Application

13860 - 2020 Roadway Expansion

14375 - TH 120 (Century Ave) Expansion

Regional Solicitation - Roadways Including Multimodal Elements

Status:	Submitted
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Primary Contact

Name:*		Emily		Jorgensen
	Salutation	First Name	Middle Name	Last Name
Title:	Planner			
Department:				
Email:	emily.jorgensen@co.washington.mn.us			
Address:	11660 Myeron Rd			
	11660 Myeron Rd			
*	Stillwater	Minnesota	55082	
	City	State/Province	Postal Code/Zip	
Phone:*	651-430-4338			
	Phone		Ext.	
Fax:				
What Grant Programs are you most interested in?	Regional Solicitation - Bicycle and Pedestrian Facilities			

Organization Information

Name:	WASHINGTON CTY
Jurisdictional Agency (if different):	

Organization Type:

Organization Website:

Address: PUBLIC WORKS

11660 MYERON RD

*	STILLWATER	Minnesota	55082
	City	State/Province	Postal Code/Zip

County: Washington

Phone:* 651-430-4325

Ext.

Fax:

PeopleSoft Vendor Number 0000028637A10

Project Information

Project Name TH 120 (Century Avenue) Expansion

Primary County where the Project is Located Washington

Cities or Townships where the Project is Located: Mahtomedi, White Bear Lake

Jurisdictional Agency (If Different than the Applicant): MnDOT

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

The proposed project converts TH 120 (Century Avenue) from one-lane divided to two-lane divided, converts two intersections to roundabouts, and constructs sidewalks and trail facilities for the entire length of Century Avenue between I-694 and Highway 244 (Co Rd E).

The project area includes Century College, a FedEx ground distribution center and employment hub, and a community commercial center featuring a grocery store, pharmacies, and a variety of other food and retail options.
TH 120 (Century Avenue) is a state trunk highway with a posted speed of 40 MPH through the project area and an average daily traffic volume of 17,300-34,500 depending on the proximity of the segment measured to I-694 and FedEx. It is primarily a one-lane divided roadway through the project area, and can experience prolonged periods of delay both during peak and off-peak hours in part due to unique entering and exiting movements associated with Century College's class and event schedule. It has a crash rate 80% greater than the average for a similar roadway segment, and every intersection analyzed in this part of the corridor has a crash rate greater than the MnDOT Metro average crash rate for a similar intersection - reaching as high as 6 times the crash rate of other comparable intersections.

The project area currently only features pedestrian facilities on the west side of Century Avenue extending from Co Rd E/TH 244 to Century College?s West Campus and on the east side of Century Ave extending approximately 650 feet south from TH244. Beyond these segments, no other sidewalk or trail facilities currently exist along the corridor, and would-be pedestrians and bicyclists must choose either to use a shoulder/ditch that fluctuates in width - and even disappears in several locations - or to not walk at

all.

The proposed conversion from one-lane divided to two-lane divided will address traffic and delay through the corridor and, when combined with the roundabouts, will make travel safer for all users by reducing crashes. A new separated sidewalk and multiuse trail will also be constructed along Century Avenue for the entire length of the project area. The sidewalk and trail will complete gaps within the existing network, connect to Century College?s facilities on both sides of Century Avenue, and create a safer environment for non-motorized users to travel the corridor by reducing potential conflicts between pedestrians, bicyclists, and motorists.

(Limit 2,800 characters; approximately 400 words)

TRANSPORTATION IMPROVEMENT PROGRAM (TIP) DESCRIPTION - will be used in TIP if the project is selected for funding. See MnDOT's TIP description guidance.

MN 120, FROM N RAMP TERMINALS OF I694/MN120 INTERCHANGE TO JCT MN244 IN WHITE BEAR LAKE AND MAHTOMEDI - MILL AND OVERLAY, INTERSECTION IMPROVEMENTS AT LONG LK RD AND MN120, CONSTRUCT ROUNDABOUT AT S CENTURY COLLEGE DR AND MN120 AND AT WOODLAND DR AND MN12

Project Length (Miles)

to the nearest one-tenth of a mile

1.1

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

$6,601,884.00

Match Amount

$1,650,471.00

Minimum of 20% of project total

Project Total

$8,252,355.00

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

Match Percentage

20.0%

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

Source of Match Funds

County Funds

A minimum of 20% of the total project cost must come from non-federal sources; additional match funds over the 20% minimum can come from other federal sources

Preferred Program Year

Select one: 2025

Select 2022 or 2023 for TDM projects only. For all other applications, select 2024 or 2025.

Additional Program Years:

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

Project Information-Roadways

County, City, or Lead Agency	Washington County
Functional Class of Road	Minor Arterial
Road System *TH, CSAH, MSAS, CO. RD., TWP. RD., CITY STREET*	TH
Road/Route No. *i.e., 53 for CSAH 53*	120
Name of Road *Example; 1st ST., MAIN AVE*	Century Ave
Zip Code where Majority of Work is Being Performed	55115
(Approximate) Begin Construction Date	04/01/2025
(Approximate) End Construction Date	07/31/2026

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

From: **(Intersection or Address)**	I-694
To: **(Intersection or Address)** *DO NOT INCLUDE LEGAL DESCRIPTION*	TH 244
Or At	
Miles of Sidewalk (nearest 0.1 miles)	1.1
Miles of Trail (nearest 0.1 miles)	1.1
Miles of Trail on the Regional Bicycle Transportation Network (nearest 0.1 miles)	0
Primary Types of Work *Examples: GRADE, AGG BASE, BIT BASE, BIT SURF, SIDEWALK, CURB AND GUTTER,STORM SEWER, SIGNALS, LIGHTING, GUARDRAIL, BIKE PATH, PED RAMPS, BRIDGE, PARK AND RIDE, ETC.*	GRADING, BITUMINOUS AND CONCRETE SURFACING, ROUNDABOUT, ADA IMPROVEMENTS, RETAINING WALLS, SIGNALS, LIGHTING, SIDEWALK, TRAIL, AND TMS

BRIDGE/CULVERT PROJECTS (IF APPLICABLE)

Old Bridge/Culvert No.:

New Bridge/Culvert No.:

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

Requirements - All Projects

All Projects

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

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

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

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

This project is compliant for the following goals, objectives, and strategies in the Metropolitan Council?s 2040 Transportation Policy Plan.

Goal: Transportation System Stewardship, pg 58
Sustainable investments in the transportation system are protected by strategically preserving, maintaining, and operating system assets.
Objectives

A. Efficiently preserve and maintain the regional transportation system in a state of good repair.
B. Operate the regional transportation system to efficiently and cost-effectively connect people and freight to destinations.
Strategies:
? Regional transportation partners will place the highest priority for transportation investments on strategically preserving, maintaining, and operating the transportation system.

Goal: Safety and Security, pg 60
The regional transportation system is safe and secure for all users.
Objectives

A. Reduce crashes and improve safety and security for all modes of passenger travel and freight transport.

Strategies

? Regional transportation partners will incorporate safety and security considerations for all modes and users throughout the processes of planning, funding, construction, operation.

Goal: Access to Destinations, pg 62
People and businesses prosper by using a reliable, affordable, and efficient multimodal transportation

system that connects them to destinations throughout the region and beyond.
Objectives

E. Improve multimodal travel options for people of all ages and abilities to connect to jobs and other opportunities, particularly for historically underrepresented populations.
Strategies

? Local units of government should provide a system of interconnected arterial roads, streets, bicycle facilities, and pedestrian facilities to meet local travel needs using Complete Streets principles.

? Regional transportation partners will promote multimodal travel options and alternatives to single-occupant vehicle travel and highway congestion through a variety of travel demand management initiatives, with a focus on major job, activity, and industrial and manufacturing concentrations on congested highway corridors and corridors served by regional transit service.

Goal: Healthy Environment, pg 66
The regional transportation system advances equity and contributes to communities? livability and sustainability while protecting the natural, cultural, and developed environments.
Objectives

C. Increase the availability and attractiveness of transit, bicycling, and walking to encourage healthy communities and active car-free lifestyles.
D. Provide a transportation system that promotes community cohesion and connectivity for people of all ages and abilities, particularly for historically under represented populations.

Limit 2,800 characters, approximately 400 words

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

List the applicable documents and pages:

This project is compliant with the goals, policies, and strategies of the Washington County 2040 Comprehensive Plan.

Goal: Plan, build, and maintain an interconnected and accessible transportation system that considers all users and modes of travel. Pg 3-8

Policies:
? Coordinate transportation mobility and choice to meet a diversity of needs while considering appropriate system levels of service.
? Work with partners to identify and coordinate transportation system improvements to accommodate new growth and development.
? Pursue federal, state, regional, and local funding opportunities to preserve, maintain, expand, and modernize the transportation network.

? Advocate and promote long-term investments in transit including METRO Gold Line, Red Rock Corridor, Rush Line Corridor Extension, and TH 36 Corridor to provide reliable and efficient transit services.
Strategies:
? Support levels and types of transit service that match specific needs of the community based on ridership forecasts, development patterns, and mobility needs.
? Integrate non-motorized accommodations into the design of roadway and transit facilities to increase access to destinations.
? Identify gaps in trail network and prioritize investments to improve non-motorized access to destinations

? Coordinate with Metropolitan Council, MnDOT, and municipalities through project development, engineering, and construction of METRO Gold Line to improve transit access and multimodal networks.
? Implement recommendations from county-led

transportation and transit studies.

Goal: Preserve safety and efficiency for all users Pg 3-10

Policies:
? Support ongoing safety review process that promotes both proactive and reactive treatments to reduce crashes.

? Use traffic management techniques to improve operations, safety, and useful life of the roadways.

Strategies:
? Coordinate with partners to improve safety and usability of county roadways when developing safe, effective, and implementable strategies in key locations like near schools and at non-motorized crossings.

? Develop roadway crossings and trail facilities within county roadway corridors to promote safety for all users.

Goal: Promote positive environmental and health outcomes Pg 3-11

Policies:
? Explore opportunities to improve the environment and encourage physical activity.

Strategies:
? Work with local partners to promote land use patterns that enable alternative modes of travel and reduce reliance on the private automobile.

? Identify trail connections to provide links to key destinations.

This project is compliant with the related goals, policies, and strategies in the White Bear Lake and Mahtomedi 2040 comprehensive plans that were not included due to character limits

Limit 2,800 characters, approximately 400 words

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

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

5.Applicants that are not State Aid cities or counties in the seven-county metro area with populations over 5,000 must contact the MnDOT Metro State Aid Office prior to submitting their application to determine if a public agency sponsor is required.

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

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

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

7.The requested funding amount must be more than or equal to the minimum award and less than or equal to the maximum award. The cost of preparing a project for funding authorization can be substantial. For that reason, minimum federal amounts apply. Other federal funds may be combined with the requested funds for projects exceeding the maximum award, but the source(s) must be identified in the application. Funding amounts by application category are listed below.
Strategic Capacity (Roadway Expansion): *$1,000,000 to $10,000,000*
Roadway Reconstruction/Modernization: *$1,000,000 to $7,000,000*
Traffic Management Technologies (Roadway System Management): *$250,000 to $3,500,000*
Spot Mobility and Safety: *$1,000,000 to $3,500,000*
Bridges Rehabilitation/Replacement: *$1,000,000 to $7,000,000*

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

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

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

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

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

Date plan completed: 09/30/2015

Link to plan: Attached.

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

Date self-evaluation completed:

Link to plan:

Upload plan or self-evaluation if there is no link 1589461943640_19 ADA Transition Pan - TH120.pdf

Upload as PDF

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

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

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

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

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

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

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

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

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

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

Roadways Including Multimodal Elements

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

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

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

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

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

Bridge Rehabilitation/Replacement and Strategic Capacity projects only:

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

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

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

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

Bridge Rehabilitation/Replacement projects only:

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

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

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

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

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

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

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

Requirements - Roadways Including Multimodal Elements

Specific Roadway Elements

CONSTRUCTION PROJECT ELEMENTS/COST ESTIMATES	Cost
Mobilization (approx. 5% of total cost)	$450,000.00
Removals (approx. 5% of total cost)	$442,000.00
Roadway (grading, borrow, etc.)	$991,500.00
Roadway (aggregates and paving)	$1,472,950.00
Subgrade Correction (muck)	$0.00
Storm Sewer	$460,000.00
Ponds	$0.00
Concrete Items (curb & gutter, sidewalks, median barriers)	$454,600.00
Traffic Control	$0.00
Striping	$111,561.00
Signing	$0.00
Lighting	$175,000.00
Turf - Erosion & Landscaping	$446,244.00
Bridge	$0.00
Retaining Walls	$300,000.00
Noise Wall (not calculated in cost effectiveness measure)	$0.00
Traffic Signals	$0.00
Wetland Mitigation	$0.00
Other Natural and Cultural Resource Protection	$0.00
RR Crossing	$0.00
Roadway Contingencies	$1,450,500.00
Other Roadway Elements	$850,000.00

Totals	**$7,604,355.00**

Specific Bicycle and Pedestrian Elements

CONSTRUCTION PROJECT ELEMENTS/COST ESTIMATES	Cost
Path/Trail Construction	$0.00
Sidewalk Construction	$648,000.00
On-Street Bicycle Facility Construction	$0.00
Right-of-Way	$0.00
Pedestrian Curb Ramps (ADA)	$0.00
Crossing Aids (e.g., Audible Pedestrian Signals, HAWK)	$0.00
Pedestrian-scale Lighting	$0.00
Streetscaping	$0.00
Wayfinding	$0.00
Bicycle and Pedestrian Contingencies	$0.00
Other Bicycle and Pedestrian Elements	$0.00
Totals	**$648,000.00**

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	$8,252,355.00
Construction Cost Total	$8,252,355.00
Transit Operating Cost Total	$0.00

Congestion within Project Area:

The measure will analyze the level of congestion within the project area. Council staff will provide travel speed data on the "Level of Congestion" map. The analysis will compare the peak hour travel speed within the project area to fee-flow conditions.

Free-Flow Travel Speed:	35
Peak Hour Travel Speed:	25
Percentage Decrease in Travel Speed in Peak Hour compared to Free-Flow:	28.57%
Upload Level of Congestion map:	1589463699367_10 Level of Congestion Map - TH120.pdf

Congestion on adjacent Parallel Routes:

Adjacent Parallel Corridor	CSAH 29 (Hilton Trail)

Adjacent Parallel Corridor Start and End Points:

Start Point:	TH 36
End Point:	CSAH 12 (Stillwater Rd)
Free-Flow Travel Speed:	42

The Free-Flow Travel Speed is black number.

Peak Hour Travel Speed:	40

The Peak Hour Travel Speed is red number.

Percentage Decrease in Travel Speed in Peak Hour Compared to Free-Flow:	4.76%
Upload Level of Congestion Map:	1589463699356_10.1 Level of Congestion Map - TH120.JPG

Principal Arterial Intersection Conversion Study:

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

(80 Points)

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

(60 Points)

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

(50 Points)

Proposed interchange project that reduces delay at a Medium Priority Intersection:

(40 Points)

Proposed interchange project that reduces delay at a Low Priority Intersection:

(0 Points)

Not listed as a priority in the study: Yes

(0 Points)

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

Existing Employment within 1 Mile: 4495

Existing Manufacturing/Distribution-Related Employment within 1 Mile: 1301

Existing Post-Secondary Students within 1 Mile: 8996

Upload Map 1589463731865_11 Regional Economy Map - TH120.pdf

Please upload attachment in PDF form.

Measure C: Current Heavy Commercial Traffic

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

Along Tier 1:

Miles: 0

(to the nearest 0.1 miles)

Along Tier 2:

Miles: 0

(to the nearest 0.1 miles)

Along Tier 3:

Miles: 0

(to the nearest 0.1 miles)

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

None of the tiers: Yes

Measure A: Current Daily Person Throughput

Location	TH 120 (Century Avenue)
Current AADT Volume	34500
Existing Transit Routes on the Project	219, 270

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

Upload Transit Connections Map	1589464073109_12 Transit Connections Map - TH120.pdf

Please upload attachment in PDF form.

Response: Current Daily Person Throughput

Average Annual Daily Transit Ridership	0
Current Daily Person Throughput	44850.0

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	Washington County Model - adjusted to include TH 120 by WSB
Forecast (2040) ADT volume	35400

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

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

Response:

The project is located in an area of above average concentration of poverty and people of color, and is directly adjacent to several affordable housing developments including East Metro Place I and II - housing communities that provide supportive housing for homeless families. The project area is also directly adjacent to Century College, one of the largest and most affordable colleges in Minnesota with one of the most diverse student bodies.

This project originally arose out of an Alternatives Analysis led by MnDOT in partnership with Century College, Washington County, and the City of Mahtomedi. Most recently, improvements consistent with this project were identified as part of Washington County's engagement efforts around the county's ongoing Bicycle and Pedestrian Plan efforts, Metro Transit's Network Next initiative, and MnDOT's potential turn back of Century Ave (TH 120) to Washington County jurisdiction.

