Application

10354 - 2018 Roadway Modernization

10971 - Downtown Chaska Highway 41 Improvements

Regional Solicitation - Roadways Including Multimodal Elements

Status:	Submitted
Submitted Date:	07/13/2018 3:54 PM

Primary Contact

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What Grant Programs are you most interested in?	Planning Assistance Grants			

Organization Information

Name:	CHASKA, CITY OF
Jurisdictional Agency (if different):	

Organization Type:	City
Organization Website:	
Address:	1 CITY HALL PLAZA PO BOX 81
*	CHASKA (City) / Minnesota (State/Province) / 55318-1962 (Postal Code/Zip)
County:	Hennepin
Phone:*	612-448-2851 Ext.
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PeopleSoft Vendor Number	0000020931A2

Project Information

Project Name	Downtown Chaska Highway 41 Improvements
Primary County where the Project is Located	Carver
Cities or Townships where the Project is Located:	Chaska
Jurisdictional Agency (If Different than the Applicant):	

The Highway 41 corridor provides one of four Minnesota River crossings in the southwestern metro connecting Highway 169, County Highway 61, and Highway 212. Locally, Highway 41 serves as the 'Main Street' for downtown Chaska known as Chestnut Street. Due to the Minnesota River crossing, Highway 41 is just one of a few Principal Arterial roadways directly traversing a downtown in the Twin Cities Metropolitan Region. Relocating the river crossing has been studied but there are no plans to preserve nor fund it. Three years ago all agencies agreed that the future traffic demands on Highway 41 must be accommodated on the existing alignment through the Downtown corridor. In addition, Scott County is leading interchange construction on Highway 41 at Highway 169. This improvement will make this route more attractive to regional movements.

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

Highway 41 is a principal arterial roadway carrying 18,800 vehicles per day through downtown Chaska. 2,250 (12%) of these are heavy commercial vehicles. The highway is an important freight corridor for the region, designated as a Tier Three corridor in the Metropolitan Council's Truck Freight Corridor Study, which connects to County Highway 61 which is also a Tier Three corridor. The majority of truck movements on Highway 41 are a result of the river crossing, regional freight demands, gravel and sand mining, landfill traffic, and seasonal grain deliveries from western Minnesota to the Ports of Savage.

The City of Chaska has been working with MnDOT and Carver County for the past three years on the planning for downtown improvements. Through an extensive partnership, the three agencies have developed a vision and completed a study for Downtown Chaska. The study identified the

problems, set goals and objectives, completed extensive traffic modeling, developed and evaluated a full range of concepts, while engageing the public and Downtown business community. Through these efforts, the project partners have reached a sustainable vision for improvements to Downtown Chaska and now the focus is getting that vision funded and constructed. The project is significantly funded, slated for construction beginning the summer of 2021.

The Downtown improvements provide significant safety and mobility benefits through this constrained downtown environment that include:

-Turn lanes at all public street intersections (most intersections have no turn lanes today)

-Expanded median/access control

-Removal of all Highway 41 on-street parking

-Expansion of sidewalk areas/ADA accessibility

-New signals/more efficient operations

-Intersection expansion at County Highway 61, including dual northbound lefts

-Median with access control on County Highway 61

-Pedestrian Hybrid Beacon at Walnut Street

-Pavement condition/Full reconstruction

(Limit 2,800 characters; approximately 400 words)

TIP Description Guidance (will be used in TIP if the project is selected for funding)

Reconstruct Highway 41 and County Highway 61

Project Length (Miles)

to the nearest one-tenth of a mile

1.2

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 $6,180,000.00

Minimum of 20% of project total

Project Total $13,180,000.00

Match Percentage 46.89%

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

Source of Match Funds City, County, State

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: 2022

Select 2020 or 2021 for TDM projects only. For all other applications, select 2022 or 2023.

Additional Program Years: 2021

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

Project Information-Roadways

County, City, or Lead Agency City of Chaska, Minnesota

Functional Class of Road Principal Arterial

Road System TH/CSAH

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

Road/Route No. 4161

i.e., 53 for CSAH 53

Name of Road Chestnut Street/Chaska Blvd

Example; 1st ST., MAIN AVE

Zip Code where Majority of Work is Being Performed 55318

(Approximate) Begin Construction Date 01/03/2022

(Approximate) End Construction Date 10/30/2024

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

From:
(Intersection or Address) Minnesota River Bridge

To:
(Intersection or Address)

Walnut Street

DO NOT INCLUDE LEGAL DESCRIPTION

Or At

Primary Types of Work

GRADE, AGG BASE, BIT BASE, BIT SURF, SIDEWALK, CURB AND GUTTER, STORM SEWER, LIGHTING, PED RAMPS

Examples: GRADE, AGG BASE, BIT BASE, BIT SURF, SIDEWALK, CURB AND GUTTER,STORM SEWER, SIGNALS, LIGHTING, GUARDRAIL, BIKE PATH, PED RAMPS, BRIDGE, PARK AND RIDE, ETC.

BRIDGE/CULVERT PROJECTS (IF APPLICABLE)

Old Bridge/Culvert No.:

New Bridge/Culvert No.:

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

Requirements - All Projects

All Projects

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

List the goals, objectives, strategies, and associated pages:

This project is consistent with the 2040 Transportation Policy Plan's goals, objectives and strategies.The first stated goal is -sustainable investments in the transportation system are protected by strategically preserving, maintaining and operating system assets,' (Overview, Section F, pg. 58). This is further described in Chapter 5 (pg. 5.8): 'Operating, maintaining, rebuilding, and replacing the significant public investment in the existing highway system is the highest priority for highway investment.' This project accomplishes objectives outlined by improving an existing highway corridor and updating the Highway 41 pavement conditions and design.

This project is consistent with the Plan's goal for a 'Competitive Economy'(Pg. 64). Highway 41 is a principal arterial roadway carrying 18,800 vehicles per day through downtown Chaska. 2,250 (12%) of these are heavy commercial vehicles. This project seeks to improve traffic and safety in an important freight corridor for the region. This project will build a safer and more efficient corridor which is vital to connect all populations to jobs.

This project 'advances equity and contributes to communities' livability and sustainability while protecting the natural, cultural, and developed environments,' part of the stated goal of 'Healthy Environment,' (Overview, Section F. pg. 66) by improving multi-modal access to regional features in the project area. Strategies to accomplish this are listed in Chapter 5, page 5.14: 'Examples of bicycle and accessible pedestrian investments include trails and sidewalks on highway bridges or parallel to the roadway travel lanes' This project exhibits these strategies by balancing efficient regional movement while considering the pedestrian scale environment that serves a downtown economy. This project proposes improved pedestrian environment that will connect

surrounding diverse neighborhoods to downtown Chaska. Future trail connections along Highways 41 and 61 will facilitate users community-wide into the downtown.

These improvements also further the goal of 'Leveraging Transportation Investment to Guide Land Use' by changing the overall parking situation with the construction of two public parking lots connected by a more accessible pedestrian network. The overall non-motorized experience will be enhanced with more/wider and higher quality spaces for pedestrians and bicyclists, encouraging more sustainable land-use patterns and a more livable city.

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.

This project is consistent with the following local, regional, and state plans as detailed below. Chaska?s Downtown Business Alliance has also be involved in all aspects of planning for downtown improvmeents and investments.

-Highway 41 and 61 Improvements Study (Fall 2017 completion)

-MnDOT 2017-2020 STIP - 2019 Mill & Overlay through Downtown Chaska

-Chaska Downtown Master Plan (2012)

-Chaska 2030 Comprehensive Plan (2008)

-Carver County 2030 Comprehensive Plan (2008)

List the applicable documents and pages:

Highway 41 and 61 Improvements Study (2015-2017)

For the past two years, the City of Chaska, Carver County, and MnDOT have been engaged in the Highway 41 and 61 Improvements Study which identified improvements to Highway 41 and County Highway 61 meeting local and regional goals. The MnDOT Level II Staff Approved Layout is complete awaiting final comments and then signatures (expected September 2017). Preliminary design has been completed on the County Highway 61 improvements east of Highway 41 in this effort too. The Downtown Vision is ready for final design and construction from a design standpoint as well as politically. The many engagement activities through this study have informed the public, business community, and elected officials on the need, listened to their concerns, and incorporated what we could in defining this vision.

As previously mentioned, the City of Chaska is working with property owners to market to developers to build on the sites. All utilities are in the project area and ready for individual properties to hook up. The City does own some of the redevelopment properties and is actively purchasing right-of-way now. Conceptual design is complete. Meetings with landowners have been occurring. The project is ready for preliminary design to begin.

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

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

5.Applicants that are not 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.
***Roadway Expansion:** $1,000,000 to $7,000,000*
***Roadway Reconstruction/ Modernization Modernization and Spot Mobility:** $1,000,000 to $7,000,000*
***Traffic Management Technologies (Roadway System Management):** $250,000 to $7,000,000*
***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, or be substantially working towards, completing 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 applicant is a public agency that employs 50 or more people and has an adopted ADA transition plan that covers the public right of way/transportation.		Date plan adopted by governing body	
The applicant is a public agency that employs 50 or more people and is currently working towards completing an ADA transition plan that covers the public rights of way/transportation.	Yes	05/01/2018 Date process started	05/01/2019 Date of anticipated plan completion/adoption
The applicant is a public agency that employs fewer than 50 people and has a completed ADA self-evaluation that covers the public rights of way/transportation.		Date self-evaluation completed	

The applicant is a public agency that employs fewer than 50 people and is working towards completing an ADA self-evaluation that covers the public rights of way/transportation.

Date process started

Date of anticipated plan completion/adoption

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

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

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

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

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

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

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

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

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

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

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

Roadways Including Multimodal Elements

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

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

Roadway Expansion and Reconstruction/Modernization and Spot Mobility projects only:

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

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

Bridge Rehabilitation/Replacement projects only:

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

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

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

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

5.The length of the bridge must equal or exceed 20 feet.

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

6. The bridge must have a sufficiency rating less than 80 for rehabilitation projects and less than 50 for replacement projects. Additionally, the bridge must also be classified as structurally deficient or functionally obsolete.

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

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

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

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)	$724,000.00
Removals (approx. 5% of total cost)	$1,050,000.00
Roadway (grading, borrow, etc.)	$826,000.00
Roadway (aggregates and paving)	$1,855,000.00
Subgrade Correction (muck)	$0.00
Storm Sewer	$1,116,000.00
Ponds	$0.00
Concrete Items (curb & gutter, sidewalks, median barriers)	$520,000.00
Traffic Control	$588,000.00
Striping	$41,000.00
Signing	$39,000.00
Lighting	$373,000.00
Turf - Erosion & Landscaping	$7,000.00
Bridge	$498,000.00
Retaining Walls	$0.00
Noise Wall (not calculated in cost effectiveness measure)	$0.00
Traffic Signals	$814,000.00
Wetland Mitigation	$0.00
Other Natural and Cultural Resource Protection	$0.00
RR Crossing	$0.00

Roadway Contingencies	$0.00
Other Roadway Elements	$0.00
Totals	**$8,451,000.00**

Specific Bicycle and Pedestrian Elements

CONSTRUCTION PROJECT ELEMENTS/COST ESTIMATES	Cost
Path/Trail Construction	$2,308,000.00
Sidewalk Construction	$580,000.00
On-Street Bicycle Facility Construction	$0.00
Right-of-Way	$0.00
Pedestrian Curb Ramps (ADA)	$140,000.00
Crossing Aids (e.g., Audible Pedestrian Signals, HAWK)	$134,000.00
Pedestrian-scale Lighting	$0.00
Streetscaping	$1,567,000.00
Wayfinding	$0.00
Bicycle and Pedestrian Contingencies	$0.00
Other Bicycle and Pedestrian Elements	$0.00
Totals	**$4,729,000.00**

Specific Transit and TDM Elements

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

Transit Operating Costs

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

Totals

Total Cost	$13,180,000.00
Construction Cost Total	$13,180,000.00
Transit Operating Cost Total	$0.00

Congestion on adjacent Parallel Routes:

Adjacent Parallel Corridor	US HIGHWAY 212

Adjacent Parallel Corridor Start and End Points:

Start Point:	TH 13
End Point:	CSAH 101 to I-494
Free-Flow Travel Speed:	25
The Free-Flow Travel Speed is black number.	
Peak Hour Travel Speed:	19
The Peak-Hour Travel Speed is red number.	
Percentage Decrease in Travel Speed in Peak Hour Compared to Free-Flow (calculation):	24.0%
Upload the "Level of Congestion" map:	1531431123875_41 Level of Congestion Map.pdf

Principal Arterial Intersection Conversion Study:

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

(65 Points)

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

(55 Points)

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

(45 Points)

Not listed as a priority in the study:	Yes

(0 Points)

Congestion Management and Safety Plan IV:

Proposed at-grade project that reduces delay at a CMSP opportunity area: Yes

(65 Points)

Not listed as a CMSP priority location:

(0 Points)

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

Existing Employment within 1 Mile: 3416

Existing Manufacturing/Distribution-Related Employment within 1 Mile: 342

Existing Post-Secondary Students within 1 Mile: 0

Upload Map 1531431358468_41 Regional Economy Map.pdf

Please upload attachment in PDF form.

Measure C: Current Heavy Commercial Traffic

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

Along Tier 1:

Along Tier 2:

Along Tier 3: Yes

The project provides a direct and immediate connection (i.e., intersects) with either a Tier 1, Tier 2, or Tier 3 corridor:

None of the tiers:

Measure A: Current Daily Person Throughput

Location Chaska, MN, TH 41 from MN River to Walnut St, CSAH 61 from TH 41 to Yell

Current AADT Volume 18200

Existing Transit Routes on the Project 691, 699

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

Upload Transit Connections Map 1531431581843_41 Transit Connections Map.pdf

Please upload attachment in PDF form.

Response: Current Daily Person Throughput

Average Annual Daily Transit Ridership	596.0
Current Daily Person Throughput	24256.0

Measure B: 2040 Forecast ADT

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

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

OR

Identify the approved county or city travel demand model to determine forecast (2040) ADT volume	2040 Carver County Comprehensive Plan
Forecast (2040) ADT volume	24000

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

Select one:

Project located in Area of Concentrated Poverty with 50% or more of residents are people of color (ACP50):

(up to 100% of maximum score)

Project located in Area of Concentrated Poverty:

(up to 80% of maximum score)

Projects census tracts are above the regional average for population in poverty or population of color:	Yes

(up to 60% of maximum score)

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

(up to 40% of maximum score)

1.(0 to 3 points) A successful project is one that has actively engaged low-income populations, people of color, children, persons with disabilities, and the elderly during the project's development with the intent to limit negative impacts on them and, at the same time, provide the most benefits.
Describe how the project has encouraged or will engage the full cross-section of community in decision-making. Identify the communities to be engaged and where in the project development process engagement has occurred or will occur. Elements of quality engagement include: outreach to specific communities and populations that are likely to be directly impacted by the project; techniques to reach out to populations traditionally not involved in the community engagement related to transportation projects; residents or users identifying potential positive and negative elements of the project; and surveys, study recommendations, or plans that provide feedback from populations that may be impacted by the proposed project. If relevant, describe how NEPA or Title VI regulations will guide engagement activities.

Response:

The two plus year study process that identified the Downtown Vision encouraged and engaged the full community. This level of engagement will continue in design and through construction. To date the Highway 41/61 Corridor Improvement Study utilized over 100 engagement activities to inform and gather input from the public, business community, and elected officials while defining the Downtown Vision, including:

-Focus group meetings with emergency services, the school district, parks and trails, transit providers, and water resource stakeholders

-A Business Advisory Committee made up of Chaska's Downtown Business Alliance and other local businesses met periodically (and they fully support the vision)

-Property owner meetings to discuss specific issues

-Public open houses were held for the purpose of soliciting input regarding issues/needs, reviewing a range of proposed improvement options and consideration of subarea recommendations

-A project website and Facebook page were maintained to house project information, updates, and upcoming meeting notices

In the fall of 2017, the project team, including the City of Chaska, Carver County, and MnDOT received the APA Partnerships in Planning Award highlighting the extensive partnership to achieve the vision.

(Limit 1,400 characters; approximately 200 words)

2.(0 to 7 points) Describe the projects benefits to low-income populations, people of color, children, people with disabilities, and the elderly. Benefits could relate to safety; public health; access to destinations; travel time; gap closure; leveraging of other beneficial projects and investments; and/or community cohesion. Note that this is not an exhaustive list.

Response:

The existing downtown environment inhibits pedestrians due to very wide and exposed crossings, speeds and volume of traffic, trucks, noise, and narrow walkways adjacent buildings not meeting ADA standards. The community feels the 4-lane undivided roadway is a dividing barrier. Pedestrian and bike crashes are common, with one fatal pedestrian crash within a 10-year history.

A safe and efficient corridor is vital to connect disadvantaged populations to services, transit, and jobs. According to city data, the area encompassed by Highway 41, County Highway 61, Highway 15, and the Minnesota River has a; population that is 31% Hispanic, median household income of $42K, 3.75% unemployment rate, and 11.5% live below the poverty level. Existing sidewalks connect pedestrians originating from these neighborhoods into the proposed improved pedestrian environment. Future trail connections along Highways 41 and 61 will facilitate users community-wide into the downtown.

Two blocks east of Highway 41, on 4th St is the Southwest Metro Intermediate District 288 that serves students in 11 member districts across the SW Twin Cities metro area with programs in Special Education, Career and Technical Education, Adult Basic Education and Alternative Education.

The Highway 41/61 Corridor Improvement Study adopted guiding principles developed as part of the 2012 Chaska Downtown Master Plan aimed at a livable, walkable, and healthy community:

-Enhance the community's pride and historic sense of place in the downtown

-Reinvigorate the variety and vitality of downtown's main streets destinations
-Create signature community gathering places

-Preserve and strengthen downtown as the hub for community institutions

-Expand downtown's role as an employment center

-Enhance downtown's neighborhoods and housing options

-Create inviting downtown streets, sidewalks, and trails

-Strengthen downtown partnerships to achieve common goals

This projects focus is on balancing efficient regional movement while considering the pedestrian scale environment that serves a downtown economy. The proposed project will reduce delay on Highway 41, a need that has been strongly expressed by many local businesses. The pedestrian underpass just south of County Highway 61 will provide a grade separated crossing of Highway 41. The raised median will provide a safe area of pedestrian refuge and the reduced section will reduce the overall crossing distance, minimizing pedestrian's exposure to traffic. Wider sidewalks will also increase pedestrian comfort within the corridor. Additionally, the construction of a HAWK crossing will provide a dedicated pedestrian crossing of CSAH 61, with future plans for a pedestrian underpass crossing TH 41, provided further pedestrian mobility within the downtown district.

(Limit 2,800 characters; approximately 400 words)

3.(-3 to 0 points) Describe any negative externalities created by the project along with measures that will be taken to mitigate them. Negative externalities can result in a reduction in points, but mitigation of externalities can offset reductions.
Below is a list of negative impacts. Note that this is not an exhaustive list.
Increased difficulty in street crossing caused by increased roadway width, increased traffic speed, wider turning radii, or other elements that negatively impact pedestrian access.
Increased noise.
Decreased pedestrian access through sidewalk removal / narrowing, placement of barriers along the walking path, increase in auto-oriented curb cuts, etc.
Project elements that are detrimental to location-based air quality by increasing stop/start activity at intersections, creating vehicle idling areas, directing an increased number of vehicles to a particular point, etc.
Increased speed and/or cut-through traffic.
Removed or diminished safe bicycle access.
Inclusion of some other barrier to access to jobs and other destinations.
Displacement of residents and businesses.
Construction/implementation impacts such as dust; noise; reduced access for travelers and to businesses; disruption of utilities; and eliminated street crossings. These tend to be temporary.
Other

Response:

Negative impacts are not anticipated. Concern was raised during the public input sessions in the planning stages regarding loss of the parking spaces on the highway, however the overall parking situation will be mitigated and improved with the construction of two public parking lots connected by a more accessible pedestrian network. The parking lot design will include pedestrian connections to the business area. The overall non-motorized experience will be enhanced with more/wider and higher quality spaces for pedestrians and bicyclists. The downtown will be more conducive to pedestrian movement. Even those driving to the downtown area will have a more pleasant experience while patronizing multiple businesses in one vehicle trip with the enhanced walkability in the corridor.

(Limit 2,800 characters; approximately 400 words)

Upload Map

1531432119875_41 Socio-Economic Map.pdf

Measure B: Affordable Housing

City	Segment Length (For stand-alone projects, enter population from Regional Economy map) within each City/Township	Segment Length/Total Project Length	Score	Housing Score Multiplied by Segment percent

Chaska	1.2	1.0	94.0	94.0

Total Project Length

Total Project Length (as entered in the "Project Information" form) 1.2

Affordable Housing Scoring

Total Project Length (Miles) or Population 1.2

Total Housing Score 94.0

Affordable Housing Scoring

Measure A: Year of Roadway Construction

Year of Original Roadway Construction or Most Recent Reconstruction	Segment Length	Calculation	Calculation 2
1986	1.2	2383.2	1986.0
	1	**2383**	**1986**

Total Project Length

Total Project Length (as entered in "Project Information" form) 1.2

Average Construction Year

Weighted Year 1986

Total Segment Length (Miles)

Total Segment Length 1.2

Measure B: Geometric, Structural, or Infrastructure Improvements

Improved roadway to better accommodate freight movements: Yes

Response:

-Increased Hwy 41/61 intersection capacity-all movements are currently at or above capacity and causing significant delays for access to industrial areas

-Removal of on-street parking-provides space for left and right turn lanes no longer subjecting trucks to quick stops behind turning or parking cars

-Elimination of weaving traffic-conversion from a 4-lane to 2-lane divided dedicates a single thru lane of traffic and remove the ability for cars to speed and weave in front of many slower moving trucks

-Turn lanes at all intersections-several make turning movements from the thru lanes today

-Improved pavement condition
-Curb radii improvements on side streets for truck accessibility

(Limit 700 characters; approximately 100 words)

Improved clear zones or sight lines:

Yes

All traffic south of Hwy 61 must turn from the thru lanes. Vehicles are constantly weaving around turning vehicles in front of them. Left turn movements from Hwy 41 have difficult sight lines resulting in challenging turning movements across two lanes of oncoming traffic. An opposing left turner has to edge into the oncoming lane to see a large enough gap to complete the turn.

