeological property impacted; determination of adverse effect anticipated

40%

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

0%

Project is located on an identified historic bridge

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

25%

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

Yes

0%

Anticipated date or date of acquisition

06/30/2022

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)

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. Yes

0%

Anticipated date or date of executed Agreement 12/31/2021

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: 02/06/2020

Meeting with partner agencies: 03/18/2020

Targeted online/mail outreach: 08/01/2019

Number of respondents: 175

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):

Measure A: Cost Effectiveness

Total Project Cost (entered in Project Cost Form): \$12,190,000.00

Enter Amount of the Noise Walls: \$1,000,000.00

Total Project Cost subtract the amount of the noise walls:	\$11,190,000.00
Enter amount of any outside, competitive funding:	\$0.00
Attach documentation of award:	
Points Awarded in Previous Criteria	
Cost Effectiveness	\$0.00

Other Attachments



Pic 1

2.8 MB



2.8 MB



Pic 3

2.7 MB



Pic 4

2.7 MB



Pic 5

2.7 MB



Pic 6

2.8 MB



Pic 7

2.9 MB



Pic 8

2.8 MB



Pic 9

2.8 MB

File Name	Description	File Size
AC LOS - TH 610 & ERR Interchange Improvements (4-24-20).pdf	Letter of Support from Anoka County	189 KB
Coon Rapids TH610.pdf	Letter of Support from MnDOT	475 KB
Project Summary.pdf	Project Summary	2.2 MB

City of Coon Rapids ADA Transition Plan



**Adopted by the Coon Rapids City Council
March 6, 2018**

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Introduction

Transition Plan Need and Purpose

The Americans with Disabilities Act (ADA), enacted on July 26, 1990, is a civil rights law prohibiting discrimination against individuals on the basis of disability. ADA consists of five titles outlining protections in the following areas:

1. Employment
2. State and local government services
3. Public accommodations
4. Telecommunications
5. Miscellaneous Provisions

Title II of ADA pertains to the programs, activities and services public entities provide. As a provider of public transportation services and programs, the City of Coon Rapids must comply with this section of the Act as it specifically applies to public service agencies. Title II of ADA provides that, “...no qualified individual with a disability shall, by reason of such disability, be excluded from participation in or be denied the benefits of the services, programs, or activities of a public entity, or be subjected to discrimination by any such entity.” ([42 USC. Sec. 12132](#); [28 CFR. Sec. 35.130](#))

As required by Title II of [ADA, 28 CFR. Part 35 Sec. 35.105 and Sec. 35.150](#), the City of Coon Rapids has conducted a self-evaluation of its facilities within public rights of way and has developed this Transition Plan detailing how the organization will ensure that all of those facilities are accessible to all individuals.

ADA and its Relationship to Other Laws

Title II of ADA is companion legislation to two previous federal statutes and regulations: the [Architectural Barriers Acts of 1968](#) and [Section 504 of the Rehabilitation Act of 1973](#).

The Architectural Barriers Act of 1968 is a Federal law that requires facilities designed, built, altered or leased with Federal funds to be accessible. The Architectural Barriers Act marks one of the first efforts to ensure access to the built environment.

Section 504 of the Rehabilitation Act of 1973 is a Federal law that protects qualified individuals from discrimination based on their disability. The nondiscrimination requirements of the law apply to employers and organizations that receive financial assistance from any Federal department or agency. Title II of ADA extended this coverage to all state and local government entities, regardless of whether they receive federal funding or not.

Agency Requirements

Under Title II, the City of Coon Rapids must meet these general requirements:

- Must operate their programs so that, when viewed in their entirety, the programs are accessible to and useable by individuals with disabilities [[28 C.F.R. Sec. 35.150](#)].
- May not refuse to allow a person with a disability to participate in a service, program or activity simply because the person has a disability [[28 C.F.R. Sec. 35.130 \(a\)](#)].
- Must make reasonable modifications in policies, practices and procedures that deny equal access to individuals with disabilities unless a fundamental alteration in the program would result [[28 C.F.R. Sec. 35.130\(b\) \(7\)](#)].
- May not provide services or benefits to individuals with disabilities through programs that are separate or different unless the separate or different measures are necessary to ensure that benefits and services are equally effective [[28 C.F.R. Sec. 35.130\(b\)\(iv\) & \(d\)](#)].
- Must take appropriate steps to ensure that communications with applicants, participants and members of the public with disabilities are as effective as communications with others [[29 C.F.R. Sec. 35.160\(a\)](#)].
- Must designate at least one responsible employee to coordinate ADA compliance [[28 CFR Sec. 35.107\(a\)](#)]. This person is often referred to as the "ADA Coordinator." The public entity must provide the ADA coordinator's name, office address, and telephone number to all interested individuals [[28 CFR Sec. 35.107\(a\)](#)].
- Must provide notice of ADA requirements. All public entities, regardless of size, must provide information about the rights and protections of Title II to applicants, participants, beneficiaries, employees, and other interested persons [[28 CFR Sec. 35.106](#)]. The notice must include the identification of the employee serving as the ADA coordinator and must provide this information on an ongoing basis [[28 CFR Sec. 104.8\(a\)](#)].
- Must establish a grievance procedure. Public entities must adopt and publish grievance procedures providing for prompt and equitable resolution of complaints [[28 CFR Sec. 35.107\(b\)](#)]. This requirement provides for a timely resolution of all problems or conflicts related to ADA compliance before they escalate to litigation and/or the federal complaint process.

This document has been created to specifically cover accessibility within the public rights of way and does not include information on City of Coon Rapids programs, practices, or building facilities not related to public rights of way.

Self-Evaluation

Overview

The City of Coon Rapids (City) is required, under Title II of the Americans with Disabilities Act (ADA) and 28CFR35.105, to perform a self-evaluation of its current transportation infrastructure policies, practices, and programs. This self-evaluation will identify what policies and practices impact accessibility and examine how the City implements these policies. The goal of the self-evaluation is to verify that, in implementing the City policies and practices, the department is providing accessibility and not adversely affecting the full participation of individuals with disabilities.

The self-evaluation also examines the condition of the City Pedestrian Circulation Route/Pedestrian Access Route (PCR/PAR) and identifies potential need for PCR/PAR infrastructure improvements. This includes the sidewalks, curb ramps, bicycle/pedestrian trails, traffic control signals and transit facilities that are located within the City's rights of way, but does not include any sidewalks, curb ramps, bicycle/pedestrian trails, traffic control signals and transit facilities under the jurisdiction of Anoka County or the Minnesota Department of Transportation. Any barriers to accessibility identified in the self-evaluation and the remedy to the identified barrier are set out in this transition plan.

Summary

In 2017, the City conducted an inventory of pedestrian facilities within its public right-of-way consisting of the evaluation of the following:

- 94.3 miles of sidewalks
- 1,192 curb ramps
- 60 miles of trails
- 81 traffic control signals
- 333 bus stops

A detailed evaluation on how these facilities relate to ADA standards is found in Appendix A and will be updated periodically.

Policies and Practices

Previous Practices

Since the adoption of the ADA, the City has provided accessible pedestrian features as part of City capital improvement projects. As additional information was made available regarding methods to provide accessible pedestrian features, the City updated their procedures to accommodate these methods.

Policy

The City's goal is to continue to provide accessible pedestrian design features as part of City capital improvement projects. The City has established ADA design standards and procedures as listed in Appendix F. These standards and procedures will be kept up to date with nationwide and local best management practices.

The City will consider and respond to all accessibility improvement requests. All accessibility improvements that have been deemed reasonable will be scheduled consistent with transportation project priorities. The City will coordinate with external agencies to ensure that all new or altered pedestrian facilities within the City's jurisdiction are ADA compliant to the maximum extent feasible.

Maintenance of pedestrian facilities within the public right-of-way will continue to follow the policies set forth by the City.

Requests for accessibility improvements can be submitted to the ADA Coordinator. Contact information for this individual is located in Appendix E.

Improvement Schedule

Priority Areas

The City has identified specific locations as priority areas for planned accessibility improvement projects. These areas have been selected due to their proximity to specific land uses such as schools, government offices and medical facilities, as well as from the receipt of public comments. The priority areas as identified in the self-evaluation are as follows:

- Mercy Hospital; Port Medical Area
- Schools; Anoka Ramsey Community College; Parks
- Coon Rapids Ice Center; Boulevard Plaza; City Hall; Transit Corridors

Additional priority will be given to any location where an improvement project or alteration was constructed after January 26, 1991, and accessibility features were omitted.

External Agency Coordination

Many other agencies are responsible for pedestrian facilities within the jurisdiction of the City. The City will coordinate with those agencies to track and assist in the elimination of accessibility barriers along their routes.

Schedule

The City has set the following schedule goals for improving the accessibility of its pedestrian facilities within the City jurisdiction:

- After 30 years, 80% of accessibility features within the jurisdiction of Coon Rapids would be ADA compliant.

ADA Coordinator

In accordance with 28 CFR 35.107(a), the City of Coon Rapids has identified an ADA Title II Coordinator to oversee City ADA policies and procedures. Contact information for this individual is located in Appendix E.

Implementation Schedule

Methodology

The City will utilize two methods for upgrading pedestrian facilities to current ADA standards. The first and most comprehensive of the two methods is scheduled street and utility improvement projects. All pedestrian facilities impacted by these projects will be upgraded to current ADA accessibility standards. The second method is stand-alone sidewalk and ADA accessibility improvement projects. These projects will be incorporated on a case by case basis as determined by City staff. Every five years, the City evaluates all roads under the City's jurisdiction and a 5-year street reconstruction plan is developed, which includes a schedule for specific improvements. During that 5-year period, roads that were planned to be reconstructed may be rescheduled or removed from the 5-year plan and other roads may be added. This is due to potential needs in other areas or budgetary constraints in any given year.

Public Outreach

The City recognizes that public participation is an important component in the development of this document. Input from the community has been gathered and used to help define priority areas for improvements within the jurisdiction of the City.

Public outreach for the creation of this document consisted of the following activities:

Engineering staff met with the City Safety Commission in November 2016 and February 2017 to identify recommended high-priority projects the City should focus on. With that information in mind, the City held a public open house meeting on April 13, 2017. The purpose of the open house was to gain feedback on the draft ADA plan from the public, determine potential improvements to enhance ADA compliance efforts, and establish how the public believes the City should focus its efforts.

The City publishes quarterly newsletters which are distributed to all residents and businesses within the City. The spring 2017 newsletter announced the public meeting and invited residents to participate. On April 14, 2017, CTN Studios (the City's cable news program provider) broadcast a segment to explain what the ADA Transition Plan is, the City's efforts thus far, and to contact the Engineering department with any questions or comments.

This document was also made available for public comment. A summary of public outreach efforts is located in Appendix C.

Grievance Procedure

Under the Americans with Disabilities Act, each agency is required to publish its responsibilities in regards to the ADA. A draft of this public notice is provided in Appendix D. If users of City facilities and services believe the City has not provided reasonable accommodation, they have the right to file a grievance.

In accordance with 28 CFR 35.107(b), the City has developed a grievance procedure for the purpose of the prompt and equitable resolution of citizens' complaints, concerns, comments, and other grievances. This grievance procedure is outlined in Appendix D.

Monitor the Progress

This document will continue to be updated as conditions within the City and standards evolve. The appendices in this document will be updated periodically, while the main body of the document will be updated in (short term period, 5 years) with a future update schedule to be developed at that time. With each main body update, a public comment period will be established to continue the public outreach.

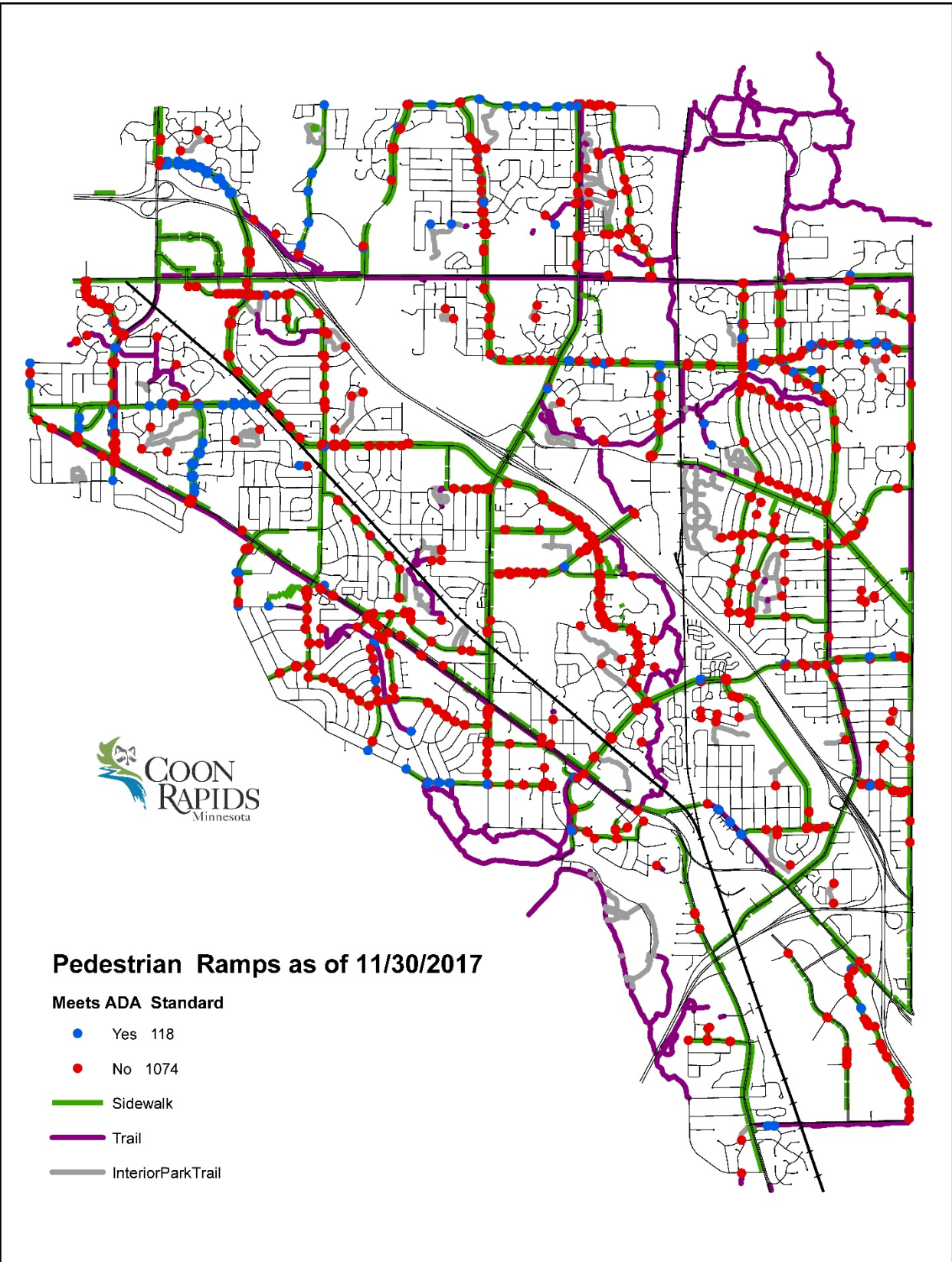
Appendices

- A. Self-Evaluation Results**
- B. Schedule / Budget Information**
- C. Public Outreach**
- D. Grievance Procedure**
- E. Contact Information**
- F. Agency ADA Design Standards and Procedures**
- G. Glossary of Terms**

Appendix A – Self-Evaluation Results

This initial self-evaluation of pedestrian facilities yielded the following results:

- 80% of sidewalks met accessibility criteria
- 10% of curb ramps met accessibility criteria
- 55% intersections did not have any curb ramps (due to no sidewalks or trails at those intersections)
- 80% of trails met accessibility criteria
- 100% of traffic control signals had push buttons that are accessible, or had the pedestrian indications on recall
- 0% of traffic control signals had APS
- 0% of bus stops met accessibility criteria
- 0% of bus stops had amenities that met accessibility criteria



Appendix B – Schedule / Budget Information

Cost Information

Unit Prices

Construction costs for upgrading facilities can vary depending on each individual improvement and conditions of each site. Costs can also vary on the type and size of project the improvements are associated with. Listed below are representative 2017 cost estimates for typical accessibility improvements based on whether the improvements are included as part of a retrofit-type project, or as part of a larger comprehensive capital improvement project.

Intersection corner ADA improvement retrofit: +/- \$5,000 per corner

Intersection corner ADA improvement as part of adjacent capital project: +/- \$2,600 per corner

Traffic control signal APS upgrade retrofit: +/- \$16,000

Traffic control signal APS upgrade as part of full traffic control signal installation: +/- \$12,000

Sidewalk / Trail ADA improvement retrofit: +/- \$5.50 per SF

Sidewalk / Trail ADA improvement as part of adjacent capital project: +/- \$4.00 per SF

Bus Stop ADA improvement retrofit: +/- \$400 per stop

Bus Stop ADA improvement as part of adjacent capital project: +/- \$250 per stop

Priority Areas

Based on the results of the self-evaluation, the estimated costs associated with eliminating accessibility barriers within the targeted priority areas is as follows:

- Mercy Hospital; Port Medical Area - \$500,000
- Schools; Anoka Ramsey Community College - \$750,000
- Coon Rapids Ice Center; Boulevard Plaza; City Hall - \$500,000

Entire Jurisdiction

Based on the results of the self-evaluation, the estimated costs associated with providing ADA accessibility within the entire jurisdiction is \$9,500,000. This amount represents a significant investment that the City is committed to making in the upcoming years. A systematic approach to providing accessibility will be taken in order to absorb the cost into the City budget for improvements within the public right-of-way.

Appendix C – Public Outreach

Safety Commission Survey Summary:

Safety Commission ADA Transition Plan Ranking Form

Please numerically rank the following items in regards to the City of Coon Rapids ADA Transition Plan
Rank items with 1 being considered the most important

1. ADA Priority Item for Transition Plan to Address
 - 2 Pedestrian Curb Ramps
 - 4 Traffic Control Signals - Accessible Pedestrian Signals
 - 1 Sidewalk and Trail Slope Improvements
 - 3 Bus Stops
 - Other _____
2. What issue is most important to address with Pedestrian Curb Ramps?
 - 2 Slopes (not too steep)
 - 3 Detectable Warnings (Truncated Domes) Installed
 - 1 Ramps are Installed at Correct Locations
 - 4 Drainage (no water ponding in front of ramp)
 - Other _____
3. What issue is most important to address with Traffic Control Signals?
 - 1 Installed at all locations where pedestrians cross traffic
 - 3 Provide push button with accessible surface
 - 2 Provide push button with verbal messages/audible tones and accessible surface
 - 4 Provide push button with vibrating surfaces and accessible surface
 - Other _____
4. What issue is most important to address with Bus Stops?
 - 2 Installed at proper locations
 - 1 Layout of stop is ADA compliant
 - Both _____
 - Other _____
5. What areas should be considered priorities for the transition plan to address?
 - 3 Areas close to schools
 - 1 Areas close to medical facilities
 - 2 Areas close to government offices
 - Other _____
6. What specific areas in Coon Rapids should be considered a priority for the transition plan to address?

CR Blvd and Mississippi Blvd intersection

7. What schedule most close aligns with your beliefs on how the City of Coon Rapids should reach full ADA compliance?
 - 1 After 20 years, 100% of accessibility features within the jurisdiction of Coon Rapids would be ADA compliant.
 - 2 After 25 years, 100% of accessibility features within the jurisdiction of Coon Rapids would be ADA compliant.
 - 3 After 30 years, 100% of accessibility features within the jurisdiction of Coon Rapids would be ADA compliant.
 - 4 After 40 years, 100% of accessibility features within the jurisdiction of Coon Rapids would be ADA compliant.
 - Other _____

(This form was presented to and filled out by the City's Safety Commission. The responses were averaged and are shown above.)

Spring 2017 Newsletter:

City News

SPRING 2017 NEWSLETTER

Public Meeting for ADA Transition Planning

The City is hosting a public meeting to discuss the City of Coon Rapids ADA Transition Plan. Residents interested in this topic are invited to attend an open house style event.

Thursday, April 13
4:30 to 7 p.m.

Coon Rapids Civic Center – Civic Room A
11155 Robinson Drive

The Americans with Disabilities Act (ADA), enacted on July 26, 1990, is a civil rights law prohibiting discrimination against individuals on the basis of disability. Title II of the ADA pertains to programs, activities and services public entities provide. As a provider of public transportation services and programs, local agencies must comply with this section of the Act as it specifically applies to local public service agencies and local transportation agencies. The City of Coon Rapids must adopt an ADA Transition plan in order to receive federal funding for transportation projects in the future. The transition plan involves the City self-evaluating facilities within public rights of way and detailing how the City will ensure that all of the facilities are accessible to individuals. This involves things such as pedestrian curb ramps, traffic control signals, sidewalk and slope improvements and bus stops. Priority areas are determined based on proximity to schools, medical facilities, government offices and through public feedback. The City will eventually present a final plan for adoption by the City Council in late 2017.



Public Works Open House Event

Saturday, May 13 • 10 a.m. - noon
1831 – 111th Ave. NW

Take a tour of the Public Works facility and check out snowplows, tractors and other "big rigs." Learn about the Recycling Center and other services.

Free event! Perfect for the kids!
Questions? Call 763-767-6462.

Hanson Boulevard Overpass Update

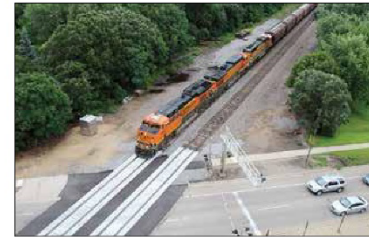
City and County officials continue to advocate for state funding of the Hanson Boulevard grade separation (overpass). The grade separation will improve safety by separating vehicle and rail traffic, reduce vehicle delays due to blocked crossings, improve response time for emergency vehicles and improve safety and mobility for pedestrians and bicyclists.

State funding, in the amount of \$11.9 million is currently in the 2017 Omnibus Bonding Bill, but as of the time of this publication, no final bonding package has been decided at the State Legislature.

The total project cost is \$25.2 million, which will be paid for through state funding and through partnership funding from CTIB (Counties Transit Improvement Board, 30%), Anoka County (10%), the City of Coon Rapids (5%) and Burlington Northern Santa Fe railway (5%).

The Hanson Boulevard grade separation was the number one funding priority for the Minnesota Department of Transportation (MnDOT) due to safety concerns, along with rail improvements in Moorhead and Red Wing-Sturgeon Lake Road at Prairie Island. The Hanson Boulevard crossing has one of the highest exposure

rates (high potential for crashes to occur) in the state due to high traffic volumes competing with the high volume of trains. Staged trains frequently block the crossing for 6-8 minutes (best case scenario) to 25 minutes or more at a time, which is having a negative impact on public safety response. The Hanson Boulevard crossing is part of the busiest segment of rail line in the state, with an average of 81 trains a day.



Last Year for Sanitary Sewer Lining

As part of maintaining the underground sewer system, the City is continuing to line (and complete) clay sewer pipes with epoxy resin. This process involves using high pressure hot water to cure the epoxy resin in place, which creates a new inner pipe within the existing clay pipe. The process is long-lasting and does not require the streets to be torn up which is a huge bonus! Nearly seven miles of pipe will be lined this year, which will complete this process that has been on-going since 2008.

Clay pipe can cause problems because tree roots often grow into the pipe. These roots can grow large enough to stop water flow, which can sometimes lead to sewer backups.

Tree roots cannot grow into the epoxy resin lined pipes.

2017 Hydrant Flushing

Starting April 10, the City's utility crews will begin flushing more than 1600 fire hydrants in the city, mainly east of highway 10. The process is part of a routine maintenance program necessary to maintain the water system and remove sediment from the lines. This allows us to continue to deliver the highest quality water possible to our residents. If crews are working in your neighborhood, you may experience some water discoloration, but this does not affect the safety of the water. It's best to avoid doing laundry until the discoloration has disappeared. To see a map of the exact area, visit the City's website.

What to do if you have a sewer backup

Call the City: 763-767-6462

Crews will come out and see if there is a problem with the City's main line. Do this before you call your own service company. Also call the City if you are having your sewer line cleaned. This will help our crews be prepared for any tree roots or other debris that may clog the City's main lines.

Street Sweeping and Repair

City crews will be out sweeping streets soon. Crews focus on main streets first, then neighborhoods. Please do not put grass or leaves in the street.

Also, please keep your garbage and recycling cans out of the street. Instead, place them on your driveway, behind the curb. *Thanks for your help!*

Crews are also out filling pot holes on City streets.

Appendix D – Grievance Procedure

As part of the ADA requirements, the City has posted the following notice outlining its ADA requirements:

Public Notice

In accordance with the requirements of Title II of the Americans with Disabilities Act of 1990, the City of Coon Rapids will not discriminate against qualified individuals with disabilities on the basis of disability in the City of Coon Rapids services, programs, or activities.

Employment: The City does not discriminate on the basis of disability in its hiring or employment practices and complies with all regulations promulgated by the U.S. Equal Employment Opportunity Commission under Title I of the Americans with Disabilities Act (ADA).

Effective Communication: The City will generally, upon request, provide appropriate aids and services leading to effective communication for qualified persons with disabilities so they can participate equally in City programs, services, and activities, including qualified sign language interpreters, documents in Braille, and other ways of making information and communications accessible to people who have speech, hearing, or vision impairments.

Modifications to Policies and Procedures: The City will make all reasonable modifications to policies and programs to ensure that people with disabilities have an equal opportunity to enjoy all City programs, services, and activities. For example, individuals with service animals are welcomed in City offices, even where pets are generally prohibited.

Anyone who requires an auxiliary aid or service for effective communication, or a modification of policies or procedures to participate in a City program, service, or activity, should contact the office of the ADA Coordinator as soon as possible but no later than 48 hours before the scheduled event.

The ADA does not require the City to take any action that would fundamentally alter the nature of its programs or services, or impose an undue financial or administrative burden.

The City will not place a surcharge on a particular individual with a disability or any group of individuals with disabilities to cover the cost of providing auxiliary aids/services or reasonable modifications of policy, such as retrieving items from locations that are open to the public but are not accessible to persons who use wheelchairs.

Grievance Form Instructions

City of Coon Rapids

Grievance Procedure under the Americans with Disabilities Act

This Grievance Procedure is established to meet the requirements of the Americans with Disabilities Act of 1990 ("ADA"). It may be used by anyone who wishes to file a complaint alleging discrimination on the basis of disability in the provision of services, activities, programs, or benefits by the City of Coon Rapids. The City of Coon Rapids' Personnel Policy governs employment-related complaints of disability discrimination.

The complaint shall be in writing by an approved method detailed herein and contain information about the alleged discrimination such as name, address, and phone number of complainant, and location, date, and description of the problem. Alternative means of filing complaints, such as personal interviews or a tape recording of the complaint, will be made available for persons with disabilities upon request.

The complaint shall be submitted by the grievant and/or his/her designee as soon as possible but no later than 60 calendar days after the alleged violation to:

Joan Lenzmeier
ADA Coordinator/City Clerk
JLenzmeier@coonrapidsmn.gov

Within 15 calendar days after receipt of the complaint, the ADA Coordinator or his/her designee will meet with the complainant to discuss the complaint and the possible resolutions. Within 15 calendar days of the meeting, the ADA Coordinator or his/her designee will respond in writing, and where appropriate, in a format accessible to the complainant, such as large print, Braille, or audio tape. The response will explain the position of the City of Coon Rapids and offer options for substantive resolution of the complaint.

If the response by the ADA Coordinator or his/her his designee does not satisfactorily resolve the issue, the complainant and/or his/her designee may appeal the decision within 15 calendar days after receipt of the response to the City Manager or his/her designee.

Within 15 calendar days after receipt of the appeal, the City Manager or his/her designee will meet with the complainant to discuss the complaint and possible resolutions. Within 15 calendar days after the meeting, the City Manager or his/her designee will respond in writing, and, where appropriate, in a format accessible to the complainant, with a final resolution of the complaint.

All written complaints received by the ADA Coordinator or his/her designee, appeals to the City Manager or his/her designee, and responses from these two offices will be retained by the City for at least three years.

Those wishing to file a formal written grievance with the City may do so by one of the following methods:

Internet

Visit the City website www.coonrapidsmn.gov and click the “ADA” link to access the ADA Grievance Form. Fill in the form online and click “submit.” A copy of The ADA Grievance Form is included in this Appendix.

Telephone

Contact the pertinent City of Coon Rapids staff person listed in the **Contact Information** section of Appendix E to submit an oral grievance. The staff person will utilize the Internet method above to submit the grievance on behalf of the person filing the grievance.

Paper Submittal

Contact the pertinent City staff person listed in the **Contact Information** section of Appendix E to request a paper copy of the City’s grievance form, complete the form, and submit it to the ADA Coordinator.

The ADA Grievance Form requires the following information:

The **name, address, telephone number, and email address** for the person filing the grievance

The **name, address, telephone number, and email address** for the person alleging an ADA violation (if different than the person filing the grievance)

A **description and location of the alleged violation and the nature of a remedy sought**, if known by the complainant.

If the complainant has filed the same complaint or grievance with the United States Department of Justice (DOJ), another federal or state civil rights agency, a court, or others, the **name of the agency or court where the complainant filed it and the filing date**.

If the grievance filed does not concern a City facility, the City will work with the complainant to contact the agency that has jurisdiction.

The City will document each resolution of a filed grievance and retain such documentation in the department’s ADA Grievance File for a period of three years.

The City will consider all specific grievances within its particular context or setting. Furthermore, the City will consider many varying circumstances including: 1) the nature of the access to services, programs, or facilities at issue; 2) the specific nature of the disability; 3) the essential eligibility requirements for participation; 4) the health and safety of others; and 5) the degree to which an accommodation would constitute a fundamental alteration to the program, service, or facility, or cause an undue hardship to the City.

Accordingly, the resolution by the City of any one grievance does not constitute a precedent upon which the City is bound or upon which other complaining parties may rely.

File Maintenance

The City shall maintain ADA grievance files for a period of three years.

Complaints of Title II violations may also be filed with the DOJ within 180 days of the date of discrimination. In certain situations, cases may be referred to a mediation program sponsored by the Department of Justice (DOJ). The DOJ may bring a lawsuit where it has investigated a matter and has been unable to resolve violations.

For more information, contact:

U.S. Department of Justice
Civil Rights Division
950 Pennsylvania Avenue, NW
Disability Rights Section - NYAV
Washington, D.C. 20530

www.ada.gov

(800) 514-0301 (voice – toll free)

(800) 514-0383 (TTY)

Title II may also be enforced through private lawsuits in Federal court. It is not necessary to file a complaint with the DOJ or any other Federal agency, or to receive a "right-to-sue" letter, before going to court.

Grievance Form (Available online at www.coonrapidsmn.gov or at City Hall):



11155 Robinson Drive NW, Coon Rapids, MN 55433
Web: coonrapidsmn.gov Phone: 763-755-2880

Americans with Disabilities Act Title II Grievance Form

Today's Date: _____

Complainant Name: _____

Address: _____

City, State, Zip: _____

Telephone and email: _____

Individual discriminated against (if other than complainant):

Name: _____

Address: _____

City, State, Zip: _____

Telephone and email: _____

Alleged violation: Date(s) of occurrence: _____

Describe violation and City Department involved: _____

What efforts have been made to resolve this complaint using the internal grievance procedures of the City Department?

If you have documentation, copies would be helpful. Examples are letters, email messages, written notes, etc.

Has complaint been filed with State or Federal Agency? Yes _____ No _____

Name of Agency: _____ Date Filed: _____

Contact Person: _____

TENNESSEN WARNING

The data you supply on this form will be used to process the ADA grievance you are submitting. You are not legally required to provide this data, but we will not be able to process the ADA grievance without it. The data will constitute a public record if and when the ADA grievance is submitted.

Signature: _____ Date: _____

Please attach additional pages if you need more room.

Community strength... for generations

Appendix E – Contact Information

ADA Title II Coordinator

Name: Joan Lenzmeier

Address: 11155 Robinson Drive, Coon Rapids, MN 55433

Phone: 763-767-6493

Fax: 763-767-6531

E-mail: JLenzmeier@coonrapidsmn.gov

Public Right-of-Way ADA Implementation Coordinator

Name: Tim Himmer

Address: 11155 Robinson Drive, Coon Rapids, MN 55433

Phone: 763-767-6465

Fax: 763-767-6573

E-mail: THimmer@coonrapidsmn.gov

Appendix F – City of Coon Rapids ADA Procedures & Standards

Design Procedures

Intersection Corners

Every attempt shall be made to construct or upgrade curb ramps and/or blended transitions to achieve ADA compliance within all capital improvement projects. There may be limitations which make it technically infeasible to achieve full accessibility to an intersection corner within the scope of any project. Those limitations will be noted and those intersection corners will remain on the transition plan. As future projects or opportunities arise, those intersection corners shall continue to be incorporated into future work. Regardless of whether full compliance can be achieved or not, each intersection corner shall be made as compliant as possible in accordance with the judgment of City of Coon Rapids staff.

Sidewalks / Trails

Every attempt shall be made to construct or upgrade sidewalks and trails to achieve ADA compliance within all capital improvement projects. There may be limitations which make it technically infeasible to achieve full accessibility to segments of sidewalks or trails within the scope of any project. Those limitations will be noted and those segments will remain on the transition plan. As future projects or opportunities arise, those segments shall continue to be incorporated into future work. Regardless of whether full compliance can be achieved or not, every sidewalk or trail shall be made as compliant as possible in accordance with the judgment of City of Coon Rapids staff.

Traffic Control Signals

Every attempt shall be made to construct or upgrade traffic control signals to achieve ADA compliance within all capital improvement projects. There may be limitations which make it technically infeasible to achieve full accessibility to individual traffic control signal locations within the scope of any project. Those limitations will be noted and those locations will remain on the transition plan. As future projects or opportunities arise, those locations shall continue to be incorporated into future work. Regardless of whether full compliance can be achieved or not, each traffic signal control location shall be made as compliant as possible in accordance with the judgment of City of Coon Rapids or Anoka County staff.

Bus Stops

Every attempt shall be made to construct or upgrade bus stops to achieve ADA compliance within all capital improvement projects. There may be limitations which make it technically infeasible to achieve full accessibility to individual bus stop locations within the scope of any project. Those limitations will be noted and those locations will remain on the transition plan. As future projects or opportunities arise, those locations shall continue to be incorporated into

future work. Regardless of whether full compliance can be achieved or not, each bus stop location shall be made as compliant as possible in accordance with the judgment of City or Metro Transit staff. Transit facilities present within the limits of the City of Coon Rapids fall under the jurisdiction of Metro Transit. The City of Coon Rapids will work with Metro Transit to ensure that those facilities meet all appropriate accessibility standards.

Other policies, practices and programs

Policies, practices and programs not identified in this document will follow the applicable ADA standards.

Design Standards

The City has adopted PROWAG, as adopted by the Minnesota Department of Transportation (MnDOT), as its design standard.

Appendix G – Glossary of Terms

ABA: See Architectural Barriers Act.

ADA: See Americans with Disabilities Act.

ADA Transition Plan: The City of Coon Rapids' transportation system plan that identifies accessibility needs and the process to fully integrate accessibility improvements, and ensures all transportation facilities, services, programs, and activities are accessible to all individuals.

ADAAG: See Americans with Disabilities Act Accessibility Guidelines.

Accessible: A facility that provides access to people with disabilities using the design requirements of the ADA.

Accessible Pedestrian Signal (APS): A device that communicates information about the WALK phase in audible and tactile formats.

Alteration: A change to a facility in the public right-of-way that affects or could affect access, circulation, or use. An alteration must not decrease or have the effect of decreasing the accessibility of a facility or an accessible connection to an adjacent building or site.

Americans with Disabilities Act (ADA): The Americans with Disabilities Act; Civil rights legislation passed in 1990 and effective July 1992. The ADA sets design guidelines for accessibility to public facilities, including sidewalks and trails, by individuals with disabilities.

Americans with Disabilities Act Accessibility Guidelines (ADAAG): contains scoping and technical requirements for accessibility to buildings and public facilities by individuals with disabilities under the Americans with Disabilities Act (ADA) of 1990.

APS: See Accessible Pedestrian Signal.

Architectural Barriers Act (ABA): Federal law that requires facilities designed, built, altered or leased with Federal funds to be accessible. The Architectural Barriers Act marks one of the first efforts to ensure access to the built environment.

Capital Improvement Program (CIP): The CIP for the Transportation Department includes an annual capital budget and a five-year plan for funding the new construction and reconstruction projects on the City's transportation system.

Detectable Warning: A surface feature of truncated domes, built in or applied to the walking surface to indicate an upcoming change from pedestrian to vehicular way.

DOJ: See United States Department of Justice.

Federal Highway Administration (FHWA): A branch of the U.S. Department of Transportation that administers the federal-aid Highway Program, providing financial assistance to states to construct and improve highways, urban and rural roads, and bridges.

FHWA: See Federal Highway Administration.

Pedestrian Access Route (PAR): A continuous and unobstructed walkway within a pedestrian circulation path that provides accessibility.

Pedestrian Circulation Route (PCR): A prepared exterior or interior way of passage provided for pedestrian travel.

PROWAG: An acronym for the *Guidelines for Accessible Public Rights-of-Way* issued in 2005 by the U. S. Access Board. This guidance addresses roadway design practices, slope, and terrain related to pedestrian access to walkways and streets, including crosswalks, curb ramps, street furnishings, pedestrian signals, parking, and other components of public rights-of-way.

Right-of-Way: A general term denoting land, property, or interest therein, usually in a strip, acquired for the network of streets, sidewalks, and trails creating public pedestrian access within a public entity's jurisdictional limits.

Section 504: The section of the Rehabilitation Act that prohibits discrimination by any program or activity conducted by the federal government.

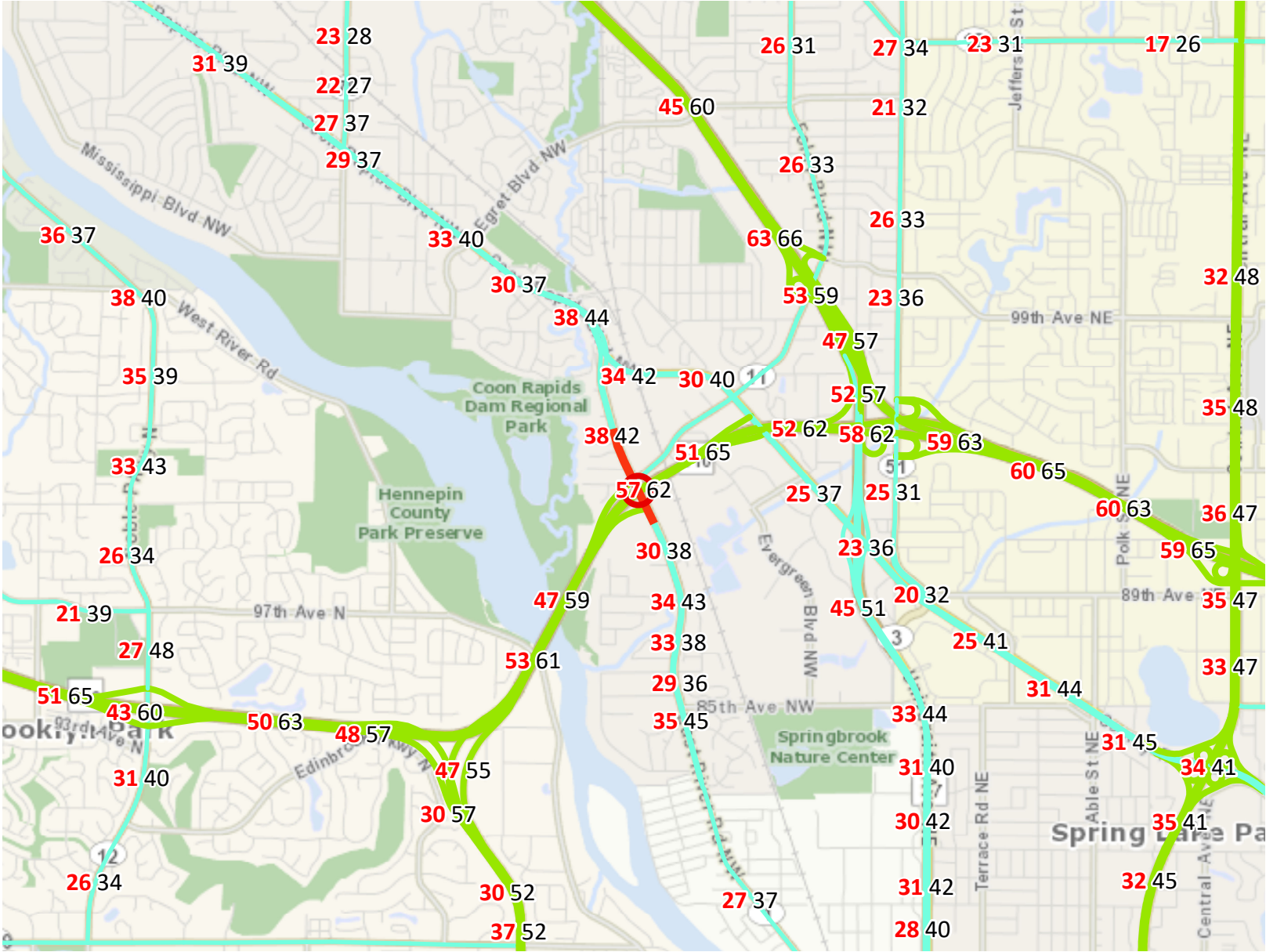
Uniform Accessibility Standards (UFAS): Accessibility standards that all federal agencies are required to meet; includes scoping and technical specifications.

