



Application

17072 - 2022 Roadway Expansion

17564 - TH 610 and East River Road Full Access Interchange

Regional Solicitation - Roadways Including Multimodal Elements

Status: Submitted
Submitted Date: 04/13/2022 8:11 AM

Primary Contact

Name:* Mr. Mark Christian Hansen
Pronouns First Name Middle Name Last Name

Title: Assistant City Engineer

Department: Public Works

Email: mhansen@coonrapidsmn.gov

Address: 11155 Robinson Drive

***** Coon Rapids Minnesota 55433
City State/Province Postal Code/Zip

Phone:* 763-767-6465
Phone Ext.

Fax: 763-767-6573

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 and 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

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, which is currently under construction and expected to be completed in 2022. With the City purchase of available property and funding secured for the Foley Railroad Grade-Separation project, the City and County collaborated to develop an improved transportation system solution by modifying the existing interchange at TH 610, a Principal Arterial Freeway, and East River Road (CSAH 1), an A Minor Arterial Expander.

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

Currently, the TH 610/East River Road interchange only provides a westbound on-ramp and eastbound off-ramp. This project would complete the system by providing a full-access interchange at TH 610 and East River Road with a westbound off-ramp loop and a folded eastbound on-ramp with TH 610 auxiliary lanes 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 would be a significant transportation improvement for the area. The County and the City agree that a modified East River Road interchange will best serve both the County's and City's residents and businesses, as well as Metro Transit customers by providing a better access to the Foley Park & Ride lot. In addition, the construction of a new 10-foot trail along East River Road will provide improved connections for bicyclists and pedestrians.

The purpose of completing the TH 610/East River Road interchange is to address limited access to and from TH 610 to support existing and future land uses in Coon Rapids, improve safety and emergency response access, reduce traffic impacts at the TH 10/Foley Boulevard interchange and increase the functionality of TH 610 and as an important route in the statewide transportation system. Trips in the area currently exit and enter at TH 610/University Avenue or TH 10/Foley Boulevard interchanges and must use the local street system, which increases the travel time for local residents and is non-intuitive to regional users needing to safely access the area. Furthermore, the lack of eastbound access to and from TH 610 considerably increases emergency response times, creating 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.

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

Project Length (Miles) 0.3

to the nearest one-tenth of a mile

Project Funding

Are you applying for competitive funds from another source(s) to implement this project? No

If yes, please identify the source(s)

Federal Amount \$10,000,000.00

Match Amount \$20,053,000.00

Minimum of 20% of project total

Project Total \$30,053,000.00

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

Match Percentage 66.73%

Minimum of 20%

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

Source of Match Funds MnDOT, Anoka County and 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: 2026, 2027

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

Additional Program Years: 2024, 2025

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

Project Information-Roadways

County, City, or Lead Agency 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 03/01/2024

(Approximate) End Construction Date 11/01/2025

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

From:
(Intersection or Address) 94th Avenue NW

To:
(Intersection or Address) 600 feet south of TH 610 South Ramps

DO NOT INCLUDE LEGAL DESCRIPTION

Or At

Miles of Sidewalk (nearest 0.1 miles) 0.2

Miles of Trail (nearest 0.1 miles) 0.8

Miles of Trail on the Regional Bicycle Transportation Network (nearest 0.1 miles) 0.3

Primary Types of Work GRADE, AGG BASE, BIT BASE, BIT SURF, CURB, GUTTER, GUARDRAIL, PED RAMPS, SIGNALS, SIDEWALK, TRAIL, LIGHTING, RETAINING WALLS, BRIDGE WIDENING

*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.

Goal B: Safety and Security

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

Strategies: B1, B6 (Page 2.5 and 2.8)

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, C14, C15, C16, and C17 (Page 2.10-2.24)

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 2.26-2.27)

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

Goal E: Healthy Environment

Objective: Increase the availability and attractiveness of transit, bicycling, and walking to encourage healthy communities through the use of active transportation options.

Objective: Provide a transportation system that promotes community cohesion and connectivity for people of all ages, abilities, particularly for under-represented populations.

Strategies: E3, E6, and E7 (Page 2.31-2.34)

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 2.36-2.40)

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

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

- T.H. 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

Limit 2,800 characters, approximately 400 words

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

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

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

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

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

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

7. The requested funding amount must be more than or equal to the minimum award and less than or equal to the maximum award. The cost of preparing a project for funding authorization can be substantial. For that reason, minimum federal amounts apply. Other federal funds may be combined with the requested funds for projects exceeding the maximum award, but the source(s) must be identified in the application. Funding amounts by application category are listed below in Table 1. For unique projects, the minimum award is \$500,000 and the maximum award is the total amount available each funding cycle (approximately \$4,000,000 for the 2022 funding cycle).

Strategic Capacity (Roadway Expansion): \$1,000,000 to \$10,000,000

Roadway Reconstruction/Modernization: \$1,000,000 to \$7,000,000

Traffic Management Technologies (Roadway System Management): \$500,000 to \$3,500,000

Spot Mobility and Safety: \$1,000,000 to \$3,500,000

Bridges Rehabilitation/Replacement: \$1,000,000 to \$7,000,000

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

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

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

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

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

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

Date plan completed: 03/06/2018

Link to plan:

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

Date self-evaluation completed:

Link to plan:

Upload plan or self-evaluation if there is no link 1649248095959_ADA Transition Plan.pdf

Upload as PDF

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

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

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

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

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

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

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

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

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

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

Roadways Including Multimodal Elements

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

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

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

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

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

Bridge Rehabilitation/Replacement and Strategic Capacity projects only:

3. Projects requiring a grade-separated crossing of a principal arterial freeway must be limited to the federal share of those project costs identified as local (non-MnDOT) cost responsibility using 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. Yes

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. Yes

Bridge Rehabilitation/Replacement projects only:

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

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

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

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

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

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

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

Requirements - Roadways Including Multimodal Elements

Specific Roadway Elements

CONSTRUCTION PROJECT ELEMENTS/COST ESTIMATES	Cost
Mobilization (approx. 5% of total cost)	\$878,000.00
Removals (approx. 5% of total cost)	\$878,000.00
Roadway (grading, borrow, etc.)	\$1,435,000.00
Roadway (aggregates and paving)	\$2,056,000.00
Subgrade Correction (muck)	\$0.00
Storm Sewer	\$1,071,000.00
Ponds	\$161,000.00

Concrete Items (curb & gutter, sidewalks, median barriers)	\$394,000.00
Traffic Control	\$522,000.00
Striping	\$6,000.00
Signing	\$236,000.00
Lighting	\$386,000.00
Turf - Erosion & Landscaping	\$90,000.00
Bridge	\$4,680,000.00
Retaining Walls	\$2,006,000.00
Noise Wall (not calculated in cost effectiveness measure)	\$2,444,000.00
Traffic Signals	\$884,000.00
Wetland Mitigation	\$54,000.00
Other Natural and Cultural Resource Protection	\$0.00
RR Crossing	\$0.00
Roadway Contingencies	\$6,936,000.00
Other Roadway Elements	\$4,606,000.00
Totals	\$29,723,000.00

Specific Bicycle and Pedestrian Elements

CONSTRUCTION PROJECT ELEMENTS/COST ESTIMATES	Cost
Path/Trail Construction	\$192,000.00
Sidewalk Construction	\$74,000.00
On-Street Bicycle Facility Construction	\$0.00
Right-of-Way	\$32,000.00
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	\$32,000.00
Other Bicycle and Pedestrian Elements	\$0.00
Totals	\$330,000.00

Specific Transit and TDM Elements

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

Transit Operating Costs

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

Totals

Total Cost	\$30,053,000.00
Construction Cost Total	\$30,053,000.00
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 free-flow conditions.

Free-Flow Travel Speed:	44
Peak Hour Travel Speed:	37
Percentage Decrease in Travel Speed in Peak Hour compared to Free-Flow:	15.91%
Upload Level of Congestion map:	1649248576829_Level of Congestionpdf.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:	TH 47
Free-Flow Travel Speed:	45
<i>The Free-Flow Travel Speed is black number.</i>	
Peak Hour Travel Speed:	28
<i>The Peak Hour Travel Speed is red number.</i>	
Percentage Decrease in Travel Speed in Peak Hour Compared to Free-Flow:	37.78%
Upload Level of Congestion Map:	1649248576829_Level of Congestionpdf.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	1649248637551_Regional Economy.pdf

Please upload attachment in PDF form.

Measure C: Current Heavy Commercial Traffic

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

Along Tier 1: Yes

Miles: 0.7

(to the nearest 0.1 miles)

Along Tier 2:

Miles: 0

(to the nearest 0.1 miles)

Along Tier 3:

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: Yes

None of the tiers:

Measure A: Current Daily Person Throughput

Location East River Road north of TH 610

Current AADT Volume 18300

Existing Transit Routes on the Project 850, 852

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

Upload Transit Connections Map 1649249027647_Transit Connections.pdf

Please upload attachment in PDF form.

Response: Current Daily Person Throughput

Average Annual Daily Transit Ridership 0

Current Daily Person Throughput 23790.0

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

Coon Rapids 2040 Transportation Plan

Forecast (2040) ADT volume 19800

Measure A: Engagement

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

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

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

Our community engagement included online surveys, maps, in-person/virtual presentations, and open houses with discussions and comment forms. The City's website includes a designated project page for ongoing communication with residents, business owners and stakeholders.

Multiple digital, video and print marketing materials were distributed to reach as many citizens, underrepresented or otherwise:

- 10 email blasts (2,500+ subscribers)
- 9 Facebook posts (3,868+ engagement clicks)
- 5 Tweets (2,236 followers)
- 11 alerts on City/CTN homepages
- 2 print articles (circulation 26,475)
- 1 print article targeting businesses (circulation 1,750)
- 3 video stories on cable/YouTube (230+ views)

ABC Newspapers (local media) ran a story about an open house event in their August 7, 2021, edition (reaching 5,000+ print circulation and online audience).

Additional targeted stakeholder mailings include:

- 33 religious organizations and communities
- 22 local nearby businesses
- 15 nearby apartments

Response:

- 14 childcare facilities and schools

As shown on the Equity Populations and Destinations map, specific mailings connected to the following equity populations in census tracts within ½ mile of the project:

- Tralee Terrace (subsidized units)
- Wellington Ridge apartments (subsidized units)
- Villas on Palm (subsidized units)
- Crest Oak apartments (subsidized units)
- Dublin Park Senior apartments (subsidized units)
- Drake apartments (subsidized units)
- Spring House apartments (income restrictions)
- Redwood Terrace Senior apartments (senior units)
- Head Start ACCAP (child/family programs for income-eligible households)
- Rise Adult Day Care (serving people with intellectual and developmental disabilities)
- River Trail Learning Center (full-day special education for students K - 12)
- Adams Elementary School, Various Daycare and Childcare Centers, PEACE Learning Center, YMCA (youth)

The community had multiple opportunities to

engage throughout the project process, including the equity populations identified. These engagement activities solicited input on the project and refined alternatives to guide the process forward:

- Virtual Open House #1, July 30, 2021
- In-Person Open House #2/#3, August 31, 2021 and December 15, 2021
- Virtual Open House #4, February 24 - March 31, 2022
- Multi-Cultural Advisory Committee Presentation, February 24, 2022
- Coon Rapids Senior Center Visits, March 1-3, 2022

Seventy-three percent of the participants supported additional TH 610 access and expanded transit options, and acknowledged pedestrian and bicycle safety is very important. The purpose of Open House #4 was to update outreach groups, share findings from previous engagement, re-engage with the community and solicit feedback on the preferred alternative.

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

Measure B: Equity Population Benefits and Impacts

Describe the projects benefits to Black, Indigenous, and People of Color populations, low-income populations, children, people with disabilities, youth, and older adults. Benefits could relate to:

This is not an exhaustive list. A full response will support the benefits claimed, identify benefits specific to Equity populations residing or engaged in activities near the project area, identify benefits addressing a transportation issue affecting Equity populations specifically identified through engagement, and substantiate benefits with data.

Acknowledge and describe any negative project impacts to Black, Indigenous, and People of Color populations, low-income populations, children, people with disabilities, youth, and older adults. Describe measures to mitigate these impacts. Unidentified or unmitigated negative impacts may result in a reduction in points.

Below is a list of potential negative impacts. This is not an exhaustive list.

The project provides direct safety and transportation benefits to the equity populations in the area (see Equity Populations and Destinations map). Travel time improvements will be provided while traveling to/from the east on TH 610. Currently, only TH 610 west ramps exist at East River Road and Coon Rapids Boulevard. Trips destined to land uses near TH 610 and East River Road or Coon Rapids Boulevard require a longer trip to use TH 10 and Foley Boulevard. The project will provide safer direct access for residents living in subsidized and senior apartments to job, school, childcare, and social service destinations in the area.

Response:

An existing transportation problem is the lack of direct access in this area, creating a challenge for emergency response teams. Coon Rapids' police and fire personnel often ask the City of Brooklyn Park for immediate assistance due to their proximity to existing eastbound TH 610 access. Local calls have increased from 17 in 2017 to 151 in 2021 for emergency teams to respond. The project will improve police and fire response times service emergency situations for low-income, youth and elderly populations in the area.

The project will also provide benefits to the equity populations relying on public transit as an alternative mode of transportation. It will improve access and routing for the transit routes serving the Foley Park & Ride, providing possible opportunities for service expansion. It also leverages the investments for the Foley Boulevard overpass project currently under construction. Direct access improvements to the Foley Park & Ride also benefits transit users relying on express service to job destinations in downtown Minneapolis.

A new 10-foot trail along East River Road will provide safer bicycle/pedestrian connections between neighborhoods, businesses, and transit facilities for equity populations using non-motorized modes of transportation. New signals with countdown timers, crosswalks, lighting and curb ramps being upgraded to meet ADA standards will provide safer bicycle and pedestrian travel.

The project includes property impacts due to the new ramps at East River Road. However, these do not negatively impact the equity populations in the area and these ramps will have significantly less property impacts than the other project alternatives considered.

As with most projects, there will be construction activities related to TH 610 and East River Road that will directly impact the traveling public and nearby residents and businesses. However, project construction will incorporate proper noise, dust, traffic management mitigation, and access management for motorists, bicyclists, and pedestrians as well as planned detour routes to consider the needs of property owners and stakeholders.

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

Measure C: Affordable Housing Access

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

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

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

As shown on the Socio-Economic Conditions map, there are 447 publicly subsidized rental housing units in census tracts with ½ mile of the project, including:

- Tralee Terrace (subsidized units)
- Wellington Ridge apartments (subsidized units)
- Villas on Palm (subsidized units)
- Crest Oak apartments (subsidized units)
- Dublin Park Senior apartments (subsidized units)
- Drake apartments (subsidized units)
- Spring House apartments (income restrictions)

Response:

In addition, according to the Met Council's 2021 Housing Performance Scores, Coon Rapids has a score of 100, the highest score available. This score recognizes their overall local effort in developing and maintaining housing affordable to low and moderate-income households.

The project includes significant multimodal improvements for these residents of affordable housing that are more likely not to own a private vehicle, and rely on transit, bicycling and walking as their mode of transportation.

Currently, there is only sidewalk on the west side of East River Road along the project limits. Project improvements include the construction of a new 10-foot trail on the west side of East River Road from the south project limits to the TH 610 south ramps. This trail then extends on the east side of the project roadway to Foley Boulevard, connecting to the existing trail on Foley Boulevard and the park & ride facility.

This new trail will provide a safer modal option to combine bicyclists and pedestrians along and across East River Road, connecting between low-income housing units, jobs, schools and transit facilities. New signals with countdown timers will be installed at the TH 610 west ramp intersections for safer crossings. In addition, all sidewalk replacement, crosswalks, lighting, traffic signal, and curb ramps will be upgraded to meet ADA standards. As shown on the Equity Populations and Destinations map, the project improvements will benefit the affordable housing residents living in census tracts within ½ mile of the project by providing improved access to jobs, schools, transit, childcare, and place of worship.

The project will also improve connections for affordable housing residents relying on public transit as an alternative mode of transportation to/from their job destinations in downtown Minneapolis. It will close the bus only westbound on-ramp to TH 610 and replace it with safer access to East River Road and TH 610. Direct access improvements to the Foley Park & Ride will benefit these transit users relying on express service to job destinations in downtown Minneapolis.

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

Measure D: BONUS POINTS

Project is located in an Area of Concentrated Poverty:

Projects census tracts are above the regional average for population in poverty or population of color (Regional Environmental Justice Area):

Project located in a census tract that is below the regional average for population in poverty or populations of color (Regional Environmental Justice Area):

Yes

Upload the Socio-Economic Conditions map used for this measure.

1649271660425_Socio-Economic Conditions.pdf

Measure A: Infrastructure Age

Year of Original Roadway Construction or Most Recent Reconstruction	Segment Length	Calculation	Calculation 2
1991.0	0.15	298.65	995.5
1995.0	0.15	299.25	997.5
	0	598	1993

Average Construction Year

Weighted Year	1993.0
---------------	--------

Total Segment Length (Miles)

Total Segment Length	0.3
----------------------	-----

Measure A: Congestion Reduction/Air Quality

Total Peak Hour Delay Per Vehicle Without The Project (Seconds/Vehicle)	Total Peak Hour Delay Per Vehicle With The Project (Seconds/Vehicle)	Total Peak Hour Delay Per Vehicle Reduced by Project (Seconds/Vehicle)	Volume without the Project (Vehicles per hour)	Volume with the Project (Vehicles Per Hour):	Total Peak Hour Delay Reduced by the Project:	Total Peak Hour Delay Reduced by the Project:	EXPLANATION of methodology used to calculate railroad crossing delay, if applicable.	Synchro or HCM Reports
64.0	0	64.0	3873	0	247872.0	0	N/A	164927253 3762_Traffic Results.pdf
0	66.0	-66	0	3733	0	-246378	N/A	164927257 1308_Traffic Results.pdf

16.0	0	16.0	2921	0	46736.0	0	N/A	164927260 1251_Traffic Results.pdf
0	15.0	-15	0	2641	0	-39615	N/A	164927263 4683_Traffic Results.pdf
31.0	0	31.0	2861	0	88691.0	0	N/A	164927266 7895_Traffic Results.pdf
0	18.0	-18	0	2582	0	-46476	N/A	164927269 7563_Traffic Results.pdf
15.0	0	15.0	2746	0	41190.0	0	N/A	164927272 5067_Traffic Results.pdf
0	24.0	-24	0	2991	0	-71784	N/A	164927275 2174_Traffic Results.pdf
19.0	0	19.0	2662	0	50578.0	0	N/A	164927278 0589_Traffic Results.pdf
0	21.0	-21	0	2837	0	-59577	N/A	164927280 8353_Traffic Results.pdf

-463830

Vehicle Delay Reduced

Total Peak Hour Delay Reduced

475067.0

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 1649273005188_Traffic Results.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:

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.

(Limit 700 Characters; approximately 100 words)

Rationale for Crash Modification Selected:

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.

(Limit 1400 Characters; approximately 200 words)

Project Benefit (\$) from B/C Ratio: \$2,129,902.00

Total Fatal (K) Crashes:

Total Serious Injury (A) Crashes:

Total Non-Motorized Fatal and Serious Injury Crashes:

Total Crashes: 45

Total Fatal (K) Crashes Reduced by Project:

Total Serious Injury (A) Crashes Reduced by Project:

Total Non-Motorized Fatal and Serious Injury Crashes Reduced by Project:

Total Crashes Reduced by Project: 5

Worksheet Attachment 1649287123225_Coon Rapids Full 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: Pedestrian Safety

Determine if these measures do not apply to your project. Does the project match either of the following descriptions?

*If either of the items are checked yes, then **score for entire pedestrian safety measure is zero**. Applicant does not need to respond to the sub-measures and can proceed to the next section.*

Project is primarily a freeway (or transitioning to a freeway) and does not provide safe and comfortable pedestrian facilities and crossings. No

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

SUB-MEASURE 1: Project-Based Pedestrian Safety Enhancements and Risk Elements

To receive maximum points in this category, pedestrian safety countermeasures selected for implementation in projects should be, to the greatest extent feasible, consistent with the countermeasure recommendations in the Regional Pedestrian Safety Action Plan and state and national best practices. Links to resources are provided on the Regional Solicitation Resources web page.

Please answer the following two questions with as much detail as possible based on the known attributes of the proposed design. If any aspect referenced in this section is not yet determined, describe the range of options being considered, to the greatest extent available. If there are project elements that may increase pedestrian risk, describe how these risks are being mitigated.

1. Describe how this project will address the safety needs of people crossing the street at signalized intersections, unsignalized intersections, midblock locations, and roundabouts.

Treatments and countermeasures should be well-matched to the roadways context (e.g., appropriate for the speed, volume, crossing distance, and other location attributes). Refer to the Regional Solicitation Resources web page for guidance links.

The project will address the safety needs of people crossing the street at the TH 610 North and South Ramp intersections along East River Road. At both of these intersections, improvements 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. 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.

Response:

According to the pedestrian safety resource PEDSAFE, countermeasures to improve the safety and mobility of those who walk along a roadway include sidewalks and walkways. Currently, there is only sidewalk on the west side of East River Road along the project limits. Project improvements include the construction of a new 10-foot trail on the west side of East River Road from the south project limits to the TH 610 south ramps. This trail then extends on the east side of the project roadway to Foley Boulevard, connecting to the existing trail on Foley Boulevard and the park & ride facility. The existing sidewalk on the west side will also be replaced with a five-foot walk from the TH 610 south ramp to Foley Boulevard. According to this resource, FHWA and ITE recommend a minimum of five feet for a sidewalk or walkway. The new 10-foot trail in addition to the five-foot sidewalk as part of the TH 610 and East River Road Interchange project provides a high-level pedestrian facility for safe travels.

Another countermeasure identified by PEDSAFE is crossing islands. At the TH 610 South Ramp intersection, a raised median will be provided as part of the project on the west leg of the

intersection. This median will mitigate the increased crossing distance due to the additional eastbound on-ramp by providing a refuge area to help protect pedestrians at this signalized intersection. The TH 610 North Ramp will be reconstructed to accommodate the additional westbound off-ramp. The reconstruction of this intersection will improve the distance crossing East River Road along the north leg. In addition, the distance crossing the west leg of the intersection will be shortened and include a reconstructed median. These improvements at the TH 610 North and South Ramp intersections will provide additional safety for all pedestrian traffic.

(Limit 2,800 characters; approximately 400 words)

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

Select one: No

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

Response:

(Limit 1,400 characters; approximately 200 words)

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

Select one: Yes

*If yes,
How many intersections will likely be affected?*

Response: 1

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

The TH 610 South Ramps and East River Road intersection will increase the crossing distance along west leg of the intersection. Mitigation measures as part of the proposed project that will address the increased crossing distance includes a new traffic signal with countdown timers and a median to serve as a refuge area to improve pedestrian travel across the intersection.

(Limit 1,400 characters; approximately 200 words)

If grade separated pedestrian crossings are being added and increasing crossing time, describe any features that are included that will reduce the detour required of pedestrians and make the separated crossing a more appealing option (e.g., shallow tunnel that doesn't require much elevation change instead of pedestrian bridge with numerous switchbacks).

Response:

(Limit 1,400 characters; approximately 200 words)

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

Response:

(Limit 1,400 characters; approximately 200 words)

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

Response:

As part of the project, turning radii will be widened at the TH 610 North and South Ramp intersections to accommodate freight movements in the area. In addition, turn lanes will be added for the new eastbound on-ramp. In order to mitigate the potential for increased speeds indirectly, trails will be added along the entire project limits to provide wider pedestrian facilities and separation from moving vehicles on East River Road.

For through traffic along East River Road, the new coordinated signal system will synchronize the traffic movements and optimize for slower speeds.

(Limit 2,800 characters; approximately 400 words)

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

Response:

The existing and proposed design speed on East River Road is 45 mph. The posted speed limit is 45 mph. There is no change from existing conditions.

(Limit 1,400 characters; approximately 200 words)

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

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

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

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

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

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

List the AADT 18300

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

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

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

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

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

If checked, please describe:

(Limit 1,400 characters; approximately 200 words)

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

If checked, please describe:

Adams Elementary School is located within 500 feet of the new 10-foot trail being constructed as part of the interchange project along East River Road

(Limit 1,400 characters; approximately 200 words)

Measure A: Multimodal Elements and Existing Connections

The project will improve the travel experience for bicyclists, pedestrians, and transit users with significant multimodal elements. There is sidewalk on the west side of East River Road. Improvements include a new 10-foot trail on the west side, from the south end to the TH 610 south ramps. This trail then extends on the east side to Foley Boulevard, connecting to the existing Foley Boulevard trail and park & ride facility. The existing sidewalk will also be replaced with a five-foot walk in its current location. All sidewalk replacement, crosswalks, lighting, traffic signal, and curb ramps will be upgraded to meet ADA standards.

An interconnected trail/sidewalk system is an essential part of the City's Comprehensive Plan. The East River Road trail constructed as part of the project will provide a safer modal option for bicyclists, having a positive impact on an identified Tier 1 RBTN alignment/corridor. At the south end, an additional one-half mile segment of trail will be constructed, connecting westerly to an existing trail and the Mississippi River Regional Trail. This regional trail offers a link from the Coon Rapids Dam Regional Park, through the cities of Coon Rapids, Fridley, and Columbia Heights, into the Minneapolis parkway system. It also connects to the North Hennepin and Rice Creek Regional Trails. This provides the opportunity to use biking as a commuting option.

Response:

The project area is served by Metro Transit express routes 850 and 852 with stops at the Foley Park & Ride facility. These express routes provide frequent, all-day service from the transit station to downtown Minneapolis. It is currently the fastest transit option from the area to downtown Minneapolis. The Foley Park & Ride is well utilized and one of the largest in the system. The grade-separated crossing currently being constructed

over the BNSF railroad will make it easier for users to access this park & ride lot with possible route expansions.

Currently, buses leaving the Foley facility use a transit-only westbound on-ramp to downtown Minneapolis. This creates operational issues with weaving traffic and slower moving buses merging into faster vehicle speeds. As part of the project, this westbound on-ramp for buses will be closed. Safer transit operations will be provided at the new signalized TH 610 ramp intersections along East River Road, with the potential for signal transit priorities.

The City's Foley Boulevard Station Area Plan (2015) focuses on efforts to pursue a station for the Northern Lights Express (NLX) high-speed rail planned between the Twin Cities and Duluth. This planning effort seeks to build consensus among various agencies on long-term guidance for infrastructure improvements, transportation investment, and pedestrian/bicycle connectivity.

(Limit 2,800 characters; approximately 400 words)

Transit Projects Not Requiring Construction

If the applicant is completing a transit application that is operations only, check the box and do not complete the remainder of the form. These projects will receive full points for the Risk Assessment.

Park-and-Ride and other transit construction projects require completion of the Risk Assessment below.

Check Here if Your Transit Project Does Not Require Construction

Measure A: Risk Assessment - Construction Projects

1. Public Involvement (20 Percent of Points)

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

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

Yes

100%

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

50%

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

50%

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

25%

No outreach has led to the selection of this project.

0%

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

The City has provided an extensive amount of outreach opportunities for the proposed interchange project. The project's engagement overview from May 2019 to March 2022 includes 179 survey responses and 163 email subscribers.

A summary of their efforts includes:

- Public outreach to the community and stakeholders was accomplished in a variety of ways to solicit feedback including online surveys, maps, and forums, as well as in-person open houses with open discussion and commenting forms. A total of four open houses (two in-person, two online) were held throughout the process.

Open House # 1 on July 30, 2021 was held virtually and presented the project history, existing conditions, and defined the purpose and need of the project. An online survey was conducted to determine concerns and goals of the community and stakeholders.

Response:

Open House #2 on August 31, 2021 was conducted in person. Three alternatives were presented based off feedback from the first open house and a preliminary engineering review. Participants engaged with the design team and expressed desire to minimize impacts to the surrounding neighborhoods. Feedback was captured by mapping activities, open discussion, and comment cards.

Open House #3 on December 15, 2021 was held in-person. Based on feedback from the previous engagement, the design team refined the alternatives and presented two alternatives that met engineering requirements while expressed as favorable from stakeholders and the public.

Feedback was captured by mapping activities, open discussion, and comment cards.

Open Hours #4 on February 24 to March 31, 2022 was held virtually and presented a summary of all engagement to date. A preferred alternative was presented to solicit feedback. This design was chosen as the overwhelmingly favored alternative from the public and stakeholders.

Multiple digital, video and print marketing materials were distributed to reach as many citizens, underrepresented or otherwise:

- 10 email blasts (2,500+ subscribers)
- 9 Facebook posts (3,868+ engagement clicks)
- 5 Tweets (2,236 followers)
- 11 alerts on City/CTN homepages
- 2 print articles (circulation 26,475)
- 1 print article targeting businesses (circulation 1,750)
- 3 video stories on cable/YouTube (230+ views)

ABC Newspapers (local media) ran a story about an open house event in their August 7, 2021, edition (reaching 5,000+ print circulation and online audience).

Target online and mail outreach were used to reach the following stakeholders:

- 33 religious organizations/faith communities
- 22 local/nearby businesses
- 15 nearby apartment complexes
- 14 childcare facilities and schools

Public website:

<https://storymaps.arcgis.com/stories/beb4471ffd5b49d18a16ee661f970694>

(Limit 2,800 characters; approximately 400 words)

2. Layout (25 Percent of Points)

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

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

100%

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

100%

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

75%

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

50%

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

25%

Layout has not been started

0%

Attach Layout

1649272256796_TH 610 Layout - DRAFT.pdf

Please upload attachment in PDF form.

Additional Attachments

Please upload attachment in PDF form.

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

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

100%

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

100%

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

80%

Historic/archeological property impacted; determination of adverse effect anticipated

40%

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

0%

Project is located on an identified historic bridge

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

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

100%

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

50%

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

25%

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

0%

5.Railroad Involvement (15 Percent of Points)

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

100%

Signature Page

Please upload attachment in PDF form.

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

50%

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

0%

Measure A: Cost Effectiveness

Total Project Cost (entered in Project Cost Form):	\$30,053,000.00
Enter Amount of the Noise Walls:	\$2,444,000.00
Total Project Cost subtract the amount of the noise walls:	\$27,609,000.00
Enter amount of any outside, competitive funding:	\$0.00
Attach documentation of award:	
Points Awarded in Previous Criteria	
Cost Effectiveness	\$0.00

Other Attachments

File Name	Description	File Size
220404_TH610_Equity_Maps.pdf	Equity Maps	109 KB
AC LOS - TH 610 & ERR Interchange Improvements (3-2-22).pdf	County Support	188 KB
ADA Transition Plan.pdf	ADA Plan	3.4 MB
c. 610 at ERR Interchange Resolution #2022-36.pdf	Anoka County Board Resolution of Support	378 KB
Coon Rapids Full Safety Analysis.pdf	Safety Analysis	512 KB
Level of Congestionpdf.pdf	Congestion	2.9 MB
Project Summary.pdf	Project Summary	2.2 MB
Regional Economy.pdf	Economy	3.0 MB
Resolution 22-55.pdf	City Council Resolution of Support	72 KB
RS MnDOT Letter Coon Rapid TH 610 and East River Rd.pdf	MnDOT Letter of Support	267 KB
Socio-Economic Conditions.pdf	Socio Econ	3.1 MB
TH 610 Layout - DRAFT.pdf	Layout	2.6 MB
Traffic Results.pdf	Congestion Analysis	321 KB
Transit Connections.pdf	Transit	3.0 MB

City of Coon Rapids ADA Transition Plan



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

Contents

Introduction	1
Transition Plan Need and Purpose	1
ADA and its Relationship to Other Laws	1
Agency Requirements	2
Self-Evaluation	3
Overview	3
Summary	3
Policies and Practices	4
Previous Practices	4
Policy	4
Improvement Schedule.....	4
Priority Areas	4
External Agency Coordination	5
Schedule.....	5
ADA Coordinator	5
Implementation Schedule.....	5
Methodology.....	5
Public Outreach.....	5
Grievance Procedure	6
Monitor the Progress.....	6
Appendices.....	7
Appendix A – Self-Evaluation Results	8
Appendix B – Schedule / Budget Information	10
Appendix C – Public Outreach	11
Appendix D – Grievance Procedure	13
Appendix E – Contact Information.....	18
Appendix F – City of Coon Rapids ADA Procedures & Standards.....	19
Appendix G – Glossary of Terms.....	21

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.

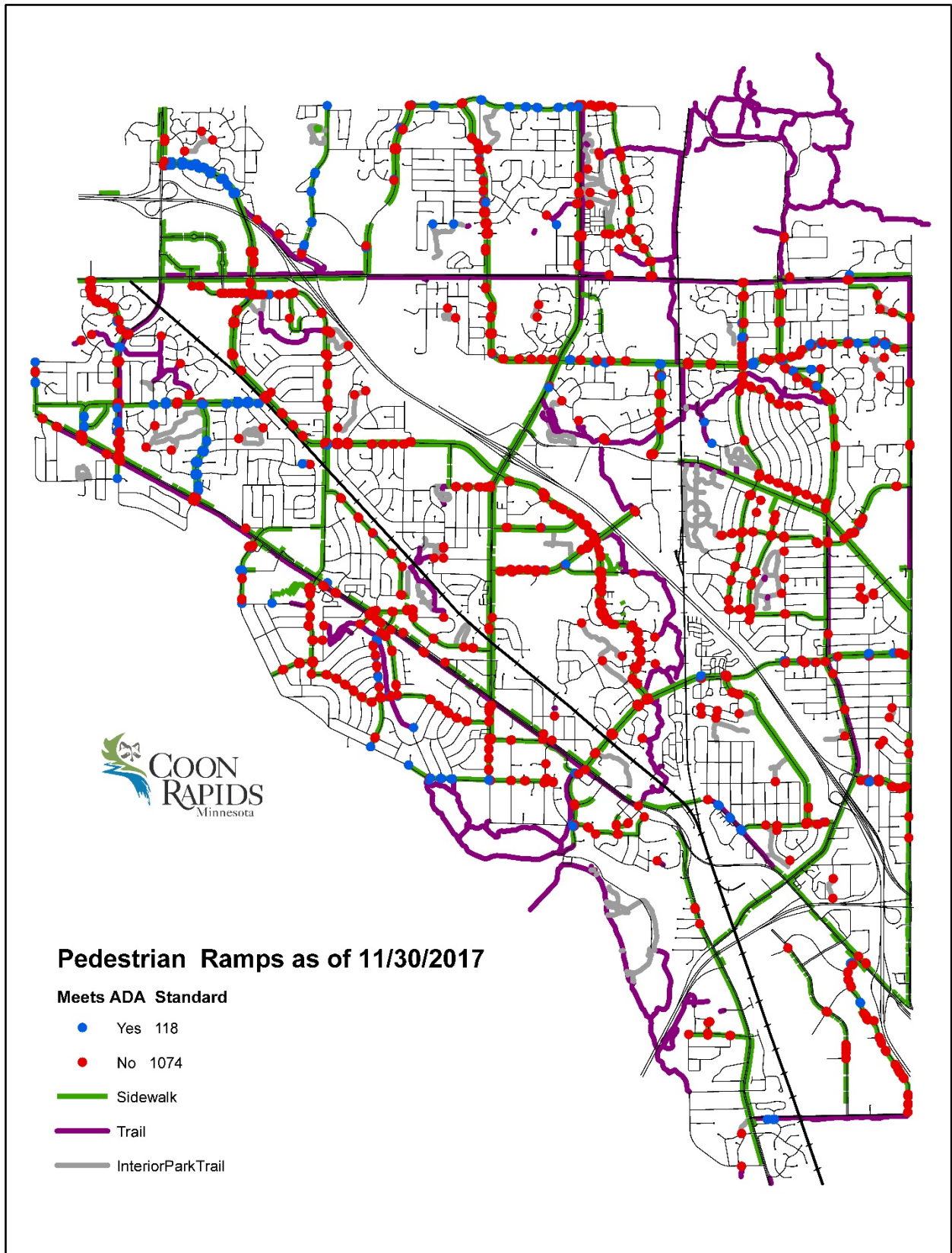
Appendices

- 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 Mississipp. 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.

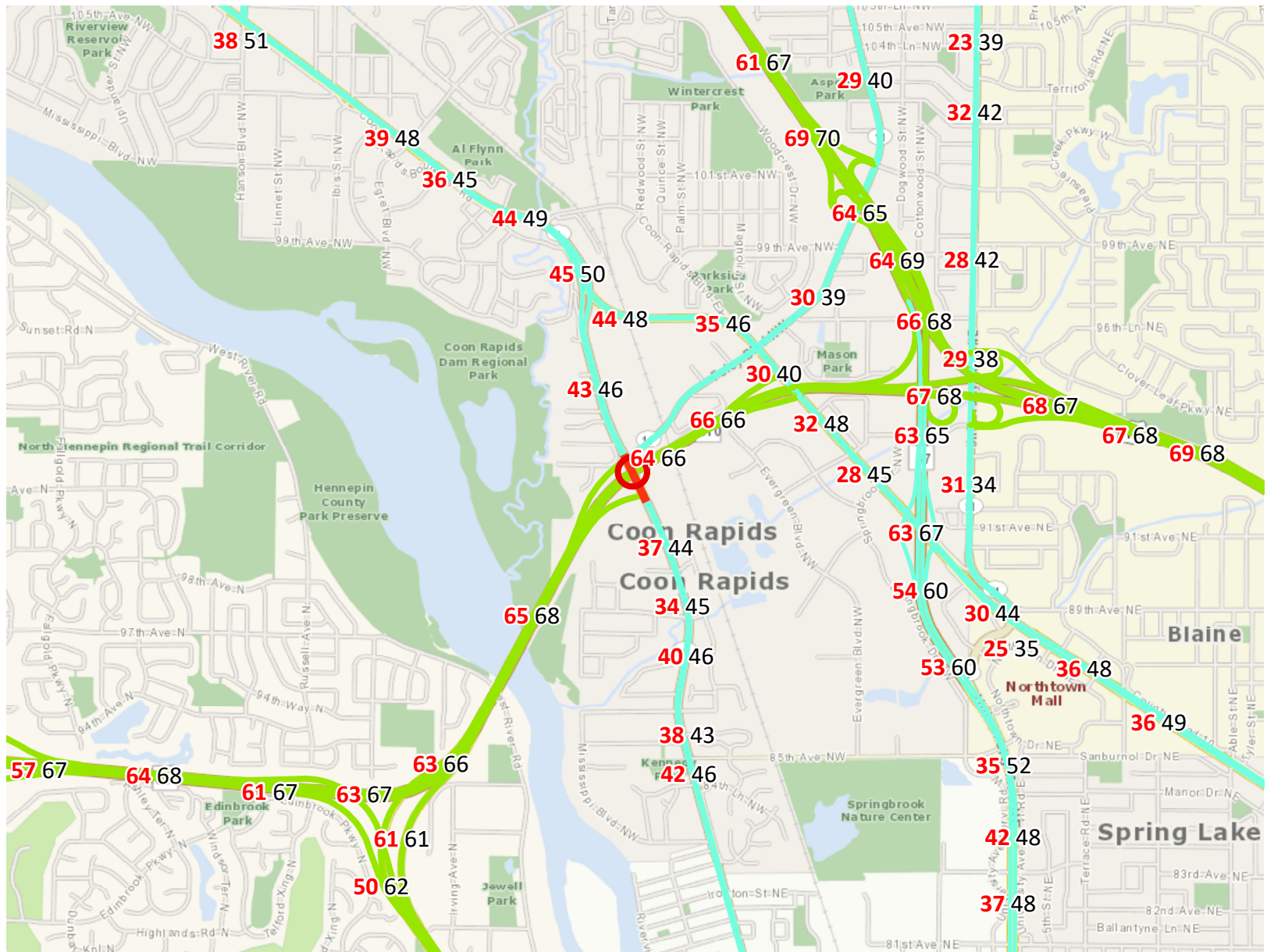
Uniform Accessibility Standards (UFAS): Accessibility standards that all federal agencies are required to meet; includes scoping and technical specifications.

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.

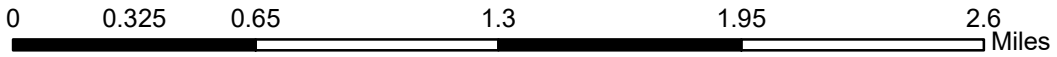
United States Department of Justice (DOJ): The United States Department of Justice (often referred to as the Justice Department or DOJ), is the United States federal executive department responsible for the enforcement of the law and administration of justice.