As part of the turn back discussions, Washington County, Ramsey County, and MnDOT hosted a kick-off community conversation in November 2019 with community members and elected officials from cities along Century Avenue to discuss needs in the corridor and identify goals. Across the communities, there was strong support for consistent bike/ped facilities through the entire corridor and roadway designs that facilitated safer travel options across modes.

(Limit 2,800 characters; approximately 400 words)

*2.**Sub-measure**: Equity Population Benefits and Impacts: A successful project is one that has been designed to provide direct benefits to low-income populations, people of color, persons with disabilities, youth and the elderly. All projects must mitigate potential negative benefits as required under federal law. Projects that are designed to provide benefits go beyond the mitigation requirement to proactively provide transportation benefits and solve transportation issues experienced by Equity populations.*
a.Describe the projects benefits to low-income populations, people of color, children, people with disabilities, and the elderly. Benefits could relate to pedestrian and bicycle safety improvements; public health benefits; direct access improvements for residents or improved access to destinations such as jobs, school, health care or other; travel time improvements; gap closures; new transportation services or modal options, leveraging of other beneficial projects and investments; and/or community connection and cohesion improvements. Note that this is not an exhaustive list.

Response:

The project area includes Century College, one of the largest, most diverse, and most affordable colleges in Minnesota. Century College serves nearly 20,000 credit and non-credit students each year, 40% of whom are students of color and 46% of whom are the first in their family to attend college. The project area also features a number of low income and affordable housing communities including East Metro Place I and II. These two housing communities feature 34 multi-bedroom units that provide both transitional and permanent supportive housing for homeless families with an emphasis on homeless families with disabilities and with history of long-term homelessness.

The project area currently only features pedestrian facilities on the west side of TH 120/Century Avenue extending from Co Rd E/TH 244 to Century College?s West Campus and on the east side of Century Ave extending approximately 650 feet south from TH244. Beyond these segments, no other sidewalk or trail facilities currently exist along the corridor, and would-be pedestrians and bicyclists must choose either to use a shoulder/ditch that fluctuates in width - and even disappears in several locations - or to not walk at all. The lack of pedestrian and bicycle facilities not only discourages people from walking or bicycling in this corridor, but could also discourage transit use as transit stops are located on the grass boulevard adjacent to a high speed roadway and could be uncomfortable or inaccessible for many riders.

The addition of sidewalks and multiuse trails as a key feature of this project ensures people of all ages, incomes, and abilities have safe travel options through the corridor by bike, foot, or other personal mobility device. It also enhances transit in the corridor by creating safer, more accessible and attractive connections to bus stops, and ensures

that those that are unable or unwilling to drive have safe, quality options to reach destinations in the area across a variety of modes.

The proposed project also leverages an existing process led by MnDOT and Washington County to turn back TH 120 to the county, which increases opportunities for partnership and cost-sharing on this project and other investments along Century Avenue to the south.

(Limit 2,800 characters; approximately 400 words)

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

Response:

There is some delay anticipated in the Century Avenue corridor associated with the construction of the road improvements. The goal is to mitigate these delays by keeping Century Avenue open as much as possible. While construction delays are temporary, the project will result in long-lasting delay reduction through the corridor, among other benefits. There are no other known negative impacts to low-income populations, people of color, children, people with disabilities, or the elderly associated with improving the roadway and adding these important ADA accessible trail and sidewalk connections.

(Limit 2,800 characters; approximately 400 words)

Select one:

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

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

(up to 40% of maximum score)

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

Upload Map	1589464512641_13 Socio Economic Conditions Map - TH120.pdf

Measure B: Part 1: Housing Performance Score

City	Segment Length (For stand-alone projects, enter population from Regional Economy map) within each City/Township	Segment Length/Total Project Length	Score	Housing Score Multiplied by Segment percent
Mahtomedi	1.0	0.5	46.0	23.0
White Bear Lake	1.0	0.5	100.0	50.0

Total Project Length

Total Project Length	1.1

Project length entered on the Project Information - General form.

Housing Performance Score

Total Project Length (Miles) or Population	2.0

Total Housing Score	73.0

Affordable Housing Scoring

Part 2: Affordable Housing Access

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

The proposed project area borders the cities of Mahtomedi and White Bear Lake, and includes an area of above average concentration of poverty and people of color. The project area is also adjacent to a number of low income and affordable housing communities. Woodland Townhomes (LIHTC; HCV accepted; fair housing plan in place) is an affordable housing development with 30 3-BR townhomes affordable at 60% AMI; Century Commons features student apartments that border Century College; and East Metro Place I and II housing communities offer 34 multi-bedroom units that provide both transitional and permanent supportive housing for homeless families with an emphasis on homeless families with disabilities and with history of long-term homelessness. Additionally, East Shore Place (202/8NC; fair housing plan in place) is located less than a quarter-mile from the project area and features 61 units affordable at 30% AMI.

Response:

The project area is also directly adjacent to Century College, one of the largest and most diverse and affordable colleges in Minnesota; FedEx, a large ground distribution center and employment hub; and a community commercial center featuring a grocery store, pharmacies, and a variety of other food and retail options.
The multiuse trail and sidewalk included as part of the proposed project advances a safe and affordable alternative to driving, and ensures that the residents of the aforementioned affordable housing, students of Century College, and all nearby community members have safe, ADA accessible, equitable, and consistent access to transit and bike/ped travel options in the corridor. It also connects these users to regional trail networks and important destinations. Auto users ? including freight bound for the adjacent FedEx distribution center - will also experience a safer, more efficient trip through the corridor as this project enhances

mobility and safety across all modes by reducing delay and conflict points.

(Limit 2,100 characters; approximately 300 words)

Upload map: 1589464997797_TH 120 housing.png

Measure A: Infrastructure Age

Year of Original Roadway Construction or Most Recent Reconstruction	Segment Length	Calculation	Calculation 2
1927.0	1.1	2119.7	1927.0
	1	**2120**	**1927**

Average Construction Year

Weighted Year 1927.0

Total Segment Length (Miles)

Total Segment Length 1.1

Measure A: Congestion Reduction/Air Quality

Total Peak Hour Delay Per Vehicle Without The Project (Seconds/ Vehicle)	Total Peak Hour Delay Per Vehicle With The Project (Seconds/ Vehicle)	Total Peak Hour Delay Per Vehicle Reduced by Project (Seconds/ Vehicle)	Volume without the Project (Vehicles per hour)	Volume with the Project (Vehicles Per Hour):	Total Peak Hour Delay Reduced by the Project:	Total Peak Hour Delay Reduced by the Project:	EXPLANATION of methodology used to calculate railroad crossing delay, if applicable.	Synchro or HCM Reports
22.8	5.4	17.4	4275	5037	74385.0	87643.8	N/A	1589483063425_2019 Existing PM and Build PM - Report.pdf
						87644		

Vehicle Delay Reduced

Total Peak Hour Delay Reduced	74385.0
Total Peak Hour Delay Reduced	87643.8

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):
11.06	9.54	1.52
11	**10**	**2**

Total

Total Emissions Reduced:	1.52
Upload Synchro Report	1589465754964_14 Delay, Emissions, and Safety Memo (Synchro Analysis) - TH120.pdf

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

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

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

Total Parallel Roadway

Emissions Reduced on Parallel Roadways	0
Upload Synchro Report	

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

New Roadway Portion:

Cruise speed in miles per hour with the project:	0
Vehicle miles traveled with the project:	0

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

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

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

Measure A: Benefit of Crash Reduction

Crash Modification Factor Used:	Conversion of signalized intersection into single-lane or multi-lane roundabout (CMF= 0.81 for all crash and severity types): TH 120 and Woodland Avenue intersection Convert intersection to restricted crossing U-turn (RCUT) intersection (CMF=0.71 for all crash and severity types): TH 120 and North Century access Convert intersection with minor road stop control to modern roundabout (CMF= 0.56 for all crash and severity types): TH 120 and South Century access Install TWLTL (two-way left turn lane) on two lane road (CMF = 0.69) for all crash and severity types): Existing two-lane section between Long Lake Road and South Century Access.
(Limit 700 Characters; approximately 100 words)	
Rationale for Crash Modification Selected:	A crash modification factor for each intersection identified above was identified using the Federal Highway Administration?s (FHWA) Crash Modification Factors (CMF) Clearinghouse to predict the annual crash reduction and cost benefit.
(Limit 1400 Characters; approximately 200 words)	
Project Benefit ($) from B/C Ratio:	$6,436,183.00
Total Fatal (K) Crashes:	0
Total Serious Injury (A) Crashes:	0
Total Non-Motorized Fatal and Serious Injury Crashes:	0
Total Crashes:	60
Total Fatal (K) Crashes Reduced by Project:	0
Total Serious Injury (A) Crashes Reduced by Project:	0
Total Non-Motorized Fatal and Serious Injury Crashes Reduced by Project:	0
Total Crashes Reduced by Project:	8
Worksheet Attachment	1589465908609_15 BenefitCost Analysis - TH120.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

Century Ave has a posted speed limit of 40 MPH through the project area, and an average daily traffic volume of 17,300-34,500, depending on the segment. The project area currently only features pedestrian facilities on the west side of TH 120/Century Avenue extending from Co Rd E/TH 244 to Century College?s West Campus and on the east side of Century Ave extending approximately 650 feet south from TH244. Beyond these segments, no other sidewalk or trail facilities currently exist along the corridor, and would-be pedestrians and bicyclists must choose either to use a shoulder/ditch that fluctuates in width - and even disappears in several locations - or to not walk at all. The disparity in pedestrian and bicycle facilities is a safety hazard and leaves would-be users exposed to traffic. It also discourages people from walking or bicycling to Century College or other destinations in the corridor.

Response:

FHWA Proven Safety Countermeasures indicates that sidewalks provide a 65-89 percent reduction in crashes involving pedestrians walking along roadways. The proposed project will construct a new sidewalk on the west side of Century Avenue from I-694 to connect to the existing sidewalk just north of Woodland Drive. A new separated multiuse trail will also be constructed on the east side of Century Avenue for the entire length of the corridor. The construction of the sidewalk and trail will complete gaps within the existing network, connect to Century College?s facilities on both sides of Century Avenue from both north and south, and create a safer environment for non-motorized users to travel the corridor by reducing potential conflicts between pedestrians, bicyclists, and motorists.
As part of the roadway improvements, roundabouts will be constructed at the south Century College entrance and at Woodland Drive with a center pedestrian refuge island in between these two roundabouts. The channelized approaches and

center island of these new roundabouts will result in lower vehicle speeds, which will also create an overall safer environment for pedestrians and bicyclists traveling the corridor. A raised median will also be constructed between these two roundabouts, which per FHWA Proven Safety Countermeasures provides a 46 percent reduction in pedestrian crashes.

These improvements will contribute to a built environment in which users of all ages and abilities can feel comfortable and safe to walk and bike along the corridor.

(Limit 2,800 characters; approximately 400 words)

Measure A: Multimodal Elements and Existing Connections

Response:

The proposed conversion from one-lane divided to two-lane divided and the addition of sidewalks and trail facilities between I-694 and Highway 244/Co Rd E dramatically improves mobility and safety throughout this stretch of road across multiple modes of travel.

The project area currently only features pedestrian facilities on the west side of TH 120/Century Avenue extending from Co Rd E/TH 244 to Century College?s West Campus and on the east side of Century Ave extending approximately 650 feet south from TH244. Beyond these segments, no other sidewalk or trail facilities currently exist along the corridor, and would-be pedestrians and bicyclists must choose either to use a shoulder/ditch that fluctuates in width - and even disappears in several locations - or to not walk at all. The lack of pedestrian and bicycle facilities not only discourages people from walking or bicycling in this corridor, but could also discourage transit use as transit stops are located on the grass boulevard adjacent to a high speed roadway and could be uncomfortable or inaccessible for many riders.

The proposed project will construct a new sidewalk on the west side of Century Avenue from I-694 to connect to the existing sidewalk just north of Woodland Drive. A new separated multiuse trail will also be constructed on the east side of Century Avenue for the entire length of the corridor. This trail is identified as a Planned Bikeway in the Regional Bikeways Inventory, and the completion of this project would bring a significant bike/ped connection online and link two adjacent RBTN Tier 1 Corridors. Considered together, the construction of the sidewalk and trail will complete gaps within the existing network, connect to Century College?s facilities on both sides of Century Avenue from both north and south, and create a safer environment for non-motorized users to travel the corridor by

reducing potential conflicts between pedestrians, bicyclists, and motorists.
The road expansion and new roundabouts are designed to increase safety across modes and reduce delay through the corridor, which benefits all users and enhances transit competitiveness. Also, the proposed trail and sidewalk are crucial to the future success of transit in the corridor, as bike/ped connections to bus stops are an essential component of the transit experience. The project area is currently served by Metro Transit Route 219. However, transit opportunities are expected to increase along this corridor and the surrounding area by 2040. The nearby Rush Line BRT will feature connecting bus service through the project area to Century College, and Washington County is currently studying the possibility of implementing transit service along TH 36 with a connection to Century Avenue.

(Limit 2,800 characters; approximately 400 words)

Transit Projects Not Requiring Construction

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

Check Here if Your Transit Project Does Not Require Construction

Measure A: Risk Assessment - Construction Projects

1)Layout (25 Percent of Points)

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

Layout approved by the applicant and all impacted jurisdictions (i.e., cities/counties that the project goes through or agencies that maintain the roadway(s)). A PDF of the layout must be attached along with letters from each jurisdiction to receive points.	Yes
100%	
Attach Layout	1589466282425_03 Concept Layout - TH120.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 (15 Percent of Points)

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

100%

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

100%

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

80%

Historic/archeological property impacted; determination of adverse effect anticipated

40%

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

0%

Project is located on an identified historic bridge

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

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

100%

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

50%

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

25%

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

0%

Anticipated date or date of acquisition 10/31/2024

4)Railroad Involvement (15 Percent of Points)

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

100%

Signature Page

Please upload attachment in PDF form.

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

50%

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

0%

Anticipated date or date of executed Agreement

5) Public Involvement (20 percent of points)

Projects that have been through a public process with residents and other interested public entities are more likely than others to be successful. The project applicant must indicate that events and/or targeted outreach (e.g., surveys and other web-based input) were held to help identify the transportation problem, how the potential solution was selected instead of other options, and the public involvement completed to date on the project. List Dates of most recent meetings and outreach specific to this project:

Meeting with general public:	11/13/2019
Meeting with partner agencies:	11/13/2019
Targeted online/mail outreach:	
Number of respondents:	

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

100%

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

75%

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

50%

At least one meeting specific to this project with key partner agencies has been used to help identify the project need. Yes

50%

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

25%

No outreach has led to the selection of this project.

0%

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

This specific project originally arose out of an Alternatives Analysis (2012) led by MnDOT in partnership with Century College, Washington County, and the City of Mahtomedi. Most recently, improvements consistent with this project were identified as part of Washington County?s engagement efforts around the County?s Bicycle and Pedestrian Plan (ongoing), Metro Transit?s Network Next initiative (2020), and MnDOT?s potential turn back of TH 120 (Century Ave) to Washington County jurisdiction.

MnDOT identified this corridor in the 2014 Jurisdictional Realignment Project as a potential turn back to the counties, and since then the key partner agencies ? Washington County, Ramsey County, and MnDOT ? have participated in an on-going discussion. As part of the discussions, the partner agencies hosted a kick-off community conversation in November 2019 with community members and elected officials from cities along Century Avenue to discuss needs in the corridor and identify goals. Across the communities, there was strong support for consistent bike/ped facilities through the entire corridor and roadway designs that facilitated safer travel options across modes. The partner agencies will continue to host meetings with the general public as designs for this project and projects elsewhere on Century Avenue move forward.

The Washington County?s ongoing Bicycle and Pedestrian Plan efforts has utilized both in-person and online forums to engage residents, municipalities, and other important community partners to help establish a common vision, develop priorities, and identify the necessary steps that will result in project implementation. Online comments have been ongoing, and several point to this corridor as a hazardous barrier to bicycling and walking in Washington County, and call for bike/ped facilities along Century Avenue.