United States Access Board: An independent federal agency that develops and maintains design criteria for buildings and other improvements, transit vehicles, telecommunications equipment, and electronic and information technology. It also enforces accessibility standards that cover federally funded facilities.

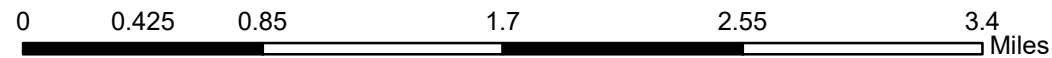
United States Department of Justice (DOJ): The United States Department of Justice (often referred to as the Justice Department or DOJ), is the United States federal executive department responsible for the enforcement of the law and administration of justice.

Level of Congestion

Roadway Expansion Project: TH 610 and East River Road Interchange Reconstruction | Map ID: 1586378051906



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



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LandscapeRSA1

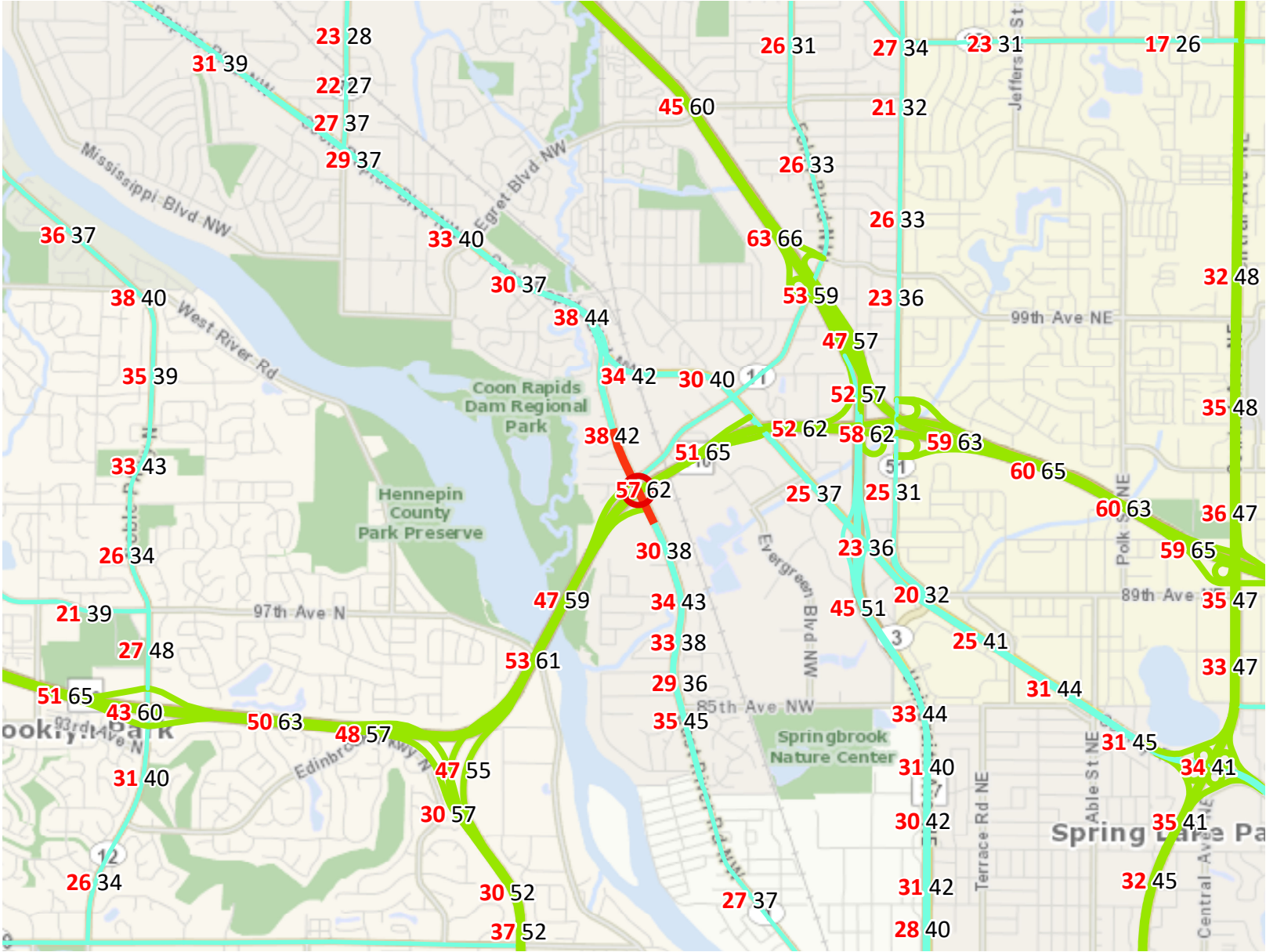


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<https://giswebsite.metc.state.mn.us/gissite/notice.aspx>



Level of Congestion

Roadway Expansion Project: TH 610 and East River Road Interchange Reconstruction | Map ID: 1586378051906



○ Project Points — Principal Arterials - - - Principal Arterials Planned

— Project — A Minor Arterials - - - A Minor Arterials Planned

0 0.425 0.85 1.7 2.55 3.4
Miles

Created: 4/8/2020
LandscapeRSA1



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



Regional Economy

Roadway Expansion Project: TH 610 and East River Road Interchange Reconstruction | Map ID: 1586378051906

Results

WITHIN ONE MI of project:
Postsecondary Students: 0

Totals by City:

Blaine

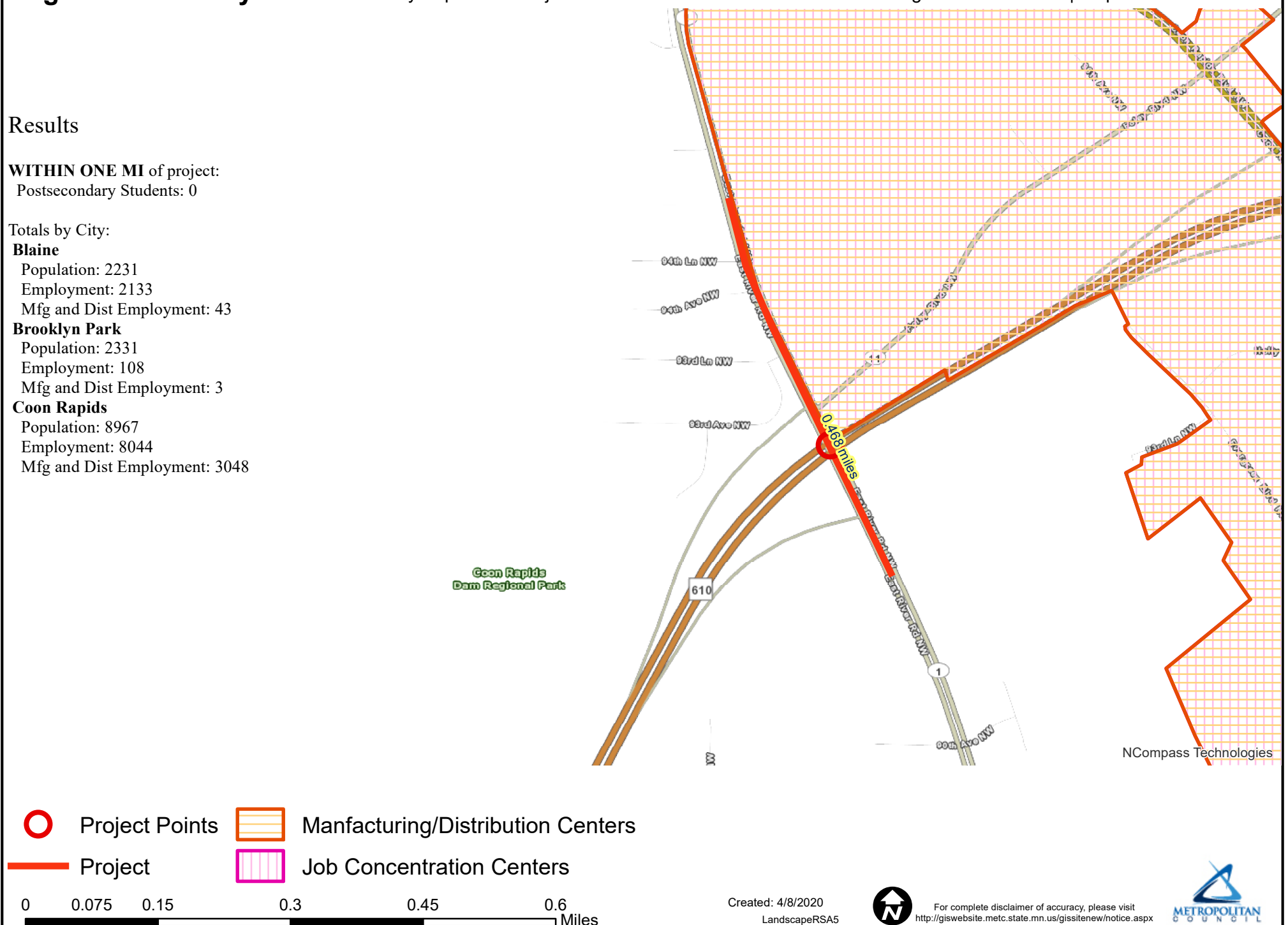
Population: 2231
Employment: 2133
Mfg and Dist Employment: 43

Brooklyn Park

Population: 2331
Employment: 108
Mfg and Dist Employment: 3

Coon Rapids

Population: 8967
Employment: 8044
Mfg and Dist Employment: 3048



Transit Connections

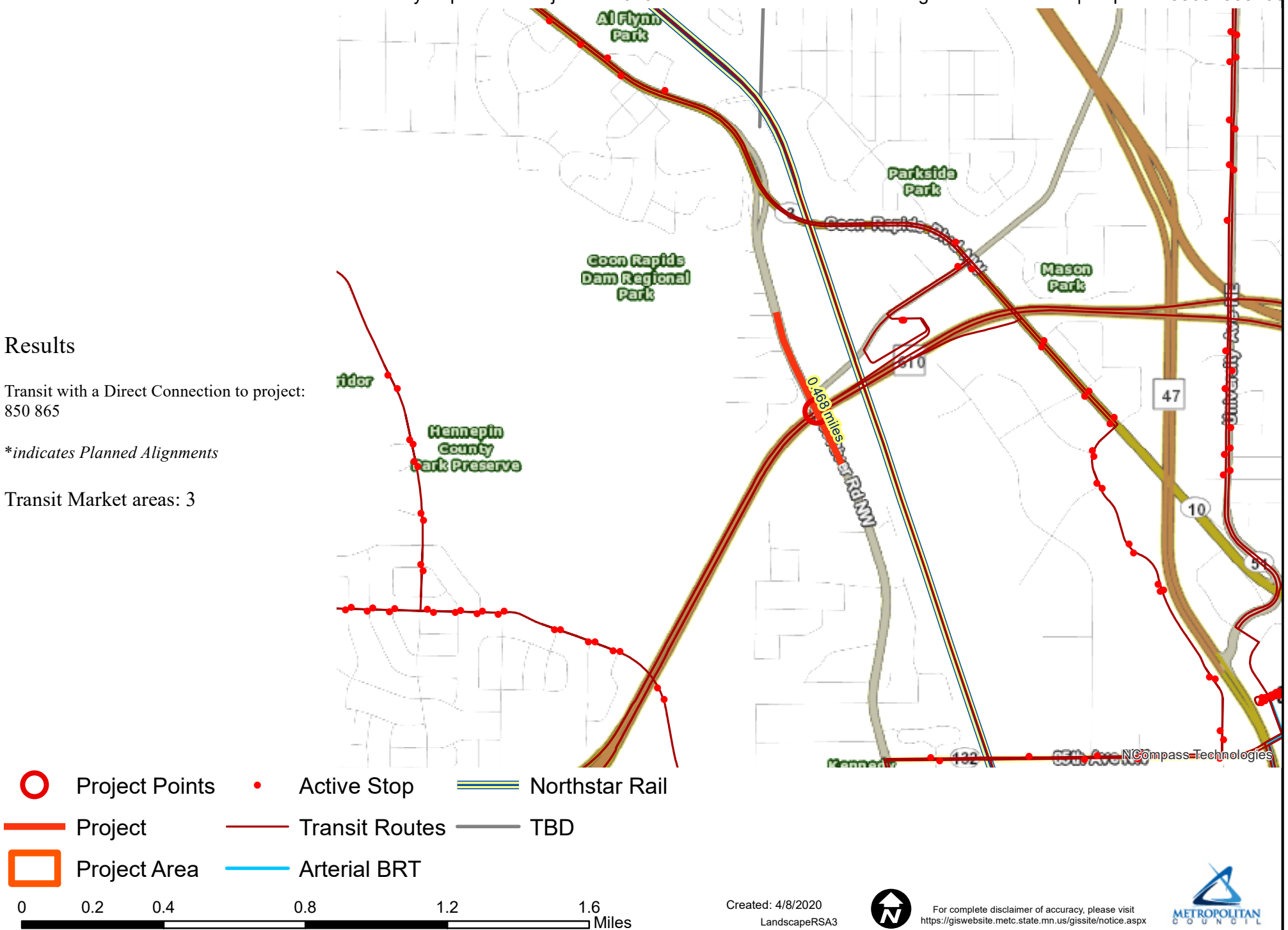
Roadway Expansion Project: TH 610 and East River Road Interchange Reconstruction | Map ID: 1586378051906

Results

Transit with a Direct Connection to project:
850 865

**indicates Planned Alignments*

Transit Market areas: 3



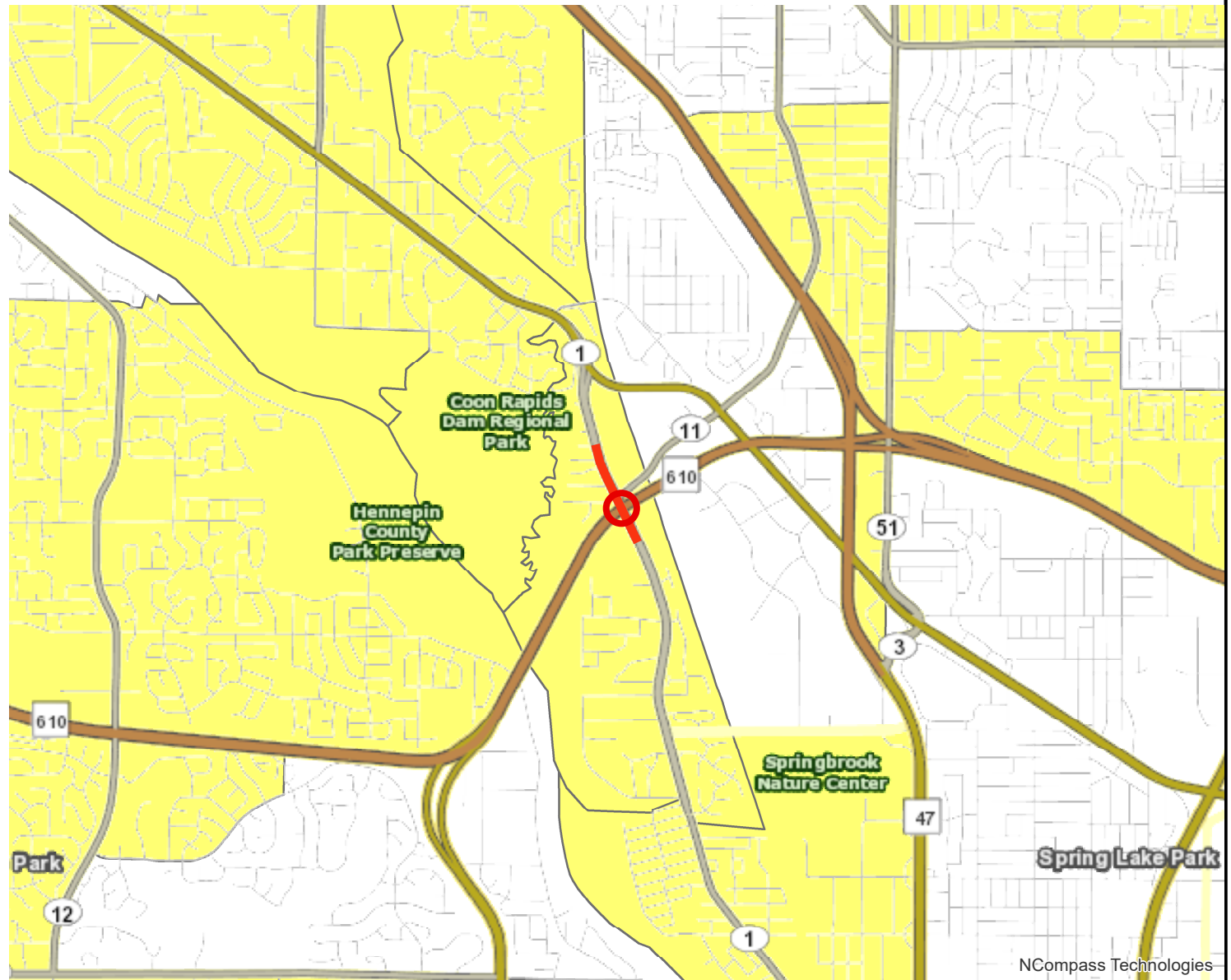
Socio-Economic Conditions

Roadway Expansion Project: TH 610 and East River Road Interchange Reconstruction | Map ID: 1586378051906

Results

Project census tracts are above the regional average for population in poverty or population of color:
(0 to 18 Points)

Tracts within half-mile:
50606 50709 50710



Points



Lines



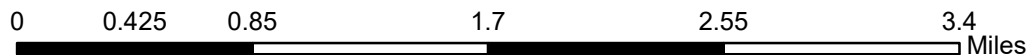
Area of Concentrated Poverty > 50% residents of color



Area of Concentrated Poverty



Above reg'l avg conc of race/poverty

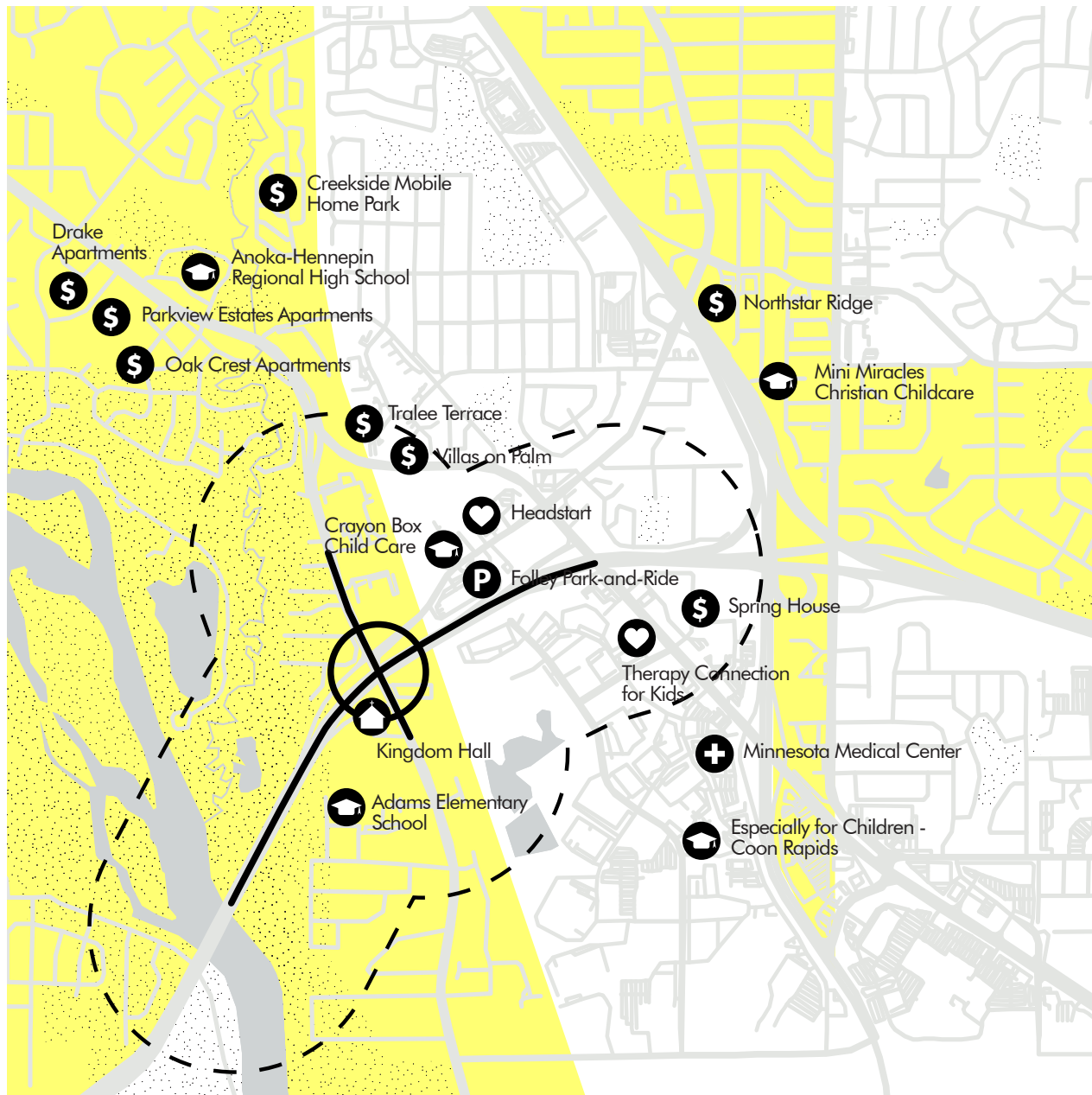


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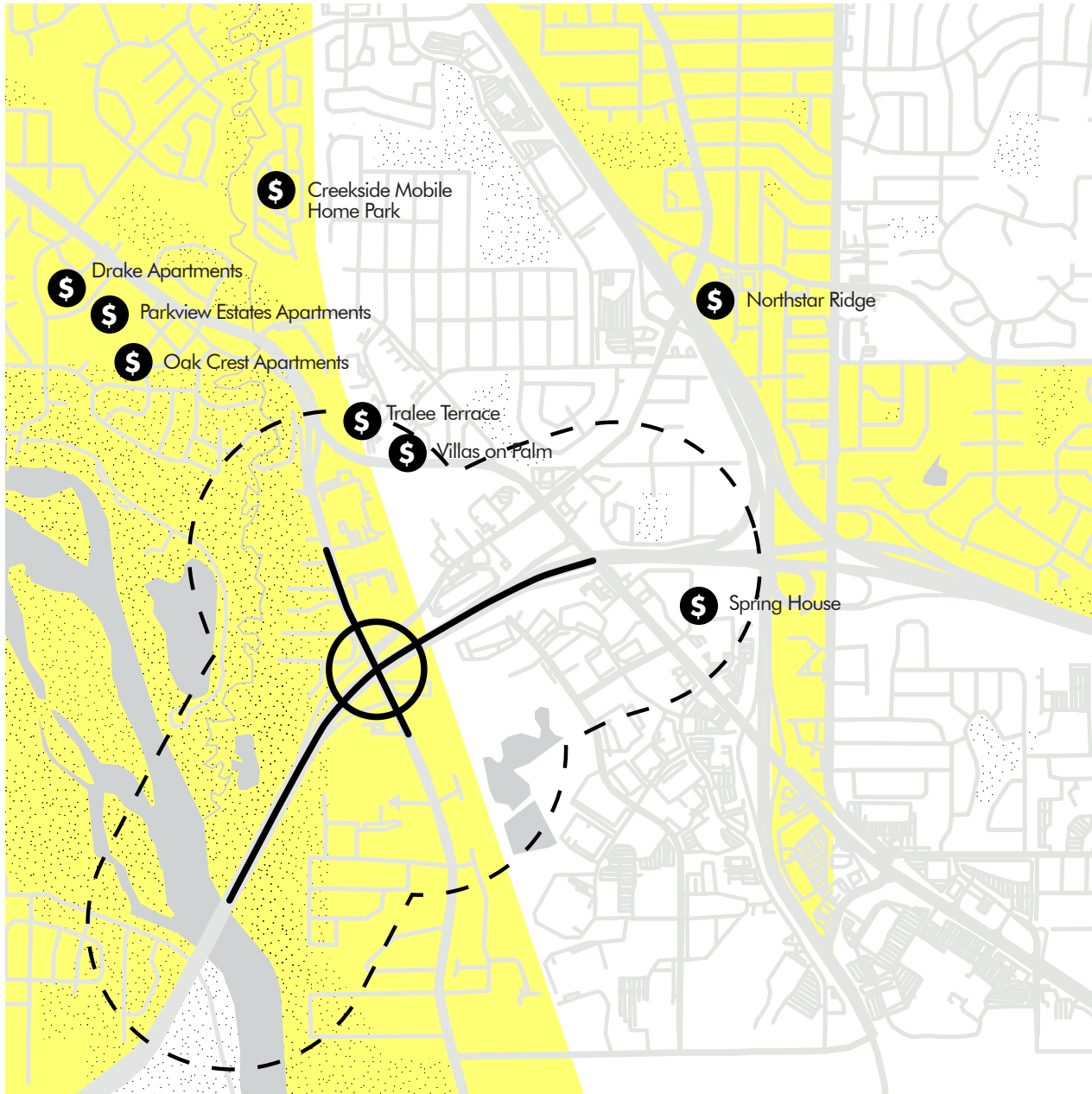








TH610 / East River Road Interchange Equity Populations and Destinations

-  Proposed project
-  1/2 mile project corridor
-  Above regional average concentration of race / poverty
-  Local and regional parks
-  School / daycare
-  Place of worship
-  Affordable housing
-  Social services
-  Medical clinic





























TH610 / East River Road Interchange Affordable Housing

-  Proposed project
-  1/2 mile project corridor
-  Above regional average concentration of race / poverty
-  Affordable housing



Coon Rapids RS
2018 Existing PM

04/16/2020
110: Foley Blvd & TH 10 N Ramp/101st Ave

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	800	200	257	168	182	122	320	734	323	62	651	55
Future Volume (vph)	800	200	257	168	182	122	320	734	323	62	651	55
Turn Type	Split	NA	pm+ov	Split	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	4	4	5	8	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	4	4	4	8	8	8	5 2	2	2	1 6	6	6
Switch Phase												
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0	7.0	7.0	15.0	15.0	7.0	15.0	15.0
Minimum Split (s)	13.0	13.0	12.0	34.5	34.5	34.5	12.0	39.5	39.5	12.0	20.5	20.5
Total Split (s)	50.0	50.0	32.0	34.5	34.5	34.5	32.0	49.5	49.5	16.0	33.5	33.5
Total Split (%)	33.3%	33.3%	21.3%	23.0%	23.0%	23.0%	21.3%	33.0%	33.0%	10.7%	22.3%	22.3%
Yellow Time (s)	4.0	4.0	3.0	4.0	4.0	4.0	3.0	4.0	4.0	3.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.5	2.5	2.5	2.0	1.5	1.5	2.0	1.5	1.5
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)	6.0	6.0	5.0	6.5	6.5	6.5	5.0	5.5	5.5	5.0	5.5	5.5
Lead/Lag	Lead	Lead	Lag	Lag	Lag	Lag	Lag	Lag	Lag	Lead	Lead	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	C-Max	C-Max	None	C-Max	C-Max
Act Effect Green (s)	44.0	44.0	77.0	20.9	20.9	20.9	27.0	54.4	54.4	10.1	35.1	35.1
Actuated g/C Ratio	0.29	0.29	0.51	0.14	0.14	0.14	0.18	0.36	0.36	0.07	0.23	0.23
v/c Ratio	1.04	1.03	0.17	0.71	0.73	0.37	1.04	0.59	0.42	0.54	0.81	0.12
Control Delay	100.8	99.7	2.2	76.2	77.1	9.5	118.6	43.1	5.5	84.2	63.2	0.6
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	100.8	99.7	2.2	76.2	77.1	9.5	118.6	43.1	5.5	84.2	63.2	0.6
LOS	F	F	A	E	E	A	F	D	A	F	E	A
Approach Delay		80.2			59.3			51.8			60.4	
Approach LOS		F			E			D			E	

Intersection Summary

Cycle Length: 150

Actuated Cycle Length: 150

Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of 1st Green

Natural Cycle: 150

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.04

Intersection Signal Delay: 63.6

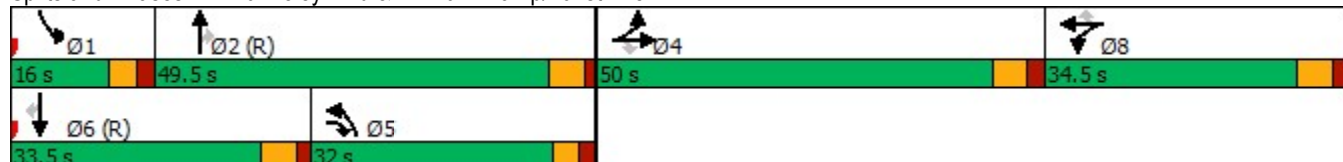
Intersection LOS: E

Intersection Capacity Utilization 91.9%

ICU Level of Service F

Analysis Period (min) 15

Splits and Phases: 110: Foley Blvd & TH 10 N Ramp/101st Ave



	→	↘	↙	↑	↗	↖	↓	↘
Lane Group	EBT	EBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↔	↔	↕	↔	↔	↕	↔
Traffic Volume (vph)	1	216	26	1110	225	117	757	202
Future Volume (vph)	1	216	26	1110	225	117	757	202
Turn Type	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	4		5	2		1	6	
Permitted Phases		4			2			6
Detector Phase	4	4	5	2	2	1	6	6
Switch Phase								
Minimum Initial (s)	7.0	7.0	7.0	15.0	15.0	7.0	15.0	15.0
Minimum Split (s)	13.0	13.0	12.0	30.5	30.5	12.0	20.5	20.5
Total Split (s)	17.0	17.0	12.0	31.0	31.0	12.0	31.0	31.0
Total Split (%)	28.3%	28.3%	20.0%	51.7%	51.7%	20.0%	51.7%	51.7%
Yellow Time (s)	4.0	4.0	3.0	4.0	4.0	3.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	1.5	1.5	2.0	1.5	1.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	5.0	5.5	5.5	5.0	5.5	5.5
Lead/Lag			Lag	Lead	Lead	Lag	Lead	Lead
Lead-Lag Optimize?								
Recall Mode	None	None	None	C-Max	C-Max	None	C-Max	C-Max
Act Effect Green (s)	10.8	10.8	7.0	28.1	28.1	7.0	32.9	32.9
Actuated g/C Ratio	0.18	0.18	0.12	0.47	0.47	0.12	0.55	0.55
v/c Ratio	0.85	0.47	0.13	0.68	0.26	0.57	0.39	0.21
Control Delay	50.4	7.5	25.5	16.0	2.8	37.7	9.9	2.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	50.4	7.5	25.5	16.0	2.8	37.7	9.9	2.6
LOS	D	A	C	B	A	D	A	A
Approach Delay	31.3			14.0			11.6	
Approach LOS	C			B			B	

Intersection Summary

Cycle Length: 60

Actuated Cycle Length: 60

Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of 1st Green

Natural Cycle: 60

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.85

Intersection Signal Delay: 16.0

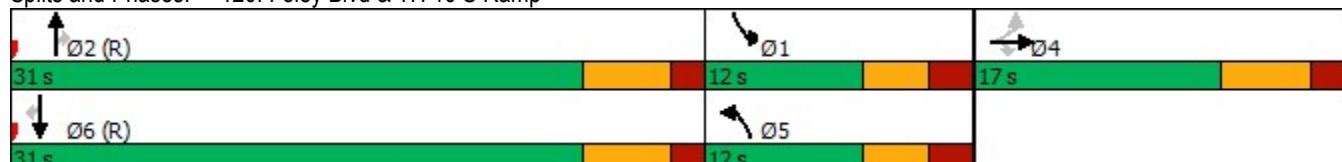
Intersection LOS: B











Intersection Capacity Utilization 65.8%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 120: Foley Blvd & TH 10 S Ramp



					
Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Configurations					
Traffic Volume (vph)	344	184	344	1017	431
Future Volume (vph)	344	184	344	1017	431
Turn Type	Prot	Perm	pm+pt	NA	NA
Protected Phases	4		5	2	6
Permitted Phases		4	2		
Detector Phase	4	4	2 5	2	6
Switch Phase					
Minimum Initial (s)	7.0	7.0	5.0	15.0	15.0
Minimum Split (s)	32.5	32.5	10.0	20.5	34.5
Total Split (s)	33.0	33.0	10.0	97.0	87.0
Total Split (%)	25.4%	25.4%	7.7%	74.6%	66.9%
Yellow Time (s)	3.0	3.0	3.0	4.0	4.0
All-Red Time (s)	2.5	2.5	2.0	1.5	1.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	5.0	5.5	5.5
Lead/Lag			Lead		Lag
Lead-Lag Optimize?			Yes		Yes
Recall Mode	None	None	None	C-Max	C-Max
Act Effect Green (s)	27.5	27.5	92.0	91.5	81.5
Actuated g/C Ratio	0.21	0.21	0.71	0.70	0.63
v/c Ratio	0.99	0.40	1.15	0.44	0.47
Control Delay	94.8	8.2	114.2	8.9	7.2
Queue Delay	0.0	0.0	0.0	0.0	0.5
Total Delay	94.8	8.2	114.2	8.9	7.7
LOS	F	A	F	A	A
Approach Delay	64.6			35.5	7.7
Approach LOS	E			D	A

Intersection Summary

Cycle Length: 130

Actuated Cycle Length: 130

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBT, Start of 1st Green

Natural Cycle: 130

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.15

Intersection Signal Delay: 31.4

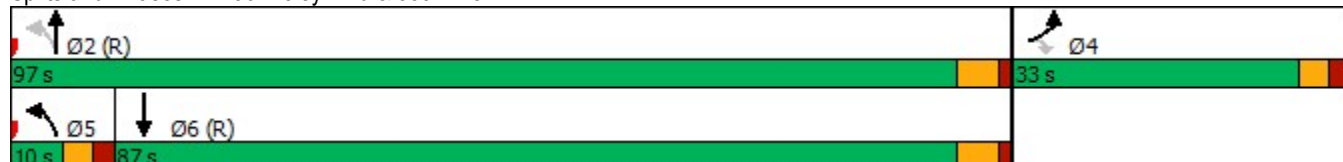
Intersection LOS: C

Intersection Capacity Utilization 80.8%

ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 130: Foley Blvd & 99th Ave



110: Foley Blvd & TH 10 N Ramp/101st Ave


Direction	All
Future Volume (vph)	3873
Total Delay / Veh (s/v)	64
CO Emissions (kg)	7.65
NOx Emissions (kg)	1.49
VOC Emissions (kg)	1.77

120: Foley Blvd & TH 10 S Ramp

Direction	All
Future Volume (vph)	2921
Total Delay / Veh (s/v)	16
CO Emissions (kg)	2.92
NOx Emissions (kg)	0.57
VOC Emissions (kg)	0.68

130: Foley Blvd & 99th Ave

Direction	All
Future Volume (vph)	2861
Total Delay / Veh (s/v)	31
CO Emissions (kg)	2.89
NOx Emissions (kg)	0.56
VOC Emissions (kg)	0.67

									
Lane Group	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations									
Traffic Volume (vph)	97	46	41	457	1493	305	28	142	137
Future Volume (vph)	97	46	41	457	1493	305	28	142	137
Turn Type	Split	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	8	8		5	2		1	6	
Permitted Phases			8			2			6
Detector Phase	8	8	8	5	2	2	1	6	6
Switch Phase									
Minimum Initial (s)	7.0	7.0	7.0	7.0	12.0	12.0	7.0	12.0	12.0
Minimum Split (s)	22.5	22.5	22.5	11.5	22.5	22.5	11.5	22.5	22.5
Total Split (s)	22.5	22.5	22.5	27.0	41.0	41.0	11.5	25.5	25.5
Total Split (%)	30.0%	30.0%	30.0%	36.0%	54.7%	54.7%	15.3%	34.0%	34.0%
Yellow Time (s)	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
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)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag				Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?				Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	C-Max	C-Max	None	C-Max	C-Max
Act Effect Green (s)	10.0	10.0	10.0	26.2	54.2	54.2	7.4	27.6	27.6
Actuated g/C Ratio	0.13	0.13	0.13	0.35	0.72	0.72	0.10	0.37	0.37
v/c Ratio	0.45	0.20	0.13	0.80	0.63	0.27	0.17	0.12	0.22
Control Delay	35.5	29.8	0.8	33.5	10.7	1.8	33.1	18.9	4.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	35.5	29.8	0.8	33.5	10.7	1.8	33.1	18.9	4.7
LOS	D	C	A	C	B	A	C	B	A
Approach Delay		26.2			14.1			13.8	
Approach LOS		C			B			B	

Intersection Summary

Cycle Length: 75

Actuated Cycle Length: 75

Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green

Natural Cycle: 75

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.80

Intersection Signal Delay: 14.9

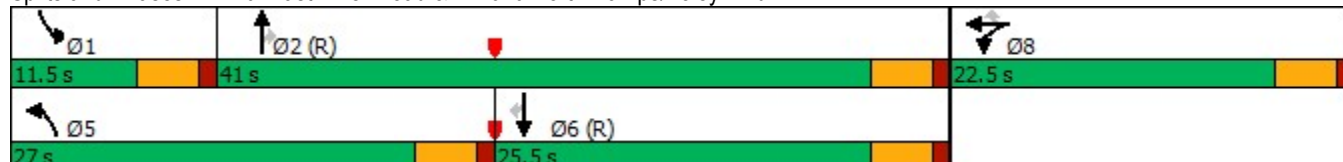
Intersection LOS: B









Intersection Capacity Utilization 64.2%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 110: East River Road & TH 610 North Ramps/Foley Blvd



				
Lane Group	EBL	EBR	NBT	SBT
Lane Configurations				
Traffic Volume (vph)	1018	168	1237	239
Future Volume (vph)	1018	168	1237	239
Turn Type	Prot	Perm	NA	NA
Protected Phases	4		2	6
Permitted Phases		4		
Detector Phase	4	4	2	6
Switch Phase				
Minimum Initial (s)	7.0	7.0	12.0	12.0
Minimum Split (s)	22.5	22.5	22.5	22.5
Total Split (s)	25.8	25.8	29.2	29.2
Total Split (%)	46.9%	46.9%	53.1%	53.1%
Yellow Time (s)	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5
Lead/Lag				
Lead-Lag Optimize?				
Recall Mode	None	None	C-Max	C-Max
Act Effect Green (s)	20.7	20.7	25.3	25.3
Actuated g/C Ratio	0.38	0.38	0.46	0.46
v/c Ratio	0.86	0.26	0.83	0.16
Control Delay	24.1	3.3	19.3	9.2
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	24.1	3.3	19.3	9.2
LOS	C	A	B	A
Approach Delay			19.3	9.2
Approach LOS			B	A

Intersection Summary

Cycle Length: 55

Actuated Cycle Length: 55

Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBTL, Start of Green

Natural Cycle: 55

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.86

Intersection Signal Delay: 19.2

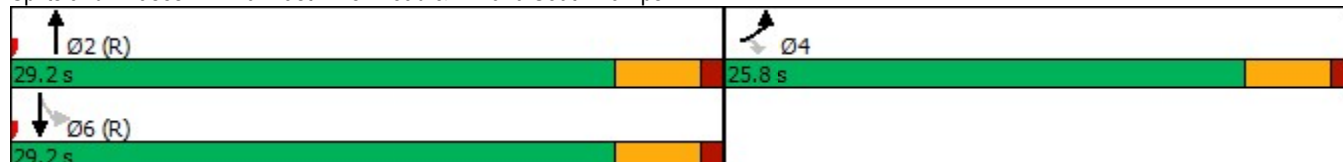
Intersection LOS: B

Intersection Capacity Utilization 70.3%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 120: East River Road & TH 610 South Ramps



























