Application

04774 - 2016 Roadway Modernization

05141 - CSAH 152 (Webber Pkwy) Reconstruction Project

Regional Solicitation - Roadways Including Multimodal Elements

Status:	Submitted
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Primary Contact

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

Organization Information

Name:	HENNEPIN COUNTY

Jurisdictional Agency (if different):

Organization Type: County Government

Organization Website:

Address: DPT OF PUBLIC WORKS

1600 PRAIRIE DR

*	MEDINA	Minnesota	55340
	City	State/Province	Postal Code/Zip

County: Hennepin

Phone:* 763-745-7600 Ext.

Fax:

PeopleSoft Vendor Number 0000028004A9

Project Information

Project Name CSAH 152 (Webber Pkwy) Reconstruction Project

Primary County where the Project is Located Hennepin

Jurisdictional Agency (If Different than the Applicant):

Brief Project Description (Limit 2,800 characters; approximately 400 words)

The CSAH 152 (Webber Pkwy) Reconstruction Project reconstructs the existing section of Webber Pkwy in North Minneapolis for a length of 1.28 miles. The local name for CSAH 152 in this area changes to remain consistent with the roadway's functionality. As the user travels down the corridor from west to east, the local names change from 44th Ave to Webber Pkwy to Lyndale Ave as illustrated in Figure 1.

The project objectives are to improve safety and operations, and to facilitate vehicle, freight, transit, bicycle, and pedestrian movements through the area. The proposed cross section on the west end of the project (along 44th Ave and Webber Pkwy) will maintain a 2-lane roadway section but will include a dedicated bicycle facility. The proposed cross section on the east end of the project (along Lyndale Ave) will convert a 4-lane undivided roadway section to a 3-lane section to improve safety and allow for the implementation of a bicycle facility.

The project will include, but is not limited to, the following elements:

- Pedestrian improvements such as ADA compliant ramps and sidewalk, Accessible Pedestrian Signals (APS), durable crosswalk markings, and countdown timers.

- Bicycle improvements such as a new dedicated bicycle facility and wayfinding signage for the Grand Rounds Scenic Bikeway System.

- Transit improvements such as enhanced bus shelters and wayfinding signage.

- Streetscaping elements such as removing unnecessary retaining walls and the installation of a boulevard, ornamental fencing, and lighting. As part of the planning and design phases of the project, staff will evaluate the potential for burying overhead utilities that would be delivered as a supplemental activity to this project.
- Safety improvements (when warranted by traffic patterns and safety concerns) such as the removal of unwarranted traffic signals, and the implementation of dedicated turn lanes, traffic signal mast arms, and additional primary traffic signal indications.

- Roadway improvements such as the replacement of the deteriorated curb and gutter, storm sewer structures, and pavement substructure.

Include location, road name/functional class, type of improvement, etc.

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

CSAH 152 (WEBBER PKWY) FROM CSAH 2 (PENN AVE) TO 0.04 MI S OF 41ST AVE N IN MINNEAPOLIS - RECONSTRUCT ROADWAY, CURB AND GUTTER, SIDEWALK, TRAFFIC SIGNALS, AND STREETSCAPING. INSTALL BIKEWAY FACILITY.

Project Length (Miles)

1.28

Project Funding

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

No

If yes, please identify the source(s)

Federal Amount

$7,000,000.00

Match Amount

$5,030,000.00

Minimum of 20% of project total

Project Total

$12,030,000.00

Match Percentage

41.81%

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

Source of Match Funds

Local

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: 2020

For TDM projects, select 2018 or 2019. For Roadway, Transit, or Trail/Pedestrian projects, select 2020 or 2021.

Additional Program Years:

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

Specific Roadway Elements

CONSTRUCTION PROJECT ELEMENTS/COST ESTIMATES	Cost
Mobilization (approx. 5% of total cost)	$440,000.00
Removals (approx. 5% of total cost)	$440,000.00
Roadway (grading, borrow, etc.)	$650,000.00
Roadway (aggregates and paving)	$1,460,000.00
Subgrade Correction (muck)	$40,000.00
Storm Sewer	$1,240,000.00
Ponds	$0.00
Concrete Items (curb & gutter, sidewalks, median barriers)	$570,000.00
Traffic Control	$270,000.00
Striping	$190,000.00
Signing	$60,000.00
Lighting	$760,000.00
Turf - Erosion & Landscaping	$810,000.00
Bridge	$0.00
Retaining Walls	$50,000.00
Noise Wall (do not include in cost effectiveness measure)	$0.00
Traffic Signals	$850,000.00
Wetland Mitigation	$0.00
Other Natural and Cultural Resource Protection	$0.00
RR Crossing	$400,000.00
Roadway Contingencies	$2,470,000.00
Other Roadway Elements	$0.00
Totals	**$10,700,000.00**

Specific Bicycle and Pedestrian Elements

CONSTRUCTION PROJECT ELEMENTS/COST ESTIMATES	Cost
Path/Trail Construction	$160,000.00
Sidewalk Construction	$360,000.00
On-Street Bicycle Facility Construction	$370,000.00
Right-of-Way	$0.00
Pedestrian Curb Ramps (ADA)	$100,000.00
Crossing Aids (e.g., Audible Pedestrian Signals, HAWK)	$30,000.00
Pedestrian-scale Lighting	$0.00
Streetscaping	$0.00
Wayfinding	$0.00
Bicycle and Pedestrian Contingencies	$310,000.00
Other Bicycle and Pedestrian Elements	$0.00
Totals	**$1,330,000.00**

Specific Transit and TDM Elements

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

Transit Operating Costs

Number of Platform hours	0
Cost Per Platform hour (full loaded Cost)	$0.00
Substotal	$0.00

Other Costs - Administration, Overhead,etc.	$0.00

Totals

Total Cost	$12,030,000.00
Construction Cost Total	$12,030,000.00
Transit Operating Cost Total	$0.00

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, the 2040 Regional Parks Policy Plan (2015), and the 2040 Water Resources Policy Plan (2015).

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

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

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

A) Transportation System Stewardship: The reconstruction of CSAH 152 provides a new and structurally adequate roadway that accommodates 2040 forecasted traffic volumes. The project provides a new pavement surface, curb and gutter, sidewalk, bike facility and stormwater system.

B) Safety/Security: Improvements such as ADA compliant ramps and sidewalk, Accessible Pedestrian Signals, durable crosswalk markings, and countdown timers improve pedestrian safety and comfort. Reconstruction of curb & gutter; implementation of a boulevard, and lighting enhancements will improve safety for all users. Three intersections exceed critical crash rates, including one near an at-grade rail crossing. Improvements are anticipated to result in an overall crash reduction of 58% (Based on applicable crash modification factors).

C) Access to Destinations: This roadway section serves numerous current and future Metro Transit routes. The Penn Ave (C-Line) and Chicago/Fremont (BRT) Routes have proposed stations near and along CSAH 152. The Webber Natural Swimming Pool located adjacent to this route is both a neighborhood and regional destination. Webber Library and Henry High School are also popular destinations along the roadway.

D) Competitive Economy: With 5,893 employees within 1 mile of the project, including Republic Services Recycling Center and Rapid Recovery Towing, this route is essential to the economy. Many heavy commercial vehicles travel between the Humboldt Yards Intermodal facility and I-94.

E) Healthy Environment: The bike/pedestrian

enhancements along the corridor provide first/last mile connections to numerous existing and planned Metro Transit routes, increasing ridership potential. These features aim to provide more attractive choices in alternative modes of transportation. With the current roadway drainage deficiencies, modernizing the stormwater infrastructure will reduce negative impacts within the Shingle Creek and Mississippi River Watersheds.

F) Leveraging Transportation Investments to Guide Land Use: The project has minimal right of way impacts, preserving the character of the neighborhood. The multi-modal enhancements made through this project optimize existing and planned infrastructure. This project will attract future investment and support sustainable infrastructure in the area.

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:

- Hennepin County 2016-2020 Capital Improvement Program (Provisional Project/pg. II-172)

- Hennepin County 2040 Bicycle Transportation Plan (Pg. 36)

- Minneapolis Bicycle Master Plan (Pg. 160)

- Minneapolis Bicycle Master Plan - Protected Bikeway Update (Pg. 16)

- Webber Pool Master Plan: http://www.landform.net/webber-natural-swimming-pool.html

- Arterial BRT's: Metro Transit Arterial Transitway Corridors Study Final Report Addendum (Pg. 2, 3)

- Metropolitan Council Regional Bicycle Transportation Network (Figure 5F)

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

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

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

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

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

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

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

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

8.The project must comply with the Americans with Disabilities Act.

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

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

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

10.The owner/operator of the facility must operate and maintain the project for the useful life of the improvement.

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

11.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

12.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

13.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 projects only:

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

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

Bridge Rehabilitation/Replacement projects only:

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

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

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

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

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

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

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

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

Requirements - Roadways Including Multimodal Elements

Project Information-Roadways

County, City, or Lead Agency	Hennepin County
Functional Class of Road	CSAH 152 is classified as an "A" Minor Arterial that functions as an Augmentor.
Road System *TH, CSAH, MSAS, CO. RD., TWP. RD., CITY STREET*	CSAH - County State Aid Highway
Road/Route No. *i.e., 53 for CSAH 53*	152
Name of Road *Example; 1st ST., MAIN AVE*	44th Ave N from CSAH 2 (Penn Ave) to Fremont Ave Webber Pkwy from 44th Ave N to Lyndale Ave Lyndale Ave from Webber Pkwy to 41st Ave N
Zip Code where Majority of Work is Being Performed	55412
(Approximate) Begin Construction Date	07/06/2020
(Approximate) End Construction Date	11/30/2021

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

From: **(Intersection or Address)**	CSAH 2 (PENN AVE)
To: **(Intersection or Address)** *DO NOT INCLUDE LEGAL DESCRIPTION*	150' EAST OF LYNDALE AVE
Or At	
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, aggregate base, bituminous base and surfacing, curb and gutter, storm sewer, lighting, sidewalks, bike facility, and traffic signals.

BRIDGE/CULVERT PROJECTS (IF APPLICABLE)

Old Bridge/Culvert No.:	
New Bridge/Culvert No.:	
Structure is Over/Under **(Bridge or culvert name):**	

Expander/Augmentor/Connector/Non-Freeway Principal Arterial

Select one:	Augmentor
Area	5.139
Project Length	1.278
Average Distance	4.0211
Upload Map	1466871043539_01 - CSAH 152 (Webber Pkwy) Reconstruction - Roadway Area Definition.pdf

Reliever: Relieves a Principal Arterial that is a Freeway Facility

Facility being relieved	
Number of hours per day volume exceeds capacity (based on the Congestion Report)	0

Reliever: Relieves a Principal Arterial that is a Non-Freeway Facility

Facility being relieved	
Number of hours per day volume exceeds capacity (based on the table below)	0

Non-Freeway Facility Volume/Capacity Table

Hour	NB/EB Volume	SB/WB Volume	Capacity	Volume exceeds capacity
12:00am - 1:00am			0	
1:00am - 2:00am			0	
2:00am - 3:00am			0	
3:00am - 4:00am			0	
4:00am - 5:00am			0	
5:00am - 6:00am			0	
6:00am - 7:00am			0	
7:00am - 8:00am			0	
8:00am - 9:00am			0	
9:00am - 10:00am			0	
10:00am - 11:00am			0	
11:00am - 12:00pm			0	
12:00pm - 1:00pm			0	
1:00pm - 2:00pm			0	

2:00pm - 3:00pm	0
3:00pm - 4:00pm	0
4:00pm - 5:00pm	0
5:00pm - 6:00pm	0
6:00pm - 7:00pm	0
7:00pm - 8:00pm	0
8:00pm - 9:00pm	0
9:00pm - 10:00pm	0
10:00pm - 11:00pm	0
11:00pm - 12:00am	0

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

Existing Employment within 1 Mile:	5893
Existing Manufacturing/Distribution-Related Employment within 1 Mile:	1978
Existing Students:	0
Upload Map	1466871280190_04 - CSAH 152 (Webber Pkwy) Reconstruction - Regional Economy.pdf

Measure C: Current Heavy Commercial Traffic

Location:	North of 41st Ave N
Current daily heavy commercial traffic volume:	1169
Date heavy commercial count taken:	05/16/2016 - 05/18/2016

Measure D: Freight Elements

Response (Limit 1,400 characters; approximately 200 words)

The CSAH 152 (Webber Pkwy) Project will reconstruct the existing 10-ton roadway to provide a new and structurally adequate roadway that can accomodate forecasted 2040 traffic volumes, specifically along the east portion of the project where heavy commercial traffic volumes are highest. Carrying 1,169 heavy commercial vehicles daily, this route provides a direct connection to I-94 for heavy commercial vehicles between the Humboldt Yards Intermodal facility, Republic Services Recycling Center, and Rapid Recovery Towing, all located one block north of this project. Additionally, Henry High School is located adjacent to CSAH 152 which generates significant school bus traffic. There are also numerous businesses along this corridor that require deliveries by commercial vehicles to re-supply their inventory of products. Additional project elements to facilitate freight movements include, but are not limited to:

- Improvements to the Webber Pkwy/Lyndale Ave intersection to promote a safer and more efficient environment within close proximity of the CP Rail at-grade railroad crossing north of the intersection

- Continuous left-turn lane along Lyndale Ave to better accommodate roadway users

- Dedicated turn lanes of adequate length at signalized intersections where warranted

- Replacement of curb and gutter to better define roadway limits

Measure A: Current Daily Person Throughput

Location	North of 41st Ave N
Current AADT Volume	13700

Existing Transit Routes on the Project *For New Roadways only, list transit routes that will be moved to the new roadway*	5, 19, 22, 32, 721, 724, 760, 761, 762, 763, 765, 766, 767, 768, 780, 781, 782, 783, 785, 850, 852, 854, 865, 887
Upload Transit Map	1466874971928_03 - CSAH 152 (Webber Pkwy) Reconstruction - Transit Connections.pdf

Response: Current Daily Person Throughput

Average Annual Daily Transit Ridership	0
Current Daily Person Throughput	17810.0

Measure B: 2040 Forecast ADT

Use Metropolitan Council model to determine forecast (2040) ADT volume	Yes
If checked, METC Staff will provide Forecast (2040) ADT volume	
OR	
Identify the approved county or city travel demand model to determine forecast (2040) ADT volume	
Forecast (2040) ADT volume	

Measure A: Project Location and Impact to Disadvantaged Populations

Select one:

Project located in Area of Concentrated Poverty with 50% or more of residents are people of color (ACP50):	Yes
Project located in Area of Concentrated Poverty:	
Projects census tracts are above the regional average for population in poverty or population of color:	
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:	

In 2013 this portion of CSAH 152 experienced a pavement resurfacing project and a CenterPoint gas main project. Although these activities were necessary, they provided little to no benefit for local residents and business owners. The CSAH 152 (Webber Pkwy) Reconstruction Project will provide new facilities for all transportation modes to provide affordable and active transportation options for people who live, work, learn, and play in the area. The project will have minimal right of way impacts, and thus preserve the character of the Webber-Camden Neighborhood.

Hennepin County will work with the City of Minneapolis and the Minneapolis Park Board to further engage the neighborhood. The Pedestrian Advocacy Group and the Bicycle Advocacy Group will aid in determining preferred project elements for implementation.

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

- Pedestrian

The sidewalks are in relatively poor condition, showing severe signs of cracking and settlement, along CSAH 152. The pedestrian ramps are poorly oriented and do not meet current ADA standards. New sidewalks and pedestrian ramps will significantly improve access for pedestrians, specifically disabled users. Furthermore, this project includes a two-block section along Lyndale Ave which offers an excellent opportunity to create a pedestrian environment that fosters walking. This will be accomplished by including project elements such as lighting, street furniture, green space, ornamental fencing, and facilities that are easy to maintain.

- Bicycle

Currently there is no bicycle facility on 44th Ave or Lyndale Ave. The Grand Rounds Trail is located along the north side of Webber Pkwy, however, there are no bicycle connections to this facility from CSAH 152. This project will fill an important gap in the bicycle network to promote choices in transportation.

- Transit

Both the Penn Ave (C-Line) and Chicago/Fremont Ave Bus Rapid Transit (BRT) Routes have proposed stations along 44th Ave. These new BRT Routes will improve the speed, frequency, and reliability of north/south transit by reducing the number of stops, implementing signal priority, and enhancing the station platform areas.

These pedestrian, bicycle, and transit improvements will provide better access to free public services such as the Webber Natural Swimming Pool (recently opened in 2016) and the Webber Library which are located directly on CSAH 152. Furthermore, the 44th Ave/Penn Ave intersection and the Lyndale Ave corridor offer diverse businesses to support the needs of the area.

The response should address the benefits, impacts, and mitigation for the populations affected by the project.

Upload Map

1466879664733_02 - CSAH 152 (Webber Pkwy) Reconstruction - Socio Economic Conditions.pdf

Measure B: Affordable Housing

City/Township	Segment Length in Miles (Population)
Minneapolis	1.28

Total Project Length

Total Project Length (Total Population)	1.28

Affordable Housing Scoring - To Be Completed By Metropolitan Council Staff

City/Township	Segment Length (Miles)	Total Length (Miles)	Score	Segment Length/Total Length	Housing Score Multiplied by Segment percent
		0	**0**	**0**	**0**

Affordable Housing Scoring - To Be Completed By Metropolitan Council Staff

Total Project Length (Miles)	1.28
Total Housing Score	0

Measure A: Year of Roadway Construction

Year of Original Roadway Construction or Most Recent Reconstruction	Segment Length	Calculation	Calculation 2
1952	1.28	2498.56	1952.0
	1	**2499**	**1952**

Average Construction Year

Weighted Year	1952

Total Segment Length (Miles)

Total Segment Length	1.28

Measure B: Geometric, Structural, or Infrastructure Improvements

Improving a non-10-ton roadway to a 10-ton roadway:	Yes

Response (Limit 700 characters; approximately 100 words)

CSAH 152 (Webber Pkwy) is currently a 10-ton roadway, however, this project will better facilitate heavy commercial traffic, specifically at 44th Ave/Penn Ave and along Lyndale Ave. Driveway aprons that are poorly designed and/or exhibit severe deterioration will be replaced to better accommodate delivery trucks serving local businesses. Furthermore, the existing curb and gutter along Webber Pkwy is damaged and has settled, therefore a full replacement is necessary to better define the roadway limits.

Improved clear zones or sight lines:

Yes

Response (Limit 700 characters; approximately 100 words)

The roadway network within Minneapolis is built on the grid system that includes relatively straight north/south and east/west streets. Therefore, sight distance is generally adequate at most of the intersections. The proposed locations of fencing, retaining walls, lighting, signs, and landscaping will not obstruct sight lines.

Improved roadway geometrics:

The east end of the project (Lyndale Ave) will be converted to a 3-lane section with a continuous left-turn lane. This will provide better delineation and sight lines for turning vehicles. Parking will be removed on one side along the west end (44th Ave) which will improve sight lines for vehicles turning onto 44th Ave from the side streets.

Yes

The CSAH 152 (Webber Pkwy) reconstruction project will convert the east end of the project (Lyndale Ave) to a 3-lane section to improve safety for all modes and provide better access to the local businesses. Additionally, this reconstruction project will further enhance safety by implementing the following whenever warranted by traffic and crash data:

Response (Limit 700 characters; approximately 100 words)

- Removal of channelized right-turn lanes

- Addition of a boulevard area to improve safety for pedestrians

- Installation of dedicated right and left-turn lanes

- Installation of a bicycle facility

- Replacement of curb and gutter to better define the roadway

Access management enhancements:

Yes

Response (Limit 700 characters; approximately 100 words)

The land use along the west and center portions (44th Ave and Webber Pkwy) is mainly residential with some commercial, while the land use along the east portion (Lyndale Ave) is mainly commercial. The introduction of a bicycle facility, sidewalk improvements, and conservation of on-street parking will provide exceptional accommodations for the types of trips generated in the area. Users will especially benefit from the 3-lane section along Lyndale Ave that will reduce vehicle speeds, provide a continuous left-turn lane to decrease rear-end and left-turn conflicts, and increase pedestrian and bicycle crossing safety.

Vertical/horizontal alignments improvements:

Yes

Response (Limit 700 characters; approximately 100 words)

The CSAH 152 (Webber Pkwy) Reconstruction Project will allow for adequate lane transition lengths and vehicle lane alignments to improve safety and operations. The project will specifically address the 44th Ave/Fremont Ave/Webber Pkwy intersection to address the current skewed intersections, which will reduce driver confusion and provide a safety benefit for all modes of transportation. Currently, pedestrian and bicycle crossings at these intersections is especially difficult.

This project will fill a gap in the bikeway network to support continuity in the system.

Improved stormwater mitigation:

Yes

The project is within the boundaries of the Shingle Creek Watershed Management Commission (SCWMC) and adjacent to the Mississippi River. Stretches of the Mississippi River are listed as impaired for bacteria, nutrients and TSS. One of the main factors affecting the quality of the river is stormwater management.

Response (Limit 700 characters; approximately 100 words)

While the project will meet all SCWMCs stormwater management rules, the County has already initiated conversations with the SCWMC to research opportunities to partner on additional stormwater BMPs (e.g., stormwater reuse, permeable pavement in the parking areas and tree trenches) to go beyond compliance and further reduce stormwater volume and associated pollutant loads.

Signals/lighting upgrades:

Yes

The CSAH 152 Reconstruction Project will replace the traffic signals along the project except at the following locations:

- Penn Ave (recently replaced)

- Memorial Pkwy (intersection re-design)

- Colfax Ave (unwarranted signal)

Response (Limit 700 characters; approximately 100 words)

Each of the new signals will include mast arms, countdown timers, and Accessible Pedestrian Signals to improve safety and the user experience. The removal of traffic signals at Memorial Pkwy and Colfax Ave will reduce vehicle delay and the environmental impact for the surrounding neighborhood.

The existing lighting is outdated and warrants replacement. The specific type and location of lighting will be consistent with guidelines included in Access Minneapolis.

Other Improvements

Yes

The sidewalk facilities, curb, and stormwater structures warrant a full reconstruction, especially along the Webber Pkwy portion of the project. A natural swimming pool, Webber Pool, recently opened in 2016 (after five years of construction) and attracts thousands of guests during the summer.

Response (Limit 700 characters; approximately 100 words)

Minimal pavement markings currently exist along 44th Ave and Webber Pkwy. This project will better allocate pavement space for all transportation modes that will define each facility. This project would be a significant investment for the county that provides better connections for biking, walking, transit, and driving.

Measure A: Congestion Reduction/Air Quality

Total Peak Hour Delay Per Vehicle Without The Project	Total Peak Hour Delay Per Vehicle With The Project	Total Peak Hour Delay Per Vehicle Reduced by Project	Volume (Vehicles per hour)	Total Peak Hour Delay Reduced by the Project:	EXPLANATION of methodology used to calculate railroad crossing delay, if applicable.	Synchro or HCM Reports
34.0	7.0	27.0	387	10449.0	N/A	1468435349081_01 - Fremont Ave & 45th Ave - Synchro Results.pdf
15.0	12.0	3.0	467	1401.0	N/A	1468435365425_02 - CSAH 152 & Fremont Ave - Synchro Results.pdf
0	0	0	414	0	N/A	1468435454343_03 - CSAH 152 & Webber Pkwy - Synchro Results.pdf
26.0	0	26.0	434	11284.0	N/A	1468435467390_04 - CSAH 152 & Colfax Ave - Synchro Results.pdf

Total Delay

Total Peak Hour Delay Reduced	23134.0

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

Total (CO, NOX, and VOC) Peak Hour Emissions Per Vehicle without the Project (Kilograms):	Total (CO, NOX, and VOC) Peak Hour Emissions Per Vehicle with the Project (Kilograms):	Total (CO, NOX, and VOC) Peak Hour Emissions Reduced Per Vehicle by the Project (Kilograms):	Volume (Vehicles Per Hour):	Total (CO, NOX, and VOC) Peak Hour Emissions Reduced by the Project (Kilograms):
0.53	0.21	0.32	387.0	123.84
0.59	0.82	-0.23	467.0	-107.41
0.23	0	0.23	414.0	95.22
0.79	0.42	0.37	434.0	160.58
2	**1**		**1702**	**272**

Total

Total Emissions Reduced:	272.23
Upload Synchro Report	1468530334171_00_CSAH 152 - Synchro Results.pdf

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

Total Parallel Roadways

Emissions Reduced on Parallel Roadways	0
Upload Synchro Report	1468433105377_00_CSAH 152 (Webber Pkwy) Reconstruction - Synchro Results.pdf

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)	

Transit Projects Not Requiring Construction

If the applicant is completing a transit or TDM 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

1)Project Scope (5 Percent of Points)

Meetings or contacts with stakeholders have occurred	Yes

100%

Stakeholders have been identified

40%

Stakeholders have not been identified or contacted

0%

2)Layout or Preliminary Plan (5 Percent of Points)

Layout or Preliminary Plan completed

100%

Layout or Preliminary Plan started Yes

50%

Layout or Preliminary Plan has not been started

0%

Anticipated date or date of completion 05/07/2018

3)Environmental Documentation (5 Percent of Points)

EIS

EA Yes

PM

Document Status:

Document approved (include copy of signed cover sheet)

100%

Document submitted to State Aid for review

75% date submitted

Document in progress; environmental impacts identified; review request letters sent

50%

Document not started Yes

0%

Anticipated date or date of completion/approval 07/01/2019

4)Review of Section 106 Historic Resources (10 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%

Historic/archeological review under way; determination of no historic properties affected or no adverse effect anticipated

80%

Historic/archaeological review under way; determination of adverse effect anticipated

40%

Unsure if there are any historic/archaeological resources in the project area Yes

0%

Anticipated date or date of completion of historic/archeological review: 03/04/2019

Project is located on an identified historic bridge

5)Review of Section 4f/6f Resources (10 Percent of Points)

4(f) Does the project impacts any public parks, public wildlife refuges, public golf courses, wild & scenic rivers or public private historic properties?
6(f) Does the project impact any public parks, public wildlife refuges, public golf courses, wild & scenic rivers or historic property that was purchased or improved with federal funds?

No Section 4f/6f resources located in the project area

100%

No impact to 4f property. The project is an independent bikeway/walkway project covered by the bikeway/walkway Negative Declaration statement; letter of support received

100%

Section 4f resources present within the project area, but no known adverse effects

80%

Project impacts to Section 4f/6f resources likely coordination/documentation has begun

50%

Project impacts to Section 4f/6f resources likely coordination/documentation has not begun Yes

30%

Unsure if there are any impacts to Section 4f/6f resources in the project area

0%

6)Right-of-Way (15 Percent of Points)

Right-of-way, permanent or temporary easements not required

100%

Right-of-way, permanent or temporary easements has/have been acquired

100%

Right-of-way, permanent or temporary easements required, offers made

75%

Right-of-way, permanent or temporary easements required, appraisals made

50%

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

25%

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

0%

Right-of-way, permanent or temporary easements identification has not been completed

0%

Anticipated date or date of acquisition 03/02/2020

7)Railroad Involvement (25 Percent of Points)

No railroad involvement on project

100%

Railroad Right-of-Way Agreement is executed (include signature page) 100%

Railroad Right-of-Way Agreement required; Agreement has been initiated

60%

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

40%

Railroad Right-of-Way Agreement required; negotiations not begun Yes

0%

Anticipated date or date of executed Agreement 11/04/2019

8)Interchange Approval (15 Percent of Points)*

**Please contact Karen Scheffing at MnDOT (Karen.Scheffing@state.mn.us or 651-234-7784) to determine if your project needs to go through the Metropolitan Council/MnDOT Highway Interchange Request Committee.*

Project does not involve construction of a new/expanded interchange or new interchange ramps Yes

100%

Interchange project has been approved by the Metropolitan Council/MnDOT Highway Interchange Request Committee

100%

Interchange project has not been approved by the Metropolitan Council/MnDOT Highway Interchange Request Committee

0%

9)Construction Documents/Plan (10 Percent of Points)

Construction plans completed/approved (include signed title sheet)

100%

Construction plans submitted to State Aid for review

75%

Construction plans in progress; at least 30% completion

50%

Construction plans have not been started Yes

0%

Anticipated date or date of completion 01/06/2020

10)Letting

Anticipated Letting Date 03/02/2020

Measure A: Roadway Projects that do not Include Railroad Grade-Separation Elements

Crash Modification Factor Used: 42.0

Rationale for Crash Modification Selected:

The following is a list of Crash Modification Factors accessed from the CMF Clearinghouse database. Multiple CMF's were applied to each crash based since the CSAH 152 Reconstruction Project will include multiple improvements to address safety. The overall average crash reduction expected is 58% (Based on a 42% crash modification factor).

- Improvement type (CMF ID, crash reduction)

01) Fencing to provide barrier for parking lot (None, 100%)

02) Pavement friction for wet surface crashes (195, 57%)

03) Pavement friction for all surface crashes (194, 24%)

04) Raised median with marked x-walk (175, 46%)

05) Remove on-street parking on 1-side (None, 100%)

06) Bike lanes along corridor - all crashes (4656, 6%)

07) LT lane - injury crashes (3948, 21%)

08) LT lane - PD crashes (3950, 20%)

09) Convert signal from pedestrian pole to mast arm (1420, 49%)

10) Ped countdown timers (5272, 70%)

11) Perm only to FYA prot/perm - LT crashes (7684, 40%)

12) High visibility crosswalk (4123, 40%)

13) Bike lanes at traffic signal (3252, 58%)

14) Prot/perm to FYA prot/perm - LT crashes (4177, 19%)

15) Primary signal head (1414, 28%)

16) Signal coordination along roadway - RE crashes (3072, 83%)

17) Bike lanes along corridor - Bike crashes (1719, 35%)

18) Perm only to FYA perm only (7699, 31%)

19) 4 to 3 lane with TWLTL - Int crashes (874, 37%)

20) 4 to 3 lane with TWLTL - Corr crashes (2841, 47%)

(Limit 1400 Characters; approximately 200 words)

Project Benefit ($) from B/C Ratio	$13,418,789.00
Worksheet Attachment	1468265501552_CSAH 152 (Webber Pkwy) Reconstruction - BC Worksheets.pdf

Roadway projects that include railroad grade-separation elements:

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

Measure A: Multimodal Elements and Existing Connections

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

The roadway and sidewalks along CSAH 152 have reached the end of their useful life. A gas utility project completed in 2013 resulted in roadway and sidewalk patching that created a visual disconnect throughout the corridor. Routine maintenance activities have had diminishing benefits for corridor users. The CSAH 152 (Webber Pkwy) Reconstruction Project will transform the corridor into one that benefits all users by reallocating space within the existing cross section.

Improvements to All Users:

The CSAH 152 project will realign the Fremont Ave/Webber Pkwy intersection to improve safety and continuity for the transportation system. The project will also convert Lyndale Ave to a 3-lane design that will provide traffic calming benefits and create space for a dedicated bikeway.

Pedestrian Improvements:

The 2013 gas utility project replaced some pedestrian ramps and defective sidewalk panels. However, a significant portion remains in damaged condition. Multiple pavement overlays have extended into the gutter pan of the curb, and substandard drainage facilities have resulted in severe settlement of the curb and sidewalk. Together, these conditions have reduced and even eliminated the vertical separation between vehicles and pedestrians, creating an unsafe, uncomfortable, and unnavigable environment for people walking. This project will include full replacement of sidewalks and pedestrian ramps, and installation of countdown timers and accessible pedestrian signals to improve navigation for people who walk.

Bicycle Improvements:

The CSAH 152 project will fill a gap in the existing bicycle network, as identified in both the city and county's bicycle transportation plans. Bikeway improvements will connect existing bike lanes on 45th Ave and Washington Ave, on the west and east sides of the project, respectively. Residents in Brooklyn Center and Robbinsdale will have an additional direct connection to the Grand Rounds Trail and to businesses located at 44th Ave/Penn Ave and along Lyndale Ave.

Transit Improvements:

The CSAH 152 project is directly connected to the upcoming Bus Rapid Transit Lines proposed for Penn Ave (2018) and Fremont Ave (TBD). New and improved pedestrian and bicycle facilities will provide safe, accessible, and direct walking and biking routes to these reliable transit services.

Additional Notes:

The Minneapolis Park Board recently opened the Webber Natural Swimming Pool which is located directly along CSAH 152. Pedestrian crossing enhancements will be included with the project to provide safe and accessible connections between the neighborhood and this recreational center.

