Application

04774 - 2016 Roadway Modernization

05392 - Plymouth Road and Cartway Lane/Ridgehaven Lane

Regional Solicitation - Roadways Including Multimodal Elements

Status:	Submitted
Submitted Date:	07/14/2016 12:22 PM

Primary Contact

Name:*

Salutation	First Name	Middle Name	Last Name
	Will		Manchester

Title: Director of Engineering, City of Minnetonka

Department:

Email: wmanchester@eminnetonka.com

Address: 14600 Minnetonka Blvd

*

City	State/Province	Postal Code/Zip
Minnetonka	Minnesota	55345

Phone:*

Phone	Ext.
952-939-8232	

Fax:

What Grant Programs are you most interested in? Regional Solicitation - Transit and TDM Projects

Organization Information

Name: MINNETONKA, CITY OF

Jurisdictional Agency (if different):

Organization Type:	City
Organization Website:	
Address:	14600 MINNETONKA BLVD

*	MINNETONKA	Minnesota	55345
	City	State/Province	Postal Code/Zip

County:	Hennepin
Phone:*	612-939-8200 Ext.
Fax:	
PeopleSoft Vendor Number	0000020972A1

Project Information

Project Name	Plymouth Road and Cartway Lane/Ridgehaven Lane Reconstruction
Primary County where the Project is Located	Hennepin
Jurisdictional Agency (If Different than the Applicant):	City of Minnetonka

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

Plymouth Road (CSAH 61) is a north-south roadway located south of Interstate 394,(I-394) and approximately ¾ mile east of I-494. The roadway is currently identified as an A-Minor Arterial and is a four-lane divided roadway that intersects with the I-394 ramps (northern intersection) and Cartway Lane (southern intersection). Plymouth Road plays a significant role in accessing a regional job center and regional commercial/office/retail destinations including Ridgedale Center (107 stores and restaurants) and Ridgehaven Mall (26 stores).

Significant delays and queues during peak shopping periods, particularly from November through January cause motorists to experience long delays (in excess of three traffic signal cycles) along Ridgedale Drive, in order to access Plymouth Road from the Cartway Lane intersection. There are also significant queues on Plymouth Road that result from closely spaced signalized intersections, unbalanced lane utilization, and strong economic commercial businesses that that add to the traffic problems. The area lacks pedestrian facilities and connections which also create a more car-centric environment.

The proposed project will reconstruct the Plymouth Road and south I-394 ramps intersection at Ridgehaven Lane allowing for the intersection to become full access. Additional turn lanes will be provided to assist with moving traffic during peak periods. Ridgedale Drive will also be reconstructed and reconfigured, to assist with improving safety, access, and mobility for all modes of transportation. An underpass will be constructed on Ridgedale Drive to continuously move north-south traffic through the intersection. Other improvements will consist of updated enhancements to lighting, burying of overhead utilities, transit upgrades, addition of sidewalks and bicycle and pedestrian improvements consistent with the City of

Minnetonka's Master Plan. A summary of these improvements can be seen on the Issues Map (see Figure 1A).

These improvements are critical in maintaining the vitality of a regional job concentration center. Recent traffic studies have demonstrated the significant delay and congestion in the project area. The project will improve roadway geometry and traffic flow circulation that will allow for sufficient queueing/storage of vehicles during peak periods.

The Ridgedale area is changing and as new development interests continue to grow, the city is planning for the necessary infrastructure improvements to accommodate these changes.