110: East River Road & TH 610 North Ramps/Foley Blvd

Direction	All
Future Volume (vph)	2746
Total Delay / Veh (s/v)	15
CO Emissions (kg)	2.11
NOx Emissions (kg)	0.41
VOC Emissions (kg)	0.49

120: East River Road & TH 610 South Ramps

Direction	All
Future Volume (vph)	2662
Total Delay / Veh (s/v)	19
CO Emissions (kg)	2.78
NOx Emissions (kg)	0.54
VOC Emissions (kg)	0.64

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	800	200	117	168	182	122	320	734	323	62	651	55
Future Volume (vph)	800	200	117	168	182	122	320	734	323	62	651	55
Turn Type	Split	NA	pm+ov	Split	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	4	4	5	8	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	4	4	4	8	8	8	5 2	2	2	1 6	6	6
Switch Phase												
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0	7.0	7.0	15.0	15.0	7.0	15.0	15.0
Minimum Split (s)	13.0	13.0	12.0	34.5	34.5	34.5	12.0	39.5	39.5	12.0	20.5	20.5
Total Split (s)	50.0	50.0	32.0	34.5	34.5	34.5	32.0	49.5	49.5	16.0	33.5	33.5
Total Split (%)	33.3%	33.3%	21.3%	23.0%	23.0%	23.0%	21.3%	33.0%	33.0%	10.7%	22.3%	22.3%
Yellow Time (s)	4.0	4.0	3.0	4.0	4.0	4.0	3.0	4.0	4.0	3.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.5	2.5	2.5	2.0	1.5	1.5	2.0	1.5	1.5
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)	6.0	6.0	5.0	6.5	6.5	6.5	5.0	5.5	5.5	5.0	5.5	5.5
Lead/Lag	Lead	Lead	Lag	Lag	Lag	Lag	Lag	Lag	Lag	Lead	Lead	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	C-Max	C-Max	None	C-Max	C-Max
Act Effect Green (s)	44.0	44.0	77.0	20.9	20.9	20.9	27.0	54.4	54.4	10.1	35.1	35.1
Actuated g/C Ratio	0.29	0.29	0.51	0.14	0.14	0.14	0.18	0.36	0.36	0.07	0.23	0.23
v/c Ratio	1.04	1.03	0.08	0.71	0.73	0.37	1.04	0.59	0.42	0.54	0.81	0.12
Control Delay	100.8	99.7	3.0	76.2	77.1	9.5	118.6	43.1	5.5	84.2	63.2	0.6
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	100.8	99.7	3.0	76.2	77.1	9.5	118.6	43.1	5.5	84.2	63.2	0.6
LOS	F	F	A	E	E	A	F	D	A	F	E	A
Approach Delay		90.0			59.3			51.8			60.4	
Approach LOS		F			E			D			E	

Intersection Summary

Cycle Length: 150

Actuated Cycle Length: 150

Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of 1st Green

Natural Cycle: 150

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.04

Intersection Signal Delay: 66.0

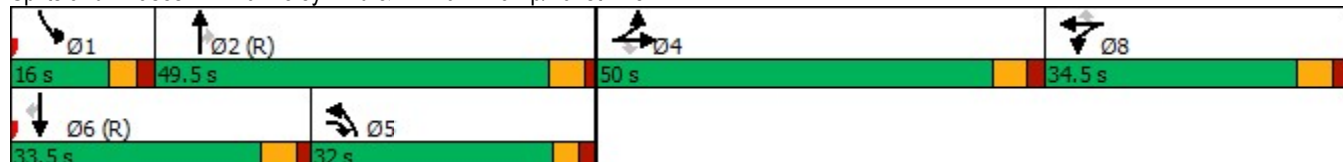
Intersection LOS: E

Intersection Capacity Utilization 91.9%

ICU Level of Service F

Analysis Period (min) 15

Splits and Phases: 110: Foley Blvd & TH 10 N Ramp/101st Ave



	→	↘	↙	↑	↗	↖	↓	↘
Lane Group	EBT	EBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↔	↔	↕	↔	↔	↕	↔
Traffic Volume (vph)	1	216	26	1110	85	117	617	202
Future Volume (vph)	1	216	26	1110	85	117	617	202
Turn Type	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	4		5	2		1	6	
Permitted Phases		4			2			6
Detector Phase	4	4	5	2	2	1	6	6
Switch Phase								
Minimum Initial (s)	7.0	7.0	7.0	15.0	15.0	7.0	15.0	15.0
Minimum Split (s)	13.0	13.0	12.0	30.5	30.5	12.0	20.5	20.5
Total Split (s)	17.0	17.0	12.0	31.0	31.0	12.0	31.0	31.0
Total Split (%)	28.3%	28.3%	20.0%	51.7%	51.7%	20.0%	51.7%	51.7%
Yellow Time (s)	4.0	4.0	3.0	4.0	4.0	3.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	1.5	1.5	2.0	1.5	1.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	5.0	5.5	5.5	5.0	5.5	5.5
Lead/Lag			Lag	Lead	Lead	Lag	Lead	Lead
Lead-Lag Optimize?								
Recall Mode	None	None	None	C-Max	C-Max	None	C-Max	C-Max
Act Effect Green (s)	10.8	10.8	7.0	28.1	28.1	7.0	32.9	32.9
Actuated g/C Ratio	0.18	0.18	0.12	0.47	0.47	0.12	0.55	0.55
v/c Ratio	0.85	0.47	0.13	0.68	0.11	0.57	0.32	0.21
Control Delay	50.4	7.5	24.8	12.9	0.6	37.7	9.4	2.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	50.4	7.5	24.8	12.9	0.6	37.7	9.4	2.6
LOS	D	A	C	B	A	D	A	A
Approach Delay	31.3			12.3			11.4	
Approach LOS	C			B			B	

Intersection Summary

Cycle Length: 60

Actuated Cycle Length: 60

Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of 1st Green

Natural Cycle: 60

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.85

Intersection Signal Delay: 15.5

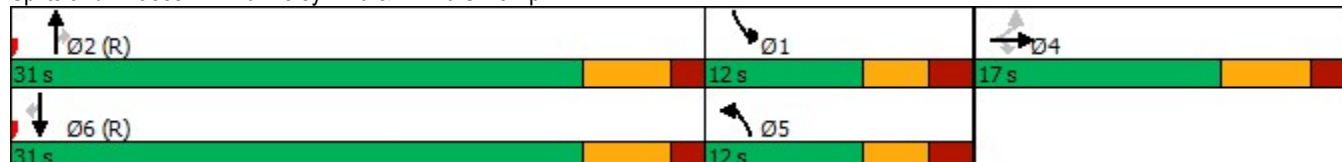
Intersection LOS: B











Intersection Capacity Utilization 65.8%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 120: Foley Blvd & TH 10 S Ramp



					
Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Configurations					
Traffic Volume (vph)	294	184	344	927	371
Future Volume (vph)	294	184	344	927	371
Turn Type	Prot	Perm	pm+pt	NA	NA
Protected Phases	4		5	2	6
Permitted Phases		4	2		
Detector Phase	4	4	2 5	2	6
Switch Phase					
Minimum Initial (s)	7.0	7.0	5.0	15.0	15.0
Minimum Split (s)	32.5	32.5	10.0	20.5	34.5
Total Split (s)	33.6	33.6	10.0	86.4	76.4
Total Split (%)	28.0%	28.0%	8.3%	72.0%	63.7%
Yellow Time (s)	3.0	3.0	3.0	4.0	4.0
All-Red Time (s)	2.5	2.5	2.0	1.5	1.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	5.0	5.5	5.5
Lead/Lag			Lead		Lag
Lead-Lag Optimize?			Yes		Yes
Recall Mode	None	None	None	C-Max	C-Max
Act Effect Green (s)	25.0	25.0	84.5	84.0	70.9
Actuated g/C Ratio	0.21	0.21	0.70	0.70	0.59
v/c Ratio	0.86	0.41	0.91	0.40	0.43
Control Delay	67.8	7.7	41.9	8.5	3.9
Queue Delay	0.0	0.0	0.0	0.0	0.2
Total Delay	67.8	7.7	41.9	8.5	4.1
LOS	E	A	D	A	A
Approach Delay	44.7			17.5	4.1
Approach LOS	D			B	A

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBT, Start of 1st Green

Natural Cycle: 120

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.91

Intersection Signal Delay: 18.2

Intersection LOS: B

Intersection Capacity Utilization 73.8%

ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 130: Foley Blvd & 99th Ave



110: Foley Blvd & TH 10 N Ramp/101st Ave

Direction	All
Future Volume (vph)	3733
Total Delay / Veh (s/v)	66
CO Emissions (kg)	7.52
NOx Emissions (kg)	1.46
VOC Emissions (kg)	1.74

120: Foley Blvd & TH 10 S Ramp

Direction	All
Future Volume (vph)	2641
Total Delay / Veh (s/v)	15
CO Emissions (kg)	2.61
NOx Emissions (kg)	0.51
VOC Emissions (kg)	0.60

























130: Foley Blvd & 99th Ave

Direction	All
Future Volume (vph)	2582
Total Delay / Veh (s/v)	18
CO Emissions (kg)	2.10
NOx Emissions (kg)	0.41
VOC Emissions (kg)	0.49

Coon Rapids RS
Build PM

04/16/2020

110: East River Road & TH 610 North Ramps/Foley Blvd

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	70	35	35	132	46	41	457	1493	305	28	212	137
Future Volume (vph)	70	35	35	132	46	41	457	1493	305	28	212	137
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8		8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	7.0	7.0	7.0	7.0	12.0	12.0	7.0	12.0	12.0
Minimum Split (s)	9.5	22.5	22.5	22.5	22.5	22.5	11.5	22.5	22.5	11.5	22.5	22.5
Total Split (s)	10.2	22.5	22.5	22.5	34.8	34.8	41.2	53.5	53.5	11.5	23.8	23.8
Total Split (%)	9.3%	20.5%	20.5%	20.5%	31.6%	31.6%	37.5%	48.6%	48.6%	10.5%	21.6%	21.6%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	C-Max	C-Max	None	C-Max	C-Max
Act Effect Green (s)	12.3	7.7	7.7	23.3	15.1	15.1	36.2	70.0	70.0	7.8	37.0	37.0
Actuated g/C Ratio	0.11	0.07	0.07	0.21	0.14	0.14	0.33	0.64	0.64	0.07	0.34	0.34
v/c Ratio	0.44	0.29	0.13	0.50	0.20	0.13	0.85	0.72	0.30	0.24	0.19	0.23
Control Delay	42.5	53.6	0.9	41.3	41.6	0.8	41.8	19.5	4.9	52.5	30.6	3.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7	0.0	0.0	0.0	0.0
Total Delay	42.5	53.6	0.9	41.3	41.6	0.8	41.8	20.2	4.9	52.5	30.6	3.1
LOS	D	D	A	D	D	A	D	C	A	D	C	A
Approach Delay		34.9			33.7			22.5			22.2	
Approach LOS		C			C			C			C	

Intersection Summary

Cycle Length: 110

Actuated Cycle Length: 110

Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green

Natural Cycle: 110

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.85

Intersection Signal Delay: 23.9

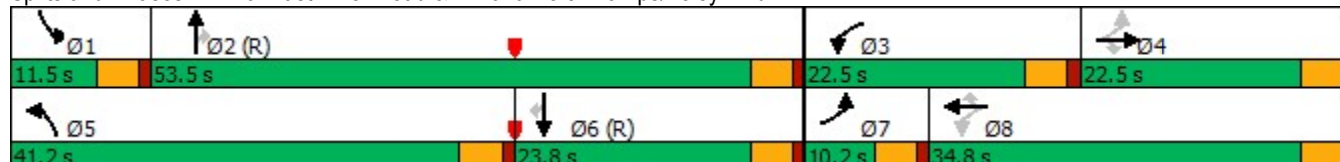
Intersection LOS: C













Intersection Capacity Utilization 72.3%

ICU Level of Service C

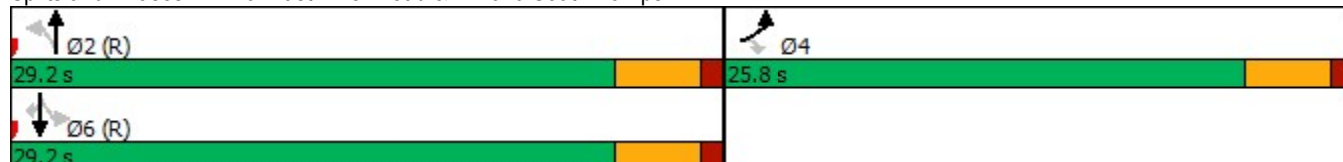
Analysis Period (min) 15

Splits and Phases: 110: East River Road & TH 610 North Ramps/Foley Blvd



						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	1018	168	35	1237	274	105
Future Volume (vph)	1018	168	35	1237	274	105
Turn Type	Prot	Perm	Perm	NA	NA	Perm
Protected Phases	4			2	6	
Permitted Phases		4	2			6
Detector Phase	4	4	2	2	6	6
Switch Phase						
Minimum Initial (s)	7.0	7.0	12.0	12.0	12.0	12.0
Minimum Split (s)	22.5	22.5	22.5	22.5	22.5	22.5
Total Split (s)	25.8	25.8	29.2	29.2	29.2	29.2
Total Split (%)	46.9%	46.9%	53.1%	53.1%	53.1%	53.1%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	None	None	C-Max	C-Max	C-Max	C-Max
Act Effct Green (s)	20.7	20.7	25.3	25.3	25.3	25.3
Actuated g/C Ratio	0.38	0.38	0.46	0.46	0.46	0.46
v/c Ratio	0.86	0.26	0.08	0.83	0.18	0.14
Control Delay	24.1	3.3	9.3	19.3	8.3	3.7
Queue Delay	8.4	0.0	0.0	0.0	0.0	0.0
Total Delay	32.5	3.3	9.3	19.3	8.3	3.7
LOS	C	A	A	B	A	A
Approach Delay				19.0	7.0	
Approach LOS				B	A	
Intersection Summary						
Cycle Length: 55						
Actuated Cycle Length: 55						
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: 0.86						
Intersection Signal Delay: 21.3				Intersection LOS: C		
Intersection Capacity Utilization 70.3%				ICU Level of Service C		
Analysis Period (min) 15						

Splits and Phases: 120: East River Road & TH 610 South Ramps



110: East River Road & TH 610 North Ramps/Foley Blvd

Direction	All
Future Volume (vph)	2991
Total Delay / Veh (s/v)	24
CO Emissions (kg)	2.89
NOx Emissions (kg)	0.56
VOC Emissions (kg)	0.67

120: East River Road & TH 610 South Ramps

Direction	All
Future Volume (vph)	2837
Total Delay / Veh (s/v)	21
CO Emissions (kg)	2.99
NOx Emissions (kg)	0.58
VOC Emissions (kg)	0.69

East River Road TH 610 Ramp Addition

1

Foley and TH 10 N Ramps		
Existing Volume	3873	vehicles
Existing Delay	64	sec/veh
Existing Total Delay	247872	seconds
Future Volume	3733	vehicles
Future Delay	66	sec/veh
Future Total Delay	246378	seconds
Total Delay Reduction	1494	seconds

2

Foley and TH 10 S Ramps		
Existing Volume	2921	vehicles
Existing Delay	16	sec/veh
Existing Total Delay	46736	seconds
Future Volume	2641	vehicles
Future Delay	15	sec/veh
Future Total Delay	39615	seconds
Total Delay Reduction	7121	seconds

3

Foley and 99th Ave		
Existing Volume	2861	vehicles
Existing Delay	31	sec/veh
Existing Total Delay	88691	seconds
Future Volume	2582	vehicles
Future Delay	18	sec/veh
Future Total Delay	46476	seconds
Total Delay Reduction	42215	seconds

4

East River Rd and South TH 610 Ramps		
Existing Volume	2746	vehicles
Existing Delay	15	sec/veh
Existing Total Delay	41190	seconds
Future Volume	2991	vehicles
Future Delay	24	sec/veh
Future Total Delay	71784	seconds
Total Delay Reduction	-30594	seconds

5

East River Road and North TH 610 Ramps		
Existing Volume	2662	vehicles
Existing Delay	19	sec/veh
Existing Total Delay	50578	seconds
Future Volume	2837	vehicles
Future Delay	21	sec/veh
Future Total Delay	59577	seconds
Total Delay Reduction	-8999	seconds

Total Network Delay Reduction	11237	seconds
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Emissions

























Existing	1	2	3	4	5	Total
CO	7.65	2.92	2.89	2.11	2.78	18.35
NO	1.49	0.57	0.56	0.41	0.54	3.57
VOC	1.77	0.68	0.67	0.49	0.64	4.25
Network Total						26.17

Build	1	2	3	4	5	Total
CO	7.52	2.61	2.1	2.89	2.99	18.11
NO	1.46	0.51	0.41	0.56	0.58	3.52
VOC	1.74	0.6	0.49	0.67	0.69	4.19
Network Total						25.82

Reduction	0.35
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Coon Rapids RS
2018 Existing PM

04/16/2020
110: Foley Blvd & TH 10 N Ramp/101st Ave

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	800	200	257	168	182	122	320	734	323	62	651	55
Future Volume (vph)	800	200	257	168	182	122	320	734	323	62	651	55
Turn Type	Split	NA	pm+ov	Split	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	4	4	5	8	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	4	4	4	8	8	8	5 2	2	2	1 6	6	6
Switch Phase												
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0	7.0	7.0	15.0	15.0	7.0	15.0	15.0
Minimum Split (s)	13.0	13.0	12.0	34.5	34.5	34.5	12.0	39.5	39.5	12.0	20.5	20.5
Total Split (s)	50.0	50.0	32.0	34.5	34.5	34.5	32.0	49.5	49.5	16.0	33.5	33.5
Total Split (%)	33.3%	33.3%	21.3%	23.0%	23.0%	23.0%	21.3%	33.0%	33.0%	10.7%	22.3%	22.3%
Yellow Time (s)	4.0	4.0	3.0	4.0	4.0	4.0	3.0	4.0	4.0	3.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.5	2.5	2.5	2.0	1.5	1.5	2.0	1.5	1.5
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)	6.0	6.0	5.0	6.5	6.5	6.5	5.0	5.5	5.5	5.0	5.5	5.5
Lead/Lag	Lead	Lead	Lag	Lag	Lag	Lag	Lag	Lag	Lag	Lead	Lead	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	C-Max	C-Max	None	C-Max	C-Max
Act Effect Green (s)	44.0	44.0	77.0	20.9	20.9	20.9	27.0	54.4	54.4	10.1	35.1	35.1
Actuated g/C Ratio	0.29	0.29	0.51	0.14	0.14	0.14	0.18	0.36	0.36	0.07	0.23	0.23
v/c Ratio	1.04	1.03	0.17	0.71	0.73	0.37	1.04	0.59	0.42	0.54	0.81	0.12
Control Delay	100.8	99.7	2.2	76.2	77.1	9.5	118.6	43.1	5.5	84.2	63.2	0.6
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	100.8	99.7	2.2	76.2	77.1	9.5	118.6	43.1	5.5	84.2	63.2	0.6
LOS	F	F	A	E	E	A	F	D	A	F	E	A
Approach Delay		80.2			59.3			51.8			60.4	
Approach LOS		F			E			D			E	

Intersection Summary

Cycle Length: 150

Actuated Cycle Length: 150

Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of 1st Green

Natural Cycle: 150

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.04

Intersection Signal Delay: 63.6

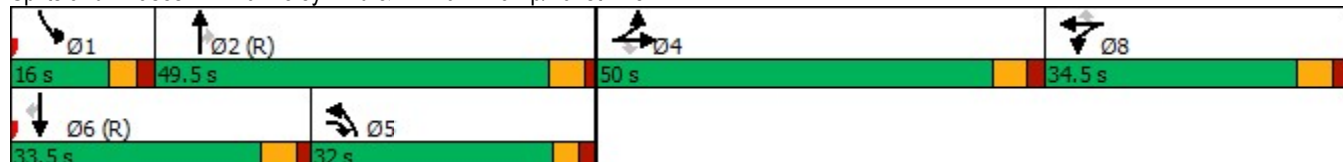
Intersection LOS: E

Intersection Capacity Utilization 91.9%

ICU Level of Service F

Analysis Period (min) 15

Splits and Phases: 110: Foley Blvd & TH 10 N Ramp/101st Ave



	→	↘	↙	↑	↗	↖	↓	↘
Lane Group	EBT	EBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↗	↖↗	↖↗	↑↑	↖↗	↖↗	↑↑	↖↗
Traffic Volume (vph)	1	216	26	1110	225	117	757	202
Future Volume (vph)	1	216	26	1110	225	117	757	202
Turn Type	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	4		5	2		1	6	
Permitted Phases		4			2			6
Detector Phase	4	4	5	2	2	1	6	6
Switch Phase								
Minimum Initial (s)	7.0	7.0	7.0	15.0	15.0	7.0	15.0	15.0
Minimum Split (s)	13.0	13.0	12.0	30.5	30.5	12.0	20.5	20.5
Total Split (s)	17.0	17.0	12.0	31.0	31.0	12.0	31.0	31.0
Total Split (%)	28.3%	28.3%	20.0%	51.7%	51.7%	20.0%	51.7%	51.7%
Yellow Time (s)	4.0	4.0	3.0	4.0	4.0	3.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	1.5	1.5	2.0	1.5	1.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	5.0	5.5	5.5	5.0	5.5	5.5
Lead/Lag			Lag	Lead	Lead	Lag	Lead	Lead
Lead-Lag Optimize?								
Recall Mode	None	None	None	C-Max	C-Max	None	C-Max	C-Max
Act Effect Green (s)	10.8	10.8	7.0	28.1	28.1	7.0	32.9	32.9
Actuated g/C Ratio	0.18	0.18	0.12	0.47	0.47	0.12	0.55	0.55
v/c Ratio	0.85	0.47	0.13	0.68	0.26	0.57	0.39	0.21
Control Delay	50.4	7.5	25.5	16.0	2.8	37.7	9.9	2.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	50.4	7.5	25.5	16.0	2.8	37.7	9.9	2.6
LOS	D	A	C	B	A	D	A	A
Approach Delay	31.3			14.0			11.6	
Approach LOS	C			B			B	

Intersection Summary

Cycle Length: 60

Actuated Cycle Length: 60

Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of 1st Green

Natural Cycle: 60

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.85

Intersection Signal Delay: 16.0

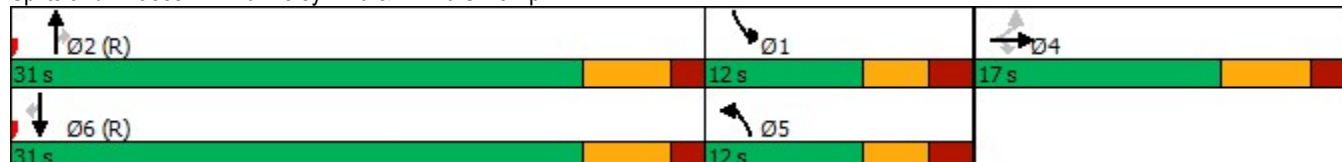
Intersection LOS: B











Intersection Capacity Utilization 65.8%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 120: Foley Blvd & TH 10 S Ramp



					
Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Configurations					
Traffic Volume (vph)	344	184	344	1017	431
Future Volume (vph)	344	184	344	1017	431
Turn Type	Prot	Perm	pm+pt	NA	NA
Protected Phases	4		5	2	6
Permitted Phases		4	2		
Detector Phase	4	4	2 5	2	6
Switch Phase					
Minimum Initial (s)	7.0	7.0	5.0	15.0	15.0
Minimum Split (s)	32.5	32.5	10.0	20.5	34.5
Total Split (s)	33.0	33.0	10.0	97.0	87.0
Total Split (%)	25.4%	25.4%	7.7%	74.6%	66.9%
Yellow Time (s)	3.0	3.0	3.0	4.0	4.0
All-Red Time (s)	2.5	2.5	2.0	1.5	1.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	5.0	5.5	5.5
Lead/Lag			Lead		Lag
Lead-Lag Optimize?			Yes		Yes
Recall Mode	None	None	None	C-Max	C-Max
Act Effect Green (s)	27.5	27.5	92.0	91.5	81.5
Actuated g/C Ratio	0.21	0.21	0.71	0.70	0.63
v/c Ratio	0.99	0.40	1.15	0.44	0.47
Control Delay	94.8	8.2	114.2	8.9	7.2
Queue Delay	0.0	0.0	0.0	0.0	0.5
Total Delay	94.8	8.2	114.2	8.9	7.7
LOS	F	A	F	A	A
Approach Delay	64.6			35.5	7.7
Approach LOS	E			D	A

Intersection Summary

Cycle Length: 130

Actuated Cycle Length: 130

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBT, Start of 1st Green

Natural Cycle: 130

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.15

Intersection Signal Delay: 31.4

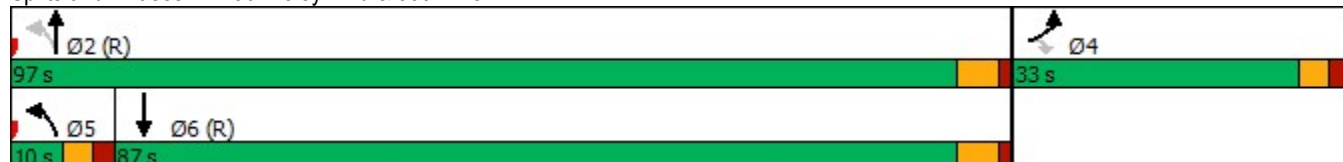
Intersection LOS: C

Intersection Capacity Utilization 80.8%

ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 130: Foley Blvd & 99th Ave



110: Foley Blvd & TH 10 N Ramp/101st Ave


Direction	All
Future Volume (vph)	3873
Total Delay / Veh (s/v)	64
CO Emissions (kg)	7.65
NOx Emissions (kg)	1.49
VOC Emissions (kg)	1.77

120: Foley Blvd & TH 10 S Ramp

Direction	All
Future Volume (vph)	2921
Total Delay / Veh (s/v)	16
CO Emissions (kg)	2.92
NOx Emissions (kg)	0.57
VOC Emissions (kg)	0.68

130: Foley Blvd & 99th Ave

Direction	All
Future Volume (vph)	2861
Total Delay / Veh (s/v)	31
CO Emissions (kg)	2.89
NOx Emissions (kg)	0.56
VOC Emissions (kg)	0.67

									
Lane Group	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations									
Traffic Volume (vph)	97	46	41	457	1493	305	28	142	137
Future Volume (vph)	97	46	41	457	1493	305	28	142	137
Turn Type	Split	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	8	8		5	2		1	6	
Permitted Phases			8			2			6
Detector Phase	8	8	8	5	2	2	1	6	6
Switch Phase									
Minimum Initial (s)	7.0	7.0	7.0	7.0	12.0	12.0	7.0	12.0	12.0
Minimum Split (s)	22.5	22.5	22.5	11.5	22.5	22.5	11.5	22.5	22.5
Total Split (s)	22.5	22.5	22.5	27.0	41.0	41.0	11.5	25.5	25.5
Total Split (%)	30.0%	30.0%	30.0%	36.0%	54.7%	54.7%	15.3%	34.0%	34.0%
Yellow Time (s)	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
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)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag				Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?				Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	C-Max	C-Max	None	C-Max	C-Max
Act Effect Green (s)	10.0	10.0	10.0	26.2	54.2	54.2	7.4	27.6	27.6
Actuated g/C Ratio	0.13	0.13	0.13	0.35	0.72	0.72	0.10	0.37	0.37
v/c Ratio	0.45	0.20	0.13	0.80	0.63	0.27	0.17	0.12	0.22
Control Delay	35.5	29.8	0.8	33.5	10.7	1.8	33.1	18.9	4.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	35.5	29.8	0.8	33.5	10.7	1.8	33.1	18.9	4.7
LOS	D	C	A	C	B	A	C	B	A
Approach Delay		26.2			14.1			13.8	
Approach LOS		C			B			B	

Intersection Summary

Cycle Length: 75

Actuated Cycle Length: 75

Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green

Natural Cycle: 75

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.80

Intersection Signal Delay: 14.9

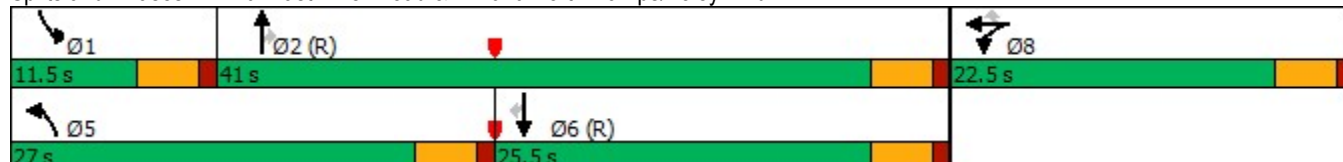
Intersection LOS: B












Intersection Capacity Utilization 64.2%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 110: East River Road & TH 610 North Ramps/Foley Blvd



				
Lane Group	EBL	EBR	NBT	SBT
Lane Configurations	 		 	 
Traffic Volume (vph)	1018	168	1237	239
Future Volume (vph)	1018	168	1237	239
Turn Type	Prot	Perm	NA	NA
Protected Phases	4		2	6
Permitted Phases		4		
Detector Phase	4	4	2	6
Switch Phase				
Minimum Initial (s)	7.0	7.0	12.0	12.0
Minimum Split (s)	22.5	22.5	22.5	22.5
Total Split (s)	25.8	25.8	29.2	29.2
Total Split (%)	46.9%	46.9%	53.1%	53.1%
Yellow Time (s)	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5
Lead/Lag				
Lead-Lag Optimize?				
Recall Mode	None	None	C-Max	C-Max
Act Effect Green (s)	20.7	20.7	25.3	25.3
Actuated g/C Ratio	0.38	0.38	0.46	0.46
v/c Ratio	0.86	0.26	0.83	0.16
Control Delay	24.1	3.3	19.3	9.2
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	24.1	3.3	19.3	9.2
LOS	C	A	B	A
Approach Delay			19.3	9.2
Approach LOS			B	A

Intersection Summary

Cycle Length: 55

Actuated Cycle Length: 55

Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBTL, Start of Green

Natural Cycle: 55

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.86

Intersection Signal Delay: 19.2

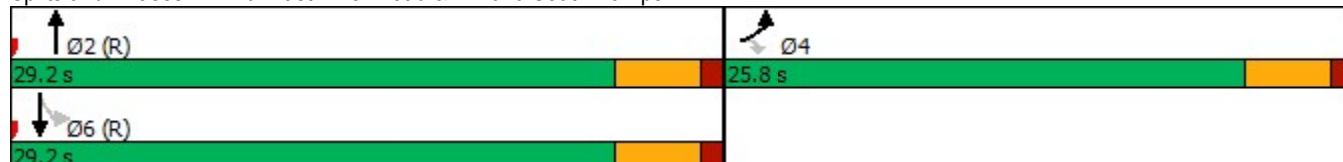
Intersection LOS: B

Intersection Capacity Utilization 70.3%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 120: East River Road & TH 610 South Ramps



























110: East River Road & TH 610 North Ramps/Foley Blvd

Direction	All
Future Volume (vph)	2746
Total Delay / Veh (s/v)	15
CO Emissions (kg)	2.11
NOx Emissions (kg)	0.41
VOC Emissions (kg)	0.49

120: East River Road & TH 610 South Ramps

Direction	All
Future Volume (vph)	2662
Total Delay / Veh (s/v)	19
CO Emissions (kg)	2.78
NOx Emissions (kg)	0.54
VOC Emissions (kg)	0.64

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	800	200	117	168	182	122	320	734	323	62	651	55
Future Volume (vph)	800	200	117	168	182	122	320	734	323	62	651	55
Turn Type	Split	NA	pm+ov	Split	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	4	4	5	8	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	4	4	4	8	8	8	5 2	2	2	1 6	6	6
Switch Phase												
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0	7.0	7.0	15.0	15.0	7.0	15.0	15.0
Minimum Split (s)	13.0	13.0	12.0	34.5	34.5	34.5	12.0	39.5	39.5	12.0	20.5	20.5
Total Split (s)	50.0	50.0	32.0	34.5	34.5	34.5	32.0	49.5	49.5	16.0	33.5	33.5
Total Split (%)	33.3%	33.3%	21.3%	23.0%	23.0%	23.0%	21.3%	33.0%	33.0%	10.7%	22.3%	22.3%
Yellow Time (s)	4.0	4.0	3.0	4.0	4.0	4.0	3.0	4.0	4.0	3.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.5	2.5	2.5	2.0	1.5	1.5	2.0	1.5	1.5
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)	6.0	6.0	5.0	6.5	6.5	6.5	5.0	5.5	5.5	5.0	5.5	5.5
Lead/Lag	Lead	Lead	Lag	Lag	Lag	Lag	Lag	Lag	Lag	Lead	Lead	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	C-Max	C-Max	None	C-Max	C-Max
Act Effect Green (s)	44.0	44.0	77.0	20.9	20.9	20.9	27.0	54.4	54.4	10.1	35.1	35.1
Actuated g/C Ratio	0.29	0.29	0.51	0.14	0.14	0.14	0.18	0.36	0.36	0.07	0.23	0.23
v/c Ratio	1.04	1.03	0.08	0.71	0.73	0.37	1.04	0.59	0.42	0.54	0.81	0.12
Control Delay	100.8	99.7	3.0	76.2	77.1	9.5	118.6	43.1	5.5	84.2	63.2	0.6
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	100.8	99.7	3.0	76.2	77.1	9.5	118.6	43.1	5.5	84.2	63.2	0.6
LOS	F	F	A	E	E	A	F	D	A	F	E	A
Approach Delay		90.0			59.3			51.8			60.4	
Approach LOS		F			E			D			E	

Intersection Summary

Cycle Length: 150

Actuated Cycle Length: 150

Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of 1st Green

Natural Cycle: 150

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.04

Intersection Signal Delay: 66.0

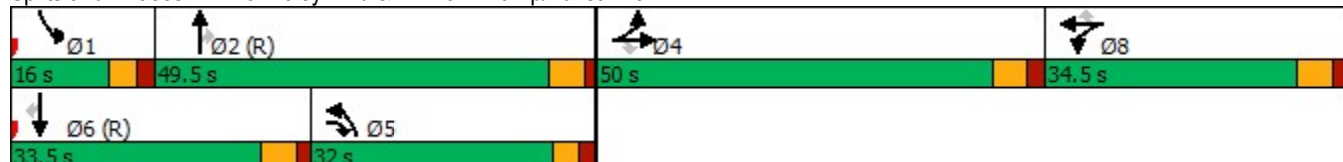
Intersection LOS: E

Intersection Capacity Utilization 91.9%

ICU Level of Service F

Analysis Period (min) 15

Splits and Phases: 110: Foley Blvd & TH 10 N Ramp/101st Ave



	→	↘	↙	↑	↗	↖	↓	↘
Lane Group	EBT	EBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↖	↖	↑↑	↖	↖	↑↑	↖
Traffic Volume (vph)	1	216	26	1110	85	117	617	202
Future Volume (vph)	1	216	26	1110	85	117	617	202
Turn Type	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	4		5	2		1	6	
Permitted Phases		4			2			6
Detector Phase	4	4	5	2	2	1	6	6
Switch Phase								
Minimum Initial (s)	7.0	7.0	7.0	15.0	15.0	7.0	15.0	15.0
Minimum Split (s)	13.0	13.0	12.0	30.5	30.5	12.0	20.5	20.5
Total Split (s)	17.0	17.0	12.0	31.0	31.0	12.0	31.0	31.0
Total Split (%)	28.3%	28.3%	20.0%	51.7%	51.7%	20.0%	51.7%	51.7%
Yellow Time (s)	4.0	4.0	3.0	4.0	4.0	3.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	1.5	1.5	2.0	1.5	1.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	5.0	5.5	5.5	5.0	5.5	5.5
Lead/Lag			Lag	Lead	Lead	Lag	Lead	Lead
Lead-Lag Optimize?								
Recall Mode	None	None	None	C-Max	C-Max	None	C-Max	C-Max
Act Effect Green (s)	10.8	10.8	7.0	28.1	28.1	7.0	32.9	32.9
Actuated g/C Ratio	0.18	0.18	0.12	0.47	0.47	0.12	0.55	0.55
v/c Ratio	0.85	0.47	0.13	0.68	0.11	0.57	0.32	0.21
Control Delay	50.4	7.5	24.8	12.9	0.6	37.7	9.4	2.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	50.4	7.5	24.8	12.9	0.6	37.7	9.4	2.6
LOS	D	A	C	B	A	D	A	A
Approach Delay	31.3			12.3			11.4	
Approach LOS	C			B			B	

Intersection Summary

Cycle Length: 60

Actuated Cycle Length: 60

Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of 1st Green

Natural Cycle: 60

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.85

Intersection Signal Delay: 15.5

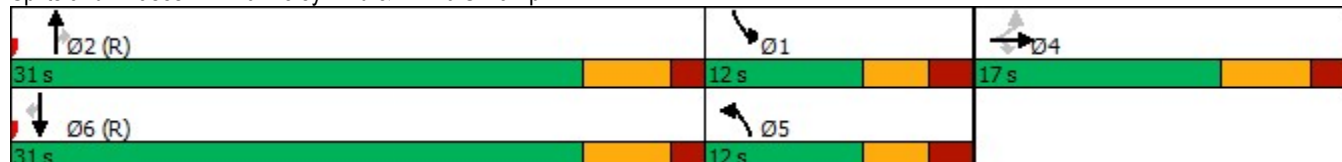
Intersection LOS: B











Intersection Capacity Utilization 65.8%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 120: Foley Blvd & TH 10 S Ramp

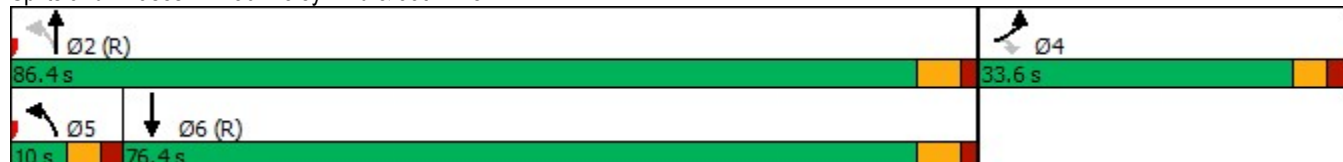


					
Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Configurations					
Traffic Volume (vph)	294	184	344	927	371
Future Volume (vph)	294	184	344	927	371
Turn Type	Prot	Perm	pm+pt	NA	NA
Protected Phases	4		5	2	6
Permitted Phases		4	2		
Detector Phase	4	4	2 5	2	6
Switch Phase					
Minimum Initial (s)	7.0	7.0	5.0	15.0	15.0
Minimum Split (s)	32.5	32.5	10.0	20.5	34.5
Total Split (s)	33.6	33.6	10.0	86.4	76.4
Total Split (%)	28.0%	28.0%	8.3%	72.0%	63.7%
Yellow Time (s)	3.0	3.0	3.0	4.0	4.0
All-Red Time (s)	2.5	2.5	2.0	1.5	1.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	5.0	5.5	5.5
Lead/Lag			Lead		Lag
Lead-Lag Optimize?			Yes		Yes
Recall Mode	None	None	None	C-Max	C-Max
Act Effect Green (s)	25.0	25.0	84.5	84.0	70.9
Actuated g/C Ratio	0.21	0.21	0.70	0.70	0.59
v/c Ratio	0.86	0.41	0.91	0.40	0.43
Control Delay	67.8	7.7	41.9	8.5	3.9
Queue Delay	0.0	0.0	0.0	0.0	0.2
Total Delay	67.8	7.7	41.9	8.5	4.1
LOS	E	A	D	A	A
Approach Delay	44.7			17.5	4.1
Approach LOS	D			B	A

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBT, Start of 1st Green
Natural Cycle: 120
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.91
Intersection Signal Delay: 18.2
Intersection Capacity Utilization 73.8%
Analysis Period (min) 15
Intersection LOS: B
ICU Level of Service D