Measure A: Cost Effectiveness

Total Project Cost (entered in Project Cost Form):	$8,252,355.00
Enter Amount of the Noise Walls:	$0.00
Total Project Cost subtract the amount of the noise walls:	$8,252,355.00
Enter amount of any outside, competitive funding:	$0.00
Attach documentation of award:	
Points Awarded in Previous Criteria	
Cost Effectiveness	$0.00

Other Attachments

File Name	Description	File Size
01 Summary Sheet - TH120.pdf	Summary Sheet TH 120 Expansion	1.2 MB
02 Existing Conditions - TH120.pdf	Existing Conditions TH 120 Expansion	506 KB
04 County Board Resolution - TH120.pdf	Washington County Board of Commissioners Resolution	131 KB
06 Mahtomedi LOS - TH120.pdf	City of Mahtomedi Letter of Support TH 120 Expansion	330 KB
07 White Bear Lake LOS - TH120.pdf	City of White Bear Lake Letter of Support TH 120 Expansion	36 KB
08 Ramsey County LOS - TH120.pdf	Ramsey County Letter of Support TH 120 Expansion	728 KB
09 Century College LOS - TH120.pdf	Century College Letter of Support TH 120	44 KB
09 MnDOT LOS.pdf	MnDOT Letter of Support TH 120 Expansion	477 KB
16 Crash Modification Factors - TH120.pdf	Crash Modification Factors TH 120 Expansion	351 KB

Washington County

ADA Transition Plan

September 30, 2015

Washington County

"A great place to live, work and play...today and tomorrow"

Introduction

Transition Plan Need and Purpose

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

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

Title II of ADA pertains to the programs, activities and services public entities provide. As a public entity that employs 50 or more persons, Washington County must comply with this section of the Act as it specifically applies to public service agencies. Title II of ADA provides that, "...no qualified individual with a disability shall, by reason of such disability, be excluded from participation in or be denied the benefits of the services, programs, or activities of a public entity, or be subjected to discrimination by any such entity." (42 USC. Sec. 12132; 28 CFR. Sec. 35.130)

As required by Title II of ADA, 28 CFR. Part 35 Sec. 35.105 and Sec. 35.150, Washington County has conducted a self-evaluation of its facilities throughout the County and has developed this Transition Plan detailing how the organization will ensure that all of those facilities are accessible to all individuals.

ADA and its Relationship to Other Laws

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

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

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

Agency Requirements

Under Title II, Washington County must meet these general requirements:

- Must operate their programs so that, when viewed in their entirety, the programs are accessible to and useable by individuals with disabilities (28 C.F.R. Sec. 35.150).
- May not refuse to allow a person with a disability to participate in a service, program or activity simply because the person has a disability (28 C.F.R. Sec. 35.130 (a).
- Must make reasonable modifications in policies, practices and procedures that deny equal access to individuals with disabilities unless a fundamental alteration in the program would result (28 C.F.R. Sec. 35.130(b) (7).
- May not provide services or benefits to individuals with disabilities through programs that are separate or different unless the separate or different measures are necessary to ensure that benefits and services are equally effective (28 C.F.R. Sec. 35.130(b)(iv) & (d).
- Must take appropriate steps to ensure that communications with applicants, participants and members of the public with disabilities are as effective as communications with others (29 C.F.R. Sec. 35.160(a).
- Must designate at least one responsible employee to coordinate ADA compliance [28 CFR Sec. 35.107(a)]. This person is often referred to as the "ADA Coordinator." The public entity must provide the ADA coordinator's name, office address, and telephone number to all interested individuals [28 CFR Sec. 35.107(a)].
- Must provide notice of ADA requirements. All public entities, regardless of size, must provide information about the rights and protections of Title II to applicants, participants, beneficiaries, employees, and other interested persons [28 CFR Sec. 35,106]. The notice must include the identification of the employee serving as the ADA coordinator and must provide this information on an ongoing basis [28 CFR Sec. 104.8(a)].
- Must establish a grievance procedure. Public entities must adopt and publish grievance procedures providing for prompt and equitable resolution of complaints [28 CFR Sec. 35.107(b)]. This requirement provides for a timely resolution of all problems or conflicts related to ADA compliance before they escalate to litigation and/or the federal complaint process.

Facilities

Self-Evaluation

Overview

Washington County is required, under Title II of the Americans with Disabilities Act (ADA) and 28CFR35.105, to perform a self-evaluation of its current building infrastructure policies, practices, and programs. This self-evaluation will identify what policies and practices impact accessibility and examine how the County implements these policies. The goal of the self-evaluation is to verify that, in implementing the County's policies and practices, the division is providing accessibility and not adversely affecting the full participation of individuals with disabilities. A summary of the inventoried County policies and practices is found in Appendix A.

The self-evaluation also examines the condition of the County's Pedestrian Access Route (PAR) and identifies potential need for PAR infrastructure improvements. This will include the sidewalks, curb ramps, parking lots and buildings that house Washington County public services. Any barriers to accessibility identified in the self-evaluation and the potential / recommended remedy to the identified barrier are set out in this transition plan.

Summary

In 2014, Washington County conducted an inventory of pedestrian access to facilities within its public system consisting of the evaluation of the following facilities:

- 24 Building Entrances
- 13 Courtrooms
- 97 Curb Ramps 1400
- 28 Building Floors
- 2 Jury Rooms
- 23 Parking Lots
- 62 Sidewalk Control Points
- 5 Sidewalk Ramps

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

Policies and Practices

Previous Practices

Since the adoption of the ADA, Washington County has strived to provide accessible pedestrian features as part of the County's capital improvement projects. As additional information was made available, as to the methods of providing accessible pedestrian features, the County updated their procedures to accommodate these methods.

Policy

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

The County will consider and respond to all accessibility improvement requests. All accessibility improvements that have been deemed reasonable will be scheduled consistent with facility priorities.

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

Improvement Schedule

Priority Areas

Prioritizing and scheduling of work will be established by the Transition Plan Implementation Committee based on numerous factors, including, but not limited to, severity of non-compliance, a barrier to access a program, feasibility of remedies, a safety concern, or a location that receives high public use. Prioritization will also be given to locations that would most likely not be updated by means of other county programs

Schedule

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

- After 10 years, 95% of accessibility features within the priority areas identified by County staff would be ADA compliant.
- After 20 years, 95% of accessibility features within the jurisdiction of the County would be ADA compliant.

Implementation Schedule

Methodology

Washington County will utilize two methods for upgrading pedestrian facilities to the current ADA standards. The first and most comprehensive of the two methods are the scheduled facility improvement projects. All pedestrian facilities impacted by these projects will be upgraded to current ADA accessibility standards. The second method is the stand alone ADA accessibility improvement project. These projects will be incorporated into the Capital Improvement Program (CIP) on a case by case basis as determined by Washington County staff. The County CIP, which includes a detailed schedule and budget for specific improvements, is included in Appendix B.

Public Rights of Way

Self-Evaluation

Overview

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

The self-evaluation also examines the condition of the County's Pedestrian Circulation Route/Pedestrian Access Route (PCR/PAR) and identifies potential need for PCR/PAR infrastructure improvements. This will include the sidewalks, curb ramps, paved bicycle/pedestrian trails, traffic control signals and transit facilities that are located within the County rights of way. Any barriers to accessibility identified in the self-evaluation and the potential / recommended remedy to the identified barrier are set out in this transition plan.

Summary

In 2014, Washington County conducted an inventory of pedestrian facilities within its public right of way consisting of the evaluation of the following facilities:

- 1287 Curb Ramps
- 897 Sidewalk Control Points
- 149 Traffic Control Signals

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

Policies and Practices

Previous Practices

Since the adoption of the ADA, Washington County has strived to provide accessible pedestrian features as part of the County's capital improvement projects. As additional information was made available, as to the methods of providing accessible pedestrian features, the County updated their procedures to accommodate these methods.

Policy

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

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

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

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

Improvement Schedule

Priority Areas

Prioritizing and scheduling of work will be established by the Transition Plan Implementation Committee based on numerous factors, including, but not limited to, severity of non-compliance, a barrier to access a program, feasibility of remedies, a safety concern, or a location that receives high public use. Prioritization will also be given to locations that would most likely not be updated by means of other county programs

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

External Agency Coordination

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

Schedule

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

- After 10 years, 80% of accessibility features within the priority areas identified by County staff would be ADA compliant.

- After 20 years, 80% of accessibility features within the jurisdiction of the County would be ADA compliant.

Implementation Schedule

Methodology

Washington County will utilize two methods for upgrading pedestrian facilities to the current ADA standards. The first and most comprehensive of the two methods are the scheduled street and utility improvement projects. All pedestrian facilities impacted by these projects will be upgraded to current ADA accessibility standards. The second method is the stand alone sidewalk and ADA accessibility improvement project. These projects will be incorporated into the Capital Improvement Program (CIP) on a case by case basis as determined by Washington County staff. The County CIP, which includes a detailed schedule and budget for specific improvements, is included in Appendix B.

Parks

Self-Evaluation

Overview

Washington County is required, under Title II of the Americans with Disabilities Act (ADA) and 28CFR35.105, to perform a self-evaluation of its current park infrastructure policies, practices, and programs. This self-evaluation will identify what policies and practices impact accessibility and examine how the County implements these policies. The goal of the self-evaluation is to verify that, in implementing the County's policies and practices, the division is providing accessibility and not adversely affecting the full participation of individuals with disabilities. A summary of the inventoried County policies and practices is found in Appendix A.

The self-evaluation also examines the condition of the County's outdoor recreation access routes (ORAR), outdoor recreation trails (ORT) and outdoor constructed features and identifies potential need for ORAR, ORT or other constructed feature improvements. This will include the sidewalks, trails, picnic facilities, campsites and other features that are located within the County park system. Any barriers to accessibility identified in the self-evaluation and the potential / recommended remedy to the identified barrier are set out in this transition plan.

Summary

In 2014, Washington County conducted an inventory of pedestrian facilities within its park system consisting of the evaluation of the following facilities:

- 1 Archery Range
- 4 Boat Launching Docks
- 5 Building Entrances
- 1 Conference Cottage
- 95 Curb Ramps
- 6 Designated Camp Sites
- 6 Fishing Piers
- 1 Nordic Center
- 11 ORAR Segments
- 699 ORT Segments
- 3 Park Offices
- 42 Parking Lots
- 30 Picnic Areas
- 7 Play Structure Areas
- 14 Restroom Buildings

- 84 Sidewalk segments
- 5 Swim Beaches
- 3 Viewing Blinds
- 35 Water Fountains

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

Policies and Practices

Previous Practices

Since the adoption of the ADA, Washington County has strived to provide accessible pedestrian features as part of the County's capital improvement projects. As additional information was made available, as to the methods of providing accessible pedestrian features, the County updated their procedures to accommodate these methods. Washington County Parks had previously evaluated the Park System in terms of its accessibility. This previous evaluation is found in Appendix H.

Policy

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

The County will consider and respond to all accessibility improvement requests. All accessibility improvements that have been deemed reasonable will be scheduled consistent with park priorities. Maintenance of pedestrian facilities within the park system will continue to follow the policies set forth by the County.

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

Improvement Schedule

Priority Areas

Prioritizing and scheduling of work will be established by the Transition Plan Implementation Committee based on numerous factors, including, but not limited to, severity of non-compliance, a barrier to access a program, feasibility of remedies, a safety concern, or a location that receives high public use. Prioritization will also be given to locations that would most likely not be updated by means of other county programs

Schedule

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

- After 10 years, 80% of accessibility features within the priority areas identified by County staff would be ADA compliant.
- After 20 years, 80% of accessibility features within the jurisdiction of the County would be ADA compliant.

Implementation Schedule

Methodology

Washington County will utilize two methods for upgrading pedestrian facilities to the current ADA standards. The first and most comprehensive of the two methods are the scheduled park improvement projects. All pedestrian facilities impacted by these projects will be upgraded to current ADA accessibility standards. The second method is the stand alone ADA accessibility improvement project. These projects will be incorporated into the Capital Improvement Program (CIP) on a case by case basis as determined by Washington County staff. The County CIP, which includes a detailed schedule and budget for specific improvements, is included in Appendix B.

County Website

Self-Evaluation

Overview

Washington County is required, under Title II of the Americans with Disabilities Act (ADA) and 28CFR35.105, to perform a self-evaluation of its current building infrastructure policies, practices, and programs. This self-evaluation will identify what policies and practices impact accessibility and examine how the County implements these policies. The goal of the self-evaluation is to verify that, in implementing the County's policies and practices, the County is providing accessibility and not adversely affecting the full participation of individuals with disabilities. A summary of the inventoried County policies and practices is found in Appendix A.

The self-evaluation also examined the accessibility of the County's website. The County is required to ensure that communications with individuals with disabilities are as effective as communications with others. The evaluation of the website reviews the content of the website to ensure that it is perceivable, operable, understandable and robust.

Summary

In 2015, Washington County conducted an inventory of its website. A detailed evaluation on how these facilities relate to ADA standards is found in Appendix A and will be updated periodically.

Policies and Practices

Previous Practices

Since the adoption of the ADA, Washington County has strived to provide accessible technological features as part of the County's capital improvement projects. As additional information was made available, as to the methods of providing accessible technological features, the County updated their procedures to accommodate these methods.

Policy

Washington County's goal is to continue to provide accessible communications with the public.

The County will consider and respond to all accessibility improvement requests. All accessibility improvements that have been deemed reasonable will be scheduled consistent with County priorities.

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

Improvement Schedule

Priority Areas

Prioritizing and scheduling of website improvements will be established by the Transition Plan Implementation Committee based on numerous factors, including, but not limited to, severity of non-compliance, a barrier to access a program, feasibility of remedies, a safety concern, or an area that receives high public use.

Schedule

Washington County has set the following schedule goals for improving the accessibility of its website:

- After 2 years, 95% of accessibility features within the priority areas identified by County staff would be ADA compliant.
- After 5 years, 95% of accessibility features would be ADA compliant.

Implementation Schedule

Methodology

Washington County will utilize two methods for upgrading the website to the current ADA standards. The first and most comprehensive of the two methods are the scheduled content replacement. As information is placed on the website, County staff will ensure that it meets accessibility criteria. The second method is the stand alone ADA accessibility improvement project. These projects will be incorporated into the Capital Improvement Program (CIP) on a case by case basis as determined by Washington County staff. The County CIP, which includes a detailed schedule and budget for specific improvements, is included in Appendix B.

ADA Coordinator

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

Public Outreach

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

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

Four open houses were held to introduce the Transition Plan to the public and begin a conversation about the county's work thus far, and to outline how the county will continue to provide accessibility throughout the county. Information gathered at the open houses will help identify priority areas of improvement within the county, including buildings, parks, roadways, and other county facilities. The open houses were held:

- 1:00 to 3:00 p.m. Tuesday, April 7, at the Oakdale City Hall, 1584 Hadley Ave. N. in Oakdale ;
- 4:30 to 6:30 p.m. Tuesday, April 7, at the Government Center 14949 N. 62nd St. in Stillwater;
- 4:30 to 6:30 p.m. Wednesday, April 8, at the Headwaters Service Center, 19955 Forest Lake Road N. in Forest Lake; and
- 4:30 to 6:30 p.m. Thursday, April 9, at the Cottage Grove Service Center, 13000 Ravine Parkway S. in Cottage Grove.

Additional information about the open houses is located in Appendix C.

This document was also available for public comment. A summary of comments received and detailed information regarding the public outreach activities are located in Appendix C.

Grievance Procedure

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

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

Monitor the Progress

This document represents the first phase of transition planning within the County and focuses on public infrastructure and the County website. Additional transition planning for specific government programs and services will be incorporated as future phases of work. Washington County will continue to update this transition plan and appendices as conditions within the County evolve. With each main body update, public outreach on this document will be continued.