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)	N/A, project is planned and fully funded through the City of Minnetonka
Project Length (Miles)	0.3

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	$4,504,000.00
Match Amount	$1,126,000.00

Minimum of 20% of project total

Project Total	$5,630,000.00
Match Percentage	20.0%

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

Source of Match Funds	City of Minnetonka

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: 2017, 2018, 2019

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)	$165,000.00
Removals (approx. 5% of total cost)	$145,000.00
Roadway (grading, borrow, etc.)	$305,000.00
Roadway (aggregates and paving)	$360,000.00
Subgrade Correction (muck)	$0.00
Storm Sewer	$663,000.00
Ponds	$50,000.00
Concrete Items (curb & gutter, sidewalks, median barriers)	$175,000.00
Traffic Control	$165,000.00
Striping	$5,000.00
Signing	$5,000.00
Lighting	$100,000.00
Turf - Erosion & Landscaping	$200,000.00
Bridge	$600,000.00
Retaining Walls	$1,035,000.00
Noise Wall (do not include in cost effectiveness measure)	$0.00
Traffic Signals	$530,000.00
Wetland Mitigation	$0.00
Other Natural and Cultural Resource Protection	$0.00
RR Crossing	$0.00
Roadway Contingencies	$1,127,000.00
Other Roadway Elements	$0.00
Totals	**$5,630,000.00**

Specific Bicycle and Pedestrian Elements

CONSTRUCTION PROJECT ELEMENTS/COST ESTIMATES	Cost
Path/Trail Construction	$0.00

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

Specific Transit and TDM Elements

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

Transit Operating Costs

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

Totals

Total Cost	$5,630,000.00

Construction Cost Total	$5,630,000.00
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:

Note: Below is a summary, since actual goals, objectives, and strategies exceeds maximum character count for this application. See Attachment (2040 TPP Goals and Objectives) for full descriptions.
- Goal A: Transportation System Stewardship (2040 TPP, pg. 2.6) - Sustainable investments in the transportation system are protected by strategically preserving, maintaining, and operating system assets.

o Objectives: O2

Strategies: A1,A2

- Goal B: Safety and Security (2040 TPP, pg. 2.7) - The regional transportation system is safe and secure for all users. This will be realized through pedestrian, lighting, and utility enhancements.

o Objectives: O1

Strategies: B1, B3, B6

- Goal C: Access to Destinations (2040 TPP, pg. 2.8) - People and businesses prosper by using a reliable, affordable, and efficient multimodal transportation system that connects them to destinations throughout the region and beyond. The proposed action improves operations to/from area businesses and residences.

o Objectives: O1, O2, O4, O5

Strategies: C1, C2, C6, C9, C11, C13, C16, C17

- Goal D: Competitive Economy (2040 TPP, pg. 2.11) - The regional transportation system supports

the economic competitiveness, vitality, and prosperity of the regions and state. The proposed action will improve regional center access and redevelopment opportunities.

o Objectives: O1, O2

Strategies: D1,D3

Goal E: Healthy Environment (2040 TPP, pg. 2.12) The regional transportation system advances equity and contributes to communities, livability and sustainability while protecting the natural, cultural, and developed environments.

o Objectives: O3,O4

Strategies: E3, E5, E7

Goal F: Leveraging Transportation Investment to Guide Land Use (2040 TPP, pg. 2.14) The region leverages transportation investments to guide land use and development patterns that advance the regional vision of stewardship, prosperity, livability, equity, and sustainability. Previous studies such as the Ridgedale Village Center Plan will be utilized to guide future land use decisions.

o Objectives: Focus regional growth in areas that support the full range of multimodal travel.

o Encourage local land use design that integrates highways, streets, transit, walking, and bicycling.

Strategies: F2, F6, F7

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.

City of Minnetonka Capital Improvements Program 2016-2020

Plymouth Road Improvements

o Pg. 7-4 Bury overhead utilities

o Pg. 8-2 Capacity and Safety Improvements

Potential Cartway Lane Improvements

o Pg. 8-1 Reconstruction and Realignment

Ridgedale Drive Improvements

o Pg. 8-3 - Reconstruction Improvements

List the applicable documents and pages:

City of Minnetonka - 2030 Comprehensive Plan
o Pg. IV-32 - identifies strategies for development, revitalizing and attracting new business to the area. Ridgehaven Shopping Center warrants a review of traffic patterns and roadway conditions to determine if design or land use changes can be better accommodated.