Splits and Phases: 130: Foley Blvd & 99th Ave



110: Foley Blvd & TH 10 N Ramp/101st Ave

























Direction	All
Future Volume (vph)	3733
Total Delay / Veh (s/v)	66
CO Emissions (kg)	7.52
NOx Emissions (kg)	1.46
VOC Emissions (kg)	1.74

120: Foley Blvd & TH 10 S Ramp

Direction	All
Future Volume (vph)	2641
Total Delay / Veh (s/v)	15
CO Emissions (kg)	2.61
NOx Emissions (kg)	0.51
VOC Emissions (kg)	0.60

130: Foley Blvd & 99th Ave

Direction	All
Future Volume (vph)	2582
Total Delay / Veh (s/v)	18
CO Emissions (kg)	2.10
NOx Emissions (kg)	0.41
VOC Emissions (kg)	0.49

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	70	35	35	132	46	41	457	1493	305	28	212	137
Future Volume (vph)	70	35	35	132	46	41	457	1493	305	28	212	137
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8		8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	7.0	7.0	7.0	7.0	12.0	12.0	7.0	12.0	12.0
Minimum Split (s)	9.5	22.5	22.5	22.5	22.5	22.5	11.5	22.5	22.5	11.5	22.5	22.5
Total Split (s)	10.2	22.5	22.5	22.5	34.8	34.8	41.2	53.5	53.5	11.5	23.8	23.8
Total Split (%)	9.3%	20.5%	20.5%	20.5%	31.6%	31.6%	37.5%	48.6%	48.6%	10.5%	21.6%	21.6%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	C-Max	C-Max	None	C-Max	C-Max
Act Effect Green (s)	12.3	7.7	7.7	23.3	15.1	15.1	36.2	70.0	70.0	7.8	37.0	37.0
Actuated g/C Ratio	0.11	0.07	0.07	0.21	0.14	0.14	0.33	0.64	0.64	0.07	0.34	0.34
v/c Ratio	0.44	0.29	0.13	0.50	0.20	0.13	0.85	0.72	0.30	0.24	0.19	0.23
Control Delay	42.5	53.6	0.9	41.3	41.6	0.8	41.8	19.5	4.9	52.5	30.6	3.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7	0.0	0.0	0.0	0.0
Total Delay	42.5	53.6	0.9	41.3	41.6	0.8	41.8	20.2	4.9	52.5	30.6	3.1
LOS	D	D	A	D	D	A	D	C	A	D	C	A
Approach Delay		34.9			33.7			22.5			22.2	
Approach LOS		C			C			C			C	

Intersection Summary

Cycle Length: 110

Actuated Cycle Length: 110

Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green

Natural Cycle: 110

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.85

Intersection Signal Delay: 23.9

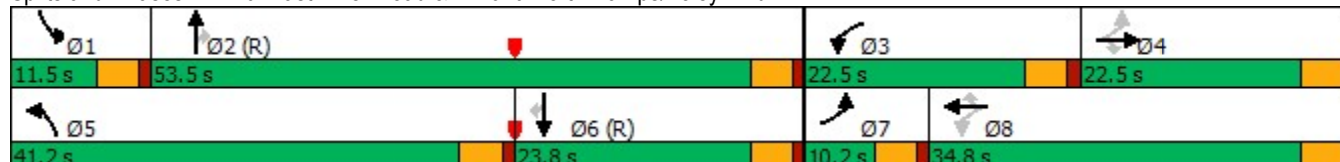
Intersection LOS: C













Intersection Capacity Utilization 72.3%

ICU Level of Service C

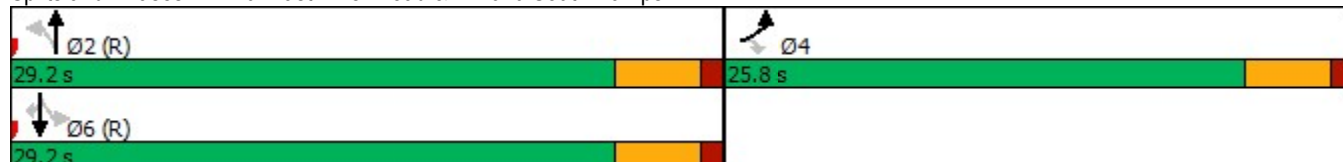
Analysis Period (min) 15

Splits and Phases: 110: East River Road & TH 610 North Ramps/Foley Blvd



						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	1018	168	35	1237	274	105
Future Volume (vph)	1018	168	35	1237	274	105
Turn Type	Prot	Perm	Perm	NA	NA	Perm
Protected Phases	4			2	6	
Permitted Phases		4	2			6
Detector Phase	4	4	2	2	6	6
Switch Phase						
Minimum Initial (s)	7.0	7.0	12.0	12.0	12.0	12.0
Minimum Split (s)	22.5	22.5	22.5	22.5	22.5	22.5
Total Split (s)	25.8	25.8	29.2	29.2	29.2	29.2
Total Split (%)	46.9%	46.9%	53.1%	53.1%	53.1%	53.1%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	None	None	C-Max	C-Max	C-Max	C-Max
Act Effct Green (s)	20.7	20.7	25.3	25.3	25.3	25.3
Actuated g/C Ratio	0.38	0.38	0.46	0.46	0.46	0.46
v/c Ratio	0.86	0.26	0.08	0.83	0.18	0.14
Control Delay	24.1	3.3	9.3	19.3	8.3	3.7
Queue Delay	8.4	0.0	0.0	0.0	0.0	0.0
Total Delay	32.5	3.3	9.3	19.3	8.3	3.7
LOS	C	A	A	B	A	A
Approach Delay				19.0	7.0	
Approach LOS				B	A	
Intersection Summary						
Cycle Length: 55						
Actuated Cycle Length: 55						
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: 0.86						
Intersection Signal Delay: 21.3				Intersection LOS: C		
Intersection Capacity Utilization 70.3%				ICU Level of Service C		
Analysis Period (min) 15						

Splits and Phases: 120: East River Road & TH 610 South Ramps



110: East River Road & TH 610 North Ramps/Foley Blvd

Direction	All
Future Volume (vph)	2991
Total Delay / Veh (s/v)	24
CO Emissions (kg)	2.89
NOx Emissions (kg)	0.56
VOC Emissions (kg)	0.67

120: East River Road & TH 610 South Ramps

Direction	All
Future Volume (vph)	2837
Total Delay / Veh (s/v)	21
CO Emissions (kg)	2.99
NOx Emissions (kg)	0.58
VOC Emissions (kg)	0.69

East River Road TH 610 Ramp Addition

1

Foley and TH 10 N Ramps		
Existing Volume	3873	vehicles
Existing Delay	64	sec/veh
Existing Total Delay	247872	seconds
Future Volume	3733	vehicles
Future Delay	66	sec/veh
Future Total Delay	246378	seconds
Total Delay Reduction	1494	seconds

2

Foley and TH 10 S Ramps		
Existing Volume	2921	vehicles
Existing Delay	16	sec/veh
Existing Total Delay	46736	seconds
Future Volume	2641	vehicles
Future Delay	15	sec/veh
Future Total Delay	39615	seconds
Total Delay Reduction	7121	seconds

3

Foley and 99th Ave		
Existing Volume	2861	vehicles
Existing Delay	31	sec/veh
Existing Total Delay	88691	seconds
Future Volume	2582	vehicles
Future Delay	18	sec/veh
Future Total Delay	46476	seconds
Total Delay Reduction	42215	seconds

4

East River Rd and South TH 610 Ramps		
Existing Volume	2746	vehicles
Existing Delay	15	sec/veh
Existing Total Delay	41190	seconds
Future Volume	2991	vehicles
Future Delay	24	sec/veh
Future Total Delay	71784	seconds
Total Delay Reduction	-30594	seconds

5

East River Road and North TH 610 Ramps		
Existing Volume	2662	vehicles
Existing Delay	19	sec/veh
Existing Total Delay	50578	seconds
Future Volume	2837	vehicles
Future Delay	21	sec/veh
Future Total Delay	59577	seconds
Total Delay Reduction	-8999	seconds

Total Network Delay Reduction	11237	seconds
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Emissions

























Existing	1	2	3	4	5	Total
CO	7.65	2.92	2.89	2.11	2.78	18.35
NO	1.49	0.57	0.56	0.41	0.54	3.57
VOC	1.77	0.68	0.67	0.49	0.64	4.25
Network Total						26.17

Build	1	2	3	4	5	Total
CO	7.52	2.61	2.1	2.89	2.99	18.11
NO	1.46	0.51	0.41	0.56	0.58	3.52
VOC	1.74	0.6	0.49	0.67	0.69	4.19
Network Total						25.82

Reduction	0.35
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Coon Rapids RS
2018 Existing PM

04/16/2020
110: Foley Blvd & TH 10 N Ramp/101st Ave

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	800	200	257	168	182	122	320	734	323	62	651	55
Future Volume (vph)	800	200	257	168	182	122	320	734	323	62	651	55
Turn Type	Split	NA	pm+ov	Split	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	4	4	5	8	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	4	4	4	8	8	8	5 2	2	2	1 6	6	6
Switch Phase												
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0	7.0	7.0	15.0	15.0	7.0	15.0	15.0
Minimum Split (s)	13.0	13.0	12.0	34.5	34.5	34.5	12.0	39.5	39.5	12.0	20.5	20.5
Total Split (s)	50.0	50.0	32.0	34.5	34.5	34.5	32.0	49.5	49.5	16.0	33.5	33.5
Total Split (%)	33.3%	33.3%	21.3%	23.0%	23.0%	23.0%	21.3%	33.0%	33.0%	10.7%	22.3%	22.3%
Yellow Time (s)	4.0	4.0	3.0	4.0	4.0	4.0	3.0	4.0	4.0	3.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.5	2.5	2.5	2.0	1.5	1.5	2.0	1.5	1.5
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)	6.0	6.0	5.0	6.5	6.5	6.5	5.0	5.5	5.5	5.0	5.5	5.5
Lead/Lag	Lead	Lead	Lag	Lag	Lag	Lag	Lag	Lag	Lag	Lead	Lead	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	C-Max	C-Max	None	C-Max	C-Max
Act Effect Green (s)	44.0	44.0	77.0	20.9	20.9	20.9	27.0	54.4	54.4	10.1	35.1	35.1
Actuated g/C Ratio	0.29	0.29	0.51	0.14	0.14	0.14	0.18	0.36	0.36	0.07	0.23	0.23
v/c Ratio	1.04	1.03	0.17	0.71	0.73	0.37	1.04	0.59	0.42	0.54	0.81	0.12
Control Delay	100.8	99.7	2.2	76.2	77.1	9.5	118.6	43.1	5.5	84.2	63.2	0.6
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	100.8	99.7	2.2	76.2	77.1	9.5	118.6	43.1	5.5	84.2	63.2	0.6
LOS	F	F	A	E	E	A	F	D	A	F	E	A
Approach Delay		80.2			59.3			51.8			60.4	
Approach LOS		F			E			D			E	

Intersection Summary

Cycle Length: 150

Actuated Cycle Length: 150

Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of 1st Green

Natural Cycle: 150

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.04

Intersection Signal Delay: 63.6

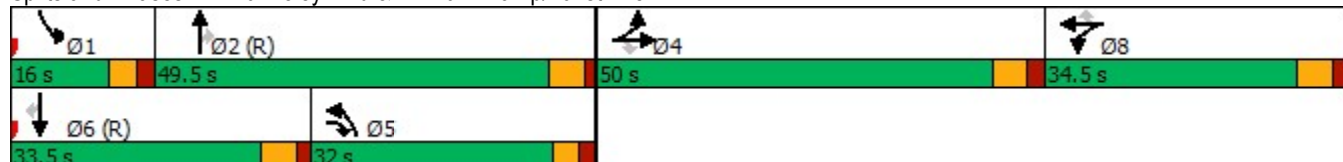
Intersection LOS: E

Intersection Capacity Utilization 91.9%

ICU Level of Service F

Analysis Period (min) 15

Splits and Phases: 110: Foley Blvd & TH 10 N Ramp/101st Ave



	→	↘	↙	↑	↗	↖	↓	↘
Lane Group	EBT	EBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↗	↖↗	↖↗	↑↑	↖↗	↖↗	↑↑	↖↗
Traffic Volume (vph)	1	216	26	1110	225	117	757	202
Future Volume (vph)	1	216	26	1110	225	117	757	202
Turn Type	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	4		5	2		1	6	
Permitted Phases		4			2			6
Detector Phase	4	4	5	2	2	1	6	6
Switch Phase								
Minimum Initial (s)	7.0	7.0	7.0	15.0	15.0	7.0	15.0	15.0
Minimum Split (s)	13.0	13.0	12.0	30.5	30.5	12.0	20.5	20.5
Total Split (s)	17.0	17.0	12.0	31.0	31.0	12.0	31.0	31.0
Total Split (%)	28.3%	28.3%	20.0%	51.7%	51.7%	20.0%	51.7%	51.7%
Yellow Time (s)	4.0	4.0	3.0	4.0	4.0	3.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	1.5	1.5	2.0	1.5	1.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	5.0	5.5	5.5	5.0	5.5	5.5
Lead/Lag			Lag	Lead	Lead	Lag	Lead	Lead
Lead-Lag Optimize?								
Recall Mode	None	None	None	C-Max	C-Max	None	C-Max	C-Max
Act Effect Green (s)	10.8	10.8	7.0	28.1	28.1	7.0	32.9	32.9
Actuated g/C Ratio	0.18	0.18	0.12	0.47	0.47	0.12	0.55	0.55
v/c Ratio	0.85	0.47	0.13	0.68	0.26	0.57	0.39	0.21
Control Delay	50.4	7.5	25.5	16.0	2.8	37.7	9.9	2.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	50.4	7.5	25.5	16.0	2.8	37.7	9.9	2.6
LOS	D	A	C	B	A	D	A	A
Approach Delay	31.3			14.0			11.6	
Approach LOS	C			B			B	

Intersection Summary

Cycle Length: 60

Actuated Cycle Length: 60

Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of 1st Green

Natural Cycle: 60

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.85

Intersection Signal Delay: 16.0

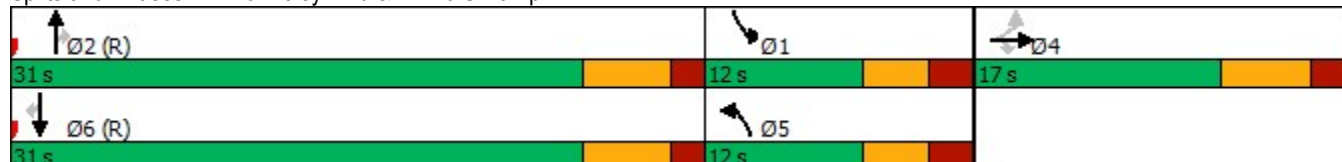
Intersection LOS: B











Intersection Capacity Utilization 65.8%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 120: Foley Blvd & TH 10 S Ramp



					
Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Configurations					
Traffic Volume (vph)	344	184	344	1017	431
Future Volume (vph)	344	184	344	1017	431
Turn Type	Prot	Perm	pm+pt	NA	NA
Protected Phases	4		5	2	6
Permitted Phases		4	2		
Detector Phase	4	4	2 5	2	6
Switch Phase					
Minimum Initial (s)	7.0	7.0	5.0	15.0	15.0
Minimum Split (s)	32.5	32.5	10.0	20.5	34.5
Total Split (s)	33.0	33.0	10.0	97.0	87.0
Total Split (%)	25.4%	25.4%	7.7%	74.6%	66.9%
Yellow Time (s)	3.0	3.0	3.0	4.0	4.0
All-Red Time (s)	2.5	2.5	2.0	1.5	1.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	5.0	5.5	5.5
Lead/Lag			Lead		Lag
Lead-Lag Optimize?			Yes		Yes
Recall Mode	None	None	None	C-Max	C-Max
Act Effect Green (s)	27.5	27.5	92.0	91.5	81.5
Actuated g/C Ratio	0.21	0.21	0.71	0.70	0.63
v/c Ratio	0.99	0.40	1.15	0.44	0.47
Control Delay	94.8	8.2	114.2	8.9	7.2
Queue Delay	0.0	0.0	0.0	0.0	0.5
Total Delay	94.8	8.2	114.2	8.9	7.7
LOS	F	A	F	A	A
Approach Delay	64.6			35.5	7.7
Approach LOS	E			D	A

Intersection Summary

Cycle Length: 130

Actuated Cycle Length: 130

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBT, Start of 1st Green

Natural Cycle: 130

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.15

Intersection Signal Delay: 31.4

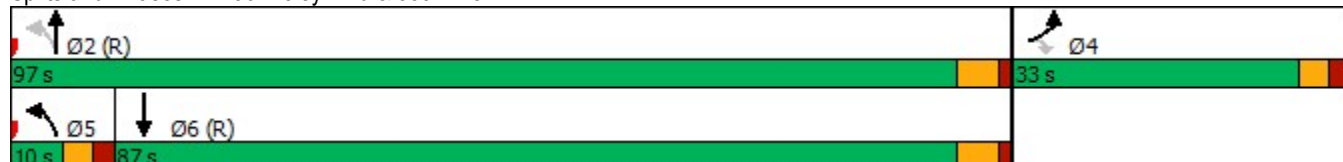
Intersection LOS: C

Intersection Capacity Utilization 80.8%

ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 130: Foley Blvd & 99th Ave



110: Foley Blvd & TH 10 N Ramp/101st Ave


Direction	All
Future Volume (vph)	3873
Total Delay / Veh (s/v)	64
CO Emissions (kg)	7.65
NOx Emissions (kg)	1.49
VOC Emissions (kg)	1.77

120: Foley Blvd & TH 10 S Ramp

Direction	All
Future Volume (vph)	2921
Total Delay / Veh (s/v)	16
CO Emissions (kg)	2.92
NOx Emissions (kg)	0.57
VOC Emissions (kg)	0.68

130: Foley Blvd & 99th Ave

Direction	All
Future Volume (vph)	2861
Total Delay / Veh (s/v)	31
CO Emissions (kg)	2.89
NOx Emissions (kg)	0.56
VOC Emissions (kg)	0.67

									
Lane Group	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations									
Traffic Volume (vph)	97	46	41	457	1493	305	28	142	137
Future Volume (vph)	97	46	41	457	1493	305	28	142	137
Turn Type	Split	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	8	8		5	2		1	6	
Permitted Phases			8			2			6
Detector Phase	8	8	8	5	2	2	1	6	6
Switch Phase									
Minimum Initial (s)	7.0	7.0	7.0	7.0	12.0	12.0	7.0	12.0	12.0
Minimum Split (s)	22.5	22.5	22.5	11.5	22.5	22.5	11.5	22.5	22.5
Total Split (s)	22.5	22.5	22.5	27.0	41.0	41.0	11.5	25.5	25.5
Total Split (%)	30.0%	30.0%	30.0%	36.0%	54.7%	54.7%	15.3%	34.0%	34.0%
Yellow Time (s)	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
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)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag				Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?				Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	C-Max	C-Max	None	C-Max	C-Max
Act Effect Green (s)	10.0	10.0	10.0	26.2	54.2	54.2	7.4	27.6	27.6
Actuated g/C Ratio	0.13	0.13	0.13	0.35	0.72	0.72	0.10	0.37	0.37
v/c Ratio	0.45	0.20	0.13	0.80	0.63	0.27	0.17	0.12	0.22
Control Delay	35.5	29.8	0.8	33.5	10.7	1.8	33.1	18.9	4.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	35.5	29.8	0.8	33.5	10.7	1.8	33.1	18.9	4.7
LOS	D	C	A	C	B	A	C	B	A
Approach Delay		26.2			14.1			13.8	
Approach LOS		C			B			B	

Intersection Summary

Cycle Length: 75

Actuated Cycle Length: 75

Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green

Natural Cycle: 75

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.80

Intersection Signal Delay: 14.9

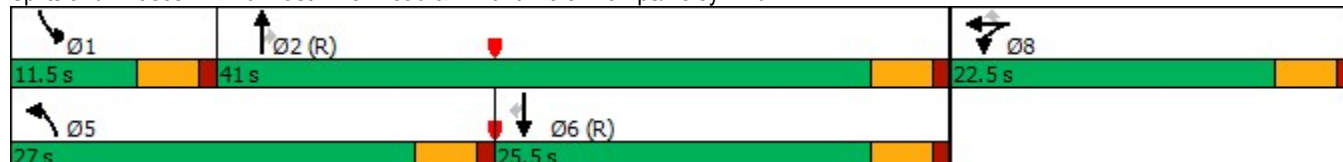
Intersection LOS: B









Intersection Capacity Utilization 64.2%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 110: East River Road & TH 610 North Ramps/Foley Blvd



				
Lane Group	EBL	EBR	NBT	SBT
Lane Configurations				
Traffic Volume (vph)	1018	168	1237	239
Future Volume (vph)	1018	168	1237	239
Turn Type	Prot	Perm	NA	NA
Protected Phases	4		2	6
Permitted Phases		4		
Detector Phase	4	4	2	6
Switch Phase				
Minimum Initial (s)	7.0	7.0	12.0	12.0
Minimum Split (s)	22.5	22.5	22.5	22.5
Total Split (s)	25.8	25.8	29.2	29.2
Total Split (%)	46.9%	46.9%	53.1%	53.1%
Yellow Time (s)	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5
Lead/Lag				
Lead-Lag Optimize?				
Recall Mode	None	None	C-Max	C-Max
Act Effect Green (s)	20.7	20.7	25.3	25.3
Actuated g/C Ratio	0.38	0.38	0.46	0.46
v/c Ratio	0.86	0.26	0.83	0.16
Control Delay	24.1	3.3	19.3	9.2
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	24.1	3.3	19.3	9.2
LOS	C	A	B	A
Approach Delay			19.3	9.2
Approach LOS			B	A

Intersection Summary

Cycle Length: 55

Actuated Cycle Length: 55

Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBTL, Start of Green

Natural Cycle: 55

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.86

Intersection Signal Delay: 19.2

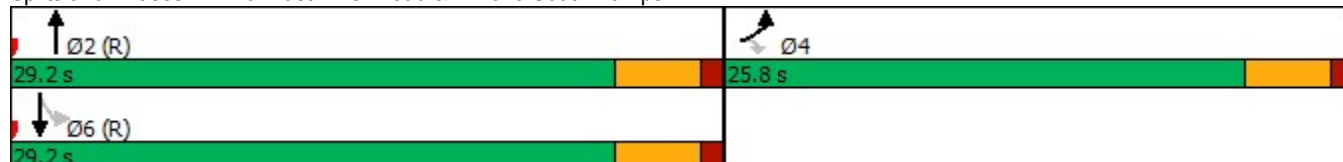
Intersection LOS: B

Intersection Capacity Utilization 70.3%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 120: East River Road & TH 610 South Ramps



























110: East River Road & TH 610 North Ramps/Foley Blvd

Direction	All
Future Volume (vph)	2746
Total Delay / Veh (s/v)	15
CO Emissions (kg)	2.11
NOx Emissions (kg)	0.41
VOC Emissions (kg)	0.49

120: East River Road & TH 610 South Ramps

Direction	All
Future Volume (vph)	2662
Total Delay / Veh (s/v)	19
CO Emissions (kg)	2.78
NOx Emissions (kg)	0.54
VOC Emissions (kg)	0.64

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	800	200	117	168	182	122	320	734	323	62	651	55
Future Volume (vph)	800	200	117	168	182	122	320	734	323	62	651	55
Turn Type	Split	NA	pm+ov	Split	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	4	4	5	8	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	4	4	4	8	8	8	5 2	2	2	1 6	6	6
Switch Phase												
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0	7.0	7.0	15.0	15.0	7.0	15.0	15.0
Minimum Split (s)	13.0	13.0	12.0	34.5	34.5	34.5	12.0	39.5	39.5	12.0	20.5	20.5
Total Split (s)	50.0	50.0	32.0	34.5	34.5	34.5	32.0	49.5	49.5	16.0	33.5	33.5
Total Split (%)	33.3%	33.3%	21.3%	23.0%	23.0%	23.0%	21.3%	33.0%	33.0%	10.7%	22.3%	22.3%
Yellow Time (s)	4.0	4.0	3.0	4.0	4.0	4.0	3.0	4.0	4.0	3.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.5	2.5	2.5	2.0	1.5	1.5	2.0	1.5	1.5
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)	6.0	6.0	5.0	6.5	6.5	6.5	5.0	5.5	5.5	5.0	5.5	5.5
Lead/Lag	Lead	Lead	Lag	Lag	Lag	Lag	Lag	Lag	Lag	Lead	Lead	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	C-Max	C-Max	None	C-Max	C-Max
Act Effect Green (s)	44.0	44.0	77.0	20.9	20.9	20.9	27.0	54.4	54.4	10.1	35.1	35.1
Actuated g/C Ratio	0.29	0.29	0.51	0.14	0.14	0.14	0.18	0.36	0.36	0.07	0.23	0.23
v/c Ratio	1.04	1.03	0.08	0.71	0.73	0.37	1.04	0.59	0.42	0.54	0.81	0.12
Control Delay	100.8	99.7	3.0	76.2	77.1	9.5	118.6	43.1	5.5	84.2	63.2	0.6
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	100.8	99.7	3.0	76.2	77.1	9.5	118.6	43.1	5.5	84.2	63.2	0.6
LOS	F	F	A	E	E	A	F	D	A	F	E	A
Approach Delay		90.0			59.3			51.8			60.4	
Approach LOS		F			E			D			E	

Intersection Summary

Cycle Length: 150

Actuated Cycle Length: 150

Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of 1st Green

Natural Cycle: 150

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.04

Intersection Signal Delay: 66.0

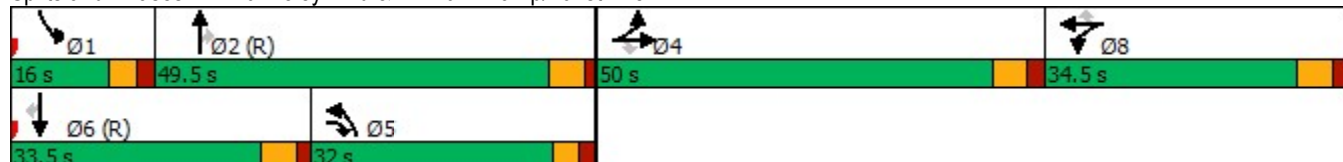
Intersection LOS: E

Intersection Capacity Utilization 91.9%

ICU Level of Service F

Analysis Period (min) 15

Splits and Phases: 110: Foley Blvd & TH 10 N Ramp/101st Ave



	→	↘	↙	↑	↗	↖	↓	↘
Lane Group	EBT	EBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↖	↖	↑↑	↖	↖	↑↑	↖
Traffic Volume (vph)	1	216	26	1110	85	117	617	202
Future Volume (vph)	1	216	26	1110	85	117	617	202
Turn Type	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	4		5	2		1	6	
Permitted Phases		4			2			6
Detector Phase	4	4	5	2	2	1	6	6
Switch Phase								
Minimum Initial (s)	7.0	7.0	7.0	15.0	15.0	7.0	15.0	15.0
Minimum Split (s)	13.0	13.0	12.0	30.5	30.5	12.0	20.5	20.5
Total Split (s)	17.0	17.0	12.0	31.0	31.0	12.0	31.0	31.0
Total Split (%)	28.3%	28.3%	20.0%	51.7%	51.7%	20.0%	51.7%	51.7%
Yellow Time (s)	4.0	4.0	3.0	4.0	4.0	3.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	1.5	1.5	2.0	1.5	1.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	5.0	5.5	5.5	5.0	5.5	5.5
Lead/Lag			Lag	Lead	Lead	Lag	Lead	Lead
Lead-Lag Optimize?								
Recall Mode	None	None	None	C-Max	C-Max	None	C-Max	C-Max
Act Effect Green (s)	10.8	10.8	7.0	28.1	28.1	7.0	32.9	32.9
Actuated g/C Ratio	0.18	0.18	0.12	0.47	0.47	0.12	0.55	0.55
v/c Ratio	0.85	0.47	0.13	0.68	0.11	0.57	0.32	0.21
Control Delay	50.4	7.5	24.8	12.9	0.6	37.7	9.4	2.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	50.4	7.5	24.8	12.9	0.6	37.7	9.4	2.6
LOS	D	A	C	B	A	D	A	A
Approach Delay	31.3			12.3			11.4	
Approach LOS	C			B			B	

Intersection Summary

Cycle Length: 60

Actuated Cycle Length: 60

Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of 1st Green

Natural Cycle: 60

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.85

Intersection Signal Delay: 15.5

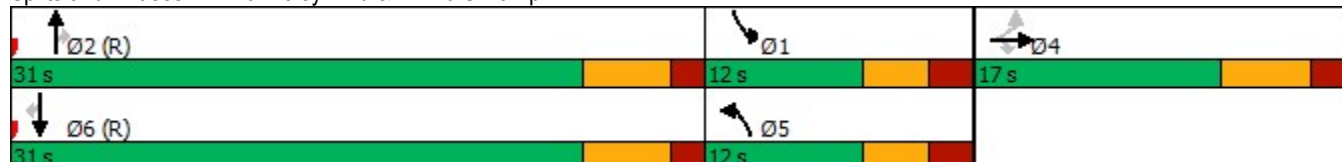
Intersection LOS: B











Intersection Capacity Utilization 65.8%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 120: Foley Blvd & TH 10 S Ramp



					
Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Configurations					
Traffic Volume (vph)	294	184	344	927	371
Future Volume (vph)	294	184	344	927	371
Turn Type	Prot	Perm	pm+pt	NA	NA
Protected Phases	4		5	2	6
Permitted Phases		4	2		
Detector Phase	4	4	2 5	2	6
Switch Phase					
Minimum Initial (s)	7.0	7.0	5.0	15.0	15.0
Minimum Split (s)	32.5	32.5	10.0	20.5	34.5
Total Split (s)	33.6	33.6	10.0	86.4	76.4
Total Split (%)	28.0%	28.0%	8.3%	72.0%	63.7%
Yellow Time (s)	3.0	3.0	3.0	4.0	4.0
All-Red Time (s)	2.5	2.5	2.0	1.5	1.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	5.0	5.5	5.5
Lead/Lag			Lead		Lag
Lead-Lag Optimize?			Yes		Yes
Recall Mode	None	None	None	C-Max	C-Max
Act Effect Green (s)	25.0	25.0	84.5	84.0	70.9
Actuated g/C Ratio	0.21	0.21	0.70	0.70	0.59
v/c Ratio	0.86	0.41	0.91	0.40	0.43
Control Delay	67.8	7.7	41.9	8.5	3.9
Queue Delay	0.0	0.0	0.0	0.0	0.2
Total Delay	67.8	7.7	41.9	8.5	4.1
LOS	E	A	D	A	A
Approach Delay	44.7			17.5	4.1
Approach LOS	D			B	A

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBT, Start of 1st Green

Natural Cycle: 120

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.91

Intersection Signal Delay: 18.2

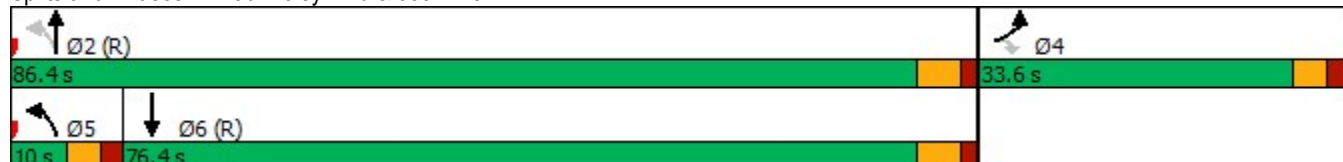
Intersection LOS: B

Intersection Capacity Utilization 73.8%

ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 130: Foley Blvd & 99th Ave



110: Foley Blvd & TH 10 N Ramp/101st Ave

























Direction	All
Future Volume (vph)	3733
Total Delay / Veh (s/v)	66
CO Emissions (kg)	7.52
NOx Emissions (kg)	1.46
VOC Emissions (kg)	1.74

120: Foley Blvd & TH 10 S Ramp

Direction	All
Future Volume (vph)	2641
Total Delay / Veh (s/v)	15
CO Emissions (kg)	2.61
NOx Emissions (kg)	0.51
VOC Emissions (kg)	0.60

130: Foley Blvd & 99th Ave

Direction	All
Future Volume (vph)	2582
Total Delay / Veh (s/v)	18
CO Emissions (kg)	2.10
NOx Emissions (kg)	0.41
VOC Emissions (kg)	0.49

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	70	35	35	132	46	41	457	1493	305	28	212	137
Future Volume (vph)	70	35	35	132	46	41	457	1493	305	28	212	137
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8		8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	7.0	7.0	7.0	7.0	12.0	12.0	7.0	12.0	12.0
Minimum Split (s)	9.5	22.5	22.5	22.5	22.5	22.5	11.5	22.5	22.5	11.5	22.5	22.5
Total Split (s)	10.2	22.5	22.5	22.5	34.8	34.8	41.2	53.5	53.5	11.5	23.8	23.8
Total Split (%)	9.3%	20.5%	20.5%	20.5%	31.6%	31.6%	37.5%	48.6%	48.6%	10.5%	21.6%	21.6%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	C-Max	C-Max	None	C-Max	C-Max
Act Effct Green (s)	12.3	7.7	7.7	23.3	15.1	15.1	36.2	70.0	70.0	7.8	37.0	37.0
Actuated g/C Ratio	0.11	0.07	0.07	0.21	0.14	0.14	0.33	0.64	0.64	0.07	0.34	0.34
v/c Ratio	0.44	0.29	0.13	0.50	0.20	0.13	0.85	0.72	0.30	0.24	0.19	0.23
Control Delay	42.5	53.6	0.9	41.3	41.6	0.8	41.8	19.5	4.9	52.5	30.6	3.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7	0.0	0.0	0.0	0.0
Total Delay	42.5	53.6	0.9	41.3	41.6	0.8	41.8	20.2	4.9	52.5	30.6	3.1
LOS	D	D	A	D	D	A	D	C	A	D	C	A
Approach Delay		34.9			33.7			22.5			22.2	
Approach LOS		C			C			C			C	

Intersection Summary

Cycle Length: 110

Actuated Cycle Length: 110

Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green

Natural Cycle: 110

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.85

Intersection Signal Delay: 23.9

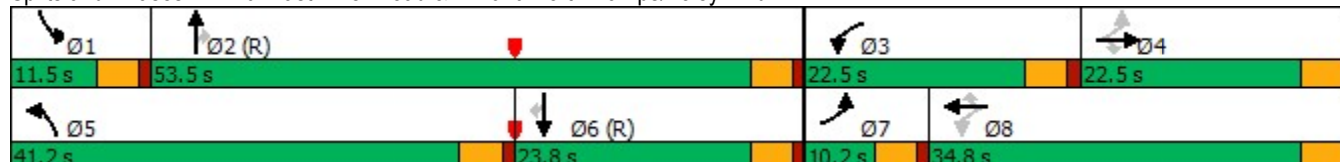
Intersection LOS: C













Intersection Capacity Utilization 72.3%

ICU Level of Service C

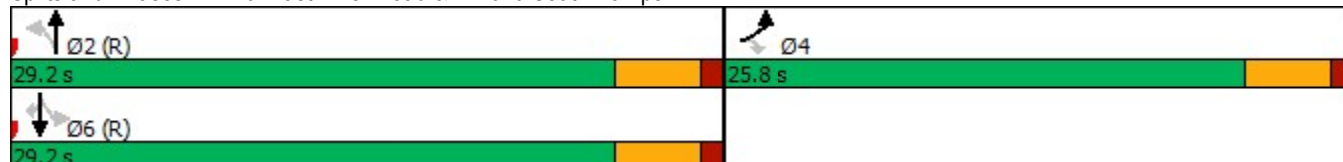
Analysis Period (min) 15

Splits and Phases: 110: East River Road & TH 610 North Ramps/Foley Blvd



						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	1018	168	35	1237	274	105
Future Volume (vph)	1018	168	35	1237	274	105
Turn Type	Prot	Perm	Perm	NA	NA	Perm
Protected Phases	4			2	6	
Permitted Phases		4	2			6
Detector Phase	4	4	2	2	6	6
Switch Phase						
Minimum Initial (s)	7.0	7.0	12.0	12.0	12.0	12.0
Minimum Split (s)	22.5	22.5	22.5	22.5	22.5	22.5
Total Split (s)	25.8	25.8	29.2	29.2	29.2	29.2
Total Split (%)	46.9%	46.9%	53.1%	53.1%	53.1%	53.1%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	None	None	C-Max	C-Max	C-Max	C-Max
Act Effct Green (s)	20.7	20.7	25.3	25.3	25.3	25.3
Actuated g/C Ratio	0.38	0.38	0.46	0.46	0.46	0.46
v/c Ratio	0.86	0.26	0.08	0.83	0.18	0.14
Control Delay	24.1	3.3	9.3	19.3	8.3	3.7
Queue Delay	8.4	0.0	0.0	0.0	0.0	0.0
Total Delay	32.5	3.3	9.3	19.3	8.3	3.7
LOS	C	A	A	B	A	A
Approach Delay				19.0	7.0	
Approach LOS				B	A	
Intersection Summary						
Cycle Length: 55						
Actuated Cycle Length: 55						
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: 0.86						
Intersection Signal Delay: 21.3				Intersection LOS: C		
Intersection Capacity Utilization 70.3%				ICU Level of Service C		
Analysis Period (min) 15						

Splits and Phases: 120: East River Road & TH 610 South Ramps



110: East River Road & TH 610 North Ramps/Foley Blvd

Direction	All
Future Volume (vph)	2991
Total Delay / Veh (s/v)	24
CO Emissions (kg)	2.89
NOx Emissions (kg)	0.56
VOC Emissions (kg)	0.67

120: East River Road & TH 610 South Ramps

Direction	All
Future Volume (vph)	2837
Total Delay / Veh (s/v)	21
CO Emissions (kg)	2.99
NOx Emissions (kg)	0.58
VOC Emissions (kg)	0.69

East River Road TH 610 Ramp Addition

1

Foley and TH 10 N Ramps		
Existing Volume	3873	vehicles
Existing Delay	64	sec/veh
Existing Total Delay	247872	seconds
Future Volume	3733	vehicles
Future Delay	66	sec/veh
Future Total Delay	246378	seconds
Total Delay Reduction	1494	seconds

2

Foley and TH 10 S Ramps		
Existing Volume	2921	vehicles
Existing Delay	16	sec/veh
Existing Total Delay	46736	seconds
Future Volume	2641	vehicles
Future Delay	15	sec/veh
Future Total Delay	39615	seconds
Total Delay Reduction	7121	seconds

3

Foley and 99th Ave		
Existing Volume	2861	vehicles
Existing Delay	31	sec/veh
Existing Total Delay	88691	seconds
Future Volume	2582	vehicles
Future Delay	18	sec/veh
Future Total Delay	46476	seconds
Total Delay Reduction	42215	seconds

4

East River Rd and South TH 610 Ramps		
Existing Volume	2746	vehicles
Existing Delay	15	sec/veh
Existing Total Delay	41190	seconds
Future Volume	2991	vehicles
Future Delay	24	sec/veh
Future Total Delay	71784	seconds
Total Delay Reduction	-30594	seconds

5

East River Road and North TH 610 Ramps		
Existing Volume	2662	vehicles
Existing Delay	19	sec/veh
Existing Total Delay	50578	seconds
Future Volume	2837	vehicles
Future Delay	21	sec/veh
Future Total Delay	59577	seconds
Total Delay Reduction	-8999	seconds

Total Network Delay Reduction	11237	seconds
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Emissions

























Existing	1	2	3	4	5	Total
CO	7.65	2.92	2.89	2.11	2.78	18.35
NO	1.49	0.57	0.56	0.41	0.54	3.57
VOC	1.77	0.68	0.67	0.49	0.64	4.25
Network Total						26.17

Build	1	2	3	4	5	Total
CO	7.52	2.61	2.1	2.89	2.99	18.11
NO	1.46	0.51	0.41	0.56	0.58	3.52
VOC	1.74	0.6	0.49	0.67	0.69	4.19
Network Total						25.82

Reduction	0.35
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Coon Rapids RS
2018 Existing PM