Measure A: Cost Effectiveness

Total Project Cost (entered in Project Cost Form):	$12,030,000.00
Enter Amount of the Noise Walls:	$0.00
Total Project Cost subtract the amount of the noise walls:	$12,030,000.00

Points Awarded in Previous Criteria	
Cost Effectiveness	$0.00

Other Attachments

File Name	Description	File Size
Attachment 01A - City of Minneapolis - Letter of Support.pdf	Attachment 01A - City of Minneapolis - Letter of Support	1.1 MB
Attachment 01B - Minneapolis Park Board - Email of Support.pdf	Attachment 01B - Minneapolis Park Board - Email of Support	565 KB
Attachment 02 - MnDOT - 50 Series Map 3E.pdf	Attachment 02 - MnDOT - 50 Series Map	8.1 MB
Attachment 03 - Hennepin County - Heavy Commercial Count.pdf	Attachment 03 - Hennepin County - Heavy Commercial Count	532 KB
Attachment 04 - Hennepin County - 2016 Turning Movement Counts.pdf	Attachment 04 - Hennepin County - Turning Movement Counts	1008 KB
Attachment 05A - MnDOT - 2013 to 2015 Crash Data.pdf	Attachment 05A - MnDOT - 2013 to 2015 Crash Data	1.1 MB
Attachment 05B - FHWA - Crash Modification Factors.pdf	Attachment 05B - FHWA - Crash Modification Factors	1.4 MB
Attachment 06 - Hennepin County - Preliminary Layout.pdf	Attachment 06 - Hennepin County - Preliminary Layout	2.2 MB
Figure 01 - Hennepin County - Project Location Map.pdf	Figure 01 - Project Location Map	364 KB
Figure 02 - Hennepin County - Project Aerial Maps.pdf	Figure 02 - Project Aerial Maps	4.6 MB
Figure 03 - Hennepin County - Existing Roadway Elements.pdf	Figure 03 - Existing Roadway Elements	618 KB
Figure 04 - Hennepin County - Proposed Typical Sections.pdf	Figure 04 - Proposed Typical Sections	773 KB
Figure 05A - Hennepin County - 2016-2020 Capital Improvement Program.pdf	Figure 05A - Hennepin County - 2016-2020 Capital Improvement Program	1.5 MB
Figure 05B - Hennepin County - Bicycle Transportation Plan.pdf	Figure 05B - Hennepin County - Bicycle Transportation Plan	1.9 MB
Figure 05C - City of Minneapolis - Bikeways Master Plan.pdf	Figure 05C - City of Minneapolis - Bikeways Master Plan	1.8 MB
Figure 05D - City of Minneapolis - Bikeways Master Plan - Protected Bikeway Update.pdf	Figure 05D - City of Minneapolis - Bikeways Master Plan Protected Bikeway Update	1.1 MB
Figure 05E - Minneapolis Park Board - Webber Park Master Plan.pdf	Figure 05E - Minneapolis Park Board - Webber Park Master Plan	876 KB
Figure 05F - Metropolitan Council - Regional Bicycle Transportation Network.pdf	Figure 05F - Metropolitan Council - Regional Bicycle Transportation Network	898 KB
Figure 06A - Hennepin County - Penn Ave BRT Activities.pdf	Figure 06A - Hennepin County - Penn Ave BRT Activities	3.3 MB

Figure 06B - Metro Transit - Chicago-Fremont BRT Corridor.pdf	Figure 06B - Metro Transit - Chicago Fremont BRT Corridor	717 KB

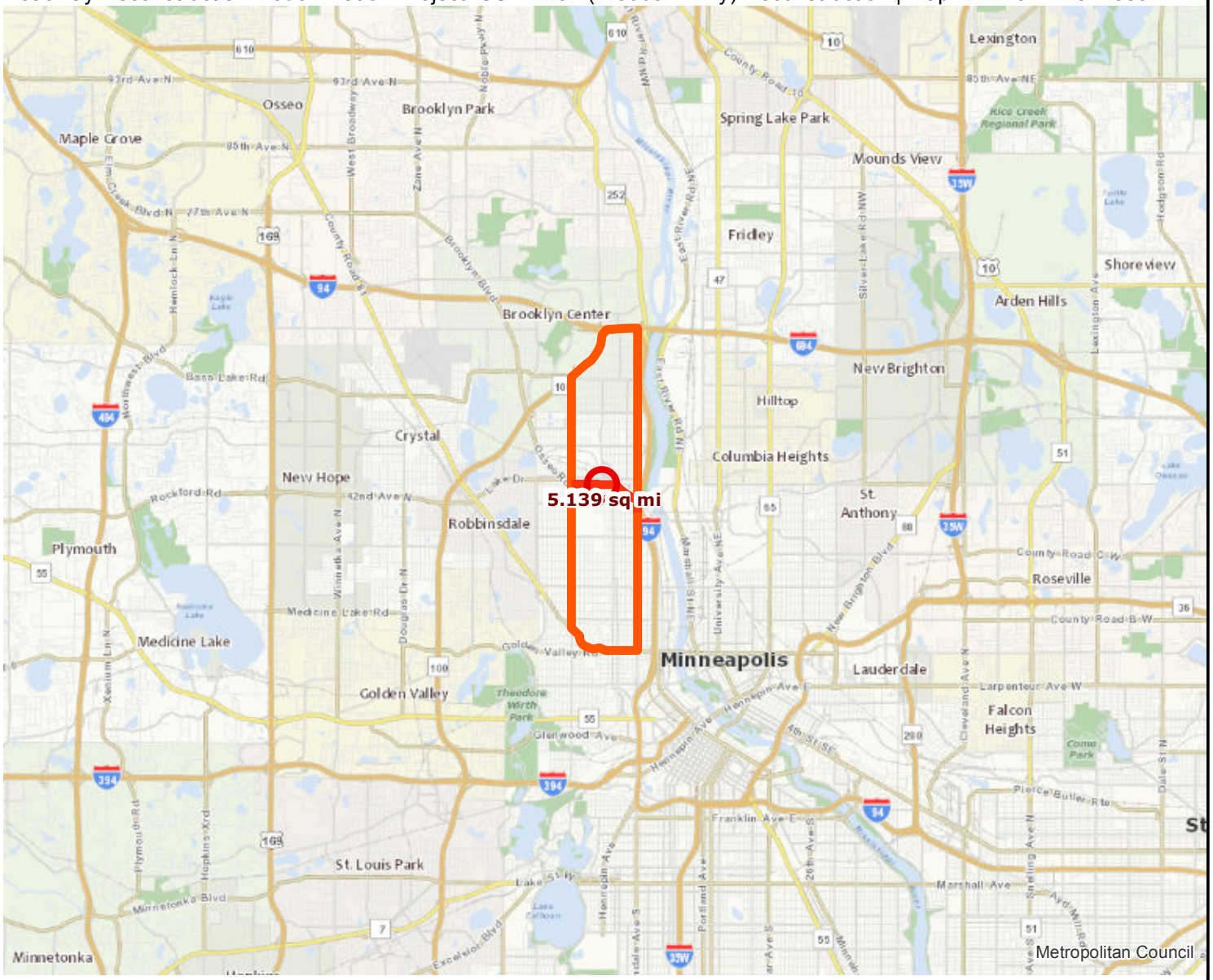
Roadway Area Definition

Roadway Reconstruction/Modernization Project: CSAH 152 (Webber Pkwy) Reconstruction | Map ID: 1464721577385

Results

Project Length: 1.278 miles

Project Area: 5.139 sq mi



Project Points Project Area

Project

0 1.5 3 6 9 12 Miles

Created: 5/31/2016
LandscapeRSA1

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

METROPOLITAN COUNCIL

Regional Economy

Roadway Reconstruction/Modernization Project: CSAH 152 (Webber Pkwy) Reconstruction | Map ID: 1464721577385

Results

WITHIN ONE MI of project:

Totals by City:

Brooklyn Center
Population: 1149
Employment: 494
Mfg and Dist Employment: 357

Fridley
Population: 0
Employment: 24
Mfg and Dist Employment: 24

Minneapolis
Population: 28612
Employment: 4962
Mfg and Dist Employment: 1587

Robbinsdale
Population: 2248
Employment: 413
Mfg and Dist Employment: 10

Postsecondary Students:
0

Project Points
Project Area
Project

0 1.5 3 6 9 12 Miles

Created: 5/31/2016
LandscapeRSA5

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

METROPOLITAN COUNCIL

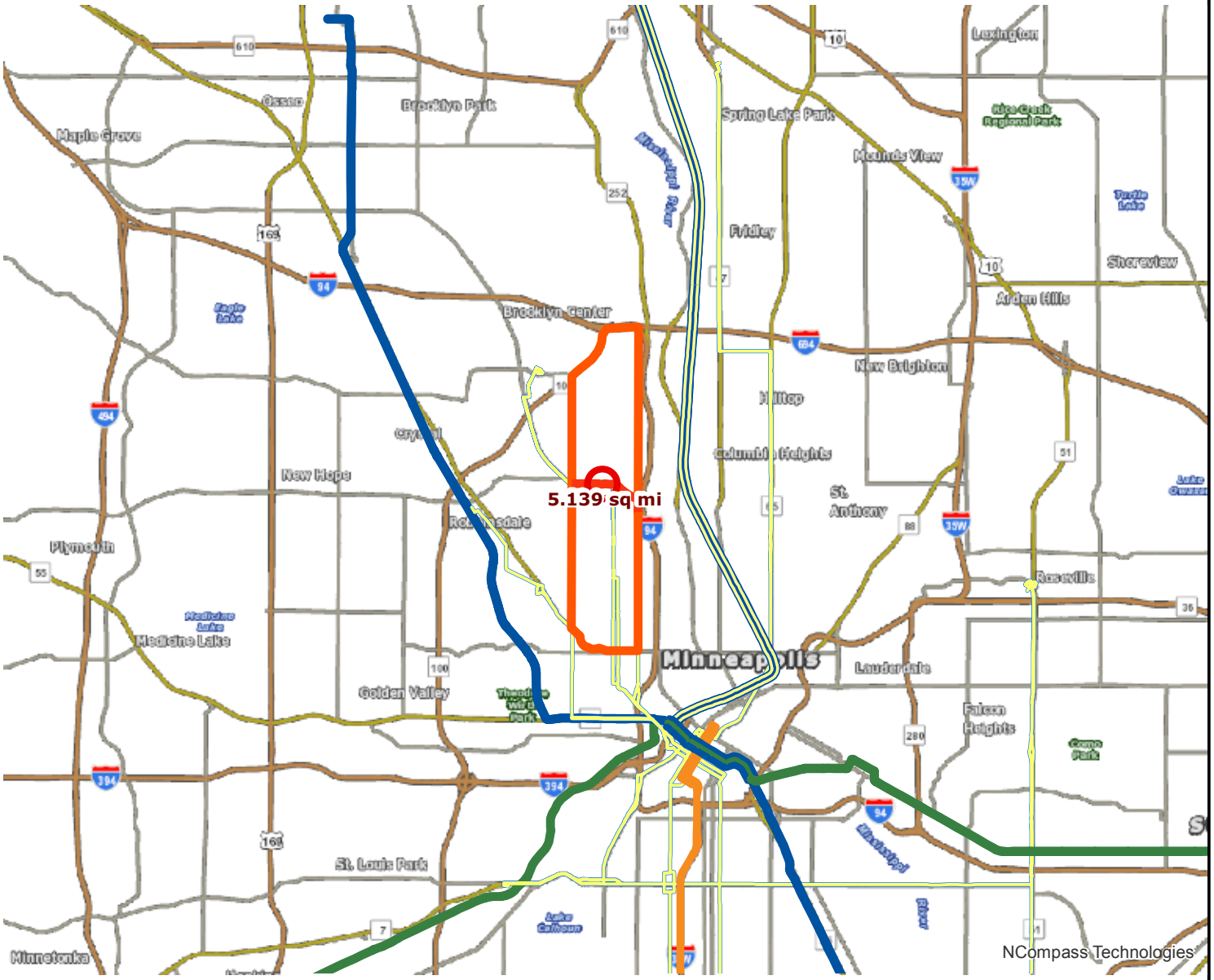
Transit Connections

Roadway Reconstruction/Modernization Project: CSAH 152 (Webber Pkwy) Reconstruction | Map ID: 1464721577385

Results

Transit with a Direct Connection to project:
5 19 22 32 721 724 760 761 762 763 765
766 767 768 780 781 782 783 785 850 852 854
865 887
*Chicago-Fremont
*C Line

**indicates Planned Alignments*



Project Points
Project
Project Area

Transitway
Blue / Green Line
Blue Line
Green Line
Northstar Line
Planned Alignments
Arterial BRT
BRT, Orange Line
Light Rail, Blue Line Extension
Light Rail, Green Line Extension

0 1.25 2.5 5 7.5 10 Miles

Created: 5/31/2016
LandscapeRSA3

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

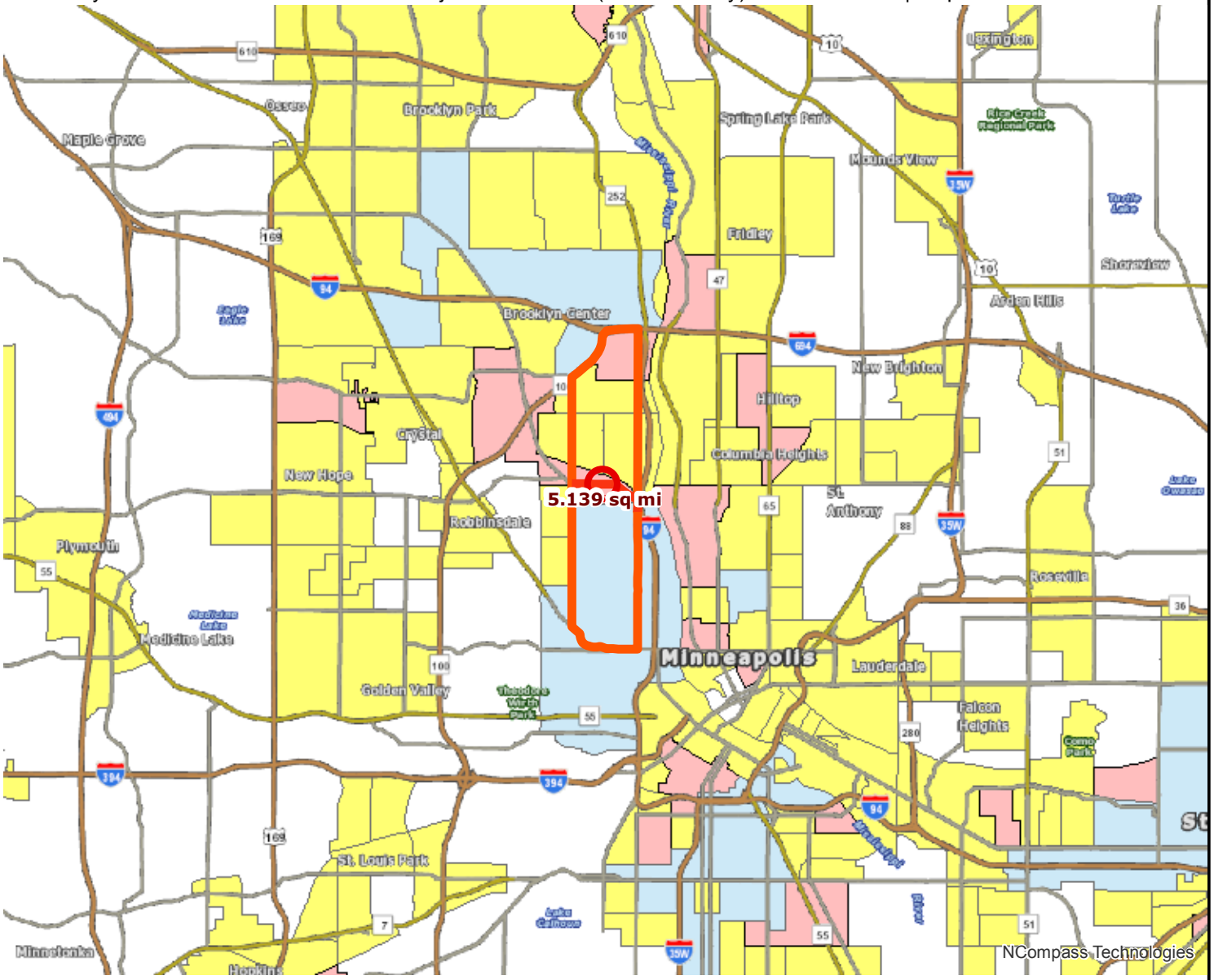
METROPOLITAN COUNCIL

Socio-Economic Conditions

Roadway Reconstruction/Modernization Project: CSAH 152 (Webber Pkwy) Reconstruction | Map ID: 1464721577385

Results

Project located **IN**
Area of Concentrated Poverty with 50% or more of residents are people of color (ACP50):
(0 to 30 Points)



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

0 1.5 3 6 9 12 Miles

Created: 5/31/2016
LandscapeRSA2

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

METROPOLITAN COUNCIL

1: Fremont Ave & 45th Ave (Existing)

Direction	All
Volume (vph)	387
Total Delay / Veh (s/v)	34
CO Emissions (kg)	0.37
NOx Emissions (kg)	0.07
VOC Emissions (kg)	0.09

1: Fremont Ave & 45th Ave (Proposed)

Direction	All
Volume (vph)	387
Total Delay / Veh (s/v)	7
CO Emissions (kg)	0.15
NOx Emissions (kg)	0.03
VOC Emissions (kg)	0.03

2: CSAH 152 & Fremont Ave (Existing)

Direction	All
Volume (vph)	467
Total Delay / Veh (s/v)	15
CO Emissions (kg)	0.41
NOx Emissions (kg)	0.08
VOC Emissions (kg)	0.10

2: CSAH 152 & Fremont Ave (Proposed)

Direction	All
Volume (vph)	678
Total Delay / Veh (s/v)	12
CO Emissions (kg)	0.58
NOx Emissions (kg)	0.11
VOC Emissions (kg)	0.13

3: CSAH 152 & Webber Pkwy (Existing)

Direction	All
Volume (vph)	414
Total Delay / Veh (s/v)	0
CO Emissions (kg)	0.16
NOx Emissions (kg)	0.03
VOC Emissions (kg)	0.04

3: CSAH 152 & Webber Pkwy (Proposed)

Direction	All
Volume (vph)	414
Total Delay / Veh (s/v)	0
CO Emissions (kg)	0.16
NOx Emissions (kg)	0.03
VOC Emissions (kg)	0.04

4: CSAH 152 & Colfax Ave (Existing)

Direction	All
Volume (vph)	434
Total Delay / Veh (s/v)	26
CO Emissions (kg)	0.55
NOx Emissions (kg)	0.11
VOC Emissions (kg)	0.13

4: CSAH 152 & Colfax Ave (Proposed)

Direction	All
Volume (vph)	434
Total Delay / Veh (s/v)	0
CO Emissions (kg)	0.29
NOx Emissions (kg)	0.06
VOC Emissions (kg)	0.07

1: Fremont Ave & 45th Ave (Existing)

Direction	All
Volume (vph)	387
Total Delay / Veh (s/v)	34
CO Emissions (kg)	0.37
NOx Emissions (kg)	0.07
VOC Emissions (kg)	0.09

2: CSAH 152 & Fremont Ave (Existing)

Direction	All
Volume (vph)	467
Total Delay / Veh (s/v)	15
CO Emissions (kg)	0.41
NOx Emissions (kg)	0.08
VOC Emissions (kg)	0.10

3: CSAH 152 & Webber Pkwy (Existing)

Direction	All
Volume (vph)	414
Total Delay / Veh (s/v)	0
CO Emissions (kg)	0.16
NOx Emissions (kg)	0.03
VOC Emissions (kg)	0.04

4: CSAH 152 & Colfax Ave (Existing)

Direction	All
Volume (vph)	434
Total Delay / Veh (s/v)	26
CO Emissions (kg)	0.55
NOx Emissions (kg)	0.11
VOC Emissions (kg)	0.13

1: Fremont Ave & 45th Ave (Proposed)

Direction	All
Volume (vph)	387
Total Delay / Veh (s/v)	7
CO Emissions (kg)	0.15
NOx Emissions (kg)	0.03
VOC Emissions (kg)	0.03

2: CSAH 152 & Fremont Ave (Proposed)

Direction	All
Volume (vph)	678
Total Delay / Veh (s/v)	12
CO Emissions (kg)	0.58
NOx Emissions (kg)	0.11
VOC Emissions (kg)	0.13

3: CSAH 152 & Webber Pkwy (Proposed)

Direction	All
Volume (vph)	414
Total Delay / Veh (s/v)	0
CO Emissions (kg)	0.16
NOx Emissions (kg)	0.03
VOC Emissions (kg)	0.04

4: CSAH 152 & Colfax Ave (Proposed)

Direction	All
Volume (vph)	434
Total Delay / Veh (s/v)	0
CO Emissions (kg)	0.29
NOx Emissions (kg)	0.06
VOC Emissions (kg)	0.07

1: Freemont Ave N/45th Ave N & Webber Parkway

Direction	All
Volume (vph)	387
Total Delay / Veh (s/v)	34
CO Emissions (kg)	0.37
NOx Emissions (kg)	0.07
VOC Emissions (kg)	0.09

2: FREEMONT AVE/Freemont Ave N & CSAH 152

Direction	All
Volume (vph)	467
Total Delay / Veh (s/v)	15
CO Emissions (kg)	0.41
NOx Emissions (kg)	0.08
VOC Emissions (kg)	0.10

3: CSAH 152 & Webber Parkway

Direction	All
Volume (vph)	414
Total Delay / Veh (s/v)	0
CO Emissions (kg)	0.16
NOx Emissions (kg)	0.03
VOC Emissions (kg)	0.04

4: Colfax Ave N & Webber Parkway

Direction	All
Volume (vph)	434
Total Delay / Veh (s/v)	26
CO Emissions (kg)	0.55
NOx Emissions (kg)	0.11
VOC Emissions (kg)	0.13

5: CSAH 152/LYNDALE AVE & WEBBER PARKWAY

Direction	All
Volume (vph)	667
Total Delay / Veh (s/v)	6
CO Emissions (kg)	0.39
NOx Emissions (kg)	0.08
VOC Emissions (kg)	0.09

1: Freemont Ave & 45th Ave & Webber Parkway

Direction	All
Volume (vph)	387
Total Delay / Veh (s/v)	7
CO Emissions (kg)	0.15
NOx Emissions (kg)	0.03
VOC Emissions (kg)	0.03

2: FREEMONT AVE & CSAH 152

Direction	All
Volume (vph)	678
Total Delay / Veh (s/v)	12
CO Emissions (kg)	0.58
NOx Emissions (kg)	0.11
VOC Emissions (kg)	0.13

3: CSAH 152 & Webber Parkway

Direction	All
Volume (vph)	414
Total Delay / Veh (s/v)	0
CO Emissions (kg)	0.16
NOx Emissions (kg)	0.03
VOC Emissions (kg)	0.04

INTERSECTION REALIGNMENT

4: Colfax Ave & Webber Parkway

Direction	All
Volume (vph)	434
Total Delay / Veh (s/v)	0
CO Emissions (kg)	0.29
NOx Emissions (kg)	0.06
VOC Emissions (kg)	0.07

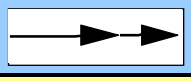
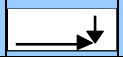
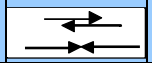
5: CSAH 152/LYNDALE AVE & WEBBER PARKWAY

Direction	All
Volume (vph)	667
Total Delay / Veh (s/v)	7
CO Emissions (kg)	0.40
NOx Emissions (kg)	0.08
VOC Emissions (kg)	0.09

B/C worksheet

Control Section	T.H. / Roadway	Location	Beginning Ref. Pt.	Ending Ref. Pt.	State, County, City or Township	Study Period Begins	Study Period Ends
	CSAH 152	At Penn Ave	6.19	6.25	Hennepin County	1/1/2013	12/31/2015

Description of Proposed Work: Install fencing to provide barrier for surface parking lot (No CMF Available)

Accident Diagram Codes		1 	2 	3 	5 	4, 7 	8, 9 	Pedestrian	6, 90, 98, 99 Other	Total
Study Period: Number of Crashes	Fatal **F**									
	Personal Injury (PI) **A**								1	**1**
	Personal Injury (PI) **B**									
	Personal Injury (PI) **C**	1								**1**
	Property Damage **PD**	1			1	4	1			**7**
% Change in Crashes *Use FHWA cmfclearinghouse for Crash Reduction Factors	Fatal **F**									
	PI **A**								-100%	
	PI **B**									
	PI **C**									
	Property Damage **PD**									
Change in Crashes = No. of crashes **X** % change in crashes	Fatal **F**									
	PI **A**								**-1.00**	**-1.00**
	PI **B**									
	PI **C**	**0.00**								
	Property Damage **PD**	**0.00**			**0.00**	**0.00**	**0.00**			

Year (Safety Improvement Construction): **2020**

Project Cost (exclude Right of Way): **$ 12,030,000**

Right of Way Costs (optional):

Traffic Growth Factor: **3%**

Capital Recovery

1. **Discount Rate:** **4.5%**
2. **Project Service Life (n):** **20**

Type of Crash	Study Period: Change in Crashes	Annual Change in Crashes	Cost per Crash	Annual Benefit
F			**$ 1,140,000**	
A	**-1.00**	**-0.33**	**$ 570,000**	**$ 190,174**
B			**$ 170,000**	
C			**$ 83,000**	
PD			**$ 7,600**	
Total				**$ 190,174**

B/C= 0.28

Using present worth values,

B= $ 3,326,883

C= $ 12,030,000

See "Calculations" sheet for amortization.

Updated 12-10-2015

B/C worksheet

Control Section	T.H. / Roadway	Location	Beginning Ref. Pt.	Ending Ref. Pt.	State, County, City or Township	Study Period Begins	Study Period Ends
	CSAH 152	Between Penn Ave (CSAH 32) and Fremont Ave	6.25	6.82	Hennepin County	1/1/2013	12/31/2015

Description of Proposed Work

Increase pavement friction for wet roads (CMF ID 195)
Increase pavement friction for all roads (CMF ID 194)
Install raised median with marked crosswalk at uncontrolled intersection (CMF ID 175)
Remove on-street parking along one side of roadway (No CMF Available)
Install bicycle lanes along corridor (CMF ID 4656)

			Accident Diagram Codes 1	2	3	5	4, 7	8, 9	Pedestrian	6, 90, 98, 99 Other	Total
Study Period: Number of Crashes	Fatal	**F**									
	Personal Injury (PI)	**A**									
		B							1		**1**
		C	1		1	1			1		**4**
	Property Damage	**PD**		3		5				6	**14**
% Change in Crashes *Use FHWA cmfclearinghouse for Crash Reduction Factors	Fatal	**F**									
	PI	**A**									
		B							-78%		
		C	-60%		-60%	-60%			-49%		
	Property Damage	**PD**		-87%		-50%				-58%	
Change in Crashes = No. of crashes **x** % change in crashes	Fatal	**F**									
	PI	**A**									
		B							**-0.78**		**-0.78**
		C	**-0.60**		**-0.60**	**-0.60**			**-0.49**		**-2.29**
	Property Damage	**PD**		**-2.61**		**-2.50**				**-3.48**	**-8.59**

Year (Safety Improvement Construction) **2020**

		Type of Crash	Study Period: Change in Crashes	Annual Change in Crashes	Cost per Crash	Annual Benefit
Project Cost (exclude Right of Way)	**$ 12,030,000**					
Right of Way Costs (optional)		**F**			**$ 1,140,000**	
Traffic Growth Factor	**3%**	**A**			**$ 570,000**	
Capital Recovery		**B**	**-0.78**	**-0.26**	**$ 170,000**	**$ 44,240**
1. Discount Rate	**4.5%**	**C**	**-2.29**	**-0.76**	**$ 83,000**	**$ 63,415**
2. Project Service Life (n)	**20**	**PD**	**-8.59**	**-2.87**	**$ 7,600**	**$ 21,781**
		Total				**$ 129,436**

B/C= 0.19

Using present worth values,

B= $ 2,264,346

C= $ 12,030,000

See "Calculations" sheet for amortization.

Updated 12-10-2015

B/C worksheet

Control Section	T.H. / Roadway	Location	Beginning Ref. Pt.	Ending Ref. Pt.	State, County, City or Township	Study Period Begins	Study Period Ends
	CSAH 152	At Fremont Ave	6.82	6.88	Hennepin County	1/1/2013	12/31/2015

Description of Proposed Work

Install left turn lane - injury related crashes (CMF ID 3948)
Install left turn lane - property damage related crashes (CMF ID 3950)
Convert pedestrian pole mounted traffic signal to mastarms (CMF ID 1420)
Install pedestrian countdown timers (CMF ID 5272)
Change left turn phasing from permissive only to flashing yellow arrow protected/permissive (CMF ID 7684)
Install high visibility crosswalk markings (CMF ID 4123)

			Accident Diagram Codes 1	2	3	5	4, 7	8, 9	Pedestrian	6, 90, 98, 99 Other	Total
Study Period: Number of Crashes	Fatal	**F**									
	Personal Injury (PI)	**A**									
		B			1						**1**
		C				1	1		1	1	**4**
	Property Damage	**PD**	1		3	1	1	2		1	**9**
% Change in Crashes *Use FHWA cmfclearinghouse for Crash Reduction Factors	Fatal	**F**									
	PI	**A**									
		B			-76%						
		C				-49%	-49%		-91%	-49%	
	Property Damage	**PD**			-67%		-49%	-49%		-49%	
Change in Crashes = No. of crashes **x** % change in crashes	Fatal	**F**									
	PI	**A**									
		B			**-0.76**						**-0.76**
		C				**-0.49**	**-0.49**		**-0.91**	**-0.49**	**-2.38**
	Property Damage	**PD**	**0.00**		**-2.01**	**0.00**	**-0.49**	**-0.98**		**-0.49**	**-3.97**

Year (Safety Improvement Construction) **2020**

Project Cost (exclude Right of Way)	**$ 12,030,000**
Right of Way Costs (optional)	
Traffic Growth Factor	**3%**
Capital Recovery	
1. Discount Rate	**4.5%**
2. Project Service Life (n)	**20**

Type of Crash	Study Period: Change in Crashes	Annual Change in Crashes	Cost per Crash	Annual Benefit
F			**$ 1,140,000**	
A			**$ 570,000**	
B	**-0.76**	**-0.25**	**$ 170,000**	**$ 43,106**
C	**-2.38**	**-0.79**	**$ 83,000**	**$ 65,907**
PD	**-3.97**	**-1.32**	**$ 7,600**	**$ 10,067**
Total				**$ 119,079**

B/C= 0.17

Using present worth values,

B= $ 2,083,166

C= $ 12,030,000

See "Calculations" sheet for amortization.

Updated 12-10-2015

B/C worksheet

Control Section	T.H. / Roadway	Location	Beginning Ref. Pt.	Ending Ref. Pt.	State, County, City or Township	Study Period Begins	Study Period Ends
	CSAH 152	At Webber Parkway	6.84	6.9	Hennepin County	1/1/2013	12/31/2015

Description of Proposed Work: Realign intersection to address poor alignment (No CMF available)

			Accident Diagram Codes 1	2	3	5	4, 7	8, 9	Pedestrian	6, 90, 98, 99 Other	Total
Study Period: Number of Crashes	Fatal	**F**									
	Personal Injury (PI)	**A**									
		B			1						**1**
		C									
	Property Damage	**PD**	1								**1**
% Change in Crashes *Use FHWA cmfclearinghouse for Crash Reduction Factors	Fatal	**F**									
	PI	**A**									
		B			-100%						
		C									
	Property Damage	**PD**	-100%								
Change in Crashes = No. of crashes **X** % change in crashes	Fatal	**F**									
	PI	**A**									
		B			**-1.00**						**-1.00**
		C									
	Property Damage	**PD**	**-1.00**								**-1.00**

Year (Safety Improvement Construction): **2020**

Project Cost (exclude Right of Way)	**$ 12,030,000**
Right of Way Costs (optional)	
Traffic Growth Factor	**3%**
Capital Recovery	
1. Discount Rate	**4.5%**
2. Project Service Life (n)	**20**

Type of Crash	Study Period: Change in Crashes	Annual Change in Crashes	Cost per Crash	Annual Benefit
F			**$ 1,140,000**	
A			**$ 570,000**	
B	**-1.00**	**-0.33**	**$ 170,000**	**$ 56,718**
C			**$ 83,000**	
PD	**-1.00**	**-0.33**	**$ 7,600**	**$ 2,536**
Total				**$ 59,254**

B/C= 0.09

Using present worth values,

B= $ 1,036,587

C= $ 12,030,000

See "Calculations" sheet for amortization.

Updated 12-10-2015

B/C worksheet

Control Section	T.H. / Roadway	Location	Beginning Ref. Pt.	Ending Ref. Pt.	State, County, City or Township	Study Period Begins	Study Period Ends
	CSAH 152	Between Webber Pkwy and Lyndale Ave	6.88	7.47	Hennepin County	1/1/2013	12/31/2015

Description of Proposed Work

Increase pavement friction for wet roads (CMF ID 195)
Increase pavement friction for all roads (CMF ID 194)
Install raised median with marked crosswalk at uncontrolled intersection (CMF ID 175)

			Accident Diagram Codes 1	2	3	5	4, 7	8, 9	Pedestrian	6, 90, 98, 99 Other	Total
Study Period: Number of Crashes	Fatal	**F**									
	Personal Injury (PI)	**A**									
		B							1		**1**
		C									
	Property Damage	**PD**				1				3	**4**
% Change in Crashes	Fatal	**F**									
	PI	**A**									
		B							-72%		
		C									
*Use FHWA cmfclearinghouse for Crash Reduction Factors	Property Damage	**PD**				-57%				-40%	
Change in Crashes = No. of crashes **X** % change in crashes	Fatal	**F**									
	PI	**A**									
		B							**-0.72**		**-0.72**
		C									
	Property Damage	**PD**				**-0.57**				**-1.20**	**-1.77**

Year (Safety Improvement Construction) **2020**

		Type of Crash	Study Period: Change in Crashes	Annual Change in Crashes	Cost per Crash	Annual Benefit
Project Cost (exclude Right of Way)	**$ 12,030,000**					
Right of Way Costs (optional)		**F**			**$ 1,140,000**	
Traffic Growth Factor	**3%**	**A**			**$ 570,000**	
Capital Recovery		**B**	**-0.72**	**-0.24**	**$ 170,000**	**$ 40,837**
1. Discount Rate	**4.5%**	**C**			**$ 83,000**	
2. Project Service Life (n)	**20**	**PD**	**-1.77**	**-0.59**	**$ 7,600**	**$ 4,488**
		Total				**$ 45,325**

B/C= 0.07

Using present worth values,

B= $ 792,919

C= $ 12,030,000

See "Calculations" sheet for amortization.

Updated 12-10-2015

B/C worksheet

Control Section	T.H. / Roadway	Location	Beginning Ref. Pt.	Ending Ref. Pt.	State, County, City or Township	Study Period Begins	Study Period Ends
	CSAH 152	At Lyndale Ave (N JCT)	7.26	7.32	Hennepin County	1/1/2013	12/31/2015

Description of Proposed Work

Convert pedestrian mounted signal to mastarm (CMF ID 1420)
Install bicycle lanes at signalized intersection (CMF ID 3252)
Convert left turn signal timing from protected/permissive to Flashing Yellow Arrow (CMF ID 4177)
Add primary traffic signal head (CMF ID 1414)
Implement traffic signal coordination along arterial roadway (CMF ID 3072)

			Accident Diagram Codes 1	2	3	5	4, 7	8, 9	Pedestrian	6, 90, 98, 99 Other	Total
Study Period: Number of Crashes	Fatal	**F**									
	Personal Injury (PI)	**A**									
		B									
		C	2							1	**3**
	Property Damage	**PD**	2	3	3	1	2				**11**
% Change in Crashes *Use FHWA cmfclearinghouse for Crash Reduction Factors	Fatal	**F**									
	PI	**A**									
		B									
		C	-69%							-79%	
	Property Damage	**PD**	-88%	-23%	-30%	-49%	-49%				
Change in Crashes = No. of crashes **x** % change in crashes	Fatal	**F**									
	PI	**A**									
		B									
		C	**-1.38**							**-0.79**	**-2.17**
	Property Damage	**PD**	**-1.76**	**-0.69**	**-0.90**	**-0.49**	**-0.98**				**-4.82**

Year (Safety Improvement Construction) **2020**

		Type of Crash	Study Period: Change in Crashes	Annual Change in Crashes	Cost per Crash	Annual Benefit
Project Cost (exclude Right of Way)	**$ 12,030,000**					
Right of Way Costs (optional)		**F**			**$ 1,140,000**	
Traffic Growth Factor	**3%**	**A**			**$ 570,000**	
Capital Recovery		**B**			**$ 170,000**	
1. Discount Rate	**4.5%**	**C**	**-2.17**	**-0.72**	**$ 83,000**	**$ 60,092**
2. Project Service Life (n)	**20**	**PD**	**-4.82**	**-1.61**	**$ 7,600**	**$ 12,222**
		Total				**$ 72,313**

B/C= 0.11

Using present worth values,

B= $ 1,265,044

C= $ 12,030,000

See "Calculations" sheet for amortization.

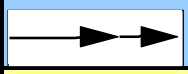
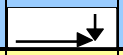
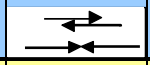
Updated 12-10-2015

B/C worksheet

Control Section	T.H. / Roadway	Location	Beginning Ref. Pt.	Ending Ref. Pt.	State, County, City or Township	Study Period Begins	Study Period Ends
	CSAH 152	At 42nd Ave N	7.32	7.38	Hennepin County	1/1/2013	12/31/2015

Description of Proposed Work

Install bicycle lanes at signalized intersection (CMF ID 3252)
Install bicycle lanes along corridor (CMF ID 1719)
Change from left-turn phasing from permissive only to flashing yellow arrow permissive only (CMF ID 7699)
Implement traffic signal coordination along arterial roadway (CMF ID 3072)
Narrow cross section from 4 to 3 lanes with two way left turn lane at an intersection (CMF ID 874)
Convert 4-lane roadway to 3-lane roadway with center turn lane along a corridor (CMF ID 2841)

		Accident Diagram Codes	1	2	3	5	4, 7	8, 9	Pedestrian	6, 90, 98, 99 Other	Total
											
Study Period: Number of Crashes	Fatal	**F**									
	Personal Injury (PI)	**A**									
		B						1			**1**
		C				1				2	**3**
	Property Damage	**PD**	2	1	1		1	1		3	**9**
% Change in Crashes *Use FHWA cmfclearinghouse for Crash Reduction Factors	Fatal	**F**									
	PI	**A**									
		B						-57%			
		C				-57%				-74%	
	Property Damage	**PD**	-47%	-57%	-57%		-37%	0%		-31%	
Change in Crashes = No. of crashes **x** % change in crashes	Fatal	**F**									
	PI	**A**									
		B						**-0.57**			**-0.57**
		C				**-0.57**				**-1.48**	**-2.05**
	Property Damage	**PD**	**-0.94**	**-0.57**	**-0.57**		**-0.37**	**0.00**		**-0.93**	**-3.38**

Year (Safety Improvement Construction) **2020**

Project Cost (exclude Right of Way) **$ 12,030,000**

Right of Way Costs (optional)

Traffic Growth Factor **3%**

Capital Recovery

1. **Discount Rate** **4.5%**
2. **Project Service Life (n)** **20**

Type of Crash	Study Period: Change in Crashes	Annual Change in Crashes	Cost per Crash	Annual Benefit
F			**$ 1,140,000**	
A			**$ 570,000**	
B	**-0.57**	**-0.19**	**$ 170,000**	**$ 32,330**
C	**-2.05**	**-0.68**	**$ 83,000**	**$ 56,769**
PD	**-3.38**	**-1.13**	**$ 7,600**	**$ 8,570**
Total				**$ 97,669**

B/C= 0.14

Using present worth values,

B= $ 1,708,605

C= $ 12,030,000

See "Calculations" sheet for amortization.