o Pg. IV 4 - City anticipates continued redevelopment within Ridgedale Mall which includes a new mixed use zoning district category (See Land Use Changes Map from 2020 Land Use Plan)

Ridgedale: A Vision for 2035 Southwest Sector - City of Minnetonka

Ridgedale Vision 2012 and Ridgedale Southwest Sector Guiding Principles (March 2015)

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	City of Minnetonka
Functional Class of Road	A-Minor Arterial
Road System *TH, CSAH, MSAS, CO. RD., TWP. RD., CITY STREET*	CSAH, MSAS
Road/Route No. *i.e., 53 for CSAH 53*	61
Name of Road *Example; 1st ST., MAIN AVE*	Plymouth Road
Zip Code where Majority of Work is Being Performed	55305
(Approximate) Begin Construction Date	04/01/2017
(Approximate) End Construction Date	11/30/2017

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

From: **(Intersection or Address)**	Cartway Lane
To: **(Intersection or Address)**	Ridgedale Drive/Target Entrance

DO NOT INCLUDE LEGAL DESCRIPTION

Or At

Primary Types of Work

Grading, Agg Base, Bit Base, Bit Surf, Traffic Control, Striping, Ped Ramps, Sidewalk, Storm Sewer, Lighting, Curb and Gutter

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

BRIDGE/CULVERT PROJECTS (IF APPLICABLE)

Old Bridge/Culvert No.:

New Bridge/Culvert No.:

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

Expander/Augmentor/Connector/Non-Freeway Principal Arterial

Select one:

Area	0
Project Length	0
Average Distance	0
Upload Map	

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:	20195
Existing Manufacturing/Distribution-Related Employment within 1 Mile:	3810
Existing Students:	109
Upload Map	1468441308229_Regional Economy.pdf

Measure C: Current Heavy Commercial Traffic

Location:	Cartway Lane and I-394 South Ramps
Current daily heavy commercial traffic volume:	475
Date heavy commercial count taken:	2015

Measure D: Freight Elements

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

The project study area is home to several regional shopping destinations, including Ridgedale Mall (107 stores and restaurants) Ridgehaven Mall (26 stores), as well as many powerful retail tenants including Target, Byerly's, Nordstrom's, Macy's, JC Penney, Sears, Best Buy, Dicks Sporting Goods, Whole Foods, Marshalls and the PGA Tour Superstore. Combined, these land uses create a dense environment that depend greatly on the movement of goods and products. In that respect, hundreds of deliveries are made each day to and from the site.

The vitality of these businesses depend on freight shipments from a local, regional, and national perspective, all of which use semi-trucks via I-394 to access the project area. For example, I-394 carries 103,000 vehicles per day under Plymouth Road and approximately 3.2 percent (3,300 vehicles per day) are heavy commercial vehicles. Other critical freight routes serving the project area include Plymouth Road (CSAH 61) - 23,400 vehicles per day, Ridgedale Drive (east of Plymouth Road) - 10,000 vehicles per day, and Ridgedale Drive (west of Plymouth Road) - 6,800 vehicles per day.

The proposed improvements will allow freight vehicles to make deliveries easier, safer, and more efficient by providing better roadway geometry and access.

Measure A: Current Daily Person Throughput

Location	Cartway Lane and South I-394 Ramps
Current AADT Volume	23400

Existing Transit Routes on the Project	652, 672, 674, 675, 677, 690, 691, 692, 697, 698, 699, 776
For New Roadways only, list transit routes that will be moved to the new roadway	
Upload Transit Map	1468441693922_Transit Connections.pdf

Response: Current Daily Person Throughput

Average Annual Daily Transit Ridership	0
Current Daily Person Throughput	30420.0

Measure B: 2040 Forecast ADT

Use Metropolitan Council model to determine forecast (2040) ADT volume	No
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	Hennepin County Travel Demand Model
Forecast (2040) ADT volume	30000

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):	
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:	Yes

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

The project is 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.