Appendices

A. Self-Evaluation Results

a. Facilities

b. Public Rights of Way

c. Parks

d. County Website

B. Schedule / Budget Information

C. Public Outreach

a. Open House Communication Efforts

b. Open House Content

c. Transition Plan Public Comments (Upcoming)

D. Grievance Procedure

a. Public Notice

b. ADA Comment Form

c. Comment Period Notification

d. Comment Period Website

e. Public Comments

E. Contact Information

F. Agency ADA Design Standards and Procedures

a. Facilities

b. Public Rights of Way

c. Parks

d. County Website

e. Policy #5024 – ADA Title II (Program Accessibility) Compliance Policy

f. Policy #5026 ADA Title II Service Animal Policy

g. Policy #P012 – Motorized Vehicles on Trails Policy

h. Policy #PO21 – Free Annual Vehicle Permit for any Veteran who has a Total and Permanent Service-connected Disability

i. Policy # PO22 – Free Daily Vehicle Permit for any Veteran with any Service-connected Disability

j. Proposed Right of Way Accessibility Guidelines (PROWAG) as adopted by the MnDOT

k. ADA Transition Plan Inventory Manual

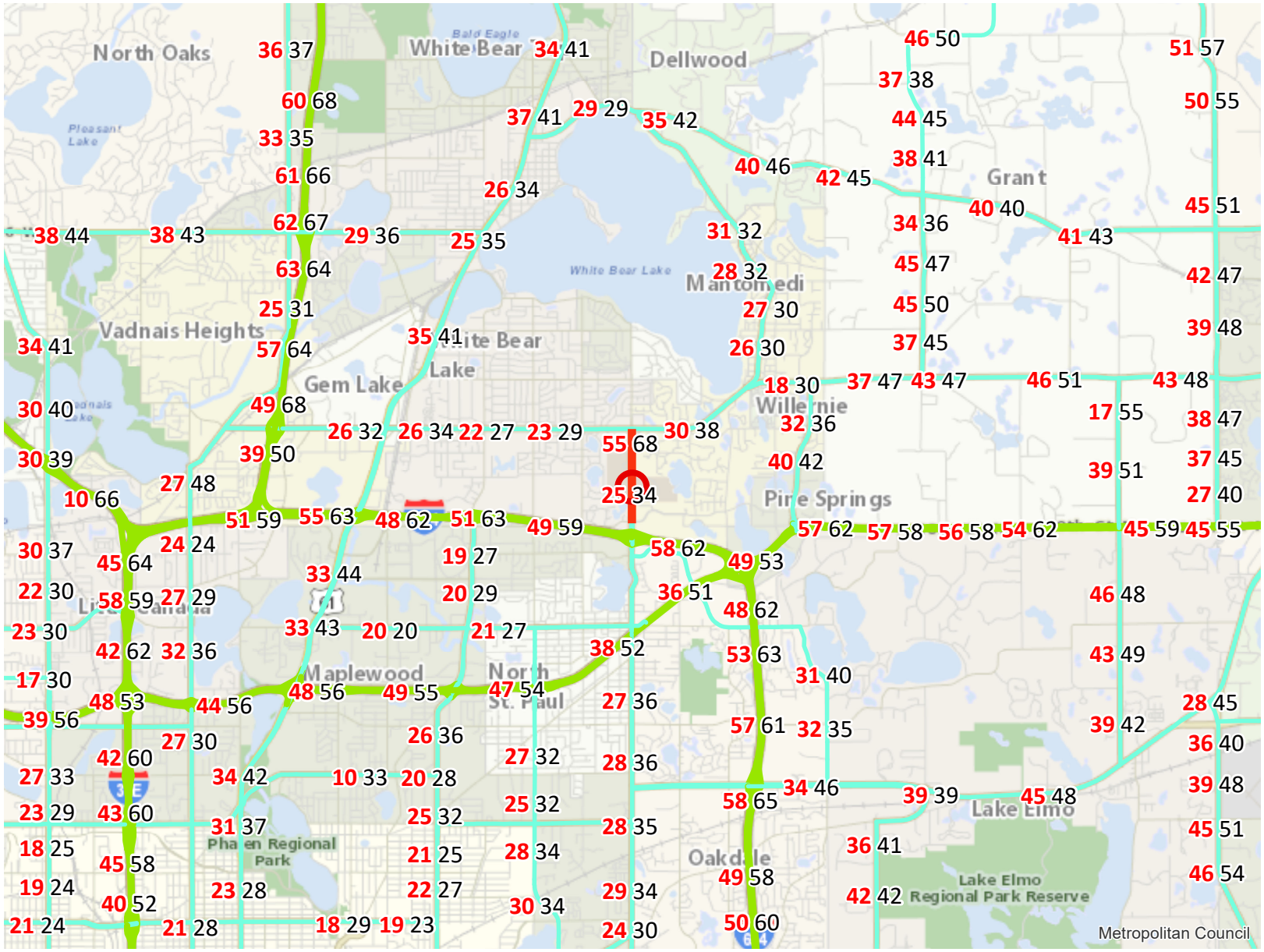
l. ADA Checklist for Readily Achievable Barrier Removal

G. Glossary of Terms

H. Washington County Previous ADA Planning Efforts

Level of Congestion

Roadway Expansion Project: TH 120 | Map ID: 1584974827993



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

0 0.75 1.5 3 4.5 6 Miles

Created: 3/23/2020
LandscapeRSA1

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

METROPOLITAN COUNCIL

Regional Economy

Roadway Expansion Project: TH 120 | Map ID: 1584974827993

Results

WITHIN ONE MI of project:
Postsecondary Students: 8996

Totals by City:

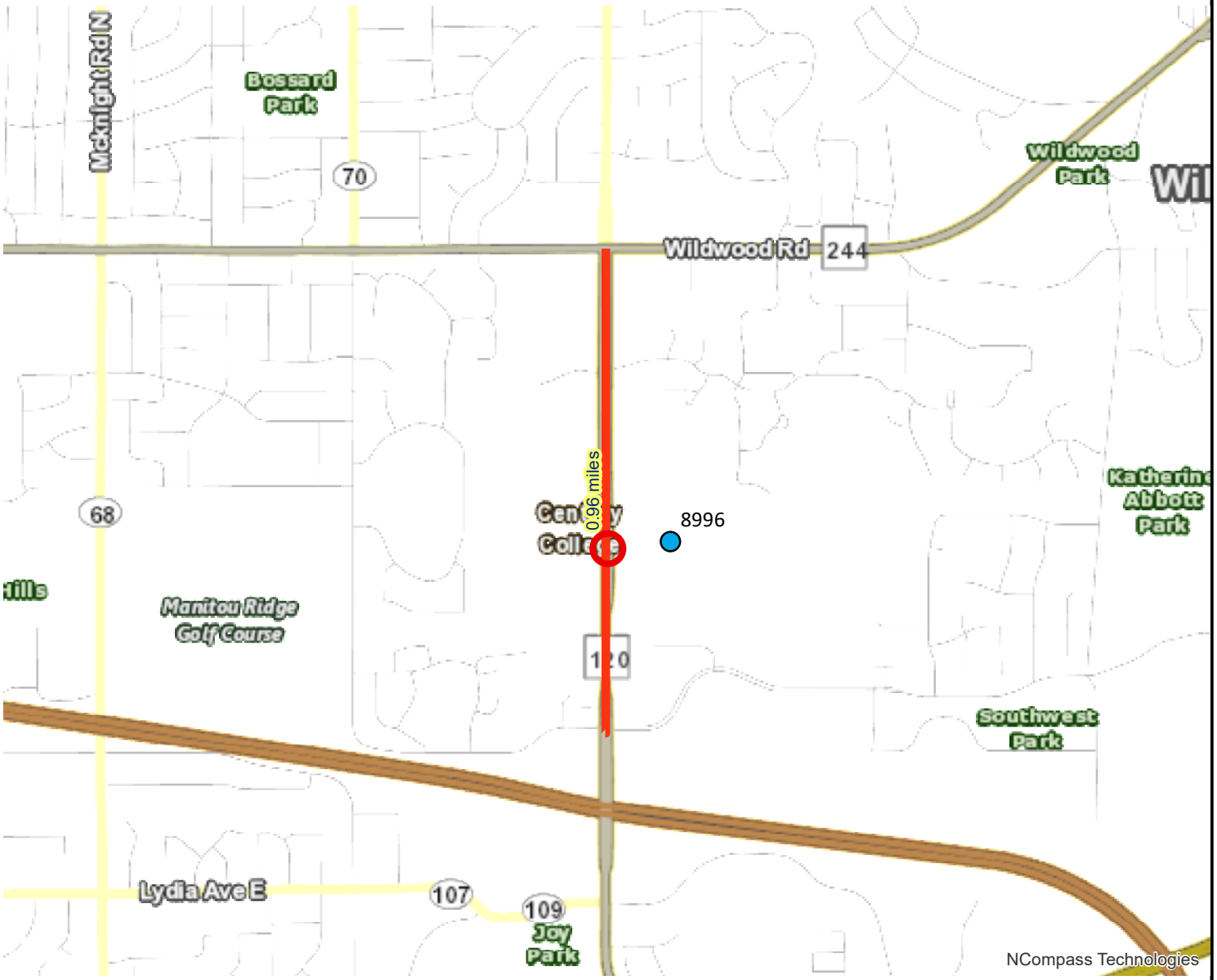
Mahtomedi
Population: 5536
Employment: 1985
Mfg and Dist Employment: 1146

Maplewood
Population: 612
Employment: null
Mfg and Dist Employment: null

North St. Paul
Population: 2265
Employment: 13
Mfg and Dist Employment: 1

Oakdale
Population: 1307
Employment: 545
Mfg and Dist Employment: 138

White Bear Lake
Population: 4632
Employment: 1952
Mfg and Dist Employment: 16



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

0 0.175 0.35 0.7 1.05 1.4 Miles

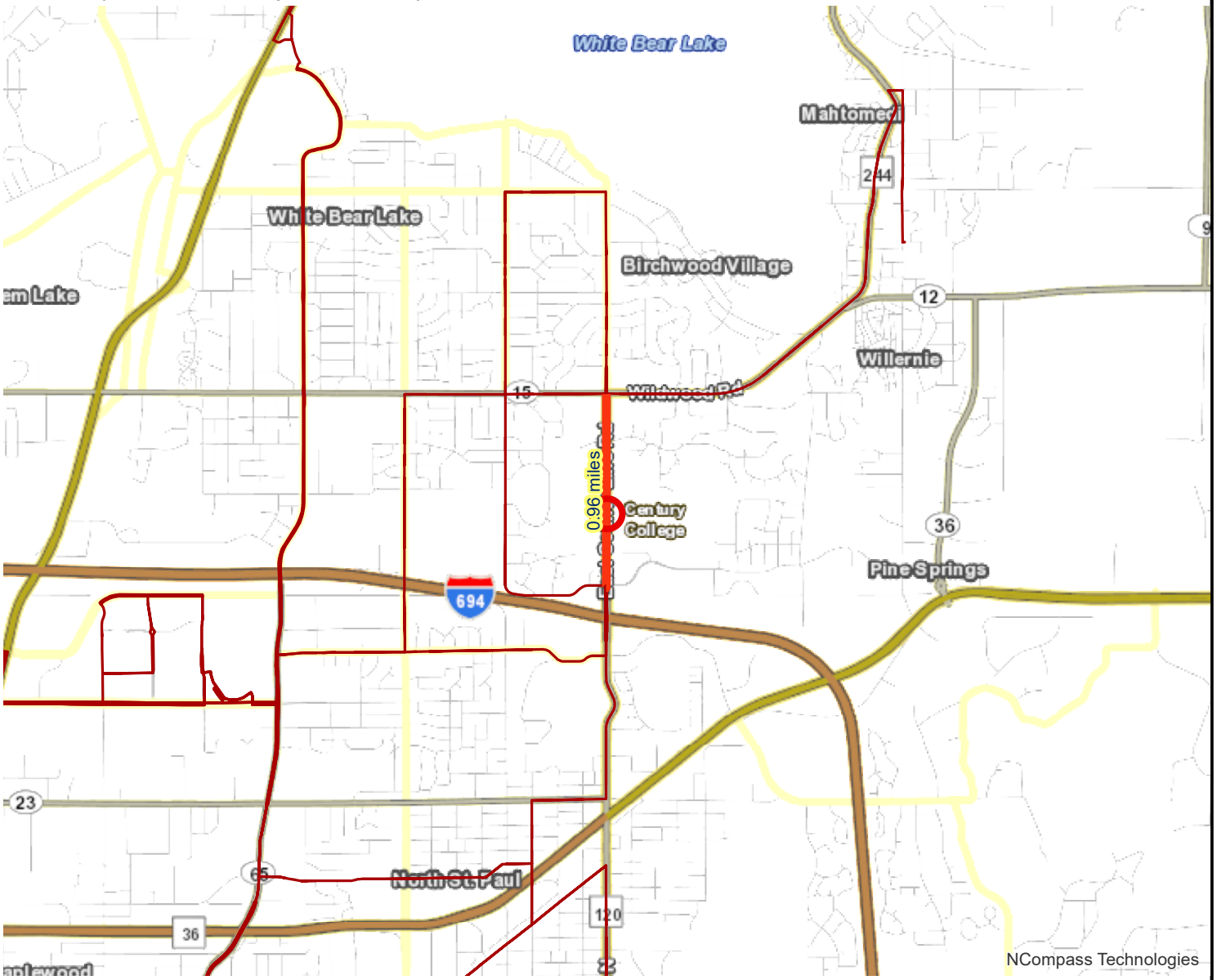
Created: 3/23/2020
LandscapeRSA5

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

METROPOLITAN COUNCIL

Transit Connections

Roadway Expansion Project: TH 120 | Map ID: 1584974827993



Results

Transit with a Direct Connection to project:
219 270

**indicates Planned Alignments*

Transit Market areas: 4

Project Points — Transit Routes

Project

Project Area

0 0.475 0.95 1.9 2.85 3.8 Miles

Created: 3/23/2020
LandscapeRSA3

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

METROPOLITAN COUNCIL

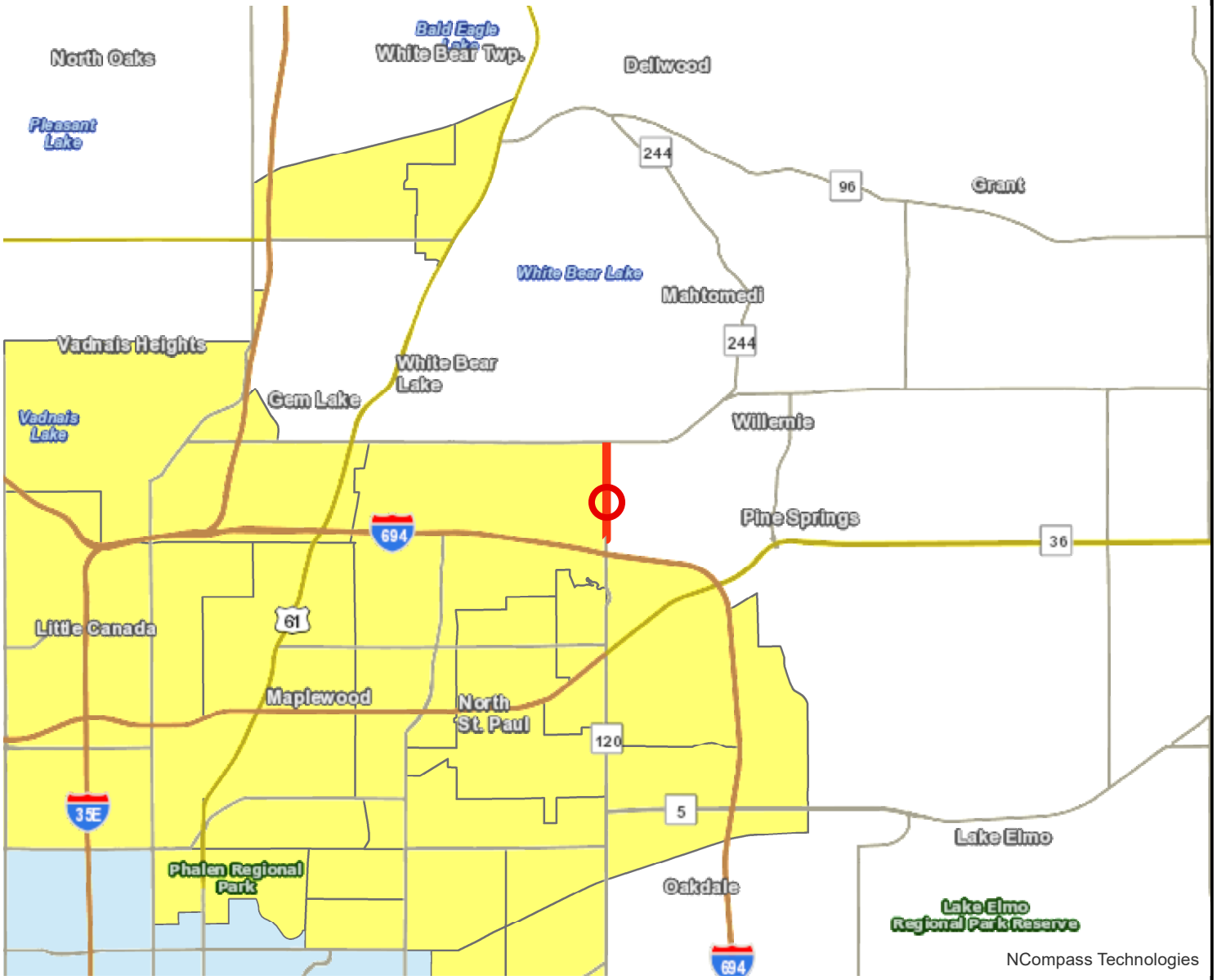
Socio-Economic Conditions

Roadway Expansion Project: TH 120 | Map ID: 1584974827993

Results

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

Tracts within half-mile:
40302 40401 40402
42401 42602 70303
70907



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

0 0.75 1.5 3 4.5 6 Miles

Created: 3/23/2020
LandscapeRSA2

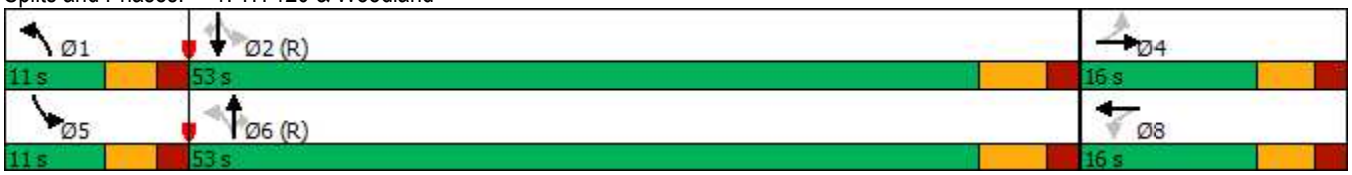
For complete disclaimer of accuracy, please visit http://giswebsite.metc.state.mn.us/gissite/notice.aspx