Level of Congestion

Strategic Capacity Project: TH 610 and East River Road Interchange Reconstruction | Map ID: 1647008996738



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



Created: 3/11/2022
LandscapeRSA1

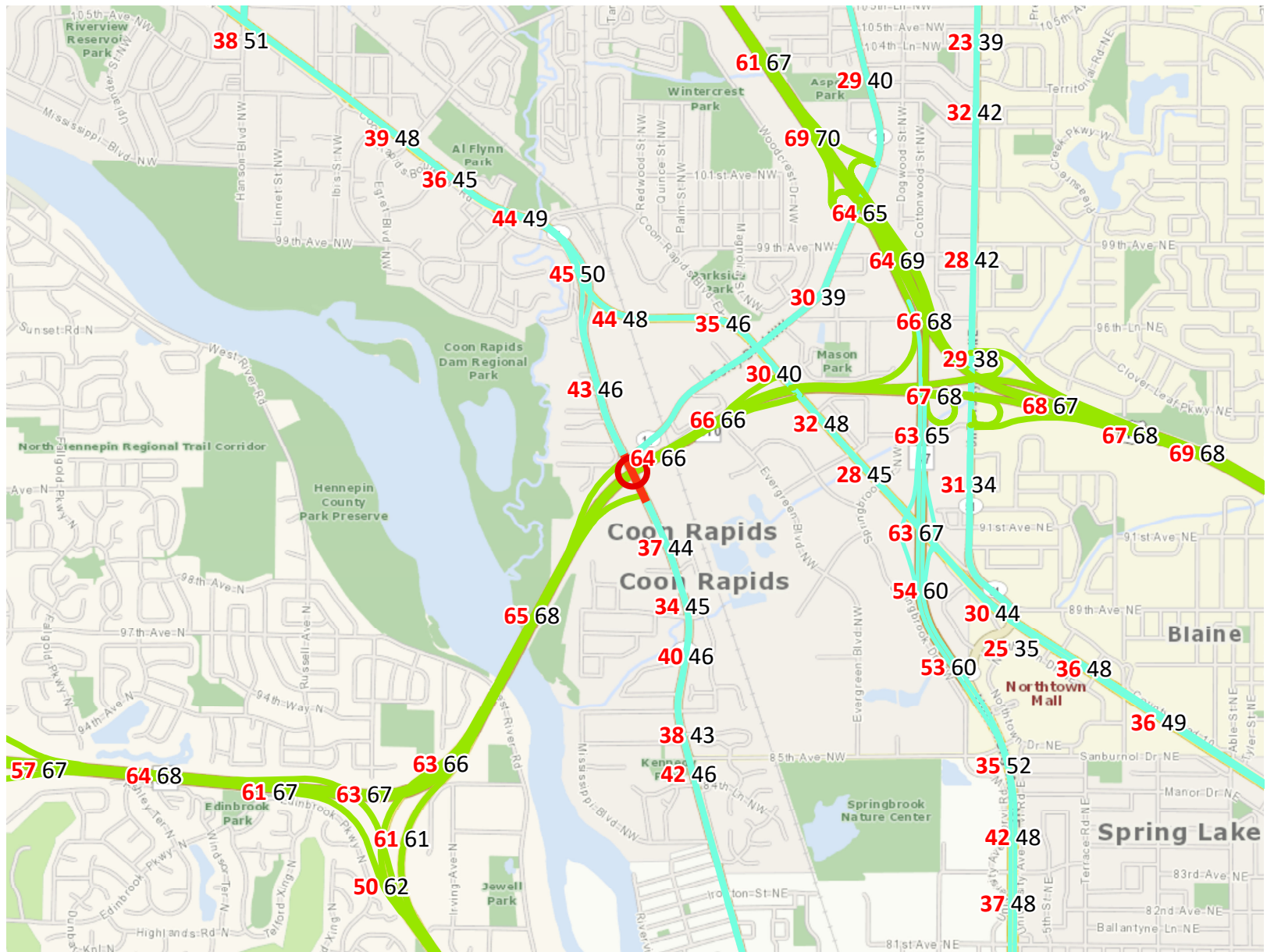


For complete disclaimer of accuracy, please visit <https://giswebsite.metc.state.mn.us/gis/site/notice.aspx>

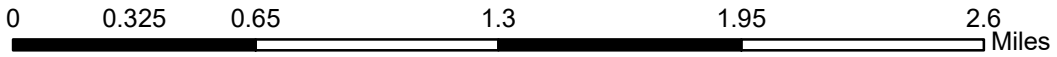


Level of Congestion

Strategic Capacity Project: TH 610 and East River Road Interchange Reconstruction | Map ID: 1647008996738



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



Created: 3/11/2022
LandscapeRSA1



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



Regional Economy

Results

WITHIN ONE MI of project:
Postsecondary Students: 0

Totals by City:

Blaine

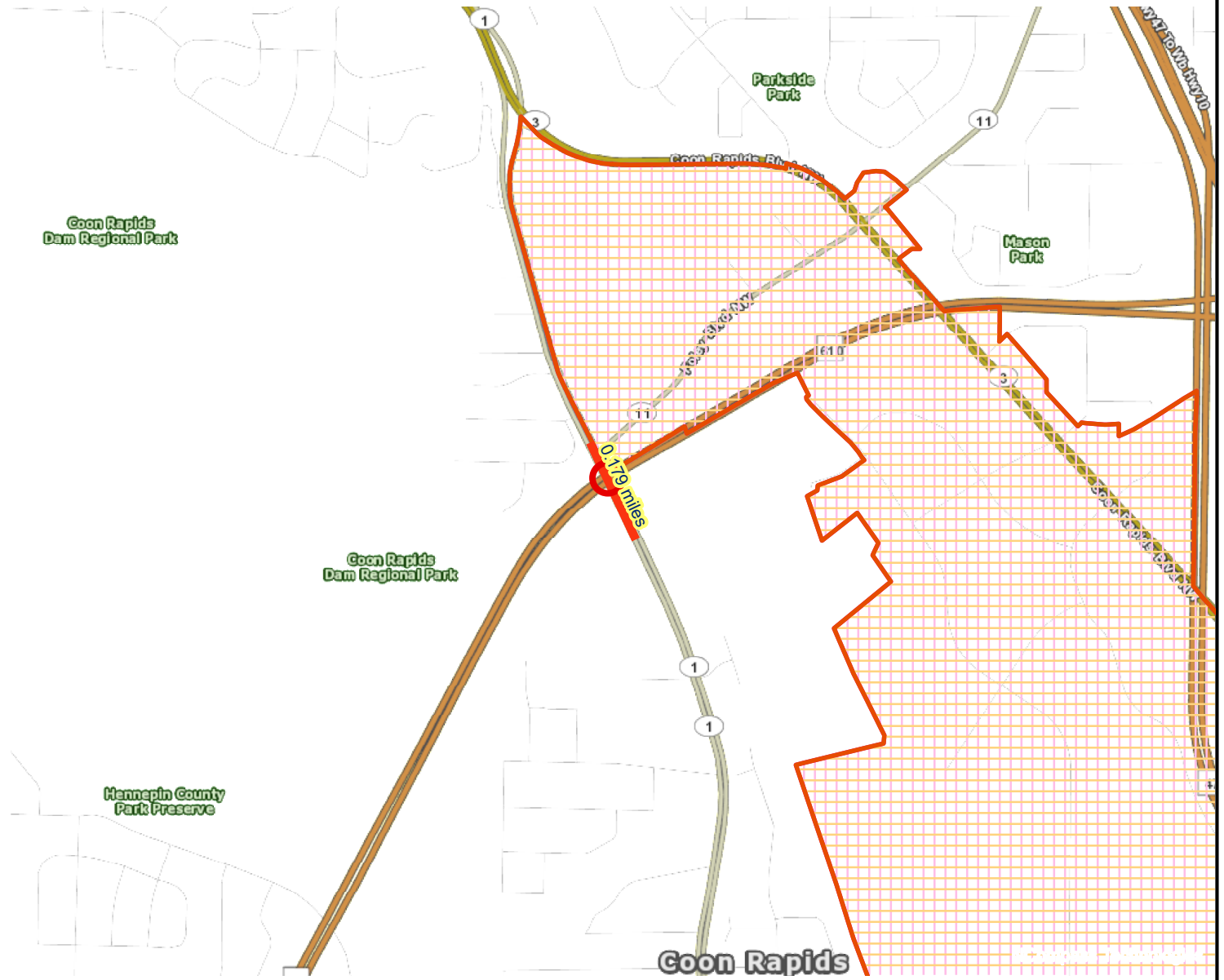
Population: 2231
Employment: 2133
Mfg and Dist Employment: 43





Brooklyn Park

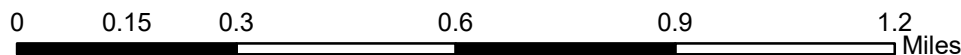
Population: 2331
Employment: 108
Mfg and Dist Employment: 3

Coon Rapids

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



-  Project Points
-  Manufacturing/Distribution Centers
-  Project
-  Job Concentration Centers



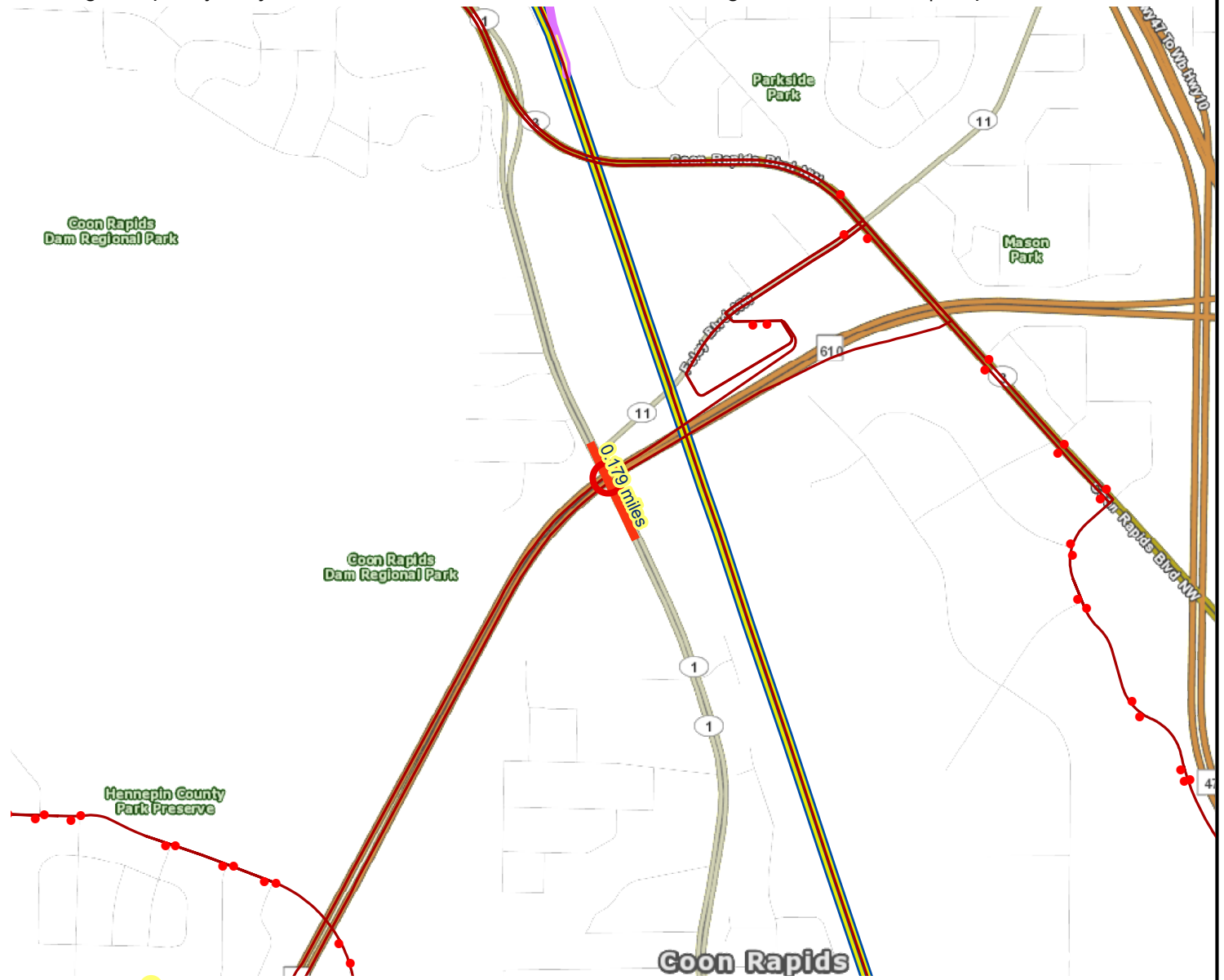
Transit Connections

Results

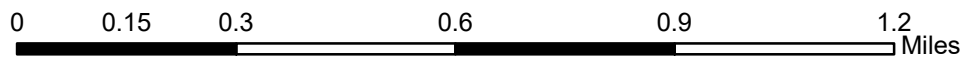
Transit with a Direct Connection to project:
850

**indicates Planned Alignments*

Transit Market areas: 3



- | | | | | | | | | | | | |
|--|----------------------------|--|-----------------------------|--|-----------------------------|--|-----------------------------|--|-----------------------------|--|---------------------------|
| | Project Points | | Commuter Rail | | Commuter Rail | | Arterial Bus Rapid Transit | | Undetermined | | Light Rail |
| | Project | | Dedicated Bus Rapid Transit | | Dedicated Bus Rapid Transit | | Dedicated Bus Rapid Transit | | Arterial Bus Rapid Transit | | Modern Streetcar |
| | Project Area | | Highway Bus Rapid Transit | | Highway Bus Rapid Transit | | Highway Bus Rapid Transit | | Commuter Rail | | Undetermined |
| | Active Stop | | Light Rail | | Light Rail | | Light Rail | | Dedicated Bus Rapid Transit | | Highway Bus Rapid Transit |
| | Arterial Bus Rapid Transit | | Arterial Bus Rapid Transit | | Transit Routes | | Modern Streetcar | | Highway Bus Rapid Transit | | |



Created: 3/11/2022
LandscapeRSA3



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







Socio-Economic Conditions

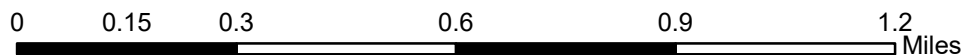
Results

Total of publicly subsidized rental housing units in census tracts within 1/2 mile: 447

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



-  Points
-  Lines
-  Area of Concentrated Poverty
-  Regional Environmental Justice Area



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
--------------------------------------	--------------	----------------

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
------------------	-------------

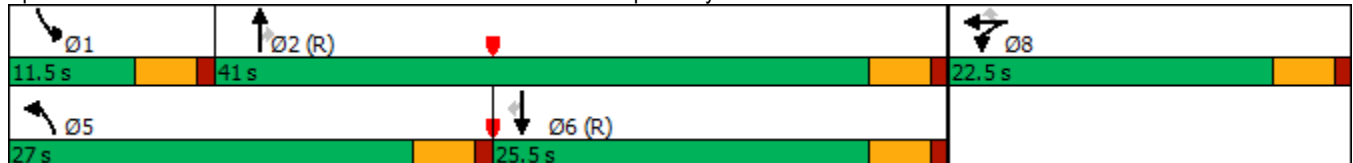


Lane Group	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑	↗	↘	↑↑	↗	↘	↑↑	↗
Traffic Volume (vph)	97	46	41	457	1493	305	28	142	137
Future Volume (vph)	97	46	41	457	1493	305	28	142	137
Turn Type	Split	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	8	8		5	2		1	6	
Permitted Phases			8			2			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 Effct 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 Capacity Utilization 64.2%
 Analysis Period (min) 15
 Intersection LOS: B
 ICU Level of Service C

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



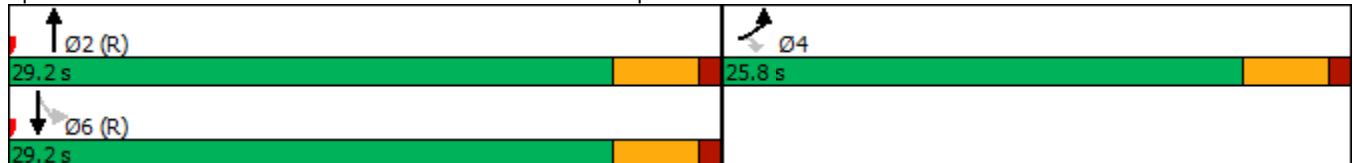


Lane Group	EBL	EBR	NBT	SBT
Lane Configurations	↖↗	↖	↖↗	↖↗
Traffic Volume (vph)	1018	168	1237	239
Future Volume (vph)	1018	168	1237	239
Turn Type	Prot	Perm	NA	NA
Protected Phases	4		2	6
Permitted Phases		4		
Detector Phase	4	4	2	6
Switch Phase				
Minimum Initial (s)	7.0	7.0	12.0	12.0
Minimum Split (s)	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 Effct 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

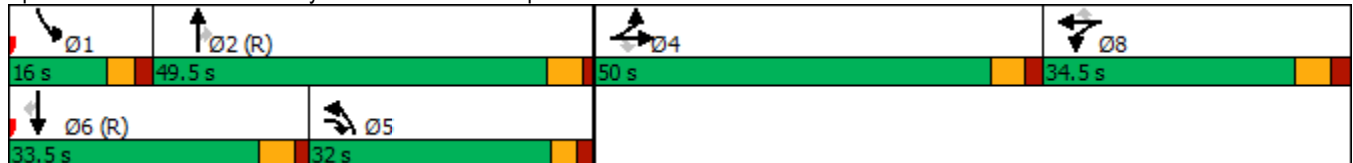
Direction	All
Future Volume (vph)	2662
Total Delay / Veh (s/v)	19
CO Emissions (kg)	2.78
NOx Emissions (kg)	0.54
VOC Emissions (kg)	0.64

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	800	200	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 Effct 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



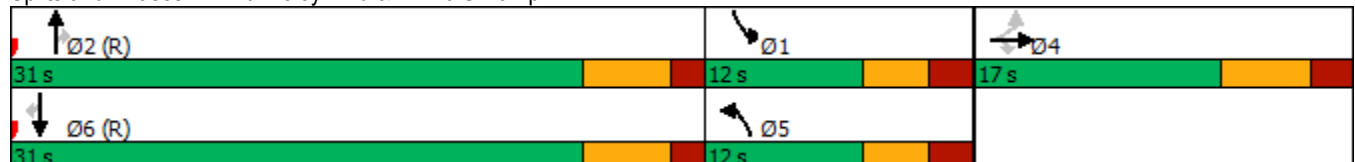


Lane Group	EBT	EBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↕	↗	↖	↕	↗	↖	↕	↗
Traffic Volume (vph)	1	216	26	1110	225	117	757	202
Future Volume (vph)	1	216	26	1110	225	117	757	202
Turn Type	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	4		5	2		1	6	
Permitted Phases		4			2			6
Detector Phase	4	4	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 Effct 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 Capacity Utilization 65.8%
 Analysis Period (min) 15
 Intersection LOS: B
 ICU Level of Service C

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 Effct 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:NBT 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 Capacity Utilization 80.8%
 Analysis Period (min) 15
 Intersection LOS: C
 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)	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

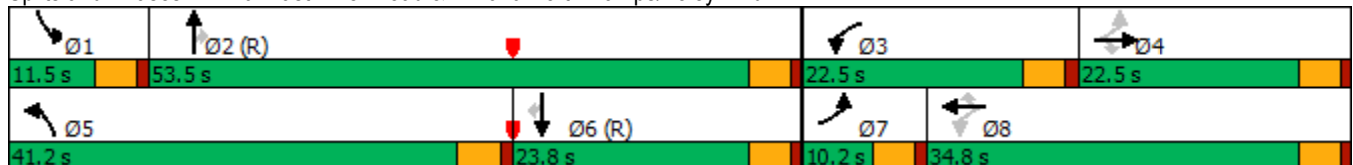
Direction	All
Future Volume (vph)	2861
Total Delay / Veh (s/v)	31
CO Emissions (kg)	2.89
NOx Emissions (kg)	0.56
VOC Emissions (kg)	0.67

Lane Group	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



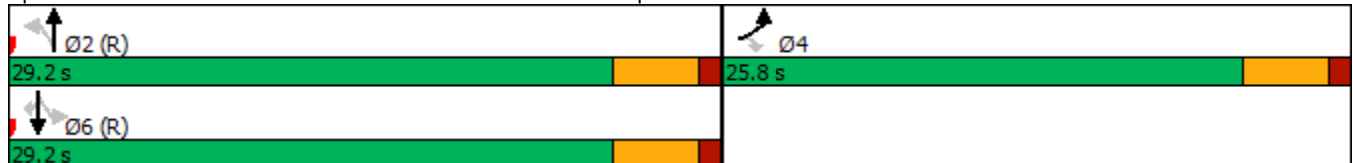


Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↖↗	↖	↖	↕↗	↕↖	↖
Traffic Volume (vph)	1018	168	35	1237	274	105
Future Volume (vph)	1018	168	35	1237	274	105
Turn Type	Prot	Perm	Perm	NA	NA	Perm
Protected Phases	4			2	6	
Permitted Phases		4	2			6
Detector Phase	4	4	2	2	6	6
Switch Phase						
Minimum 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 Capacity Utilization 70.3%
 Analysis Period (min) 15
 Intersection LOS: C
 ICU Level of Service C

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

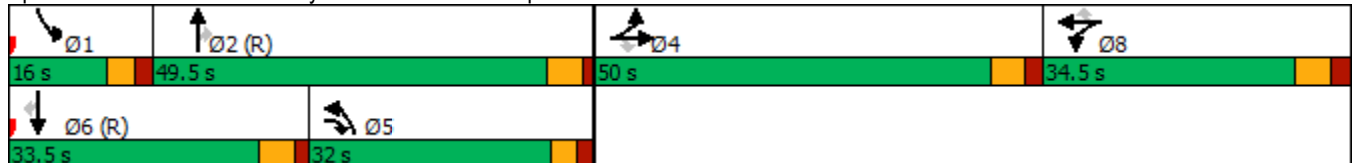
Direction	All
Future Volume (vph)	2837
Total Delay / Veh (s/v)	21
CO Emissions (kg)	2.99
NOx Emissions (kg)	0.58
VOC Emissions (kg)	0.69

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 Effct 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 Capacity Utilization 91.9%
 Analysis Period (min) 15
 Intersection LOS: E
 ICU Level of Service F

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



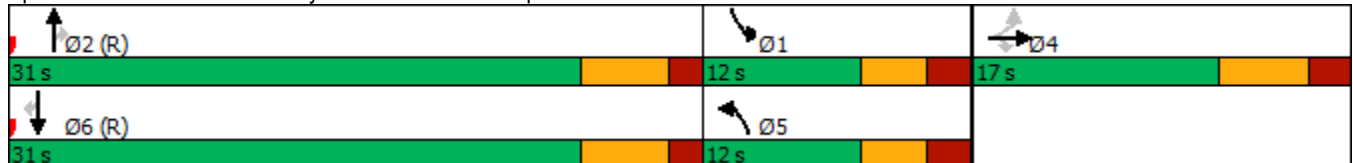


Lane Group	EBT	EBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↕	↗	↖	↑↑	↗	↖	↑↑	↗
Traffic Volume (vph)	1	216	26	1110	85	117	617	202
Future Volume (vph)	1	216	26	1110	85	117	617	202
Turn Type	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	4		5	2		1	6	
Permitted Phases		4			2			6
Detector Phase	4	4	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 Effct 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 Capacity Utilization 65.8%
 Analysis Period (min) 15
 Intersection LOS: B
 ICU Level of Service C

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



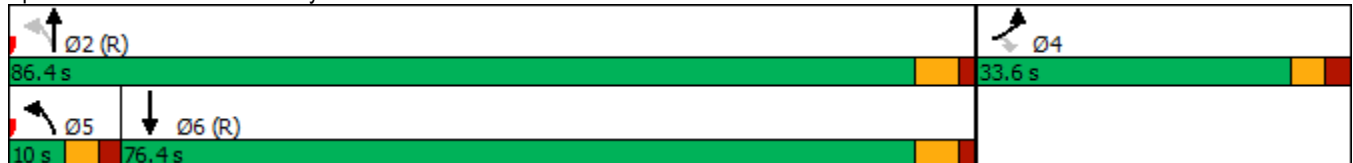


Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Configurations	↔	↔	↔	↑↑	↑↑
Traffic Volume (vph)	294	184	344	927	371
Future Volume (vph)	294	184	344	927	371
Turn Type	Prot	Perm	pm+pt	NA	NA
Protected Phases	4		5	2	6
Permitted Phases		4	2		
Detector Phase	4	4	2 5	2	6
Switch Phase					
Minimum Initial (s)	7.0	7.0	5.0	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 Effct 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:NBT 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

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
--------------------------------------	--------------	----------------

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
------------------	-------------

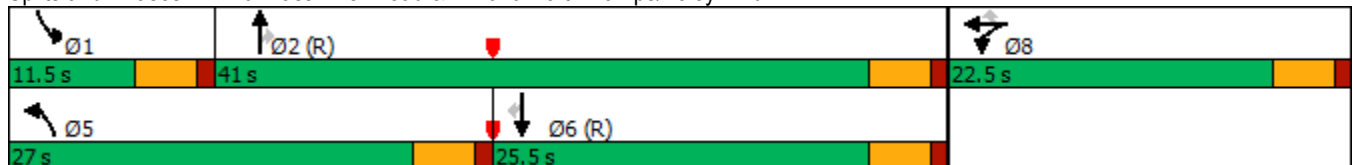


Lane Group	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑	↗	↖	↑↑	↗	↖	↑↑	↗
Traffic Volume (vph)	97	46	41	457	1493	305	28	142	137
Future Volume (vph)	97	46	41	457	1493	305	28	142	137
Turn Type	Split	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	8	8		5	2		1	6	
Permitted Phases			8			2			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 Effct 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 Capacity Utilization 64.2%
 Analysis Period (min) 15
 Intersection LOS: B
 ICU Level of Service C

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



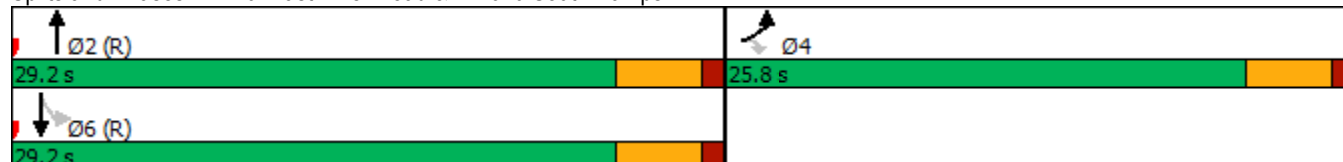


Lane Group	EBL	EBR	NBT	SBT
Lane Configurations				
Traffic Volume (vph)	1018	168	1237	239
Future Volume (vph)	1018	168	1237	239
Turn Type	Prot	Perm	NA	NA
Protected Phases	4		2	6
Permitted Phases		4		
Detector Phase	4	4	2	6
Switch Phase				
Minimum Initial (s)	7.0	7.0	12.0	12.0
Minimum Split (s)	22.5	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 Effct 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

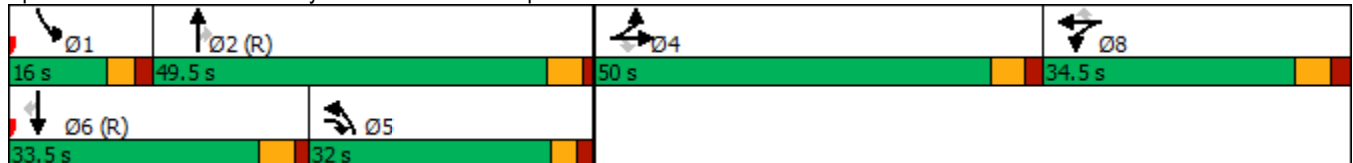
Direction	All
Future Volume (vph)	2662
Total Delay / Veh (s/v)	19
CO Emissions (kg)	2.78
NOx Emissions (kg)	0.54
VOC Emissions (kg)	0.64

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	800	200	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 Effct 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



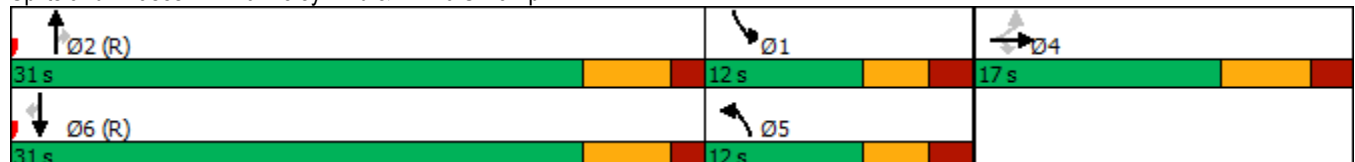


Lane Group	EBT	EBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↕	↗	↖	↕	↗	↖	↕	↗
Traffic Volume (vph)	1	216	26	1110	225	117	757	202
Future Volume (vph)	1	216	26	1110	225	117	757	202
Turn Type	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	4		5	2		1	6	
Permitted Phases		4			2			6
Detector Phase	4	4	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 Effct 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 Capacity Utilization 65.8%
 Analysis Period (min) 15
 Intersection LOS: B
 ICU Level of Service C

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



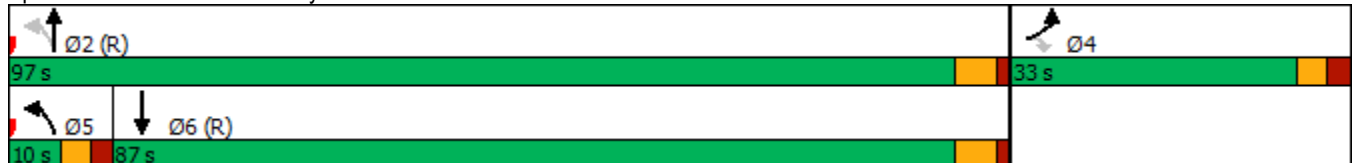


Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Configurations	↖	↗	↖	↑↑	↑↓
Traffic Volume (vph)	344	184	344	1017	431
Future Volume (vph)	344	184	344	1017	431
Turn Type	Prot	Perm	pm+pt	NA	NA
Protected Phases	4		5	2	6
Permitted Phases		4	2		
Detector Phase	4	4	2 5	2	6
Switch Phase					
Minimum Initial (s)	7.0	7.0	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 Effct 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 Capacity Utilization 80.8%
 Analysis Period (min) 15
 Intersection LOS: C
 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)	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

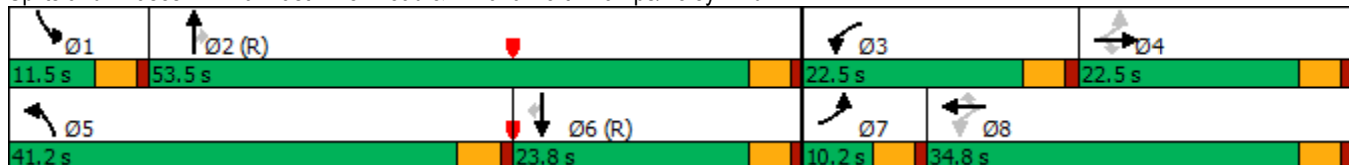
Direction	All
Future Volume (vph)	2861
Total Delay / Veh (s/v)	31
CO Emissions (kg)	2.89
NOx Emissions (kg)	0.56
VOC Emissions (kg)	0.67

Lane Group	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 Capacity Utilization 72.3%
 Analysis Period (min) 15
 Intersection LOS: C
 ICU Level of Service C

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





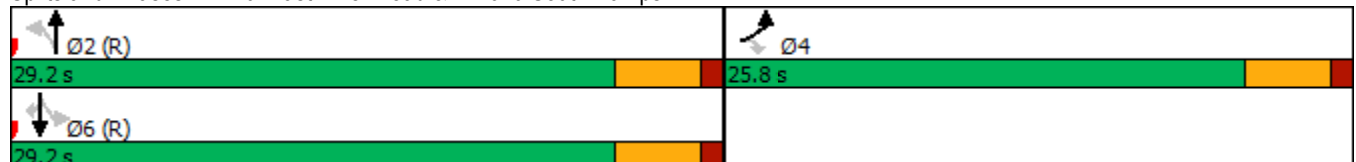
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↖↗	↖	↗	↖↗	↖↗	↖
Traffic Volume (vph)	1018	168	35	1237	274	105
Future Volume (vph)	1018	168	35	1237	274	105
Turn Type	Prot	Perm	Perm	NA	NA	Perm
Protected Phases	4			2	6	
Permitted Phases		4	2			6
Detector Phase	4	4	2	2	6	6
Switch Phase						
Minimum 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 Capacity Utilization 70.3%
 Analysis Period (min) 15

Intersection LOS: C
 ICU Level of Service C

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

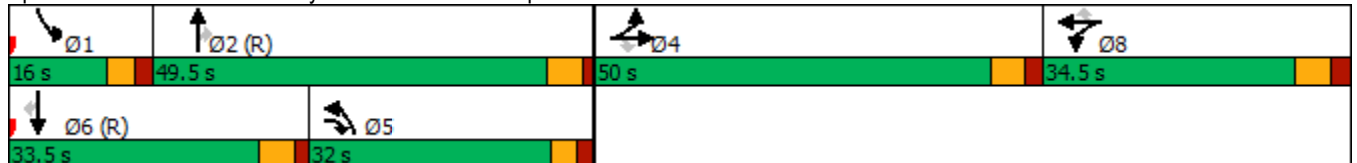
Direction	All
Future Volume (vph)	2837
Total Delay / Veh (s/v)	21
CO Emissions (kg)	2.99
NOx Emissions (kg)	0.58
VOC Emissions (kg)	0.69

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 Effct 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





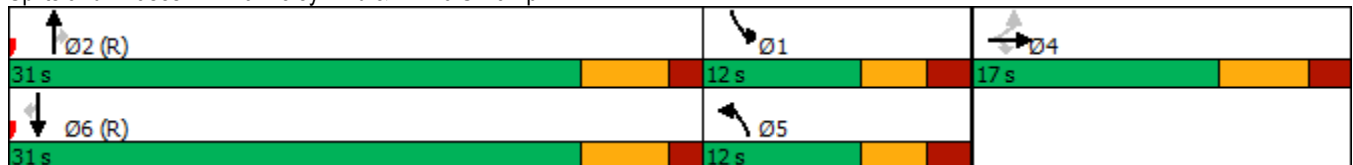
Lane Group	EBT	EBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↕	↗	↖	↑↑	↗	↖	↑↑	↗
Traffic Volume (vph)	1	216	26	1110	85	117	617	202
Future Volume (vph)	1	216	26	1110	85	117	617	202
Turn Type	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	4		5	2		1	6	
Permitted Phases		4			2			6
Detector Phase	4	4	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 Effct 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 Capacity Utilization 65.8%
 Analysis Period (min) 15

Intersection LOS: B
 ICU Level of Service C

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



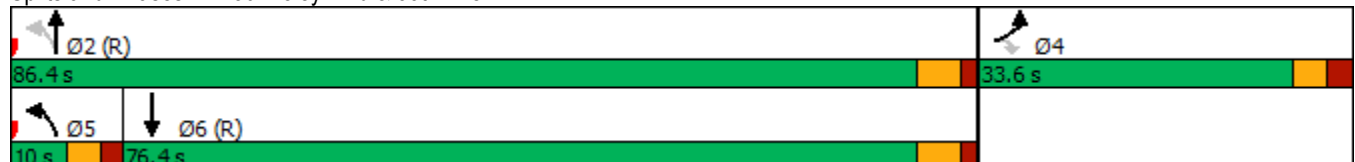


Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Configurations					
Traffic Volume (vph)	294	184	344	927	371
Future Volume (vph)	294	184	344	927	371
Turn Type	Prot	Perm	pm+pt	NA	NA
Protected Phases	4		5	2	6
Permitted Phases		4	2		
Detector Phase	4	4	2 5	2	6
Switch Phase					
Minimum Initial (s)	7.0	7.0	5.0	15.0	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 Effct 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:NBT 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

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
--------------------------------------	--------------	----------------

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
------------------	-------------

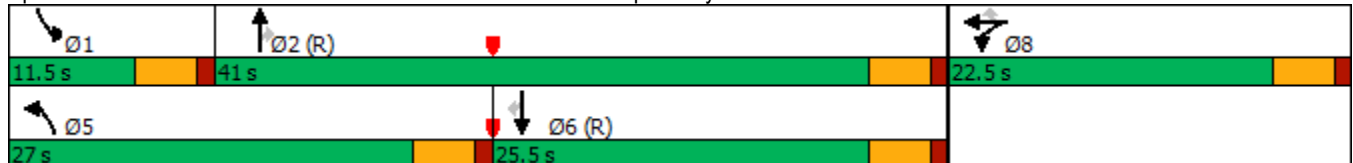


Lane Group	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑	↗	↘	↑↑	↗	↘	↑↑	↗
Traffic Volume (vph)	97	46	41	457	1493	305	28	142	137
Future Volume (vph)	97	46	41	457	1493	305	28	142	137
Turn Type	Split	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	8	8		5	2		1	6	
Permitted Phases			8			2			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 Effct 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 Capacity Utilization 64.2%
 Analysis Period (min) 15
 Intersection LOS: B
 ICU Level of Service C

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



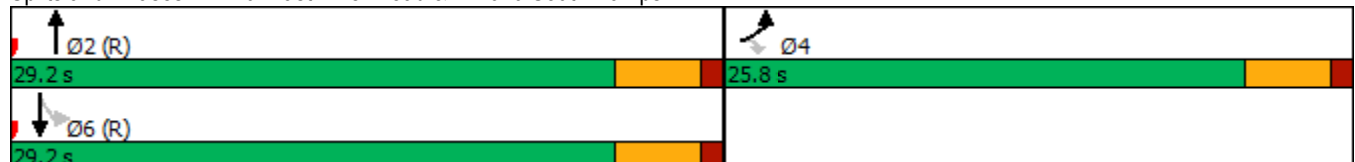


Lane Group	EBL	EBR	NBT	SBT
Lane Configurations	↖↗	↖	↕↔	↕↕
Traffic Volume (vph)	1018	168	1237	239
Future Volume (vph)	1018	168	1237	239
Turn Type	Prot	Perm	NA	NA
Protected Phases	4		2	6
Permitted Phases		4		
Detector Phase	4	4	2	6
Switch Phase				
Minimum Initial (s)	7.0	7.0	12.0	12.0
Minimum Split (s)	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 Effct 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

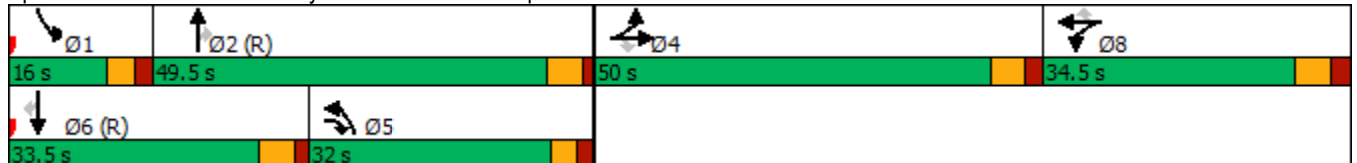
Direction	All
Future Volume (vph)	2662
Total Delay / Veh (s/v)	19
CO Emissions (kg)	2.78
NOx Emissions (kg)	0.54
VOC Emissions (kg)	0.64

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	800	200	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 Effct 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



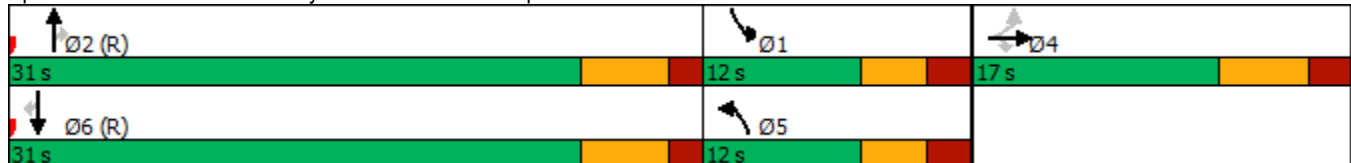


Lane Group	EBT	EBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↗	↖	↑↑	↗	↖	↑↑	↗
Traffic Volume (vph)	1	216	26	1110	225	117	757	202
Future Volume (vph)	1	216	26	1110	225	117	757	202
Turn Type	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	4		5	2		1	6	
Permitted Phases		4			2			6
Detector Phase	4	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 Effct 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



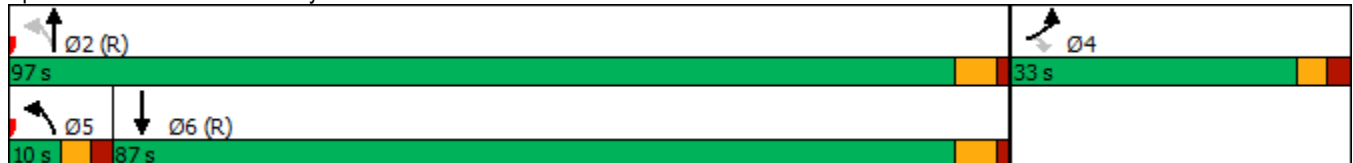


Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Configurations	↖	↗	↖	↑↑	↑↓
Traffic Volume (vph)	344	184	344	1017	431
Future Volume (vph)	344	184	344	1017	431
Turn Type	Prot	Perm	pm+pt	NA	NA
Protected Phases	4		5	2	6
Permitted Phases		4	2		
Detector Phase	4	4	2 5	2	6
Switch Phase					
Minimum Initial (s)	7.0	7.0	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 Effct 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 Capacity Utilization 80.8%
 Analysis Period (min) 15
 Intersection LOS: C
 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)	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

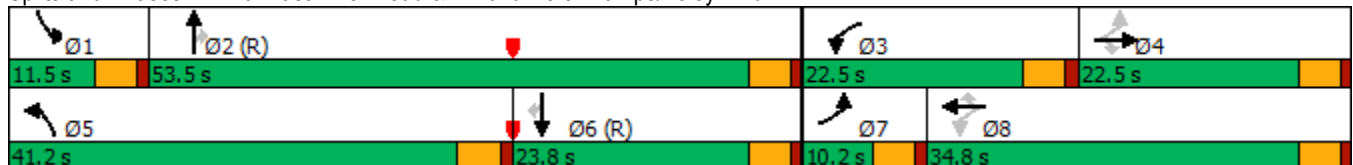
Direction	All
Future Volume (vph)	2861
Total Delay / Veh (s/v)	31
CO Emissions (kg)	2.89
NOx Emissions (kg)	0.56
VOC Emissions (kg)	0.67