The project area located within the City of Minnetonka lies within a job concentration center boundary employing over 20,000 people within one mile of the project limits. The Ridgedale Mall area is also a major regional commercial and economic center, serving the western edge of the Twin Cities. This area continues to grow, attracting prominent local and national businesses.

This job concentration center employs thousands of seasonal, part and full-time jobs at the Ridgedale Center, Ridgehaven Mall, Target, and numerous other shopping outlets. These businesses offer a wide variety of service related and customer service based jobs (e.g., cashiers, store associates, restaurant staff, and chefs). Respectfully, these jobs provide a wealth of opportunities for individuals without post-secondary degrees. In that respect, this job concentration center plays an important role in supporting populations below the regional average of poverty.

Recent studies, including the Ridgedale Village Center Study, have identified plans for land use improvements between Ridgedale Drive and Plymouth Road. These redevelopment efforts will bolster job opportunities within the project area. This includes transforming retail centers into a "Mixed Use Community". This type of development reflects first floor commercial/office and residential units above. Known redevelopment efforts include:

- South of Cartway Lane on the east side of Plymouth Road, potential new development would convert three commercial bank sites into a hotel.

- Directly across Plymouth Road would redevelop into office uses, and further west, residential developments (e.g., condominiums for rent or purchase).

These redevelopment efforts will introduce new housing to support the workforce in the area, while creating more jobs for first floor retail and bring in additional tax base into the city. Therefore, it is within best planning and engineering practices to construct the necessary infrastructure ahead of this planned development. The proposed project is critical in ensuring the safety, accessibility and mobility to this regional significant job concentration center.

For workers who are living outside the project area commuting to work, it is important to provide a safe roadway system and opportunities for transit. This project will improve the roadway and geometry for car and bus operators, provide longer storage areas for queuing vehicles, and improve traffic operations during peak periods.

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

Upload Map 1468441977702_Socio_Economic Conditions.pdf

Measure B: Affordable Housing

City/Township	Segment Length in Miles (Population)
City of Minnetonka	0.3
	0

Total Project Length

Total Project Length (Total Population) 0.3

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)	0.3
Total Housing Score	0

Measure A: Year of Roadway Construction

Year of Original Roadway Construction or Most Recent Reconstruction	Segment Length	Calculation	Calculation 2
1974	0.3	592.2	1974.0
	0	**592**	**1974**

Average Construction Year

Weighted Year	1974

Total Segment Length (Miles)

Total Segment Length	0.3

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)	Ridgedale Drive is currently a ten-ton route. The reconstruction of the roadway will maintain this designation.
Improved clear zones or sight lines:	Yes

Response (Limit 700 characters; approximately 100 words)

The proposed project includes the undergrounding of overhead utility lines. The non-exposed utility lines will eliminate poles and wires that could obstruct motorist or pedestrian sight lines at intersections and overall is a better aesthetic treatment within the project area.

Improved roadway geometrics:

Yes

Response (Limit 700 characters; approximately 100 words)

The distance along Cartway Lane between Plymouth Road and Ridgedale Drive is approximately 200 feet. This limits the amount of available vehicle storage/queueing distance and reduces signal timing efficiency between intersections (see Figure 1A). To address these issues, the preferred alternative was chosen, to improve roadway geometry, allowing for more vehicle storage and queuing distance during busy times and moves motorists along Ridgedale Drive/Cartway Lane to their desired destination (I-394 or Plymouth Road) more efficiently (see Preferred Alternative - Figure 1B (Alternate 5B)) for major travel patterns.

