Application

19838 - 2024 Roadway Modernization
20245 - 7th St S Reconstruction
Regional Solicitation - Roadways Including Multimodal Elements

Status: Submitted
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Primary Contact

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

Organization Information

Name: MINNEAPOLIS,CITY OF
Jurisdictional Agency (if different):
Organization Type: City
Organization Website: http://www.ci.minneapolis.mn.us/
Address: DEPT OF PUBLIC WORKS
309 2ND AVE S #300
* MINNEAPOLIS (City) Minnesota (State/Province) 55401 (Postal Code/Zip)
County: Hennepin
Phone:* 612-673-3884 (Ext.)
Fax:
PeopleSoft Vendor Number 0000020971A2

Project Information

Project Name 7th St S Reconstruction and Modernization
Primary County where the Project is Located Hennepin
Cities or Townships where the Project is Located: Minneapolis
Jurisdictional Agency (If Different than the Applicant):

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

The City of Minneapolis proposes to reconstruct 7th Street South, an A Minor Reliever, between 13th Ave S and Park Avenue in 2029. This is a critical street that serves an important role as a direct connection from I-94 westbound to US Bank Stadium, Hennepin Healthcare (f/k/a HCMC), North Central College, and all other residential, employment, and entertainment destinations downtown.

Existing conditions on the corridor include deteriorating roadway (PCI ranging from 28-34), three lanes of travel plus parking on one or both sides (depending on the block) and sidewalk on both sides of the street. Land use adjacent to the corridor is primarily institutional (hospital, college, religious) with some commercial. The project is a full reconstruction, involving the entire right-of-way and will include new sidewalks, ADA pedestrian ramps, pavement, curb and gutter, utility improvements, and the repurposing of lanes. This could include a lane that permits parking during the day but not during peak travel periods, and another lane that is generally bus only with the potential to accommodate event traffic at US Bank Stadium. Green stormwater infrastructure is a requirement for roadway reconstruction projects of this type in the City of Minneapolis to assist in infiltration. The project will also include signal improvements, new signage, and new pavement markings, as needed.

This work ties in to the existing bus only lane that begins on 7th St S at Chicago Ave to serve the METRO C and D Lines, and extends the bus only lane further to the east to serve existing Route 94 and express routes from the east, for a total of 110 buses per day. Transit shelters and other transit accommodations will be included.

(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.

Reconstruct 7th St S from 13th Ave S to Park Ave S (CSAH 33). Project includes full surface replacement, curb and gutter, ADA, signals, lighting, multimodal improvements. 0.5 mile

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)

0.5

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

$7,000,000.00

Match Amount

$4,764,500.00

Minimum of 20% of project total

Project Total

$11,764,500.00

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

Match Percentage

40.5%

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

Source of Match Funds

MSA, net debt bonds, assessments

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:

2029

Select 2026 or 2027 for TDM and Unique projects only. For all other applications, select 2028 or 2029.

Additional Program Years:

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

Project Information-Roadways

NOTE: If your project has already been assigned a State Aid Project # (SAP or SP), please Indicate SAP# here

SAP#:

County, City, or Lead Agency	City of Minneapolis
Functional Class of Road	A Minor Reliever
Road System *TH, CSAH, MSAS, CO. RD., TWP. RD., CITY STREET*	MSAS
Road/Route No. *i.e., 53 for CSAH 53*	141221010
Name of Road *Example; 1st ST., MAIN AVE*	7th St S (141-221-010 and 141-221-020)
TERMINI:(Termini listed must be within 0.3 miles of any work)	
From: **Road System**	
Road/Route No. *i.e., 53 for CSAH 53*	
Name of Road *Example; 1st ST., MAIN AVE*	13th Ave S
To: **Road System** *DO NOT INCLUDE LEGAL DESCRIPTION*	
Road/Route No. *i.e., 53 for CSAH 53*	33
Name of Road *Example; 1st ST., MAIN AVE*	Park Ave
In the City/Cities of: *(List all cities within project limits)*	Minneapolis
OR:	
At: **Road System** *(TH, CSAH, MSAS, CO. RD., TWP. RD., City Street)*	
Road/Route No. *i.e., 53 for CSAH 53*	
Name of Road *Example; 1st ST., MAIN AVE*	
In the City/Cities of: *(List all cities within project limits)*	
PROJECT LENGTH	
Miles *(nearest 0.1 miles)*	0.5
Primary Types of Work (check all the apply)	
New Construction	
Reconstruction	Yes
Resurfacing	
Bituminous Pavement	
Concrete Pavement	
Roundabout	
New Bridge	
Bridge Replacement	
Bridge Rehab	
New Signal	Yes
Signal Replacement/Revision	Yes
Bike Trail	
Other (do not include incidental items)	AGG BASE, PAVEMENT, CURB AND GUTTER, SIGNALS, SIGNS, STORM SEWER, DRIVEWAY APRON, SIDEWALKS, PED RAMPS, BIKEWAY, LIGHTING, LANDSCAPING, GREEN STORMWATER INFRASTRUCTURE, BUS LANE WITH DYNAMIC OPERATIONS
BRIDGE/CULVERT PROJECTS (IF APPLICABLE)	
Old Bridge/Culvert No.:	
New Bridge/Culvert No.:	
Structure is Over/Under (Bridge or culvert name):	
OTHER INFORMATION:	

Zip Code where Majority of Work is Being Performed	55415
Approximate Begin Construction Date	03/01/2029
Approximate End Construction Date	12/01/2029
Miles of Trail (nearest 0.1 miles)	0
Miles of Sidewalk (nearest 0.1 miles)	1.0
Miles of trail on the Regional Bicycle Transportation Network (nearest 0.1 miles):	0
Is this a new trail?	

Requirements - All Projects

All Projects

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

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

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

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

Goal A: Transportation System Stewardship, Objective A & B, Strategies A1 & A2 (p. 2.6)

Goal B: Safety and Security, Objective A & B, Strategies B1, B4, & B6 (p. 2.7)

Goal C: Access to Destinations, Objectives A, B, D & E, Strategies C1, C2, C4, C9, C11, C15, C16, & C17 (p. 2.8 to 2.11)

Goal D: Competitive Economy, Objectives A, B, & C, Strategies D1, D3, & D4 (p. 2.11 to 2.12)

Goal E: Healthy and Equitable Communities, Objectives A, B, C, & D, Strategies E1, E2, E3, E4, E5, E6, & E7 (p. 2.12 to 2.13)

Goal F: Leveraging Transportation Investments to Guide Land Use, Objectives A & B, Strategies F1, F2, F3, F4, F5, F6, & F7 (p. 2.14 to 2.16)

Limit 2,800 characters, approximately 400 words

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

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

1) City of Minneapolis Comprehensive Plan (2020) ? p. 7, 137, 140, 142, 144, 145, & 153

2) City of Minneapolis Complete Streets Policy ? p. 1 to 4

3) City of Minneapolis ADA Transition Plan p. 2-7

4) Minneapolis Transportation Action Plan:

7th Street South is:

-On the existing and future High Frequency Transit Network (page 104) to be prioritized for capital improvements that support transit (page 117)

-A Pedestrian Priority Network route (page 47)

-An All Ages and Abilities bikeway network "connnector or long-term low stress bikeway" route (page 74)

-10 Ton Truck route (page 156)

-Make safety improvements on High Injury Streets (7th Street S is one) (page 180)

5) Minneapolis Vision Zero Action Plan: -7th Street S is identified as a "High Injury Street" to be prioritized for traffic safety improvements (pages 16-17)

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 2024 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 future Regional Solicitation funding cycles, this requirement may include that the plan has undergone a recent update, e.g., within five years prior to application.

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: 03/22/2022

Link to plan: https://www2.minneapolismn.gov/media/content-assets/www2-documents/departments/2022-ADA-Transition-Plan-Update-V2.pdf

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

Date self-evaluation completed:

Link to plan:

Upload plan or self-evaluation if there is no link

Upload as PDF

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

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

11. The owner/operator of the facility must operate and maintain the project year-round for the useful life of the improvement. This includes assurance of year-round use of bicycle, pedestrian, and transit facilities, per FHWA direction established 8/27/2008 and updated 4/15/2019. 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 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. Bridge Rehabilitation/Replacement projects must be located on a minor collector and above functionally classified roadway in the urban areas or a major collector and above in the rural areas.

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.

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

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

Bridge Rehabilitation/Replacement projects only:

5. The length of the in-place structure is 20 feet or longer.

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

6. The bridge must have a Local Planning Index (LPI) of less than 60 OR a National Bridge Inventory (NBI) Rating of 3 or less for either Deck Geometry, Approach Roadway, or Waterway Adequacy as reported on the most recent Minnesota Structure Inventory Report.

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 David Elvin at MnDOT (David.Elvin@state.mn.us or 651-234-7795) 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)	$787,000.00
Removals (approx. 5% of total cost)	$300,650.00
Roadway (grading, borrow, etc.)	$1,224,000.00
Roadway (aggregates and paving)	$1,963,000.00
Subgrade Correction (muck)	$0.00
Storm Sewer	$396,400.00
Ponds	$0.00
Concrete Items (curb & gutter, sidewalks, median barriers)	$974,500.00
Traffic Control	$0.00
Striping	$97,000.00
Signing	$97,000.00
Lighting	$468,000.00
Turf - Erosion & Landscaping	$500,000.00
Bridge	$0.00
Retaining Walls	$0.00
Noise Wall (not calculated in cost effectiveness measure)	$0.00
Traffic Signals	$500,000.00
Wetland Mitigation	$0.00
Other Natural and Cultural Resource Protection	$0.00
RR Crossing	$0.00
Roadway Contingencies	$2,715,000.00
Other Roadway Elements	$1,742,000.00
Totals	**$11,764,550.00**

Specific Bicycle and Pedestrian Elements

CONSTRUCTION PROJECT ELEMENTS/COST ESTIMATES	Cost
Path/Trail Construction	$0.00
Sidewalk Construction	$0.00
On-Street Bicycle Facility Construction	$0.00
Right-of-Way	$0.00
Pedestrian Curb Ramps (ADA)	$0.00
Crossing Aids (e.g., Audible Pedestrian Signals, HAWK)	$0.00
Pedestrian-scale Lighting	$0.00
Streetscaping	$0.00
Wayfinding	$0.00
Bicycle and Pedestrian Contingencies	$0.00
Other Bicycle and Pedestrian Elements	$0.00
Totals	**$0.00**

Specific Transit and TDM Elements

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

Transit Operating Costs

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

PROTECT Funds Eligibility

One of the new federal funding sources is Promoting Resilient Operations for Transformative, Efficient, and Cost-Saving Transportation (PROTECT). Please describe which specific elements of your project and associated costs out of the Total TAB-Eligible Costs are eligible to receive PROTECT funds. Examples of potential eligible items may include: storm sewer, ponding, erosion control/landscaping, retaining walls, new bridges over floodplains, and road realignments out of floodplains.

INFORMATION: Promoting Resilient Operations for Transformative, Efficient, and Cost-Saving Transportation (PROTECT) Formula Program Implementation Guidance (dot.gov).

Response:

The project provides transportation benefits by making the Minneapolis network more resilient to endure current and future severe weather events and natural disasters. The project will reduce long-term, life cycle infrastructure costs by preventing future damage, maintenance, and reconstruction. Project element improvements that are eligible to receive PROTECT funds include the following: - Sidewalks, crosswalks, ADA pedestrian ramps and pedestrian signals to provide accessibility for individuals with disabilities. - Storm sewer systems will be designed to current standards to include high intensity rainfall events and installed to remove rainwater from surface transportation facilities. - Riprap installation at storm sewer and culvert outlets for erosion protection. - The number of drainage structures on the roadway surface will be increased to meet current standards. - Native plantings will be used per new City standards. These are vegetation management practices in transportation rights-of-way to improve roadway safety, prevent invasive species, and provide wildfire and erosion control.

Totals

Total Cost	$11,764,550.00
Construction Cost Total	$11,764,550.00
Transit Operating Cost Total	$0.00

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

Existing Employment within 1 Mile:	187914
Existing Manufacturing/Distribution-Related Employment within 1 Mile:	7315
Existing Post-Secondary Students within 1 Mile:	4622
Upload Map	1701549872390_RegionalEconomy_7th.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:

Miles: 0

(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 SEQ67160

Current AADT Volume 8511

Existing Transit Routes on the Project 17

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

Upload Transit Connections Map 1702661428643_Transit_7th.pdf

Please upload attachment in PDF form

Response: Current Daily Person Throughput

Average Annual Daily Transit Ridership 0

Current Daily Person Throughput 11064.0

Measure B: 2040 Forecast ADT

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

If checked, METC Staff will provide Forecast (2040) ADT volume

OR

Identify the approved county or city travel demand model to determine forecast (2040) ADT volume

Forecast (2040) ADT volume

Measure A: Engagement

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

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

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

1. *What engagement methods and tools were used?*
2. *How did you engage specific communities and populations likely to be directly impacted by the project?*
3. *What techniques did you use to reach populations traditionally not involved in community engagement related to transportation projects?*
4. *How were the project?s purpose and need identified?*
5. *How was the community engaged as the project was developed and designed?*
6. *How did you provide multiple opportunities for of Black, Indigenous, and People of Color populations, low-income populations, persons with disabilities, youth, older adults, and residents in affordable housing to engage at different points of project development?*
7. *How did engagement influence the project plans or recommendations? How did you share back findings with community and re-engage to assess responsiveness of these changes?*
8. *If applicable, how will NEPA or Title VI regulations will guide engagement activities?*

Response:

Within ½ mile of the proposed project, the BIPOC community is overrepresented with 58% of people identifying as non-White or of Hispanic/Latinx origin (2020 Census). In comparison, 40% of the Minneapolis population identifies as non-White or of Hispanic/Latinx origin. Also in the project area 35% of residents are low-income, 37% do not have access to a car, and 21% have a disability. In the 2017 ACS, 47% of nearby residents walked or biked to work, or worked from home.

This project is being proposed because of findings and engagement around the Minneapolis Transportation Action Plan (TAP), Vision Zero Action Plan (VZAP), as well as community feedback from other venues. These included focused efforts to engage traditionally underrepresented communities. For the TAP and VZAP, engagement included separate dialogues inlanguage with members from 7 communities: African American, East African, Latino, Native American, Minneapolis Youth Congress, people with disabilities, and Southeast Asian. It also included 30 direct engagement activities done in partnership with contracted community-based organizations that focused on reaching residents in public housing, East African community members, Latino community members, college students, high school students, and residents of traditionally under representative neighborhoods.

The Vision Zero program began engagement in 2021 and continues to have on-going engagement within these communities on existing High Injury Streets. The Vision Zero program has utilized social media platforms, program and project specific webpages, digital mapping, yard signs, and program and project one-pagers that have been translated to multiple languages. The most common concerns residents share is related to speeding or aggressive driving, parked cars making it hard to see approaching traffic and for drivers to see pedestrians and bikers. Much of the feedback is not specific to any one location, but to general deficiencies and safety concerns including in downtown.

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

Measure B: Disadvantaged Communities Benefits and Impacts

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

? pedestrian and bicycle safety improvements;
? public health benefits;
? direct access improvements for residents or improved access to destinations such as jobs, school, health care, or other;
? travel time improvements;
? gap closures;
? new transportation services or modal options;
? leveraging of other beneficial projects and investments;
? and/or community connection and cohesion improvements.

This is not an exhaustive list. A full response will support the benefits claimed, identify benefits specific to Disadvantaged communities residing or engaged in activities near the project area, identify benefits addressing a transportation issue affecting Disadvantaged communities 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.

? Decreased pedestrian access through sidewalk removal / narrowing, placement of barriers along the walking path, increase in auto-oriented curb cuts, etc.
? Increased speed and/or ?cut-through? traffic.
? Removed or diminished safe bicycle access.
? Inclusion of some other barrier to access to jobs and other destinations.

Response:

The 7th St S project provides safety, access, and public health benefits to nearby Black, Indigenous and People of Color populations, low income populations, children, people with disabilities, youth, and older adults.

Safety: The proposed project will redesign intersections with curb extensions, truck aprons, and high-visibility pavement markings. These improvements will encourage safer travel speeds by reducing the overall road width and travel lanes where possible, thereby creating safer and more comfortable experience for pedestrians and bicyclists. As identified in the Minneapolis Vision Zero Action Plan, these corridors are identified as High Injury Streets. Identified in the Minneapolis Pedestrian Crash Study, 75% of all major pedestrian crashes occur on 5% of the streets. These corridors are also in an area of concentrated poverty and a regional environmental justice area.

Access: The project will improve access on and across 7th St S, connecting people to destinations such as jobs, schools, health care and cultural destinations such as places of worship and higher education. The project will provide more comfortable access to these destinations for people walking, rolling, and biking. These modes are critical as 37% of households within ½ mile of the project do not have a vehicle. Because of this, the pedestrian and bicycle safety improvements will benefit underrepresented populations by improving connections to existing job opportunities, including retail and restaurant businesses nearby and in adjacent areas. The project will also include a reduction in conflict points, improve traffic operations, and ADA upgrades, removing barriers for people with disabilities.

Public Health: The proposed intersection improvements will provide safety and comfort improvements for people walking through improved sidewalks, curb extensions and lighting. These improvements will provide safe ways for residents to walk, bike, and take transit for daily transportation needs and recreation. The project will also improve community connections to Hennepin Healthcare (f/k/a HCMC) which has several buildings directly on 7th St S in the project area. The I-94 access to 7th St S makes emergency response a key motivator for this project.

Negative Impacts: The proposed project will not have any adverse human health or environmental effects on BIPOC populations, low-income populations, children, people with disabilities or the elderly. During construction, access to housing and businesses will be maintained, detours will be established for all users, and construction nuisances such as noise, dust and traffic will be mitigated to the extent possible.

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

? specific direct access improvements for residents
? improved access to destinations such as jobs, school, health care or other;
? new transportation services or modal options;
? and/or community connection and cohesion improvements.

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

Response:

The 7th St S corridor includes a concentration of 54 affordable, subsidized housing units. Within 1/2 mile of the project area there are approximately 5,271 affordable units including: 1,408 Units at 30% AMI; 1,890 Units at 50% AMI; 1,898 Units at 60% AMI; and 75 Units at 80% AMI. The East Town area of downtown continues to redevelop around US Bank Stadium and changing land uses provide opportunities for additional affordable housing opportunities within the project area.

Data indicates that there is a higher proportion of households without access to vehicles in the downtown core. This is demonstrated within the proposed project area and therefore, populations proximate to the corridor rely on other means of mobility for access to jobs, school, services, etc. This includes health care, where Hennepin Healthcare is sometimes the only option to receive medical care for the un- or underinsured.

The proposed project will provide benefits to current and future affordable housing residents within a ½ mile of the project including direct access improvements for residents given the vast improvements proposed to the 7th St S corridor including multimodal infrastructure and design features pertaining to people walking, rolling, and taking transit. Given the corridor's proximity to jobs, schools, childcare facilities, and religious institutions, connectivity, safety and travel will be greatly improved with the reconstruction of this street segment.

There are currently no amenities or streetscape elements that provide benefits relative to environmental concerns such as runoff or the urban heat island or for beautification purposes. The proposed modifications to this street segment will create a welcoming transition from the freeway exit ramp to the downtown core.

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

Measure D: BONUS POINTS

Project is located in an Area of Concentrated Poverty:	Yes
Project?s census tracts are above the regional average for population in poverty or population of color (Regional Environmental Justice Area):	Yes
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.	1702656254843_Socioeconomic_7th.pdf

Measure A: Year of Roadway Construction

Year of Original Roadway Construction or Most Recent Reconstruction	Segment Length	Calculation	Calculation 2
1953	0.25	488.25	976.5
1967	0.25	491.75	983.5

1	980	1960

Total Project Length

Total Project Length (as entered in "Project Information" form) 0.5

Average Construction Year

Weighted Year 1960

Total Segment Length (Miles)

Total Segment Length 0.5

Measure B: Geometric, Structural, or Infrastructure Improvements

Improved roadway to better accommodate freight movements: Yes

Response:

7th Street S is not identified by Met Council's Regional Truck Highway Corridor Study, but provides direct access to the Tier 1 interstate system. Commercial vehicles will benefit along this urban corridor through the conversion of the variable multi-lane environment to a 2/3-lane to reduce conflict points among users. Additionally, intersection radii will be designed to accommodate freight deliveries, which occurs frequently given the direct connection to the interstate system.

(Limit 700 characters; approximately 100 words)

Improved clear zones or sight lines: Yes

Response:

Redesign of intersections with curb extensions and high-visibility pavement markings will assist users. The redistribution of space will improve sight lines, reinforced through design, and encourages safer turning speeds. Targeted removal of on-street parking will improve sight lines among users and provide a wider planted boulevard with pedestrian scale lighting that will narrow the cross-section. Conversion to a 2/3-lane will eliminate the potential for dual-threat related crashes. Furthermore, the introduction of a planted boulevard with pedestrian scale lighting will narrow the cross-section, providing improved clear zones and sight distances at intersections.

(Limit 700 characters; approximately 100 words)

Improved roadway geometrics: Yes

Response:

The current roadway width and uses varies, occasionally a three-lane section and occasionally three lanes plus parking on both sides. A narrower cross-section with curb extensions and green stormwater infrastructure will offer visual cues to encourage safer speeds, slow turning speeds, and encourage high yielding rates.

(Limit 700 characters; approximately 100 words)

Access management enhancements: Yes

Response:

Staff will identify driveway and curb cut openings that do not appear to be needed and seek opportunities to remove unnecessary accesses that can result in improved safety through the reduction of conflict points. Potential access changes will be determined during the project development process to align with the city's access spacing guidelines, improve traffic operations, increase safety by reducing conflict points and create opportunities to implement safer non-motorized facilities and crossings.

(Limit 700 characters; approximately 100 words)

Vertical/horizontal alignment improvements: Yes

Response:

Realignment of intersections with narrower cross sections, curb extensions, and high-visibility pavement markings will assist users in safely navigating intersections. These features will help ensure user safety and promote driver expectation. This project may adjust the vertical alignment to better manage storm water to minimize flood risk for the area. The proposed roadway will be adjusted to meet current State Aid roadway design standards to improve safety, accessibility, and mobility in the area.

(Limit 700 characters; approximately 100 words)

Improved stormwater mitigation: Yes

Response:

During design, we will evaluate the feasibility of stormwater mitigation strategies including green stormwater mgmt, streetscaping elements and boulevard areas, to assist in collecting rain. Staff will collaborate to implement BMPs, to improve water quality, and trees to expand the urban tree canopy in accordance with City ordinance chapter 54. A majority of the project is susceptible to extreme heat (MC's Extreme Heat Map Screening Tool). The impervious surface conditions will be reduced and streetscaping elements will be incorporated. Strategies to address extreme heat will be incorporated in parallel with the stormwater design.

(Limit 700 characters; approximately 100 words)

Signals/lighting upgrades: Yes

Response:

This project will replace and/or upgrade signals to the latest technologies, such as: dedicated left-turn phasing, signal communications, and ITS components. These improvements will allow for flexible signal operations to accommodate time of day needs. The existing lighting is inconsistent. The installation of new lighting will be consistent with the City's Street Lighting Plan. Pedestrian scale lighting will improve visibility for all users.

(Limit 700 characters; approximately 100 words)

Other Improvements Yes

Response:

Operational improvements will be made by exploring the potential for a bus only lane to operate during peak transit hours with the flexibility to accommodate extreme traffic conditions during large events at US Bank Stadium. A full reconstruction is needed to modernize aging and deteriorating infrastructure, which will include ADA pedestrian ramps. The new street will be right sized to encourage multimodal travel with a narrower cross-section to prioritize walking, rolling, and transit to eliminate all severe and fatal traffic crashes.

(Limit 700 characters; approximately 100 words)

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 without the Project:	Total Peak Hour Delay by the Project:	Total Peak hour Delay Reduced by project	EXPLANATION of methodology used to calculate railroad crossing delay, if applicable.	Synchro or HCM Reports
22.0	22.0	0	7846	7846	172612.0	172612.0	0	NA	1702660866346_7th Street_Attachments_REVISED.pdf
						172612			

Vehicle Delay Reduced

Total Peak Hour Delay Reduced	Total Peak Hour Delay Reduced	Delay Reduced Total

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):
12.49	12.33	0.16
12	**12**	**0**

Total

Total Emissions Reduced:	0.16
Upload Synchro Report	1702669591637_7th Street_Attachments_REVISED.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: Roadway Projects that do not Include Railroad Grade-Separation Elements

Crash Modification Factor Used:

CMF ID 2841: Converting four-lane roadways to three-lane roadways with center turn lane (Road Diet) ? Value: 0.53, Five-Star Rated.

CMF ID 153: Prohibit On-Street Parking ? Value: 0.8, Three-Star Rated.

(Limit 700 Characters; approximately 100 words)

Rationale for Crash Modification Selected:

CMF ID 2841 was selected based upon the addition of the BAT lane along with the dynamic through / parking lane. These act similarly to a 4-to-3 conversion in the way that sideswipe crashes should be reduced due to fewer neighboring lanes, rear ends should be reduced due to right turning vehicles being able to pull into the bus lane to turn, and other crash types could be reduced as a result of shorter crossing distances for side-street motorists to cross 7th Street, all of which is done through a lane reduction. CMF ID 153 was selected to address segment crashes not addressed by CMF ID 2841 such as crashes involving driveways, parked vehicles, and sideswipe crashes involving confusion over whether a right-turning vehicle is parking or turning.

(Limit 1400 Characters; approximately 200 words)

Project Benefit ($) from B/C Ratio	$1.15
Total Fatal (K) Crashes:	0
Total Serious Injury (A) Crashes:	1
Total Non-Motorized Fatal and Serious Injury Crashes:	0
Total Crashes:	17
Total Fatal (K) Crashes Reduced by Project:	0
Total Serious Injury (A) Crashes Reduced by Project:	1
Total Non-Motorized Fatal and Serious Injury Crashes Reduced by Project:	0
Total Crashes Reduced by Project:	12
Worksheet Attachment	1702661218785_7th Street_Attachments_REVISED.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 B: 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 doesn?t 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 roadway?s 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.

Response:

The 7th Street reconstruction project addresses pedestrian safety through several countermeasures. The first is the implementation of additional curb extensions to project intersections. This reduces the distance pedestrians need to cross the roadway, and thus reduces the time pedestrians are in the driving lanes. A second countermeasure is the conversion of the southernmost travel lane to a dynamic through / parking lane, which during off-peak hours will further reduce the number of travel lanes that pedestrians are required to cross. A third countermeasure is the conversion of the northernmost travel lane to a business access and transit lane that will take the place of the northernmost travel lane. Although this lane will be utilized throughout the day, it will be clearer to pedestrians whether an approaching vehicle is slowing down to turn right. The final counter measure is temporary raised bike lanes. At the 7th Street & 11th Avenue intersection, northbound and southbound on-street bike lanes are temporarily raised onto the sidewalk leading up to the intersection, where they can then cross the intersection using the crosswalk, before proceeding back onto street level. This allows bicyclists to be more visible to drivers while also preventing them from having to cross or wait within a turn lane while conflicting with vehicles.

(Limit 2,800 characters; approximately 400 words)

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

Select one: No

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

Response:

(Limit 1,400 characters; approximately 200 words)

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

Select one: No

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

Response:

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

Response:

Curb bulb-outs will be provided where possible.

(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:

No grade separated crossings are being added.

(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:

Mid-block crossings will not be blocked. Crossing at midblock locations will become much safer after this project given the improvements already discussed, although we will encourage crossing at locations with pedestrian crossing improvements.

(Limit 1,400 characters; approximately 200 words)

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

Response:

The current design encourages significant speeding. We will design this project to achieve a target speed of 25 mph, which matches the posted speed limit. As such, we plan for the corridor to look very different after reconstruction. Safer speeds will be achieved by a variety of steps likely including: Having 2 general traffic lanes and right-sizing lane widths. Tightening curb radii as much as possible, including potentially including truck aprons. We also plan to add a green stormwater infrastructure-designed boulevard between the sidewalk and the roadway to add further protection and comfort for people walking and rolling, and for snow storage.

(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:

This street is currently posted with a 25 mph speed limit. The current roadway design is outdated and reflects a much higher target and design speed. As such, existing speeds far exceed the 25 mph speed limit. This redesign will have a target speed of 25 mph to match the speed limit and much lower than the existing design speed.

(Limit 1,400 characters; approximately 200 words)

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

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

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

or

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

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

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

List the AADT

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

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

Existing road has transit running on or across it with 1+ transit stops in the project area (If flag-stop route with no fixed stops, then 1+ locations in the project area where roadside stops are allowed. Do not count portions of transit routes with no stops, such as non-stop freeway sections of express or limited-stop routes.) Yes

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.) Yes

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

If checked, please describe:

1) 17 transit routes use the corridor

2) METRO C and D Lines use the corridor

3) Corridor is one block from US Bank Stadium and its associated uses (restaurants, etc).

(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:

Corridor is adjacent to Hennepin Healthcare, North Central College, several large places of worship, and dozens of multifamily affordable housing buildings.

(Limit 1,400 characters; approximately 200 words)

Measure A: Multimodal Elements and Existing Connections

Response:

The project will improve the travel experience, safety, and security of transportation modes and address the safe integration of all modes. it is a unique corridor because of its direct freeway access while also running through areas of high pedestrian activity (e.g. Hennepin Healthcare, US Bank Stadium, higher education).

Pedestrians: The project will provide an improved pedestrian experience by providing boulevards throughout, enhance safety and security through pedestrian crossing treatments and better lighting, and create a more appealing and accessible corridor for accessing destinations along 7th St S and and elsewhere in downtown. The existing sidewalk is in poor condition with an inadequate boulevard and has multiple deficiencies including narrow or heaved sections, non-compliant pedestrian curb ramps, and conflict points at wide commercial driveways. 7th St S is an important east-west connection that provides direct access from I-94. This roadway provides service for several express and local transit routes throughout the day. According to Minneapolis' ADA Transition Plan, pedestrian curb ramps for three intersections are in "Fair" condition but need replacement to provide greater access for users. 7th St S is currently on the Pedestrian Priority Network as identified through the Transportation Action Plan and is identified as a High Injury Street in the Vision Zero Action Plan. Land uses within the project area include institutional and commercial destinations for residents and visitors approaching from I-94.

Bicyclists: 7th St S is on the All Ages and Abilities Network (Transportation Action Plan) as a connector or long-term low stress bikeway from 11th Ave S to Park Ave. There is an existing protected bikeway on 11th Ave S and opportunities to improve access to/from 11th will be explored through the engagement and design processes.

Transit: Several all day and express route services utilize 7th St S for a total of 110 buses daily. Shelter areas will be improved through this project. The design of the project would improve ADA access to transit through sidewalk and curb ramp improvements and allow more space for people at transit stops

(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.

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. Yes

25%

No outreach has led to the selection of this project.

0%

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

Response:

This project is being proposed because of findings and engagement around the Minneapolis Transportation Action Plan (TAP), Vision Zero Action Plan (VZAP), and community feedback from other venues. Those included focused efforts to engage traditionally underrepresented communities. For the TAP and VZAP, engagement included separate dialogues in-language with members from 7 communities and also included 30 direct engagement activities done in partnership with contracted community-based organizations that focused on reaching residents in public housing, East African community members, Latino community members, college students, high school students, and residents of traditionally under representative neighborhoods. Some of the key themes we have heard from equity-focused engagement include: desire to improve traffic safety, especially for pedestrians; improve transit access and experience; improve transportation options and make travel easy. Minneapolis has identified 7th St S as a High-Injury Street through the Vision Zero Program. The City will be building off current and past efforts in the area by implementing activities and approaches that have proven successful.

(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 project?s termini does not suffice and will be awarded zero points. *If applicable*

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

100%

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

100%

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

75%

Layout completed but not approved by all jurisdictions. A PDF of the layout must be attached to receive points.	
50%	
Layout has been started but is not complete. A PDF of the layout must be attached to receive points.	Yes
25%	
Layout has not been started	
0%	
Attach Layout	1702657377208_20231102-LAYOUT-7TH.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	Yes
100%	
Right-of-way, permanent or temporary easements, and/or MnDOT agreement/limited-use permit required - plat, legal descriptions, or official map complete	
50%	
Right-of-way, permanent or temporary easements, and/or MnDOT agreement/limited-use permit required - parcels identified	
25%	
Right-of-way, permanent or temporary easements, and/or MnDOT agreement/limited-use permit required - parcels not all identified	
0%	
5. Railroad Involvement (15 Percent of Points)	
No railroad involvement on project or railroad Right-of-Way agreement is executed (include signature page, if applicable)	Yes
100%	
Signature Page	
Please upload attachment in PDF form	
Railroad Right-of-Way Agreement required; negotiations have begun	
50%	
Railroad Right-of-Way Agreement required; negotiations have not begun.	
0%	

Measure A: Cost Effectiveness

Total Project Cost (entered in Project Cost Form):	$11,764,550.00
Enter Amount of the Noise Walls:	$0.00
Total Project Cost subtract the amount of the noise walls:	$11,764,550.00
Enter amount of any outside, competitive funding:	$0.00
Attach documentation of award:	
Points Awarded in Previous Criteria	
Cost Effectiveness	$0.00

Other Attachments

"Before" picture; existing conditions
172 KB

Project map
57 KB

File Name	Description	File Size
2024 Regional Solicitation Letter of Support_SIGNED.pdf	Minneapolis letter of support	2.4 MB
2024_RegionalSolicitation_AffordableHousing_7th.pdf	Affordable housing list	156 KB
27 - LOS - Minneapolis - 7th Street Reconstruction.pdf	Hennepin County letter of support	121 KB
AffordableHousing_7thSt.pdf	Affordable housing	2.3 MB
Congestion_7th.pdf	Congestion	6.4 MB
Historic_7th.pdf	Historic	1.8 MB
MT Regional Solicitation Letter signed.pdf	Metro Transit letter of support	512 KB
One pager 7th St S Roadway Modernization.pdf	One pager	274 KB

Regional Economy

Roadway Reconstruction/Modernization Project: 7th Street S Reconstruction | Map ID: 1701408176008

Results

WITHIN ONE MI of project:
Postsecondary Students: 4622

Totals by City:
Minneapolis
Population: 66843
Employment: 187914
Mfg and Dist Employment: 7315

Project Points
Project
Postsecondary Education Centers
Manfacturing/Distribution Centers
Job Concentration Centers

0 0.05 0.1 0.2 0.3 0.4 Miles

Created: 11/30/2023
LandscapeRSA5

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

METROPOLITAN COUNCIL

Transit Connections

Roadway Reconstruction/Modernization Project: 7th Street S Reconstruction | Map ID: 1701408176008

Results

Transit with a Direct Connection to project:
113 114 14 353 355 363 465 475 5 784 789 9 901 923 924 94 945

**indicates Planned Alignments*

Transit Market areas: 1

Project Points
Project
Project Area
Active Stop
Arterial Bus Rapid Transit

Commuter Rail
Dedicated Bus Rapid Transit
Highway Bus Rapid Transit
Light Rail
Arterial Bus Rapid Transit

Commuter Rail
Dedicated Bus Rapid Transit
Highway Bus Rapid Transit
Light Rail
Transit Routes

Arterial Bus Rapid Transit
Dedicated Bus Rapid Transit
Highway Bus Rapid Transit
Light Rail
Modern Streetcar

Undetermined
Arterial Bus Rapid Transit
Commuter Rail
Dedicated Bus Rapid Transit
Highway Bus Rapid Transit

Light Rail
Modern Streetcar
Undetermined

0 0.05 0.1 0.2 0.3 0.4 Miles

Created: 11/30/2023
LandscapeRSA3

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

METROPOLITAN COUNCIL

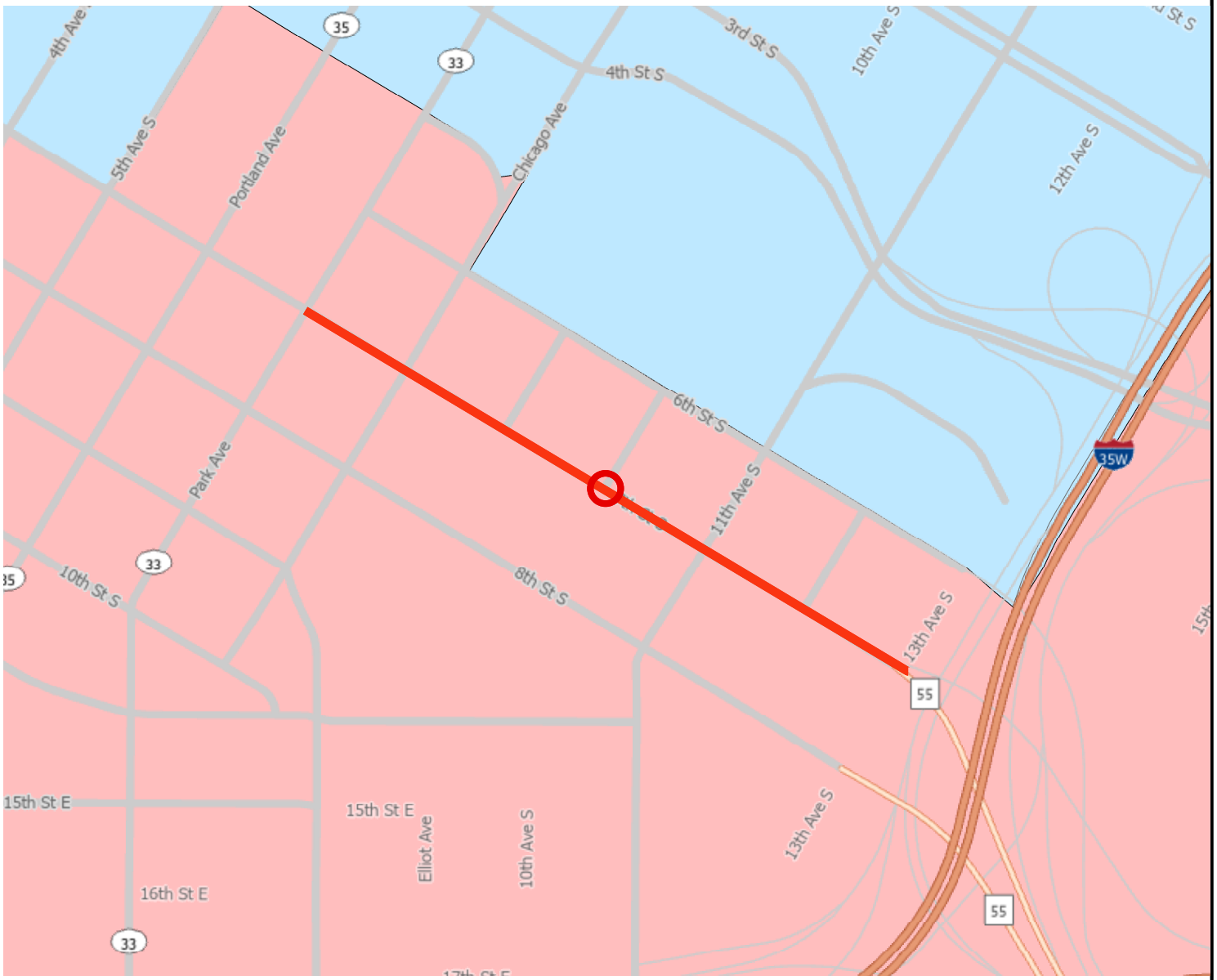
Socio-Economic Conditions

Roadway Reconstruction/Modernization Project: 7th Street S Reconstruction | Map ID: 1701408176008

Results

Total of publicly subsidized rental housing units in census tracts within 1/2 mile: 8987

Project located IN an Area of Concentrated Poverty.