Lane Group	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 Capacity Utilization 72.3%
 Analysis Period (min) 15
 Intersection LOS: C
 ICU Level of Service C

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



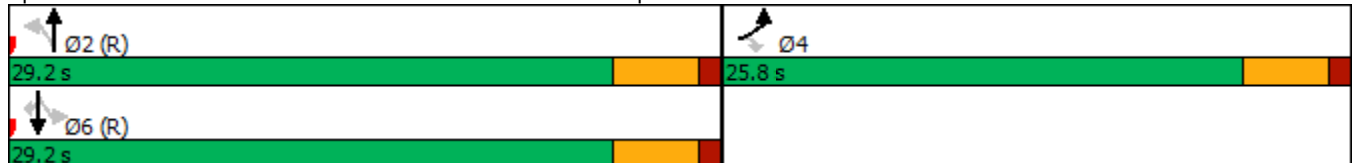


Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↖↗	↖	↗	↖↗	↖↗	↖
Traffic Volume (vph)	1018	168	35	1237	274	105
Future Volume (vph)	1018	168	35	1237	274	105
Turn Type	Prot	Perm	Perm	NA	NA	Perm
Protected Phases	4			2	6	
Permitted Phases		4	2			6
Detector Phase	4	4	2	2	6	6
Switch Phase						
Minimum 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

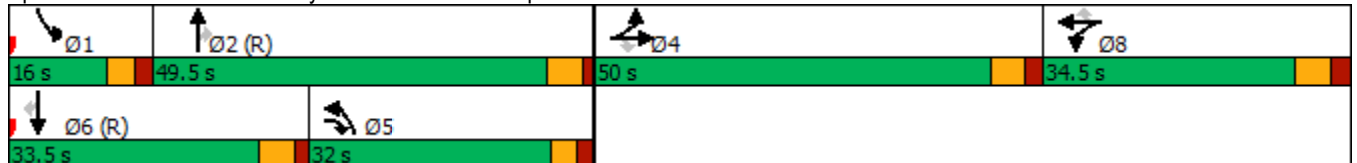
Direction	All
Future Volume (vph)	2837
Total Delay / Veh (s/v)	21
CO Emissions (kg)	2.99
NOx Emissions (kg)	0.58
VOC Emissions (kg)	0.69

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 Effct 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





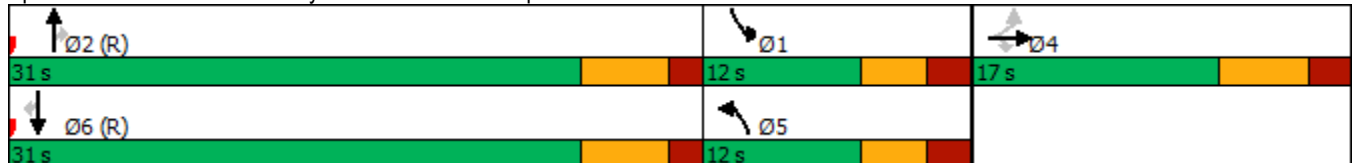
Lane Group	EBT	EBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖ ↗	↖ ↗	↖ ↗	↑ ↗	↖ ↗	↖ ↗	↑ ↗	↖ ↗
Traffic Volume (vph)	1	216	26	1110	85	117	617	202
Future Volume (vph)	1	216	26	1110	85	117	617	202
Turn Type	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	4		5	2		1	6	
Permitted Phases		4			2			6
Detector 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 Effct 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 Capacity Utilization 65.8%
 Analysis Period (min) 15

Intersection LOS: B
 ICU Level of Service C

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



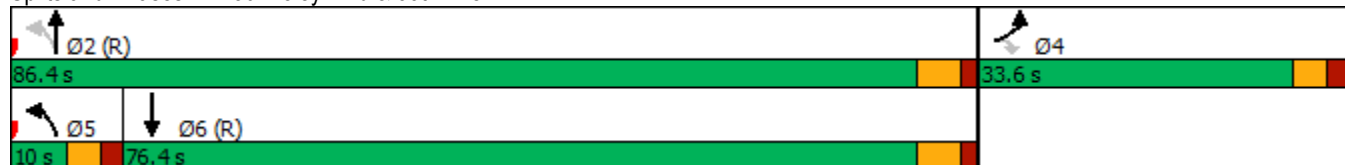


Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Configurations					
Traffic Volume (vph)	294	184	344	927	371
Future Volume (vph)	294	184	344	927	371
Turn Type	Prot	Perm	pm+pt	NA	NA
Protected Phases	4		5	2	6
Permitted Phases		4	2		
Detector Phase	4	4	2 5	2	6
Switch Phase					
Minimum Initial (s)	7.0	7.0	5.0	15.0	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 Effct 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

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
--------------------------------------	--------------	----------------

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
------------------	-------------

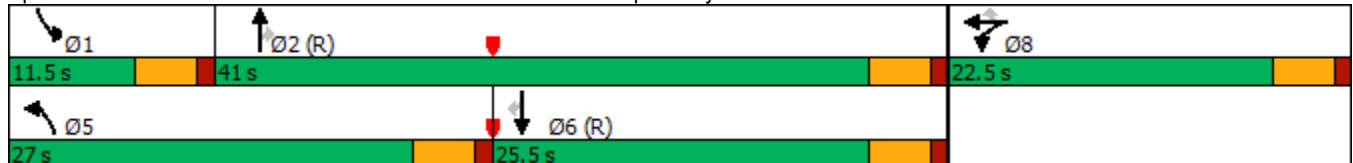


Lane Group	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑	↗	↖	↑↑	↗	↖	↑↑	↗
Traffic Volume (vph)	97	46	41	457	1493	305	28	142	137
Future Volume (vph)	97	46	41	457	1493	305	28	142	137
Turn Type	Split	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	8	8		5	2		1	6	
Permitted Phases			8			2			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 Effct 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 Capacity Utilization 64.2%
 Analysis Period (min) 15
 Intersection LOS: B
 ICU Level of Service C

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



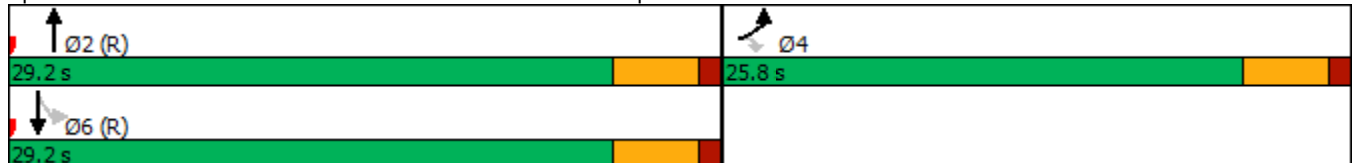


Lane Group	EBL	EBR	NBT	SBT
Lane Configurations	↗↘	↗	↕↔	↕↕
Traffic Volume (vph)	1018	168	1237	239
Future Volume (vph)	1018	168	1237	239
Turn Type	Prot	Perm	NA	NA
Protected Phases	4		2	6
Permitted Phases		4		
Detector Phase	4	4	2	6
Switch Phase				
Minimum Initial (s)	7.0	7.0	12.0	12.0
Minimum Split (s)	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 Effct 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

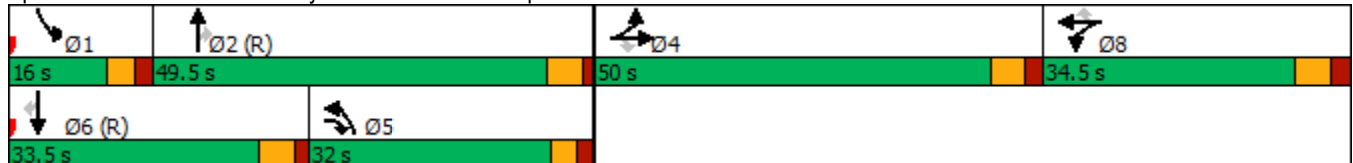
Direction	All
Future Volume (vph)	2662
Total Delay / Veh (s/v)	19
CO Emissions (kg)	2.78
NOx Emissions (kg)	0.54
VOC Emissions (kg)	0.64

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	800	200	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 Effct 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



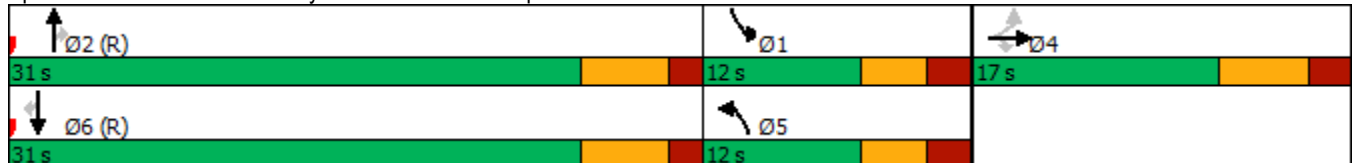


Lane Group	EBT	EBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↕	↗	↖	↕	↗	↖	↕	↗
Traffic Volume (vph)	1	216	26	1110	225	117	757	202
Future Volume (vph)	1	216	26	1110	225	117	757	202
Turn Type	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	4		5	2		1	6	
Permitted Phases		4			2			6
Detector Phase	4	4	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 Effct 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 Capacity Utilization 65.8%
 Analysis Period (min) 15
 Intersection LOS: B
 ICU Level of Service C

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 Effct 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:NBT 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 Capacity Utilization 80.8%
 Analysis Period (min) 15
 Intersection LOS: C
 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)	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

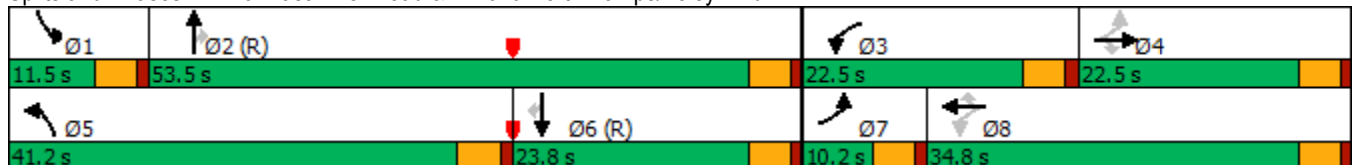
Direction	All
Future Volume (vph)	2861
Total Delay / Veh (s/v)	31
CO Emissions (kg)	2.89
NOx Emissions (kg)	0.56
VOC Emissions (kg)	0.67

Lane Group	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 Capacity Utilization 72.3%
 Analysis Period (min) 15
 Intersection LOS: C
 ICU Level of Service C

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



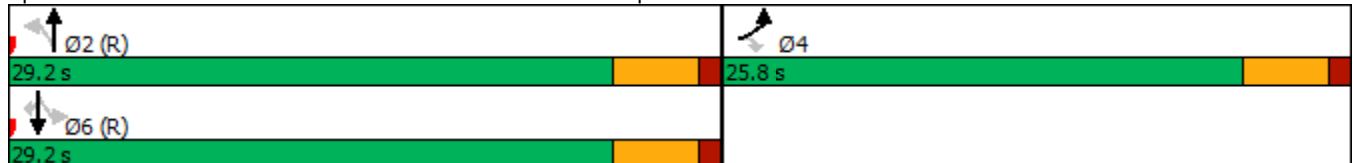


Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↖↗	↖	↖	↕↔	↕↔	↖
Traffic Volume (vph)	1018	168	35	1237	274	105
Future Volume (vph)	1018	168	35	1237	274	105
Turn Type	Prot	Perm	Perm	NA	NA	Perm
Protected Phases	4			2	6	
Permitted Phases		4	2			6
Detector Phase	4	4	2	2	6	6
Switch Phase						
Minimum 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 Capacity Utilization 70.3%
 Analysis Period (min) 15
 Intersection LOS: C
 ICU Level of Service C

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

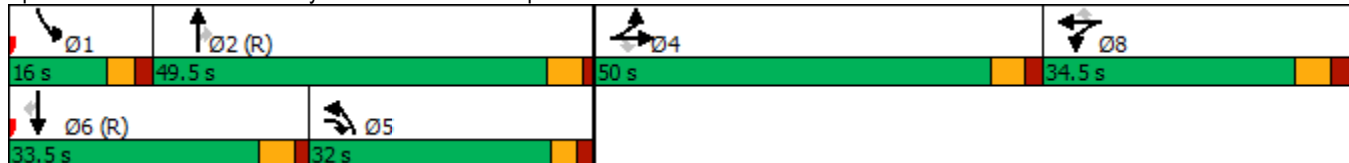
Direction	All
Future Volume (vph)	2837
Total Delay / Veh (s/v)	21
CO Emissions (kg)	2.99
NOx Emissions (kg)	0.58
VOC Emissions (kg)	0.69

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 Effct 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



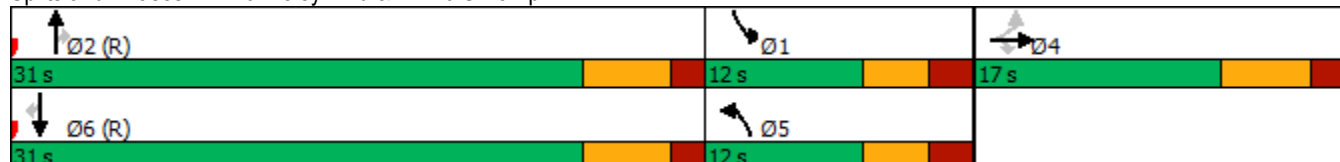


Lane Group	EBT	EBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↕	↗	↖	↑↑	↗	↖	↑↑	↗
Traffic Volume (vph)	1	216	26	1110	85	117	617	202
Future Volume (vph)	1	216	26	1110	85	117	617	202
Turn Type	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	4		5	2		1	6	
Permitted Phases		4			2			6
Detector Phase	4	4	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 Effct 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



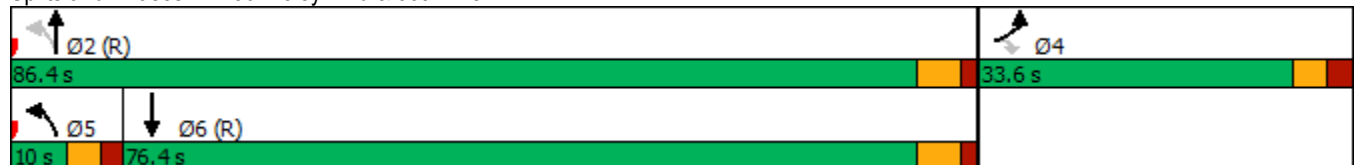


Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Configurations					
Traffic Volume (vph)	294	184	344	927	371
Future Volume (vph)	294	184	344	927	371
Turn Type	Prot	Perm	pm+pt	NA	NA
Protected Phases	4		5	2	6
Permitted Phases		4	2		
Detector Phase	4	4	2 5	2	6
Switch Phase					
Minimum Initial (s)	7.0	7.0	5.0	15.0	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 Effct 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:NBT 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

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

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
--------------------------------------	--------------	----------------

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
------------------	-------------

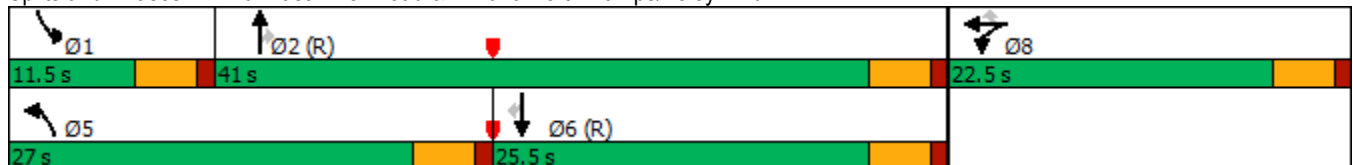


Lane Group	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑	↗	↖	↑↑	↗	↖	↑↑	↗
Traffic Volume (vph)	97	46	41	457	1493	305	28	142	137
Future Volume (vph)	97	46	41	457	1493	305	28	142	137
Turn Type	Split	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	8	8		5	2		1	6	
Permitted Phases			8			2			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 Effct 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 Capacity Utilization 64.2%
 Analysis Period (min) 15
 Intersection LOS: B
 ICU Level of Service C

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



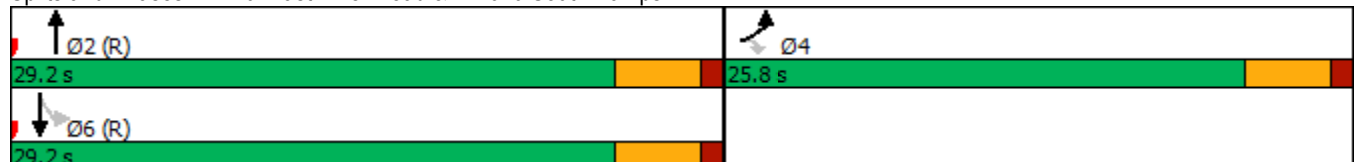


Lane Group	EBL	EBR	NBT	SBT
Lane Configurations	↖↗	↗	↖↗	↖↗
Traffic Volume (vph)	1018	168	1237	239
Future Volume (vph)	1018	168	1237	239
Turn Type	Prot	Perm	NA	NA
Protected Phases	4		2	6
Permitted Phases		4		
Detector Phase	4	4	2	6
Switch Phase				
Minimum Initial (s)	7.0	7.0	12.0	12.0
Minimum Split (s)	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 Effct 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

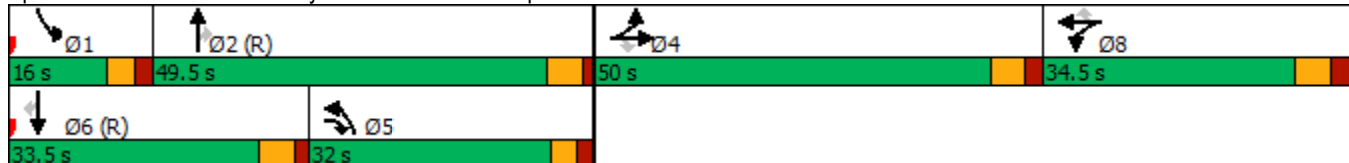
Direction	All
Future Volume (vph)	2662
Total Delay / Veh (s/v)	19
CO Emissions (kg)	2.78
NOx Emissions (kg)	0.54
VOC Emissions (kg)	0.64

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	800	200	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 Effct 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



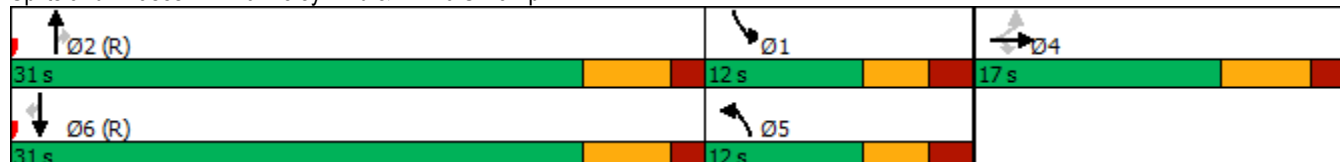


Lane Group	EBT	EBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗	↙	↕	↗	↙	↕	↗
Traffic Volume (vph)	1	216	26	1110	225	117	757	202
Future Volume (vph)	1	216	26	1110	225	117	757	202
Turn Type	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	4		5	2		1	6	
Permitted Phases		4			2			6
Detector Phase	4	4	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 Effct 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



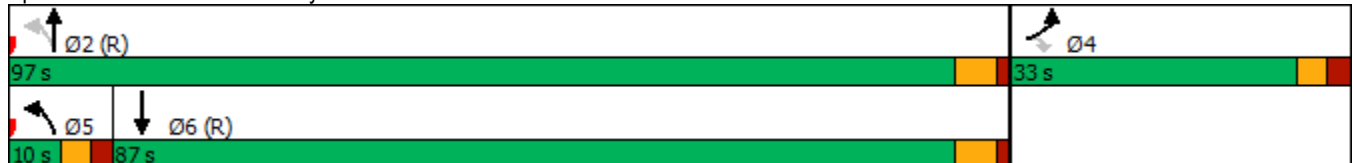


Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Configurations	↖	↗	↖	↑↑	↑↓
Traffic Volume (vph)	344	184	344	1017	431
Future Volume (vph)	344	184	344	1017	431
Turn Type	Prot	Perm	pm+pt	NA	NA
Protected Phases	4		5	2	6
Permitted Phases		4	2		
Detector Phase	4	4	2 5	2	6
Switch Phase					
Minimum Initial (s)	7.0	7.0	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 Effct 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 Capacity Utilization 80.8%
 Analysis Period (min) 15
 Intersection LOS: C
 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)	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

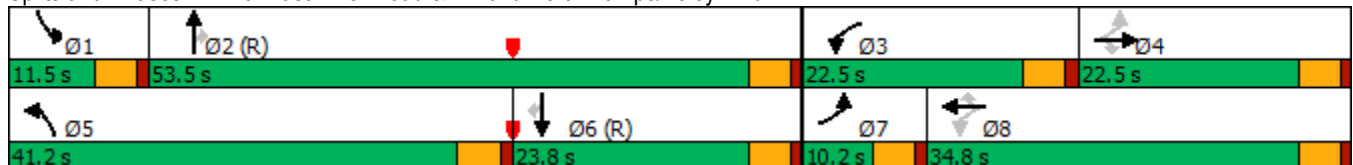
Direction	All
Future Volume (vph)	2861
Total Delay / Veh (s/v)	31
CO Emissions (kg)	2.89
NOx Emissions (kg)	0.56
VOC Emissions (kg)	0.67

Lane Group	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 Capacity Utilization 72.3%
 Analysis Period (min) 15
 Intersection LOS: C
 ICU Level of Service C

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





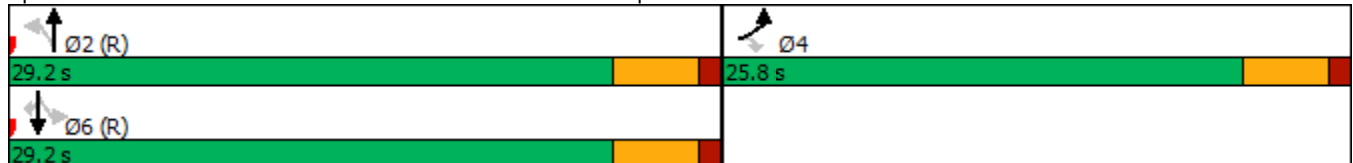
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↖↗	↖	↖	↕↗	↕↖	↖
Traffic Volume (vph)	1018	168	35	1237	274	105
Future Volume (vph)	1018	168	35	1237	274	105
Turn Type	Prot	Perm	Perm	NA	NA	Perm
Protected Phases	4			2	6	
Permitted Phases		4	2			6
Detector Phase	4	4	2	2	6	6
Switch Phase						
Minimum 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 Capacity Utilization 70.3%
 Analysis Period (min) 15

Intersection LOS: C
 ICU Level of Service C

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

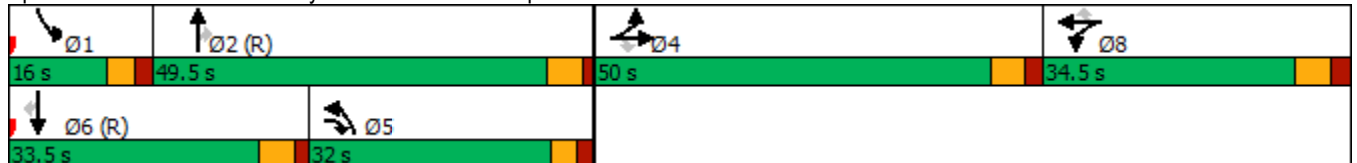
Direction	All
Future Volume (vph)	2837
Total Delay / Veh (s/v)	21
CO Emissions (kg)	2.99
NOx Emissions (kg)	0.58
VOC Emissions (kg)	0.69

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 Effct 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 Capacity Utilization 91.9%
 Analysis Period (min) 15
 Intersection LOS: E
 ICU Level of Service F

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



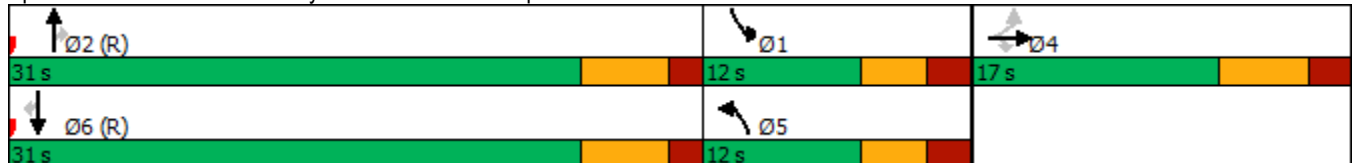


Lane Group	EBT	EBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↕	↗	↖	↑↑	↗	↖	↑↑	↗
Traffic Volume (vph)	1	216	26	1110	85	117	617	202
Future Volume (vph)	1	216	26	1110	85	117	617	202
Turn Type	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	4		5	2		1	6	
Permitted Phases		4			2			6
Detector Phase	4	4	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 Effct 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 Capacity Utilization 65.8%
 Analysis Period (min) 15
 Intersection LOS: B
 ICU Level of Service C

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



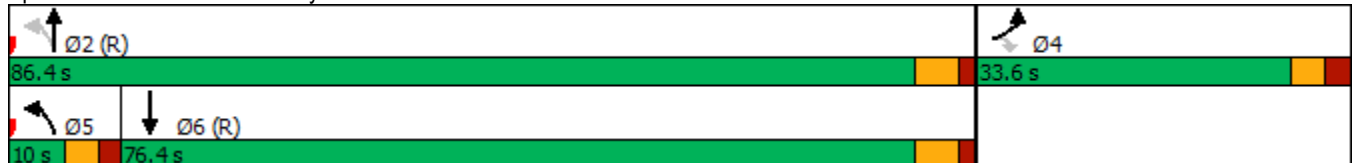


Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Configurations	↶	↷	↶	↕	↕
Traffic Volume (vph)	294	184	344	927	371
Future Volume (vph)	294	184	344	927	371
Turn Type	Prot	Perm	pm+pt	NA	NA
Protected Phases	4		5	2	6
Permitted Phases		4	2		
Detector Phase	4	4	2 5	2	6
Switch Phase					
Minimum Initial (s)	7.0	7.0	5.0	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 Effct 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:NBT 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

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

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
--------------------------------------	--------------	----------------

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
------------------	-------------

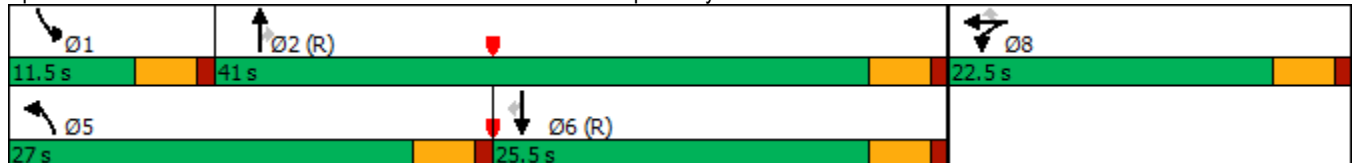


Lane Group	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑	↗	↘	↑↑	↗	↘	↑↑	↗
Traffic Volume (vph)	97	46	41	457	1493	305	28	142	137
Future Volume (vph)	97	46	41	457	1493	305	28	142	137
Turn Type	Split	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	8	8		5	2		1	6	
Permitted Phases			8			2			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 Effct 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 Capacity Utilization 64.2%
 Analysis Period (min) 15
 Intersection LOS: B
 ICU Level of Service C

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



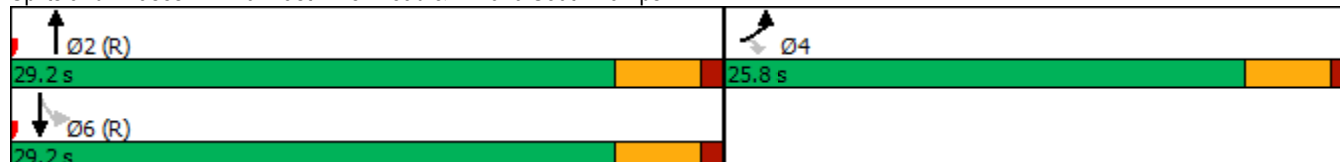


Lane Group	EBL	EBR	NBT	SBT
Lane Configurations	↖↗	↖	↕↔	↕↕
Traffic Volume (vph)	1018	168	1237	239
Future Volume (vph)	1018	168	1237	239
Turn Type	Prot	Perm	NA	NA
Protected Phases	4		2	6
Permitted Phases		4		
Detector Phase	4	4	2	6
Switch Phase				
Minimum Initial (s)	7.0	7.0	12.0	12.0
Minimum Split (s)	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 Effct 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

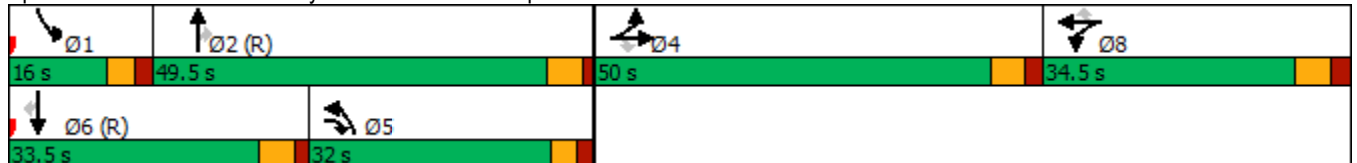
Direction	All
Future Volume (vph)	2662
Total Delay / Veh (s/v)	19
CO Emissions (kg)	2.78
NOx Emissions (kg)	0.54
VOC Emissions (kg)	0.64

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	800	200	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 Effct 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



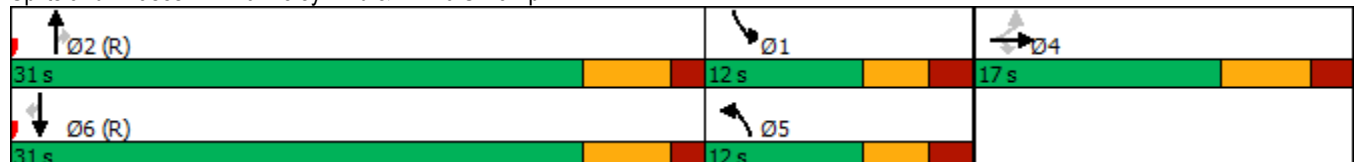


Lane Group	EBT	EBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↕	↗	↖	↕	↗	↖	↕	↗
Traffic Volume (vph)	1	216	26	1110	225	117	757	202
Future Volume (vph)	1	216	26	1110	225	117	757	202
Turn Type	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	4		5	2		1	6	
Permitted Phases		4			2			6
Detector Phase	4	4	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 Effct 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 Capacity Utilization 65.8%
 Analysis Period (min) 15
 Intersection LOS: B
 ICU Level of Service C

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



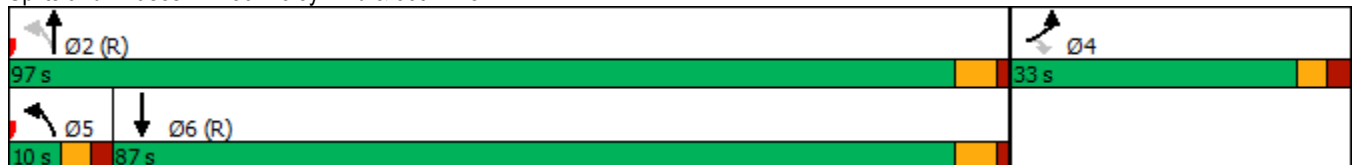


Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Configurations	↖	↗	↖	↑↑	↑↓
Traffic Volume (vph)	344	184	344	1017	431
Future Volume (vph)	344	184	344	1017	431
Turn Type	Prot	Perm	pm+pt	NA	NA
Protected Phases	4		5	2	6
Permitted Phases		4	2		
Detector Phase	4	4	2 5	2	6
Switch Phase					
Minimum Initial (s)	7.0	7.0	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 Effct 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 Capacity Utilization 80.8%
 Analysis Period (min) 15
 Intersection LOS: C
 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)	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	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

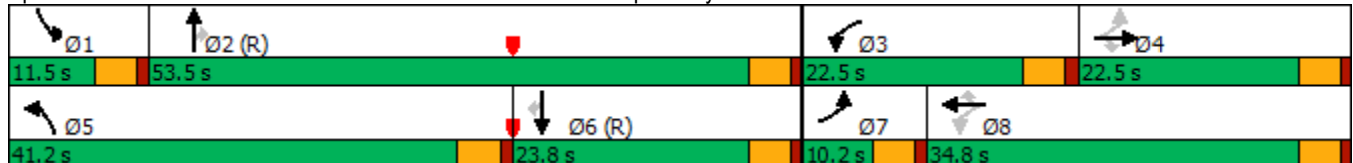
Intersection LOS: C

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



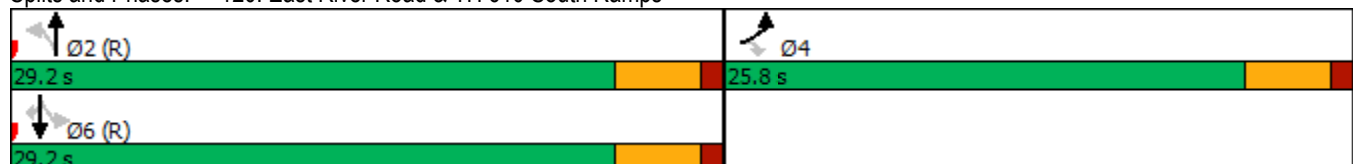


Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	1018	168	35	1237	274	105
Future Volume (vph)	1018	168	35	1237	274	105
Turn Type	Prot	Perm	Perm	NA	NA	Perm
Protected Phases	4			2	6	
Permitted Phases		4	2			6
Detector Phase	4	4	2	2	6	6
Switch Phase						
Minimum Initial (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

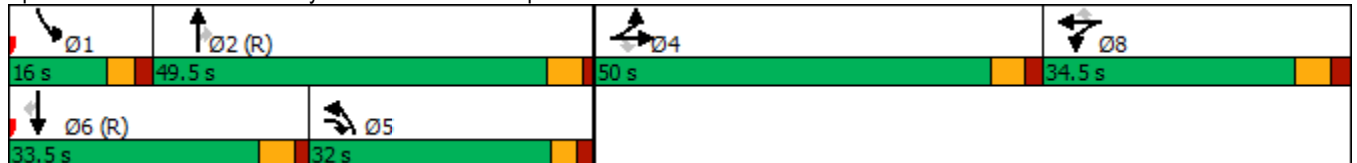
Direction	All
Future Volume (vph)	2837
Total Delay / Veh (s/v)	21
CO Emissions (kg)	2.99
NOx Emissions (kg)	0.58
VOC Emissions (kg)	0.69

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 Effct 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





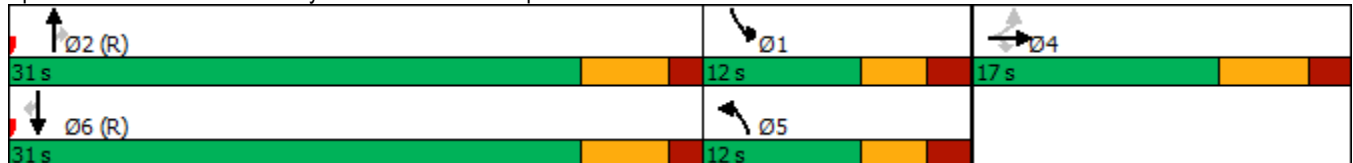
Lane Group	EBT	EBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↕	↗	↖	↑↑	↗	↖	↑↑	↗
Traffic Volume (vph)	1	216	26	1110	85	117	617	202
Future Volume (vph)	1	216	26	1110	85	117	617	202
Turn Type	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	4		5	2		1	6	
Permitted Phases		4			2			6
Detector Phase	4	4	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 Effct 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 Capacity Utilization 65.8%
 Analysis Period (min) 15

Intersection LOS: B
 ICU Level of Service C

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



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

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
--------------------------------------	--------------	----------------

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
------------------	-------------

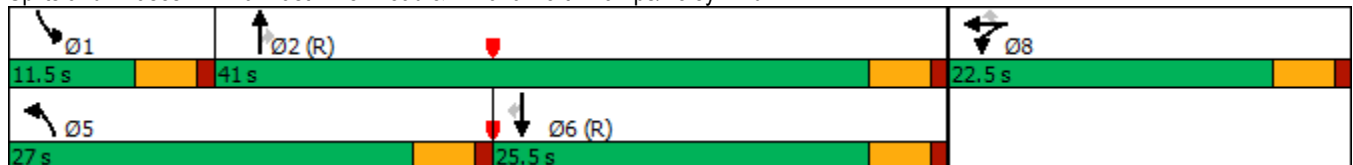


Lane Group	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑	↗	↖	↑↑	↗	↖	↑↑	↗
Traffic Volume (vph)	97	46	41	457	1493	305	28	142	137
Future Volume (vph)	97	46	41	457	1493	305	28	142	137
Turn Type	Split	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	8	8		5	2		1	6	
Permitted Phases			8			2			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 Effct 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 Capacity Utilization 64.2%
 Analysis Period (min) 15
 Intersection LOS: B
 ICU Level of Service C

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



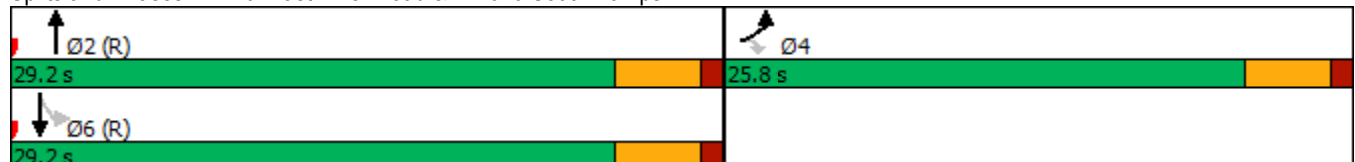


Lane Group	EBL	EBR	NBT	SBT
Lane Configurations	↖↗	↖	↕↔	↕↕
Traffic Volume (vph)	1018	168	1237	239
Future Volume (vph)	1018	168	1237	239
Turn Type	Prot	Perm	NA	NA
Protected Phases	4		2	6
Permitted Phases		4		
Detector Phase	4	4	2	6
Switch Phase				
Minimum Initial (s)	7.0	7.0	12.0	12.0
Minimum Split (s)	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 Effct 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

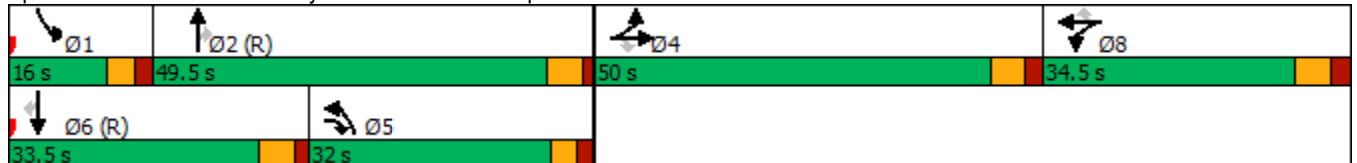
Direction	All
Future Volume (vph)	2662
Total Delay / Veh (s/v)	19
CO Emissions (kg)	2.78
NOx Emissions (kg)	0.54
VOC Emissions (kg)	0.64

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	800	200	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 Effct 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





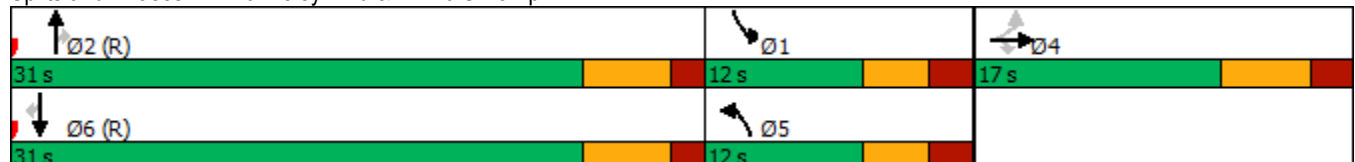
Lane Group	EBT	EBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↕	↗	↖	↑↑	↗	↖	↑↑	↗
Traffic Volume (vph)	1	216	26	1110	225	117	757	202
Future Volume (vph)	1	216	26	1110	225	117	757	202
Turn Type	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	4		5	2		1	6	
Permitted Phases		4			2			6
Detector Phase	4	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 Effct 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 Capacity Utilization 65.8%
 Analysis Period (min) 15

Intersection LOS: B
 ICU Level of Service C

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



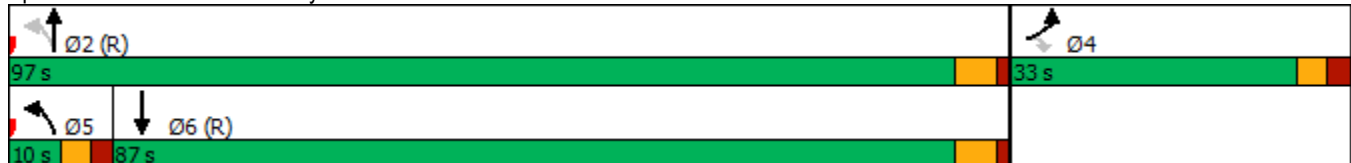


Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Configurations	↗	↗	↗	↑↑	↑↓
Traffic Volume (vph)	344	184	344	1017	431
Future Volume (vph)	344	184	344	1017	431
Turn Type	Prot	Perm	pm+pt	NA	NA
Protected Phases	4		5	2	6
Permitted Phases		4	2		
Detector Phase	4	4	2 5	2	6
Switch Phase					
Minimum Initial (s)	7.0	7.0	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 Effct 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