Access management enhancements:

Yes

Response (Limit 700 characters; approximately 100 words)

The proposed project improves operations to/from area businesses and residences. Improvements along Plymouth Road provide widening in select locations to better reconfigure the existing travel lanes. Enhancements include dual southbound left-turn lanes, a new southbound right-turn lane, a reconfigured northbound lane for vehicles traveling to westbound I-394, and a new northbound right-turn lane for vehicles traveling to eastbound I-394. The improvements reduce delay and queuing issues and limit the likelihood of blocking access driveways or traffic backups onto the freeway.

The improvements also enhance pedestrian accommodations including sidewalk connections and street lighting.

Vertical/horizontal alignments improvements: Yes

Response (Limit 700 characters; approximately 100 words)

To accommodate continued growth and reduce congestion and significant delays to motorists, the project creates a full access intersection at the south I-394 ramp intersection with Plymouth Road to the west at Ridgehaven Lane providing an underpass for Ridgedale Drive under Ridgehaven Lane. This underpass will maintain continuous south to north traffic through the intersection. The vertical separation reduces traffic volumes at the intersection and improves traffic circulation within the entire shopping center area.

Improved stormwater mitigation: Yes

Response (Limit 700 characters; approximately 100 words)

The roadway improvements will involve stormwater mitigation measures which will offset any increases in impervious coverage. Stormwater treatment will include a stormwater pond and other best management practices (BMPs). The pond and BMPs will provide water quality treatment and quantity reduction to protect downstream water resources and infrastructure. Infiltration/filtration, stormwater reuse, and other low impact techniques will be explored to treat stormwater runoff to state and local standards.

Signals/lighting upgrades: Yes

Response (Limit 700 characters; approximately 100 words)

The proposed project constructs new traffic signals at Plymouth Road and Ridgehaven Lane/I-394 south ramps intersection and at the Ridgedale Drive/Ridgehaven Mall/Target entrance. The project also helps improve overall area operations of existing signals along the county road as well as MnDOT ramps. Decorative lighting will be installed along Plymouth Avenue and Ridgehaven Lane.

Other Improvements Yes

Response (Limit 700 characters; approximately 100 words)

To improve pedestrian safety and provide connections to transit stops, sidewalks will be improved or constructed along the entire length of Ridgedale Drive from Cartway Lane to the closest Target north entrance. Additional wayfinding and signing will be added to assist pedestrians in finding their destination.

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
130.0	119.0	11.0	13128	144408.0		1468445635587_Synchro Report.pdf

Total Delay

Total Peak Hour Delay Reduced 144408.0

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):
18.29	16.22	2.07	27175.0	56252.25
18	**16**		**27175**	**56252**

Total

Total Emissions Reduced:	56252.25
Upload Synchro Report	1468445777445_Synchro Report.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	

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	09/01/2016

3)Environmental Documentation (5 Percent of Points)

EIS

EA

PM Yes

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 Yes

50%

Document not started Yes

0%

Anticipated date or date of completion/approval

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 Yes

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

0%

Anticipated date or date of completion of historic/archeological review:

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 Yes

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

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 Yes

25%

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

0%

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

0%

Anticipated date or date of acquisition

7)Railroad Involvement (25 Percent of Points)

No railroad involvement on project Yes

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

0%

Anticipated date or date of executed Agreement

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

100%

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

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 Yes

50%

Construction plans have not been started

0%

Anticipated date or date of completion 01/01/2016

10)Letting

Anticipated Letting Date 02/01/2017

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

Crash Modification Factor Used: 0.82

See Attachment (pg 4) for Crash Reduction Methodology

Dual CRF for Plymouth Rd/394 South Ramps

Improvements include adding a northbound through lane and southbound dual left-turn lane.

Plymouth Rd and 394 South Ramps

CMF?s for additional NBT, SBT, EBL, WBL lanes.