Points
Lines
Area of Concentrated Poverty
Regional Environmental Justice Area

0 0.05 0.1 0.2 0.3 0.4 Miles

Created: 11/30/2023
LandscapeRSA2

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

METROPOLITAN COUNCIL

Traffic Safety Benefit-Cost Calculation

Highway Safety Improvement Program (HSIP) Reactive Project

DEPARTMENT OF TRANSPORTATION

A. Roadway Description

Route	7th Street	**District**	Metro	**County**	Hennepin
Begin RP	n/a	**End RP**	n/a	**Miles**	0.46
Location	Minneapolis, Minnesota				

B. Project Description

Proposed Work	Alter lane configuration on 7th Street to 1 BAT Lane, 1 Thru-Lane, and 1 Dynamic Lane		
Project Cost*	$10,075,820	**Installation Year**	2029
Project Service Life	30 years	**Traffic Growth Factor**	1.0%

** exclude Right of Way from Project Cost*

C. Crash Modification Factor

0.53	**Fatal (K) Crashes**	**Reference**	CMF ID 2841 for converting four-lane roadway to three-lane roadway with center turn lane (road diet)
0.53	**Serious Injury (A) Crashes**		
0.53	**Moderate Injury (B) Crashes**	**Crash Type**	All Intersection Related Crashes
0.53	**Possible Injury (C) Crashes**		
0.53	**Property Damage Only Crashes**		www.CMFclearinghouse.org

D. Crash Modification Factor (optional second CMF)

0.33	**Fatal (K) Crashes**	**Reference**	CMF ID 2842 (see description above) CMF ID 153 for prohibiting on-street parking. Combined using CMF Additive Method from FHWA.
0.33	**Serious Injury (A) Crashes**		
0.33	**Moderate Injury (B) Crashes**		
0.33	**Possible Injury (C) Crashes**	**Crash Type**	All Parking, Sideswipe, and Driveway Crashes
0.33	**Property Damage Only Crashes**		www.CMFclearinghouse.org

E. Crash Data

Begin Date 1/1/2020 **End Date** 12/31/2022 3 years

Data Source Minnesota Crash Mapping Analysis Tool 2 (MnCMAT2)

Crash Severity	All Intersection Crashes	Parking, Sideswipe, Driveways
K crashes	0	0
A crashes	1	0
B crashes	3	1
C crashes	1	1
PDO crashes	8	2

F. Benefit-Cost Calculation

$11,535,476	**Benefit (present value)**	**B/C Ratio = 1.15**
$10,075,820	**Cost**	

Proposed project expected to reduce 3 crashes annually, 1 of which involving fatality or serious injury.

F. Analysis Assumptions

Crash Severity	Crash Cost
K crashes	$1,600,000
A crashes	$800,000
B crashes	$250,000
C crashes	$130,000
PDO crashes	$15,000

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

Real Discount Rate:	0.8%	Default
Traffic Growth Rate:	1.0%	**Revised**
Project Service Life:	30 years	**Revised**

G. Annual Benefit

Crash Severity	Crash Reduction	Annual Reduction	Annual Benefit
K crashes	0.00	0.00	$0
A crashes	0.47	0.16	$125,333
B crashes	2.08	0.69	$173,333
C crashes	1.14	0.38	$49,400
PDO crashes	5.10	1.70	$25,500
			$373,567

H. Amortized Benefit

Year	Crash Benefits	Present Value
2029	$373,567	$373,567
2030	$377,302	$374,308
2031	$381,075	$375,051
2032	$384,886	$375,795
2033	$388,735	$376,540
2034	$392,622	$377,287
2035	$396,549	$378,036
2036	$400,514	$378,786
2037	$404,519	$379,538
2038	$408,564	$380,291
2039	$412,650	$381,045
2040	$416,777	$381,801
2041	$420,944	$382,559
2042	$425,154	$383,318
2043	$429,405	$384,078
2044	$433,699	$384,840
2045	$438,036	$385,604
2046	$442,417	$386,369
2047	$446,841	$387,136
2048	$451,309	$387,904
2049	$455,822	$388,674
2050	$460,381	$389,445
2051	$464,984	$390,217
2052	$469,634	$390,992
2053	$474,331	$391,767
2054	$479,074	$392,545
2055	$483,865	$393,324
2056	$488,703	$394,104
2057	$493,590	$394,886
2058	$498,526	$395,669
0	$0	$0

Total = $11,535,476

NOTE:
This calculation relies on the real discount rate, which accounts for inflation. No further discounting is necessary.

CMF &
Safety Summary

CRASH MODIFICATION FACTORS CLEARINGHOUSE

CMF / CRF Details

CMF ID: 2841

CMF Name: Converting four-lane roadways to three-lane roadways with center t

Description: Conversion of road segments from a four-lane to a three-lane cros

Prior Condition: Four-lane undivided roadway

Category: Roadway

Study ID: *Comparison of empirical Bayes and full Bayes approaches for before-after road safety evaluations*, Persaud et. al 2010

Star Quality Rating	
Star Quality Rating:	5 Stars

Crash Modification Factor (CMF)	
Value:	0.53
Adjusted Standard Error:	
Unadjusted Standard Error:	0.02

Crash Reduction Factor	
Value:	47
Adjusted Standard Error:	
Unadjusted Standard Error:	2

Applicability	
Crash Type:	All
Crash Severity:	All
Roadway Types:	Not Specified
Minimum Number of Lanes:	4
Maximum Number of Lanes:	4
Number of Lanes Direction:	
Number of Lanes Comment:	
Road Division Type:	Undivided
Minimum Speed Limit:	
Maximum Speed Limit:	
Speed Unit:	
Speed Limit Comment:	
Area Type:	Urban and suburban
Traffic Volume:	
Average Traffic Volume:	
Time of Day:	All
If countermeasure is intersection-based.	
Intersection Type:	
Intersection Geometry:	
Traffic Control:	
Major Road Traffic Volume:	
Minor Road Traffic Volume:	

Average Major Road Volume:	
Average Minor Road Volume:	

Development Details

Date Range of Data Used:	1982 to 2004
Municipality:	
State:	
Country:	
Type of Methodology Used:	Before/after using empirical Bayes or full Bayes

Other Details

Included in HSM:	No
Date Added to Clearinghouse:	Mar 21, 2011
Comments:	When this CMF was initially entered in the Clearinghouse, it was incorrectly entered as a CMF of 0.47. In March 2015, this was corrected to be 0.53, as presented in the original paper. In February 2021, the area type for this CMF was changed from suburban to urban/suburban to account for the fact that the treatment sites were largely located in small urban areas.

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

CRASH MODIFICATION FACTORS CLEARINGHOUSE

CMF / CRF Details

CMF ID: 153

CMF Name: Prohibit on-street parking

Description:

Prior Condition: No Prior Condition(s)

Category: On-street parking

Study ID: *Handbook of Road Safety Measures*, Elvik, R. and Vaa, T. 2004

Star Quality Rating	
Star Quality Rating:	4 Stars

Crash Modification Factor (CMF)	
Value:	0.8
Adjusted Standard Error:	0.05
Unadjusted Standard Error:	0.03

Crash Reduction Factor	
Value:	20
Adjusted Standard Error:	5
Unadjusted Standard Error:	3

Applicability	
Crash Type:	All
Crash Severity:	A (serious injury),B (minor injury),C (possible injury)
Roadway Types:	Minor Arterial
Minimum Number of Lanes:	
Maximum Number of Lanes:	
Number of Lanes Direction:	
Number of Lanes Comment:	
Road Division Type:	
Minimum Speed Limit:	
Maximum Speed Limit:	
Speed Unit:	
Speed Limit Comment:	
Area Type:	Urban
Traffic Volume:	
Average Traffic Volume:	
Time of Day:	
If countermeasure is intersection-based.	
Intersection Type:	
Intersection Geometry:	
Traffic Control:	
Major Road Traffic Volume:	
Minor Road Traffic Volume:	

Average Major Road Volume:	
Average Minor Road Volume:	

Development Details

Date Range of Data Used:	
Municipality:	
State:	
Country:	
Type of Methodology Used:	Meta-analysis

Other Details

Included in HSM:	No
Date Added to Clearinghouse:	Dec 01, 2009
Comments:	

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

INCIDENT ID	INTERSECTION	SEGMENT	INCLUDE	NOTES	MONTH	DAY	YEAR	DAY OF WEEK	HOUR	SEVERITY	MANNER OF COLLISION	COLLISION - ALLIANT	DIRECTION 1	CRASH MANUEVER 1	DIRECTION 2	CRASH MANUEVER 2	UTM X	UTM Y	LATITUDE	LONGITUDE	DATE & TIME	COLLISION DIAGRAM
889340	INT 1		YES		2	9	2021	Tue	18	PDO	Front to Rear	Rear End	Northbound	Vehicle Stopped or Stalled in Roadway	Northbound	Moving Forward	479386.1334	4979891.98	44.97217705	-93.26142774	2021/02/09-18:18	2021/02/09-18:18-DI-C-X
806025	INT 1		YES		4	3	2020	Fri	17	PDO	Front to Rear	Rear End	Northbound	Moving Forward	Northbound	Vehicle Stopped or Stalled in Roadway	479392.0608	4979901.852	44.97226609	-93.26135298	2020/04/03-17:29	2020/04/03-17:29-L-C-W
897548	INT 4		YES	Police Pursuit	3	20	2021	Sat	0	B	Front to Rear	Rear End	Westbound	Moving Forward	Westbound	Vehicle Stopped or Stalled in Roadway	479711.1617	4979710.787	44.97055533	-93.25729856	2021/03/20-00:49	2021/03/20-00:49-DI-C-D
1063035	INT 4		YES		12	4	2022	Sun	10	B	Angle	Angle	Southbound	Moving Forward	Westbound	Moving Forward	479710.687	4979710	44.97054824	-93.25730455	2022/12/04-10:00	2022/12/04-10:00-L-C-W
1019786	INT 4		YES		4	28	2022	Thu	14	B	Angle	Angle	Westbound	Moving Forward	Southbound	Turning Right	479714.0442	4979715.563	44.97059841	-93.2572622	2022/04/28-14:33	2022/04/28-14:33-L-C-D
1053646	INT 4		YES	WBT vs PED	10	25	2022	Tue	5	PDO	Unknown	Other	Unknown	Unknown	-	-	479717.8045	4979721.793	44.9706546	-93.25721477	2022/10/25-05:18	2022/10/25-05:18-Du-C-D
1066135		SEG A	YES	Driver struck parked vehicl	12	16	2022	Fri	10	B	-	Rear End	Westbound	Moving Forward	Westbound	Parked, Entering or Leaving a Parked stall	479748.5521	4979687.02	44.97034246	-93.25682345	2022/12/16-10:50	2022/12/16-10:50-L-C-S
867623	INT 4		YES		12	12	2020	Sat	3	PDO	Front to Rear	Rear End	Westbound	Vehicle Stopped or Stalled in Roadway	Westbound	Moving Forward	479716.0776	4979706.729	44.97051894	-93.25723606	2020/12/12-03:27	2020/12/12-03:27-DI-C-D
1016565	INT 4		YES		4	8	2022	Fri	11	PDO	Angle	Angle	Westbound	Moving Forward	Southbound	Moving Forward	479713.9369	4979708.028	44.97053058	-93.25726326	2022/04/08-11:00	2022/04/08-11:00-L-C-D
839544	INT 4		YES		9	7	2020	Mon	23	C	Angle	Angle	Northbound	Moving Forward	Westbound	Moving Forward	479710.687	4979710	44.97054824	-93.25730455	2020/09/07-23:44	2020/09/07-23:44-DI-C-D
940349		SEG A	YES		9	13	2021	Mon	20	PDO	Sideswipe - Same Direction	Sideswipe	Westbound	Changing Lanes	Westbound	Moving Forward	479709.2002	4979710.901	44.97055631	-93.25732344	2021/09/13-20:17	2021/09/13-20:17-DI-R-W
841320	INT 4		YES		9	17	2020	Thu	22	A	Angle	Angle	Westbound	Moving Forward	Northbound	Moving Forward	479707.3714	4979712.009	44.97056623	-93.25734668	2020/09/17-22:20	2020/09/17-22:20-DI-C-D
1045099		SEG A	YES	Driver struck parked vehicle	9	11	2022	Sun	22	C	-	Rear End	Westbound	Moving Forward	Westbound	Parked, Entering or Leaving a Parked stall	479706.8642	4979712.316	44.97056898	-93.25735312	2022/09/11-22:40	2022/09/11-22:40-DI-C-D
1009518	INT 3		YES		2	26	2022	Sat	11	PDO	Front to Rear	Rear End	Westbound	Moving Forward	Westbound	Vehicle Stopped or Stalled in Roadway	479593.4502	4979781.095	44.97118487	-93.25879414	2022/02/26-11:10	2022/02/26-11:10-L-C-S
1000749	INT 1		YES	Wrong Way Driver	1	22	2022	Sat	14	PDO	Angle	Angle	Eastbound	Moving Forward	Northbound	Moving Forward	479396.7346	4979900.595	44.97225491	-93.26129366	2022/01/22-14:36	2022/01/22-14:36-L-C-D
838332	INT 3		YES		9	1	2020	Tue	11	PDO	Angle	Angle	Northbound	Moving Forward	Westbound	Moving Forward	479607.1581	4979777.485	44.97115277	-93.25862016	2020/09/01-11:25	2020/09/01-11:25-L-C-D
975835		SEG A	YES	Driver pulled out from access	11	26	2021	Fri	9	PDO	Other	Angle	Northbound	Moving Forward	Westbound	Moving Forward	479611.4698	4979784.661	44.97121748	-93.25856577	2021/11/26-09:14	2021/11/26-09:14-L-X-D

AM Existing Conditions

251: 7th St S

Direction	WB	NB	SB	NW	All
Future Volume (vph)	1058	17	5	648	1728
Control Delay / Veh (s/v)	2	0	0	3	3
Queue Delay / Veh (s/v)	0	0	0	0	0
Total Delay / Veh (s/v)	2	0	0	3	3
Total Delay (hr)	1	0	0	1	1
Stops / Veh	0.15	0.00	0.00	0.19	0.16
Stops (#)	159	0	0	125	284
Average Speed (mph)	24	24	25	23	24
Total Travel Time (hr)	25	0	0	10	35
Distance Traveled (mi)	620	1	0	236	857
Fuel Consumed (gal)	29	0	0	12	40
Fuel Economy (mpg)	21.4	NA	NA	20.4	21.2
CO Emissions (kg)	2.02	0.00	0.00	0.81	2.83
NOx Emissions (kg)	0.39	0.00	0.00	0.16	0.55
VOC Emissions (kg)	0.47	0.00	0.00	0.19	0.66
Unserved Vehicles (#)	0	0	0	0	0
Vehicles in dilemma zone (#)	0	0	0	0	0

357: 11th Av S & 7th St S

Direction	WB	NB	SB	All
Future Volume (vph)	1724	285	252	2261
Control Delay / Veh (s/v)	13	31	38	18
Queue Delay / Veh (s/v)	0	0	1	0
Total Delay / Veh (s/v)	13	31	39	18
Total Delay (hr)	6	2	3	11
Stops / Veh	0.61	0.71	0.64	0.63
Stops (#)	1057	202	162	1421
Average Speed (mph)	15	7	6	12
Total Travel Time (hr)	15	3	4	22
Distance Traveled (mi)	229	22	20	270
Fuel Consumed (gal)	19	4	3	26
Fuel Economy (mpg)	12.1	6.2	5.6	10.4
CO Emissions (kg)	1.32	0.25	0.24	1.82
NOx Emissions (kg)	0.26	0.05	0.05	0.35
VOC Emissions (kg)	0.31	0.06	0.06	0.42
Unserved Vehicles (#)	0	0	0	0
Vehicles in dilemma zone (#)	0	0	0	0

579: Chicago Av S & 7th St S

Direction	WB	NB	SB	All
Future Volume (vph)	1242	167	290	1699
Control Delay / Veh (s/v)	16	22	15	16
Queue Delay / Veh (s/v)	0	2	1	0
Total Delay / Veh (s/v)	16	24	16	16
Total Delay (hr)	5	1	1	8
Stops / Veh	0.44	0.53	0.39	0.44
Stops (#)	546	88	113	747
Average Speed (mph)	17	8	10	16
Total Travel Time (hr)	17	2	2	21
Distance Traveled (mi)	290	13	23	326
Fuel Consumed (gal)	19	2	2	23
Fuel Economy (mpg)	15.2	7.4	9.5	14.0
CO Emissions (kg)	1.33	0.12	0.17	1.62
NOx Emissions (kg)	0.26	0.02	0.03	0.32
VOC Emissions (kg)	0.31	0.03	0.04	0.38
Unserved Vehicles (#)	0	0	0	0
Vehicles in dilemma zone (#)	0	0	0	0

774: Park Av S & 7th St S

Direction	WB	NB	All
Future Volume (vph)	1246	912	2158
Control Delay / Veh (s/v)	46	33	41
Queue Delay / Veh (s/v)	9	1	5
Total Delay / Veh (s/v)	55	34	46
Total Delay (hr)	19	9	28
Stops / Veh	0.98	0.88	0.94
Stops (#)	1219	799	2018
Average Speed (mph)	4	6	5
Total Travel Time (hr)	23	11	34
Distance Traveled (mi)	97	71	168
Fuel Consumed (gal)	23	13	36
Fuel Economy (mpg)	4.2	5.6	4.7
CO Emissions (kg)	1.61	0.88	2.48
NOx Emissions (kg)	0.31	0.17	0.48
VOC Emissions (kg)	0.37	0.20	0.58
Unserved Vehicles (#)	0	0	0
Vehicles in dilemma zone (#)	0	0	0

Zone P Totals

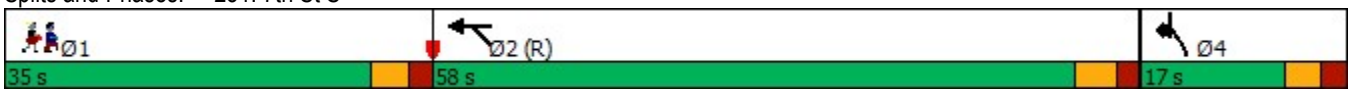
Number of Intersections	4
Control Delay / Veh (s/v)	20
Queue Delay / Veh (s/v)	2
Total Delay / Veh (s/v)	22
Total Delay (hr)	48
Stops / Veh	0.57
Stops (#)	4470
Average Speed (mph)	14
Total Travel Time (hr)	113
Distance Traveled (mi)	1620
Fuel Consumed (gal)	125
Fuel Economy (mpg)	12.9
CO Emissions (kg)	8.76
NOx Emissions (kg)	1.70
VOC Emissions (kg)	2.03
Unserved Vehicles (#)	0
Vehicles in dilemma zone (#)	0
Performance Index	60.5

Lane Group	WBT	NBL	SBR	NWL	Ø1
Lane Configurations					
Traffic Volume (vph)	1058	17	5	648	
Future Volume (vph)	1058	17	5	648	
Ideal Flow (vphpl)	1700	1700	1700	1700	
Lane Util. Factor	0.95	1.00	1.00	1.00	
Frt			0.865		
Flt Protected		0.950		0.950	
Satd. Flow (prot)	3019	1509	1374	1509	
Flt Permitted		0.950		0.950	
Satd. Flow (perm)	3019	1509	1374	1509	
Right Turn on Red		Yes	Yes		
Satd. Flow (RTOR)		401	401		
Link Speed (mph)	25			30	
Link Distance (ft)	3093			1923	
Travel Time (s)	84.4			43.7	
Peak Hour Factor	0.98	0.71	0.63	0.94	
Heavy Vehicles (%)	7%	7%	7%	7%	
Adj. Flow (vph)	1080	24	8	689	
Shared Lane Traffic (%)					
Lane Group Flow (vph)	1080	24	8	689	
Enter Blocked Intersection	No	No	No	No	
Lane Alignment	R NA	L NA	R NA	L NA	
Median Width(ft)	0			12	
Link Offset(ft)	0			0	
Crosswalk Width(ft)	16			16	
Two way Left Turn Lane					
Headway Factor	1.15	1.15	1.15	1.15	
Turning Speed (mph)		15	9	30	
Number of Detectors	2	1	1	1	
Detector Template	Thru	Left	Right	Left	
Leading Detector (ft)	100	50	20	50	
Trailing Detector (ft)	0	0	0	0	
Detector 1 Position(ft)	0	0	0	0	
Detector 1 Size(ft)	6	50	20	50	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel					
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	
Detector 2 Position(ft)	94				
Detector 2 Size(ft)	6				
Detector 2 Type	Cl+Ex				
Detector 2 Channel					
Detector 2 Extend (s)	0.0				
Turn Type	NA	Prot	Prot	Prot	
Protected Phases	2!	4!	4!	2!	1
Permitted Phases					
Detector Phase	2	4	4	2	
Switch Phase					

Lane Group	WBT	NBL	SBR	NWL	Ø1
Minimum Initial (s)	10.0	7.0	7.0	10.0	7.0
Minimum Split (s)	21.5	15.5	15.5	21.5	28.0
Total Split (s)	58.0	17.0	17.0	58.0	35.0
Total Split (%)	52.7%	15.5%	15.5%	52.7%	32%
Maximum Green (s)	52.5	11.7	11.7	52.5	30.0
Yellow Time (s)	3.5	3.0	3.0	3.5	3.0
All-Red Time (s)	2.0	2.3	2.3	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	
Total Lost Time (s)	5.5	5.3	5.3	5.5	
Lead/Lag	Lag			Lag	Lead
Lead-Lag Optimize?					
Vehicle Extension (s)	0.2	4.0	4.0	0.2	4.0
Recall Mode	C-Max	None	None	C-Max	None
Walk Time (s)	5.0	5.0	5.0	5.0	7.0
Flash Dont Walk (s)	5.0	5.0	5.0	5.0	16.0
Pedestrian Calls (#/hr)	0	0	0	0	0
Act Effct Green (s)	99.3	7.0	7.0	99.3	
Actuated g/C Ratio	0.90	0.06	0.06	0.90	
v/c Ratio	0.40	0.05	0.02	0.51	
Control Delay	2.0	0.2	0.0	3.4	
Queue Delay	0.0	0.0	0.0	0.0	
Total Delay	2.0	0.2	0.0	3.4	
LOS	A	A	A	A	
Approach Delay	2.0			3.4	
Approach LOS	A			A	

Intersection Summary			
Area Type:	Other		
Cycle Length: 110			
Actuated Cycle Length: 110			
Offset: 67 (61%), Referenced to phase 2:NWWB, Start of 1st Green			
Natural Cycle: 90			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.51			
Intersection Signal Delay: 2.5		Intersection LOS: A	
Intersection Capacity Utilization 88.6%		ICU Level of Service E	
Analysis Period (min) 15			
! Phase conflict between lane groups.			

Splits and Phases: 251: 7th St S

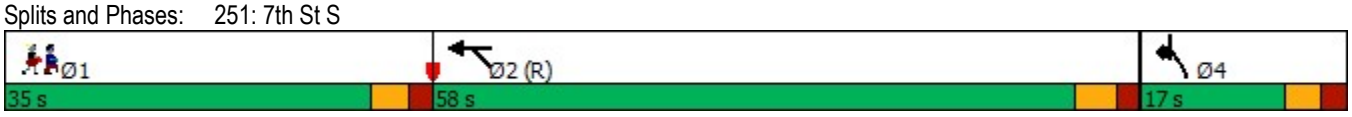


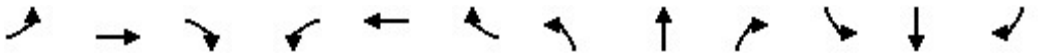
Lane Group	WBT	NBL	SBR	NWL	Ø1
Lane Configurations					
Traffic Volume (vph)	1058	17	5	648	
Future Volume (vph)	1058	17	5	648	
Turn Type	NA	Prot	Prot	Prot	
Protected Phases	2!	4!	4!	2!	1
Permitted Phases					
Detector Phase	2	4	4	2	
Switch Phase					
Minimum Initial (s)	10.0	7.0	7.0	10.0	7.0
Minimum Split (s)	21.5	15.5	15.5	21.5	28.0
Total Split (s)	58.0	17.0	17.0	58.0	35.0
Total Split (%)	52.7%	15.5%	15.5%	52.7%	32%
Yellow Time (s)	3.5	3.0	3.0	3.5	3.0
All-Red Time (s)	2.0	2.3	2.3	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	
Total Lost Time (s)	5.5	5.3	5.3	5.5	
Lead/Lag	Lag			Lag	Lead
Lead-Lag Optimize?					
Recall Mode	C-Max	None	None	C-Max	None
Act Effct Green (s)	99.3	7.0	7.0	99.3	
Actuated g/C Ratio	0.90	0.06	0.06	0.90	
v/c Ratio	0.40	0.05	0.02	0.51	
Control Delay	2.0	0.2	0.0	3.4	
Queue Delay	0.0	0.0	0.0	0.0	
Total Delay	2.0	0.2	0.0	3.4	
LOS	A	A	A	A	
Approach Delay	2.0			3.4	
Approach LOS	A			A	

Intersection Summary	
Cycle Length: 110	
Actuated Cycle Length: 110	
Offset: 67 (61%), Referenced to phase 2:NWWB, Start of 1st Green	
Natural Cycle: 90	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.51	
Intersection Signal Delay: 2.5	Intersection LOS: A
Intersection Capacity Utilization 88.6%	ICU Level of Service E
Analysis Period (min) 15	

! Phase conflict between lane groups.

Splits and Phases: 251: 7th St S





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	415	1098	211	59	226	0	0	162	90
Future Volume (vph)	0	0	0	415	1098	211	59	226	0	0	162	90
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Storage Length (ft)	0		0	100		0	50		0	0		75
Storage Lanes	0		0	0		0	1		0	0		1
Taper Length (ft)	60			60			60			60		
Lane Util. Factor	1.00	1.00	1.00	0.91	0.91	0.91	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor					1.00							
Frt					0.981							0.850
Flt Protected					0.987		0.950					
Satd. Flow (prot)	0	0	0	0	4188	0	1509	1589	0	0	1589	1350
Flt Permitted					0.987		0.529					
Satd. Flow (perm)	0	0	0	0	4188	0	840	1589	0	0	1589	1350
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					45							99
Link Speed (mph)		30			25			25			25	
Link Distance (ft)		1233			700			410			409	
Travel Time (s)		28.0			19.1			11.2			11.2	
Confl. Peds. (#/hr)						1						
Peak Hour Factor	1.00	1.00	1.00	0.87	0.97	0.93	0.82	0.86	1.00	1.00	0.84	0.73
Heavy Vehicles (%)	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%
Adj. Flow (vph)	0	0	0	477	1132	227	72	263	0	0	193	123
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	1836	0	72	263	0	0	193	123
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			12			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.15	1.15	1.15	1.15	1.15	1.15	1.15	1.15	1.15	1.15	1.15	1.15
Turning Speed (mph)	15		9	15		15	15		15	15		9
Number of Detectors				0	0		0	0			0	0
Detector Template												
Leading Detector (ft)				0	0		0	0			0	0
Trailing Detector (ft)				0	0		0	0			0	0
Turn Type				Perm	NA		Perm	NA			NA	Perm
Protected Phases					2			4			8	
Permitted Phases				2			4					8
Detector Phase				2	2		4	4			8	8
Switch Phase												
Minimum Initial (s)				10.0	10.0		10.0	10.0			10.0	10.0
Minimum Split (s)				26.0	26.0		28.2	28.2			28.2	28.2
Total Split (s)				75.0	75.0		35.0	35.0			35.0	35.0
Total Split (%)				68.2%	68.2%		31.8%	31.8%			31.8%	31.8%
Maximum Green (s)				69.0	69.0		28.8	28.8			28.8	28.8
Yellow Time (s)				3.0	3.0		3.0	3.0			3.0	3.0
All-Red Time (s)				3.0	3.0		3.2	3.2			3.2	3.2

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lost Time Adjust (s)					0.0		0.0	-1.5			-1.5	0.0
Total Lost Time (s)					6.0		6.2	4.7			4.7	6.2
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)				0.2	0.2		0.2	0.2			0.2	0.2
Recall Mode				C-Max	C-Max		Max	Max			Max	Max
Walk Time (s)				7.0	7.0		7.0	7.0			7.0	7.0
Flash Dont Walk (s)				13.0	13.0		15.0	15.0			15.0	15.0
Pedestrian Calls (#/hr)				0	0		0	0			0	0
Act Effct Green (s)					69.0		28.8	30.3			30.3	28.8
Actuated g/C Ratio					0.63		0.26	0.28			0.28	0.26
v/c Ratio					0.69		0.33	0.60			0.44	0.29
Control Delay					13.1		28.8	31.9			46.7	22.0
Queue Delay					0.0		0.0	0.0			1.9	0.0
Total Delay					13.1		28.8	31.9			48.6	22.0
LOS					B		C	C			D	C
Approach Delay					13.1			31.3			38.2	
Approach LOS					B			C			D	

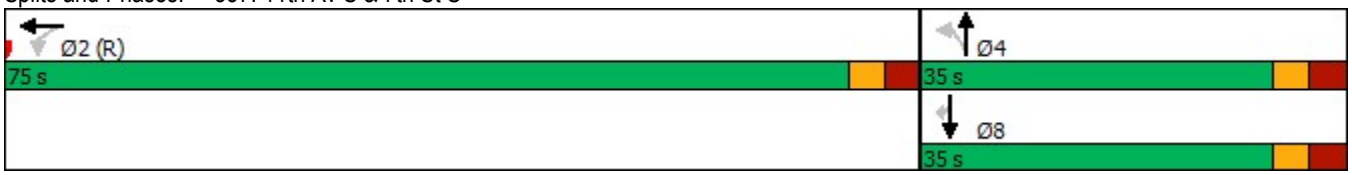
Intersection Summary			
Area Type:	Other		
Cycle Length: 110			
Actuated Cycle Length: 110			
Offset: 55 (50%), Referenced to phase 2:WBTL, Start of 1st Green			
Natural Cycle: 65			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.69			
Intersection Signal Delay: 18.8		Intersection LOS: B	
Intersection Capacity Utilization 88.8%		ICU Level of Service E	
Analysis Period (min) 15			

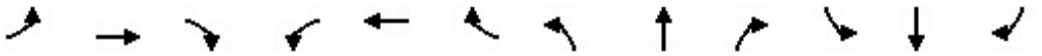
Splits and Phases: 357: 11th Av S & 7th St S

Lane Group	WBT	NBL	NBT	SBT	SBR
Lane Configurations					
Traffic Volume (vph)	1098	59	226	162	90
Future Volume (vph)	1098	59	226	162	90
Turn Type	NA	Perm	NA	NA	Perm
Protected Phases	2		4	8	
Permitted Phases		4			8
Detector Phase	2	4	4	8	8
Switch Phase					
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	26.0	28.2	28.2	28.2	28.2
Total Split (s)	75.0	35.0	35.0	35.0	35.0
Total Split (%)	68.2%	31.8%	31.8%	31.8%	31.8%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	3.0	3.2	3.2	3.2	3.2
Lost Time Adjust (s)	0.0	0.0	-1.5	-1.5	0.0
Total Lost Time (s)	6.0	6.2	4.7	4.7	6.2
Lead/Lag					
Lead-Lag Optimize?					
Recall Mode	C-Max	Max	Max	Max	Max
Act Effct Green (s)	69.0	28.8	30.3	30.3	28.8
Actuated g/C Ratio	0.63	0.26	0.28	0.28	0.26
v/c Ratio	0.69	0.33	0.60	0.44	0.29
Control Delay	13.1	28.8	31.9	46.7	22.0
Queue Delay	0.0	0.0	0.0	1.9	0.0
Total Delay	13.1	28.8	31.9	48.6	22.0
LOS	B	C	C	D	C
Approach Delay	13.1		31.3	38.2	
Approach LOS	B		C	D	

Intersection Summary	
Cycle Length: 110	
Actuated Cycle Length: 110	
Offset: 55 (50%), Referenced to phase 2:WBTL, Start of 1st Green	
Natural Cycle: 65	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.69	
Intersection Signal Delay: 18.8	Intersection LOS: B
Intersection Capacity Utilization 88.8%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 357: 11th Av S & 7th St S





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	167	1030	45	81	86	0	0	158	132
Future Volume (vph)	0	0	0	167	1030	45	81	86	0	0	158	132
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Storage Length (ft)	0		0	0		0	100		0	0		80
Storage Lanes	0		0	0		0	1		0	0		1
Taper Length (ft)	60			60			60			60		
Lane Util. Factor	1.00	1.00	1.00	0.91	0.91	0.91	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor					0.98		0.95					0.91
Frt					0.992							0.850
Flt Protected					0.993		0.950					
Satd. Flow (prot)	0	0	0	0	4245	0	1509	1589	0	0	1589	1350
Flt Permitted					0.993		0.539					
Satd. Flow (perm)	0	0	0	0	4186	0	813	1589	0	0	1589	1231
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					12							65
Link Speed (mph)		25			30			25			25	
Link Distance (ft)		411			1233			407			412	
Travel Time (s)		11.2			28.0			11.1			11.2	
Confl. Peds. (#/hr)				41		43	52					52
Peak Hour Factor	1.00	1.00	1.00	0.93	0.96	0.66	0.75	0.72	1.00	1.00	0.71	0.72
Heavy Vehicles (%)	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%
Adj. Flow (vph)	0	0	0	180	1073	68	108	119	0	0	223	183
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	1321	0	108	119	0	0	223	183
Enter Blocked Intersection	No	No	No	No	No	No	1 veh	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.15	1.15	1.15	1.15	1.15	1.15	1.15	1.15	1.15	1.15	1.15	1.15
Turning Speed (mph)	15		15	15		15	15		15	15		15
Number of Detectors				1	0		0	0			0	0
Detector Template				Left								
Leading Detector (ft)				50	0		0	0			0	0
Trailing Detector (ft)				0	0		0	0			0	0
Detector 1 Position(ft)				0	0		0	0			0	0
Detector 1 Size(ft)				20	6		20	6			6	20
Detector 1 Type				Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex			Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)				0.0	0.0		0.0	0.0			0.0	0.0
Detector 1 Queue (s)				0.0	0.0		0.0	0.0			0.0	0.0
Detector 1 Delay (s)				0.0	0.0		0.0	0.0			0.0	0.0
Turn Type				Perm	NA		Perm	NA			NA	Perm
Protected Phases					2			4			8	
Permitted Phases				2			4					8
Detector Phase				2	2		4	4			8	8
Switch Phase												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)				10.0	10.0		10.0	10.0			10.0	10.0
Minimum Split (s)				64.7	64.7		44.7	44.7			44.7	44.7
Total Split (s)				65.0	65.0		45.0	45.0			45.0	45.0
Total Split (%)				59.1%	59.1%		40.9%	40.9%			40.9%	40.9%
Maximum Green (s)				58.8	58.8		38.8	38.8			38.8	38.8
Yellow Time (s)				3.0	3.0		3.0	3.0			3.0	3.0
All-Red Time (s)				3.2	3.2		3.2	3.2			3.2	3.2
Lost Time Adjust (s)					-1.6		-1.6	-1.6			-1.6	-1.6
Total Lost Time (s)					4.6		4.6	4.6			4.6	4.6
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)				0.2	0.2		0.2	0.2			0.2	0.2
Recall Mode				C-Max	C-Max		Max	Max			Max	Max
Walk Time (s)				7.0	7.0		7.0	7.0			7.0	7.0
Flash Dont Walk (s)				15.0	15.0		15.0	15.0			15.0	15.0
Pedestrian Calls (#/hr)				0	0		0	0			0	0
Act Effct Green (s)					60.4		40.4	40.4			40.4	40.4
Actuated g/C Ratio					0.55		0.37	0.37			0.37	0.37
v/c Ratio					0.57		0.36	0.20			0.38	0.37
Control Delay					13.4		23.7	19.6			18.5	10.0
Queue Delay					0.0		5.1	0.0			0.0	2.6
Total Delay					13.4		28.8	19.6			18.5	12.5
LOS					B		C	B			B	B
Approach Delay					13.4			24.0			15.8	
Approach LOS					B			C			B	

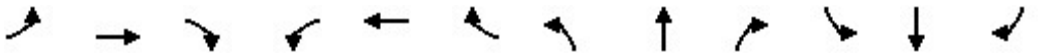
Intersection Summary			
Area Type:	Other		
Cycle Length: 110			
Actuated Cycle Length: 110			
Offset: 58 (53%), Referenced to phase 2:WBTL, Start of 1st Green			
Natural Cycle: 110			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.57			
Intersection Signal Delay: 15.1		Intersection LOS: B	
Intersection Capacity Utilization 65.4%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 579: Chicago Av S & 7th St S

Lane Group	WBT	NBL	NBT	SBT	SBR
Lane Configurations					
Traffic Volume (vph)	1030	81	86	158	132
Future Volume (vph)	1030	81	86	158	132
Turn Type	NA	Perm	NA	NA	Perm
Protected Phases	2		4	8	
Permitted Phases		4			8
Detector Phase	2	4	4	8	8
Switch Phase					
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	64.7	44.7	44.7	44.7	44.7
Total Split (s)	65.0	45.0	45.0	45.0	45.0
Total Split (%)	59.1%	40.9%	40.9%	40.9%	40.9%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	3.2	3.2	3.2	3.2	3.2
Lost Time Adjust (s)	-1.6	-1.6	-1.6	-1.6	-1.6
Total Lost Time (s)	4.6	4.6	4.6	4.6	4.6
Lead/Lag					
Lead-Lag Optimize?					
Recall Mode	C-Max	Max	Max	Max	Max
Act Effct Green (s)	60.4	40.4	40.4	40.4	40.4
Actuated g/C Ratio	0.55	0.37	0.37	0.37	0.37
v/c Ratio	0.57	0.36	0.20	0.38	0.37
Control Delay	13.4	23.7	19.6	18.5	10.0
Queue Delay	0.0	5.1	0.0	0.0	2.6
Total Delay	13.4	28.8	19.6	18.5	12.5
LOS	B	C	B	B	B
Approach Delay	13.4		24.0	15.8	
Approach LOS	B		C	B	