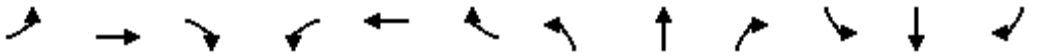
METROPOLITAN COUNCIL

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations										
Traffic Volume (vph)	25	0	22	1	3	668	47	25	379	13
Future Volume (vph)	25	0	22	1	3	668	47	25	379	13
Turn Type	Perm	NA	Perm	NA	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases		4		8	1	6		5	2	
Permitted Phases	4		8		6		6	2		2
Detector Phase	4	4	8	8	1	6	6	5	2	2
Switch Phase										
Minimum Initial (s)	10.0	10.0	10.0	10.0	5.0	15.0	15.0	5.0	15.0	15.0
Minimum Split (s)	16.0	16.0	16.0	16.0	11.0	21.0	21.0	11.0	21.0	21.0
Total Split (s)	16.0	16.0	16.0	16.0	11.0	53.0	53.0	11.0	53.0	53.0
Total Split (%)	20.0%	20.0%	20.0%	20.0%	13.8%	66.3%	66.3%	13.8%	66.3%	66.3%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.0	4.0	4.0	3.0	4.0	4.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	5.5	5.5	5.0	6.0	6.0	5.0	6.0	6.0
Lead/Lag					Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?										
Recall Mode	None	None	None	None	None	C-Max	C-Max	None	C-Max	C-Max
Act Effct Green (s)	10.0	10.0	10.0	10.0	63.5	62.7	62.7	64.8	65.0	65.0
Actuated g/C Ratio	0.12	0.12	0.12	0.12	0.79	0.78	0.78	0.81	0.81	0.81
v/c Ratio	0.15	0.03	0.13	0.11	0.00	0.48	0.04	0.05	0.26	0.01
Control Delay	33.6	0.1	33.3	15.1	2.7	5.8	0.5	2.8	4.7	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	33.6	0.1	33.3	15.1	2.7	5.8	0.5	2.8	4.7	0.0
LOS	C	A	C	B	A	A	A	A	A	A
Approach Delay		20.4		24.0		5.4			4.4	
Approach LOS		C		C		A			A	

Intersection Summary	
Cycle Length: 80	
Actuated Cycle Length: 80	
Offset: 0 (0%), Referenced to phase 2:SBTL and 6:NBTL, Start of 1st Green	
Natural Cycle: 60	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.48	
Intersection Signal Delay: 6.3	Intersection LOS: A
Intersection Capacity Utilization 53.1%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 1: TH 120 & Woodland





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	25	0	16	22	1	22	3	668	47	25	379	13
Future Volume (veh/h)	25	0	16	22	1	22	3	668	47	25	379	13
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	26	0	17	23	1	23	3	703	49	26	399	14
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	183	0	128	189	5	124	710	1282	1086	626	1326	1123
Arrive On Green	0.08	0.00	0.08	0.08	0.08	0.08	0.01	1.00	1.00	0.03	0.71	0.71
Sat Flow, veh/h	1387	0	1585	1396	66	1529	1781	1870	1585	1781	1870	1585
Grp Volume(v), veh/h	26	0	17	23	0	24	3	703	49	26	399	14
Grp Sat Flow(s),veh/h/ln	1387	0	1585	1396	0	1595	1781	1870	1585	1781	1870	1585
Q Serve(g_s), s	1.4	0.0	0.8	1.2	0.0	1.1	0.0	0.0	0.0	0.3	6.3	0.2
Cycle Q Clear(g_c), s	2.5	0.0	0.8	2.0	0.0	1.1	0.0	0.0	0.0	0.3	6.3	0.2
Prop In Lane	1.00		1.00	1.00		0.96	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	183	0	128	189	0	129	710	1282	1086	626	1326	1123
V/C Ratio(X)	0.14	0.00	0.13	0.12	0.00	0.19	0.00	0.55	0.05	0.04	0.30	0.01
Avail Cap(c_a), veh/h	253	0	208	259	0	209	836	1282	1086	711	1326	1123
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	0.65	0.65	0.65	1.00	1.00	1.00
Uniform Delay (d), s/veh	35.5	0.0	34.1	35.1	0.0	34.3	4.0	0.0	0.0	3.3	4.3	3.4
Incr Delay (d2), s/veh	0.4	0.0	0.5	0.3	0.0	0.7	0.0	1.1	0.1	0.0	0.6	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	0.0	0.3	0.4	0.0	0.5	0.0	0.4	0.0	0.1	1.8	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	35.8	0.0	34.6	35.4	0.0	35.0	4.0	1.1	0.1	3.4	4.9	3.4
LnGrp LOS	D	A	C	D	A	C	A	A	A	A	A	A
Approach Vol, veh/h		43			47			755			439	
Approach Delay, s/veh		35.4			35.2			1.0			4.8	
Approach LOS		D			D			A			A	

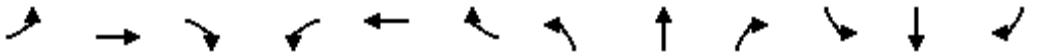
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	5.3	62.7		12.0	7.2	60.8		12.0				
Change Period (Y+Rc), s	5.0	6.0		5.5	5.0	6.0		5.5				
Max Green Setting (Gmax), s	6.0	47.0		10.5	6.0	47.0		10.5				
Max Q Clear Time (g_c+I1), s	2.0	8.3		4.5	2.3	2.0		4.0				
Green Ext Time (p_c), s	0.0	6.0		0.0	0.0	13.2		0.1				

Intersection Summary			
HCM 6th Ctrl Delay		4.7	
HCM 6th LOS		A	

Lane Group	EBT	EBR	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations										
Traffic Volume (vph)	5	193	11	36	88	685	22	12	452	2
Future Volume (vph)	5	193	11	36	88	685	22	12	452	2
Turn Type	NA	Perm	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	4		8		1	6		5	2	
Permitted Phases		4		8	6		6	2		2
Detector Phase	4	4	8	8	1	6	6	5	2	2
Switch Phase										
Minimum Initial (s)	8.0	8.0	8.0	8.0	7.0	15.0	15.0	7.0	15.0	15.0
Minimum Split (s)	15.0	15.0	15.0	15.0	14.0	22.0	22.0	14.0	22.0	22.0
Total Split (s)	15.0	15.0	15.0	15.0	14.0	36.0	36.0	14.0	36.0	36.0
Total Split (%)	18.8%	18.8%	18.8%	18.8%	17.5%	45.0%	45.0%	17.5%	45.0%	45.0%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.0	4.5	4.5	3.0	4.5	4.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5	5.5	5.5	5.0	6.5	6.5	5.0	6.5	6.5
Lead/Lag					Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?					Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	C-Max	C-Max	None	C-Max	C-Max
Act Effct Green (s)	8.3	8.3	9.2	9.2	45.9	42.6	42.6	41.8	34.7	34.7
Actuated g/C Ratio	0.10	0.10	0.12	0.12	0.57	0.53	0.53	0.52	0.43	0.43
v/c Ratio	0.04	0.59	0.75	0.11	0.21	0.73	0.02	0.04	0.59	0.00
Control Delay	32.5	12.9	58.5	0.6	9.0	22.1	0.0	10.2	22.9	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	32.5	12.9	58.5	0.6	9.0	22.1	0.0	10.2	22.9	0.0
LOS	C	B	E	A	A	C	A	B	C	A
Approach Delay	13.6		47.0			20.1			22.5	
Approach LOS	B		D			C			C	

Intersection Summary	
Cycle Length: 80	
Actuated Cycle Length: 80	
Offset: 0 (0%), Referenced to phase 2:SBTL and 6:NBTL, Start of 1st Green	
Natural Cycle: 80	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.75	
Intersection Signal Delay: 23.0	Intersection LOS: C
Intersection Capacity Utilization 70.8%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 2: TH 120 & N College



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	3	5	193	135	11	36	88	685	22	12	452	2
Future Volume (veh/h)	3	5	193	135	11	36	88	685	22	12	452	2
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	3	5	203	142	12	38	93	721	0	13	476	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	68	114	157	179	15	172	563	915		253	813	
Arrive On Green	0.10	0.10	0.10	0.11	0.11	0.11	0.08	0.49	0.00	0.04	0.87	0.00
Sat Flow, veh/h	688	1147	1585	1649	139	1585	1781	1870	1585	1781	1870	1585
Grp Volume(v), veh/h	8	0	203	154	0	38	93	721	0	13	476	0
Grp Sat Flow(s),veh/h/ln	1836	0	1585	1788	0	1585	1781	1870	1585	1781	1870	1585
Q Serve(g_s), s	0.3	0.0	7.9	6.7	0.0	1.8	2.1	25.6	0.0	0.3	5.4	0.0
Cycle Q Clear(g_c), s	0.3	0.0	7.9	6.7	0.0	1.8	2.1	25.6	0.0	0.3	5.4	0.0
Prop In Lane	0.37		1.00	0.92		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	182	0	157	194	0	172	563	915		253	813	
V/C Ratio(X)	0.04	0.00	1.29	0.79	0.00	0.22	0.17	0.79		0.05	0.59	
Avail Cap(c_a), veh/h	218	0	188	212	0	188	628	915		414	813	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	0.00	0.98	0.98	0.00
Uniform Delay (d), s/veh	32.6	0.0	36.0	34.8	0.0	32.6	9.7	17.0	0.0	14.4	3.3	0.0
Incr Delay (d2), s/veh	0.1	0.0	170.7	17.3	0.0	0.6	0.1	6.8	0.0	0.1	3.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.0	10.4	3.8	0.0	0.7	0.7	11.1	0.0	0.1	1.8	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	32.7	0.0	206.8	52.1	0.0	33.2	9.8	23.8	0.0	14.5	6.3	0.0
LnGrp LOS	C	A	F	D	A	C	A	C		B	A	
Approach Vol, veh/h		211			192			814	A		489	A
Approach Delay, s/veh		200.2			48.3			22.2			6.5	
Approach LOS		F			D			C			A	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	11.1	41.3		13.4	6.8	45.6		14.2				
Change Period (Y+Rc), s	5.0	6.5		5.5	5.0	6.5		5.5				
Max Green Setting (Gmax), s	9.0	29.5		9.5	9.0	29.5		9.5				
Max Q Clear Time (g_c+I1), s	4.1	7.4		2.3	2.3	27.6		8.7				
Green Ext Time (p_c), s	0.1	7.5		0.0	0.0	1.4		0.1				

Intersection Summary			
HCM 6th Ctrl Delay		42.7	
HCM 6th LOS		D	

Notes

Unsignalized Delay for [NBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Intersection	
Int Delay, s/veh	17.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	98	21	828	47	6	861
Future Vol, veh/h	98	21	828	47	6	861
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	Yield	-	None
Storage Length	0	200	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	103	22	872	49	6	906

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1815	461	0	0	872	0
Stage 1	897	-	-	-	-	-
Stage 2	918	-	-	-	-	-
Critical Hdwy	6.63	6.93	-	-	4.13	-
Critical Hdwy Stg 1	5.83	-	-	-	-	-
Critical Hdwy Stg 2	5.43	-	-	-	-	-
Follow-up Hdwy	3.519	3.319	-	-	2.219	-
Pot Cap-1 Maneuver	~ 77	548	-	-	771	-
Stage 1	359	-	-	-	-	-
Stage 2	388	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	~ 76	548	-	-	771	-
Mov Cap-2 Maneuver	~ 76	-	-	-	-	-
Stage 1	359	-	-	-	-	-
Stage 2	382	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	266.4	0	0.1
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	76	548	771	-
HCM Lane V/C Ratio	-	-	1.357	0.04	0.008	-
HCM Control Delay (s)	-	-	$ 320.9	11.8	9.7	0
HCM Lane LOS	-	-	F	B	A	A
HCM 95th %tile Q(veh)	-	-	8.1	0.1	0	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Network Totals

Number of Intersections	3
Total Delay (hr)	35
Stops (#)	1383
Average Speed (mph)	22
Total Travel Time (hr)	88
Distance Traveled (mi)	1973
Fuel Consumed (gal)	111
Fuel Economy (mpg)	17.8
Unserved Vehicles (#)	0
Vehicles in dilemma zone (#)	144
Performance Index	39.3

1: TH 120 & Woodland

Direction	EB	WB	NB	SB	All
Future Volume (vph)	41	45	718	417	1221
Control Delay / Veh (s/v)	21	24	5	4	6
Queue Delay / Veh (s/v)	0	0	0	0	0
Total Delay / Veh (s/v)	21	24	5	4	6
Total Delay (hr)	0	0	1	1	2
Stops / Veh	0.59	0.71	0.13	0.27	0.22
Stops (#)	24	32	96	114	266
Average Speed (mph)	20	20	33	37	33
Total Travel Time (hr)	1	1	6	7	15
Distance Traveled (mi)	15	18	191	269	493
Fuel Consumed (gal)	1	1	9	11	22
Fuel Economy (mpg)	NA	15.7	22.3	24.2	22.7
CO Emissions (kg)	0.06	0.08	0.60	0.78	1.52
NOx Emissions (kg)	0.01	0.02	0.12	0.15	0.30
VOC Emissions (kg)	0.02	0.02	0.14	0.18	0.35
Unserved Vehicles (#)	0	0	0	0	0
Vehicles in dilemma zone (#)	0	0	45	17	62

2: TH 120 & N College

Direction	EB	WB	NB	SB	All
Future Volume (vph)	201	182	795	466	1644
Control Delay / Veh (s/v)	14	47	20	23	23
Queue Delay / Veh (s/v)	0	0	0	0	0
Total Delay / Veh (s/v)	14	47	20	23	23
Total Delay (hr)	1	2	4	3	10
Stops / Veh	0.21	0.71	0.62	0.64	0.58
Stops (#)	42	130	491	296	959
Average Speed (mph)	27	17	19	21	21
Total Travel Time (hr)	7	5	8	6	27
Distance Traveled (mi)	202	91	159	124	576
Fuel Consumed (gal)	9	6	14	9	39
Fuel Economy (mpg)	22.2	14.7	11.5	13.1	14.9
CO Emissions (kg)	0.64	0.43	0.96	0.66	2.70
NOx Emissions (kg)	0.12	0.08	0.19	0.13	0.52
VOC Emissions (kg)	0.15	0.10	0.22	0.15	0.63
Unserved Vehicles (#)	0	0	0	0	0
Vehicles in dilemma zone (#)	0	0	40	42	82

3: TH 120 & S College

Direction	WB	NB	SB	All
Future Volume (vph)	119	875	866	1860
Control Delay / Veh (s/v)	690	0	0	44
Queue Delay / Veh (s/v)	0	0	0	0
Total Delay / Veh (s/v)	690	0	0	44
Total Delay (hr)	23	0	0	23
Stops / Veh	1.00	0.00	0.05	0.08
Stops (#)	119	0	39	158
Average Speed (mph)	2	40	40	20
Total Travel Time (hr)	25	17	4	46
Distance Traveled (mi)	54	676	173	903
Fuel Consumed (gal)	20	24	7	50
Fuel Economy (mpg)	2.8	27.9	26.1	17.9
CO Emissions (kg)	1.37	1.69	0.46	3.53
NOx Emissions (kg)	0.27	0.33	0.09	0.69
VOC Emissions (kg)	0.32	0.39	0.11	0.82
Unserved Vehicles (#)	0	0	0	0
Vehicles in dilemma zone (#)	0	0	0	0

Network Totals

Number of Intersections	3
Control Delay / Veh (s/v)	27
Queue Delay / Veh (s/v)	0
Total Delay / Veh (s/v)	27
Total Delay (hr)	35
Stops / Veh	0.29
Stops (#)	1383
Average Speed (mph)	22
Total Travel Time (hr)	88
Distance Traveled (mi)	1973
Fuel Consumed (gal)	111
Fuel Economy (mpg)	17.8
CO Emissions (kg)	7.74
NOx Emissions (kg)	1.51
VOC Emissions (kg)	1.79
Unserved Vehicles (#)	0
Vehicles in dilemma zone (#)	144
Performance Index	39.3

Intersection	
Intersection Delay, s/veh	6.0
Intersection LOS	A

Approach	EB	WB	NB	SB
Entry Lanes	1	1	2	2
Conflicting Circle Lanes	2	2	2	2
Adj Approach Flow, veh/h	47	51	993	480
Demand Flow Rate, veh/h	48	53	1012	490
Vehicles Circulating, veh/h	671	987	60	200
Vehicles Exiting, veh/h	19	85	659	838
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	5.2	7.1	6.5	5.1
Approach LOS	A	A	A	A