Updated 12-10-2015

B/C worksheet

Control Section	T.H. / Roadway	Location	Beginning Ref. Pt.	Ending Ref. Pt.	State, County, City or Township	Study Period Begins	Study Period Ends
	CSAH 152	At 41st Ave N	7.47	7.53	Hennepin County	1/1/2013	12/31/2015

Description of Proposed Work

Narrow cross section from 4 to 3 lanes with two way left turn lane at an intersection (CMF ID 874)
Convert 4-lane roadway to 3-lane roadway with center turn lane along a corridor (CMF ID 2841)
Install pedestrian countdown timers (CMF ID 5272)
Install high visibility crosswalk markings (CMF ID 4123)

		Accident Diagram Codes	1	2	3	5	4, 7	8, 9	Pedestrian	6, 90, 98, 99 Other	Total
Study Period: Number of Crashes	Fatal	**F**									
	Personal Injury (PI)	**A**									
		B									
		C			1		1		1		**3**
	Property Damage	**PD**	1	1		1	1	1		4	**9**
% Change in Crashes *Use FHWA cmfclearinghouse for Crash Reduction Factors	Fatal	**F**									
	PI	**A**									
		B									
		C			-47%		-37%		-82%		
	Property Damage	**PD**	-47%	0%		-37%	-37%	0%		-47%	
Change in Crashes = No. of crashes **x** % change in crashes	Fatal	**F**									
	PI	**A**									
		B									
		C			**-0.47**		**-0.37**		**-0.82**		**-1.66**
	Property Damage	**PD**	**-0.47**	**0.00**		**-0.37**	**-0.37**	**0.00**		**-1.88**	**-3.09**

Year (Safety Improvement Construction) **2020**

		Type of Crash	Study Period: Change in Crashes	Annual Change in Crashes	Cost per Crash	Annual Benefit
Project Cost (exclude Right of Way)	**$ 12,030,000**					
Right of Way Costs (optional)		**F**			**$ 1,140,000**	
Traffic Growth Factor	**3%**	**A**			**$ 570,000**	
Capital Recovery		**B**			**$ 170,000**	
1. Discount Rate	**4.5%**	**C**	**-1.66**	**-0.55**	**$ 83,000**	**$ 45,969**
2. Project Service Life (n)	**20**	**PD**	**-3.09**	**-1.03**	**$ 7,600**	**$ 7,835**
		Total				**$ 53,804**

B/C= 0.08

Using present worth values,

B= $ 941,239

C= $ 12,030,000

See "Calculations" sheet for amortization.

Updated 12-10-2015

Letter of Support
Attachment 01A

Minneapolis
City of Lakes

Public Works
350 S. Fifth St. - Room 203
Minneapolis, MN 55415
TEL 612.673.2352

www.minneapolismn.gov

June 20, 2016

James N. Grube, P.E.
Director of Transportation and County Engineer
Transportation Department
1600 Prairie Drive
Medina, Minnesota 55340

Re: Letter of Support for Regional Solicitation Application
Webber Pkwy (CSAH 152) Reconstruction
From Penn Ave (CSAH 2) to 41st Ave

Dear Mr. Grube:

The City of Minneapolis supports Hennepin County's federal funding application through the Regional Solicitation for the proposed Webber Pkwy (CSAH 152) reconstruction project from Penn Ave (CSAH 2) to 41st Ave.

The City of Minneapolis supports this Hennepin County project to modernize and improve the existing roadway. Proposed improvements include a reconstruction of the existing roadway, safety elements, replacement/upgrading of traffic signals, replacement of the existing sidewalks, and ADA elements. These proposed safety improvements will enhance the livability and quality of life for Minneapolis and Hennepin County residents.

Thank you for making us aware of this application effort and the opportunity to provide support. The city looks forward to working with you on this project.

Sincerely,

Lisa K. Cerney

Lisa Cerney
Director of Public Works

Email of Support
Attachment 01B

Jason R Pieper

From: Swenson, Clifton <CSwenson@minneapolisparks.org>
Sent: Wednesday, July 06, 2016 3:11 PM
To: Jason R Pieper
Cc: Carla J Stueve; Sharon E Wessel
Subject: RE: Support Letter for Regional Solicitation Application - CSAH 152 (Webber Pkwy) Reconstruction

Jason,
We are supportive of your request but we have no time to draft the letter and get it to the Superintendent for review and signature before your deadline. I'm sorry.

Cliff Swenson, PLA
Director of Design & Project Mgmt. | Planning Dept. | 2117 West River Rd., Minneapolis, MN 55411 | P: 612.230.6473 | www.minneapolisparks.org

Minneapolis
Park & Recreation Board

From: Jason R Pieper [mailto:Jason.Pieper@hennepin.us]
Sent: Thursday, June 23, 2016 11:52 AM
To: Swenson, Clifton
Cc: Carla J Stueve; Sharon E Wessel
Subject: RE: Support Letter for Regional Solicitation Application - CSAH 152 (Webber Pkwy) Reconstruction

Good morning Cliff,

The purpose of this email is to follow up on the request for a letter of support from the Minneapolis Park Board for the county's CSAH 152 (Webber Pkwy) Reconstruction application. These applications are due July 15th, so please let me know if there is anything I can do to expedite this request.

Regards,

Jason Pieper, EIT
Transportation Engineer

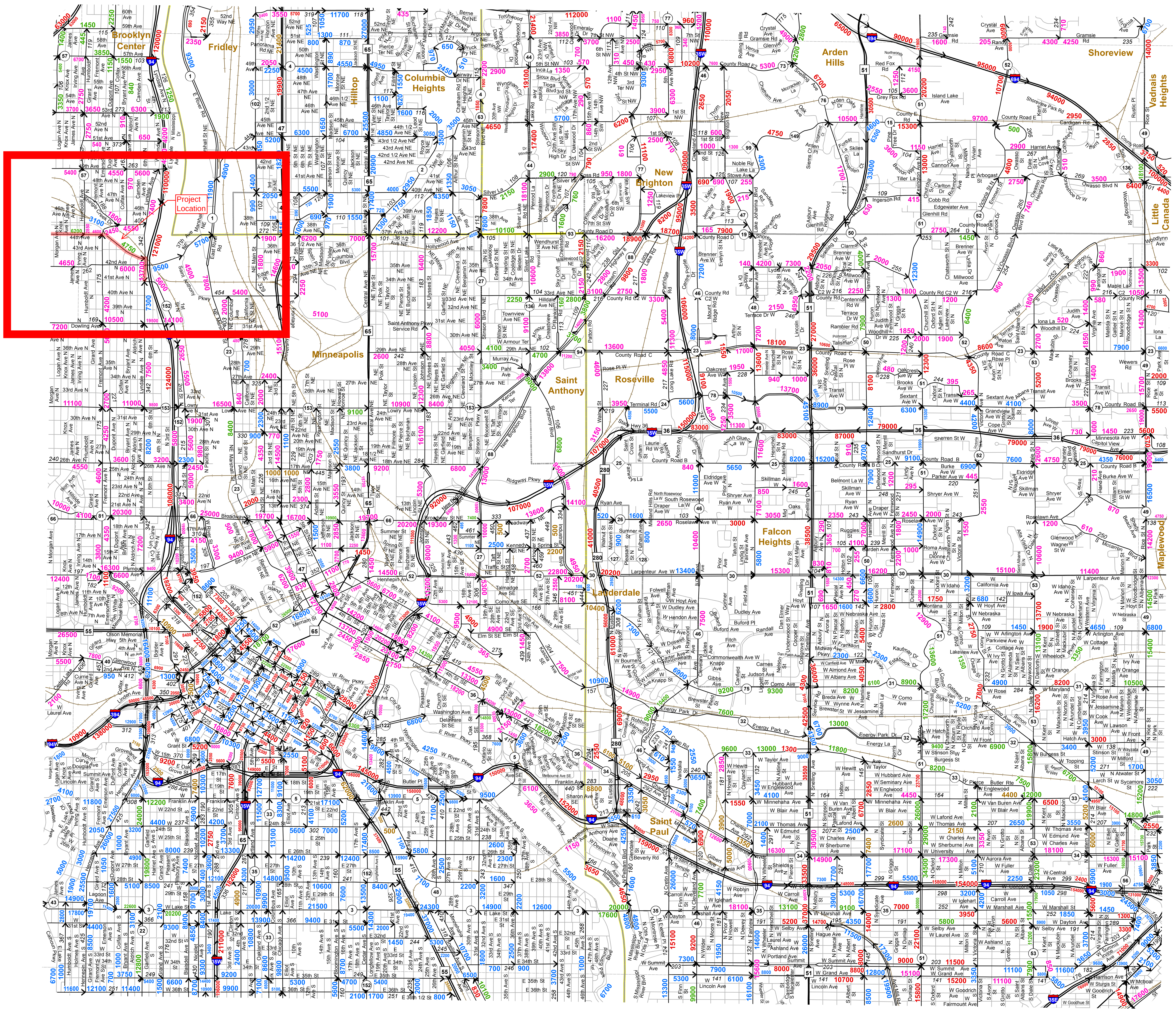
Office: 612-596-0241
Cell: 651-357-8037
Email: Jason.Pieper@hennepin.us

Hennepin County Public Works
1600 Prairie Drive
Medina, MN 55340-3410

From: Jason R Pieper
Sent: Tuesday, June 07, 2016 4:40 PM
To: Cliff Swenson (cswenson@minneapolisparks.org) <cswenson@minneapolisparks.org>

MnDOT 50 Series Map (3E)
Attachment 02

2014 Publication Traffic Volumes Metro Street Series - 3E



0 0.25 0.5 0.75 1 Mi.

Numerals Indicate Average Annual Daily Traffic (AADT) Volumes on Designated Roads

Traffic Volumes are Subject to Variability and Construction Effects For More Info Visit:
http://www.dot.state.mn.us/traffic/data/coll-methods.html#cp

Minnesota Department of Transportation
Office of Transportation Data and Analysis
Traffic Volume Program
http://www.dot.state.mn.us/traffic/data/index.html

MAP LEGEND

AADT Year

2014 2013

2012 2011

2010 and older

Interstate 94

US Highway 169

MN Highway 55

CSAH 55

MSAS 101

County Road 55

Other Roads

Railroads

Street Series Grid

Cities

COUNTIES

Lakes

Rivers

Perennial Streams

Ditches

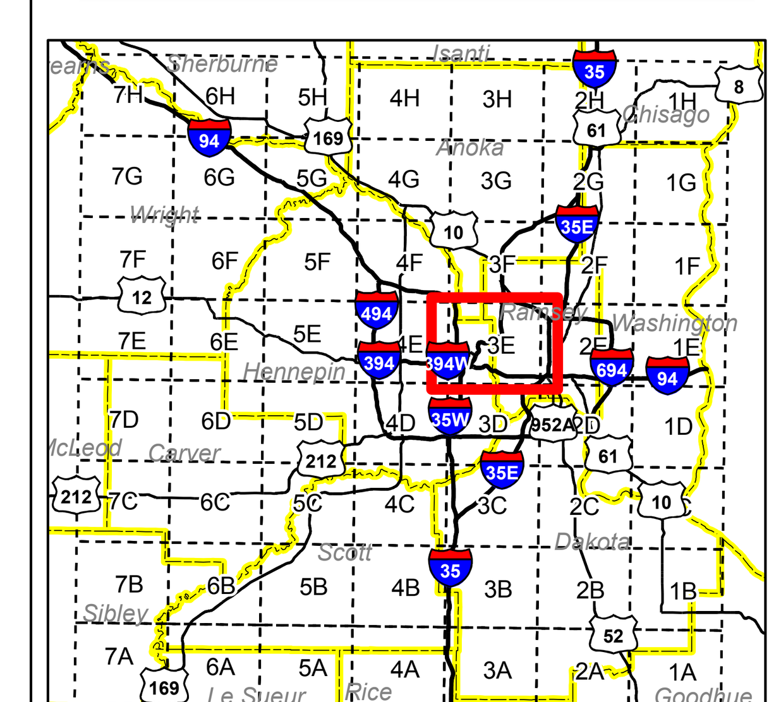
National Forests

National Parks

Tribal Gov'ts

State Forests

State Parks



Map Source:
Minnesota Department of Transportation
Office of Transportation Data and Analysis
Traffic Volume Program
2014 AADT Product
http://www.dot.state.mn.us/traffic/data/data-products.html

To view this data using an online interactive map please visit: http://www.dot.state.mn.us/traffic/data/tma.html

Heavy Commercial Count
Attachment 03

HENNEPIN COUNTY
TRANSPORTATION PLANNING DIVISION

VEHICLE CLASSIFICATION DATA
CSAH 152 N. OF 41st. AVE. N.
STUDY # 4024

Site: 01
Monday, 5/16/2016 9:00 AM -
Thursday, 5/19/2016 10:00 AM

Classification Grand Totals

Hourly Averages

N.B.

Interval Start	Total	Motor Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axle Double	5 Axle Double	>6 Axle Double	<6 Axle Multi	6 Axle Multi	>6 Axle Multi	Tailgating
12:00 AM	46.7	0.0	38.7	6.7	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1:00 AM	23.0	0.0	17.3	3.7	0.7	1.0	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0
2:00 AM	5.7	0.0	4.0	1.0	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3:00 AM	6.0	0.0	4.0	1.7	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4:00 AM	12.0	0.3	5.7	2.7	0.7	2.0	0.0	0.0	0.0	0.7	0.0	0.0	0.0	0.0	0.0
5:00 AM	31.7	0.7	18.7	4.7	1.7	4.3	0.0	0.0	0.7	1.0	0.0	0.0	0.0	0.0	0.0
6:00 AM	94.0	0.3	57.3	19.0	4.3	9.0	0.7	0.0	0.7	2.3	0.3	0.0	0.0	0.0	0.0
7:00 AM	170.3	0.3	113.7	39.0	5.0	7.0	0.3	0.0	4.0	1.0	0.0	0.0	0.0	0.0	0.0
8:00 AM	168.0	0.0	109.7	37.3	9.7	6.7	0.7	0.0	2.7	1.3	0.0	0.0	0.0	0.0	0.0
9:00 AM	177.0	0.5	116.5	34.5	7.8	8.8	1.8	0.0	3.5	3.8	0.0	0.0	0.0	0.0	0.0
10:00 AM	241.7	2.3	159.3	49.7	6.7	15.7	0.7	0.7	3.7	2.7	0.3	0.0	0.0	0.0	0.0
11:00 AM	287.7	2.0	172.0	76.7	7.7	16.7	2.3	0.0	4.7	5.7	0.0	0.0	0.0	0.0	0.0
12:00 PM	323.7	3.3	154.7	84.3	23.3	49.0	1.3	0.0	5.0	2.7	0.0	0.0	0.0	0.0	0.0
1:00 PM	276.0	1.7	145.3	66.0	21.0	31.0	1.7	0.0	5.7	3.3	0.0	0.0	0.0	0.0	0.3
2:00 PM	339.3	4.7	196.7	74.7	21.0	32.3	1.7	0.0	5.7	2.3	0.3	0.0	0.0	0.0	0.0
3:00 PM	331.7	2.0	190.7	68.3	25.3	35.3	1.0	0.3	6.0	1.7	0.7	0.3	0.0	0.0	0.0
4:00 PM	466.0	3.7	283.0	83.3	40.3	45.7	0.7	0.0	6.3	2.3	0.0	0.7	0.0	0.0	0.0
5:00 PM	480.7	6.0	305.7	81.7	36.7	37.3	0.7	0.0	9.3	2.3	0.0	1.0	0.0	0.0	0.0
6:00 PM	300.3	3.0	200.3	59.7	18.0	15.3	0.0	0.0	2.7	0.7	0.3	0.3	0.0	0.0	0.0
7:00 PM	227.0	2.7	159.0	43.7	9.3	9.0	0.3	0.0	2.3	0.3	0.0	0.3	0.0	0.0	0.0
8:00 PM	190.3	4.3	138.3	34.3	7.0	4.3	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
9:00 PM	169.3	2.0	127.0	27.7	8.0	4.0	0.0	0.0	0.7	0.0	0.0	0.0	0.0	0.0	0.0
10:00 PM	118.0	1.7	90.0	21.0	2.7	1.7	0.3	0.0	0.3	0.3	0.0	0.0	0.0	0.0	0.0
11:00 PM	61.3	0.3	43.3	12.0	2.7	3.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Daily Average	4547.3	41.8	2850.8	933.2	261.8	339.1	14.1	1.0	65.8	34.8	2.0	2.7	0.0	0.0	0.3

Study Grand Totals

	Total	Motor Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axle Double	5 Axle Double	>6 Axle Double	<6 Axle Multi	6 Axle Multi	>6 Axle Multi	Tailgating
N.B.	13819	126	8669	2834	793	1026	44	3	201	108	6	8	0	0	1
		0.9 %	62.7 %	20.5 %	5.7 %	7.4 %	0.3 %	0.0 %	1.5 %	0.8 %	0.0 %	0.1 %	0.0 %	0.0 %	0.0 %

NORTHBOUND ONLY - SUM OF THE DAILY AVERAGE OF CLASSES 4 THROUGH 13 = 722

SOUTHBOUND ONLY - SUM OF THE DAILY AVERAGE OF CLASSES 4 THROUGH 13 = 447

DAILY TOTAL OF HEAVY COMMERCIAL VEHICLES = *1,169*

Heavy Commercial Count
Attachment 03

HENNEPIN COUNTY
TRANSPORTATION PLANNING DIVISION

VEHICLE CLASSIFICATION DATA
CSAH 152 N. OF 41st. AVE. N.
STUDY # 4024

Site: 01
Monday, 5/16/2016 10:00 AM -
Thursday, 5/19/2016 10:00 AM

Classification Grand Totals

Hourly Averages

S.B.

Interval Start	Total	Motor Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axle Double	5 Axle Double	>6 Axle Double	<6 Axle Multi	6 Axle Multi	>6 Axle Multi	Tailgating
12:00 AM	35.0	0.7	27.0	3.7	2.7	0.3	0.0	0.0	0.7	0.0	0.0	0.0	0.0	0.0	0.0
1:00 AM	21.7	0.0	19.0	2.0	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2:00 AM	15.0	0.0	11.3	2.3	0.3	0.3	0.3	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0
3:00 AM	17.3	0.0	11.7	3.3	0.7	1.0	0.0	0.0	0.3	0.3	0.0	0.0	0.0	0.0	0.0
4:00 AM	30.0	0.0	17.0	5.0	2.3	4.0	1.3	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5:00 AM	82.3	0.3	47.7	20.0	7.0	3.3	0.7	0.0	0.3	2.7	0.3	0.0	0.0	0.0	0.0
6:00 AM	189.0	1.0	118.3	39.7	9.3	10.7	4.0	0.0	1.7	4.3	0.0	0.0	0.0	0.0	0.0
7:00 AM	455.7	2.3	308.3	91.0	27.3	18.0	1.7	0.3	3.3	3.0	0.0	0.0	0.3	0.0	0.0
8:00 AM	351.7	1.0	249.7	61.0	14.3	17.7	1.3	0.0	2.3	4.0	0.0	0.3	0.0	0.0	0.0
9:00 AM	266.3	0.7	174.3	66.0	6.0	10.0	1.0	0.7	4.7	3.0	0.0	0.0	0.0	0.0	0.0
10:00 AM	257.3	1.3	173.0	54.7	6.3	12.3	3.0	0.0	4.0	2.3	0.0	0.3	0.0	0.0	0.0
11:00 AM	290.3	1.3	194.3	64.7	8.3	14.3	1.3	0.0	2.3	3.7	0.0	0.0	0.0	0.0	0.0
12:00 PM	322.0	1.0	222.3	71.0	5.3	10.7	1.0	0.0	4.0	6.0	0.3	0.0	0.0	0.3	0.0
1:00 PM	307.7	0.7	207.3	66.3	6.3	16.0	1.7	0.3	4.0	5.0	0.0	0.0	0.0	0.0	0.0
2:00 PM	332.7	3.7	221.3	77.0	8.7	14.0	1.7	0.3	3.3	2.3	0.3	0.0	0.0	0.0	0.0
3:00 PM	361.7	2.7	252.7	74.3	9.7	15.0	2.3	0.0	2.7	2.0	0.3	0.0	0.0	0.0	0.0
4:00 PM	374.3	2.7	280.7	69.3	10.0	7.0	0.7	0.3	2.3	1.0	0.3	0.0	0.0	0.0	0.0
5:00 PM	363.7	2.0	277.7	64.0	7.7	6.3	0.7	0.0	2.7	2.7	0.0	0.0	0.0	0.0	0.0
6:00 PM	309.3	1.0	242.3	54.7	3.7	4.0	0.3	0.0	1.3	2.0	0.0	0.0	0.0	0.0	0.0
7:00 PM	261.7	1.3	204.7	49.0	2.7	2.3	0.0	0.0	1.3	0.3	0.0	0.0	0.0	0.0	0.0
8:00 PM	223.3	1.3	175.7	40.3	2.0	3.7	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0
9:00 PM	195.0	0.0	149.7	38.0	4.0	1.7	0.0	0.0	1.7	0.0	0.0	0.0	0.0	0.0	0.0
10:00 PM	110.7	0.0	85.7	19.0	2.3	2.7	0.0	0.0	0.7	0.3	0.0	0.0	0.0	0.0	0.0
11:00 PM	70.0	0.0	53.3	10.7	2.7	2.3	0.0	0.0	0.7	0.3	0.0	0.0	0.0	0.0	0.0
Daily Average	5243.7	25.0	3725.0	1047.0	150.3	177.7	23.0	2.3	44.7	45.7	1.7	0.7	0.3	0.3	0.0

Study Grand Totals

	Total	Motor Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axle Double	5 Axle Double	>6 Axle Double	<6 Axle Multi	6 Axle Multi	>6 Axle Multi	Tailgating
S.B.	15731	75	11175	3141	451	533	69	7	134	137	5	2	1	1	0
		0.5 %	71.0 %	20.0 %	2.9 %	3.4 %	0.4 %	0.0 %	0.9 %	0.9 %	0.0 %	0.0 %	0.0 %	0.0 %	0.0 %

Turning Movement Counts
Attachment 04

HENNEPIN COUNTY
TRANSPORTATION PLANNING DIVISION

48 HR. APPROACH COUNT DATA
CSAH 152 (WEBBER PKWY) @ COLFAX-AVE. N. / STUDY # 4039

Site: 07-W-LEG

Weekly Volume, per Channel

E.B.

Interval Start	Mon 5/16/2016	Tue 5/17/2016	Wed 5/18/2016	Thu 5/19/2016	Fri 5/20/2016	Sat 5/21/2016	Sun 5/22/2016	Mon - Fri Average	Weekly Average
12:00 AM	-	12	18	-	-	-	-	15.0	15.0
1:00 AM	-	8	8	-	-	-	-	8.0	8.0
2:00 AM	-	8	16	-	-	-	-	12.0	12.0
3:00 AM	-	10	7	-	-	-	-	8.5	8.5
4:00 AM	-	21	17	-	-	-	-	19.0	19.0
5:00 AM	-	82	74	-	-	-	-	78.0	78.0
6:00 AM	-	142	152	-	-	-	-	147.0	147.0
7:00 AM	-	265	266	-	-	-	-	265.5	265.5
8:00 AM	-	210	224	-	-	-	-	217.0	217.0
9:00 AM	-	146	163	-	-	-	-	154.5	154.5
10:00 AM	150	159	-	-	-	-	-	154.5	154.5
11:00 AM	164	150	-	-	-	-	-	157.0	157.0
12:00 PM	171	193	-	-	-	-	-	182.0	182.0
1:00 PM	178	158	-	-	-	-	-	168.0	168.0
2:00 PM	172	174	-	-	-	-	-	173.0	173.0
3:00 PM	243	202	-	-	-	-	-	222.5	222.5
4:00 PM	220	202	-	-	-	-	-	211.0	211.0
5:00 PM	194	212	-	-	-	-	-	203.0	203.0
6:00 PM	152	166	-	-	-	-	-	159.0	159.0
7:00 PM	140	126	-	-	-	-	-	133.0	133.0
8:00 PM	91	91	-	-	-	-	-	91.0	91.0
9:00 PM	94	90	-	-	-	-	-	92.0	92.0
10:00 PM	54	70	-	-	-	-	-	62.0	62.0
11:00 PM	48	32	-	-	-	-	-	40.0	40.0
Totals	2071	2929	945	0	0	0	0	2972.5	2972.5
Peak Hours									
12:00 AM - 12:00 PM	11:00 AM	7:00 AM	7:00 AM	-	-	-	-	7:00 AM	7:00 AM
Volume	164	265	266	-	-	-	-	265.5	265.5
12:00 PM - 12:00 AM	3:00 PM	5:00 PM	-	-	-	-	-	3:00 PM	3:00 PM
Volume	243	212	-	-	-	-	-	222.5	222.5

Turning Movement Counts
Attachment 04

HENNEPIN COUNTY
TRANSPORTATION PLANNING DIVISION

48 HR. APPROACH COUNT DATA
CSAH 152 (WEBBER PKWY) @ COLFAX-AVE. N. / STUDY # 4039

Site: 05-S-LEG

Weekly Volume, per Channel

N.B.

Interval Start	Mon 5/16/2016	Tue 5/17/2016	Wed 5/18/2016	Thu 5/19/2016	Fri 5/20/2016	Sat 5/21/2016	Sun 5/22/2016	Mon - Fri Average	Weekly Average
12:00 AM	-	0	0	-	-	-	-	0.0	0.0
1:00 AM	-	0	0	-	-	-	-	0.0	0.0
2:00 AM	-	0	0	-	-	-	-	0.0	0.0
3:00 AM	-	0	1	-	-	-	-	0.5	0.5
4:00 AM	-	2	0	-	-	-	-	1.0	1.0
5:00 AM	-	2	3	-	-	-	-	2.5	2.5
6:00 AM	-	6	3	-	-	-	-	4.5	4.5
7:00 AM	-	5	2	-	-	-	-	3.5	3.5
8:00 AM	-	5	4	-	-	-	-	4.5	4.5
9:00 AM	-	2	4	-	-	-	-	3.0	3.0
10:00 AM	8	6	-	-	-	-	-	7.0	7.0
11:00 AM	6	8	-	-	-	-	-	7.0	7.0
12:00 PM	8	6	-	-	-	-	-	7.0	7.0
1:00 PM	7	8	-	-	-	-	-	7.5	7.5
2:00 PM	2	8	-	-	-	-	-	5.0	5.0
3:00 PM	13	11	-	-	-	-	-	12.0	12.0
4:00 PM	10	12	-	-	-	-	-	11.0	11.0
5:00 PM	9	9	-	-	-	-	-	9.0	9.0
6:00 PM	5	12	-	-	-	-	-	8.5	8.5
7:00 PM	8	16	-	-	-	-	-	12.0	12.0
8:00 PM	6	16	-	-	-	-	-	11.0	11.0
9:00 PM	4	7	-	-	-	-	-	5.5	5.5
10:00 PM	4	4	-	-	-	-	-	4.0	4.0
11:00 PM	6	4	-	-	-	-	-	5.0	5.0
Totals	96	149	17	0	0	0	0	131.0	131.0
Peak Hours									
12:00 AM - 12:00 PM	10:00 AM	11:00 AM	8:00 AM	-	-	-	-	10:00 AM	10:00 AM
Volume	8	8	4	-	-	-	-	7.0	7.0
12:00 PM - 12:00 AM	3:00 PM	7:00 PM	-	-	-	-	-	3:00 PM	3:00 PM
Volume	13	16	-	-	-	-	-	12.0	12.0

Turning Movement Counts
Attachment 04

HENNEPIN COUNTY
TRANSPORTATION PLANNING DIVISION

48 HR. APPROACH COUNT DATA
CSAH 152 (WEBBER PKWY) @ COLFAX-AVE. N. / STUDY # 4039

Site: 01-N-LEG

Weekly Volume, per Channel

S.B.

Interval Start	Mon 5/16/2016	Tue 5/17/2016	Wed 5/18/2016	Thu 5/19/2016	Fri 5/20/2016	Sat 5/21/2016	Sun 5/22/2016	Mon - Fri Average	Weekly Average
12:00 AM	-	0	0	-	-	-	-	0.0	0.0
1:00 AM	-	0	0	-	-	-	-	0.0	0.0
2:00 AM	-	0	0	-	-	-	-	0.0	0.0
3:00 AM	-	0	0	-	-	-	-	0.0	0.0
4:00 AM	-	0	0	-	-	-	-	0.0	0.0
5:00 AM	-	0	0	-	-	-	-	0.0	0.0
6:00 AM	-	0	2	-	-	-	-	1.0	1.0
7:00 AM	-	0	0	-	-	-	-	0.0	0.0
8:00 AM	-	2	0	-	-	-	-	1.0	1.0
9:00 AM	-	2	1	-	-	-	-	1.5	1.5
10:00 AM	0	4	-	-	-	-	-	2.0	2.0
11:00 AM	1	1	-	-	-	-	-	1.0	1.0
12:00 PM	0	6	-	-	-	-	-	3.0	3.0
1:00 PM	0	9	-	-	-	-	-	4.5	4.5
2:00 PM	3	7	-	-	-	-	-	5.0	5.0
3:00 PM	2	2	-	-	-	-	-	2.0	2.0
4:00 PM	1	6	-	-	-	-	-	3.5	3.5
5:00 PM	4	6	-	-	-	-	-	5.0	5.0
6:00 PM	6	1	-	-	-	-	-	3.5	3.5
7:00 PM	1	3	-	-	-	-	-	2.0	2.0
8:00 PM	4	4	-	-	-	-	-	4.0	4.0
9:00 PM	0	0	-	-	-	-	-	0.0	0.0
10:00 PM	0	0	-	-	-	-	-	0.0	0.0
11:00 PM	1	0	-	-	-	-	-	0.5	0.5
Totals	23	53	3	0	0	0	0	39.5	39.5

Peak Hours

12:00 AM - 12:00 PM	11:00 AM	10:00 AM	6:00 AM	-	-	-	-	10:00 AM	10:00 AM
Volume	1	4	2	-	-	-	-	2.0	2.0
12:00 PM - 12:00 AM	6:00 PM	1:00 PM	-	-	-	-	-	2:00 PM	2:00 PM
Volume	6	9	-	-	-	-	-	5.0	5.0

Turning Movement Counts
Attachment 04

HENNEPIN COUNTY
TRANSPORTATION PLANNING DIVISION

48 HR. APRROACH COUNT DATA
CSAH 152 (WEBBER PKWY) @ COLFAX-
AVE. N. / STUDY # 4039

Site: 03-E-LEG

Weekly Volume, per Channel

W.B.

Interval Start	Mon 5/16/2016	Tue 5/17/2016	Wed 5/18/2016	Thu 5/19/2016	Fri 5/20/2016	Sat 5/21/2016	Sun 5/22/2016	Mon - Fri Average	Weekly Average
12:00 AM	-	18	23	-	-	-	-	20.5	20.5
1:00 AM	-	11	14	-	-	-	-	12.5	12.5
2:00 AM	-	6	8	-	-	-	-	7.0	7.0
3:00 AM	-	8	4	-	-	-	-	6.0	6.0
4:00 AM	-	12	9	-	-	-	-	10.5	10.5
5:00 AM	-	25	41	-	-	-	-	33.0	33.0
6:00 AM	-	88	106	-	-	-	-	97.0	97.0
7:00 AM	-	146	172	-	-	-	-	159.0	159.0
8:00 AM	-	148	164	-	-	-	-	156.0	156.0
9:00 AM	-	106	107	-	-	-	-	106.5	106.5
10:00 AM	127	110	-	-	-	-	-	118.5	118.5
11:00 AM	150	128	-	-	-	-	-	139.0	139.0
12:00 PM	150	150	-	-	-	-	-	150.0	150.0
1:00 PM	120	154	-	-	-	-	-	137.0	137.0
2:00 PM	196	182	-	-	-	-	-	189.0	189.0
3:00 PM	241	218	-	-	-	-	-	229.5	229.5
4:00 PM	273	284	-	-	-	-	-	278.5	278.5
5:00 PM	292	326	-	-	-	-	-	309.0	309.0
6:00 PM	183	216	-	-	-	-	-	199.5	199.5
7:00 PM	112	142	-	-	-	-	-	127.0	127.0
8:00 PM	93	112	-	-	-	-	-	102.5	102.5
9:00 PM	96	92	-	-	-	-	-	94.0	94.0
10:00 PM	57	61	-	-	-	-	-	59.0	59.0
11:00 PM	52	30	-	-	-	-	-	41.0	41.0
Totals	2142	2773	648	0	0	0	0	2781.5	2781.5
Peak Hours									
12:00 AM - 12:00 PM	11:00 AM	8:00 AM	7:00 AM	-	-	-	-	7:00 AM	7:00 AM
Volume	150	148	172	-	-	-	-	159.0	159.0
12:00 PM - 12:00 AM	5:00 PM	5:00 PM	-	-	-	-	-	5:00 PM	5:00 PM
Volume	292	326	-	-	-	-	-	309.0	309.0

Turning Movement Counts
Attachment 04

Hennepin County

Department of Public Works
Transportation Planning Division
Traffic Movement Study

Turning Movement Study
Fremont Ave & Webber Pkwy
Thursday, May 26th, 2016
7 AM - 9 AM & 4 PM - 6 PM

File Name : STDY 4013
Site Code : 4013
Start Date : 5/26/2016
Page No : 1

Groups Printed- Cars - Comm Veh

	Fremont Ave Southbound					Webber Pkwy Westbound					Fremont Ave Northbound					Memorial Pkwy Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
****BREAK																					
07:00 AM	3	11	3	1	18	2	14	0	0	16	0	5	1	1	7	1	23	2	1	27	68
07:15 AM	4	8	2	2	16	2	21	1	1	25	0	4	2	4	10	3	30	2	5	40	91
07:30 AM	4	9	2	0	15	3	25	0	0	28	1	9	2	1	13	4	25	3	7	39	95
07:45 AM	0	15	1	1	17	5	27	0	1	33	0	7	5	2	14	3	36	4	6	49	113
Total	11	43	8	4	66	12	87	1	2	102	1	25	10	8	44	11	114	11	19	155	367
08:00 AM	4	8	4	1	17	3	16	0	0	19	0	14	4	0	18	2	26	2	4	34	88
08:15 AM	4	13	0	1	18	8	16	0	0	24	0	18	4	1	23	8	24	1	4	37	102
08:30 AM	3	26	3	1	33	6	10	0	0	16	0	22	4	0	26	2	25	5	0	32	107
08:45 AM	2	19	3	0	24	6	12	1	1	20	0	13	4	0	17	2	12	2	1	17	78
Total	13	66	10	3	92	23	54	1	1	79	0	67	16	1	84	14	87	10	9	120	375
****BREAK																					
04:00 PM	2	20	1	4	27	7	44	0	0	51	0	33	6	2	41	1	19	1	0	21	140
04:15 PM	5	14	2	11	32	8	52	0	0	60	0	19	17	1	37	3	28	3	9	43	172
04:30 PM	9	14	2	3	28	5	52	0	1	58	1	19	14	1	35	2	18	6	7	33	154
04:45 PM	4	23	2	5	34	10	65	0	0	75	0	23	10	1	34	4	25	2	9	40	183
Total	20	71	7	23	121	30	213	0	1	244	1	94	47	5	147	10	90	12	25	137	649
05:00 PM	3	13	1	4	21	5	57	0	0	62	0	15	11	1	27	1	19	1	4	25	135
05:15 PM	2	21	1	4	28	9	64	1	1	75	0	33	11	1	45	3	31	3	6	43	191
05:30 PM	5	18	4	2	29	14	58	0	3	75	1	16	9	3	29	2	19	3	4	28	161
05:45 PM	2	20	2	6	30	7	45	1	0	53	0	15	18	0	33	6	20	5	6	37	153
Total	12	72	8	16	108	35	224	2	4	265	1	79	49	5	134	12	89	12	20	133	640
****BREAK																					
Grand Total	56	252	33	46	387	100	578	4	8	690	3	265	122	19	409	47	380	45	73	545	2031
Apprch %	14.5	65.1	8.5	11.9		14.5	83.8	0.6	1.2		0.7	64.8	29.8	4.6		8.6	69.7	8.3	13.4		
Total %	2.8	12.4	1.6	2.3	19.1	4.9	28.5	0.2	0.4	34	0.1	13	6	0.9	20.1	2.3	18.7	2.2	3.6	26.8	
Cars	55	233	26	11	325	97	564	4	2	667	3	241	122	0	366	46	377	44	45	512	1870
% Cars	98.2	92.5	78.8	23.9	84	97	97.6	100	25	96.7	100	90.9	100	0	89.5	97.9	99.2	97.8	61.6	93.9	92.1
Comm Veh	1	19	7	35	62	3	14	0	6	23	0	24	0	19	43	1	3	1	28	33	161
% Comm Veh	1.8	7.5	21.2	76.1	16	3	2.4	0	75	3.3	0	9.1	0	100	10.5	2.1	0.8	2.2	38.4	6.1	7.9