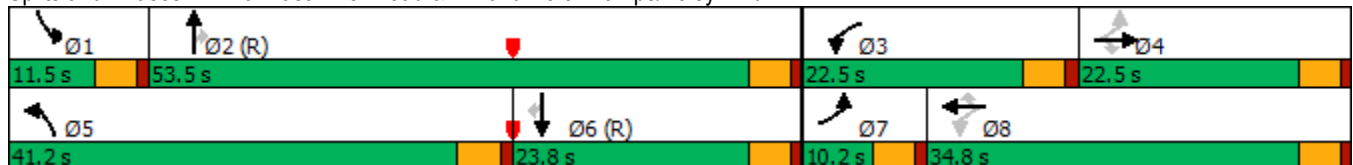
Direction	All
Future Volume (vph)	2861
Total Delay / Veh (s/v)	31
CO Emissions (kg)	2.89
NOx Emissions (kg)	0.56
VOC Emissions (kg)	0.67

Lane Group	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 Capacity Utilization 72.3%
 Analysis Period (min) 15
 Intersection LOS: C
 ICU Level of Service C

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



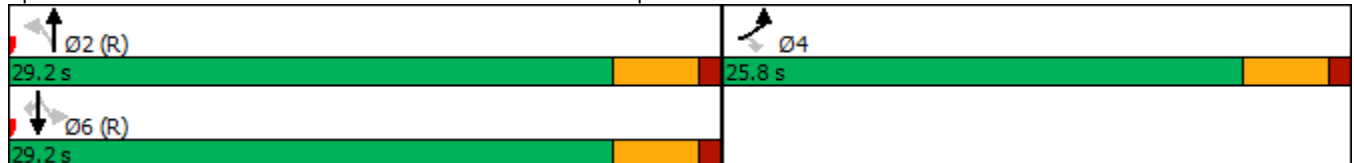


Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	1018	168	35	1237	274	105
Future Volume (vph)	1018	168	35	1237	274	105
Turn Type	Prot	Perm	Perm	NA	NA	Perm
Protected Phases	4			2	6	
Permitted Phases		4	2			6
Detector Phase	4	4	2	2	6	6
Switch Phase						
Minimum Initial (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:NBT and 6:SBT, 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

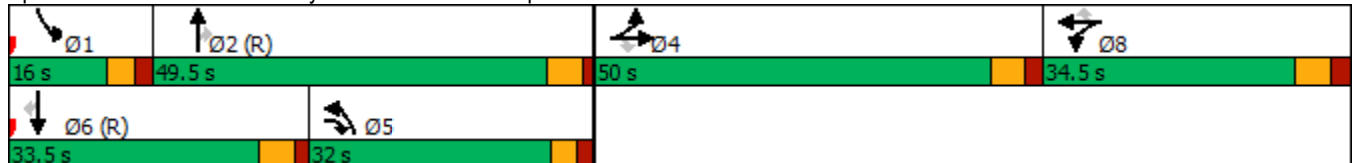
Direction	All
Future Volume (vph)	2837
Total Delay / Veh (s/v)	21
CO Emissions (kg)	2.99
NOx Emissions (kg)	0.58
VOC Emissions (kg)	0.69

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 Effct 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



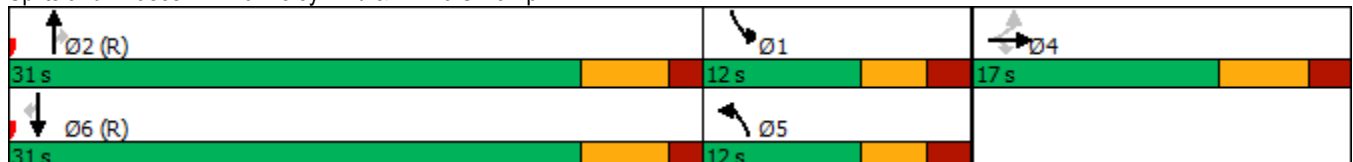


Lane Group	EBT	EBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↕	↗	↖	↕	↗	↖	↕	↗
Traffic Volume (vph)	1	216	26	1110	85	117	617	202
Future Volume (vph)	1	216	26	1110	85	117	617	202
Turn Type	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	4		5	2		1	6	
Permitted Phases		4			2			6
Detector Phase	4	4	5	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 Effct 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



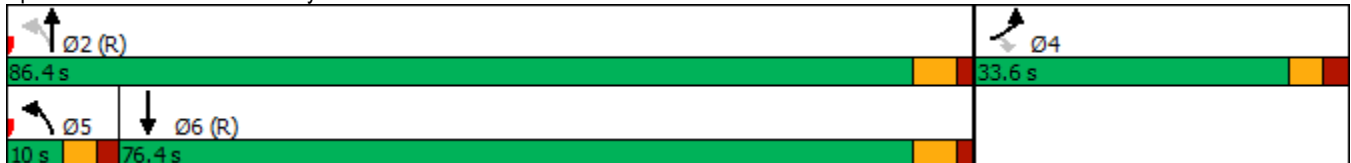


Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Configurations	↙	↗	↙	↑↑	↑↓
Traffic Volume (vph)	294	184	344	927	371
Future Volume (vph)	294	184	344	927	371
Turn Type	Prot	Perm	pm+pt	NA	NA
Protected Phases	4		5	2	6
Permitted Phases		4	2		
Detector Phase	4	4	2 5	2	6
Switch Phase					
Minimum Initial (s)	7.0	7.0	5.0	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 Effct 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:NBT 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

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
--------------------------------------	--------------	----------------

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
------------------	-------------

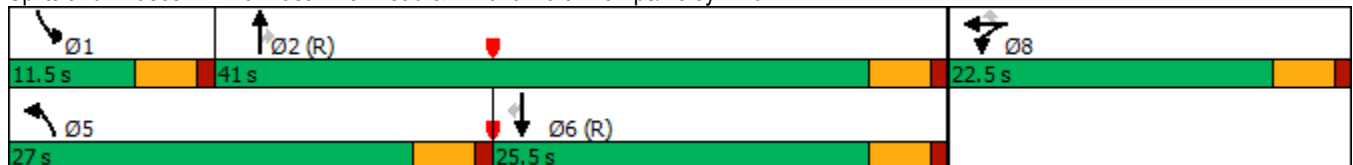


Lane Group	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑	↗	↖	↑↑	↗	↖	↑↑	↗
Traffic Volume (vph)	97	46	41	457	1493	305	28	142	137
Future Volume (vph)	97	46	41	457	1493	305	28	142	137
Turn Type	Split	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	8	8		5	2		1	6	
Permitted Phases			8			2			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 Effct 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 Capacity Utilization 64.2%
 Analysis Period (min) 15
 Intersection LOS: B
 ICU Level of Service C

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

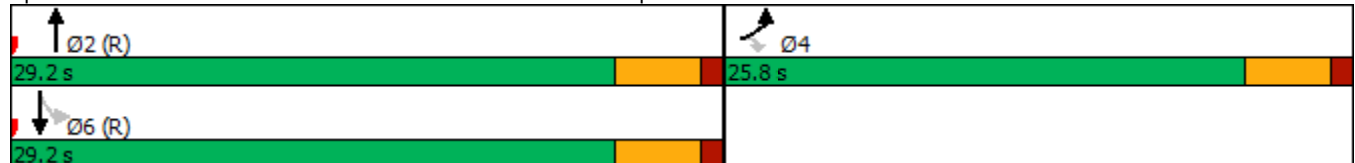




Lane Group	EBL	EBR	NBT	SBT
Lane Configurations	↗↘	↗	↗↘	↗↘
Traffic Volume (vph)	1018	168	1237	239
Future Volume (vph)	1018	168	1237	239
Turn Type	Prot	Perm	NA	NA
Protected Phases	4		2	6
Permitted Phases		4		
Detector Phase	4	4	2	6
Switch Phase				
Minimum Initial (s)	7.0	7.0	12.0	12.0
Minimum Split (s)	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 Effct 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

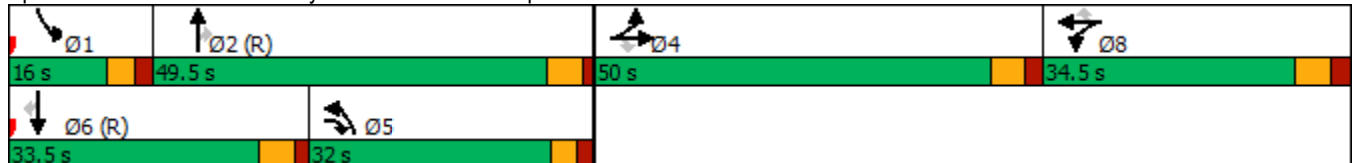
Direction	All
Future Volume (vph)	2662
Total Delay / Veh (s/v)	19
CO Emissions (kg)	2.78
NOx Emissions (kg)	0.54
VOC Emissions (kg)	0.64

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	800	200	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 Effct 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



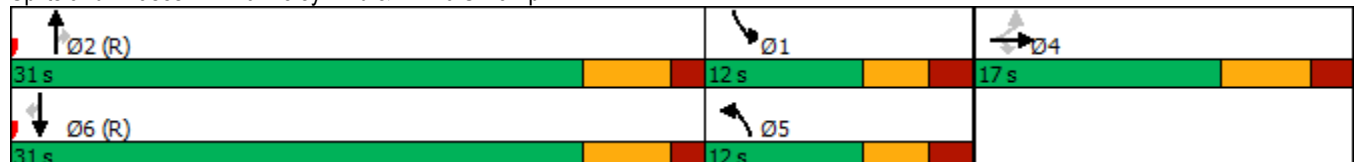
Lane Group	EBT	EBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations								
Traffic Volume (vph)	1	216	26	1110	225	117	757	202
Future Volume (vph)	1	216	26	1110	225	117	757	202
Turn Type	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	4		5	2		1	6	
Permitted Phases		4			2			6
Detector Phase	4	4	5	2	2	1	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 Effct 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 Capacity Utilization 65.8%
 Analysis Period (min) 15

Intersection LOS: B
 ICU Level of Service C

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



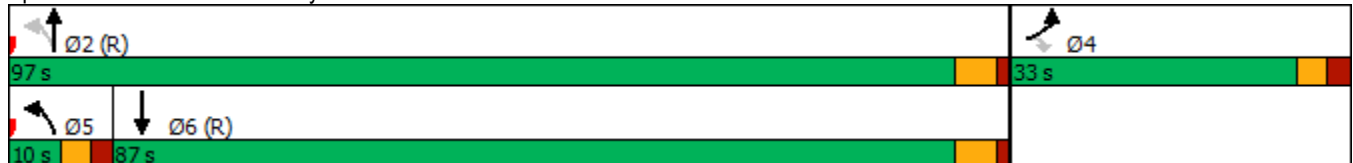


Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Configurations	↖	↗	↖	↑↑	↑↓
Traffic Volume (vph)	344	184	344	1017	431
Future Volume (vph)	344	184	344	1017	431
Turn Type	Prot	Perm	pm+pt	NA	NA
Protected Phases	4		5	2	6
Permitted Phases		4	2		
Detector Phase	4	4	2 5	2	6
Switch Phase					
Minimum Initial (s)	7.0	7.0	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 Effct 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:NBT 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 Capacity Utilization 80.8%
 Analysis Period (min) 15
 Intersection LOS: C
 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)	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

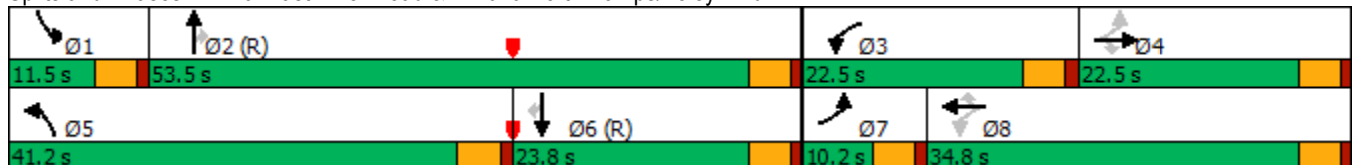
Direction	All
Future Volume (vph)	2861
Total Delay / Veh (s/v)	31
CO Emissions (kg)	2.89
NOx Emissions (kg)	0.56
VOC Emissions (kg)	0.67

Lane Group	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



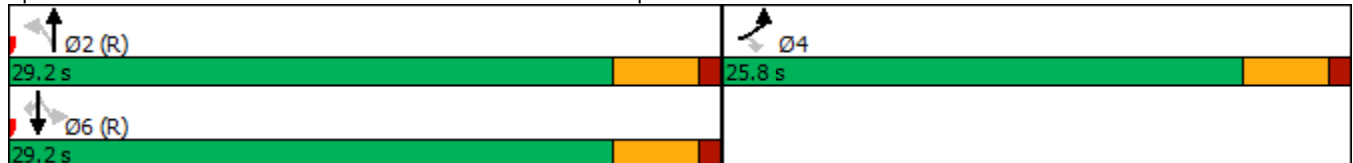


Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↖↗	↖	↖	↕↗	↕↖	↖
Traffic Volume (vph)	1018	168	35	1237	274	105
Future Volume (vph)	1018	168	35	1237	274	105
Turn Type	Prot	Perm	Perm	NA	NA	Perm
Protected Phases	4			2	6	
Permitted Phases		4	2			6
Detector Phase	4	4	2	2	6	6
Switch Phase						
Minimum 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 Capacity Utilization 70.3%
 Analysis Period (min) 15
 Intersection LOS: C
 ICU Level of Service C

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

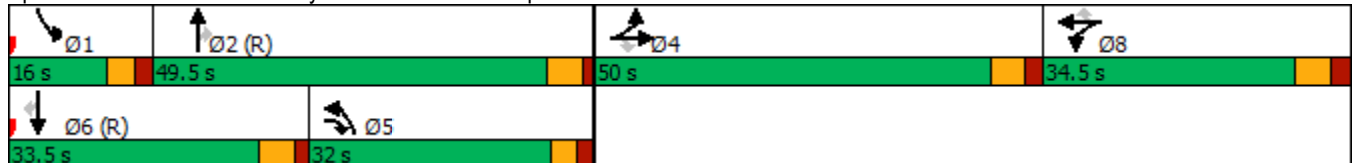
Direction	All
Future Volume (vph)	2837
Total Delay / Veh (s/v)	21
CO Emissions (kg)	2.99
NOx Emissions (kg)	0.58
VOC Emissions (kg)	0.69

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 Effct 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





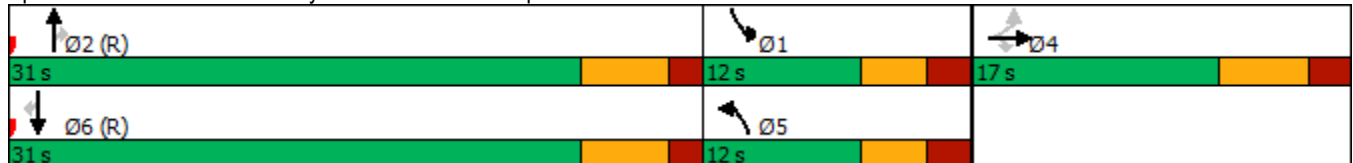
Lane Group	EBT	EBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↕	↗	↖	↑↑	↗	↖	↑↑	↗
Traffic Volume (vph)	1	216	26	1110	85	117	617	202
Future Volume (vph)	1	216	26	1110	85	117	617	202
Turn Type	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	4		5	2		1	6	
Permitted Phases		4			2			6
Detector Phase	4	4	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 Effct 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 Capacity Utilization 65.8%
 Analysis Period (min) 15

Intersection LOS: B
 ICU Level of Service C

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 Effct 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

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
--------------------------------------	--------------	----------------

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
------------------	-------------

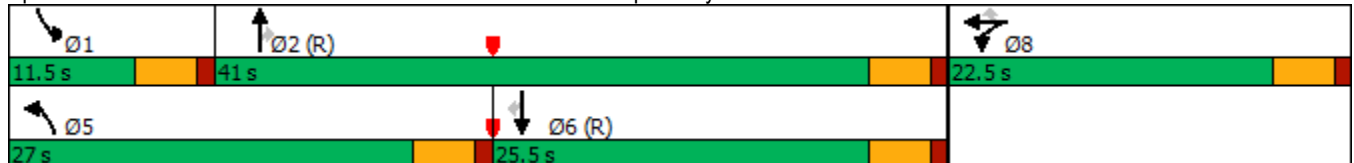


Lane Group	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑	↗	↘	↑↑	↗	↘	↑↑	↗
Traffic Volume (vph)	97	46	41	457	1493	305	28	142	137
Future Volume (vph)	97	46	41	457	1493	305	28	142	137
Turn Type	Split	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	8	8		5	2		1	6	
Permitted Phases			8			2			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 Effct 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 Capacity Utilization 64.2%
 Analysis Period (min) 15
 Intersection LOS: B
 ICU Level of Service C

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



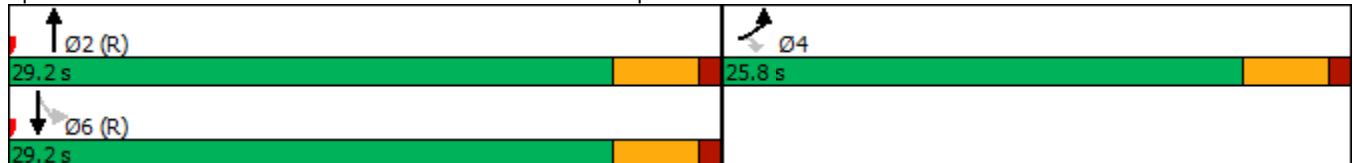


Lane Group	EBL	EBR	NBT	SBT
Lane Configurations	↖↗	↖	↕↔	↕↕
Traffic Volume (vph)	1018	168	1237	239
Future Volume (vph)	1018	168	1237	239
Turn Type	Prot	Perm	NA	NA
Protected Phases	4		2	6
Permitted Phases		4		
Detector Phase	4	4	2	6
Switch Phase				
Minimum Initial (s)	7.0	7.0	12.0	12.0
Minimum Split (s)	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 Effct 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

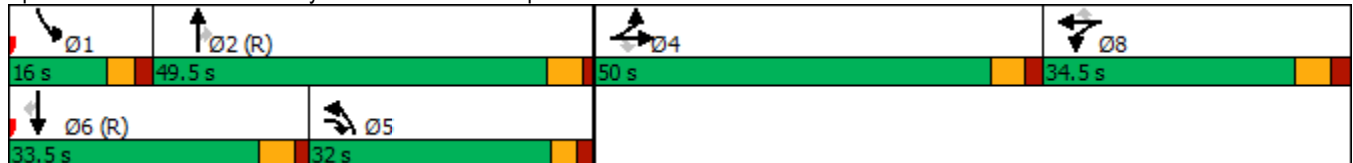
Direction	All
Future Volume (vph)	2662
Total Delay / Veh (s/v)	19
CO Emissions (kg)	2.78
NOx Emissions (kg)	0.54
VOC Emissions (kg)	0.64

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	800	200	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 Effct 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





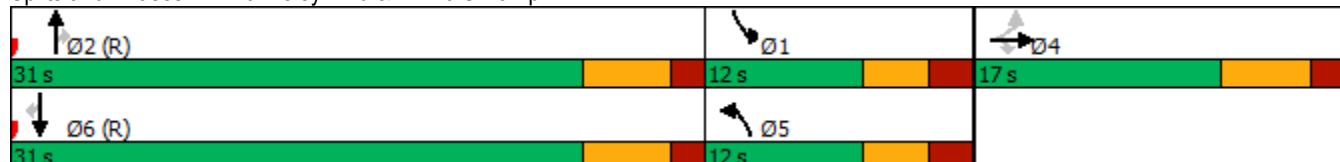
Lane Group	EBT	EBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗	↘	↕	↗	↘	↕	↗
Traffic Volume (vph)	1	216	26	1110	225	117	757	202
Future Volume (vph)	1	216	26	1110	225	117	757	202
Turn Type	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	4		5	2		1	6	
Permitted Phases		4			2			6
Detector Phase	4	4	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 Effct 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 Capacity Utilization 65.8%
 Analysis Period (min) 15

Intersection LOS: B
 ICU Level of Service C

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



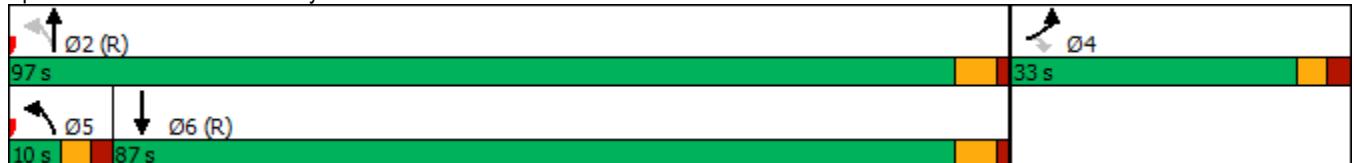


Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Configurations	↖	↗	↖	↑↑	↑↓
Traffic Volume (vph)	344	184	344	1017	431
Future Volume (vph)	344	184	344	1017	431
Turn Type	Prot	Perm	pm+pt	NA	NA
Protected Phases	4		5	2	6
Permitted Phases		4	2		
Detector Phase	4	4	2 5	2	6
Switch Phase					
Minimum Initial (s)	7.0	7.0	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 Effct 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:NBT 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 Capacity Utilization 80.8%
 Analysis Period (min) 15
 Intersection LOS: C
 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)	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

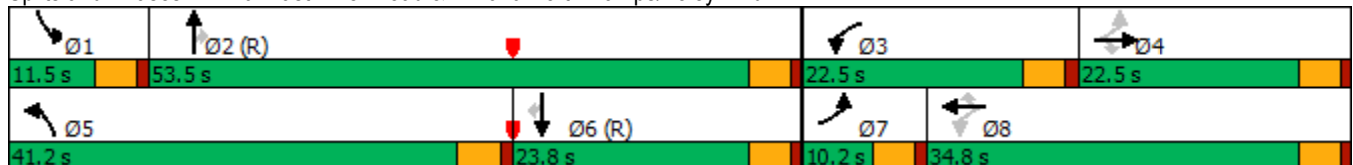
Direction	All
Future Volume (vph)	2861
Total Delay / Veh (s/v)	31
CO Emissions (kg)	2.89
NOx Emissions (kg)	0.56
VOC Emissions (kg)	0.67

Lane Group	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 Capacity Utilization 72.3%
 Analysis Period (min) 15
 Intersection LOS: C
 ICU Level of Service C

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





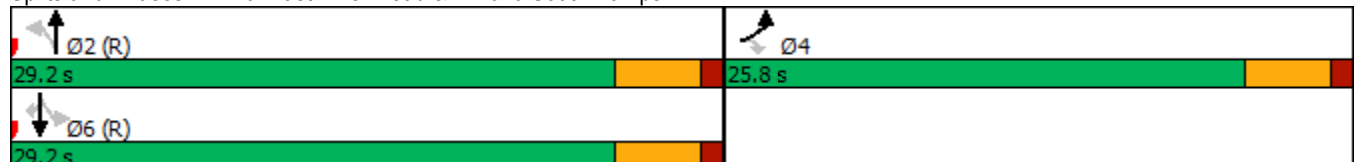
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↗↘	↗	↘	↑↓	↑↑	↗
Traffic Volume (vph)	1018	168	35	1237	274	105
Future Volume (vph)	1018	168	35	1237	274	105
Turn Type	Prot	Perm	Perm	NA	NA	Perm
Protected Phases	4			2	6	
Permitted Phases		4	2			6
Detector Phase	4	4	2	2	6	6
Switch Phase						
Minimum 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:NBT 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 Capacity Utilization 70.3%
 Analysis Period (min) 15

Intersection LOS: C
ICU Level of Service C

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

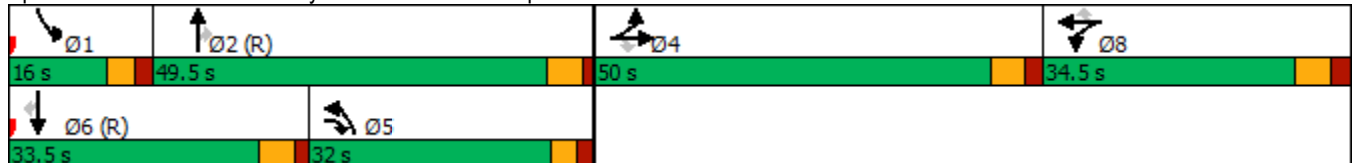
Direction	All
Future Volume (vph)	2837
Total Delay / Veh (s/v)	21
CO Emissions (kg)	2.99
NOx Emissions (kg)	0.58
VOC Emissions (kg)	0.69

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 Effct 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



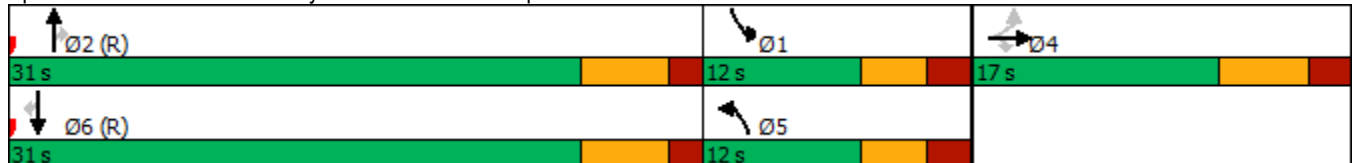


Lane Group	EBT	EBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↕	↗	↖	↑↑	↗	↖	↑↑	↗
Traffic Volume (vph)	1	216	26	1110	85	117	617	202
Future Volume (vph)	1	216	26	1110	85	117	617	202
Turn Type	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	4		5	2		1	6	
Permitted Phases		4			2			6
Detector Phase	4	4	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 Effct 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 Capacity Utilization 65.8%
 Analysis Period (min) 15
 Intersection LOS: B
 ICU Level of Service C

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



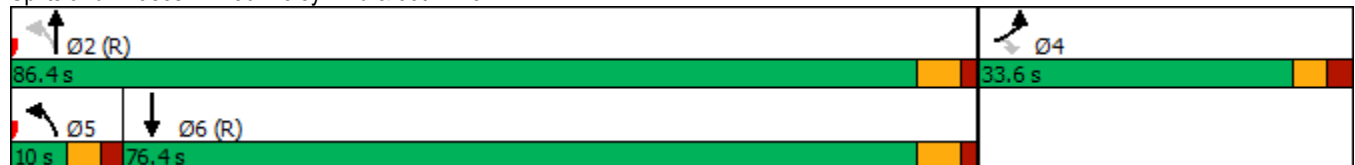


Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Configurations					
Traffic Volume (vph)	294	184	344	927	371
Future Volume (vph)	294	184	344	927	371
Turn Type	Prot	Perm	pm+pt	NA	NA
Protected Phases	4		5	2	6
Permitted Phases		4	2		
Detector Phase	4	4	2 5	2	6
Switch Phase					
Minimum Initial (s)	7.0	7.0	5.0	15.0	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 Effct 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

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
--------------------------------------	--------------	----------------

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
------------------	-------------

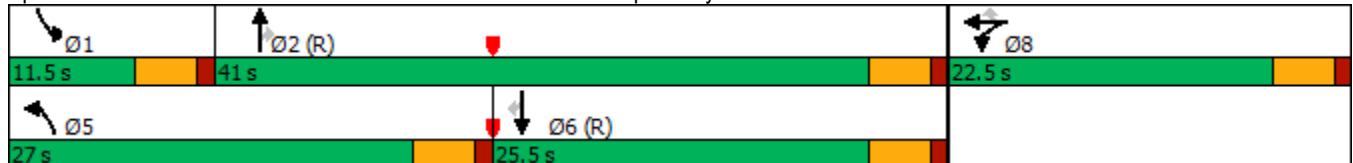


Lane Group	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↑	↗	↘	↑↑	↗	↘	↑↑	↗
Traffic Volume (vph)	97	46	41	457	1493	305	28	142	137
Future Volume (vph)	97	46	41	457	1493	305	28	142	137
Turn Type	Split	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	8	8		5	2		1	6	
Permitted Phases			8			2			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 Effct 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 Capacity Utilization 64.2%
 Analysis Period (min) 15
 Intersection LOS: B
 ICU Level of Service C

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

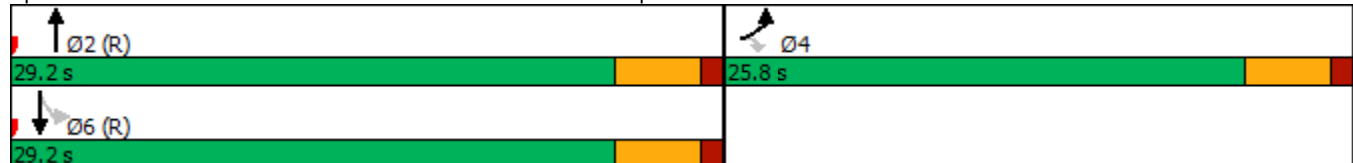


Lane Group	EBL	EBR	NBT	SBT
Lane Configurations				
Traffic Volume (vph)	1018	168	1237	239
Future Volume (vph)	1018	168	1237	239
Turn Type	Prot	Perm	NA	NA
Protected Phases	4		2	6
Permitted Phases		4		
Detector Phase	4	4	2	6
Switch Phase				
Minimum Initial (s)	7.0	7.0	12.0	12.0
Minimum Split (s)	22.5	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 Effct 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

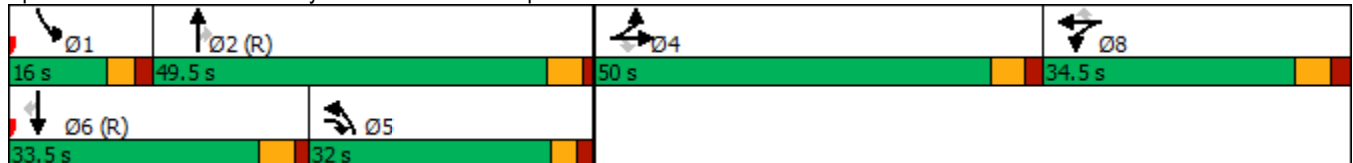
Direction	All
Future Volume (vph)	2662
Total Delay / Veh (s/v)	19
CO Emissions (kg)	2.78
NOx Emissions (kg)	0.54
VOC Emissions (kg)	0.64

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	800	200	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 Effct 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





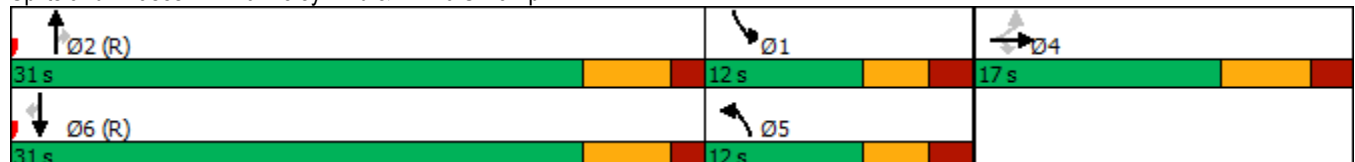
Lane Group	EBT	EBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗	↘	↕	↗	↘	↕	↗
Traffic Volume (vph)	1	216	26	1110	225	117	757	202
Future Volume (vph)	1	216	26	1110	225	117	757	202
Turn Type	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	4		5	2		1	6	
Permitted Phases		4			2			6
Detector Phase	4	4	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 Effct 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 Capacity Utilization 65.8%
 Analysis Period (min) 15

Intersection LOS: B
 ICU Level of Service C

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 Effct 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 Capacity Utilization 80.8%
 Analysis Period (min) 15
 Intersection LOS: C
 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)	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

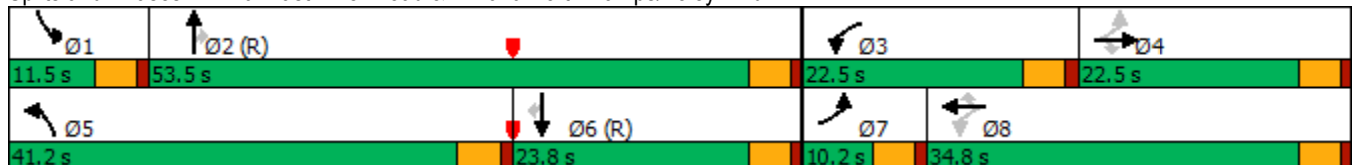
Direction	All
Future Volume (vph)	2861
Total Delay / Veh (s/v)	31
CO Emissions (kg)	2.89
NOx Emissions (kg)	0.56
VOC Emissions (kg)	0.67

Lane Group	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 Capacity Utilization 72.3%
 Analysis Period (min) 15
 Intersection LOS: C
 ICU Level of Service C

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



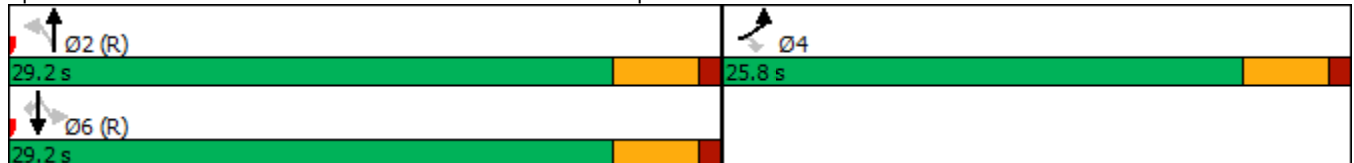


Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↕↕	↗	↖	↕↗	↕↕	↗
Traffic Volume (vph)	1018	168	35	1237	274	105
Future Volume (vph)	1018	168	35	1237	274	105
Turn Type	Prot	Perm	Perm	NA	NA	Perm
Protected Phases	4			2	6	
Permitted Phases		4	2			6
Detector Phase	4	4	2	2	6	6
Switch Phase						
Minimum 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 Capacity Utilization 70.3%
 Analysis Period (min) 15
 Intersection LOS: C
 ICU Level of Service C

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

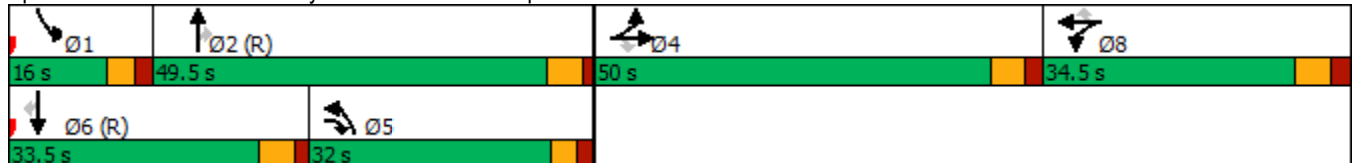
Direction	All
Future Volume (vph)	2837
Total Delay / Veh (s/v)	21
CO Emissions (kg)	2.99
NOx Emissions (kg)	0.58
VOC Emissions (kg)	0.69

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 Effct 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



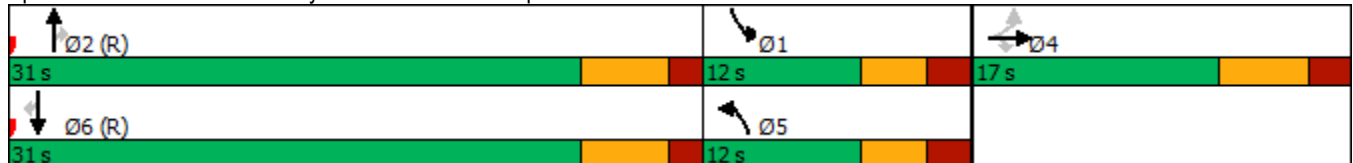


Lane Group	EBT	EBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↕	↗	↖	↑↑	↗	↖	↑↑	↗
Traffic Volume (vph)	1	216	26	1110	85	117	617	202
Future Volume (vph)	1	216	26	1110	85	117	617	202
Turn Type	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	4		5	2		1	6	
Permitted Phases		4			2			6
Detector Phase	4	4	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 Effct 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 Capacity Utilization 65.8%
 Analysis Period (min) 15
 Intersection LOS: B
 ICU Level of Service C

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



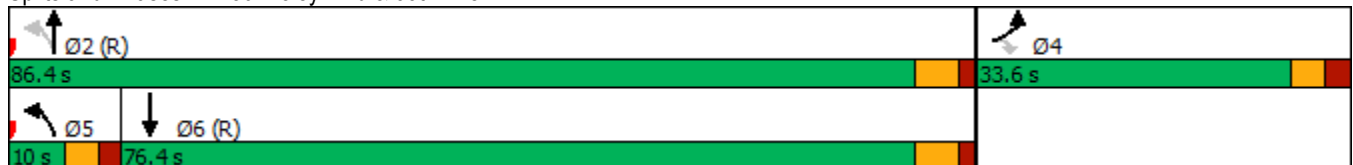


Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Configurations	↖	↗	↖	↑↑	↑↓
Traffic Volume (vph)	294	184	344	927	371
Future Volume (vph)	294	184	344	927	371
Turn Type	Prot	Perm	pm+pt	NA	NA
Protected Phases	4		5	2	6
Permitted Phases		4	2		
Detector Phase	4	4	2 5	2	6
Switch Phase					
Minimum Initial (s)	7.0	7.0	5.0	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 Effct 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

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
--------------------------------------	--------------	----------------

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
------------------	-------------

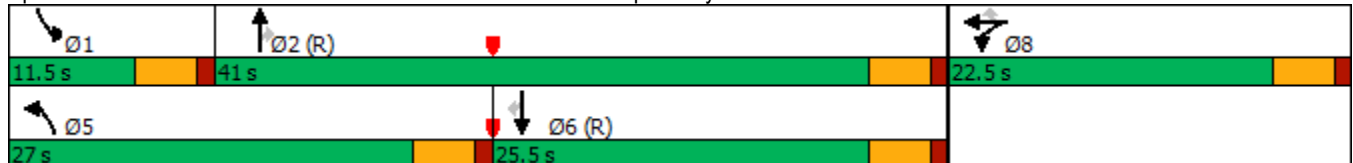


Lane Group	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑	↗	↖	↑↑	↗	↖	↑↑	↗
Traffic Volume (vph)	97	46	41	457	1493	305	28	142	137
Future Volume (vph)	97	46	41	457	1493	305	28	142	137
Turn Type	Split	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	8	8		5	2		1	6	
Permitted Phases			8			2			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 Effct 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 Capacity Utilization 64.2%
 Analysis Period (min) 15
 Intersection LOS: B
 ICU Level of Service C

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



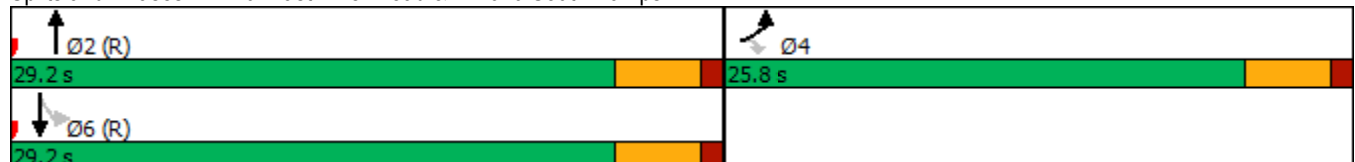


Lane Group	EBL	EBR	NBT	SBT
Lane Configurations	↖↗	↖	↕↔	↕↕
Traffic Volume (vph)	1018	168	1237	239
Future Volume (vph)	1018	168	1237	239
Turn Type	Prot	Perm	NA	NA
Protected Phases	4		2	6
Permitted Phases		4		
Detector Phase	4	4	2	6
Switch Phase				
Minimum Initial (s)	7.0	7.0	12.0	12.0
Minimum Split (s)	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 Effct 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

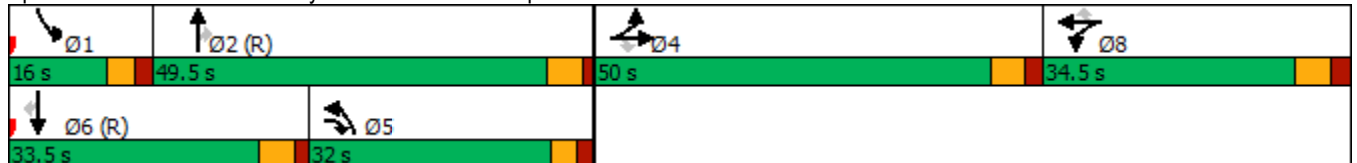
Direction	All
Future Volume (vph)	2662
Total Delay / Veh (s/v)	19
CO Emissions (kg)	2.78
NOx Emissions (kg)	0.54
VOC Emissions (kg)	0.64

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	800	200	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 Effct 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





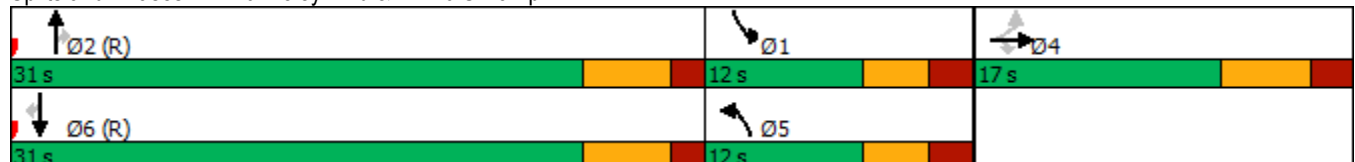
Lane Group	EBT	EBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↕	↗	↖	↕	↗	↖	↕	↗
Traffic Volume (vph)	1	216	26	1110	225	117	757	202
Future Volume (vph)	1	216	26	1110	225	117	757	202
Turn Type	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	4		5	2		1	6	
Permitted Phases		4			2			6
Detector Phase	4	4	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 Effct 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 Capacity Utilization 65.8%
 Analysis Period (min) 15