Response:

Removing parking improves sightlines for vehicles turning on or off the highway and opens views to the presence of pedestrians attempting to cross 4-lanes of traffic. Conversion to a 2-lane divided enhances walkability when parking is removed and additional space is used for wider walkways and streetscape features.

(Limit 700 characters; approximately 100 words)

Improved roadway geometrics: Yes

Response:

A 2-lane divided section will provide left and right-turn lanes at Hwy 41 intersections to remove turning from thru lanes and eliminate weaving movements around turning or parking vehicles. Improvements to side street curb radii, with expansion of the sidewalks, accommodates truck turning movements and provides a pedestrian buffer from traffic.

Converting the 4-lane undivided river bridge to a 2-lane divided section (with median), will tie into the 2-lane Hwy 41 section south of the river and provide a transition into downtown. The existing median will remain across 1st, 3rd and 5th Streets to allow the 2-lane divided section to operate efficiently and safely for vehicles and ped traffic.

(Limit 700 characters; approximately 100 words)

Access management enhancements: Yes

Response:

The existing TH 41 median will remain across 1st, 3rd and 5th Streets to allow the 2-lane divided section to operate efficiently and safely for vehicles and pedestrian traffic. Highway 41 north of County Highway 61 will see a new median that will convert the full access points to right-in/right out. Traffic entering and exiting businesses east of Highway 41 currently do so through the southbound left turn lane at the County Highway 61 intersection. This is not ideal as the decision making for drivers approaching the intersection is already complicated with driver?s attention focused on the complexities of passing through a high volume intersection.

(Limit 700 characters; approximately 100 words)

Vertical/horizontal alignment improvements: Yes

Response:

Vertical and horizontal alignments fully satisfy design speeds.

(Limit 700 characters; approximately 100 words)

Improved stormwater mitigation: Yes

Response:

Storm water mitigation is greatly enhanced with this project. Some key elements include:

-Tree trenches/planters will be used as stormwater BMPs, reducing the amount of impervious areas and infiltrated below the tree trench

-A system of catch basins with sumps to remove sediment and debris

-Soil amendments, in areas already planted in turf grasses, will decrease the volume/rate of runoff by enhancing soil absorption and plant uptake capacity

-Perforated storm drains will be used in sandy soils between 1st and 4th Street to infiltrate storm water, provide volume control, water quality treatment

-Sumps and separators will be installed at points of surface water discharge

(Limit 700 characters; approximately 100 words)

Signals/lighting upgrades:

Yes

Response:

Upgrading all existing traffic signals will provide more efficient operations. The County Safety Plan identified Hwy 41/61 intersection concerns and priorities regarding red-light running, advance walk cycles, and flashing yellow arrows.

-A confirmation light will address elevated right-angle crashes and ranking of 18th among Urban Right Angle Intersection priorities

-A top priority location for Advance Walk Signal and ped countdown timers

-A flashing yellow arrow was recommended

-Additional turn-lanes proposed with adequate storage for forecasted queuing

A Ped Hybrid Beacon at Walnut St will stop all 5 lanes of traffic for the growing demand near the new Curling Center and Fireman's Park.

(Limit 700 characters; approximately 100 words)

Other Improvements

Yes

Over $100M in public investment in downtown has occurred and is ongoing.

-$30M in downtown infrastructure improvements in past 5 years
-$28M in development of Fireman's Park, Chaska Curling Center, and Event Center in 2015

-In 2020 the City will invest $20M in redevelopment of City Square West

Response:

-The City, County, State will have a combined investment of approx $25M in the highway and pedestrian enhancements through downtown in 2022

-The city is working to obtain funding to construct a trail connection along Hwy 61 from an existing regional trail just west of Audubon Rd to Athletic Park. This trail's direct connection to Downtown Chaska will utilize the proposed Hwy 41 pedestrian underpass.

(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 (Vehicles per hour)	Total Peak Hour Delay Reduced by the Project:	EXPLANATION of methodology used to calculate railroad crossing delay, if applicable.	Synchro or HCM Reports
51.0	43.0	8.0	12230	97840.0	NA	1531435355140_Combined Synchro Reports.pdf

Vehicle Delay Reduced

Total Peak Hour Delay Reduced	97840.0

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

Total (CO, NOX, and VOC) Peak Hour Emissions without the Project (Kilograms):	Total (CO, NOX, and VOC) Peak Hour Emissions with the Project (Kilograms):	Total (CO, NOX, and VOC) Peak Hour Emissions Reduced by the Project (Kilograms):
9.13	8.97	0.16
9	**9**	**0**

Total

Total Emissions Reduced:	0.16
Upload Synchro Report	1531436231843_Combined Synchro Reports.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:

Crash modification factors used include; conversion of a 4-lane undivided road to 2-lanes plus turning lane, and providing a raised median.

(Limit 700 Characters; approximately 100 words)

Rationale for Crash Modification Selected:	The crash modification factors selected for the proposed improvement are reflective upon the improvements to be made. The existing 4-lane undivided section is proposed to be reduced to a divided 2-lane section with dedicated turn lanes, similar to a road diet. Additionally, the construction of a raised median will offer reductions in head-on and sideswipe-opposing collisions from the existing undivided and narrow section. Additional safety benefits can be expected via the elimination of on-street parking, however, there is not an establish CMF for this countermeasure, though there is a Highway Safety Manual formula for calculating this safety benefit.
(Limit 1400 Characters; approximately 200 words)	
Project Benefit ($) from B/C Ratio	$6,302,935.00
Worksheet Attachment	1531509751890_Combined CMF.pdf
Please upload attachment in PDF form.	

Roadway projects that include railroad grade-separation elements:

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

Measure A: Multimodal Elements and Existing Connections

Response:

There has been six total pedestrian related and bicycle related crashes (five bike, one pedestrian) within the project area from 2016-2018. The existing downtown area is a hazard to pedestrian traffic and the four-lane undivided roadway is a barrier that splits the community. The existing facilities are not ADA compliant and unprotected crossing expose pedestrians to large amounts of traffic over long crossing distances.

A strong focus of this project is to improve the quality of the pedestrian and bicycle system along Highways 41 and 61 throughout the project. Especially since Highway 41 serves as the city's Main Street locally known as Chestnut Street. Since Highways 41 and 61 are Tier Three Freight Corridors and provide access to one of four Minnesota River crossings in the southwestern metro, maintaining motor vehicle access and quality of mobility is also very important. The proposed project provides dedicated facilities for each mode therefor improving integration between modes.

Today, the sidewalks are approximately 7-feet to 9-feet wide. The proposed design would significantly increase the sidewalk area, up to 18-feet wide. In addition, the three-lane section allows for a widened center median to provide a pedestrian refuge for those walking across TH 41 to do so in two phases, pausing in the center median to look for traffic from the other direction before completing their crossing. There will also be room for green space in the medians, as well as other amenities in the widened space between the roadway and the buildings for items such as benches, planters, and more open pedestrian areas enhancing the walkability of Downtown.

ADA compliant pedestrian ramps, APS push buttons, high visibility continental crosswalk markings, center median pedestrian refuge, and countdown timers will be provided at each of the project intersections. These components will greatly enhance the interaction of pedestrians, bicyclists, vehicles, and freight trucks within the corridor. The proposed pedestrian underpass will provide an alternative crossing of Highway 41 just south of County Highway 61 reducing at-grade crossing demands thus reducing delays to the vehicular traffic and reducing the potential for pedestrian involved crashes.

The project has a direct connection to Southwest transit stops along Walnut Street and 4th Street serving routes 691, 697, and 699. These routes connect riders to Carver, Chanhassen, and job concentration areas along U.S. Highway 212 in Eden Prairie and I-494 in Edina, Richfield, and Minneapolis. A forty vehicle park and ride lot is directly connected to the project at Walnut Street and Chaska Boulevard. An existing shelter provides coverage for transit riders during inclement weather.

(Limit 2,800 characters; approximately 400 words)

Transit Projects Not Requiring Construction

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

Check Here if Your Transit Project Does Not Require Construction

Measure A: Risk Assessment - Construction Projects

1)Layout (30 Percent of Points)

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

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

100%

Attach Layout 1531499804375_Approved Layout_02-01-18.pdf

Please upload attachment in PDF form.

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

50%

Attach Layout

Please upload attachment in PDF form.

Layout has not been started

0%

Anticipated date or date of completion

2)Review of Section 106 Historic Resources (20 Percent of Points)

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

100%

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

100%

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

80%

Historic/archeological property impacted; determination of adverse effect anticipated

40%

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

0%

Project is located on an identified historic bridge

3)Right-of-Way (30 Percent of Points)

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

100%

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

50%

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

25%

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

0%

Anticipated date or date of acquisition

4)Railroad Involvement (20 Percent of Points)

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

100%

Signature Page

Please upload attachment in PDF form.

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

50%

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

0%

Anticipated date or date of executed Agreement

Measure A: Cost Effectiveness

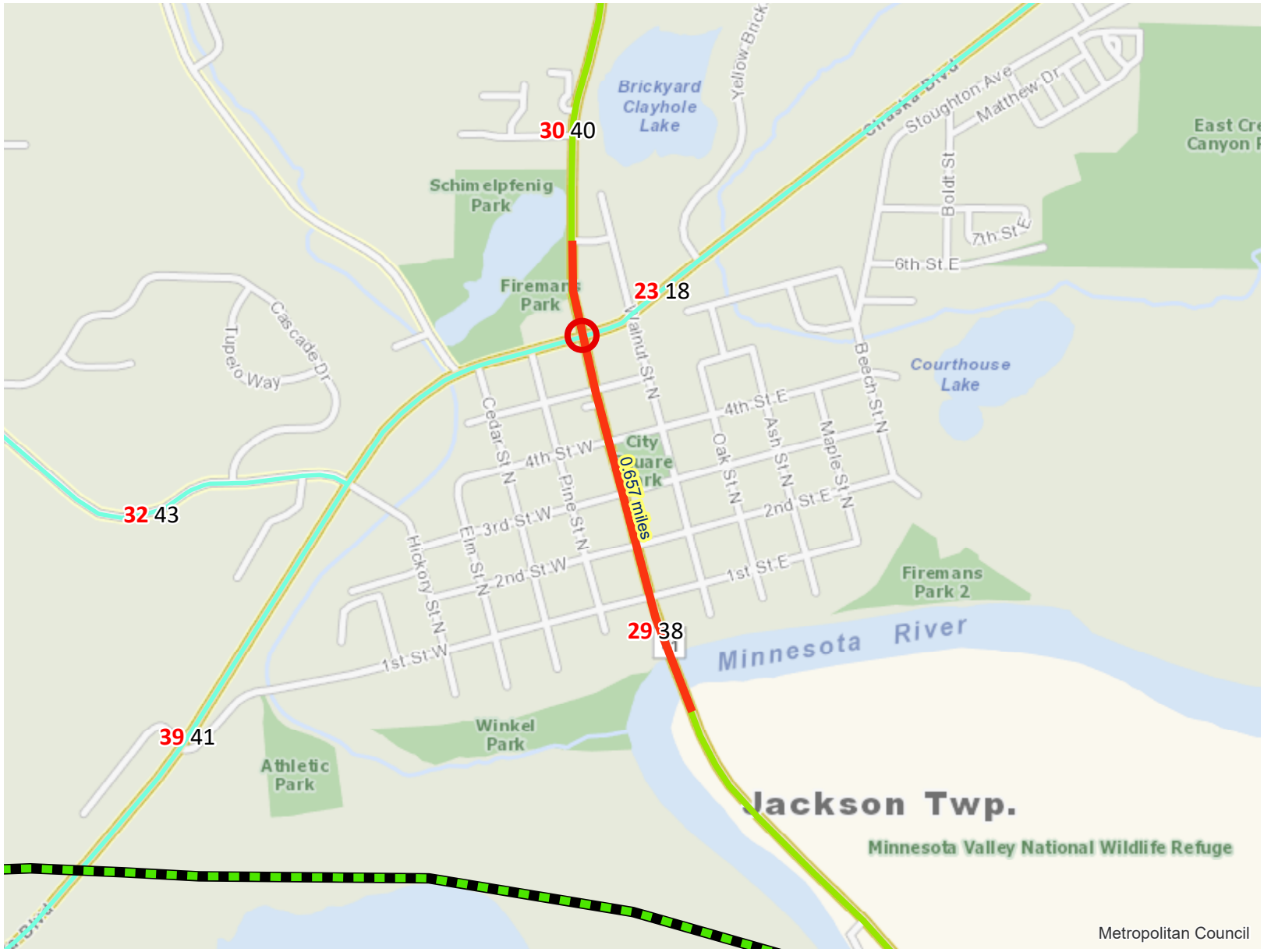
Total Project Cost (entered in Project Cost Form):	$13,180,000.00
Enter Amount of the Noise Walls:	$0.00
Total Project Cost subtract the amount of the noise walls:	$13,180,000.00
Points Awarded in Previous Criteria	
Cost Effectiveness	$0.00

Other Attachments

File Name	Description	File Size
1 - Downtown Chaska Layout- (8.5x11) For Application_(2018-02-26)_.pdf	Project Layout	4.6 MB
10_Carver County Supporting Resolution.docx.pdf	Carver County Supporting Resolution	339 KB
1_Hwy 41 Chaska One Page Description.docx.pdf	Project One Page Description	262 KB
2 - Location Map_8.5x11.pdf	Project Location Map	303 KB
3 - Freight Generating Facilities_8.5x11.pdf	Freight Generating Facilities	286 KB
4 - Non-Motorized Connections_8.5x11.pdf	Trails and Sidewalks Map	388 KB
5 - TH 41 Pedestrian Underpass_8.5x11.pdf	TH 41 Proposed Underpass	294 KB
6 - Existing Conditions Photos.pdf	Existing Conditions Photos	1.2 MB
7 - Downtown Chaska Layout-Existing Conditions_8.5x11.pdf	Existing Conditions Map	3.3 MB
8_ADA Transition Plan Status.pdf	ADA Transition Plan Status	329 KB
Chaska DT Business Alliance TH 41 Support Letter.pdf	Chaska Downtown Business Alliance Letter of Support	386 KB
Met C Generated Maps.pdf	Met C Generated Maps	20.6 MB

Level of Congestion

Roadway Reconstruction/Modernization Project: Downtown Chaska Highway 41 Improvements | Map ID: 1530825407461



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

0 0.125 0.25 0.5 0.75 1 Miles

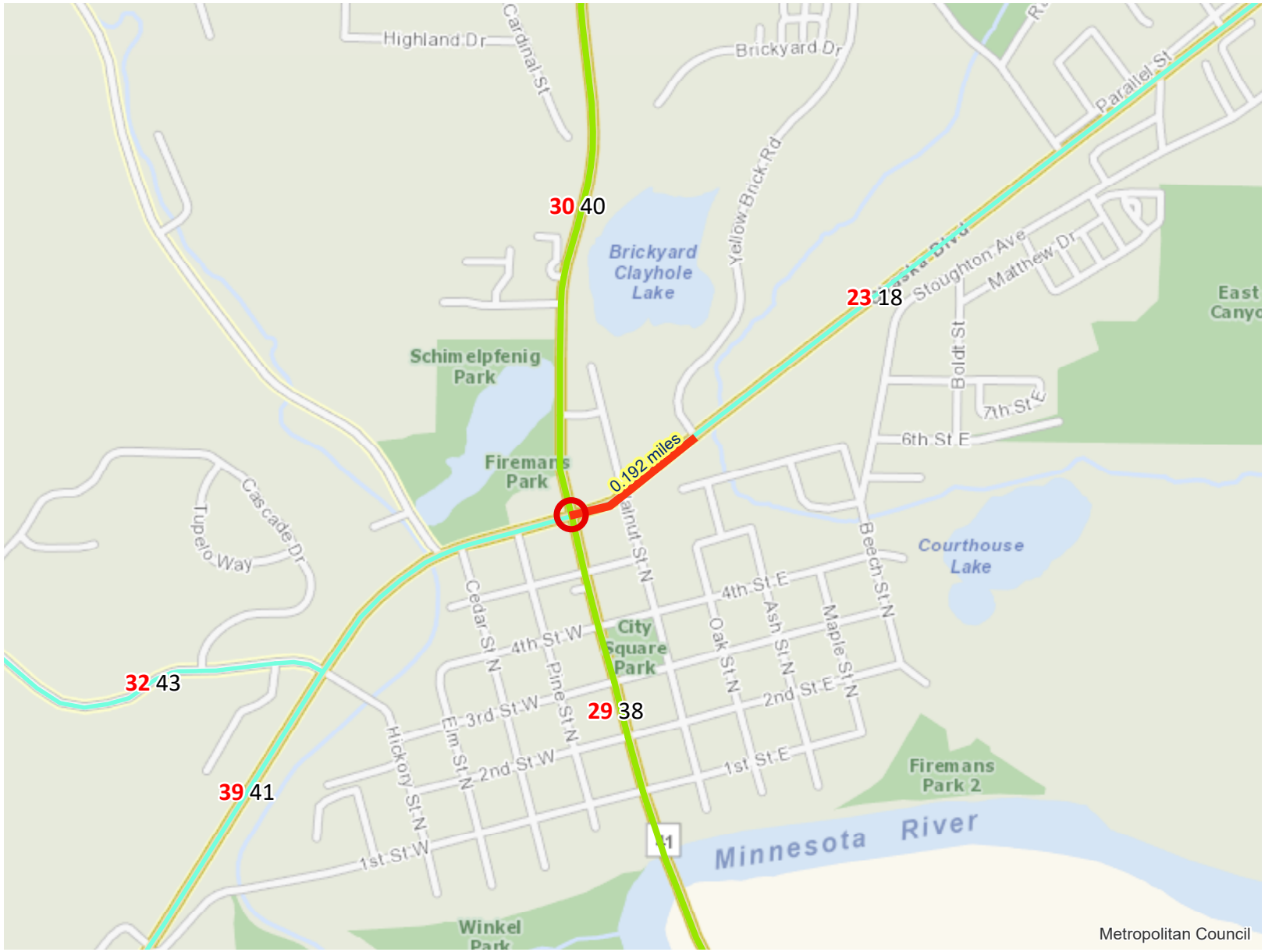
Created: 7/5/2018
LandscapeRSA1

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

METROPOLITAN COUNCIL

Level of Congestion

Roadway Reconstruction/Modernization Project: Downtown Chaska Highway 41 Improvements | Map ID: 1530825846802



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: 7/5/2018
LandscapeRSA1

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

METROPOLITAN COUNCIL

Regional Economy

Roadway Reconstruction/Modernization Project: Downtown Chaska Highway 41 Improvements | Map ID: 1530825407

Results

WITHIN ONE MI of project:
Postsecondary Students: 0

Totals by City:

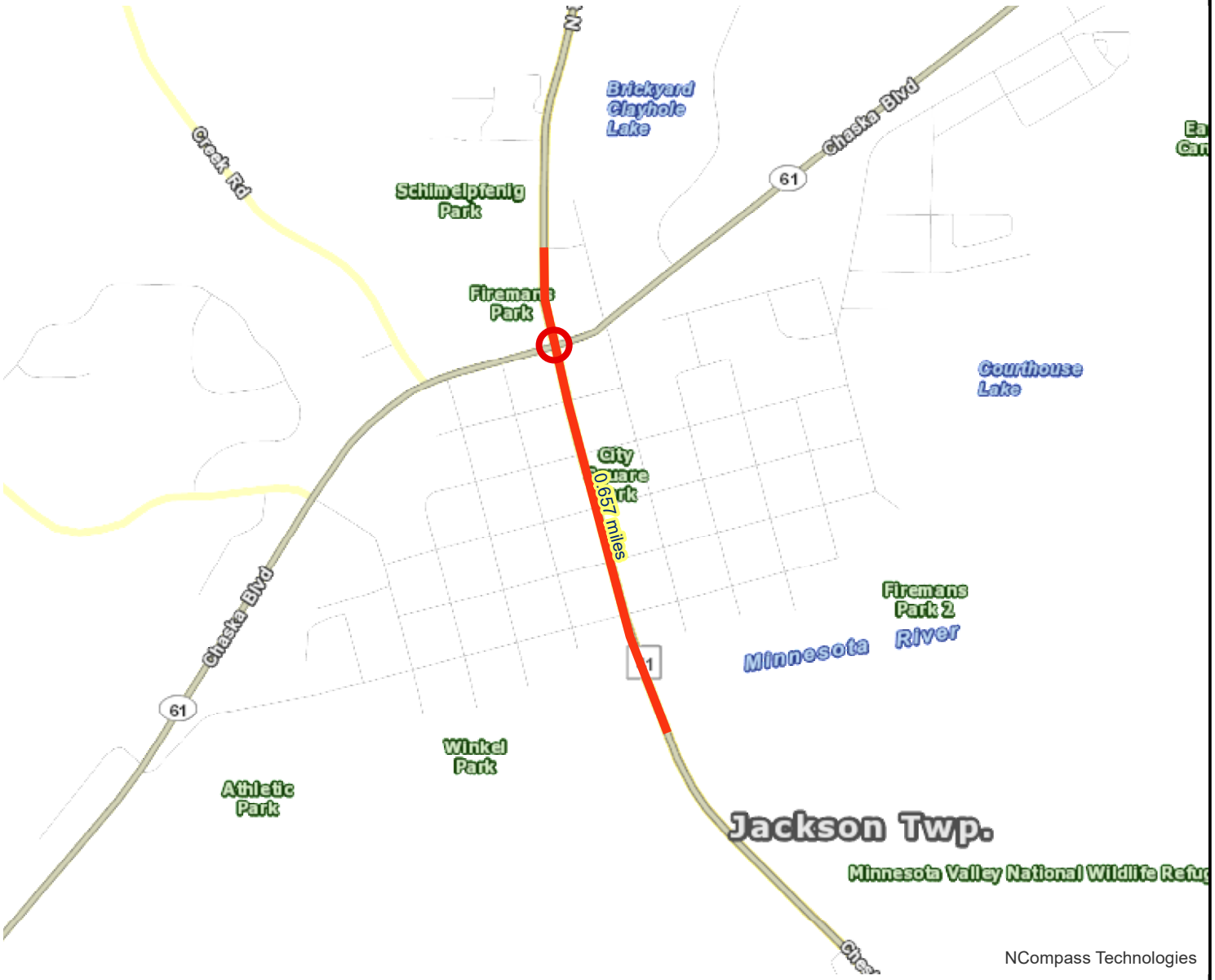
Carver
Population: 2593
Employment: 204
Mfg and Dist Employment: 0