04/16/2020
110: Foley Blvd & TH 10 N Ramp/101st Ave

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	800	200	257	168	182	122	320	734	323	62	651	55
Future Volume (vph)	800	200	257	168	182	122	320	734	323	62	651	55
Turn Type	Split	NA	pm+ov	Split	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	4	4	5	8	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	4	4	4	8	8	8	5 2	2	2	1 6	6	6
Switch Phase												
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0	7.0	7.0	15.0	15.0	7.0	15.0	15.0
Minimum Split (s)	13.0	13.0	12.0	34.5	34.5	34.5	12.0	39.5	39.5	12.0	20.5	20.5
Total Split (s)	50.0	50.0	32.0	34.5	34.5	34.5	32.0	49.5	49.5	16.0	33.5	33.5
Total Split (%)	33.3%	33.3%	21.3%	23.0%	23.0%	23.0%	21.3%	33.0%	33.0%	10.7%	22.3%	22.3%
Yellow Time (s)	4.0	4.0	3.0	4.0	4.0	4.0	3.0	4.0	4.0	3.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.5	2.5	2.5	2.0	1.5	1.5	2.0	1.5	1.5
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)	6.0	6.0	5.0	6.5	6.5	6.5	5.0	5.5	5.5	5.0	5.5	5.5
Lead/Lag	Lead	Lead	Lag	Lag	Lag	Lag	Lag	Lag	Lag	Lead	Lead	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	C-Max	C-Max	None	C-Max	C-Max
Act Effect Green (s)	44.0	44.0	77.0	20.9	20.9	20.9	27.0	54.4	54.4	10.1	35.1	35.1
Actuated g/C Ratio	0.29	0.29	0.51	0.14	0.14	0.14	0.18	0.36	0.36	0.07	0.23	0.23
v/c Ratio	1.04	1.03	0.17	0.71	0.73	0.37	1.04	0.59	0.42	0.54	0.81	0.12
Control Delay	100.8	99.7	2.2	76.2	77.1	9.5	118.6	43.1	5.5	84.2	63.2	0.6
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	100.8	99.7	2.2	76.2	77.1	9.5	118.6	43.1	5.5	84.2	63.2	0.6
LOS	F	F	A	E	E	A	F	D	A	F	E	A
Approach Delay		80.2			59.3			51.8			60.4	
Approach LOS		F			E			D			E	

Intersection Summary

Cycle Length: 150

Actuated Cycle Length: 150

Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of 1st Green

Natural Cycle: 150

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.04

Intersection Signal Delay: 63.6

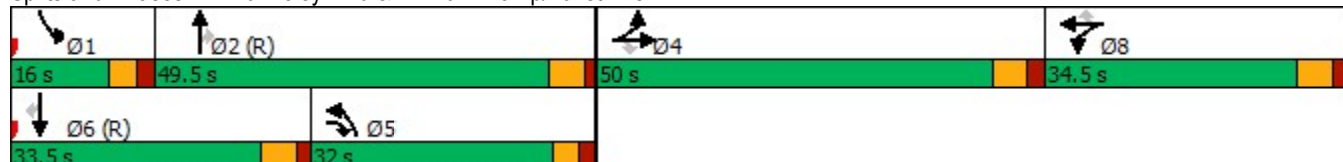
Intersection LOS: E

Intersection Capacity Utilization 91.9%

ICU Level of Service F

Analysis Period (min) 15

Splits and Phases: 110: Foley Blvd & TH 10 N Ramp/101st Ave



	→	↘	↙	↑	↗	↖	↓	↘
Lane Group	EBT	EBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↗	↖↗	↖↗	↑↑	↖↗	↖↗	↑↑	↖↗
Traffic Volume (vph)	1	216	26	1110	225	117	757	202
Future Volume (vph)	1	216	26	1110	225	117	757	202
Turn Type	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	4		5	2		1	6	
Permitted Phases		4			2			6
Detector Phase	4	4	5	2	2	1	6	6
Switch Phase								
Minimum Initial (s)	7.0	7.0	7.0	15.0	15.0	7.0	15.0	15.0
Minimum Split (s)	13.0	13.0	12.0	30.5	30.5	12.0	20.5	20.5
Total Split (s)	17.0	17.0	12.0	31.0	31.0	12.0	31.0	31.0
Total Split (%)	28.3%	28.3%	20.0%	51.7%	51.7%	20.0%	51.7%	51.7%
Yellow Time (s)	4.0	4.0	3.0	4.0	4.0	3.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	1.5	1.5	2.0	1.5	1.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	5.0	5.5	5.5	5.0	5.5	5.5
Lead/Lag			Lag	Lead	Lead	Lag	Lead	Lead
Lead-Lag Optimize?								
Recall Mode	None	None	None	C-Max	C-Max	None	C-Max	C-Max
Act Effect Green (s)	10.8	10.8	7.0	28.1	28.1	7.0	32.9	32.9
Actuated g/C Ratio	0.18	0.18	0.12	0.47	0.47	0.12	0.55	0.55
v/c Ratio	0.85	0.47	0.13	0.68	0.26	0.57	0.39	0.21
Control Delay	50.4	7.5	25.5	16.0	2.8	37.7	9.9	2.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	50.4	7.5	25.5	16.0	2.8	37.7	9.9	2.6
LOS	D	A	C	B	A	D	A	A
Approach Delay	31.3			14.0			11.6	
Approach LOS	C			B			B	

Intersection Summary

Cycle Length: 60

Actuated Cycle Length: 60

Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of 1st Green

Natural Cycle: 60

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.85

Intersection Signal Delay: 16.0

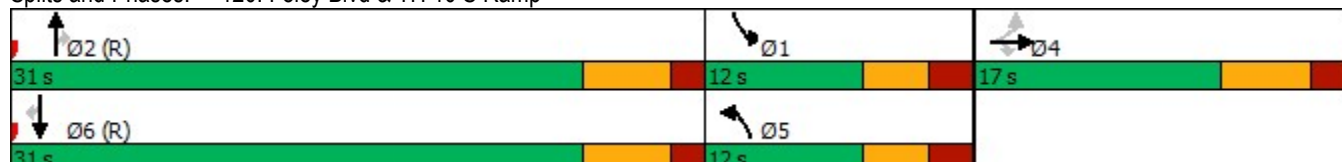
Intersection LOS: B











Intersection Capacity Utilization 65.8%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 120: Foley Blvd & TH 10 S Ramp



					
Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Configurations					
Traffic Volume (vph)	344	184	344	1017	431
Future Volume (vph)	344	184	344	1017	431
Turn Type	Prot	Perm	pm+pt	NA	NA
Protected Phases	4		5	2	6
Permitted Phases		4	2		
Detector Phase	4	4	2 5	2	6
Switch Phase					
Minimum Initial (s)	7.0	7.0	5.0	15.0	15.0
Minimum Split (s)	32.5	32.5	10.0	20.5	34.5
Total Split (s)	33.0	33.0	10.0	97.0	87.0
Total Split (%)	25.4%	25.4%	7.7%	74.6%	66.9%
Yellow Time (s)	3.0	3.0	3.0	4.0	4.0
All-Red Time (s)	2.5	2.5	2.0	1.5	1.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	5.0	5.5	5.5
Lead/Lag			Lead		Lag
Lead-Lag Optimize?			Yes		Yes
Recall Mode	None	None	None	C-Max	C-Max
Act Effect Green (s)	27.5	27.5	92.0	91.5	81.5
Actuated g/C Ratio	0.21	0.21	0.71	0.70	0.63
v/c Ratio	0.99	0.40	1.15	0.44	0.47
Control Delay	94.8	8.2	114.2	8.9	7.2
Queue Delay	0.0	0.0	0.0	0.0	0.5
Total Delay	94.8	8.2	114.2	8.9	7.7
LOS	F	A	F	A	A
Approach Delay	64.6			35.5	7.7
Approach LOS	E			D	A

Intersection Summary

Cycle Length: 130

Actuated Cycle Length: 130

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBT, Start of 1st Green

Natural Cycle: 130

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.15

Intersection Signal Delay: 31.4

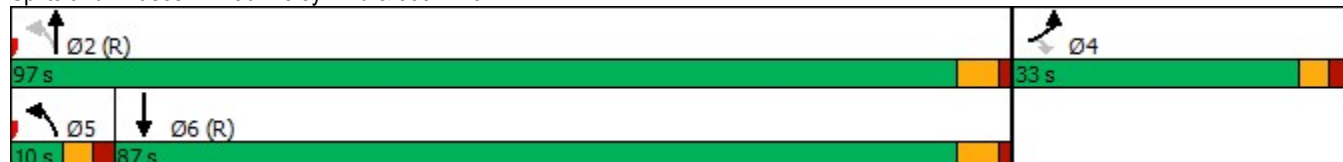
Intersection LOS: C

Intersection Capacity Utilization 80.8%

ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 130: Foley Blvd & 99th Ave



110: Foley Blvd & TH 10 N Ramp/101st Ave


Direction	All
Future Volume (vph)	3873
Total Delay / Veh (s/v)	64
CO Emissions (kg)	7.65
NOx Emissions (kg)	1.49
VOC Emissions (kg)	1.77

120: Foley Blvd & TH 10 S Ramp

Direction	All
Future Volume (vph)	2921
Total Delay / Veh (s/v)	16
CO Emissions (kg)	2.92
NOx Emissions (kg)	0.57
VOC Emissions (kg)	0.68

130: Foley Blvd & 99th Ave

Direction	All
Future Volume (vph)	2861
Total Delay / Veh (s/v)	31
CO Emissions (kg)	2.89
NOx Emissions (kg)	0.56
VOC Emissions (kg)	0.67

									
Lane Group	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations									
Traffic Volume (vph)	97	46	41	457	1493	305	28	142	137
Future Volume (vph)	97	46	41	457	1493	305	28	142	137
Turn Type	Split	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	8	8		5	2		1	6	
Permitted Phases			8			2			6
Detector Phase	8	8	8	5	2	2	1	6	6
Switch Phase									
Minimum Initial (s)	7.0	7.0	7.0	7.0	12.0	12.0	7.0	12.0	12.0
Minimum Split (s)	22.5	22.5	22.5	11.5	22.5	22.5	11.5	22.5	22.5
Total Split (s)	22.5	22.5	22.5	27.0	41.0	41.0	11.5	25.5	25.5
Total Split (%)	30.0%	30.0%	30.0%	36.0%	54.7%	54.7%	15.3%	34.0%	34.0%
Yellow Time (s)	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
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)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag				Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?				Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	C-Max	C-Max	None	C-Max	C-Max
Act Effect Green (s)	10.0	10.0	10.0	26.2	54.2	54.2	7.4	27.6	27.6
Actuated g/C Ratio	0.13	0.13	0.13	0.35	0.72	0.72	0.10	0.37	0.37
v/c Ratio	0.45	0.20	0.13	0.80	0.63	0.27	0.17	0.12	0.22
Control Delay	35.5	29.8	0.8	33.5	10.7	1.8	33.1	18.9	4.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	35.5	29.8	0.8	33.5	10.7	1.8	33.1	18.9	4.7
LOS	D	C	A	C	B	A	C	B	A
Approach Delay		26.2			14.1			13.8	
Approach LOS		C			B			B	

Intersection Summary

Cycle Length: 75

Actuated Cycle Length: 75

Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green

Natural Cycle: 75

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.80

Intersection Signal Delay: 14.9

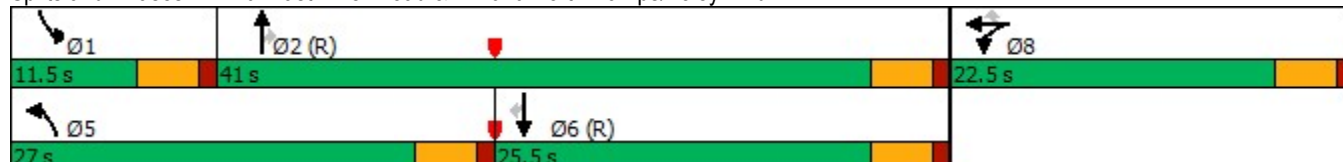
Intersection LOS: B












Intersection Capacity Utilization 64.2%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 110: East River Road & TH 610 North Ramps/Foley Blvd



				
Lane Group	EBL	EBR	NBT	SBT
Lane Configurations	 		 	 
Traffic Volume (vph)	1018	168	1237	239
Future Volume (vph)	1018	168	1237	239
Turn Type	Prot	Perm	NA	NA
Protected Phases	4		2	6
Permitted Phases		4		
Detector Phase	4	4	2	6
Switch Phase				
Minimum Initial (s)	7.0	7.0	12.0	12.0
Minimum Split (s)	22.5	22.5	22.5	22.5
Total Split (s)	25.8	25.8	29.2	29.2
Total Split (%)	46.9%	46.9%	53.1%	53.1%
Yellow Time (s)	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5
Lead/Lag				
Lead-Lag Optimize?				
Recall Mode	None	None	C-Max	C-Max
Act Effect Green (s)	20.7	20.7	25.3	25.3
Actuated g/C Ratio	0.38	0.38	0.46	0.46
v/c Ratio	0.86	0.26	0.83	0.16
Control Delay	24.1	3.3	19.3	9.2
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	24.1	3.3	19.3	9.2
LOS	C	A	B	A
Approach Delay			19.3	9.2
Approach LOS			B	A

Intersection Summary

Cycle Length: 55

Actuated Cycle Length: 55

Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBTL, Start of Green

Natural Cycle: 55

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.86

Intersection Signal Delay: 19.2

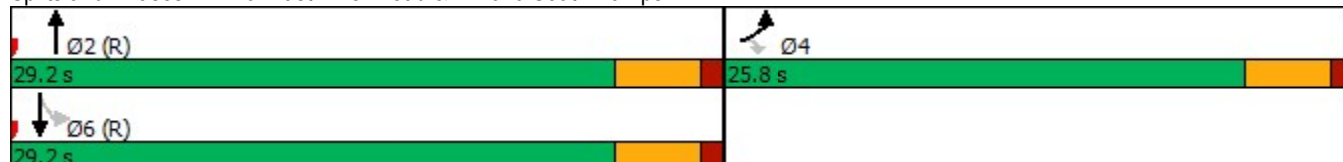
Intersection LOS: B

Intersection Capacity Utilization 70.3%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 120: East River Road & TH 610 South Ramps



























110: East River Road & TH 610 North Ramps/Foley Blvd

Direction	All
Future Volume (vph)	2746
Total Delay / Veh (s/v)	15
CO Emissions (kg)	2.11
NOx Emissions (kg)	0.41
VOC Emissions (kg)	0.49

120: East River Road & TH 610 South Ramps

Direction	All
Future Volume (vph)	2662
Total Delay / Veh (s/v)	19
CO Emissions (kg)	2.78
NOx Emissions (kg)	0.54
VOC Emissions (kg)	0.64

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	800	200	117	168	182	122	320	734	323	62	651	55
Future Volume (vph)	800	200	117	168	182	122	320	734	323	62	651	55
Turn Type	Split	NA	pm+ov	Split	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	4	4	5	8	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	4	4	4	8	8	8	5 2	2	2	1 6	6	6
Switch Phase												
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0	7.0	7.0	15.0	15.0	7.0	15.0	15.0
Minimum Split (s)	13.0	13.0	12.0	34.5	34.5	34.5	12.0	39.5	39.5	12.0	20.5	20.5
Total Split (s)	50.0	50.0	32.0	34.5	34.5	34.5	32.0	49.5	49.5	16.0	33.5	33.5
Total Split (%)	33.3%	33.3%	21.3%	23.0%	23.0%	23.0%	21.3%	33.0%	33.0%	10.7%	22.3%	22.3%
Yellow Time (s)	4.0	4.0	3.0	4.0	4.0	4.0	3.0	4.0	4.0	3.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.5	2.5	2.5	2.0	1.5	1.5	2.0	1.5	1.5
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)	6.0	6.0	5.0	6.5	6.5	6.5	5.0	5.5	5.5	5.0	5.5	5.5
Lead/Lag	Lead	Lead	Lag	Lag	Lag	Lag	Lag	Lag	Lag	Lead	Lead	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	C-Max	C-Max	None	C-Max	C-Max
Act Effect Green (s)	44.0	44.0	77.0	20.9	20.9	20.9	27.0	54.4	54.4	10.1	35.1	35.1
Actuated g/C Ratio	0.29	0.29	0.51	0.14	0.14	0.14	0.18	0.36	0.36	0.07	0.23	0.23
v/c Ratio	1.04	1.03	0.08	0.71	0.73	0.37	1.04	0.59	0.42	0.54	0.81	0.12
Control Delay	100.8	99.7	3.0	76.2	77.1	9.5	118.6	43.1	5.5	84.2	63.2	0.6
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	100.8	99.7	3.0	76.2	77.1	9.5	118.6	43.1	5.5	84.2	63.2	0.6
LOS	F	F	A	E	E	A	F	D	A	F	E	A
Approach Delay		90.0			59.3			51.8			60.4	
Approach LOS		F			E			D			E	

Intersection Summary

Cycle Length: 150

Actuated Cycle Length: 150

Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of 1st Green

Natural Cycle: 150

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.04

Intersection Signal Delay: 66.0

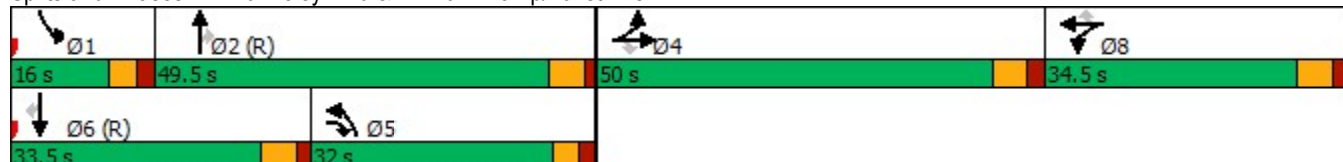
Intersection LOS: E

Intersection Capacity Utilization 91.9%

ICU Level of Service F

Analysis Period (min) 15

Splits and Phases: 110: Foley Blvd & TH 10 N Ramp/101st Ave



	→	↘	↙	↑	↗	↖	↓	↘
Lane Group	EBT	EBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↗	↖↗	↖↗	↑↑	↖↗	↖↗	↑↑	↖↗
Traffic Volume (vph)	1	216	26	1110	85	117	617	202
Future Volume (vph)	1	216	26	1110	85	117	617	202
Turn Type	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	4		5	2		1	6	
Permitted Phases		4			2			6
Detector Phase	4	4	5	2	2	1	6	6
Switch Phase								
Minimum Initial (s)	7.0	7.0	7.0	15.0	15.0	7.0	15.0	15.0
Minimum Split (s)	13.0	13.0	12.0	30.5	30.5	12.0	20.5	20.5
Total Split (s)	17.0	17.0	12.0	31.0	31.0	12.0	31.0	31.0
Total Split (%)	28.3%	28.3%	20.0%	51.7%	51.7%	20.0%	51.7%	51.7%
Yellow Time (s)	4.0	4.0	3.0	4.0	4.0	3.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	1.5	1.5	2.0	1.5	1.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	5.0	5.5	5.5	5.0	5.5	5.5
Lead/Lag			Lag	Lead	Lead	Lag	Lead	Lead
Lead-Lag Optimize?								
Recall Mode	None	None	None	C-Max	C-Max	None	C-Max	C-Max
Act Effect Green (s)	10.8	10.8	7.0	28.1	28.1	7.0	32.9	32.9
Actuated g/C Ratio	0.18	0.18	0.12	0.47	0.47	0.12	0.55	0.55
v/c Ratio	0.85	0.47	0.13	0.68	0.11	0.57	0.32	0.21
Control Delay	50.4	7.5	24.8	12.9	0.6	37.7	9.4	2.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	50.4	7.5	24.8	12.9	0.6	37.7	9.4	2.6
LOS	D	A	C	B	A	D	A	A
Approach Delay	31.3			12.3			11.4	
Approach LOS	C			B			B	

Intersection Summary

Cycle Length: 60

Actuated Cycle Length: 60

Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of 1st Green

Natural Cycle: 60

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.85

Intersection Signal Delay: 15.5

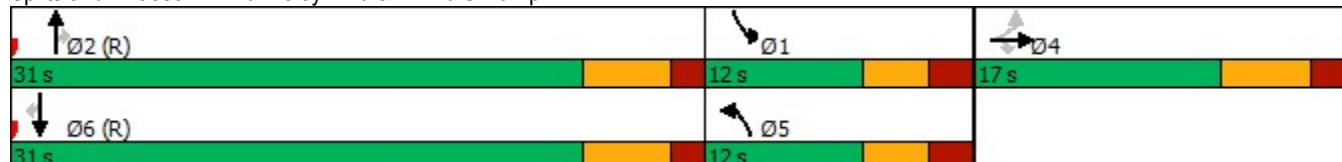
Intersection LOS: B











Intersection Capacity Utilization 65.8%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 120: Foley Blvd & TH 10 S Ramp



					
Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Configurations					
Traffic Volume (vph)	294	184	344	927	371
Future Volume (vph)	294	184	344	927	371
Turn Type	Prot	Perm	pm+pt	NA	NA
Protected Phases	4		5	2	6
Permitted Phases		4	2		
Detector Phase	4	4	2 5	2	6
Switch Phase					
Minimum Initial (s)	7.0	7.0	5.0	15.0	15.0
Minimum Split (s)	32.5	32.5	10.0	20.5	34.5
Total Split (s)	33.6	33.6	10.0	86.4	76.4
Total Split (%)	28.0%	28.0%	8.3%	72.0%	63.7%
Yellow Time (s)	3.0	3.0	3.0	4.0	4.0
All-Red Time (s)	2.5	2.5	2.0	1.5	1.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	5.0	5.5	5.5
Lead/Lag			Lead		Lag
Lead-Lag Optimize?			Yes		Yes
Recall Mode	None	None	None	C-Max	C-Max
Act Effect Green (s)	25.0	25.0	84.5	84.0	70.9
Actuated g/C Ratio	0.21	0.21	0.70	0.70	0.59
v/c Ratio	0.86	0.41	0.91	0.40	0.43
Control Delay	67.8	7.7	41.9	8.5	3.9
Queue Delay	0.0	0.0	0.0	0.0	0.2
Total Delay	67.8	7.7	41.9	8.5	4.1
LOS	E	A	D	A	A
Approach Delay	44.7			17.5	4.1
Approach LOS	D			B	A

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBT, Start of 1st Green

Natural Cycle: 120

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.91

Intersection Signal Delay: 18.2

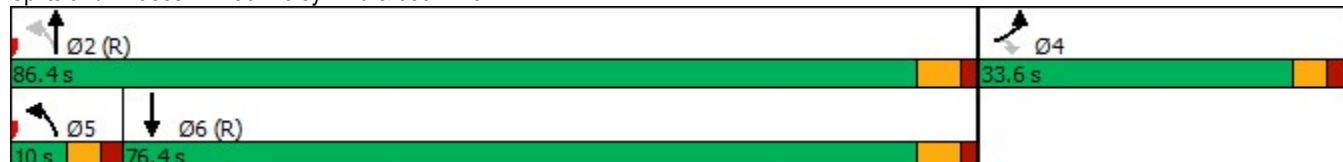
Intersection LOS: B

Intersection Capacity Utilization 73.8%

ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 130: Foley Blvd & 99th Ave



110: Foley Blvd & TH 10 N Ramp/101st Ave

























Direction	All
Future Volume (vph)	3733
Total Delay / Veh (s/v)	66
CO Emissions (kg)	7.52
NOx Emissions (kg)	1.46
VOC Emissions (kg)	1.74

120: Foley Blvd & TH 10 S Ramp

Direction	All
Future Volume (vph)	2641
Total Delay / Veh (s/v)	15
CO Emissions (kg)	2.61
NOx Emissions (kg)	0.51
VOC Emissions (kg)	0.60

130: Foley Blvd & 99th Ave

Direction	All
Future Volume (vph)	2582
Total Delay / Veh (s/v)	18
CO Emissions (kg)	2.10
NOx Emissions (kg)	0.41
VOC Emissions (kg)	0.49

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	70	35	35	132	46	41	457	1493	305	28	212	137
Future Volume (vph)	70	35	35	132	46	41	457	1493	305	28	212	137
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8		8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	7.0	7.0	7.0	7.0	12.0	12.0	7.0	12.0	12.0
Minimum Split (s)	9.5	22.5	22.5	22.5	22.5	22.5	11.5	22.5	22.5	11.5	22.5	22.5
Total Split (s)	10.2	22.5	22.5	22.5	34.8	34.8	41.2	53.5	53.5	11.5	23.8	23.8
Total Split (%)	9.3%	20.5%	20.5%	20.5%	31.6%	31.6%	37.5%	48.6%	48.6%	10.5%	21.6%	21.6%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	C-Max	C-Max	None	C-Max	C-Max
Act Effct Green (s)	12.3	7.7	7.7	23.3	15.1	15.1	36.2	70.0	70.0	7.8	37.0	37.0
Actuated g/C Ratio	0.11	0.07	0.07	0.21	0.14	0.14	0.33	0.64	0.64	0.07	0.34	0.34
v/c Ratio	0.44	0.29	0.13	0.50	0.20	0.13	0.85	0.72	0.30	0.24	0.19	0.23
Control Delay	42.5	53.6	0.9	41.3	41.6	0.8	41.8	19.5	4.9	52.5	30.6	3.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7	0.0	0.0	0.0	0.0
Total Delay	42.5	53.6	0.9	41.3	41.6	0.8	41.8	20.2	4.9	52.5	30.6	3.1
LOS	D	D	A	D	D	A	D	C	A	D	C	A
Approach Delay		34.9			33.7			22.5			22.2	
Approach LOS		C			C			C			C	

Intersection Summary

Cycle Length: 110

Actuated Cycle Length: 110

Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green

Natural Cycle: 110

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.85

Intersection Signal Delay: 23.9

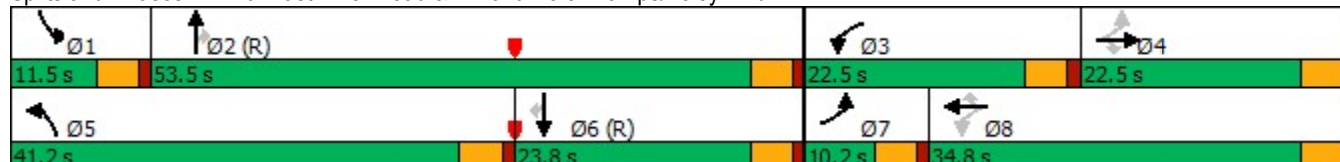
Intersection LOS: C













Intersection Capacity Utilization 72.3%

ICU Level of Service C

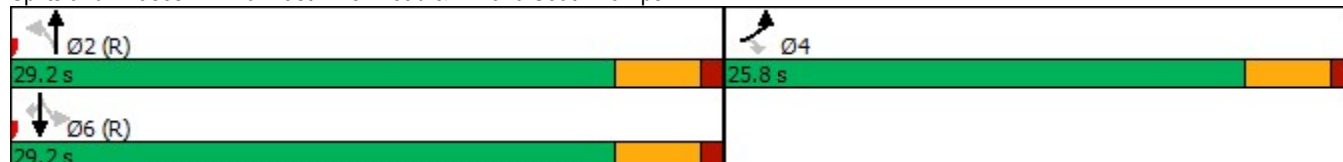
Analysis Period (min) 15

Splits and Phases: 110: East River Road & TH 610 North Ramps/Foley Blvd



						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	1018	168	35	1237	274	105
Future Volume (vph)	1018	168	35	1237	274	105
Turn Type	Prot	Perm	Perm	NA	NA	Perm
Protected Phases	4			2	6	
Permitted Phases		4	2			6
Detector Phase	4	4	2	2	6	6
Switch Phase						
Minimum Initial (s)	7.0	7.0	12.0	12.0	12.0	12.0
Minimum Split (s)	22.5	22.5	22.5	22.5	22.5	22.5
Total Split (s)	25.8	25.8	29.2	29.2	29.2	29.2
Total Split (%)	46.9%	46.9%	53.1%	53.1%	53.1%	53.1%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	None	None	C-Max	C-Max	C-Max	C-Max
Act Effct Green (s)	20.7	20.7	25.3	25.3	25.3	25.3
Actuated g/C Ratio	0.38	0.38	0.46	0.46	0.46	0.46
v/c Ratio	0.86	0.26	0.08	0.83	0.18	0.14
Control Delay	24.1	3.3	9.3	19.3	8.3	3.7
Queue Delay	8.4	0.0	0.0	0.0	0.0	0.0
Total Delay	32.5	3.3	9.3	19.3	8.3	3.7
LOS	C	A	A	B	A	A
Approach Delay				19.0	7.0	
Approach LOS				B	A	
Intersection Summary						
Cycle Length: 55						
Actuated Cycle Length: 55						
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: 0.86						
Intersection Signal Delay: 21.3				Intersection LOS: C		
Intersection Capacity Utilization 70.3%				ICU Level of Service C		
Analysis Period (min) 15						

Splits and Phases: 120: East River Road & TH 610 South Ramps



110: East River Road & TH 610 North Ramps/Foley Blvd

Direction	All
Future Volume (vph)	2991
Total Delay / Veh (s/v)	24
CO Emissions (kg)	2.89
NOx Emissions (kg)	0.56
VOC Emissions (kg)	0.67

120: East River Road & TH 610 South Ramps

Direction	All
Future Volume (vph)	2837
Total Delay / Veh (s/v)	21
CO Emissions (kg)	2.99
NOx Emissions (kg)	0.58
VOC Emissions (kg)	0.69

East River Road TH 610 Ramp Addition

1

Foley and TH 10 N Ramps		
Existing Volume	3873	vehicles
Existing Delay	64	sec/veh
Existing Total Delay	247872	seconds
Future Volume	3733	vehicles
Future Delay	66	sec/veh
Future Total Delay	246378	seconds
Total Delay Reduction	1494	seconds

2

Foley and TH 10 S Ramps		
Existing Volume	2921	vehicles
Existing Delay	16	sec/veh
Existing Total Delay	46736	seconds
Future Volume	2641	vehicles
Future Delay	15	sec/veh
Future Total Delay	39615	seconds
Total Delay Reduction	7121	seconds

3

Foley and 99th Ave		
Existing Volume	2861	vehicles
Existing Delay	31	sec/veh
Existing Total Delay	88691	seconds
Future Volume	2582	vehicles
Future Delay	18	sec/veh
Future Total Delay	46476	seconds
Total Delay Reduction	42215	seconds

4

East River Rd and South TH 610 Ramps		
Existing Volume	2746	vehicles
Existing Delay	15	sec/veh
Existing Total Delay	41190	seconds
Future Volume	2991	vehicles
Future Delay	24	sec/veh
Future Total Delay	71784	seconds
Total Delay Reduction	-30594	seconds

5

East River Road and North TH 610 Ramps		
Existing Volume	2662	vehicles
Existing Delay	19	sec/veh
Existing Total Delay	50578	seconds
Future Volume	2837	vehicles
Future Delay	21	sec/veh
Future Total Delay	59577	seconds
Total Delay Reduction	-8999	seconds

Total Network Delay Reduction	11237	seconds
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Emissions

























Existing	1	2	3	4	5	Total
CO	7.65	2.92	2.89	2.11	2.78	18.35
NO	1.49	0.57	0.56	0.41	0.54	3.57
VOC	1.77	0.68	0.67	0.49	0.64	4.25
Network Total						26.17

Build	1	2	3	4	5	Total
CO	7.52	2.61	2.1	2.89	2.99	18.11
NO	1.46	0.51	0.41	0.56	0.58	3.52
VOC	1.74	0.6	0.49	0.67	0.69	4.19
Network Total						25.82

Reduction	0.35
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Coon Rapids RS
2018 Existing PM

04/16/2020
110: Foley Blvd & TH 10 N Ramp/101st Ave

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	800	200	257	168	182	122	320	734	323	62	651	55
Future Volume (vph)	800	200	257	168	182	122	320	734	323	62	651	55
Turn Type	Split	NA	pm+ov	Split	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	4	4	5	8	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	4	4	4	8	8	8	5 2	2	2	1 6	6	6
Switch Phase												
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0	7.0	7.0	15.0	15.0	7.0	15.0	15.0
Minimum Split (s)	13.0	13.0	12.0	34.5	34.5	34.5	12.0	39.5	39.5	12.0	20.5	20.5
Total Split (s)	50.0	50.0	32.0	34.5	34.5	34.5	32.0	49.5	49.5	16.0	33.5	33.5
Total Split (%)	33.3%	33.3%	21.3%	23.0%	23.0%	23.0%	21.3%	33.0%	33.0%	10.7%	22.3%	22.3%
Yellow Time (s)	4.0	4.0	3.0	4.0	4.0	4.0	3.0	4.0	4.0	3.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.5	2.5	2.5	2.0	1.5	1.5	2.0	1.5	1.5
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)	6.0	6.0	5.0	6.5	6.5	6.5	5.0	5.5	5.5	5.0	5.5	5.5
Lead/Lag	Lead	Lead	Lag	Lag	Lag	Lag	Lag	Lag	Lag	Lead	Lead	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	C-Max	C-Max	None	C-Max	C-Max
Act Effect Green (s)	44.0	44.0	77.0	20.9	20.9	20.9	27.0	54.4	54.4	10.1	35.1	35.1
Actuated g/C Ratio	0.29	0.29	0.51	0.14	0.14	0.14	0.18	0.36	0.36	0.07	0.23	0.23
v/c Ratio	1.04	1.03	0.17	0.71	0.73	0.37	1.04	0.59	0.42	0.54	0.81	0.12
Control Delay	100.8	99.7	2.2	76.2	77.1	9.5	118.6	43.1	5.5	84.2	63.2	0.6
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	100.8	99.7	2.2	76.2	77.1	9.5	118.6	43.1	5.5	84.2	63.2	0.6
LOS	F	F	A	E	E	A	F	D	A	F	E	A
Approach Delay		80.2			59.3			51.8			60.4	
Approach LOS		F			E			D			E	

Intersection Summary

Cycle Length: 150

Actuated Cycle Length: 150

Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of 1st Green

Natural Cycle: 150

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.04

Intersection Signal Delay: 63.6

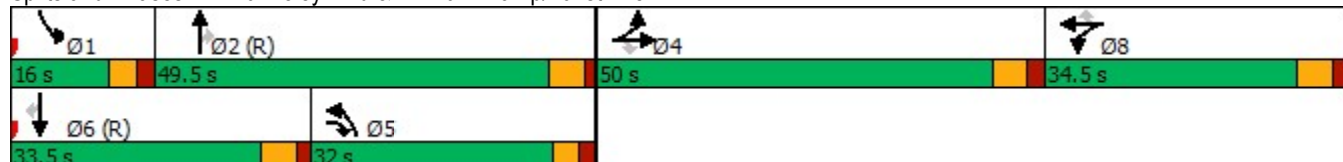
Intersection LOS: E

Intersection Capacity Utilization 91.9%

ICU Level of Service F

Analysis Period (min) 15

Splits and Phases: 110: Foley Blvd & TH 10 N Ramp/101st Ave



	→	↘	↙	↑	↗	↖	↓	↘
Lane Group	EBT	EBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↗	↖↗	↖↗	↑↑	↖↗	↖↗	↑↑	↖↗
Traffic Volume (vph)	1	216	26	1110	225	117	757	202
Future Volume (vph)	1	216	26	1110	225	117	757	202
Turn Type	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	4		5	2		1	6	
Permitted Phases		4			2			6
Detector Phase	4	4	5	2	2	1	6	6
Switch Phase								
Minimum Initial (s)	7.0	7.0	7.0	15.0	15.0	7.0	15.0	15.0
Minimum Split (s)	13.0	13.0	12.0	30.5	30.5	12.0	20.5	20.5
Total Split (s)	17.0	17.0	12.0	31.0	31.0	12.0	31.0	31.0
Total Split (%)	28.3%	28.3%	20.0%	51.7%	51.7%	20.0%	51.7%	51.7%
Yellow Time (s)	4.0	4.0	3.0	4.0	4.0	3.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	1.5	1.5	2.0	1.5	1.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	5.0	5.5	5.5	5.0	5.5	5.5
Lead/Lag			Lag	Lead	Lead	Lag	Lead	Lead
Lead-Lag Optimize?								
Recall Mode	None	None	None	C-Max	C-Max	None	C-Max	C-Max
Act Effect Green (s)	10.8	10.8	7.0	28.1	28.1	7.0	32.9	32.9
Actuated g/C Ratio	0.18	0.18	0.12	0.47	0.47	0.12	0.55	0.55
v/c Ratio	0.85	0.47	0.13	0.68	0.26	0.57	0.39	0.21
Control Delay	50.4	7.5	25.5	16.0	2.8	37.7	9.9	2.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	50.4	7.5	25.5	16.0	2.8	37.7	9.9	2.6
LOS	D	A	C	B	A	D	A	A
Approach Delay	31.3			14.0			11.6	
Approach LOS	C			B			B	

Intersection Summary

Cycle Length: 60

Actuated Cycle Length: 60

Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of 1st Green

Natural Cycle: 60

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.85

Intersection Signal Delay: 16.0

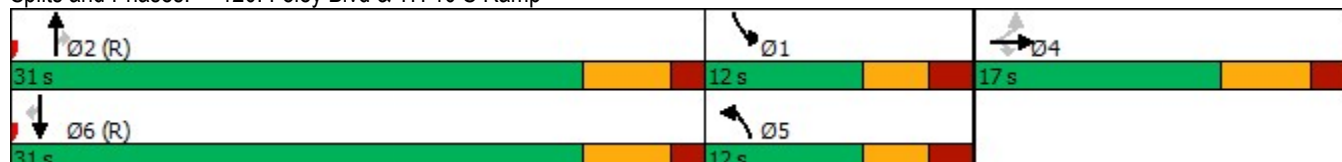
Intersection LOS: B











Intersection Capacity Utilization 65.8%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 120: Foley Blvd & TH 10 S Ramp



					
Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Configurations					
Traffic Volume (vph)	344	184	344	1017	431
Future Volume (vph)	344	184	344	1017	431
Turn Type	Prot	Perm	pm+pt	NA	NA
Protected Phases	4		5	2	6
Permitted Phases		4	2		
Detector Phase	4	4	2 5	2	6
Switch Phase					
Minimum Initial (s)	7.0	7.0	5.0	15.0	15.0
Minimum Split (s)	32.5	32.5	10.0	20.5	34.5
Total Split (s)	33.0	33.0	10.0	97.0	87.0
Total Split (%)	25.4%	25.4%	7.7%	74.6%	66.9%
Yellow Time (s)	3.0	3.0	3.0	4.0	4.0
All-Red Time (s)	2.5	2.5	2.0	1.5	1.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	5.0	5.5	5.5
Lead/Lag			Lead		Lag
Lead-Lag Optimize?			Yes		Yes
Recall Mode	None	None	None	C-Max	C-Max
Act Effect Green (s)	27.5	27.5	92.0	91.5	81.5
Actuated g/C Ratio	0.21	0.21	0.71	0.70	0.63
v/c Ratio	0.99	0.40	1.15	0.44	0.47
Control Delay	94.8	8.2	114.2	8.9	7.2
Queue Delay	0.0	0.0	0.0	0.0	0.5
Total Delay	94.8	8.2	114.2	8.9	7.7
LOS	F	A	F	A	A
Approach Delay	64.6			35.5	7.7
Approach LOS	E			D	A

Intersection Summary

Cycle Length: 130

Actuated Cycle Length: 130

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBT, Start of 1st Green

Natural Cycle: 130

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.15

Intersection Signal Delay: 31.4

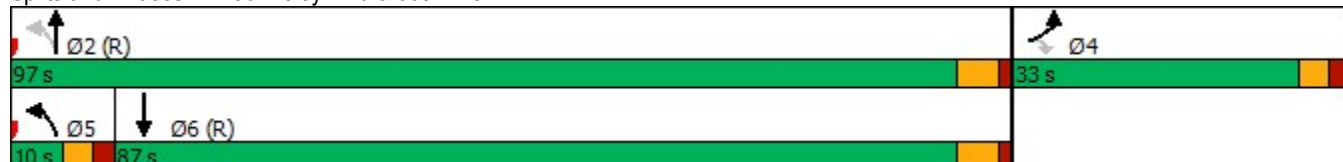
Intersection LOS: C

Intersection Capacity Utilization 80.8%

ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 130: Foley Blvd & 99th Ave



110: Foley Blvd & TH 10 N Ramp/101st Ave



















Direction	All
Future Volume (vph)	3873
Total Delay / Veh (s/v)	64
CO Emissions (kg)	7.65
NOx Emissions (kg)	1.49
VOC Emissions (kg)	1.77

120: Foley Blvd & TH 10 S Ramp

Direction	All
Future Volume (vph)	2921
Total Delay / Veh (s/v)	16
CO Emissions (kg)	2.92
NOx Emissions (kg)	0.57
VOC Emissions (kg)	0.68