Lane	Left	Left	Left	Right	Left	Right
Designated Moves	LTR	LTR	LT	TR	LT	TR
Assumed Moves	LTR	LTR	LT	TR	LT	TR
RT Channelized						
Lane Util	1.000	1.000	0.470	0.530	0.469	0.531
Follow-Up Headway, s	2.535	2.535	2.667	2.535	2.667	2.535
Critical Headway, s	4.328	4.328	4.645	4.328	4.645	4.328
Entry Flow, veh/h	48	53	476	536	230	260
Cap Entry Lane, veh/h	803	614	1277	1349	1123	1198
Entry HV Adj Factor	0.979	0.962	0.980	0.981	0.981	0.979
Flow Entry, veh/h	47	51	466	526	226	255
Cap Entry, veh/h	786	590	1252	1324	1102	1173
V/C Ratio	0.060	0.086	0.373	0.397	0.205	0.217
Control Delay, s/veh	5.2	7.1	6.4	6.5	5.1	5.0
LOS	A	A	A	A	A	A
95th %tile Queue, veh	0	0	2	2	1	1

Intersection	
Int Delay, s/veh	3.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	201	0	0	182	88	688	27	12	587	13
Future Vol, veh/h	0	0	201	0	0	182	88	688	27	12	587	13
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	Yield	-	-	Yield
Storage Length	-	-	0	-	-	0	300	-	130	300	-	300
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	87	87	87	87	87	87	71	79	68	79	87	87
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	231	0	0	209	124	871	40	15	675	15

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	-	-	338	-	-	436	675	0	0	871	0	0
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	-	-	6.94	-	-	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	3.32	-	-	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	0	0	658	0	0	568	912	-	-	770	-	-
Stage 1	0	0	-	0	0	-	-	-	-	-	-	-
Stage 2	0	0	-	0	0	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	-	-	658	-	-	568	912	-	-	770	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	13.4	15	1.1	0.2
HCM LOS	B	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	912	-	-	658	568	770	-	-
HCM Lane V/C Ratio	0.136	-	-	0.351	0.368	0.02	-	-
HCM Control Delay (s)	9.6	-	-	13.4	15	9.8	-	-
HCM Lane LOS	A	-	-	B	C	A	-	-
HCM 95th %tile Q(veh)	0.5	-	-	1.6	1.7	0.1	-	-

Intersection	
Intersection Delay, s/veh	6.8
Intersection LOS	A

Approach	WB	NB	SB
Entry Lanes	1	2	2
Conflicting Circle Lanes	2	2	2
Adj Approach Flow, veh/h	137	1143	1009
Demand Flow Rate, veh/h	139	1165	1029
Vehicles Circulating, veh/h	1105	19	115
Vehicles Exiting, veh/h	10	1125	1129
Ped Vol Crossing Leg, #/h	0	0	0
Ped Cap Adj	1.000	1.000	1.000
Approach Delay, s/veh	10.0	6.3	7.0
Approach LOS	B	A	A

Lane	Left	Left	Right	Bypass	Left	Right
Designated Moves	LR	LT	TR	R	LT	TR
Assumed Moves	LR	LT	TR	R	LT	TR
RT Channelized				Yield		
Lane Util	1.000	0.470	0.530		0.470	0.530
Follow-Up Headway, s	2.535	2.667	2.535		2.667	2.535
Critical Headway, s	4.328	4.645	4.328	69	4.645	4.328
Entry Flow, veh/h	139	515	581	1366	484	545
Cap Entry Lane, veh/h	555	1326	1397	0.980	1214	1288
Entry HV Adj Factor	0.986	0.981	0.980	68	0.980	0.981
Flow Entry, veh/h	137	505	569	1339	474	535
Cap Entry, veh/h	547	1301	1370	0.051	1190	1264
V/C Ratio	0.250	0.388	0.416	3.1	0.399	0.423
Control Delay, s/veh	10.0	6.5	6.6	A	7.0	7.0
LOS	B	A	A	0	A	A
95th %tile Queue, veh	1	2	2		2	2

Network Totals

Number of Intersections	3
Total Delay (hr)	2
Stops (#)	3813
Average Speed (mph)	32
Total Travel Time (hr)	49
Distance Traveled (mi)	1584
Fuel Consumed (gal)	96
Fuel Economy (mpg)	16.6
Unserved Vehicles (#)	0
Vehicles in dilemma zone (#)	0
Performance Index	12.4

1: TH 120 & Woodland

Direction	EB	WB	NB	SB	All
Future Volume (vph)	41	44	864	418	1367
Control Delay / Veh (s/v)	0	0	0	0	0
Queue Delay / Veh (s/v)	0	0	0	0	0
Total Delay / Veh (s/v)	0	0	0	0	0
Total Delay (hr)	0	0	0	0	0
Stops / Veh	1.00	1.00	1.00	1.00	1.00
Stops (#)	41	44	864	418	1367
Average Speed (mph)	30	30	40	40	39
Total Travel Time (hr)	0	1	6	4	11
Distance Traveled (mi)	11	15	230	161	417
Fuel Consumed (gal)	1	1	17	10	28
Fuel Economy (mpg)	NA	NA	13.8	16.3	14.8
CO Emissions (kg)	0.05	0.06	1.17	0.69	1.97
NOx Emissions (kg)	0.01	0.01	0.23	0.13	0.38
VOC Emissions (kg)	0.01	0.01	0.27	0.16	0.46
Unserved Vehicles (#)	0	0	0	0	0
Vehicles in dilemma zone (#)	0	0	0	0	0

2: TH 120 & N College

Direction	EB	WB	NB	SB	All
Future Volume (vph)	201	182	803	612	1798
Control Delay / Veh (s/v)	13	15	1	0	4
Queue Delay / Veh (s/v)	0	0	0	0	0
Total Delay / Veh (s/v)	13	15	1	0	4
Total Delay (hr)	1	1	0	0	2
Stops / Veh	1.00	1.00	0.21	0.04	0.32
Stops (#)	201	182	168	23	574
Average Speed (mph)	19	18	38	40	26
Total Travel Time (hr)	6	7	4	4	21
Distance Traveled (mi)	116	122	161	163	563
Fuel Consumed (gal)	7	7	8	6	27
Fuel Economy (mpg)	17.3	17.3	21.2	26.8	20.5
CO Emissions (kg)	0.47	0.49	0.53	0.43	1.92
NOx Emissions (kg)	0.09	0.10	0.10	0.08	0.37
VOC Emissions (kg)	0.11	0.11	0.12	0.10	0.45
Unserved Vehicles (#)	0	0	0	0	0
Vehicles in dilemma zone (#)	0	0	0	0	0

3: TH 120 & S College

Direction	WB	NB	SB	All
Future Volume (vph)	119	875	878	1872
Control Delay / Veh (s/v)	0	0	0	0
Queue Delay / Veh (s/v)	0	0	0	0
Total Delay / Veh (s/v)	0	0	0	0
Total Delay (hr)	0	0	0	0
Stops / Veh	1.00	1.00	1.00	1.00
Stops (#)	119	875	878	1872
Average Speed (mph)	20	40	40	36
Total Travel Time (hr)	3	9	4	17
Distance Traveled (mi)	62	367	176	604
Fuel Consumed (gal)	3	22	15	40
Fuel Economy (mpg)	18.4	16.9	11.8	15.1
CO Emissions (kg)	0.23	1.52	1.04	2.80
NOx Emissions (kg)	0.05	0.30	0.20	0.54
VOC Emissions (kg)	0.05	0.35	0.24	0.65
Unserved Vehicles (#)	0	0	0	0
Vehicles in dilemma zone (#)	0	0	0	0

Network Totals

Number of Intersections	3
Control Delay / Veh (s/v)	1
Queue Delay / Veh (s/v)	0
Total Delay / Veh (s/v)	1
Total Delay (hr)	2
Stops / Veh	0.76
Stops (#)	3813
Average Speed (mph)	32
Total Travel Time (hr)	49
Distance Traveled (mi)	1584
Fuel Consumed (gal)	96
Fuel Economy (mpg)	16.6
CO Emissions (kg)	6.69
NOx Emissions (kg)	1.30
VOC Emissions (kg)	1.55
Unserved Vehicles (#)	0
Vehicles in dilemma zone (#)	0
Performance Index	12.4

Memorandum

To: File

From: Mallori Fitzpatrick, EIT

Date: March 13, 2020

Re: TH 120 Strategic Capacity Enhancements Task 5 and 6
WSB Project No. 015671-000

The purpose of this technical memorandum is to analyze the Congestion Reduction/Air Quality and Safety of the existing condition and proposed TH 120 project to satisfy the requirements of the Strategic Capacity (Roadway Expansion) criteria.

Task 5. Congestion Reduction/Air Quality

A capacity and emissions analysis was conducted at the intersections within the project area on TH 120 using 2018 and 2019 PM peak hour traffic counts. HCM software within Synchro was used to analyze the delay for the existing and proposed network. Synchro was used to report the Carbon Monoxide (CO), Nitrogen Oxides (NOx), and Volatile Organic Compound (VOC) emissions. The following three intersections were included in the analysis:

- TH 120 and Woodland Drive
- TH 120 and North Century College Access
- TH 120 and South Century College Access

Table 1 identifies the existing and build condition delays at each intersection during the PM peak hour as reported from HCM 6th Edition. Note that the build alternative has a higher number of vehicles due to the westbound and eastbound left turn or through movement trips at the restricted North Century College Access that will be required to U-turn at a roundabout to change direction.

Table 1. Existing and Build Condition Delays

PM PEAK						
	Existing Vehicles	Build Vehicles	HCM Existing Delay per vehicle (s)	HCM Build Delay per vehicle (s)	HCM Existing Total Delay (s)	HCM Build Total Delay (s)
TH 120/Woodland	1221	1367	4.7	6	5738.7	8202
TH 120/N Century Access	1644	1798	42.7	3.4	70198.8	6113.2
TH 120/S Century Access	1860	1872	17.1	6.8	31806	12729.6
Total	**4725**	**5037**			**107744**	**27045**

The following includes responses to Part A:

- Total Peak Hour Delay/Vehicle without the Project (Seconds/Vehicle): 22.8
- Total Peak Hour Delay/Vehicle with the Project (Seconds/Vehicle): 5.4
- Total Peak Hour Delay/Vehicle Reduced by the Project (Seconds/Vehicle): 17.4
- Volume without the Project (Vehicles per hour): 4,275
- Volume with the Project (Vehicles per hour): 5,037
- Total Peak Hour Delay Reduced by the Project (Seconds): 70,270

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Table 2 identifies the existing and build condition emission outputs at each intersection during the PM peak hour as reported from Synchro 10.

Table 2. Existing and Build Emissions

	Existing CO Emissions (kg)	Existing Nox Emissions (kg)	Existing VOC Emissions (kg)	Build CO Emissions (kg)	Build NOx Emissions (kg)	Build VOC Emissions (kg)
TH 120/Woodland	1.52	0.3	0.35	1.97	0.38	0.46
TH 120/N Century Access	2.7	0.52	0.63	1.92	0.37	0.45
TH 120/S Century Access	3.53	0.69	0.82	2.8	0.54	0.65
Subtotal	**7.75**	**1.51**	**1.80**	**6.69**	**1.29**	**1.56**
Total	**11.06**			**9.54**		

The following includes responses to Part B:

- Total (CO, NOx, and VOC) Peak Hour Emissions without the Project (Kilograms): 11.06
- Total (CO, NOx, and VOC) Peak Hour Emissions with the Project (Kilograms): 9.54
- Total (CO, NOx, and VOC) Peak Hour Emissions Reduced by the Project (Kilograms): 1.52

Task 6. Safety

A safety analysis was conducted at the three previously identified intersections, as each proposed improvement provides a different benefit compared to the existing condition. Three years of crash data (2016-2018) were provided on TH 120 from I-694 to TH 244, The data was organized by intersection and analyzed separately in a Benefit/Cost (B/C) worksheet. A total of 163 crashes occurred between I-694 and TH 244. **Table 3** identifies the severity and number of crashes at each intersection.

Table 3. Existing Intersection Crash Data

		TH 120 & Woodland	TH 120 & N Century Access	TH 120 & S Century Access	Total
Severity	K - Fatal	0	0	0	**0**
	A - Incapacitating Injury	0	0	0	**0**
	B - Non-Incapacitating Injury	1	1	1	**3**
	C - Possible Injury	2	8	1	**11**
	N - Property Damage Only	7	25	14	**46**
	Total	**10**	**34**	**16**	**60**

The following includes responses to Part A:

- A crash modification factor for each intersection was identified using the Federal Highway Administration's (FHWA) Crash Modification Factors (CMF) Clearinghouse to predict the annual crash reduction and cost benefit. The following CMFs were applied:
  - Conversion of Signalized Intersection into Single-lane or Multi-lane roundabout (CMF = 0.81 for all crash and severity types): TH 120 and Woodland Avenue intersection
  - Convert Intersection to Restricted Crossing U-Turn (RCUT) Intersection (CMF = 0.71 for all crash and severity types): TH 120 and North Century Access
  - Convert Intersection with Minor-Road Stop Control to Modern Roundabout (CMF = 0.56 for all crash and severity types): TH 120 and South Century Access
- Project Benefit ($) from B/C ratio: $5,154,825
- Total Fatal (K) Crashes: 0

- Total Serious Injury (A) Crashes: 0
- Total Non-Motorized Fatal and Serious Injury Crashes: 0
- Total Crashes: 163 between I-694 and TH 244, 60 of those being at the three identified intersections where a crash modification factor was applied
- Total Fatal (K) Crashes Reduced by Project: 0
- Total Serious Injury (A) Crashes Reduced by Project: 0
- Total Non-Motorized Fatal and Serious Injury Crashes Reduced by Project: 0
- Total Crashes Reduced by Project: 6.22 crashes annually

The overall Benefit/Cost (B/C) Ratio is 0.84, see the B/C worksheets for a benefit analysis at each intersection.

Traffic Safety Benefit-Cost Calculation

Highway Safety Improvement Program (HSIP) Reactive Project

DEPARTMENT OF TRANSPORTATION

A. Roadway Description

Route	TH 120	**District**	Metro	**County**	Washington
Begin RP	008+00.184	**End RP**	009+00.233	**Miles**	1.049
Location	TH 120 & Woodland Drive Intersection (Full project I-694 to TH 244)				

B. Project Description

Proposed Work	Conversion from two-lane to four-lane with sidewalk, trail, and two roundabouts		
Project Cost*	$8,252,355	**Installation Year**	2025
Project Service Life	20 years	**Traffic Growth Factor**	2.1%

** exclude Right of Way from Project Cost*

C. Crash Modification Factor

0.81	**Fatal (K) Crashes**	**Reference**	Conversion of Signalized Intersection into Single-lane or Multi-lane roundabout
0.81	**Serious Injury (A) Crashes**		
0.81	**Moderate Injury (B) Crashes**	**Crash Type**	All
0.81	**Possible Injury (C) Crashes**		
0.81	**Property Damage Only Crashes**		www.CMFclearinghouse.org

D. Crash Modification Factor (optional second CMF)

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

E. Crash Data

Begin Date	1/1/2016	**End Date**	12/31/2018	3 years
Data Source	Washington County			

Crash Severity	**All**	**< optional 2nd CMF >**
K crashes	0	
A crashes	0	
B crashes	1	
C crashes	2	
PDO crashes	7	

F. Benefit-Cost Calculation

$709,123	**Benefit (present value)**	**B/C Ratio = 0.09**
$8,252,355	**Cost**	

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

F. Analysis Assumptions

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

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

Real Discount Rate 1.2%

Traffic Growth Rate 2.1%

Project Service Life 20 years

G. Annual Benefit

Crash Severity	Crash Reduction	Annual Reduction	Annual Benefit
K crashes	0.00	0.00	$0
A crashes	0.00	0.00	$0
B crashes	0.19	0.06	$13,300
C crashes	0.38	0.13	$13,933
PDO crashes	1.33	0.44	$5,320
			$32,553

H. Amortized Benefit

Year	Crash Benefits	Present Value
2025	$32,553	$32,553
2026	$33,237	$32,843
2027	$33,935	$33,135
2028	$34,648	$33,430
2029	$35,375	$33,727
2030	$36,118	$34,027
2031	$36,877	$34,329
2032	$37,651	$34,635
2033	$38,442	$34,943
2034	$39,249	$35,254
2035	$40,073	$35,567
2036	$40,915	$35,883
2037	$41,774	$36,202
2038	$42,651	$36,524
2039	$43,547	$36,849
2040	$44,461	$37,177
2041	$45,395	$37,508
2042	$46,348	$37,841
2043	$47,322	$38,178
2044	$48,315	$38,517
0	$0	$0
0	$0	$0
0	$0	$0
0	$0	$0
0	$0	$0
0	$0	$0
0	$0	$0
0	$0	$0
0	$0	$0
0	$0	$0
0	$0	$0

Total = $709,123

Traffic Safety Benefit-Cost Calculation

Highway Safety Improvement Program (HSIP) Reactive Project

DEPARTMENT OF TRANSPORTATION

A. Roadway Description

Route	TH 120	**District**	Metro	**County**	Washington
Begin RP	008+00.184	**End RP**	009+00.233	**Miles**	1.049
Location	TH 120 & North Century College Intersection (Full project I-694 to TH 244)				

B. Project Description

Proposed Work	Conversion from two-lane to four-lane with sidewalk, trail, and two roundabouts		
Project Cost*	$8,252,355	**Installation Year**	2025
Project Service Life	20 years	**Traffic Growth Factor**	2.1%

** exclude Right of Way from Project Cost*

C. Crash Modification Factor

0.71	**Fatal (K) Crashes**	**Reference**	Convert Intersection to Restricted Crossing U-Turn (RCUT) Intersection
0.71	**Serious Injury (A) Crashes**		
0.71	**Moderate Injury (B) Crashes**	**Crash Type**	
0.71	**Possible Injury (C) Crashes**		
0.71	**Property Damage Only Crashes**		www.CMFclearinghouse.org

D. Crash Modification Factor (optional second CMF)

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

E. Crash Data

Begin Date	1/1/2016	**End Date**	12/31/2018	3 years
Data Source	Washington County			

Crash Severity	< enter target crashes >	< optional 2nd CMF >
K crashes	0	
A crashes	0	
B crashes	1	
C crashes	8	
PDO crashes	25	

F. Benefit-Cost Calculation

$2,886,591	**Benefit (present value)**	**B/C Ratio = 0.35**
$8,252,355	**Cost**	

Proposed project expected to reduce 4 crashes annually, 0 of which involving fatality or serious injury.