Chanhassen
Population: 2503
Employment: 1323
Mfg and Dist Employment: 264

Chaska
Population: 4839
Employment: 1518
Mfg and Dist Employment: 40

Jackson Twp.
Population: 737
Employment: 241
Mfg and Dist Employment: 26

Louisville Twp.
Population: 208
Employment: 130
Mfg and Dist Employment: 12



Project Points
Project
Manfacturing/Distribution Centers
Job Concentration Centers

0 0.125 0.25 0.5 0.75 1 Miles

Created: 7/5/2018
LandscapeRSA5

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

METROPOLITAN COUNCIL

Regional Economy

Roadway Reconstruction/Modernization Project: Downtown Chaska Highway 41 Improvements | Map ID: 1530825846

Results

WITHIN ONE MI of project:
Postsecondary Students: 0

Totals by City:

Carver
Population: 2593
Employment: 204
Mfg and Dist Employment: 0

Chanhassen
Population: 2503
Employment: 1323
Mfg and Dist Employment: 264

Chaska
Population: 4839
Employment: 1518
Mfg and Dist Employment: 40

Jackson Twp.
Population: 737
Employment: 241
Mfg and Dist Employment: 26

Louisville Twp.
Population: 208
Employment: 130
Mfg and Dist Employment: 12

Project Points
Project
Manfacturing/Distribution Centers
Job Concentration Centers

0 0.025 0.05 0.1 0.15 0.2 Miles

Created: 7/5/2018
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: Downtown Chaska Highway 41 Improvements | Map ID: 153082540

Results

Transit with a Direct Connection to project:
691 699

**indicates Planned Alignments*

Project Points
Active Stop
Project
Transit Routes

0 0.175 0.35 0.7 1.05 1.4 Miles

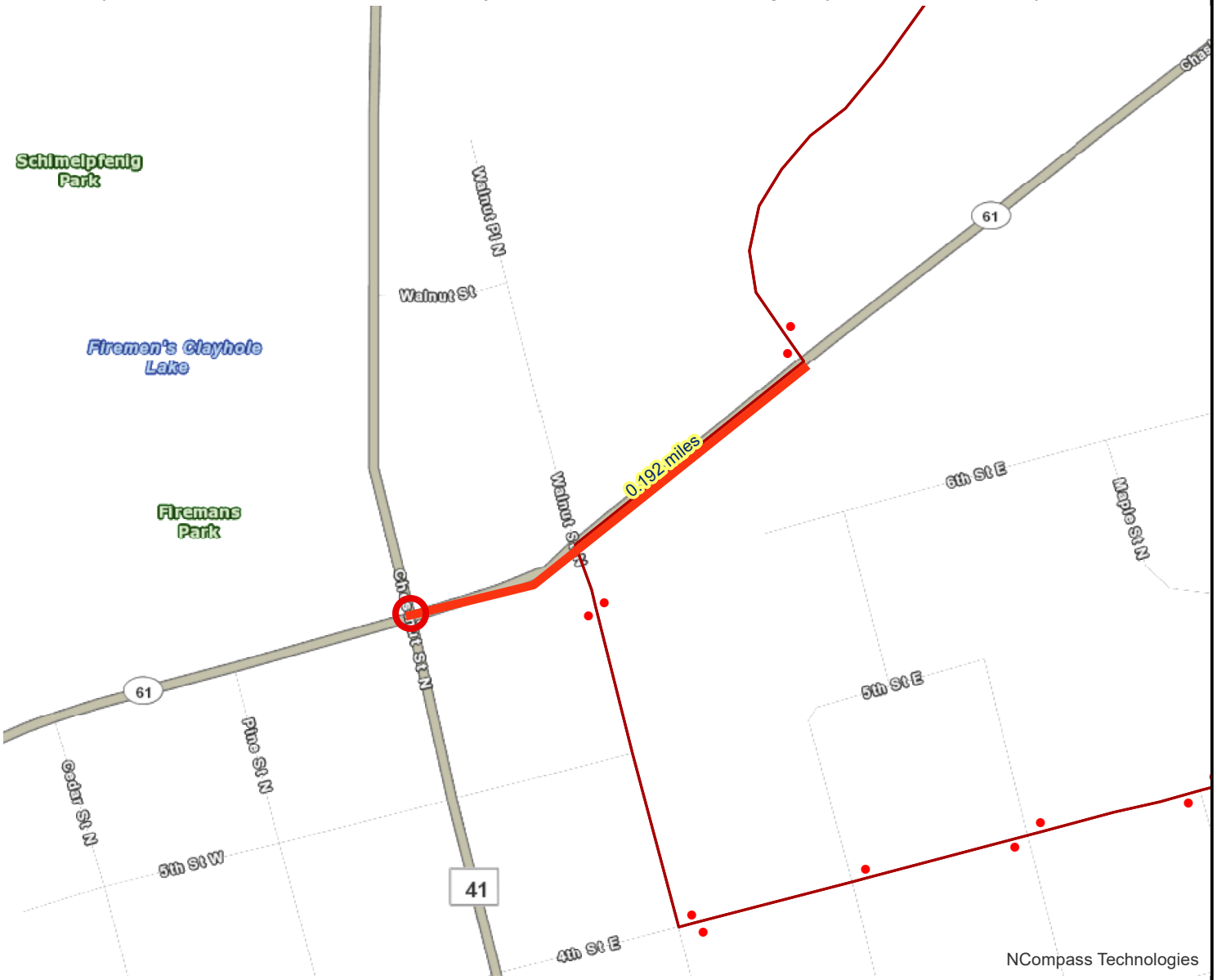
Created: 7/5/2018
LandscapeRSA3

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

METROPOLITAN COUNCIL

Transit Connections

Roadway Reconstruction/Modernization Project: Downtown Chaska Highway 41 Improvements | Map ID: 153082584



Results

Transit with a Direct Connection to project:
691 699

**indicates Planned Alignments*

Project Points
Active Stop
Project
Transit Routes

0 0.0375 0.075 0.15 0.225 0.3
Miles

Created: 7/5/2018
LandscapeRSA3

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

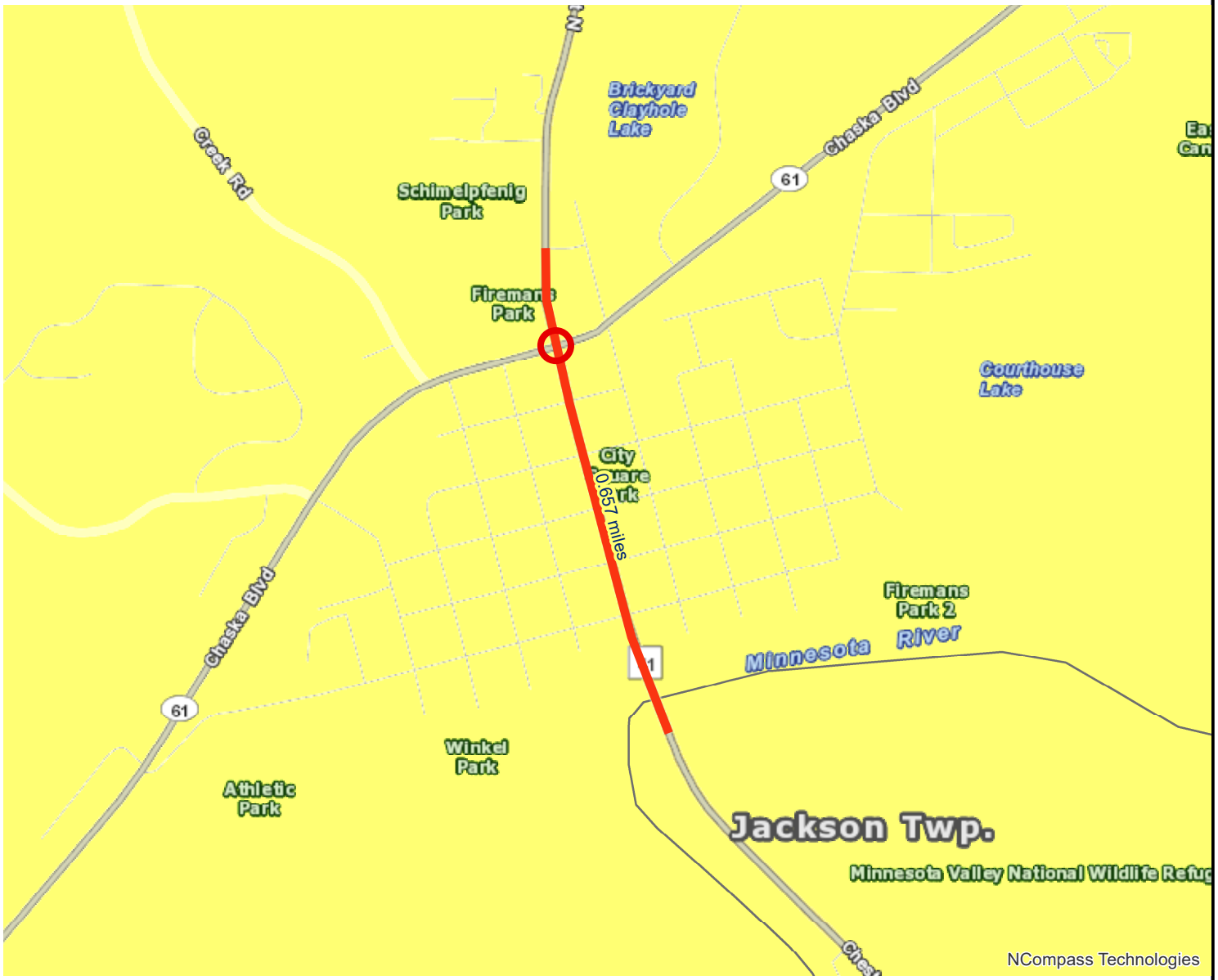
METROPOLITAN COUNCIL

Socio-Economic Conditions

Roadway Reconstruction/Modernization Project: Downtown Chaska Highway 41 Improvements | Map ID: 1530825407461

Results

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



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

0 0.125 0.25 0.5 0.75 1 Miles

Created: 7/5/2018
LandscapeRSA2

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

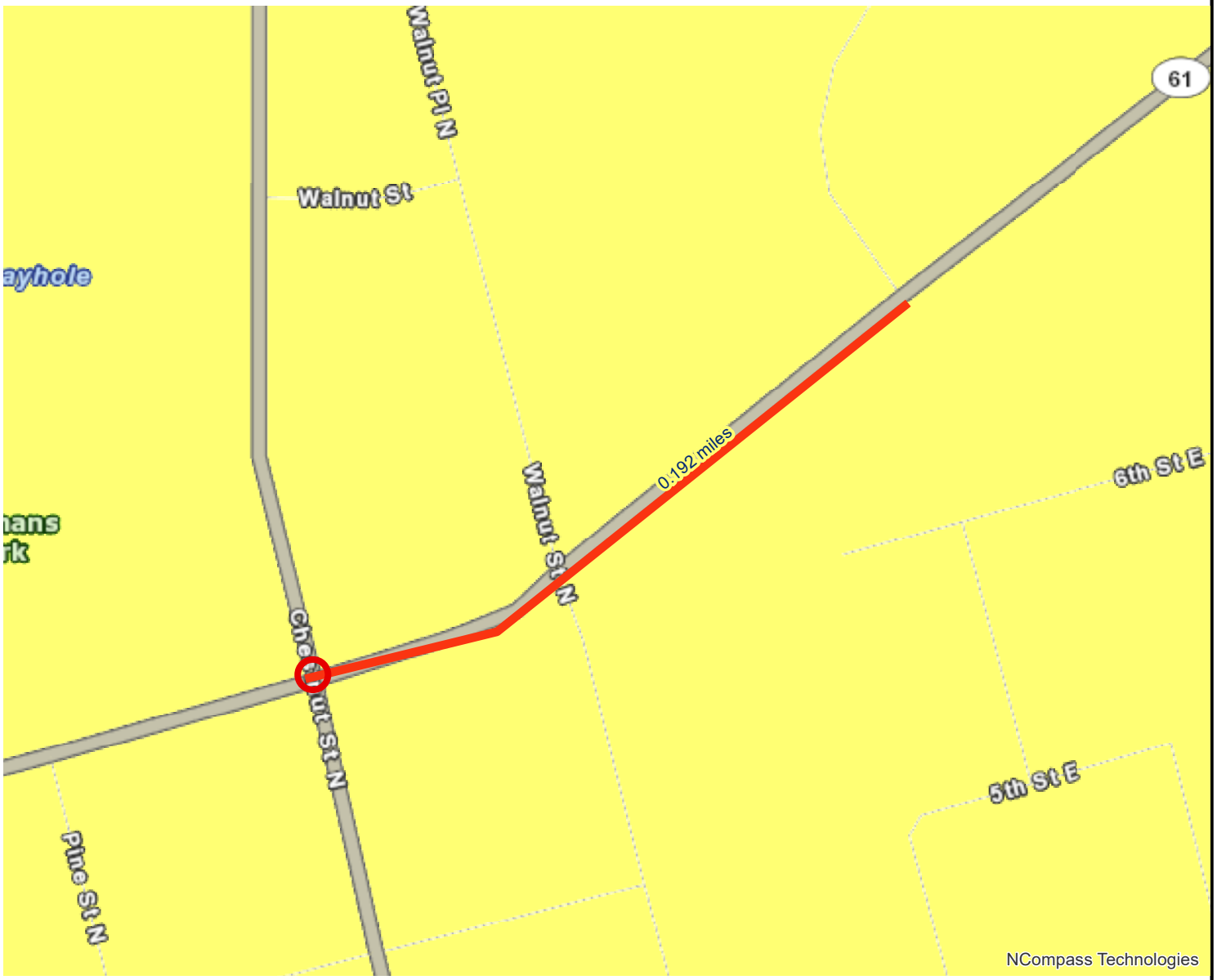
METROPOLITAN COUNCIL

Socio-Economic Conditions

Roadway Reconstruction/Modernization Project: Downtown Chaska Highway 41 Improvements | Map ID: 1530825846802

Results

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



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

0 0.025 0.05 0.1 0.15 0.2 Miles

Created: 7/5/2018
LandscapeRSA2

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

METROPOLITAN COUNCIL

4: CSAH 61 & Creek Rd

Direction	All
Future Volume (vph)	1193
Total Delay / Veh (s/v)	1
CO Emissions (kg)	0.24
NOx Emissions (kg)	0.05
VOC Emissions (kg)	0.05

5: N Cedar St/Parking Lot & CSAH 61

Direction	All
Future Volume (vph)	1204
Total Delay / Veh (s/v)	0
CO Emissions (kg)	0.24
NOx Emissions (kg)	0.05
VOC Emissions (kg)	0.06

6: N Pine St/Parking Lot & CSAH 61

Direction	All
Future Volume (vph)	1379
Total Delay / Veh (s/v)	2
CO Emissions (kg)	0.44
NOx Emissions (kg)	0.09
VOC Emissions (kg)	0.10

7: TH 41 & CSAH 61

Direction	All
Future Volume (vph)	2907
Total Delay / Veh (s/v)	25
CO Emissions (kg)	2.94
NOx Emissions (kg)	0.57
VOC Emissions (kg)	0.68

8: N Walnut St & CSAH 61

Direction	All
Future Volume (vph)	1142
Total Delay / Veh (s/v)	10
CO Emissions (kg)	0.70
NOx Emissions (kg)	0.14
VOC Emissions (kg)	0.16

16: TH 41 & 1st Street

Direction	All
Future Volume (vph)	1769
Total Delay / Veh (s/v)	0
CO Emissions (kg)	0.67
NOx Emissions (kg)	0.13
VOC Emissions (kg)	0.16

17: TH 41 & 2nd Street

Direction	All
Future Volume (vph)	1861
Total Delay / Veh (s/v)	10
CO Emissions (kg)	0.94
NOx Emissions (kg)	0.18
VOC Emissions (kg)	0.22

18: TH 41 & 3rd Street

Direction	All
Future Volume (vph)	1829
Total Delay / Veh (s/v)	0
CO Emissions (kg)	0.41
NOx Emissions (kg)	0.08
VOC Emissions (kg)	0.10

19: TH 41 & 4th Street

Direction	All
Future Volume (vph)	1929
Total Delay / Veh (s/v)	8
CO Emissions (kg)	0.90
NOx Emissions (kg)	0.18
VOC Emissions (kg)	0.21

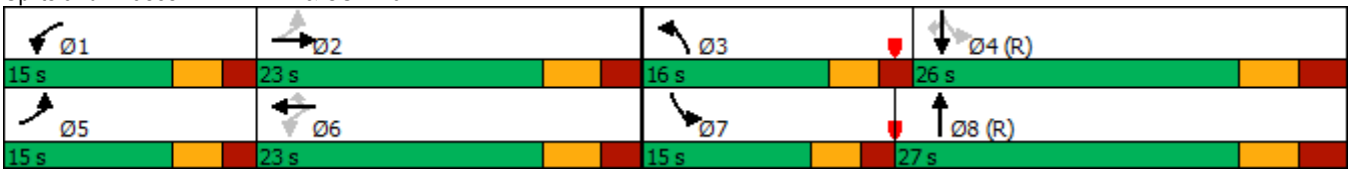
20: TH 41 & 5th Street

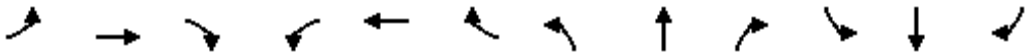
Direction	All
Future Volume (vph)	1934
Total Delay / Veh (s/v)	0
CO Emissions (kg)	0.42
NOx Emissions (kg)	0.08
VOC Emissions (kg)	0.10

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Configurations										
Traffic Volume (vph)	201	192	191	318	58	336	568	56	610	154
Future Volume (vph)	201	192	191	318	58	336	568	56	610	154
Turn Type	pm+pt	NA	pm+pt	NA	Perm	Prot	NA	pm+pt	NA	Perm
Protected Phases	5	2	1	6		3	8	7	4	
Permitted Phases	2		6		6			4		4
Detector Phase	5	2	1	6	6	3	8	7	4	4
Switch Phase										
Minimum Initial (s)	7.0	15.0	7.0	15.0	15.0	7.0	15.0	7.0	15.0	15.0
Minimum Split (s)	15.0	23.0	15.0	23.0	23.0	15.0	23.0	15.0	23.0	23.0
Total Split (s)	15.0	23.0	15.0	23.0	23.0	16.0	27.0	15.0	26.0	26.0
Total Split (%)	18.8%	28.8%	18.8%	28.8%	28.8%	20.0%	33.8%	18.8%	32.5%	32.5%
Yellow Time (s)	3.0	3.5	3.0	3.5	3.5	3.0	3.5	3.0	3.5	3.5
All-Red Time (s)	2.0	2.5	2.0	2.5	2.5	2.0	3.0	2.0	3.0	3.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	5.0	6.0	6.0	5.0	6.5	5.0	6.5	6.5
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lag
Lead-Lag Optimize?										
Recall Mode	None	None	None	None	None	None	C-Max	None	C-Max	C-Max
Act Effct Green (s)	25.7	15.4	25.6	15.4	15.4	12.1	30.5	29.4	20.8	20.8
Actuated g/C Ratio	0.32	0.19	0.32	0.19	0.19	0.15	0.38	0.37	0.26	0.26
v/c Ratio	0.54	0.46	0.51	0.51	0.14	0.70	0.54	0.17	0.72	0.30
Control Delay	23.0	19.0	18.1	27.9	2.2	37.5	21.0	13.3	33.0	5.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	23.0	19.0	18.1	27.9	2.2	37.5	21.0	13.3	33.0	5.0
LOS	C	B	B	C	A	D	C	B	C	A
Approach Delay		20.5		22.0			26.6		26.4	
Approach LOS		C		C			C		C	

Intersection Summary	
Cycle Length: 80	
Actuated Cycle Length: 80	
Offset: 56 (70%), Referenced to phase 4:SBTL and 8:NBT, Start of 1st Green	
Natural Cycle: 80	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.72	
Intersection Signal Delay: 24.5	Intersection LOS: C
Intersection Capacity Utilization 68.8%	ICU Level of Service C
Analysis Period (min) 15	

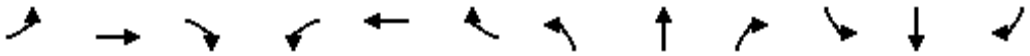
Splits and Phases: 7: TH 41 & CSAH 61





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
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)		24			24			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1	1	2		1	2	1
Detector Template												Right
Leading Detector (ft)	11	186		11	186	6	25	186		25	186	20
Trailing Detector (ft)	5	10		5	10	0	5	0		5	0	0
Detector 1 Position(ft)	5	10		5	10	0	5	0		5	0	0
Detector 1 Size(ft)	6	6		6	6	6	20	26		20	11	20
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 2 Position(ft)		180			180			180			180	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