130: Foley Blvd & 99th Ave

Direction	All
Future Volume (vph)	2861
Total Delay / Veh (s/v)	31
CO Emissions (kg)	2.89
NOx Emissions (kg)	0.56
VOC Emissions (kg)	0.67

									
Lane Group	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations									
Traffic Volume (vph)	97	46	41	457	1493	305	28	142	137
Future Volume (vph)	97	46	41	457	1493	305	28	142	137
Turn Type	Split	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	8	8		5	2		1	6	
Permitted Phases			8			2			6
Detector Phase	8	8	8	5	2	2	1	6	6
Switch Phase									
Minimum Initial (s)	7.0	7.0	7.0	7.0	12.0	12.0	7.0	12.0	12.0
Minimum Split (s)	22.5	22.5	22.5	11.5	22.5	22.5	11.5	22.5	22.5
Total Split (s)	22.5	22.5	22.5	27.0	41.0	41.0	11.5	25.5	25.5
Total Split (%)	30.0%	30.0%	30.0%	36.0%	54.7%	54.7%	15.3%	34.0%	34.0%
Yellow Time (s)	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
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)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag				Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?				Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	C-Max	C-Max	None	C-Max	C-Max
Act Effect Green (s)	10.0	10.0	10.0	26.2	54.2	54.2	7.4	27.6	27.6
Actuated g/C Ratio	0.13	0.13	0.13	0.35	0.72	0.72	0.10	0.37	0.37
v/c Ratio	0.45	0.20	0.13	0.80	0.63	0.27	0.17	0.12	0.22
Control Delay	35.5	29.8	0.8	33.5	10.7	1.8	33.1	18.9	4.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	35.5	29.8	0.8	33.5	10.7	1.8	33.1	18.9	4.7
LOS	D	C	A	C	B	A	C	B	A
Approach Delay		26.2			14.1			13.8	
Approach LOS		C			B			B	

Intersection Summary

Cycle Length: 75

Actuated Cycle Length: 75

Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green

Natural Cycle: 75

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.80

Intersection Signal Delay: 14.9

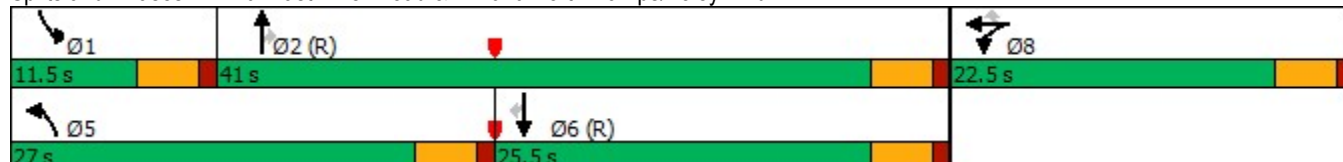
Intersection LOS: B









Intersection Capacity Utilization 64.2%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 110: East River Road & TH 610 North Ramps/Foley Blvd



				
Lane Group	EBL	EBR	NBT	SBT
Lane Configurations				
Traffic Volume (vph)	1018	168	1237	239
Future Volume (vph)	1018	168	1237	239
Turn Type	Prot	Perm	NA	NA
Protected Phases	4		2	6
Permitted Phases		4		
Detector Phase	4	4	2	6
Switch Phase				
Minimum Initial (s)	7.0	7.0	12.0	12.0
Minimum Split (s)	22.5	22.5	22.5	22.5
Total Split (s)	25.8	25.8	29.2	29.2
Total Split (%)	46.9%	46.9%	53.1%	53.1%
Yellow Time (s)	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5
Lead/Lag				
Lead-Lag Optimize?				
Recall Mode	None	None	C-Max	C-Max
Act Effect Green (s)	20.7	20.7	25.3	25.3
Actuated g/C Ratio	0.38	0.38	0.46	0.46
v/c Ratio	0.86	0.26	0.83	0.16
Control Delay	24.1	3.3	19.3	9.2
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	24.1	3.3	19.3	9.2
LOS	C	A	B	A
Approach Delay			19.3	9.2
Approach LOS			B	A

Intersection Summary

Cycle Length: 55

Actuated Cycle Length: 55

Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBTL, Start of Green

Natural Cycle: 55

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.86

Intersection Signal Delay: 19.2

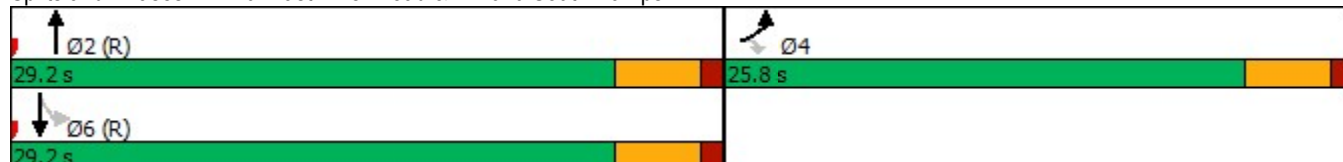
Intersection LOS: B

Intersection Capacity Utilization 70.3%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 120: East River Road & TH 610 South Ramps



























110: East River Road & TH 610 North Ramps/Foley Blvd

Direction	All
Future Volume (vph)	2746
Total Delay / Veh (s/v)	15
CO Emissions (kg)	2.11
NOx Emissions (kg)	0.41
VOC Emissions (kg)	0.49

120: East River Road & TH 610 South Ramps

Direction	All
Future Volume (vph)	2662
Total Delay / Veh (s/v)	19
CO Emissions (kg)	2.78
NOx Emissions (kg)	0.54
VOC Emissions (kg)	0.64

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	800	200	117	168	182	122	320	734	323	62	651	55
Future Volume (vph)	800	200	117	168	182	122	320	734	323	62	651	55
Turn Type	Split	NA	pm+ov	Split	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	4	4	5	8	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	4	4	4	8	8	8	5 2	2	2	1 6	6	6
Switch Phase												
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0	7.0	7.0	15.0	15.0	7.0	15.0	15.0
Minimum Split (s)	13.0	13.0	12.0	34.5	34.5	34.5	12.0	39.5	39.5	12.0	20.5	20.5
Total Split (s)	50.0	50.0	32.0	34.5	34.5	34.5	32.0	49.5	49.5	16.0	33.5	33.5
Total Split (%)	33.3%	33.3%	21.3%	23.0%	23.0%	23.0%	21.3%	33.0%	33.0%	10.7%	22.3%	22.3%
Yellow Time (s)	4.0	4.0	3.0	4.0	4.0	4.0	3.0	4.0	4.0	3.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.5	2.5	2.5	2.0	1.5	1.5	2.0	1.5	1.5
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)	6.0	6.0	5.0	6.5	6.5	6.5	5.0	5.5	5.5	5.0	5.5	5.5
Lead/Lag	Lead	Lead	Lag	Lag	Lag	Lag	Lag	Lag	Lag	Lead	Lead	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	C-Max	C-Max	None	C-Max	C-Max
Act Effect Green (s)	44.0	44.0	77.0	20.9	20.9	20.9	27.0	54.4	54.4	10.1	35.1	35.1
Actuated g/C Ratio	0.29	0.29	0.51	0.14	0.14	0.14	0.18	0.36	0.36	0.07	0.23	0.23
v/c Ratio	1.04	1.03	0.08	0.71	0.73	0.37	1.04	0.59	0.42	0.54	0.81	0.12
Control Delay	100.8	99.7	3.0	76.2	77.1	9.5	118.6	43.1	5.5	84.2	63.2	0.6
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	100.8	99.7	3.0	76.2	77.1	9.5	118.6	43.1	5.5	84.2	63.2	0.6
LOS	F	F	A	E	E	A	F	D	A	F	E	A
Approach Delay		90.0			59.3			51.8			60.4	
Approach LOS		F			E			D			E	

Intersection Summary

Cycle Length: 150

Actuated Cycle Length: 150

Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of 1st Green

Natural Cycle: 150

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.04

Intersection Signal Delay: 66.0

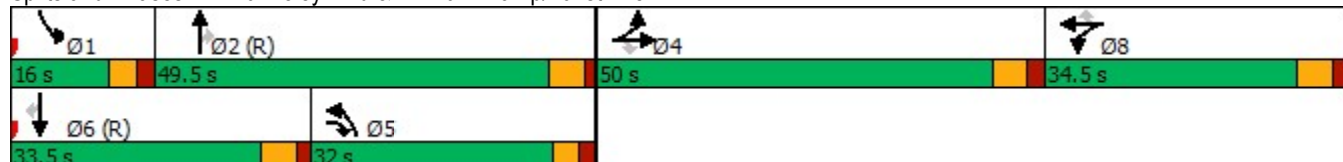
Intersection LOS: E

Intersection Capacity Utilization 91.9%

ICU Level of Service F

Analysis Period (min) 15

Splits and Phases: 110: Foley Blvd & TH 10 N Ramp/101st Ave



	→	↘	↙	↑	↗	↖	↓	↘
Lane Group	EBT	EBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↖	↖	↑↑	↖	↖	↑↑	↖
Traffic Volume (vph)	1	216	26	1110	85	117	617	202
Future Volume (vph)	1	216	26	1110	85	117	617	202
Turn Type	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	4		5	2		1	6	
Permitted Phases		4			2			6
Detector Phase	4	4	5	2	2	1	6	6
Switch Phase								
Minimum Initial (s)	7.0	7.0	7.0	15.0	15.0	7.0	15.0	15.0
Minimum Split (s)	13.0	13.0	12.0	30.5	30.5	12.0	20.5	20.5
Total Split (s)	17.0	17.0	12.0	31.0	31.0	12.0	31.0	31.0
Total Split (%)	28.3%	28.3%	20.0%	51.7%	51.7%	20.0%	51.7%	51.7%
Yellow Time (s)	4.0	4.0	3.0	4.0	4.0	3.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	1.5	1.5	2.0	1.5	1.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	5.0	5.5	5.5	5.0	5.5	5.5
Lead/Lag			Lag	Lead	Lead	Lag	Lead	Lead
Lead-Lag Optimize?								
Recall Mode	None	None	None	C-Max	C-Max	None	C-Max	C-Max
Act Effect Green (s)	10.8	10.8	7.0	28.1	28.1	7.0	32.9	32.9
Actuated g/C Ratio	0.18	0.18	0.12	0.47	0.47	0.12	0.55	0.55
v/c Ratio	0.85	0.47	0.13	0.68	0.11	0.57	0.32	0.21
Control Delay	50.4	7.5	24.8	12.9	0.6	37.7	9.4	2.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	50.4	7.5	24.8	12.9	0.6	37.7	9.4	2.6
LOS	D	A	C	B	A	D	A	A
Approach Delay	31.3			12.3			11.4	
Approach LOS	C			B			B	

Intersection Summary

Cycle Length: 60

Actuated Cycle Length: 60

Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of 1st Green

Natural Cycle: 60

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.85

Intersection Signal Delay: 15.5

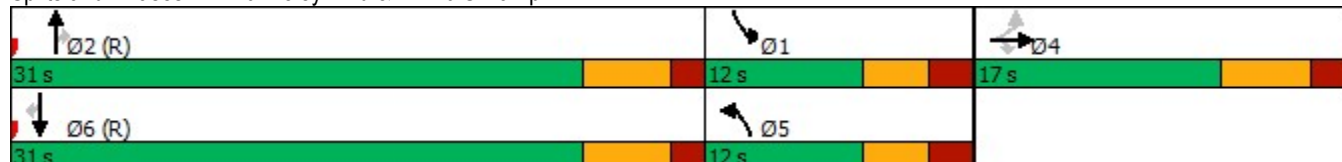
Intersection LOS: B











Intersection Capacity Utilization 65.8%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 120: Foley Blvd & TH 10 S Ramp



					
Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Configurations					
Traffic Volume (vph)	294	184	344	927	371
Future Volume (vph)	294	184	344	927	371
Turn Type	Prot	Perm	pm+pt	NA	NA
Protected Phases	4		5	2	6
Permitted Phases		4	2		
Detector Phase	4	4	2 5	2	6
Switch Phase					
Minimum Initial (s)	7.0	7.0	5.0	15.0	15.0
Minimum Split (s)	32.5	32.5	10.0	20.5	34.5
Total Split (s)	33.6	33.6	10.0	86.4	76.4
Total Split (%)	28.0%	28.0%	8.3%	72.0%	63.7%
Yellow Time (s)	3.0	3.0	3.0	4.0	4.0
All-Red Time (s)	2.5	2.5	2.0	1.5	1.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	5.0	5.5	5.5
Lead/Lag			Lead		Lag
Lead-Lag Optimize?			Yes		Yes
Recall Mode	None	None	None	C-Max	C-Max
Act Effect Green (s)	25.0	25.0	84.5	84.0	70.9
Actuated g/C Ratio	0.21	0.21	0.70	0.70	0.59
v/c Ratio	0.86	0.41	0.91	0.40	0.43
Control Delay	67.8	7.7	41.9	8.5	3.9
Queue Delay	0.0	0.0	0.0	0.0	0.2
Total Delay	67.8	7.7	41.9	8.5	4.1
LOS	E	A	D	A	A
Approach Delay	44.7			17.5	4.1
Approach LOS	D			B	A

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBT, Start of 1st Green

Natural Cycle: 120

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.91

Intersection Signal Delay: 18.2

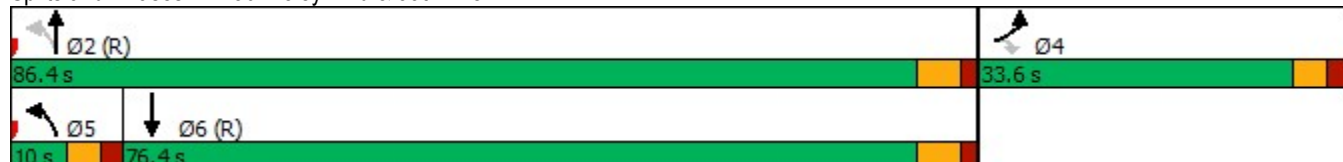
Intersection LOS: B

Intersection Capacity Utilization 73.8%

ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 130: Foley Blvd & 99th Ave



110: Foley Blvd & TH 10 N Ramp/101st Ave

























Direction	All
Future Volume (vph)	3733
Total Delay / Veh (s/v)	66
CO Emissions (kg)	7.52
NOx Emissions (kg)	1.46
VOC Emissions (kg)	1.74

120: Foley Blvd & TH 10 S Ramp

Direction	All
Future Volume (vph)	2641
Total Delay / Veh (s/v)	15
CO Emissions (kg)	2.61
NOx Emissions (kg)	0.51
VOC Emissions (kg)	0.60

130: Foley Blvd & 99th Ave

Direction	All
Future Volume (vph)	2582
Total Delay / Veh (s/v)	18
CO Emissions (kg)	2.10
NOx Emissions (kg)	0.41
VOC Emissions (kg)	0.49

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	70	35	35	132	46	41	457	1493	305	28	212	137
Future Volume (vph)	70	35	35	132	46	41	457	1493	305	28	212	137
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8		8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	7.0	7.0	7.0	7.0	12.0	12.0	7.0	12.0	12.0
Minimum Split (s)	9.5	22.5	22.5	22.5	22.5	22.5	11.5	22.5	22.5	11.5	22.5	22.5
Total Split (s)	10.2	22.5	22.5	22.5	34.8	34.8	41.2	53.5	53.5	11.5	23.8	23.8
Total Split (%)	9.3%	20.5%	20.5%	20.5%	31.6%	31.6%	37.5%	48.6%	48.6%	10.5%	21.6%	21.6%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	C-Max	C-Max	None	C-Max	C-Max
Act Effect Green (s)	12.3	7.7	7.7	23.3	15.1	15.1	36.2	70.0	70.0	7.8	37.0	37.0
Actuated g/C Ratio	0.11	0.07	0.07	0.21	0.14	0.14	0.33	0.64	0.64	0.07	0.34	0.34
v/c Ratio	0.44	0.29	0.13	0.50	0.20	0.13	0.85	0.72	0.30	0.24	0.19	0.23
Control Delay	42.5	53.6	0.9	41.3	41.6	0.8	41.8	19.5	4.9	52.5	30.6	3.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7	0.0	0.0	0.0	0.0
Total Delay	42.5	53.6	0.9	41.3	41.6	0.8	41.8	20.2	4.9	52.5	30.6	3.1
LOS	D	D	A	D	D	A	D	C	A	D	C	A
Approach Delay		34.9			33.7			22.5			22.2	
Approach LOS		C			C			C			C	

Intersection Summary

Cycle Length: 110

Actuated Cycle Length: 110

Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green

Natural Cycle: 110

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.85

Intersection Signal Delay: 23.9

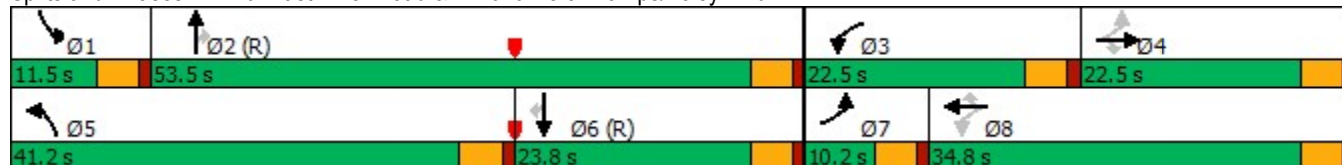
Intersection LOS: C













Intersection Capacity Utilization 72.3%

ICU Level of Service C

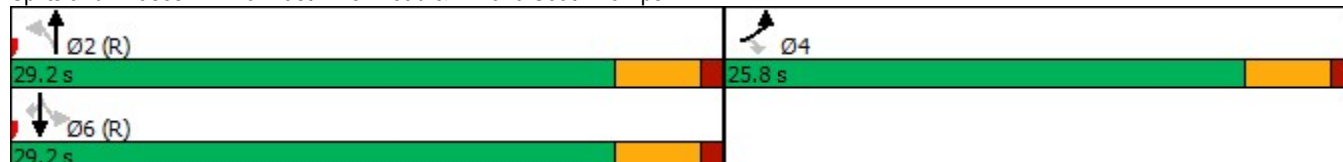
Analysis Period (min) 15

Splits and Phases: 110: East River Road & TH 610 North Ramps/Foley Blvd



						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	1018	168	35	1237	274	105
Future Volume (vph)	1018	168	35	1237	274	105
Turn Type	Prot	Perm	Perm	NA	NA	Perm
Protected Phases	4			2	6	
Permitted Phases		4	2			6
Detector Phase	4	4	2	2	6	6
Switch Phase						
Minimum Initial (s)	7.0	7.0	12.0	12.0	12.0	12.0
Minimum Split (s)	22.5	22.5	22.5	22.5	22.5	22.5
Total Split (s)	25.8	25.8	29.2	29.2	29.2	29.2
Total Split (%)	46.9%	46.9%	53.1%	53.1%	53.1%	53.1%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	None	None	C-Max	C-Max	C-Max	C-Max
Act Effct Green (s)	20.7	20.7	25.3	25.3	25.3	25.3
Actuated g/C Ratio	0.38	0.38	0.46	0.46	0.46	0.46
v/c Ratio	0.86	0.26	0.08	0.83	0.18	0.14
Control Delay	24.1	3.3	9.3	19.3	8.3	3.7
Queue Delay	8.4	0.0	0.0	0.0	0.0	0.0
Total Delay	32.5	3.3	9.3	19.3	8.3	3.7
LOS	C	A	A	B	A	A
Approach Delay				19.0	7.0	
Approach LOS				B	A	
Intersection Summary						
Cycle Length: 55						
Actuated Cycle Length: 55						
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: 0.86						
Intersection Signal Delay: 21.3				Intersection LOS: C		
Intersection Capacity Utilization 70.3%				ICU Level of Service C		
Analysis Period (min) 15						

Splits and Phases: 120: East River Road & TH 610 South Ramps



110: East River Road & TH 610 North Ramps/Foley Blvd

Direction	All
Future Volume (vph)	2991
Total Delay / Veh (s/v)	24
CO Emissions (kg)	2.89
NOx Emissions (kg)	0.56
VOC Emissions (kg)	0.67

120: East River Road & TH 610 South Ramps

Direction	All
Future Volume (vph)	2837
Total Delay / Veh (s/v)	21
CO Emissions (kg)	2.99
NOx Emissions (kg)	0.58
VOC Emissions (kg)	0.69

East River Road TH 610 Ramp Addition

1

Foley and TH 10 N Ramps		
Existing Volume	3873	vehicles
Existing Delay	64	sec/veh
Existing Total Delay	247872	seconds
Future Volume	3733	vehicles
Future Delay	66	sec/veh
Future Total Delay	246378	seconds
Total Delay Reduction	1494	seconds

2

Foley and TH 10 S Ramps		
Existing Volume	2921	vehicles
Existing Delay	16	sec/veh
Existing Total Delay	46736	seconds
Future Volume	2641	vehicles
Future Delay	15	sec/veh
Future Total Delay	39615	seconds
Total Delay Reduction	7121	seconds

3

Foley and 99th Ave		
Existing Volume	2861	vehicles
Existing Delay	31	sec/veh
Existing Total Delay	88691	seconds
Future Volume	2582	vehicles
Future Delay	18	sec/veh
Future Total Delay	46476	seconds
Total Delay Reduction	42215	seconds

4

East River Rd and South TH 610 Ramps		
Existing Volume	2746	vehicles
Existing Delay	15	sec/veh
Existing Total Delay	41190	seconds
Future Volume	2991	vehicles
Future Delay	24	sec/veh
Future Total Delay	71784	seconds
Total Delay Reduction	-30594	seconds

5

East River Road and North TH 610 Ramps		
Existing Volume	2662	vehicles
Existing Delay	19	sec/veh
Existing Total Delay	50578	seconds
Future Volume	2837	vehicles
Future Delay	21	sec/veh
Future Total Delay	59577	seconds
Total Delay Reduction	-8999	seconds

Total Network Delay Reduction	11237	seconds
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Emissions

























Existing	1	2	3	4	5	Total
CO	7.65	2.92	2.89	2.11	2.78	18.35
NO	1.49	0.57	0.56	0.41	0.54	3.57
VOC	1.77	0.68	0.67	0.49	0.64	4.25
Network Total						26.17

Build	1	2	3	4	5	Total
CO	7.52	2.61	2.1	2.89	2.99	18.11
NO	1.46	0.51	0.41	0.56	0.58	3.52
VOC	1.74	0.6	0.49	0.67	0.69	4.19
Network Total						25.82

Reduction	0.35
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Coon Rapids RS
2018 Existing PM

04/16/2020
110: Foley Blvd & TH 10 N Ramp/101st Ave

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	800	200	257	168	182	122	320	734	323	62	651	55
Future Volume (vph)	800	200	257	168	182	122	320	734	323	62	651	55
Turn Type	Split	NA	pm+ov	Split	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	4	4	5	8	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	4	4	4	8	8	8	5 2	2	2	1 6	6	6
Switch Phase												
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0	7.0	7.0	15.0	15.0	7.0	15.0	15.0
Minimum Split (s)	13.0	13.0	12.0	34.5	34.5	34.5	12.0	39.5	39.5	12.0	20.5	20.5
Total Split (s)	50.0	50.0	32.0	34.5	34.5	34.5	32.0	49.5	49.5	16.0	33.5	33.5
Total Split (%)	33.3%	33.3%	21.3%	23.0%	23.0%	23.0%	21.3%	33.0%	33.0%	10.7%	22.3%	22.3%
Yellow Time (s)	4.0	4.0	3.0	4.0	4.0	4.0	3.0	4.0	4.0	3.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.5	2.5	2.5	2.0	1.5	1.5	2.0	1.5	1.5
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)	6.0	6.0	5.0	6.5	6.5	6.5	5.0	5.5	5.5	5.0	5.5	5.5
Lead/Lag	Lead	Lead	Lag	Lag	Lag	Lag	Lag	Lag	Lag	Lead	Lead	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	C-Max	C-Max	None	C-Max	C-Max
Act Effect Green (s)	44.0	44.0	77.0	20.9	20.9	20.9	27.0	54.4	54.4	10.1	35.1	35.1
Actuated g/C Ratio	0.29	0.29	0.51	0.14	0.14	0.14	0.18	0.36	0.36	0.07	0.23	0.23
v/c Ratio	1.04	1.03	0.17	0.71	0.73	0.37	1.04	0.59	0.42	0.54	0.81	0.12
Control Delay	100.8	99.7	2.2	76.2	77.1	9.5	118.6	43.1	5.5	84.2	63.2	0.6
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	100.8	99.7	2.2	76.2	77.1	9.5	118.6	43.1	5.5	84.2	63.2	0.6
LOS	F	F	A	E	E	A	F	D	A	F	E	A
Approach Delay		80.2			59.3			51.8			60.4	
Approach LOS		F			E			D			E	

Intersection Summary

Cycle Length: 150

Actuated Cycle Length: 150

Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of 1st Green

Natural Cycle: 150

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.04

Intersection Signal Delay: 63.6

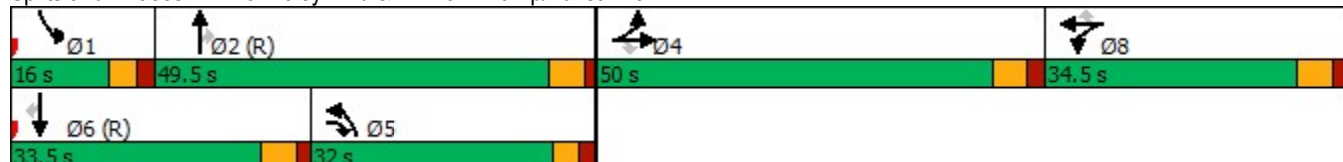
Intersection LOS: E

Intersection Capacity Utilization 91.9%

ICU Level of Service F

Analysis Period (min) 15

Splits and Phases: 110: Foley Blvd & TH 10 N Ramp/101st Ave



	→	↘	↙	↑	↗	↖	↓	↘
Lane Group	EBT	EBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↗	↖↗	↖↗	↑↑	↖↗	↖↗	↑↑	↖↗
Traffic Volume (vph)	1	216	26	1110	225	117	757	202
Future Volume (vph)	1	216	26	1110	225	117	757	202
Turn Type	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	4		5	2		1	6	
Permitted Phases		4			2			6
Detector Phase	4	4	5	2	2	1	6	6
Switch Phase								
Minimum Initial (s)	7.0	7.0	7.0	15.0	15.0	7.0	15.0	15.0
Minimum Split (s)	13.0	13.0	12.0	30.5	30.5	12.0	20.5	20.5
Total Split (s)	17.0	17.0	12.0	31.0	31.0	12.0	31.0	31.0
Total Split (%)	28.3%	28.3%	20.0%	51.7%	51.7%	20.0%	51.7%	51.7%
Yellow Time (s)	4.0	4.0	3.0	4.0	4.0	3.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	1.5	1.5	2.0	1.5	1.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	5.0	5.5	5.5	5.0	5.5	5.5
Lead/Lag			Lag	Lead	Lead	Lag	Lead	Lead
Lead-Lag Optimize?								
Recall Mode	None	None	None	C-Max	C-Max	None	C-Max	C-Max
Act Effect Green (s)	10.8	10.8	7.0	28.1	28.1	7.0	32.9	32.9
Actuated g/C Ratio	0.18	0.18	0.12	0.47	0.47	0.12	0.55	0.55
v/c Ratio	0.85	0.47	0.13	0.68	0.26	0.57	0.39	0.21
Control Delay	50.4	7.5	25.5	16.0	2.8	37.7	9.9	2.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	50.4	7.5	25.5	16.0	2.8	37.7	9.9	2.6
LOS	D	A	C	B	A	D	A	A
Approach Delay	31.3			14.0			11.6	
Approach LOS	C			B			B	

Intersection Summary

Cycle Length: 60

Actuated Cycle Length: 60

Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of 1st Green

Natural Cycle: 60

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.85

Intersection Signal Delay: 16.0

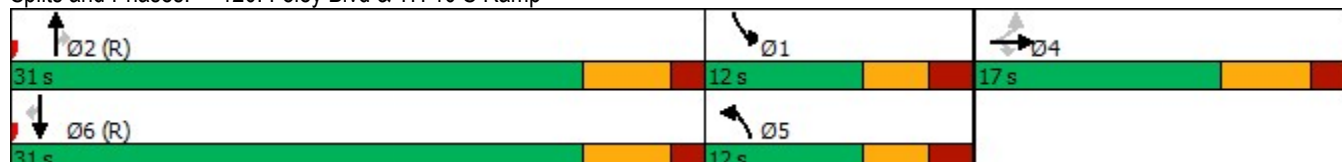
Intersection LOS: B











Intersection Capacity Utilization 65.8%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 120: Foley Blvd & TH 10 S Ramp



					
Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Configurations					
Traffic Volume (vph)	344	184	344	1017	431
Future Volume (vph)	344	184	344	1017	431
Turn Type	Prot	Perm	pm+pt	NA	NA
Protected Phases	4		5	2	6
Permitted Phases		4	2		
Detector Phase	4	4	2 5	2	6
Switch Phase					
Minimum Initial (s)	7.0	7.0	5.0	15.0	15.0
Minimum Split (s)	32.5	32.5	10.0	20.5	34.5
Total Split (s)	33.0	33.0	10.0	97.0	87.0
Total Split (%)	25.4%	25.4%	7.7%	74.6%	66.9%
Yellow Time (s)	3.0	3.0	3.0	4.0	4.0
All-Red Time (s)	2.5	2.5	2.0	1.5	1.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	5.0	5.5	5.5
Lead/Lag			Lead		Lag
Lead-Lag Optimize?			Yes		Yes
Recall Mode	None	None	None	C-Max	C-Max
Act Effect Green (s)	27.5	27.5	92.0	91.5	81.5
Actuated g/C Ratio	0.21	0.21	0.71	0.70	0.63
v/c Ratio	0.99	0.40	1.15	0.44	0.47
Control Delay	94.8	8.2	114.2	8.9	7.2
Queue Delay	0.0	0.0	0.0	0.0	0.5
Total Delay	94.8	8.2	114.2	8.9	7.7
LOS	F	A	F	A	A
Approach Delay	64.6			35.5	7.7
Approach LOS	E			D	A

Intersection Summary

Cycle Length: 130

Actuated Cycle Length: 130

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBT, Start of 1st Green

Natural Cycle: 130

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.15

Intersection Signal Delay: 31.4

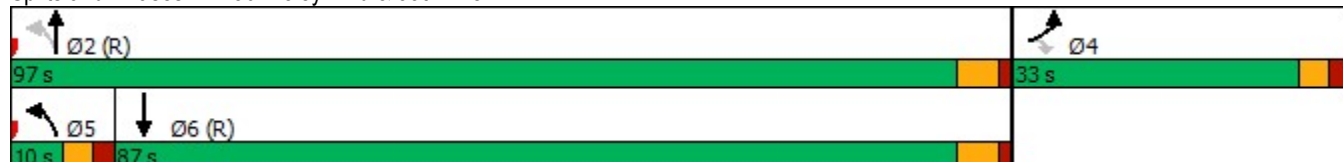
Intersection LOS: C

Intersection Capacity Utilization 80.8%

ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 130: Foley Blvd & 99th Ave



110: Foley Blvd & TH 10 N Ramp/101st Ave


Direction	All
Future Volume (vph)	3873
Total Delay / Veh (s/v)	64
CO Emissions (kg)	7.65
NOx Emissions (kg)	1.49
VOC Emissions (kg)	1.77

120: Foley Blvd & TH 10 S Ramp

Direction	All
Future Volume (vph)	2921
Total Delay / Veh (s/v)	16
CO Emissions (kg)	2.92
NOx Emissions (kg)	0.57
VOC Emissions (kg)	0.68

130: Foley Blvd & 99th Ave

Direction	All
Future Volume (vph)	2861
Total Delay / Veh (s/v)	31
CO Emissions (kg)	2.89
NOx Emissions (kg)	0.56
VOC Emissions (kg)	0.67

									
Lane Group	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations									
Traffic Volume (vph)	97	46	41	457	1493	305	28	142	137
Future Volume (vph)	97	46	41	457	1493	305	28	142	137
Turn Type	Split	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	8	8		5	2		1	6	
Permitted Phases			8			2			6
Detector Phase	8	8	8	5	2	2	1	6	6
Switch Phase									
Minimum Initial (s)	7.0	7.0	7.0	7.0	12.0	12.0	7.0	12.0	12.0
Minimum Split (s)	22.5	22.5	22.5	11.5	22.5	22.5	11.5	22.5	22.5
Total Split (s)	22.5	22.5	22.5	27.0	41.0	41.0	11.5	25.5	25.5
Total Split (%)	30.0%	30.0%	30.0%	36.0%	54.7%	54.7%	15.3%	34.0%	34.0%
Yellow Time (s)	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
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)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag				Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?				Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	C-Max	C-Max	None	C-Max	C-Max
Act Effect Green (s)	10.0	10.0	10.0	26.2	54.2	54.2	7.4	27.6	27.6
Actuated g/C Ratio	0.13	0.13	0.13	0.35	0.72	0.72	0.10	0.37	0.37
v/c Ratio	0.45	0.20	0.13	0.80	0.63	0.27	0.17	0.12	0.22
Control Delay	35.5	29.8	0.8	33.5	10.7	1.8	33.1	18.9	4.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	35.5	29.8	0.8	33.5	10.7	1.8	33.1	18.9	4.7
LOS	D	C	A	C	B	A	C	B	A
Approach Delay		26.2			14.1			13.8	
Approach LOS		C			B			B	

Intersection Summary

Cycle Length: 75

Actuated Cycle Length: 75

Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green

Natural Cycle: 75

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.80

Intersection Signal Delay: 14.9

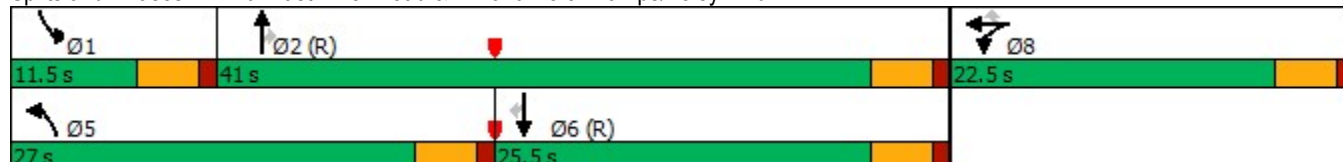
Intersection LOS: B












Intersection Capacity Utilization 64.2%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 110: East River Road & TH 610 North Ramps/Foley Blvd



				
Lane Group	EBL	EBR	NBT	SBT
Lane Configurations	 		 	 
Traffic Volume (vph)	1018	168	1237	239
Future Volume (vph)	1018	168	1237	239
Turn Type	Prot	Perm	NA	NA
Protected Phases	4		2	6
Permitted Phases		4		
Detector Phase	4	4	2	6
Switch Phase				
Minimum Initial (s)	7.0	7.0	12.0	12.0
Minimum Split (s)	22.5	22.5	22.5	22.5
Total Split (s)	25.8	25.8	29.2	29.2
Total Split (%)	46.9%	46.9%	53.1%	53.1%
Yellow Time (s)	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5
Lead/Lag				
Lead-Lag Optimize?				
Recall Mode	None	None	C-Max	C-Max
Act Effect Green (s)	20.7	20.7	25.3	25.3
Actuated g/C Ratio	0.38	0.38	0.46	0.46
v/c Ratio	0.86	0.26	0.83	0.16
Control Delay	24.1	3.3	19.3	9.2
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	24.1	3.3	19.3	9.2
LOS	C	A	B	A
Approach Delay			19.3	9.2
Approach LOS			B	A

Intersection Summary

Cycle Length: 55

Actuated Cycle Length: 55

Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBTL, Start of Green

Natural Cycle: 55

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.86

Intersection Signal Delay: 19.2

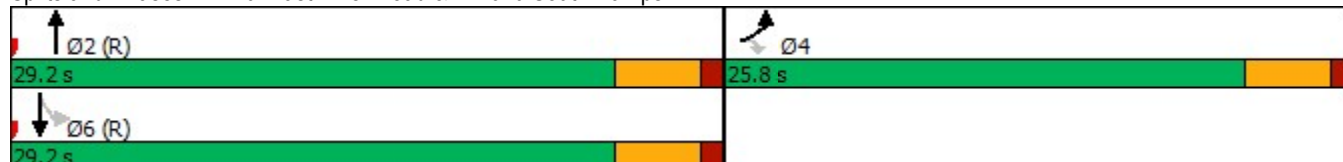
Intersection LOS: B

Intersection Capacity Utilization 70.3%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 120: East River Road & TH 610 South Ramps



























110: East River Road & TH 610 North Ramps/Foley Blvd

Direction	All
Future Volume (vph)	2746
Total Delay / Veh (s/v)	15
CO Emissions (kg)	2.11
NOx Emissions (kg)	0.41
VOC Emissions (kg)	0.49

120: East River Road & TH 610 South Ramps

Direction	All
Future Volume (vph)	2662
Total Delay / Veh (s/v)	19
CO Emissions (kg)	2.78
NOx Emissions (kg)	0.54
VOC Emissions (kg)	0.64

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	800	200	117	168	182	122	320	734	323	62	651	55
Future Volume (vph)	800	200	117	168	182	122	320	734	323	62	651	55
Turn Type	Split	NA	pm+ov	Split	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	4	4	5	8	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	4	4	4	8	8	8	5 2	2	2	1 6	6	6
Switch Phase												
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0	7.0	7.0	15.0	15.0	7.0	15.0	15.0
Minimum Split (s)	13.0	13.0	12.0	34.5	34.5	34.5	12.0	39.5	39.5	12.0	20.5	20.5
Total Split (s)	50.0	50.0	32.0	34.5	34.5	34.5	32.0	49.5	49.5	16.0	33.5	33.5
Total Split (%)	33.3%	33.3%	21.3%	23.0%	23.0%	23.0%	21.3%	33.0%	33.0%	10.7%	22.3%	22.3%
Yellow Time (s)	4.0	4.0	3.0	4.0	4.0	4.0	3.0	4.0	4.0	3.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.5	2.5	2.5	2.0	1.5	1.5	2.0	1.5	1.5
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)	6.0	6.0	5.0	6.5	6.5	6.5	5.0	5.5	5.5	5.0	5.5	5.5
Lead/Lag	Lead	Lead	Lag	Lag	Lag	Lag	Lag	Lag	Lag	Lead	Lead	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	C-Max	C-Max	None	C-Max	C-Max
Act Effect Green (s)	44.0	44.0	77.0	20.9	20.9	20.9	27.0	54.4	54.4	10.1	35.1	35.1
Actuated g/C Ratio	0.29	0.29	0.51	0.14	0.14	0.14	0.18	0.36	0.36	0.07	0.23	0.23
v/c Ratio	1.04	1.03	0.08	0.71	0.73	0.37	1.04	0.59	0.42	0.54	0.81	0.12
Control Delay	100.8	99.7	3.0	76.2	77.1	9.5	118.6	43.1	5.5	84.2	63.2	0.6
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	100.8	99.7	3.0	76.2	77.1	9.5	118.6	43.1	5.5	84.2	63.2	0.6
LOS	F	F	A	E	E	A	F	D	A	F	E	A
Approach Delay		90.0			59.3			51.8			60.4	
Approach LOS		F			E			D			E	