Rationale for Crash Modification Selected:

CR1=Increase Number of Lanes

CR2=Install Double Left Turn Lane

CR=1 ? (1-CR1)*(1-CR2)

Sideswipe: CR=1 ? (1-.64)*(1-.50) = .82

Right Angle: CR=1 ? (1-.46)*(1-.08) = .48

Rear End: CR=1 ? (1-.53)*(1-.32) = .68

Rear End (injury): CR=1 ? (1-.52)*(1-.29) = .66

(Limit 1400 Characters; approximately 200 words)

Project Benefit ($) from B/C Ratio $2,614,183.00

Worksheet Attachment 1468446286563_Complete Crash Report.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 project area currently lacks adequate pedestrian facilities and includes gaps in the current sidewalk system. Today, there is a sidewalk on the south side of Cartway Lane that travels through the Cartway Lane/Plymouth Road and Cartway Lane/Ridgedale Drive intersections, then abruptly ends at the Byerly's entrance. No sidewalks are provided adjacent to either side of Ridgedale Drive between Cartway Lane and Ridgehaven Lane.

The proposed project will addresses these issues by constructing a concrete sidewalk on the west side of Ridgedale Drive from Cartway Lane to the northernmost Target entrance. The sidewalk will be accessible to all users and compliant with Americans with Disabilities Act (ADA) and MnDOT Accessible Pedestrian Signal standards. This will include a curb ramp design, pavement markings, crosswalk, detectable warnings, traffic control, and push button locations and requirements. Additional sidewalks will also be added within the Ridgedale Mall parking lot (see Figure 1B - Preferred Alternative) to provide safer routes between vehicles and the mall entrance.

More importantly, the proposed project will provide significant benefits to twelve transit routes that serve the project area. These transit routes are relied on heavily by commuters, students, elderly and those who cannot afford to drive. Today there are significant traffic delays within the project area, and these, if not addressed, will continue to worsen over time. These delays have caused traffic to queue at the intersections, which results in buses waiting through two or three traffic signal cycles. The proposed project will minimize these delays, improve headway times and improve transit route reliability.

Measure A: Cost Effectiveness

Total Project Cost (entered in Project Cost Form):	$5,630,000.00
Enter Amount of the Noise Walls:	$0.00
Total Project Cost subtract the amount of the noise walls:	$5,630,000.00
Points Awarded in Previous Criteria	
Cost Effectiveness	$0.00

Other Attachments

File Name	Description	File Size
Figure 1A - Issues Map.pdf	Figure 1A - Issues Map	2.1 MB
Figure 1B - Concept Drawing_Preferred Alternative.pdf	Figure 1B - Concept Drawing - Preferred Alternative - Alternate 5B	2.5 MB
Figure 2 - Existing Conditions - Google Street View.pdf	Figure 2 - Existing Conditions - Google Street View	690 KB
Letters of Support.pdf	Letters of Support	408 KB
Resolution.pdf	Resolution	8.3 MB

Regional Economy

Roadway Reconstruction/Modernization Project: Plymouth Road and Cartway Lane/Ridgehaven Lane Reconstructio | Map ID: 1466692