Intersection Summary



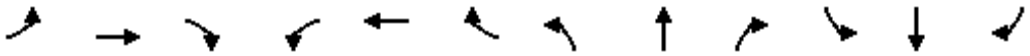
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Enter Blocked Intersection	No	No	No	No	No	No	No	Yes	No	No	Yes	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9

Intersection Summary

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations										
Traffic Volume (vph)	20	6	49	10	40	828	9	31	795	32
Future Volume (vph)	20	6	49	10	40	828	9	31	795	32
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	Perm	NA	Perm
Protected Phases		4		8		2			6	
Permitted Phases	4		8		2		2	6		6
Detector Phase	4	4	8	8	2	2	2	6	6	6
Switch Phase										
Minimum Initial (s)	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0
Minimum Split (s)	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5
Total Split (s)	30.5	30.5	30.5	30.5	49.5	49.5	49.5	49.5	49.5	49.5
Total Split (%)	38.1%	38.1%	38.1%	38.1%	61.9%	61.9%	61.9%	61.9%	61.9%	61.9%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag										
Lead-Lag Optimize?										
Recall Mode	None	None	None	None	C-Max	C-Max	C-Max	C-Max	C-Max	C-Max
Act Effct Green (s)	11.9	11.9	11.9	11.9	61.7	61.7	61.7	61.7	61.7	61.7
Actuated g/C Ratio	0.15	0.15	0.15	0.15	0.77	0.77	0.77	0.77	0.77	0.77
v/c Ratio	0.11	0.08	0.27	0.17	0.12	0.66	0.01	0.10	0.63	0.03
Control Delay	27.2	16.2	31.0	13.2	6.3	11.3	1.1	5.6	7.8	2.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	27.2	16.2	31.0	13.2	6.3	11.3	1.1	5.6	7.8	2.9
LOS	C	B	C	B	A	B	A	A	A	A
Approach Delay		22.1		22.9		11.0			7.5	
Approach LOS		C		C		B			A	

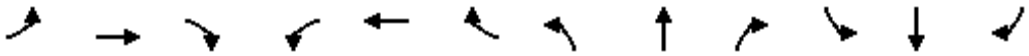
Intersection Summary	
Cycle Length: 80	
Actuated Cycle Length: 80	
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of 1st Green	
Natural Cycle: 80	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.66	
Intersection Signal Delay: 10.2	Intersection LOS: B
Intersection Capacity Utilization 61.3%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 17: TH 41 & 2nd Street



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2	1	1	2	1
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100		20	100		20	100	20	20	100	20
Trailing Detector (ft)	0	0		0	0		0	0	0	0	0	0
Detector 1 Position(ft)	0	0		0	0		0	0	0	0	0	0
Detector 1 Size(ft)	20	6		20	6		20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

Intersection Summary



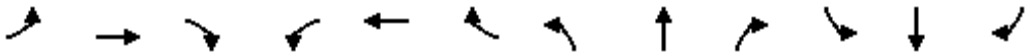
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Enter Blocked Intersection	No	No	No	No	No	No	No	Yes	No	No	Yes	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9

Intersection Summary

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations										
Traffic Volume (vph)	35	40	65	35	15	770	20	40	780	35
Future Volume (vph)	35	40	65	35	15	770	20	40	780	35
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	Perm	NA	Perm
Protected Phases		8		4		6			2	
Permitted Phases	8		4		6		6	2		2
Detector Phase	8	8	4	4	6	6	6	2	2	2
Switch Phase										
Minimum Initial (s)	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0
Minimum Split (s)	18.0	18.0	18.0	18.0	28.0	28.0	28.0	28.0	28.0	28.0
Total Split (s)	18.0	18.0	18.0	18.0	62.0	62.0	62.0	62.0	62.0	62.0
Total Split (%)	22.5%	22.5%	22.5%	22.5%	77.5%	77.5%	77.5%	77.5%	77.5%	77.5%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5
Lead/Lag										
Lead-Lag Optimize?										
Recall Mode	None	None	None	None	C-Max	C-Max	C-Max	C-Max	C-Max	C-Max
Act Effct Green (s)	9.9	9.9	9.9	9.9	62.9	62.9	62.9	62.9	62.9	62.9
Actuated g/C Ratio	0.12	0.12	0.12	0.12	0.79	0.79	0.79	0.79	0.79	0.79
v/c Ratio	0.26	0.26	0.45	0.46	0.04	0.60	0.02	0.11	0.61	0.03
Control Delay	35.3	27.1	41.2	17.8	3.9	5.1	1.4	0.9	5.5	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	35.3	27.1	41.2	17.8	3.9	5.1	1.4	0.9	5.5	0.0
LOS	D	C	D	B	A	A	A	A	A	A
Approach Delay		30.3		26.3		5.0			5.1	
Approach LOS		C		C		A			A	

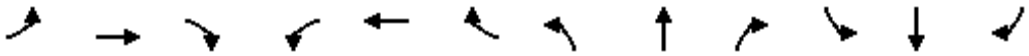
Intersection Summary	
Cycle Length: 80	
Actuated Cycle Length: 80	
Offset: 74 (93%), Referenced to phase 2:SBTL and 6:NBTL, Start of 1st Green	
Natural Cycle: 60	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.61	
Intersection Signal Delay: 8.2	Intersection LOS: A
Intersection Capacity Utilization 60.5%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 19: TH 41 & 4th Street



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1		1	1		1	2	1	1	2	1
Detector Template	Left			Left			Left		Right	Left		Right
Leading Detector (ft)	20	21		20	21		20	176	20	20	176	20
Trailing Detector (ft)	0	0		0	0		0	10	0	0	10	0
Detector 1 Position(ft)	0	0		0	0		0	10	0	0	10	0
Detector 1 Size(ft)	20	21		20	21		20	21	20	20	21	20
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)								170			170	
Detector 2 Size(ft)								6			6	
Detector 2 Type								Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)								0.0			0.0	

Intersection Summary



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Enter Blocked Intersection	No	No	No	No	No	No	No	Yes	No	No	Yes	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9

Intersection Summary

4: CSAH 61 & Creek Rd

Direction	All
Future Volume (vph)	1193
Total Delay / Veh (s/v)	1
CO Emissions (kg)	0.24
NOx Emissions (kg)	0.05
VOC Emissions (kg)	0.05

5: N Cedar St/Parking Lot & CSAH 61

Direction	All
Future Volume (vph)	1204
Total Delay / Veh (s/v)	0
CO Emissions (kg)	0.24
NOx Emissions (kg)	0.05
VOC Emissions (kg)	0.06

6: N Pine St/Parking Lot & CSAH 61

Direction	All
Future Volume (vph)	1379
Total Delay / Veh (s/v)	2
CO Emissions (kg)	0.44
NOx Emissions (kg)	0.09
VOC Emissions (kg)	0.10

7: TH 41 & CSAH 61

Direction	All
Future Volume (vph)	2907
Total Delay / Veh (s/v)	33
CO Emissions (kg)	3.22
NOx Emissions (kg)	0.63
VOC Emissions (kg)	0.75

8: N Walnut St & CSAH 61

Direction	All
Future Volume (vph)	1142
Total Delay / Veh (s/v)	17
CO Emissions (kg)	0.91
NOx Emissions (kg)	0.18
VOC Emissions (kg)	0.21

16: TH 41 & 1st Street

Direction	All
Future Volume (vph)	1770
Total Delay / Veh (s/v)	0
CO Emissions (kg)	0.67
NOx Emissions (kg)	0.13
VOC Emissions (kg)	0.15

17: TH 41 & 2nd Street

Direction	All
Future Volume (vph)	1862
Total Delay / Veh (s/v)	7
CO Emissions (kg)	0.75
NOx Emissions (kg)	0.15
VOC Emissions (kg)	0.17

18: TH 41 & 3rd Street

Direction	All
Future Volume (vph)	1829
Total Delay / Veh (s/v)	0
CO Emissions (kg)	0.41
NOx Emissions (kg)	0.08
VOC Emissions (kg)	0.09

19: TH 41 & 4th Street

Direction	All
Future Volume (vph)	1929
Total Delay / Veh (s/v)	11
CO Emissions (kg)	0.93
NOx Emissions (kg)	0.18
VOC Emissions (kg)	0.22

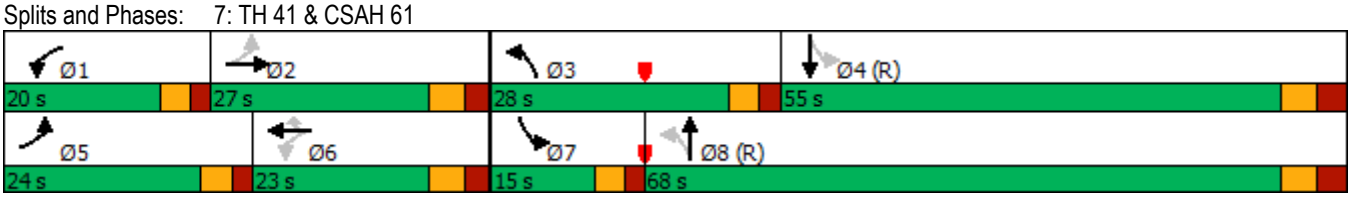
20: TH 41 & 5th Street

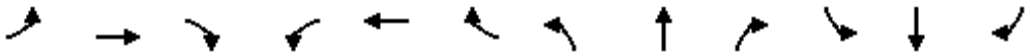
Direction	All
Future Volume (vph)	1934
Total Delay / Veh (s/v)	0
CO Emissions (kg)	0.42
NOx Emissions (kg)	0.08
VOC Emissions (kg)	0.10

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	201	192	191	318	58	336	568	56	610
Future Volume (vph)	201	192	191	318	58	336	568	56	610
Turn Type	pm+pt	NA	pm+pt	NA	Perm	pm+pt	NA	pm+pt	NA
Protected Phases	5	2	1	6		3	8	7	4
Permitted Phases	2		6		6	8		4	
Detector Phase	5	2	1	6	6	3	8	7	4
Switch Phase									
Minimum Initial (s)	7.0	15.0	7.0	15.0	15.0	7.0	15.0	7.0	15.0
Minimum Split (s)	15.0	23.0	15.0	23.0	23.0	15.0	23.0	15.0	23.0
Total Split (s)	24.0	27.0	20.0	23.0	23.0	28.0	68.0	15.0	55.0
Total Split (%)	18.5%	20.8%	15.4%	17.7%	17.7%	21.5%	52.3%	11.5%	42.3%
Yellow Time (s)	3.0	3.5	3.0	3.5	3.5	3.0	3.5	3.0	3.5
All-Red Time (s)	2.0	2.5	2.0	2.5	2.5	2.0	3.0	2.0	3.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	5.0	6.0	6.0	5.0	6.5	5.0	6.5
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?									
Recall Mode	None	None	None	None	None	None	C-Max	None	C-Max
Act Effct Green (s)	35.7	18.5	31.1	16.2	16.2	81.6	70.3	65.0	56.3
Actuated g/C Ratio	0.27	0.14	0.24	0.12	0.12	0.63	0.54	0.50	0.43
v/c Ratio	0.71	0.61	0.70	0.78	0.19	0.78	0.38	0.14	0.55
Control Delay	50.2	39.9	45.4	63.2	6.5	34.8	15.3	12.7	29.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	50.2	39.9	45.4	63.2	6.5	34.8	15.3	12.7	29.6
LOS	D	D	D	E	A	C	B	B	C
Approach Delay		43.9		51.4			21.8		28.5
Approach LOS		D		D			C		C

Intersection Summary	
Cycle Length: 130	
Actuated Cycle Length: 130	
Offset: 0 (0%), Referenced to phase 4:SBTL and 8:NBTL, Start of 1st Green	
Natural Cycle: 90	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.78	
Intersection Signal Delay: 33.4	Intersection LOS: C
Intersection Capacity Utilization 82.8%	ICU Level of Service E
Analysis Period (min) 15	

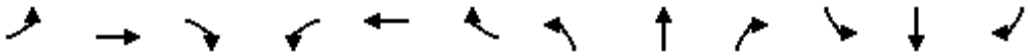
Splits and Phases: 7: TH 41 & CSAH 61





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1	1	2		1	2	
Detector Template												
Leading Detector (ft)	11	186		11	186	6	25	186		25	186	
Trailing Detector (ft)	5	10		5	10	0	5	0		5	0	
Detector 1 Position(ft)	5	10		5	10	0	5	0		5	0	
Detector 1 Size(ft)	6	6		6	6	6	20	26		20	11	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		180			180			180			180	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

Intersection Summary



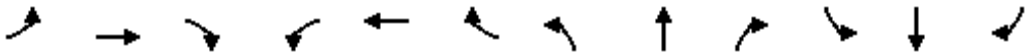
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			6	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9

Intersection Summary

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	20	6	49	10	40	828	31	795
Future Volume (vph)	20	6	49	10	40	828	31	795
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	NA
Protected Phases		4		8		2		6
Permitted Phases	4		8		2		6	
Detector Phase	4	4	8	8	2	2	6	6
Switch Phase								
Minimum Initial (s)	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0
Minimum Split (s)	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5
Total Split (s)	34.0	34.0	34.0	34.0	96.0	96.0	96.0	96.0
Total Split (%)	26.2%	26.2%	26.2%	26.2%	73.8%	73.8%	73.8%	73.8%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
Lost Time Adjust (s)		0.0		0.0		0.0		0.0
Total Lost Time (s)		5.0		5.0		5.0		5.0
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	None	None	None	None	C-Max	C-Max	C-Max	C-Max
Act Effct Green (s)		14.3		14.3		105.7		105.7
Actuated g/C Ratio		0.11		0.11		0.81		0.81
v/c Ratio		0.25		0.56		0.41		0.39
Control Delay		41.7		55.6		4.5		2.4
Queue Delay		0.0		0.0		0.0		0.0
Total Delay		41.7		55.6		4.5		2.4
LOS		D		E		A		A
Approach Delay		41.7		55.6		4.5		2.4
Approach LOS		D		E		A		A

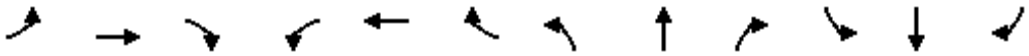
Intersection Summary	
Cycle Length: 130	
Actuated Cycle Length: 130	
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of 1st Green	
Natural Cycle: 65	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.56	
Intersection Signal Delay: 6.7	Intersection LOS: A
Intersection Capacity Utilization 67.4%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 17: TH 41 & 2nd Street



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
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			6			6	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

Intersection Summary



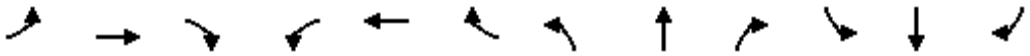
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			6			6	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9

Intersection Summary

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	35	40	65	35	80	15	770	40	780
Future Volume (vph)	35	40	65	35	80	15	770	40	780
Turn Type	Perm	NA	Perm	NA	Perm	Perm	NA	Perm	NA
Protected Phases		8		4			6		2
Permitted Phases	8		4		4	6		2	
Detector Phase	8	8	4	4	4	6	6	2	2
Switch Phase									
Minimum Initial (s)	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0
Minimum Split (s)	18.0	18.0	18.0	18.0	18.0	28.0	28.0	28.0	28.0
Total Split (s)	34.0	34.0	34.0	34.0	34.0	96.0	96.0	96.0	96.0
Total Split (%)	26.2%	26.2%	26.2%	26.2%	26.2%	73.8%	73.8%	73.8%	73.8%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
Lost Time Adjust (s)		0.0		0.0	0.0		0.0		0.0
Total Lost Time (s)		5.5		5.5	5.5		5.5		5.5
Lead/Lag									
Lead-Lag Optimize?									
Recall Mode	None	None	None	None	None	C-Max	C-Max	C-Max	C-Max
Act Effct Green (s)		16.0		16.0	16.0		103.0		103.0
Actuated g/C Ratio		0.12		0.12	0.12		0.79		0.79
v/c Ratio		0.60		0.71	0.33		0.35		0.41
Control Delay		64.0		78.5	13.0		3.5		5.2
Queue Delay		0.0		0.0	0.0		0.0		0.0
Total Delay		64.0		78.5	13.0		3.5		5.2
LOS		E		E	B		A		A
Approach Delay		64.0		49.4			3.5		5.2
Approach LOS		E		D			A		A

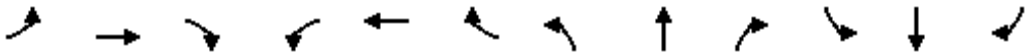
Intersection Summary	
Cycle Length: 130	
Actuated Cycle Length: 130	
Offset: 0 (0%), Referenced to phase 2:SBTL and 6:NBTL, Start of 1st Green	
Natural Cycle: 50	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.71	
Intersection Signal Delay: 11.3	Intersection LOS: B
Intersection Capacity Utilization 71.6%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 19: TH 41 & 4th Street



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
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			6			6	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1		1	1	1	1	2		1	2	
Detector Template	Left			Left			Left			Left		
Leading Detector (ft)	20	21		20	21	21	20	176		20	176	
Trailing Detector (ft)	0	0		0	0	0	0	10		0	10	
Detector 1 Position(ft)	0	0		0	0	0	0	10		0	10	
Detector 1 Size(ft)	20	21		20	21	21	20	21		20	21	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(ft)								170			170	
Detector 2 Size(ft)								6			6	
Detector 2 Type								Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)								0.0			0.0	

Intersection Summary



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9

Intersection Summary

4: CSAH 61 & Creek Rd

Direction	All
Future Volume (vph)	1193
Total Delay / Veh (s/v)	1
CO Emissions (kg)	0.24
NOx Emissions (kg)	0.05
VOC Emissions (kg)	0.05

5: N Cedar St/Parking Lot & CSAH 61

Direction	All
Future Volume (vph)	1204
Total Delay / Veh (s/v)	0
CO Emissions (kg)	0.24
NOx Emissions (kg)	0.05
VOC Emissions (kg)	0.06

6: N Pine St/Parking Lot & CSAH 61

Direction	All
Future Volume (vph)	1379
Total Delay / Veh (s/v)	2
CO Emissions (kg)	0.44
NOx Emissions (kg)	0.09
VOC Emissions (kg)	0.10

7: TH 41 & CSAH 61

Direction	All
Future Volume (vph)	2907
Total Delay / Veh (s/v)	25
CO Emissions (kg)	2.94
NOx Emissions (kg)	0.57
VOC Emissions (kg)	0.68

8: N Walnut St & CSAH 61

Direction	All
Future Volume (vph)	1142
Total Delay / Veh (s/v)	10
CO Emissions (kg)	0.70
NOx Emissions (kg)	0.14
VOC Emissions (kg)	0.16

16: TH 41 & 1st Street

Direction	All
Future Volume (vph)	1769
Total Delay / Veh (s/v)	0
CO Emissions (kg)	0.67
NOx Emissions (kg)	0.13
VOC Emissions (kg)	0.16

17: TH 41 & 2nd Street

Direction	All
Future Volume (vph)	1861
Total Delay / Veh (s/v)	10
CO Emissions (kg)	0.94
NOx Emissions (kg)	0.18
VOC Emissions (kg)	0.22

18: TH 41 & 3rd Street

Direction	All
Future Volume (vph)	1829
Total Delay / Veh (s/v)	0
CO Emissions (kg)	0.41
NOx Emissions (kg)	0.08
VOC Emissions (kg)	0.10

19: TH 41 & 4th Street

Direction	All
Future Volume (vph)	1929
Total Delay / Veh (s/v)	8
CO Emissions (kg)	0.90
NOx Emissions (kg)	0.18
VOC Emissions (kg)	0.21

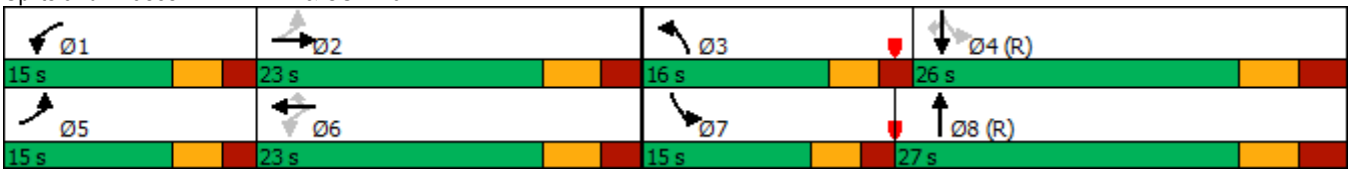
20: TH 41 & 5th Street

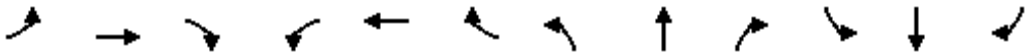
Direction	All
Future Volume (vph)	1934
Total Delay / Veh (s/v)	0
CO Emissions (kg)	0.42
NOx Emissions (kg)	0.08
VOC Emissions (kg)	0.10