Intersection Summary	
Cycle Length: 110	
Actuated Cycle Length: 110	
Offset: 58 (53%), Referenced to phase 2:WBTL, Start of 1st Green	
Natural Cycle: 110	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.57	
Intersection Signal Delay: 15.1	Intersection LOS: B
Intersection Capacity Utilization 65.4%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 579: Chicago Av S & 7th St S

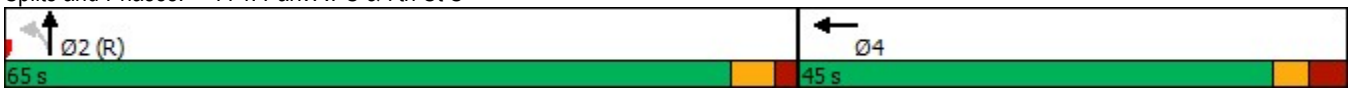


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	0	1188	58	246	666	0	0	0	0
Future Volume (vph)	0	0	0	0	1188	58	246	666	0	0	0	0
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Storage Length (ft)	0		0	0		75	160		0	0		0
Storage Lanes	0		0	0		0	0		0	0		0
Taper Length (ft)	60			60			60			60		
Lane Util. Factor	1.00	1.00	1.00	1.00	0.91	0.91	0.91	0.91	1.00	1.00	1.00	1.00
Ped Bike Factor					1.00			0.99				
Frt					0.992							
Flt Protected								0.985				
Satd. Flow (prot)	0	0	0	0	4288	0	0	4272	0	0	0	0
Flt Permitted								0.985				
Satd. Flow (perm)	0	0	0	0	4288	0	0	4209	0	0	0	0
Right Turn on Red			Yes			Yes	Yes		Yes			Yes
Satd. Flow (RTOR)					9			33				
Link Speed (mph)		25			25			30			25	
Link Distance (ft)		165			411			410			410	
Travel Time (s)		4.5			11.2			9.3			11.2	
Confl. Peds. (#/hr)						35	33					
Peak Hour Factor	1.00	1.00	1.00	1.00	0.92	0.81	0.82	0.94	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%
Adj. Flow (vph)	0	0	0	0	1291	72	300	709	0	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	1363	0	0	1009	0	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.15	1.15	1.15	1.15	1.15	1.15	1.15	1.15	1.15	1.15	1.15	1.15
Turning Speed (mph)	15		15	15		15	15		15	15		15
Number of Detectors					0		0	0				
Detector Template												
Leading Detector (ft)					0		0	0				
Trailing Detector (ft)					0		0	0				
Turn Type					NA		Perm	NA				
Protected Phases					4			2				
Permitted Phases							2					
Detector Phase					4		2	2				
Switch Phase												
Minimum Initial (s)					7.0		10.0	10.0				
Minimum Split (s)					28.3		27.5	27.5				
Total Split (s)					45.0		65.0	65.0				
Total Split (%)					40.9%		59.1%	59.1%				
Maximum Green (s)					38.7		59.5	59.5				
Yellow Time (s)					3.0		3.5	3.5				
All-Red Time (s)					3.3		2.0	2.0				

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lost Time Adjust (s)					-1.6			-1.6				
Total Lost Time (s)					4.7			3.9				
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)					0.2		0.2	0.2				
Recall Mode					Max		C-Max	C-Max				
Walk Time (s)					7.0		7.0	7.0				
Flash Dont Walk (s)					15.0		15.0	15.0				
Pedestrian Calls (#/hr)					0		0	0				
Act Effct Green (s)					40.3			61.1				
Actuated g/C Ratio					0.37			0.56				
v/c Ratio					0.86			0.43				
Control Delay					46.0			31.3				
Queue Delay					9.0			0.6				
Total Delay					55.0			31.9				
LOS					E			C				
Approach Delay					55.0			31.9				
Approach LOS					E			C				

Intersection Summary	
Area Type:	Other
Cycle Length: 110	
Actuated Cycle Length: 110	
Offset: 63 (57%), Referenced to phase 2:NBTL, Start of 1st Green	
Natural Cycle: 60	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.86	
Intersection Signal Delay: 45.2	Intersection LOS: D
Intersection Capacity Utilization 54.5%	ICU Level of Service A
Analysis Period (min) 15	

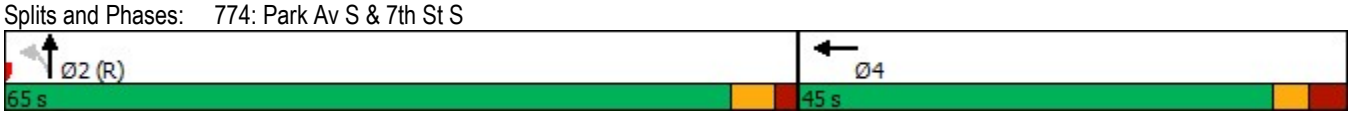
Splits and Phases: 774: Park Av S & 7th St S



Lane Group	WBT	NBT
Lane Configurations		
Traffic Volume (vph)	1188	666
Future Volume (vph)	1188	666
Turn Type	NA	NA
Protected Phases	4	2
Permitted Phases		
Detector Phase	4	2
Switch Phase		
Minimum Initial (s)	7.0	10.0
Minimum Split (s)	28.3	27.5
Total Split (s)	45.0	65.0
Total Split (%)	40.9%	59.1%
Yellow Time (s)	3.0	3.5
All-Red Time (s)	3.3	2.0
Lost Time Adjust (s)	-1.6	-1.6
Total Lost Time (s)	4.7	3.9
Lead/Lag		
Lead-Lag Optimize?		
Recall Mode	Max	C-Max
Act Effct Green (s)	40.3	61.1
Actuated g/C Ratio	0.37	0.56
v/c Ratio	0.86	0.43
Control Delay	46.0	31.3
Queue Delay	9.0	0.6
Total Delay	55.0	31.9
LOS	E	C
Approach Delay	55.0	31.9
Approach LOS	E	C

Intersection Summary	
Cycle Length: 110	
Actuated Cycle Length: 110	
Offset: 63 (57%), Referenced to phase 2:NBTL, Start of 1st Green	
Natural Cycle: 60	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.86	
Intersection Signal Delay: 45.2	Intersection LOS: D
Intersection Capacity Utilization 54.5%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 774: Park Av S & 7th St S



AM Build Conditions

251: 7th St S

Direction	WB	NB	SB	NW	All
Future Volume (vph)	1058	17	5	648	1728
Control Delay / Veh (s/v)	8	0	0	3	6
Queue Delay / Veh (s/v)	0	0	0	0	0
Total Delay / Veh (s/v)	8	0	0	4	6
Total Delay (hr)	2	0	0	1	3
Stops / Veh	0.40	0.00	0.00	0.19	0.32
Stops (#)	420	0	0	125	545
Average Speed (mph)	23	24	24	23	23
Total Travel Time (hr)	27	0	0	10	37
Distance Traveled (mi)	620	1	0	236	857
Fuel Consumed (gal)	31	0	0	12	43
Fuel Economy (mpg)	19.8	NA	NA	20.4	20.0
CO Emissions (kg)	2.19	0.00	0.00	0.81	3.00
NOx Emissions (kg)	0.43	0.00	0.00	0.16	0.58
VOC Emissions (kg)	0.51	0.00	0.00	0.19	0.69
Unserved Vehicles (#)	0	0	0	0	0
Vehicles in dilemma zone (#)	0	0	0	0	0

357: 11th Av S & 7th St S

Direction	WB	NB	SB	All
Future Volume (vph)	1724	285	252	2261
Control Delay / Veh (s/v)	40	39	29	38
Queue Delay / Veh (s/v)	1	0	10	2
Total Delay / Veh (s/v)	41	39	39	40
Total Delay (hr)	20	3	3	25
Stops / Veh	0.77	0.77	0.86	0.78
Stops (#)	1333	220	216	1769
Average Speed (mph)	8	6	6	7
Total Travel Time (hr)	29	4	4	36
Distance Traveled (mi)	229	22	20	270
Fuel Consumed (gal)	30	4	4	38
Fuel Economy (mpg)	7.7	5.4	5.3	7.2
CO Emissions (kg)	2.08	0.29	0.26	2.62
NOx Emissions (kg)	0.40	0.06	0.05	0.51
VOC Emissions (kg)	0.48	0.07	0.06	0.61
Unserved Vehicles (#)	6	0	0	6
Vehicles in dilemma zone (#)	0	0	0	0

579: Chicago Av S & 7th St S

Direction	WB	NB	SB	All
Future Volume (vph)	1242	167	290	1699
Control Delay / Veh (s/v)	15	18	16	16
Queue Delay / Veh (s/v)	0	0	0	0
Total Delay / Veh (s/v)	15	18	16	16
Total Delay (hr)	5	1	1	7
Stops / Veh	0.39	0.50	0.79	0.47
Stops (#)	485	84	229	798
Average Speed (mph)	17	9	10	16
Total Travel Time (hr)	17	1	2	20
Distance Traveled (mi)	290	13	23	326
Fuel Consumed (gal)	19	2	3	23
Fuel Economy (mpg)	15.4	8.4	8.0	14.0
CO Emissions (kg)	1.31	0.11	0.20	1.62
NOx Emissions (kg)	0.26	0.02	0.04	0.32
VOC Emissions (kg)	0.30	0.02	0.05	0.38
Unserved Vehicles (#)	0	0	0	0
Vehicles in dilemma zone (#)	0	0	0	0

774: Park Av S & 7th St S

Direction	WB	NB	All
Future Volume (vph)	1246	912	2158
Control Delay / Veh (s/v)	18	17	18
Queue Delay / Veh (s/v)	1	0	1
Total Delay / Veh (s/v)	19	17	18
Total Delay (hr)	7	4	11
Stops / Veh	0.48	0.64	0.55
Stops (#)	595	587	1182
Average Speed (mph)	9	10	9
Total Travel Time (hr)	11	7	18
Distance Traveled (mi)	97	71	168
Fuel Consumed (gal)	12	9	20
Fuel Economy (mpg)	8.4	8.2	8.3
CO Emissions (kg)	0.81	0.60	1.41
NOx Emissions (kg)	0.16	0.12	0.27
VOC Emissions (kg)	0.19	0.14	0.33
Unserved Vehicles (#)	0	0	0
Vehicles in dilemma zone (#)	0	0	0

Zone P Totals

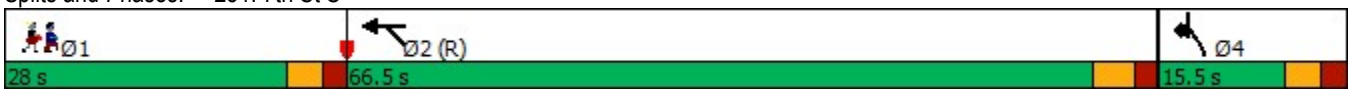
Number of Intersections	4
Control Delay / Veh (s/v)	21
Queue Delay / Veh (s/v)	1
Total Delay / Veh (s/v)	22
Total Delay (hr)	47
Stops / Veh	0.55
Stops (#)	4294
Average Speed (mph)	15
Total Travel Time (hr)	112
Distance Traveled (mi)	1620
Fuel Consumed (gal)	124
Fuel Economy (mpg)	13.1
CO Emissions (kg)	8.65
NOx Emissions (kg)	1.68
VOC Emissions (kg)	2.00
Unserved Vehicles (#)	6
Vehicles in dilemma zone (#)	0
Performance Index	58.8

Lane Group	WBT	NBL	SBR	NWL	Ø1
Lane Configurations					
Traffic Volume (vph)	1058	17	5	648	
Future Volume (vph)	1058	17	5	648	
Ideal Flow (vphpl)	1700	1700	1700	1700	
Lane Util. Factor	1.00	1.00	1.00	1.00	
Frt			0.865		
Flt Protected		0.950		0.950	
Satd. Flow (prot)	1589	1509	1374	1509	
Flt Permitted		0.950		0.950	
Satd. Flow (perm)	1589	1509	1374	1509	
Right Turn on Red		Yes	Yes		
Satd. Flow (RTOR)		309	309		
Link Speed (mph)	25			25	
Link Distance (ft)	3093			1923	
Travel Time (s)	84.4			52.4	
Peak Hour Factor	0.98	0.71	0.63	0.94	
Heavy Vehicles (%)	7%	7%	7%	7%	
Adj. Flow (vph)	1080	24	8	689	
Shared Lane Traffic (%)					
Lane Group Flow (vph)	1080	24	8	689	
Enter Blocked Intersection	No	No	No	No	
Lane Alignment	R NA	L NA	R NA	L NA	
Median Width(ft)	0			12	
Link Offset(ft)	0			0	
Crosswalk Width(ft)	16			16	
Two way Left Turn Lane					
Headway Factor	1.15	1.15	1.15	1.15	
Turning Speed (mph)		15	9	30	
Number of Detectors	2	1	1	1	
Detector Template	Thru	Left	Right	Left	
Leading Detector (ft)	100	50	20	50	
Trailing Detector (ft)	0	0	0	0	
Detector 1 Position(ft)	0	0	0	0	
Detector 1 Size(ft)	6	50	20	50	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel					
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	
Detector 2 Position(ft)	94				
Detector 2 Size(ft)	6				
Detector 2 Type	Cl+Ex				
Detector 2 Channel					
Detector 2 Extend (s)	0.0				
Turn Type	NA	Prot	Prot	Prot	
Protected Phases	2!	4!	4!	2!	1
Permitted Phases					
Detector Phase	2	4	4	2	
Switch Phase					

Lane Group	WBT	NBL	SBR	NWL	Ø1
Minimum Initial (s)	10.0	7.0	7.0	10.0	7.0
Minimum Split (s)	21.5	15.5	15.5	21.5	28.0
Total Split (s)	66.5	15.5	15.5	66.5	28.0
Total Split (%)	60.5%	14.1%	14.1%	60.5%	25%
Maximum Green (s)	61.0	10.2	10.2	61.0	23.0
Yellow Time (s)	3.5	3.0	3.0	3.5	3.0
All-Red Time (s)	2.0	2.3	2.3	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	
Total Lost Time (s)	5.5	5.3	5.3	5.5	
Lead/Lag	Lag			Lag	Lead
Lead-Lag Optimize?					
Vehicle Extension (s)	0.2	4.0	4.0	0.2	4.0
Recall Mode	C-Max	None	None	C-Max	None
Walk Time (s)	5.0	5.0	5.0	5.0	7.0
Flash Dont Walk (s)	5.0	5.0	5.0	5.0	16.0
Pedestrian Calls (#/hr)	0	0	0	0	0
Act Effct Green (s)	99.3	7.0	7.0	99.3	
Actuated g/C Ratio	0.90	0.06	0.06	0.90	
v/c Ratio	0.75	0.06	0.02	0.51	
Control Delay	7.9	0.3	0.2	3.4	
Queue Delay	0.5	0.0	0.0	0.1	
Total Delay	8.4	0.3	0.2	3.5	
LOS	A	A	A	A	
Approach Delay	8.4			3.5	
Approach LOS	A			A	

Intersection Summary			
Area Type:	Other		
Cycle Length: 110			
Actuated Cycle Length: 110			
Offset: 67 (61%), Referenced to phase 2:NWWB, Start of 1st Green			
Natural Cycle: 150			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.75			
Intersection Signal Delay: 6.4		Intersection LOS: A	
Intersection Capacity Utilization 118.2%		ICU Level of Service H	
Analysis Period (min) 15			
! Phase conflict between lane groups.			

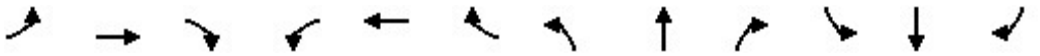
Splits and Phases: 251: 7th St S



Lane Group	WBT	NBL	SBR	NWL	Ø1
Protected Phases	2!	4!	4!	2!	1
Permitted Phases					
Minimum Initial (s)	10.0	7.0	7.0	10.0	7.0
Minimum Split (s)	21.5	15.5	15.5	21.5	28.0
Total Split (s)	66.5	15.5	15.5	66.5	28.0
Total Split (%)	60.5%	14.1%	14.1%	60.5%	25%
Maximum Green (s)	61.0	10.2	10.2	61.0	23.0
Yellow Time (s)	3.5	3.0	3.0	3.5	3.0
All-Red Time (s)	2.0	2.3	2.3	2.0	2.0
Lead/Lag	Lag			Lag	Lead
Lead-Lag Optimize?					
Vehicle Extension (s)	0.2	4.0	4.0	0.2	4.0
Minimum Gap (s)	0.2	4.0	4.0	0.2	0.2
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0
Recall Mode	C-Max	None	None	C-Max	None
Walk Time (s)	5.0	5.0	5.0	5.0	7.0
Flash Dont Walk (s)	5.0	5.0	5.0	5.0	16.0
Pedestrian Calls (#/hr)	0	0	0	0	0
90th %ile Green (s)	92.2	7.0	7.0	92.2	0.0
90th %ile Term Code	Coord	Min	Min	Coord	Skip
70th %ile Green (s)	92.2	7.0	7.0	92.2	0.0
70th %ile Term Code	Coord	Min	Min	Coord	Skip
50th %ile Green (s)	92.2	7.0	7.0	92.2	0.0
50th %ile Term Code	Coord	Min	Min	Coord	Skip
30th %ile Green (s)	104.5	0.0	0.0	104.5	0.0
30th %ile Term Code	Coord	Skip	Skip	Coord	Skip
10th %ile Green (s)	104.5	0.0	0.0	104.5	0.0
10th %ile Term Code	Coord	Skip	Skip	Coord	Skip

Intersection Summary
Cycle Length: 110
Actuated Cycle Length: 110
Offset: 67 (61%), Referenced to phase 2:NWWB, Start of 1st Green
Control Type: Actuated-Coordinated

! Phase conflict between lane groups.



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	415	1098	211	59	226	0	0	162	90
Future Volume (vph)	0	0	0	415	1098	211	59	226	0	0	162	90
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Storage Length (ft)	0		0	100		150	50		0	0		75
Storage Lanes	0		0	0		1	0		0	0		0
Taper Length (ft)	60			60			60			60		
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						0.98						
Frt						0.850					0.947	
Flt Protected					0.985			0.989				
Satd. Flow (prot)	0	0	0	0	2973	1350	0	1571	0	0	1505	0
Flt Permitted					0.985			0.740				
Satd. Flow (perm)	0	0	0	0	2973	1320	0	1176	0	0	1505	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						133					33	
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		1233			700			410			409	
Travel Time (s)		33.6			19.1			11.2			11.2	
Confl. Peds. (#/hr)						1						
Peak Hour Factor	1.00	1.00	1.00	0.87	0.97	0.93	0.82	0.86	1.00	1.00	0.84	0.73
Heavy Vehicles (%)	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%
Adj. Flow (vph)	0	0	0	477	1132	227	72	263	0	0	193	123
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	1609	227	0	335	0	0	316	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			12			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.15	1.15	1.15	1.15	1.15	1.15	1.15	1.15	1.15	1.15	1.15	1.15
Turning Speed (mph)	15		9	15		15	15		15	15		9
Number of Detectors				0	0	0	0	0			0	
Detector Template												
Leading Detector (ft)				0	0	0	0	0			0	
Trailing Detector (ft)				0	0	0	0	0			0	
Turn Type				Perm	NA	Perm	Perm	NA			NA	
Protected Phases					2			4			8	
Permitted Phases				2		2	4					
Detector Phase				2	2	2	4	4			8	
Switch Phase												
Minimum Initial (s)				10.0	10.0	10.0	10.0	10.0			10.0	
Minimum Split (s)				64.5	64.5	64.5	44.7	44.7			44.7	
Total Split (s)				65.3	65.3	65.3	44.7	44.7			44.7	
Total Split (%)				59.4%	59.4%	59.4%	40.6%	40.6%			40.6%	
Maximum Green (s)				59.3	59.3	59.3	38.5	38.5			38.5	
Yellow Time (s)				3.0	3.0	3.0	3.0	3.0			3.0	
All-Red Time (s)				3.0	3.0	3.0	3.2	3.2			3.2	

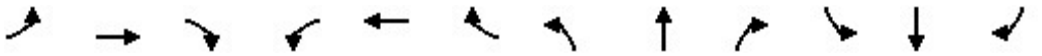
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lost Time Adjust (s)					0.0	0.0		-1.5			-1.5	
Total Lost Time (s)					6.0	6.0		4.7			4.7	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)				0.2	0.2	0.2	0.2	0.2			0.2	
Recall Mode				C-Max	C-Max	C-Max	Max	Max			Max	
Walk Time (s)				7.0	7.0	7.0	7.0	7.0			7.0	
Flash Dont Walk (s)				13.0	13.0	13.0	15.0	15.0			15.0	
Pedestrian Calls (#/hr)				0	0	0	0	0			0	
Act Effct Green (s)					59.3	59.3		40.0			40.0	
Actuated g/C Ratio					0.54	0.54		0.36			0.36	
v/c Ratio					1.00	0.29		0.78			0.56	
Control Delay					44.7	5.3		38.9			28.7	
Queue Delay					1.2	0.0		0.1			10.2	
Total Delay					45.8	5.3		39.0			38.8	
LOS					D	A		D			D	
Approach Delay					40.8			39.0			38.8	
Approach LOS					D			D			D	

Intersection Summary			
Area Type:	Other		
Cycle Length: 110			
Actuated Cycle Length: 110			
Offset: 55 (50%), Referenced to phase 2:WBTL, Start of 1st Green			
Natural Cycle: 110			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.00			
Intersection Signal Delay: 40.3		Intersection LOS: D	
Intersection Capacity Utilization 92.8%		ICU Level of Service F	
Analysis Period (min) 15			

Splits and Phases: 357: 11th Av S & 7th St S

Lane Group	WBT	WBR	NBL	NBT	SBT
Protected Phases	2			4	8
Permitted Phases		2	4		
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	64.5	64.5	44.7	44.7	44.7
Total Split (s)	65.3	65.3	44.7	44.7	44.7
Total Split (%)	59.4%	59.4%	40.6%	40.6%	40.6%
Maximum Green (s)	59.3	59.3	38.5	38.5	38.5
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	3.0	3.0	3.2	3.2	3.2
Lead/Lag					
Lead-Lag Optimize?					
Vehicle Extension (s)	0.2	0.2	0.2	0.2	0.2
Minimum Gap (s)	0.2	0.2	0.2	0.2	0.2
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0
Recall Mode	C-Max	C-Max	Max	Max	Max
Walk Time (s)	7.0	7.0	7.0	7.0	7.0
Flash Dont Walk (s)	13.0	13.0	15.0	15.0	15.0
Pedestrian Calls (#/hr)	0	0	0	0	0
90th %ile Green (s)	59.3	59.3	38.5	38.5	38.5
90th %ile Term Code	Coord	Coord	MaxR	MaxR	MaxR
70th %ile Green (s)	59.3	59.3	38.5	38.5	38.5
70th %ile Term Code	Coord	Coord	MaxR	MaxR	MaxR
50th %ile Green (s)	59.3	59.3	38.5	38.5	38.5
50th %ile Term Code	Coord	Coord	MaxR	MaxR	MaxR
30th %ile Green (s)	59.3	59.3	38.5	38.5	38.5
30th %ile Term Code	Coord	Coord	MaxR	MaxR	MaxR
10th %ile Green (s)	59.3	59.3	38.5	38.5	38.5
10th %ile Term Code	Coord	Coord	MaxR	MaxR	MaxR

Intersection Summary
Cycle Length: 110
Actuated Cycle Length: 110
Offset: 55 (50%), Referenced to phase 2:WBTL, Start of 1st Green
Control Type: Actuated-Coordinated



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	167	1030	45	81	86	0	0	158	132
Future Volume (vph)	0	0	0	167	1030	45	81	86	0	0	158	132
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Storage Length (ft)	0		0	0		150	100		0	0		80
Storage Lanes	0		0	0		1	1		0	0		1
Taper Length (ft)	60			60			60			60		
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor					0.99	0.87	0.95					0.91
Frt						0.850						0.850
Flt Protected					0.993		0.950					
Satd. Flow (prot)	0	0	0	0	2998	1350	1509	1589	0	0	1589	1350
Flt Permitted					0.993		0.537					
Satd. Flow (perm)	0	0	0	0	2953	1181	810	1589	0	0	1589	1231
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						51						66
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		411			1233			407			412	
Travel Time (s)		11.2			33.6			11.1			11.2	
Confl. Peds. (#/hr)				41		43	52					52
Peak Hour Factor	1.00	1.00	1.00	0.93	0.96	0.66	0.75	0.72	1.00	1.00	0.71	0.72
Heavy Vehicles (%)	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%
Adj. Flow (vph)	0	0	0	180	1073	68	108	119	0	0	223	183
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	1253	68	108	119	0	0	223	183
Enter Blocked Intersection	No	No	No	No	No	No	1 veh	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.15	1.15	1.15	1.15	1.15	1.15	1.15	1.15	1.15	1.15	1.15	1.15
Turning Speed (mph)	15		15	15		15	15		15	15		15
Number of Detectors				1	0	0	0	0			0	0
Detector Template				Left								
Leading Detector (ft)				50	0	0	0	0			0	0
Trailing Detector (ft)				0	0	0	0	0			0	0
Detector 1 Position(ft)				0	0	0	0	0			0	0
Detector 1 Size(ft)				20	6	0	20	6			6	20
Detector 1 Type				Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex			Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)				0.0	0.0	0.0	0.0	0.0			0.0	0.0
Detector 1 Queue (s)				0.0	0.0	0.0	0.0	0.0			0.0	0.0
Detector 1 Delay (s)				0.0	0.0	0.0	0.0	0.0			0.0	0.0
Turn Type				Perm	NA	Perm	Perm	NA			NA	Perm
Protected Phases					2			4			8	
Permitted Phases				2		2	4					8
Detector Phase				2	2	2	4	4			8	8
Switch Phase												

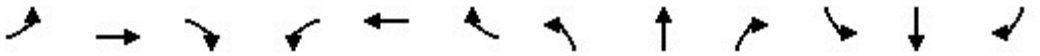
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)				10.0	10.0	10.0	10.0	10.0			10.0	10.0
Minimum Split (s)				64.7	64.7	64.7	44.7	44.7			44.7	44.7
Total Split (s)				65.3	65.3	65.3	44.7	44.7			44.7	44.7
Total Split (%)				59.4%	59.4%	59.4%	40.6%	40.6%			40.6%	40.6%
Maximum Green (s)				59.1	59.1	59.1	38.5	38.5			38.5	38.5
Yellow Time (s)				3.0	3.0	3.0	3.0	3.0			3.0	3.0
All-Red Time (s)				3.2	3.2	3.2	3.2	3.2			3.2	3.2
Lost Time Adjust (s)					-1.6	0.0	-1.6	-1.6			-1.6	-1.6
Total Lost Time (s)					4.6	6.2	4.6	4.6			4.6	4.6
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)				0.2	0.2	0.2	0.2	0.2			0.2	0.2
Recall Mode				C-Max	C-Max	C-Max	Max	Max			Max	Max
Walk Time (s)				7.0	7.0	7.0	7.0	7.0			7.0	7.0
Flash Dont Walk (s)				15.0	15.0	15.0	15.0	15.0			15.0	15.0
Pedestrian Calls (#/hr)				0	0	0	0	0			0	0
Act Effct Green (s)					60.7	59.1	40.1	40.1			40.1	40.1
Actuated g/C Ratio					0.55	0.54	0.36	0.36			0.36	0.36
v/c Ratio					0.77	0.10	0.37	0.21			0.39	0.37
Control Delay					15.6	6.3	20.2	16.5			18.7	12.9
Queue Delay					0.1	0.0	0.0	0.0			0.0	0.0
Total Delay					15.8	6.3	20.2	16.5			18.7	12.9
LOS					B	A	C	B			B	B
Approach Delay					15.3			18.3			16.0	
Approach LOS					B			B			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 110			
Actuated Cycle Length: 110			
Offset: 69 (63%), Referenced to phase 2:WBTL, Start of 1st Green			
Natural Cycle: 110			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.77			
Intersection Signal Delay: 15.8		Intersection LOS: B	
Intersection Capacity Utilization 75.4%		ICU Level of Service D	
Analysis Period (min) 15			

Splits and Phases: 579: Chicago Av S & 7th St S

Lane Group	WBT	WBR	NBL	NBT	SBT	SBR
Protected Phases	2			4	8	
Permitted Phases		2	4			8
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	64.7	64.7	44.7	44.7	44.7	44.7
Total Split (s)	65.3	65.3	44.7	44.7	44.7	44.7
Total Split (%)	59.4%	59.4%	40.6%	40.6%	40.6%	40.6%
Maximum Green (s)	59.1	59.1	38.5	38.5	38.5	38.5
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	3.2	3.2	3.2	3.2	3.2	3.2
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	0.2	0.2	0.2	0.2	0.2	0.2
Minimum Gap (s)	0.2	0.2	0.2	0.2	0.2	0.2
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	C-Max	C-Max	Max	Max	Max	Max
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	7.0
Flash Dont Walk (s)	15.0	15.0	15.0	15.0	15.0	15.0
Pedestrian Calls (#/hr)	0	0	0	0	0	0
90th %ile Green (s)	59.1	59.1	38.5	38.5	38.5	38.5
90th %ile Term Code	Coord	Coord	MaxR	MaxR	MaxR	MaxR
70th %ile Green (s)	59.1	59.1	38.5	38.5	38.5	38.5
70th %ile Term Code	Coord	Coord	MaxR	MaxR	MaxR	MaxR
50th %ile Green (s)	59.1	59.1	38.5	38.5	38.5	38.5
50th %ile Term Code	Coord	Coord	MaxR	MaxR	MaxR	MaxR
30th %ile Green (s)	59.1	59.1	38.5	38.5	38.5	38.5
30th %ile Term Code	Coord	Coord	MaxR	MaxR	MaxR	MaxR
10th %ile Green (s)	59.1	59.1	38.5	38.5	38.5	38.5
10th %ile Term Code	Coord	Coord	MaxR	MaxR	MaxR	MaxR

Intersection Summary
Cycle Length: 110
Actuated Cycle Length: 110
Offset: 69 (63%), Referenced to phase 2:WBTL, Start of 1st Green
Control Type: Actuated-Coordinated

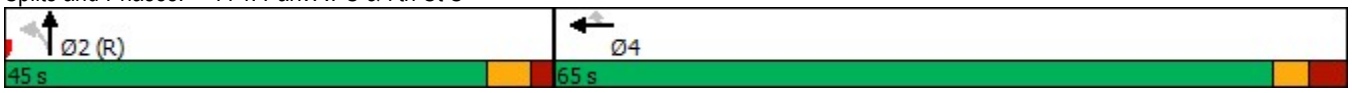


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	0	1188	58	246	666	0	0	0	0
Future Volume (vph)	0	0	0	0	1188	58	246	666	0	0	0	0
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Storage Length (ft)	0		0	0		150	160		0	0		0
Storage Lanes	0		0	0		1	0		0	0		0
Taper Length (ft)	60			60			60			60		
Lane Util. Factor	1.00	1.00	1.00	1.00	0.95	1.00	0.91	0.91	1.00	1.00	1.00	1.00
Ped Bike Factor						0.94		0.99				
Frt						0.850						
Flt Protected								0.985				
Satd. Flow (prot)	0	0	0	0	3019	1350	0	4272	0	0	0	0
Flt Permitted								0.985				
Satd. Flow (perm)	0	0	0	0	3019	1265	0	4209	0	0	0	0
Right Turn on Red			Yes			Yes	Yes		Yes			Yes
Satd. Flow (RTOR)						52		46				
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		165			411			410			410	
Travel Time (s)		4.5			11.2			11.2			11.2	
Confl. Peds. (#/hr)						35	33					
Peak Hour Factor	1.00	1.00	1.00	1.00	0.92	0.81	0.82	0.94	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%
Adj. Flow (vph)	0	0	0	0	1291	72	300	709	0	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	1291	72	0	1009	0	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.15	1.15	1.15	1.15	1.15	1.15	1.15	1.15	1.15	1.15	1.15	1.15
Turning Speed (mph)	15		15	15		15	15		15	15		15
Number of Detectors					0	0	0	0				
Detector Template												
Leading Detector (ft)					0	0	0	0				
Trailing Detector (ft)					0	0	0	0				
Turn Type					NA	Perm	Perm	NA				
Protected Phases					4			2				
Permitted Phases						4	2					
Detector Phase					4	4	2	2				
Switch Phase												
Minimum Initial (s)					7.0	7.0	10.0	10.0				
Minimum Split (s)					64.8	64.8	44.0	44.0				
Total Split (s)					65.0	65.0	45.0	45.0				
Total Split (%)					59.1%	59.1%	40.9%	40.9%				
Maximum Green (s)					58.7	58.7	39.5	39.5				
Yellow Time (s)					3.0	3.0	3.5	3.5				
All-Red Time (s)					3.3	3.3	2.0	2.0				

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lost Time Adjust (s)					-1.6	0.0		-1.6				
Total Lost Time (s)					4.7	6.3		3.9				
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)					0.2	0.2	0.2	0.2				
Recall Mode					Max	Max	C-Max	C-Max				
Walk Time (s)					7.0	7.0	7.0	7.0				
Flash Dont Walk (s)					15.0	15.0	15.0	15.0				
Pedestrian Calls (#/hr)					0	0	0	0				
Act Effct Green (s)					60.3	58.7		41.1				
Actuated g/C Ratio					0.55	0.53		0.37				
v/c Ratio					0.78	0.10		0.63				
Control Delay					18.9	5.7		16.8				
Queue Delay					1.0	0.0		0.1				
Total Delay					19.9	5.7		17.0				
LOS					B	A		B				
Approach Delay					19.1			17.0				
Approach LOS					B			B				

Intersection Summary			
Area Type:	Other		
Cycle Length: 110			
Actuated Cycle Length: 110			
Offset: 18 (16%), Referenced to phase 2:NBTL, Start of 1st Green			
Natural Cycle: 110			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.78			
Intersection Signal Delay: 18.2		Intersection LOS: B	
Intersection Capacity Utilization 63.9%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 774: Park Av S & 7th St S



Lane Group	WBT	WBR	NBT
Protected Phases	4		2
Permitted Phases		4	
Minimum Initial (s)	7.0	7.0	10.0
Minimum Split (s)	64.8	64.8	44.0
Total Split (s)	65.0	65.0	45.0
Total Split (%)	59.1%	59.1%	40.9%
Maximum Green (s)	58.7	58.7	39.5
Yellow Time (s)	3.0	3.0	3.5
All-Red Time (s)	3.3	3.3	2.0
Lead/Lag			
Lead-Lag Optimize?			
Vehicle Extension (s)	0.2	0.2	0.2
Minimum Gap (s)	0.2	0.2	0.2
Time Before Reduce (s)	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0
Recall Mode	Max	Max	C-Max
Walk Time (s)	7.0	7.0	7.0
Flash Dont Walk (s)	15.0	15.0	15.0
Pedestrian Calls (#/hr)	0	0	0
90th %ile Green (s)	58.7	58.7	39.5
90th %ile Term Code	MaxR	MaxR	Coord
70th %ile Green (s)	58.7	58.7	39.5
70th %ile Term Code	MaxR	MaxR	Coord
50th %ile Green (s)	58.7	58.7	39.5
50th %ile Term Code	MaxR	MaxR	Coord
30th %ile Green (s)	58.7	58.7	39.5
30th %ile Term Code	MaxR	MaxR	Coord
10th %ile Green (s)	58.7	58.7	39.5
10th %ile Term Code	MaxR	MaxR	Coord

Intersection Summary
Cycle Length: 110
Actuated Cycle Length: 110
Offset: 18 (16%), Referenced to phase 2:NBTL, Start of 1st Green
Control Type: Actuated-Coordinated

Traffic Safety Benefit-Cost Calculation

Highway Safety Improvement Program (HSIP) Reactive Project

DEPARTMENT OF TRANSPORTATION

A. Roadway Description

Route	7th Street	**District**	Metro	**County**	Hennepin
Begin RP	n/a	**End RP**	n/a	**Miles**	0.46
Location	Minneapolis, Minnesota				

B. Project Description

Proposed Work	Alter lane configuration on 7th Street to 1 BAT Lane, 1 Thru-Lane, and 1 Dynamic Lane		
Project Cost*	$10,075,820	**Installation Year**	2029
Project Service Life	30 years	**Traffic Growth Factor**	1.0%

** exclude Right of Way from Project Cost*

C. Crash Modification Factor

0.53	**Fatal (K) Crashes**	**Reference**	CMF ID 2841 for converting four-lane roadway to three-lane roadway with center turn lane (road diet)
0.53	**Serious Injury (A) Crashes**		
0.53	**Moderate Injury (B) Crashes**	**Crash Type**	All Intersection Related Crashes
0.53	**Possible Injury (C) Crashes**		
0.53	**Property Damage Only Crashes**		www.CMFclearinghouse.org

D. Crash Modification Factor (optional second CMF)

0.33	**Fatal (K) Crashes**	**Reference**	CMF ID 2842 (see description above) CMF ID 153 for prohibiting on-street parking. Combined using CMF Additive Method from FHWA.
0.33	**Serious Injury (A) Crashes**		
0.33	**Moderate Injury (B) Crashes**		
0.33	**Possible Injury (C) Crashes**	**Crash Type**	All Parking, Sideswipe, and Driveway Crashes
0.33	**Property Damage Only Crashes**		www.CMFclearinghouse.org

E. Crash Data

Begin Date 1/1/2020 **End Date** 12/31/2022 3 years

Data Source Minnesota Crash Mapping Analysis Tool 2 (MnCMAT2)

Crash Severity	All Intersection Crashes	Parking, Sideswipe, Driveways
K crashes	0	0
A crashes	1	0
B crashes	3	1
C crashes	1	1
PDO crashes	8	2

F. Benefit-Cost Calculation

$11,535,476	**Benefit (present value)**	**B/C Ratio = 1.15**
$10,075,820	**Cost**	

Proposed project expected to reduce 3 crashes annually, 1 of which involving fatality or serious injury.