Intersection LOS: B
 ICU Level of Service C

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



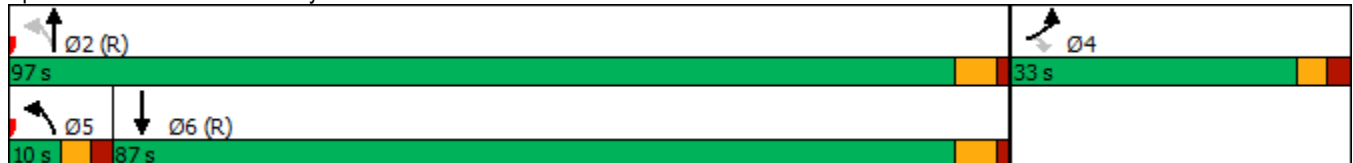


Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Configurations	↖	↗	↖	↑↑	↑↓
Traffic Volume (vph)	344	184	344	1017	431
Future Volume (vph)	344	184	344	1017	431
Turn Type	Prot	Perm	pm+pt	NA	NA
Protected Phases	4		5	2	6
Permitted Phases		4	2		
Detector Phase	4	4	2 5	2	6
Switch Phase					
Minimum Initial (s)	7.0	7.0	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 Effct 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:NBT 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 Capacity Utilization 80.8%
 Analysis Period (min) 15
 Intersection LOS: C
 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)	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

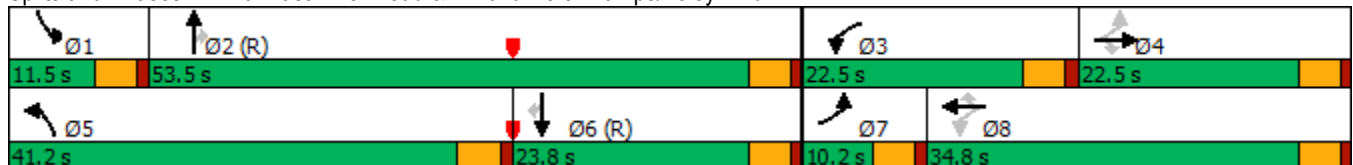
Direction	All
Future Volume (vph)	2861
Total Delay / Veh (s/v)	31
CO Emissions (kg)	2.89
NOx Emissions (kg)	0.56
VOC Emissions (kg)	0.67

Lane Group	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 Capacity Utilization 72.3%
 Analysis Period (min) 15
 Intersection LOS: C
 ICU Level of Service C

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





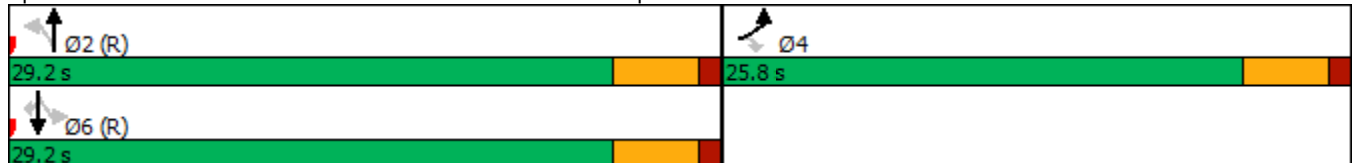
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↖↗	↖	↖	↕↗	↕↖	↖
Traffic Volume (vph)	1018	168	35	1237	274	105
Future Volume (vph)	1018	168	35	1237	274	105
Turn Type	Prot	Perm	Perm	NA	NA	Perm
Protected Phases	4			2	6	
Permitted Phases		4	2			6
Detector Phase	4	4	2	2	6	6
Switch Phase						
Minimum 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 Capacity Utilization 70.3%
 Analysis Period (min) 15

Intersection LOS: C
 ICU Level of Service C

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

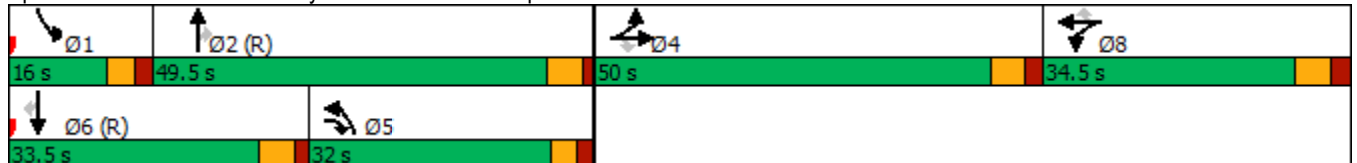
Direction	All
Future Volume (vph)	2837
Total Delay / Veh (s/v)	21
CO Emissions (kg)	2.99
NOx Emissions (kg)	0.58
VOC Emissions (kg)	0.69

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 Effct 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



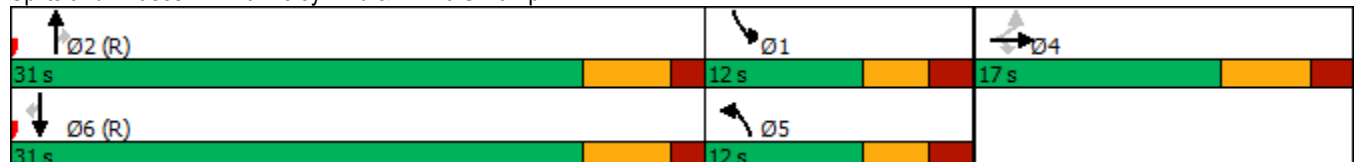


Lane Group	EBT	EBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↕	↗	↖	↑↑	↗	↖	↑↑	↗
Traffic Volume (vph)	1	216	26	1110	85	117	617	202
Future Volume (vph)	1	216	26	1110	85	117	617	202
Turn Type	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	4		5	2		1	6	
Permitted Phases		4			2			6
Detector Phase	4	4	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 Effct 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 Capacity Utilization 65.8%
 Analysis Period (min) 15
 Intersection LOS: B
 ICU Level of Service C

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



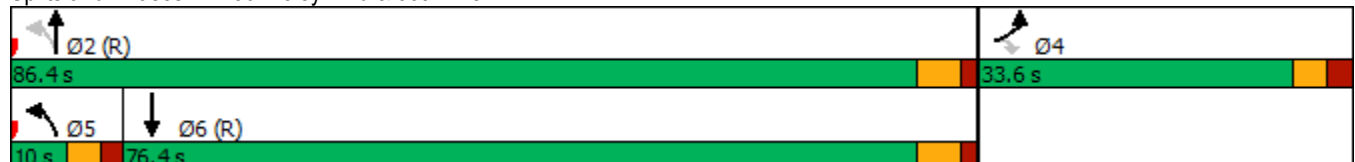


Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Configurations	↖	↗	↖	↑↑	↑↓
Traffic Volume (vph)	294	184	344	927	371
Future Volume (vph)	294	184	344	927	371
Turn Type	Prot	Perm	pm+pt	NA	NA
Protected Phases	4		5	2	6
Permitted Phases		4	2		
Detector Phase	4	4	2 5	2	6
Switch Phase					
Minimum Initial (s)	7.0	7.0	5.0	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 Effct 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:NBT 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

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*	\$30,053,000	Installation Year	2024
Project Service Life	20 years	Traffic Growth Factor	2.0%

* exclude Right of Way from Project Cost

C. Crash Modification Factor

0.78	Fatal (K) Crashes	Reference	Crash Analysis
0.78	Serious Injury (A) Crashes		
0.78	Moderate Injury (B) Crashes	Crash Type	All
0.78	Possible Injury (C) Crashes		
0.78	Property Damage Only Crashes		www.CMFClearinghouse.org

D. Crash Modification Factor (optional second CMF)

	Fatal (K) Crashes	Reference	
	Serious Injury (A) Crashes		
	Moderate Injury (B) Crashes	Crash Type	
	Possible Injury (C) Crashes		
	Property Damage Only Crashes		www.CMFClearinghouse.org

E. Crash Data

Begin Date	1/1/2019	End Date	12/31/2021	3 years
Data Source	MnDOT			
	Crash Severity	All	< optional 2nd CMF >	
	K crashes	0		
	A crashes	0		
	B crashes	1		
	C crashes	1		
	PDO crashes	7		

F. Benefit-Cost Calculation

\$732,621	Benefit (present value)	B/C Ratio = 0.03
\$30,053,000	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	\$1,500,000
A crashes	\$750,000
B crashes	\$230,000
C crashes	\$120,000
PDO crashes	\$13,000

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

Real Discount Rate 0.7%
 Traffic Growth Rate 2.0%
 Project Service Life 20 years

G. Annual Benefit

Crash Severity	Crash Reduction	Annual Reduction	Annual Benefit
K crashes	0.00	0.00	\$0
A crashes	0.00	0.00	\$0
B crashes	0.22	0.07	\$16,867
C crashes	0.22	0.07	\$8,800
PDO crashes	1.54	0.51	\$6,673

\$32,340

H. Amortized Benefit

Year	Crash Benefits	Present Value
2024	\$32,340	\$32,340
2025	\$32,987	\$32,757
2026	\$33,647	\$33,180
2027	\$34,319	\$33,609
2028	\$35,006	\$34,043
2029	\$35,706	\$34,482
2030	\$36,420	\$34,927
2031	\$37,148	\$35,378
2032	\$37,891	\$35,835
2033	\$38,649	\$36,297
2034	\$39,422	\$36,766
2035	\$40,211	\$37,241
2036	\$41,015	\$37,721
2037	\$41,835	\$38,208
2038	\$42,672	\$38,702
2039	\$43,525	\$39,201
2040	\$44,396	\$39,707
2041	\$45,284	\$40,220
2042	\$46,189	\$40,739
2043	\$47,113	\$41,265
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
0	\$0	\$0
0	\$0	\$0
0	\$0	\$0

Total = \$732,621

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*	\$30,053,000	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	1/1/2019	End Date	12/31/2021	3 years
Data Source	MnDOT			
Crash Severity	All	< optional 2nd CMF >		
K crashes	0			
A crashes	0			
B crashes	2			
C crashes	3			
PDO crashes	20			

F. Benefit-Cost Calculation

\$326,214	Benefit (present value)	B/C Ratio = 0.02
\$30,053,000	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	\$1,500,000
A crashes	\$750,000
B crashes	\$230,000
C crashes	\$120,000
PDO crashes	\$13,000

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

Real Discount Rate 0.7%
 Traffic Growth Rate 2.0%
 Project Service Life 20 years

G. Annual Benefit

Crash Severity	Crash Reduction	Annual Reduction	Annual Benefit
K crashes	0.00	0.00	\$0
A crashes	0.00	0.00	\$0
B crashes	0.08	0.03	\$6,133
C crashes	0.12	0.04	\$4,800
PDO crashes	0.80	0.27	\$3,467

\$14,400

H. Amortized Benefit

Year	Crash Benefits	Present Value
2024	\$14,400	\$14,400
2025	\$14,688	\$14,586
2026	\$14,982	\$14,774
2027	\$15,281	\$14,965
2028	\$15,587	\$15,158
2029	\$15,899	\$15,354
2030	\$16,217	\$15,552
2031	\$16,541	\$15,753
2032	\$16,872	\$15,956
2033	\$17,209	\$16,162
2034	\$17,554	\$16,371
2035	\$17,905	\$16,582
2036	\$18,263	\$16,796
2037	\$18,628	\$17,013
2038	\$19,000	\$17,233
2039	\$19,381	\$17,455
2040	\$19,768	\$17,680
2041	\$20,163	\$17,909
2042	\$20,567	\$18,140
2043	\$20,978	\$18,374
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
0	\$0	\$0
0	\$0	\$0
0	\$0	\$0

Total = \$326,214

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*	\$30,053,000	Installation Year	2024
Project Service Life	20 years	Traffic Growth Factor	2.0%

* exclude Right of Way from Project Cost

C. Crash Modification Factor			
0.82	Fatal (K) Crashes	Reference	Crash Analysis
0.82	Serious Injury (A) Crashes		
0.82	Moderate Injury (B) Crashes	Crash Type	All
0.82	Possible Injury (C) Crashes		
0.82	Property Damage Only Crashes		www.CMFclearinghouse.org

D. Crash Modification Factor (optional second CMF)			
	Fatal (K) Crashes	Reference	
	Serious Injury (A) Crashes		
	Moderate Injury (B) Crashes	Crash Type	
	Possible Injury (C) Crashes		
	Property Damage Only Crashes		www.CMFclearinghouse.org

E. Crash Data				
Begin Date	1/1/2019	End Date	12/31/2021	3 years
Data Source	MnDOT			
	Crash Severity	All	< optional 2nd CMF >	
	K crashes	0		
	A crashes	0		
	B crashes	1		
	C crashes	4		
	PDO crashes	6		

F. Benefit-Cost Calculation		
\$1,071,067	Benefit (present value)	B/C Ratio = 0.04
\$30,053,000	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	\$1,500,000
A crashes	\$750,000
B crashes	\$230,000
C crashes	\$120,000
PDO crashes	\$13,000

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

Real Discount Rate 0.7%
 Traffic Growth Rate 2.0%
 Project Service Life 20 years

G. Annual Benefit

Crash Severity	Crash Reduction	Annual Reduction	Annual Benefit
K crashes	0.00	0.00	\$0
A crashes	0.00	0.00	\$0
B crashes	0.18	0.06	\$13,800
C crashes	0.72	0.24	\$28,800
PDO crashes	1.08	0.36	\$4,680

\$47,280

H. Amortized Benefit

Year	Crash Benefits	Present Value
2024	\$47,280	\$47,280
2025	\$48,226	\$47,890
2026	\$49,190	\$48,509
2027	\$50,174	\$49,135
2028	\$51,177	\$49,769
2029	\$52,201	\$50,412
2030	\$53,245	\$51,062
2031	\$54,310	\$51,722
2032	\$55,396	\$52,389
2033	\$56,504	\$53,066
2034	\$57,634	\$53,751
2035	\$58,787	\$54,445
2036	\$59,962	\$55,148
2037	\$61,162	\$55,859
2038	\$62,385	\$56,581
2039	\$63,633	\$57,311
2040	\$64,905	\$58,051
2041	\$66,203	\$58,800
2042	\$67,527	\$59,559
2043	\$68,878	\$60,328
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
0	\$0	\$0
0	\$0	\$0
0	\$0	\$0

Total = \$1,071,067

Coon Rapids Crash Analysis
2022 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	25	3	34900	0.66
Future	Foley Blvd and North TH 10 Ramps	24	3	33400	0.66
Existing	Foley Blvd and South TH 10 Ramps	11	3	20750	0.49
Future	Foley Blvd and South TH 10 Ramps	9	3	17750	0.47
Existing	Foley Blvd and 99th Ave	9	3	23250	0.36
Future	Foley Blvd and 99th Ave	7	3	20250	0.32

Reduction or increase based on volume modifications	CMF	
Foley/North Ramps	4%	0.96
Foley/South Ramps	18%	0.82
Foley/99th	78%	0.22

Foley Blvd and 99th Ave

INCIDENTID	RTESYS	COLRT	ENUMBE	MEASURE	COUNTY_S	CITY_NAM	TOWNSHIP	MNDOT_D	STATE_PAT	TRIBAL_GC	LOCALID	ACCIDENT_	CRASH_MC
688258	4	11	1.063	2	Coon Rapids	M	25	19037587	1.9E+08	2			
753129	5	103	0.568	2	Coon Rapids	M	25	19258233	1.93E+08	10			
694508	5	103	0.572	2	Coon Rapids	M	25	19051806	1.91E+08	3			
834045	4	11	1.063	2	Coon Rapids	M	25	20192981	2.02E+08	8			
786577	4	11	1.072	2	Coon Rapids	M	25	20033982	2E+08	2			
813677	5	103	0.57	2	Coon Rapids	M	25	20137303	2.02E+08	6			
940332	5	103	0.561	2	Coon Rapids	M	25	21206570	2.13E+08	9			
911356	5	103	0.566	2	Coon Rapids	M	25	21124764	2.12E+08	6			
905105	5	103	0.572	2	Coon Rapids	M	25	21099321	2.11E+08	5			

TH 47 and Foley Blvd North Ramps

INCIDENTID	RTESYS	COLRT	ENUMBE	MEASURE	COUNTY_S	CITY_NAM	TOWNSHIP	MNDOT_D	STATE_PAT	TRIBAL_GC	LOCALID	ACCIDENT_	CRASH_MC
699750	4	11	1.384	2	Coon Rapids	M	25	19067565	1.91E+08	3			
719914	4	11	1.383	2	Coon Rapids	M	25	19113584	1.91E+08	5			
748689	4	11	1.385	2	Coon Rapids	M	25	19239978	1.93E+08	9			
718611	4	11	1.387	2	Coon Rapids	M	25	19107904	1.91E+08	5			
686504	5	128	0.049	2	Coon Rapids	M	25	19502004	1.9E+08	2			
696676	22	5888	0	2	Coon Rapids	M	25	19056801	1.91E+08	3			
696443	22	5888	0.008	2	Coon Rapids	M	25	19056309	1.91E+08	3			
804088	4	11	1.378	2	Coon Rapids	M	25	20063819	2.01E+08	3			
842222	4	11	1.383	2	Coon Rapids	M	25	20229884	2.03E+08	9			
865167	4	11	1.384	2	Coon Rapids	M	25	20285184	2.03E+08	11			
799848	4	11	1.385	2	Coon Rapids	M	25	20043871	2.01E+08	2			
836647	4	11	1.386	2	Coon Rapids	M	25	20202573	2.02E+08	8			
870591	4	11	1.387	2	Coon Rapids	M	25	20307649	2.04E+08	12			
811405	4	11	1.41	2	Coon Rapids	M	25	20119683	2.01E+08	5			
808644	5	128	0.039	2	Coon Rapids	M	25	20502373	2.01E+08	2			
802138	22	5887	0.779	2	Coon Rapids	M	25	20053802	2.01E+08	3			
808866	22	5887	0.785	2	Coon Rapids	M	25	20099670	2.01E+08	5			
974182	4	11	1.376	2	2393628		25	21260993	2.13E+08	11			
985129	4	11	1.38	2	Coon Rapids	M	25	21295030	2.14E+08	12			
941356	4	11	1.386	2	Coon Rapids	M	25	21210588	2.13E+08	9			

983501	4	11	1.389	2 Coon Rapids	M	25	21289504	2.14E+08	12
933204	4	11	1.412	2 2393628		25	21177335	2.12E+08	8
917041	5	128	0	2 Coon Rapids	M	25	21149346	2.12E+08	7
971602	5	128	0.003	2 Coon Rapids	M	25	21250360	2.13E+08	11
985976	5	128	0.007	2 Coon Rapids	M	25	21294595	2.14E+08	12

TH 47 and Foley Blvd South Ramps

INCIDENTID	RTESYS	COLRT	ENUMBE	MEASURE	COUNTY_S	CITY_NAM	TOWNSHIP	MNDOT_D	STATE_PAT	TRIBAL_GC	LOCALID	ACCIDENT_CRASH_MC
700516	22	523	0.317	2 Coon Rapids	M	25	19070683	1.91E+08	3			
738277	22	523	0.32	2 Coon Rapids	M	25	19196631	1.92E+08	8			
741194	22	523	0.323	2 Coon Rapids	M	25	19209444	1.92E+08	8			
757259	22	523	0.323	2 Coon Rapids	M	25	19272740	1.93E+08	10			
820247	4	11	1.162	2 Coon Rapids	M	25	20173474	2.02E+08	7			
785218	4	11	1.166	2 Coon Rapids	M	25	20028170	2E+08	2			
903993	4	11	1.168	2 Coon Rapids	M	25	21094216	2.11E+08	5			
935028	4	11	1.223	2 Coon Rapids	M	25	21507721	2.12E+08	8			
897517	4	11	1.232	2 Coon Rapids	M	25	21060985	2.11E+08	3			
911186	22	523	0.303	2 Coon Rapids	M	25	21505189	2.12E+08	6			
944434	22	523	0.323	2 Coon Rapids	M	25	21223417	2.13E+08	10			

CRASH_DA	CRASH_YE/	CRASH_DA	CRASH_HO	DIVIDED	DRD	CRASHSEVI	NUMBERKI	NUMBERO	MANNERO	FIRSTHARV	RELATIONT	LIGHTCONI	WEATHERP
14	2019	Thu	11 S			5	0	2	10	10	4	1	1
8	2019	Tue	18	98		4	0	1		8	4	1	1
4	2019	Mon	6 E			5	0	2	12	10	4	1	1
7	2020	Fri	13	98		5	0	2	5	10	4	1	2
9	2020	Sun	6	98		5	0	2	11	10	3	4	4
9	2020	Tue	14			3	0	1		9	4	1	2
13	2021	Mon	18 E			5	0	3	12	10	4	1	2
9	2021	Wed	20	98		5	0	2	10	10	4	4	1
11	2021	Tue	18			5	0	2	12	10	4	1	1

CRASH_DA	CRASH_YE/	CRASH_DA	CRASH_HO	DIVIDED	DRD	CRASHSEVI	NUMBERKI	NUMBERO	MANNERO	FIRSTHARV	RELATIONT	LIGHTCONI	WEATHERP
23	2019	Sat	15			3	0	2	13	10	3	1	1
14	2019	Tue	18			5	0	2	5	10	3	1	2
19	2019	Thu	21	98		5	0	2	5	10	3	4	1
8	2019	Wed	14 S			5	0	2	12	10	2	1	3
6	2019	Wed	21 E			5	0	2	10	10	2	4	4
10	2019	Sun	15 S			5	0	2	5	10	3	1	1
9	2019	Sat	19 N			5	0	1		30	3	4	4
15	2020	Sun	12 S			4	0	2	5	10	3	1	1
16	2020	Wed	4	98		5	0	2	11	10	3	4	1
24	2020	Tue	18	98		5	0	2	5	10	3	7	3
21	2020	Fri	12 S			5	0	2	5	10	3	1	1
18	2020	Tue	9 E			5	0	2	10	10	3	1	1
25	2020	Fri	13			5	0	2	5	10	3	1	1
23	2020	Sat	22 N			5	0	1		67	2	4	2
27	2020	Thu	14 W			5	0	2	12	10	2	1	1
3	2020	Tue	22 E			5	0	2	10	10	26	4	2
1	2020	Fri	15 W			4	0	2	5	10	3	1	1
17	2021	Wed	12	98		5	0	2	5	10	3	1	2
31	2021	Fri	13	98		3	0	2	5	10	3	1	4
18	2021	Sat	10			4	0	2	5	10	3	1	1

23	2021 Thu	14 S		5	0	2	5	10	3	1	1
9	2021 Mon	15 S		5	0	2	10	10	2	1	1
9	2021 Fri	9	98	5	0	2	5	10	3	1	1
4	2021 Thu	12		5	0	2	10	10	3	1	1
30	2021 Thu	21	98	5	0	2	5	10	3	4	1

CRASH_DA	CRASH_YE	CRASH_DA	CRASH_HO	DIVIDED	DRD	CRASHSEVI	NUMBERKI	NUMBERO	MANNERO	FIRSTHARN	RELATIONT	LIGHTCONI	WEATHERP
27	2019	Wed	11 E			4	0	2	12	10	26	1	1
5	2019	Mon	6 S			4	0	2	12	10	26	2	1
18	2019	Sun	15 E			4	0	2	12	10	3	1	1
25	2019	Fri	7	98		5	0	2	12	10	3	1	1
17	2020	Fri	16 S			5	0	1		62	2	1	1
2	2020	Sun	14 S			5	0	2	12	10	3	1	1
5	2021	Wed	13 S			4	0	3	12	10	3	1	1
15	2021	Sun	16 N			5	0	2	5	10	3	1	1
24	2021	Wed	2	98		5	0	2	13	10	3	4	3
9	2021	Wed	12 E			5	0	2	12	10	10	1	1
2	2021	Sat	20			3	0	2	5	10	27	4	2

WEATHERS	RDWYSURF	WORKZON	ROADWAY	INTERSECT	ROUTE_ID	BASIC_TYP	UNITTYPE	VEHICLETY	DIRECTION	PRECRASHI	AGEU1	SEXU1
			1	98 FOLEY BLVD NW	040000659	5	2	4	2	28		28 F
			1	98 99TH AVE FOLEY BLVI	050002393	1	2	3	3	23		28 M
			3	98 99TH AVE NW	050002393	7	2	4	3	21		42 F
			1	98 FOLEY BLVD NW	040000659	10	2	2	2	21		38 F
			3	98 FOLEY BLVI 99TH AVE F	040000659	6	2	2	2	23		22 M
			1	98 99TH AVE NW	050002393	2	6					25 M
			1	98 99TH AVE NW	050002393	7	2	2	3	34		40 M
			1	98 99TH AVE NW	050002393	5	2	2	3	24		27 M
			1	98 99TH AVE FOLEY BLVI	050002393	7	2	2	3	21		33 M

WEATHERS	RDWYSURF	WORKZON	ROADWAY	INTERSECT	ROUTE_ID	BASIC_TYP	UNITTYPE	VEHICLETY	DIRECTION	PRECRASHI	AGEU1	SEXU1
			1	98 FOLEY BLVD NW	040000659	8	2	3	2	21		41 F
			1	98 FOLEY BLVD NW	040000659	10	2	4	4	24		17 M
			1	98 FOLEY BLVI 101ST AVE	040000659	9	2	2	2	21		23 F
2			2	98 FOLEY BLVD NW	040000659	7	2	2	2	21		64 F
			3	98 101ST AVE NW	050002393	5	2	90	3	25		32 M
			2	98 RAMP888	220000659	10	2	4	3	21		39 M
7			3	98 RAMP888	220000659	3	2	2	1	21		24 F
			1	98 FOLEY BLVD NW	040000659	10	2	2	3	21		51 M
			1	98 FOLEY BLVD NW	040000659	6	2	2	1	21		59 M
			2	98 FOLEY BLVD NW	040000659	9	2	2	1	21		57 F
			1	98 FOLEY BLVD NW	040000659	10	2	4	3	21		30 F
			1	98 FOLEY BLVD NW	040000659	5	2	49	3	24		32 M
			4	98 FOLEY BLVD NW	040000659	10	2	2	1	21		18 M
			1	98 FOLEY BLVD NW	040000659	3	2	3	1	21		30 M
			1	98 101ST AVE NW AT FOL	050002393	7	2	48	4	21		57 M
			1	98 RAMP887 FOLEY BLVI	220000659	5	1		3	21		
			1	98 RAMP887	220000659	10	2	2	4	21		58 F
			1	98 FOLEY BLVI 101ST AVE	040000659	10	2	2	3	24		33 M
			3	98 FOLEY BLVI 101ST AVE	040000659	9	2	2	1	21		41 M
			1	98 FOLEY BLVI 101ST AVE	040000659	9	2	2	2	24		83 F

1	98 FOLEY BLVI 101ST AVE 040000659	10	2	3	2	21	36 M
1	98 FOLEY BLVI 101ST AVE 040000659	5	2	2	2	28	61 F
1	98 101ST AVE FOLEY BVLI050002393	9	2	2	1	24	40 F
1	98 101ST AVE FOLEY BLVI050002393	5	2	2	3	24	34 M
4	98 101ST AVE NW 050002393	10	2	2	1	21	17 F

WEATHERS	RDWYSURF	WORKZON	ROADWAY	INTERSECT	ROUTE_ID	BASIC_TYP	UNITTYPE	PEL	VEHICLE	ETY	DIRECTION	PRECRASHI	AGEU1	SEXU1
1	98	RAMP523			220000659	7	2		4		3	26	44	F
1	98	RAMP523			220000659	7	2		4		2	21	51	F
1	98	RAMP523			220000659	7	2		5		2	26	39	F
1	98	RAMP523			220000659	7	2		4		3	34	52	M
1	98	FOLEY BLVD NW			040000659	3	1				99	99		
1	98	FOLEY BLVD NW			040000659	7	2		2		2	23	24	M
1	98	FOLEY BLVI RAMP529			040000659	7	2		2		2	23	20	M
1	98	FOLEY BLVD NW AT US			040000659	10	2		3		1	28	56	M
2	98	FOLEY BLVD NW			040000659	8	2		3		1	21	48	M
1	98	RAMP523			220000659	7	2		4		3	21	27	M
1	98	RAMP523			220000659	10	2		2		3	34	40	M

PHYSICALC	CONTRIBF#	CONTRIBF#	NONMOTC	NONMOTC	RDWYDESI	TRAFFICCO	SPEEDLIMI	ALIGNMEN	GRADEU1	UNITTYPEU	VEHICLETY	DIRECTION
5	10				12	20	40	11	21	2	2	2
5	2				12	20	30	11	21	5		
5	1				12	20	45	11	23	2	2	3
5	2				13	20	40	11	24	2	2	3
5	1				12	20	40	11	24	2	4	3
5	99		30	1						1		3
5	1				12	20	30	11	21	2	4	3
99	99				12	20	30	11	21	1		3
5	99				12	20	30	11	21	2	4	3

PHYSICALC	CONTRIBF#	CONTRIBF#	NONMOTC	NONMOTC	RDWYDESI	TRAFFICCO	SPEEDLIMI	ALIGNMEN	GRADEU1	UNITTYPEU	VEHICLETY	DIRECTION
5	1				15	20	40	11	21	2	2	1
5	1				13	20	40	11	21	2	4	2
5	1				15	20	30	11	21	2	49	1
5	70				14	98	40	11	21	2	3	2
5	1				15	9	35	11	21	2	2	3
5	1				12	20	40	11	21	2	2	1
5	1				15	20	40	11	24			
5	1				15	20	35	11	21	2	4	2
5	1				14	20	40	11	23	2	4	3
5	90				14	20	40	11	21	2	2	2
5	1				15	20	30	11	21	2	2	2
5	68				90	20	40	11	21	2	3	3
5	63				15	20	40	11	24	2	2	4
11	68	70			15	9	40	11	21			
5	4				11	9	45	11	21	2	2	4
					15	20	30	11	23	2	2	3
5	1				12	20	45	11	21	2	4	2
5	1				12	20	40	11	21	2	5	2
5	1				15	20	40	11	21	2	4	2
5	2				14	20	45	11	21	2	4	1

5	63			15	20	40	11	21	2	5	3
5	99			15	9	40	11	21	2	4	2
5	2			14	20	40	11	21	2	2	2
5	99			12	20	40	11	21	2	2	3
5	71			12	20	40	11	21	2	2	3

PHYSICALC	CONTRIBF	A	CONTRIBF	A	NONMOTC	NONMOTC	RDWYDES	TRAFFICCO	SPEEDLIM	ALIGNMEN	GRADEU1	UNITTYPE	VEHICLETY	DIRECTION
5	1						11	20	65	11	21	2	2	3
5	1						15	22	45	11	21	2	2	2
5	1						11	22	65	13	21	2	4	2
5	1						15	20	60	13	21	2	2	3
							12	9	40	11	24			
5	4						11	22	65	13	21	2	2	2
5	1						15	20	40	13	21	2	4	2
5	70		2				14	20	35	11	21	2	3	1
5	63						14	20	40	11	23	2	3	2
5	4						11	20	40	11	23	2	2	3
5	99						15	20	65	11	21	2	3	3

PRECRASHI	AGEU2	SEXU2	PHYSICALC	CONTRIBF#	CONTRIBF#	NONMOTC	NONMOTC	RDWYDESI	TRAFFICCO	SPEEDLIMI'	ALIGNMEN	GRADEU2
21	41	M	5	1				12	20	40	11	21
	21	F	5	22		30	1					
34	67	F	5	1				12	20	45	11	23
24	88	M	5	1				12	20	30	11	21
34	75	M	5	1				12	20	35	11	21
23								12	20	30	11	21
34	63	M	5	1				12	20	30	11	21
24								12	20	30	11	21
34	42	M	5	1				12	20	30	11	21

PRECRASHI	AGEU2	SEXU2	PHYSICALC	CONTRIBF#	CONTRIBF#	NONMOTC	NONMOTC	RDWYDESI	TRAFFICCO	SPEEDLIMI'	ALIGNMEN	GRADEU2
24	71	F	5	2				15	20	40	11	21
21	17	M	5	63				13	20	40	11	21
24	31	M	5	2				15	20	30	11	21
34	27	M	5	1				14	98	40	11	21
21	30	M	5	4				15	9	35	11	21
21	26	F	5	70	2			12	20	40	11	21
21	72	M	5	63				15	20	35	11	21
24	28	M	99	65	70			15	20	35	11	21
24	18	F	5	1				14	20	40	11	21
21	39	F	5	63				15	20	45	11	21
24	61	M	5	1				90	20	40	11	21
24	27	M	5	1				15	20	40	11	21
21	33	M	5	70				11	9	45	11	21
24	24	F	5	1				15	20	30	11	23
21	44	F	5	63				12	20	45	11	21
21	38	F	5	63				12	20	40	11	21
24	28	F	5	2				15	20	40	11	21
21	28	M	5	1				14	20	45	11	24

24	44 M	5	1	15	20	40	11	21
21	40 F	5	1	15	9	40	11	21
21	55 F	5	1	14	20	40	11	21
24	40 M	5	99	12	20	40	11	21
21	39 M	5	1	12	20	40	11	21

PRECRASHI	AGEU2	SEXU2	PHYSICALC	CONTRIBF	CONTRIBF	NONMOTC	NONMOTC	RDWYDESI	TRAFFICCO	SPEEDLIMI	ALIGNMEN	GRADEU2
21	30	M	5	4				11	20	65	11	21
21	47	F	5	1				15	22	45	11	21
21	42	F	5	74				11	22	65	13	21
21	26	F	5	70				15	20	60	13	21
23	18	M	5	1				11	22	65	13	21
23	56	F	5	1				15	20	40	13	21
21	25	M	5	1				14	20	35	11	21
24	44	M	5	1				14	20	40	11	24
21	18	M	5	1				11	20	40	11	23
21	40	M	5	99				15	20	65	11	21

UNITTYPE|VEHICLE|Y|DIRECTION|PRECRASH|I|AGE|U3|SEX|U3|PHYSICAL|C|CONTRIB|F|CONTRIB|F|NONMOT|C|NONMOT|C|RDWY|DES|I|TRAFFIC|CO

2 4 3 21 46 M 5 74 12 20

UNITTYPE|VEHICLE|Y|DIRECTION|PRECRASH|I|AGE|U3|SEX|U3|PHYSICAL|C|CONTRIB|F|CONTRIB|F|NONMOT|C|NONMOT|C|RDWY|DES|I|TRAFFIC|CO

UNITTYPE|VEHICLE|Y|DIRECTION|PRECRASH|AGE|U3|SEX|U3|PHYSICAL|C|CONTRIB|F|CONTRIB|F|NONMOT|C|NONMOT|C|RDWY|DES|I|TRAFFIC|CO

2 2 2 21 33 M 5 99 15 20

SPEEDLIMIT ALIGNMENT GRADE UNITTYPE VEHICLE TYPE DIRECTION PRECRASH IAGEU4 SEXU4 PHYSICAL CONTRIBUTION CONTRIBUTION NONMOTOR

30 11 21

SPEEDLIMIT ALIGNMENT GRADE UNITTYPE VEHICLE TYPE DIRECTION PRECRASH IAGEU4 SEXU4 PHYSICAL CONTRIBUTION CONTRIBUTION NONMOTOR

SPEEDLIMIT ALIGNMENT GRADEU3 UNITTYPEL VEHICLEYI DIRECTION PRECRASHI AGEU4 SEXU4 PHYSICALC CONTRIBFA CONTRIBFA NONMOTC

40

13

21

NONMOTC RDWYDESI	TRAFFICCO SPEEDLIMI	ALIGNMEN	GRADEU4	UTMX	UTMY	LATITUDE	LONGITUDI	CRASH_DA	STATUS	STATUS_NC
				478298.5	4999616	45.1497	-93.2761	#####	Accepted	Reportable
				478294.2	4999626	45.14978	-93.2761	#####	Accepted	Reportable
				478300.1	4999626	45.14978	-93.2761	#####	Accepted	Reportable
				478298.8	4999617	45.14971	-93.2761	#####	Accepted	Reportable
				478302.5	4999631	45.14983	-93.276	#####	Accepted	Reportable
				478298.3	4999626	45.14978	-93.2761	#####	Accepted	Reportable
				478283.2	4999626	45.14978	-93.2763	#####	Accepted	Reportable
				478290.8	4999626	45.14978	-93.2762	#####	Accepted	Reportable
				478301.3	4999626	45.14979	-93.276	#####	Accepted	Reportable

NONMOTC RDWYDESI	TRAFFICCO SPEEDLIMI	ALIGNMEN	GRADEU4	UTMX	UTMY	LATITUDE	LONGITUDI	CRASH_DA	STATUS	STATUS_NC
				478498.8	5000093	45.154	-93.2735	#####	Accepted	Reportable
				478498.3	5000092	45.15399	-93.2736	#####	Accepted	Reportable
				478499.3	5000095	45.15402	-93.2735	#####	Accepted	Reportable
				478500.1	5000099	45.15405	-93.2735	#####	Accepted	Reportable
				478572	5000063	45.15373	-93.2726	#####	Accepted	Reportable
				478498.4	5000094	45.154	-93.2736	#####	Accepted	Reportable
				478486.5	5000099	45.15405	-93.2737	#####	Accepted	Reportable
				478494.8	5000086	45.15393	-93.2736	#####	Accepted	Reportable
				478498.4	5000093	45.15399	-93.2736	#####	Accepted	Reportable
				478499.1	5000094	45.15401	-93.2735	#####	Accepted	Reportable
				478499.3	5000095	45.15401	-93.2735	#####	Accepted	Reportable
				478499.7	5000097	45.15403	-93.2735	#####	Accepted	Reportable
				478512	5000090	45.15397	-93.2734	#####	Accepted	Reportable
				478521.4	5000125	45.15429	-93.2733	#####	Accepted	Reportable
				478556.7	5000069	45.15378	-93.2728	#####	Accepted	Reportable
				478484.7	5000086	45.15393	-93.2737	#####	Accepted	Reportable
				478493.3	5000083	45.15391	-93.2736	#####	Accepted	Reportable
				478493.3	5000082	45.15388	-93.2736	#####	Accepted	Reportable
				478508.5	5000080	45.15387	-93.2734	#####	Accepted	Reportable
				478511.3	5000088	45.15395	-93.2734	#####	Accepted	Reportable

478512.8	5000093	45.154	-93.2734	#####	Accepted	Reportable
478509.1	5000137	45.15438	-93.2734	#####	Accepted	Reportable
478499.1	5000094	45.154	-93.2735	#####	Accepted	Reportable
478498.1	5000081	45.15389	-93.2736	#####	Accepted	Reportable
478509.8	5000089	45.15396	-93.2734	#####	Accepted	Reportable

NONMOTC RDWYDESI	TRAFFICCO SPEEDLIMI	ALIGNMEN	GRADEU4	UTMX	UTMY	LATITUDE	LONGITUD	CRASH_DA	STATUS	STATUS_N
				478356.3	4999794	45.1513	-93.2753	#####	Accepted	Reportable
				478360.7	4999792	45.15128	-93.2753	#####	Accepted	Reportable
				478364.5	4999791	45.15127	-93.2752	#####	Accepted	Reportable
				478364.9	4999791	45.15127	-93.2752	#####	Accepted	Reportable
				478356.5	4999767	45.15105	-93.2753	44029.68	Accepted	Reportable
				478358.6	4999772	45.1511	-93.2753	43863.6	Accepted	Reportable
				478360	4999775	45.15113	-93.2753	44321.55	Accepted	Reportable
				478395.6	4999855	45.15185	-93.2748	44423.7	Accepted	Reportable
				478415.2	4999860	45.1519	-93.2746	44279.09	Accepted	Reportable
				478334.1	4999803	45.15138	-93.2756	44356.51	Accepted	Reportable
				478364.1	4999791	45.15127	-93.2752	44471.84	Accepted	Reportable

AGENCY_O AGENCY_O NARRATIVE

MN002050 Police LOCATION
MN002050 Police 99TH AVE
MN002050 Police 99TH AT
MN002050 Police ***THIS
MN002050 Police DRIVER 1
MN002050 Police BICYCLE 1
MN002050 Police I WAS
MN002050 Police DRIVER #1 REQUESTED A PHONE CALL REGARDING A HIT AND RUN CRASH WHICH OCCURED YESTERDAY. DRIVER #1 SAID HE V
MN002050 Police DRIVER

AGENCY_O AGENCY_O NARRATIVE

MN002050 Police DRIVER
MN002050 Police UNIT 1
MN002050 Police UNIT 1
MN002050 Police FOLEY
MNMHP04 State Patro EB 101ST
MN002050 Police UNIT ONE
MN002050 Police MCEACHE
MN002050 Police DRIVER
MN002050 Police OFFICER
MN002050 Police UNIT 1
MN002050 Police ACCIDENT
MN002050 Police Veh 1 and
MN002050 Police I, OFFICER
MN002050 Police UNIT 1 NB
MNMHP04 State Patro Westboun
MN002050 Police UNIT#2
MN002050 Police INDEPENDENT WITNESS REPORTED WATCHING LISA RUN A RED LIGHT. FADUMA WAS TRAVELING THROUGH A GREEN LIGHT /
MN002050 Police UNIT 1
MN002050 Police UNIT 1
MN002050 Police UNIT 1

MN002050 Police UNIT #1
MN002050 Police DRIVER
MN002050 Police ***ACCID
MN002050 Police DISPATCH
MN002050 Police **ACCIDE

AGENCY_O AGENCY_O NARRATIVE

MN002050 Police DISPATCH
MN002050 Police I WAS
MN002050 Police ACCIDENT
MN002050 Police DISPATCH
MN002050 Police PASSERBY REPORTED A GUARD RAIL IN THE ROADWAY NEAR FOLEY BLVD AND HIGHWAY 10 NW. I ARRIVED AND FOUND THE
MN002050 Police Veh 1 and Veh 2 were E/B Hwy 47, on the exit ramp and turning right to go S/B onto Foley Blvd NW. Veh 2 stopped to yeild to c
MN002050 Police SOUTHBOUND FOLEY BLVD NW, AT THE TOP OF THE EASTBOUND HIGHWAY 10 EXIT RAMP. UNIT #1, 2, AND 3 WERE YIELDING F
MNMHP04 State Patro Foley BLVD at USTH 10V1(Dodge) was N/B Foley in the left turn lane to get onto E/B University when V1 want to to E/B USTH 1
MN002050 Police DRIVER #1 SAID HE WAS DRIVING NB FOLEY BLVD AND FAILED TO STOP AT THE RED LIGHT, CRASHING INTO UNIT #2. DRIVER #
MNMHP04 State Patro AT THE STOP LIGHT, TOP OF THE RAMP TO FOLEY FROM EB HWY 10UNIT 2 WAS AT THE LIGHT, THOUGHT HE COULD GO AND BI
MN002050 Police UNIT 1 AND UNIT 2 WERE EXITING EASTBOUND HIGHWAY 10 AT FOLEY BLVD AND GOT INTO A PD ACCIDENT AT THE INTERSECT

WAS EB 99TH AVE AT FOLEY BLVD (AT THE TRAFFIC LIGHT). DRIVER #1 SAID HE WAS MAKING A LEFT TURN WHEN ANOTHER UNKNOWN VEHICLE (UNIT

AND MADE CONTACT WITH LISA. LISA SAID TO OFFICER PLATZ; I MUST HAVE RUN THE LIGHT. LISA CITED FOR FAILURE TO DRIVE WITH DUE CARE. DA

GUARDRAIL AND TWO SIGNS HAD BEEN CRASHED INTO BY A VEHICLE. I OBSERVED ONE SET OF VEHICLE TRACKS LEADING TO THE PARKING LOT BELOW ONCOMING TRAFFIC. Veh 1 struck Veh 2 in the drivers side rear corner. Veh 1 sustained moderated damage to the front bumper area. Veh 2 sustained moderate damage to the front bumper area. UNIT #1 STATED ALL CARS STARTED GOING, WHEN A SEMI CAME SOUTHBOUND FROM SOUTHBOUND FOLEY TRAFFIC TO TURN RIGHT FROM THE OFF RAMP. UNIT #1 STATED ALL CARS STARTED GOING, WHEN A SEMI CAME SOUTHBOUND. V1 waited for cars to pass and thought there was a clear space and started to get over to the right to take the right hand exit. V2(Ford) was going N/NE. DRIVER #2 SAID HE WAS MAKING A LEFT TURN FROM SB FOLEY TO EB HIGHWAY 47 WHEN UNIT #1 CRASHED INTO HIM. DRIVER #2 SAID DRIVER #1 RAN THE RED LIGHT AND BEGAN TO ACCELERATE AND MAKE THE RIGHT TURN. UNIT 2 STATED THAT HE DID NOT SEE A VEHICLE COMING AND HAD TO SUDDENLY HIT HIS BRAKES TO STOP. UNIT 1 STATED THEY WERE STRUCK MULTIPLE TIMES BY UNIT 2 AT THE INTERSECTION BEFORE UNIT 2 FLED THE SCENE. UNIT 1 SAID THEY FOLLOWED UNIT 2 TO THE PARKING LOT.