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Configurations										
Traffic Volume (vph)	201	192	191	318	58	336	568	56	610	154
Future Volume (vph)	201	192	191	318	58	336	568	56	610	154
Turn Type	pm+pt	NA	pm+pt	NA	Perm	Prot	NA	pm+pt	NA	Perm
Protected Phases	5	2	1	6		3	8	7	4	
Permitted Phases	2		6		6			4		4
Detector Phase	5	2	1	6	6	3	8	7	4	4
Switch Phase										
Minimum Initial (s)	7.0	15.0	7.0	15.0	15.0	7.0	15.0	7.0	15.0	15.0
Minimum Split (s)	15.0	23.0	15.0	23.0	23.0	15.0	23.0	15.0	23.0	23.0
Total Split (s)	15.0	23.0	15.0	23.0	23.0	16.0	27.0	15.0	26.0	26.0
Total Split (%)	18.8%	28.8%	18.8%	28.8%	28.8%	20.0%	33.8%	18.8%	32.5%	32.5%
Yellow Time (s)	3.0	3.5	3.0	3.5	3.5	3.0	3.5	3.0	3.5	3.5
All-Red Time (s)	2.0	2.5	2.0	2.5	2.5	2.0	3.0	2.0	3.0	3.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	5.0	6.0	6.0	5.0	6.5	5.0	6.5	6.5
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lag
Lead-Lag Optimize?										
Recall Mode	None	None	None	None	None	None	C-Max	None	C-Max	C-Max
Act Effct Green (s)	25.7	15.4	25.6	15.4	15.4	12.1	30.5	29.4	20.8	20.8
Actuated g/C Ratio	0.32	0.19	0.32	0.19	0.19	0.15	0.38	0.37	0.26	0.26
v/c Ratio	0.54	0.46	0.51	0.51	0.14	0.70	0.54	0.17	0.72	0.30
Control Delay	23.0	19.0	18.1	27.9	2.2	37.5	21.0	13.3	33.0	5.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	23.0	19.0	18.1	27.9	2.2	37.5	21.0	13.3	33.0	5.0
LOS	C	B	B	C	A	D	C	B	C	A
Approach Delay		20.5		22.0			26.6		26.4	
Approach LOS		C		C			C		C	

Intersection Summary	
Cycle Length: 80	
Actuated Cycle Length: 80	
Offset: 56 (70%), Referenced to phase 4:SBTL and 8:NBT, Start of 1st Green	
Natural Cycle: 80	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.72	
Intersection Signal Delay: 24.5	Intersection LOS: C
Intersection Capacity Utilization 68.8%	ICU Level of Service C
Analysis Period (min) 15	

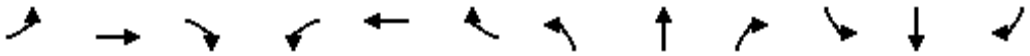
Splits and Phases: 7: TH 41 & CSAH 61





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
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)		24			24			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1	1	2		1	2	1
Detector Template												Right
Leading Detector (ft)	11	186		11	186	6	25	186		25	186	20
Trailing Detector (ft)	5	10		5	10	0	5	0		5	0	0
Detector 1 Position(ft)	5	10		5	10	0	5	0		5	0	0
Detector 1 Size(ft)	6	6		6	6	6	20	26		20	11	20
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 2 Position(ft)		180			180			180			180	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

Intersection Summary



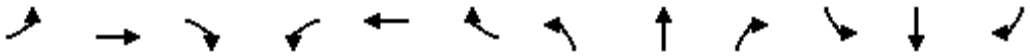
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Enter Blocked Intersection	No	No	No	No	No	No	No	Yes	No	No	Yes	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9

Intersection Summary

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations										
Traffic Volume (vph)	20	6	49	10	40	828	9	31	795	32
Future Volume (vph)	20	6	49	10	40	828	9	31	795	32
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	Perm	NA	Perm
Protected Phases		4		8		2			6	
Permitted Phases	4		8		2		2	6		6
Detector Phase	4	4	8	8	2	2	2	6	6	6
Switch Phase										
Minimum Initial (s)	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0
Minimum Split (s)	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5
Total Split (s)	30.5	30.5	30.5	30.5	49.5	49.5	49.5	49.5	49.5	49.5
Total Split (%)	38.1%	38.1%	38.1%	38.1%	61.9%	61.9%	61.9%	61.9%	61.9%	61.9%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag										
Lead-Lag Optimize?										
Recall Mode	None	None	None	None	C-Max	C-Max	C-Max	C-Max	C-Max	C-Max
Act Effct Green (s)	11.9	11.9	11.9	11.9	61.7	61.7	61.7	61.7	61.7	61.7
Actuated g/C Ratio	0.15	0.15	0.15	0.15	0.77	0.77	0.77	0.77	0.77	0.77
v/c Ratio	0.11	0.08	0.27	0.17	0.12	0.66	0.01	0.10	0.63	0.03
Control Delay	27.2	16.2	31.0	13.2	6.3	11.3	1.1	5.6	7.8	2.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	27.2	16.2	31.0	13.2	6.3	11.3	1.1	5.6	7.8	2.9
LOS	C	B	C	B	A	B	A	A	A	A
Approach Delay		22.1		22.9		11.0			7.5	
Approach LOS		C		C		B			A	

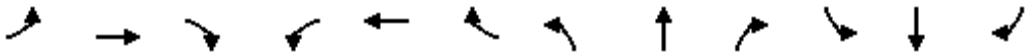
Intersection Summary	
Cycle Length: 80	
Actuated Cycle Length: 80	
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of 1st Green	
Natural Cycle: 80	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.66	
Intersection Signal Delay: 10.2	Intersection LOS: B
Intersection Capacity Utilization 61.3%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 17: TH 41 & 2nd Street



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2	1	1	2	1
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100		20	100		20	100	20	20	100	20
Trailing Detector (ft)	0	0		0	0		0	0	0	0	0	0
Detector 1 Position(ft)	0	0		0	0		0	0	0	0	0	0
Detector 1 Size(ft)	20	6		20	6		20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

Intersection Summary



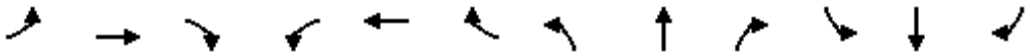
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Enter Blocked Intersection	No	No	No	No	No	No	No	Yes	No	No	Yes	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9

Intersection Summary

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations										
Traffic Volume (vph)	35	40	65	35	15	770	20	40	780	35
Future Volume (vph)	35	40	65	35	15	770	20	40	780	35
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	Perm	NA	Perm
Protected Phases		8		4		6			2	
Permitted Phases	8		4		6		6	2		2
Detector Phase	8	8	4	4	6	6	6	2	2	2
Switch Phase										
Minimum Initial (s)	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0
Minimum Split (s)	18.0	18.0	18.0	18.0	28.0	28.0	28.0	28.0	28.0	28.0
Total Split (s)	18.0	18.0	18.0	18.0	62.0	62.0	62.0	62.0	62.0	62.0
Total Split (%)	22.5%	22.5%	22.5%	22.5%	77.5%	77.5%	77.5%	77.5%	77.5%	77.5%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5
Lead/Lag										
Lead-Lag Optimize?										
Recall Mode	None	None	None	None	C-Max	C-Max	C-Max	C-Max	C-Max	C-Max
Act Effct Green (s)	9.9	9.9	9.9	9.9	62.9	62.9	62.9	62.9	62.9	62.9
Actuated g/C Ratio	0.12	0.12	0.12	0.12	0.79	0.79	0.79	0.79	0.79	0.79
v/c Ratio	0.26	0.26	0.45	0.46	0.04	0.60	0.02	0.11	0.61	0.03
Control Delay	35.3	27.1	41.2	17.8	3.9	5.1	1.4	0.9	5.5	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	35.3	27.1	41.2	17.8	3.9	5.1	1.4	0.9	5.5	0.0
LOS	D	C	D	B	A	A	A	A	A	A
Approach Delay		30.3		26.3		5.0			5.1	
Approach LOS		C		C		A			A	

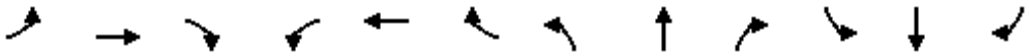
Intersection Summary	
Cycle Length: 80	
Actuated Cycle Length: 80	
Offset: 74 (93%), Referenced to phase 2:SBTL and 6:NBTL, Start of 1st Green	
Natural Cycle: 60	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.61	
Intersection Signal Delay: 8.2	Intersection LOS: A
Intersection Capacity Utilization 60.5%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 19: TH 41 & 4th Street



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1		1	1		1	2	1	1	2	1
Detector Template	Left			Left			Left		Right	Left		Right
Leading Detector (ft)	20	21		20	21		20	176	20	20	176	20
Trailing Detector (ft)	0	0		0	0		0	10	0	0	10	0
Detector 1 Position(ft)	0	0		0	0		0	10	0	0	10	0
Detector 1 Size(ft)	20	21		20	21		20	21	20	20	21	20
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)								170			170	
Detector 2 Size(ft)								6			6	
Detector 2 Type								Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)								0.0			0.0	

Intersection Summary



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Enter Blocked Intersection	No	No	No	No	No	No	No	Yes	No	No	Yes	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9

Intersection Summary

4: CSAH 61 & Creek Rd

Direction	All
Future Volume (vph)	1193
Total Delay / Veh (s/v)	1
CO Emissions (kg)	0.24
NOx Emissions (kg)	0.05
VOC Emissions (kg)	0.05

5: N Cedar St/Parking Lot & CSAH 61

Direction	All
Future Volume (vph)	1204
Total Delay / Veh (s/v)	0
CO Emissions (kg)	0.24
NOx Emissions (kg)	0.05
VOC Emissions (kg)	0.06

6: N Pine St/Parking Lot & CSAH 61

Direction	All
Future Volume (vph)	1379
Total Delay / Veh (s/v)	2
CO Emissions (kg)	0.44
NOx Emissions (kg)	0.09
VOC Emissions (kg)	0.10

7: TH 41 & CSAH 61

Direction	All
Future Volume (vph)	2907
Total Delay / Veh (s/v)	33
CO Emissions (kg)	3.22
NOx Emissions (kg)	0.63
VOC Emissions (kg)	0.75

8: N Walnut St & CSAH 61

Direction	All
Future Volume (vph)	1142
Total Delay / Veh (s/v)	17
CO Emissions (kg)	0.91
NOx Emissions (kg)	0.18
VOC Emissions (kg)	0.21

16: TH 41 & 1st Street

Direction	All
Future Volume (vph)	1770
Total Delay / Veh (s/v)	0
CO Emissions (kg)	0.67
NOx Emissions (kg)	0.13
VOC Emissions (kg)	0.15

17: TH 41 & 2nd Street

Direction	All
Future Volume (vph)	1862
Total Delay / Veh (s/v)	7
CO Emissions (kg)	0.75
NOx Emissions (kg)	0.15
VOC Emissions (kg)	0.17

18: TH 41 & 3rd Street

Direction	All
Future Volume (vph)	1829
Total Delay / Veh (s/v)	0
CO Emissions (kg)	0.41
NOx Emissions (kg)	0.08
VOC Emissions (kg)	0.09

19: TH 41 & 4th Street

Direction	All
Future Volume (vph)	1929
Total Delay / Veh (s/v)	11
CO Emissions (kg)	0.93
NOx Emissions (kg)	0.18
VOC Emissions (kg)	0.22

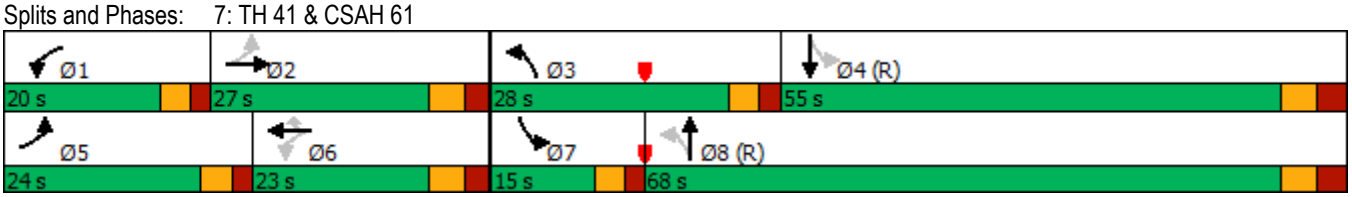
20: TH 41 & 5th Street

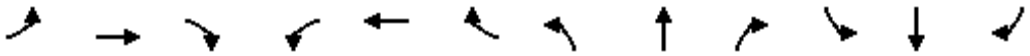
Direction	All
Future Volume (vph)	1934
Total Delay / Veh (s/v)	0
CO Emissions (kg)	0.42
NOx Emissions (kg)	0.08
VOC Emissions (kg)	0.10

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	201	192	191	318	58	336	568	56	610
Future Volume (vph)	201	192	191	318	58	336	568	56	610
Turn Type	pm+pt	NA	pm+pt	NA	Perm	pm+pt	NA	pm+pt	NA
Protected Phases	5	2	1	6		3	8	7	4
Permitted Phases	2		6		6	8		4	
Detector Phase	5	2	1	6	6	3	8	7	4
Switch Phase									
Minimum Initial (s)	7.0	15.0	7.0	15.0	15.0	7.0	15.0	7.0	15.0
Minimum Split (s)	15.0	23.0	15.0	23.0	23.0	15.0	23.0	15.0	23.0
Total Split (s)	24.0	27.0	20.0	23.0	23.0	28.0	68.0	15.0	55.0
Total Split (%)	18.5%	20.8%	15.4%	17.7%	17.7%	21.5%	52.3%	11.5%	42.3%
Yellow Time (s)	3.0	3.5	3.0	3.5	3.5	3.0	3.5	3.0	3.5
All-Red Time (s)	2.0	2.5	2.0	2.5	2.5	2.0	3.0	2.0	3.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	5.0	6.0	6.0	5.0	6.5	5.0	6.5
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?									
Recall Mode	None	None	None	None	None	None	C-Max	None	C-Max
Act Effct Green (s)	35.7	18.5	31.1	16.2	16.2	81.6	70.3	65.0	56.3
Actuated g/C Ratio	0.27	0.14	0.24	0.12	0.12	0.63	0.54	0.50	0.43
v/c Ratio	0.71	0.61	0.70	0.78	0.19	0.78	0.38	0.14	0.55
Control Delay	50.2	39.9	45.4	63.2	6.5	34.8	15.3	12.7	29.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	50.2	39.9	45.4	63.2	6.5	34.8	15.3	12.7	29.6
LOS	D	D	D	E	A	C	B	B	C
Approach Delay		43.9		51.4			21.8		28.5
Approach LOS		D		D			C		C

Intersection Summary	
Cycle Length: 130	
Actuated Cycle Length: 130	
Offset: 0 (0%), Referenced to phase 4:SBTL and 8:NBTL, Start of 1st Green	
Natural Cycle: 90	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.78	
Intersection Signal Delay: 33.4	Intersection LOS: C
Intersection Capacity Utilization 82.8%	ICU Level of Service E
Analysis Period (min) 15	

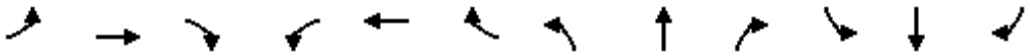
Splits and Phases: 7: TH 41 & CSAH 61





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1	1	2		1	2	
Detector Template												
Leading Detector (ft)	11	186		11	186	6	25	186		25	186	
Trailing Detector (ft)	5	10		5	10	0	5	0		5	0	
Detector 1 Position(ft)	5	10		5	10	0	5	0		5	0	
Detector 1 Size(ft)	6	6		6	6	6	20	26		20	11	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		180			180			180			180	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

Intersection Summary



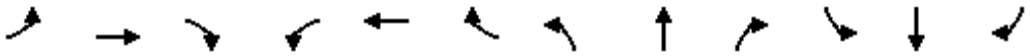
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			6	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9

Intersection Summary

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	20	6	49	10	40	828	31	795
Future Volume (vph)	20	6	49	10	40	828	31	795
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	NA
Protected Phases		4		8		2		6
Permitted Phases	4		8		2		6	
Detector Phase	4	4	8	8	2	2	6	6
Switch Phase								
Minimum Initial (s)	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0
Minimum Split (s)	30.5	30.5	30.5	30.5	30.5	30.5	30.5	30.5
Total Split (s)	34.0	34.0	34.0	34.0	96.0	96.0	96.0	96.0
Total Split (%)	26.2%	26.2%	26.2%	26.2%	73.8%	73.8%	73.8%	73.8%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
Lost Time Adjust (s)		0.0		0.0		0.0		0.0
Total Lost Time (s)		5.0		5.0		5.0		5.0
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	None	None	None	None	C-Max	C-Max	C-Max	C-Max
Act Effct Green (s)		14.3		14.3		105.7		105.7
Actuated g/C Ratio		0.11		0.11		0.81		0.81
v/c Ratio		0.25		0.56		0.41		0.39
Control Delay		41.7		55.6		4.5		2.4
Queue Delay		0.0		0.0		0.0		0.0
Total Delay		41.7		55.6		4.5		2.4
LOS		D		E		A		A
Approach Delay		41.7		55.6		4.5		2.4
Approach LOS		D		E		A		A

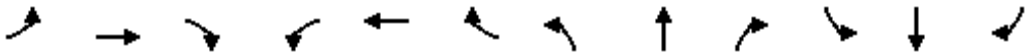
Intersection Summary	
Cycle Length: 130	
Actuated Cycle Length: 130	
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of 1st Green	
Natural Cycle: 65	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.56	
Intersection Signal Delay: 6.7	Intersection LOS: A
Intersection Capacity Utilization 67.4%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 17: TH 41 & 2nd Street



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
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			6			6	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

Intersection Summary



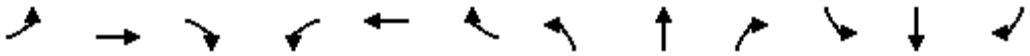
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			6			6	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9

Intersection Summary

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	35	40	65	35	80	15	770	40	780
Future Volume (vph)	35	40	65	35	80	15	770	40	780
Turn Type	Perm	NA	Perm	NA	Perm	Perm	NA	Perm	NA
Protected Phases		8		4			6		2
Permitted Phases	8		4		4	6		2	
Detector Phase	8	8	4	4	4	6	6	2	2
Switch Phase									
Minimum Initial (s)	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0
Minimum Split (s)	18.0	18.0	18.0	18.0	18.0	28.0	28.0	28.0	28.0
Total Split (s)	34.0	34.0	34.0	34.0	34.0	96.0	96.0	96.0	96.0
Total Split (%)	26.2%	26.2%	26.2%	26.2%	26.2%	73.8%	73.8%	73.8%	73.8%
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
Lost Time Adjust (s)		0.0		0.0	0.0		0.0		0.0
Total Lost Time (s)		5.5		5.5	5.5		5.5		5.5
Lead/Lag									
Lead-Lag Optimize?									
Recall Mode	None	None	None	None	None	C-Max	C-Max	C-Max	C-Max
Act Effct Green (s)		16.0		16.0	16.0		103.0		103.0
Actuated g/C Ratio		0.12		0.12	0.12		0.79		0.79
v/c Ratio		0.60		0.71	0.33		0.35		0.41
Control Delay		64.0		78.5	13.0		3.5		5.2
Queue Delay		0.0		0.0	0.0		0.0		0.0
Total Delay		64.0		78.5	13.0		3.5		5.2
LOS		E		E	B		A		A
Approach Delay		64.0		49.4			3.5		5.2
Approach LOS		E		D			A		A

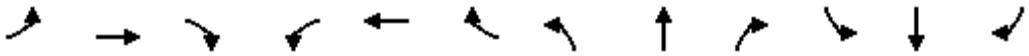
Intersection Summary	
Cycle Length: 130	
Actuated Cycle Length: 130	
Offset: 0 (0%), Referenced to phase 2:SBTL and 6:NBTL, Start of 1st Green	
Natural Cycle: 50	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.71	
Intersection Signal Delay: 11.3	Intersection LOS: B
Intersection Capacity Utilization 71.6%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 19: TH 41 & 4th Street



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
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			6			6	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1		1	1	1	1	2		1	2	
Detector Template	Left			Left			Left			Left		
Leading Detector (ft)	20	21		20	21	21	20	176		20	176	
Trailing Detector (ft)	0	0		0	0	0	0	10		0	10	
Detector 1 Position(ft)	0	0		0	0	0	0	10		0	10	
Detector 1 Size(ft)	20	21		20	21	21	20	21		20	21	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(ft)								170			170	
Detector 2 Size(ft)								6			6	
Detector 2 Type								Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)								0.0			0.0	

Intersection Summary



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9

Intersection Summary

CMF / CRF Details

CMF ID: 199

Road diet (Convert 4-lane undivided road to 2-lanes plus turning lane)

Description:

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

Category: Roadway

Study: ***Crash Reduction Factors for Traffic Engineering and ITS Improvements*****, Harkey et al., 2008**

Star Quality Rating:	★★★★★

Crash Modification Factor (CMF)	
Value:	0.71
Adjusted Standard Error:	0.02
Unadjusted Standard Error:	

Crash Reduction Factor (CRF)	
Value:	29 *(This value indicates a **decrease** in crashes)*
Adjusted Standard Error:	2

Unadjusted Standard Error:	

Applicability

Crash Type:	All
Crash Severity:	All
Roadway Types:	Minor Arterial
Number of Lanes:	4
Road Division Type:	
Speed Limit:	
Area Type:	Urban
Traffic Volume:	
Time of Day:	

If countermeasure is intersection-based

Intersection Type:	
Intersection Geometry:	
Traffic Control:	
Major Road Traffic Volume:	
Minor Road Traffic Volume:	

Development Details

Date Range of Data Used:	
Municipality:	
State:	

Country:	
Type of Methodology Used:	Before/after using empirical Bayes or full Bayes
Sample Size Used:	

Other Details

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

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

The information contained in the Crash Modification Factors (CMF) Clearinghouse is disseminated under the sponsorship of the U.S. Department of Transportation in the interest of information exchange. The U.S. Government assumes no liability for the use of the information contained in the CMF Clearinghouse. The information contained in the CMF Clearinghouse does not constitute a standard, specification, or regulation, nor is it a substitute for sound engineering judgment.