F. Analysis Assumptions

Crash Severity	Crash Cost
K crashes	$1,600,000
A crashes	$800,000
B crashes	$250,000
C crashes	$130,000
PDO crashes	$15,000

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

Real Discount Rate:	0.8%	Default
Traffic Growth Rate:	1.0%	**Revised**
Project Service Life:	30 years	**Revised**

G. Annual Benefit

Crash Severity	Crash Reduction	Annual Reduction	Annual Benefit
K crashes	0.00	0.00	$0
A crashes	0.47	0.16	$125,333
B crashes	2.08	0.69	$173,333
C crashes	1.14	0.38	$49,400
PDO crashes	5.10	1.70	$25,500
			$373,567

H. Amortized Benefit

Year	Crash Benefits	Present Value
2029	$373,567	$373,567
2030	$377,302	$374,308
2031	$381,075	$375,051
2032	$384,886	$375,795
2033	$388,735	$376,540
2034	$392,622	$377,287
2035	$396,549	$378,036
2036	$400,514	$378,786
2037	$404,519	$379,538
2038	$408,564	$380,291
2039	$412,650	$381,045
2040	$416,777	$381,801
2041	$420,944	$382,559
2042	$425,154	$383,318
2043	$429,405	$384,078
2044	$433,699	$384,840
2045	$438,036	$385,604
2046	$442,417	$386,369
2047	$446,841	$387,136
2048	$451,309	$387,904
2049	$455,822	$388,674
2050	$460,381	$389,445
2051	$464,984	$390,217
2052	$469,634	$390,992
2053	$474,331	$391,767
2054	$479,074	$392,545
2055	$483,865	$393,324
2056	$488,703	$394,104
2057	$493,590	$394,886
2058	$498,526	$395,669
0	$0	$0

Total = $11,535,476

NOTE:
This calculation relies on the real discount rate, which accounts for inflation. No further discounting is necessary.

CMF &
Safety Summary

CRASH MODIFICATION FACTORS CLEARINGHOUSE

CMF / CRF Details

CMF ID: 2841

CMF Name: Converting four-lane roadways to three-lane roadways with center t

Description: Conversion of road segments from a four-lane to a three-lane cros

Prior Condition: Four-lane undivided roadway

Category: Roadway

Study ID: *Comparison of empirical Bayes and full Bayes approaches for before-after road safety evaluations*, Persaud et. al 2010

Star Quality Rating	
Star Quality Rating:	5 Stars

Crash Modification Factor (CMF)	
Value:	0.53
Adjusted Standard Error:	
Unadjusted Standard Error:	0.02

Crash Reduction Factor	
Value:	47
Adjusted Standard Error:	
Unadjusted Standard Error:	2

Applicability	
Crash Type:	All
Crash Severity:	All
Roadway Types:	Not Specified
Minimum Number of Lanes:	4
Maximum Number of Lanes:	4
Number of Lanes Direction:	
Number of Lanes Comment:	
Road Division Type:	Undivided
Minimum Speed Limit:	
Maximum Speed Limit:	
Speed Unit:	
Speed Limit Comment:	
Area Type:	Urban and suburban
Traffic Volume:	
Average Traffic Volume:	
Time of Day:	All
If countermeasure is intersection-based.	
Intersection Type:	
Intersection Geometry:	
Traffic Control:	
Major Road Traffic Volume:	
Minor Road Traffic Volume:	

Average Major Road Volume:	
Average Minor Road Volume:	

Development Details

Date Range of Data Used:	1982 to 2004
Municipality:	
State:	
Country:	
Type of Methodology Used:	Before/after using empirical Bayes or full Bayes

Other Details

Included in HSM:	No
Date Added to Clearinghouse:	Mar 21, 2011
Comments:	When this CMF was initially entered in the Clearinghouse, it was incorrectly entered as a CMF of 0.47. In March 2015, this was corrected to be 0.53, as presented in the original paper. In February 2021, the area type for this CMF was changed from suburban to urban/suburban to account for the fact that the treatment sites were largely located in small urban areas.

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

CRASH MODIFICATION FACTORS CLEARINGHOUSE

CMF / CRF Details

CMF ID: 153

CMF Name: Prohibit on-street parking

Description:

Prior Condition: No Prior Condition(s)

Category: On-street parking

Study ID: *Handbook of Road Safety Measures*, Elvik, R. and Vaa, T. 2004

Star Quality Rating	
Star Quality Rating:	4 Stars

Crash Modification Factor (CMF)	
Value:	0.8
Adjusted Standard Error:	0.05
Unadjusted Standard Error:	0.03

Crash Reduction Factor	
Value:	20
Adjusted Standard Error:	5
Unadjusted Standard Error:	3

Applicability	
Crash Type:	All
Crash Severity:	A (serious injury),B (minor injury),C (possible injury)
Roadway Types:	Minor Arterial
Minimum Number of Lanes:	
Maximum Number of Lanes:	
Number of Lanes Direction:	
Number of Lanes Comment:	
Road Division Type:	
Minimum Speed Limit:	
Maximum Speed Limit:	
Speed Unit:	
Speed Limit Comment:	
Area Type:	Urban
Traffic Volume:	
Average Traffic Volume:	
Time of Day:	
If countermeasure is intersection-based.	
Intersection Type:	
Intersection Geometry:	
Traffic Control:	
Major Road Traffic Volume:	
Minor Road Traffic Volume:	

Average Major Road Volume:	
Average Minor Road Volume:	

Development Details

Date Range of Data Used:	
Municipality:	
State:	
Country:	
Type of Methodology Used:	Meta-analysis

Other Details

Included in HSM:	No
Date Added to Clearinghouse:	Dec 01, 2009
Comments:	

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INCIDENT ID	INTERSECTION	SEGMENT	INCLUDE	NOTES	MONTH	DAY	YEAR	DAY OF WEEK	HOUR	SEVERITY	MANNER OF COLLISION	COLLISION - ALLIANT	DIRECTION 1	CRASH MANUEVER 1	DIRECTION 2	CRASH MANUEVER 2	UTM X	UTM Y	LATITUDE	LONGITUDE	DATE & TIME	COLLISION DIAGRAM
889340	INT 1		YES		2	9	2021	Tue	18	PDO	Front to Rear	Rear End	Northbound	Vehicle Stopped or Stalled in Roadway	Northbound	Moving Forward	479386.1334	4979891.98	44.97217705	-93.26142774	2021/02/09-18:18	2021/02/09-18:18-DI-C-X
806025	INT 1		YES		4	3	2020	Fri	17	PDO	Front to Rear	Rear End	Northbound	Moving Forward	Northbound	Vehicle Stopped or Stalled in Roadway	479392.0608	4979901.852	44.97226609	-93.26135298	2020/04/03-17:29	2020/04/03-17:29-L-C-W
897548	INT 4		YES	Police Pursuit	3	20	2021	Sat	0	B	Front to Rear	Rear End	Westbound	Moving Forward	Westbound	Vehicle Stopped or Stalled in Roadway	479711.1617	4979710.787	44.97055533	-93.25729856	2021/03/20-00:49	2021/03/20-00:49-DI-C-D
1063035	INT 4		YES		12	4	2022	Sun	10	B	Angle	Angle	Southbound	Moving Forward	Westbound	Moving Forward	479710.687	4979710	44.97054824	-93.25730455	2022/12/04-10:00	2022/12/04-10:00-L-C-W
1019786	INT 4		YES		4	28	2022	Thu	14	B	Angle	Angle	Westbound	Moving Forward	Southbound	Turning Right	479714.0442	4979715.563	44.97059841	-93.2572622	2022/04/28-14:33	2022/04/28-14:33-L-C-D
1053646	INT 4		YES	WBT vs PED	10	25	2022	Tue	5	PDO	Unknown	Other	Unknown	Unknown	-	-	479717.8045	4979721.793	44.9706546	-93.25721477	2022/10/25-05:18	2022/10/25-05:18-Du-C-D
1066135		SEG A	YES	Driver struck parked vehicl	12	16	2022	Fri	10	B	-	Rear End	Westbound	Moving Forward	Westbound	Parked, Entering or Leaving a Parked stall	479748.5521	4979687.02	44.97034246	-93.25682345	2022/12/16-10:50	2022/12/16-10:50-L-C-S
867623	INT 4		YES		12	12	2020	Sat	3	PDO	Front to Rear	Rear End	Westbound	Vehicle Stopped or Stalled in Roadway	Westbound	Moving Forward	479716.0776	4979706.729	44.97051894	-93.25723606	2020/12/12-03:27	2020/12/12-03:27-DI-C-D
1016565	INT 4		YES		4	8	2022	Fri	11	PDO	Angle	Angle	Westbound	Moving Forward	Southbound	Moving Forward	479713.9369	4979708.028	44.97053058	-93.25726326	2022/04/08-11:00	2022/04/08-11:00-L-C-D
839544	INT 4		YES		9	7	2020	Mon	23	C	Angle	Angle	Northbound	Moving Forward	Westbound	Moving Forward	479710.687	4979710	44.97054824	-93.25730455	2020/09/07-23:44	2020/09/07-23:44-DI-C-D
940349		SEG A	YES		9	13	2021	Mon	20	PDO	Sideswipe - Same Direction	Sideswipe	Westbound	Changing Lanes	Westbound	Moving Forward	479709.2002	4979710.901	44.97055631	-93.25732344	2021/09/13-20:17	2021/09/13-20:17-DI-R-W
841320	INT 4		YES		9	17	2020	Thu	22	A	Angle	Angle	Westbound	Moving Forward	Northbound	Moving Forward	479707.3714	4979712.009	44.97056623	-93.25734668	2020/09/17-22:20	2020/09/17-22:20-DI-C-D
1045099		SEG A	YES	Driver struck parked vehicle	9	11	2022	Sun	22	C	-	Rear End	Westbound	Moving Forward	Westbound	Parked, Entering or Leaving a Parked stall	479706.8642	4979712.316	44.97056898	-93.25735312	2022/09/11-22:40	2022/09/11-22:40-DI-C-D
1009518	INT 3		YES		2	26	2022	Sat	11	PDO	Front to Rear	Rear End	Westbound	Moving Forward	Westbound	Vehicle Stopped or Stalled in Roadway	479593.4502	4979781.095	44.97118487	-93.25879414	2022/02/26-11:10	2022/02/26-11:10-L-C-S
1000749	INT 1		YES	Wrong Way Driver	1	22	2022	Sat	14	PDO	Angle	Angle	Eastbound	Moving Forward	Northbound	Moving Forward	479396.7346	4979900.595	44.97225491	-93.26129366	2022/01/22-14:36	2022/01/22-14:36-L-C-D
838332	INT 3		YES		9	1	2020	Tue	11	PDO	Angle	Angle	Northbound	Moving Forward	Westbound	Moving Forward	479607.1581	4979777.485	44.97115277	-93.25862016	2020/09/01-11:25	2020/09/01-11:25-L-C-D
975835		SEG A	YES	Driver pulled out from access	11	26	2021	Fri	9	PDO	Other	Angle	Northbound	Moving Forward	Westbound	Moving Forward	479611.4698	4979784.661	44.97121748	-93.25856577	2021/11/26-09:14	2021/11/26-09:14-L-X-D

AM Existing Conditions

251: 7th St S

Direction	WB	NB	SB	NW	All
Future Volume (vph)	1058	17	5	648	1728
Control Delay / Veh (s/v)	2	0	0	3	3
Queue Delay / Veh (s/v)	0	0	0	0	0
Total Delay / Veh (s/v)	2	0	0	3	3
Total Delay (hr)	1	0	0	1	1
Stops / Veh	0.15	0.00	0.00	0.19	0.16
Stops (#)	159	0	0	125	284
Average Speed (mph)	24	24	25	23	24
Total Travel Time (hr)	25	0	0	10	35
Distance Traveled (mi)	620	1	0	236	857
Fuel Consumed (gal)	29	0	0	12	40
Fuel Economy (mpg)	21.4	NA	NA	20.4	21.2
CO Emissions (kg)	2.02	0.00	0.00	0.81	2.83
NOx Emissions (kg)	0.39	0.00	0.00	0.16	0.55
VOC Emissions (kg)	0.47	0.00	0.00	0.19	0.66
Unserved Vehicles (#)	0	0	0	0	0
Vehicles in dilemma zone (#)	0	0	0	0	0

357: 11th Av S & 7th St S

Direction	WB	NB	SB	All
Future Volume (vph)	1724	285	252	2261
Control Delay / Veh (s/v)	13	31	38	18
Queue Delay / Veh (s/v)	0	0	1	0
Total Delay / Veh (s/v)	13	31	39	18
Total Delay (hr)	6	2	3	11
Stops / Veh	0.61	0.71	0.64	0.63
Stops (#)	1057	202	162	1421
Average Speed (mph)	15	7	6	12
Total Travel Time (hr)	15	3	4	22
Distance Traveled (mi)	229	22	20	270
Fuel Consumed (gal)	19	4	3	26
Fuel Economy (mpg)	12.1	6.2	5.6	10.4
CO Emissions (kg)	1.32	0.25	0.24	1.82
NOx Emissions (kg)	0.26	0.05	0.05	0.35
VOC Emissions (kg)	0.31	0.06	0.06	0.42
Unserved Vehicles (#)	0	0	0	0
Vehicles in dilemma zone (#)	0	0	0	0

579: Chicago Av S & 7th St S

Direction	WB	NB	SB	All
Future Volume (vph)	1242	167	290	1699
Control Delay / Veh (s/v)	16	22	15	16
Queue Delay / Veh (s/v)	0	2	1	0
Total Delay / Veh (s/v)	16	24	16	16
Total Delay (hr)	5	1	1	8
Stops / Veh	0.44	0.53	0.39	0.44
Stops (#)	546	88	113	747
Average Speed (mph)	17	8	10	16
Total Travel Time (hr)	17	2	2	21
Distance Traveled (mi)	290	13	23	326
Fuel Consumed (gal)	19	2	2	23
Fuel Economy (mpg)	15.2	7.4	9.5	14.0
CO Emissions (kg)	1.33	0.12	0.17	1.62
NOx Emissions (kg)	0.26	0.02	0.03	0.32
VOC Emissions (kg)	0.31	0.03	0.04	0.38
Unserved Vehicles (#)	0	0	0	0
Vehicles in dilemma zone (#)	0	0	0	0

774: Park Av S & 7th St S

Direction	WB	NB	All
Future Volume (vph)	1246	912	2158
Control Delay / Veh (s/v)	46	33	41
Queue Delay / Veh (s/v)	9	1	5
Total Delay / Veh (s/v)	55	34	46
Total Delay (hr)	19	9	28
Stops / Veh	0.98	0.88	0.94
Stops (#)	1219	799	2018
Average Speed (mph)	4	6	5
Total Travel Time (hr)	23	11	34
Distance Traveled (mi)	97	71	168
Fuel Consumed (gal)	23	13	36
Fuel Economy (mpg)	4.2	5.6	4.7
CO Emissions (kg)	1.61	0.88	2.48
NOx Emissions (kg)	0.31	0.17	0.48
VOC Emissions (kg)	0.37	0.20	0.58
Unserved Vehicles (#)	0	0	0
Vehicles in dilemma zone (#)	0	0	0

Zone P Totals

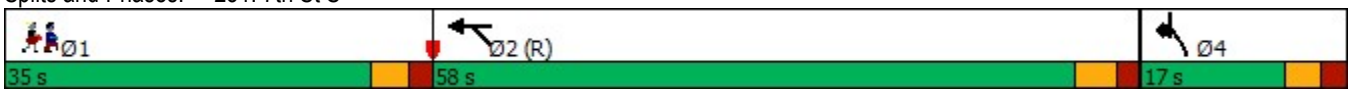
Number of Intersections	4
Control Delay / Veh (s/v)	20
Queue Delay / Veh (s/v)	2
Total Delay / Veh (s/v)	22
Total Delay (hr)	48
Stops / Veh	0.57
Stops (#)	4470
Average Speed (mph)	14
Total Travel Time (hr)	113
Distance Traveled (mi)	1620
Fuel Consumed (gal)	125
Fuel Economy (mpg)	12.9
CO Emissions (kg)	8.76
NOx Emissions (kg)	1.70
VOC Emissions (kg)	2.03
Unserved Vehicles (#)	0
Vehicles in dilemma zone (#)	0
Performance Index	60.5

Lane Group	WBT	NBL	SBR	NWL	Ø1
Lane Configurations					
Traffic Volume (vph)	1058	17	5	648	
Future Volume (vph)	1058	17	5	648	
Ideal Flow (vphpl)	1700	1700	1700	1700	
Lane Util. Factor	0.95	1.00	1.00	1.00	
Frt			0.865		
Flt Protected		0.950		0.950	
Satd. Flow (prot)	3019	1509	1374	1509	
Flt Permitted		0.950		0.950	
Satd. Flow (perm)	3019	1509	1374	1509	
Right Turn on Red		Yes	Yes		
Satd. Flow (RTOR)		401	401		
Link Speed (mph)	25			30	
Link Distance (ft)	3093			1923	
Travel Time (s)	84.4			43.7	
Peak Hour Factor	0.98	0.71	0.63	0.94	
Heavy Vehicles (%)	7%	7%	7%	7%	
Adj. Flow (vph)	1080	24	8	689	
Shared Lane Traffic (%)					
Lane Group Flow (vph)	1080	24	8	689	
Enter Blocked Intersection	No	No	No	No	
Lane Alignment	R NA	L NA	R NA	L NA	
Median Width(ft)	0			12	
Link Offset(ft)	0			0	
Crosswalk Width(ft)	16			16	
Two way Left Turn Lane					
Headway Factor	1.15	1.15	1.15	1.15	
Turning Speed (mph)		15	9	30	
Number of Detectors	2	1	1	1	
Detector Template	Thru	Left	Right	Left	
Leading Detector (ft)	100	50	20	50	
Trailing Detector (ft)	0	0	0	0	
Detector 1 Position(ft)	0	0	0	0	
Detector 1 Size(ft)	6	50	20	50	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel					
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	
Detector 2 Position(ft)	94				
Detector 2 Size(ft)	6				
Detector 2 Type	Cl+Ex				
Detector 2 Channel					
Detector 2 Extend (s)	0.0				
Turn Type	NA	Prot	Prot	Prot	
Protected Phases	2!	4!	4!	2!	1
Permitted Phases					
Detector Phase	2	4	4	2	
Switch Phase					

Lane Group	WBT	NBL	SBR	NWL	Ø1
Minimum Initial (s)	10.0	7.0	7.0	10.0	7.0
Minimum Split (s)	21.5	15.5	15.5	21.5	28.0
Total Split (s)	58.0	17.0	17.0	58.0	35.0
Total Split (%)	52.7%	15.5%	15.5%	52.7%	32%
Maximum Green (s)	52.5	11.7	11.7	52.5	30.0
Yellow Time (s)	3.5	3.0	3.0	3.5	3.0
All-Red Time (s)	2.0	2.3	2.3	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	
Total Lost Time (s)	5.5	5.3	5.3	5.5	
Lead/Lag	Lag			Lag	Lead
Lead-Lag Optimize?					
Vehicle Extension (s)	0.2	4.0	4.0	0.2	4.0
Recall Mode	C-Max	None	None	C-Max	None
Walk Time (s)	5.0	5.0	5.0	5.0	7.0
Flash Dont Walk (s)	5.0	5.0	5.0	5.0	16.0
Pedestrian Calls (#/hr)	0	0	0	0	0
Act Effct Green (s)	99.3	7.0	7.0	99.3	
Actuated g/C Ratio	0.90	0.06	0.06	0.90	
v/c Ratio	0.40	0.05	0.02	0.51	
Control Delay	2.0	0.2	0.0	3.4	
Queue Delay	0.0	0.0	0.0	0.0	
Total Delay	2.0	0.2	0.0	3.4	
LOS	A	A	A	A	
Approach Delay	2.0			3.4	
Approach LOS	A			A	

Intersection Summary			
Area Type:	Other		
Cycle Length: 110			
Actuated Cycle Length: 110			
Offset: 67 (61%), Referenced to phase 2:NWWB, Start of 1st Green			
Natural Cycle: 90			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.51			
Intersection Signal Delay: 2.5		Intersection LOS: A	
Intersection Capacity Utilization 88.6%		ICU Level of Service E	
Analysis Period (min) 15			
! Phase conflict between lane groups.			

Splits and Phases: 251: 7th St S

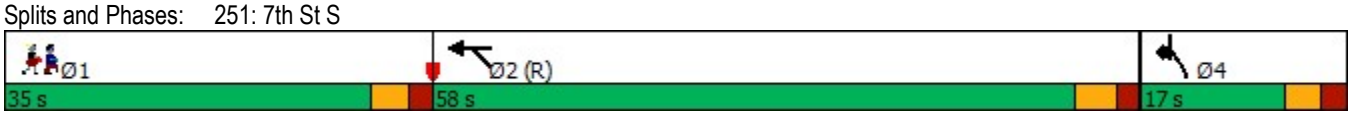


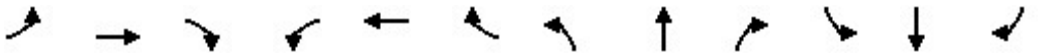
Lane Group	WBT	NBL	SBR	NWL	Ø1
Lane Configurations					
Traffic Volume (vph)	1058	17	5	648	
Future Volume (vph)	1058	17	5	648	
Turn Type	NA	Prot	Prot	Prot	
Protected Phases	2!	4!	4!	2!	1
Permitted Phases					
Detector Phase	2	4	4	2	
Switch Phase					
Minimum Initial (s)	10.0	7.0	7.0	10.0	7.0
Minimum Split (s)	21.5	15.5	15.5	21.5	28.0
Total Split (s)	58.0	17.0	17.0	58.0	35.0
Total Split (%)	52.7%	15.5%	15.5%	52.7%	32%
Yellow Time (s)	3.5	3.0	3.0	3.5	3.0
All-Red Time (s)	2.0	2.3	2.3	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	
Total Lost Time (s)	5.5	5.3	5.3	5.5	
Lead/Lag	Lag			Lag	Lead
Lead-Lag Optimize?					
Recall Mode	C-Max	None	None	C-Max	None
Act Effct Green (s)	99.3	7.0	7.0	99.3	
Actuated g/C Ratio	0.90	0.06	0.06	0.90	
v/c Ratio	0.40	0.05	0.02	0.51	
Control Delay	2.0	0.2	0.0	3.4	
Queue Delay	0.0	0.0	0.0	0.0	
Total Delay	2.0	0.2	0.0	3.4	
LOS	A	A	A	A	
Approach Delay	2.0			3.4	
Approach LOS	A			A	

Intersection Summary	
Cycle Length: 110	
Actuated Cycle Length: 110	
Offset: 67 (61%), Referenced to phase 2:NWWB, Start of 1st Green	
Natural Cycle: 90	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.51	
Intersection Signal Delay: 2.5	Intersection LOS: A
Intersection Capacity Utilization 88.6%	ICU Level of Service E
Analysis Period (min) 15	

! Phase conflict between lane groups.

Splits and Phases: 251: 7th St S





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	415	1098	211	59	226	0	0	162	90
Future Volume (vph)	0	0	0	415	1098	211	59	226	0	0	162	90
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Storage Length (ft)	0		0	100		0	50		0	0		75
Storage Lanes	0		0	0		0	1		0	0		1
Taper Length (ft)	60			60			60			60		
Lane Util. Factor	1.00	1.00	1.00	0.91	0.91	0.91	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor					1.00							
Frt					0.981							0.850
Flt Protected					0.987		0.950					
Satd. Flow (prot)	0	0	0	0	4188	0	1509	1589	0	0	1589	1350
Flt Permitted					0.987		0.529					
Satd. Flow (perm)	0	0	0	0	4188	0	840	1589	0	0	1589	1350
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					45							99
Link Speed (mph)		30			25			25			25	
Link Distance (ft)		1233			700			410			409	
Travel Time (s)		28.0			19.1			11.2			11.2	
Confl. Peds. (#/hr)						1						
Peak Hour Factor	1.00	1.00	1.00	0.87	0.97	0.93	0.82	0.86	1.00	1.00	0.84	0.73
Heavy Vehicles (%)	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%
Adj. Flow (vph)	0	0	0	477	1132	227	72	263	0	0	193	123
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	1836	0	72	263	0	0	193	123
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			12			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.15	1.15	1.15	1.15	1.15	1.15	1.15	1.15	1.15	1.15	1.15	1.15
Turning Speed (mph)	15		9	15		15	15		15	15		9
Number of Detectors				0	0		0	0			0	0
Detector Template												
Leading Detector (ft)				0	0		0	0			0	0
Trailing Detector (ft)				0	0		0	0			0	0
Turn Type				Perm	NA		Perm	NA			NA	Perm
Protected Phases					2			4			8	
Permitted Phases				2			4					8
Detector Phase				2	2		4	4			8	8
Switch Phase												
Minimum Initial (s)				10.0	10.0		10.0	10.0			10.0	10.0
Minimum Split (s)				26.0	26.0		28.2	28.2			28.2	28.2
Total Split (s)				75.0	75.0		35.0	35.0			35.0	35.0
Total Split (%)				68.2%	68.2%		31.8%	31.8%			31.8%	31.8%
Maximum Green (s)				69.0	69.0		28.8	28.8			28.8	28.8
Yellow Time (s)				3.0	3.0		3.0	3.0			3.0	3.0
All-Red Time (s)				3.0	3.0		3.2	3.2			3.2	3.2

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lost Time Adjust (s)					0.0		0.0	-1.5			-1.5	0.0
Total Lost Time (s)					6.0		6.2	4.7			4.7	6.2
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)				0.2	0.2		0.2	0.2			0.2	0.2
Recall Mode				C-Max	C-Max		Max	Max			Max	Max
Walk Time (s)				7.0	7.0		7.0	7.0			7.0	7.0
Flash Dont Walk (s)				13.0	13.0		15.0	15.0			15.0	15.0
Pedestrian Calls (#/hr)				0	0		0	0			0	0
Act Effct Green (s)					69.0		28.8	30.3			30.3	28.8
Actuated g/C Ratio					0.63		0.26	0.28			0.28	0.26
v/c Ratio					0.69		0.33	0.60			0.44	0.29
Control Delay					13.1		28.8	31.9			46.7	22.0
Queue Delay					0.0		0.0	0.0			1.9	0.0
Total Delay					13.1		28.8	31.9			48.6	22.0
LOS					B		C	C			D	C
Approach Delay					13.1			31.3			38.2	
Approach LOS					B			C			D	

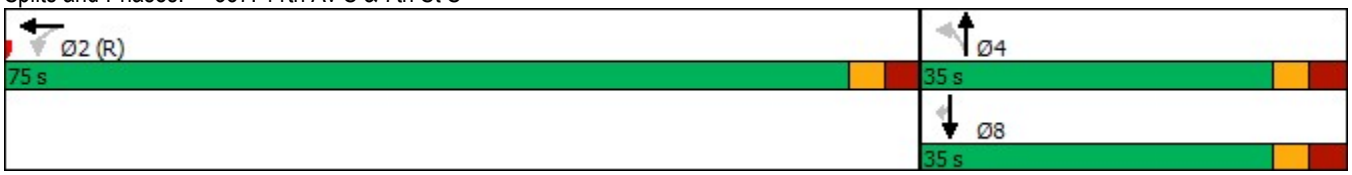
Intersection Summary			
Area Type:	Other		
Cycle Length: 110			
Actuated Cycle Length: 110			
Offset: 55 (50%), Referenced to phase 2:WBTL, Start of 1st Green			
Natural Cycle: 65			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.69			
Intersection Signal Delay: 18.8		Intersection LOS: B	
Intersection Capacity Utilization 88.8%		ICU Level of Service E	
Analysis Period (min) 15			

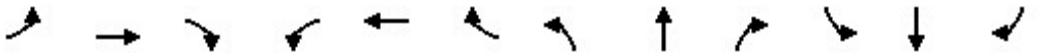
Splits and Phases: 357: 11th Av S & 7th St S

Lane Group	WBT	NBL	NBT	SBT	SBR
Lane Configurations					
Traffic Volume (vph)	1098	59	226	162	90
Future Volume (vph)	1098	59	226	162	90
Turn Type	NA	Perm	NA	NA	Perm
Protected Phases	2		4	8	
Permitted Phases		4			8
Detector Phase	2	4	4	8	8
Switch Phase					
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	26.0	28.2	28.2	28.2	28.2
Total Split (s)	75.0	35.0	35.0	35.0	35.0
Total Split (%)	68.2%	31.8%	31.8%	31.8%	31.8%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	3.0	3.2	3.2	3.2	3.2
Lost Time Adjust (s)	0.0	0.0	-1.5	-1.5	0.0
Total Lost Time (s)	6.0	6.2	4.7	4.7	6.2
Lead/Lag					
Lead-Lag Optimize?					
Recall Mode	C-Max	Max	Max	Max	Max
Act Effct Green (s)	69.0	28.8	30.3	30.3	28.8
Actuated g/C Ratio	0.63	0.26	0.28	0.28	0.26
v/c Ratio	0.69	0.33	0.60	0.44	0.29
Control Delay	13.1	28.8	31.9	46.7	22.0
Queue Delay	0.0	0.0	0.0	1.9	0.0
Total Delay	13.1	28.8	31.9	48.6	22.0
LOS	B	C	C	D	C
Approach Delay	13.1		31.3	38.2	
Approach LOS	B		C	D	

Intersection Summary	
Cycle Length: 110	
Actuated Cycle Length: 110	
Offset: 55 (50%), Referenced to phase 2:WBTL, Start of 1st Green	
Natural Cycle: 65	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.69	
Intersection Signal Delay: 18.8	Intersection LOS: B
Intersection Capacity Utilization 88.8%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 357: 11th Av S & 7th St S





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	167	1030	45	81	86	0	0	158	132
Future Volume (vph)	0	0	0	167	1030	45	81	86	0	0	158	132
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Storage Length (ft)	0		0	0		0	100		0	0		80
Storage Lanes	0		0	0		0	1		0	0		1
Taper Length (ft)	60			60			60			60		
Lane Util. Factor	1.00	1.00	1.00	0.91	0.91	0.91	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor					0.98		0.95					0.91
Frt					0.992							0.850
Flt Protected					0.993		0.950					
Satd. Flow (prot)	0	0	0	0	4245	0	1509	1589	0	0	1589	1350
Flt Permitted					0.993		0.539					
Satd. Flow (perm)	0	0	0	0	4186	0	813	1589	0	0	1589	1231
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					12							65
Link Speed (mph)		25			30			25			25	
Link Distance (ft)		411			1233			407			412	
Travel Time (s)		11.2			28.0			11.1			11.2	
Confl. Peds. (#/hr)				41		43	52					52
Peak Hour Factor	1.00	1.00	1.00	0.93	0.96	0.66	0.75	0.72	1.00	1.00	0.71	0.72
Heavy Vehicles (%)	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%
Adj. Flow (vph)	0	0	0	180	1073	68	108	119	0	0	223	183
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	1321	0	108	119	0	0	223	183
Enter Blocked Intersection	No	No	No	No	No	No	1 veh	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.15	1.15	1.15	1.15	1.15	1.15	1.15	1.15	1.15	1.15	1.15	1.15
Turning Speed (mph)	15		15	15		15	15		15	15		15
Number of Detectors				1	0		0	0			0	0
Detector Template				Left								
Leading Detector (ft)				50	0		0	0			0	0
Trailing Detector (ft)				0	0		0	0			0	0
Detector 1 Position(ft)				0	0		0	0			0	0
Detector 1 Size(ft)				20	6		20	6			6	20
Detector 1 Type				Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex			Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)				0.0	0.0		0.0	0.0			0.0	0.0
Detector 1 Queue (s)				0.0	0.0		0.0	0.0			0.0	0.0
Detector 1 Delay (s)				0.0	0.0		0.0	0.0			0.0	0.0
Turn Type				Perm	NA		Perm	NA			NA	Perm
Protected Phases					2			4			8	
Permitted Phases				2			4					8
Detector Phase				2	2		4	4			8	8
Switch Phase												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)				10.0	10.0		10.0	10.0			10.0	10.0
Minimum Split (s)				64.7	64.7		44.7	44.7			44.7	44.7
Total Split (s)				65.0	65.0		45.0	45.0			45.0	45.0
Total Split (%)				59.1%	59.1%		40.9%	40.9%			40.9%	40.9%
Maximum Green (s)				58.8	58.8		38.8	38.8			38.8	38.8
Yellow Time (s)				3.0	3.0		3.0	3.0			3.0	3.0
All-Red Time (s)				3.2	3.2		3.2	3.2			3.2	3.2
Lost Time Adjust (s)					-1.6		-1.6	-1.6			-1.6	-1.6
Total Lost Time (s)					4.6		4.6	4.6			4.6	4.6
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)				0.2	0.2		0.2	0.2			0.2	0.2
Recall Mode				C-Max	C-Max		Max	Max			Max	Max
Walk Time (s)				7.0	7.0		7.0	7.0			7.0	7.0
Flash Dont Walk (s)				15.0	15.0		15.0	15.0			15.0	15.0
Pedestrian Calls (#/hr)				0	0		0	0			0	0
Act Effct Green (s)					60.4		40.4	40.4			40.4	40.4
Actuated g/C Ratio					0.55		0.37	0.37			0.37	0.37
v/c Ratio					0.57		0.36	0.20			0.38	0.37
Control Delay					13.4		23.7	19.6			18.5	10.0
Queue Delay					0.0		5.1	0.0			0.0	2.6
Total Delay					13.4		28.8	19.6			18.5	12.5
LOS					B		C	B			B	B
Approach Delay					13.4			24.0			15.8	
Approach LOS					B			C			B	

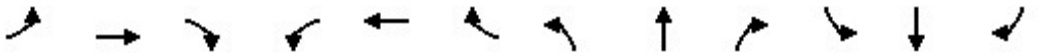
Intersection Summary			
Area Type:	Other		
Cycle Length: 110			
Actuated Cycle Length: 110			
Offset: 58 (53%), Referenced to phase 2:WBTL, Start of 1st Green			
Natural Cycle: 110			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.57			
Intersection Signal Delay: 15.1		Intersection LOS: B	
Intersection Capacity Utilization 65.4%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 579: Chicago Av S & 7th St S

Lane Group	WBT	NBL	NBT	SBT	SBR
Lane Configurations					
Traffic Volume (vph)	1030	81	86	158	132
Future Volume (vph)	1030	81	86	158	132
Turn Type	NA	Perm	NA	NA	Perm
Protected Phases	2		4	8	
Permitted Phases		4			8
Detector Phase	2	4	4	8	8
Switch Phase					
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	64.7	44.7	44.7	44.7	44.7
Total Split (s)	65.0	45.0	45.0	45.0	45.0
Total Split (%)	59.1%	40.9%	40.9%	40.9%	40.9%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	3.2	3.2	3.2	3.2	3.2
Lost Time Adjust (s)	-1.6	-1.6	-1.6	-1.6	-1.6
Total Lost Time (s)	4.6	4.6	4.6	4.6	4.6
Lead/Lag					
Lead-Lag Optimize?					
Recall Mode	C-Max	Max	Max	Max	Max
Act Effct Green (s)	60.4	40.4	40.4	40.4	40.4
Actuated g/C Ratio	0.55	0.37	0.37	0.37	0.37
v/c Ratio	0.57	0.36	0.20	0.38	0.37
Control Delay	13.4	23.7	19.6	18.5	10.0
Queue Delay	0.0	5.1	0.0	0.0	2.6
Total Delay	13.4	28.8	19.6	18.5	12.5
LOS	B	C	B	B	B
Approach Delay	13.4		24.0	15.8	
Approach LOS	B		C	B	

Intersection Summary	
Cycle Length: 110	
Actuated Cycle Length: 110	
Offset: 58 (53%), Referenced to phase 2:WBTL, Start of 1st Green	
Natural Cycle: 110	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.57	
Intersection Signal Delay: 15.1	Intersection LOS: B
Intersection Capacity Utilization 65.4%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 579: Chicago Av S & 7th St S

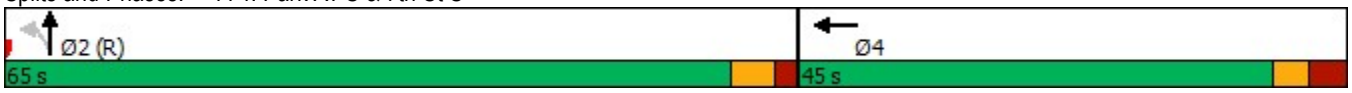


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	0	1188	58	246	666	0	0	0	0
Future Volume (vph)	0	0	0	0	1188	58	246	666	0	0	0	0
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Storage Length (ft)	0		0	0		75	160		0	0		0
Storage Lanes	0		0	0		0	0		0	0		0
Taper Length (ft)	60			60			60			60		
Lane Util. Factor	1.00	1.00	1.00	1.00	0.91	0.91	0.91	0.91	1.00	1.00	1.00	1.00
Ped Bike Factor					1.00			0.99				
Frt					0.992							
Flt Protected								0.985				
Satd. Flow (prot)	0	0	0	0	4288	0	0	4272	0	0	0	0
Flt Permitted								0.985				
Satd. Flow (perm)	0	0	0	0	4288	0	0	4209	0	0	0	0
Right Turn on Red			Yes			Yes	Yes		Yes			Yes
Satd. Flow (RTOR)					9			33				
Link Speed (mph)		25			25			30			25	
Link Distance (ft)		165			411			410			410	
Travel Time (s)		4.5			11.2			9.3			11.2	
Confl. Peds. (#/hr)						35	33					
Peak Hour Factor	1.00	1.00	1.00	1.00	0.92	0.81	0.82	0.94	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%
Adj. Flow (vph)	0	0	0	0	1291	72	300	709	0	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	1363	0	0	1009	0	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.15	1.15	1.15	1.15	1.15	1.15	1.15	1.15	1.15	1.15	1.15	1.15
Turning Speed (mph)	15		15	15		15	15		15	15		15
Number of Detectors					0		0	0				
Detector Template												
Leading Detector (ft)					0		0	0				
Trailing Detector (ft)					0		0	0				
Turn Type					NA		Perm	NA				
Protected Phases					4			2				
Permitted Phases							2					
Detector Phase					4		2	2				
Switch Phase												
Minimum Initial (s)					7.0		10.0	10.0				
Minimum Split (s)					28.3		27.5	27.5				
Total Split (s)					45.0		65.0	65.0				
Total Split (%)					40.9%		59.1%	59.1%				
Maximum Green (s)					38.7		59.5	59.5				
Yellow Time (s)					3.0		3.5	3.5				
All-Red Time (s)					3.3		2.0	2.0				