T #2) PASSED HIM ON THE RIGHT, BUT ALSO MAKING A LEFT TURN. DRIVER #1 SAID HE CRASHED INTO THE DRIVER'S DOOR OF UNIT #2 AND THE VEHI

/ID SAW THE CRASH BUT DID NOT SEE THE CAUSE.

W NEAR STARBUCKS AND SOME VEHICLE PARTS LEFT BEHIND. I PATROLLED THE AREA, BUT WAS NOT A VEHICLE. NO IDENTIFYING FEATURES LEFT BEHIND. Moderate damage to the drivers side rear corner. Both vehicles were driven from the scene. No report of injury.

JND AND ALL CARS CAME TO AN IMMEDIATE STOP. UNIT #1 STATED HE WAS UNABLE TO STOP IN TIME AND REAR ENDED UNIT #2. UNIT #2 STATED THIS OCCURRED ON Foley when V1 drove right into V2 in the intersection. Driver 1 stated he was in the left turn lane when he realized he wanted to be in the right lane. DRIVER #2 SAID HE HAD A GREEN LIGHT.

UNIT 1 WAS DIRECTLY BEHIND UNIT 2. WHEN UNIT 2 ABRUPTLY HIT HIS BRAKES, UNIT 1 COULD NOT STOP IN TIME. UNIT 1 REAR ENDED UNIT 2. UNIT 1 CALLED 911 WHILE DRIVING AWAY FROM THE SCENE. UNIT 1 SAID THE INITIAL ACCIDENT WAS ON THE EXIT RAMP INTERSECTION AT FOLEY BLVD AS THEY WERE GOING TO

ICLE FLED THE SCENE. DRIVER #1 SAID HE HAS DAMAGE TO HIS FRONT PASSENGER SIDE BUMPER. DRIVER #1 SAID UNIT #2 SHOULD HAVE DAMAGE TO

WIND AT THE SCENE. YELLOW NOTICE LEFT AT THE SCENE. NO FURTHER ACTION

THE SAME THING, BUT THAT THE IMPACT FROM UNIT #1 CAUSED HER TO CRASH INTO UNIT #3. UNIT #3 STATED HE WAS YIELDING FOR TRAFFIC WHEN HE WANTED TO GO E/B USTH 10. DRIVER 1 STATED HE LOOKED OVER AND SAW NO CARS COMING. DRIVER 1 STATED HE STARTED TO MOVE OVER TO THE RIGHT TO GET TO E/B USTH 10.

UNIT 2 TURN NORTHBOUND AND UNIT 2 STRUCK THEM MULTIPLE TIMES AFTER THE INITIAL CONTACT. UNIT 2 STATED THE INITIAL ACCIDENT WAS ON THE EAST SIDE OF THE ROAD.

TO THE DRIVER'S DOOR. DRIVER #1 DESCRIPTION DRIVER #2 HAS A BLACK MALE IN HIS 20'S. NO VEHICLE INFO FOR UNIT #2. NO VIDEO FOOTAGE. NO R

E WAS REAR ENDED BY UNIT #2. UNIT #3 PASSENGER SELF TRANSPORTED TO MERCY HOSPITAL FOR BACK PAIN.

.0 entrance ramp when he heard a bang and realized he hit V2. Driver 1 stated he did not see V2 coming and is not sure where V2 came from since he

XIT RAMP INTERSECTION ON FOLEY BLVD. UNIT 2 STATED THE VEHICLES WERE STUCK TOGETHER AFTER THE INITIAL ACCIDENT CAUSING THE MULTIPLI

REPORTED INJURIES. DRIVER #1 SAID HE BELIEVES DRIVER #2 WAS COMING FROM THE MOVIE THEATER NEARBY. DRIVER #1 SAID HE WAS ALSO AT TH

thought there was a red light at the light behind him. Driver 1 stated he did not see V2 when he was changing lanes over. Driver 2 stated he was in the

≡ BUMPS. UNIT 2 STATED THEY WENT TO THEIR NEARBY RESIDENCE AS UNIT 1 WAS DRIVING ERRATICALLY AND FOLLOWING THEM. UNIT 1 HAD SIGNIFI

E THEATER. DRIVER #1 DENIED HAVING ANY ROAD RAGE ISSUES. DRIVER #1 SAID HE BELIEVES DRIVER #2 LOST HIS PATIENTS TO MAKE THE LEFT HAN

right lane going through the green light when V1 pulled out from the left lane and crossed over and struck his truck. Driver 2 stated he was

ICANT DAMAGE TO THE PASSENGER SIDE OF THE CAR FROM THE FRONT BUMPER TO THE REAR BUMPER. UNIT 2 HAD MINOR DAMAGE TO THE DRIVEI

D TURN ONTO FOLEY BLVD AND TRIED TO PASS HIM. NO FURTHER ACTION.

R SIDE FRONT BUMPER/DRIVER DOOR.OFCS WERE UNABLE TO DETERMINE WHO CAUSED THE ACCIDENT AND BASED ON THE INVESTIGATION CONCLU

DED UNIT

LAYOUT HISTORY

IN 2011, THE COON RAPIDS CITY COUNCIL REQUESTED STAFF TO INVESTIGATE BETTER ACCESS TO AND FROM THE EAST AT THE 610 INTERCHANGE AND PROPOSED DESIGN OPTIONS TO IMPROVE THE 610 OVERPASS PROJECTS AND TO IMPROVE THE FUNCTIONALITY OF THE 610 OVERPASS AND BRIDGE AND IMPROVE THE QUALITY OF LIFE FOR THE COMMUNITY. THE CITY OF COON RAPIDS REQUESTED STAFF TO INVESTIGATE BETTER ACCESS TO AND FROM THE EAST AT THE 610 INTERCHANGE AND PROPOSED DESIGN OPTIONS TO IMPROVE THE 610 OVERPASS PROJECTS AND TO IMPROVE THE FUNCTIONALITY OF THE 610 OVERPASS AND BRIDGE AND IMPROVE THE QUALITY OF LIFE FOR THE COMMUNITY.

IN 2012, THE CONSULTANT TEAM OF TRPA AND STA, ALONG WITH AGENCIES STAKEHOLDERS, BEGAN EVALUATING NUMEROUS ALTERNATIVES FOR THE 610 OVERPASS PROJECT. THIS PROCESS INVOLVED CONDUCTING VISUAL AND ENVIRONMENTAL IMPACT STATEMENTS, TRAFFIC ANALYSIS, AND OTHER STUDIES. THE TEAM IDENTIFIED SEVERAL ALTERNATIVES THAT WOULD IMPROVE THE FUNCTIONALITY OF THE 610 OVERPASS AND BRIDGE AND IMPROVE THE QUALITY OF LIFE FOR THE COMMUNITY.

IN 2013, THE CONSULTANT TEAM OF TRPA AND STA, ALONG WITH AGENCIES STAKEHOLDERS, BEGAN EVALUATING NUMEROUS ALTERNATIVES FOR THE 610 OVERPASS PROJECT. THIS PROCESS INVOLVED CONDUCTING VISUAL AND ENVIRONMENTAL IMPACT STATEMENTS, TRAFFIC ANALYSIS, AND OTHER STUDIES. THE TEAM IDENTIFIED SEVERAL ALTERNATIVES THAT WOULD IMPROVE THE FUNCTIONALITY OF THE 610 OVERPASS AND BRIDGE AND IMPROVE THE QUALITY OF LIFE FOR THE COMMUNITY.

THE PROPOSED AND MAJOR OF THE 610 AND EAST RIVER ROAD PROJECT IS TO ADDRESS LIMITED ACCESS TO AND FROM THE 610 OVERPASS AND BRIDGE AND IMPROVE THE QUALITY OF LIFE FOR THE COMMUNITY. THE PROJECT WILL INCLUDE THE FOLLOWING IMPROVEMENTS:

- TR 610 TO AN OVERPASS OVER WEST RIVER ROAD.
- TR 610 TO AN OVERPASS OVER THE 610 OVERPASS AND BRIDGE AND IMPROVE THE QUALITY OF LIFE FOR THE COMMUNITY.
- TR 610 TO AN OVERPASS OVER THE 610 OVERPASS AND BRIDGE AND IMPROVE THE QUALITY OF LIFE FOR THE COMMUNITY.
- TR 610 TO AN OVERPASS OVER THE 610 OVERPASS AND BRIDGE AND IMPROVE THE QUALITY OF LIFE FOR THE COMMUNITY.

LAYOUT NOTES

DESIGN EXCEPTIONS:
 - NO EXISTING OR PROPOSED DESIGN EXCEPTIONS.

GENERAL NOTES:
 - THE 610 TO AN OVERPASS OVER WEST RIVER ROAD.
 - THE 610 TO AN OVERPASS OVER THE 610 OVERPASS AND BRIDGE AND IMPROVE THE QUALITY OF LIFE FOR THE COMMUNITY.
 - THE 610 TO AN OVERPASS OVER THE 610 OVERPASS AND BRIDGE AND IMPROVE THE QUALITY OF LIFE FOR THE COMMUNITY.
 - THE 610 TO AN OVERPASS OVER THE 610 OVERPASS AND BRIDGE AND IMPROVE THE QUALITY OF LIFE FOR THE COMMUNITY.

LEGEND

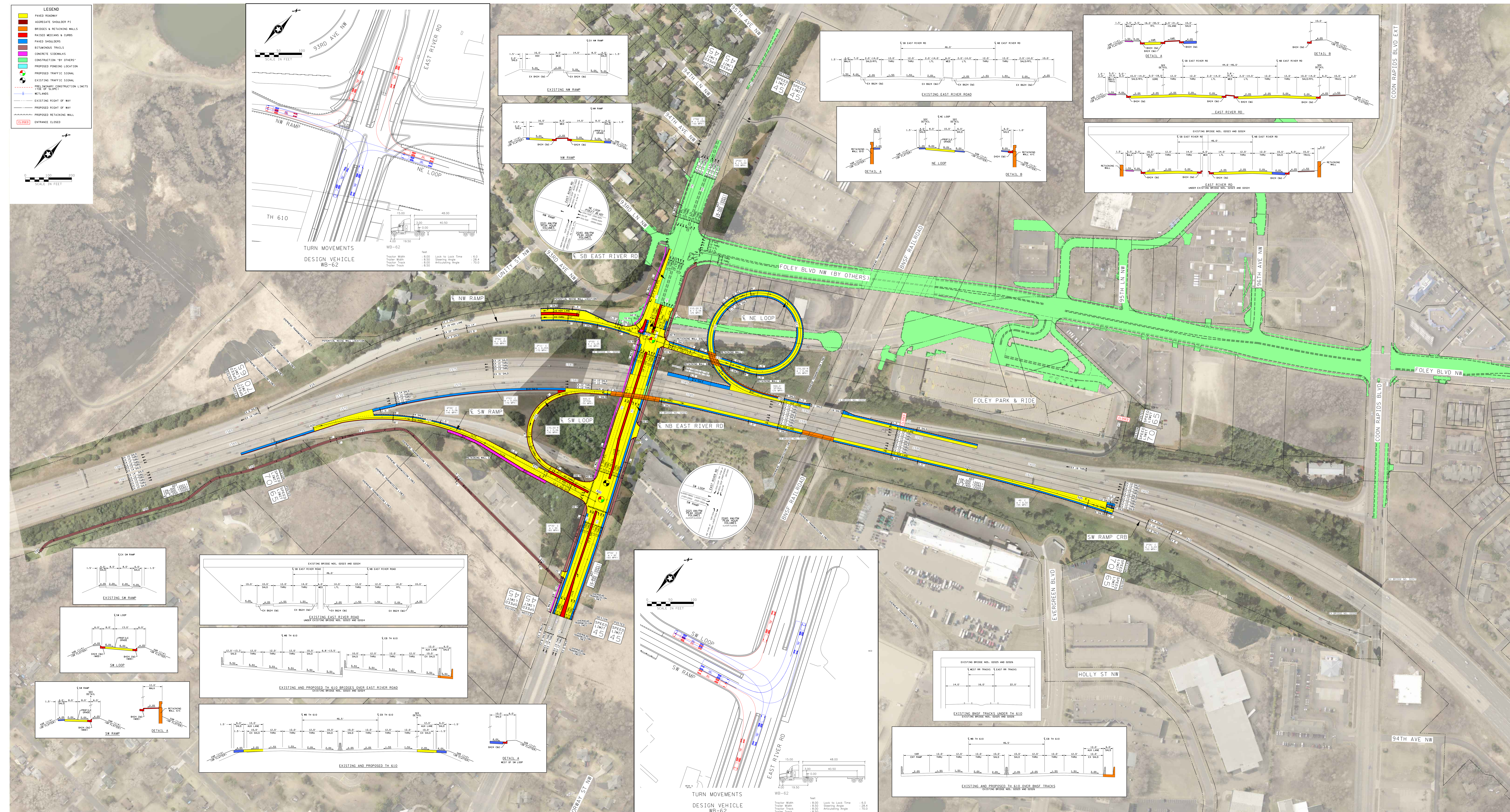
- PAVED SHOULDER
- AGGREGATE SHOULDER P1
- BRIDGES & RETAINING WALLS
- PAVED MEDIAN & TOWPS
- PAVED SHOULDERS
- RETAINMENT WALLS
- CONCRETE SIDEWALKS
- CONCRETE BIKEWAYS
- PROPOSED FUNDING LOCATION
- EXISTING TRAFFIC SIGNAL
- PROPOSED TRAFFIC SIGNAL
- PROPOSED CONSTRUCTION LIMITS
- MEDIAN
- EXISTING RIGHT OF WAY
- PROPOSED RIGHT OF WAY
- PROPOSED RETAINING WALL
- EXISTING CLOSED

LOCATION MAP

LAYOUT No. 11, COPY No. 1...
 T.H. 610 VICINITY OF
 FROM 2500' WEST OF EAST RIVER ROAD TO 2500' EAST OF EAST RIVER ROAD.
 Prepared By: CSF
 Staff Approval: [Signature]
 Date: 1/20/2025
 Scale: 1 inch = 100 ft.
 S.P. 02/XX-XX T.H. X, A.U. X, P.P.M.S. ACTIVITY X
 S.P. 02/XX-XX T.H. X, A.U. X, P.P.M.S. ACTIVITY X
 S.P. 02/XX-XX T.H. X, A.U. X, P.P.M.S. ACTIVITY X
 S.P. 02/XX-XX T.H. X, A.U. X, P.P.M.S. ACTIVITY X
 Copy To: [List of recipients]
 Design File: 3/10/2025 - DATE PLOTTED

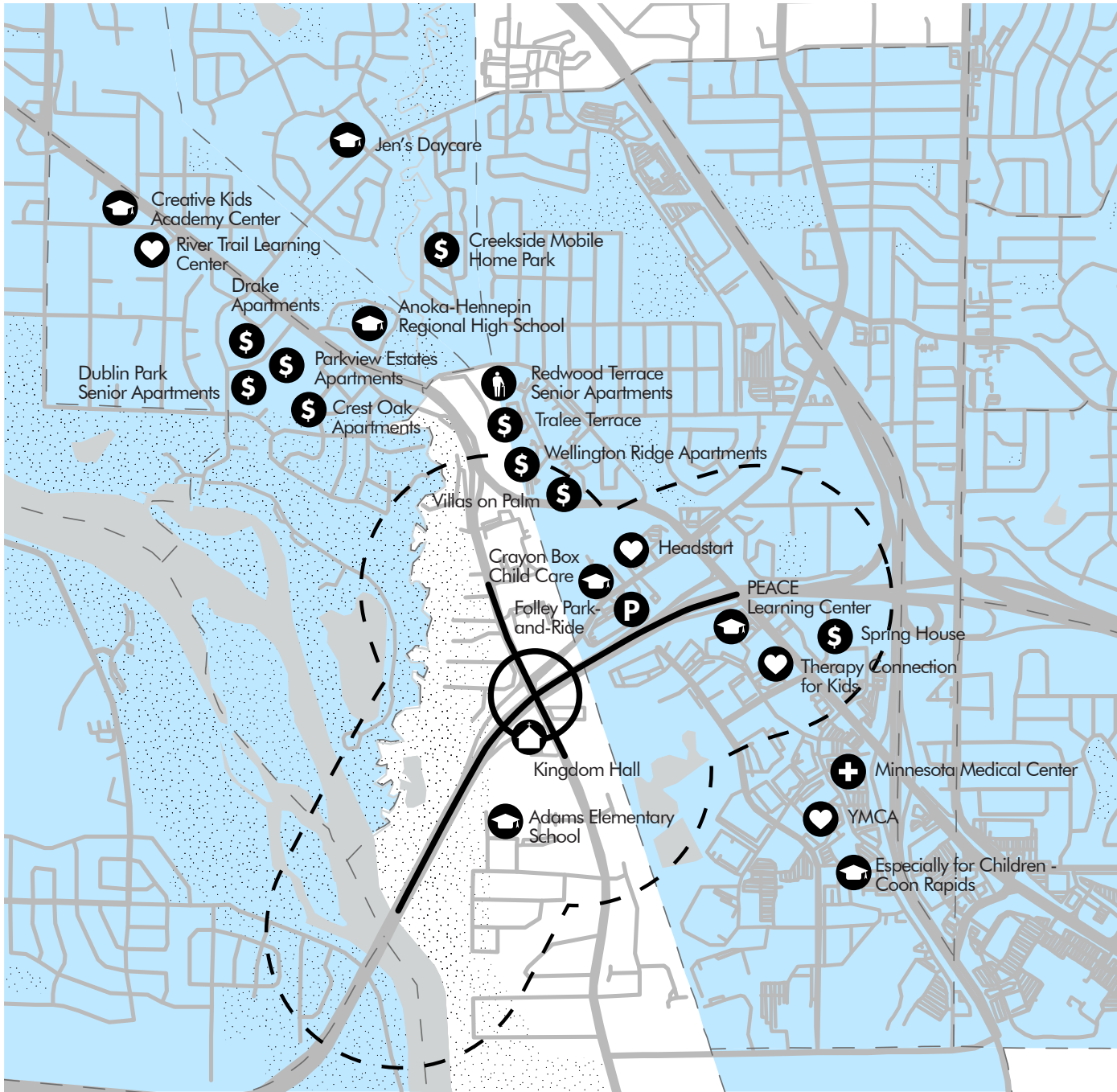
Level I LAYOUT APPROVAL

Programmed Letting Date: TBD
 Prepared By: CSF
 Reviewed By: [Signatures]
 Approved By: [Signatures]
 I, [Signature], being a duly Licensed Professional Engineer, certify that I am a duly Licensed Professional Engineer in the State of Minnesota.
 EXHIBIT: 11, 12, 13, 14, 15, 16, 17, 18, 19, 20



Level I LAYOUT APPROVAL

Programmed Letting Date: TBD
 Prepared By: CSF
 Reviewed By: [Signatures]
 Approved By: [Signatures]
 I, [Signature], being a duly Licensed Professional Engineer, certify that I am a duly Licensed Professional Engineer in the State of Minnesota.
 EXHIBIT: 11, 12, 13, 14, 15, 16, 17, 18, 19, 20



TH610 / East River Road Interchange

Equity Populations and Destinations

- Proposed project
- 1/2 mile project corridor
- 2020 census tract boundary
- Regional environmental justice area
- Local and regional parks
- School / daycare
- Place of worship
- Affordable housing
- Social services
- Medical clinic
- Senior housing
- Park-and-Ride





Anoka County

TRANSPORTATION DIVISION

Highway

Joseph J. MacPherson, P.E.
County Engineer

March 2, 2022

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

City of Coon Rapids ADA Transition Plan



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

Contents

Introduction	1
Transition Plan Need and Purpose	1
ADA and its Relationship to Other Laws	1
Agency Requirements	2
Self-Evaluation	3
Overview	3
Summary	3
Policies and Practices	4
Previous Practices	4
Policy	4
Improvement Schedule.....	4
Priority Areas	4
External Agency Coordination	5
Schedule.....	5
ADA Coordinator	5
Implementation Schedule.....	5
Methodology.....	5
Public Outreach.....	5
Grievance Procedure	6
Monitor the Progress.....	6
Appendices.....	7
Appendix A – Self-Evaluation Results	8
Appendix B – Schedule / Budget Information	10
Appendix C – Public Outreach	11
Appendix D – Grievance Procedure	13
Appendix E – Contact Information.....	18
Appendix F – City of Coon Rapids ADA Procedures & Standards.....	19
Appendix G – Glossary of Terms.....	21

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.

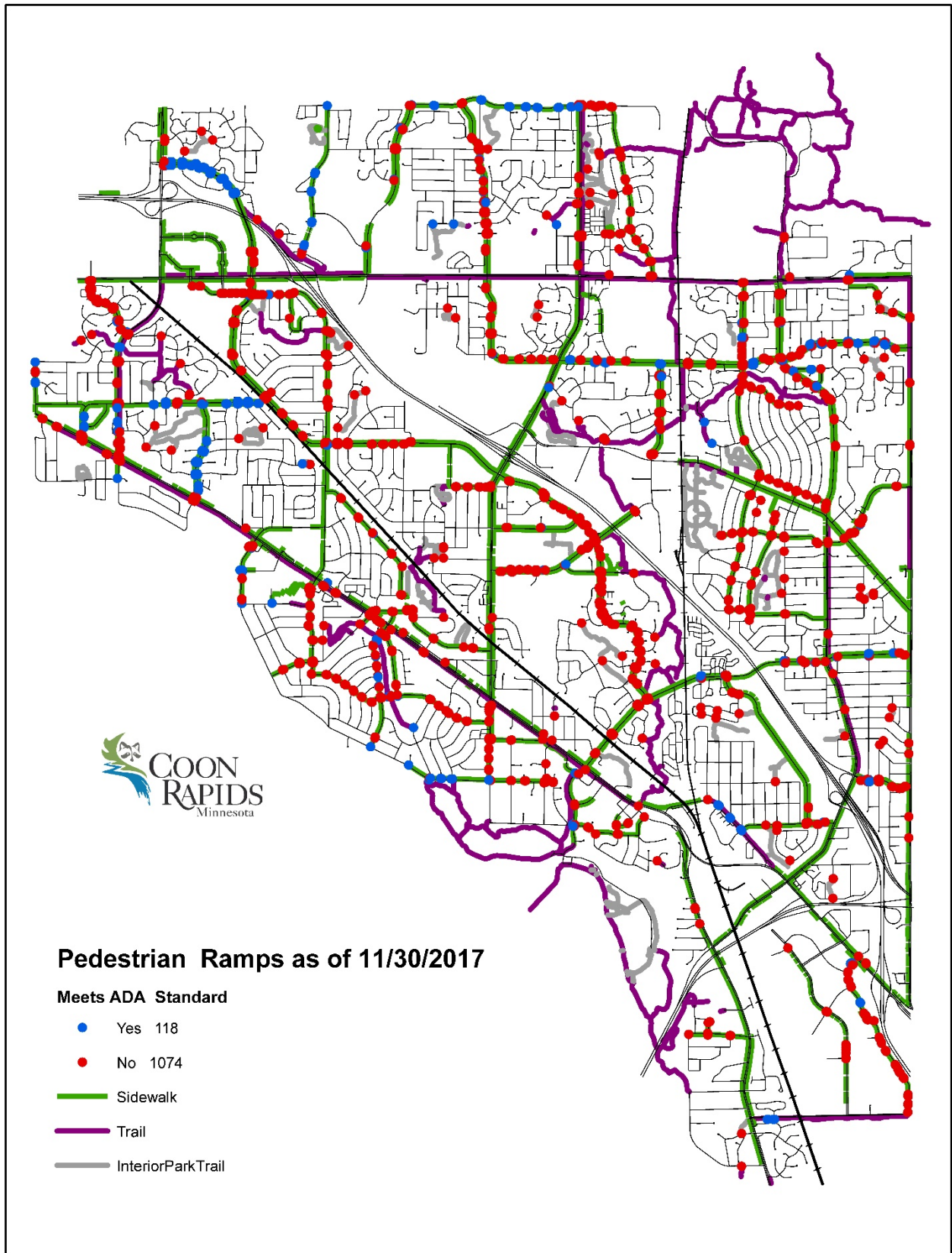
Appendices

- 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 Mississipp. 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.

BOARD OF COUNTY COMMISSIONERS

Anoka County, Minnesota

DATE: March 22, 2022

RESOLUTION #2022-36

OFFERED BY COMMISSIONER: Look

AUTHORIZING SUBMITTAL OF A FEDERAL FUNDING APPLICATION FOR THE TH 610 / CSAH 1 INTERCHANGE IMPROVEMENT PROJECT

WHEREAS, the interchange of TH 610 (a Principal Arterial) and CSAH 1 (East River Road) (an "A" Minor Arterial Expander) serves as an important regional access point to Anoka County; and,

WHEREAS, Anoka County and the City of Coon Rapids have identified the need to improve the TH 610 / CSAH 1 interchange to support economic development and better serve the City of Coon Rapids and surrounding communities; and,

WHEREAS, the proposed improvement project will provide full access to TH 610 from CSAH 1; and,

WHEREAS, Anoka County and the City of Coon Rapids are proposing to submit an application to the Transportation Advisory Board through the Metropolitan Council's 2022 Regional Solicitation Program to receive federal transportation funds to create a full access interchange at TH 610 and CSAH 1 in the city of Coon Rapids; and,

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

NOW, THEREFORE, BE IT RESOLVED that Anoka County, by and through its Board of Commissioners, hereby authorizes the Anoka County Highway Department to submit an application to the Transportation Advisory Board through the Metropolitan Council's 2022 Regional Solicitation program in the Roadway Expansion category, to receive federal transportation funds to make capacity and safety improvements to the TH 610 / CSAH 1 interchange in the city of Coon Rapids.

STATE OF MINNESOTA
COUNTY OF ANOKA) ss

I, Dee Guthman, Deputy County Administrator, Anoka County, Minnesota, hereby certify that I have compared the foregoing copy of the resolution of the county board of said county with the original record thereof on file in the Administration Office, Anoka County, Minnesota, as stated in the minutes of the proceedings of said board at a meeting duly held on March 22, 2022, and that the same is a true and correct copy of said original record and of the whole thereof, and that said resolution was duly passed by said board at said meeting.

Witness my hand and seal this 22nd day of March 2022.



DEE GUTHMAN
DEPUTY COUNTY ADMINISTRATOR

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

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*	\$30,053,000	Installation Year	2024
Project Service Life	20 years	Traffic Growth Factor	2.0%

* exclude Right of Way from Project Cost

C. Crash Modification Factor

0.78	Fatal (K) Crashes	Reference	Crash Analysis
0.78	Serious Injury (A) Crashes		
0.78	Moderate Injury (B) Crashes	Crash Type	All
0.78	Possible Injury (C) Crashes		
0.78	Property Damage Only Crashes		www.CMFClearinghouse.org

D. Crash Modification Factor (optional second CMF)

	Fatal (K) Crashes	Reference	
	Serious Injury (A) Crashes		
	Moderate Injury (B) Crashes	Crash Type	
	Possible Injury (C) Crashes		
	Property Damage Only Crashes		www.CMFClearinghouse.org

E. Crash Data

Begin Date	1/1/2019	End Date	12/31/2021	3 years
Data Source	MnDOT			
Crash Severity	All	< optional 2nd CMF >		
K crashes	0			
A crashes	0			
B crashes	1			
C crashes	1			
PDO crashes	7			

F. Benefit-Cost Calculation

\$732,621	Benefit (present value)	B/C Ratio = 0.03
\$30,053,000	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	\$1,500,000
A crashes	\$750,000
B crashes	\$230,000
C crashes	\$120,000
PDO crashes	\$13,000

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

Real Discount Rate 0.7%
 Traffic Growth Rate 2.0%
 Project Service Life 20 years

G. Annual Benefit

Crash Severity	Crash Reduction	Annual Reduction	Annual Benefit
K crashes	0.00	0.00	\$0
A crashes	0.00	0.00	\$0
B crashes	0.22	0.07	\$16,867
C crashes	0.22	0.07	\$8,800
PDO crashes	1.54	0.51	\$6,673

\$32,340

H. Amortized Benefit

Year	Crash Benefits	Present Value
2024	\$32,340	\$32,340
2025	\$32,987	\$32,757
2026	\$33,647	\$33,180
2027	\$34,319	\$33,609
2028	\$35,006	\$34,043
2029	\$35,706	\$34,482
2030	\$36,420	\$34,927
2031	\$37,148	\$35,378
2032	\$37,891	\$35,835
2033	\$38,649	\$36,297
2034	\$39,422	\$36,766
2035	\$40,211	\$37,241
2036	\$41,015	\$37,721
2037	\$41,835	\$38,208
2038	\$42,672	\$38,702
2039	\$43,525	\$39,201
2040	\$44,396	\$39,707
2041	\$45,284	\$40,220
2042	\$46,189	\$40,739
2043	\$47,113	\$41,265
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
0	\$0	\$0
0	\$0	\$0
0	\$0	\$0

Total = \$732,621

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*	\$30,053,000	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	1/1/2019	End Date	12/31/2021	3 years
Data Source	MnDOT			
	Crash Severity	All	< optional 2nd CMF >	
	K crashes	0		
	A crashes	0		
	B crashes	2		
	C crashes	3		
	PDO crashes	20		

F. Benefit-Cost Calculation		
\$326,214	Benefit (present value)	B/C Ratio = 0.02
\$30,053,000	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	\$1,500,000
A crashes	\$750,000
B crashes	\$230,000
C crashes	\$120,000
PDO crashes	\$13,000

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

Real Discount Rate 0.7%
 Traffic Growth Rate 2.0%
 Project Service Life 20 years

G. Annual Benefit

Crash Severity	Crash Reduction	Annual Reduction	Annual Benefit
K crashes	0.00	0.00	\$0
A crashes	0.00	0.00	\$0
B crashes	0.08	0.03	\$6,133
C crashes	0.12	0.04	\$4,800
PDO crashes	0.80	0.27	\$3,467

\$14,400

H. Amortized Benefit

Year	Crash Benefits	Present Value
2024	\$14,400	\$14,400
2025	\$14,688	\$14,586
2026	\$14,982	\$14,774
2027	\$15,281	\$14,965
2028	\$15,587	\$15,158
2029	\$15,899	\$15,354
2030	\$16,217	\$15,552
2031	\$16,541	\$15,753
2032	\$16,872	\$15,956
2033	\$17,209	\$16,162
2034	\$17,554	\$16,371
2035	\$17,905	\$16,582
2036	\$18,263	\$16,796
2037	\$18,628	\$17,013
2038	\$19,000	\$17,233
2039	\$19,381	\$17,455
2040	\$19,768	\$17,680
2041	\$20,163	\$17,909
2042	\$20,567	\$18,140
2043	\$20,978	\$18,374
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
0	\$0	\$0
0	\$0	\$0
0	\$0	\$0

Total = \$326,214

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*	\$30,053,000	Installation Year	2024
Project Service Life	20 years	Traffic Growth Factor	2.0%

* exclude Right of Way from Project Cost

C. Crash Modification Factor			
0.82	Fatal (K) Crashes	Reference	Crash Analysis
0.82	Serious Injury (A) Crashes		
0.82	Moderate Injury (B) Crashes	Crash Type	All
0.82	Possible Injury (C) Crashes		
0.82	Property Damage Only Crashes		www.CMFclearinghouse.org

D. Crash Modification Factor (optional second CMF)			
	Fatal (K) Crashes	Reference	
	Serious Injury (A) Crashes		
	Moderate Injury (B) Crashes	Crash Type	
	Possible Injury (C) Crashes		
	Property Damage Only Crashes		www.CMFclearinghouse.org

E. Crash Data				
Begin Date	1/1/2019	End Date	12/31/2021	3 years
Data Source	MnDOT			
	Crash Severity	All	< optional 2nd CMF >	
	K crashes	0		
	A crashes	0		
	B crashes	1		
	C crashes	4		
	PDO crashes	6		

F. Benefit-Cost Calculation		
\$1,071,067	Benefit (present value)	B/C Ratio = 0.04
\$30,053,000	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	\$1,500,000
A crashes	\$750,000
B crashes	\$230,000
C crashes	\$120,000
PDO crashes	\$13,000

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

Real Discount Rate 0.7%
 Traffic Growth Rate 2.0%
 Project Service Life 20 years

G. Annual Benefit

Crash Severity	Crash Reduction	Annual Reduction	Annual Benefit
K crashes	0.00	0.00	\$0
A crashes	0.00	0.00	\$0
B crashes	0.18	0.06	\$13,800
C crashes	0.72	0.24	\$28,800
PDO crashes	1.08	0.36	\$4,680

\$47,280

H. Amortized Benefit

Year	Crash Benefits	Present Value
2024	\$47,280	\$47,280
2025	\$48,226	\$47,890
2026	\$49,190	\$48,509
2027	\$50,174	\$49,135
2028	\$51,177	\$49,769
2029	\$52,201	\$50,412
2030	\$53,245	\$51,062
2031	\$54,310	\$51,722
2032	\$55,396	\$52,389
2033	\$56,504	\$53,066
2034	\$57,634	\$53,751
2035	\$58,787	\$54,445
2036	\$59,962	\$55,148
2037	\$61,162	\$55,859
2038	\$62,385	\$56,581
2039	\$63,633	\$57,311
2040	\$64,905	\$58,051
2041	\$66,203	\$58,800
2042	\$67,527	\$59,559
2043	\$68,878	\$60,328
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
0	\$0	\$0
0	\$0	\$0
0	\$0	\$0

Total = \$1,071,067

Coon Rapids Crash Analysis
2022 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	25	3	34900	0.66
Future	Foley Blvd and North TH 10 Ramps	24	3	33400	0.66
Existing	Foley Blvd and South TH 10 Ramps	11	3	20750	0.49
Future	Foley Blvd and South TH 10 Ramps	9	3	17750	0.47
Existing	Foley Blvd and 99th Ave	9	3	23250	0.36
Future	Foley Blvd and 99th Ave	7	3	20250	0.32

Reduction or increase based on volume modifications	CMF	
Foley/North Ramps	4%	0.96
Foley/South Ramps	18%	0.82
Foley/99th	78%	0.22

Foley Blvd and 99th Ave

INCIDENTID	RTESYS	COLRT	ENUMBE	MEASURE	COUNTY_S	CITY_NAM	TOWNSHIP	MNDOT_D	STATE_PAT	TRIBAL_GC	LOCALID	ACCIDENT_	CRASH_MC
688258	4	11	1.063	2	Coon Rapids	M	25	19037587	1.9E+08	2			
753129	5	103	0.568	2	Coon Rapids	M	25	19258233	1.93E+08	10			
694508	5	103	0.572	2	Coon Rapids	M	25	19051806	1.91E+08	3			
834045	4	11	1.063	2	Coon Rapids	M	25	20192981	2.02E+08	8			
786577	4	11	1.072	2	Coon Rapids	M	25	20033982	2E+08	2			
813677	5	103	0.57	2	Coon Rapids	M	25	20137303	2.02E+08	6			
940332	5	103	0.561	2	Coon Rapids	M	25	21206570	2.13E+08	9			
911356	5	103	0.566	2	Coon Rapids	M	25	21124764	2.12E+08	6			
905105	5	103	0.572	2	Coon Rapids	M	25	21099321	2.11E+08	5			

TH 47 and Foley Blvd North Ramps

INCIDENTID	RTESYS	COLRT	ENUMBE	MEASURE	COUNTY_S	CITY_NAM	TOWNSHIP	MNDOT_D	STATE_PAT	TRIBAL_GC	LOCALID	ACCIDENT_	CRASH_MC
699750	4	11	1.384	2	Coon Rapids	M	25	19067565	1.91E+08	3			
719914	4	11	1.383	2	Coon Rapids	M	25	19113584	1.91E+08	5			
748689	4	11	1.385	2	Coon Rapids	M	25	19239978	1.93E+08	9			
718611	4	11	1.387	2	Coon Rapids	M	25	19107904	1.91E+08	5			
686504	5	128	0.049	2	Coon Rapids	M	25	19502004	1.9E+08	2			
696676	22	5888	0	2	Coon Rapids	M	25	19056801	1.91E+08	3			
696443	22	5888	0.008	2	Coon Rapids	M	25	19056309	1.91E+08	3			
804088	4	11	1.378	2	Coon Rapids	M	25	20063819	2.01E+08	3			
842222	4	11	1.383	2	Coon Rapids	M	25	20229884	2.03E+08	9			
865167	4	11	1.384	2	Coon Rapids	M	25	20285184	2.03E+08	11			
799848	4	11	1.385	2	Coon Rapids	M	25	20043871	2.01E+08	2			
836647	4	11	1.386	2	Coon Rapids	M	25	20202573	2.02E+08	8			
870591	4	11	1.387	2	Coon Rapids	M	25	20307649	2.04E+08	12			
811405	4	11	1.41	2	Coon Rapids	M	25	20119683	2.01E+08	5			
808644	5	128	0.039	2	Coon Rapids	M	25	20502373	2.01E+08	2			
802138	22	5887	0.779	2	Coon Rapids	M	25	20053802	2.01E+08	3			
808866	22	5887	0.785	2	Coon Rapids	M	25	20099670	2.01E+08	5			
974182	4	11	1.376	2	2393628		25	21260993	2.13E+08	11			
985129	4	11	1.38	2	Coon Rapids	M	25	21295030	2.14E+08	12			
941356	4	11	1.386	2	Coon Rapids	M	25	21210588	2.13E+08	9			

983501	4	11	1.389	2 Coon Rapids	M	25	21289504	2.14E+08	12
933204	4	11	1.412	2 2393628		25	21177335	2.12E+08	8
917041	5	128	0	2 Coon Rapids	M	25	21149346	2.12E+08	7
971602	5	128	0.003	2 Coon Rapids	M	25	21250360	2.13E+08	11
985976	5	128	0.007	2 Coon Rapids	M	25	21294595	2.14E+08	12