Turning Movement Counts
Attachment 04

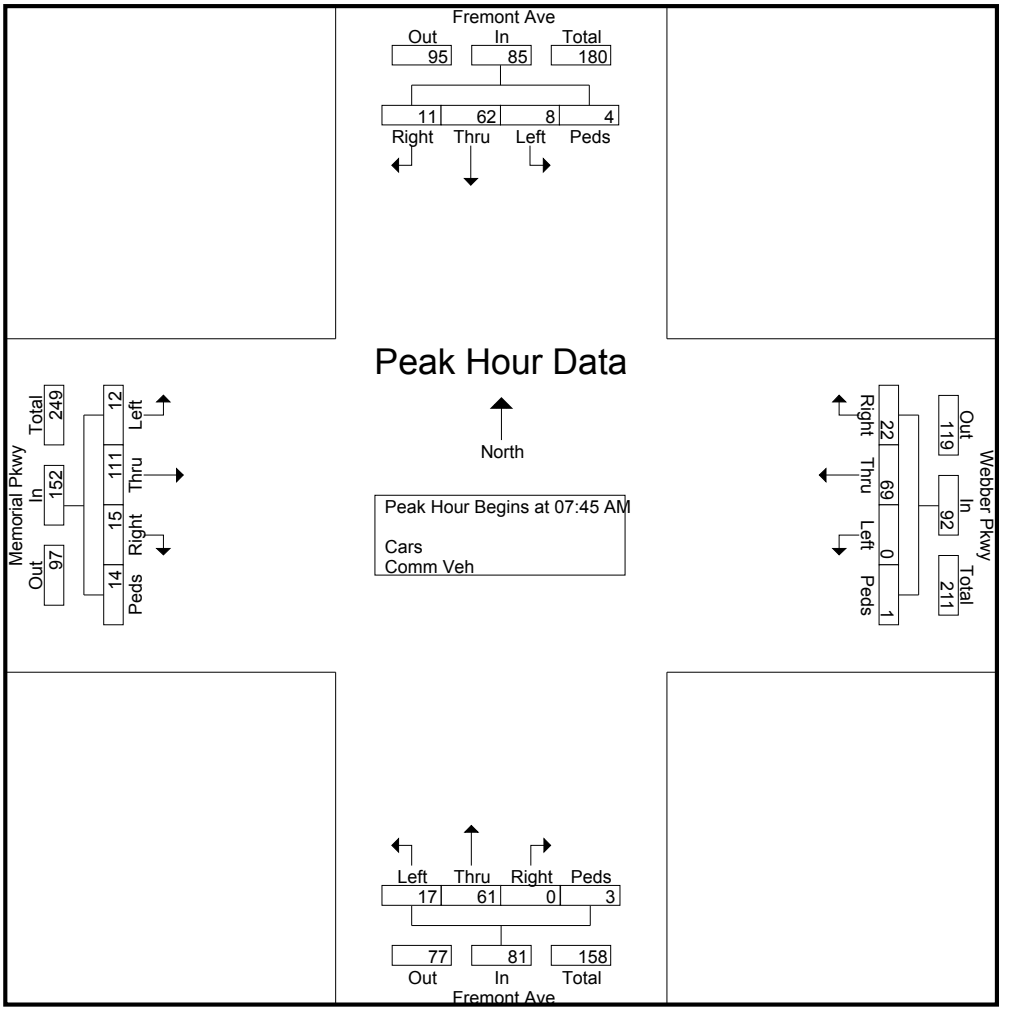
Hennepin County

Department of Public Works
Transportation Planning Division
Traffic Movement Study

Turning Movement Study
Fremont Ave & Webber Pkwy
Thursday, May 26th, 2016
7 AM - 9 AM & 4 PM - 6 PM

File Name : STDY 4013
Site Code : 4013
Start Date : 5/26/2016
Page No : 4

	Fremont Ave Southbound					Webber Pkwy Westbound					Fremont Ave Northbound					Memorial Pkwy Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 04:00 AM to 11:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:45 AM																					
07:45 AM	0	15	1	**1**	17	5	**27**	0	**1**	**33**	0	7	**5**	**2**	14	3	**36**	4	**6**	**49**	**113**
08:00 AM	**4**	8	**4**	1	17	3	16	0	0	19	0	14	4	0	18	2	26	2	4	34	88
08:15 AM	4	13	0	1	18	**8**	16	0	0	24	0	18	4	1	23	**8**	24	1	4	37	102
08:30 AM	3	**26**	3	1	**33**	6	10	0	0	16	0	**22**	4	0	**26**	2	25	**5**	0	32	107
Total Volume	11	62	8	4	85	22	69	0	1	92	0	61	17	3	81	15	111	12	14	152	410
% App. Total	12.9	72.9	9.4	4.7		23.9	75	0	1.1		0	75.3	21	3.7		9.9	73	7.9	9.2		
PHF	.688	.596	.500	1.00	.644	.688	.639	.000	.250	.697	.000	.693	.850	.375	.779	.469	.771	.600	.583	.776	.907



Turning Movement Counts
Attachment 04

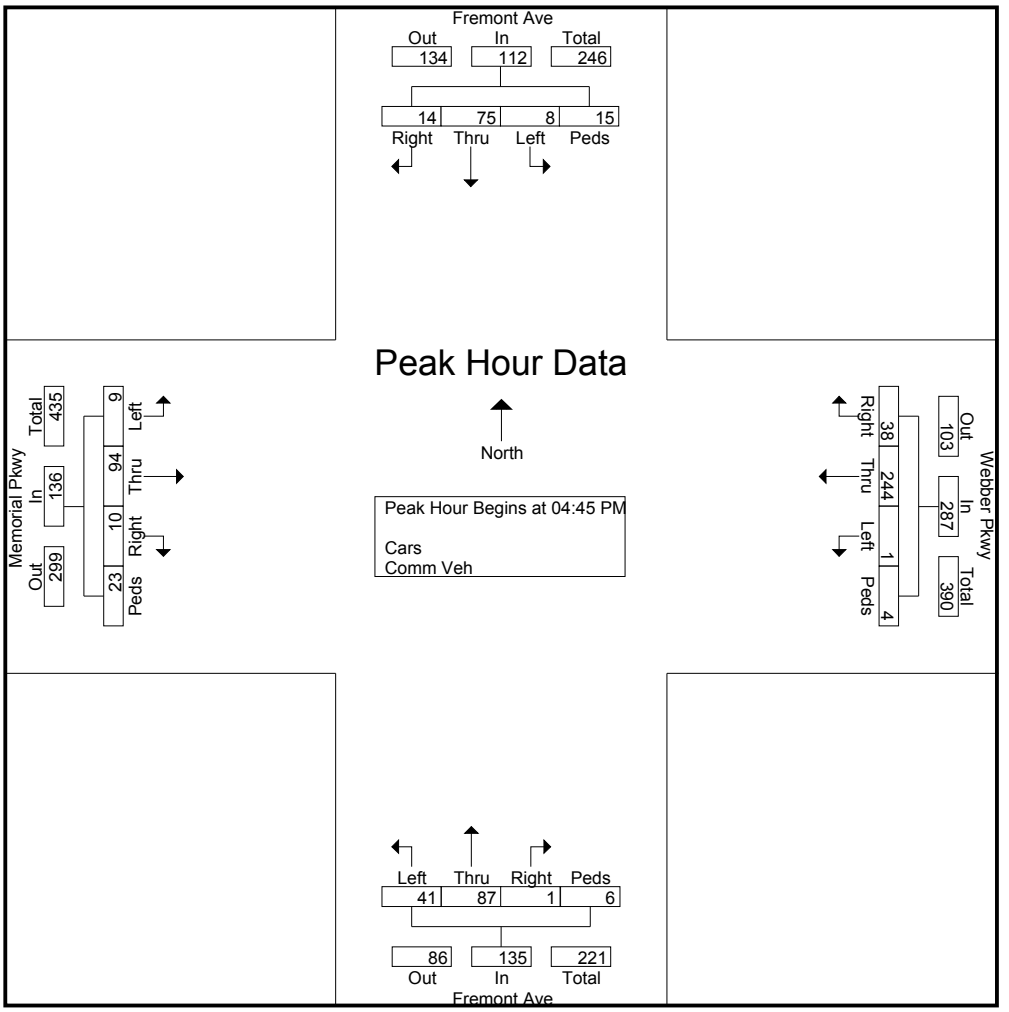
Hennepin County

Department of Public Works
Transportation Planning Division
Traffic Movement Study

Turning Movement Study
Fremont Ave & Webber Pkwy
Thursday, May 26th, 2016
7 AM - 9 AM & 4 PM - 6 PM

File Name : STDY 4013
Site Code : 4013
Start Date : 5/26/2016
Page No : 6

	Fremont Ave Southbound					Webber Pkwy Westbound					Fremont Ave Northbound					Memorial Pkwy Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 07:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:45 PM																					
04:45 PM	4	**23**	2	**5**	**34**	10	**65**	0	0	**75**	0	23	10	1	34	**4**	25	2	**9**	40	183
05:00 PM	3	13	1	4	21	5	57	0	0	62	0	15	**11**	1	27	1	19	1	4	25	135
05:15 PM	2	21	1	4	28	9	64	**1**	1	75	0	**33**	11	1	**45**	3	**31**	**3**	6	**43**	**191**
05:30 PM	**5**	18	**4**	2	29	**14**	58	0	**3**	75	**1**	16	9	**3**	29	2	19	3	4	28	161
Total Volume	14	75	8	15	112	38	244	1	4	287	1	87	41	6	135	10	94	9	23	136	670
% App. Total	12.5	67	7.1	13.4		13.2	85	0.3	1.4		0.7	64.4	30.4	4.4		7.4	69.1	6.6	16.9		
PHF	.700	.815	.500	.750	.824	.679	.938	.250	.333	.957	.250	.659	.932	.500	.750	.625	.758	.750	.639	.791	.877



Turning Movement Counts
Attachment 04

Hennepin County

Department of Public Works
Transportation Planning Division
Traffic Movement Study

Turning Movement Study
CSAH 152 & Webber Pkwy
Thursday, May 26th 2016
7 AM - 9 AM & 4 PM - 6 PM

File Name : 4014 - CSAH 152 & Webber Pkwy - Facing North - 05.26.2016
Site Code : 4014
Start Date : 5/26/2016
Page No : 1

Groups Printed- Cars - Hvy Comm

	Webber Pkwy Southbound					CSAH 152 Westbound					NULL Northbound					CSAH 152 Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
****BREAK																					
07:00 AM	0	0	26	0	26	12	6	0	0	18	0	0	0	0	0	0	15	2	1	18	62
07:15 AM	0	0	31	0	31	22	16	0	0	38	0	0	0	0	0	0	24	1	1	26	95
07:30 AM	0	0	26	1	27	30	22	0	2	54	0	0	0	0	0	0	31	0	2	33	114
07:45 AM	0	0	38	0	38	28	22	0	0	50	0	0	0	0	0	0	34	4	2	40	128
Total	0	0	121	1	122	92	66	0	2	160	0	0	0	0	0	0	104	7	6	117	399
08:00 AM	0	0	31	1	32	16	14	0	0	30	0	0	0	0	0	0	22	2	1	25	87
08:15 AM	0	0	22	0	22	19	16	0	0	35	0	0	0	0	0	0	25	3	1	29	86
08:30 AM	0	0	30	0	30	14	15	0	0	29	0	0	0	0	0	0	29	4	0	33	92
08:45 AM	0	0	17	0	17	14	9	0	0	23	0	0	0	0	0	0	21	3	0	24	64
Total	0	0	100	1	101	63	54	0	0	117	0	0	0	0	0	0	97	12	2	111	329
****BREAK																					
04:00 PM	0	0	19	0	19	48	22	0	0	70	0	0	0	0	0	0	25	3	2	30	119
04:15 PM	0	0	34	0	34	57	13	0	0	70	0	0	0	0	0	0	23	2	1	26	130
04:30 PM	0	0	18	1	19	50	24	0	0	74	0	0	0	0	0	0	34	2	1	37	130
04:45 PM	0	0	28	0	28	71	17	0	0	88	0	0	0	0	0	0	45	4	0	49	165
Total	0	0	99	1	100	226	76	0	0	302	0	0	0	0	0	0	127	11	4	142	544
05:00 PM	0	0	20	1	21	66	27	0	0	93	0	0	0	0	0	0	38	2	1	41	155
05:15 PM	0	0	32	1	33	65	24	0	0	89	0	0	0	0	0	0	40	3	2	45	167
05:30 PM	0	0	24	0	24	74	30	0	0	104	0	0	0	0	0	0	38	2	0	40	168
05:45 PM	0	0	22	0	22	55	29	0	0	84	0	0	0	0	0	0	27	1	0	28	134
Total	0	0	98	2	100	260	110	0	0	370	0	0	0	0	0	0	143	8	3	154	624
****BREAK																					
Grand Total	0	0	418	5	423	641	306	0	2	949	0	0	0	0	0	0	471	38	15	524	1896
Apprch %	0	0	98.8	1.2		67.5	32.2	0	0.2		0	0	0	0		0	89.9	7.3	2.9		
Total %	0	0	22	0.3	22.3	33.8	16.1	0	0.1	50.1	0	0	0	0	0	0	24.8	2	0.8	27.6	
Cars	0	0	408	1	409	624	287	0	2	913	0	0	0	0	0	0	446	38	1	485	1807
% Cars	0	0	97.6	20	96.7	97.3	93.8	0	100	96.2	0	0	0	0	0	0	94.7	100	6.7	92.6	95.3
Hvy Comm	0	0	10	4	14	17	19	0	0	36	0	0	0	0	0	0	25	0	14	39	89
% Hvy Comm	0	0	2.4	80	3.3	2.7	6.2	0	0	3.8	0	0	0	0	0	0	5.3	0	93.3	7.4	4.7

Turning Movement Counts
Attachment 04

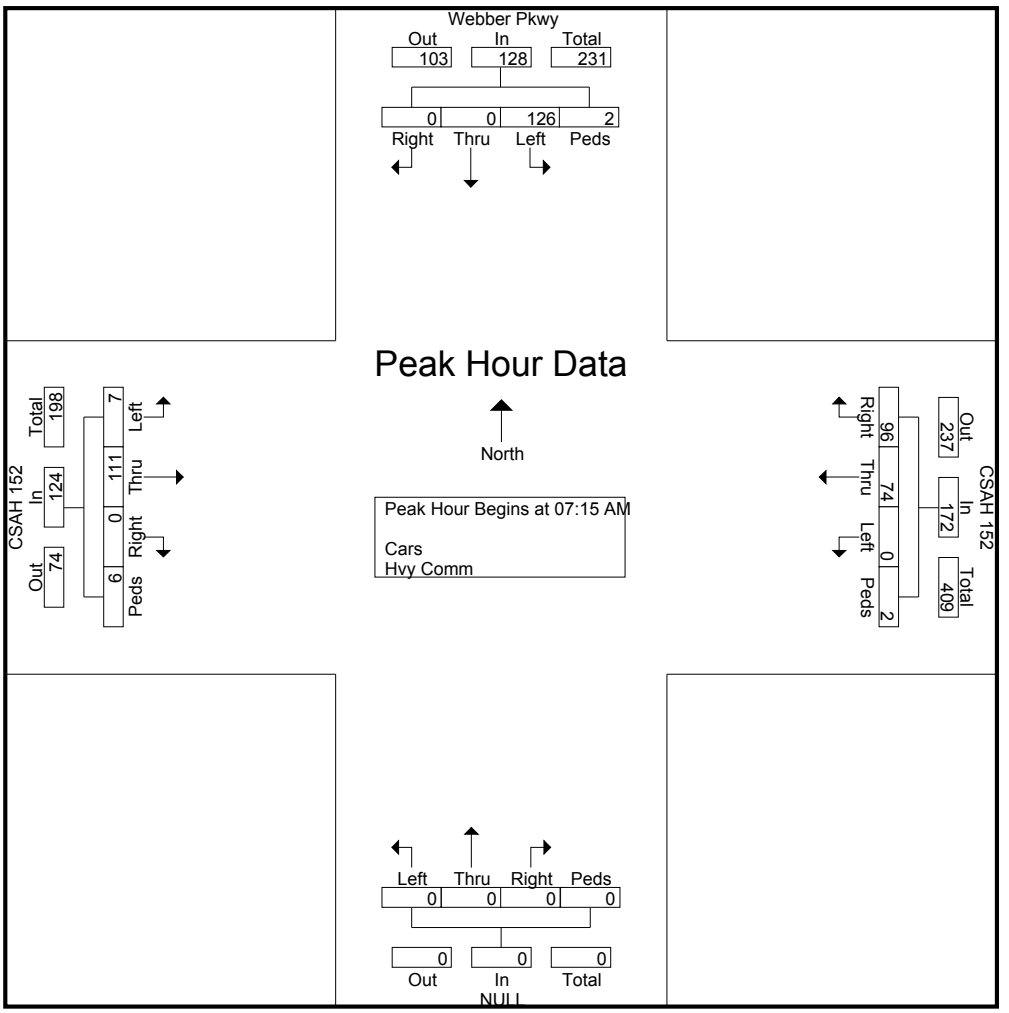
Hennepin County

Department of Public Works
Transportation Planning Division
Traffic Movement Study

Turning Movement Study
CSAH 152 & Webber Pkwy
Thursday, May 26th 2016
7 AM - 9 AM & 4 PM - 6 PM

File Name : 4014 - CSAH 152 & Webber Pkwy - Facing North - 05.26.2016
Site Code : 4014
Start Date : 5/26/2016
Page No : 4

	Webber Pkwy Southbound					CSAH 152 Westbound					NULL Northbound					CSAH 152 Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 04:00 AM to 11:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:15 AM																					
07:15 AM	0	0	31	0	31	22	16	0	0	38	0	0	0	0	0	0	24	1	1	26	95
07:30 AM	0	0	26	**1**	27	**30**	**22**	0	**2**	**54**	0	0	0	0	0	0	31	0	**2**	33	114
07:45 AM	0	0	**38**	0	**38**	28	22	0	0	50	0	0	0	0	0	0	**34**	**4**	2	**40**	**128**
08:00 AM	0	0	31	1	32	16	14	0	0	30	0	0	0	0	0	0	22	2	1	25	87
Total Volume	0	0	126	2	128	96	74	0	2	172	0	0	0	0	0	0	111	7	6	124	424
% App. Total	0	0	98.4	1.6		55.8	43	0	1.2		0	0	0	0		0	89.5	5.6	4.8		
PHF	.000	.000	.829	.500	.842	.800	.841	.000	.250	.796	.000	.000	.000	.000	.000	.000	.816	.438	.750	.775	.828



Turning Movement Counts
Attachment 04

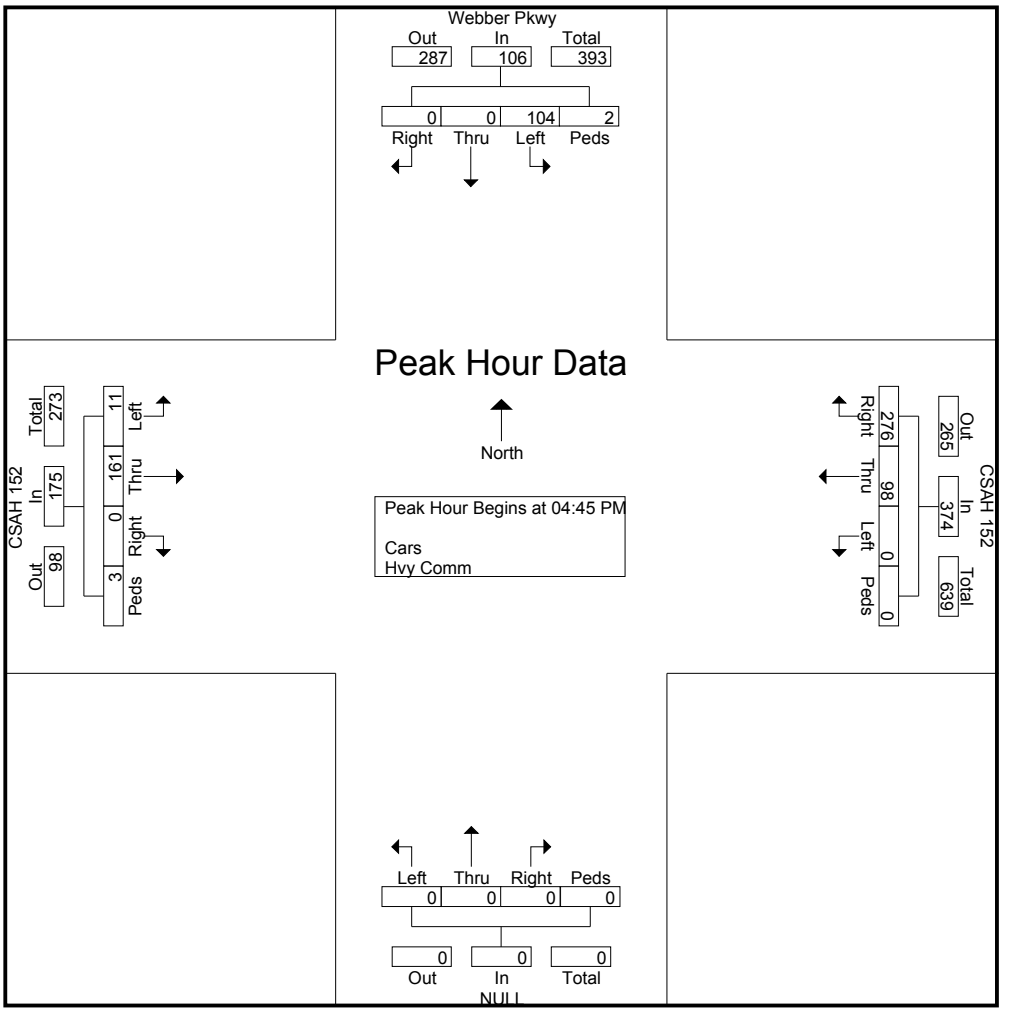
Hennepin County

Department of Public Works
Transportation Planning Division
Traffic Movement Study

Turning Movement Study
CSAH 152 & Webber Pkwy
Thursday, May 26th 2016
7 AM - 9 AM & 4 PM - 6 PM

File Name : 4014 - CSAH 152 & Webber Pkwy - Facing North - 05.26.2016
Site Code : 4014
Start Date : 5/26/2016
Page No : 6

	Webber Pkwy Southbound					CSAH 152 Westbound					NULL Northbound					CSAH 152 Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 07:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:45 PM																					
04:45 PM	0	0	28	0	28	71	17	0	0	88	0	0	0	0	0	0	**45**	**4**	0	**49**	165
05:00 PM	0	0	20	**1**	21	66	27	0	0	93	0	0	0	0	0	0	38	2	1	41	155
05:15 PM	0	0	**32**	1	**33**	65	24	0	0	89	0	0	0	0	0	0	40	3	**2**	45	167
05:30 PM	0	0	24	0	24	**74**	**30**	0	0	**104**	0	0	0	0	0	0	38	2	0	40	**168**
Total Volume	0	0	104	2	106	276	98	0	0	374	0	0	0	0	0	0	161	11	3	175	655
% App. Total	0	0	98.1	1.9		73.8	26.2	0	0		0	0	0	0		0	92	6.3	1.7		
PHF	.000	.000	.813	.500	.803	.932	.817	.000	.000	.899	.000	.000	.000	.000	.000	.000	.894	.688	.375	.893	.975



Turning Movement Counts
Attachment 04

Hennepin County

Department of Public Works
Transportation Planning Division
Traffic Movement Study

Turning Movement Study
CSAH 152 & Fremont Ave
Thursday, May 26th 2016
7 AM - 9 AM & 4 PM - 6 PM

File Name : STDY 4012
Site Code : 4012
Start Date : 5/26/2016
Page No : 1

Groups Printed- Cars - Comm Veh

	Fremont Ave Southbound					CSAH 152 Westbound					Fremont Ave Northbound					CSAH 152 Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
****BREAK																					
07:00 AM	2	7	0	0	9	0	5	0	0	5	0	7	5	0	12	15	15	2	1	33	59
07:15 AM	3	12	0	0	15	0	19	0	0	19	4	4	11	4	23	14	25	1	1	41	98
07:30 AM	5	7	2	0	14	0	24	0	0	24	1	12	15	0	28	17	30	2	2	51	117
07:45 AM	9	5	1	1	16	0	19	1	0	20	0	13	9	3	25	25	37	1	0	63	124
Total	19	31	3	1	54	0	67	1	0	68	5	36	40	7	88	71	107	6	4	188	398
08:00 AM	3	10	0	1	14	0	15	2	0	17	3	14	14	0	31	25	20	4	0	49	111
08:15 AM	8	15	1	0	24	0	14	0	0	14	2	17	11	0	30	19	24	3	0	46	114
08:30 AM	5	23	0	0	28	0	12	0	0	12	2	23	11	0	36	14	31	1	0	46	122
08:45 AM	2	15	1	1	19	0	7	0	1	8	0	16	11	1	28	14	23	4	1	42	97
Total	18	63	2	2	85	0	48	2	1	51	7	70	47	1	125	72	98	12	1	183	444
****BREAK																					
04:00 PM	4	16	0	0	20	0	18	1	0	19	4	34	18	1	57	22	27	4	5	58	154
04:15 PM	3	16	0	2	21	1	13	4	1	19	2	29	19	2	52	26	22	7	5	60	152
04:30 PM	3	12	0	0	15	1	17	1	0	19	9	21	23	2	55	27	29	9	1	66	155
04:45 PM	4	21	1	0	26	1	22	0	0	23	5	23	29	0	57	27	41	8	2	78	184
Total	14	65	1	2	82	3	70	6	1	80	20	107	89	5	221	102	119	28	13	262	645
05:00 PM	10	6	0	1	17	0	21	0	0	21	4	33	30	3	70	30	40	1	4	75	183
05:15 PM	2	17	2	1	22	0	22	0	3	25	3	27	25	2	57	31	34	11	2	78	182
05:30 PM	7	19	0	2	28	0	31	4	1	36	7	24	24	1	56	28	30	6	3	67	187
05:45 PM	3	18	1	1	23	0	25	5	1	31	5	26	21	3	55	27	24	6	0	57	166
Total	22	60	3	5	90	0	99	9	5	113	19	110	100	9	238	116	128	24	9	277	718
****BREAK																					
Grand Total	73	219	9	10	311	3	284	18	7	312	51	323	276	22	672	361	452	70	27	910	2205
Apprch %	23.5	70.4	2.9	3.2		1	91	5.8	2.2		7.6	48.1	41.1	3.3		39.7	49.7	7.7	3		
Total %	3.3	9.9	0.4	0.5	14.1	0.1	12.9	0.8	0.3	14.1	2.3	14.6	12.5	1	30.5	16.4	20.5	3.2	1.2	41.3	
Cars	69	202	9	8	288	3	268	16	5	292	48	303	236	13	600	329	430	67	23	849	2029
% Cars	94.5	92.2	100	80	92.6	100	94.4	88.9	71.4	93.6	94.1	93.8	85.5	59.1	89.3	91.1	95.1	95.7	85.2	93.3	92
Comm Veh	4	17	0	2	23	0	16	2	2	20	3	20	40	9	72	32	22	3	4	61	176
% Comm Veh	5.5	7.8	0	20	7.4	0	5.6	11.1	28.6	6.4	5.9	6.2	14.5	40.9	10.7	8.9	4.9	4.3	14.8	6.7	8

Turning Movement Counts
Attachment 04

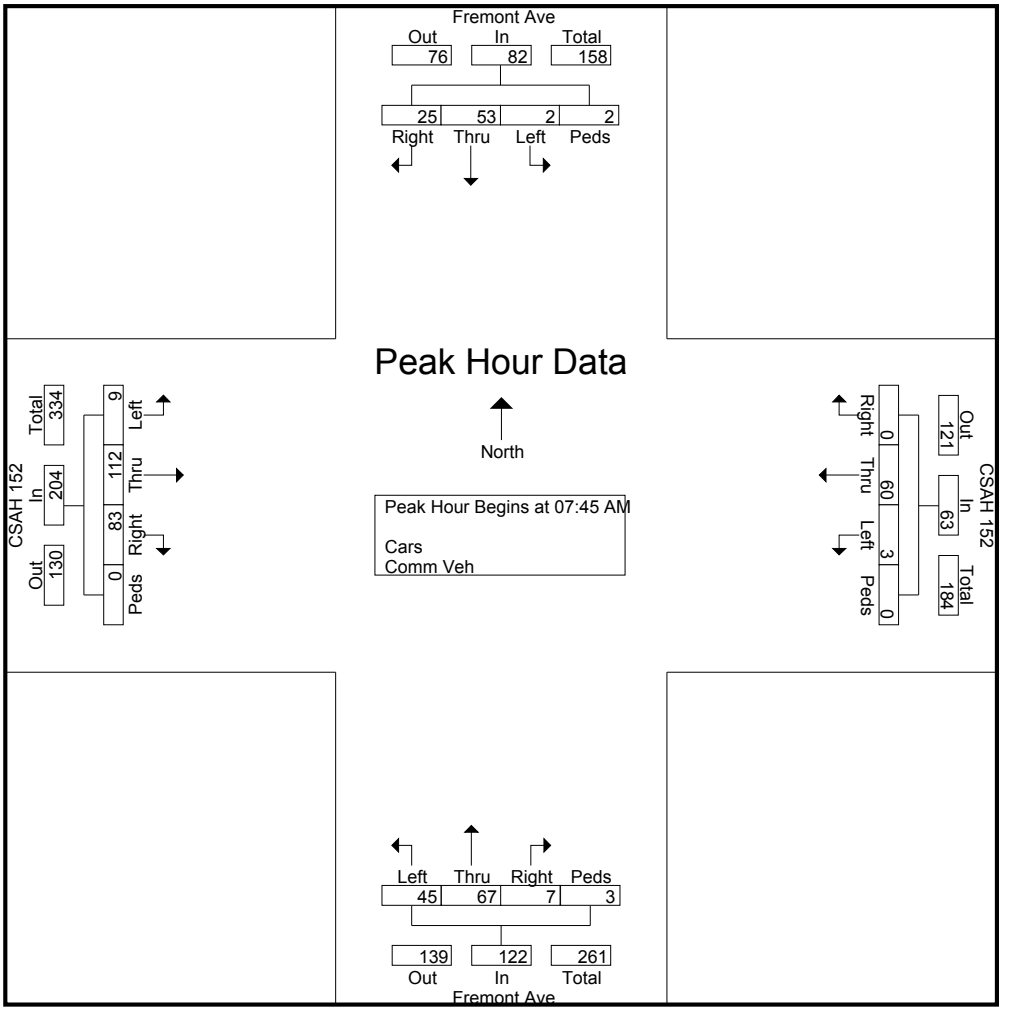
Hennepin County

Department of Public Works
Transportation Planning Division
Traffic Movement Study

Turning Movement Study
CSAH 152 & Fremont Ave
Thursday, May 26th 2016
7 AM - 9 AM & 4 PM - 6 PM

File Name : STDY 4012
Site Code : 4012
Start Date : 5/26/2016
Page No : 4

	Fremont Ave Southbound					CSAH 152 Westbound					Fremont Ave Northbound					CSAH 152 Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 04:00 AM to 11:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:45 AM																					
07:45 AM	**9**	5	**1**	**1**	16	0	**19**	1	0	**20**	0	13	9	**3**	25	**25**	**37**	1	0	**63**	**124**
08:00 AM	3	10	0	1	14	0	15	**2**	0	17	**3**	14	**14**	0	31	25	20	**4**	0	49	111
08:15 AM	8	15	1	0	24	0	14	0	0	14	2	17	11	0	30	19	24	3	0	46	114
08:30 AM	5	**23**	0	0	**28**	0	12	0	0	12	2	**23**	11	0	**36**	14	31	1	0	46	122
Total Volume	25	53	2	2	82	0	60	3	0	63	7	67	45	3	122	83	112	9	0	204	471
% App. Total	30.5	64.6	2.4	2.4		0	95.2	4.8	0		5.7	54.9	36.9	2.5		40.7	54.9	4.4	0		
PHF	.694	.576	.500	.500	.732	.000	.789	.375	.000	.788	.583	.728	.804	.250	.847	.830	.757	.563	.000	.810	.950



Turning Movement Counts
Attachment 04

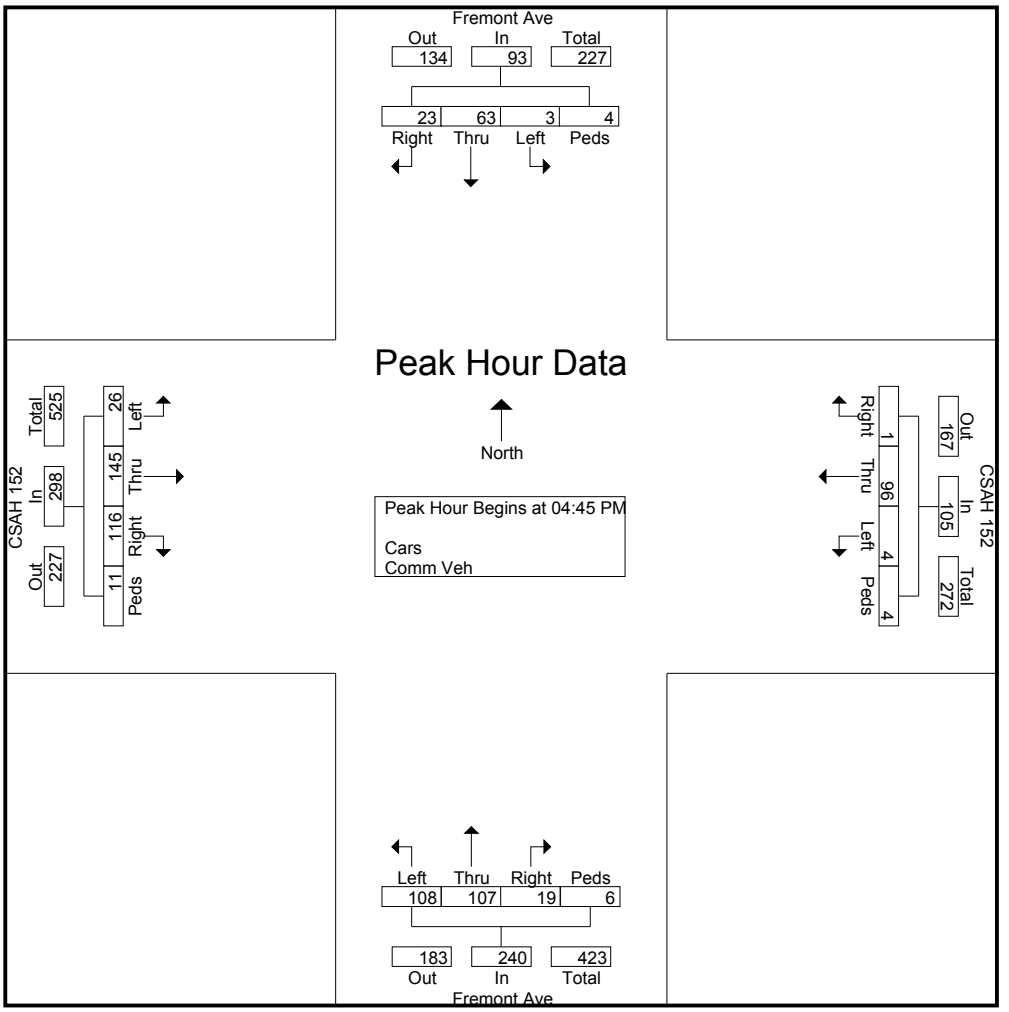
Hennepin County

Department of Public Works
Transportation Planning Division
Traffic Movement Study

Turning Movement Study
CSAH 152 & Fremont Ave
Thursday, May 26th 2016
7 AM - 9 AM & 4 PM - 6 PM