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lost Time Adjust (s)					-1.6			-1.6				
Total Lost Time (s)					4.7			3.9				
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)					0.2		0.2	0.2				
Recall Mode					Max		C-Max	C-Max				
Walk Time (s)					7.0		7.0	7.0				
Flash Dont Walk (s)					15.0		15.0	15.0				
Pedestrian Calls (#/hr)					0		0	0				
Act Effct Green (s)					40.3			61.1				
Actuated g/C Ratio					0.37			0.56				
v/c Ratio					0.86			0.43				
Control Delay					46.0			31.3				
Queue Delay					9.0			0.6				
Total Delay					55.0			31.9				
LOS					E			C				
Approach Delay					55.0			31.9				
Approach LOS					E			C				

Intersection Summary	
Area Type:	Other
Cycle Length: 110	
Actuated Cycle Length: 110	
Offset: 63 (57%), Referenced to phase 2:NBTL, Start of 1st Green	
Natural Cycle: 60	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.86	
Intersection Signal Delay: 45.2	Intersection LOS: D
Intersection Capacity Utilization 54.5%	ICU Level of Service A
Analysis Period (min) 15	

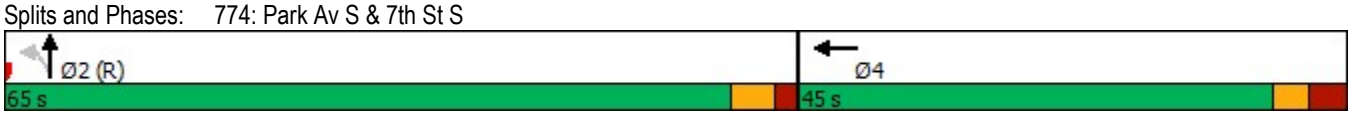
Splits and Phases: 774: Park Av S & 7th St S



Lane Group	WBT	NBT
Lane Configurations		
Traffic Volume (vph)	1188	666
Future Volume (vph)	1188	666
Turn Type	NA	NA
Protected Phases	4	2
Permitted Phases		
Detector Phase	4	2
Switch Phase		
Minimum Initial (s)	7.0	10.0
Minimum Split (s)	28.3	27.5
Total Split (s)	45.0	65.0
Total Split (%)	40.9%	59.1%
Yellow Time (s)	3.0	3.5
All-Red Time (s)	3.3	2.0
Lost Time Adjust (s)	-1.6	-1.6
Total Lost Time (s)	4.7	3.9
Lead/Lag		
Lead-Lag Optimize?		
Recall Mode	Max	C-Max
Act Effct Green (s)	40.3	61.1
Actuated g/C Ratio	0.37	0.56
v/c Ratio	0.86	0.43
Control Delay	46.0	31.3
Queue Delay	9.0	0.6
Total Delay	55.0	31.9
LOS	E	C
Approach Delay	55.0	31.9
Approach LOS	E	C

Intersection Summary	
Cycle Length: 110	
Actuated Cycle Length: 110	
Offset: 63 (57%), Referenced to phase 2:NBTL, Start of 1st Green	
Natural Cycle: 60	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.86	
Intersection Signal Delay: 45.2	Intersection LOS: D
Intersection Capacity Utilization 54.5%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 774: Park Av S & 7th St S



AM Build Conditions

251: 7th St S

Direction	WB	NB	SB	NW	All
Future Volume (vph)	1058	17	5	648	1728
Control Delay / Veh (s/v)	8	0	0	3	6
Queue Delay / Veh (s/v)	0	0	0	0	0
Total Delay / Veh (s/v)	8	0	0	4	6
Total Delay (hr)	2	0	0	1	3
Stops / Veh	0.40	0.00	0.00	0.19	0.32
Stops (#)	420	0	0	125	545
Average Speed (mph)	23	24	24	23	23
Total Travel Time (hr)	27	0	0	10	37
Distance Traveled (mi)	620	1	0	236	857
Fuel Consumed (gal)	31	0	0	12	43
Fuel Economy (mpg)	19.8	NA	NA	20.4	20.0
CO Emissions (kg)	2.19	0.00	0.00	0.81	3.00
NOx Emissions (kg)	0.43	0.00	0.00	0.16	0.58
VOC Emissions (kg)	0.51	0.00	0.00	0.19	0.69
Unserved Vehicles (#)	0	0	0	0	0
Vehicles in dilemma zone (#)	0	0	0	0	0

357: 11th Av S & 7th St S

Direction	WB	NB	SB	All
Future Volume (vph)	1724	285	252	2261
Control Delay / Veh (s/v)	40	39	29	38
Queue Delay / Veh (s/v)	1	0	10	2
Total Delay / Veh (s/v)	41	39	39	40
Total Delay (hr)	20	3	3	25
Stops / Veh	0.77	0.77	0.86	0.78
Stops (#)	1333	220	216	1769
Average Speed (mph)	8	6	6	7
Total Travel Time (hr)	29	4	4	36
Distance Traveled (mi)	229	22	20	270
Fuel Consumed (gal)	30	4	4	38
Fuel Economy (mpg)	7.7	5.4	5.3	7.2
CO Emissions (kg)	2.08	0.29	0.26	2.62
NOx Emissions (kg)	0.40	0.06	0.05	0.51
VOC Emissions (kg)	0.48	0.07	0.06	0.61
Unserved Vehicles (#)	6	0	0	6
Vehicles in dilemma zone (#)	0	0	0	0

579: Chicago Av S & 7th St S

Direction	WB	NB	SB	All
Future Volume (vph)	1242	167	290	1699
Control Delay / Veh (s/v)	15	18	16	16
Queue Delay / Veh (s/v)	0	0	0	0
Total Delay / Veh (s/v)	15	18	16	16
Total Delay (hr)	5	1	1	7
Stops / Veh	0.39	0.50	0.79	0.47
Stops (#)	485	84	229	798
Average Speed (mph)	17	9	10	16
Total Travel Time (hr)	17	1	2	20
Distance Traveled (mi)	290	13	23	326
Fuel Consumed (gal)	19	2	3	23
Fuel Economy (mpg)	15.4	8.4	8.0	14.0
CO Emissions (kg)	1.31	0.11	0.20	1.62
NOx Emissions (kg)	0.26	0.02	0.04	0.32
VOC Emissions (kg)	0.30	0.02	0.05	0.38
Unserved Vehicles (#)	0	0	0	0
Vehicles in dilemma zone (#)	0	0	0	0

774: Park Av S & 7th St S

Direction	WB	NB	All
Future Volume (vph)	1246	912	2158
Control Delay / Veh (s/v)	18	17	18
Queue Delay / Veh (s/v)	1	0	1
Total Delay / Veh (s/v)	19	17	18
Total Delay (hr)	7	4	11
Stops / Veh	0.48	0.64	0.55
Stops (#)	595	587	1182
Average Speed (mph)	9	10	9
Total Travel Time (hr)	11	7	18
Distance Traveled (mi)	97	71	168
Fuel Consumed (gal)	12	9	20
Fuel Economy (mpg)	8.4	8.2	8.3
CO Emissions (kg)	0.81	0.60	1.41
NOx Emissions (kg)	0.16	0.12	0.27
VOC Emissions (kg)	0.19	0.14	0.33
Unserved Vehicles (#)	0	0	0
Vehicles in dilemma zone (#)	0	0	0

Zone P Totals

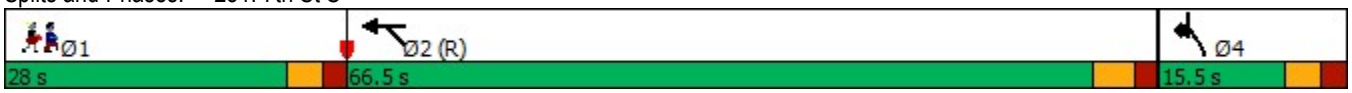
Number of Intersections	4
Control Delay / Veh (s/v)	21
Queue Delay / Veh (s/v)	1
Total Delay / Veh (s/v)	22
Total Delay (hr)	47
Stops / Veh	0.55
Stops (#)	4294
Average Speed (mph)	15
Total Travel Time (hr)	112
Distance Traveled (mi)	1620
Fuel Consumed (gal)	124
Fuel Economy (mpg)	13.1
CO Emissions (kg)	8.65
NOx Emissions (kg)	1.68
VOC Emissions (kg)	2.00
Unserved Vehicles (#)	6
Vehicles in dilemma zone (#)	0
Performance Index	58.8

Lane Group	WBT	NBL	SBR	NWL	Ø1
Lane Configurations					
Traffic Volume (vph)	1058	17	5	648	
Future Volume (vph)	1058	17	5	648	
Ideal Flow (vphpl)	1700	1700	1700	1700	
Lane Util. Factor	1.00	1.00	1.00	1.00	
Frt			0.865		
Flt Protected		0.950		0.950	
Satd. Flow (prot)	1589	1509	1374	1509	
Flt Permitted		0.950		0.950	
Satd. Flow (perm)	1589	1509	1374	1509	
Right Turn on Red		Yes	Yes		
Satd. Flow (RTOR)		309	309		
Link Speed (mph)	25			25	
Link Distance (ft)	3093			1923	
Travel Time (s)	84.4			52.4	
Peak Hour Factor	0.98	0.71	0.63	0.94	
Heavy Vehicles (%)	7%	7%	7%	7%	
Adj. Flow (vph)	1080	24	8	689	
Shared Lane Traffic (%)					
Lane Group Flow (vph)	1080	24	8	689	
Enter Blocked Intersection	No	No	No	No	
Lane Alignment	R NA	L NA	R NA	L NA	
Median Width(ft)	0			12	
Link Offset(ft)	0			0	
Crosswalk Width(ft)	16			16	
Two way Left Turn Lane					
Headway Factor	1.15	1.15	1.15	1.15	
Turning Speed (mph)		15	9	30	
Number of Detectors	2	1	1	1	
Detector Template	Thru	Left	Right	Left	
Leading Detector (ft)	100	50	20	50	
Trailing Detector (ft)	0	0	0	0	
Detector 1 Position(ft)	0	0	0	0	
Detector 1 Size(ft)	6	50	20	50	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel					
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	
Detector 2 Position(ft)	94				
Detector 2 Size(ft)	6				
Detector 2 Type	Cl+Ex				
Detector 2 Channel					
Detector 2 Extend (s)	0.0				
Turn Type	NA	Prot	Prot	Prot	
Protected Phases	2!	4!	4!	2!	1
Permitted Phases					
Detector Phase	2	4	4	2	
Switch Phase					

Lane Group	WBT	NBL	SBR	NWL	Ø1
Minimum Initial (s)	10.0	7.0	7.0	10.0	7.0
Minimum Split (s)	21.5	15.5	15.5	21.5	28.0
Total Split (s)	66.5	15.5	15.5	66.5	28.0
Total Split (%)	60.5%	14.1%	14.1%	60.5%	25%
Maximum Green (s)	61.0	10.2	10.2	61.0	23.0
Yellow Time (s)	3.5	3.0	3.0	3.5	3.0
All-Red Time (s)	2.0	2.3	2.3	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	
Total Lost Time (s)	5.5	5.3	5.3	5.5	
Lead/Lag	Lag			Lag	Lead
Lead-Lag Optimize?					
Vehicle Extension (s)	0.2	4.0	4.0	0.2	4.0
Recall Mode	C-Max	None	None	C-Max	None
Walk Time (s)	5.0	5.0	5.0	5.0	7.0
Flash Dont Walk (s)	5.0	5.0	5.0	5.0	16.0
Pedestrian Calls (#/hr)	0	0	0	0	0
Act Effct Green (s)	99.3	7.0	7.0	99.3	
Actuated g/C Ratio	0.90	0.06	0.06	0.90	
v/c Ratio	0.75	0.06	0.02	0.51	
Control Delay	7.9	0.3	0.2	3.4	
Queue Delay	0.5	0.0	0.0	0.1	
Total Delay	8.4	0.3	0.2	3.5	
LOS	A	A	A	A	
Approach Delay	8.4			3.5	
Approach LOS	A			A	

Intersection Summary			
Area Type:	Other		
Cycle Length: 110			
Actuated Cycle Length: 110			
Offset: 67 (61%), Referenced to phase 2:NWWB, Start of 1st Green			
Natural Cycle: 150			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.75			
Intersection Signal Delay: 6.4		Intersection LOS: A	
Intersection Capacity Utilization 118.2%		ICU Level of Service H	
Analysis Period (min) 15			
! Phase conflict between lane groups.			

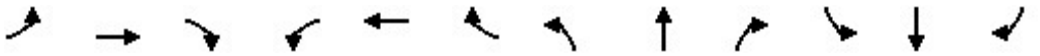
Splits and Phases: 251: 7th St S



Lane Group	WBT	NBL	SBR	NWL	Ø1
Protected Phases	2!	4!	4!	2!	1
Permitted Phases					
Minimum Initial (s)	10.0	7.0	7.0	10.0	7.0
Minimum Split (s)	21.5	15.5	15.5	21.5	28.0
Total Split (s)	66.5	15.5	15.5	66.5	28.0
Total Split (%)	60.5%	14.1%	14.1%	60.5%	25%
Maximum Green (s)	61.0	10.2	10.2	61.0	23.0
Yellow Time (s)	3.5	3.0	3.0	3.5	3.0
All-Red Time (s)	2.0	2.3	2.3	2.0	2.0
Lead/Lag	Lag			Lag	Lead
Lead-Lag Optimize?					
Vehicle Extension (s)	0.2	4.0	4.0	0.2	4.0
Minimum Gap (s)	0.2	4.0	4.0	0.2	0.2
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0
Recall Mode	C-Max	None	None	C-Max	None
Walk Time (s)	5.0	5.0	5.0	5.0	7.0
Flash Dont Walk (s)	5.0	5.0	5.0	5.0	16.0
Pedestrian Calls (#/hr)	0	0	0	0	0
90th %ile Green (s)	92.2	7.0	7.0	92.2	0.0
90th %ile Term Code	Coord	Min	Min	Coord	Skip
70th %ile Green (s)	92.2	7.0	7.0	92.2	0.0
70th %ile Term Code	Coord	Min	Min	Coord	Skip
50th %ile Green (s)	92.2	7.0	7.0	92.2	0.0
50th %ile Term Code	Coord	Min	Min	Coord	Skip
30th %ile Green (s)	104.5	0.0	0.0	104.5	0.0
30th %ile Term Code	Coord	Skip	Skip	Coord	Skip
10th %ile Green (s)	104.5	0.0	0.0	104.5	0.0
10th %ile Term Code	Coord	Skip	Skip	Coord	Skip

Intersection Summary
Cycle Length: 110
Actuated Cycle Length: 110
Offset: 67 (61%), Referenced to phase 2:NWWB, Start of 1st Green
Control Type: Actuated-Coordinated

! Phase conflict between lane groups.



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	415	1098	211	59	226	0	0	162	90
Future Volume (vph)	0	0	0	415	1098	211	59	226	0	0	162	90
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Storage Length (ft)	0		0	100		150	50		0	0		75
Storage Lanes	0		0	0		1	0		0	0		0
Taper Length (ft)	60			60			60			60		
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						0.98						
Frt						0.850					0.947	
Flt Protected					0.985			0.989				
Satd. Flow (prot)	0	0	0	0	2973	1350	0	1571	0	0	1505	0
Flt Permitted					0.985			0.740				
Satd. Flow (perm)	0	0	0	0	2973	1320	0	1176	0	0	1505	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						133					33	
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		1233			700			410			409	
Travel Time (s)		33.6			19.1			11.2			11.2	
Confl. Peds. (#/hr)						1						
Peak Hour Factor	1.00	1.00	1.00	0.87	0.97	0.93	0.82	0.86	1.00	1.00	0.84	0.73
Heavy Vehicles (%)	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%
Adj. Flow (vph)	0	0	0	477	1132	227	72	263	0	0	193	123
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	1609	227	0	335	0	0	316	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			12			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.15	1.15	1.15	1.15	1.15	1.15	1.15	1.15	1.15	1.15	1.15	1.15
Turning Speed (mph)	15		9	15		15	15		15	15		9
Number of Detectors				0	0	0	0	0			0	
Detector Template												
Leading Detector (ft)				0	0	0	0	0			0	
Trailing Detector (ft)				0	0	0	0	0			0	
Turn Type				Perm	NA	Perm	Perm	NA			NA	
Protected Phases					2			4			8	
Permitted Phases				2		2	4					
Detector Phase				2	2	2	4	4			8	
Switch Phase												
Minimum Initial (s)				10.0	10.0	10.0	10.0	10.0			10.0	
Minimum Split (s)				64.5	64.5	64.5	44.7	44.7			44.7	
Total Split (s)				65.3	65.3	65.3	44.7	44.7			44.7	
Total Split (%)				59.4%	59.4%	59.4%	40.6%	40.6%			40.6%	
Maximum Green (s)				59.3	59.3	59.3	38.5	38.5			38.5	
Yellow Time (s)				3.0	3.0	3.0	3.0	3.0			3.0	
All-Red Time (s)				3.0	3.0	3.0	3.2	3.2			3.2	

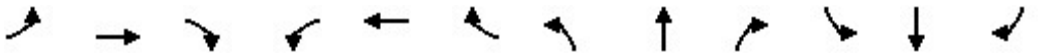
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lost Time Adjust (s)					0.0	0.0		-1.5			-1.5	
Total Lost Time (s)					6.0	6.0		4.7			4.7	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)				0.2	0.2	0.2	0.2	0.2			0.2	
Recall Mode				C-Max	C-Max	C-Max	Max	Max			Max	
Walk Time (s)				7.0	7.0	7.0	7.0	7.0			7.0	
Flash Dont Walk (s)				13.0	13.0	13.0	15.0	15.0			15.0	
Pedestrian Calls (#/hr)				0	0	0	0	0			0	
Act Effct Green (s)					59.3	59.3		40.0			40.0	
Actuated g/C Ratio					0.54	0.54		0.36			0.36	
v/c Ratio					1.00	0.29		0.78			0.56	
Control Delay					44.7	5.3		38.9			28.7	
Queue Delay					1.2	0.0		0.1			10.2	
Total Delay					45.8	5.3		39.0			38.8	
LOS					D	A		D			D	
Approach Delay					40.8			39.0			38.8	
Approach LOS					D			D			D	

Intersection Summary			
Area Type:	Other		
Cycle Length: 110			
Actuated Cycle Length: 110			
Offset: 55 (50%), Referenced to phase 2:WBTL, Start of 1st Green			
Natural Cycle: 110			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.00			
Intersection Signal Delay: 40.3		Intersection LOS: D	
Intersection Capacity Utilization 92.8%		ICU Level of Service F	
Analysis Period (min) 15			

Splits and Phases: 357: 11th Av S & 7th St S

Lane Group	WBT	WBR	NBL	NBT	SBT
Protected Phases	2			4	8
Permitted Phases		2	4		
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	64.5	64.5	44.7	44.7	44.7
Total Split (s)	65.3	65.3	44.7	44.7	44.7
Total Split (%)	59.4%	59.4%	40.6%	40.6%	40.6%
Maximum Green (s)	59.3	59.3	38.5	38.5	38.5
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	3.0	3.0	3.2	3.2	3.2
Lead/Lag					
Lead-Lag Optimize?					
Vehicle Extension (s)	0.2	0.2	0.2	0.2	0.2
Minimum Gap (s)	0.2	0.2	0.2	0.2	0.2
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0
Recall Mode	C-Max	C-Max	Max	Max	Max
Walk Time (s)	7.0	7.0	7.0	7.0	7.0
Flash Dont Walk (s)	13.0	13.0	15.0	15.0	15.0
Pedestrian Calls (#/hr)	0	0	0	0	0
90th %ile Green (s)	59.3	59.3	38.5	38.5	38.5
90th %ile Term Code	Coord	Coord	MaxR	MaxR	MaxR
70th %ile Green (s)	59.3	59.3	38.5	38.5	38.5
70th %ile Term Code	Coord	Coord	MaxR	MaxR	MaxR
50th %ile Green (s)	59.3	59.3	38.5	38.5	38.5
50th %ile Term Code	Coord	Coord	MaxR	MaxR	MaxR
30th %ile Green (s)	59.3	59.3	38.5	38.5	38.5
30th %ile Term Code	Coord	Coord	MaxR	MaxR	MaxR
10th %ile Green (s)	59.3	59.3	38.5	38.5	38.5
10th %ile Term Code	Coord	Coord	MaxR	MaxR	MaxR

Intersection Summary
Cycle Length: 110
Actuated Cycle Length: 110
Offset: 55 (50%), Referenced to phase 2:WBTL, Start of 1st Green
Control Type: Actuated-Coordinated



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	167	1030	45	81	86	0	0	158	132
Future Volume (vph)	0	0	0	167	1030	45	81	86	0	0	158	132
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Storage Length (ft)	0		0	0		150	100		0	0		80
Storage Lanes	0		0	0		1	1		0	0		1
Taper Length (ft)	60			60			60			60		
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor					0.99	0.87	0.95					0.91
Frt						0.850						0.850
Flt Protected					0.993		0.950					
Satd. Flow (prot)	0	0	0	0	2998	1350	1509	1589	0	0	1589	1350
Flt Permitted					0.993		0.537					
Satd. Flow (perm)	0	0	0	0	2953	1181	810	1589	0	0	1589	1231
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						51						66
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		411			1233			407			412	
Travel Time (s)		11.2			33.6			11.1			11.2	
Confl. Peds. (#/hr)				41		43	52					52
Peak Hour Factor	1.00	1.00	1.00	0.93	0.96	0.66	0.75	0.72	1.00	1.00	0.71	0.72
Heavy Vehicles (%)	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%
Adj. Flow (vph)	0	0	0	180	1073	68	108	119	0	0	223	183
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	1253	68	108	119	0	0	223	183
Enter Blocked Intersection	No	No	No	No	No	No	1 veh	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.15	1.15	1.15	1.15	1.15	1.15	1.15	1.15	1.15	1.15	1.15	1.15
Turning Speed (mph)	15		15	15		15	15		15	15		15
Number of Detectors				1	0	0	0	0			0	0
Detector Template				Left								
Leading Detector (ft)				50	0	0	0	0			0	0
Trailing Detector (ft)				0	0	0	0	0			0	0
Detector 1 Position(ft)				0	0	0	0	0			0	0
Detector 1 Size(ft)				20	6	0	20	6			6	20
Detector 1 Type				Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex			Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)				0.0	0.0	0.0	0.0	0.0			0.0	0.0
Detector 1 Queue (s)				0.0	0.0	0.0	0.0	0.0			0.0	0.0
Detector 1 Delay (s)				0.0	0.0	0.0	0.0	0.0			0.0	0.0
Turn Type				Perm	NA	Perm	Perm	NA			NA	Perm
Protected Phases					2			4			8	
Permitted Phases				2		2	4					8
Detector Phase				2	2	2	4	4			8	8
Switch Phase												

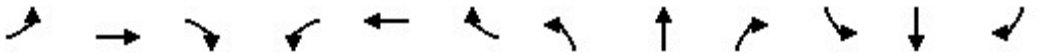
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)				10.0	10.0	10.0	10.0	10.0			10.0	10.0
Minimum Split (s)				64.7	64.7	64.7	44.7	44.7			44.7	44.7
Total Split (s)				65.3	65.3	65.3	44.7	44.7			44.7	44.7
Total Split (%)				59.4%	59.4%	59.4%	40.6%	40.6%			40.6%	40.6%
Maximum Green (s)				59.1	59.1	59.1	38.5	38.5			38.5	38.5
Yellow Time (s)				3.0	3.0	3.0	3.0	3.0			3.0	3.0
All-Red Time (s)				3.2	3.2	3.2	3.2	3.2			3.2	3.2
Lost Time Adjust (s)					-1.6	0.0	-1.6	-1.6			-1.6	-1.6
Total Lost Time (s)					4.6	6.2	4.6	4.6			4.6	4.6
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)				0.2	0.2	0.2	0.2	0.2			0.2	0.2
Recall Mode				C-Max	C-Max	C-Max	Max	Max			Max	Max
Walk Time (s)				7.0	7.0	7.0	7.0	7.0			7.0	7.0
Flash Dont Walk (s)				15.0	15.0	15.0	15.0	15.0			15.0	15.0
Pedestrian Calls (#/hr)				0	0	0	0	0			0	0
Act Effct Green (s)					60.7	59.1	40.1	40.1			40.1	40.1
Actuated g/C Ratio					0.55	0.54	0.36	0.36			0.36	0.36
v/c Ratio					0.77	0.10	0.37	0.21			0.39	0.37
Control Delay					15.6	6.3	20.2	16.5			18.7	12.9
Queue Delay					0.1	0.0	0.0	0.0			0.0	0.0
Total Delay					15.8	6.3	20.2	16.5			18.7	12.9
LOS					B	A	C	B			B	B
Approach Delay					15.3			18.3			16.0	
Approach LOS					B			B			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 110			
Actuated Cycle Length: 110			
Offset: 69 (63%), Referenced to phase 2:WBTL, Start of 1st Green			
Natural Cycle: 110			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.77			
Intersection Signal Delay: 15.8		Intersection LOS: B	
Intersection Capacity Utilization 75.4%		ICU Level of Service D	
Analysis Period (min) 15			

Splits and Phases: 579: Chicago Av S & 7th St S

Lane Group	WBT	WBR	NBL	NBT	SBT	SBR
Protected Phases	2			4	8	
Permitted Phases		2	4			8
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	64.7	64.7	44.7	44.7	44.7	44.7
Total Split (s)	65.3	65.3	44.7	44.7	44.7	44.7
Total Split (%)	59.4%	59.4%	40.6%	40.6%	40.6%	40.6%
Maximum Green (s)	59.1	59.1	38.5	38.5	38.5	38.5
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	3.2	3.2	3.2	3.2	3.2	3.2
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	0.2	0.2	0.2	0.2	0.2	0.2
Minimum Gap (s)	0.2	0.2	0.2	0.2	0.2	0.2
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	C-Max	C-Max	Max	Max	Max	Max
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	7.0
Flash Dont Walk (s)	15.0	15.0	15.0	15.0	15.0	15.0
Pedestrian Calls (#/hr)	0	0	0	0	0	0
90th %ile Green (s)	59.1	59.1	38.5	38.5	38.5	38.5
90th %ile Term Code	Coord	Coord	MaxR	MaxR	MaxR	MaxR
70th %ile Green (s)	59.1	59.1	38.5	38.5	38.5	38.5
70th %ile Term Code	Coord	Coord	MaxR	MaxR	MaxR	MaxR
50th %ile Green (s)	59.1	59.1	38.5	38.5	38.5	38.5
50th %ile Term Code	Coord	Coord	MaxR	MaxR	MaxR	MaxR
30th %ile Green (s)	59.1	59.1	38.5	38.5	38.5	38.5
30th %ile Term Code	Coord	Coord	MaxR	MaxR	MaxR	MaxR
10th %ile Green (s)	59.1	59.1	38.5	38.5	38.5	38.5
10th %ile Term Code	Coord	Coord	MaxR	MaxR	MaxR	MaxR

Intersection Summary
Cycle Length: 110
Actuated Cycle Length: 110
Offset: 69 (63%), Referenced to phase 2:WBTL, Start of 1st Green
Control Type: Actuated-Coordinated

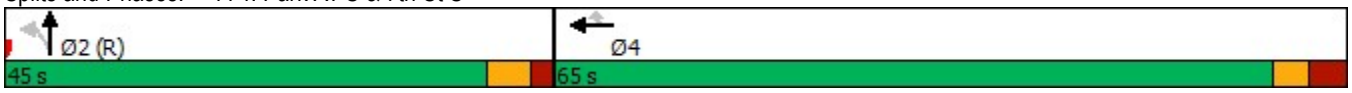


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	0	1188	58	246	666	0	0	0	0
Future Volume (vph)	0	0	0	0	1188	58	246	666	0	0	0	0
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Storage Length (ft)	0		0	0		150	160		0	0		0
Storage Lanes	0		0	0		1	0		0	0		0
Taper Length (ft)	60			60			60			60		
Lane Util. Factor	1.00	1.00	1.00	1.00	0.95	1.00	0.91	0.91	1.00	1.00	1.00	1.00
Ped Bike Factor						0.94		0.99				
Frt						0.850						
Flt Protected								0.985				
Satd. Flow (prot)	0	0	0	0	3019	1350	0	4272	0	0	0	0
Flt Permitted								0.985				
Satd. Flow (perm)	0	0	0	0	3019	1265	0	4209	0	0	0	0
Right Turn on Red			Yes			Yes	Yes		Yes			Yes
Satd. Flow (RTOR)						52		46				
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		165			411			410			410	
Travel Time (s)		4.5			11.2			11.2			11.2	
Confl. Peds. (#/hr)						35	33					
Peak Hour Factor	1.00	1.00	1.00	1.00	0.92	0.81	0.82	0.94	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%
Adj. Flow (vph)	0	0	0	0	1291	72	300	709	0	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	1291	72	0	1009	0	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.15	1.15	1.15	1.15	1.15	1.15	1.15	1.15	1.15	1.15	1.15	1.15
Turning Speed (mph)	15		15	15		15	15		15	15		15
Number of Detectors					0	0	0	0				
Detector Template												
Leading Detector (ft)					0	0	0	0				
Trailing Detector (ft)					0	0	0	0				
Turn Type					NA	Perm	Perm	NA				
Protected Phases					4			2				
Permitted Phases						4	2					
Detector Phase					4	4	2	2				
Switch Phase												
Minimum Initial (s)					7.0	7.0	10.0	10.0				
Minimum Split (s)					64.8	64.8	44.0	44.0				
Total Split (s)					65.0	65.0	45.0	45.0				
Total Split (%)					59.1%	59.1%	40.9%	40.9%				
Maximum Green (s)					58.7	58.7	39.5	39.5				
Yellow Time (s)					3.0	3.0	3.5	3.5				
All-Red Time (s)					3.3	3.3	2.0	2.0				

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lost Time Adjust (s)					-1.6	0.0		-1.6				
Total Lost Time (s)					4.7	6.3		3.9				
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)					0.2	0.2	0.2	0.2				
Recall Mode					Max	Max	C-Max	C-Max				
Walk Time (s)					7.0	7.0	7.0	7.0				
Flash Dont Walk (s)					15.0	15.0	15.0	15.0				
Pedestrian Calls (#/hr)					0	0	0	0				
Act Effct Green (s)					60.3	58.7		41.1				
Actuated g/C Ratio					0.55	0.53		0.37				
v/c Ratio					0.78	0.10		0.63				
Control Delay					18.9	5.7		16.8				
Queue Delay					1.0	0.0		0.1				
Total Delay					19.9	5.7		17.0				
LOS					B	A		B				
Approach Delay					19.1			17.0				
Approach LOS					B			B				

Intersection Summary			
Area Type:	Other		
Cycle Length: 110			
Actuated Cycle Length: 110			
Offset: 18 (16%), Referenced to phase 2:NBTL, Start of 1st Green			
Natural Cycle: 110			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.78			
Intersection Signal Delay: 18.2		Intersection LOS: B	
Intersection Capacity Utilization 63.9%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 774: Park Av S & 7th St S



Lane Group	WBT	WBR	NBT
Protected Phases	4		2
Permitted Phases		4	
Minimum Initial (s)	7.0	7.0	10.0
Minimum Split (s)	64.8	64.8	44.0
Total Split (s)	65.0	65.0	45.0
Total Split (%)	59.1%	59.1%	40.9%
Maximum Green (s)	58.7	58.7	39.5
Yellow Time (s)	3.0	3.0	3.5
All-Red Time (s)	3.3	3.3	2.0
Lead/Lag			
Lead-Lag Optimize?			
Vehicle Extension (s)	0.2	0.2	0.2
Minimum Gap (s)	0.2	0.2	0.2
Time Before Reduce (s)	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0
Recall Mode	Max	Max	C-Max
Walk Time (s)	7.0	7.0	7.0
Flash Dont Walk (s)	15.0	15.0	15.0
Pedestrian Calls (#/hr)	0	0	0
90th %ile Green (s)	58.7	58.7	39.5
90th %ile Term Code	MaxR	MaxR	Coord
70th %ile Green (s)	58.7	58.7	39.5
70th %ile Term Code	MaxR	MaxR	Coord
50th %ile Green (s)	58.7	58.7	39.5
50th %ile Term Code	MaxR	MaxR	Coord
30th %ile Green (s)	58.7	58.7	39.5
30th %ile Term Code	MaxR	MaxR	Coord
10th %ile Green (s)	58.7	58.7	39.5
10th %ile Term Code	MaxR	MaxR	Coord

Intersection Summary
Cycle Length: 110
Actuated Cycle Length: 110
Offset: 18 (16%), Referenced to phase 2:NBTL, Start of 1st Green
Control Type: Actuated-Coordinated

Traffic Safety Benefit-Cost Calculation

Highway Safety Improvement Program (HSIP) Reactive Project

DEPARTMENT OF TRANSPORTATION

A. Roadway Description

Route	7th Street	**District**	Metro	**County**	Hennepin
Begin RP	n/a	**End RP**	n/a	**Miles**	0.46
Location	Minneapolis, Minnesota				

B. Project Description

Proposed Work	Alter lane configuration on 7th Street to 1 BAT Lane, 1 Thru-Lane, and 1 Dynamic Lane		
Project Cost*	$10,075,820	**Installation Year**	2029
Project Service Life	30 years	**Traffic Growth Factor**	1.0%

** exclude Right of Way from Project Cost*

C. Crash Modification Factor

0.53	**Fatal (K) Crashes**	**Reference**	CMF ID 2841 for converting four-lane roadway to three-lane roadway with center turn lane (road diet)
0.53	**Serious Injury (A) Crashes**		
0.53	**Moderate Injury (B) Crashes**	**Crash Type**	All Intersection Related Crashes
0.53	**Possible Injury (C) Crashes**		
0.53	**Property Damage Only Crashes**		www.CMFclearinghouse.org

D. Crash Modification Factor (optional second CMF)

0.33	**Fatal (K) Crashes**	**Reference**	CMF ID 2842 (see description above) CMF ID 153 for prohibiting on-street parking. Combined using CMF Additive Method from FHWA.
0.33	**Serious Injury (A) Crashes**		
0.33	**Moderate Injury (B) Crashes**		
0.33	**Possible Injury (C) Crashes**	**Crash Type**	All Parking, Sideswipe, and Driveway Crashes
0.33	**Property Damage Only Crashes**		www.CMFclearinghouse.org

E. Crash Data

Begin Date 1/1/2020 **End Date** 12/31/2022 3 years

Data Source Minnesota Crash Mapping Analysis Tool 2 (MnCMAT2)

Crash Severity	All Intersection Crashes	Parking, Sideswipe, Driveways
K crashes	0	0
A crashes	1	0
B crashes	3	1
C crashes	1	1
PDO crashes	8	2

F. Benefit-Cost Calculation

$11,535,476	**Benefit (present value)**	**B/C Ratio = 1.15**
$10,075,820	**Cost**	

Proposed project expected to reduce 3 crashes annually, 1 of which involving fatality or serious injury.

F. Analysis Assumptions

Crash Severity	Crash Cost
K crashes	$1,600,000
A crashes	$800,000
B crashes	$250,000
C crashes	$130,000
PDO crashes	$15,000

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

Real Discount Rate:	0.8%	Default
Traffic Growth Rate:	1.0%	**Revised**
Project Service Life:	30 years	**Revised**

G. Annual Benefit

Crash Severity	Crash Reduction	Annual Reduction	Annual Benefit
K crashes	0.00	0.00	$0
A crashes	0.47	0.16	$125,333
B crashes	2.08	0.69	$173,333
C crashes	1.14	0.38	$49,400
PDO crashes	5.10	1.70	$25,500
			$373,567

H. Amortized Benefit

Year	Crash Benefits	Present Value
2029	$373,567	$373,567
2030	$377,302	$374,308
2031	$381,075	$375,051
2032	$384,886	$375,795
2033	$388,735	$376,540
2034	$392,622	$377,287
2035	$396,549	$378,036
2036	$400,514	$378,786
2037	$404,519	$379,538
2038	$408,564	$380,291
2039	$412,650	$381,045
2040	$416,777	$381,801
2041	$420,944	$382,559
2042	$425,154	$383,318
2043	$429,405	$384,078
2044	$433,699	$384,840
2045	$438,036	$385,604
2046	$442,417	$386,369
2047	$446,841	$387,136
2048	$451,309	$387,904
2049	$455,822	$388,674
2050	$460,381	$389,445
2051	$464,984	$390,217
2052	$469,634	$390,992
2053	$474,331	$391,767
2054	$479,074	$392,545
2055	$483,865	$393,324
2056	$488,703	$394,104
2057	$493,590	$394,886
2058	$498,526	$395,669
0	$0	$0

Total = $11,535,476

NOTE:
This calculation relies on the real discount rate, which accounts for inflation. No further discounting is necessary.

CMF &
Safety Summary

CRASH MODIFICATION FACTORS CLEARINGHOUSE

CMF / CRF Details

CMF ID: 2841

CMF Name: Converting four-lane roadways to three-lane roadways with center t

Description: Conversion of road segments from a four-lane to a three-lane cros

Prior Condition: Four-lane undivided roadway

Category: Roadway

Study ID: *Comparison of empirical Bayes and full Bayes approaches for before-after road safety evaluations*, Persaud et. al 2010

Star Quality Rating	
Star Quality Rating:	5 Stars

Crash Modification Factor (CMF)	
Value:	0.53
Adjusted Standard Error:	
Unadjusted Standard Error:	0.02

Crash Reduction Factor	
Value:	47
Adjusted Standard Error:	
Unadjusted Standard Error:	2

Applicability	
Crash Type:	All
Crash Severity:	All
Roadway Types:	Not Specified
Minimum Number of Lanes:	4
Maximum Number of Lanes:	4
Number of Lanes Direction:	
Number of Lanes Comment:	
Road Division Type:	Undivided
Minimum Speed Limit:	
Maximum Speed Limit:	
Speed Unit:	
Speed Limit Comment:	
Area Type:	Urban and suburban
Traffic Volume:	
Average Traffic Volume:	
Time of Day:	All
If countermeasure is intersection-based.	
Intersection Type:	
Intersection Geometry:	
Traffic Control:	
Major Road Traffic Volume:	
Minor Road Traffic Volume:	

Average Major Road Volume:	
Average Minor Road Volume:	

Development Details

Date Range of Data Used:	1982 to 2004
Municipality:	
State:	
Country:	
Type of Methodology Used:	Before/after using empirical Bayes or full Bayes

Other Details

Included in HSM:	No
Date Added to Clearinghouse:	Mar 21, 2011
Comments:	When this CMF was initially entered in the Clearinghouse, it was incorrectly entered as a CMF of 0.47. In March 2015, this was corrected to be 0.53, as presented in the original paper. In February 2021, the area type for this CMF was changed from suburban to urban/suburban to account for the fact that the treatment sites were largely located in small urban areas.