TH 47 and Foley Blvd South Ramps

INCIDENTID	RTESYS	COLRT	ENUMBE	MEASURE	COUNTY_S	CITY_NAM	TOWNSHIP	MNDOT_D	STATE_PAT	TRIBAL_GC	LOCALID	ACCIDENT_CRASH_MC
700516	22	523	0.317	2 Coon Rapids	M	25	19070683	1.91E+08	3			
738277	22	523	0.32	2 Coon Rapids	M	25	19196631	1.92E+08	8			
741194	22	523	0.323	2 Coon Rapids	M	25	19209444	1.92E+08	8			
757259	22	523	0.323	2 Coon Rapids	M	25	19272740	1.93E+08	10			
820247	4	11	1.162	2 Coon Rapids	M	25	20173474	2.02E+08	7			
785218	4	11	1.166	2 Coon Rapids	M	25	20028170	2E+08	2			
903993	4	11	1.168	2 Coon Rapids	M	25	21094216	2.11E+08	5			
935028	4	11	1.223	2 Coon Rapids	M	25	21507721	2.12E+08	8			
897517	4	11	1.232	2 Coon Rapids	M	25	21060985	2.11E+08	3			
911186	22	523	0.303	2 Coon Rapids	M	25	21505189	2.12E+08	6			
944434	22	523	0.323	2 Coon Rapids	M	25	21223417	2.13E+08	10			

CRASH_DA	CRASH_YE/	CRASH_DA	CRASH_HO	DIVIDED	DRD	CRASHSEVI	NUMBERKI	NUMBERO	MANNERO	FIRSTHARV	RELATIONT	LIGHTCONI	WEATHERP
14	2019	Thu	11 S			5	0	2	10	10	4	1	1
8	2019	Tue	18	98		4	0	1		8	4	1	1
4	2019	Mon	6 E			5	0	2	12	10	4	1	1
7	2020	Fri	13	98		5	0	2	5	10	4	1	2
9	2020	Sun	6	98		5	0	2	11	10	3	4	4
9	2020	Tue	14			3	0	1		9	4	1	2
13	2021	Mon	18 E			5	0	3	12	10	4	1	2
9	2021	Wed	20	98		5	0	2	10	10	4	4	1
11	2021	Tue	18			5	0	2	12	10	4	1	1

CRASH_DA	CRASH_YE/	CRASH_DA	CRASH_HO	DIVIDED	DRD	CRASHSEVI	NUMBERKI	NUMBERO	MANNERO	FIRSTHARV	RELATIONT	LIGHTCONI	WEATHERP
23	2019	Sat	15			3	0	2	13	10	3	1	1
14	2019	Tue	18			5	0	2	5	10	3	1	2
19	2019	Thu	21	98		5	0	2	5	10	3	4	1
8	2019	Wed	14 S			5	0	2	12	10	2	1	3
6	2019	Wed	21 E			5	0	2	10	10	2	4	4
10	2019	Sun	15 S			5	0	2	5	10	3	1	1
9	2019	Sat	19 N			5	0	1		30	3	4	4
15	2020	Sun	12 S			4	0	2	5	10	3	1	1
16	2020	Wed	4	98		5	0	2	11	10	3	4	1
24	2020	Tue	18	98		5	0	2	5	10	3	7	3
21	2020	Fri	12 S			5	0	2	5	10	3	1	1
18	2020	Tue	9 E			5	0	2	10	10	3	1	1
25	2020	Fri	13			5	0	2	5	10	3	1	1
23	2020	Sat	22 N			5	0	1		67	2	4	2
27	2020	Thu	14 W			5	0	2	12	10	2	1	1
3	2020	Tue	22 E			5	0	2	10	10	26	4	2
1	2020	Fri	15 W			4	0	2	5	10	3	1	1
17	2021	Wed	12	98		5	0	2	5	10	3	1	2
31	2021	Fri	13	98		3	0	2	5	10	3	1	4
18	2021	Sat	10			4	0	2	5	10	3	1	1

23	2021 Thu	14 S		5	0	2	5	10	3	1	1
9	2021 Mon	15 S		5	0	2	10	10	2	1	1
9	2021 Fri	9	98	5	0	2	5	10	3	1	1
4	2021 Thu	12		5	0	2	10	10	3	1	1
30	2021 Thu	21	98	5	0	2	5	10	3	4	1

CRASH_DA	CRASH_YE	CRASH_DA	CRASH_HO	DIVIDED	DRD	CRASHSEVI	NUMBERKI	NUMBERO	MANNERO	FIRSTHARN	RELATIONT	LIGHTCONI	WEATHERP
27	2019	Wed	11 E			4	0	2	12	10	26	1	1
5	2019	Mon	6 S			4	0	2	12	10	26	2	1
18	2019	Sun	15 E			4	0	2	12	10	3	1	1
25	2019	Fri	7	98		5	0	2	12	10	3	1	1
17	2020	Fri	16 S			5	0	1		62	2	1	1
2	2020	Sun	14 S			5	0	2	12	10	3	1	1
5	2021	Wed	13 S			4	0	3	12	10	3	1	1
15	2021	Sun	16 N			5	0	2	5	10	3	1	1
24	2021	Wed	2	98		5	0	2	13	10	3	4	3
9	2021	Wed	12 E			5	0	2	12	10	10	1	1
2	2021	Sat	20			3	0	2	5	10	27	4	2

WEATHERS	RDWYSURF	WORKZON	ROADWAY	INTERSECT	ROUTE_ID	BASIC_TYP	UNITTYPE	VEHICLETY	DIRECTION	PRECRASHI	AGEU1	SEXU1
			1	98 FOLEY BLVD NW	040000659	5	2	4	2	28		28 F
			1	98 99TH AVE FOLEY BLVI	050002393	1	2	3	3	23		28 M
			3	98 99TH AVE NW	050002393	7	2	4	3	21		42 F
			1	98 FOLEY BLVD NW	040000659	10	2	2	2	21		38 F
			3	98 FOLEY BLVI 99TH AVE F	040000659	6	2	2	2	23		22 M
			1	98 99TH AVE NW	050002393	2	6					25 M
			1	98 99TH AVE NW	050002393	7	2	2	3	34		40 M
			1	98 99TH AVE NW	050002393	5	2	2	3	24		27 M
			1	98 99TH AVE FOLEY BLVI	050002393	7	2	2	3	21		33 M

WEATHERS	RDWYSURF	WORKZON	ROADWAY	INTERSECT	ROUTE_ID	BASIC_TYP	UNITTYPE	VEHICLETY	DIRECTION	PRECRASHI	AGEU1	SEXU1
			1	98 FOLEY BLVD NW	040000659	8	2	3	2	21		41 F
			1	98 FOLEY BLVD NW	040000659	10	2	4	4	24		17 M
			1	98 FOLEY BLVI 101ST AVE	040000659	9	2	2	2	21		23 F
2			2	98 FOLEY BLVD NW	040000659	7	2	2	2	21		64 F
			3	98 101ST AVE NW	050002393	5	2	90	3	25		32 M
			2	98 RAMP888	220000659	10	2	4	3	21		39 M
7			3	98 RAMP888	220000659	3	2	2	1	21		24 F
			1	98 FOLEY BLVD NW	040000659	10	2	2	3	21		51 M
			1	98 FOLEY BLVD NW	040000659	6	2	2	1	21		59 M
			2	98 FOLEY BLVD NW	040000659	9	2	2	1	21		57 F
			1	98 FOLEY BLVD NW	040000659	10	2	4	3	21		30 F
			1	98 FOLEY BLVD NW	040000659	5	2	49	3	24		32 M
			4	98 FOLEY BLVD NW	040000659	10	2	2	1	21		18 M
			1	98 FOLEY BLVD NW	040000659	3	2	3	1	21		30 M
			1	98 101ST AVE NW AT FOL	050002393	7	2	48	4	21		57 M
			1	98 RAMP887 FOLEY BLVI	220000659	5	1		3	21		
			1	98 RAMP887	220000659	10	2	2	4	21		58 F
			1	98 FOLEY BLVI 101ST AVE	040000659	10	2	2	3	24		33 M
			3	98 FOLEY BLVI 101ST AVE	040000659	9	2	2	1	21		41 M
			1	98 FOLEY BLVI 101ST AVE	040000659	9	2	2	2	24		83 F

1	98 FOLEY BLVI 101ST AVE 040000659	10	2	3	2	21	36 M
1	98 FOLEY BLVI 101ST AVE 040000659	5	2	2	2	28	61 F
1	98 101ST AVE FOLEY BVLI050002393	9	2	2	1	24	40 F
1	98 101ST AVE FOLEY BLVI050002393	5	2	2	3	24	34 M
4	98 101ST AVE NW 050002393	10	2	2	1	21	17 F

WEATHERS	RDWYSURF	WORKZON	ROADWAY	INTERSECT	ROUTE_ID	BASIC_TYP	UNITTYPE	VEHICLETY	DIRECTION	PRECRASHI	AGEU1	SEXU1
1	98	RAMP523			220000659	7	2	4	3	26	44	F
1	98	RAMP523			220000659	7	2	4	2	21	51	F
1	98	RAMP523			220000659	7	2	5	2	26	39	F
1	98	RAMP523			220000659	7	2	4	3	34	52	M
1	98	FOLEY BLVD NW			040000659	3	1		99	99		
1	98	FOLEY BLVD NW			040000659	7	2	2	2	23	24	M
1	98	FOLEY BLVI RAMP529			040000659	7	2	2	2	23	20	M
1	98	FOLEY BLVD NW AT US			040000659	10	2	3	1	28	56	M
2	98	FOLEY BLVD NW			040000659	8	2	3	1	21	48	M
1	98	RAMP523			220000659	7	2	4	3	21	27	M
1	98	RAMP523			220000659	10	2	2	3	34	40	M

PHYSICALC	CONTRIBF#	CONTRIBF#	NONMOTC	NONMOTC	RDWYDESI	TRAFFICCO	SPEEDLIMI	ALIGNMEN	GRADEU1	UNITTYPEU	VEHICLETY	DIRECTION
5	10				12	20	40	11	21	2	2	2
5	2				12	20	30	11	21	5		
5	1				12	20	45	11	23	2	2	3
5	2				13	20	40	11	24	2	2	3
5	1				12	20	40	11	24	2	4	3
5	99		30	1						1		3
5	1				12	20	30	11	21	2	4	3
99	99				12	20	30	11	21	1		3
5	99				12	20	30	11	21	2	4	3

PHYSICALC	CONTRIBF#	CONTRIBF#	NONMOTC	NONMOTC	RDWYDESI	TRAFFICCO	SPEEDLIMI	ALIGNMEN	GRADEU1	UNITTYPEU	VEHICLETY	DIRECTION
5	1				15	20	40	11	21	2	2	1
5	1				13	20	40	11	21	2	4	2
5	1				15	20	30	11	21	2	49	1
5	70				14	98	40	11	21	2	3	2
5	1				15	9	35	11	21	2	2	3
5	1				12	20	40	11	21	2	2	1
5	1				15	20	40	11	24			
5	1				15	20	35	11	21	2	4	2
5	1				14	20	40	11	23	2	4	3
5	90				14	20	40	11	21	2	2	2
5	1				15	20	30	11	21	2	2	2
5	68				90	20	40	11	21	2	3	3
5	63				15	20	40	11	24	2	2	4
11	68	70			15	9	40	11	21			
5	4				11	9	45	11	21	2	2	4
					15	20	30	11	23	2	2	3
5	1				12	20	45	11	21	2	4	2
5	1				12	20	40	11	21	2	5	2
5	1				15	20	40	11	21	2	4	2
5	2				14	20	45	11	21	2	4	1

5	63			15	20	40	11	21	2	5	3
5	99			15	9	40	11	21	2	4	2
5	2			14	20	40	11	21	2	2	2
5	99			12	20	40	11	21	2	2	3
5	71			12	20	40	11	21	2	2	3

PHYSICALC	CONTRIBF	A	CONTRIBF	A	NONMOTC	NONMOTC	RDWYDES	TRAFFICCO	SPEEDLIMI	ALIGNMEN	GRADEU1	UNITTYPE	VEHICLETY	DIRECTION
5	1						11	20	65	11	21	2	2	3
5	1						15	22	45	11	21	2	2	2
5	1						11	22	65	13	21	2	4	2
5	1						15	20	60	13	21	2	2	3
							12	9	40	11	24			
5	4						11	22	65	13	21	2	2	2
5	1						15	20	40	13	21	2	4	2
5	70		2				14	20	35	11	21	2	3	1
5	63						14	20	40	11	23	2	3	2
5	4						11	20	40	11	23	2	2	3
5	99						15	20	65	11	21	2	3	3

PRECRASHI	AGEU2	SEXU2	PHYSICALC	CONTRIBF#	CONTRIBF#	NONMOTC	NONMOTC	RDWYDESI	TRAFFICCO	SPEEDLIMI'	ALIGNMEN	GRADEU2
21	41	M	5	1				12	20	40	11	21
	21	F	5	22		30	1					
34	67	F	5	1				12	20	45	11	23
24	88	M	5	1				12	20	30	11	21
34	75	M	5	1				12	20	35	11	21
23								12	20	30	11	21
34	63	M	5	1				12	20	30	11	21
24								12	20	30	11	21
34	42	M	5	1				12	20	30	11	21

PRECRASHI	AGEU2	SEXU2	PHYSICALC	CONTRIBF#	CONTRIBF#	NONMOTC	NONMOTC	RDWYDESI	TRAFFICCO	SPEEDLIMI'	ALIGNMEN	GRADEU2
24	71	F	5	2				15	20	40	11	21
21	17	M	5	63				13	20	40	11	21
24	31	M	5	2				15	20	30	11	21
34	27	M	5	1				14	98	40	11	21
21	30	M	5	4				15	9	35	11	21
21	26	F	5	70	2			12	20	40	11	21
21	72	M	5	63				15	20	35	11	21
24	28	M	99	65	70			15	20	35	11	21
24	18	F	5	1				14	20	40	11	21
21	39	F	5	63				15	20	45	11	21
24	61	M	5	1				90	20	40	11	21
24	27	M	5	1				15	20	40	11	21
21	33	M	5	70				11	9	45	11	21
24	24	F	5	1				15	20	30	11	23
21	44	F	5	63				12	20	45	11	21
21	38	F	5	63				12	20	40	11	21
24	28	F	5	2				15	20	40	11	21
21	28	M	5	1				14	20	45	11	24

24	44 M	5	1	15	20	40	11	21
21	40 F	5	1	15	9	40	11	21
21	55 F	5	1	14	20	40	11	21
24	40 M	5	99	12	20	40	11	21
21	39 M	5	1	12	20	40	11	21

PRECRASHI	AGEU2	SEXU2	PHYSICALC	CONTRIBF	CONTRIBF	NONMOTC	NONMOTC	RDWYDESI	TRAFFICCO	SPEEDLIMI	ALIGNMEN	GRADEU2
21	30	M	5	4				11	20	65	11	21
21	47	F	5	1				15	22	45	11	21
21	42	F	5	74				11	22	65	13	21
21	26	F	5	70				15	20	60	13	21
23	18	M	5	1				11	22	65	13	21
23	56	F	5	1				15	20	40	13	21
21	25	M	5	1				14	20	35	11	21
24	44	M	5	1				14	20	40	11	24
21	18	M	5	1				11	20	40	11	23
21	40	M	5	99				15	20	65	11	21

UNITTYPE|VEHICLE|Y|DIRECTION|PRECRASH|I|AGE|U3|SEX|U3|PHYSICAL|C|CONTRIB|F|CONTRIB|F|NONMOT|C|NONMOT|C|RDWY|DES|I|TRAFFIC|C|O

2 4 3 21 46 M 5 74 12 20

UNITTYPE|VEHICLE|Y|DIRECTION|PRECRASH|I|AGE|U3|SEX|U3|PHYSICAL|C|CONTRIB|F|CONTRIB|F|NONMOT|C|NONMOT|C|RDWY|DES|I|TRAFFIC|C|O

UNITTYPE|VEHICLE|Y|DIRECTION|PRECRASH|AGE|U3|SEX|U3|PHYSICAL|C|CONTRIB|F|CONTRIB|F|NONMOT|C|NONMOT|C|RDWY|DES|I|TRAFFIC|C|O

2 2 2 21 33 M 5 99 15 20

SPEEDLIMIT ALIGNMENT GRADE UNITTYPE VEHICLE TYPE DIRECTION PRECRASH I AGEU4 SEXU4 PHYSICAL CONTRIBUTION CONTRIBUTION NONMOTOR

30 11 21

SPEEDLIMIT ALIGNMENT GRADE UNITTYPE VEHICLE TYPE DIRECTION PRECRASH I AGEU4 SEXU4 PHYSICAL CONTRIBUTION CONTRIBUTION NONMOTOR

SPEEDLIMIT ALIGNMENT GRADEU3 UNITTYPEL VEHICLEYI DIRECTION PRECRASHI AGEU4 SEXU4 PHYSICALC CONTRIBFA CONTRIBFA NONMOTC

40

13

21

NONMOTC RDWYDESI	TRAFFICCO SPEEDLIMI	ALIGNMEN	GRADEU4	UTMX	UTMY	LATITUDE	LONGITUDI	CRASH_DA	STATUS	STATUS_NC
				478298.5	4999616	45.1497	-93.2761	#####	Accepted	Reportable
				478294.2	4999626	45.14978	-93.2761	#####	Accepted	Reportable
				478300.1	4999626	45.14978	-93.2761	#####	Accepted	Reportable
				478298.8	4999617	45.14971	-93.2761	#####	Accepted	Reportable
				478302.5	4999631	45.14983	-93.276	#####	Accepted	Reportable
				478298.3	4999626	45.14978	-93.2761	#####	Accepted	Reportable
				478283.2	4999626	45.14978	-93.2763	#####	Accepted	Reportable
				478290.8	4999626	45.14978	-93.2762	#####	Accepted	Reportable
				478301.3	4999626	45.14979	-93.276	#####	Accepted	Reportable

NONMOTC RDWYDESI	TRAFFICCO SPEEDLIMI	ALIGNMEN	GRADEU4	UTMX	UTMY	LATITUDE	LONGITUDI	CRASH_DA	STATUS	STATUS_NC
				478498.8	5000093	45.154	-93.2735	#####	Accepted	Reportable
				478498.3	5000092	45.15399	-93.2736	#####	Accepted	Reportable
				478499.3	5000095	45.15402	-93.2735	#####	Accepted	Reportable
				478500.1	5000099	45.15405	-93.2735	#####	Accepted	Reportable
				478572	5000063	45.15373	-93.2726	#####	Accepted	Reportable
				478498.4	5000094	45.154	-93.2736	#####	Accepted	Reportable
				478486.5	5000099	45.15405	-93.2737	#####	Accepted	Reportable
				478494.8	5000086	45.15393	-93.2736	#####	Accepted	Reportable
				478498.4	5000093	45.15399	-93.2736	#####	Accepted	Reportable
				478499.1	5000094	45.15401	-93.2735	#####	Accepted	Reportable
				478499.3	5000095	45.15401	-93.2735	#####	Accepted	Reportable
				478499.7	5000097	45.15403	-93.2735	#####	Accepted	Reportable
				478512	5000090	45.15397	-93.2734	#####	Accepted	Reportable
				478521.4	5000125	45.15429	-93.2733	#####	Accepted	Reportable
				478556.7	5000069	45.15378	-93.2728	#####	Accepted	Reportable
				478484.7	5000086	45.15393	-93.2737	#####	Accepted	Reportable
				478493.3	5000083	45.15391	-93.2736	#####	Accepted	Reportable
				478493.3	5000082	45.15388	-93.2736	#####	Accepted	Reportable
				478508.5	5000080	45.15387	-93.2734	#####	Accepted	Reportable
				478511.3	5000088	45.15395	-93.2734	#####	Accepted	Reportable

478512.8	5000093	45.154	-93.2734	#####	Accepted	Reportable
478509.1	5000137	45.15438	-93.2734	#####	Accepted	Reportable
478499.1	5000094	45.154	-93.2735	#####	Accepted	Reportable
478498.1	5000081	45.15389	-93.2736	#####	Accepted	Reportable
478509.8	5000089	45.15396	-93.2734	#####	Accepted	Reportable

NONMOTC RDWYDESI	TRAFFICCO SPEEDLIMI	ALIGNMEN	GRADEU4	UTMX	UTMY	LATITUDE	LONGITUD	CRASH_DA	STATUS	STATUS_N
				478356.3	4999794	45.1513	-93.2753	#####	Accepted	Reportable
				478360.7	4999792	45.15128	-93.2753	#####	Accepted	Reportable
				478364.5	4999791	45.15127	-93.2752	#####	Accepted	Reportable
				478364.9	4999791	45.15127	-93.2752	#####	Accepted	Reportable
				478356.5	4999767	45.15105	-93.2753	44029.68	Accepted	Reportable
				478358.6	4999772	45.1511	-93.2753	43863.6	Accepted	Reportable
				478360	4999775	45.15113	-93.2753	44321.55	Accepted	Reportable
				478395.6	4999855	45.15185	-93.2748	44423.7	Accepted	Reportable
				478415.2	4999860	45.1519	-93.2746	44279.09	Accepted	Reportable
				478334.1	4999803	45.15138	-93.2756	44356.51	Accepted	Reportable
				478364.1	4999791	45.15127	-93.2752	44471.84	Accepted	Reportable

AGENCY_O AGENCY_O NARRATIVE

MN002050 Police LOCATION
MN002050 Police 99TH AVE
MN002050 Police 99TH AT
MN002050 Police ***THIS
MN002050 Police DRIVER 1
MN002050 Police BICYCLE 1
MN002050 Police I WAS
MN002050 Police DRIVER #1 REQUESTED A PHONE CALL REGARDING A HIT AND RUN CRASH WHICH OCCURED YESTERDAY. DRIVER #1 SAID HE V
MN002050 Police DRIVER

AGENCY_O AGENCY_O NARRATIVE

MN002050 Police DRIVER
MN002050 Police UNIT 1
MN002050 Police UNIT 1
MN002050 Police FOLEY
MNMHP04 State Patro EB 101ST
MN002050 Police UNIT ONE
MN002050 Police MCEACHE
MN002050 Police DRIVER
MN002050 Police OFFICER
MN002050 Police UNIT 1
MN002050 Police ACCIDENT
MN002050 Police Veh 1 and
MN002050 Police I, OFFICER
MN002050 Police UNIT 1 NB
MNMHP04 State Patro Westboun
MN002050 Police UNIT#2
MN002050 Police INDEPENDENT WITNESS REPORTED WATCHING LISA RUN A RED LIGHT. FADUMA WAS TRAVELING THROUGH A GREEN LIGHT /
MN002050 Police UNIT 1
MN002050 Police UNIT 1
MN002050 Police UNIT 1

MN002050 Police UNIT #1
MN002050 Police DRIVER
MN002050 Police ***ACCID
MN002050 Police DISPATCH
MN002050 Police **ACCIDE

AGENCY_O AGENCY_O NARRATIVE

MN002050 Police DISPATCH
MN002050 Police I WAS
MN002050 Police ACCIDENT
MN002050 Police DISPATCH
MN002050 Police PASSERBY REPORTED A GUARD RAIL IN THE ROADWAY NEAR FOLEY BLVD AND HIGHWAY 10 NW. I ARRIVED AND FOUND THE
MN002050 Police Veh 1 and Veh 2 were E/B Hwy 47, on the exit ramp and turning right to go S/B onto Foley Blvd NW. Veh 2 stopped to yeild to c
MN002050 Police SOUTHBOUND FOLEY BLVD NW, AT THE TOP OF THE EASTBOUND HIGHWAY 10 EXIT RAMP. UNIT #1, 2, AND 3 WERE YELDING F
MNMHP04 State Patro Foley BLVD at USTH 10V1(Dodge) was N/B Foley in the left turn lane to get onto E/B University when V1 want to to E/B USTH 1
MN002050 Police DRIVER #1 SAID HE WAS DRIVING NB FOLEY BLVD AND FAILED TO STOP AT THE RED LIGHT, CRASHING INTO UNIT #2. DRIVER #
MNMHP04 State Patro AT THE STOP LIGHT, TOP OF THE RAMP TO FOLEY FROM EB HWY 10UNIT 2 WAS AT THE LIGHT, THOUGHT HE COULD GO AND BI
MN002050 Police UNIT 1 AND UNIT 2 WERE EXITING EASTBOUND HIGHWAY 10 AT FOLEY BLVD AND GOT INTO A PD ACCIDENT AT THE INTERSECT

WAS EB 99TH AVE AT FOLEY BLVD (AT THE TRAFFIC LIGHT). DRIVER #1 SAID HE WAS MAKING A LEFT TURN WHEN ANOTHER UNKNOWN VEHICLE (UNIT

AND MADE CONTACT WITH LISA. LISA SAID TO OFFICER PLATZ; I MUST HAVE RUN THE LIGHT. LISA CITED FOR FAILURE TO DRIVE WITH DUE CARE. DA

GUARDRAIL AND TWO SIGNS HAD BEEN CRASHED INTO BY A VEHICLE. I OBSERVED ONE SET OF VEHICLE TRACKS LEADING TO THE PARKING LOT BELOW ONCOMING TRAFFIC. Veh 1 struck Veh 2 in the drivers side rear corner. Veh 1 sustained moderated damage to the front bumper area. Veh 2 sustained moderate damage to the front bumper area. UNIT #1 STATED ALL CARS STARTED GOING, WHEN A SEMI CAME SOUTHBOUND FROM SOUTHBOUND FOLEY TRAFFIC TO TURN RIGHT FROM THE OFF RAMP. UNIT #1 STATED ALL CARS STARTED GOING, WHEN A SEMI CAME SOUTHBOUND. V1 waited for cars to pass and thought there was a clear space and started to get over to the right to take the right hand exit. V2(Ford) was going Northbound. DRIVER #2 SAID HE WAS MAKING A LEFT TURN FROM SB FOLEY TO EB HIGHWAY 47 WHEN UNIT #1 CRASHED INTO HIM. DRIVER #2 SAID DRIVER #1 RAN THE RED LIGHT AND BEGAN TO ACCELERATE AND MAKE THE RIGHT TURN. UNIT 2 STATED THAT HE DID NOT SEE A VEHICLE COMING AND HAD TO SUDDENLY HIT HIS BRAKES TO STOP. UNIT 1 STATED THEY WERE STRUCK MULTIPLE TIMES BY UNIT 2 AT THE INTERSECTION BEFORE UNIT 2 FLED THE SCENE. UNIT 1 SAID THEY FOLLOWED

T #2) PASSED HIM ON THE RIGHT, BUT ALSO MAKING A LEFT TURN. DRIVER #1 SAID HE CRASHED INTO THE DRIVER'S DOOR OF UNIT #2 AND THE VEHI

/ID SAW THE CRASH BUT DID NOT SEE THE CAUSE.

W NEAR STARBUCKS AND SOME VEHICLE PARTS LEFT BEHIND. I PATROLLED THE AREA, BUT WAS UTI A VEHICLE. NO IDENTIFYING FEATURES LEFT BEHIND. Moderate damage to the drivers side rear corner. Both vehicles were driven from the scene. No report of injury.

JND AND ALL CARS CAME TO AN IMMEDIATE STOP. UNIT #1 STATED HE WAS UNABLE TO STOP IN TIME AND REAR ENDED UNIT #2. UNIT #2 STATED THAT HE WAS ON B on Foley when V1 drove right into V2 in the intersection. Driver 1 stated he was in the left turn lane when he realized he wanted to be in the right lane. DRIVER #2 SAID HE HAD A GREEN LIGHT.

UNIT 1 WAS DIRECTLY BEHIND UNIT 2. WHEN UNIT 2 ABRUPTLY HIT HIS BRAKES, UNIT 1 COULD NOT STOP IN TIME. UNIT 1 REAR ENDED UNIT 2. UNIT 1 CALLED 911 WHILE DRIVING AWAY FROM THE SCENE. UNIT 1 SAID THE INITIAL ACCIDENT WAS ON THE EXIT RAMP INTERSECTION AT FOLEY BLVD AS THEY WERE GOING TO

ICLE FLED THE SCENE. DRIVER #1 SAID HE HAS DAMAGE TO HIS FRONT PASSENGER SIDE BUMPER. DRIVER #1 SAID UNIT #2 SHOULD HAVE DAMAGE TO

WIND AT THE SCENE. YELLOW NOTICE LEFT AT THE SCENE. NO FURTHER ACTION

THE SAME THING, BUT THAT THE IMPACT FROM UNIT #1 CAUSED HER TO CRASH INTO UNIT #3. UNIT #3 STATED HE WAS YIELDING FOR TRAFFIC WHEN HE WANTED TO GO E/B USTH 10. DRIVER 1 STATED HE LOOKED OVER AND SAW NO CARS COMING. DRIVER 1 STATED HE STARTED TO MOVE OVER TO THE RIGHT TO GET TO E/B USTH 10.

UNIT 2 TURN NORTHBOUND AND UNIT 2 STRUCK THEM MULTIPLE TIMES AFTER THE INITIAL CONTACT. UNIT 2 STATED THE INITIAL ACCIDENT WAS ON THE EAST SIDE OF THE ROAD.

TO THE DRIVER'S DOOR. DRIVER #1 DESCRIPTION DRIVER #2 HAS A BLACK MALE IN HIS 20'S. NO VEHICLE INFO FOR UNIT #2. NO VIDEO FOOTAGE. NO R

E WAS REAR ENDED BY UNIT #2. UNIT #3 PASSENGER SELF TRANSPORTED TO MERCY HOSPITAL FOR BACK PAIN.

.0 entrance ramp when he heard a bang and realized he hit V2. Driver 1 stated he did not see V2 coming and is not sure where V2 came from since he

XIT RAMP INTERSECTION ON FOLEY BLVD. UNIT 2 STATED THE VEHICLES WERE STUCK TOGETHER AFTER THE INITIAL ACCIDENT CAUSING THE MULTIPLI

REPORTED INJURIES. DRIVER #1 SAID HE BELIEVES DRIVER #2 WAS COMING FROM THE MOVIE THEATER NEARBY. DRIVER #1 SAID HE WAS ALSO AT TH

thought there was a red light at the light behind him. Driver 1 stated he did not see V2 when he was changing lanes over. Driver 2 stated he was in the

≡ BUMPS. UNIT 2 STATED THEY WENT TO THEIR NEARBY RESIDENCE AS UNIT 1 WAS DRIVING ERRATICALLY AND FOLLOWING THEM. UNIT 1 HAD SIGNIFI

E THEATER. DRIVER #1 DENIED HAVING ANY ROAD RAGE ISSUES. DRIVER #1 SAID HE BELIEVES DRIVER #2 LOST HIS PATIENTS TO MAKE THE LEFT HAN

right lane going through the green light when V1 pulled out from the left lane and crossed over and struck his truck. Driver 2 stated he was

ICANT DAMAGE TO THE PASSENGER SIDE OF THE CAR FROM THE FRONT BUMPER TO THE REAR BUMPER. UNIT 2 HAD MINOR DAMAGE TO THE DRIVEI

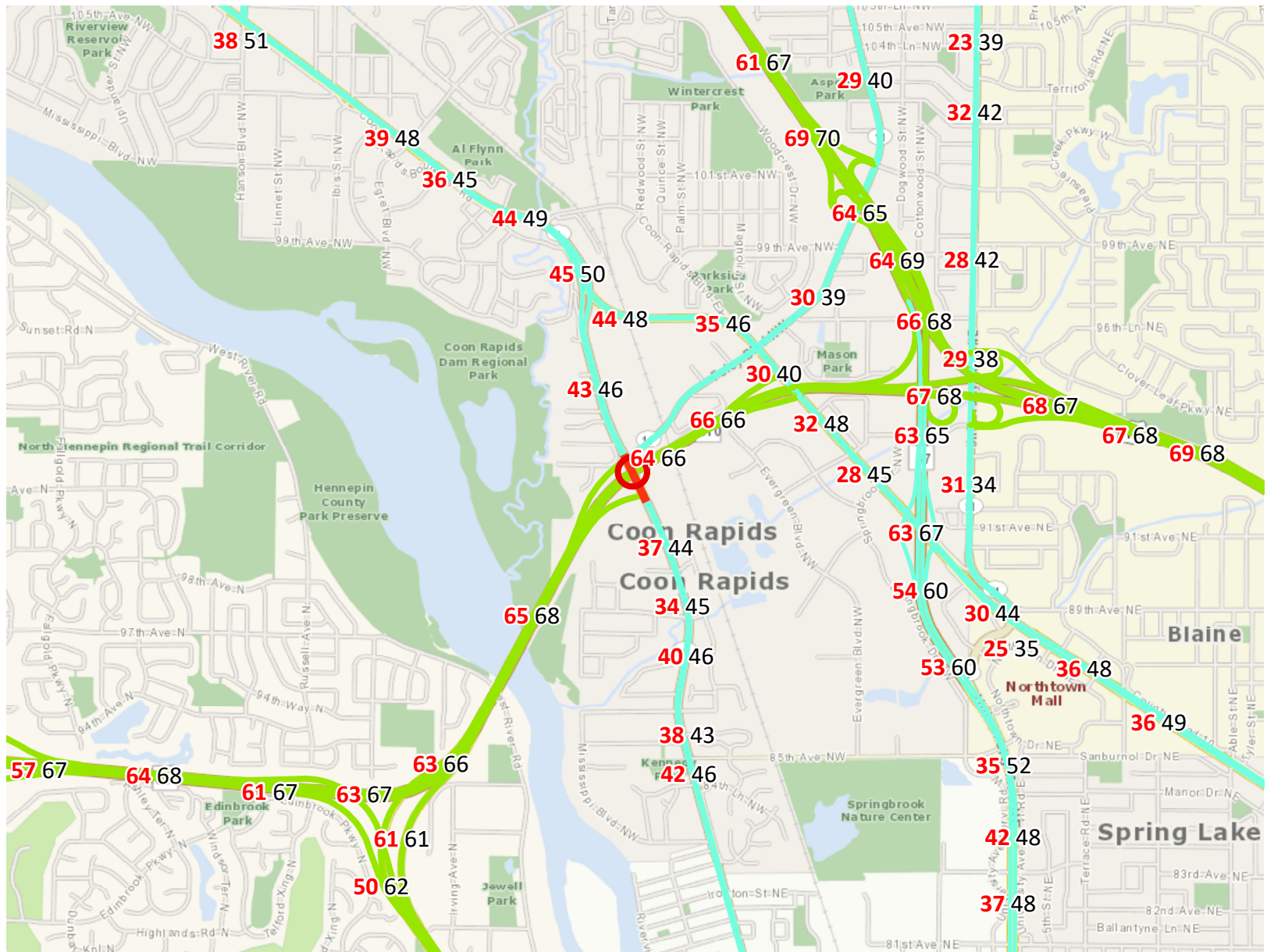
D TURN ONTO FOLEY BLVD AND TRIED TO PASS HIM. NO FURTHER ACTION.

R SIDE FRONT BUMPER/DRIVER DOOR.OFCS WERE UNABLE TO DETERMINE WHO CAUSED THE ACCIDENT AND BASED ON THE INVESTIGATION CONCLU

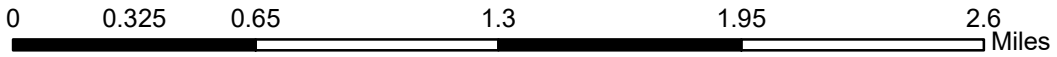
DED UNIT

Level of Congestion

Strategic Capacity Project: TH 610 and East River Road Interchange Reconstruction | Map ID: 1647008996738



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



Created: 3/11/2022
LandscapeRSA1



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



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: \$30,053,000

Requested Federal Dollars: \$10,000,000

Project Map:



Before Photo:



Project Description: The project will complete the transportation system by providing a full-access interchange at TH 610 and East River Road with a westbound off-ramp loop and a folded eastbound on-ramp with TH 610 auxiliary lanes between East River Road and Coon Rapids Boulevard. In addition, multimodal improvements include the construction of a new 10-foot trail along the East River Road corridor.

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

- Improved travel times and safer access for transit users, residents, and businesses within the project area.
- A more direct route for regional trips and emergency response teams originating and destined for this area.
- Improved traffic congestion and safety issues at the TH10 and Foley Boulevard interchange.
- Safer transit operations with a connection to East River Road and the closure of the westbound on-ramp to TH 610.
- An interconnected trail and sidewalk system with access to the Foley Park & Ride facility and other local and regional trails.

Regional Economy

Results

WITHIN ONE MI of project:
Postsecondary Students: 0

Totals by City:

Blaine

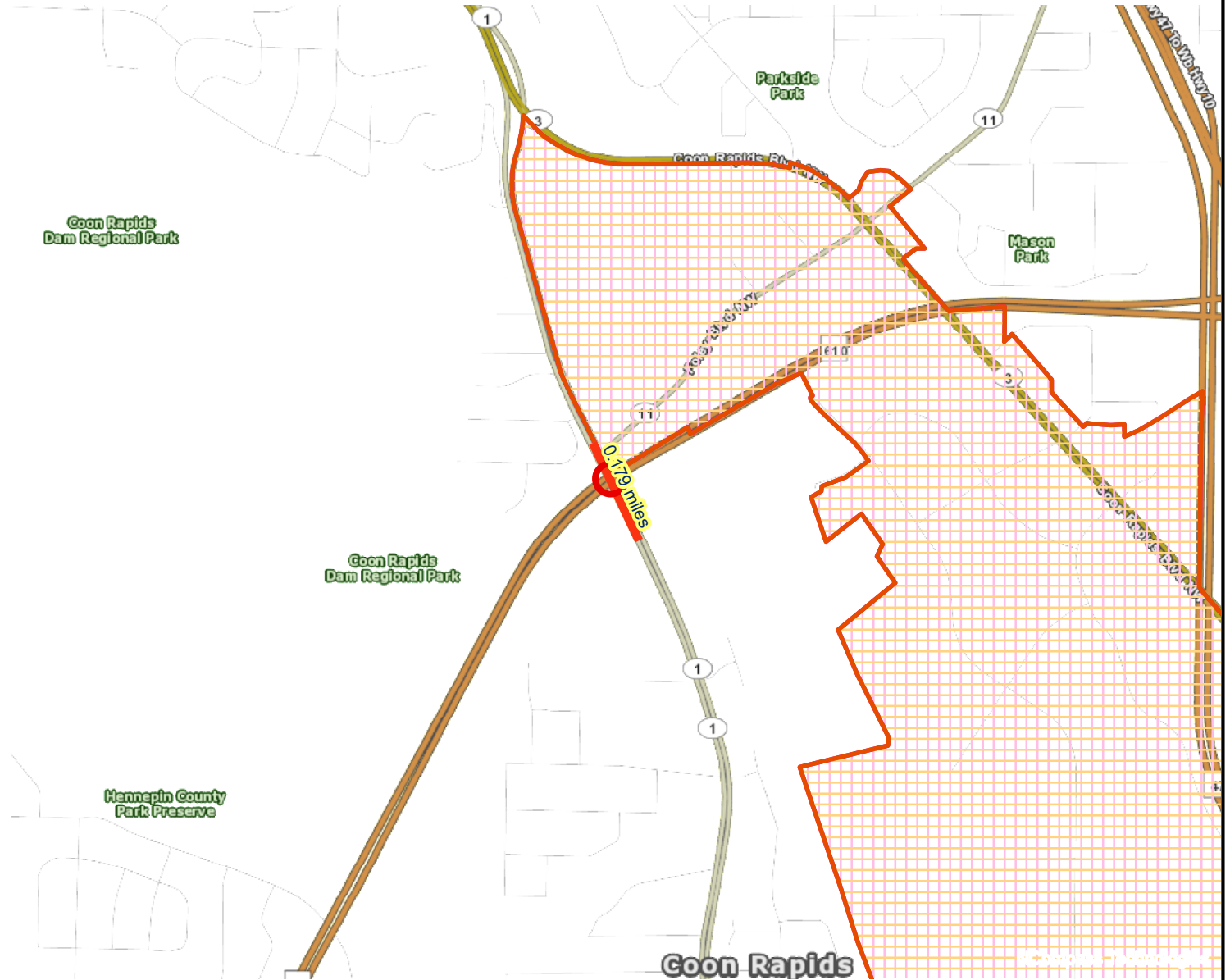
Population: 2231
Employment: 2133
Mfg and Dist Employment: 43





Brooklyn Park

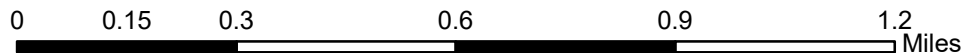
Population: 2331
Employment: 108
Mfg and Dist Employment: 3

Coon Rapids

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



-  Project Points
-  Manufacturing/Distribution Centers
-  Project
-  Job Concentration Centers



RESOLUTION NO. 22-55

A RESOLUTION AUTHORIZING SUBMITTAL OF FEDERAL FUNDING APPLICATION FOR CONSTRUCTION OF TH 610 AND EAST RIVER ROAD (CSAH 1) FULL ACCESS INTERCHANGE

WHEREAS, Trunk Highway 610 and East River Road (CSAH 1) serve as important regional transportation corridors in southern Anoka County; and,

WHEREAS, Anoka County and the City of Coon Rapids have identified the need to improve access to Trunk Highway 610 from East River Road (CSAH 1) to better serve the community of Coon Rapids and surrounding communities; and,

WHEREAS, the proposed improvement of providing an eastbound access ramp and a westbound exit ramp from Trunk Highway 610 to East River Road (CSAH 1) would address existing regional transportation deficiencies caused by the lack of a full access interchange; and,

WHEREAS, proposed transportation improvements in and around the Trunk Highway 610 and East River Road (CSAH 1) interchange will facilitate additional economic development in the area; and,

WHEREAS, the City of Coon Rapids with the support of Anoka County will submit an application to the Transportation Advisory Board of the Metropolitan Council for 2023 – 2025 federal transportation funds to improve the interchange to provide full access to Trunk Highway 610 to and from East River Road (CSAH 1).