Intersection Summary

Cycle Length: 150

Actuated Cycle Length: 150

Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of 1st Green

Natural Cycle: 150

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.04

Intersection Signal Delay: 66.0

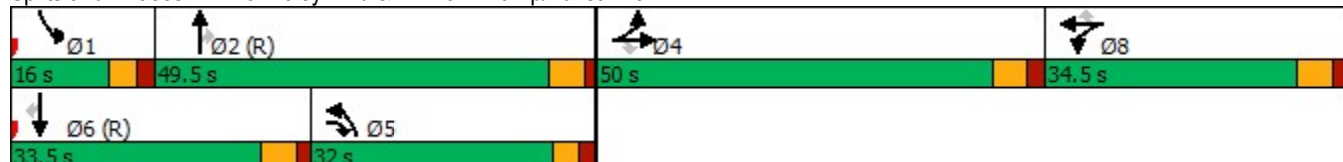
Intersection LOS: E

Intersection Capacity Utilization 91.9%

ICU Level of Service F

Analysis Period (min) 15

Splits and Phases: 110: Foley Blvd & TH 10 N Ramp/101st Ave



	→	↘	↙	↑	↗	↖	↓	↘
Lane Group	EBT	EBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↖	↖	↑↑	↖	↖	↑↑	↖
Traffic Volume (vph)	1	216	26	1110	85	117	617	202
Future Volume (vph)	1	216	26	1110	85	117	617	202
Turn Type	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	4		5	2		1	6	
Permitted Phases		4			2			6
Detector Phase	4	4	5	2	2	1	6	6
Switch Phase								
Minimum Initial (s)	7.0	7.0	7.0	15.0	15.0	7.0	15.0	15.0
Minimum Split (s)	13.0	13.0	12.0	30.5	30.5	12.0	20.5	20.5
Total Split (s)	17.0	17.0	12.0	31.0	31.0	12.0	31.0	31.0
Total Split (%)	28.3%	28.3%	20.0%	51.7%	51.7%	20.0%	51.7%	51.7%
Yellow Time (s)	4.0	4.0	3.0	4.0	4.0	3.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	1.5	1.5	2.0	1.5	1.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	5.0	5.5	5.5	5.0	5.5	5.5
Lead/Lag			Lag	Lead	Lead	Lag	Lead	Lead
Lead-Lag Optimize?								
Recall Mode	None	None	None	C-Max	C-Max	None	C-Max	C-Max
Act Effect Green (s)	10.8	10.8	7.0	28.1	28.1	7.0	32.9	32.9
Actuated g/C Ratio	0.18	0.18	0.12	0.47	0.47	0.12	0.55	0.55
v/c Ratio	0.85	0.47	0.13	0.68	0.11	0.57	0.32	0.21
Control Delay	50.4	7.5	24.8	12.9	0.6	37.7	9.4	2.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	50.4	7.5	24.8	12.9	0.6	37.7	9.4	2.6
LOS	D	A	C	B	A	D	A	A
Approach Delay	31.3			12.3			11.4	
Approach LOS	C			B			B	

Intersection Summary

Cycle Length: 60

Actuated Cycle Length: 60

Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of 1st Green

Natural Cycle: 60

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.85

Intersection Signal Delay: 15.5

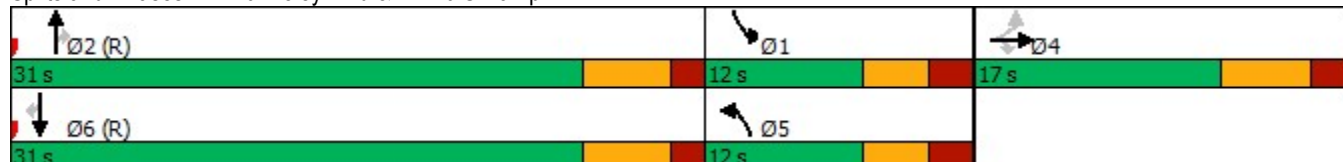
Intersection LOS: B











Intersection Capacity Utilization 65.8%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 120: Foley Blvd & TH 10 S Ramp



					
Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Configurations					
Traffic Volume (vph)	294	184	344	927	371
Future Volume (vph)	294	184	344	927	371
Turn Type	Prot	Perm	pm+pt	NA	NA
Protected Phases	4		5	2	6
Permitted Phases		4	2		
Detector Phase	4	4	2 5	2	6
Switch Phase					
Minimum Initial (s)	7.0	7.0	5.0	15.0	15.0
Minimum Split (s)	32.5	32.5	10.0	20.5	34.5
Total Split (s)	33.6	33.6	10.0	86.4	76.4
Total Split (%)	28.0%	28.0%	8.3%	72.0%	63.7%
Yellow Time (s)	3.0	3.0	3.0	4.0	4.0
All-Red Time (s)	2.5	2.5	2.0	1.5	1.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	5.0	5.5	5.5
Lead/Lag			Lead		Lag
Lead-Lag Optimize?			Yes		Yes
Recall Mode	None	None	None	C-Max	C-Max
Act Effect Green (s)	25.0	25.0	84.5	84.0	70.9
Actuated g/C Ratio	0.21	0.21	0.70	0.70	0.59
v/c Ratio	0.86	0.41	0.91	0.40	0.43
Control Delay	67.8	7.7	41.9	8.5	3.9
Queue Delay	0.0	0.0	0.0	0.0	0.2
Total Delay	67.8	7.7	41.9	8.5	4.1
LOS	E	A	D	A	A
Approach Delay	44.7			17.5	4.1
Approach LOS	D			B	A

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBT, Start of 1st Green

Natural Cycle: 120

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.91

Intersection Signal Delay: 18.2

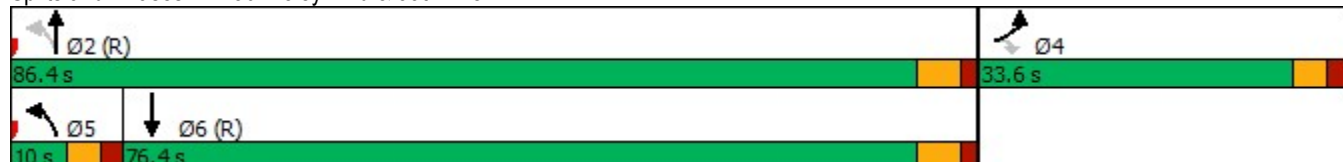
Intersection LOS: B

Intersection Capacity Utilization 73.8%

ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 130: Foley Blvd & 99th Ave



110: Foley Blvd & TH 10 N Ramp/101st Ave

























Direction	All
Future Volume (vph)	3733
Total Delay / Veh (s/v)	66
CO Emissions (kg)	7.52
NOx Emissions (kg)	1.46
VOC Emissions (kg)	1.74

120: Foley Blvd & TH 10 S Ramp

Direction	All
Future Volume (vph)	2641
Total Delay / Veh (s/v)	15
CO Emissions (kg)	2.61
NOx Emissions (kg)	0.51
VOC Emissions (kg)	0.60

130: Foley Blvd & 99th Ave

Direction	All
Future Volume (vph)	2582
Total Delay / Veh (s/v)	18
CO Emissions (kg)	2.10
NOx Emissions (kg)	0.41
VOC Emissions (kg)	0.49

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	70	35	35	132	46	41	457	1493	305	28	212	137
Future Volume (vph)	70	35	35	132	46	41	457	1493	305	28	212	137
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8		8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	7.0	7.0	7.0	7.0	12.0	12.0	7.0	12.0	12.0
Minimum Split (s)	9.5	22.5	22.5	22.5	22.5	22.5	11.5	22.5	22.5	11.5	22.5	22.5
Total Split (s)	10.2	22.5	22.5	22.5	34.8	34.8	41.2	53.5	53.5	11.5	23.8	23.8
Total Split (%)	9.3%	20.5%	20.5%	20.5%	31.6%	31.6%	37.5%	48.6%	48.6%	10.5%	21.6%	21.6%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	C-Max	C-Max	None	C-Max	C-Max
Act Effect Green (s)	12.3	7.7	7.7	23.3	15.1	15.1	36.2	70.0	70.0	7.8	37.0	37.0
Actuated g/C Ratio	0.11	0.07	0.07	0.21	0.14	0.14	0.33	0.64	0.64	0.07	0.34	0.34
v/c Ratio	0.44	0.29	0.13	0.50	0.20	0.13	0.85	0.72	0.30	0.24	0.19	0.23
Control Delay	42.5	53.6	0.9	41.3	41.6	0.8	41.8	19.5	4.9	52.5	30.6	3.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7	0.0	0.0	0.0	0.0
Total Delay	42.5	53.6	0.9	41.3	41.6	0.8	41.8	20.2	4.9	52.5	30.6	3.1
LOS	D	D	A	D	D	A	D	C	A	D	C	A
Approach Delay		34.9			33.7			22.5			22.2	
Approach LOS		C			C			C			C	

Intersection Summary

Cycle Length: 110

Actuated Cycle Length: 110

Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green

Natural Cycle: 110

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.85

Intersection Signal Delay: 23.9

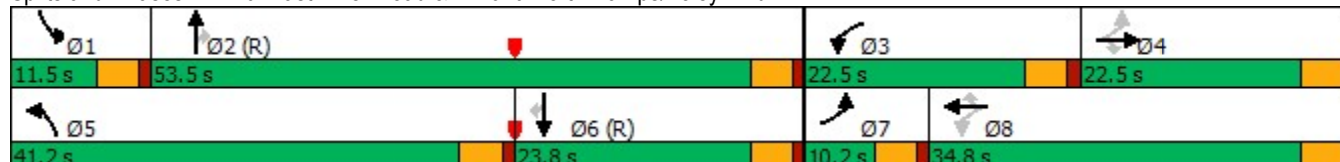
Intersection LOS: C













Intersection Capacity Utilization 72.3%

ICU Level of Service C

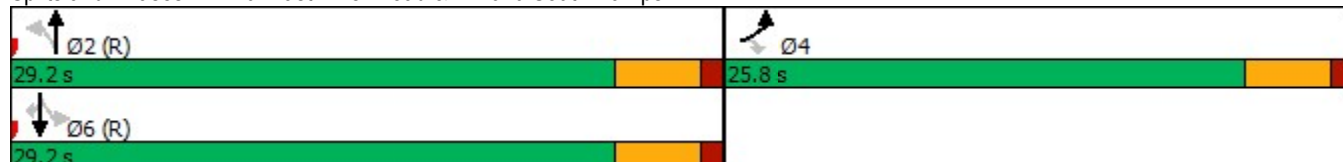
Analysis Period (min) 15

Splits and Phases: 110: East River Road & TH 610 North Ramps/Foley Blvd



						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	1018	168	35	1237	274	105
Future Volume (vph)	1018	168	35	1237	274	105
Turn Type	Prot	Perm	Perm	NA	NA	Perm
Protected Phases	4			2	6	
Permitted Phases		4	2			6
Detector Phase	4	4	2	2	6	6
Switch Phase						
Minimum Initial (s)	7.0	7.0	12.0	12.0	12.0	12.0
Minimum Split (s)	22.5	22.5	22.5	22.5	22.5	22.5
Total Split (s)	25.8	25.8	29.2	29.2	29.2	29.2
Total Split (%)	46.9%	46.9%	53.1%	53.1%	53.1%	53.1%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	None	None	C-Max	C-Max	C-Max	C-Max
Act Effct Green (s)	20.7	20.7	25.3	25.3	25.3	25.3
Actuated g/C Ratio	0.38	0.38	0.46	0.46	0.46	0.46
v/c Ratio	0.86	0.26	0.08	0.83	0.18	0.14
Control Delay	24.1	3.3	9.3	19.3	8.3	3.7
Queue Delay	8.4	0.0	0.0	0.0	0.0	0.0
Total Delay	32.5	3.3	9.3	19.3	8.3	3.7
LOS	C	A	A	B	A	A
Approach Delay				19.0	7.0	
Approach LOS				B	A	
Intersection Summary						
Cycle Length: 55						
Actuated Cycle Length: 55						
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: 0.86						
Intersection Signal Delay: 21.3				Intersection LOS: C		
Intersection Capacity Utilization 70.3%				ICU Level of Service C		
Analysis Period (min) 15						

Splits and Phases: 120: East River Road & TH 610 South Ramps



110: East River Road & TH 610 North Ramps/Foley Blvd

Direction	All
Future Volume (vph)	2991
Total Delay / Veh (s/v)	24
CO Emissions (kg)	2.89
NOx Emissions (kg)	0.56
VOC Emissions (kg)	0.67

120: East River Road & TH 610 South Ramps

Direction	All
Future Volume (vph)	2837
Total Delay / Veh (s/v)	21
CO Emissions (kg)	2.99
NOx Emissions (kg)	0.58
VOC Emissions (kg)	0.69

East River Road TH 610 Ramp Addition

1

Foley and TH 10 N Ramps		
Existing Volume	3873	vehicles
Existing Delay	64	sec/veh
Existing Total Delay	247872	seconds
Future Volume	3733	vehicles
Future Delay	66	sec/veh
Future Total Delay	246378	seconds
Total Delay Reduction	1494	seconds

2

Foley and TH 10 S Ramps		
Existing Volume	2921	vehicles
Existing Delay	16	sec/veh
Existing Total Delay	46736	seconds
Future Volume	2641	vehicles
Future Delay	15	sec/veh
Future Total Delay	39615	seconds
Total Delay Reduction	7121	seconds

3

Foley and 99th Ave		
Existing Volume	2861	vehicles
Existing Delay	31	sec/veh
Existing Total Delay	88691	seconds
Future Volume	2582	vehicles
Future Delay	18	sec/veh
Future Total Delay	46476	seconds
Total Delay Reduction	42215	seconds

4

East River Rd and South TH 610 Ramps		
Existing Volume	2746	vehicles
Existing Delay	15	sec/veh
Existing Total Delay	41190	seconds
Future Volume	2991	vehicles
Future Delay	24	sec/veh
Future Total Delay	71784	seconds
Total Delay Reduction	-30594	seconds

5

East River Road and North TH 610 Ramps		
Existing Volume	2662	vehicles
Existing Delay	19	sec/veh
Existing Total Delay	50578	seconds
Future Volume	2837	vehicles
Future Delay	21	sec/veh
Future Total Delay	59577	seconds
Total Delay Reduction	-8999	seconds

Total Network Delay Reduction	11237	seconds
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Emissions

Existing	1	2	3	4	5	Total
CO	7.65	2.92	2.89	2.11	2.78	18.35
NO	1.49	0.57	0.56	0.41	0.54	3.57
VOC	1.77	0.68	0.67	0.49	0.64	4.25
Network Total						26.17

Build	1	2	3	4	5	Total
CO	7.52	2.61	2.1	2.89	2.99	18.11
NO	1.46	0.51	0.41	0.56	0.58	3.52
VOC	1.74	0.6	0.49	0.67	0.69	4.19
Network Total						25.82

Reduction	0.35
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Traffic Safety Benefit-Cost Calculation

Highway Safety Improvement Program (HSIP) Reactive Project

**A. Roadway Description**

Route	Foley Blvd	District		County	Anoka
Begin RP		End RP		Miles	
Location	TH 10 and Foley Blvd North Ramps				

B. Project Description

Proposed Work	Reduced Volumes due to added ramps at TH 610/East River Road				
Project Cost*	\$12,190,000	Installation Year	2024		
Project Service Life	20 years	Traffic Growth Factor	2.0%		

* exclude Right of Way from Project Cost

C. Crash Modification Factor

0.96	Fatal (K) Crashes	Reference	Crash Analysis
0.96	Serious Injury (A) Crashes		
0.96	Moderate Injury (B) Crashes	Crash Type	All
0.96	Possible Injury (C) Crashes		
0.96	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	1			
B crashes	2			
C crashes	3			
PDO crashes	22			

F. Benefit-Cost Calculation

\$487,323	Benefit (present value)	B/C Ratio = 0.04
\$12,190,000	Cost	
Proposed project expected to reduce 1 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 2.0%
 Project Service Life 20 years

G. Annual Benefit

Crash Severity	Crash Reduction	Annual Reduction	Annual Benefit
K crashes	0.00	0.00	\$0
A crashes	0.04	0.01	\$9,067
B crashes	0.08	0.03	\$5,600
C crashes	0.12	0.04	\$4,400
PDO crashes	0.88	0.29	\$3,520

\$22,587

H. Amortized Benefit

Year	Crash Benefits	Present Value
2024	\$22,587	\$22,587
2025	\$23,038	\$22,765
2026	\$23,499	\$22,945
2027	\$23,969	\$23,127
2028	\$24,449	\$23,309
2029	\$24,938	\$23,494
2030	\$25,436	\$23,679
2031	\$25,945	\$23,867
2032	\$26,464	\$24,055
2033	\$26,993	\$24,245
2034	\$27,533	\$24,437
2035	\$28,084	\$24,630
2036	\$28,645	\$24,825
2037	\$29,218	\$25,021
2038	\$29,803	\$25,219
2039	\$30,399	\$25,418
2040	\$31,007	\$25,619
2041	\$31,627	\$25,822
2042	\$32,259	\$26,026
2043	\$32,905	\$26,232
0	\$0	\$0
0	\$0	\$0
0	\$0	\$0
0	\$0	\$0
0	\$0	\$0
0	\$0	\$0
0	\$0	\$0
0	\$0	\$0
0	\$0	\$0
0	\$0	\$0
0	\$0	\$0
0	\$0	\$0

Total = \$487,323

Traffic Safety Benefit-Cost Calculation

Highway Safety Improvement Program (HSIP) Reactive Project

**A. Roadway Description**

Route	Foley Blvd	District		County	Anoka
Begin RP		End RP		Miles	
Location	TH 10 and Foley Blvd South Ramps				

B. Project Description

Proposed Work	Reduced Volumes due to added ramps at TH 610/East River Road				
Project Cost*	\$12,190,000	Installation Year	2024		
Project Service Life	20 years	Traffic Growth Factor	2.0%		

* exclude Right of Way from Project Cost

C. Crash Modification Factor

0.84	Fatal (K) Crashes	Reference	Crash Analysis
0.84	Serious Injury (A) Crashes		
0.84	Moderate Injury (B) Crashes	Crash Type	All
0.84	Possible Injury (C) Crashes		
0.84	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	0			
B crashes	4			
C crashes	4			
PDO crashes	11			

F. Benefit-Cost Calculation

\$1,624,792	Benefit (present value)	B/C Ratio = 0.14
\$12,190,000	Cost	
Proposed project expected to reduce 2 crashes annually, 0 of which involving fatality or serious injury.		

F. Analysis Assumptions

Crash Severity	Crash Cost
K crashes	\$1,360,000
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 2.0%
 Project Service Life 20 years

G. Annual Benefit

Crash Severity	Crash Reduction	Annual Reduction	Annual Benefit
K crashes	0.00	0.00	\$0
A crashes	0.00	0.00	\$0
B crashes	0.64	0.21	\$44,800
C crashes	0.64	0.21	\$23,467
PDO crashes	1.76	0.59	\$7,040

\$75,307

H. Amortized Benefit

Year	Crash Benefits	Present Value
2024	\$75,307	\$75,307
2025	\$76,813	\$75,902
2026	\$78,349	\$76,502
2027	\$79,916	\$77,107
2028	\$81,514	\$77,716
2029	\$83,145	\$78,331
2030	\$84,808	\$78,950
2031	\$86,504	\$79,574
2032	\$88,234	\$80,203
2033	\$89,998	\$80,837
2034	\$91,798	\$81,476
2035	\$93,634	\$82,120
2036	\$95,507	\$82,769
2037	\$97,417	\$83,424
2038	\$99,366	\$84,083
2039	\$101,353	\$84,748
2040	\$103,380	\$85,418
2041	\$105,448	\$86,093
2042	\$107,556	\$86,774
2043	\$109,708	\$87,459
0	\$0	\$0
0	\$0	\$0
0	\$0	\$0
0	\$0	\$0
0	\$0	\$0
0	\$0	\$0
0	\$0	\$0
0	\$0	\$0
0	\$0	\$0
0	\$0	\$0
0	\$0	\$0
0	\$0	\$0

Total = \$1,624,792

Traffic Safety Benefit-Cost Calculation

Highway Safety Improvement Program (HSIP) Reactive Project

**A. Roadway Description**

Route	Foley Blvd	District		County	Anoka
Begin RP		End RP		Miles	
Location	Foley Blvd and 99th Avenue Intersection				

B. Project Description

Proposed Work	Reduced Volumes due to added ramps at TH 610/East River Road		
Project Cost*	\$12,190,000	Installation Year	2024
Project Service Life	20 years	Traffic Growth Factor	2.0%

* exclude Right of Way from Project Cost

C. Crash Modification Factor

0.80	Fatal (K) Crashes	Reference	Crash Analysis
0.80	Serious Injury (A) Crashes		
0.80	Moderate Injury (B) Crashes	Crash Type	All
0.80	Possible Injury (C) Crashes		
0.80	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	0			
B crashes	1			
C crashes	1			
PDO crashes	3			

F. Benefit-Cost Calculation

\$512,063	Benefit (present value)	B/C Ratio = 0.05
\$12,190,000	Cost	

Proposed project expected to reduce 1 crashes annually, 0 of which involving fatality or serious injury.

F. Analysis Assumptions

Crash Severity	Crash Cost
K crashes	\$1,360,000
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 2.0%
 Project Service Life 20 years

G. Annual Benefit

Crash Severity	Crash Reduction	Annual Reduction	Annual Benefit
K crashes	0.00	0.00	\$0
A crashes	0.00	0.00	\$0
B crashes	0.20	0.07	\$14,000
C crashes	0.20	0.07	\$7,333
PDO crashes	0.60	0.20	\$2,400

\$23,733

H. Amortized Benefit

Year	Crash Benefits	Present Value
2024	\$23,733	\$23,733
2025	\$24,208	\$23,921
2026	\$24,692	\$24,110
2027	\$25,186	\$24,301
2028	\$25,690	\$24,493
2029	\$26,204	\$24,686
2030	\$26,728	\$24,882
2031	\$27,262	\$25,078
2032	\$27,807	\$25,276
2033	\$28,364	\$25,476
2034	\$28,931	\$25,678
2035	\$29,509	\$25,881
2036	\$30,100	\$26,085
2037	\$30,702	\$26,291
2038	\$31,316	\$26,499
2039	\$31,942	\$26,709
2040	\$32,581	\$26,920
2041	\$33,232	\$27,133
2042	\$33,897	\$27,347
2043	\$34,575	\$27,563
0	\$0	\$0
0	\$0	\$0
0	\$0	\$0
0	\$0	\$0
0	\$0	\$0
0	\$0	\$0
0	\$0	\$0
0	\$0	\$0
0	\$0	\$0
0	\$0	\$0
0	\$0	\$0
0	\$0	\$0

Total = \$512,063

Coon Rapids Crash Analysis
2020 Regional Solicitation

	Intersections	Total Number of Accidents	Years of Data	ADT*	Calculated Crash Rate (Million Entering Vehicles)
Existing	Foley Blvd and North TH 10 Ramps	28	3	34900	0.74
Future	Foley Blvd and North TH 10 Ramps	27	3	33400	0.74
Existing	Foley Blvd and South TH 10 Ramps	19	3	20750	0.84
Future	Foley Blvd and South TH 10 Ramps	16	3	17750	0.83
Existing	Foley Blvd and 99th Ave	5	3	23250	0.20
Future	Foley Blvd and 99th Ave	4	3	20250	0.19
Existing	East River Rd and North TH 610 Ramps	5	3	23625	0.20
Future	East River Rd and North TH 610 Ramps	5	3	26125	0.18
Existing	East River Rd and South TH 610 Ramps	6	3	39200	0.14
Future	East River Rd and South TH 610 Ramps	6	3	40950	0.14

Reduction or increase based on volume modifications	CMF	
Foley/North Ramps	4%	0.96
Foley/South Ramps	16%	0.84
Foley/99th	20%	0.80
ERR/North Ramps	0%	1.00
ERR/South Ramps	0%	1.00

TH 47 Foley North Ramp

objectid	Incident ID	Date and Time	Year	Hour	Crash Seve	Number Kil	Number of Officer Nar	Constructic	County	City	Township
1831279	672109	12/28/2018	2018	22	Property D	0	2 UNIT 1	M	Anoka	Coon Rapids	
1875523	501186	9/14/2017,	2017	12	Property D	0	2 UNIT # 1	M	Anoka	Coon Rapids	
1881955	455719	5/30/2017,	2017	9	Property D	0	2 ***THIS	M	Anoka	Coon Rapids	
1947408	533209	1/6/2018, 8	2018	8	Property D	0	1 VEHICLE #1	M	Anoka	Coon Rapids	
1959345	361556	7/4/2016, 9	2016	21	Property D	0	2 DRIVER 1	M	Anoka	Coon Rapids	
2020576	472983	6/11/2017,	2017	14	Possible Inj	0	2 I was at	M	Anoka	Coon Rapids	
2101148	658631	11/9/2018,	2018	13	Property D	0	2 VEH #1 WA	M	Anoka	Coon Rapids	
2114513	671788	12/27/2018	2018	23	Property D	0	1 ***ACCID	M	Anoka	Coon Rapids	
2139256	635602	9/17/2018,	2018	13	Property D	0	3 THE	M	Anoka	Coon Rapids	
2239397	533575	1/6/2018, 4	2018	16	Property D	0	3 DRIVER	M	Anoka	Coon Rapids	
2241229	514280	11/3/2017,	2017	22	Property D	0	1 LOCATION	M	Anoka	Coon Rapids	
2242077	596983	5/13/2018,	2018	15	Property D	0	4 UNIT 1	M	Anoka	Coon Rapids	
2242549	605619	6/19/2018,	2018	19	Serious Injt	0	1 DRIVER 1	M	Anoka	Coon Rapids	
2261248	415406	1/15/2017,	2017	14	Property D	0	2 ***THIS	M	Anoka	Coon Rapids	
2264786	517770	11/15/2017	2017	21	Property D	0	2 OFFICER	M	Anoka	Coon Rapids	
2268564	662129	11/21/2018	2018	18	Property D	0	1 WHILE SB	M	Anoka	Coon Rapids	
2290800	517990	11/17/2017	2017	16	Property D	0	2 I	M	Anoka	Coon Rapids	
2364844	525512	12/16/2017	2017	5	Property D	0	2 UNIT 1	M	Anoka	Coon Rapids	
2368702	603279	6/9/2018, 1	2018	10	Minor Injur	0	2 DRIVER	M	Anoka	Coon Rapids	
2415113	518562	11/20/2017	2017	11	Possible Inj	0	2 DRIVER 1	M	Anoka	Coon Rapids	
2424321	504705	9/28/2017,	2017	15	Property D	0	2 DRIVER 2	M	Anoka	Coon Rapids	
2424926	330281	2/19/2016,	2016	5	Minor Injur	0	2 D1 SAID	M	Anoka	Coon Rapids	
2425472	363458	7/12/2016,	2016	6	Property D	0	2 VEHICLE #1	M	Anoka	Coon Rapids	
2429868	605502	6/18/2018,	2018	6	Possible Inj	0	2 OFFICER	M	Anoka	Coon Rapids	
2503475	368413	8/2/2016, 9	2016	9	Property D	0	2 THE	M	Anoka	Coon Rapids	
2529655	541734	2/1/2018, 1	2018	10	Property D	0	2 I WAS	M	Anoka	Coon Rapids	
2532915	650381	10/6/2018,	2018	1	Property D	0	2 WHILE ON	M	Anoka	Coon Rapids	
2584855	669430	12/18/2018	2018	21	Property D	0	2 UNIT 1	M	Anoka	Coon Rapids	

Route Type	Route ID	Route Name	Measures	Roadway	Divided Road	Intersection	Manner of First Harmful Event	Relative Traffic	Lighting Condition	Road Surface Condition	road_circumference	Road Circumference
County	Sta 040000659	1.378557	FOLEY BLVI North				Sideswipe - Motor Veh On Roadway	Dark (Street)	Road Surface Condition (wet, icy, snow)			
Municipal	Sta 050002393	0.012504	101ST AVE	Not Applicable	FOLEY BLVI		Rear to Rear Motor Veh On Roadway	Daylight	None			
County	Sta 040000659	1.366427	FOLEY BLVI	Not Applicable			Sideswipe - Motor Veh On Roadway	Daylight	None			
County	Sta 040000659	1.38153	FOLEY BLVI	Not Applicable			Roadway Surface On Median	Daylight	Road Surface Condition (wet, icy, snow)			
County	Sta 040000659	1.385013	FOLEY BLVI North		101ST AVE	Angle	Motor Veh On Roadway	Dark (Street)	None			
Ramp or Connector	220000659	0.272908	RAMP888	West			Front to Rear Motor Veh On Roadway	Daylight	None			
Ramp or Connector	220000659	0.005696	RAMP887	West			Front to Rear Motor Veh On Roadway	Daylight	None			
Municipal	Sta 050002393	0.011939	101ST AVE	East			Front to Rear Motor Veh On Roadway	Dark (Street)	Road Surface Condition (wet, icy, snow)			
County	Sta 040000659	1.366525	FOLEY BLVI North			Angle	Motor Veh On Roadway	Daylight	None			
County	Sta 040000659	1.397707	FOLEY BLVI North			Angle	Motor Veh On Roadway	Sunset	None			
County	Sta 040000659	1.418324	FOLEY BLVI South				Light Pole/On Roadway	Dark (Street)	Road Surface Condition (wet, icy, snow)			
County	Sta 040000659	1.380089	FOLEY BLVI	Not Applicable			Front to Front Motor Veh On Roadway	Daylight	None			
Ramp or Connector	220000659	0.000474	RAMP887	Not Applicable	FOLEY BLVD NW		Traffic Sign On Roadside	Daylight	None			
Municipal	Sta 050002393	0.011837	101ST AVE	Not Applicable		Angle	Motor Veh On Roadway	Daylight	None			
County	Sta 040000659	1.377055	FOLEY BLVI South		101ST AVE	Angle	Motor Veh On Roadway	Dark (Street)	None			
Municipal	Sta 050002393	0.009145	101ST AVE	Not Applicable	FOLEY BLVI		Front to Rear Motor Veh On Roadway	Dark (Street)	None			
Municipal	Sta 050002393	0.004378	101ST AVE	North			Sideswipe - Motor Veh On Roadway	Daylight	None			
County	Sta 040000659	1.377499	FOLEY BLVI East		101ST AVE	Angle	Motor Veh On Roadway	Dark (Street)	Road Surface Condition (wet, icy, snow)			
County	Sta 040000659	1.394795	FOLEY BLVI North			Angle	Motor Veh On Roadway	Daylight	None			
Municipal	Sta 050002393	0.011181	101ST AVE	NW			Front to Rear Motor Veh On Roadway	Daylight	None			
County	Sta 040000659	1.369542	FOLEY BLVI South			Angle	Motor Veh On Roadway	Daylight	None			
County	Sta 040000659	1.375121	FOLEY BLVI South		101ST AVE	Angle	Motor Veh On Roadway	Dark (Street)	Road Surface Condition (wet, icy, snow)			
County	Sta 040000659	1.440376	FOLEY BLVI South				Front to Rear Motor Veh On Roadway	Daylight	None			
Municipal	Sta 050002393	0.0037	101ST AVE	South	FOLEY BLVI	Angle	Motor Veh On Roadway	Daylight	None			
County	Sta 040000659	1.37462	FOLEY BLVI North			Angle	Motor Veh On Roadway	Daylight	None			
Municipal	Sta 050002393	0.013279	101ST AVE	West			Front to Rear Motor Veh On Roadway	Daylight	None			
Municipal	Sta 050002393	0.002771	101ST AVE	West	FOLEY BLVI	Angle	Motor Veh On Roadway	Dark (Street)	None			
Municipal	Sta 050002393	0.010018	101ST AVE	Not Applicable	FOLEY BLVI		Sideswipe - Motor Veh On Roadway	Dark (Street)	None			

road_circu	Relative Int Traffic Con	Weather Pi	Weather S	Surface Co	Work Zone	Work Zone	Work Zone	Workers Pr	Unit1 Type	Unit1 Vehi	Unit1 Direc
snow, slush	Four-Way I Traffic Con	Cloudy		Ice/Frost	2		NOT APPLICABLE		Motor Veh Sport Utilit	Northbound	
	Four-Way I Traffic Con	Clear		Dry	1	Transition / Lane Closu	No		Motor Veh Pickup	Eastbound	
	Four-Way I Traffic Con	Cloudy		Dry	2		NOT APPLICABLE		Motor Veh Sport Utilit	Southbound	
snow, slush	Intersection Traffic Con	Clear		Ice/Frost	2		NOT APPLICABLE		Motor Veh Passenger	Southbound	
	Four-Way I Traffic Con	Clear		Dry	2		NOT APPLICABLE		Motor Veh Passenger	Eastbound	
	Not at Inte Yield Sign	Clear		Dry	2		NOT APPLICABLE		Motor Veh Sport Utilit	Southbound	
	Not at Inte No Control	Cloudy		Dry	2		NOT APPLICABLE		Motor Veh Medium / I	Westbound	
snow, slush	Four-Way I Traffic Con	Snow	Blowing Sa	Snow	2		NOT APPLICABLE		Hit-And-Run Vehicle o	Northbound	
	Not at Inte Traffic Con	Rain		Wet	2		NOT APPLICABLE		Motor Veh Passenger	Eastbound	
	Four-Way I Traffic Con	Clear		Dry	2		NOT APPLICABLE		Motor Veh Passenger	Northbound	
snow, slush	Four-Way I Traffic Con	Sleet, Hail (Freezing Ra		Ice/Frost	2		NOT APPLICABLE		Motor Veh Pickup	Southbound	
	Four-Way I Traffic Con	Clear		Dry	2		NOT APPLICABLE		Motor Veh Passenger	Northbound	
	Four-Way I Traffic Con	Clear		Dry	2		NOT APPLICABLE		Motor Veh Pickup	Eastbound	
	Four-Way I Traffic Con	Clear		Dry	2		NOT APPLICABLE		Motor Veh Sport Utilit	Eastbound	
	Four-Way I Traffic Con	Clear		Dry	2		NOT APPLICABLE		Motor Veh Pickup	Eastbound	
	Four-Way I Traffic Con	Clear		Dry	2		NOT APPLICABLE		Hit-And-Ru Passenger	Northbound	
	Four-Way I Traffic Con	Cloudy		Wet	2		NOT APPLICABLE		Motor Veh Sport Utilit	Northbound	
snow, slush	Four-Way I Traffic Con	Clear		Ice/Frost	2		NOT APPLICABLE		Motor Veh Pickup	Eastbound	
	Four-Way I Traffic Con	Cloudy		Wet	2		NOT APPLICABLE		Motor Veh Pickup	Southbound	
	Four-Way I Traffic Con	Cloudy		Dry	2		NOT APPLICABLE		Motor Veh Passenger	Northbound	
	Four-Way I Traffic Con	Clear		Dry	2		NOT APPLICABLE		Motor Veh Passenger	Southbound	
snow, slush	Four-Way I Traffic Con	Clear		Wet	2		NOT APPLICABLE		Motor Veh Pickup	Southbound	
	Not at Inte No Control	Clear		Dry	2		NOT APPLICABLE		Motor Veh Passenger	Southbound	
	Four-Way I Traffic Con	Cloudy		Dry	2		NOT APPLICABLE		Motor Veh Passenger	Southbound	
	Four-Way I Traffic Con	Clear		Dry	2		NOT APPLICABLE		Motor Veh Passenger	Eastbound	
	Four-Way I Traffic Con	Clear		Wet	2		NOT APPLICABLE		Motor Veh Passenger	Westbound	
	Four-Way I Traffic Con	Rain		Wet	1	Activity Are	Lane Closu	No	Motor Veh Passenger	Westbound	
	Four-Way I Traffic Con	Clear		Dry	2		NOT APPLICABLE		Motor Veh Sport Utilit	Eastbound	

Unit1 Factc	Unit1 Factc	Unit1 Most	Unit1 Vehic	Unit1 Traffi	Unit1 Poste	Unit1 Horiz	Unit1 Road	Unit1 Nonr	Unit1 Injur	Unit1 Physi	Unit1 Age	Unit1 Sex
Other Contributing Act	Motor Veh Slowing	Two-Way, l		40 Straight	Downhill				No Appare	Apparently	51 Female	
Improper Backing	Motor Veh Backing	Two-Way, l		30 Straight	Level				No Appare	Apparently	71 Male	
Unknown	Motor Veh Moving For	Two-Way, l		40 Straight	Level				No Appare	Apparently	36 Female	
No Clear Contributing	Roadway S Turning Le	Two-Way, l		30 Straight	Level				No Appare	Apparently	29 Female	
Failure to Yield Improper T	Motor Veh Turning Le	Two-Way, l		45 Straight	Level				No Appare	Apparently	17 Female	
No Clear Contributing	Motor Veh Vehicle Sto	Two-Way, l		40 Straight	Level				Possible Inj	Apparently	47 Male	
Improper Backing	Motor Veh Backing	One Way T		65 Straight	Level				No Appare	Apparently	54 Male	
d	Motor Veh Moving For	Two-Way, l		40 Straight	Downhill							
Failure to Yield Right-o	Motor Veh Turning Le	Two-Way, l		40 Straight	Level				No Appare	Apparently	24 Male	
Improper T Operated M	Motor Veh Turning Le	One Way T		35 Straight	Level				No Appare	Apparently	18 Male	
No Clear Contributing	Traffic Sign Moving For	Two-Way, l		40 Straight	Level				No Appare	Apparently	19 Male	
Failure to Yield Right-o	Motor Veh Turning Le	Two-Way, l		40 Straight	Level				No Appare	Apparently	26 Male	
No Clear Contributing	Traffic Sign Moving For	Two-Way, l		45 Curve Right	Uphill				Suspected	Apparently	61 Male	
Failure to Yield Right-o	Motor Veh Moving For	Other		40 Straight	Level				No Appare	Apparently	49 Male	
Disregard Other Traffic	Motor Veh Turning Le	Two-Way, l		40 Straight	Level				No Appare	Apparently	57 Male	
d	Motor Veh Moving For	Two-Way, l		40 Straight	Level							
Failed to Keep in Prop	Motor Veh Turning Le	Two-Way, l		45 Straight	Level				No Appare	Apparently	48 Female	
No Clear Contributing	Motor Veh Moving For	Two-Way, l		40 Straight	Level				No Appare	Apparently	49 Female	
No Clear Contributing	Motor Veh Moving For	Two-Way, l		40 Straight	Level				No Appare	Apparently	40 Male	
No Clear Contributing Action	Vehicle Sto	Two-Way, l		45 Straight	Level				No Appare	Apparently	38 Male	
Operated Motor Vehic	Motor Veh Moving For	Two-Way, l		40 Straight	Level				No Appare	Apparently	55 Male	
Other Contributing Act	Motor Veh Moving For	Two-Way, l		40 Straight	Level				Suspected	Apparently	63 Male	
No Clear Contributing	Motor Veh Vehicle Sto	Two-Way, l		40 Curve Right	Level				No Appare	Apparently	24 Female	
Ran Red Light	Motor Veh Moving For	Two-Way, l		45 Straight	Level				No Appare	Apparently	18 Male	
Failure to Yield Right-o	Motor Veh Turning Le	Two-Way, l		40 Straight	Level				No Appare	Apparently	79 Male	
No Clear Contributing	Motor Veh Moving For	Two-Way, l		30 Straight	Level				No Appare	Apparently	73 Male	
Disregard Other Traffic	Motor Veh Moving For	Two-Way, l		30 Straight	Level				No Appare	Apparently	22 Female	
No Clear Contributing	Motor Veh Moving For	Two-Way, l		30 Straight	Level				No Appare	Apparently	17 Female	

Unit2 Type	Unit2 Vehic	Unit2 Direc	Unit2 Factc	Unit2 Factc	Unit2 Most	Unit2 Vehic	Unit2 Nonr	Unit2 Injur	Unit2 Physi	Unit2 Age	Unit2 Sex	Unit3 Type
Motor Veh Passenger	(Northboun	Other Contributing	Act	Motor Veh Slowing				No Appare	Apparently	38	Female	
Motor Veh Passenger	(Eastbound	No Clear Contributing		Motor Veh Turning Left				No Appare	Apparently	53	Female	
Motor Veh Medium /	(Eastbound	No Clear Contributing		Motor Veh Turning Right				No Appare	Apparently	54	Male	
Motor Veh Sport Utilit	Northboun	No Clear Contributing		Motor Veh Moving Forward				No Appare	Apparently	24	Male	
Motor Veh Passenger	(Southboun	Operated Motor Vehic		Motor Veh Moving Forward				No Appare	Apparently	50	Female	
Motor Veh Passenger	(Westboun	No Clear Contributing		Motor Veh Vehicle Stopped or Sta				No Appare	Apparently	28	Female	
Motor Veh Passenger	(Northboun	No Clear Contributing		Other Post, Turning Right				No Appare	Apparently	29	Male	
Motor Veh Passenger	(Eastbound	No Clear Contributing		Motor Veh Moving Forward				No Appare	Apparently	35	Female	Motor Veh
Motor Veh Passenger	(Northboun	No Clear Contributing		Motor Veh Moving Forward				No Appare	Apparently	38	Male	Motor Veh
Motor Veh Pickup	Northboun	No Clear Contributing		Motor Veh Moving Forward				No Appare	Apparently	41	Male	Motor Veh
Motor Veh Sport Utilit	Northboun	No Clear Contributing		Motor Veh Moving Forward				No Appare	Apparently	47	Male	
Motor Veh Sport Utilit	Southboun	No Clear Contributing		Motor Veh Moving Forward				No Appare	Apparently	42	Female	
Motor Veh Passenger	(Southboun	No Clear Contributing		Motor Veh Turning Left				No Appare	Apparently	74	Female	
Motor Veh Passenger	(Northboun	No Clear Contributing		Motor Veh Turning Left				No Appare	Apparently	58	Female	
Motor Veh Passenger	(Westboun	Driver Speeding		Motor Veh Turning Left				No Appare	Apparently	23	Male	
Motor Veh Passenger	(Westboun	Failure to Y	Other Cont	Motor Veh Turning Left				Suspected	Apparently	25	Female	
Motor Veh Sport Utilit	Northboun	Following Too Closely		Motor Veh Moving Forward				No Appare	Apparently	18	Male	
Motor Veh Passenger	(Southboun	No Clear Contributing		Motor Veh Turning Left				No Appare	Apparently	53	Male	
Motor Veh Sport Utilit	Westboun	No Clear Contributing		Motor Veh Turning Left				No Appare	Apparently	31	Female	
Motor Veh Passenger	(Southboun	Driver Distracted		Motor Veh Moving Forward				No Appare	Apparently	24	Female	
Motor Veh Passenger	(Eastbound	No Clear Contributing		Motor Veh Moving Forward				Possible Inj	Apparently	30	Male	
Motor Veh Passenger	(Northboun	No Clear Contributing		Motor Veh Moving Forward				No Appare	Apparently	38	Male	
Motor Veh Passenger	(Westboun	Following Too Closely		Motor Veh Moving Forward				No Appare	Apparently	22	Male	
Motor Veh Sport Utilit	Northboun	No Clear Contributing		Motor Veh Moving Forward				No Appare	Apparently	45	Male	
Motor Veh Passenger	(Eastbound	No Clear Contributing		Motor Veh Turning Right				No Appare	Apparently	70	Female	