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

CRASH MODIFICATION FACTORS CLEARINGHOUSE

CMF / CRF Details

CMF ID: 153

CMF Name: Prohibit on-street parking

Description:

Prior Condition: No Prior Condition(s)

Category: On-street parking

Study ID: *Handbook of Road Safety Measures*, Elvik, R. and Vaa, T. 2004

Star Quality Rating	
Star Quality Rating:	4 Stars

Crash Modification Factor (CMF)	
Value:	0.8
Adjusted Standard Error:	0.05
Unadjusted Standard Error:	0.03

Crash Reduction Factor	
Value:	20
Adjusted Standard Error:	5
Unadjusted Standard Error:	3

Applicability	
Crash Type:	All
Crash Severity:	A (serious injury),B (minor injury),C (possible injury)
Roadway Types:	Minor Arterial
Minimum Number of Lanes:	
Maximum Number of Lanes:	
Number of Lanes Direction:	
Number of Lanes Comment:	
Road Division Type:	
Minimum Speed Limit:	
Maximum Speed Limit:	
Speed Unit:	
Speed Limit Comment:	
Area Type:	Urban
Traffic Volume:	
Average Traffic Volume:	
Time of Day:	
If countermeasure is intersection-based.	
Intersection Type:	
Intersection Geometry:	
Traffic Control:	
Major Road Traffic Volume:	
Minor Road Traffic Volume:	

Average Major Road Volume:	
Average Minor Road Volume:	

Development Details

Date Range of Data Used:	
Municipality:	
State:	
Country:	
Type of Methodology Used:	Meta-analysis

Other Details

Included in HSM:	No
Date Added to Clearinghouse:	Dec 01, 2009
Comments:	

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

INCIDENT ID	INTERSECTION	SEGMENT	INCLUDE	NOTES	MONTH	DAY	YEAR	DAY OF WEEK	HOUR	SEVERITY	MANNER OF COLLISION	COLLISION - ALLIANT	DIRECTION 1	CRASH MANUEVER 1	DIRECTION 2	CRASH MANUEVER 2	UTM X	UTM Y	LATITUDE	LONGITUDE	DATE & TIME	COLLISION DIAGRAM
889340	INT 1		YES		2	9	2021	Tue	18	PDO	Front to Rear	Rear End	Northbound	Vehicle Stopped or Stalled in Roadway	Northbound	Moving Forward	479386.1334	4979891.98	44.97217705	-93.26142774	2021/02/09-18:18	2021/02/09-18:18-DI-C-X
806025	INT 1		YES		4	3	2020	Fri	17	PDO	Front to Rear	Rear End	Northbound	Moving Forward	Northbound	Vehicle Stopped or Stalled in Roadway	479392.0608	4979901.852	44.97226609	-93.26135298	2020/04/03-17:29	2020/04/03-17:29-L-C-W
897548	INT 4		YES	Police Pursuit	3	20	2021	Sat	0	B	Front to Rear	Rear End	Westbound	Moving Forward	Westbound	Vehicle Stopped or Stalled in Roadway	479711.1617	4979710.787	44.97055533	-93.25729856	2021/03/20-00:49	2021/03/20-00:49-DI-C-D
1063035	INT 4		YES		12	4	2022	Sun	10	B	Angle	Angle	Southbound	Moving Forward	Westbound	Moving Forward	479710.687	4979710	44.97054824	-93.25730455	2022/12/04-10:00	2022/12/04-10:00-L-C-W
1019786	INT 4		YES		4	28	2022	Thu	14	B	Angle	Angle	Westbound	Moving Forward	Southbound	Turning Right	479714.0442	4979715.563	44.97059841	-93.2572622	2022/04/28-14:33	2022/04/28-14:33-L-C-D
1053646	INT 4		YES	WBT vs PED	10	25	2022	Tue	5	PDO	Unknown	Other	Unknown	Unknown	-	-	479717.8045	4979721.793	44.9706546	-93.25721477	2022/10/25-05:18	2022/10/25-05:18-Du-C-D
1066135		SEG A	YES	Driver struck parked vehicl	12	16	2022	Fri	10	B	-	Rear End	Westbound	Moving Forward	Westbound	Parked, Entering or Leaving a Parked stall	479748.5521	4979687.02	44.97034246	-93.25682345	2022/12/16-10:50	2022/12/16-10:50-L-C-S
867623	INT 4		YES		12	12	2020	Sat	3	PDO	Front to Rear	Rear End	Westbound	Vehicle Stopped or Stalled in Roadway	Westbound	Moving Forward	479716.0776	4979706.729	44.97051894	-93.25723606	2020/12/12-03:27	2020/12/12-03:27-DI-C-D
1016565	INT 4		YES		4	8	2022	Fri	11	PDO	Angle	Angle	Westbound	Moving Forward	Southbound	Moving Forward	479713.9369	4979708.028	44.97053058	-93.25726326	2022/04/08-11:00	2022/04/08-11:00-L-C-D
839544	INT 4		YES		9	7	2020	Mon	23	C	Angle	Angle	Northbound	Moving Forward	Westbound	Moving Forward	479710.687	4979710	44.97054824	-93.25730455	2020/09/07-23:44	2020/09/07-23:44-DI-C-D
940349		SEG A	YES		9	13	2021	Mon	20	PDO	Sideswipe - Same Direction	Sideswipe	Westbound	Changing Lanes	Westbound	Moving Forward	479709.2002	4979710.901	44.97055631	-93.25732344	2021/09/13-20:17	2021/09/13-20:17-DI-R-W
841320	INT 4		YES		9	17	2020	Thu	22	A	Angle	Angle	Westbound	Moving Forward	Northbound	Moving Forward	479707.3714	4979712.009	44.97056623	-93.25734668	2020/09/17-22:20	2020/09/17-22:20-DI-C-D
1045099		SEG A	YES	Driver struck parked vehicle	9	11	2022	Sun	22	C	-	Rear End	Westbound	Moving Forward	Westbound	Parked, Entering or Leaving a Parked stall	479706.8642	4979712.316	44.97056898	-93.25735312	2022/09/11-22:40	2022/09/11-22:40-DI-C-D
1009518	INT 3		YES		2	26	2022	Sat	11	PDO	Front to Rear	Rear End	Westbound	Moving Forward	Westbound	Vehicle Stopped or Stalled in Roadway	479593.4502	4979781.095	44.97118487	-93.25879414	2022/02/26-11:10	2022/02/26-11:10-L-C-S
1000749	INT 1		YES	Wrong Way Driver	1	22	2022	Sat	14	PDO	Angle	Angle	Eastbound	Moving Forward	Northbound	Moving Forward	479396.7346	4979900.595	44.97225491	-93.26129366	2022/01/22-14:36	2022/01/22-14:36-L-C-D
838332	INT 3		YES		9	1	2020	Tue	11	PDO	Angle	Angle	Northbound	Moving Forward	Westbound	Moving Forward	479607.1581	4979777.485	44.97115277	-93.25862016	2020/09/01-11:25	2020/09/01-11:25-L-C-D
975835		SEG A	YES	Driver pulled out from access	11	26	2021	Fri	9	PDO	Other	Angle	Northbound	Moving Forward	Westbound	Moving Forward	479611.4698	4979784.661	44.97121748	-93.25856577	2021/11/26-09:14	2021/11/26-09:14-L-X-D

AM Existing Conditions

251: 7th St S

Direction	WB	NB	SB	NW	All
Future Volume (vph)	1058	17	5	648	1728
Control Delay / Veh (s/v)	2	0	0	3	3
Queue Delay / Veh (s/v)	0	0	0	0	0
Total Delay / Veh (s/v)	2	0	0	3	3
Total Delay (hr)	1	0	0	1	1
Stops / Veh	0.15	0.00	0.00	0.19	0.16
Stops (#)	159	0	0	125	284
Average Speed (mph)	24	24	25	23	24
Total Travel Time (hr)	25	0	0	10	35
Distance Traveled (mi)	620	1	0	236	857
Fuel Consumed (gal)	29	0	0	12	40
Fuel Economy (mpg)	21.4	NA	NA	20.4	21.2
CO Emissions (kg)	2.02	0.00	0.00	0.81	2.83
NOx Emissions (kg)	0.39	0.00	0.00	0.16	0.55
VOC Emissions (kg)	0.47	0.00	0.00	0.19	0.66
Unserved Vehicles (#)	0	0	0	0	0
Vehicles in dilemma zone (#)	0	0	0	0	0

357: 11th Av S & 7th St S

Direction	WB	NB	SB	All
Future Volume (vph)	1724	285	252	2261
Control Delay / Veh (s/v)	13	31	38	18
Queue Delay / Veh (s/v)	0	0	1	0
Total Delay / Veh (s/v)	13	31	39	18
Total Delay (hr)	6	2	3	11
Stops / Veh	0.61	0.71	0.64	0.63
Stops (#)	1057	202	162	1421
Average Speed (mph)	15	7	6	12
Total Travel Time (hr)	15	3	4	22
Distance Traveled (mi)	229	22	20	270
Fuel Consumed (gal)	19	4	3	26
Fuel Economy (mpg)	12.1	6.2	5.6	10.4
CO Emissions (kg)	1.32	0.25	0.24	1.82
NOx Emissions (kg)	0.26	0.05	0.05	0.35
VOC Emissions (kg)	0.31	0.06	0.06	0.42
Unserved Vehicles (#)	0	0	0	0
Vehicles in dilemma zone (#)	0	0	0	0

579: Chicago Av S & 7th St S

Direction	WB	NB	SB	All
Future Volume (vph)	1242	167	290	1699
Control Delay / Veh (s/v)	16	22	15	16
Queue Delay / Veh (s/v)	0	2	1	0
Total Delay / Veh (s/v)	16	24	16	16
Total Delay (hr)	5	1	1	8
Stops / Veh	0.44	0.53	0.39	0.44
Stops (#)	546	88	113	747
Average Speed (mph)	17	8	10	16
Total Travel Time (hr)	17	2	2	21
Distance Traveled (mi)	290	13	23	326
Fuel Consumed (gal)	19	2	2	23
Fuel Economy (mpg)	15.2	7.4	9.5	14.0
CO Emissions (kg)	1.33	0.12	0.17	1.62
NOx Emissions (kg)	0.26	0.02	0.03	0.32
VOC Emissions (kg)	0.31	0.03	0.04	0.38
Unserved Vehicles (#)	0	0	0	0
Vehicles in dilemma zone (#)	0	0	0	0

774: Park Av S & 7th St S

Direction	WB	NB	All
Future Volume (vph)	1246	912	2158
Control Delay / Veh (s/v)	46	33	41
Queue Delay / Veh (s/v)	9	1	5
Total Delay / Veh (s/v)	55	34	46
Total Delay (hr)	19	9	28
Stops / Veh	0.98	0.88	0.94
Stops (#)	1219	799	2018
Average Speed (mph)	4	6	5
Total Travel Time (hr)	23	11	34
Distance Traveled (mi)	97	71	168
Fuel Consumed (gal)	23	13	36
Fuel Economy (mpg)	4.2	5.6	4.7
CO Emissions (kg)	1.61	0.88	2.48
NOx Emissions (kg)	0.31	0.17	0.48
VOC Emissions (kg)	0.37	0.20	0.58
Unserved Vehicles (#)	0	0	0
Vehicles in dilemma zone (#)	0	0	0

Zone P Totals

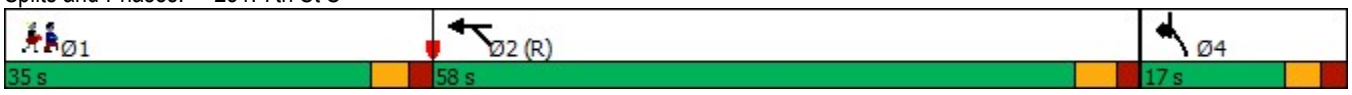
Number of Intersections	4
Control Delay / Veh (s/v)	20
Queue Delay / Veh (s/v)	2
Total Delay / Veh (s/v)	22
Total Delay (hr)	48
Stops / Veh	0.57
Stops (#)	4470
Average Speed (mph)	14
Total Travel Time (hr)	113
Distance Traveled (mi)	1620
Fuel Consumed (gal)	125
Fuel Economy (mpg)	12.9
CO Emissions (kg)	8.76
NOx Emissions (kg)	1.70
VOC Emissions (kg)	2.03
Unserved Vehicles (#)	0
Vehicles in dilemma zone (#)	0
Performance Index	60.5

Lane Group	WBT	NBL	SBR	NWL	Ø1
Lane Configurations					
Traffic Volume (vph)	1058	17	5	648	
Future Volume (vph)	1058	17	5	648	
Ideal Flow (vphpl)	1700	1700	1700	1700	
Lane Util. Factor	0.95	1.00	1.00	1.00	
Frt			0.865		
Flt Protected		0.950		0.950	
Satd. Flow (prot)	3019	1509	1374	1509	
Flt Permitted		0.950		0.950	
Satd. Flow (perm)	3019	1509	1374	1509	
Right Turn on Red		Yes	Yes		
Satd. Flow (RTOR)		401	401		
Link Speed (mph)	25			30	
Link Distance (ft)	3093			1923	
Travel Time (s)	84.4			43.7	
Peak Hour Factor	0.98	0.71	0.63	0.94	
Heavy Vehicles (%)	7%	7%	7%	7%	
Adj. Flow (vph)	1080	24	8	689	
Shared Lane Traffic (%)					
Lane Group Flow (vph)	1080	24	8	689	
Enter Blocked Intersection	No	No	No	No	
Lane Alignment	R NA	L NA	R NA	L NA	
Median Width(ft)	0			12	
Link Offset(ft)	0			0	
Crosswalk Width(ft)	16			16	
Two way Left Turn Lane					
Headway Factor	1.15	1.15	1.15	1.15	
Turning Speed (mph)		15	9	30	
Number of Detectors	2	1	1	1	
Detector Template	Thru	Left	Right	Left	
Leading Detector (ft)	100	50	20	50	
Trailing Detector (ft)	0	0	0	0	
Detector 1 Position(ft)	0	0	0	0	
Detector 1 Size(ft)	6	50	20	50	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel					
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	
Detector 2 Position(ft)	94				
Detector 2 Size(ft)	6				
Detector 2 Type	Cl+Ex				
Detector 2 Channel					
Detector 2 Extend (s)	0.0				
Turn Type	NA	Prot	Prot	Prot	
Protected Phases	2!	4!	4!	2!	1
Permitted Phases					
Detector Phase	2	4	4	2	
Switch Phase					

Lane Group	WBT	NBL	SBR	NWL	Ø1
Minimum Initial (s)	10.0	7.0	7.0	10.0	7.0
Minimum Split (s)	21.5	15.5	15.5	21.5	28.0
Total Split (s)	58.0	17.0	17.0	58.0	35.0
Total Split (%)	52.7%	15.5%	15.5%	52.7%	32%
Maximum Green (s)	52.5	11.7	11.7	52.5	30.0
Yellow Time (s)	3.5	3.0	3.0	3.5	3.0
All-Red Time (s)	2.0	2.3	2.3	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	
Total Lost Time (s)	5.5	5.3	5.3	5.5	
Lead/Lag	Lag			Lag	Lead
Lead-Lag Optimize?					
Vehicle Extension (s)	0.2	4.0	4.0	0.2	4.0
Recall Mode	C-Max	None	None	C-Max	None
Walk Time (s)	5.0	5.0	5.0	5.0	7.0
Flash Dont Walk (s)	5.0	5.0	5.0	5.0	16.0
Pedestrian Calls (#/hr)	0	0	0	0	0
Act Effct Green (s)	99.3	7.0	7.0	99.3	
Actuated g/C Ratio	0.90	0.06	0.06	0.90	
v/c Ratio	0.40	0.05	0.02	0.51	
Control Delay	2.0	0.2	0.0	3.4	
Queue Delay	0.0	0.0	0.0	0.0	
Total Delay	2.0	0.2	0.0	3.4	
LOS	A	A	A	A	
Approach Delay	2.0			3.4	
Approach LOS	A			A	

Intersection Summary			
Area Type:	Other		
Cycle Length: 110			
Actuated Cycle Length: 110			
Offset: 67 (61%), Referenced to phase 2:NWWB, Start of 1st Green			
Natural Cycle: 90			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.51			
Intersection Signal Delay: 2.5		Intersection LOS: A	
Intersection Capacity Utilization 88.6%		ICU Level of Service E	
Analysis Period (min) 15			
! Phase conflict between lane groups.			

Splits and Phases: 251: 7th St S

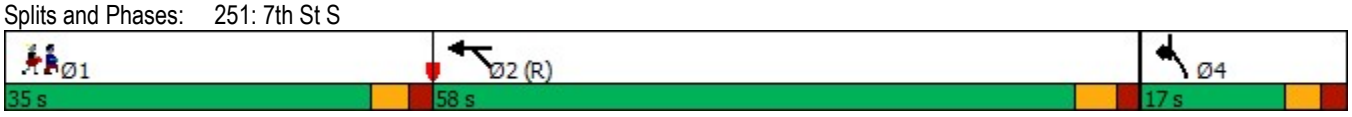


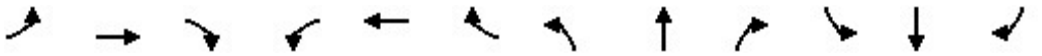
Lane Group	WBT	NBL	SBR	NWL	Ø1
Lane Configurations					
Traffic Volume (vph)	1058	17	5	648	
Future Volume (vph)	1058	17	5	648	
Turn Type	NA	Prot	Prot	Prot	
Protected Phases	2!	4!	4!	2!	1
Permitted Phases					
Detector Phase	2	4	4	2	
Switch Phase					
Minimum Initial (s)	10.0	7.0	7.0	10.0	7.0
Minimum Split (s)	21.5	15.5	15.5	21.5	28.0
Total Split (s)	58.0	17.0	17.0	58.0	35.0
Total Split (%)	52.7%	15.5%	15.5%	52.7%	32%
Yellow Time (s)	3.5	3.0	3.0	3.5	3.0
All-Red Time (s)	2.0	2.3	2.3	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	
Total Lost Time (s)	5.5	5.3	5.3	5.5	
Lead/Lag	Lag			Lag	Lead
Lead-Lag Optimize?					
Recall Mode	C-Max	None	None	C-Max	None
Act Effct Green (s)	99.3	7.0	7.0	99.3	
Actuated g/C Ratio	0.90	0.06	0.06	0.90	
v/c Ratio	0.40	0.05	0.02	0.51	
Control Delay	2.0	0.2	0.0	3.4	
Queue Delay	0.0	0.0	0.0	0.0	
Total Delay	2.0	0.2	0.0	3.4	
LOS	A	A	A	A	
Approach Delay	2.0			3.4	
Approach LOS	A			A	

Intersection Summary	
Cycle Length: 110	
Actuated Cycle Length: 110	
Offset: 67 (61%), Referenced to phase 2:NWWB, Start of 1st Green	
Natural Cycle: 90	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.51	
Intersection Signal Delay: 2.5	Intersection LOS: A
Intersection Capacity Utilization 88.6%	ICU Level of Service E
Analysis Period (min) 15	

! Phase conflict between lane groups.

Splits and Phases: 251: 7th St S





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	415	1098	211	59	226	0	0	162	90
Future Volume (vph)	0	0	0	415	1098	211	59	226	0	0	162	90
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Storage Length (ft)	0		0	100		0	50		0	0		75
Storage Lanes	0		0	0		0	1		0	0		1
Taper Length (ft)	60			60			60			60		
Lane Util. Factor	1.00	1.00	1.00	0.91	0.91	0.91	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor					1.00							
Frt					0.981							0.850
Flt Protected					0.987		0.950					
Satd. Flow (prot)	0	0	0	0	4188	0	1509	1589	0	0	1589	1350
Flt Permitted					0.987		0.529					
Satd. Flow (perm)	0	0	0	0	4188	0	840	1589	0	0	1589	1350
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					45							99
Link Speed (mph)		30			25			25			25	
Link Distance (ft)		1233			700			410			409	
Travel Time (s)		28.0			19.1			11.2			11.2	
Confl. Peds. (#/hr)						1						
Peak Hour Factor	1.00	1.00	1.00	0.87	0.97	0.93	0.82	0.86	1.00	1.00	0.84	0.73
Heavy Vehicles (%)	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%
Adj. Flow (vph)	0	0	0	477	1132	227	72	263	0	0	193	123
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	1836	0	72	263	0	0	193	123
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			12			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.15	1.15	1.15	1.15	1.15	1.15	1.15	1.15	1.15	1.15	1.15	1.15
Turning Speed (mph)	15		9	15		15	15		15	15		9
Number of Detectors				0	0		0	0			0	0
Detector Template												
Leading Detector (ft)				0	0		0	0			0	0
Trailing Detector (ft)				0	0		0	0			0	0
Turn Type				Perm	NA		Perm	NA			NA	Perm
Protected Phases					2			4			8	
Permitted Phases				2			4					8
Detector Phase				2	2		4	4			8	8
Switch Phase												
Minimum Initial (s)				10.0	10.0		10.0	10.0			10.0	10.0
Minimum Split (s)				26.0	26.0		28.2	28.2			28.2	28.2
Total Split (s)				75.0	75.0		35.0	35.0			35.0	35.0
Total Split (%)				68.2%	68.2%		31.8%	31.8%			31.8%	31.8%
Maximum Green (s)				69.0	69.0		28.8	28.8			28.8	28.8
Yellow Time (s)				3.0	3.0		3.0	3.0			3.0	3.0
All-Red Time (s)				3.0	3.0		3.2	3.2			3.2	3.2

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lost Time Adjust (s)					0.0		0.0	-1.5			-1.5	0.0
Total Lost Time (s)					6.0		6.2	4.7			4.7	6.2
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)				0.2	0.2		0.2	0.2			0.2	0.2
Recall Mode				C-Max	C-Max		Max	Max			Max	Max
Walk Time (s)				7.0	7.0		7.0	7.0			7.0	7.0
Flash Dont Walk (s)				13.0	13.0		15.0	15.0			15.0	15.0
Pedestrian Calls (#/hr)				0	0		0	0			0	0
Act Effct Green (s)					69.0		28.8	30.3			30.3	28.8
Actuated g/C Ratio					0.63		0.26	0.28			0.28	0.26
v/c Ratio					0.69		0.33	0.60			0.44	0.29
Control Delay					13.1		28.8	31.9			46.7	22.0
Queue Delay					0.0		0.0	0.0			1.9	0.0
Total Delay					13.1		28.8	31.9			48.6	22.0
LOS					B		C	C			D	C
Approach Delay					13.1			31.3			38.2	
Approach LOS					B			C			D	

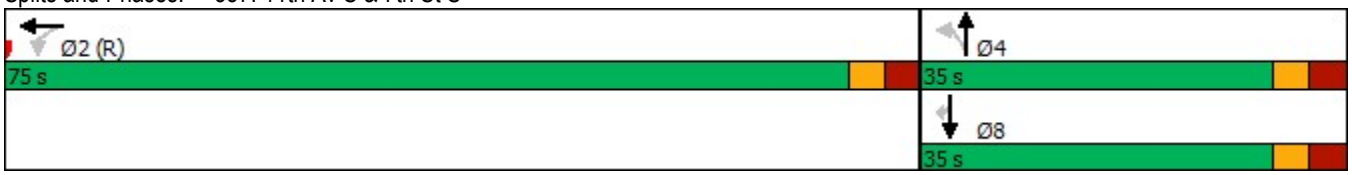
Intersection Summary			
Area Type:	Other		
Cycle Length: 110			
Actuated Cycle Length: 110			
Offset: 55 (50%), Referenced to phase 2:WBTL, Start of 1st Green			
Natural Cycle: 65			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.69			
Intersection Signal Delay: 18.8		Intersection LOS: B	
Intersection Capacity Utilization 88.8%		ICU Level of Service E	
Analysis Period (min) 15			

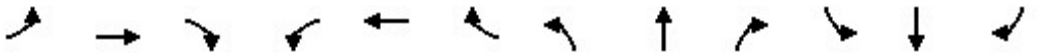
Splits and Phases: 357: 11th Av S & 7th St S

Lane Group	WBT	NBL	NBT	SBT	SBR
Lane Configurations					
Traffic Volume (vph)	1098	59	226	162	90
Future Volume (vph)	1098	59	226	162	90
Turn Type	NA	Perm	NA	NA	Perm
Protected Phases	2		4	8	
Permitted Phases		4			8
Detector Phase	2	4	4	8	8
Switch Phase					
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	26.0	28.2	28.2	28.2	28.2
Total Split (s)	75.0	35.0	35.0	35.0	35.0
Total Split (%)	68.2%	31.8%	31.8%	31.8%	31.8%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	3.0	3.2	3.2	3.2	3.2
Lost Time Adjust (s)	0.0	0.0	-1.5	-1.5	0.0
Total Lost Time (s)	6.0	6.2	4.7	4.7	6.2
Lead/Lag					
Lead-Lag Optimize?					
Recall Mode	C-Max	Max	Max	Max	Max
Act Effct Green (s)	69.0	28.8	30.3	30.3	28.8
Actuated g/C Ratio	0.63	0.26	0.28	0.28	0.26
v/c Ratio	0.69	0.33	0.60	0.44	0.29
Control Delay	13.1	28.8	31.9	46.7	22.0
Queue Delay	0.0	0.0	0.0	1.9	0.0
Total Delay	13.1	28.8	31.9	48.6	22.0
LOS	B	C	C	D	C
Approach Delay	13.1		31.3	38.2	
Approach LOS	B		C	D	

Intersection Summary	
Cycle Length: 110	
Actuated Cycle Length: 110	
Offset: 55 (50%), Referenced to phase 2:WBTL, Start of 1st Green	
Natural Cycle: 65	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.69	
Intersection Signal Delay: 18.8	Intersection LOS: B
Intersection Capacity Utilization 88.8%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 357: 11th Av S & 7th St S





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	167	1030	45	81	86	0	0	158	132
Future Volume (vph)	0	0	0	167	1030	45	81	86	0	0	158	132
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Storage Length (ft)	0		0	0		0	100		0	0		80
Storage Lanes	0		0	0		0	1		0	0		1
Taper Length (ft)	60			60			60			60		
Lane Util. Factor	1.00	1.00	1.00	0.91	0.91	0.91	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor					0.98		0.95					0.91
Frt					0.992							0.850
Flt Protected					0.993		0.950					
Satd. Flow (prot)	0	0	0	0	4245	0	1509	1589	0	0	1589	1350
Flt Permitted					0.993		0.539					
Satd. Flow (perm)	0	0	0	0	4186	0	813	1589	0	0	1589	1231
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)					12							65
Link Speed (mph)		25			30			25			25	
Link Distance (ft)		411			1233			407			412	
Travel Time (s)		11.2			28.0			11.1			11.2	
Confl. Peds. (#/hr)				41		43	52					52
Peak Hour Factor	1.00	1.00	1.00	0.93	0.96	0.66	0.75	0.72	1.00	1.00	0.71	0.72
Heavy Vehicles (%)	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%
Adj. Flow (vph)	0	0	0	180	1073	68	108	119	0	0	223	183
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	1321	0	108	119	0	0	223	183
Enter Blocked Intersection	No	No	No	No	No	No	1 veh	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.15	1.15	1.15	1.15	1.15	1.15	1.15	1.15	1.15	1.15	1.15	1.15
Turning Speed (mph)	15		15	15		15	15		15	15		15
Number of Detectors				1	0		0	0			0	0
Detector Template				Left								
Leading Detector (ft)				50	0		0	0			0	0
Trailing Detector (ft)				0	0		0	0			0	0
Detector 1 Position(ft)				0	0		0	0			0	0
Detector 1 Size(ft)				20	6		20	6			6	20
Detector 1 Type				Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex			Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)				0.0	0.0		0.0	0.0			0.0	0.0
Detector 1 Queue (s)				0.0	0.0		0.0	0.0			0.0	0.0
Detector 1 Delay (s)				0.0	0.0		0.0	0.0			0.0	0.0
Turn Type				Perm	NA		Perm	NA			NA	Perm
Protected Phases					2			4			8	
Permitted Phases				2			4					8
Detector Phase				2	2		4	4			8	8
Switch Phase												

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)				10.0	10.0		10.0	10.0			10.0	10.0
Minimum Split (s)				64.7	64.7		44.7	44.7			44.7	44.7
Total Split (s)				65.0	65.0		45.0	45.0			45.0	45.0
Total Split (%)				59.1%	59.1%		40.9%	40.9%			40.9%	40.9%
Maximum Green (s)				58.8	58.8		38.8	38.8			38.8	38.8
Yellow Time (s)				3.0	3.0		3.0	3.0			3.0	3.0
All-Red Time (s)				3.2	3.2		3.2	3.2			3.2	3.2
Lost Time Adjust (s)					-1.6		-1.6	-1.6			-1.6	-1.6
Total Lost Time (s)					4.6		4.6	4.6			4.6	4.6
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)				0.2	0.2		0.2	0.2			0.2	0.2
Recall Mode				C-Max	C-Max		Max	Max			Max	Max
Walk Time (s)				7.0	7.0		7.0	7.0			7.0	7.0
Flash Dont Walk (s)				15.0	15.0		15.0	15.0			15.0	15.0
Pedestrian Calls (#/hr)				0	0		0	0			0	0
Act Effct Green (s)					60.4		40.4	40.4			40.4	40.4
Actuated g/C Ratio					0.55		0.37	0.37			0.37	0.37
v/c Ratio					0.57		0.36	0.20			0.38	0.37
Control Delay					13.4		23.7	19.6			18.5	10.0
Queue Delay					0.0		5.1	0.0			0.0	2.6
Total Delay					13.4		28.8	19.6			18.5	12.5
LOS					B		C	B			B	B
Approach Delay					13.4			24.0			15.8	
Approach LOS					B			C			B	

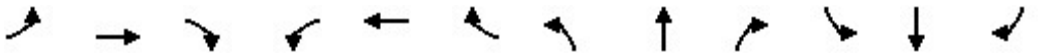
Intersection Summary			
Area Type:	Other		
Cycle Length: 110			
Actuated Cycle Length: 110			
Offset: 58 (53%), Referenced to phase 2:WBTL, Start of 1st Green			
Natural Cycle: 110			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.57			
Intersection Signal Delay: 15.1		Intersection LOS: B	
Intersection Capacity Utilization 65.4%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 579: Chicago Av S & 7th St S

Lane Group	WBT	NBL	NBT	SBT	SBR
Lane Configurations					
Traffic Volume (vph)	1030	81	86	158	132
Future Volume (vph)	1030	81	86	158	132
Turn Type	NA	Perm	NA	NA	Perm
Protected Phases	2		4	8	
Permitted Phases		4			8
Detector Phase	2	4	4	8	8
Switch Phase					
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	64.7	44.7	44.7	44.7	44.7
Total Split (s)	65.0	45.0	45.0	45.0	45.0
Total Split (%)	59.1%	40.9%	40.9%	40.9%	40.9%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	3.2	3.2	3.2	3.2	3.2
Lost Time Adjust (s)	-1.6	-1.6	-1.6	-1.6	-1.6
Total Lost Time (s)	4.6	4.6	4.6	4.6	4.6
Lead/Lag					
Lead-Lag Optimize?					
Recall Mode	C-Max	Max	Max	Max	Max
Act Effct Green (s)	60.4	40.4	40.4	40.4	40.4
Actuated g/C Ratio	0.55	0.37	0.37	0.37	0.37
v/c Ratio	0.57	0.36	0.20	0.38	0.37
Control Delay	13.4	23.7	19.6	18.5	10.0
Queue Delay	0.0	5.1	0.0	0.0	2.6
Total Delay	13.4	28.8	19.6	18.5	12.5
LOS	B	C	B	B	B
Approach Delay	13.4		24.0	15.8	
Approach LOS	B		C	B	

Intersection Summary	
Cycle Length: 110	
Actuated Cycle Length: 110	
Offset: 58 (53%), Referenced to phase 2:WBTL, Start of 1st Green	
Natural Cycle: 110	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.57	
Intersection Signal Delay: 15.1	Intersection LOS: B
Intersection Capacity Utilization 65.4%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 579: Chicago Av S & 7th St S

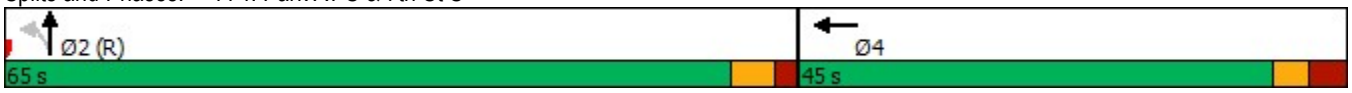


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	0	1188	58	246	666	0	0	0	0
Future Volume (vph)	0	0	0	0	1188	58	246	666	0	0	0	0
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Storage Length (ft)	0		0	0		75	160		0	0		0
Storage Lanes	0		0	0		0	0		0	0		0
Taper Length (ft)	60			60			60			60		
Lane Util. Factor	1.00	1.00	1.00	1.00	0.91	0.91	0.91	0.91	1.00	1.00	1.00	1.00
Ped Bike Factor					1.00			0.99				
Frt					0.992							
Flt Protected								0.985				
Satd. Flow (prot)	0	0	0	0	4288	0	0	4272	0	0	0	0
Flt Permitted								0.985				
Satd. Flow (perm)	0	0	0	0	4288	0	0	4209	0	0	0	0
Right Turn on Red			Yes			Yes	Yes		Yes			Yes
Satd. Flow (RTOR)					9			33				
Link Speed (mph)		25			25			30			25	
Link Distance (ft)		165			411			410			410	
Travel Time (s)		4.5			11.2			9.3			11.2	
Confl. Peds. (#/hr)						35	33					
Peak Hour Factor	1.00	1.00	1.00	1.00	0.92	0.81	0.82	0.94	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%
Adj. Flow (vph)	0	0	0	0	1291	72	300	709	0	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	1363	0	0	1009	0	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.15	1.15	1.15	1.15	1.15	1.15	1.15	1.15	1.15	1.15	1.15	1.15
Turning Speed (mph)	15		15	15		15	15		15	15		15
Number of Detectors					0		0	0				
Detector Template												
Leading Detector (ft)					0		0	0				
Trailing Detector (ft)					0		0	0				
Turn Type					NA		Perm	NA				
Protected Phases					4			2				
Permitted Phases							2					
Detector Phase					4		2	2				
Switch Phase												
Minimum Initial (s)					7.0		10.0	10.0				
Minimum Split (s)					28.3		27.5	27.5				
Total Split (s)					45.0		65.0	65.0				
Total Split (%)					40.9%		59.1%	59.1%				
Maximum Green (s)					38.7		59.5	59.5				
Yellow Time (s)					3.0		3.5	3.5				
All-Red Time (s)					3.3		2.0	2.0				

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lost Time Adjust (s)					-1.6			-1.6				
Total Lost Time (s)					4.7			3.9				
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)					0.2		0.2	0.2				
Recall Mode					Max		C-Max	C-Max				
Walk Time (s)					7.0		7.0	7.0				
Flash Dont Walk (s)					15.0		15.0	15.0				
Pedestrian Calls (#/hr)					0		0	0				
Act Effct Green (s)					40.3			61.1				
Actuated g/C Ratio					0.37			0.56				
v/c Ratio					0.86			0.43				
Control Delay					46.0			31.3				
Queue Delay					9.0			0.6				
Total Delay					55.0			31.9				
LOS					E			C				
Approach Delay					55.0			31.9				
Approach LOS					E			C				

Intersection Summary	
Area Type:	Other
Cycle Length: 110	
Actuated Cycle Length: 110	
Offset: 63 (57%), Referenced to phase 2:NBTL, Start of 1st Green	
Natural Cycle: 60	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.86	
Intersection Signal Delay: 45.2	Intersection LOS: D
Intersection Capacity Utilization 54.5%	ICU Level of Service A
Analysis Period (min) 15	

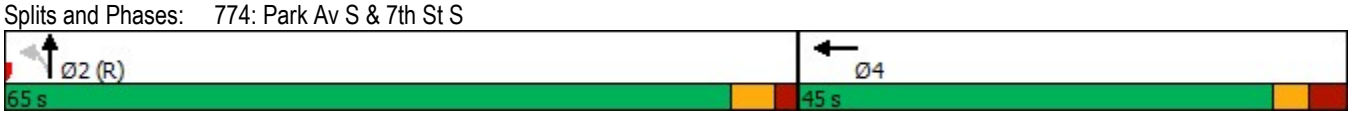
Splits and Phases: 774: Park Av S & 7th St S



Lane Group	WBT	NBT
Lane Configurations		
Traffic Volume (vph)	1188	666
Future Volume (vph)	1188	666
Turn Type	NA	NA
Protected Phases	4	2
Permitted Phases		
Detector Phase	4	2
Switch Phase		
Minimum Initial (s)	7.0	10.0
Minimum Split (s)	28.3	27.5
Total Split (s)	45.0	65.0
Total Split (%)	40.9%	59.1%
Yellow Time (s)	3.0	3.5
All-Red Time (s)	3.3	2.0
Lost Time Adjust (s)	-1.6	-1.6
Total Lost Time (s)	4.7	3.9
Lead/Lag		
Lead-Lag Optimize?		
Recall Mode	Max	C-Max
Act Effct Green (s)	40.3	61.1
Actuated g/C Ratio	0.37	0.56
v/c Ratio	0.86	0.43
Control Delay	46.0	31.3
Queue Delay	9.0	0.6
Total Delay	55.0	31.9
LOS	E	C
Approach Delay	55.0	31.9
Approach LOS	E	C

Intersection Summary	
Cycle Length: 110	
Actuated Cycle Length: 110	
Offset: 63 (57%), Referenced to phase 2:NBTL, Start of 1st Green	
Natural Cycle: 60	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.86	
Intersection Signal Delay: 45.2	Intersection LOS: D
Intersection Capacity Utilization 54.5%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 774: Park Av S & 7th St S