File Name : STDY 4012
Site Code : 4012
Start Date : 5/26/2016
Page No : 6

	Fremont Ave Southbound					CSAH 152 Westbound					Fremont Ave Northbound					CSAH 152 Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 08:00 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:45 PM																					
04:45 PM	4	**21**	1	0	26	**1**	22	0	0	23	5	23	29	0	57	27	**41**	8	2	**78**	184
05:00 PM	**10**	6	0	1	17	0	21	0	0	21	4	**33**	**30**	**3**	**70**	30	40	1	**4**	75	183
05:15 PM	2	17	**2**	1	22	0	22	0	**3**	25	3	27	25	2	57	**31**	34	**11**	2	78	182
05:30 PM	7	19	0	**2**	**28**	0	**31**	**4**	1	**36**	**7**	24	24	1	56	28	30	6	3	67	**187**
Total Volume	23	63	3	4	93	1	96	4	4	105	19	107	108	6	240	116	145	26	11	298	736
% App. Total	24.7	67.7	3.2	4.3		1	91.4	3.8	3.8		7.9	44.6	45	2.5		38.9	48.7	8.7	3.7		
PHF	.575	.750	.375	.500	.830	.250	.774	.250	.333	.729	.679	.811	.900	.500	.857	.935	.884	.591	.688	.955	.984



2013 to 2015 Crash Data
Crashes Highlighted in Red Were Not Included in the Benefit/Cost Calculation
Attachment 05A

CSAH 152 at CSAH 2 (Penn Ave) - Intersection

2013 - 2015 Crash Data Provided by the MNDOT TIS Office

										PERSON1											PERSON2										
SYS	ATP	CO	CITY	DOW	MONTH	DAY	YEAR	TIME	ACC_NUM	VTYPE	DIR	ACT	FAC1	FAC2	POSN	INJ	EQP	PHYS	AGE	SEX	VTYPE	DIR	ACT	FAC1	FAC2	POSN	INJ	EQP	PHYS	AGE	SEX
04	UNIT ONE WAS TRAVELING EB AND LOST CONTROL OF HIS VEHICLE AND RAN INTO THE NW CORNER OF A BUILDING	27	2585	7-Sat	1	31	2015	0252	150310105	2	3	1	18	0	1	N	99	2	32	M											
10	UNIT 1 WAS DRIVING SOUTHEAST ON OSSEO RD. OSSEO RD CURVES TO HEAD EAST AND TURNS INTO 44TH AVE N	27	2585	1-Sun	2	22	2015	1412	150540063	1	4	1	15	46	1	N	4	98	48	F											
04	VEH2 WAS STOPPED AT LITE ON PENN FACING NB AT 44TH AVE N. VEH1 WAS NB ON PENN AVE N AND HIT THE REA	27	2585	7-Sat	5	2	2015	1230	151220067	1	1	11	1	0	1	C	4	1	30	F	1	1	1	4	0	1	N	99	99	25	F
04	V1 WAS WEST BOUND ON 44TH AVE N AND WAS TRAVELING AT A HIGH RATE OF SPEED. V1 COLLIDED WITH A LIGHT	27	2585	1-Sun	6	8	2014	0530	141590029	1	3	1	3	0	1	N	99	99	33	M											
10	VEH2 AND VEH3 WERE PARKED ON OLIVER N APPRX 50 FEET NORTH OF 44TH AVE N FACING SOUTH AND ON THE WE	27	2585	1-Sun	6	14	2015	1300	151650077	1	5	1	15	0	1	N	1	1	21	M											
04	A PASSERBY WAS THE ONLY CALLER. NIETHER DRIVER CALLED. THIS WAS A DOMESTIC RELATED ACCIDENT.	27	2585	1-Sun	7	19	2015	0747	152000054	1	UNK	99	3	90	1	N	4	1	21	F	1	99	1	3	0	1	N	4	1	36	M
04	VEHICLE 1 FLED FROM OFFICERS AND STARTED A MOTOR VEHICLE CHASE (15-343335). AT THE INTERSECTION C	27	2585	6-Fri	9	11	2015	0305	152550130	1	5	1	3	15	1	N	98	99	29	M											
04	WITNESSES REPORT DRIVER OF VEH1 SLUMPED AGAINST THE DOOR AND THEN FELL OUT OF THE CAR AS HE WAS PAI	27	2585	2-Mon	10	12	2015	1525	152850151	3	1	1	0	0	1	A	90	99	20	M											
04	UNIT 1 WAS DRIVING ERRATICALLY NORTH ON PENN. UNIT 1 HAD A RED LIGHT AT THE INTERSECTION AND HE PAS	27	2585	7-Sat	11	14	2015	1430	153180095	4	1	2	3	8	1	N	4	1	57	M	4	4	1	1	0	1	N	4	1	40	F
04	VEHICLE 1 MADE A WIDE RIGHT HAND TURN IN THE OPPOSING LANE OF TRAFFIC. VEHICLE 1 STRUCK VEHICLE 2	27	2585	5-Thu	12	31	2015	1434	153650148	3	3	5	10	8	1	N	99	99	904	Z	1	7	11	1	1	1	N	4	1	57	F

2013 to 2015 Crash Data
Crashes Highlighted in Red Were Not Included in the Benefit/Cost Calculation
Attachment 05A

CSAH 152 from CSAH 2 (Penn Ave) to Fremont Ave - Segment

2013 - 2015 Crash Data Provided by the MNDOT TIS Office

										PERSON1											PERSON2									
SYS	ATP	CO	CITY	DOW	MONTH	DAY	YEAR	TIME	ACC_NUM	VTYPE	DIR	ACT	FAC1	FAC2	POSN	INJ	EQP	PHYS	AGE	SEX	VTYPE	DIR	ACT	FAC1	FAC2	POSN	INJ	EQP	PHYS	AGE	SEX
04	UNIT #1 (METRO TRANSIT BUS #1178) LOST CONTROL ON AN ICY ROAD. THE BUS JUMPED THE CURB, CROSSING '	27	2585	3-Tue	1	29	2013	0135	130290040	8	7	1	1	0	1	N	2	1	37	M											
04	VEH1 WAS SB ON HUMBOLDT AVE NAND MADE A RT TURN ONTO 44 AVE N. VEH2 WAS PARKED ON 44 AVE N ON THE N	27	2585	6-Fri	1	10	2014	1430	140100165	35	6	5	99	0	1	N	4	1	26	M											
04	UNIT 1 WAS TRAVELING EAST ON 44TH AV N WHEN HE STATED THAT HIS CAR SUDDENLY SWERVED AND SIDE SWIPEI	27	2585	2-Mon	2	16	2015	0315	150470013	1	7	1	99	0	1	N	99	99	52	M											
04	UNIT 1 WAS DRIVING EB ON 44TH AND STARTED TO SLIP ON THE ICY ROADWAY. THE CAR THE SIDESWIPED UNIT '	27	2585	3-Tue	2	10	2015	1801	150410247	3	3	99	61	0	1	N	4	1	23	F											
04	VEH #2 WAS STOPPED FACING WB ON 44TH WAITING TO TURN LEFT WITH HER LEFT TURN SIGNAL ACTIVATED. DI	27	2585	5-Thu	3	28	2013	0748	130870040	3	7	1	32	0	1	N	4	1	33	F	3	7	6	1	0	1	C	4	1	29	F
04	UNIT ONE WAS TRAVELING EB ON 44TH AVE N WHEN IT LOST CONTROL AND STRUCK UNIT 2 WHICH IN TURN CAUSEI	27	2585	6-Fri	4	5	2013	0530	130960012	1	3	1	15	0	1	N	98	99	27	F	1	3	0	0	0	1	N	0	0	901	Z
04	VEHICLE 1 WAS PARKED ON THE RIGHT SHOULDER AND ATTEMPTED TO MAKE A U-TURN GOING WESTBOUND. VEHICLE	27	2585	6-Fri	4	19	2013	1848	131090257	1	3	21	1	0	1	C	99	1	50	M	1	3	7	2	15	1	C	99	99	21	M
04	UNIT#1 WAS TRAVELING EB ON 44 AV N AND HAD THE RIGHT OF WAY. UNIT#2 WAS TRAVELING NB ON MORGAN AV N	27	2585	3-Tue	4	29	2014	1504	141190145	1	3	1	0	0	1	N	99	98	902	Z	2	1	1	2	0	1	N	4	1	35	F
04	V1 OWNER AWOKE TO FIND HIS VEHICLE HAD BEEN STRUCK OVERNIGHT SOMETIME. HEAVY DAMAGE ALL ALONG DRIVI	27	2585	4-Wed	4	2	2014	0500	140990152	99	0	99	99	0	1	N	98	0	902	Z											
04	V2 LEGALLY PARKED IN FRONT OF 1514 44TH AV N FACING WESTBOUND. NO DRIVER INSIDE V2, WAS ASLEEP IN	27	2585	1-Sun	5	11	2014	0437	141310024	1	7	1	15	0	1	N	99	99	902	Z											
04	A1 WAS DRIVING EB ON 44TH AVE N APPROACHING HUMBOLDT AVE N AND WAS BEHIND ANOTHER CAR. A1 DID NOT '	27	2585	6-Fri	5	30	2014	0711	141500025	1	3	1	2	0	1	N	4	1	60	M	1	3	6	2	0	1	N	4	1	66	F
10	VEH 1 LEGALLY PARKED ON THE STREET WAS SIDESWIPED BY UNKNOWN VEH2, CAUSING DAMAGE TO THE ENTIRE LE	27	2585	1-Sun	5	25	2014	0400	141450037	99	UNK	99	99	99	1	N	99	99	902	X											
04	VEH2 WAS EB ON 44AVE BETWEEN PENN AVE AND OLIVER AVE N AND WAS STOPPED AS PEDESTRIANS PASSED IN FRO	27	2585	7-Sat	6	8	2013	1400	131590068	3	3	1	4	15	1	N	4	1	26	M	3	3	1	1	0	1	N	4	1	46	M
04	VEH1 WAS TRAVELING EB ON 44TH AVE N. VEH2 WAS ALSO TRAVELING EB ON 44TH, JUST AHEAD OF VEH1. DR	27	2585	2-Mon	6	22	2015	1320	151730102	2	98	5	7	10	1	N	4	1	58	F	1	7	1	1	0	1	N	4	1	32	F
04	UNIT 1 WAS TRAVELING EAST WHEN IT SIDE SWIPPED UNIT 2. UNIT 2 WAS PARKED LEGALLY ON THE SIDE OF RO	27	2585	7-Sat	8	3	2013	2120	132150127	1	3	1	8	1	1	N	4	1	24	M											
04	UNIT 1 WAS HEADING WEST ON 44 AV N. UNIT 2 WAS LEGALLY PARKED ON THE NORTH SIDE OF 44 AV N FACING W	27	2585	6-Fri	8	14	2015	0035	152260013	1	7	1	1	0	1	N	99	99	903	Z											
04	DRIVER ON UNIT1 SAID THAT SHE WAS TRAVELLING EAST BOUND ON 44TH WHEN SHE SAID THAT SHE LOST CONTRO	27	2585	3-Tue	9	17	2013	2318	132610010	1	3	1	50	61	1	N	4	1	27	F											
04	DRIVER OF VEH-1 SAID SHE WAS EB 44 AVE AND HAD TO SWERVE BACK TO THE RIGHT TO AVOID HITTING ANOTHEI	27	2585	7-Sat	9	14	2013	0133	132620005	1	3	1	21	0	1	N	4	1	32	F											
04		27	2585	1-Sun	9	27	2015	0130	153010098	1	7	1	0	0	1	B	4	0	47	M	99	1	5	0	0	1	N	98	0	903	Z
04	VICTIM STATED HE WAS CROSSING THE STREET FROM THE SOUTH SIDE OF 44TH TO THE NORTH SIDE OF 44TH. V	27	2585	2-Mon	10	20	2014	1225	142930089	51	98	99	99	0	35	C	98	1	57	M	4	98	17	1	0	1	N	99	99	27	M
04	V1 WAS A PEDESTRIAN WALKING NORTH ACROSS 44TH AVE N AT JAMES AND WAS STRUCK BY A DARK COLORED CAR.	27	2585	3-Tue	11	25	2014	1900	143430180	51	98	99	1	0	25	B	98	98	63	M	1	0	1	99	0	1	N	0	0	903	Z
10	VEH/2 WAS LEGALLY PARKED FACING SB IN FRONT OF 4403 IRVING AV N WHEN UNKNOWN VEH/1 SIDE SWIPED VEH,	27	2585	5-Thu	11	21	2013	0700	133250078	99	0	0	99	0	1	N	98	0	902												
04	VEHICLE 1 TURNED DOWN HUMBOLDT AV N FROM 44 AV N AND STRUCK VEHICLE 2 IN THE FRONT END CAUSING EXTI	27	2585	6-Fri	11	21	2014	0948	143250078	1	5	1	1	0	1	N	99	98	903	Z	7	1	1	1	0	1	N	4	1	51	F
04	UNIT 2 WAS ON 44 AV N, TRAVELING WESTBOUND. UNIT 1 WAS AT THE STOP SIGN AT HUMBOLDT AV N, WAITING '	27	2585	5-Thu	12	31	2015	1441	153650169	1	7	1	1	0	1	C	4	1	18	M	2	4	54	2	10	1	N	99	1	36	M

2013 to 2015 Crash Data
Crashes Highlighted in Red Were Not Included in the Benefit/Cost Calculation
Attachment 05A

CSAH 152 at Fremont Ave/45th Ave N - Intersection

2013 - 2015 Crash Data Provided by the MNDOT TIS Office

										PERSON1											PERSON2									
SYS	ATP	CO	CITY	DOW	MONTH	DAY	YEAR	TIME	ACC_NUM	VTYPE	DIR	ACT	FAC1	FAC2	POSN	INJ	EQP	PHYS	AGE	SEX	VTYPE	DIR	ACT	FAC1	FAC2	POSN	INJ	EQP	PHYS	AGE	SEX
04	THE LISTED VEHICLE WAS PARKED ON THE SNOW BANK AGAINST THE UTILITY POLE. THE DRIVER REFUSED ANY MEI	27	2585	7-Sat	1	18	2014	0525	140180035	1	3	1	61	0	1	N	99	1	34	M											
04	OFFICERS RESPONDED TO THE ABOVE ADDRESS REGARDING A PROPERTY DAMAGE HIT AND RUN. OFFICERS ARRIVED	27	2585	2-Mon	1	12	2015	1921	150130004	1	5	1	1	0	1	N	4	1	70	M	1	5	1	7	0	1	N	99	99	903	X
04		27	2585	3-Tue	1	6	2015	0845	150400077	1	7	11	0	0	1	N	4	0	54	M	3	7	11	0	0	1	N	0	0	34	F
04		27	2585	3-Tue	2	25	2014	0930	140900149	1	3	1	0	0	1	N	0	0	902	M	1	1	9	0	0	1	N	4	0	59	F
04	UNIT 2 WAS STRUCK BY UNIT 1 WHEN UNIT 1 WAS MAKING LEFT TURN. DRIVER OF UNIT 1 WAS CITED FOR NO MN	27	2585	7-Sat	3	28	2015	2043	150880010	1	2	6	2	0	1	N	4	1	18	F	53	98	1	1	0	21	B	11	1	50	M
04	ON 04/18/2015 AT 0420 HOURS, I, OFFICER POND WAS WORKING MARKED SQUAD 421 WITH MY PARTNER, OFFICER	27	2585	7-Sat	4	18	2015	0420	151080028	1	7	1	4	90	1	N	99	1	22	M	4	7	1	1	1	1	N	99	1	35	M
04		27	2585	5-Thu	5	23	2013	1930	131760053	99	5	17	0	0	1	N	98	0	901	Z	3	5	5	0	0	1	N	4	0	48	F
05	THE DRIVER AND VICTIM OF UNIT 2 WAS STOPPED AT A RED LIGHT FACING NB ON FREMONT AV N AT 44 AV N. UN	27	2585	6-Fri	5	9	2014	2142	141320014	1	1	11	1	0	1	C	4	1	59	M	1	1	1	15	99	1	N	99	99	902	Z
04	VEH 1 WAS TRAVELING EB ON 44TH AV N, APPROACHING FREMONT AV N. VEH 2 WAS TRAVELING WB ON 44TH AV	27	2585	4-Wed	7	8	2015	1720	151890180	2	3	1	1	0	1	N	99	1	44	F	3	7	6	1	0	1	N	4	1	43	M
05	NO DIAGRAM. DRIVER APPARENTLY BLACKED OUT, SAYS HE DOESNT REMEMBER HITTING THE UTILITY POLE. AMB	27	2585	2-Mon	7	1	2013	1500	131820119	3	1	1	15	21	1	C	0	90	58	M											
04	VEH2 WAS SB ON FREMONT AVE N AND ENTERED THE INTERSECTION AT 44 AVE N GOING STRAIGHT. VEH1 WAS NB (	27	2585	7-Sat	9	5	2015	1535	152480098	1	1	6	2	0	1	N	4	1	19	F	3	5	1	1	0	1	N	4	1	53	M
04	UNIT 1 WAS SB ON FREMONT AV N WITH A GREEN LIGHT AT THE INTERSECTION OF VICTORY MEMORIAL PKWY. UNI	27	2585	1-Sun	9	6	2015	2146	152500003	1	5	1	1	0	1	N	4	1	27	M	3	8	6	2	0	1	N	4	1	18	F
05	UNIT 1 TURNED RIGHT FROM EB 44TH AV N ONTO SB FREMONT AV N. UNIT 2 WAS DRIVING NB ON FREMONT TOWARI	27	2585	5-Thu	9	18	2014	1715	142610196	1	5	15	7	0	1	N	99	1	20	M	3	1	1	1	0	1	N	99	1	37	M
04	UNIT 1 WAS NORTH BOUND FREMONT AV N TO TURN WEST BOUND ON 44TH AVE. UNIT 2 WAS SOUTH BOUND FREMONT	27	2585	6-Fri	10	11	2013	2108	132850002	1	1	1	1	0	1	N	4	1	19	M	1	5	1	1	1	1	N	4	1	41	M
04	*DIAGRAM NOT WORKING ON THIS COMPUTER VEH2 WAS STOPPED ON 45AV N WAITING FOR THE TRAIN. THE TRAIN	27	2585	7-Sat	10	24	2015	1650	152990121	1	1	11	1	0	1	N	4	1	30	F	1	1	1	15	0	1	N	4	1	27	M
04	UNIT 1 WAS TRAVELING WB ON WEBBER PKWY AND FAILED TO YIELD TO THE RIGHT OF WAY OF UNIT 2 WHOM WAS	27	2585	5-Thu	11	19	2015	1710	153240176	1	7	1	2	0	1	B	4	1	31	F	1	0	1	1	0	1	C	4	1	43	F
05	VEH1 WAS TURNING FROM EB 44 AV N TO NB FREMONT AV N. V1 WAS CROSSING WITH THE SIGNAL WHEN VEH1 STRI	27	2585	6-Fri	11	6	2015	1750	153110012	1	1	6	2	0	1	N	99	99	903	Z	51	98	31	1	0	21	C	98	1	60	F
04	UNIT 1 WAS TRAVELING EASTBOUND ON 44TH AVE N. UNIT 1 SLOWED TO AVOID ANOTHER VEHICLE AND LEFT THE I	27	2585	4-Wed	12	4	2013	1415	133380416	3	3	1	61	0	1	N	4	98	40	F											
04	VEHICLE #2 WAS STOPPED BY THE SIDE OF THE ROAD ON 44TH AVE. N. VEHICLE #1 WAS TRAVELING E/B AND AT	27	2585	3-Tue	12	31	2013	0815	133650219	1	3	5	9	15	1	N	4	1	38	F	8	5	5	1	1	1	N	4	1	56	M
04	V1 WAS EAST ON 44TH AV. N AND V2 WAS NORTH ON FREMONT AV. N. BOTH DRIVER STATED THEY HAD THE GREEI	27	2585	4-Wed	12	3	2014	1420	143370132	1	3	1	1	0	1	C	4	1	56	M	1	1	1	1	0	1	C	4	1	70	F

2013 to 2015 Crash Data
Crashes Highlighted in Red Were Not Included in the Benefit/Cost Calculation
Attachment 05A

CSAH 152 from Fremont Ave/45th Ave N to Lyndale Ave - Segment

2013 - 2015 Crash Data Provided by the MNDOT TIS Office

										PERSON1											PERSON2										
SYS	ATP	CO	CITY	DOW	MONTH	DAY	YEAR	TIME	ACC_NUM	VTYPE	DIR	ACT	FAC1	FAC2	POSN	INJ	EQP	PHYS	AGE	SEX	VTYPE	DIR	ACT	FAC1	FAC2	POSN	INJ	EQP	PHYS	AGE	SEX
04	VEH #1 WAS TRAVELING EB ON WEBBER PKWY WHEN DRIVER #1 REACHED DOWN TO PICKUP A MILKSHAKE. WHEN SHE	27	2585	7-Sat	3	29	2014	1225	140940185	1	3	1	15	0	1	N	4	1	32	F											
10	VEHICLE 1 WAS TRAVELLING WB ON WEBBER PARKWAY FROM COLFAX AV N. VEHICLE 1 STRUCK VEHICLE 2 WHICH W	27	2585	6-Fri	5	29	2015	2049	151500005	1	7	1	18	0	1	N	4	3	38	M											
04	UNIT 1 WAS PARKED FACING EASTBOUND WHILE DRIVER OF UNIT ONE WAS SECURING A CHILD IN THE BACK DRIVEI	27	2585	7-Sat	8	1	2015	1910	152130123	3	3	1	15	0	1	N	4	1	30	F	1	98	21	1	0	1	B	98	1	36	F
10	VEH 2 WAS LEGALLY PARKED ON THE STREET ACROSS FROM THE OWNERS ADDRESS. OWNER DISCOVERED DAMAGE TO T	27	2585	7-Sat	8	24	2013	0300	132360052	99	UNK	99	99	99	1	N	99	99	901	Z											
04	UNIT ONE, DRIVING AT AN ESTIMATED SPEED OF 40-50 MPH (WITNESS ESTIMATE) CROSSED ONCOMING TRAFFIC AI	27	2585	1-Sun	9	15	2013	2147	132590001	1	3	1	3	0	1	N	99	99	19	F											
04	OFFICER WAS ON PATROL WHEN I HAPPENED TO COME ACROSS A PROPERTY DAMAGE MOTOR VEHICLE ACCIDENT THAT	27	2585	6-Fri	9	18	2015	1820	152610156	1	1	6	2	0	1	N	4	1	48	F	1	3	1	1	0	1	N	4	1	28	M

2013 to 2015 Crash Data
Crashes Highlighted in Red Were Not Included in the Benefit/Cost Calculation
Attachment 05A

CSAH 152 at Lyndale Ave (N JCT) - Intersection

2013 - 2015 Crash Data Provided by the MNDOT TIS Office

										PERSON1											PERSON2									
SYS	ATP	CO	CITY	DOW	MONTH	DAY	YEAR	TIME	ACC_NUM	VTYPE	DIR	ACT	FAC1	FAC2	POSN	INJ	EQP	PHYS	AGE	SEX	VTYPE	DIR	ACT	FAC1	FAC2	POSN	INJ	EQP	PHYS	AGE	SEX
04	OFFICER RESPONDED TO PERSONAL INJURY ACCIDENT INVOLVING TAXI AND LIGHT POLE. DRIVER STATED THAT HI	27	2585	3-Tue	1	29	2013	0345	130290053	1	3	1	46	0	1	N	4	1	39	M											
04	NO DIAGRAM. VEH2 WAS STOPPED IN ORDER FOR THE TRAIN TO PASS WHEN VEH1 SLAMMED INTO THE REAR END.	27	2585	5-Thu	1	31	2013	1200	130310090	90	1	11	1	0	1	N	98	1	32	F	4	1	1	15	5	1	N	0	0	901	Z
04	VEHICLE ONE WAS TRAVELLING SOUTH ON LYNDALE AVENUE NORTH APPROACHING WEBBER PARKWAY AT THE INTERSEC	27	2585	4-Wed	1	8	2014	0838	140080104	1	5	1	50	90	1	N	4	1	24	F	1	3	5	10	8	1	N	4	1	45	M
04	DVS ON-LINE PROGRAM WOULD NOT GENERATE A DIAGRAM. VEH.2 TRAVELING SOUTHBOUND LYDALE AVE N. CAME TO	27	2585	5-Thu	1	15	2015	2136	150150317	3	5	1	3	4	1	N	99	0	903	X	3	5	11	1	0	1	C	4	0	38	F
04	VEH 2 WAS STOPPED AT THE STOP LIGHT. VEH 1 ATTEMPTED TO GO AROUND VEH 2 AND HIT VEH 2 IN THE LEFT	27	2585	7-Sat	3	23	2013	1214	130820067	1	1	15	4	7	1	N	99	99	901	M	3	1	8	1	0	1	N	4	1	40	M
04	UNIT 1 AND UNIT TWO WERE DRIVING EB ON WEBBER PKWY. UNIT 2 STOPPED AT THE LIGHT AT LYNDALE AV N. UI	27	2585	4-Wed	4	30	2014	1525	141200126	2	3	3	1	0	1	C	4	1	44	M	2	3	3	21	0	1	N	4	1	65	M
05		27	2585	1-Sun	5	12	2013	1820	131640058	4	1	1	0	0	1	N	4	0	84	M	99	1	0	0	0	1	N	98	0	18	M
05		27	2585	4-Wed	6	26	2013	1705	132070098	2	7	8	0	0	1	N	0	0	901	Z	2	7	6	0	0	1	N	4	0	33	M
04	UNIT 1 DRIVING EASTBOUND ON WEBBER PKWY WHEN UNIT 1 TURNED RIGHT, HOPPED THE CURB, AND STRUCK A LIC	27	2585	3-Tue	8	18	2015	1824	152300158	1	3	5	10	15	1	N	99	1	53	M											
04	VEHICLE 1 WAS SITTING STATIONARY IN TRAFFIC WHEN VEHICLE STRUCK THE SIDE OF HIS VEHICLE. VEHICLE 1	27	2585	6-Fri	9	13	2013	1550	132560171	1	5	99	99	0	1	N	99	99	44	M	1	5	1	1	0	1	N	98	98	59	M
04	VEH-2 WAS NB LYNDALE TURNING ONTO WB WEBBER PARKWAY. THE CENTER LANE SB LYNDALE TRAFFIC WAS STOPPI	27	2585	4-Wed	9	18	2013	1616	132620003	1	5	1	1	0	1	N	4	1	28	F	1	7	6	21	0	1	N	4	1	48	F
05	VEH/1 WAS OVERTAKING A LANE OF STOPPED VEHICLES WAITING FOR A RR CROSSING ARM TO RAISE. VEH/2 WAS	27	2585	3-Tue	10	28	2014	1600	143010161	1	5	7	1	0	1	N	99	1	63	M	1	5	0	0	0	1	N	0	0	902	Z
04	DOWN A HILL NORTH BOUND ON THE SIDEWALK. UNIT 1 STATED ANOTHER VEHICLE HAD CLEARED THE CROSSWALK	27	2585	1-Sun	11	2	2014	1527	143060089	1	3	3	1	0	1	N	4	1	53	M	53	98	90	41	21	35	C	12	1	13	M
04		27	2585	7-Sat	11	14	2015	0730	160120009	1	UNK	0	0	0	1	N	0	0	61	M	99	0	0	0	0	1	N	98	99	904	Z

2013 to 2015 Crash Data
Crashes Highlighted in Red Were Not Included in the Benefit/Cost Calculation
Attachment 05A

CSAH 152 at 42nd Ave N - Intersection

2013 - 2015 Crash Data Provided by the MNDOT TIS Office

										PERSON1											PERSON2									
SYS	ATP	CO	CITY	DOW	MONTH	DAY	YEAR	TIME	ACC_NUM	VTYPE	DIR	ACT	FAC1	FAC2	POSN	INJ	EQP	PHYS	AGE	SEX	VTYPE	DIR	ACT	FAC1	FAC2	POSN	INJ	EQP	PHYS	AGE	SEX
04		27	2585	5-Thu	1	31	2013	2218	130320008	1	5	1	1	0	1	B	99	1	34	M	1	1	1	18	1	1	N	99	99	40	M
05	MV1 WAS EASTBOUND ON THE BRIDGE WHEN THE DRIVER LOST CONTROL AND BEGAIN SPINNING OUT OF CONTROL. MV	27	2585	6-Fri	1	24	2014	1656	140240201	3	7	1	1	0	1	N	4	1	56	F	2	3	1	3	13	1	N	4	1	47	M
04	ON 6/13/2015 AT APPROXIMATELY 0035 HOURS, WHILE WORKING MARKED SQUAD 423 WITH MY PARTNER OFFICER PI	27	2585	7-Sat	6	13	2015	0035	151640013	1	5	1	15	0	1	N	4	0	36	F											
04	VEHICLE 1 WAS DRIVING OUT OF THE PARKING LOT, ATTEMPTING TO MAKE A RIGHT TURN, AND WAS STRUCK BY A	27	2585	4-Wed	7	17	2013	1731	132020003	53	1	1	1	0	35	C	98	1	30	M	1	3	1	99	0	1	N	98	1	70	M
04	VEH2 WAS PARKED IN FRONT OF ABOVE AND VEH1 WAS PARKED IN FRONT OF THEM. V1 BACKED UP AND HIT THE FI	27	2585	4-Wed	7	8	2015	1020	151890089	2	5	17	11	0	1	N	99	99	64	M											
04	DRIVER ON UNIT 1 WAS MAKING A RIGHT TURN FROM NORTHBOUND LYNDALE AV N ONTO EASTBOUND 42ND AV N. DR	27	2585	2-Mon	7	6	2015	1630	151950193	1	1	5	1	0	1	N	4	1	54	F	53	7	1	1	0	21	C	98	1	18	M
04	UNIT TWO WAS TRAVELING SB ON LYNDALE AVE NORTH AND STOPPED AT A RED LIGHT TO TURN WB ON 42ND AVE N	27	2585	5-Thu	8	8	2013	2040	132200160	1	5	1	15	0	1	N	99	99	901	M	1	5	3	1	0	1	N	99	1	24	F
04	UNIT ONE HIT AND RAN OVER TREE, THEN STRUCK THE WALL OF 4155 LYNDALE AVENUE NORTH AND BROKE WINDOW	27	2585	6-Fri	8	1	2014	0609	142130021	4	6	99	90	0	1	N	99	99	902	Z											
04		27	2585	4-Wed	11	5	2014	1535	143450143	8	5	4	0	0	1	N	98	0	37	M											
04	UNIT 1 WAS WAS TRAVELING SB ON LYNDALE AVE N AND RAN THE RED LIGHT AT THE INTERSECTION TURNING EB (	27	2585	1-Sun	12	28	2014	1831	143620131	2	5	4	5	8	1	N	4	1	37	M	2	1	1	1	1	1	N	4	1	24	M
04	VEHICLE 1 WAS TRAVELING SOUTH ON LYNDALE AVE N WHEN THE DRIVER RAN THROUGH A RED LIGHT. VEHICLE 1	27	2585	3-Tue	12	8	2015	1109	153420104						1	N	4	98	57	M						1	C	4	1	55	M
04	VEH2 WAS TRAVELING NB ON LYNDALE AND HAD JUST MOVED INTO THE LEFT TURN LANE. VEH1 WAS ALSO TRAVI	27	2585	1-Sun	12	13	2015	1424	153510123	3	1	6	7	21	1	N	99	99	904	M	1	1	90	1	0	1	N	4	1	47	F
05	VEHICLE #1 WAS WB 42 AV ON THE CAMDEN BRIDGE AND SKIDDED ON THE ICY ROADWAY AND STRUCK #2 WHICH WA	27	2585	4-Wed	12	11	2013	0723	133450055	1	7	11	1	0	1	N	4	1	45	M	1	7	10	4	0	1	N	4	1	29	F

2013 to 2015 Crash Data
Crashes Highlighted in Red Were Not Included in the Benefit/Cost Calculation
Attachment 05A

CSAH 152 at 41st Ave N/Washington Ave N - Intersection

2013 - 2015 Crash Data Provided by the MNDOT TIS Office

										PERSON1											PERSON2									
SYS	ATP	CO	CITY	DOW	MONTH	DAY	YEAR	TIME	ACC_NUM	VTYPE	DIR	ACT	FAC1	FAC2	POSN	INJ	EQP	PHYS	AGE	SEX	VTYPE	DIR	ACT	FAC1	FAC2	POSN	INJ	EQP	PHYS	AGE	SEX
04	DRIVER OF VEH1 STATED SHE WAS TRAVELING NB ON LYNDALE. SHE ADMITTED TO RUNNING THE RED LIGHT AT 41'	27	2585	6-Fri	5	29	2015	0710	151490039	1	1	1	15	5	1	N	4	1	27	F	3	3	1	1	0	1	N	4	1	32	F
04	VEH2 WAS LEGALLY PARKED IN FRONT OF 4100 LYNDALE AVE N. V1 EITHER BACKED INTO OR DROVE INTO THE FRC	27	2585	7-Sat	6	6	2015	0100	151570056	99	UNK	99	99	0	1	N	99	99	903	Z											
05	V1 SOUTH ON LYNDALE AV N. V2 PARKED UNOCCUPIED. UNKNOWN V1, UNKNOWN PLATE, REAR ENDED V2 THEN LEI	27	2585	7-Sat	6	8	2013	0314	131590018	99	5	99	99	0	1	N	99	99	901	Z											
04	UNIT 1 WAS BACKING IN THE (WELLS FARGO) PARKING LOT AT 4141 LYNDALE AV N. WHILE BACKING, UNIT 1 STI	27	2585	7-Sat	7	25	2015	1025	152100146	3	5	17	11	99	1	N	99	99	903	F	51	98	39	1	1	36	C	98	1	78	M
04	VEH2 WAS STOPPED IN TRAFFIC, LEFT TURN SIGNAL ON, WAITING FOR ON-COMING TRAFFIC TO CLEAR TO MAKE A	27	2585	6-Fri	8	1	2014	1410	142130063	3	1	1	90	0	1	N	4	1	40	M	1	1	6	1	0	1	N	4	1	30	M
04		27	2585	3-Tue	9	8	2015	1515	160040036	4	7	6	0	0	1	N	0	0	31	M	3	1	1	0	0	1	N	4	0	59	F
05	THE DRIVER OF UNIT1 WAS TRAVELING SB ON LYNDALE AV .N. FROM 41ST AV. N. WHEN HE STRUCK UNIT2 WHICH	27	2585	6-Fri	10	9	2015	0406	152890009	1	5	1	15	0	1	N	4	1	57	M											
04	VEHICLE 1 WAS DRIVING NB ON LYNDALE AV N WHEN IT RAN OFF THE ROAD TO THE RIGHT JUST NORTH OF WASHI	27	2585	4-Wed	10	22	2014	1710	142950179	4	1	99	99	0	1	C	99	1	45	F											
04		27	2585	7-Sat	10	24	2015	1145	153280062	1	1	8	0	0	1	N	0	0	25	F											
04	STATION. DRIVER/1 WAS DRIVING. VEH/2 WAS PARKED AT THE GAS PUMPS, WITH DRIVER/2 AND WITNESS/1 SE/	27	2585	6-Fri	10	31	2014	1640	143040128	3	6	0	0	0	1	N	0	0	902	Z											
04	ON 10/31/2015 AT APPROXIMATLEY 1050 HOURS V1 STOPPED IN THE GAS STATION LOCATED AT 4101 LYNDALE AV!	27	2585	7-Sat	10	31	2015	1050	153040081	99	UNK	0	0	0	1	N	98	0	903	Z											
04	DRIVER 1 MN LP 527DRL STRUCK A LIGHT POLE ON LYNDALE AVE N BETWEEN 41ST AND 42ND ST. SEVERE DAMAGE	27	2585	5-Thu	11	26	2015	2025	153300118	1	5	99	99	0	1	N	99	1	29	M											
04	VEH2 WAS SB ON LYNDALE APPROACHING MIDBLOCK 41ST TO 42 AVE N WHEN VEH1 THAT WAS NB ON LYNDALE AVE I	27	2585	3-Tue	12	16	2014	1440	143500223	1	1	6	2	0	1	N	4	1	24	F	1	5	1	1	0	1	C	4	1	26	F

2013 to 2015 Crash Data
Crashes Highlighted in Red Were Not Included in the Benefit/Cost Calculation
Attachment 05A