Results

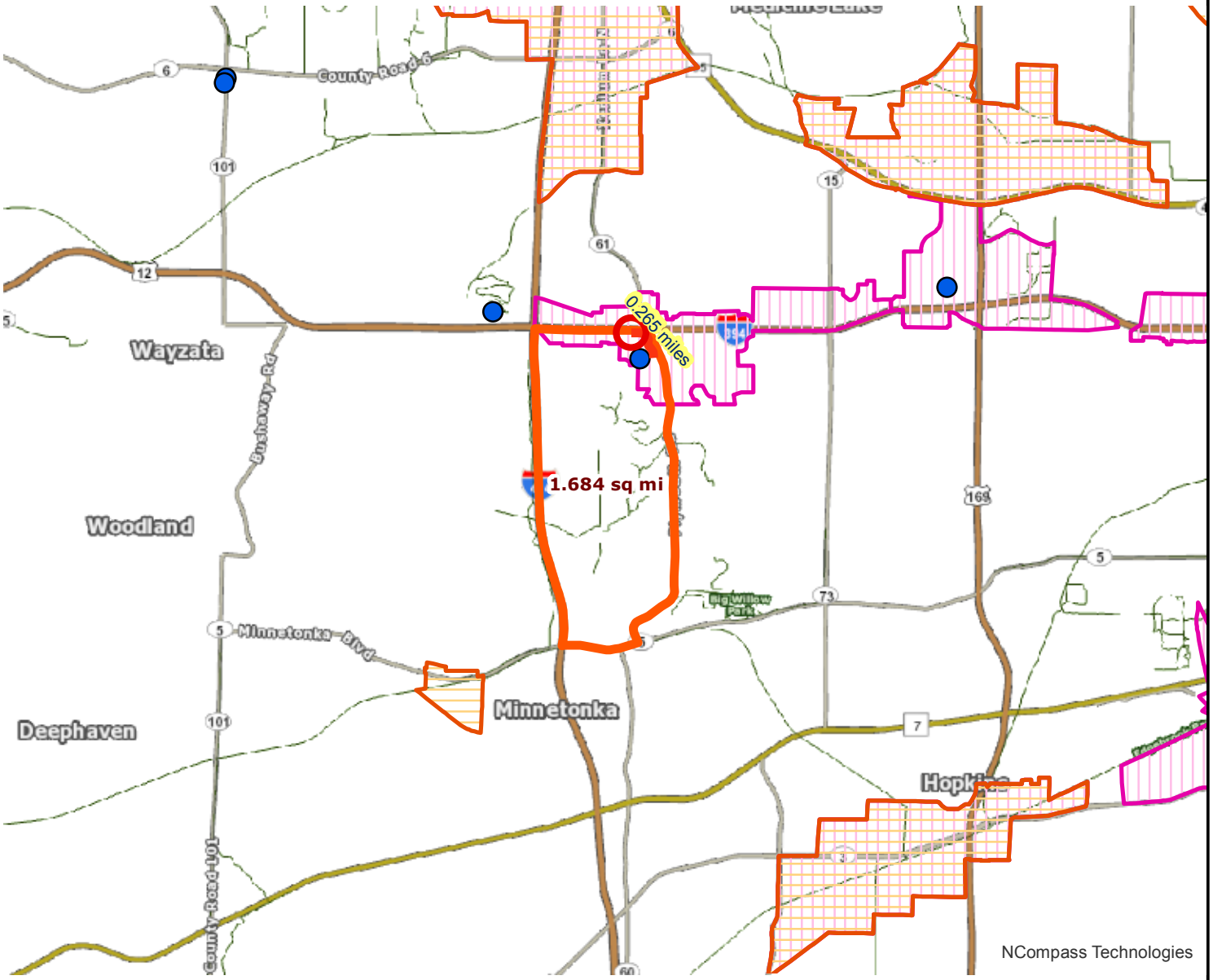
WITHIN ONE MI of project:

Totals by City:

Minnetonka
Population: 10996
Employment: 18287
Mfg and Dist Employment: 2532

Plymouth
Population: 1391
Employment: 1908
Mfg and Dist Employment: 1278

Postsecondary Students:
109



Project Points
Project
Project Area
PostSecondary Education Centers
Manfacturing/Distribution Centers
Job Concentration Centers