AM Build Conditions

251: 7th St S

Direction	WB	NB	SB	NW	All
Future Volume (vph)	1058	17	5	648	1728
Control Delay / Veh (s/v)	8	0	0	3	6
Queue Delay / Veh (s/v)	0	0	0	0	0
Total Delay / Veh (s/v)	8	0	0	4	6
Total Delay (hr)	2	0	0	1	3
Stops / Veh	0.40	0.00	0.00	0.19	0.32
Stops (#)	420	0	0	125	545
Average Speed (mph)	23	24	24	23	23
Total Travel Time (hr)	27	0	0	10	37
Distance Traveled (mi)	620	1	0	236	857
Fuel Consumed (gal)	31	0	0	12	43
Fuel Economy (mpg)	19.8	NA	NA	20.4	20.0
CO Emissions (kg)	2.19	0.00	0.00	0.81	3.00
NOx Emissions (kg)	0.43	0.00	0.00	0.16	0.58
VOC Emissions (kg)	0.51	0.00	0.00	0.19	0.69
Unserved Vehicles (#)	0	0	0	0	0
Vehicles in dilemma zone (#)	0	0	0	0	0

357: 11th Av S & 7th St S

Direction	WB	NB	SB	All
Future Volume (vph)	1724	285	252	2261
Control Delay / Veh (s/v)	40	39	29	38
Queue Delay / Veh (s/v)	1	0	10	2
Total Delay / Veh (s/v)	41	39	39	40
Total Delay (hr)	20	3	3	25
Stops / Veh	0.77	0.77	0.86	0.78
Stops (#)	1333	220	216	1769
Average Speed (mph)	8	6	6	7
Total Travel Time (hr)	29	4	4	36
Distance Traveled (mi)	229	22	20	270
Fuel Consumed (gal)	30	4	4	38
Fuel Economy (mpg)	7.7	5.4	5.3	7.2
CO Emissions (kg)	2.08	0.29	0.26	2.62
NOx Emissions (kg)	0.40	0.06	0.05	0.51
VOC Emissions (kg)	0.48	0.07	0.06	0.61
Unserved Vehicles (#)	6	0	0	6
Vehicles in dilemma zone (#)	0	0	0	0

579: Chicago Av S & 7th St S

Direction	WB	NB	SB	All
Future Volume (vph)	1242	167	290	1699
Control Delay / Veh (s/v)	15	18	16	16
Queue Delay / Veh (s/v)	0	0	0	0
Total Delay / Veh (s/v)	15	18	16	16
Total Delay (hr)	5	1	1	7
Stops / Veh	0.39	0.50	0.79	0.47
Stops (#)	485	84	229	798
Average Speed (mph)	17	9	10	16
Total Travel Time (hr)	17	1	2	20
Distance Traveled (mi)	290	13	23	326
Fuel Consumed (gal)	19	2	3	23
Fuel Economy (mpg)	15.4	8.4	8.0	14.0
CO Emissions (kg)	1.31	0.11	0.20	1.62
NOx Emissions (kg)	0.26	0.02	0.04	0.32
VOC Emissions (kg)	0.30	0.02	0.05	0.38
Unserved Vehicles (#)	0	0	0	0
Vehicles in dilemma zone (#)	0	0	0	0

774: Park Av S & 7th St S

Direction	WB	NB	All
Future Volume (vph)	1246	912	2158
Control Delay / Veh (s/v)	18	17	18
Queue Delay / Veh (s/v)	1	0	1
Total Delay / Veh (s/v)	19	17	18
Total Delay (hr)	7	4	11
Stops / Veh	0.48	0.64	0.55
Stops (#)	595	587	1182
Average Speed (mph)	9	10	9
Total Travel Time (hr)	11	7	18
Distance Traveled (mi)	97	71	168
Fuel Consumed (gal)	12	9	20
Fuel Economy (mpg)	8.4	8.2	8.3
CO Emissions (kg)	0.81	0.60	1.41
NOx Emissions (kg)	0.16	0.12	0.27
VOC Emissions (kg)	0.19	0.14	0.33
Unserved Vehicles (#)	0	0	0
Vehicles in dilemma zone (#)	0	0	0

Zone P Totals

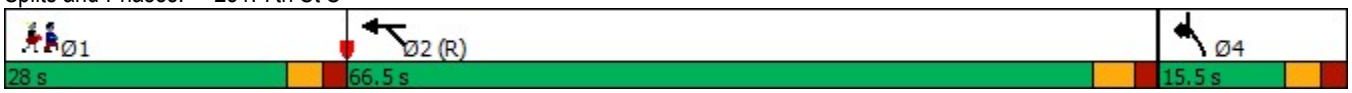
Number of Intersections	4
Control Delay / Veh (s/v)	21
Queue Delay / Veh (s/v)	1
Total Delay / Veh (s/v)	22
Total Delay (hr)	47
Stops / Veh	0.55
Stops (#)	4294
Average Speed (mph)	15
Total Travel Time (hr)	112
Distance Traveled (mi)	1620
Fuel Consumed (gal)	124
Fuel Economy (mpg)	13.1
CO Emissions (kg)	8.65
NOx Emissions (kg)	1.68
VOC Emissions (kg)	2.00
Unserved Vehicles (#)	6
Vehicles in dilemma zone (#)	0
Performance Index	58.8

Lane Group	WBT	NBL	SBR	NWL	Ø1
Lane Configurations					
Traffic Volume (vph)	1058	17	5	648	
Future Volume (vph)	1058	17	5	648	
Ideal Flow (vphpl)	1700	1700	1700	1700	
Lane Util. Factor	1.00	1.00	1.00	1.00	
Frt			0.865		
Flt Protected		0.950		0.950	
Satd. Flow (prot)	1589	1509	1374	1509	
Flt Permitted		0.950		0.950	
Satd. Flow (perm)	1589	1509	1374	1509	
Right Turn on Red		Yes	Yes		
Satd. Flow (RTOR)		309	309		
Link Speed (mph)	25			25	
Link Distance (ft)	3093			1923	
Travel Time (s)	84.4			52.4	
Peak Hour Factor	0.98	0.71	0.63	0.94	
Heavy Vehicles (%)	7%	7%	7%	7%	
Adj. Flow (vph)	1080	24	8	689	
Shared Lane Traffic (%)					
Lane Group Flow (vph)	1080	24	8	689	
Enter Blocked Intersection	No	No	No	No	
Lane Alignment	R NA	L NA	R NA	L NA	
Median Width(ft)	0			12	
Link Offset(ft)	0			0	
Crosswalk Width(ft)	16			16	
Two way Left Turn Lane					
Headway Factor	1.15	1.15	1.15	1.15	
Turning Speed (mph)		15	9	30	
Number of Detectors	2	1	1	1	
Detector Template	Thru	Left	Right	Left	
Leading Detector (ft)	100	50	20	50	
Trailing Detector (ft)	0	0	0	0	
Detector 1 Position(ft)	0	0	0	0	
Detector 1 Size(ft)	6	50	20	50	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel					
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	
Detector 2 Position(ft)	94				
Detector 2 Size(ft)	6				
Detector 2 Type	Cl+Ex				
Detector 2 Channel					
Detector 2 Extend (s)	0.0				
Turn Type	NA	Prot	Prot	Prot	
Protected Phases	2!	4!	4!	2!	1
Permitted Phases					
Detector Phase	2	4	4	2	
Switch Phase					

Lane Group	WBT	NBL	SBR	NWL	Ø1
Minimum Initial (s)	10.0	7.0	7.0	10.0	7.0
Minimum Split (s)	21.5	15.5	15.5	21.5	28.0
Total Split (s)	66.5	15.5	15.5	66.5	28.0
Total Split (%)	60.5%	14.1%	14.1%	60.5%	25%
Maximum Green (s)	61.0	10.2	10.2	61.0	23.0
Yellow Time (s)	3.5	3.0	3.0	3.5	3.0
All-Red Time (s)	2.0	2.3	2.3	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	
Total Lost Time (s)	5.5	5.3	5.3	5.5	
Lead/Lag	Lag			Lag	Lead
Lead-Lag Optimize?					
Vehicle Extension (s)	0.2	4.0	4.0	0.2	4.0
Recall Mode	C-Max	None	None	C-Max	None
Walk Time (s)	5.0	5.0	5.0	5.0	7.0
Flash Dont Walk (s)	5.0	5.0	5.0	5.0	16.0
Pedestrian Calls (#/hr)	0	0	0	0	0
Act Effct Green (s)	99.3	7.0	7.0	99.3	
Actuated g/C Ratio	0.90	0.06	0.06	0.90	
v/c Ratio	0.75	0.06	0.02	0.51	
Control Delay	7.9	0.3	0.2	3.4	
Queue Delay	0.5	0.0	0.0	0.1	
Total Delay	8.4	0.3	0.2	3.5	
LOS	A	A	A	A	
Approach Delay	8.4			3.5	
Approach LOS	A			A	

Intersection Summary			
Area Type:	Other		
Cycle Length: 110			
Actuated Cycle Length: 110			
Offset: 67 (61%), Referenced to phase 2:NWWB, Start of 1st Green			
Natural Cycle: 150			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.75			
Intersection Signal Delay: 6.4		Intersection LOS: A	
Intersection Capacity Utilization 118.2%		ICU Level of Service H	
Analysis Period (min) 15			
! Phase conflict between lane groups.			

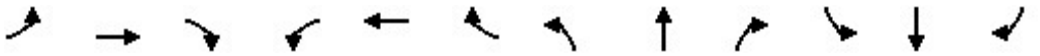
Splits and Phases: 251: 7th St S



Lane Group	WBT	NBL	SBR	NWL	Ø1
Protected Phases	2!	4!	4!	2!	1
Permitted Phases					
Minimum Initial (s)	10.0	7.0	7.0	10.0	7.0
Minimum Split (s)	21.5	15.5	15.5	21.5	28.0
Total Split (s)	66.5	15.5	15.5	66.5	28.0
Total Split (%)	60.5%	14.1%	14.1%	60.5%	25%
Maximum Green (s)	61.0	10.2	10.2	61.0	23.0
Yellow Time (s)	3.5	3.0	3.0	3.5	3.0
All-Red Time (s)	2.0	2.3	2.3	2.0	2.0
Lead/Lag	Lag			Lag	Lead
Lead-Lag Optimize?					
Vehicle Extension (s)	0.2	4.0	4.0	0.2	4.0
Minimum Gap (s)	0.2	4.0	4.0	0.2	0.2
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0
Recall Mode	C-Max	None	None	C-Max	None
Walk Time (s)	5.0	5.0	5.0	5.0	7.0
Flash Dont Walk (s)	5.0	5.0	5.0	5.0	16.0
Pedestrian Calls (#/hr)	0	0	0	0	0
90th %ile Green (s)	92.2	7.0	7.0	92.2	0.0
90th %ile Term Code	Coord	Min	Min	Coord	Skip
70th %ile Green (s)	92.2	7.0	7.0	92.2	0.0
70th %ile Term Code	Coord	Min	Min	Coord	Skip
50th %ile Green (s)	92.2	7.0	7.0	92.2	0.0
50th %ile Term Code	Coord	Min	Min	Coord	Skip
30th %ile Green (s)	104.5	0.0	0.0	104.5	0.0
30th %ile Term Code	Coord	Skip	Skip	Coord	Skip
10th %ile Green (s)	104.5	0.0	0.0	104.5	0.0
10th %ile Term Code	Coord	Skip	Skip	Coord	Skip

Intersection Summary
Cycle Length: 110
Actuated Cycle Length: 110
Offset: 67 (61%), Referenced to phase 2:NWWB, Start of 1st Green
Control Type: Actuated-Coordinated

! Phase conflict between lane groups.



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	415	1098	211	59	226	0	0	162	90
Future Volume (vph)	0	0	0	415	1098	211	59	226	0	0	162	90
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Storage Length (ft)	0		0	100		150	50		0	0		75
Storage Lanes	0		0	0		1	0		0	0		0
Taper Length (ft)	60			60			60			60		
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						0.98						
Frt						0.850					0.947	
Flt Protected					0.985			0.989				
Satd. Flow (prot)	0	0	0	0	2973	1350	0	1571	0	0	1505	0
Flt Permitted					0.985			0.740				
Satd. Flow (perm)	0	0	0	0	2973	1320	0	1176	0	0	1505	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						133					33	
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		1233			700			410			409	
Travel Time (s)		33.6			19.1			11.2			11.2	
Confl. Peds. (#/hr)						1						
Peak Hour Factor	1.00	1.00	1.00	0.87	0.97	0.93	0.82	0.86	1.00	1.00	0.84	0.73
Heavy Vehicles (%)	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%
Adj. Flow (vph)	0	0	0	477	1132	227	72	263	0	0	193	123
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	1609	227	0	335	0	0	316	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			12			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.15	1.15	1.15	1.15	1.15	1.15	1.15	1.15	1.15	1.15	1.15	1.15
Turning Speed (mph)	15		9	15		15	15		15	15		9
Number of Detectors				0	0	0	0	0			0	
Detector Template												
Leading Detector (ft)				0	0	0	0	0			0	
Trailing Detector (ft)				0	0	0	0	0			0	
Turn Type				Perm	NA	Perm	Perm	NA			NA	
Protected Phases					2			4			8	
Permitted Phases				2		2	4					
Detector Phase				2	2	2	4	4			8	
Switch Phase												
Minimum Initial (s)				10.0	10.0	10.0	10.0	10.0			10.0	
Minimum Split (s)				64.5	64.5	64.5	44.7	44.7			44.7	
Total Split (s)				65.3	65.3	65.3	44.7	44.7			44.7	
Total Split (%)				59.4%	59.4%	59.4%	40.6%	40.6%			40.6%	
Maximum Green (s)				59.3	59.3	59.3	38.5	38.5			38.5	
Yellow Time (s)				3.0	3.0	3.0	3.0	3.0			3.0	
All-Red Time (s)				3.0	3.0	3.0	3.2	3.2			3.2	

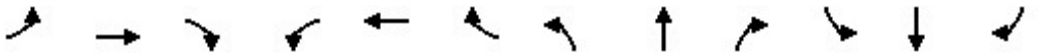
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lost Time Adjust (s)					0.0	0.0		-1.5			-1.5	
Total Lost Time (s)					6.0	6.0		4.7			4.7	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)				0.2	0.2	0.2	0.2	0.2			0.2	
Recall Mode				C-Max	C-Max	C-Max	Max	Max			Max	
Walk Time (s)				7.0	7.0	7.0	7.0	7.0			7.0	
Flash Dont Walk (s)				13.0	13.0	13.0	15.0	15.0			15.0	
Pedestrian Calls (#/hr)				0	0	0	0	0			0	
Act Effct Green (s)					59.3	59.3		40.0			40.0	
Actuated g/C Ratio					0.54	0.54		0.36			0.36	
v/c Ratio					1.00	0.29		0.78			0.56	
Control Delay					44.7	5.3		38.9			28.7	
Queue Delay					1.2	0.0		0.1			10.2	
Total Delay					45.8	5.3		39.0			38.8	
LOS					D	A		D			D	
Approach Delay					40.8			39.0			38.8	
Approach LOS					D			D			D	

Intersection Summary			
Area Type:	Other		
Cycle Length: 110			
Actuated Cycle Length: 110			
Offset: 55 (50%), Referenced to phase 2:WBTL, Start of 1st Green			
Natural Cycle: 110			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.00			
Intersection Signal Delay: 40.3		Intersection LOS: D	
Intersection Capacity Utilization 92.8%		ICU Level of Service F	
Analysis Period (min) 15			

Splits and Phases: 357: 11th Av S & 7th St S

Lane Group	WBT	WBR	NBL	NBT	SBT
Protected Phases	2			4	8
Permitted Phases		2	4		
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	64.5	64.5	44.7	44.7	44.7
Total Split (s)	65.3	65.3	44.7	44.7	44.7
Total Split (%)	59.4%	59.4%	40.6%	40.6%	40.6%
Maximum Green (s)	59.3	59.3	38.5	38.5	38.5
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	3.0	3.0	3.2	3.2	3.2
Lead/Lag					
Lead-Lag Optimize?					
Vehicle Extension (s)	0.2	0.2	0.2	0.2	0.2
Minimum Gap (s)	0.2	0.2	0.2	0.2	0.2
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0
Recall Mode	C-Max	C-Max	Max	Max	Max
Walk Time (s)	7.0	7.0	7.0	7.0	7.0
Flash Dont Walk (s)	13.0	13.0	15.0	15.0	15.0
Pedestrian Calls (#/hr)	0	0	0	0	0
90th %ile Green (s)	59.3	59.3	38.5	38.5	38.5
90th %ile Term Code	Coord	Coord	MaxR	MaxR	MaxR
70th %ile Green (s)	59.3	59.3	38.5	38.5	38.5
70th %ile Term Code	Coord	Coord	MaxR	MaxR	MaxR
50th %ile Green (s)	59.3	59.3	38.5	38.5	38.5
50th %ile Term Code	Coord	Coord	MaxR	MaxR	MaxR
30th %ile Green (s)	59.3	59.3	38.5	38.5	38.5
30th %ile Term Code	Coord	Coord	MaxR	MaxR	MaxR
10th %ile Green (s)	59.3	59.3	38.5	38.5	38.5
10th %ile Term Code	Coord	Coord	MaxR	MaxR	MaxR

Intersection Summary
Cycle Length: 110
Actuated Cycle Length: 110
Offset: 55 (50%), Referenced to phase 2:WBTL, Start of 1st Green
Control Type: Actuated-Coordinated



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	167	1030	45	81	86	0	0	158	132
Future Volume (vph)	0	0	0	167	1030	45	81	86	0	0	158	132
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Storage Length (ft)	0		0	0		150	100		0	0		80
Storage Lanes	0		0	0		1	1		0	0		1
Taper Length (ft)	60			60			60			60		
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor					0.99	0.87	0.95					0.91
Frt						0.850						0.850
Flt Protected					0.993		0.950					
Satd. Flow (prot)	0	0	0	0	2998	1350	1509	1589	0	0	1589	1350
Flt Permitted					0.993		0.537					
Satd. Flow (perm)	0	0	0	0	2953	1181	810	1589	0	0	1589	1231
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						51						66
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		411			1233			407			412	
Travel Time (s)		11.2			33.6			11.1			11.2	
Confl. Peds. (#/hr)				41		43	52					52
Peak Hour Factor	1.00	1.00	1.00	0.93	0.96	0.66	0.75	0.72	1.00	1.00	0.71	0.72
Heavy Vehicles (%)	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%
Adj. Flow (vph)	0	0	0	180	1073	68	108	119	0	0	223	183
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	1253	68	108	119	0	0	223	183
Enter Blocked Intersection	No	No	No	No	No	No	1 veh	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.15	1.15	1.15	1.15	1.15	1.15	1.15	1.15	1.15	1.15	1.15	1.15
Turning Speed (mph)	15		15	15		15	15		15	15		15
Number of Detectors				1	0	0	0	0			0	0
Detector Template				Left								
Leading Detector (ft)				50	0	0	0	0			0	0
Trailing Detector (ft)				0	0	0	0	0			0	0
Detector 1 Position(ft)				0	0	0	0	0			0	0
Detector 1 Size(ft)				20	6	0	20	6			6	20
Detector 1 Type				Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex			Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)				0.0	0.0	0.0	0.0	0.0			0.0	0.0
Detector 1 Queue (s)				0.0	0.0	0.0	0.0	0.0			0.0	0.0
Detector 1 Delay (s)				0.0	0.0	0.0	0.0	0.0			0.0	0.0
Turn Type				Perm	NA	Perm	Perm	NA			NA	Perm
Protected Phases					2			4			8	
Permitted Phases				2		2	4					8
Detector Phase				2	2	2	4	4			8	8
Switch Phase												

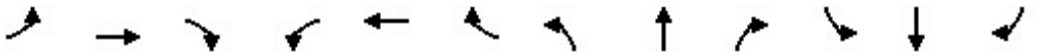
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Initial (s)				10.0	10.0	10.0	10.0	10.0			10.0	10.0
Minimum Split (s)				64.7	64.7	64.7	44.7	44.7			44.7	44.7
Total Split (s)				65.3	65.3	65.3	44.7	44.7			44.7	44.7
Total Split (%)				59.4%	59.4%	59.4%	40.6%	40.6%			40.6%	40.6%
Maximum Green (s)				59.1	59.1	59.1	38.5	38.5			38.5	38.5
Yellow Time (s)				3.0	3.0	3.0	3.0	3.0			3.0	3.0
All-Red Time (s)				3.2	3.2	3.2	3.2	3.2			3.2	3.2
Lost Time Adjust (s)					-1.6	0.0	-1.6	-1.6			-1.6	-1.6
Total Lost Time (s)					4.6	6.2	4.6	4.6			4.6	4.6
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)				0.2	0.2	0.2	0.2	0.2			0.2	0.2
Recall Mode				C-Max	C-Max	C-Max	Max	Max			Max	Max
Walk Time (s)				7.0	7.0	7.0	7.0	7.0			7.0	7.0
Flash Dont Walk (s)				15.0	15.0	15.0	15.0	15.0			15.0	15.0
Pedestrian Calls (#/hr)				0	0	0	0	0			0	0
Act Effct Green (s)					60.7	59.1	40.1	40.1			40.1	40.1
Actuated g/C Ratio					0.55	0.54	0.36	0.36			0.36	0.36
v/c Ratio					0.77	0.10	0.37	0.21			0.39	0.37
Control Delay					15.6	6.3	20.2	16.5			18.7	12.9
Queue Delay					0.1	0.0	0.0	0.0			0.0	0.0
Total Delay					15.8	6.3	20.2	16.5			18.7	12.9
LOS					B	A	C	B			B	B
Approach Delay					15.3			18.3			16.0	
Approach LOS					B			B			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 110			
Actuated Cycle Length: 110			
Offset: 69 (63%), Referenced to phase 2:WBTL, Start of 1st Green			
Natural Cycle: 110			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.77			
Intersection Signal Delay: 15.8		Intersection LOS: B	
Intersection Capacity Utilization 75.4%		ICU Level of Service D	
Analysis Period (min) 15			

Splits and Phases: 579: Chicago Av S & 7th St S

Lane Group	WBT	WBR	NBL	NBT	SBT	SBR
Protected Phases	2			4	8	
Permitted Phases		2	4			8
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	64.7	64.7	44.7	44.7	44.7	44.7
Total Split (s)	65.3	65.3	44.7	44.7	44.7	44.7
Total Split (%)	59.4%	59.4%	40.6%	40.6%	40.6%	40.6%
Maximum Green (s)	59.1	59.1	38.5	38.5	38.5	38.5
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	3.2	3.2	3.2	3.2	3.2	3.2
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	0.2	0.2	0.2	0.2	0.2	0.2
Minimum Gap (s)	0.2	0.2	0.2	0.2	0.2	0.2
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	C-Max	C-Max	Max	Max	Max	Max
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	7.0
Flash Dont Walk (s)	15.0	15.0	15.0	15.0	15.0	15.0
Pedestrian Calls (#/hr)	0	0	0	0	0	0
90th %ile Green (s)	59.1	59.1	38.5	38.5	38.5	38.5
90th %ile Term Code	Coord	Coord	MaxR	MaxR	MaxR	MaxR
70th %ile Green (s)	59.1	59.1	38.5	38.5	38.5	38.5
70th %ile Term Code	Coord	Coord	MaxR	MaxR	MaxR	MaxR
50th %ile Green (s)	59.1	59.1	38.5	38.5	38.5	38.5
50th %ile Term Code	Coord	Coord	MaxR	MaxR	MaxR	MaxR
30th %ile Green (s)	59.1	59.1	38.5	38.5	38.5	38.5
30th %ile Term Code	Coord	Coord	MaxR	MaxR	MaxR	MaxR
10th %ile Green (s)	59.1	59.1	38.5	38.5	38.5	38.5
10th %ile Term Code	Coord	Coord	MaxR	MaxR	MaxR	MaxR

Intersection Summary
Cycle Length: 110
Actuated Cycle Length: 110
Offset: 69 (63%), Referenced to phase 2:WBTL, Start of 1st Green
Control Type: Actuated-Coordinated

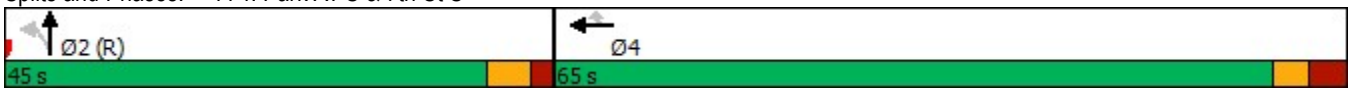


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	0	1188	58	246	666	0	0	0	0
Future Volume (vph)	0	0	0	0	1188	58	246	666	0	0	0	0
Ideal Flow (vphpl)	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Storage Length (ft)	0		0	0		150	160		0	0		0
Storage Lanes	0		0	0		1	0		0	0		0
Taper Length (ft)	60			60			60			60		
Lane Util. Factor	1.00	1.00	1.00	1.00	0.95	1.00	0.91	0.91	1.00	1.00	1.00	1.00
Ped Bike Factor						0.94		0.99				
Frt						0.850						
Flt Protected								0.985				
Satd. Flow (prot)	0	0	0	0	3019	1350	0	4272	0	0	0	0
Flt Permitted								0.985				
Satd. Flow (perm)	0	0	0	0	3019	1265	0	4209	0	0	0	0
Right Turn on Red			Yes			Yes	Yes		Yes			Yes
Satd. Flow (RTOR)						52		46				
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		165			411			410			410	
Travel Time (s)		4.5			11.2			11.2			11.2	
Confl. Peds. (#/hr)						35	33					
Peak Hour Factor	1.00	1.00	1.00	1.00	0.92	0.81	0.82	0.94	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%	7%
Adj. Flow (vph)	0	0	0	0	1291	72	300	709	0	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	1291	72	0	1009	0	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.15	1.15	1.15	1.15	1.15	1.15	1.15	1.15	1.15	1.15	1.15	1.15
Turning Speed (mph)	15		15	15		15	15		15	15		15
Number of Detectors					0	0	0	0				
Detector Template												
Leading Detector (ft)					0	0	0	0				
Trailing Detector (ft)					0	0	0	0				
Turn Type					NA	Perm	Perm	NA				
Protected Phases					4			2				
Permitted Phases						4	2					
Detector Phase					4	4	2	2				
Switch Phase												
Minimum Initial (s)					7.0	7.0	10.0	10.0				
Minimum Split (s)					64.8	64.8	44.0	44.0				
Total Split (s)					65.0	65.0	45.0	45.0				
Total Split (%)					59.1%	59.1%	40.9%	40.9%				
Maximum Green (s)					58.7	58.7	39.5	39.5				
Yellow Time (s)					3.0	3.0	3.5	3.5				
All-Red Time (s)					3.3	3.3	2.0	2.0				

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lost Time Adjust (s)					-1.6	0.0		-1.6				
Total Lost Time (s)					4.7	6.3		3.9				
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)					0.2	0.2	0.2	0.2				
Recall Mode					Max	Max	C-Max	C-Max				
Walk Time (s)					7.0	7.0	7.0	7.0				
Flash Dont Walk (s)					15.0	15.0	15.0	15.0				
Pedestrian Calls (#/hr)					0	0	0	0				
Act Effct Green (s)					60.3	58.7		41.1				
Actuated g/C Ratio					0.55	0.53		0.37				
v/c Ratio					0.78	0.10		0.63				
Control Delay					18.9	5.7		16.8				
Queue Delay					1.0	0.0		0.1				
Total Delay					19.9	5.7		17.0				
LOS					B	A		B				
Approach Delay					19.1			17.0				
Approach LOS					B			B				

Intersection Summary			
Area Type:	Other		
Cycle Length: 110			
Actuated Cycle Length: 110			
Offset: 18 (16%), Referenced to phase 2:NBTL, Start of 1st Green			
Natural Cycle: 110			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.78			
Intersection Signal Delay: 18.2		Intersection LOS: B	
Intersection Capacity Utilization 63.9%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 774: Park Av S & 7th St S



Lane Group	WBT	WBR	NBT
Protected Phases	4		2
Permitted Phases		4	
Minimum Initial (s)	7.0	7.0	10.0
Minimum Split (s)	64.8	64.8	44.0
Total Split (s)	65.0	65.0	45.0
Total Split (%)	59.1%	59.1%	40.9%
Maximum Green (s)	58.7	58.7	39.5
Yellow Time (s)	3.0	3.0	3.5
All-Red Time (s)	3.3	3.3	2.0
Lead/Lag			
Lead-Lag Optimize?			
Vehicle Extension (s)	0.2	0.2	0.2
Minimum Gap (s)	0.2	0.2	0.2
Time Before Reduce (s)	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0
Recall Mode	Max	Max	C-Max
Walk Time (s)	7.0	7.0	7.0
Flash Dont Walk (s)	15.0	15.0	15.0
Pedestrian Calls (#/hr)	0	0	0
90th %ile Green (s)	58.7	58.7	39.5
90th %ile Term Code	MaxR	MaxR	Coord
70th %ile Green (s)	58.7	58.7	39.5
70th %ile Term Code	MaxR	MaxR	Coord
50th %ile Green (s)	58.7	58.7	39.5
50th %ile Term Code	MaxR	MaxR	Coord
30th %ile Green (s)	58.7	58.7	39.5
30th %ile Term Code	MaxR	MaxR	Coord
10th %ile Green (s)	58.7	58.7	39.5
10th %ile Term Code	MaxR	MaxR	Coord

Intersection Summary
Cycle Length: 110
Actuated Cycle Length: 110
Offset: 18 (16%), Referenced to phase 2:NBTL, Start of 1st Green
Control Type: Actuated-Coordinated


7TH ST COST ESTIMATING LAYOUT
DRAFT 11/2/23
PARK AVE S (SOUTH 1ST)
7TH ST S
BRT PLATFORM (LEFT INPLACE)
CHICAGO AVE S
8TH AVE S
10TH ST S
11TH AVE S
12TH AVE S
13TH AVE S
12' BAT LANE
10' THRU
12' DYNAMIC THRU/PARKING
66W VACATED PRIVATE DRIVEWAY
TH 94 EXIT RAMP
TH 55 EXIT RAMP

Minneapolis
City of Lakes

Public Works
350 S. Fifth St. - Room 239
Minneapolis, MN 55415
612.673.3000
www.minneapolismn.gov

December 4, 2023

Ms. Elaine Koutsoukos
Metropolitan Council
390 North Robert Street
St. Paul, Minnesota 55101

Re: 2024 Regional Solicitation Applications

Dear Ms. Koutsoukos,

The City of Minneapolis Department of Public Works is submitting a series of applications for the 2024 Regional Solicitation for Federal Transportation Funds. The applications and the required matching funds have been authorized by the Minneapolis City Council as described in the Official Proceedings of the Council meetings on November 16, 2023. The City is submitting applications for 12 projects, as listed in the table below, and commits to operate and maintain these facilities through their design life.

Project Name	Regional Solicitation Category
7th Street S from Park Avenue to 13th Avenue S	Roadway Reconstruction/ Modernization
University Avenue NE from Central Avenue to 9th Avenue	Roadway Reconstruction/ Modernization
Cedar Lake Road Bridge over the BNSF railroad	Bridge Rehabilitation/Replacement
Northside Greenway Phase 2 (Humboldt/Irving Avenue N from 26th Avenue N to 4th Ave N/Van White Blvd)	Multiuse Trails and Bicycle Facilities
34th St W/E neighborhood greenway from Hennepin Avenue to Hiawatha Avenue	Multiuse Trails and Bicycle Facilities
University Avenue/4th Street SE bikeway and safety improvements between Central Avenue and I-35W	Multiuse Trails and Bicycle Facilities
Nicollet Avenue from 14th Street to 46th Street pedestrian improvements	Pedestrian Facilities
26th Street E, 27th Street E, and 28th Street E pedestrian improvements	Pedestrian Facilities
Marcy-Holmes/ Dinkytown area pedestrian improvements	Pedestrian Facilities
Hayes Street NE neighborhood greenway	Safe Routes to School
Pleasant Avenue S neighborhood greenway	Safe Routes to School
Ramp A Mobility Hub	Unique Projects

The specific applications are described in the attached "Request for City Council Committee Action." Thank you for the opportunity to submit these applications.

Sincerely,

Margaret Anderson Kelliher

Margaret Anderson Kelliher
Director of Public Works

Council Action No. 2023A-0801 **City of Minneapolis** **File No. 2023-01077**

Committee: PWI Public Hearing: None Passage: Nov 16, 2023 Publication: NOV 25 2023

RECORD OF COUNCIL VOTE				
COUNCIL MEMBER	AYE	NAY	ABSTAIN	ABSENT
Payne	X			
Wonsley	X			
Rainville	X			
Vetaw	X			
Ellison	X			
Osman	X			
Goodman	X			
Jenkins	X			
Chavez	X			
Chughtai	X			
Koski	X			
Johnson	X			
Palmisano	X			

MAYOR ACTION

☑ APPROVED ☐ VETOED

MAYOR FREY

NOV 20 2023

DATE

Certified an official action of the City Council

ATTEST

CITY CLERK

Presented to Mayor: NOV 16 2023

Received from Mayor: NOV 20 2023

The Minneapolis City Council hereby:

1. Authorizes the submittal of a series of applications through Metropolitan Council's 2024 Regional Solicitation Program for federal transportation funds.
2. Authorizes the commitment of local funds to provide the required local match for the federal funding.

Grant applications for 2024 Metropolitan Council Regional Solicitation for federal transportation funds (RCA-2023-01091)

ORIGINATING DEPARTMENT

Public Works

To Committee(s)

#	Committee Name	Meeting Date
1	Public Works & Infrastructure Committee	Nov 9, 2023

LEAD STAFF: Ethan Fawley, Vision Zero Program Coordinator, Transportation Planning and Programming

PRESENTED BY: Ethan Fawley, Vision Zero Program Coordinator, Transportation Planning and Programming

Action Item(s)

#	File Type	Subcategory	Item Description
1	Action	Grant	Authorizing the submittal of a series of applications through Metropolitan Council's 2024 Regional Solicitation Program for federal transportation funds.
2	Action	Grant	Authorizing the commitment of local funds to provide the required local match for the federal funding.

Ward / Neighborhood / Address

#	Ward	Neighborhood	Address
1.	All Wards		

Background Analysis

Public Works will prepare a series of applications for the 2024 Regional Solicitation for Federal Transportation Funds in response to the current Metropolitan Council solicitation. This request includes a summary of the eligible project areas, a brief description of proposed City projects, estimate of requested amounts, and the minimum required local match. Each project requires a minimum 20% local match for construction in addition to the costs for design, engineering, administration, any right-of-way acquisition, and any additional construction costs to fully fund the project. These applications will maximize the use of federal funding. The funding is for projects to be constructed in federal fiscal years 2028 and 2029. Grant awards for these projects are expected to be announced in summer 2024.

This action does not include the package of projects being pursued by Metro Transit, Hennepin County, and MnDOT. Due to the increase in federal surface transportation funding available via the passage of the Infrastructure Investment and Jobs Act (IIJA) in 2021, as well as the availability of new Regional Sales Tax funds for counties and Metro Transit, partner agencies are aggressively pursuing larger packages of projects that is putting additional pressure on local agencies to financially participate on these projects via cost participation policies. Public Works is closely evaluating the proposed city applications and those of partner agencies to

understand the broader impact on and the overall capacity of the City's capital improvement program. Public Works is recommending the submittal of up to 12 applications, the final submittal will be influenced by the evaluation of the overall impact and capacity of the City's capital improvement program.

Public Works identifies projects that meet the eligibility requirements for federal funding and will be competitive, and closely evaluates which applications to submit in a manner that is consistent with the equity-based approach used to select and prioritize projects as a part of the Capital Improvement Program (CIP). Additional consideration is given to the criteria used in application scoring, such as: role in the regional transportation system and economy, equity, affordable housing, asset condition, safety, connectivity, cost-benefit, operational benefits, number of users and multimodal elements. Public Works also considers project readiness, cost, deliverability, and alignment with adopted plans, policies, and initiatives (e.g., *Minneapolis 2040, 20 Year Street Funding Plan*, the Transportation Action Plan, Complete Streets Policy, Vision Zero, and Racial Equity Framework for Transportation).

The 2024 Regional Solicitation for federal transportation funding is part of Metropolitan Council's federally-required continuing, comprehensive, and cooperative transportation planning process for the Twin Cities Metropolitan Area. The funding program and related rules and requirements are established by the U.S. Department of Transportation and administered locally through collaboration with the Federal Highway Administration, the Federal Transit Administration, and the Minnesota Department of Transportation.

Applications are grouped into three primary modal evaluation categories; each category includes several sub-categories as detailed below.

1. Roadways Including Multimodal Elements
    - Strategic Capacity (Roadway Expansion)
    - Roadway Reconstruction/Modernization
    - Traffic Management Technologies (Roadway System Management)
    - Bridge Rehabilitation/Replacement
    - Spot Mobility and Safety
2. Transit and Travel Demand Management (TDM) Projects
    - Arterial Bus Rapid Transit Project
    - Transit Expansion
    - Transit Modernization
    - Travel Demand Management
3. Bicycle and Pedestrian Facilities
    - Multiuse Trails and Bicycle Facilities
    - Pedestrian Facilities
    - Safe Routes to School (Infrastructure Projects)
4. Unique Projects

Public Works is recommending the submittal of up to 12 applications, which are summarized below. Public Works is not planning to submit in categories that don't align with our goals (Strategic Capacity), where we do not have timely priority projects that fit the category criteria well (Spot Mobility and Safety and Traffic Management Technologies) or where partner agencies will be submitting projects as the project sponsor (Transit and TDM).

Project Name	Category	Maximum Federal Amount (not every project will seek max)	Minimum Local Match Required for Maximum Award (20%)*
*Amounts shown indicate minimums only. Total project cost and local match anticipated to be higher for many projects.			
7th Street S from Park Avenue to 13th Avenue S	Roadway Reconstruction/ Modernization	$7,000,000	$1,750,000
University Avenue NE part of section between Central Ave and 27th Ave NE	Roadway Reconstruction/ Modernization	$7,000,000	$1,750,000 (match provided by MnDOT)
Cedar Lake Road bridge over the BNSF railroad	Bridge Rehabilitation/Replacement	$7,000,000	$1,750,000
Northside Greenway Phase 2 (Irving Avenue N/Humboldt Avenue N from 26th Avenue N to 4th Avenue N/Van White Blvd)	Multiuse Trails and Bicycle Facilities	$5,500,000	$1,375,000
34th Street W/E neighborhood greenway from Hennepin Avenue to Hiawatha Avenue and 35th Street E neighborhood greenway from Hiawatha Avenue to West River Pkwy	Multiuse Trails and Bicycle Facilities	$5,500,000	$1,375,000
University Avenue/4th Street SE bikeway and safety improvements between Central Ave and I-35W	Multiuse Trails and Bicycle Facilities	$5,500,000	$1,375,000 (match provided by MnDOT)
Nicollet Avenue from 14th Street to 46th Street pedestrian improvements	Pedestrian Facilities	$2,000,000	$500,000
26th Street and 28th Street E from Nicollet Avenue to Hiawatha Avenue pedestrian improvements	Pedestrian Facilities	$2,000,000	$500,000
Marcy-Holmes/ Dinkytown area pedestrian improvements	Pedestrian Facilities	$2,000,000	$500,000
Hayes Street NE neighborhood greenway from 22nd Avenue to 33rd Avenue - Safe Routes to School	Safe Routes to School	$1,000,000	$250,000
Pleasant Avenue S neighborhood greenway from 50th St to 34th St – Safe Routes to School	Safe Routes to School	$1,000,000	$250,000
Ramp A/Glenwood Ave improvements	Unique Projects	$2,500,000	$625,000 (match provided by MnDOT)
	Totals	$48,000,000	$12,000,000

Details of the proposed applications are described below.