CSAH 152 - Out Of Limits

2013 - 2015 Crash Data Provided by the MNDOT TIS Office

										PERSON1											PERSON2									
SYS	ATP	CO	CITY	DOW	MONTH	DAY	YEAR	TIME	ACC_NUM	VTYPE	DIR	ACT	FAC1	FAC2	POSN	INJ	EQP	PHYS	AGE	SEX	VTYPE	DIR	ACT	FAC1	FAC2	POSN	INJ	EQP	PHYS	AGE	SEX
04	VEHICLE 2 WAS TRAVELING NORTHBOUND ON CEDAR AVE WHEN VEHICLE 1 MADE A LEFT TURN ONTO 43RD ST AT A I	27	2585	6-Fri	8	9	2013	1753	132210134	1	1	99	99	0	1	N	4	1	36	F	99	5	54	99	0	1	N	99	99	901	Z
04	VEH 1 WAS E/B ON LOWRY AV N. VEH 2 WAS N/B ON EMERSON AV N. BOTH VEHICLES COLLIDED IN THE INTERSI	27	2585	4-Wed	9	18	2013	1225	132610125	1	3	1	1	1	1	C	4	1	23	F	3	1	1	1	1	1	N	4	1	67	M
04	VEH2 WAS PARKED LEGALLY IN FRONT OF 4110 IRVING AVE N. WITNESS SAID THAT HE SAW VEH1 SB ON IRVING /	27	2585	5-Thu	11	14	2013	1200	133180117	1	5	99	99	0	1	N	99	99	902	Z											
04	VEH2 WAS SB ON FREMONT AVE N APPR 41 ST AVE N WITH NO STOP SIGN FOR HIM. VEH1 WAS WB ON 41ST APPR I	27	2585	7-Sat	1	4	2014	1430	140040137	3	5	1	1	0	1	C	4	1	49	M	1	7	1	2	0	1	N	4	1	24	F
04		27	2585	5-Thu	2	20	2014	2350	140800065	2	1	1	0	0	1	N	4	0	30	M	1	3	5	0	0	1	N	0	0	47	M
04	UNIT 1 WAS SB ON LYNDALE AV N FROM 46 AV N AND SOMEHOW LOST CONTROL OF THE VEHICLE. THE DRIVER, AP	27	2585	1-Sun	3	22	2015	0115	150810024	1	5	1	18	3	1	9	1	3	46	M											
04	UNIT 1 TRAVELING NORTHBOUND ON NEWTON AVE N, FAILED TO YIELD THE RIGHT OF WAY TO UNIT 2 WHICH WAS `	27	2585	1-Sun	5	24	2015	1800	151440120	4	1	1	2	0	1	N	4	1	49	M	1	7	1	1	0	1	N	4	1	24	F
04	VEH2 WAS EB ON 43 AVE N. HUMBOLDT TO IRVING N WHEN VEH1 WAS WB ON 43 AVE N AND ATTEMPTED TO GO NB	27	2585	1-Sun	8	30	2015	1520	152420088	4	7	1	18	0	1	N	99	2	52	M	1	3	1	1	0	1	N	3	1	36	F
04	BOTH VEHICLES WERE WB ON LOWRY AVE N. DRIVER OF VEH2 STOPPED AND WAS WAITING TO TURN LEFT INTO THI	27	2585	1-Sun	10	25	2015	1900	152990102	3	6	6	0	0	1	N	4	1	43	M	1	7	1	0	0	1	N	99	1	22	M
04	UNIT 2, 3, AND 4 WERE UNOCCUPIED AND LEGALLY PARKED ON THE WEST SIDE OF CEDAR AVE S AND JUST SOUTH	27	2585	7-Sat	12	5	2015	2155	153390199	1	5	1	8	18	1	N	99	99	904	Z											
05	UNIT 1 WAS PULLING A TRAILER WHILE TRAVELING EB ON 42ND AV N. THE WITNESS STATED THAT A TAN SUV TI	27	2585	3-Tue	9	9	2014	1816	142560127	2	3	1	2	0	1	N	4	1	60	M											
05	UNIT 1 ADMITTED THAT SHE REAR ENDED UNIT 2. THERE WERE MODERATE DAMAGES TO BOTH VEHICLES. NO INJU	27	2585	6-Fri	8	28	2015	1647	152410007	4	1	1	1	0	1	N	4	1	48	F	1	1	1	15	0	1	N	4	1	57	F
04	DRIVER OF UNIT 1 SAID THAT HE WAS TRAVELLING NORTH ON OSSEO RD WHEN HE STRUCK A PICK UP TRUCK AND T	27	2585	1-Sun	2	2	2014	0140	140330013	1	1	1	99	0	1	N	99	1	30	M											

CRASH MODIFICATION FACTORS CLEARINGHOUSE

CMF / CRF Details

CMF ID: 195

Increased pavement friction

Description:

Prior Condition: No Prior Condition(s)

Category: Roadway

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

Star Quality Rating:	★★★★★

Crash Modification Factor (CMF)	
Value:	0.43
Adjusted Standard Error:	0.03
Unadjusted Standard Error:	

Crash Reduction Factor (CRF)	
Value:	57 *(This value indicates a **decrease** in crashes)*
Adjusted Standard Error:	3
Unadjusted Standard Error:	

Applicability	
Crash Type:	Wet road
Crash Severity:	All
Roadway Types:	All
Number of Lanes:	
Road Division Type:	
Speed Limit:	

Area Type:	All
Traffic Volume:	Minimum of All to Maximum of All
Time of Day:	
If countermeasure is intersection-based	
Intersection Type:	
Intersection Geometry:	
Traffic Control:	
Major Road Traffic Volume:	
Minor Road Traffic Volume:	

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

Other Details	
Included in Highway Safety Manual?	No
Date Added to Clearinghouse:	
Comments:	

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For more information, contact **Karen Scurry,** *FHWA Office of Safety Programs* 609-637-4207

CRASH MODIFICATION FACTORS CLEARINGHOUSE

CMF / CRF Details

CMF ID: 194

Increased pavement friction

Description:

Prior Condition: No Prior Condition(s)

Category: Roadway

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

Star Quality Rating:	★★★★★

Crash Modification Factor (CMF)	
Value:	0.76
Adjusted Standard Error:	0.03
Unadjusted Standard Error:	

Crash Reduction Factor (CRF)	
Value:	24 *(This value indicates a **decrease** in crashes)*
Adjusted Standard Error:	3
Unadjusted Standard Error:	

Applicability	
Crash Type:	All
Crash Severity:	All
Roadway Types:	All
Number of Lanes:	
Road Division Type:	
Speed Limit:	

Area Type:	All
Traffic Volume:	Minimum of All to Maximum of All
Time of Day:	
If countermeasure is intersection-based	
Intersection Type:	
Intersection Geometry:	
Traffic Control:	
Major Road Traffic Volume:	
Minor Road Traffic Volume:	

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

Other Details	
Included in Highway Safety Manual?	No
Date Added to Clearinghouse:	
Comments:	

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CRASH MODIFICATION FACTORS CLEARINGHOUSE

CMF / CRF Details

CMF ID: 175

Raised median with marked crosswalk (uncontrolled)

Description:

Prior Condition: Marked crosswalk with no raised median at an uncontrolled pedestrian crossing.

Category: Pedestrians

Study: *Safety Effects of Marked Versus Unmarked Crosswalks at Uncontrolled Locations: Executive Summary and Recommended Guidelines*, Zegeer et al., 2002

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

Crash Modification Factor (CMF)	
Value:	0.54
Adjusted Standard Error:	0.48
Unadjusted Standard Error:	0.1

Crash Reduction Factor (CRF)

Value:	46 *(This value indicates a **decrease** in crashes)*
Adjusted Standard Error:	48
Unadjusted Standard Error:	10

Applicability

Crash Type:	Vehicle/pedestrian
Crash Severity:	All
Roadway Types:	Principal Arterial Other
Number of Lanes:	3 to 8
Road Division Type:	
Speed Limit:	
Area Type:	Urban and Suburban
Traffic Volume:	15000 *Average Daily Traffic (ADT)*
Time of Day:	All

If countermeasure is intersection-based

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

Minor Road Traffic Volume:	

Development Details

Date Range of Data Used:	1994 to 1998
Municipality:	
State:	AZ, CA, FL, KS, LA, MD, MA, MO, NC, OH, OR, PA, TX, UT, WA, WI
Country:	USA
Type of Methodology Used:	Non-regression cross-section
Sample Size Used:	111 Crashes

Other Details

Included in Highway Safety Manual?	No
Date Added to Clearinghouse:	
Comments:	The study design was a simple comparison of crash rates, controlling for pedestrian and traffic volume.

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CRASH MODIFICATION FACTORS CLEARINGHOUSE

CMF / CRF Details

CMF ID: 4656

Install bicycle lanes

Description: Bicycle lanes are about 1.5-2 meters wide.

Prior Condition: No bicycle lane along the roadway segment.

Category: Bicyclists

Study: Evaluating the Safety Effects of Bicycle Lanes in New York City, Chen et al., 2012

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

Crash Modification Factor (CMF)	
Value:	0.944
Adjusted Standard Error:	
Unadjusted Standard Error:	0.101

Crash Reduction Factor (CRF)	
Value:	5.6 *(This value indicates a **decrease** in crashes)*
Adjusted Standard Error:	
Unadjusted Standard Error:	10.1

Applicability	
Crash Type:	All
Crash Severity:	All
Roadway Types:	Not specified
Number of Lanes:	1 - 5+
Road Division Type:	All
Speed Limit:	

Area Type:	Urban
Traffic Volume:	
Time of Day:	All
If countermeasure is intersection-based	
Intersection Type:	
Intersection Geometry:	
Traffic Control:	
Major Road Traffic Volume:	
Minor Road Traffic Volume:	

Development Details	
Date Range of Data Used:	1991 to 2008
Municipality:	New York City
State:	NY
Country:	
Type of Methodology Used:	Before/after using comparison group
Sample Size Used:	Crashes
Before Sample Size Used:	2991 Crashes
After Sample Size Used:	746 Crashes

Other Details	
Included in Highway Safety Manual?	No
Date Added to Clearinghouse:	
Comments:	

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CRASH MODIFICATION FACTORS CLEARINGHOUSE

CMF / CRF Details

CMF ID: 3948

Install left-turn lane

Description:

Prior Condition: Unknown

Category: Intersection geometry

Study: A full Bayes multivariate intervention model with random parameters among matched pairs for before-after safety evaluation, El-Basyouny and Sayed, 2011

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

Crash Modification Factor (CMF)	
Value:	0.79
Adjusted Standard Error:	
Unadjusted Standard Error:	

Crash Reduction Factor (CRF)	
Value:	21 *(This value indicates a **decrease** in crashes)*
Adjusted Standard Error:	
Unadjusted Standard Error:	

Applicability	
Crash Type:	All
Crash Severity:	Fatal,Serious injury,Minor injury
Roadway Types:	Not Specified
Number of Lanes:	
Road Division Type:	

Speed Limit:	
Area Type:	Urban
Traffic Volume:	
Time of Day:	All
If countermeasure is intersection-based	
Intersection Type:	Roadway/roadway (not interchange related)
Intersection Geometry:	Not specified
Traffic Control:	Not specified
Major Road Traffic Volume:	
Minor Road Traffic Volume:	

Development Details	
Date Range of Data Used:	2001 to 2008
Municipality:	
State:	
Country:	Canada
Type of Methodology Used:	Before/after using empirical Bayes or full Bayes
Sample Size Used:	Site-years
Before Sample Size Used:	16 Site-years
After Sample Size Used:	12 Site-years

Other Details	
Included in Highway Safety Manual?	No
Date Added to Clearinghouse:	
Comments:	

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CRASH MODIFICATION FACTORS CLEARINGHOUSE

CMF / CRF Details

CMF ID: 3950

Install left-turn lane

Description:

Prior Condition: Unknown

Category: Intersection geometry

Study: A full Bayes multivariate intervention model with random parameters among matched pairs for before-after safety evaluation, El-Basyouny and Sayed, 2011

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

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

Crash Reduction Factor (CRF)	
Value:	20 *(This value indicates a **decrease** in crashes)*
Adjusted Standard Error:	
Unadjusted Standard Error:	

Applicability	
Crash Type:	All
Crash Severity:	Property damage only (PDO)
Roadway Types:	Not Specified
Number of Lanes:	
Road Division Type:	

Speed Limit:	
Area Type:	Urban
Traffic Volume:	
Time of Day:	All
If countermeasure is intersection-based	
Intersection Type:	Roadway/roadway (not interchange related)
Intersection Geometry:	Not specified
Traffic Control:	Not specified
Major Road Traffic Volume:	
Minor Road Traffic Volume:	

Development Details	
Date Range of Data Used:	2001 to 2008
Municipality:	
State:	
Country:	Canada
Type of Methodology Used:	Before/after using empirical Bayes or full Bayes
Sample Size Used:	Site-years
Before Sample Size Used:	16 Site-years
After Sample Size Used:	12 Site-years

Other Details	
Included in Highway Safety Manual?	No
Date Added to Clearinghouse:	
Comments:	

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CRASH MODIFICATION FACTORS CLEARINGHOUSE

CMF / CRF Details

CMF ID: 1420

Convert signal from pedestal-mounted to mast arm

Description:

Prior Condition: Existing pedestals were removed and replaced with mast arm signals

Category: Intersection traffic control

Study: Signalized Intersections: Informational Guide, Rodegerdts et al., 2004

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

Crash Modification Factor (CMF)	
Value:	0.51
Adjusted Standard Error:	
Unadjusted Standard Error:	0.031

Crash Reduction Factor (CRF)	
Value:	49 *(This value indicates a **decrease** in crashes)*
Adjusted Standard Error:	
Unadjusted Standard Error:	3.1

Applicability	
Crash Type:	All
Crash Severity:	All
Roadway Types:	Not specified
Number of Lanes:	
Road Division Type:	
Speed Limit:	

Area Type:	
Traffic Volume:	
Time of Day:	All
If countermeasure is intersection-based	
Intersection Type:	Roadway/roadway (not interchange related)
Intersection Geometry:	
Traffic Control:	Signalized
Major Road Traffic Volume:	
Minor Road Traffic Volume:	

Development Details	
Date Range of Data Used:	
Municipality:	
State:	KS
Country:	usa
Type of Methodology Used:	Simple before/after
Sample Size Used:	Crashes
Before Sample Size Used:	809 Crashes
After Sample Size Used:	412 Crashes

Other Details	
Included in Highway Safety Manual?	No
Date Added to Clearinghouse:	
Comments:	

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CRASH MODIFICATION FACTORS CLEARINGHOUSE

CMF / CRF Details

CMF ID: 5272

Install pedestrian countdown timer

Description: Install pedestrian countdown timer

Prior Condition: Unknown

Category: Intersection traffic control

Study: Evaluating pedestrian safety improvements, Van Houten et al., 2012

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

Crash Modification Factor (CMF)	
Value:	0.3
Adjusted Standard Error:	
Unadjusted Standard Error:	

Crash Reduction Factor (CRF)	
Value:	70 *(This value indicates a **decrease** in crashes)*
Adjusted Standard Error:	
Unadjusted Standard Error:	

Applicability	
Crash Type:	Vehicle/pedestrian
Crash Severity:	All
Roadway Types:	Not specified
Number of Lanes:	
Road Division Type:	
Speed Limit:	

	Not specified
Traffic Volume:	
Time of Day:	
If countermeasure is intersection-based	
Intersection Type:	Roadway/roadway (not interchange related)
Intersection Geometry:	Not specified
Traffic Control:	Signalized
Major Road Traffic Volume:	
Minor Road Traffic Volume:	

Development Details	
Date Range of Data Used:	
Municipality:	Detroit
State:	MI
Country:	
Type of Methodology Used:	Time series
Sample Size Used:	449 Sites

Other Details	
Included in Highway Safety Manual?	No
Date Added to Clearinghouse:	Dec-02-2013
Comments:	The study did not adjust the reduction in crashes at the treatment location based on the change in the comparison sites.

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CRASH MODIFICATION FACTORS CLEARINGHOUSE

CMF / CRF Details

CMF ID: 7684

Change from permissive only to FYA - protected/permissive left turn

Description: Change from permissive only to FYA - protected/permissive left turn

Prior Condition: Permissive phasing

Category: Intersection traffic control

Study: Safety Effectiveness of Flashing Yellow Arrow: Evaluation of 222 Signalized Intersections in North Carolina, Simpson and Troy, 2015

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

Crash Modification Factor (CMF)	
Value:	0.598
Adjusted Standard Error:	
Unadjusted Standard Error:	0.105

Crash Reduction Factor (CRF)	
Value:	40.2 *(This value indicates a **decrease** in crashes)*
Adjusted Standard Error:	
Unadjusted Standard Error:	10.5

Applicability	
Crash Type:	Left turn
Crash Severity:	All
Roadway Types:	Not specified
Number of Lanes:	
Road Division Type:	

Speed Limit:	35-55
Area Type:	Not specified
Traffic Volume:	
Time of Day:	
If countermeasure is intersection-based	
Intersection Type:	Roadway/roadway (not interchange related)
Intersection Geometry:	3-leg,4-leg
Traffic Control:	Signalized
Major Road Traffic Volume:	Minimum of 7000 to Maximum of 49000 Annual Average Daily Traffic (AADT)
Minor Road Traffic Volume:	Minimum of 600 to Maximum of 17000 Annual Average Daily Traffic (AADT)

Development Details	
Date Range of Data Used:	2003 to 2013
Municipality:	
State:	NC
Country:	
Type of Methodology Used:	Other before/after
Sample Size Used:	

Other Details	
Included in Highway Safety Manual?	No
Date Added to Clearinghouse:	
Comments:	Target crashes are defined as "left-turn same roadway crashes with the left-turner on an approach treated with FYA and occurring during the time of day when FYA is in operation".

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CRASH MODIFICATION FACTORS CLEARINGHOUSE

CMF / CRF Details

CMF ID: 4123

Install high-visibility crosswalk

Description: High-visibility crosswalks aim to increase awareness of pedestrians at intersections by using highly visible marking patterns. The markings used in this study included a series of longitudinal white stripes constructed from thermoplastic material.

Prior Condition: High visibility crosswalks aim to increase awareness of pedestrians at intersections by using highly visible marking patterns. High visibility crosswalks installed in NYC have a series of longitudinal white stripes that are constructed from thermoplastic materials.

Category: Pedestrians

Study: The Relative Effectiveness of Pedestrian Safety Countermeasures at Urban Intersections - Lessons from a New York City Experience, Li Chen, Cynthia Chen, and Reid Ewing, 2012

Image: View the countermeasure image.

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

Crash Modification Factor (CMF)	
Value:	0.6
Adjusted Standard Error:	
Unadjusted Standard Error:	

Crash Reduction Factor (CRF)	
Value:	40 *(This value indicates a **decrease** in crashes)*
Adjusted Standard Error:	
Unadjusted Standard Error:	

Applicability	
Crash Type:	Vehicle/pedestrian
Crash Severity:	All
Roadway Types:	Not Specified

Number of Lanes:	
Road Division Type:	
Speed Limit:	
Area Type:	Urban
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:	Not specified
Major Road Traffic Volume:	
Minor Road Traffic Volume:	

Development Details	
Date Range of Data Used:	1998 to 2008
Municipality:	New York City
State:	NY
Country:	USA
Type of Methodology Used:	Simple before/after
Sample Size Used:	Crashes
Before Sample Size Used:	63 Crashes
After Sample Size Used:	15 Crashes

Other Details	
Included in Highway Safety Manual?	No
Date Added to Clearinghouse:	
Comments:	The treatment group included both signalized and unsignalized intersections. The corresponding change in crashes in the comparison group was an 18 percent reduction in pedestrian-vehicle crashes. This could be used to adjust the treatment effect to account for other factors not related to the treatment.

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CRASH MODIFICATION FACTORS CLEARINGHOUSE

CMF / CRF Details

CMF ID: 3252

Installation of bicycle lanes at signalized intersections

Description: Installation of bicycle lanes at signalized intersections

Prior Condition: No bicycle lanes, cyclists shared the roadway with motor vehicles

Category: Bicyclists

Study: Safety Performance Functions for Bicycle Crashes in New Zealand and Australia, Turner et al., 2011

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

Crash Modification Factor (CMF)	
Value:	0.42
Adjusted Standard Error:	
Unadjusted Standard Error:	

Crash Reduction Factor (CRF)	
Value:	58 *(This value indicates a **decrease** in crashes)*
Adjusted Standard Error:	
Unadjusted Standard Error:	

Applicability	
Crash Type:	Vehicle/bicycle
Crash Severity:	All
Roadway Types:	All
Number of Lanes:	
Road Division Type:	All
Speed Limit:	

Area Type:	Urban and suburban
Traffic Volume:	
Time of Day:	All
If countermeasure is intersection-based	
Intersection Type:	Roadway/roadway (not interchange related)
Intersection Geometry:	4-leg
Traffic Control:	Signalized
Major Road Traffic Volume:	
Minor Road Traffic Volume:	

Development Details	
Date Range of Data Used:	
Municipality:	Christchurch
State:	
Country:	New Zealand
Type of Methodology Used:	Before/after using empirical Bayes or full Bayes
Sample Size Used:	Sites

Other Details	
Included in Highway Safety Manual?	No
Date Added to Clearinghouse:	
Comments:	Crash Type: Cyclist through, right turning vehicle in same direction (note: study was performed in New Zealand and turning directions have been reversed for right-side driving countries when entered). Not much detail is presented regarding the before-aft

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CRASH MODIFICATION FACTORS CLEARINGHOUSE

CMF / CRF Details

CMF ID: 4177

Changing left turn phasing from protected-permissive to flashing yellow arrow (FYA)

Description: CMFs are calculated the intersection level and not the treated approach(es) level.

Prior Condition: All treated approaches had protected-permissive left turn

Category: Intersection traffic control

Study: Evaluation of Safety Strategies at Signalized Intersections, Srinivasan, et al., 2011

Image: View the countermeasure image.

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

Crash Modification Factor (CMF)	
Value:	0.806
Adjusted Standard Error:	
Unadjusted Standard Error:	0.146

Crash Reduction Factor (CRF)	
Value:	19.4 *(This value indicates a **decrease** in crashes)*
Adjusted Standard Error:	
Unadjusted Standard Error:	14.6

Applicability	
Crash Type:	Left turn
Crash Severity:	All
Roadway Types:	Not Specified
Number of Lanes:	

Road Division Type:	
Speed Limit:	
Area Type:	Urban
Traffic Volume:	
Time of Day:	Not specified
If countermeasure is intersection-based	
Intersection Type:	Roadway/roadway (not interchange related)
Intersection Geometry:	4-leg
Traffic Control:	Signalized
Major Road Traffic Volume:	Minimum of 8260 to Maximum of 43000 Annual Average Daily Traffic (AADT)
Minor Road Traffic Volume:	Minimum of 600 to Maximum of 13745 Annual Average Daily Traffic (AADT)

Development Details	
Date Range of Data Used:	
Municipality:	
State:	NC, OR, WA
Country:	USA
Type of Methodology Used:	Before/after using empirical Bayes or full Bayes
Sample Size Used:	Crashes
Before Sample Size Used:	134 Crashes
After Sample Size Used:	47 Crashes

Other Details	
Included in Highway Safety Manual?	No
Date Added to Clearinghouse:	
Comments:	

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CRASH MODIFICATION FACTORS CLEARINGHOUSE

CMF / CRF Details

CMF ID: 1414

Add signal (additional primary head)

Description:

Prior Condition: Intersection has one primary signal head per approach

Category: Intersection traffic control

Study: Safety Benefits of Additional Primary Signal Heads, Felipe et al., 1998

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

Crash Modification Factor (CMF)	
Value:	0.72
Adjusted Standard Error:	
Unadjusted Standard Error:	

Crash Reduction Factor (CRF)	
Value:	28 *(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:	Urban
Traffic Volume:	
Time of Day:	
If countermeasure is intersection-based	
Intersection Type:	Roadway/roadway (not interchange related)
Intersection Geometry:	4-leg
Traffic Control:	Signalized
Major Road Traffic Volume:	
Minor Road Traffic Volume:	

Development Details	
Date Range of Data Used:	
Municipality:	Richmond, British Columbia
State:	
Country:	Canada
Type of Methodology Used:	Before/after using empirical Bayes or full Bayes
Sample Size Used:	Sites
Before Sample Size Used:	8 Sites
After Sample Size Used:	8 Sites

Other Details	
Included in Highway Safety Manual?	No
Date Added to Clearinghouse:	
Comments:	The authors state that "three year of data were used for this analysis" (p. 7). This statement does not indicate if the before period was 3 years, the after period was 3 years, both were 3 years, or the total time period was 3 years (i.e. 1.5 years for before period and 1.5 years for after period).

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CRASH MODIFICATION FACTORS CLEARINGHOUSE

CMF / CRF Details

CMF ID: 3072

Change number of traffic signal cycles per hour on arterial with signal coordination from X to Y

Description:

Prior Condition: No Prior Condition(s)

Category: Intersection traffic control

Study: Safety Effect of Arterial Signal Coordination, Wei and Tarko, 2011

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

Crash Modification Factor (CMF)	
Value:	$100 * (1 - e^{-0.0444(Y-X)})$
Adjusted Standard Error:	
Unadjusted Standard Error:	

Crash Reduction Factor (CRF)	
Value:	$e^{-0.0444(Y-X)}$
Adjusted Standard Error:	
Unadjusted Standard Error:	

Applicability	
Crash Type:	Rear end
Crash Severity:	All
Roadway Types:	All
Number of Lanes:	1 to 3

Road Division Type:	
Speed Limit:	30-50 mph
Area Type:	Urban and suburban
Traffic Volume:	
Time of Day:	All
If countermeasure is intersection-based	
Intersection Type:	Roadway/roadway (not interchange related)
Intersection Geometry:	
Traffic Control:	Signalized
Major Road Traffic Volume:	Maximum of 1840 veh/hr/ln Vehicles Per Hour
Minor Road Traffic Volume:	

Development Details	
Date Range of Data Used:	2003 to 2006
Municipality:	
State:	IN
Country:	USA
Type of Methodology Used:	Regression cross-section
Sample Size Used:	324 Crashes

Other Details	
Included in Highway Safety Manual?	No
Date Added to Clearinghouse:	
Comments:	

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CRASH MODIFICATION FACTORS CLEARINGHOUSE

CMF / CRF Details

CMF ID: 1719

Provide bike lanes

Description:

Prior Condition: No Prior Condition(s)

Category: Bicyclists

Study: Signalized Intersections: Informational Guide, Rodegerdts et al., 2004

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

Crash Modification Factor (CMF)	
Value:	0.65
Adjusted Standard Error:	
Unadjusted Standard Error:	0.2

Crash Reduction Factor (CRF)	
Value:	35 *(This value indicates a **decrease** in crashes)*
Adjusted Standard Error:	
Unadjusted Standard Error:	20.3

Applicability	
Crash Type:	Vehicle/bicycle
Crash Severity:	Fatal,Serious injury,Minor injury
Roadway Types:	Not specified
Number of Lanes:	
Road Division Type:	
Speed Limit:	

Area Type:	
Traffic Volume:	
Time of Day:	
If countermeasure is intersection-based	
Intersection Type:	
Intersection Geometry:	
Traffic Control:	
Major Road Traffic Volume:	
Minor Road Traffic Volume:	

Development Details	
Date Range of Data Used:	
Municipality:	
State:	
Country:	
Type of Methodology Used:	Simple before/after
Sample Size Used:	Crashes
Before Sample Size Used:	26 Crashes
After Sample Size Used:	11 Crashes

Other Details	
Included in Highway Safety Manual?	No
Date Added to Clearinghouse:	
Comments:	

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CRASH MODIFICATION FACTORS CLEARINGHOUSE

CMF / CRF Details

CMF ID: 7699

Change from permissive only to FYA - permissive only

Description: Change from permissive only to FYA - permissive only

Prior Condition: Permissive phasing

Category: Intersection traffic control

Study: Safety Effectiveness of Flashing Yellow Arrow: Evaluation of 222 Signalized Intersections in North Carolina, Simpson and Troy, 2015

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

Crash Modification Factor (CMF)	
Value:	0.689
Adjusted Standard Error:	
Unadjusted Standard Error:	0.141

Crash Reduction Factor (CRF)	
Value:	31.1 *(This value indicates a **decrease** in crashes)*
Adjusted Standard Error:	
Unadjusted Standard Error:	14.1

Applicability	
Crash Type:	All
Crash Severity:	Fatal,Serious injury,Minor injury
Roadway Types:	Not specified
Number of Lanes:	
Road Division Type:	

Speed Limit:	35-55
Area Type:	Not specified
Traffic Volume:	
Time of Day:	Not specified
If countermeasure is intersection-based	
Intersection Type:	Roadway/roadway (not interchange related)
Intersection Geometry:	3-leg,4-leg
Traffic Control:	Signalized
Major Road Traffic Volume:	Minimum of 7100 to Maximum of 25000 Annual Average Daily Traffic (AADT)
Minor Road Traffic Volume:	Minimum of 900 to Maximum of 13300 Annual Average Daily Traffic (AADT)

Development Details	
Date Range of Data Used:	2003 to 2013
Municipality:	
State:	NC
Country:	
Type of Methodology Used:	Other before/after
Sample Size Used:	

Other Details	
Included in Highway Safety Manual?	No
Date Added to Clearinghouse:	
Comments:	

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CRASH MODIFICATION FACTORS CLEARINGHOUSE

CMF / CRF Details

CMF ID: 874

Narrow cross section (4 to 3 lanes with two way left-turn lane)

Description:

Prior Condition: Four-lane cross-section, two in each direction.

Category: Roadway

Study: The Safety and Operational Effects of Road Diet Conversion in Minnesota, Gates et al., 2007

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

Crash Modification Factor (CMF)	
Value:	0.63
Adjusted Standard Error:	
Unadjusted Standard Error:	0.00632455532034

Crash Reduction Factor (CRF)	
Value:	37 *(This value indicates a **decrease** in crashes)*
Adjusted Standard Error:	
Unadjusted Standard Error:	0.632455532034

Applicability	
Crash Type:	All
Crash Severity:	All
Roadway Types:	Not specified
Number of Lanes:	4
Road Division Type:	Undivided
Speed Limit:	

Area Type:	Urban
Traffic Volume:	
Time of Day:	
If countermeasure is intersection-based	
Intersection Type:	
Intersection Geometry:	
Traffic Control:	
Major Road Traffic Volume:	
Minor Road Traffic Volume:	

Development Details	
Date Range of Data Used:	
Municipality:	
State:	MN
Country:	
Type of Methodology Used:	Simple before/after
Sample Size Used:	Crashes
Before Sample Size Used:	516 Crashes
After Sample Size Used:	811 Crashes

Other Details	
Included in Highway Safety Manual?	No
Date Added to Clearinghouse:	
Comments:	

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CRASH MODIFICATION FACTORS CLEARINGHOUSE

CMF / CRF Details

CMF ID: 2841

Converting four-lane roadways to three-lane roadways with center turn lane (road diet)

Description: Conversion of road segments from a four-lane to a three-lane cross-section with two-way left-turn lanes (also known as road diets).

Prior Condition: Four-lane undivided roadway

Category: Roadway

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

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

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

Crash Reduction Factor (CRF)	
Value:	47 *(This value indicates a **decrease** in crashes)*
Adjusted Standard Error:	
Unadjusted Standard Error:	2

Applicability	
Crash Type:	All
Crash Severity:	All
Roadway Types:	Not Specified
Number of Lanes:	4

Road Division Type:	Undivided
Speed Limit:	
Area Type:	Suburban
Traffic Volume:	
Time of Day:	All
If countermeasure is intersection-based	
Intersection Type:	
Intersection Geometry:	
Traffic Control:	
Major Road Traffic Volume:	
Minor Road Traffic Volume:	

Development Details	
Date Range of Data Used:	1982 to 2004
Municipality:	
State:	
Country:	
Type of Methodology Used:	Before/after using empirical Bayes or full Bayes
Sample Size Used:	
Before Sample Size Used:	263
After Sample Size Used:	67

Other Details	
Included in Highway Safety Manual?	No
Date Added to Clearinghouse:	
Comments:	When this CMF was initially entered in the Clearinghouse, it was incorrectly entered as a CMF of 0.47. In March 2015, this was corrected to be 0.53, as presented in the original paper.