Unit3 Vehic Unit3 Direc Unit3 Factc Unit3 Factc Unit3 Most Unit3 Vehic Unit3 Nonr Unit3 Injur Unit3 Physi Unit3 Age Unit3 Sex Unit4 Type Unit4 Vehic

Passenger	Westbound	No Clear	Contributing	Motor Veh	Vehicle Stopped or Sta	No Appare	Apparently	35	Male	
Passenger	Northbound	No Clear	Contributing	Motor Veh	Vehicle Stopped or Sta	No Appare	Apparently	34	Male	
Passenger	Eastbound	No Clear	Contributing	Motor Veh	Vehicle Stopped or Sta	No Appare	Apparently	38	Female	Motor Veh Passenger

[illegible]

utm_x	utm_y	x	y
478507.5	5000077	478507.5	5000077
478516	5000082	478516	5000082
478492.2	5000066	478492.2	5000066
478513.1	5000080	478513.1	5000080
478511.7	5000087	478511.7	5000087
478488.3	5000102	478488.3	5000102
478485.1	5000087	478485.1	5000087
478510.4	5000074	478510.4	5000074
478485.1	5000069	478485.1	5000069
478507.6	5000114	478507.6	5000114
478505.9	5000148	478505.9	5000148
478498	5000087	478498	5000087
478492.7	5000083	478492.7	5000083
478510.7	5000075	478510.7	5000075
478494.1	5000083	478494.1	5000083
478512.3	5000088	478512.3	5000088
478505.1	5000090	478505.1	5000090
478494.6	5000084	478494.6	5000084
478502.5	5000110	478502.5	5000110
478515.5	5000087	478515.5	5000087
478502.3	5000064	478502.3	5000064
478492.4	5000081	478492.4	5000081
478516.2	5000183	478516.2	5000183
478498	5000079	478498	5000079
478490.2	5000081	478490.2	5000081
478518.9	5000086	478518.9	5000086
478502.4	5000090	478502.4	5000090
478508.4	5000077	478508.4	5000077

TH 47 Foley South Ramp (2016 -2018)

objectid	Incident ID	Date and Time	Year	Hour	Crash Seve	Number Kil	Number of Officer Nar	Constructic	County	City	Township
1816966	445203	4/14/2017,	2017		13 Minor Injur	0	3 THE	M	Anoka	Coon Rapids	
1862928	568325	2/22/2018,	2018		18 Possible Inj	0	2 DRIVER 1	M	Anoka	Coon Rapids	
1883006	669345	12/14/2018	2018		15 Property D	0	2 Upon	M	Anoka	Coon Rapids	
1914783	525226	12/13/2017	2017		10 Property D	0	1 V1 was on	M	Anoka	Coon Rapids	
1941528	670945	12/25/2018	2018		19 Minor Injur	0	2 DRIVER 1	M	Anoka	Coon Rapids	
1953999	590539	4/13/2018,	2018		7 Property D	0	2 AT THE TOI	M	Anoka	Coon Rapids	
2049431	567817	2/21/2018,	2018		6 Property D	0	2 ACCIDENT	M	Anoka	Coon Rapids	
2161765	517672	11/16/2017	2017		16 Possible Inj	0	2 DRIVER 1	M	Anoka	Coon Rapids	
2162926	589309	4/7/2018,	2018		12 Possible Inj	0	2 ***THIS	M	Anoka	Coon Rapids	
2215210	403091	12/12/2016	2016		8 Property D	0	2 ACCIDENT	M	Anoka	Coon Rapids	
2215246	390908	11/1/2016,	2016		5 Minor Injur	0	2 ***	M	Anoka	Coon Rapids	
2261279	406901	12/18/2016	2016		16 Property D	0	1 DRIVER #2	M	Anoka	Coon Rapids	
2289768	348739	5/12/2016,	2016		3 Property D	0	1 OFFICER FC	M	Anoka	Coon Rapids	
2317242	582987	3/12/2018,	2018		14 Possible Inj	0	2 I WAS	M	Anoka	Coon Rapids	
2365266	526430	12/19/2017	2017		7 Property D	0	2 UNIT 1	M	Anoka	Coon Rapids	
2393961	607978	6/27/2018,	2018		23 Property D	0	2 WHILE ON	M	Anoka	Coon Rapids	
2430202	665856	12/5/2018,	2018		7 Property D	0	2 THE	M	Anoka	Coon Rapids	
2449262	447718	4/24/2017,	2017		15 Property D	0	2 ***THIS	M	Anoka	Coon Rapids	
2452197	525539	12/16/2017	2017		6 Minor Injur	0	1 UNIT 1	M	Anoka	Coon Rapids	

Route Type	Route ID	Route Name	Mea	Roadway	N Divided	Roadway	Intersection	Manner of	First Harmf	Relative Tr	Lighting Co	Road Circu	road_circu	Road Circu
County Sta	040000659	1.146167	FOLEY BLVI	South				Front to Re	Motor Veh	On Roadw	Daylight	None		
Ramp or Cr	220000659	0.320308	RAMP523	Not Applicable				Front to Re	Motor Veh	On Roadw	Dark (Stree	None		
County Sta	040000659	1.199103	FOLEY BLVI	East				Front to Re	Motor Veh	On Roadw	Daylight	None		
Ramp or Cr	220000659	0.020861	RAMP529	East					Roadway S	On Median	Daylight		Road Surface Condition (wet, icy, s	
County Sta	040000659	1.176619	FOLEY BLVI	Not Applicable				Sideswipe -	Motor Veh	On Roadw	Dark (Stree	None		
Ramp or Cr	220000659	0.321727	RAMP523					Front to Re	Motor Veh	On Roadw	Daylight	None		
County Sta	040000659	1.176136	FOLEY BLVI	South				Front to Re	Motor Veh	On Roadw	Sunrise	None		
County Sta	040000659	1.199767	FOLEY BLVI	South				Angle	Motor Veh	On Roadw	Daylight	None		
Ramp or Cr	220000659	0.321671	RAMP523	East				Front to Re	Motor Veh	On Roadw	Daylight	None		
Ramp or Cr	220000659	0.318834	RAMP523	South				Front to Re	Motor Veh	On Roadw	Daylight	None		
County Sta	040000659	1.178875	FOLEY BLVI	South				Angle	Motor Veh	On Roadw	Dark (Stree	None		
Ramp or Cr	220000659	0.289452	RAMP523	East				Front to Re	Motor Veh	On Roadw	Daylight	None		
County Sta	040000659	1.1874	FOLEY BLVI	South		RAMP571			Light Pole/	On Median	Dark (Stree	None		
Ramp or Cr	220000659	0.322321	RAMP523					Front to Re	Motor Veh	On Roadw	Daylight	None		
County Sta	040000659	1.174119	FOLEY BLVI	Not Applicable				Front to Re	Motor Veh	On Roadw	Daylight	None		
County Sta	040000659	1.187087	FOLEY BLVI	North		RAMP529		Angle	Motor Veh	On Roadw	Dark (Stree	None		
Ramp or Cr	220000659	0.316543	RAMP523	East				Front to Re	Motor Veh	On Roadw	Daylight	None		
Ramp or Cr	220000659	0.01997	RAMP571	East				Front to Re	Motor Veh	On Roadw	Daylight	None		
County Sta	040000659	1.184175	FOLEY BLVI	South					Curb	On Roadw	Dark (Stree	Road Surface Condition (wet, icy, s		

road_circu	Relative Int	Traffic Con	Weather P	Weather S	Surface Co	Work Zone	Work Zone	Work Zone	Workers Pr	Unit1 Type	Unit1 Vehi	Unit1 Direc
	Not at Inte	No Control	Clear		Dry	2		NOT APPLICABLE		Motor Veh Passenger		Southbound
	Interchang	Yield Sign	Snow		Dry	2		NOT APPLICABLE		Motor Veh Passenger		Southbound
	Intersectio	Traffic Con	Cloudy		Dry	2		NOT APPLICABLE		Motor Veh Pickup		Eastbound
snow, slush,	Interchang	No Control	Snow		Snow	2		NOT APPLICABLE		Motor Veh Passenger		Eastbound
	Interchang	Traffic Con	Cloudy		Dry	2		NOT APPLICABLE		Motor Veh Passenger		Southbound
	Four-Way I	Yield Sign	Cloudy		Dry	2		NOT APPLICABLE		Motor Veh Passenger		Eastbound
	Four-Way I	Traffic Con	Clear		Dry	2		NOT APPLICABLE		Motor Veh Passenger		Eastbound
	Four-Way I	Traffic Con	Cloudy		Dry	2		NOT APPLICABLE		Motor Veh Pickup		Southbound
	Entrance/E	Yield Sign	Clear		Dry	2		NOT APPLICABLE		Motor Veh Passenger		Eastbound
	Interchang	Traffic Con	Clear		Snow	2		NOT APPLICABLE		Motor Veh Sport Utilit		Southbound
	Four-Way I	Traffic Con	Clear		Dry	2		NOT APPLICABLE		Motor Veh Sport Utilit		Northbound
	Interchang	Traffic Con	Clear		Dry	2		NOT APPLICABLE		Hit-And-Run Vehicle o		Eastbound
	Interchang	Traffic Con	Clear		Dry	2		NOT APPLICABLE		Motor Veh Passenger		Southbound
	Four-Way I	Traffic Con	Clear		Dry	2		NOT APPLICABLE		Motor Veh Passenger		Eastbound
	Interchang	Yield Sign	Cloudy		Wet	2		NOT APPLICABLE		Motor Veh Sport Utilit		Eastbound
	T Intersecti	Traffic Con	Clear		Dry	2		NOT APPLICABLE		Motor Veh Pickup		Eastbound
	Not at Inte	Traffic Con	Clear		Dry	2		NOT APPLICABLE		Motor Veh Passenger		Eastbound
	Interchang	Yield Sign	Clear		Dry	2		NOT APPLICABLE		Motor Veh Passenger		Eastbound
snow, slush,	Entrance/E	Traffic Con	Cloudy		Snow	2		NOT APPLICABLE		Motor Veh Passenger		Southbound

Unit1 Factc	Unit1 Factc	Unit1 Most	Unit1 Vehic	Unit1 Traffi	Unit1 Poste	Unit1 Horiz	Unit1 Road	Unit1 Nonr	Unit1 Injur	Unit1 Physi	Unit1 Age	Unit1 Sex
No Clear Contributing	Motor Veh	Vehicle Sto	Two-Way, I	40	Straight	Downhill		No Appare	Apparently		48	Female
Other Contributing Act	Motor Veh	Turning Rig	Two-Way, I	40	Straight	Downhill		Possible Inj	Apparently		55	Male
No Clear Contributing	Motor Veh	Vehicle Sto	Two-Way, I	40	Straight	Uphill		No Appare	Apparently		61	Female
Other Contributing Action		Moving For	Two-Way, I	60	Curve Right	Uphill		No Appare	Apparently		19	Female
No Clear Contributing	Motor Veh	Moving For	Two-Way, I	40	Straight	Level		Suspected	Apparently		30	Female
No Clear Contributing	Motor Veh	Vehicle Sto	One Way T	30	Curve Right	Uphill		No Appare	Apparently		46	Female
No Clear Contributing	Motor Veh	Vehicle Sto	One Way T	65	Curve Right	Level		No Appare	Apparently		54	Female
Operated Motor Vehic	Motor Veh	Moving For	Two-Way, I	40	Straight	Level		No Appare	Apparently		53	Male
Following Too Closely	Motor Veh	Moving For	One Way T	40	Curve Right	Level		No Appare	Apparently		53	Male
Following Too Closely	Motor Veh	Turning Rig	Two-Way, I	40	Curve Right	Downhill		No Appare	Apparently		21	Female
Unknown	Motor Veh	Turning Left	Two-Way, I	40	Straight	Uphill		Suspected	Apparently		29	Female
Unknown		Moving For	One Way T	55	Straight	Level						
Unknown	Traffic Sign	Unknown	Two-Way, I	40	Straight	Level		No Appare	Has Been C		60	Male
No Clear Contributing	Motor Veh	Slowing	Two-Way, I	30	Straight	Level		Possible Inj	Apparently		39	Female
No Clear Contributing	Motor Veh	Turning Rig	One Way T	40	Curve Right	Uphill		No Appare	Apparently		27	Male
No Clear Contributing	Motor Veh	Turning Left	Two-Way, I	45	Straight	Level		No Appare	Apparently		62	Male
Following Too Closely	Motor Veh	Moving For	One Way T	30	Straight	Hillcrest		No Appare	Apparently		57	Female
Following Too Closely	Motor Veh	Moving For	Other	65	Curve Right	Level		No Appare	Apparently		31	Male
Ran Off Road: Driver Spee	Curb	Moving For	Two-Way, I	45	Straight	Downhill		Suspected	Apparently		71	Female

Unit2 Type	Unit2 Vehic	Unit2 Direc	Unit2 Factc	Unit2 Factc	Unit2 Most	Unit2 Vehic	Unit2 Nonr	Unit2 Injur	Unit2 Physi	Unit2 Age	Unit2 Sex	Unit3 Type
Motor Veh Sport Utilit	Southboun	No Clear Contributing	Motor Veh	Vehicle Stopped or Sta	Suspected	Apparently	75	Female	Motor Veh			
Motor Veh Passenger	Southboun	No Clear Contributing	Motor Veh	Turning Right	No Appare	Apparently	18	Male				
Motor Veh Passenger	Eastbound	Operated Motor Vehic	Motor Veh	Moving Forward	No Appare	Apparently	29	Male				
Motor Veh Passenger	Southboun	Improper Turn/Merge	Motor Veh	Changing Lanes	No Appare	Apparently	31	Female				
Motor Veh Passenger	Eastbound	Following Too Closely	Motor Veh	Moving Forward	No Appare	Apparently	41	Female				
Motor Veh Passenger	Eastbound	Other Contributing Act	Motor Veh	Moving Forward	No Appare	Apparently	54	Female				
Motor Veh Sport Utilit	Southboun	No Clear Contributing	Motor Veh	Turning Left	Possible Inj	Apparently	29	Female				
Motor Veh Passenger	Eastbound	No Clear Contributing	Motor Veh	Vehicle Stopped or Sta	Possible Inj	Apparently	56	Female				
Motor Veh Passenger	Southboun	No Clear Contributing	Motor Veh	Turning Right	No Appare	Apparently	36	Female				
Motor Veh Passenger	Southboun	Unknown	Motor Veh	Moving Forward	Suspected	Apparently	56	Female				
Motor Veh Passenger	Eastbound	Operated Motor Vehic	Motor Veh	Vehicle Stopped or Sta	No Appare	Apparently	24	Male				
Motor Veh Passenger	Eastbound	Following Too Closely	Motor Veh	Slowing	No Appare	Apparently	17	Male				
Motor Veh Pickup	Eastbound	Other Contributing Act	Motor Veh	Moving Forward	No Appare	Apparently	35	Male				
Motor Veh Passenger	Northboun	No Clear Contributing	Motor Veh	Moving Forward	No Appare	Apparently	33	Female				
Motor Veh Passenger	Eastbound	No Clear Contributing	Motor Veh	Vehicle Stopped or Sta	No Appare	Apparently	46	Male				
Motor Veh Passenger	Eastbound	No Clear Contributing	Motor Veh	Vehicle Stopped or Sta	No Appare	Apparently	44	Male				

Unit3 Vehic	Unit3 Direc	Unit3 Factc	Unit3 Factc	Unit3 Most	Unit3 Vehic	Unit3 Nonr	Unit3 Injur	Unit3 Physi	Unit3 Age	Unit3 Sex	Unit4 Type	Unit4 Vehic
Sport Utilit	Southboun	Following	Too Closely	Motor Veh	Moving Forward		Suspected	Apparently	25	Female		

Unit4 Direc	Unit4 Factc	Unit4 Factc	Unit4 Most	Unit4 Vehic	Unit4 Nonr	Unit4 Injur	Unit4 Physi	Unit4 Age	Unit4 Sex	interchang	otst_inters	city_section
												USTH 10 / FOLEY BLVD,MNTH 47
												USTH 10 / I FOLEY BLVD
												USTH 10 / I FOLEY BLVD
												USTH 10 / I FOLEY BLVD
												USTH 10 / I FOLEY BLVD
												USTH 10 / I FOLEY BLVD
												USTH 10 / I FOLEY BLVD
												USTH 10 / I FOLEY BLVD
												USTH 10 / I FOLEY BLVD
												USTH 10 / I FOLEY BLVD
												USTH 10 / FOLEY BLVD,MNTH 47
												USTH 10 / I FOLEY BLVD
												USTH 10 / I FOLEY BLVD
												USTH 10 / I FOLEY BLVD
												USTH 10 / I FOLEY BLVD
												USTH 10 / FOLEY BLVD,MNTH 47
												USTH 10 / I FOLEY BLVD

utm_x	utm_y	x	y
478345.8	4999743	478345.8	4999743
478361	4999793	478361	4999793
478384.6	4999819	478384.6	4999819
478397.3	4999776	478397.3	4999776
478376.9	4999780	478376.9	4999780
478363.4	4999793	478363.4	4999793
478363.5	4999788	478363.5	4999788
478381.6	4999821	478381.6	4999821
478362.6	4999791	478362.6	4999791
478357.6	4999791	478357.6	4999791
478367.9	4999791	478367.9	4999791
478312.6	4999806	478312.6	4999806
478370.8	4999804	478370.8	4999804
478363.2	4999790	478363.2	4999790
478362	4999785	478362	4999785
478382.1	4999796	478382.1	4999796
478355.6	4999796	478355.6	4999796
478342.5	4999812	478342.5	4999812
478373	4999798	478373	4999798

Foley and 99th Ave 2016-2018

objectid	Incident ID	Date and Time	Year	Hour	Crash Seve	Number Kil	Number of Officer Nar	Constructic	County	City	Township
1907856	415967	1/17/2017,	2017		7 Property D	0	3 VEHICLE #	M	Anoka	Coon Rapids	
1959549	389501	10/26/2016	2016		7 Minor Injur	0	2 Unit 1 was	M	Anoka	Coon Rapids	
2242458	603227	6/10/2018,	2018		0 Property D	0	2 UNIT ONE	M	Anoka	Coon Rapids	
2391838	374393	8/26/2016,	2016		7 Possible Inj	0	2 THE	M	Anoka	Coon Rapids	
2582671	520785	11/29/2017	2017		16 Property D	0	2 UNIT #2	M	Anoka	Coon Rapids	

Route Type	Route ID	Route Mea	Roadway N	Divided Ro	Intersectio	Manner of	First Harmf	Relative Tr	Lighting Co	Road Circu	road_circu	Road Circu
Municipal	050002393	0.565475	99TH AVE	I	South	Angle	Motor Veh	On Roadw	Sunrise	Road Surface	Condition (wet, icy, s	
Municipal	050002393	0.567032	99TH AVE	I	South	Other	Motor Veh	On Roadw	Other	None		
County Sta	040000659	1.065586	FOLEY BLVI	Not	Applicable	Front to Re	Motor Veh	On Roadw	Dark (Stree	None		
County Sta	040000659	1.062804	FOLEY BLVI	South		Angle	Motor Veh	On Roadw	Daylight	None		
County Sta	040000659	1.063222	FOLEY BLVI	Not	Applicable	Front to Re	Motor Veh	On Roadw	Sunset	None		

road_circu	Relative Int	Traffic Con	Weather Pi	Weather S	Surface Co	Work Zone	Work Zone	Work Zone	Workers Pr	Unit1 Type	Unit1 Vehi	Unit1 Direc
now, slush, Four-Way I	Traffic Con	Snow			Slush	2		NOT APPLICABLE		Motor Veh Pickup	Northbound	
T Intersecti	Traffic Con	Rain	Cloudy		Wet	2		NOT APPLICABLE		Motor Veh Pickup	Westbound	
T Intersecti	Traffic Con	Clear			Dry	2		NOT APPLICABLE		Motor Veh Passenger	Eastbound	
T Intersecti	Traffic Con	Clear			Dry	2		NOT APPLICABLE		Motor Veh Sport Utilit	Westbound	
T Intersecti	Traffic Con	Clear			Dry	2		NOT APPLICABLE		Motor Veh Passenger	Northbound	

Unit1 Factc	Unit1 Factc	Unit1 Most	Unit1 Vehic	Unit1 Traffi	Unit1 Poste	Unit1 Horiz	Unit1 Road	Unit1 Nonr	Unit1 Injur	Unit1 Physi	Unit1 Age	Unit1 Sex
Failure to Yield Right-o	Motor Veh	Turning Lef	Two-Way, l	45	Straight	Hillcrest		No Appare	Apparently	28	Male	
Improper Turn/Merge	Motor Veh	Turning Lef	Two-Way, l	40	Straight	Level		No Appare	Apparently	66	Male	
No Clear Contributing	Motor Veh	Turning Rig	Two-Way, l	30	Straight	Uphill		No Appare	Apparently	46	Male	
Failure to Yield Right-o	Motor Veh	Turning Lef	Two-Way, l	35	Straight	Level		No Appare	Apparently	36	Female	
Following Too Closely	Motor Veh	Moving For	Two-Way, l	40	Straight	Level		No Appare	Apparently	57	Female	

Unit2 Type	Unit2 Vehic	Unit2 Direc	Unit2 Factc	Unit2 Factc	Unit2 Most	Unit2 Vehic	Unit2 Nonr	Unit2 Injur	Unit2 Physi	Unit2 Age	Unit2 Sex	Unit3 Type
Motor Veh Passenger	(Southboun	No Clear	Contributing		Motor Veh	Moving Forward		No Appare	Apparently	26	Female	Motor Veh
Motor Veh Passenger	(Southboun	Other Contributing	Act		Motor Veh	Moving Forward		Suspected	Apparently	30	Female	
Motor Veh Passenger	(Eastbound	Following Too Closely			Motor Veh	Turning Right		No Appare	Apparently	23	Male	
Motor Veh Passenger	(Northboun	No Clear	Contributing		Motor Veh	Moving Forward		Possible Inj	Apparently	39	Female	
Motor Veh Sport Utilit	Northboun	No Clear	Contributing		Motor Veh	Vehicle Stopped or Sta		No Appare	Apparently	38	Female	

Unit3 Vehic	Unit3 Direc	Unit3 Factc	Unit3 Factc	Unit3 Most	Unit3 Vehic	Unit3 Nonr	Unit3 Injur	Unit3 Physi	Unit3 Age	Unit3 Sex	Unit4 Type	Unit4 Vehic
Sport Utilit	Eastbound	No Clear	Contributing	Motor Veh	Vehicle Stopped or Sta	No Appare	Apparently		56	Female		

Unit4 Direc	Unit4 Factc	Unit4 Factc	Unit4 Most	Unit4 Vehic	Unit4 Nonr	Unit4 Injur	Unit4 Physi	Unit4 Age	Unit4 Sex	interchang	otst_inters	city_section
												FOLEY BLVD AND 99TH
												FOLEY BLVD AND 99TH
												FOLEY BLVD AND 99TH
												FOLEY BLVD AND 99TH
												FOLEY BLVD AND 99TH

utm_x	utm_y	x	y
478290.4	4999625	478290.4	4999625
478292.9	4999620	478292.9	4999620
478297.9	4999622	478297.9	4999622
478302	4999616	478302	4999616
478302	4999616	478302	4999616

MNTH 610 East River Road Eastbound Ramp (2016-2018) A

objectid	Incident ID	Date and T	Year	Hour	Crash Seve	Number Kil	Number of Officer	Nar Constructic	County	City	Township
2239516	521977	12/5/2017,	2017		8 Property D	0	1 ROAD COV	M	ANOKA	Coon Rapids	
2526552	452501	5/15/2017,	2017		11 Property D	0	2 THE	M	ANOKA	Coon Rapids	
2608558	495627	8/21/2017,	2017		19 Property D	0	2 I WAS	M	ANOKA	Coon Rapids	
2191045	636936	9/23/2018,	2018		17 Possible Inj	0	3 ***ACCID	M	ANOKA	Coon Rapids	
2268592	666429	12/6/2018,	2018		15 Minor Injur	0	1 VEH #1	M	ANOKA	Coon Rapids	
2293064	584217	3/18/2018,	2018		16 Minor Injur	0	2 DRIVER	M	ANOKA	Coon Rapids	

Route Type	Route ID	Route Mea	Roadway N	Divided Ro	Intersection	Manner of	First Harmf	Relative Tr	Lighting Co	Road Circu	road_circu	Road Circu
Ramp or Cr	220000659	0.305781	RAMP886	South		Front to Re	Motor Veh On Roadw	Daylight		Road Surface Conditio		Congestion
County Sta	040000659	7.621963	E RIVER RD	North		Angle	Motor Veh On Roadw	Daylight		None		
County Sta	040000659	7.621527	E RIVER RD	South		Sideswipe	Motor Veh On Roadw	Daylight		None		
County Sta	040000659	7.620721	E RIVER RD	North		Other	Motor Veh On Roadw	Daylight		None		
County Sta	040000659	7.621543	E RIVER RD	South			Other - Fix	On Roadsic	Daylight	None		
County Sta	040000659	7.629476	E RIVER RD	North		Angle	Motor Veh On Roadw	Daylight		None		

road_circu	Relative Int	Traffic Con	Weather P	Weather S	Surface Co	Work Zone	Work Zone	Work Zone	Workers Pr	Unit1 Type	Unit1 Vehic	Unit1 Direc
Backup Ot	Four-Way I	Traffic Con	Blowing Sa	Cloudy	Ice/Frost	2		NOT APPLICABLE		Hit-And-Ru	Passenger	Southboun
	Four-Way I	Traffic Con	Clear		Dry	2		NOT APPLICABLE		Motor Veh	Pickup	Northboun
	Four-Way I	Traffic Con	Clear		Dry	1	Transition	Work on St	No	Motor Veh	Passenger	Southboun
	Four-Way I	Traffic Con	Clear		Dry	2		NOT APPLICABLE		Motor Veh	Sport Utilit	Northboun
	Four-Way I	Traffic Con	Cloudy		Dry	2		NOT APPLICABLE		Motor Veh	Sport Utilit	Southboun
	Four-Way I	Traffic Con	Cloudy		Dry	2		NOT APPLICABLE		Motor Veh	Passenger	Northboun

Unit1 Factc	Unit1 Factc	Unit1 Most	Unit1 Vehic	Unit1 Traff	Unit1 Postc	Unit1 Horiz	Unit1 Road	Unit1 Nonr	Unit1 Injur	Unit1 Phys	Unit1 Age	Unit1 Sex
d		Motor Veh	Moving For	Two-Way,	45	Straight	Level					
Failure to Yield Right-c		Motor Veh	Moving For	Two-Way,	45	Straight	Level		No Appare	Apparently	39	Male
Failure to Yield Right-c		Motor Veh	Moving For	Two-Way,	45	Straight	Level		No Appare	Apparently	28	Female
Unknown		Motor Veh	Moving For	Two-Way,	45	Straight	Level		No Appare	Apparently	30	Male
Unknown		Other - Fixc	Moving For	Two-Way,	45	Straight	Level		Suspected	Medical Iss	58	Male
No Clear Contributing		Motor Veh	Turning Lef	Two-Way,	45	Straight	Level		No Appare	Apparently	39	Male

Unit2 Type	Unit2 Vehic	Unit2 Direc	Unit2 Factc	Unit2 Factc	Unit2 Most	Unit2 Vehic	Unit2 Nonr	Unit2 Injur	Unit2 Physi	Unit2 Age	Unit2 Sex	Unit3 Type
Motor Veh Passenger		Southboun	No Clear	Contributing	Motor Veh	Vehicle Stopped or Sta	No Appare	Apparently		45	Male	
Motor Veh Medium / I		Eastbound	No Clear	Contributing	Motor Veh	Moving Forward	No Appare	Apparently		24	Male	
Motor Veh Pickup		Southboun	No Clear	Contributing	Motor Veh	Moving Forward	No Appare	Apparently		50	Male	
Motor Veh Passenger		Northboun	No Clear	Contributing	Motor Veh	Vehicle Stopped or Sta	No Appare	Apparently		23	Female	Motor Veh
Motor Veh Passenger		Northboun	Ran Red Light		Motor Veh	Moving Forward	Suspected	Apparently		22	Female	

Unit3 Vehic	Unit3 Direc	Unit3 Factc	Unit3 Factc	Unit3 Most	Unit3 Vehic	Unit3 Nonr	Unit3 Injur	Unit3 Physi	Unit3 Age	Unit3 Sex	Unit4 Type	Unit4 Vehic
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Passenger	Northboun	No Clear	Contributing	Motor Veh	Vehicle Stopped or Sta	No Appare	Apparently		66	Female		
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Unit4 Direc	Unit4 Factc	Unit4 Factc	Unit4 Most	Unit4 Vehic	Unit4 Nonr	Unit4 Injur	Unit4 Physi	Unit4 Age	Unit4 Sex	interchang	otst_inters	city_section
												MNTH 610 / RIVER RD
												MNTH 610 RIVER RD AND FOLEY E
												MNTH 610 RIVER RD AND FOLEY E
												MNTH 610 RIVER RD AND FOLEY E
												MNTH 610 RIVER RD AND FOLEY E
												MNTH 610 RIVER RD AND FOLEY E

utm_x	utm_y	x	y
477087.3	4998423	477087.3	4998423
477123.5	4998434	477123.5	4998434
477119	4998431	477119	4998431
477139.3	4998433	477139.3	4998433
477107.4	4998424	477107.4	4998424
477130.1	4998444	477130.1	4998444

MNTH 610 @ East River Road West Ramp (2016-2018)

objectid	Incident ID	Date and Time	Year	Hour	Crash Seve	Number Kil	Number of Officer Nar	Constructic	County	City	Township
2556634	394538	11/14/2016	2016		20 Minor Injur	0	2 NORTHBO	M	ANOKA	Coon Rapids	
2110181	513539	11/1/2017,	2017		17 Property D	0	2 ***ACCID	M	ANOKA	Coon Rapids	
2235607	410994	1/2/2017, 6	2017		18 Property D	0	2 DRIVER 2	M	ANOKA	Coon Rapids	
2390715	512568	10/27/2017	2017		19 Property D	0	2 BOTH VEHI	M	Anoka	Coon Rapids	
2413094	523320	12/8/2017,	2017		19 Possible Inj	0	2 ***THIS	M	ANOKA	Coon Rapids	

Route Type	Route ID	Route Name	Roadway	Divided Roadway	Intersection	Manner of Collision	First Harmful Party	Relative Travel Direction	Lighting Condition	County	Road Circumstances	Road Circumstances
County	Sta 040000659	7.498772	E RIVER RD North		RAMP747	Front to Rear	Motor Vehicle On Roadway	Dark (Street)	None			
Ramp or County	Sta 220000659	0.010595	RAMP747 East			Sideswipe - Motor Vehicle On Roadway	Daylight	None				
Ramp or County	Sta 220000659	0.313373	RAMP354	Not Applicable	E RIVER RD	Sideswipe - Motor Vehicle On Roadway	Dark (Street)	Road Surface Condition (wet, icy, snow)				
County	Sta 040000659	7.482819	E RIVER RD South			Front to Rear	Motor Vehicle On Roadway	Dark (Street)	Road Surface Condition (wet, icy, snow)			
County	Sta 040000659	7.507613	E RIVER RD South			Angle	Motor Vehicle On Roadway	Dark (Street)	None			

road_circu	Relative Int	Traffic Con	Weather Pi	Weather S	Surface Co	Work Zone	Work Zone	Work Zone	Workers Pr	Unit1 Type	Unit1 Vehi	Unit1 Direc
Four-Way I	Traffic Con	Clear		Dry		2		NOT APPLICABLE		Motor Veh	Passenger	Northboun
Four-Way I	Traffic Con	Rain		Wet		2		NOT APPLICABLE		Motor Veh	Sport Utilit	Eastbound
snow, slush, Interchang	Traffic Con	Sleet, Hail (Freezing Ra		Ice/Frost		2		NOT APPLICABLE		Motor Veh	Passenger	Eastbound
snow, slush, Not at Inte	No Control	Rain		Wet		2		NOT APPLICABLE		Motor Veh	Pickup	Southboun
Entrance/E	Traffic Con	Cloudy		Dry		2		NOT APPLICABLE		Motor Veh	Passenger	Southboun

Unit1 Factc	Unit1 Factc	Unit1 Most	Unit1 Vehic	Unit1 Traffi	Unit1 Poste	Unit1 Horiz	Unit1 Road	Unit1 Nonr	Unit1 Injur	Unit1 Physi	Unit1 Age	Unit1 Sex
No Clear Contributing	Motor Veh Moving For	Two-Way, I	45	Straight	Level			Possible Inj	Apparently	20	Female	
Failed to Keep in Prop	Motor Veh Turning Le	Two-Way, I	45	Straight	Level			No Appare	Apparently	50	Female	
Unknown	Motor Veh Moving For	One Way T	45	Curve Righ	Downhill			No Appare	Unknown	46	Male	
No Clear Contributing	Motor Veh Slowing	Two-Way, I	40	Straight	Level			No Appare	Apparently	33	Male	
Driver Dist	Ran Red Lig	Motor Veh Moving For	Two-Way, I	45	Straight	Level		No Appare	Apparently	53	Male	

Unit2 Type	Unit2 Vehic	Unit2 Direc	Unit2 Factc	Unit2 Factc	Unit2 Most	Unit2 Vehic	Unit2 Nonr	Unit2 Injur	Unit2 Physi	Unit2 Age	Unit2 Sex	Unit3 Type
Motor Veh Passenger		Northboun	No Clear	Contributing		Motor Veh Moving Forward		Suspected	Apparently	50	Male	
Motor Veh Sport Utilit		Eastbound	No Clear	Contributing		Motor Veh Turning Left		No Appare	Apparently	55	Male	
Motor Veh Pickup		Eastbound	Unknown			Motor Veh Slowing		No Appare	Unknown	32	Male	
Motor Veh Sport Utilit		Southboun	Following Too Closely			Motor Veh Slowing		No Appare	Apparently	35	Female	
Motor Veh Passenger		Eastbound	No Clear	Contributing		Motor Veh Turning Left		Possible Inj	Apparently	36	Male	

Unit3 Vehic Unit3 Direc Unit3 Factc Unit3 Factc Unit3 Most Unit3 Vehic Unit3 Nonr Unit3 Injur Unit3 Physi Unit3 Age Unit3 Sex Unit4 Type Unit4 Vehic

Unit4 Direc	Unit4 Factc	Unit4 Factc	Unit4 Most	Unit4 Vehic	Unit4 Nonr	Unit4 Injur	Unit4 Physi	Unit4 Age	Unit4 Sex	interchang	otst_inters	city_section
										MNTH 610 / RIVER RD		
										MNTH 610 / RIVER RD		
										MNTH 610 / RIVER RD		
										MNTH 610 / RIVER RD		
										MNTH 610 / RIVER RD		

utm_x	utm_y	x	y
477224.9	4998256	477224.9	4998256
477217.7	4998263	477217.7	4998263
477201.6	4998255	477201.6	4998255
477214	4998229	477214	4998229
477201.2	4998267	477201.2	4998267



Anoka County
TRANSPORTATION DIVISION
Highway

Joseph J. MacPherson, P.E.
County Engineer

April 24, 2020

Mr. Jim Hovland, Chair
Metropolitan Council, Transportation Advisory Board
390 North Robert Street
St. Paul, MN 55101

Subject: Letter of Support for TH 610 and CSAH 1 Interchange Improvements
Coon Rapids, MN

Dear Mr. Hovland and Board Members;

We support the City of Coon Rapids' application for Federal Highway Administration (FHWA) funding to convert the TH 610 and CSAH 1 (East River Rd) interchange to a full access interchange. Currently, the interchange provides access to East River Road from eastbound TH 610 and provides access to westbound TH 610 from East River Road. The proposed project will provide access to eastbound TH 610 from East River Road and provide access to East River Road from westbound TH 610.

The proposed conversion to full access will significantly shorten existing access routes to businesses, retail centers and residential developments. Additionally, providing full access will help with overall traffic mobility to and from the TH 610 corridor, as well as on the local roadway networks.

We strongly support the City of Coon Rapids in their application for this important funding.

Sincerely,

Joe MacPherson, P.E.
Anoka County Transportation Division Manager/County Engineer

Our Passion Is Your Safe Way Home

1440 Bunker Lake Boulevard N.W. ▲ Andover, MN 55304-4005
Office: 763-324-3100 ▲ Fax: 763-324-3020 ▲ www.anokacounty.us/highway

Affirmative Action / Equal Opportunity Employer



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

May 12, 2020

Tim Himmer
Public Works Director
City of Coon Rapids
11155 Robinson Drive
Coon Rapids, MN 55433

**Re: MnDOT Letter for City of Coon Rapids
Metropolitan Council/Transportation Advisory Board 2020 Regional Solicitation Funding
Request for TH 610 East River Road Interchange Project**

Dear Tim Himmer,

This letter documents MnDOT Metro District's recognition for the City of Coon Rapids to pursue funding for the Metropolitan Council/Transportation Advisory Board's (TAB) 2020 Regional Solicitation for TH 610 East River Road Interchange Project.

As proposed, this project impacts MnDOT right-of-way on TH 610. As the agency with jurisdiction over TH 610, MnDOT will allow City of Coon Rapids to seek improvements proposed in the application for the improvement. If funded, details of any future maintenance agreement with City of Coon Rapids 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 years 2024-25 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 City of Coon Rapids as this project moves forward and as we work together to improve safety and travel options within the Metro Area.

If you have questions or require additional information at this time, please reach out to North Area Manager Melissa Barnes at Melissa.Barnes@state.mn.us or 651-234-7718.

Sincerely,

Michael
Barnes



Digitally signed by
Michael Barnes
Date: 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

Project Summary

Project Name: TH 610 and East River Road Interchange Reconstruction

Applicant: City of Coon Rapids

Project Location: TH 610 and East River Road (CSAH 1) Interchange between the Mississippi River and Coon Rapids Boulevard in Coon Rapids, Anoka County

Total Project Cost: \$12,190,000

Requested Federal Dollars: \$9,752,000

Project Map:



Before Photo:



Project Description: The proposed project will complete the transportation system with the construction of the proposed Foley Railroad Grade-Separation project by providing a full-access interchange at TH 610 and East River Road. The proposed concept will provide a westbound off-ramp loop and a folded eastbound on-ramp with auxiliary lanes to TH 610 between East River Road and Coon Rapids Boulevard. This provides a more direct route for regional trips and emergency response teams originating and destined for this area.

Project Benefits: The proposed Th 610 and East River Road interchange reconstruction will provide the following benefits:

- Improved travel times and safer access for residents, businesses, redeveloping industrial/commercial properties within the project area, Metro Transit's Foley Park-and-ride, and a future Northern Lights Express (NLX) Station.
- Improve traffic congestion and safety issues at the TH10 and Foley Boulevard interchange.
- Improved connectivity to existing and proposed sidewalks and trails as part of the Foley Railroad Grade-Separation project.

Overall, the project will benefit the under-represented populations by improving connections throughout the local and regional systems. The proposed project will also provide greater opportunities to link these populations to job concentration centers as the corridor is a mixed use of residential, industrial and commercial.