<u>7th Street S from Park Avenue to 13th Avenue S</u>

The proposed project is a complete reconstruction of 7th Street North from Park Avenue to 13th Avenue South, approximately 0.4 miles. 7th Street South has been identified as a future reconstruction candidate, driven primarily by deteriorating and aging infrastructure conditions. This is also a High Injury Street, on the Pedestrian Priority Network, and a Transit Priority Project. This segment is not yet programmed in the City's Capital Improvement Program (CIP). The proposed project will reconstruct the pavement surface, curb and gutter, signage, storm drains, driveway approaches, traffic signals, striping, lighting, street trees, sidewalks, and pedestrian curb ramps. The project will also provide an opportunity for safety enhancements along the street, improvements to the pedestrian realm, and infrastructure to support transit.

Program Category: Roadway Reconstruction/Modernization

University Avenue NE portion of section between Central Ave and 27th Ave NE

This proposed project is a complete reconstruction of a portion of University Avenue NE between Central Ave and 27th Ave NE. University Avenue NE is a Minnesota Department of Transportation (MnDOT) roadway--Highway 47. MnDOT and Public Works are finalizing details on this project, including what section of University Ave NE will be included. University Ave NE has been identified as a reconstruction candidate due to aging and deteriorating infrastructure and safety challenges (it is a High Injury Street). The proposed project will reconstruct the pavement surface, curb and gutter, signage, storm drains, driveway approaches, traffic signals, striping, lighting, street trees, sidewalks, and pedestrian curb ramps, while adding safety and pedestrian realm improvements. MnDOT will provide the required local match for this project and the City may be required to cost participate per MnDOT policy.

Program Category: Roadway Reconstruction/Modernization

Cedar Lake Road bridge over the BNSF railroad

This project is a replacement of the Cedar Lake Road bridge over the BNSF railroad in the Bryn Mawr neighborhood. The current bridge was built in 1941 and is in need of replacement. It is also an opportunity to improve pedestrian and bicycle access across the bridge. This project is programmed in the City's CIP for 2027.

Program Category: Bridge Rehabilitation/Replacement

Northside Greenway Phase 2

The proposed project will create a Neighborhood Greenway along Irving/Humboldt Avenue N for approximately 2 miles in North Minneapolis, extending from 26th Avenue N to 4th Avenue N and Van White Memorial Blvd. This segment is currently a low traffic residential street that connects several schools and parks. The corridor will receive a range of different neighborhood greenway treatments (as identified in the City's Street Design Guide) from block to block, including bicycle boulevard treatments, intersection improvements, and trail segments. The project will also include some ADA improvements to intersections. The project will extend phase 1, which will be constructed in 2026 north of 26th Avenue N.

Program Category: Multiuse Trails and Bicycle Facilities

34th Street W/E & 35th St E neighborhood greenway from Hennepin Avenue to West River Pkwy

The proposed project will create a Neighborhood Greenway along 34th Street from Hennepin Avenue to Hiawatha Avenue and 35th Street E from Hiawatha Avenue to West River Pkwy. These segments are generally low traffic residential streets. The route connects numerous schools and parks across South Minneapolis and will address a major gap in the east-west bikeway network. The corridor may receive a range of different neighborhood greenway treatments (as identified in the City's Street Design Guide) from block to block, including bicycle boulevard treatments, intersection improvements, and trail segments. The project will also include some ADA improvements to intersections. This project will build on the Green Central Safe Routes to School project, which will be installed in 2024, and a bikeway connection over Interstate 35W planned in coordination with the 2027 reconstruction of 35th Street East.

Program Category: Multiuse Trails and Bicycle Facilities

University Avenue/4th Street SE bikeway and safety improvements between Central Ave and I-35W

The proposed project will include a curb protected bike lane, pedestrian safety and access improvements, and potentially some signal upgrades on University Avenue SE and 4th Street SE from Central Avenue to Interstate 35W. University Ave and 4th St SE in this section are MnDOT roadways. MnDOT and Public Works are collaborating on this project; MnDOT will provide the required local match and the City may be required to cost participate per MnDOT policy.

Program Category: Multiuse Trails and Bicycle Facilities

Nicollet Avenue pedestrian safety improvements

The proposed project would include the implementation of pedestrian focused safety and access improvements at select intersections along Nicollet Avenue between 14th Street and 46th Street. Nicollet Avenue is a High Injury Street and the improvements will build on other planned safety treatments in the area. Intersection improvements may include ADA-compliant pedestrian curb ramps, bump outs, medians, signage, traffic control devices, and pavement markings at select locations. Complimentary bikeway improvements may be considered as well. This street was also included as part of the City's 2023 Safe Streets for All federal grant application. If that application is successful, Public Works does not anticipate advancing this application in the Regional Solicitation.

Program Category: Pedestrian Facilities

26th Street and 28th Street E pedestrian improvements

The proposed project would improve pedestrian safety and access at select intersections along 26th Street and 28th Street from Nicollet Avenue to Hiawatha Avenue. Both streets are High Injury Streets and have many pedestrian curb ramps that are not fully ADA compliant. Intersection improvements may include ADA-compliant pedestrian curb ramps, bump outs, medians, signage, traffic control devices, and pavement markings at select locations. Complimentary bikeway improvements may be considered as well. These streets were included as part of the City's 2023 Safe Streets for All federal grant application. If that application is successful, Public Works will still advance the Regional Solicitation application with the intent of further augmenting that work.

Program Category: Pedestrian Facilities

Marcy-Holmes/Dinkytown area pedestrian improvements

The proposed project would improve pedestrian safety and access at select intersections in the Marcy-Holmes neighborhood near Dinkytown. Intersection improvements may include ADA-compliant pedestrian curb ramps, bump outs, medians, traffic circles, signage, traffic control devices, and pavement markings at select locations. This project will be coordinated with street resurfacing currently planned for 2027.

Program Category: Pedestrian Facilities

Hayes Street NE - Safe Routes to School

The proposed project will create a Neighborhood Greenway along Hayes Street Northeast from 33rd Ave NE to 22nd Ave NE. The project will connect to Pillsbury Elementary School, Waite Park Elementary School, and Northeast Middle School. Improvements may include ADA-compliant pedestrian curb ramps, traffic circles, speed humps, speed tables, bump outs, medians, diverters, signage, traffic control devices, protected bikeways, and pavement markings at select locations.

Program Category: Safe Routes to School

Pleasant Ave S - Safe Routes to School

The proposed project will create a Neighborhood Greenway along Pleasant Ave S from 34th Street to 50th Street. The project will connect to Lyndale Elementary School, Washburn High School, and Justice Page Middle School. Improvements may include ADA-compliant pedestrian curb ramps, traffic circles, speed humps, speed tables, bump outs, medians, diverters, signage, traffic control devices, protected bikeways, and pavement markings at select locations.

Program Category: Safe Routes to School

Ramp A/Glenwood Ave improvements

Ramp A is a State-owned parking ramp that goes over Glenwood Avenue between 10th St and 7th Street. Ramp construction was completed over 30 years ago and the State and City have a long-term contractual relationship for the City to manage, operate, and maintain the ramp. The proposed project is a renovation of the interior and exterior areas at the ground level of Ramp A at Glenwood Ave. It will improve interior environments by removing storage area walls, painting ramp undersides, improving pedestrian lighting, providing wayfinding to nearby destinations through ceiling and pavement gestures, designating carshare and motorcycle areas, adding bike lockers and secure storage, improving bike lanes, and adding wall art. Exterior improvements will be made to enhance pedestrian access, add landmark stair features for a sense of destination, and support 9th St. Plaza activation. The Minnesota Department of Transportation (MnDOT) will provide the required local match for this project.

Program Category: Unique Projects

The proposed projects were presented to the Pedestrian Advisory Committee on October 23, 2023, and to the Bicycle Advisory Committee on November 8, 2023.

Attachment: 2024 Regional Solicitation Project Map

FISCAL NOTE

- Grant applications for 2024 Metropolitan Council Regional Solicitation for federal transportation funds - Fiscal Note

Attachments

2024 Regional Solicitation Project Applications Map

7th Street S from Park Avenue to 13th Avenue S																
Property_Name	Address	Development_Stage	Total_Units	Affordable_Units_Total	Affordable_0BR	Affordable_1BR	Affordable_2BR	Affordable_3BR	Affordable_4BR	Units_30AMI	Units_50AMI	Units_60AMI	Units_80AMI	Units_PctAffordable	Funding_Category
House of Charity	510 S 8th St	Preservation	119	119	0	0	0	0	0	0	0	119	0	100%	Subsidized - Other
Forte on the Park	1125 S 2nd St	Preservation	225	18	0	0	0	0	0	0	0	18	0	8%	Subsidized - Other
Emmanuel Housing	822 S 3rd St 818 S 3rd St	New Construction	101	101	95	6	0	0	0	54	47	0	0	100%	Tax Credit Subsidized - Other Tax Credit (LIHTC 9%)
Riverdale Station Apartments	233 Park Ave	Preservation	65	6	0	6	0	0	0	6	0	0	0	9%	Project-Based Subsidy
D0872 - No Name Provided	614 S 3rd St	Preservation	109	10	89	0	10	0	0	10	0	0	0	9%	Subsidized - Other
Northstar East	608 2nd Ave S	New Construction	216	44	0	0	0	0	0	0	44	0	0	20%	Subsidized - Other
Minneapolis Portfolio Preservation (aka Buri Manor, Aeon Refinance - Mp3, Paige Hall, The Adams, Elliot Park IV)	727 S 5th Ave 1346 Lasalle Ave 1132 S 8th St 1515 Chicago Ave 1401 Portland Ave 911 Park Ave 910 Portland Ave S 1005 Portland Ave 1523 Chicago Ave 500 S 10th St 1130 8th St S 624 S 9th St 622 S 9th St 512 S 10th St 928 Portland Ave	Preservation	582	582	402	157	23	0	0	213	354	15	0	100%	Project-Based Subsidy Tax Credit Subsidized - Other Tax Credit (LIHTC 4%) Tax Credit (LIHTC 9%)
Adirondack Apartments	608 S 9th St	Preservation	36	8	0	0	0	0	0	0	0	8	0	22%	Local 4d
Barrington	911 Park Ave	Preservation	26	18	9	9	0	0	0	0	0	18	0	69%	Tax Credit Tax Credit (LIHTC 4%)
Grant Street Commons	1300 Portland Ave 515 E Grant St	Preservation	84	59	3	46	10	0	0	0	17	0	42	70%	Subsidized - Other
Elliot Park Ii (slater Square)	1400 Portland Ave 1412 Portland Ave 1420 Portland Ave 1425 Portland Ave 1416 Portland Ave	Preservation	162	162	124	37	1	0	0	0	97	41	24	100%	Subsidized - Other Tax Credit (LIHTC 4%)
Madison Apts	513 E 15th St 505 E 15th St 509 E 15th St 501 E 15th St	New Construction	51	51	0	0	38	9	4	0	51	0	0	100%	Project-Based Subsidy Subsidized - Other Tax Credit (LIHTC 4%) Tax Credit (LIHTC 9%)
Elliot Park Commons	610 E 15th St	Preservation	25	25	0	24	1	0	0	25	0	0	0	100%	Subsidized - Other
615 East 16th St	615 E 16th St	Preservation	22	22	0	0	0	0	0	0	0	22	0	100%	Local 4d
1600 Park Ave So	1600 Park Ave	Preservation	11	11	0	0	0	0	0	0	0	11	0	100%	Local 4d
Park Center Highrise	630 Cedar Ave 1515 Park Ave	Preservation	182	182	0	182	0	0	0	182	0	0	0	100%	Public Housing
Allinace Addition aka Alliance	730 E 17th St 724 E 17th St 715 E 16th St 719 E 16th St	New Construction	184	184	182	2	0	0	0	148	36	0	0	100%	Tax Credit Subsidized - Other Tax Credit (LIHTC 4%) Tax Credit (LIHTC 9%)
Chicago Avenue Apts	1508 Chicago Ave 1504 Chicago Ave 1500 Chicago Ave	Preservation	60	60	0	44	10	6	0	60	0	0	0	100%	Project-Based Subisdy Subsidized - Other
Elliot Park Apts	719 E 14th St 727 E 14th St 1601 Elliot Ave 1516 Elliot Ave	Preservation	30	30	0	0	20	10	0	30	0	0	0	100%	Project-Based Subsidy Tax Credit Subsidized - Other Tax Credit (LIHTC 4%) Tax Credit (LIHTC 9%)
Exodus 2.0	1007 E 14th St	New Construction	167	167	0	0	0	0	0	0	0	167	0	100%	Subsidized - Other Tax Credit (LIHTC 4%)
Augustana Chapel View Homes	1510 11th Ave S 1425 10th Ave S	Preservation	151	33	17	16	0	0	0	0	33	0	0	22%	Subsidized - Other
Stadium Apartments	1501 11th Ave S	Preservation	22	22	0	0	0	0	0	0	0	22	0	100%	Local 4d
East Village North Apts	1122 8th St S 1105 8th St S	New Construction	70	70	0	30	0	9	1	0	0	70	0	100%	Subsidized - Other Tax Credit (LIHTC 4%) Tax Credit (LIHTC 9%)
Elliot Twins	1225 S 8th St 1212 S 9th St	Preservation	184	184	92	92	0	0	0	0	0	184	0	100%	Tax Credit (LIHTC 4%)
Seven Corners	1400 S 2nd St	Preservation	248	149	21	58	63	7	0	0	100	49	0	60%	Subsidized - Other

Riverside Homes	1916 S 7th St 517 19th Ave S 2613 S 6th St 620 19th Ave S 1809 S 7th St 1815 S 7th St 1816 S 7th St 1906 S 6th St 1906 S 7th St 1907 S 7th St 1910 South 6th St 1911 South 6th St 1913 S 6th St 1917 South 6th St 1919 S 7th St 1924 S 8th St 2605 South 6th St 2605 S 7th St 2615 S 7th St 2627 South 6th St 31 20th Ave S 525 19th Ave S 55 20th Ave S 712 20th Ave S 713 19th Ave S 717 19th Ave S 1813 S 7th St 1819 S 7th St 1911 7th St S	Preservation	191	191	2	51	102	34	2	0	0	191	0	100%	Tax Credit (LIHTC 4%)
Riverside Plaza	1615 S 4th St 1515 S 4th St 1530 S 6th St 1601 S 6th St 1630 S 6th St 1600 S 6th St	Preservation	1303	1303	192	511	534	58	8	0	669	634	0	100%	Project-Based Subsidy Subsidized - Other Tax Credit (LIHTC 4%) Tax Credit (LIHTC 9%)
Five15 On the Park	1505 S 5th St 1500 S 5th St 1500 South 6th St 1506 S 5th St 1506 South 6th St 1507 S 4th St 1514 S 6th St 1515 S 5th St 515 15th Ave S	New Construction	259	208	41	92	52	23	0	0	52	156	0	80%	Tax Credit Subsidized - Other Tax Credit (LIHTC 4%) Tax Credit (LIHTC 9%)
Cedar High	630 Cedar Ave	Preservation	189	189	0	189	0	0	0	189	0	0	0	100%	Public Housing Subsidized - Other
Blue Goose Apts	1819 S 5th St 725 26th Ave S 1818 S 7th St 2601 S 6th St 601 26th Ave S 723 26th Ave S 1825 S 5th St 1815 S 6th St	Preservation	38	38	12	12	7	7	0	0	10	28	0	100%	Tax Credit Subsidized - Other Tax Credit (LIHTC 4%) Tax Credit (LIHTC 9%)
901 Cedar Ave Apartments	901 Cedar Ave	New Construction	157	157	0	0	0	0	0	43	54	60	0	100%	Subsidized - Other
1804 16th Ave S	1804 16th Ave S	Preservation	5	5	0	0	0	0	0	0	0	5	0	100%	Local 4d
Anishinabe Bii Gii Wiin (aka: Anishinabe Wakiagun)	1600 E Franklin Ave 1600 E 19th St	New Construction	77	77	77	0	0	0	0	25	52	0	0	100%	Tax Credit Subsidized - Other Tax Credit (LIHTC 4%) Tax Credit (LIHTC 9%)
Many Rivers East	1829 S 5th Ave 1500 E Franklin Ave 1518 E Franklin Ave	New Construction	53	40	3	11	26	13	0	0	30	10	0	75%	Tax Credit Subsidized - Other Tax Credit (LIHTC 4%)
Many Rivers West	1410 E Franklin Ave 1915 14th Ave S 1921 14th Ave S 1400 E Franklin Ave	New Construction	28	28	0	8	6	14	0	3	9	8	8	100%	Tax Credit Subsidized - Other Tax Credit (LIHTC 4%)
Phillips Place	1313 E 19th St 1912 14th Ave S 1915 13th Ave S 1904 14th Ave S 1305 E 19th St 1317 E 19th St 1309 E 19th St 1311 E 19th St 1315 E 19th St 1902 14th Ave S 1901 13th Ave S 1319 E 19th St 1307 E 19th St 1900 14th Ave S 1903 13th Ave S 1905 13th Ave S	Preservation	23	23	0	0	9	14	0	0	0	23	0	100%	Subsidized - Other Local 4d
917 19th St E	917 E 19th St	Preservation	2	2	0	0	0	0	0	0	0	2	0	100%	Local 4d
Canadian Terrace	920 E 19th St	Preservation	19	19	0	3	13	3	0	19	0	0	0	100%	Subsidized - Other

PPL DECC Recapitalization Project	3637 Columbus Ave S 3320 4th Ave S 3308 4th Ave S 3316 4th Ave S 2813 Pillsbury Ave S 3144 Columbus Ave S 1205 E 21st St 1818 Elliot Ave 211 E 28th St 1825 Elliot Ave 1203 E 21st St 1819 Elliot Ave	Preservation	51	51	0	7	27	4	13	7	38	6	0	100%	Subsidized - Other Tax Credit (LIHTC 4%) Tax Credit (LIHTC 9%)
Resource, Inc.	1826 Chicago Ave	Preservation	15	3	0	0	1	2	0	0	3	0	0	20%	Subsidized - Other
Collaborative Village Initiative	2020 Elliot Ave 819 E Franklin Ave 825 E Franklin Ave 815 E Franklin Ave	New Construction	20	18	0	0	4	8	6	0	18	0	0	90%	Project-Based Subisdy Tax Credit Subsidized - Other Tax Credit (LIHTC 9%)
1822 Park	1822 Park Ave	Preservation	18	18	0	18	0	0	0	6	12	0	0	100%	Subsidized - Other
1818 Park Ave S	1818 Park Ave	Preservation	19	19	0	0	0	0	0	0	0	19	0	100%	Local 4d
Indian Neighborhood Club	1805 Portland Ave	New Construction	20	14	14	0	0	0	0	13	0	0	1	70%	Subsidized - Other
Franklin Gateway (the Rose, South Quarter IV)	501 E 19th St 1919 S 5th Ave 1920 Portland Ave 1925 S 5th Ave 1928 Portland Ave 510 E Franklin Ave 500 E Franklin Ave 1906 Franklin Ave SE 1908 Franklin Ave SE 515 E 19th St 1900 Portland Ave	Preservation	120	77	8	18	34	17	0	19	58	0	0	64%	Tax Credit Subsidized - Other Tax Credit (LIHTC 9%)
Franklin-Portland Gateway Phase I	2120 Oakland Ave 612 E 22nd St 2118 Oakland Ave 2110 Oakland Ave 2112 Oakland Ave 2116 Oakland Ave 2114 Oakland Ave 611 E Franklin Ave	New Construction	36	36	0	9	18	9	0	23	13	0	0	100%	Tax Credit Subsidized - Other Tax Credit (LIHTC 9%)
The Jourdain-Franklin Portland Gateway (Phase II)	1931 Portland Ave 612 E Franklin Ave 616 E Franklin Ave 2000 Portland Ave 2006 Portland Ave	New Construction	41	24	6	8	9	9	0	0	24	0	0	59%	Tax Credit Subsidized - Other Tax Credit (LIHTC 9%)
Pinecliff Apts	501 E 19th St	Preservation	30	30	0	18	12	0	0	7	23	0	0	100%	Subsidized - Other
The Wellstone At Franklin Portland Gateway Phase III	620 E Franklin Ave	New Construction	49	37	5	3	16	13	0	0	37	0	0	76%	Tax Credit Subsidized - Other Tax Credit (LIHTC 9%)
Franklin Towers	1920 S 4th Ave	Preservation	110	110	0	109	1	0	0	110	0	0	0	100%	Public Housing
nton Avenue Townhomes (fka 18th & Clinton Townhom	325 E 18th St 1803 Clinton Ave 1809 Clinton Ave 1811 Clinton Ave 333 E 18th St 1807 Clinton Ave	New Construction	8	8	0	0	4	3	1	8	0	0	0	100%	Project-Based Subsidy Subsidized - Other
Third Avenue Towers	1707 3rd Ave S	Preservation	198	198	0	198	0	0	0	198	0	0	0	100%	Public Housing
17XX 3rd Avenue South	1721 3rd Ave S	Preservation	16	12	5	7	0	0	0	0	0	12	0	75%	Local 4d
The Lonoke (fka 1926 - 3rd Ave S)	1926 3rd Ave S	Preservation	19	19	0	19	0	0	0	10	9	0	0	100%	Subsidized - Other Tax Credit (LIHTC 4%) Tax Credit (LIHTC 9%)
			Sum Total Units	*Sum Affordable Units*	*Sum Affordable 0BR*	*Sum Affordable 1BR*	*Sum Affordable 2BR*	*Sum Affordable 3BR*	*Sum Affordable 4BR*	*Sum Units at 30% AMI*	*Sum Units at 50% AMI*	*Sum Units at 60% AMI*	*Sum Units at 80% AMI*	*Average Percent Affordable*	
			6,246	**5,271**	**1,399**	**2,000**	**1,051**	**272**	**35**	**1,408**	**1,890**	**1,898**	**75**	**83%**	

HENNEPIN COUNTY
MINNESOTA

December 5, 2023

Elaine Koutsoukos - TAB Coordinator
Metropolitan Council
390 North Robert Street
St. Paul, MN 55101

Re: Support for 2024 Regional Solicitation Application
7th Street S Reconstruction Project

Dear Ms. Koutsoukos,

Hennepin County has been notified that the City of Minneapolis is submitting a funding application as part of the 2024 Regional Solicitation through the Metropolitan Council. The proposed project includes reconstruction of 7th Street from CSAH 33 (Park Avenue) to 13th Avenue. Improvements are anticipated to replace aging and deteriorating pavement, as well as multimodal safety improvements.

As proposed, it's understood that this project is anticipated to terminate east of Park Avenue, which is currently under Hennepin County jurisdiction. At the time of application submittal, county staff would like to formally notify the city of the following planned improvements – understanding that these improvements, and others not yet programmed, are subject to change.

- Pavement preservation along Park Avenue and CSAH 35 (Portland Avenue) from approximately I-94 to CSAH 152 (Washington Avenue S), tentatively scheduled for 2024 (CP 4630000)

Hennepin County supports this funding application. At this time, Hennepin County has no funding programmed for this project in its 2023-2027 Transportation Capital Improvement Program (CIP). Therefore, county staff is currently unable to commit county cost participation in this project. Additionally, we kindly request that the city includes county staff in the project development process for the 7th Street S Reconstruction Project to ensure success. We look forward to working together to improve the accessibility, safety, and mobility of people walking and biking in Minneapolis.

Sincerely,

Carla Stueve

Carla Stueve, P.E.
Transportation Project Delivery Director and County Engineer

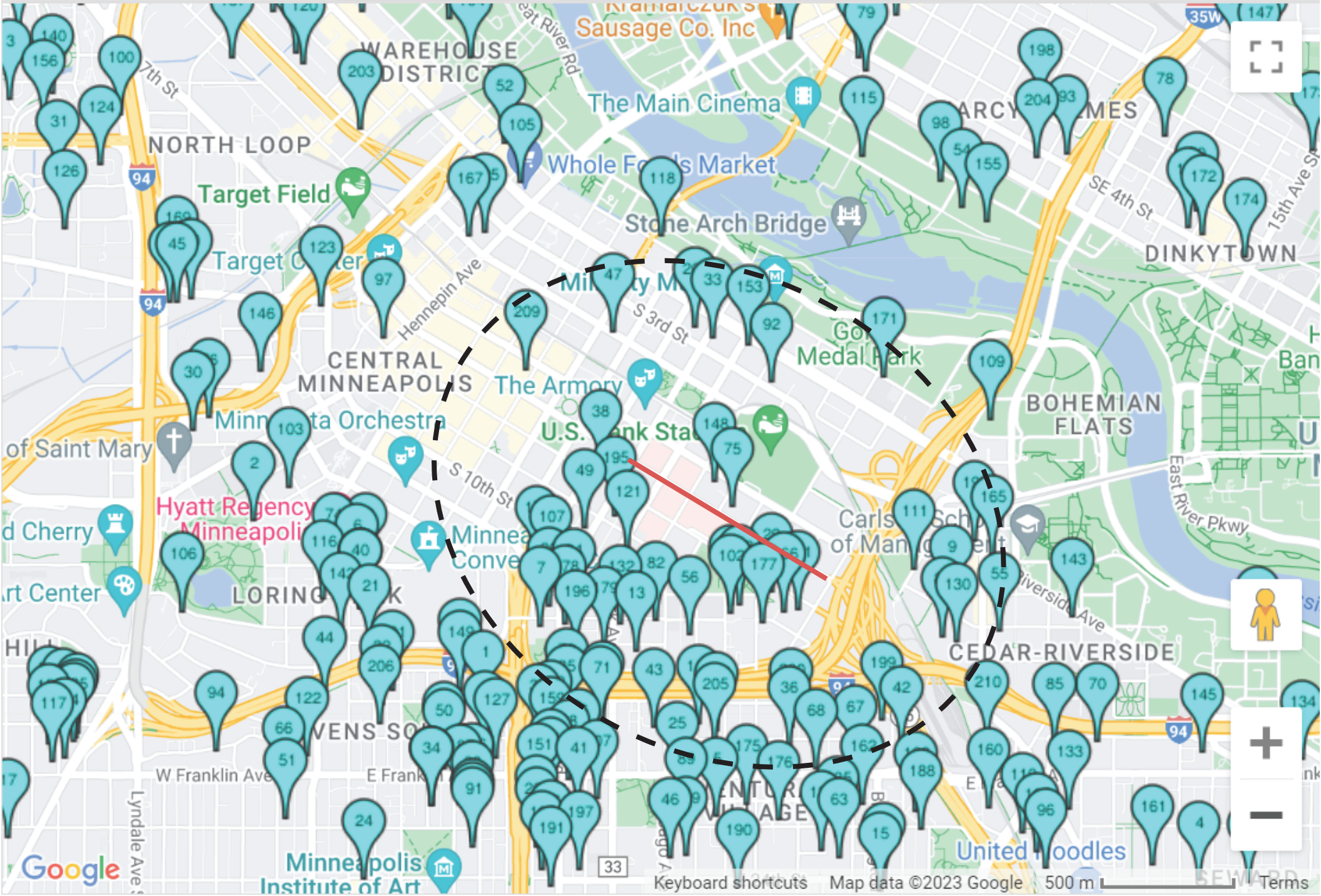
cc: Jason Pieper, P.E. – Capital Program Manager

Hennepin County Public Works
1600 Prairie Drive | Medina, MN
612-596-0356 | hennepin.us

Hennepin

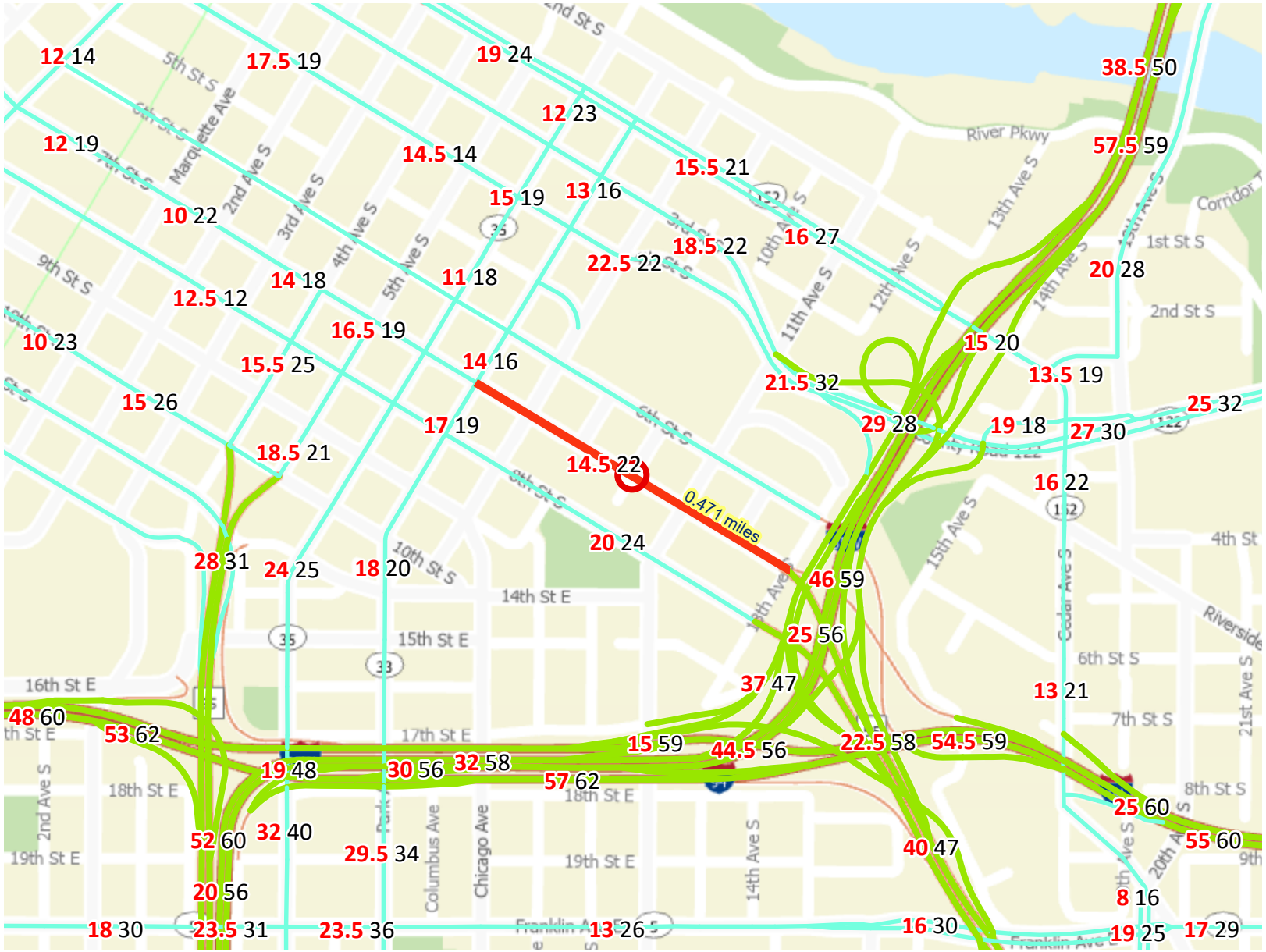
7th Street S Reconstruction

Affordable Housing within 0.5 miles



Level of Congestion

Roadway Reconstruction/Modernization Project: 7th Street S Reconstruction | Map ID: 1701408176008



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

0 0.1 0.2 0.4 0.6 0.8 Miles

Created: 11/30/2023
LandscapeRSA1

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

METROPOLITAN COUNCIL

7th Street S Reconstruction from east of Park Ave to 13th Ave S
Section 106 Historic Resources

Legend

- Project Corridor
- 0.5 mile project buffer
- National Register of Historic Places District
- National Register of Historic Places
- National Historic Landmark

0 0.1 0.2 0.4 Miles

N

Metro Transit
a service of the Metropolitan Council

560 Sixth Avenue North
Minneapolis, MN 55411-4398

December 14, 2013

Elaine Koutsoukos – TAB Coordinator
Metropolitan Council
390 North Robert Street
St. Paul, MN 55101

Re: Support for 2024 Regional Solicitation Application
7th St S Roadway Modernization/Reconstruction

Dear Ms. Koutsoukos,

Metro Transit supports the city's efforts to expand the bus lane network as part of their 7th Street S Reconstruction application (Roadway Modernization). This portion of 7th Street S – from 13th Avenue S to Park Avenue – is a critical segment that connects US Bank Stadium, Hennepin Healthcare, North Central College, large religious institutions, and all other residential, employment, and entertainment destinations in downtown. This project is anticipated to include accessibility, mobility, and safety improvements.

Among those improvements is the opportunity to extend the existing 7th Street S bus lane (Chicago Avenue S to 1st Avenue N) five additional blocks eastward to 13th Avenue S. Implemented in 2021, the current bus lane on 7th Street has improved travel times and reliability for the mix of BRT, local, and express service operating along the corridor. Extending the bus lane to 13th Avenue S would benefit an additional 110 trips per day. Transit shelters and other transit accommodations will be included, as needed.

Metro Transit supports the city's funding application and agrees to operate and maintain the transit infrastructure in accordance with existing and future agreements with the City of Minneapolis. Additionally, we anticipate close coordination with the City of Minneapolis through project development. We look forward to working together to improve the accessibility, mobility, and safety for people traveling in the downtown area.

Sincerely,

Ryan Heath
Manager of Transitways, and Speed and Reliability Planning
Metro Transit

7TH ST S ROADWAY MODERNIZATION

2024 TAB Regional Solicitation for Federal Funding in FFYs 2028-2029

Minneapolis
City of Lakes

Project Overview

The City of Minneapolis has identified 7th Street South, between the I-94 off ramp and Park Avenue, as a future reconstruction candidate, driven primarily by pavement condition, multimodal connections, number of daily users, and access to critical services.

The Transportation Action Plan (2020), Complete Streets Policy (2021), and the City's commitment to Vision Zero (2017) provide guidance for the redesign of 7th Street South. The reconstruction project provides an opportunity for geometric changes with a design that addresses current and future needs. Improvements may include the following elements:

- Reduce the number of travel lanes from 4 lanes to 3 lanes, with off-peak parking
- Implement a dynamic lane that can extend the existing 7th St S bus only lane and also function for large event uses (e.g. US Bank Stadium events).
- Make sidewalk and intersections accessible for all users, install durable pavement markings and crosswalks, support pedestrian activities with space for planting and furnishing zones where feasible
- Replace aging traffic signal and stormwater infrastructure
- Maintain mobility and circulation for motor vehicles, including Hennepin Healthcare (f/k/a Hennepin County Medical Center)

Requested Federal Amount: $7,000,000

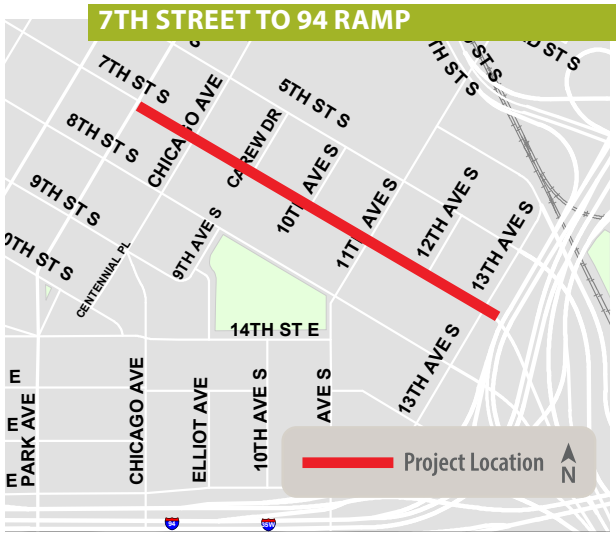
Total Project Cost: $11,764,550

7th Street South will be programmed in the City's 2025-2030 Capital Improvement Program for reconstruction in 2029.

PROJECT SCHEDULE

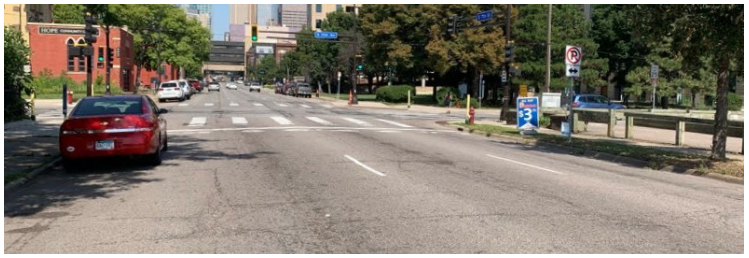
2024		2025-2028		2029
Award	>	Design	>	Implementation

7TH STREET TO 94 RAMP



Existing Conditions:

It is a direct connection to Hennepin Healthcare, North Central College, religious institutions, and an important route for visitors to US Bank Stadium.



Daily users

Pedestrians:	100-1300 depending on the block
Bicyclists:	100
Vehicles:	8,000-11,000
Buses:	151

Our Goals

- BETTER PATHWAYS FOR WALKING
- IMPROVED ROUTES FOR BIKING
- EASIER ACCESS TO MODERN PUBLIC TRANSIT
- SAFER, FASTER, CLEANER COMMUTES FOR DRIVERS AND RIDERS

Transportation Action Plan This project is aligned with the Transportation Action Plan, the city's vision for safer, greener and more modern streets that serve all people and all the ways they want to get around.

Contact us

Katie White, Senior Transportation Planner, Transportation Planning and Programming – Public Works

612-283-2097

katie.white@minneapolismn.gov

For reasonable accommodations or alternative formats:
People who are deaf or hard of hearing can use a relay service to call 311 at 612-673-3000. TTY users call 612-673-2157.

Para asistencia 612-673-2700 - Rau kev pab 612-673-2800 - Hadii aad Caawimaad u baahantahay 612-673-3500.