CMF / CRF Details

CMF ID: 3034

Install raised median

Description:

Prior Condition: no raised median

Category: Access management

Study: *Analyzing Raised Median Safety Impacts Using Bayesian Methods*, Schultz et al., 2011

Star Quality Rating:	★★★★☆ [View score details]

Crash Modification Factor (CMF)	
Value:	0.61
Adjusted Standard Error:	
Unadjusted Standard Error:	

Crash Reduction Factor (CRF)	
Value:	39 *(This value indicates a **decrease** in crashes)*
Adjusted Standard Error:	

Unadjusted Standard Error:	

Applicability

Crash Type:	All
Crash Severity:	All
Roadway Types:	Not specified
Number of Lanes:	
Road Division Type:	Divided by Median
Speed Limit:	
Area Type:	
Traffic Volume:	10000 to 55000 *Average Daily Traffic (ADT)*
Time of Day:	All

If countermeasure is intersection-based

Intersection Type:	
Intersection Geometry:	
Traffic Control:	
Major Road Traffic Volume:	
Minor Road Traffic Volume:	

Development Details

Date Range of Data Used:	1998 to 2008
Municipality:	
State:	UT

Country:	USA
Type of Methodology Used:	Before/after using empirical Bayes or full Bayes
Sample Size Used:	Site-years
Before Sample Size Used:	32 Site-years
After Sample Size Used:	28 Site-years

Other Details

Included in Highway Safety Manual?	No
Date Added to Clearinghouse:	Jul-15-2011
Comments:	

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TH 41 / N. CHESTNUT ST.
CHASKA, MN

LAYOUT HISTORY

LAYOUT NOTES

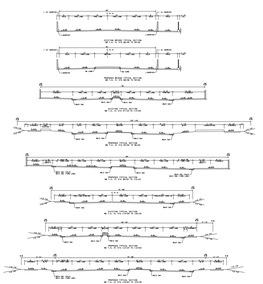
PROJECT LOCATION

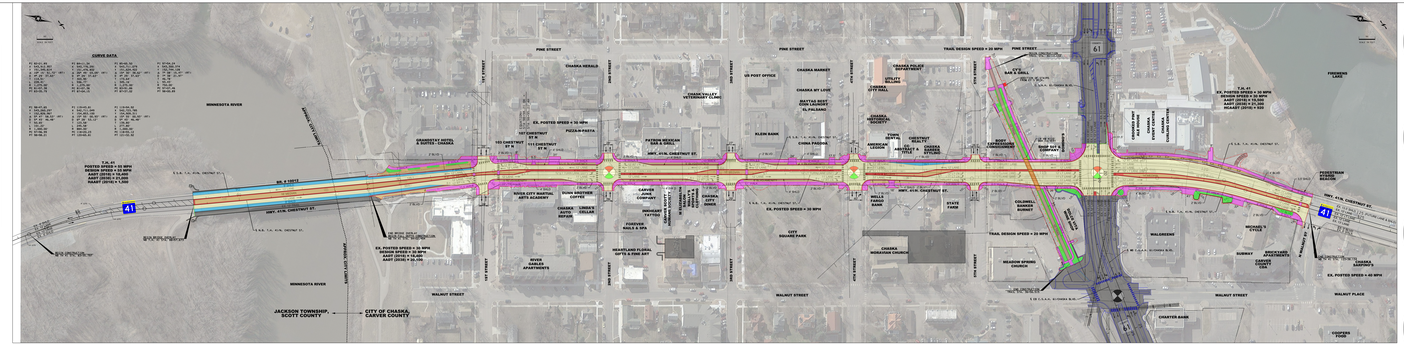
PROJECT LOCATION
CARVER COUNTY

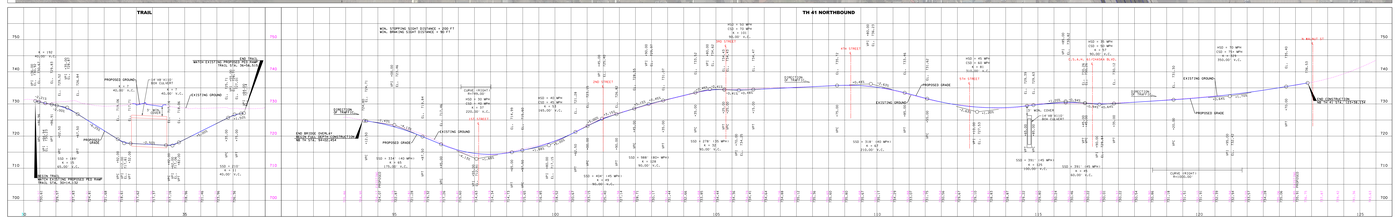
LAYOUT LEGEND
- PROPOSED CURB
- PARKING CONC. / ASPHALT CURB & GUTTER
- PAVED SHOULDERS
- BIKEWAY / SIDEWALK
- RAILS
- TRAILS
- LANDSCAPING/GREEN SPACE
- NON CLIMB
- HUMMP CURB
- RETAINING WALL
- PROPOSED RIGHT OF WAY
- EXISTING RIGHT OF WAY
- EXISTING PROPERTY LINES
- CONSTRUCTION LIMITS
- UTILITY (ST. LINE)
- ENERGY MAIN (GTE)
- ENERGY MAIN (OHP)
- ENERGY CABLE/FIBER (UGE)
- ENERGY STORM SEWER
- ENERGY POWER (UGE/OHE/UGE)
- ENERGY OVERHEAD LINE
- ENERGY CABLE
- ENERGY CONDUCTOR/HELIX (BK)
- WATLAND
- WATLAND MOWED (BK/wh)

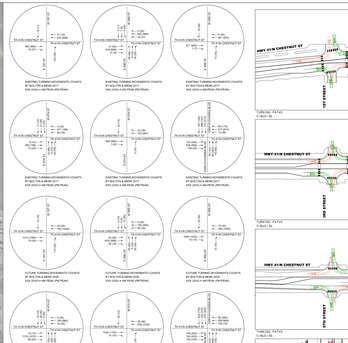
DESIGN EXCEPTIONS
- NO DESIGN EXCEPTIONS NEEDED

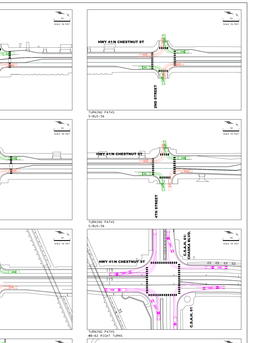
TYPICAL SECTIONS
NOT TO SCALE
ALL SLOPES IN 4:1/3:1











Level 2 LAYOUT APPROVAL

Prepared: 12/7/2012
Reviewed By: 12/7/2012
Reviewed By: 12/7/2012
Approved By: 12/7/2012

NOTE:
THE APPROVAL OF THIS LAYOUT DOES NOT CONSTITUTE APPROVAL OF ANY DESIGN EXCEPTIONS WHICH MAY BE REQUIRED FOR THIS PROJECT. ALL DESIGN EXCEPTIONS MUST BE APPROVED SEPARATELY.

CARVER COUNTY

BOLTON & PENK

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

June 28, 2018

Matt Clark
City Engineer
City of Chaska
One City Hall Plaza
Chaska, MN 55318
City of Chaska
One City Hall Plaza
Chaska, MN 55318

Re: Letter of Support for City of Chaska
Metro Council/Transportation Advisory Board 2018 Regional Solicitation Funding Request for Downtown Chaska Improvements

Dear Mr. Clark,

This letter documents MnDOT Metro District's support for the City of Chaska's funding request to the Metro Council for the 2018 regional solicitation for 2022-23 funding for the Downtown Chaska Improvements project.

As proposed, this project would impact MnDOT right-of-way on TH 41. As the agency with jurisdiction over TH 41, MnDOT will support the City of Chaska and will allow the improvements proposed in the application for the Downtown Chaska Improvements project. Details of a future maintenance agreement with the City of Chaska will need to be determined during project development to define how the improvements will be maintained for the project's useful life.

MnDOT has previously awarded federal freight funding and TED program funding to proposed improvements on this corridor, and Metro District does have other roadway investments planned to occur nearby. I would request that you coordinate project development with MnDOT Area staff so that our agencies can work together to best leverage our respective efforts.

If you have questions or require additional information at this time, please reach out to your Area Manager at Jon.Solberg@state.mn.us or 651-234-7729.

Sincerely,

Scott McBride
Metro District Engineer

CC: Jon Solberg, Metro District South Area Manager
Lynne Bly, Metro Program Director
Dan Erickson, Metro State Aid Engineer

Equal Opportunity Employer

DocuSign Envelope ID: CD8436C0-5FF9-4F0E-883D-94500AF432B4

BOARD OF COUNTY COMMISSIONERS
CARVER COUNTY, MINNESOTA

Date: July 10, 2018 Resolution No: 55-18

Motion by Commissioner: Ische Seconded by Commissioner: Lynch

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RESOLUTION TO SUPPORT THE CITY OF CHASKA'S DOWNTOWN CHASKA HIGHWAY 41 AND 61 RECONSTRUCTION APPLICATION

WHEREAS, the Regional Solicitation Program provides federal transportation funding for projects as part of the Metropolitan Council's federally-required continuing, comprehensive, and cooperative transportation planning process for the 7-County Twin Cities Metropolitan Area; and

WHEREAS, the Metropolitan Council is accepting candidate projects for the Fiscal Years (FY) 2022-2023 and providing up to 80 percent of the project construction cost for roadway projects; and

WHEREAS, the proposed budget for FY 2022 and 2023 is $200 million, and the maximum award available for an individual Roadway Reconstruction/Modernization and Spot Mobility project is $7 million; and

WHEREAS, the City of Chaska is seeking Regional Solicitation funds to reconstruct Highway 41, through Downtown Chaska, from the south side of the Minnesota River Bridge to Walnut Street and on Highway 61 from the Highway 41/61 intersection to Yellow Brick Road; and

WHEREAS, the County supports the proposed improvements on the Highways 41 and 61 and recognizes the local and regional safety and capacity benefits the project will provide for these corridors that serve the vitality of the City of Chaska's Downtown and regional traffic; and

WHEREAS, the Highway 61 segment, from Highway 41 to Yellow Brick Road, is identified in the County's Capital Improvement Plan for construction in 2021, and the County supports the advancement of improvements on Highway 41 and 61 in Chaska as identified in the Highway 41 and 61 Improvement Study; and

WHEREAS, the Board of Commissioners adopted the ½ percent local option sales tax in May 2017, and this project is identified in the implementation plan. The County will assist the City in filling the funding gap for these improvements if the project is successful in this grant and other potential funding sources have been secured; and

NOW THERE FORE BE IT RESOLVED, that Carver County Board of Commissioners, supports the City of Chaska's pursuit of FY 2022-2023 Regional Solicitation funding for TH 41 Reconstruction and Improvement Project in Downtown Chaska.

	YES	ABSENT	NO
Degler			
Ische			
Lynch			
Maluchnik			
Workman			

DocuSign Envelope ID: CD8436C0-5FF9-4F0E-883D-94500AF432B4

STATE OF MINNESOTA
COUNTY OF CARVER

I, Dave Hemze, duly appointed and qualified County Administrator of the County of Carver, State of Minnesota, do hereby certify that I have compared the foregoing copy of this resolution with the original minutes of the proceedings of the Board of County Commissioners, Carver County, Minnesota, at its session held on the 10th day of July, 2018, now on file in the Administration office, and have found the same to be a true and correct copy thereof.

Dated this 10th day of July, 2018.

DocuSigned by:

5A1067562D942D...

Dave Hemze County Administrator

Chaska

July 10, 2018

Metropolitan Council
Transportation Advisory Board
390 Robert St North
St. Paul, MN 55101

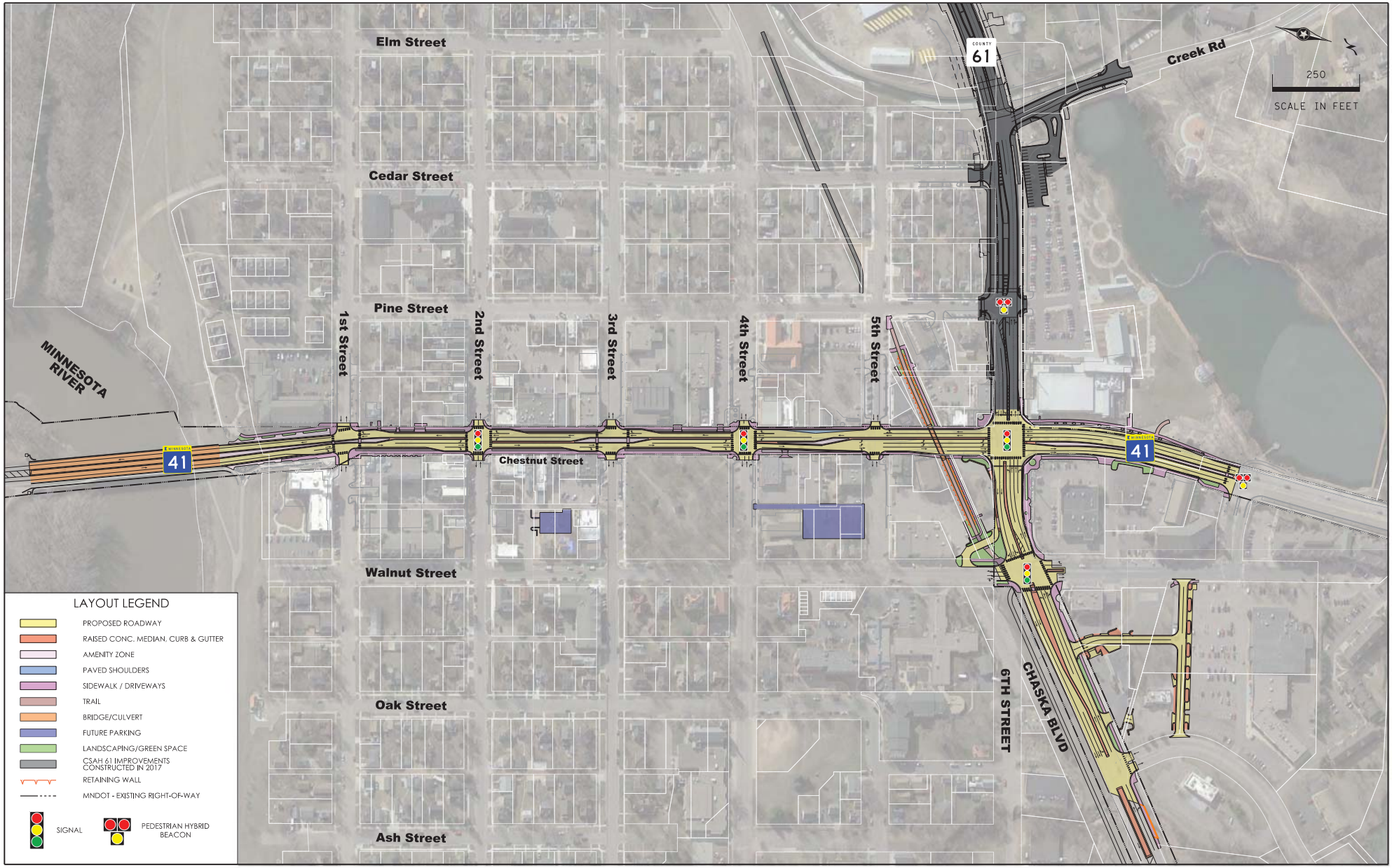
RE: Downtown Chaska Highway 41 Improvements

Dear Members of the Transportation Advisory Board:

The City of Chaska supports the advancement of the Downtown Chaska Highway 41 Improvements project and the associated project layout as presented in this application. The Downtown improvements provide significant safety and mobility benefits for pedestrians, vehicles, and freight through this constrained downtown environment.
The City of Chaska has been working with MnDOT and Carver County for the past three years on the planning for downtown improvements. Through an extensive partnership, the three agencies have developed this vision,completed the study, and completed preliminary design for Downtown Chaska. As such, the City is applying for funding to construct this vision. The City of Chaska will act as the legal sponsor for the Downtown Chaska Highway 41 Improvements project. The project partners have committed to the local match to the federal funds as well as fund the project development and right-of-way costs to ensure delivery in the funded year. With this award, the project will be 100% funded.

Sincerely,

Matt Podhradsky
City Administrator


Elm Street
Cedar Street
Pine Street
Walnut Street
Oak Street
Ash Street
Chestnut Street
1st Street
2nd Street
3rd Street
4th Street
5th Street
6TH STREET
CHASKA BLVD
MINNESOTA RIVER
COUNTY 61
Creek Rd
41
41
250
SCALE IN FEET
LAYOUT LEGEND
PROPOSED ROADWAY
RAISED CONC. MEDIAN, CURB & GUTTER
AMENITY ZONE
PAVED SHOULDERS
SIDEWALK / DRIVEWAYS
TRAIL
BRIDGE/CULVERT
FUTURE PARKING
LANDSCAPING/GREEN SPACE
CSAH 61 IMPROVEMENTS CONSTRUCTED IN 2017
RETAINING WALL
MNDOT - EXISTING RIGHT-OF-WAY
SIGNAL
PEDESTRIAN HYBRID BEACON

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BOARD OF COUNTY COMMISSIONERS
CARVER COUNTY, MINNESOTA

Date: July 10, 2018 Resolution No: 55-18

Motion by Commissioner: Ische Seconded by Commissioner: Lynch

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NOW THERE FORE BE IT RESOLVED, that Carver County Board of Commissioners, supports the City of Chaska's pursuit of FY 2022-2023 Regional Solicitation funding for TH 41 Reconstruction and Improvement Project in Downtown Chaska.

	YES	ABSENT	NO
Degler			
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COUNTY OF CARVER

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Dated this 10th day of July, 2018.

DocuSigned by:

5A1067562D942D...

Dave Hemze County Administrator

Downtown Chaska Highway 41 Improvements

Project Location:

Highway 41 and 61 in
Downtown Chaska

Federal Funds Request:

Federal Amount: **$7,000,000**
Match Amount: $6,180,000
Project Total: $13,180,000
Match Percentage: 47%

Local Investments:

Over $100M in public investment in downtown has been occurring and is still ongoing.

- $30M in downtown infrastructure over the past five years
- $28M in Firemen's Park, Chaska Curling Center, and Event Center
- $20M to redevelop a city block known as City Square West (2020)
- The City, County, State will have a combined investment of $25M in highway and pedestrian improvements in 2022

The Highway 41 corridor provides one of four Minnesota River crossings in the southwestern metro connecting Highway 169, County Highway 61, and Highway 212. Highway 41 is a principal arterial roadway carrying 18,800 vehicles per day through downtown Chaska. 2,250 (12%) of these are heavy commercial vehicles. The highway is an important freight corridor for the region, designated as a Tier Three corridor in the Metropolitan Council's Truck Freight Corridor Study, which connects to County Highway 61 which is also a Tier Three corridor. The majority of truck movements on Highway 41 are a result of the river crossing, regional freight demands, gravel and sand mining, landfill traffic, and seasonal grain deliveries from western Minnesota to the Ports of Savage.

Locally, Highway 41 serves as the "Main Street" for downtown Chaska known as Chestnut Street. The existing facilities are not ADA compliant and unprotected crossing expose pedestrians to large amounts of traffic over long crossing distances. The community feels the four-lane undivided roadway is a dividing barrier. Pedestrian and bike crashes are common in the area, with one fatal pedestrian crash occurring within a 10-year history.

The Downtown improvements will provide significant safety and mobility benefits through this constrained downtown environment. These safety and mobility benefits include the;

- Addition of turning lanes at all public street intersections
- Removal of on-street parking
- Elimination of weaving traffic
- Significant reduction in blocked travel lanes due to turning traffic
- Significant operation improvements at the Highway 61/ 41 intersection
- A more consistent travel speed through Downtown

The City of Chaska has been working with MnDOT and Carver County for the past three years on developing this vision for Downtown Chaska. In the fall of 2017, the project team received the APA Partnerships in Planning Award highlighting the extensive partnership to achieve the vision.


Crash rate is 80% greater than average

High pedestrian activity on the corridor

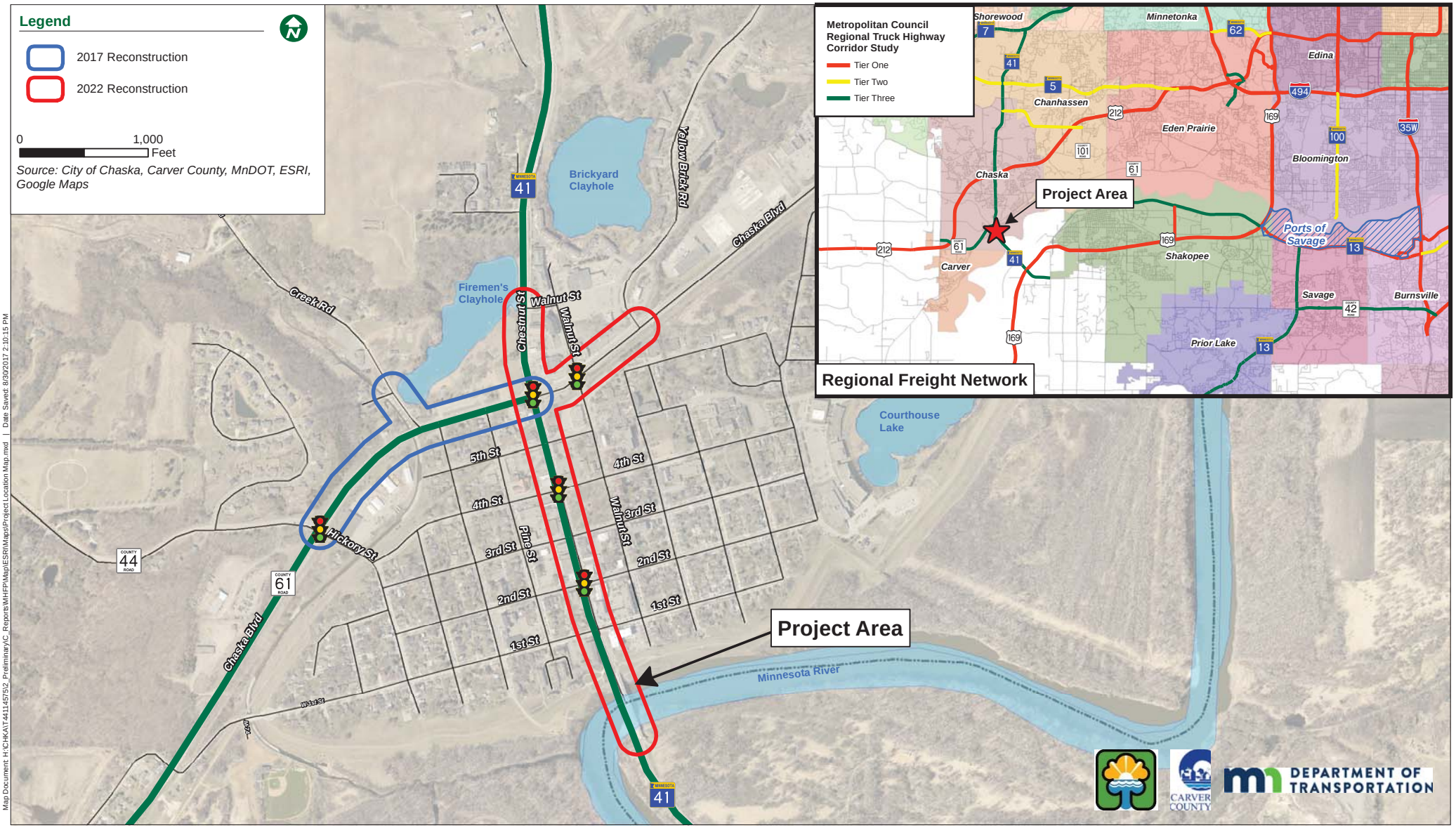
Downtown Chaska Highway 41 Improvements

City of Chaska, MN

Project Location Map

August 2017

BOLTON & MENK
Real People. Real Solutions.