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Prelminary Layout

Attachment 06

CSAH 152

Feature

- Bike facility
- Off-road shared use trail
- Parking lane
- Planting strip
- Sidewalk
- Crosswalk

1 inch = 50 feet

Project Overview

44th Ave - From Penn Ave to Fremont Ave

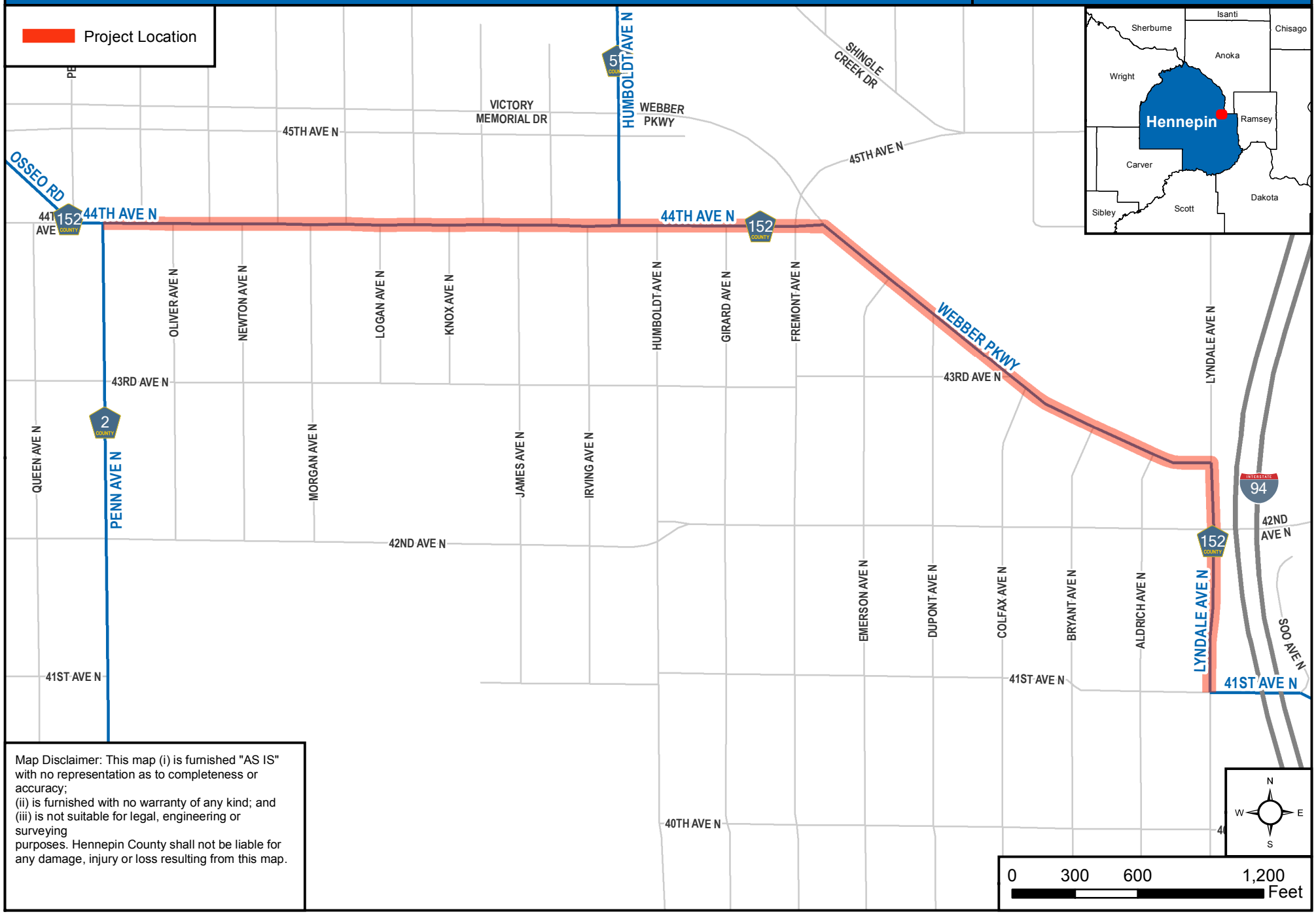
Webber Pkwy - From Fremont Ave to Lyndale Ave

Lyndale Ave: Frpm Webber Pkwy to 41st Ave

CSAH 152 (Webber Pkwy) Reconstruction Project

Figure 01 - Project Location Map

Hennepin Transportation Planning
www.hennepin.us
04/01/2016



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CSAH 152 (Webber Pkwy) Reconstruction Project

Figure 02 - Project Aerial Maps

Hennepin
Transportation Planning
www.hennepin.us
04/01/2016

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CSAH 152 (Webber Pkwy) Reconstruction Project

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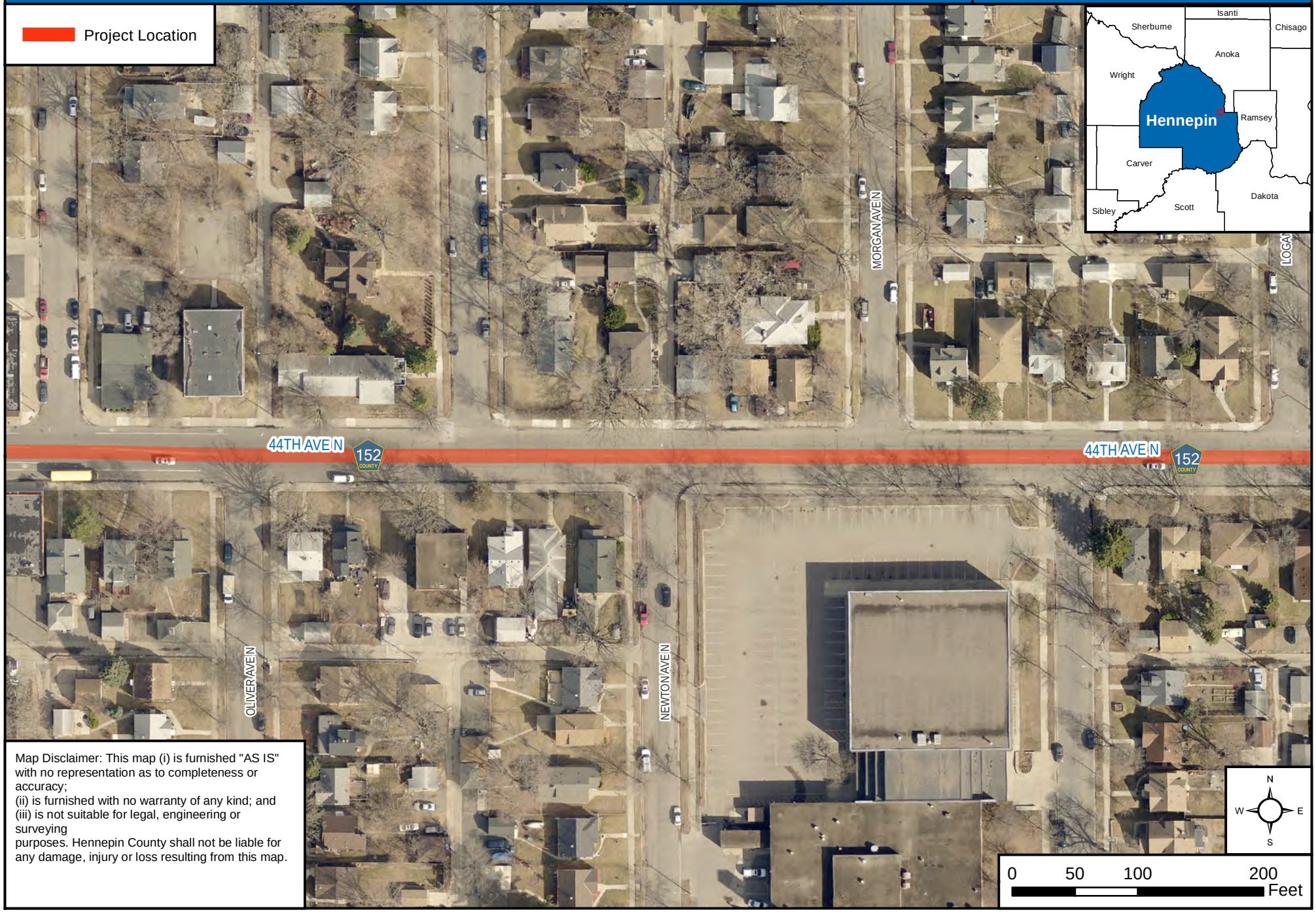

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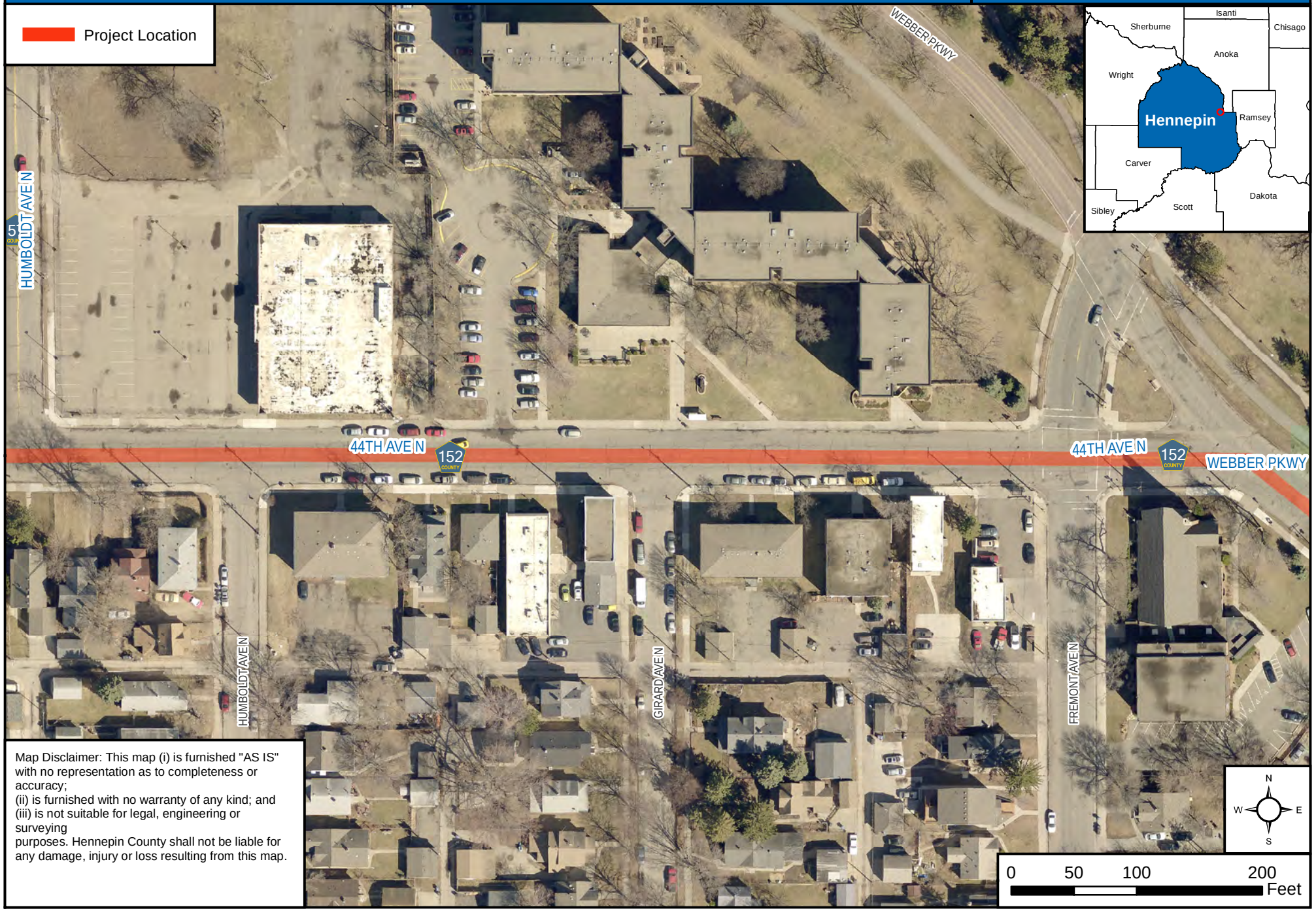

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CSAH 152 (Webber Pkwy) Reconstruction Project

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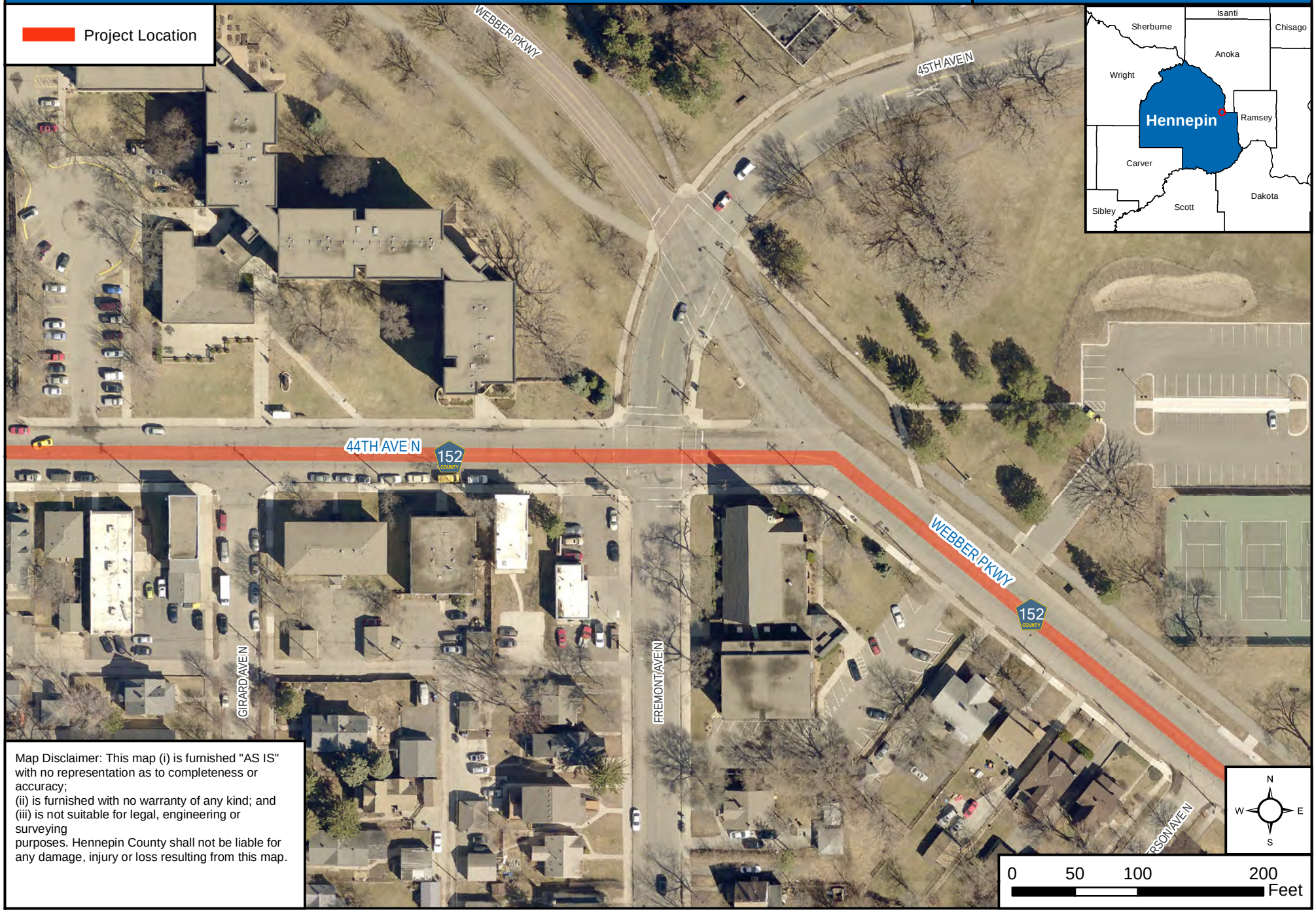

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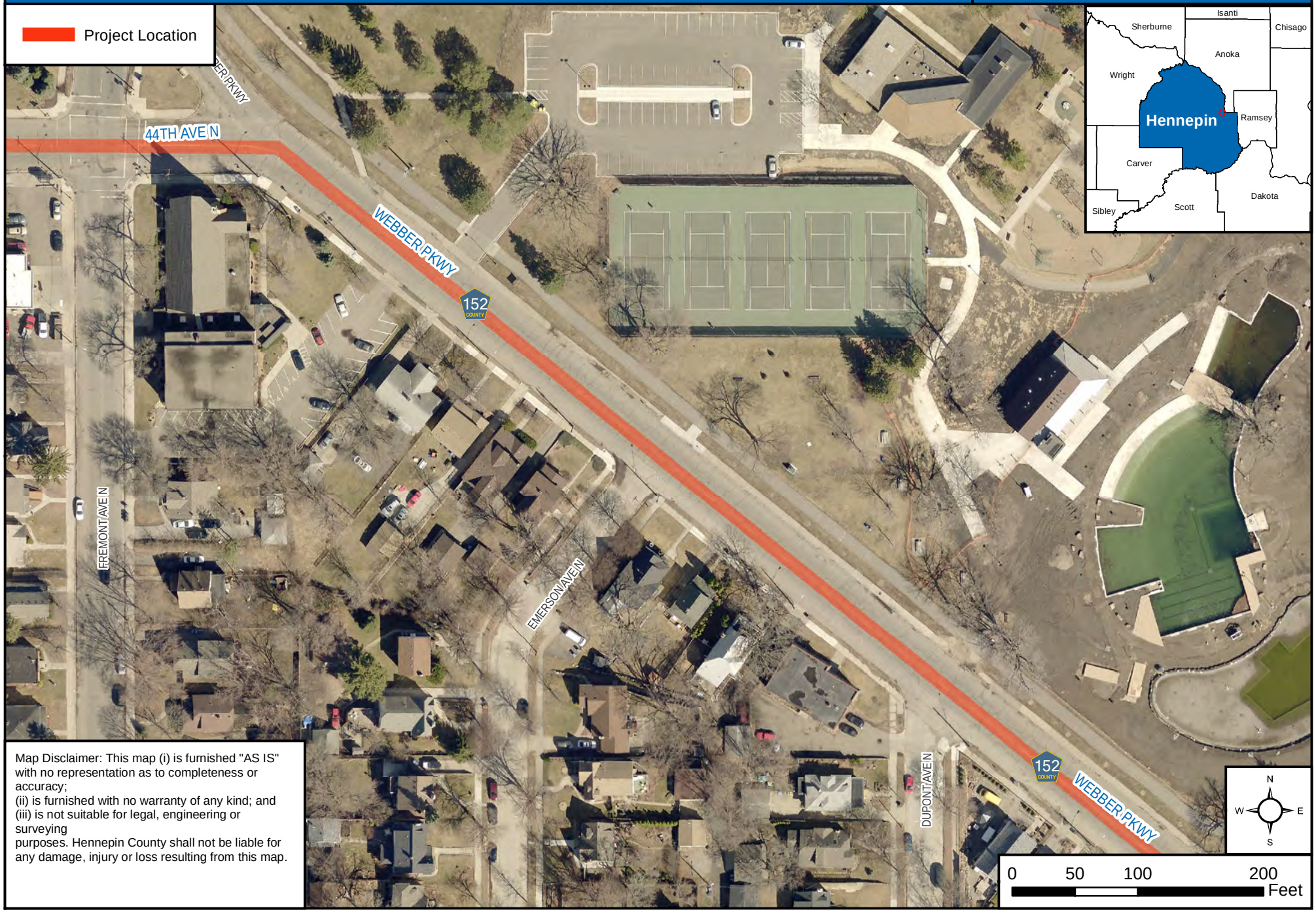
CSAH 152 (Webber Pkwy) Reconstruction Project

Figure 02 - Project Aerial Maps

Hennepin
Transportation
Planning
www.hennepin.us
04/01/2016



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CSAH 152 (Webber Pkwy) Reconstruction Project

Figure 02 - Project Aerial Maps

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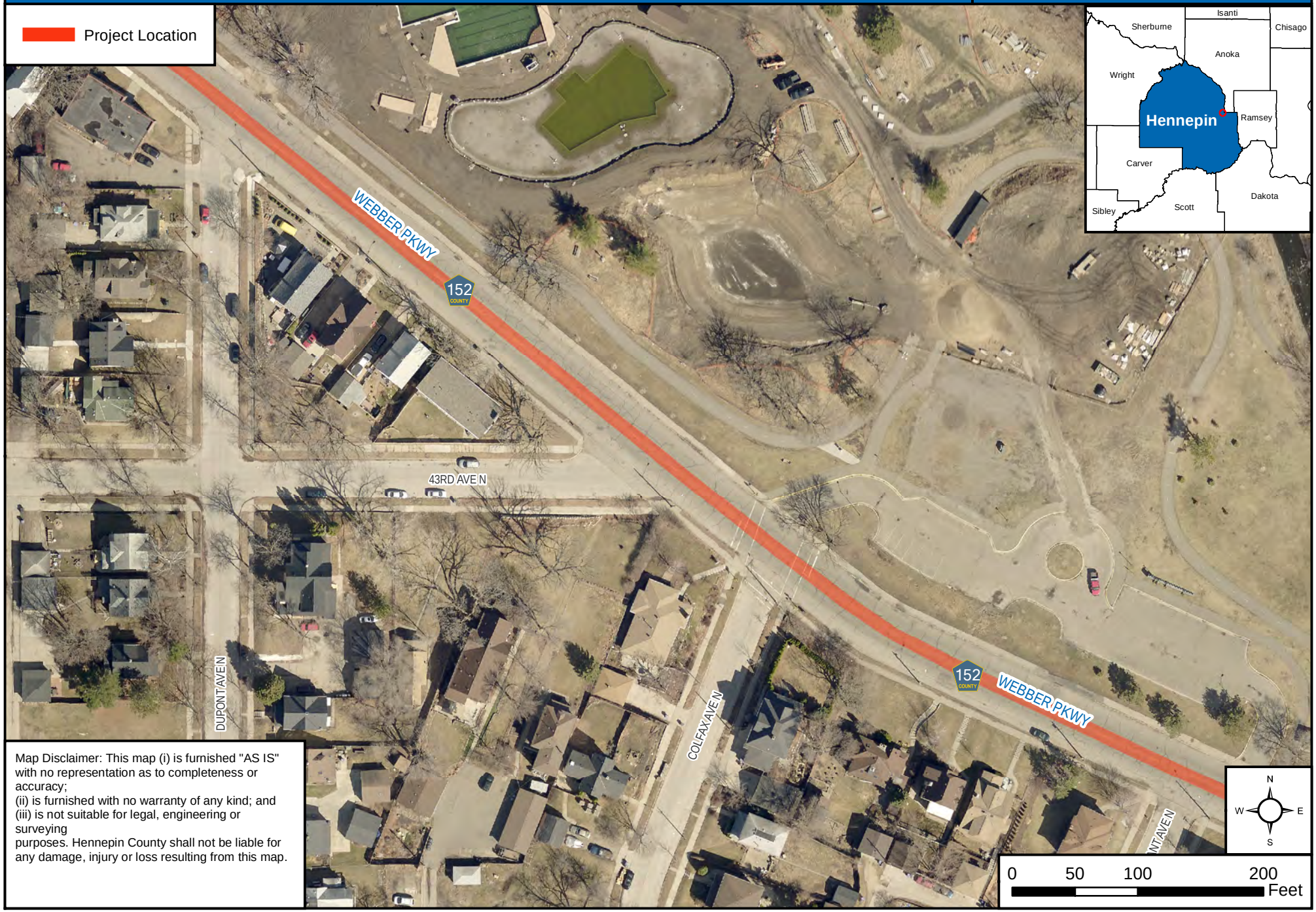

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CSAH 152 (Webber Pkwy) Reconstruction Project

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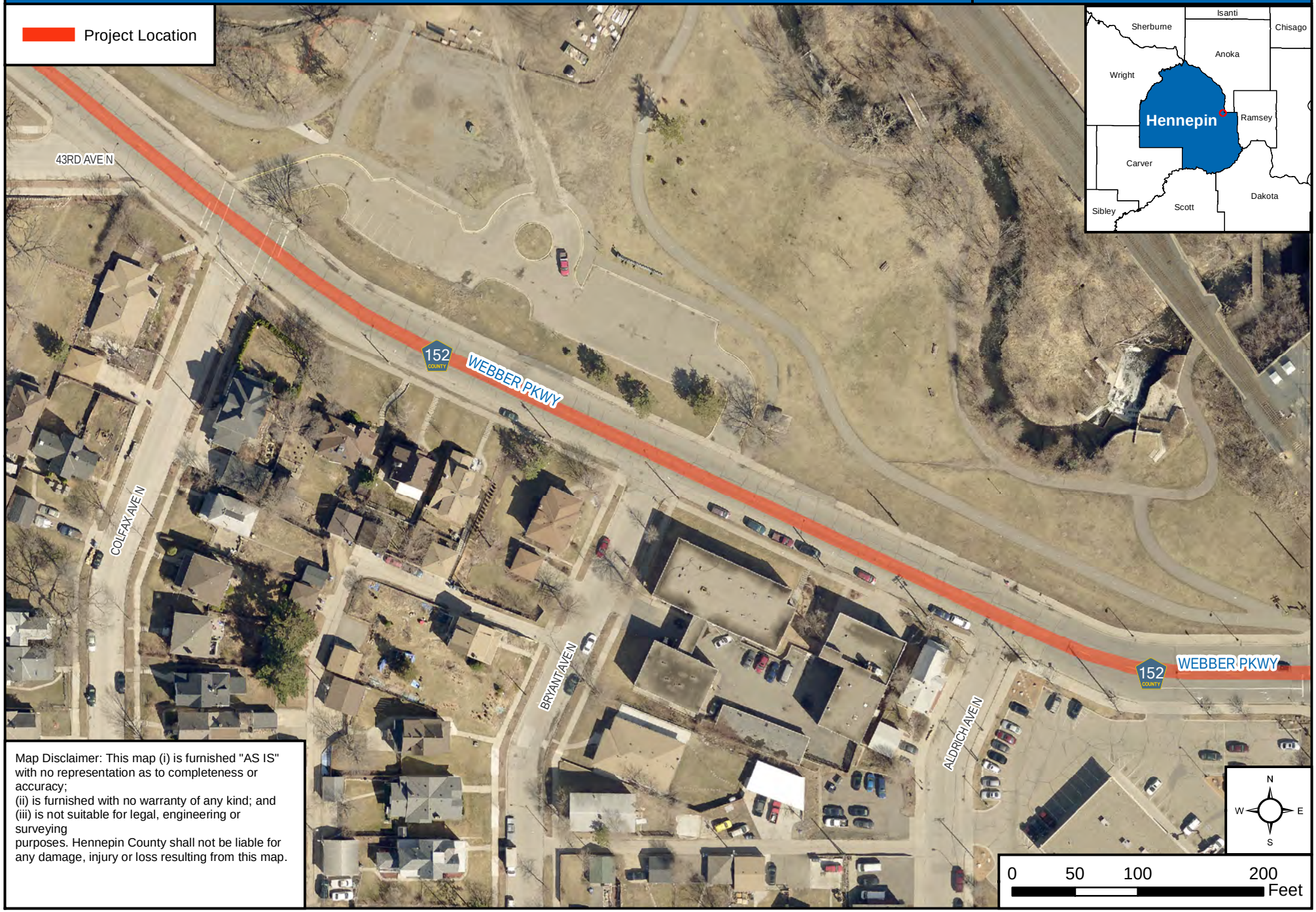

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CSAH 152 (Webber Pkwy) Reconstruction Project

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CSAH 152 (Webber Pkwy) Reconstruction Project

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Hennepin Transportation Planning
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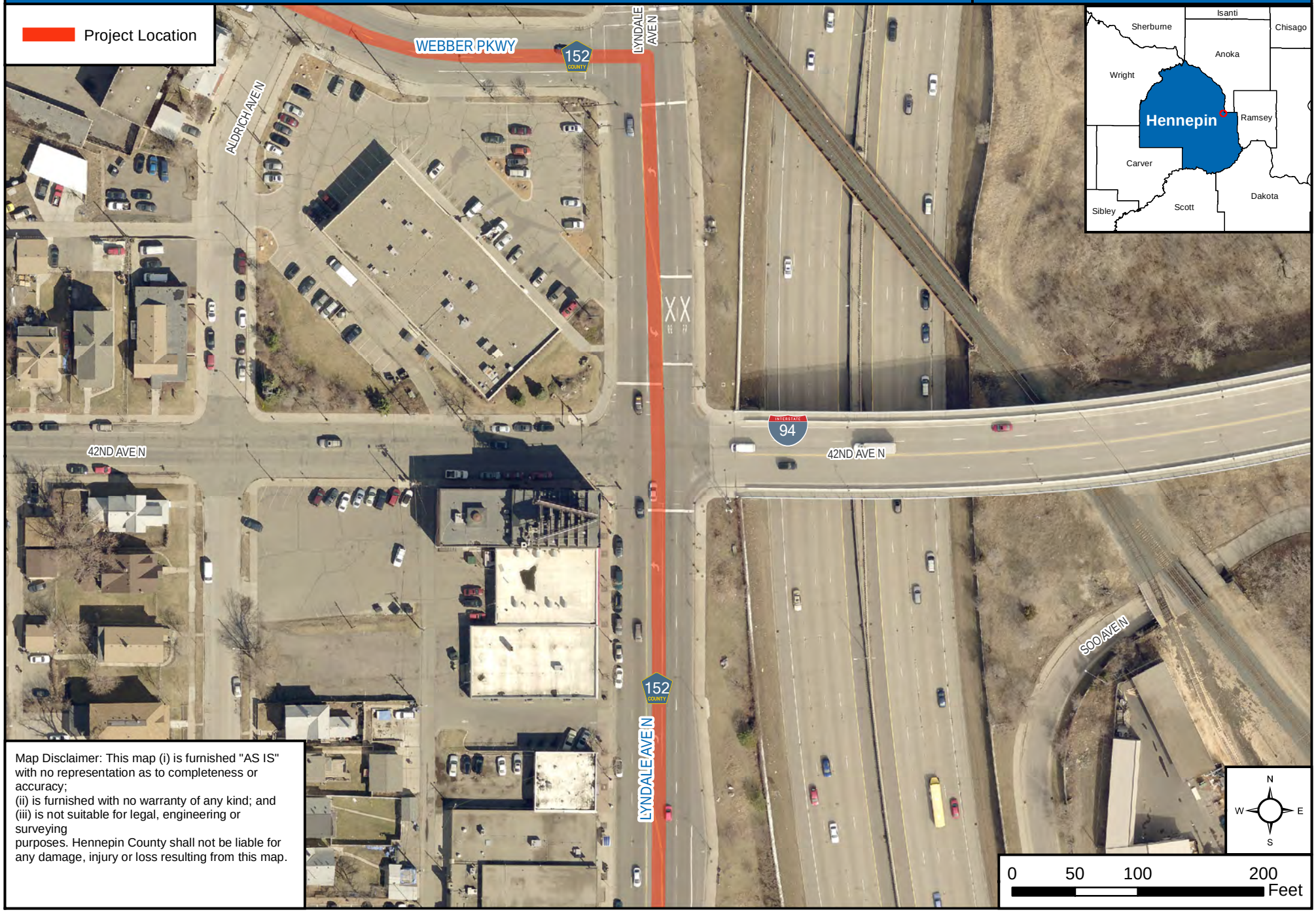

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CSAH 152 (Webber Pkwy) Reconstruction Project

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Hennepin
Transportation Planning
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Existing Roadway Elements
Figure 03

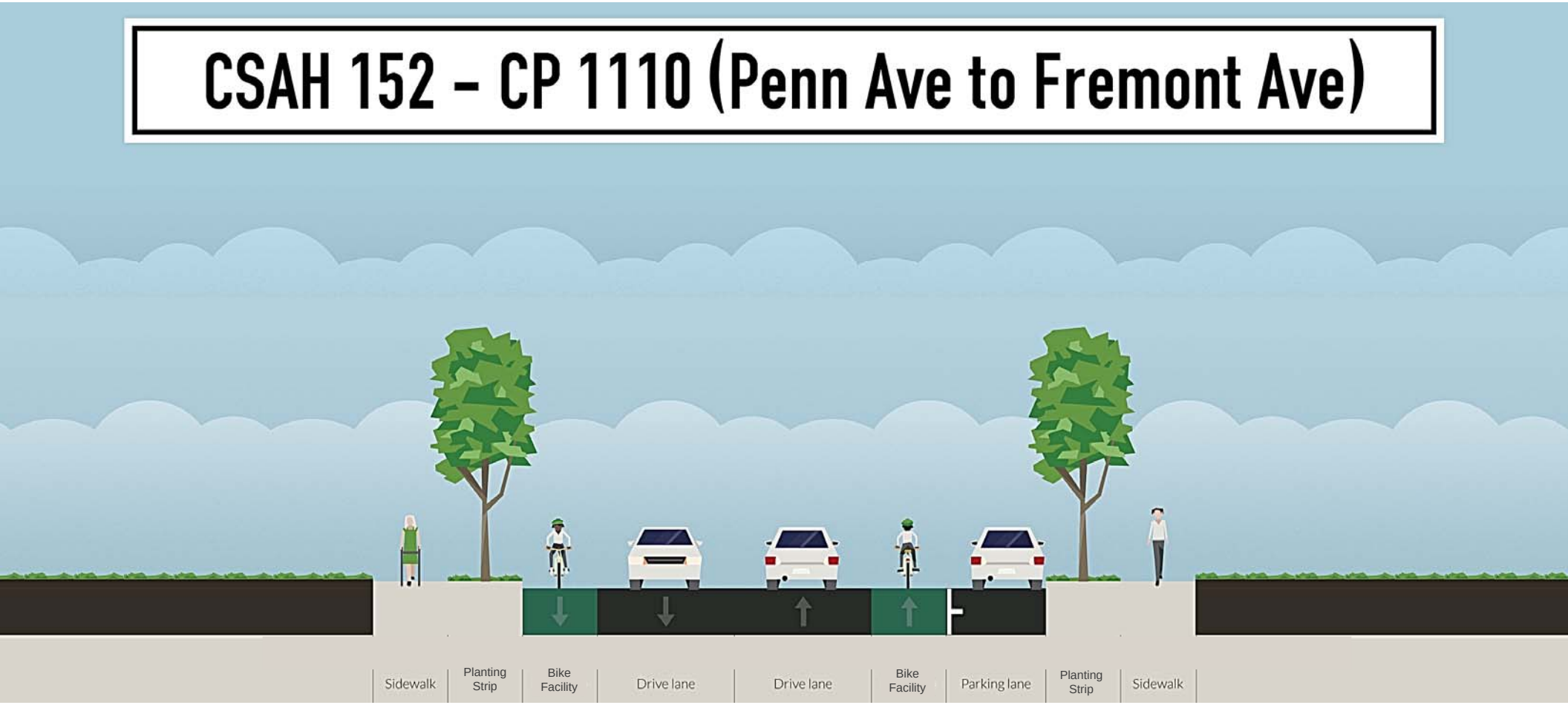
Existing 2-Lane Cross Section along Webber Pkwy and 44th Ave


Deteriorated Curb and Sidewalk

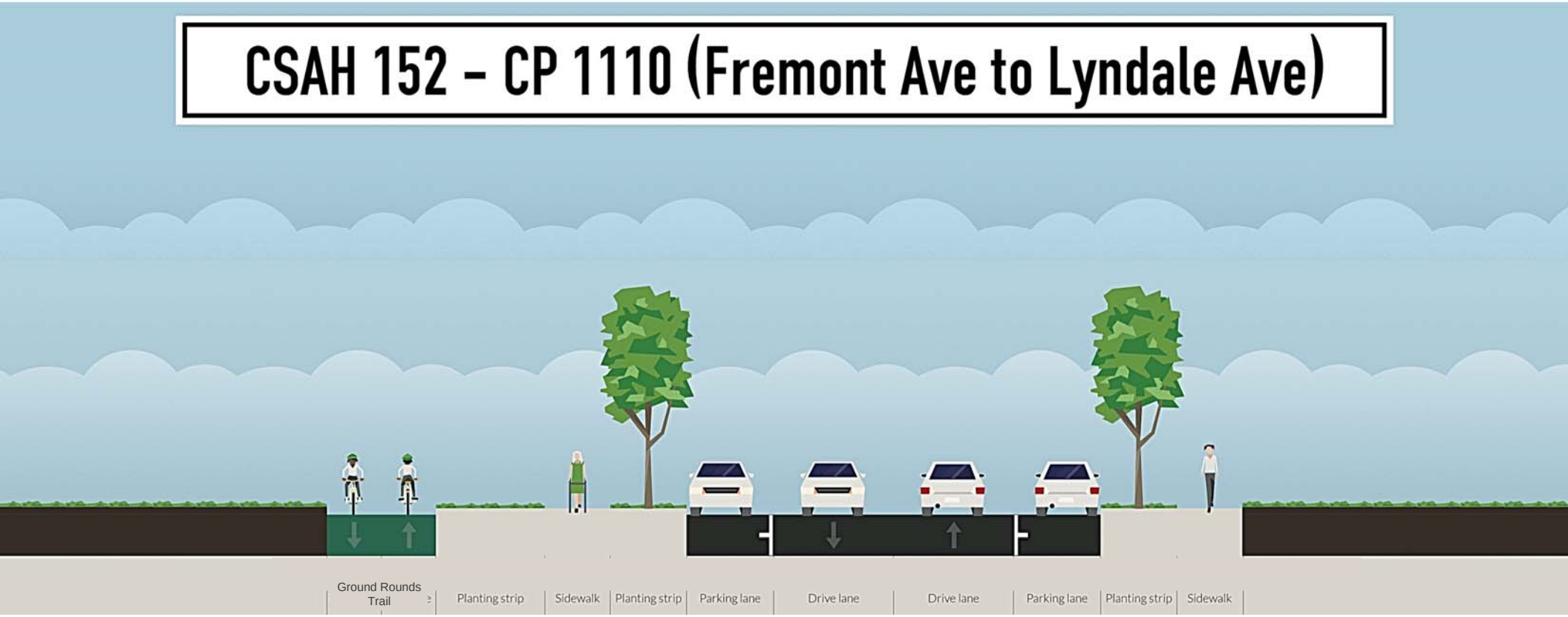
Existing 4-Lane Cross Section along Lyndale Ave