F. Analysis Assumptions

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

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

Real Discount Rate 1.2%

Traffic Growth Rate 2.1%

Project Service Life 20 years

G. Annual Benefit

Crash Severity	Crash Reduction	Annual Reduction	Annual Benefit
K crashes	0.00	0.00	$0
A crashes	0.00	0.00	$0
B crashes	0.29	0.10	$20,020
C crashes	2.29	0.76	$83,893
PDO crashes	7.15	2.38	$28,600
			$132,513

H. Amortized Benefit

Year	Crash Benefits	Present Value
2025	$132,513	$132,513
2026	$135,296	$133,692
2027	$138,137	$134,881
2028	$141,038	$136,080
2029	$144,000	$137,291
2030	$147,024	$138,511
2031	$150,112	$139,743
2032	$153,264	$140,986
2033	$156,482	$142,240
2034	$159,769	$143,505
2035	$163,124	$144,781
2036	$166,549	$146,069
2037	$170,047	$147,368
2038	$173,618	$148,678
2039	$177,264	$150,001
2040	$180,986	$151,335
2041	$184,787	$152,680
2042	$188,668	$154,038
2043	$192,630	$155,408
2044	$196,675	$156,790
0	$0	$0
0	$0	$0
0	$0	$0
0	$0	$0
0	$0	$0
0	$0	$0
0	$0	$0
0	$0	$0
0	$0	$0
0	$0	$0
0	$0	$0

Total = $2,886,591

Traffic Safety Benefit-Cost Calculation

Highway Safety Improvement Program (HSIP) Reactive Project

DEPARTMENT OF TRANSPORTATION

A. Roadway Description

Route	TH 120	**District**	Metro	**County**	Washington
Begin RP	008+00.184	**End RP**	009+00.233	**Miles**	1.049
Location	TH 120 & South Century College Intersection (Full project I-694 to TH 244)				

B. Project Description

Proposed Work	Conversion from two-lane to four-lane with sidewalk, trail, and two roundabouts		
Project Cost*	$8,252,355	**Installation Year**	2025
Project Service Life	20 years	**Traffic Growth Factor**	2.1%

** exclude Right of Way from Project Cost*

C. Crash Modification Factor

0.56	**Fatal (K) Crashes**	**Reference**	Convert Intersection with Minor-Road Stop Control to Modern Roundabout
0.56	**Serious Injury (A) Crashes**		
0.56	**Moderate Injury (B) Crashes**	**Crash Type**	All
0.56	**Possible Injury (C) Crashes**		
0.56	**Property Damage Only Crashes**		www.CMFclearinghouse.org

D. Crash Modification Factor (optional second CMF)

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

E. Crash Data

Begin Date	1/1/2016	**End Date**	12/31/2018	3 years
Data Source	Washington County			

Crash Severity	**All**	**< optional 2nd CMF >**
K crashes	0	
A crashes	0	
B crashes	1	
C crashes	1	
PDO crashes	14	

F. Benefit-Cost Calculation

$1,559,111	**Benefit (present value)**	**B/C Ratio = 0.19**
$8,252,355	**Cost**	

Proposed project expected to reduce 3 crashes annually, 0 of which involving fatality or serious injury.

F. Analysis Assumptions

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

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

Real Discount Rate 1.2%

Traffic Growth Rate 2.1%

Project Service Life 20 years

G. Annual Benefit

Crash Severity	Crash Reduction	Annual Reduction	Annual Benefit
K crashes	0.00	0.00	$0
A crashes	0.00	0.00	$0
B crashes	0.44	0.15	$30,800
C crashes	0.44	0.15	$16,133
PDO crashes	6.16	2.05	$24,640
			$71,573

H. Amortized Benefit

Year	Crash Benefits	Present Value
2025	$71,573	$71,573
2026	$73,076	$72,210
2027	$74,611	$72,852
2028	$76,178	$73,500
2029	$77,778	$74,154
2030	$79,411	$74,813
2031	$81,078	$75,478
2032	$82,781	$76,150
2033	$84,520	$76,827
2034	$86,294	$77,510
2035	$88,107	$78,199
2036	$89,957	$78,895
2037	$91,846	$79,597
2038	$93,775	$80,304
2039	$95,744	$81,019
2040	$97,755	$81,739
2041	$99,807	$82,466
2042	$101,903	$83,199
2043	$104,043	$83,939
2044	$106,228	$84,686
0	$0	$0
0	$0	$0
0	$0	$0
0	$0	$0
0	$0	$0
0	$0	$0
0	$0	$0
0	$0	$0
0	$0	$0
0	$0	$0
0	$0	$0

Total = $1,559,111

Traffic Safety Benefit-Cost Calculation

Highway Safety Improvement Program (HSIP) Reactive Project

DEPARTMENT OF TRANSPORTATION

A. Roadway Description

Route	TH 120	**District**	Metro	**County**	Washington
Begin RP	008+00.184	**End RP**	009+00.233	**Miles**	1.049
Location	Between Long Lake Rd and South Century College Intersection (Full project I-694 to TH 244)				

B. Project Description

Proposed Work	Conversion from two-lane to four-lane with sidewalk, trail, and two roundabouts		
Project Cost*	$8,252,355	**Installation Year**	2025
Project Service Life	20 years	**Traffic Growth Factor**	2.1%

** exclude Right of Way from Project Cost*

C. Crash Modification Factor

0.69	**Fatal (K) Crashes**	**Reference**	Install TWLTL (two-way left turn lane) on two lane road
0.69	**Serious Injury (A) Crashes**		
0.69	**Moderate Injury (B) Crashes**	**Crash Type**	All
0.69	**Possible Injury (C) Crashes**		
0.69	**Property Damage Only Crashes**		www.CMFclearinghouse.org

D. Crash Modification Factor (optional second CMF)

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

E. Crash Data

Begin Date	1/1/2016	**End Date**	12/31/2018	3 years
Data Source	Washington County			

Crash Severity	**All**	**< optional 2nd CMF >**
K crashes	0	
A crashes	0	
B crashes	1	
C crashes	2	
PDO crashes	11	

F. Benefit-Cost Calculation

$1,281,358	**Benefit (present value)**	**B/C Ratio = 0.16**
$8,252,355	**Cost**	

Proposed project expected to reduce 2 crashes annually, 0 of which involving fatality or serious injury.

F. Analysis Assumptions

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

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

Real Discount Rate	1.2%
Traffic Growth Rate	2.1%
Project Service Life	20 years

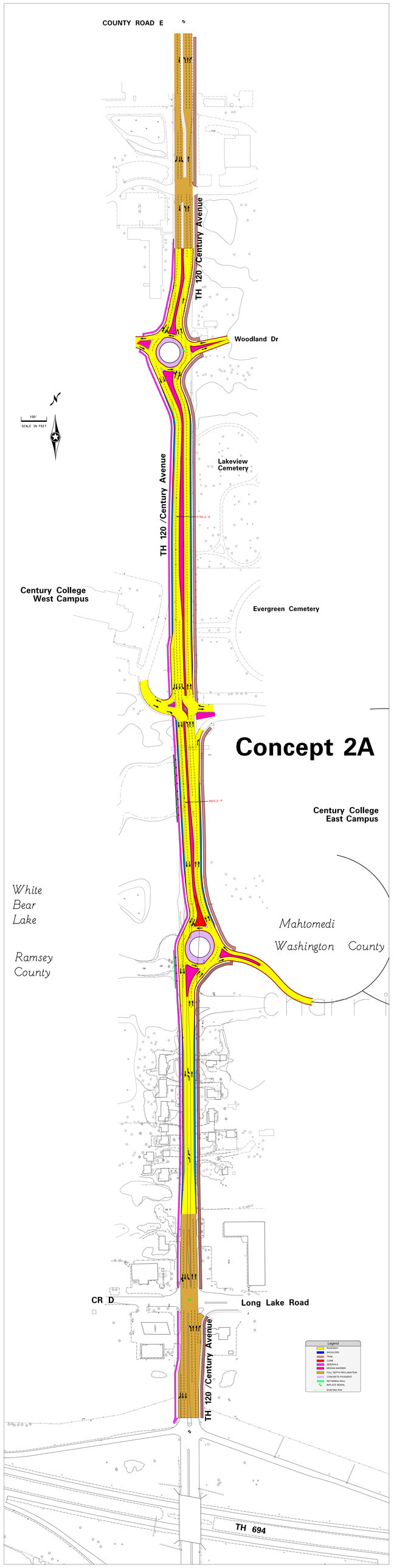
G. Annual Benefit

Crash Severity	Crash Reduction	Annual Reduction	Annual Benefit
K crashes	0.00	0.00	$0
A crashes	0.00	0.00	$0
B crashes	0.31	0.10	$21,980
C crashes	0.63	0.21	$23,027
PDO crashes	3.45	1.15	$13,816
			$58,823

H. Amortized Benefit

Year	Crash Benefits	Present Value
2025	$58,823	$58,823
2026	$60,058	$59,346
2027	$61,319	$59,874
2028	$62,607	$60,406
2029	$63,922	$60,943
2030	$65,264	$61,485
2031	$66,635	$62,032
2032	$68,034	$62,584
2033	$69,463	$63,140
2034	$70,921	$63,702
2035	$72,411	$64,268
2036	$73,931	$64,840
2037	$75,484	$65,417
2038	$77,069	$65,998
2039	$78,687	$66,585
2040	$80,340	$67,177
2041	$82,027	$67,775
2042	$83,750	$68,378
2043	$85,508	$68,986
2044	$87,304	$69,599
0	$0	$0
0	$0	$0
0	$0	$0
0	$0	$0
0	$0	$0
0	$0	$0
0	$0	$0
0	$0	$0
0	$0	$0
0	$0	$0
0	$0	$0

Total = $1,281,358


COUNTY ROAD E
TH 120 /Century Avenue
Woodland Dr
Lakeview Cemetery
TH 120 /Century Avenue
Century College West Campus
Evergreen Cemetery
Concept 2A
Century College East Campus
White Bear Lake
Ramsey County
Mahtomedi
Washington County
CR D
Long Lake Road
TH 120 /Century Avenue
TH 694
100'
SCALE IN FEET
Legend
ROADWAY
SHOULDER
TRAIL
CURB
SIDEWALK
MEDIAN BARRIER
FULL DEPTH RECLAMATION
CONCRETE PAVEMENT
RETAINING WALL
INPLACE SIGNAL
EXISTING R/W

TH 120 (Century Avenue)

Strategic Capacity

Washington County

Project Location

TH 120 (Century Ave) between I-694 and Highway 244 (Co Rd E) on the border of the cities of White Bear Lake and Mahtomedi.

Funding Request

Federal: $ 6,601,884

Local Match: $ 1,650,471

Project Total: $ 8,252,355

Project Goals

» Address delay and traffic concerns

» Reduce crashes

» Ensure safe multimodal travel options

» Make connections to transit and regional destinations

Project Summary

TH 120 (Century Avenue) currently suffers from extended periods of delay and above average crash rates compared to similar roads. Bike/Ped facilities along Century are limited to non-existent, creating unsafe conditions and discouraging healthy and affordable travel modes like walking and biking. **The proposed project will convert Century Avenue from one lane divided to two lane divided, and construct roundabouts featuring center pedestrian refuge islands at the south Century College entrance and at Woodland Drive. A multiuse trail on the east side and a sidewalk on the west side of Century Ave will also be added where there are currently no dedicated bike/ped facilities.** These improvements will contribute to a built environment in which users of all ages and abilities can feel comfortable and safe to walk and bike along the corridor.

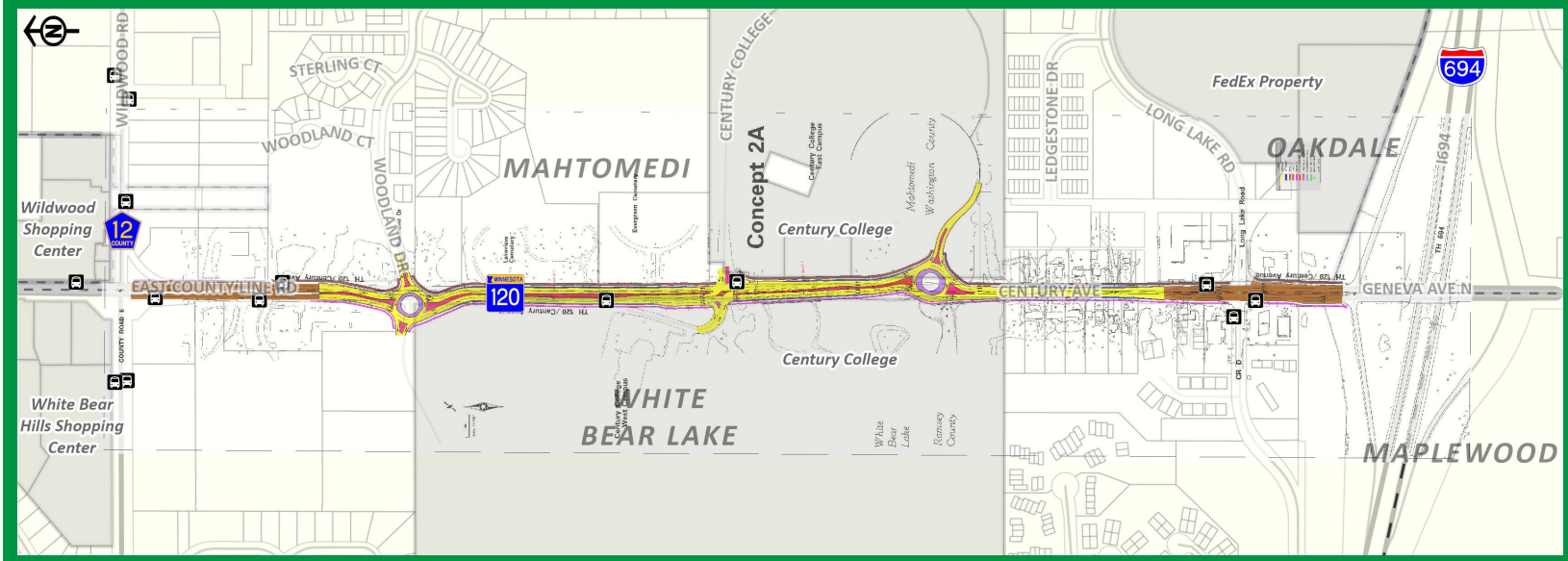
Summary of Benefits

» Increase safety across all modes of travel

» Reduce crashes and delay in the corridor

» Make better connections to transit stops and regional destinations like Century College

» Responds to a community-identified need



TH 120 (Century Avenue) Strategic Capacity

Existing Conditions Photographs

Image 1. Northbound Century Avenue at Woodland Dr.

- Future roundabout
- No pedestrian facilities

Image 2. Northbound Century Avenue at South Century College Entrance.