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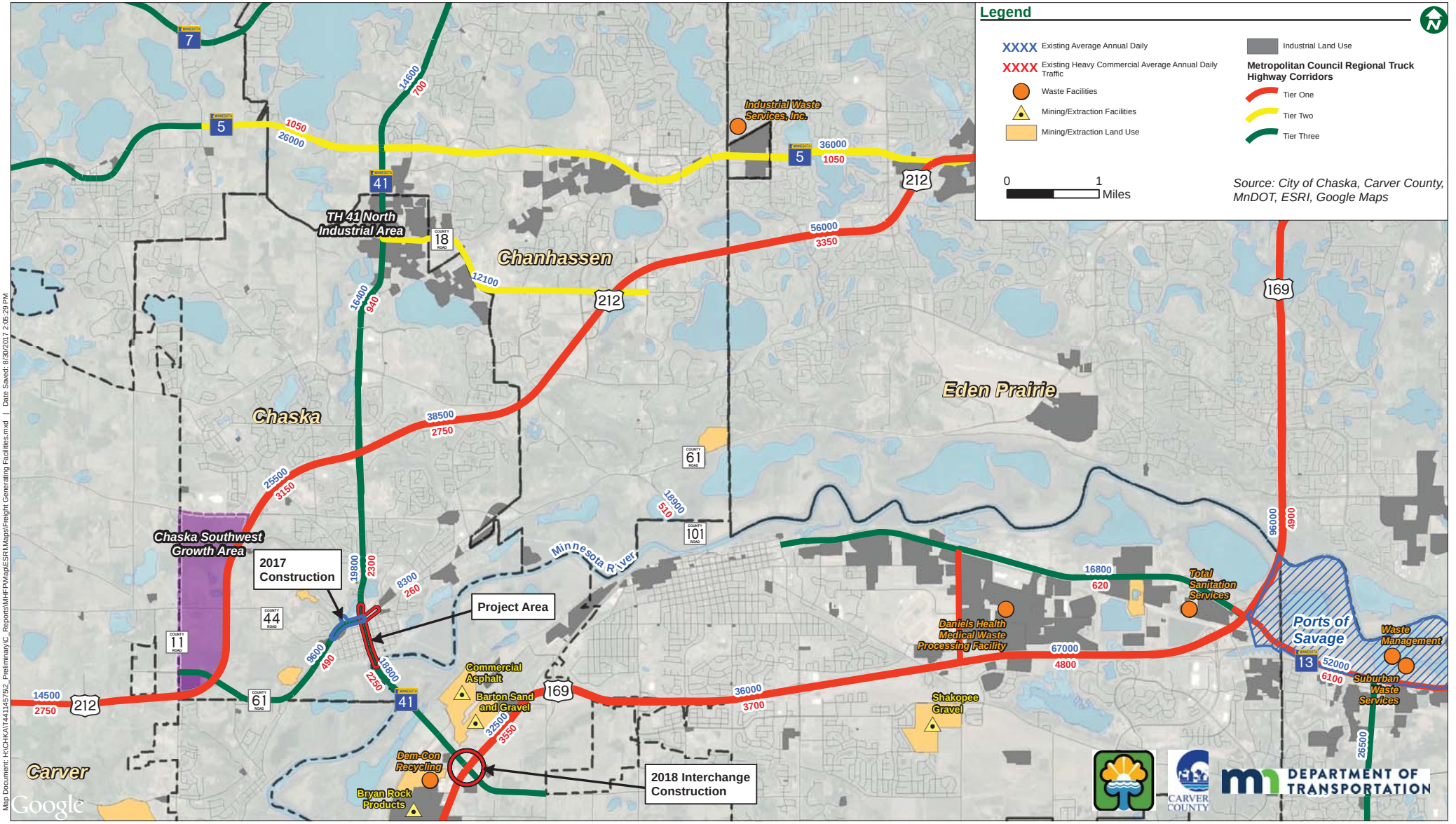
TH 41 Reconstruction Project

City of Chaska, MN

Freight-Generating Facilities

August 2017

BOLTON & MENK
Real People. Real Solutions.



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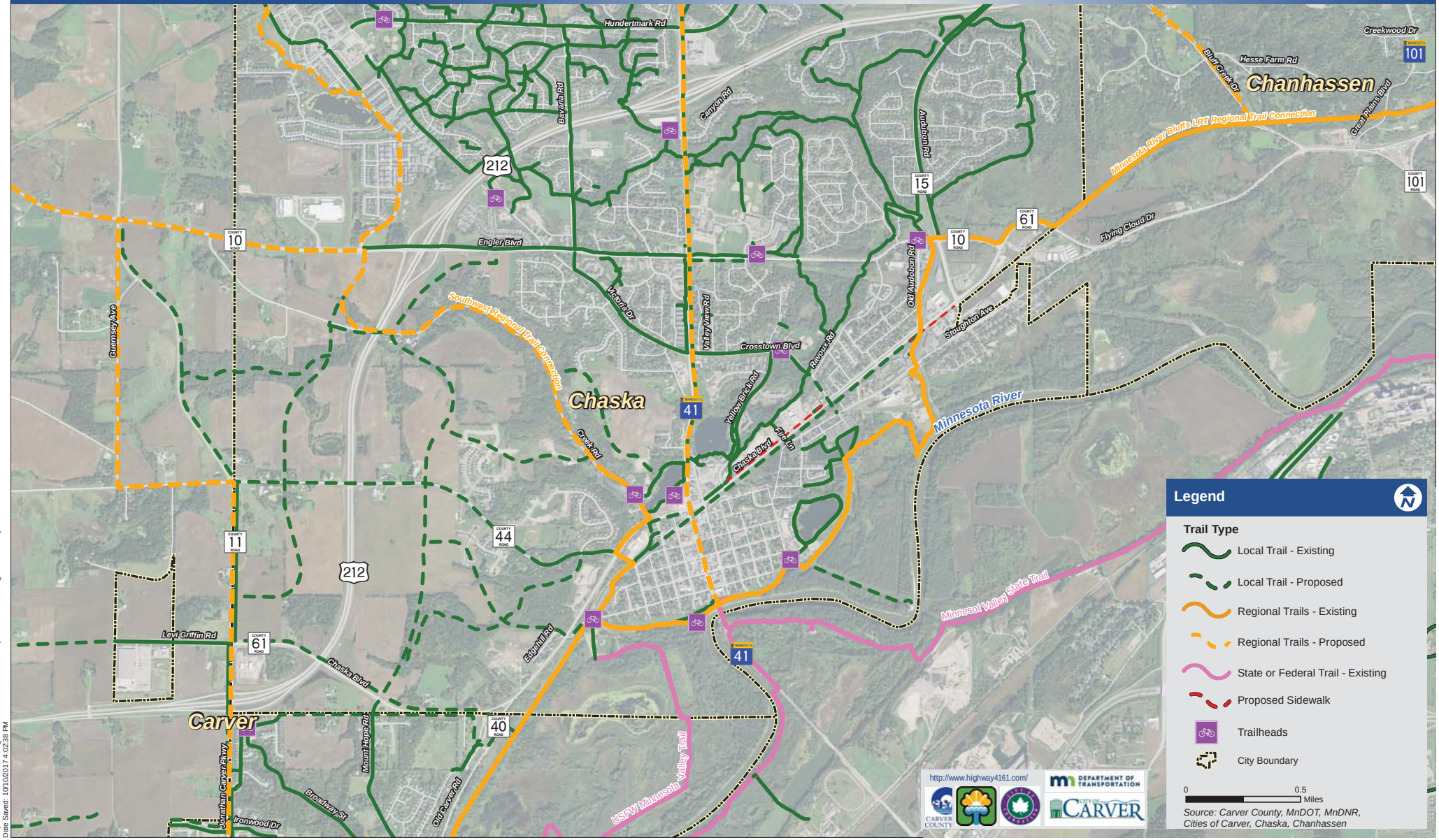
CSAH 61/TH 41 Improvements

Carver County

Pedestrian/Bicycle Connections

October 2017

BOLTON & MENK
Real People. Real Solutions.



Legend

Trail Type

- Local Trail - Existing
- Local Trail - Proposed
- Regional Trails - Existing
- Regional Trails - Proposed
- State or Federal Trail - Existing
- Proposed Sidewalk
- Trailheads
- City Boundary

0 0.5 Miles

Source: Carver County, MnDOT, MnDNR, Cities of Carver, Chaska, Chanhassen

Map Document: \\Arcserver1\gis\CACO\T14211039\6\ES R\Maps\Corridor - Findings of Facts\Project Area - Non-Motorized Connections.mxd
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Concept Render Historic Chaska Rail Depot Property

N. Chestnut Street | Chaska, Minnesota

Underpass Concept

BOLTON & MENK

CARVER COUNTY

Downtown Chaska Highway 41/61 Existing Conditions

Over 2,250 grain, gravel, and garbage trucks traverse Downtown Chaska daily

Large queues are common as turning vehicles block thru lanes

Downtown Chaska Highway 41/61 Existing Conditions

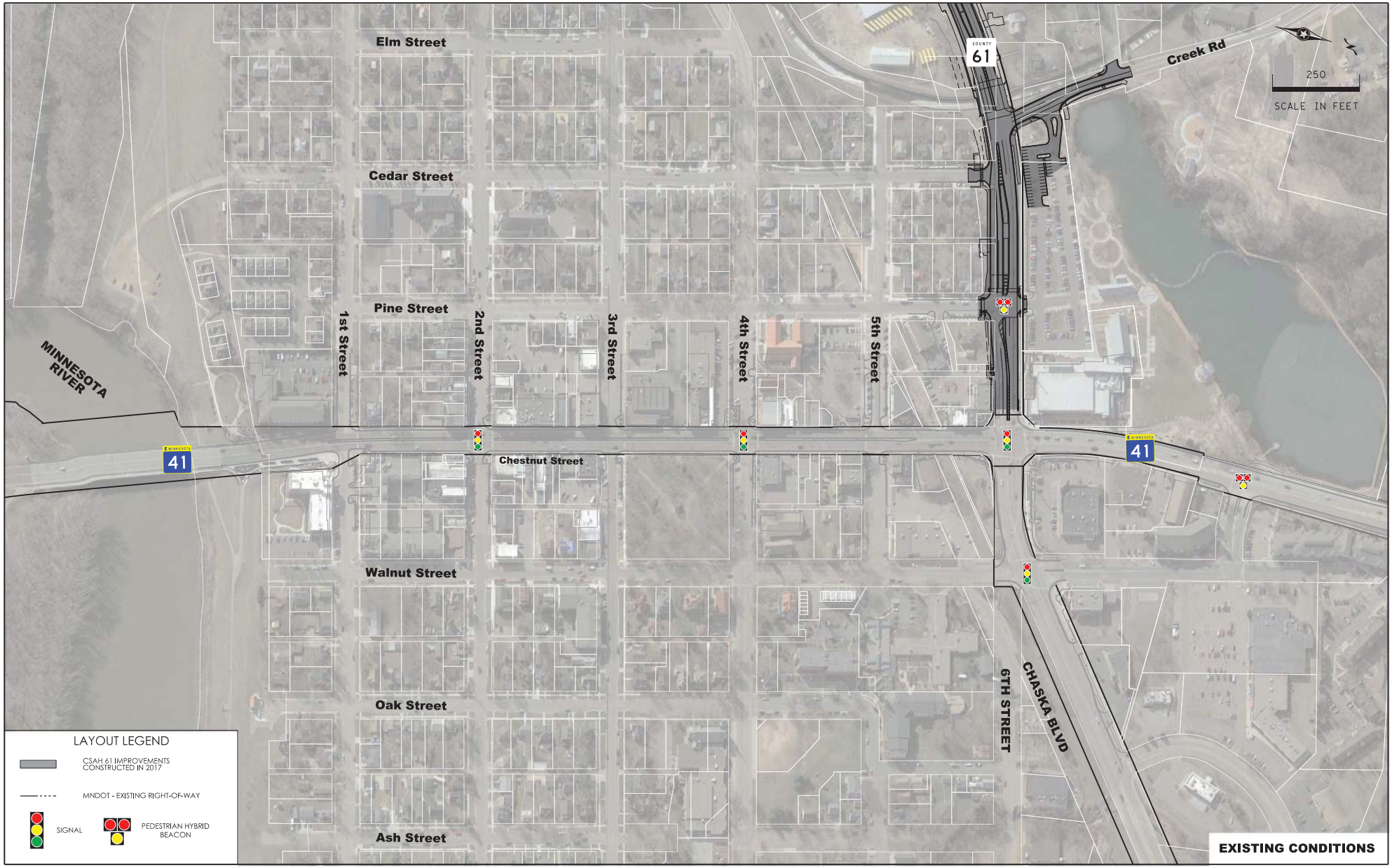
Lack of turn lanes cause significant delays and result in elevated crash rates

Improvements must accommodate all users

Downtown Chaska Highway 41/61 Existing Conditions

High volumes of turning truck traffic at Highway 41 / County Highway 61

High pedestrian activity on the corridor


Elm Street
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SCALE IN FEET
LAYOUT LEGEND
CSAH 61 IMPROVEMENTS CONSTRUCTED IN 2017
MNDOT - EXISTING RIGHT-OF-WAY
SIGNAL
PEDESTRIAN HYBRID BEACON
EXISTING CONDITIONS

DEPARTMENT OF TRANSPORTATION

Metro District - Office of State Aid
1500 West County Road B2
Roseville, MN 55113-3174

April 5, 2018

Matt Clark
One City Hall Plaza
Chaska, MN 55318-1962

RE: FHWA required ADA Transition Plan for
SP 196-010-017 MN 41 from Minnesota River Bridge to Walnut St (2022)

Dear Matt,

New for projects in the 2019 – 2022 Transportation Improvement Program (TIP) and approved by USDOT, the public agency sponsor must either have, or be substantially working towards, completing a current Americans with Disabilities Act (ADA) self-evaluation or transition plan. This requirement applies to a public agency that employs 50 or more people.

Please select the one most appropriate statement and return.

_____ We are a public agency with less than 50 employees (no transition plan required.)

_____ We have an ADA transition plan completed.

__X__ We are currently in the process of developing an ADA transition plan.

_____ We have no ADA transition plan and are not in the process of developing one.

Matthew Clark 4/19/18
Signature Date

City Engineer
Title

Please call if you have any questions.

Sincerely,

Cathy Huebsch

Cathy Huebsch
Federal Aid Engineer
Metro State Aid

Equal Opportunity Employer

Cathy.huebsch@state.mn.us

August 25, 2017

Mr. Nate Kabat
Assistant City Administrator
1 City Hall Plaza
Chaska, MN 55318

RE: Support for Downtown Chaska Highway 41 Improvements

Dear Mr. Kabat:

As president of the Chaska Downtown Business Alliance, I want Downtown Chaska to realize its full potential. Our Mission Statement is, "Create a Downtown Chaska with a vital and prosperous center of commerce that is welcoming, aesthetically pleasing, and has a character unique to Chaska."

The movement of people, goods, and services is drastically impacted by congestion on Highway 41 numerous hours each day. This negatively impacts businesses in downtown Chaska, as well as in surrounding areas, which ultimately has an effect on the overall regional and state economy.

The Chaska Downtown Business Alliance has been deeply involved with planning for Downtown improvements over the past five years through the development of the Downtown Chaska Master Plan as well as the ongoing Highway 41 and 61 Corridor Study. We feel the recommendations for the downtown take us a big step closer to fully realizing our Mission Statement as the downtown will be more walkable, aesthetically pleasing, and will more safely accommodate the traffic demands.

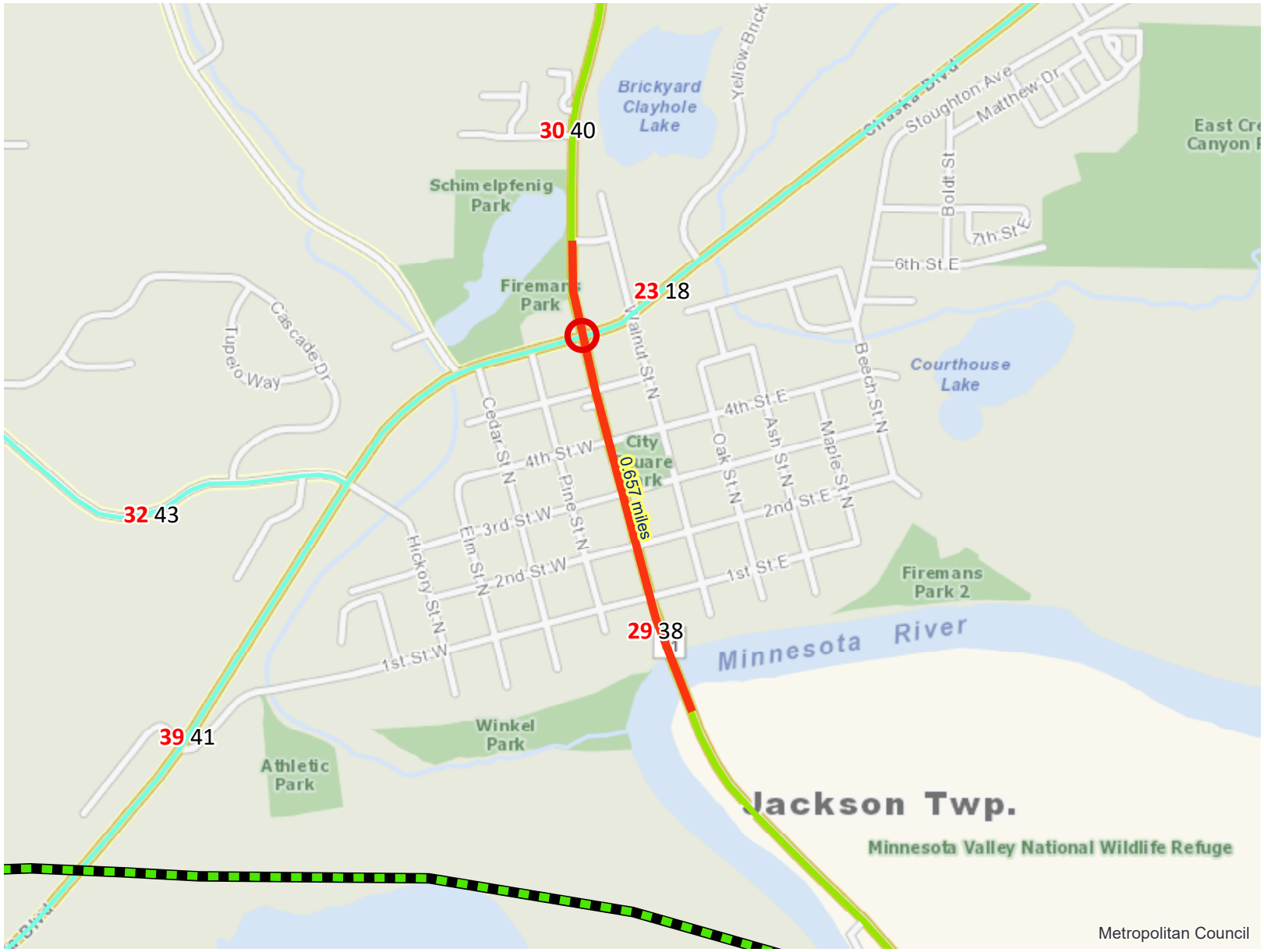
We understand the City of Chaska is leading the effort to obtain funding to realize this vision. The Downtown Business Alliance fully supports the City's efforts in this pursuit.