NOW, THEREFORE, BE IT RESOLVED, in accordance with the foregoing, and all ordinances and regulations of the City of Coon Rapids, Minnesota, the City Council of Coon Rapids makes the following findings of fact:

The City Council adopts this Resolution in support of the request for Federal Funds for the TH 610 and East River Road (CSAH 1) full access interchange, and,

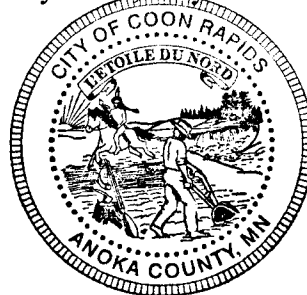
The Engineering Department is hereby authorized to submit an application through the Metropolitan Council's 2022 Regional Solicitation program to the Transportation Advisory Board to receive federal transportation funds to make improvements by creating a full access interchange at TH 610 and East River Road (CSAH 1) in the Roadway Expansion category; and,

That a copy of this Resolution be provided to the Metropolitan Council Transportation Advisory Board and Technical Advisory Commission as part of the TH 610 and East River Road (CSAH 1) full access interchange application for Federal Funds under the Regional Solicitation Program.

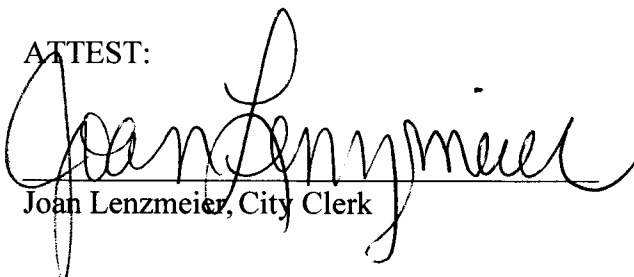
Adopted by the Coon Rapids City Council this 5th day of April, 2022.



Jerry Koch, Mayor



ATTEST:



Joan Lenzmeier, City Clerk



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

April 12, 2022

Mark Hansen, PE
City Engineer
City of Coon Rapids

Re: MnDOT Letter for City of Saint Paul's Metropolitan Council/Transportation Advisory Board 2022 Regional Solicitation Funding Request for an improvement at TH 610 and East River Road

Mark Hansen,

This letter documents MnDOT Metro District's recognition for City of Coon Rapids to pursue funding for the Metropolitan Council/Transportation Advisory Board's (TAB) 2022 Regional Solicitation for a full access interchange at TH 610 and East River Road.

As proposed, this project impacts MnDOT right-of-way on TH 610. As the agency with jurisdiction over TH 610, MnDOT will allow the City to seek improvements proposed in the application. Details of any future maintenance agreement will need to be determined during project development to define how the improvements will be maintained for the project's useful life if the project receives funding.

There is no funding from MnDOT currently planned or programmed for this improvement. If your project receives funding, continue to work with MnDOT Area staff to coordinate needs and opportunities for cooperation.

MnDOT Metro District looks forward to continued cooperation with 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.

Sincerely,

Michael Barnes, PE
Metro District Engineer

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





Socio-Economic Conditions

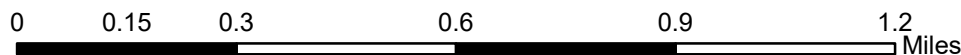
Results

Total of publicly subsidized rental housing units in census tracts within 1/2 mile: 447

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



-  Points
-  Lines
-  Area of Concentrated Poverty
-  Regional Environmental Justice Area



LAYOUT HISTORY

IN 2011, THE COON RAPIDS CITY COUNCIL REQUESTED STAFF TO INVESTIGATE BETTER ACCESS TO AND FROM THE EAST AT THE 610 I-490 AREA. A STUDY WAS COMPLETED TO ASSESS THE CURRENT TRAFFIC CONDITIONS AND TO IDENTIFY IMPROVEMENT OPPORTUNITIES. THE STUDY RECOMMENDED IMPROVING ACCESS TO THE EAST AT THE 610 I-490 AREA AND TO INVESTIGATE IMPROVING ACCESS TO THE WEST AT THE 610 I-490 AREA. THE STUDY ALSO RECOMMENDED IMPROVING ACCESS TO THE SOUTH AT THE 610 I-490 AREA AND TO INVESTIGATE IMPROVING ACCESS TO THE NORTH AT THE 610 I-490 AREA. THE STUDY ALSO RECOMMENDED IMPROVING ACCESS TO THE WEST AT THE 610 I-490 AREA AND TO INVESTIGATE IMPROVING ACCESS TO THE NORTH AT THE 610 I-490 AREA.

IN 2012, THE COON RAPIDS CITY COUNCIL REQUESTED STAFF TO INVESTIGATE BETTER ACCESS TO AND FROM THE EAST AT THE 610 I-490 AREA. A STUDY WAS COMPLETED TO ASSESS THE CURRENT TRAFFIC CONDITIONS AND TO IDENTIFY IMPROVEMENT OPPORTUNITIES. THE STUDY RECOMMENDED IMPROVING ACCESS TO THE EAST AT THE 610 I-490 AREA AND TO INVESTIGATE IMPROVING ACCESS TO THE WEST AT THE 610 I-490 AREA. THE STUDY ALSO RECOMMENDED IMPROVING ACCESS TO THE SOUTH AT THE 610 I-490 AREA AND TO INVESTIGATE IMPROVING ACCESS TO THE NORTH AT THE 610 I-490 AREA.

IN 2013, THE COON RAPIDS CITY COUNCIL REQUESTED STAFF TO INVESTIGATE BETTER ACCESS TO AND FROM THE EAST AT THE 610 I-490 AREA. A STUDY WAS COMPLETED TO ASSESS THE CURRENT TRAFFIC CONDITIONS AND TO IDENTIFY IMPROVEMENT OPPORTUNITIES. THE STUDY RECOMMENDED IMPROVING ACCESS TO THE EAST AT THE 610 I-490 AREA AND TO INVESTIGATE IMPROVING ACCESS TO THE WEST AT THE 610 I-490 AREA. THE STUDY ALSO RECOMMENDED IMPROVING ACCESS TO THE SOUTH AT THE 610 I-490 AREA AND TO INVESTIGATE IMPROVING ACCESS TO THE NORTH AT THE 610 I-490 AREA.

IN 2014, THE COON RAPIDS CITY COUNCIL REQUESTED STAFF TO INVESTIGATE BETTER ACCESS TO AND FROM THE EAST AT THE 610 I-490 AREA. A STUDY WAS COMPLETED TO ASSESS THE CURRENT TRAFFIC CONDITIONS AND TO IDENTIFY IMPROVEMENT OPPORTUNITIES. THE STUDY RECOMMENDED IMPROVING ACCESS TO THE EAST AT THE 610 I-490 AREA AND TO INVESTIGATE IMPROVING ACCESS TO THE WEST AT THE 610 I-490 AREA. THE STUDY ALSO RECOMMENDED IMPROVING ACCESS TO THE SOUTH AT THE 610 I-490 AREA AND TO INVESTIGATE IMPROVING ACCESS TO THE NORTH AT THE 610 I-490 AREA.

IN 2015, THE COON RAPIDS CITY COUNCIL REQUESTED STAFF TO INVESTIGATE BETTER ACCESS TO AND FROM THE EAST AT THE 610 I-490 AREA. A STUDY WAS COMPLETED TO ASSESS THE CURRENT TRAFFIC CONDITIONS AND TO IDENTIFY IMPROVEMENT OPPORTUNITIES. THE STUDY RECOMMENDED IMPROVING ACCESS TO THE EAST AT THE 610 I-490 AREA AND TO INVESTIGATE IMPROVING ACCESS TO THE WEST AT THE 610 I-490 AREA. THE STUDY ALSO RECOMMENDED IMPROVING ACCESS TO THE SOUTH AT THE 610 I-490 AREA AND TO INVESTIGATE IMPROVING ACCESS TO THE NORTH AT THE 610 I-490 AREA.

IN 2016, THE COON RAPIDS CITY COUNCIL REQUESTED STAFF TO INVESTIGATE BETTER ACCESS TO AND FROM THE EAST AT THE 610 I-490 AREA. A STUDY WAS COMPLETED TO ASSESS THE CURRENT TRAFFIC CONDITIONS AND TO IDENTIFY IMPROVEMENT OPPORTUNITIES. THE STUDY RECOMMENDED IMPROVING ACCESS TO THE EAST AT THE 610 I-490 AREA AND TO INVESTIGATE IMPROVING ACCESS TO THE WEST AT THE 610 I-490 AREA. THE STUDY ALSO RECOMMENDED IMPROVING ACCESS TO THE SOUTH AT THE 610 I-490 AREA AND TO INVESTIGATE IMPROVING ACCESS TO THE NORTH AT THE 610 I-490 AREA.

IN 2017, THE COON RAPIDS CITY COUNCIL REQUESTED STAFF TO INVESTIGATE BETTER ACCESS TO AND FROM THE EAST AT THE 610 I-490 AREA. A STUDY WAS COMPLETED TO ASSESS THE CURRENT TRAFFIC CONDITIONS AND TO IDENTIFY IMPROVEMENT OPPORTUNITIES. THE STUDY RECOMMENDED IMPROVING ACCESS TO THE EAST AT THE 610 I-490 AREA AND TO INVESTIGATE IMPROVING ACCESS TO THE WEST AT THE 610 I-490 AREA. THE STUDY ALSO RECOMMENDED IMPROVING ACCESS TO THE SOUTH AT THE 610 I-490 AREA AND TO INVESTIGATE IMPROVING ACCESS TO THE NORTH AT THE 610 I-490 AREA.

IN 2018, THE COON RAPIDS CITY COUNCIL REQUESTED STAFF TO INVESTIGATE BETTER ACCESS TO AND FROM THE EAST AT THE 610 I-490 AREA. A STUDY WAS COMPLETED TO ASSESS THE CURRENT TRAFFIC CONDITIONS AND TO IDENTIFY IMPROVEMENT OPPORTUNITIES. THE STUDY RECOMMENDED IMPROVING ACCESS TO THE EAST AT THE 610 I-490 AREA AND TO INVESTIGATE IMPROVING ACCESS TO THE WEST AT THE 610 I-490 AREA. THE STUDY ALSO RECOMMENDED IMPROVING ACCESS TO THE SOUTH AT THE 610 I-490 AREA AND TO INVESTIGATE IMPROVING ACCESS TO THE NORTH AT THE 610 I-490 AREA.

IN 2019, THE COON RAPIDS CITY COUNCIL REQUESTED STAFF TO INVESTIGATE BETTER ACCESS TO AND FROM THE EAST AT THE 610 I-490 AREA. A STUDY WAS COMPLETED TO ASSESS THE CURRENT TRAFFIC CONDITIONS AND TO IDENTIFY IMPROVEMENT OPPORTUNITIES. THE STUDY RECOMMENDED IMPROVING ACCESS TO THE EAST AT THE 610 I-490 AREA AND TO INVESTIGATE IMPROVING ACCESS TO THE WEST AT THE 610 I-490 AREA. THE STUDY ALSO RECOMMENDED IMPROVING ACCESS TO THE SOUTH AT THE 610 I-490 AREA AND TO INVESTIGATE IMPROVING ACCESS TO THE NORTH AT THE 610 I-490 AREA.

IN 2020, THE COON RAPIDS CITY COUNCIL REQUESTED STAFF TO INVESTIGATE BETTER ACCESS TO AND FROM THE EAST AT THE 610 I-490 AREA. A STUDY WAS COMPLETED TO ASSESS THE CURRENT TRAFFIC CONDITIONS AND TO IDENTIFY IMPROVEMENT OPPORTUNITIES. THE STUDY RECOMMENDED IMPROVING ACCESS TO THE EAST AT THE 610 I-490 AREA AND TO INVESTIGATE IMPROVING ACCESS TO THE WEST AT THE 610 I-490 AREA. THE STUDY ALSO RECOMMENDED IMPROVING ACCESS TO THE SOUTH AT THE 610 I-490 AREA AND TO INVESTIGATE IMPROVING ACCESS TO THE NORTH AT THE 610 I-490 AREA.

IN 2021, THE COON RAPIDS CITY COUNCIL REQUESTED STAFF TO INVESTIGATE BETTER ACCESS TO AND FROM THE EAST AT THE 610 I-490 AREA. A STUDY WAS COMPLETED TO ASSESS THE CURRENT TRAFFIC CONDITIONS AND TO IDENTIFY IMPROVEMENT OPPORTUNITIES. THE STUDY RECOMMENDED IMPROVING ACCESS TO THE EAST AT THE 610 I-490 AREA AND TO INVESTIGATE IMPROVING ACCESS TO THE WEST AT THE 610 I-490 AREA. THE STUDY ALSO RECOMMENDED IMPROVING ACCESS TO THE SOUTH AT THE 610 I-490 AREA AND TO INVESTIGATE IMPROVING ACCESS TO THE NORTH AT THE 610 I-490 AREA.

IN 2022, THE COON RAPIDS CITY COUNCIL REQUESTED STAFF TO INVESTIGATE BETTER ACCESS TO AND FROM THE EAST AT THE 610 I-490 AREA. A STUDY WAS COMPLETED TO ASSESS THE CURRENT TRAFFIC CONDITIONS AND TO IDENTIFY IMPROVEMENT OPPORTUNITIES. THE STUDY RECOMMENDED IMPROVING ACCESS TO THE EAST AT THE 610 I-490 AREA AND TO INVESTIGATE IMPROVING ACCESS TO THE WEST AT THE 610 I-490 AREA. THE STUDY ALSO RECOMMENDED IMPROVING ACCESS TO THE SOUTH AT THE 610 I-490 AREA AND TO INVESTIGATE IMPROVING ACCESS TO THE NORTH AT THE 610 I-490 AREA.

IN 2023, THE COON RAPIDS CITY COUNCIL REQUESTED STAFF TO INVESTIGATE BETTER ACCESS TO AND FROM THE EAST AT THE 610 I-490 AREA. A STUDY WAS COMPLETED TO ASSESS THE CURRENT TRAFFIC CONDITIONS AND TO IDENTIFY IMPROVEMENT OPPORTUNITIES. THE STUDY RECOMMENDED IMPROVING ACCESS TO THE EAST AT THE 610 I-490 AREA AND TO INVESTIGATE IMPROVING ACCESS TO THE WEST AT THE 610 I-490 AREA. THE STUDY ALSO RECOMMENDED IMPROVING ACCESS TO THE SOUTH AT THE 610 I-490 AREA AND TO INVESTIGATE IMPROVING ACCESS TO THE NORTH AT THE 610 I-490 AREA.

IN 2024, THE COON RAPIDS CITY COUNCIL REQUESTED STAFF TO INVESTIGATE BETTER ACCESS TO AND FROM THE EAST AT THE 610 I-490 AREA. A STUDY WAS COMPLETED TO ASSESS THE CURRENT TRAFFIC CONDITIONS AND TO IDENTIFY IMPROVEMENT OPPORTUNITIES. THE STUDY RECOMMENDED IMPROVING ACCESS TO THE EAST AT THE 610 I-490 AREA AND TO INVESTIGATE IMPROVING ACCESS TO THE WEST AT THE 610 I-490 AREA. THE STUDY ALSO RECOMMENDED IMPROVING ACCESS TO THE SOUTH AT THE 610 I-490 AREA AND TO INVESTIGATE IMPROVING ACCESS TO THE NORTH AT THE 610 I-490 AREA.

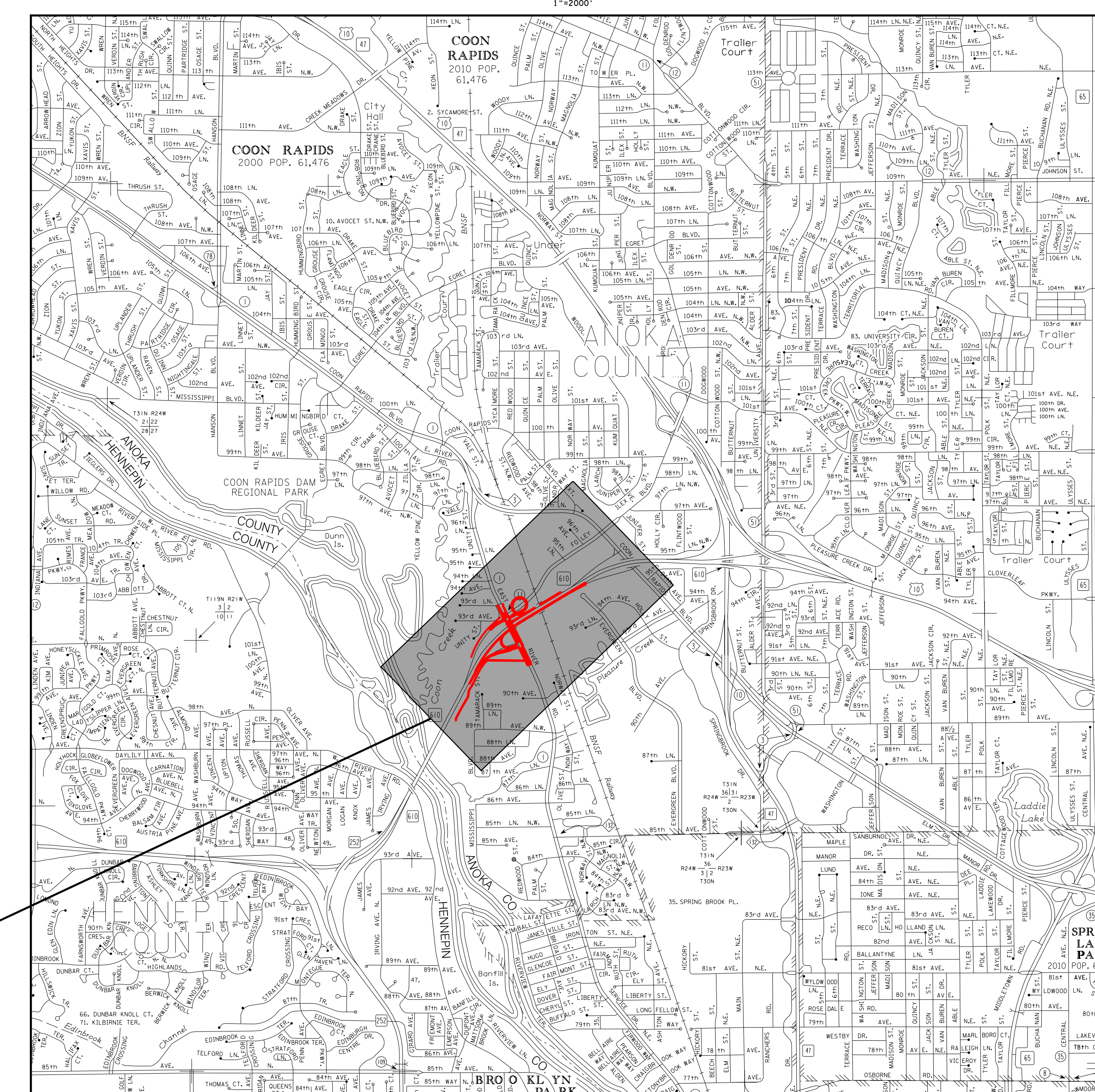
LAYOUT NOTES

DESIGN EXCEPTIONS:
 - NO EXISTING OR PROPOSED DESIGN EXCEPTIONS.

GENERAL NOTES:
 - THE 610 IS AN UNDESIGNED OVERHEAD HOIST ROUTE.
 - THE 610 IS ANTICIPATED TO BE A HOIST ROUTE.
 - PROPOSED TRAFFIC SIGNALS WILL BE PROPOSED RECOMMENDED.
 - NO TURN WHEN PROPOSED FOR THE PROJECT.

LEGEND:
 - PAVED SHOULDER
 - BRIDGES & RETAINING WALLS
 - PAVED MEDIAN & TOWPS
 - PAVED SHOULDER
 - STURMUNDUS TRAILS
 - CONCRETE SIDEWALKS
 - CONTRACTING "BY OTHER"
 - PROPOSED FUNDING LOCATION
 - EXISTING TRAFFIC SIGNAL
 - PROPOSED TRAFFIC SIGNAL
 - PROPOSED CONSTRUCTION LIMITS
 - MEDIAN
 - EXISTING RIGHT OF WAY
 - PROPOSED RIGHT OF WAY
 - PROPOSED RETAINING WALL
 - EXISTING CLOSED
 - PROPOSED CLOSED

LOCATION MAP



LAYOUT No. 11. COPY No. 1.
 T.H. 610 VICINITY OF FROM 2500' WISE OF EAST RIVER ROAD TO 2500' WISE OF EAST RIVER ROAD.
 Prepared By: [Blank]
 Checked By: [Blank]
 Date: [Blank]

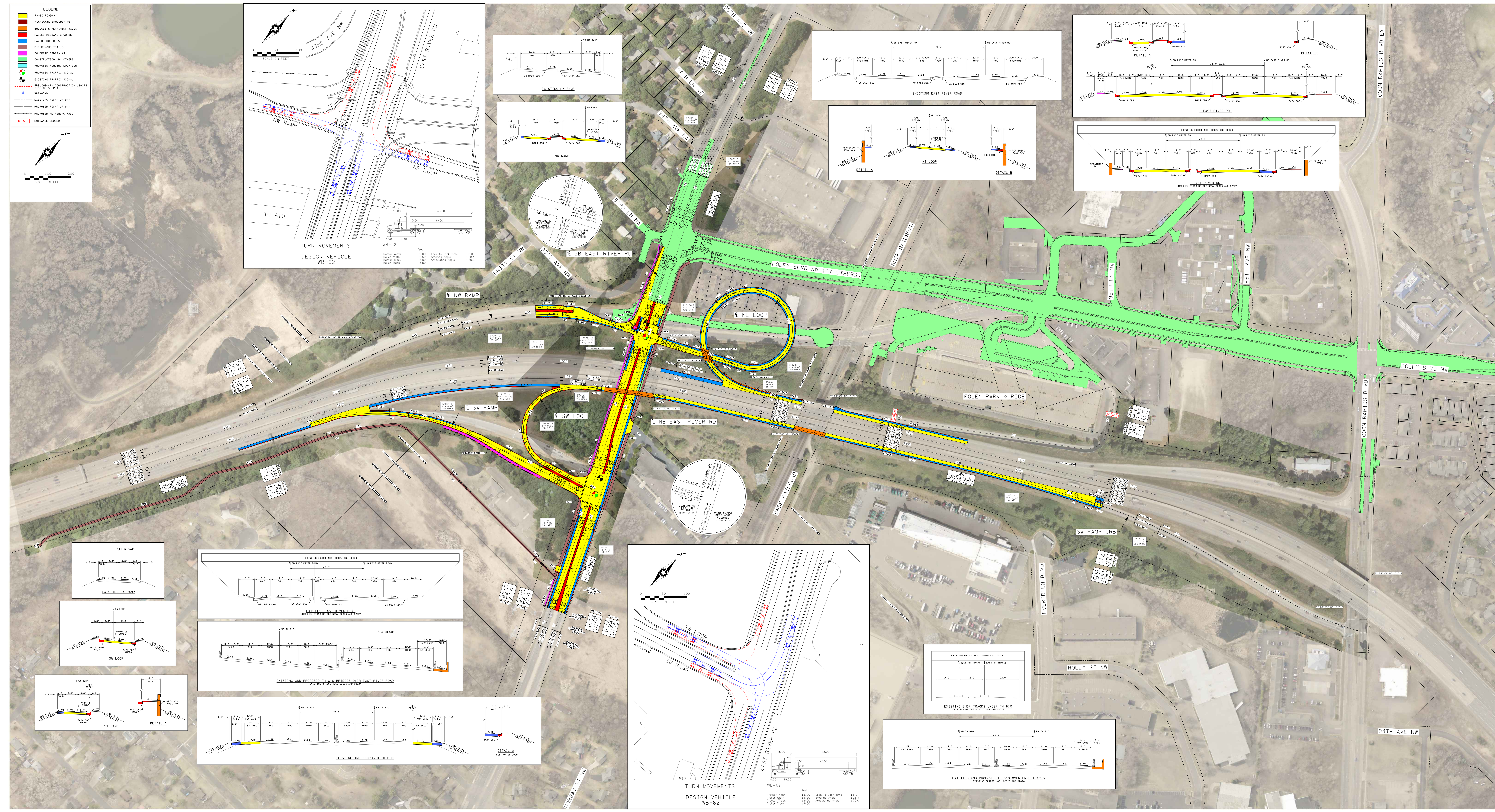
DESIGN FILE: 3/16/2024 - DATE PLOTTED

Level I LAYOUT APPROVAL

Programmed Letting Date: [Blank]

Prepared By: [Blank]
 Reviewed By: [Blank]
 Reviewed By: [Blank]
 Reviewed By: [Blank]
 Approved By: [Blank]

DESIGNER: [Blank]



LAYOUT No. 11. COPY No. 1.
 T.H. 610 VICINITY OF FROM 2500' WISE OF EAST RIVER ROAD TO 2500' WISE OF EAST RIVER ROAD.
 Prepared By: [Blank]
 Checked By: [Blank]
 Date: [Blank]

DESIGN FILE: 3/16/2024 - DATE PLOTTED

Level I LAYOUT APPROVAL

Programmed Letting Date: [Blank]

Prepared By: [Blank]
 Reviewed By: [Blank]
 Reviewed By: [Blank]
 Reviewed By: [Blank]
 Approved By: [Blank]

DESIGNER: [Blank]

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
--------------------------------------	--------------	----------------

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
------------------	-------------

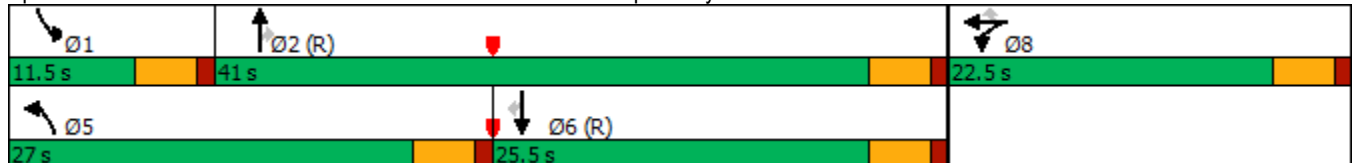


Lane Group	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑	↗	↖	↑↑	↗	↖	↑↑	↗
Traffic Volume (vph)	97	46	41	457	1493	305	28	142	137
Future Volume (vph)	97	46	41	457	1493	305	28	142	137
Turn Type	Split	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	8	8		5	2		1	6	
Permitted Phases			8			2			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 Effct 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 Capacity Utilization 64.2%
 Analysis Period (min) 15
 Intersection LOS: B
 ICU Level of Service C

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



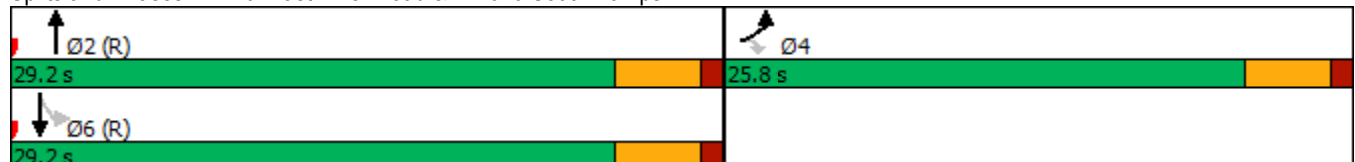


Lane Group	EBL	EBR	NBT	SBT
Lane Configurations	↖↗	↖	↕↔	↕↕
Traffic Volume (vph)	1018	168	1237	239
Future Volume (vph)	1018	168	1237	239
Turn Type	Prot	Perm	NA	NA
Protected Phases	4		2	6
Permitted Phases		4		
Detector Phase	4	4	2	6
Switch Phase				
Minimum Initial (s)	7.0	7.0	12.0	12.0
Minimum Split (s)	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 Effct 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

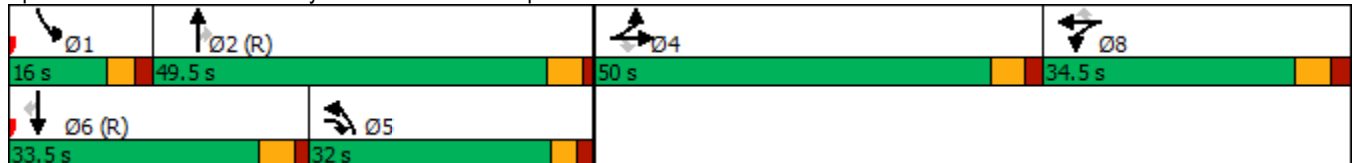
Direction	All
Future Volume (vph)	2662
Total Delay / Veh (s/v)	19
CO Emissions (kg)	2.78
NOx Emissions (kg)	0.54
VOC Emissions (kg)	0.64

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	800	200	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 Effct 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



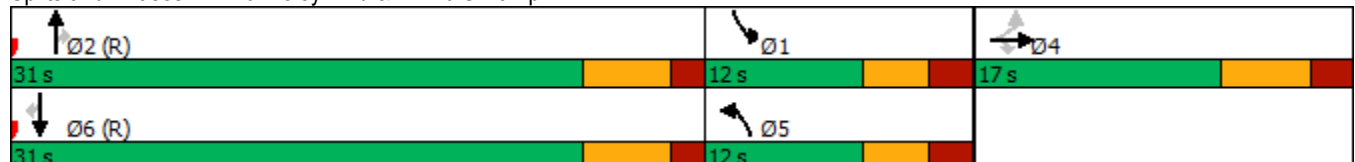


Lane Group	EBT	EBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↕	↗	↖	↕	↗	↖	↕	↗
Traffic Volume (vph)	1	216	26	1110	225	117	757	202
Future Volume (vph)	1	216	26	1110	225	117	757	202
Turn Type	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	4		5	2		1	6	
Permitted Phases		4			2			6
Detector Phase	4	4	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 Effct 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 Capacity Utilization 65.8%
 Analysis Period (min) 15
 Intersection LOS: B
 ICU Level of Service C

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



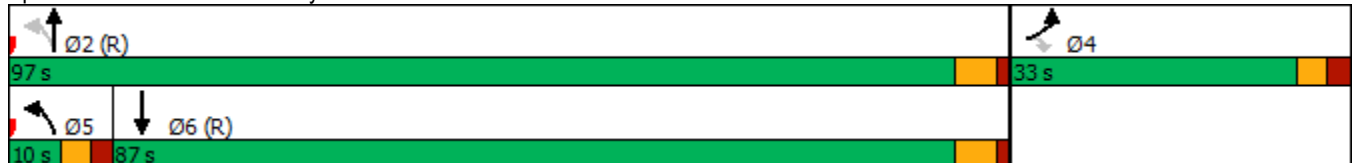


Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Configurations	↖	↗	↖	↑↑	↑↓
Traffic Volume (vph)	344	184	344	1017	431
Future Volume (vph)	344	184	344	1017	431
Turn Type	Prot	Perm	pm+pt	NA	NA
Protected Phases	4		5	2	6
Permitted Phases		4	2		
Detector Phase	4	4	2 5	2	6
Switch Phase					
Minimum Initial (s)	7.0	7.0	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 Effct 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 Capacity Utilization 80.8%
 Analysis Period (min) 15
 Intersection LOS: C
 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)	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

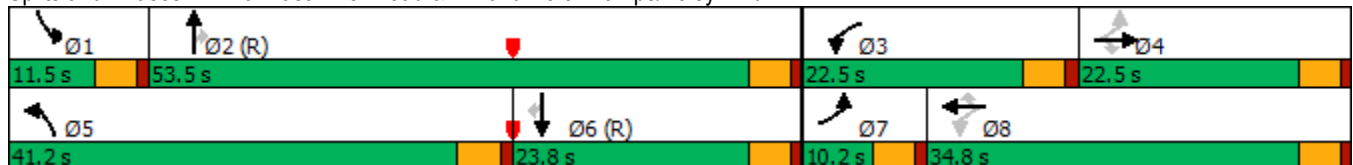
Direction	All
Future Volume (vph)	2861
Total Delay / Veh (s/v)	31
CO Emissions (kg)	2.89
NOx Emissions (kg)	0.56
VOC Emissions (kg)	0.67

Lane Group	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





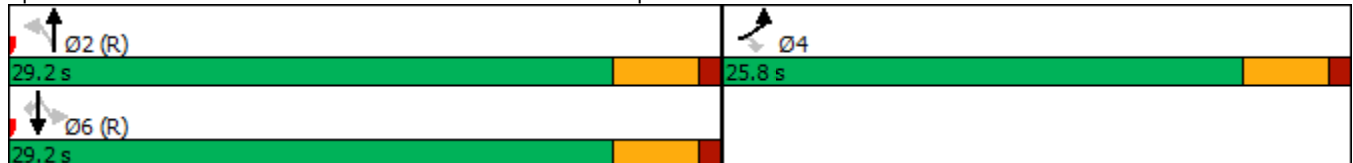
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↖↗	↖	↖	↕↗	↕↖	↖
Traffic Volume (vph)	1018	168	35	1237	274	105
Future Volume (vph)	1018	168	35	1237	274	105
Turn Type	Prot	Perm	Perm	NA	NA	Perm
Protected Phases	4			2	6	
Permitted Phases		4	2			6
Detector Phase	4	4	2	2	6	6
Switch Phase						
Minimum 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 Capacity Utilization 70.3%
 Analysis Period (min) 15

Intersection LOS: C
 ICU Level of Service C

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

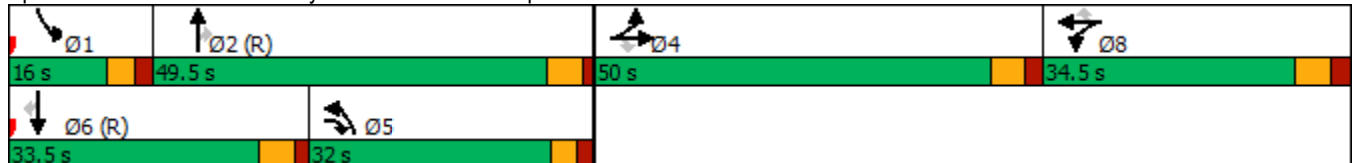
Direction	All
Future Volume (vph)	2837
Total Delay / Veh (s/v)	21
CO Emissions (kg)	2.99
NOx Emissions (kg)	0.58
VOC Emissions (kg)	0.69

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 Effct 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



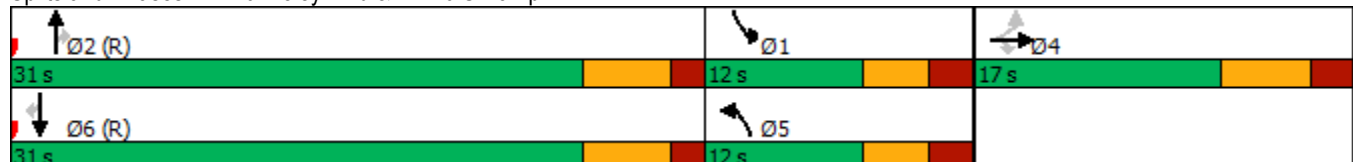


Lane Group	EBT	EBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↕	↗	↖	↕	↗	↖	↕	↗
Traffic Volume (vph)	1	216	26	1110	85	117	617	202
Future Volume (vph)	1	216	26	1110	85	117	617	202
Turn Type	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	4		5	2		1	6	
Permitted Phases		4			2			6
Detector Phase	4	4	5	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 Effct 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



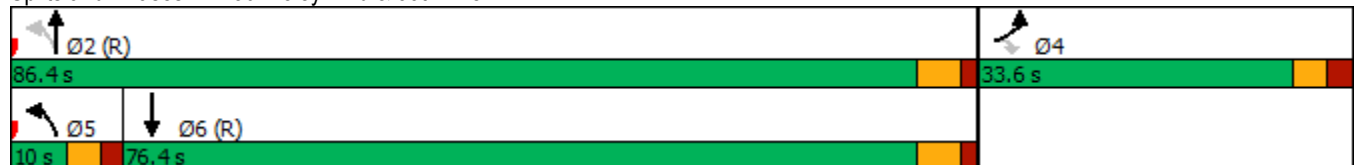


Lane Group	EBL	EBR	NBL	NBT	SBT
Lane Configurations	↖	↗	↖	↑↑	↑↓
Traffic Volume (vph)	294	184	344	927	371
Future Volume (vph)	294	184	344	927	371
Turn Type	Prot	Perm	pm+pt	NA	NA
Protected Phases	4		5	2	6
Permitted Phases		4	2		
Detector Phase	4	4	2 5	2	6
Switch Phase					
Minimum Initial (s)	7.0	7.0	5.0	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 Effct 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:NBT 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

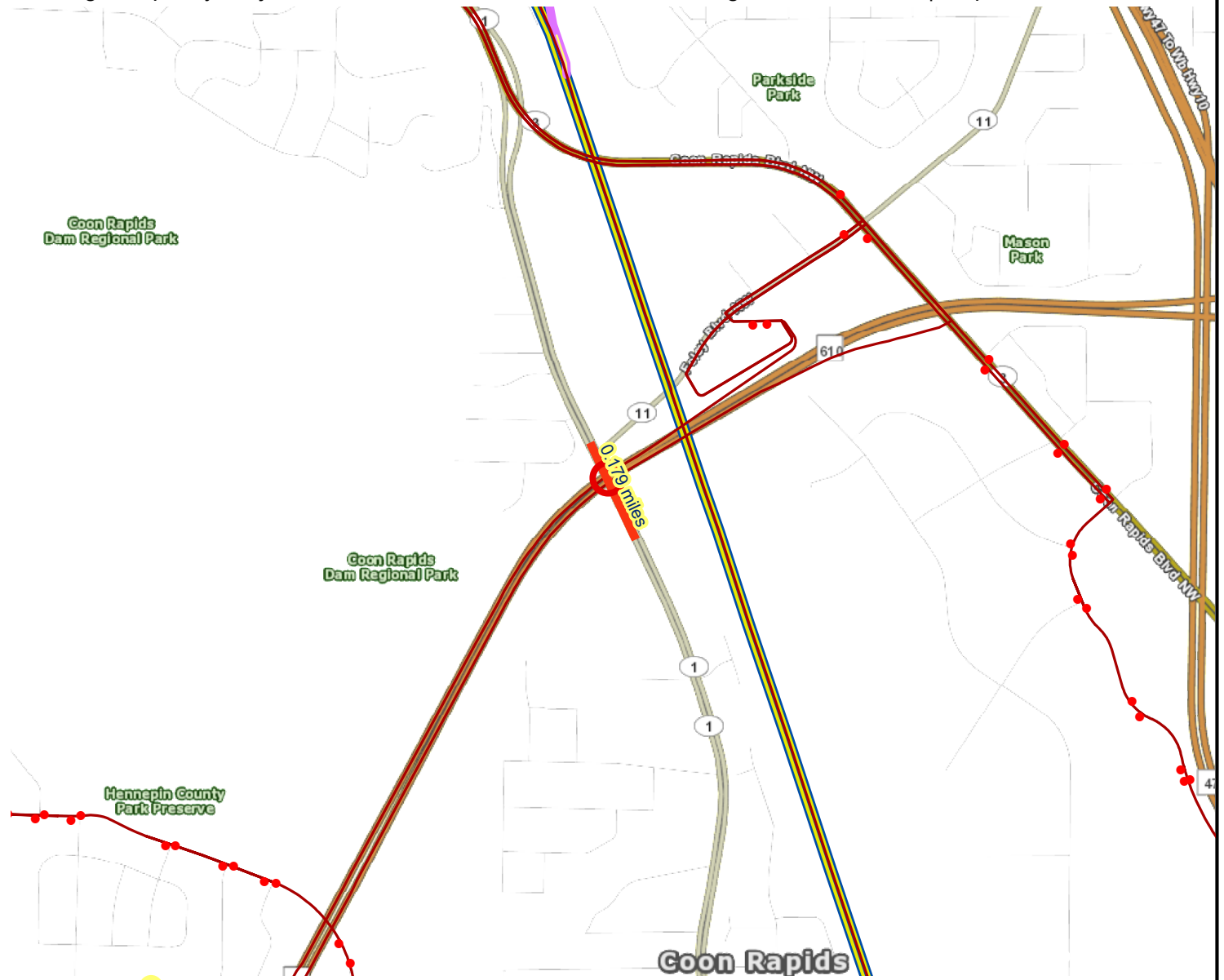
Transit Connections

Results

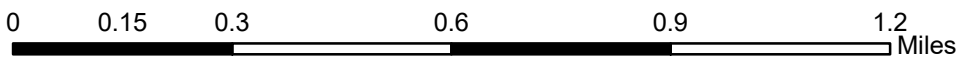
Transit with a Direct Connection to project:
850

**indicates Planned Alignments*

Transit Market areas: 3



- | | | | | | | | | | | | |
|--|----------------------------|--|-----------------------------|--|-----------------------------|--|-----------------------------|--|-----------------------------|--|---------------------------|
| | Project Points | | Commuter Rail | | Commuter Rail | | Arterial Bus Rapid Transit | | Undetermined | | Light Rail |
| | Project | | Dedicated Bus Rapid Transit | | Dedicated Bus Rapid Transit | | Dedicated Bus Rapid Transit | | Arterial Bus Rapid Transit | | Modern Streetcar |
| | Project Area | | Highway Bus Rapid Transit | | Highway Bus Rapid Transit | | Highway Bus Rapid Transit | | Commuter Rail | | Undetermined |
| | Active Stop | | Light Rail | | Light Rail | | Light Rail | | Dedicated Bus Rapid Transit | | Highway Bus Rapid Transit |
| | Arterial Bus Rapid Transit | | Arterial Bus Rapid Transit | | Transit Routes | | Modern Streetcar | | Highway Bus Rapid Transit | | |



Created: 3/11/2022
LandscapeRSA3



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