Poor Alignment of County Roadway and Webber Parkway Intersection

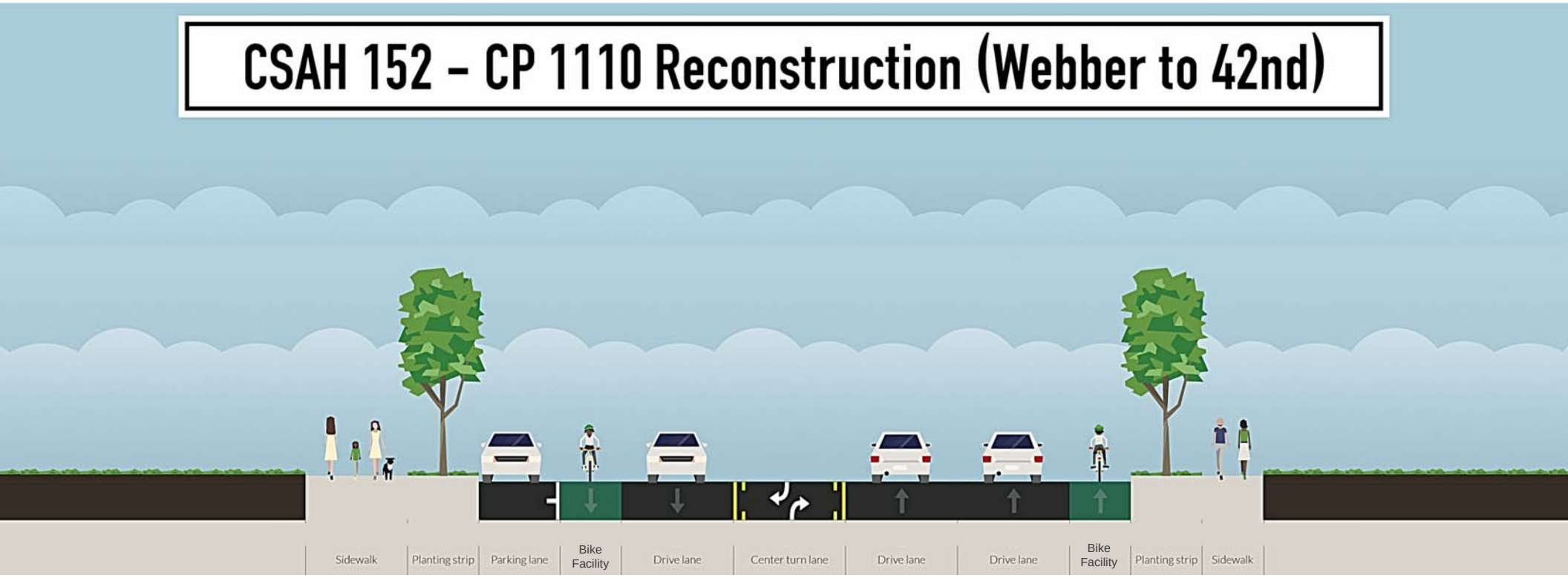
Proposed Typical Sections
Figure 04



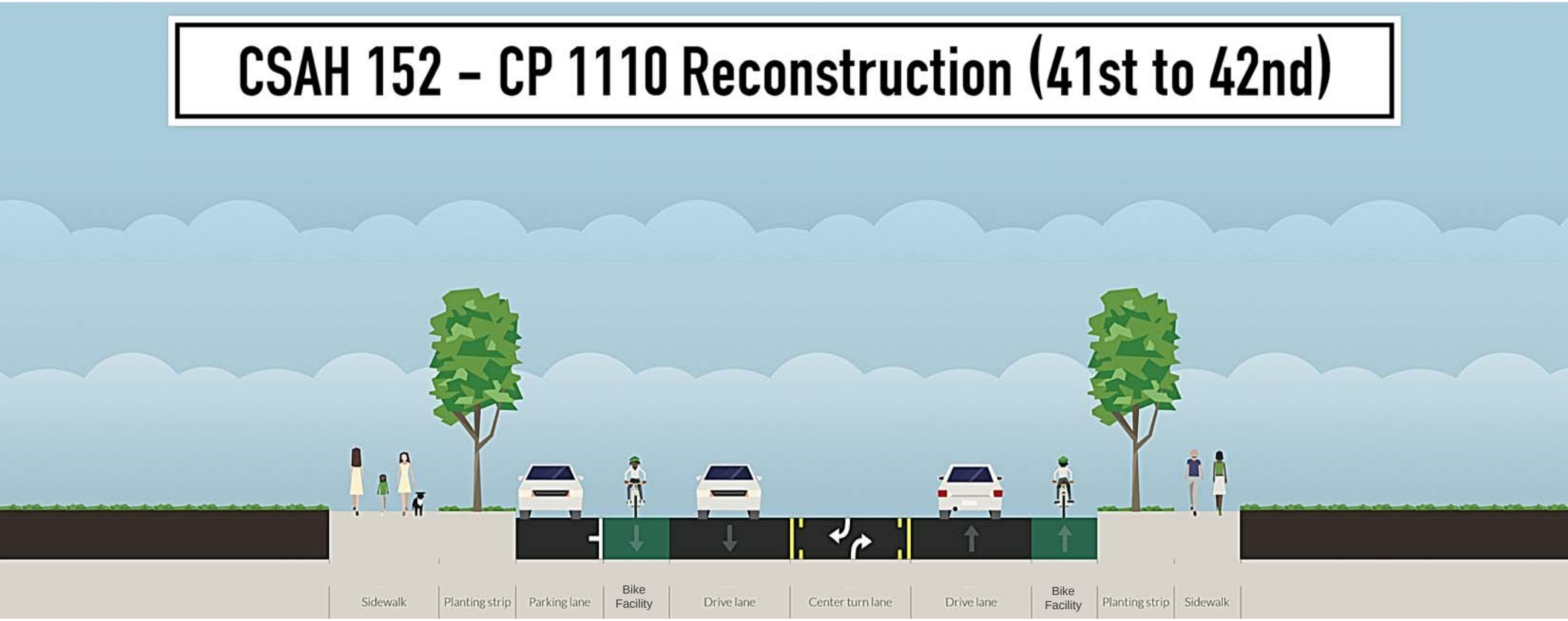
Proposed Typical Sections
Figure 04



Proposed Typical Sections
Figure 04



Proposed Typical Sections
Figure 04

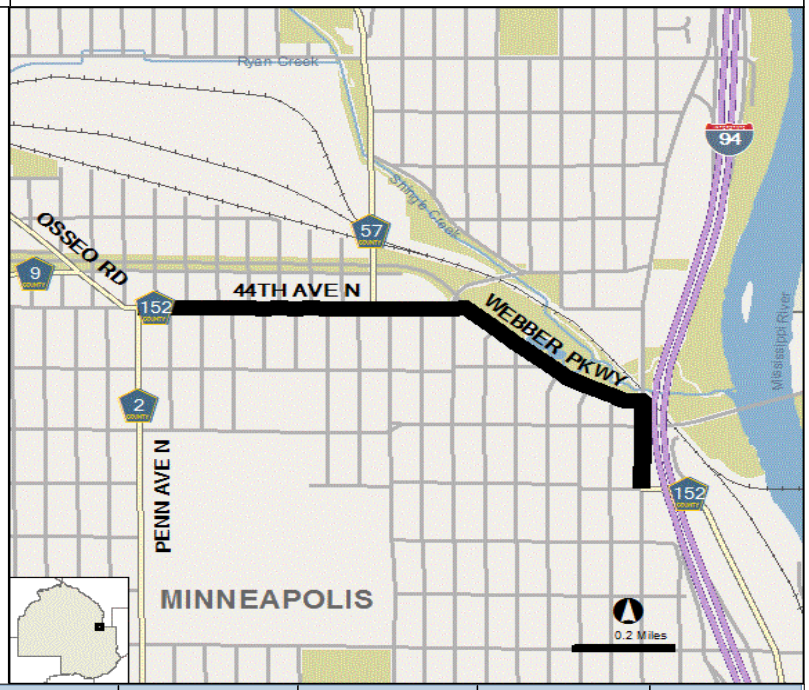


Project Name: 2111000 CSAH 152 - Reconst Rd fr CSAH 2 (Penn) to 42nd Avenue N
Major Program: Public Works
Department: Transportation Provisional Roads & Bridges Projects

Funding Start: 2018
Completion: 2018

Description:
The project consists of reconstructing CSAH 152 from CSAH 2 (Penn Avenue North) to 41st Avenue North in Minneapolis. This is a provisional project dependent upon the availability of funding.

Purpose & Justification:
The purpose of the project is to improve the condition of the pavement. The current roadway is deficient in drainage and structural condition. This project presents an opportunity to benefit multiple modes of travel when completed.



Revenues	Budget to Date	12/31/15 Act & Enc	Balance	2016 Budget	2017 Estimate	2018 Estimate	2019 Estimate	2020 Estimate	Beyond 2020	Total
Property Tax	-	-	-	-	-	-	-	-	-	-
County Bonds	-	-	-	-	-	-	-	-	-	-
Federal	-	-	-	-	-	-	-	-	-	-
State	-	-	-	-	-	-	-	-	-	-
Enterprise Income	-	-	-	-	-	-	-	-	-	-
Other Revenues	-	-	-	-	-	-	-	-	-	-
Total	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**

Expenditures	Budget to Date	12/31/15 Act & Enc	Balance	2016 Budget	2017 Estimate	2018 Estimate	2019 Estimate	2020 Estimate	Beyond 2020	Total
Land	-	-	-	-	-	-	-	-	-	-
Construction	-	-	-	-	-	10,669,000	-	-	-	10,669,000
Consulting	-	-	-	-	-	-	-	-	-	-
Equipment	-	-	-	-	-	-	-	-	-	-
Furnishings	-	-	-	-	-	-	-	-	-	-
Other Costs	-	-	-	-	-	-	-	-	-	-
Contingency	-	-	-	-	-	-	-	-	-	-
Total	**-**	**-**	**-**	**-**	**-**	**10,669,000**	**-**	**-**	**-**	**10,669,000**

Hennepin County Bicycle Transportation Plan
Planned bikeway system - January 2015

Hennepin County Bicycle Transportation Plan
Figure 05B

CSAH 152
Reconstruction Project

Downtown Minneapolis
see inset above

Wright

Ramsey

Dakota

Scott

LEGEND

Bikeway Search Corridor

Off-street bikeway system

Existing off-street bikeway

Planned off-street bikeway

On-street bikeway system

Existing on-street bikeway

Planned on-street bikeway

For this map "existing" means greater or equal to 7 feet wide for off road, greater or equal to 5 feet wide for on road bikeways.

For this map on street and/or off street bikeways are shown with one line regardless of if they are one side or both sides of the street.

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Hennepin County Bicycle Plan
Planned Bikeway System
January 2015

File Path: \\Yonkers\PWpwTEAM\Geospatial\Bike_Plan_2013\Final_MXDs\A003_2015_1_16_Planned_Bikeway_System_MAP.mxd

Miles
0 1 2 4

Hennepin County
Transportation Department

ThreeRivers PARK DISTRICT

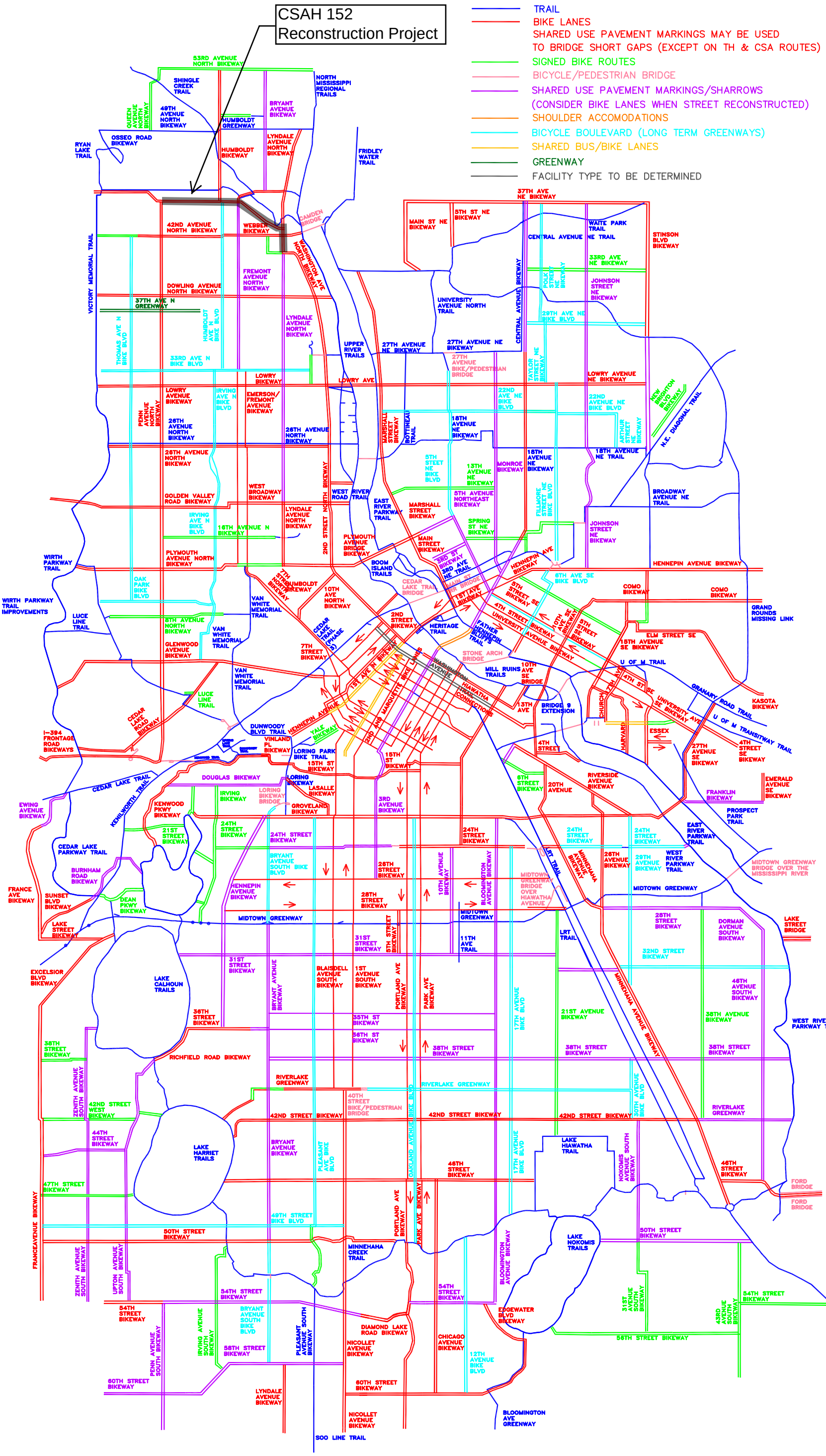
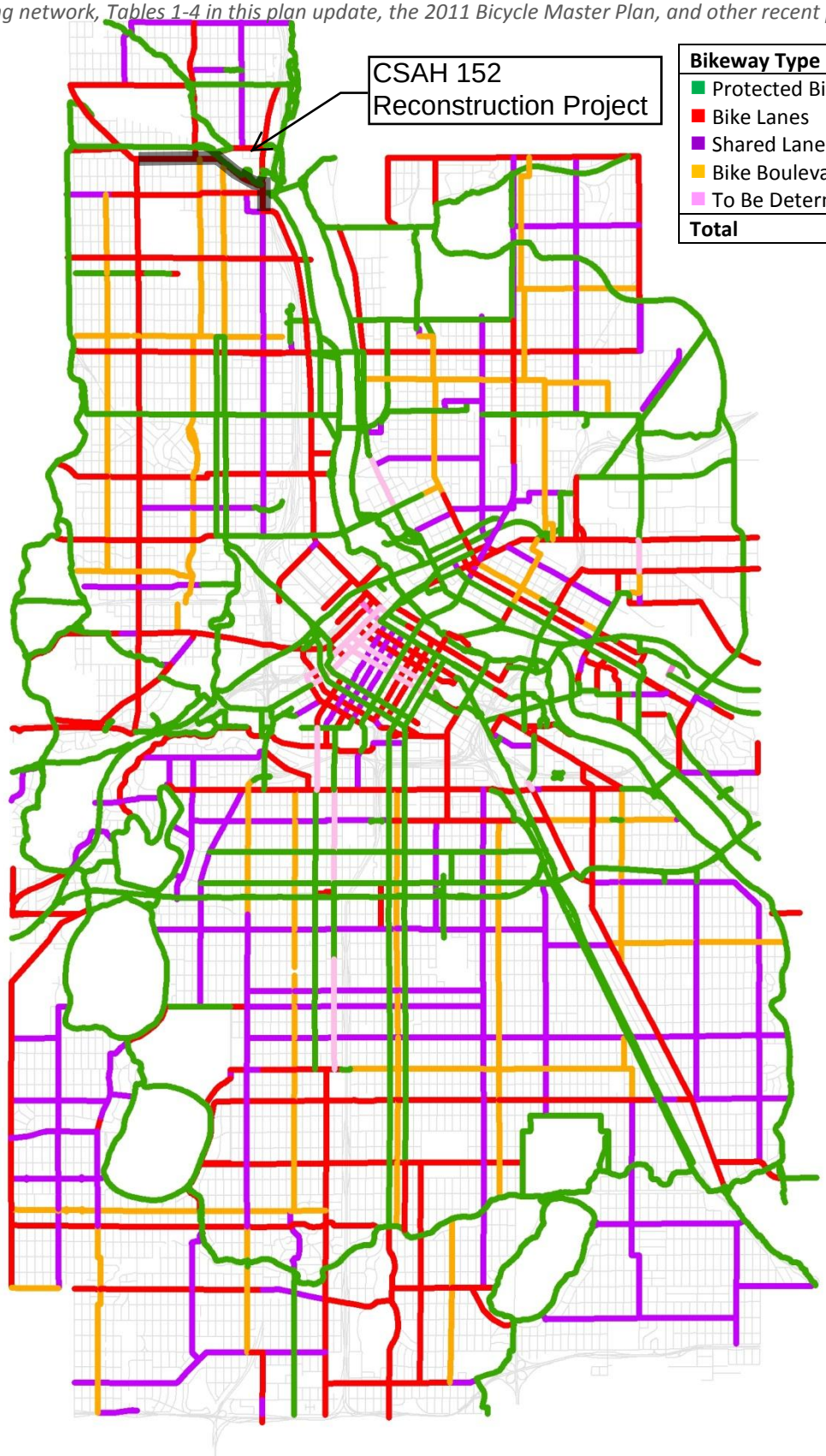

CSAH 152
Reconstruction Project
TRAIL
BIKE LANES
SHARED USE PAVEMENT MARKINGS MAY BE USED
TO BRIDGE SHORT GAPS (EXCEPT ON TH & CSA ROUTES)
SIGNED BIKE ROUTES
BICYCLE/PEDESTRIAN BRIDGE
SHARED USE PAVEMENT MARKINGS/SHARROWS
(CONSIDER BIKE LANES WHEN STREET RECONSTRUCTED)
SHOULDER ACCOMODATIONS
BICYCLE BOULEVARD (LONG TERM GREENWAYS)
SHARED BUS/BIKE LANES
GREENWAY
FACILITY TYPE TO BE DETERMINED
53RD AVENUE NORTH BIKEWAY
SHINGLE CREEK TRAIL
NORTH MISSISSIPPI REGIONAL TRAILS
QUEEN AVENUE NORTH BIKEWAY
49TH AVENUE NORTH BIKEWAY
BRYANT AVENUE BIKEWAY
HUMBOLDT GREENWAY
OSSEO ROAD BIKEWAY
RYAN LAKE TRAIL
HUMBOLDT BIKEWAY
LYNDALE AVENUE NORTH BIKEWAY
FRIDLEY WATER TRAIL
42ND AVENUE NORTH BIKEWAY
WEBBER BIKEWAY
CAMDEN BRIDGE
VICTORY MEMORIAL TRAIL
WASHINGTON AVE NORTH BIKEWAY
FREMONT AVENUE NORTH BIKEWAY
DOWLING AVENUE NORTH BIKEWAY
37TH AVE N GREENWAY
THOMAS AVE N BIKE BLVD
HUMBOLDT AVE N BIKE BLVD
LYNDALE AVENUE NORTH BIKEWAY
33RD AVE N BIKE BLVD
LOWRY BIKEWAY
LOWRY AVENUE BIKEWAY
IRVING AVE N BIKE BLVD
EMERSON/ FREMONT AVENUE BIKEWAY
PENN AVENUE NORTH BIKEWAY
26TH AVENUE NORTH BIKEWAY
26TH AVENUE NORTH BIKEWAY
28TH AVENUE NORTH BIKEWAY
UPPER RIVER TRAILS
LOWRY AVE
27TH AVENUE NE BIKEWAY
27TH AVENUE NE BIKEWAY
27TH AVENUE BIKE/PEDESTRIAN BRIDGE
UNIVERSITY AVENUE NORTH TRAIL
CENTRAL AVENUE BIKEWAY
37TH AVE NE BIKEWAY
MAIN ST NE BIKEWAY
5TH ST NE BIKEWAY
CENTRAL AVENUE
WATTE PARK TRAIL NE TRAIL
STINSON BLVD BIKEWAY
33RD AVE NE BIKEWAY
POLK STREET NE BIKEWAY
JOHNSON STREET NE BIKEWAY
29TH AVE NE BIKE BLVD
TAYLOR STREET NE BIKEWAY
LOWRY AVENUE NE BIKEWAY
22ND AVE NE BIKE BLVD
22ND AVENUE NE BIKE BLVD
NEW BRIGHTON BLVD BIKEWAY
M.E. DIAGONAL TRAIL
ARTHUR STREET NE BIKEWAY
MARSHALL STREET BIKEWAY
BOTTINEAU TRAIL
18TH AVENUE NE BIKEWAY
18TH AVENUE NE TRAIL
5TH STEET NE BIKE BLVD
13TH AVENUE NE BIKEWAY
MONROE BIKEWAY
5TH AVENUE NORTHEAST BIKEWAY
FILLMORE STREET NE BIKE BLVD
SPRING ST NE BIKEWAY
JOHNSON STREET NE BIKEWAY
BROADWAY AVENUE NE TRAIL
WEST BROADWAY BIKEWAY
GOLDEN VALLEY ROAD BIKEWAY
IRVING AVE N BIKE BLVD
16TH AVENUE N BIKEWAY
LYNDALE AVENUE NORTH BIKEWAY
2ND STREET NORTH BIKEWAY
WEST RIVER ROAD TRAIL
EAST RIVER PARKWAY TRAIL
MARSHALL STREET BIKEWAY
PLYMOUTH AVENUE BRIDGE BIKEWAY
MAIN STREET BIKEWAY
WIRTH PARKWAY TRAIL
PLYMOUTH AVENUE NORTH BIKEWAY
BOOM ISLAND TRAILS
3RD ST BIKEWAY
3RD AVE NE TRAIL
MAIN ST NE BRIDGE
HENNEPIN AVE BIKEWAY
HENNEPIN AVENUE BIKEWAY
6TH AVE SE BIKE BLVD
OAK PARK BIKE BLVD
7TH STREET NORTH BIKEWAY
HUMBOLDT BIKEWAY
10TH AVE NORTH BIKEWAY
CEDAR LAKE TRAIL BRIDGE
1ST AVE BIKEWAY
5TH ST SE BIKEWAY
4TH STREET BIKEWAY
UNIVERSITY AVENUE BIKEWAY
10TH AVE SE BIKEWAY
5TH STREET SE BIKEWAY
COMO BIKEWAY
COMO BIKEWAY
GRAND ROUNDS MISSING LINK
WIRTH PARKWAY TRAIL IMPROVEMENTS
LUCE LINE TRAIL
8TH AVENUE NORTH BIKEWAY
VAN WHITE MEMORIAL TRAIL
GLENWOOD AVENUE BIKEWAY
VAN WHITE MEMORIAL TRAIL
CEDAR LAKE TRAIL (PHASE 1ST)
2ND STREET BIKEWAY
HERITAGE TRAIL
FATHER HENNEPIN BLUFFS TRAIL
7TH STREET BIKEWAY
STONE ARCH BRIDGE
ELM STREET SE
15TH AVENUE SE BIKEWAY
U OF M TRAIL
VAN WHITE MEMORIAL TRAIL
1ST AVE N BIKEWAY
MILL RUINS TRAILS
10TH AVE SE BRIDGE
LUCE LINE TRAIL
2ND AND MARQUETTE BIKE LANES
WASHINGTON AVENUE
HIAWATHA LRT CONNECTIONS
13TH AVE
BRIDGE 9 EXTENSION
CHURCH ST SE
4TH ST SE
UNIVERSITY AVE SE BIKEWAY
GRANARY ROAD TRAIL
KASOTA BIKEWAY
U OF M TRANSITWAY TRAIL
CEDAR LAKE ROAD BIKEWAY
I-394 FRONTAGE ROAD BIKEWAYS
HENNEPIN AVENUE
YALE BIKEWAY
DUNWOODY BLVD TRAIL
VINLAND PL BIKEWAY
LORING PARK BIKE TRAIL
15TH ST BIKEWAY
4TH STREET
HARVARD
ESSEX
27TH AVENUE SE BIKEWAY
4TH STREET SE BIKEWAY
DOUGLAS BIKEWAY
LORING BIKEWAY
LASALLE BIKEWAY
15TH ST BIKEWAY
6TH STREET BIKEWAY
20TH AVENUE
RIVERSIDE AVENUE BIKEWAY
EMERALD AVENUE SE BIKEWAY
CEDAR LAKE TRAIL
KENILWORTH TRAIL
EWING AVENUE BIKEWAY
IRVING BIKEWAY
LORING BIKEWAY BRIDGE
KENWOOD PKWY BIKEWAY
GROVELAND BIKEWAY
3RD AVENUE BIKEWAY
FRANKLIN BIKEWAY
PROSPECT PARK TRAIL
21ST STREET BIKEWAY
24TH STREET BIKEWAY
24TH STREET BIKEWAY
24TH STREET BIKEWAY
24TH STREET BIKEWAY
24TH STREET BIKEWAY
EAST RIVER PARKWAY TRAIL
CEDAR LAKE PARKWAY TRAIL
BRYANT AVENUE SOUTH BIKE BLVD
26TH STREET BIKEWAY
LRT TRAIL
MINNEHAHA AVENUE BIKEWAY
26TH AVENUE BIKEWAY
29TH AVENUE BIKEWAY
WEST RIVER PARKWAY TRAIL
MIDTOWN GREENWAY BRIDGE OVER THE MISSISSIPPI RIVER
BURNHAM ROAD BIKEWAY
FRANCE AVE BIKEWAY
SUNSET BLVD BIKEWAY
DEAN PKWY BIKEWAY
HENNEPIN AVENUE BIKEWAY
10TH AVENUE BIKEWAY
BLOOMINGTON AVENUE BIKEWAY
MIDTOWN GREENWAY BRIDGE OVER HIAWATHA AVENUE
MIDTOWN GREENWAY
MIDTOWN GREENWAY
28TH STREET BIKEWAY
LAKE STREET BIKEWAY
MIDTOWN GREENWAY
LRT TRAIL
25TH STREET BIKEWAY
DORMAN AVENUE SOUTH BIKEWAY
LAKE STREET BRIDGE
5TH STREET BIKEWAY
11TH AVE TRAIL
31ST STREET BIKEWAY
32ND STREET BIKEWAY
EXCELSIOR BLVD BIKEWAY
LAKE CALHOUN TRAILS
31ST STREET BIKEWAY
BRYANT AVENUE BIKEWAY
BLAISDELL AVENUE SOUTH BIKEWAY
1ST AVENUE SOUTH BIKEWAY
PORTLAND AVE BIKEWAY
PARK AVE BIKEWAY
17TH AVENUE BIKE BLVD
MINNEHAHA AVENUE BIKEWAY
21ST AVENUE BIKEWAY
46TH AVENUE SOUTH BIKEWAY
38TH AVENUE BIKEWAY
WEST RIVER PARKWAY TRAIL
36TH STREET BIKEWAY
35TH ST BIKEWAY
36TH ST BIKEWAY
38TH STREET BIKEWAY
38TH STREET BIKEWAY
38TH STREET BIKEWAY
38TH STREET BIKEWAY
RICHFIELD ROAD BIKEWAY
ZENITH AVENUE SOUTH BIKEWAY
RIVERLAKE GREENWAY
RIVERLAKE GREENWAY
30TH AVENUE BIKE BLVD
RIVERLAKE GREENWAY
42ND STREET WEST BIKEWAY
40TH STREET BIKE/PEDESTRIAN BRIDGE
42ND STREET BIKEWAY
42ND STREET BIKEWAY
42ND STREET BIKEWAY
44TH STREET BIKEWAY
LAKE HARRIET TRAILS
BRYANT AVENUE BIKEWAY
PLEASANT AVE BIKE BLVD
OAKLAND AVENUE BIKE BLVD
46TH STREET BIKEWAY
17TH AVENUE BIKE BLVD
LAKE HIAWATHA TRAIL
NOKOMIS AVENUE SOUTH BIKEWAY
46TH STREET BIKEWAY
47TH STREET BIKEWAY
FRANCEAVENUE BIKEWAY
FORD BRIDGE
FORD BRIDGE
49TH STREET BIKE BLVD
PORTLAND AVE BIKEWAY
PARK AVE BIKEWAY
50TH STREET BIKEWAY
50TH STREET BIKEWAY
ZENITH AVENUE SOUTH BIKEWAY
UPTON AVENUE SOUTH BIKEWAY
MINNEHAHA CREEK TRAIL
LAKE NOKOMIS TRAILS
BLOOMINGTON AVENUE BIKEWAY
54TH STREET BIKEWAY
54TH STREET BIKEWAY
54TH STREET BIKEWAY
31ST AVENUE SOUTH BIKEWAY
43RD AVENUE SOUTH BIKEWAY
54TH STREET BIKEWAY
FORT SNELLING TRAIL
HIAWATHA MNDOT TRAIL
EDGEWATER BLVD BIKEWAY
BRYANT AVENUE SOUTH BIKE BLVD
DIAMOND LAKE ROAD BIKEWAY
PENN AVENUE SOUTH BIKEWAY
IRVING AVENUE SOUTH BIKEWAY
PLEASANT AVENUE SOUTH BIKEWAY
NICOLLET AVENUE BIKEWAY
CHICAGO AVENUE BIKEWAY
58TH STREET BIKEWAY
56TH STREET BIKEWAY
12TH AVENUE BIKE BLVD
60TH STREET BIKEWAY
60TH STREET BIKEWAY
LYNDALE AVENUE BIKEWAY
NICOLLET AVENUE BIKEWAY
BLOOMINGTON AVE GREENWAY
SOO LINE TRAIL

Figure 8: Planned Long-Term Bicycle Network

Based on the existing network, Tables 1-4 in this plan update, the 2011 Bicycle Master Plan, and other recent planning activities.



Bikeway Type	Mileage
Protected Bikeways	172
Bike Lanes	104
Shared Lanes	76
Bike Boulevards	44
To Be Determined	6
Total	**403**

Webber Park Master Plans
Figure 05E

Webber Park Master Plan

MINNEAPOLIS PARK & RECREATION BOARD

RECOMMENDED PLAN

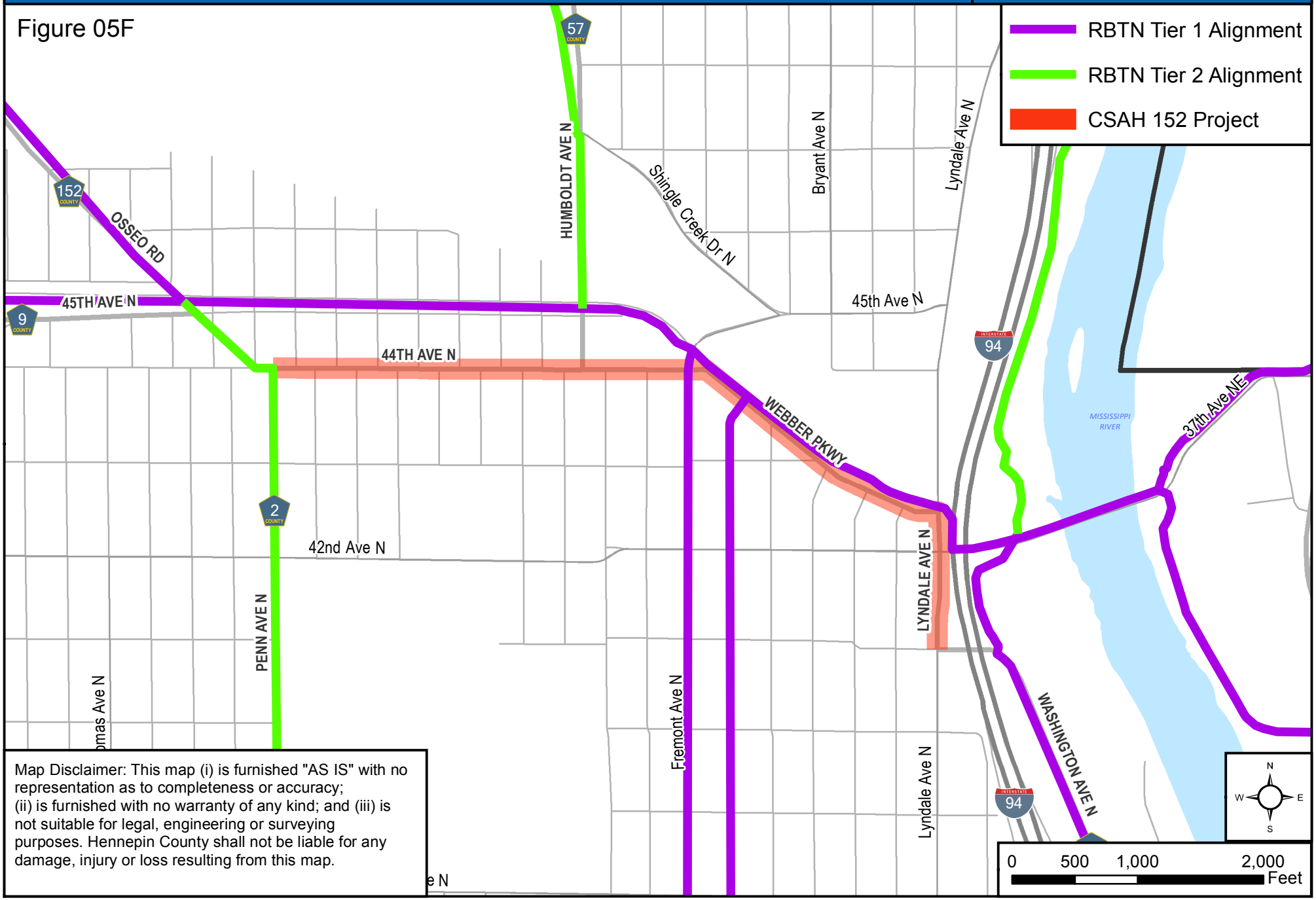
LANDFORM From Site to Finish · Bonestroo · COLLABORATIVE designgroup, inc. · BioNova natural pool

CSAH 152 (Webber Pkwy) Reconstruction Project

Regional Bicycle Transportation Network

Hennepin
TRANSPORTATION
PLANNING DIVISION

Figure 05F



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Penn Avenue Community Works

Planned Infrastructure and Transit Improvements 2016 - 2020

Penn Ave BRT Acitivites
Figure 06A

The Penn Avenue community works project was created to:
- **Stimulate economic development**
- **Enhance beautification and livability and**
- **Promote job creation along the Penn Avenue corridor in North Minneapolis.**

C Line BRT Stop and Intersection Reconstruction

C Line BRT Stop - No Intersection Reconstruction

Pedestrian Lighting Improvements

Pedestrian Lighting 2018

Pedestrian Lighting 2019

Penn Ave N Reconstruction Area

Planned Bike Boulevards * Year TBD for Installation

Queen Ave N

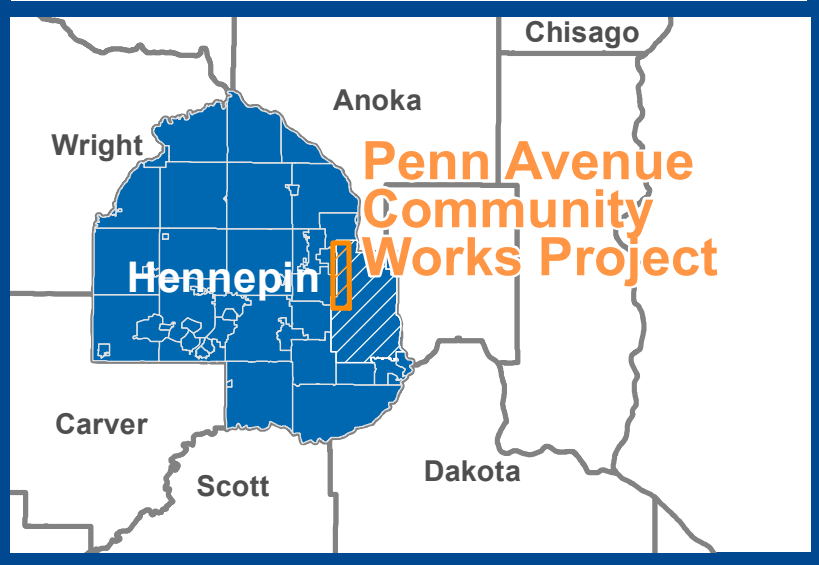
Ped Improvements and Reconstruction

Installation of Enhanced Ped Crossing Signals at Select Intersections

Mill + Overlay 2016

Penn Ave N Corridor Project Area

*Projects Subject to Change. Pending Full Funding.



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Produced by the Housing, Community Works & Transit Department of Public Works in coordination with Hennepin GIS.

Published 5/3/2016

Greening 2016
Penn & 43rd
Victory
Webber - Camden
CSAH 152 Reconstruction Project
Cemetary
Penn & Dowling
Penn & 36th
Cleveland
Folwell
MINNEAPOLIS
Penn & Lowry
153
94
81
Penn & 29th
Jordan
Penn & West Broadway
Penn & Golden Valley
66
Near - North
Willard - Hay
Penn & Plymouth
12th Ave N
55
Penn & Olson
Olson & Humboldt
Olson & Bryant
Coordinate with Blue Line Extension (Bottineau LRT)
Glenwood Ave
100
40
Harrison
Bryn - Mawr
394
94
N
W
E
S
0
1,600
3,200
Feet

Project Name: Penn Ave Infrastructure Improvements
Map version date: 5/3/2016
Data source: Hennepin County

Hennepin County Public Works

Chicago-Fremont BRT Corridor
Figure 06B