Sincerely,

Dan Keyport, President
Chaska Downtown Business Alliance

Level of Congestion

Roadway Reconstruction/Modernization Project: Downtown Chaska Highway 41 Improvements | Map ID: 1530825407461



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

0 0.125 0.25 0.5 0.75 1 Miles

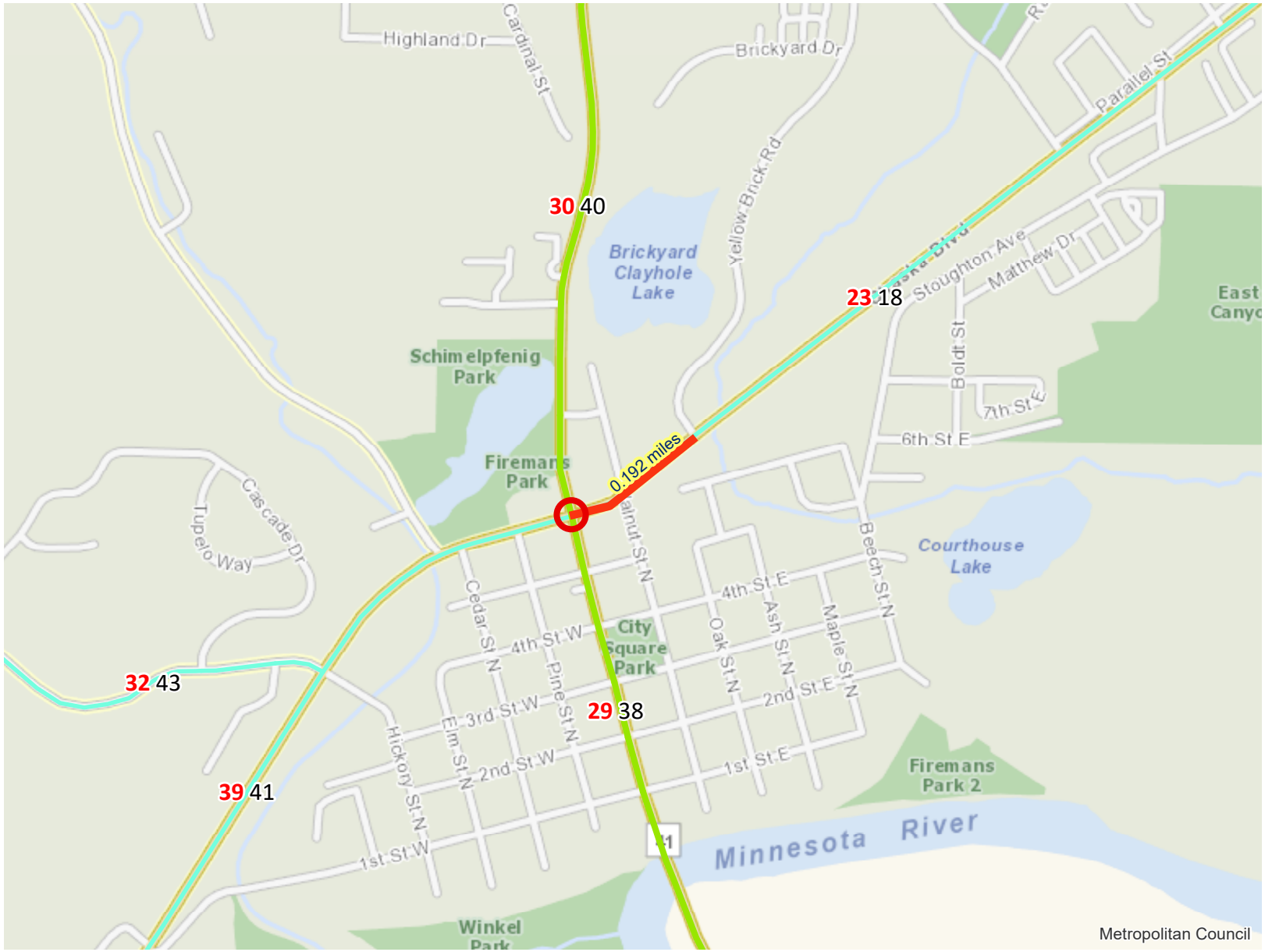
Created: 7/5/2018
LandscapeRSA1

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

METROPOLITAN COUNCIL

Level of Congestion

Roadway Reconstruction/Modernization Project: Downtown Chaska Highway 41 Improvements | Map ID: 1530825846802



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: 7/5/2018
LandscapeRSA1

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

METROPOLITAN COUNCIL

Regional Economy

Roadway Reconstruction/Modernization Project: Downtown Chaska Highway 41 Improvements | Map ID: 1530825407

Results

WITHIN ONE MI of project:
Postsecondary Students: 0

Totals by City:

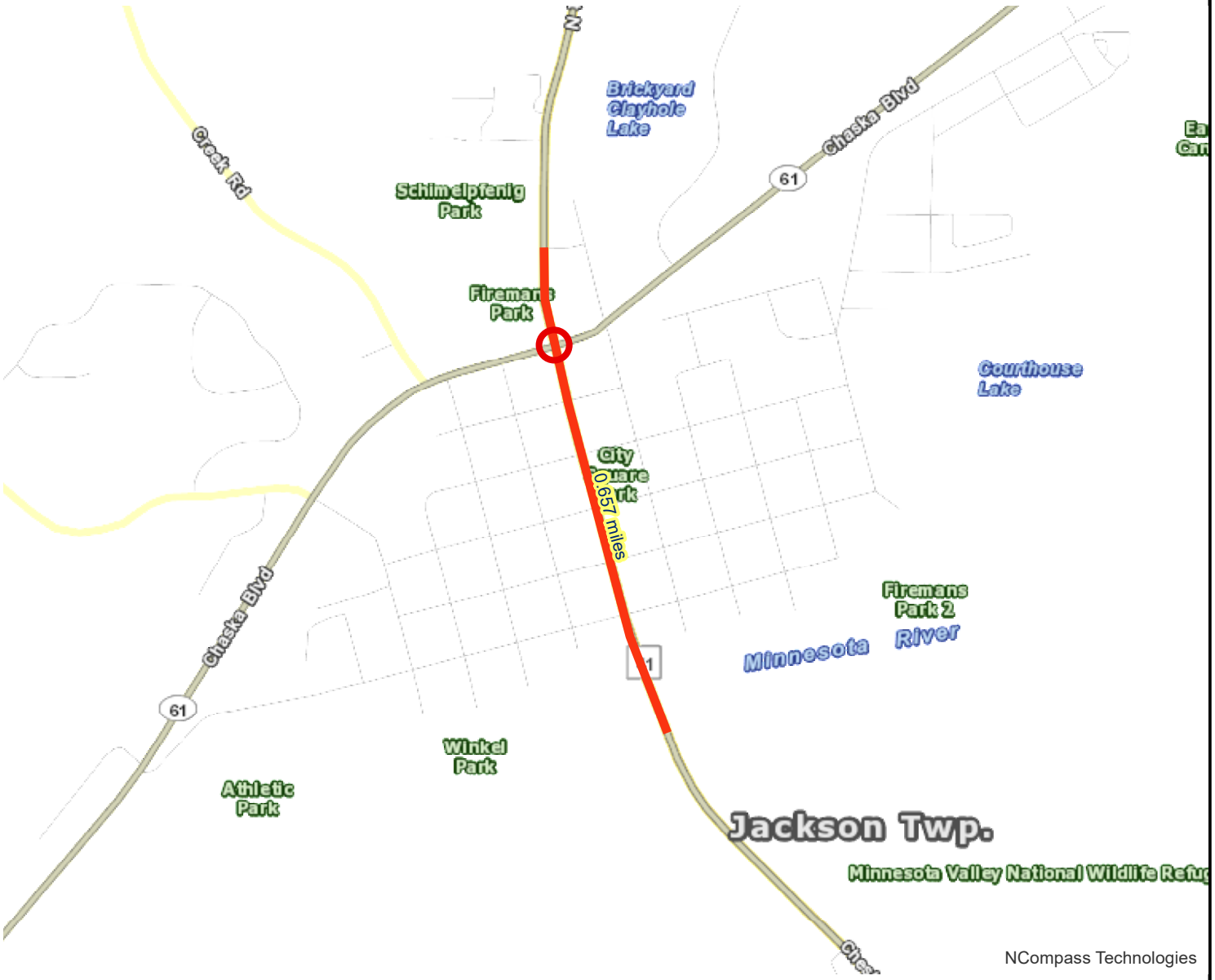
Carver
Population: 2593
Employment: 204
Mfg and Dist Employment: 0

Chanhassen
Population: 2503
Employment: 1323
Mfg and Dist Employment: 264

Chaska
Population: 4839
Employment: 1518
Mfg and Dist Employment: 40

Jackson Twp.
Population: 737
Employment: 241
Mfg and Dist Employment: 26

Louisville Twp.
Population: 208
Employment: 130
Mfg and Dist Employment: 12



Project Points
Project
Manfacturing/Distribution Centers
Job Concentration Centers

0 0.125 0.25 0.5 0.75 1 Miles

Created: 7/5/2018
LandscapeRSA5

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

METROPOLITAN COUNCIL

Regional Economy

Roadway Reconstruction/Modernization Project: Downtown Chaska Highway 41 Improvements | Map ID: 1530825846

Results

WITHIN ONE MI of project:
Postsecondary Students: 0

Totals by City:

Carver
Population: 2593
Employment: 204
Mfg and Dist Employment: 0

Chanhassen
Population: 2503
Employment: 1323
Mfg and Dist Employment: 264

Chaska
Population: 4839
Employment: 1518
Mfg and Dist Employment: 40

Jackson Twp.
Population: 737
Employment: 241
Mfg and Dist Employment: 26

Louisville Twp.
Population: 208
Employment: 130
Mfg and Dist Employment: 12

Project Points
Project
Manfacturing/Distribution Centers
Job Concentration Centers

0 0.025 0.05 0.1 0.15 0.2 Miles

Created: 7/5/2018
LandscapeRSA5

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

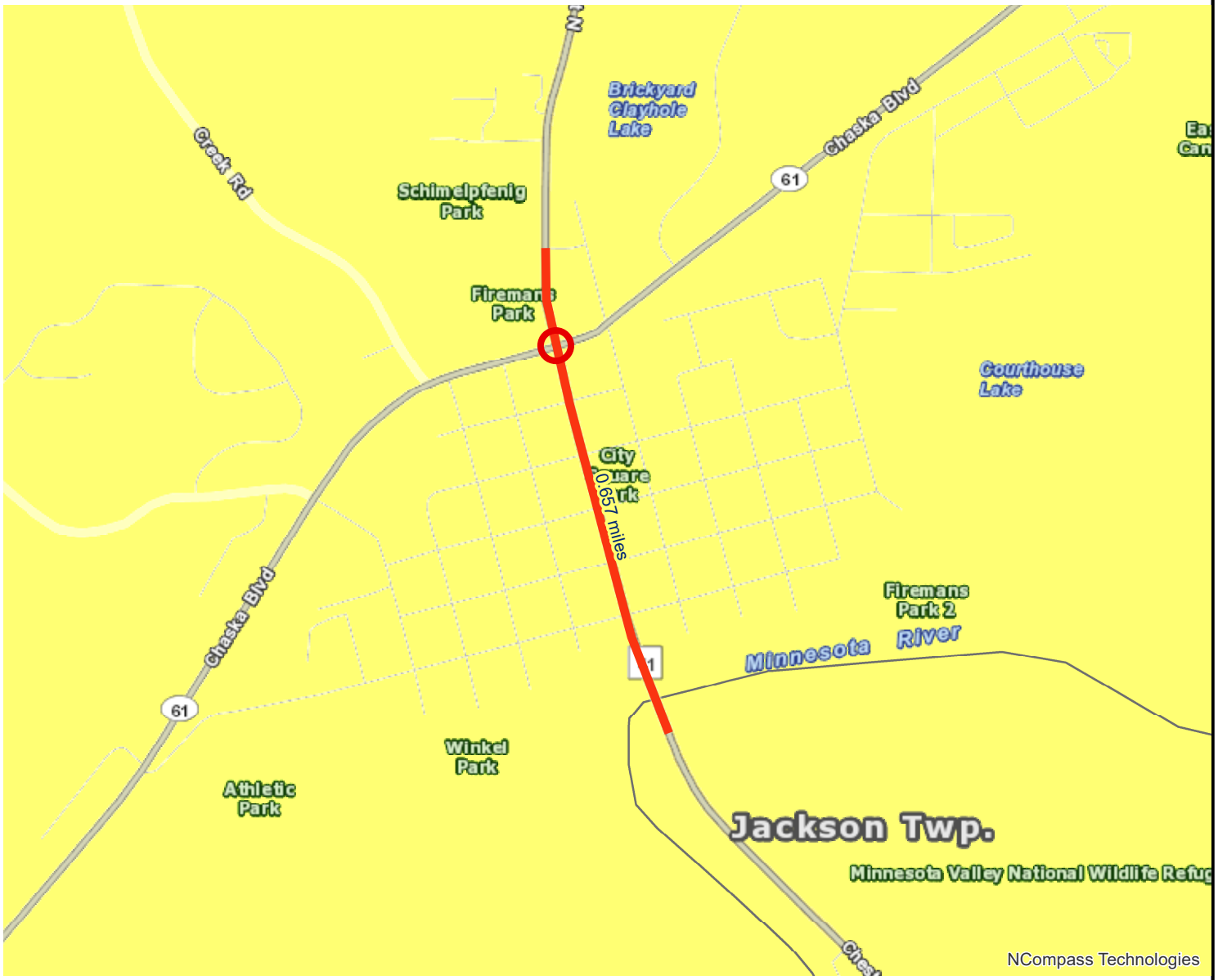
METROPOLITAN COUNCIL

Socio-Economic Conditions

Roadway Reconstruction/Modernization Project: Downtown Chaska Highway 41 Improvements | Map ID: 1530825407461

Results

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



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

0 0.125 0.25 0.5 0.75 1 Miles

Created: 7/5/2018
LandscapeRSA2

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

METROPOLITAN COUNCIL

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Roadway Reconstruction/Modernization Project: Downtown Chaska Highway 41 Improvements | Map ID: 1530825846802

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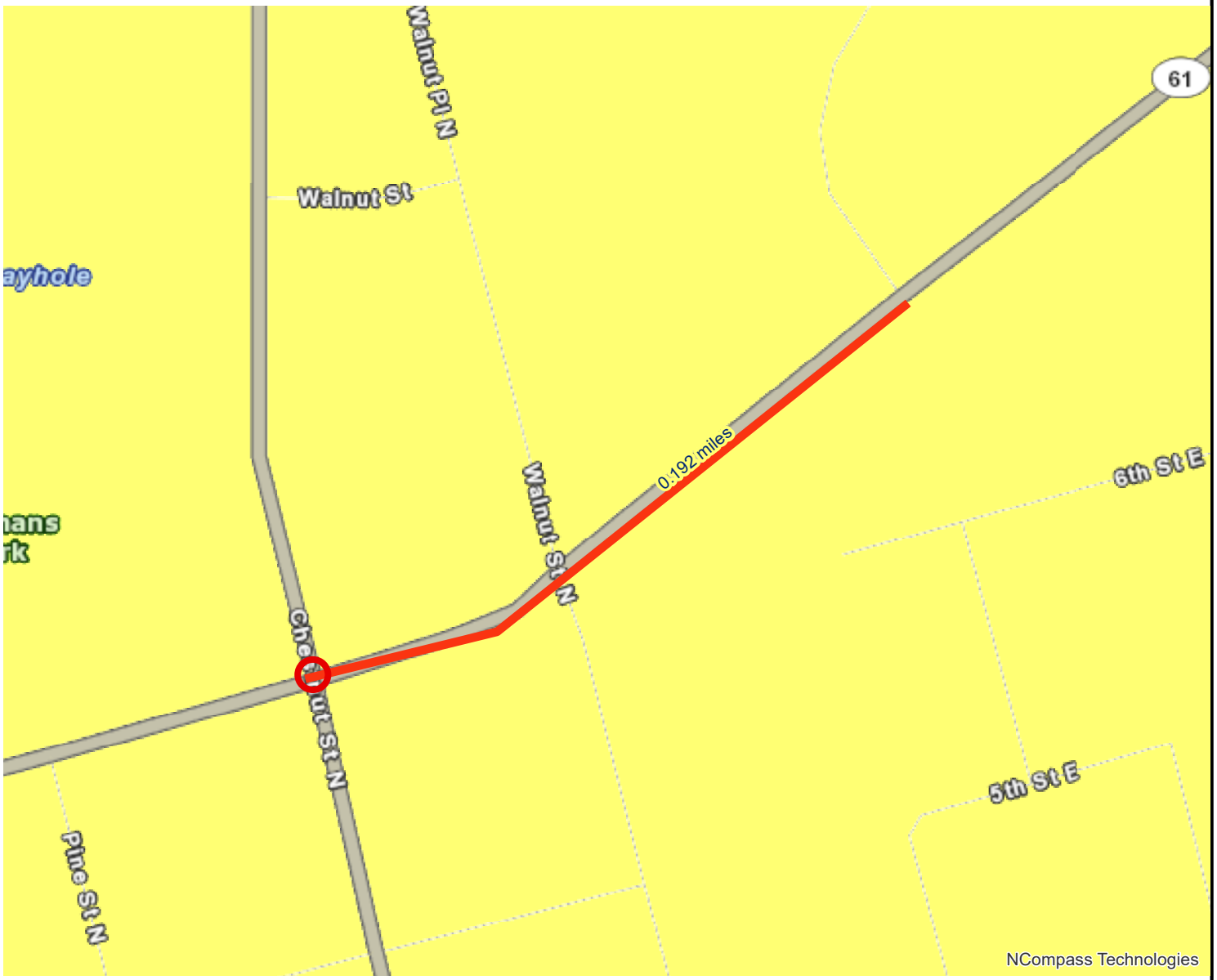

Project Points
Project
Area of Concentrated Povertry > 50% residents of color
Area of Concentrated Poverty
Above reg'l avg conc of race/poverty

0 0.025 0.05 0.1 0.15 0.2 Miles

Created: 7/5/2018
LandscapeRSA2

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METROPOLITAN COUNCIL

Transit Connections

Roadway Reconstruction/Modernization Project: Downtown Chaska Highway 41 Improvements | Map ID: 153082540

Results

Transit with a Direct Connection to project:
691 699

**indicates Planned Alignments*

Project Points
Active Stop
Project
Transit Routes

0 0.175 0.35 0.7 1.05 1.4 Miles

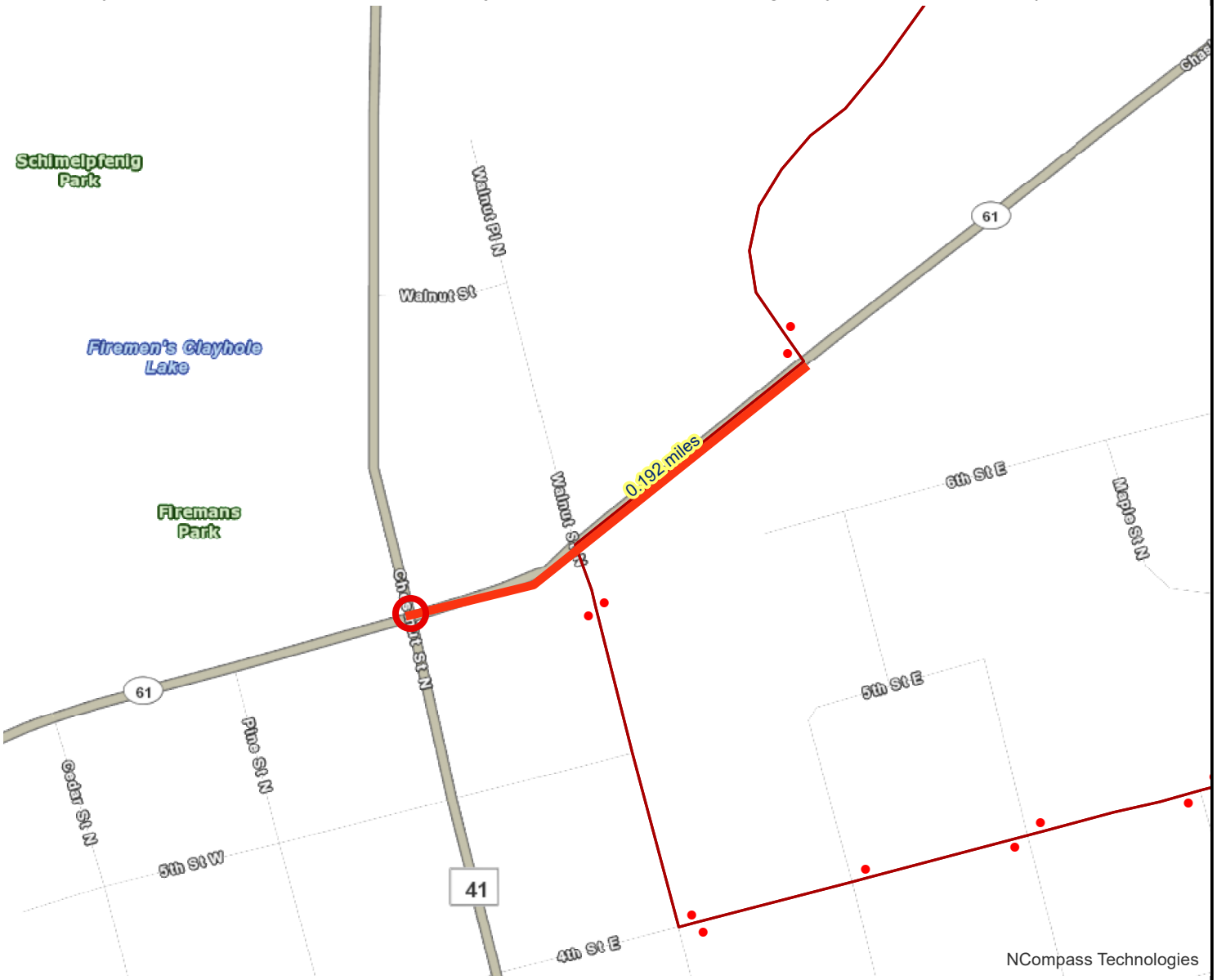
Created: 7/5/2018
LandscapeRSA3

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

METROPOLITAN COUNCIL

Transit Connections

Roadway Reconstruction/Modernization Project: Downtown Chaska Highway 41 Improvements | Map ID: 153082584



Results

Transit with a Direct Connection to project:
691 699

**indicates Planned Alignments*

Project Points
Active Stop
Project
Transit Routes

0 0.0375 0.075 0.15 0.225 0.3
Miles

Created: 7/5/2018
LandscapeRSA3

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METROPOLITAN COUNCIL