- Future roundabout
- No pedestrian facilities

Image 3. Northbound Century Avenue at Long Lake Road

- No pedestrian facilities
- Bus Stop in boulevard

Image 4. Northbound Century Avenue at I-694

- No pedestrian facilities
- Goat path from heavy pedestrian use

BOARD OF COUNTY COMMISSIONERS
WASHINGTON COUNTY, MINNESOTA

RESOLUTION NO. 2020-035

DATE March 24, 2020

DEPARTMENT Public Works

MOTION BY COMMISSIONER Weik

SECONDED BY COMMISSIONER Kriesel

RESOLUTION AUTHORIZING SUBMITTAL OF APPLICATIONS TO THE METROPOLITAN COUNCIL FOR FUNDING UNDER THE METROPLITAN COUNCIL REGIONAL SOLICITATION

WHEREAS, the Regional Solicitation process started with the passage of the Intermodal Surface Transportation Efficiency Act (ISTEA) in 1991; and

WHEREAS, as authorized by the most recent federal surface transportation funding act, FAST ACT, projects will be selected for funding as part of three federal programs: Surface Transportation Program (STP), Congestion Mitigation and Air Quality Improvement (CMAQ) Program, and Transportation Alternatives Program (TAP); and

WHEREAS, pursuant to the Regional Solicitation and the regulations promulgated thereunder, eligible project sponsors wishing to receive federal grants for a project shall submit an application first with the appropriate metropolitan planning organization (MPO) for review and inclusion in the MPO's Transportation Improvement Program (TIP); and

WHEREAS, the Metropolitan Council and the Transportation Advisory Board (TAB) act as the MPO for the seven county Twin Cities region and have released the Regional Solicitation for federal transportation funds for 2024 and 2025; and

WHEREAS, Washington County is an eligible project sponsor for Regional Solicitation funds; and

WHEREAS, Washington County is proposing to submit grant applications to Metropolitan Council as part of the 2020 Regional Solicitation for the following projects:

WHEREAS, Washington County is proposing to submit applications for the following projects.

1. County State Aid Highway (CSAH) 15 South Segment: Addition of new road segment spanning from the intersection of CSAH 15 and Trunk Highway (TH) 36 to 58th Street North in the cities of Oak Park Heights, Lake Elmo, Stillwater, and Stillwater Township.

2. TH 120: Conversion of roadway from one lane divided to two lane divided and addition of sidewalk and trail on TH 120 between Interstate 694 and TH 244 in the City of Mahtomedi.

3. CSAH 17 at TH 36: Conversion of at-grade intersection to grade-separated interchange in the cities of Lake Elmo and Grant.

4. CSAH 15 Phase 4: Reconstruction of CSAH 15, drainage improvements, and addition of sidewalk and multiuse trail between Interstate 94 and Oakland Middle School in the City of Lake Elmo and West Lakeland Township.

5. CSAH 32 Reconstruction: Intersection control improvements, drainage improvements, addition of pedestrian facility, and potential realignment of CSAH 32 between CSAH 33 and TH 61 in the City of Forest Lake.

6. CSAH 12 Pedestrian Facility: Addition of 10-foot pedestrian facility and boulevard on the south side of CSAH 12 between Ideal Avenue and the Mahtomedi School entrance in the cities of Mahtomedi and Grant.

7. CSAH 16 Multiuse Trail: Segment of multiuse trail on the south side of CSAH 16 between Queens Drive and Tower Drive in the City of Woodbury.

8. METRO Gold Line Multiuse Trail: Addition of multiuse trail on Hudson Boulevard between Greenway Avenue and Hadley Avenue in the cities of Landfall and Oakdale.

9. I-494 Park and Ride Parking Structure: Construction of shared parking structure in Woodbury west of the Woodbury Theatre in the City of Woodbury.

WHEREAS, the projects will be of mutual benefit to the Metropolitan Council, Washington County, Ramsey County and the Cities of Oak Park Heights, Lake Elmo, Stillwater, Stillwater Township, Mahtomedi, White Bear Lake, Grant, West Lakeland Township, Forest Lake, Landfall, Oakdale, and Woodbury; and

WHEREAS, Washington County is committed to providing the county share of the costs if the projects are selected as part of the 2020 Regional Solicitation; and

WHEREAS, Washington County is committed to completing the project, if selected, and funding is provided as part of the 2020 Regional Solicitation;

NOW, THEREFORE, BE IT RESOLVED, that Washington County is requesting funding from the federal government through the Metropolitan Council's 2020 Regional Solicitation and the county is committed to completing the projects identified above and providing the county share of funding.

ATTEST: Kevin J Corbid

COUNTY ADMINISTRATOR

COUNTY BOARD CHAIR

	YES	NO
MIRON	X	
KARWOSKI	X	
KRIESEL	X	
JOHNSON	X	
WEIK	X	

March 9, 2020

Wayne Sandberg
County Engineer
Washington County Public Works
11660 Myeron Road
Stillwater, MN 55082

RE: **Support for Washington County's Regional Solicitation Application for a strategic capacity Increase on Trunk Highway 120 (TH 120) in the City of Mahtomedi.**

Dear Mr. Sandberg,

The purpose of this letter is to express the City of Mahtomedi's support for Washington County's 2020 solicitation of Federal funds through the Metropolitan Council's Regional Solicitation program for a strategic capacity increase of Trunk Highway 120 (TH 120).

The proposed project includes the conversion of the roadway from one lane divided to two lanes divided and the addition of sidewalk and trail facilities on Trunk Highway 120 between Interstate 694 and Trunk Highway 120. These improvements will enhance safety and mobility along Century Avenue and add important bike and pedestrian connections along the corridor, which is consistent with both the City's and the County's 2040 comprehensive plans.

The City of Mahtomedi will continue to support Washington County's efforts to improve the County transportation system as identified in the 2040 Washington County Comprehensive Plan.

Thank you for your consideration. If you have any questions, please contact me at 651-426-3344 or at sneilson@ci.mahtomedi.mn.us.

Sincerely,

Scott Neilson
City Administrator

WASHINGTON COUNTY
MAR 12 2020
PUBLIC WORKS

600 Stillwater Road • Mahtomedi, MN 55115
Phone: 651-426-3344 • Fax: 651-426-1786
www.ci.mahtomedi.mn.us

City of White Bear Lake

4701 Highway 61 • White Bear Lake, Minnesota 55110
Phone (651) 429-8526 • Fax (651) 429-8500
www.whitebearlake.org

March 19, 2020

Wayne Sandberg
County Engineer
Washington County Public Works
11660 Myeron Road
Stillwater, MN 55082

RE: **Support for Washington County's Regional Solicitation Application for a strategic capacity increase on Trunk Highway 120 (TH 120) in the City of White Bear Lake.**

Dear Mr. Sandberg,

The purpose of this letter is to express the City of White Bear Lake's support for Washington County's 2020 solicitation of Federal funds through the Metropolitan Council's Regional Solicitation program for a strategic capacity increase of Trunk Highway 120 (TH 120).

The proposed project includes the conversion of the roadway from one lane divided to two lane divided and the addition of sidewalk and trail facilities on Trunk Highway 120 between Interstate 694 and Trunk Highway 244. These improvements will enhance safety and mobility along Century Avenue and add important bike and pedestrian connections along the corridor, which is consistent with both the City's and the County's 2040 comprehensive plans.

Thank you for your consideration. If you have any questions, please contact me at 651-429-8531 or at pkauppi@whitebearlake.org.

Sincerely,

Paul Kauppi
Public Works Director / City Engineer
City of White Bear Lake

RAMSEY COUNTY
Working with you to enhance our quality of life

March 6, 2020

Donald J. Theisen, P.E.
Director, Washington County Public Works
11660 Myeron Rd. N.
Stillwater, MN 55082

SURFACE TRANSPORTATION PROGRAM APPLICATION FOR CENTURY AVENUE (TH 120) BETWEEN I-694 AND COUNTY ROAD E/CSAH 12

Dear Mr. Theisen:

Ramsey County supports Washington County's efforts to obtain federal strategic capacity funding for improvements to Century Avenue (TH 120), through the Metropolitan Council's 2020 regional solicitation.

The proposed project, which will convert the existing two-lane roadway to a four-lane, divided facility, with sidewalk and trail facilities to provide multi-modal functionality, will provide enhanced safety and mobility to serve the needs of the surrounding communities, including the Century College campus. The project will further enhance access to the I-694 freight corridor from adjacent commercial and industrial properties, including the Federal Express freight terminal located in the northeast quadrant of the I-694/Century Avenue interchange.

The need for this project was identified over ten years ago and is consistent with the comprehensive plans of Washington and Ramsey counties, as well as the cities of White Bear Lake and Mahtomedi. We applaud Washington County's efforts to complete the project. Please let us know if there are any questions of us or if we can help your efforts in any way.

Sincerely,

Ted Schoenecker, P.E.
Director of Public Works/County Engineer

Ramsey County Public Works
1425 Paul Kirkwold Drive
Arden Hills, MN 55112-3933
651-266-7100
www.co.ramsey.mn.us

CENTURY COLLEGE

March 17, 2020

Wayne Sandberg
County Engineer
Washington County Public Works
11660 Myeron Road, Stillwater, MN 55082

RE: **Support for Washington County's Regional Solicitation Application for a strategic capacity increase on Trunk Highway 120 (TH 120) in the Cities of White Bear Lake and Mahtomedi.**

Dear Mr. Sandberg,

The purpose of this letter is to express Century College's support for Washington County's 2020 solicitation of Federal funds through the Metropolitan Council's Regional Solicitation program for a strategic capacity increase of Trunk Highway 120 (TH 120).

The proposed project includes the conversion of the roadway from one lane divided to two lanes divided and the addition of sidewalk and trail facilities on Trunk Highway 120 between Interstate 694 and Trunk Highway 244. These improvements will enhance safety and mobility along Century Avenue and add important bike and pedestrian connections along the corridor, which is consistent with the 2040 comprehensive plans of the cities of White Bear Lake and Mahtomedi as well as both Ramsey and Washington Counties. Century College shares these values and has been an active partner in the planning for these improvements.

Century College is in the process of developing its new five-year strategic plan. One of the themes that we heard throughout the data collection period was the need for more and improved transportation options to the College, including biking and walking along Highway 120 to the College. In addition, we have heard many requests from our students over the past several years to improve the safety of Highway 120 near the College. Increasing the capacity of Highway 120 would help address these student concerns.

Thank you for your consideration. If you have questions, I can be reached at Officeofthe.President@century.edu, or Pat Opatz, Vice President of Finance and Administration, 651-779-3279, Patrick.Opatz@century.edu.

Sincerely,

Angelia Millender
President

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

May 12, 2020

Kurt Howard
Washington County Public Works
11660 Myeron Road North
Stillwater, MN 55082

Re: MnDOT Letter for Washington County
Metropolitan Council/Transportation Advisory Board 2020 Regional Solicitation Funding Request for TH 120 between I-694 and TH 244

Dear Kurt Howard,

This letter documents MnDOT Metro District's recognition for Washington County to pursue funding for the Metropolitan Council/Transportation Advisory Board's (TAB) 2020 Regional Solicitation for TH 120 between I-694 and TH 244.

As proposed, this project impacts MnDOT right-of-way on TH 120. As the agency with jurisdiction over 120 and I-694, MnDOT will allow Washington County to seek improvements proposed in the application for conversion of one lane divided to two lane divided and addition of sidewalk and trail. If funded, details of any future maintenance agreement with Washington County will need to be determined during project development to define how the improvements will be maintained for the project's useful life.

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

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

MnDOT Metro District looks forward to continued cooperation with Washington County as this project moves forward and as we work together to improve safety and travel options within the Metro Area.

If you have questions or require additional information at this time, please reach out to Adam Josephson, East Area Manager, at adam.josephson@state.mn.us or 651-234-7719.

Sincerely,

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

Michael Barnes, PE

Metro District Engineer

CC: Adam Josephson, Metro District East Area Manager
Molly McCartney, Metro Program Director
Dan Erickson, Metro State Aid Engineer

CRASH MODIFICATION FACTORS CLEARINGHOUSE

CMF / CRF DETAILS

CMF ID: 227

CONVERT INTERSECTION WITH MINOR-ROAD STOP CONTROL TO MODERN ROUNDABOUT

DESCRIPTION:

PRIOR CONDITION: *NO PRIOR CONDITION(S)*

CATEGORY: INTERSECTION GEOMETRY

STUDY: *NCHRP REPORT 572: APPLYING ROUNDABOUTS IN THE UNITED STATES*, RODEGERDTS ET AL., 2007

Star Quality Rating:	★★★★★

Crash Modification Factor (CMF)

Value:	0.56
Adjusted Standard Error:	0.05
Unadjusted Standard Error:	0.04

Crash Reduction Factor (CRF)

Value:	44 *(This value indicates a **decrease** in crashes)*
Adjusted Standard Error:	5
Unadjusted Standard Error:	4

Applicability

Crash Type:	All
Crash Severity:	All
Roadway Types:	Not Specified
Number of Lanes:	1 or 2
Road Division Type:	
Speed Limit:	
Area Type:	All
Traffic Volume:	
Average Traffic Volume:	
Time of Day:	

If countermeasure is intersection-based

Intersection Type:	Roadway/roadway (not interchange related)
Intersection Geometry:	4-leg
Traffic Control:	Stop-controlled
Major Road Traffic Volume:	
Minor Road Traffic Volume:	
Average Major Road Volume :	
Average Minor Road Volume :	

Development Details

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

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 erro less.
Date Added to Clearinghouse:	Dec-01-2009
Comments:	Countermeasure name changed from "convert two-way stop-controlled intersection to roundabout" to match HSM

VIEW THE FULL STUDY DETA

EXPORT DETAIL PAGE AS A P

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For more information, contact Karen Scurry at **karen.scurry@dot.gov**

CRASH MODIFICATION FACTORS CLEARINGHOUSE

CMF / CRF DETAILS

CMF ID: 10056

CONVERT INTERSECTION TO RESTRICTED CROSSING U-TURN (RCUT) INTERSECTION

DESCRIPTION: THE RCUT, ALSO REFERRED TO AS THE SUPERSTREET INTERSECTION OR J-TURN INTERSECTION. THE CONVERSION IS FOR EITHER SIGNALIZED OR STOP-CONTROLLED.

PRIOR CONDITION: SIGNALIZED OR STOP-CONTROLLED INTERSECTIONS

CATEGORY: INTERSECTION GEOMETRY

STUDY: *IMPROVING INTERSECTION SAFETY WITH RCUT: LOUISIANA EXPERIENCE*, SUN ET AL., 2019

Star Quality Rating:	CANNOT BE RATED (INSUFFICIENT INFORMATION)

Crash Modification Factor (CMF)

Value:	0.714
Adjusted Standard Error:	
Unadjusted Standard Error:	

Crash Reduction Factor (CRF)

Value:	28.6 *(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:	
Speed Limit:	
Area Type:	Not specified
Traffic Volume:	
Average Traffic Volume:	
Time of Day:	All

If countermeasure is intersection-based

Intersection Type:	
Intersection Geometry:	4-leg
Traffic Control:	
Major Road Traffic Volume:	
Minor Road Traffic Volume:	
Average Major Road Volume :	
Average Minor Road Volume :	

Development Details

Date Range of Data Used:	
Municipality:	
State:	LA
Country:	USA
Type of Methodology Used:	Before/after using empirical Bayes or full Bayes
Sample Size (sites):	6 sites before, 6 sites after

Other Details

Included in Highway Safety Manual?	No
Date Added to Clearinghouse:	Jul-26-2019
Comments:	CMF reported here is based on limited information from extended abstract.

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For more information, contact Karen Scurry at **karen.scurry@dot.gov**

CRASH MODIFICATION FACTORS CLEARINGHOUSE

CMF / CRF DETAILS

CMF ID: 4194

CONVERSION OF SIGNALIZED INTERSECTION INTO SINGLE- OR MULTI-LANE ROUNDABOUT

DESCRIPTION:

PRIOR CONDITION: SIGNALIZED INTERSECTION

CATEGORY: INTERSECTION GEOMETRY

STUDY: *SAFETY EFFECTIVENESS OF CONVERTING SIGNALIZED INTERSECTIONS TO ROUNDABOUTS*, GROSS ET AL., 2012

Star Quality Rating:	★★★★☆ [VIEW SCORE DETAILS]

Crash Modification Factor (CMF)

Value:	0.81
Adjusted Standard Error:	
Unadjusted Standard Error:	0.06

Crash Reduction Factor (CRF)

Value:	19 *(This value indicates a **decrease** in crashes)*
Adjusted Standard Error:	
Unadjusted Standard Error:	6

Applicability

Crash Type:	All
Crash Severity:	All
Roadway Types:	Not Specified
Number of Lanes:	2
Road Division Type:	
Speed Limit:	15-35 mph
Area Type:	Urban and suburban
Traffic Volume:	
Average Traffic Volume:	
Time of Day:	All

If countermeasure is intersection-based

Intersection Type:	Roadway/roadway (not interchange related)
Intersection Geometry:	3-leg,4-leg
Traffic Control:	Roundabout
Major Road Traffic Volume:	Minimum of 5300 to Maximum of 52500 Annual Average Daily Traffic (AADT)
Minor Road Traffic Volume:	
Average Major Road Volume :	
Average Minor Road Volume :	

Development Details

Date Range of Data Used:	2000 to 2009
Municipality:	
State:	CO, FL, IN, MD, MI, NY, NC, SC, VT, WA
Country:	
Type of Methodology Used:	Before/after using empirical Bayes or full Bayes
Sample Size (sites):	16 sites after

Other Details

Included in Highway Safety Manual?	No
Date Added to Clearinghouse:	Nov-01-2012
Comments:	Conversion to 2-lane roundabout

VIEW THE FULL STUDY DETA

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For more information, contact Karen Scurry at **karen.scurry@dot.gov**