0 0.5 1 2 3 4 Miles

Created: 6/23/2016
LandscapeRSA5

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

METROPOLITAN COUNCIL

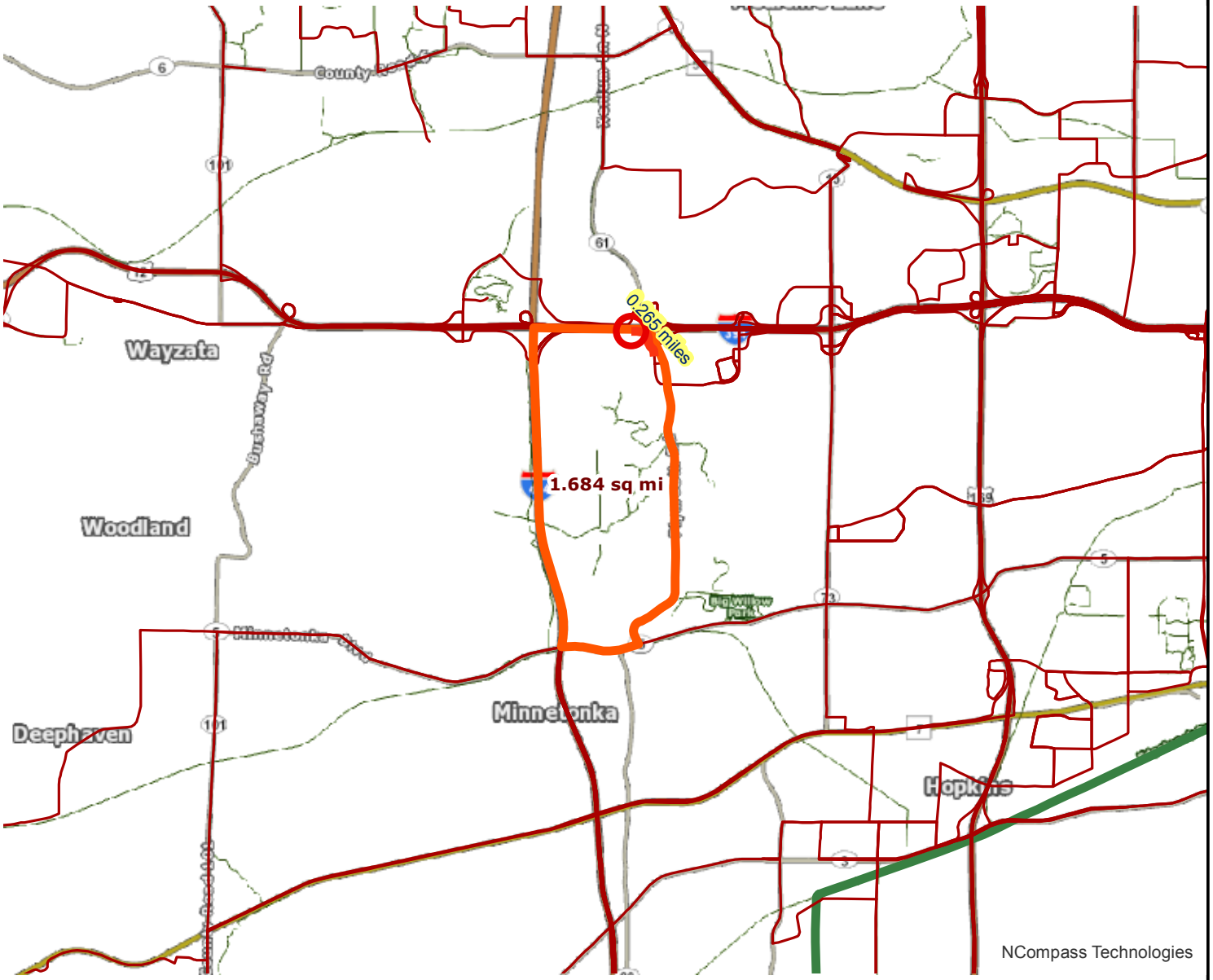
Transit Connections

Roadway Reconstruction/Modernization Project: Plymouth Road and Cartway Lane/Ridgehaven Lane Reconstructio | Map ID: 146669268(

Results

Transit with a Direct Connection to project:
652 672 674 675 677 690 691 692 697 698 699 776

**indicates Planned Alignments*



Project Points | Project Area | **Planned Alignments**

Project | Transit Routes | Light Rail, Green Line Extension

0 0.5 1 2 3 4 Miles

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LandscapeRSA3

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http://giswebsite.metc.state.mn.us/gissitenew/notice.aspx

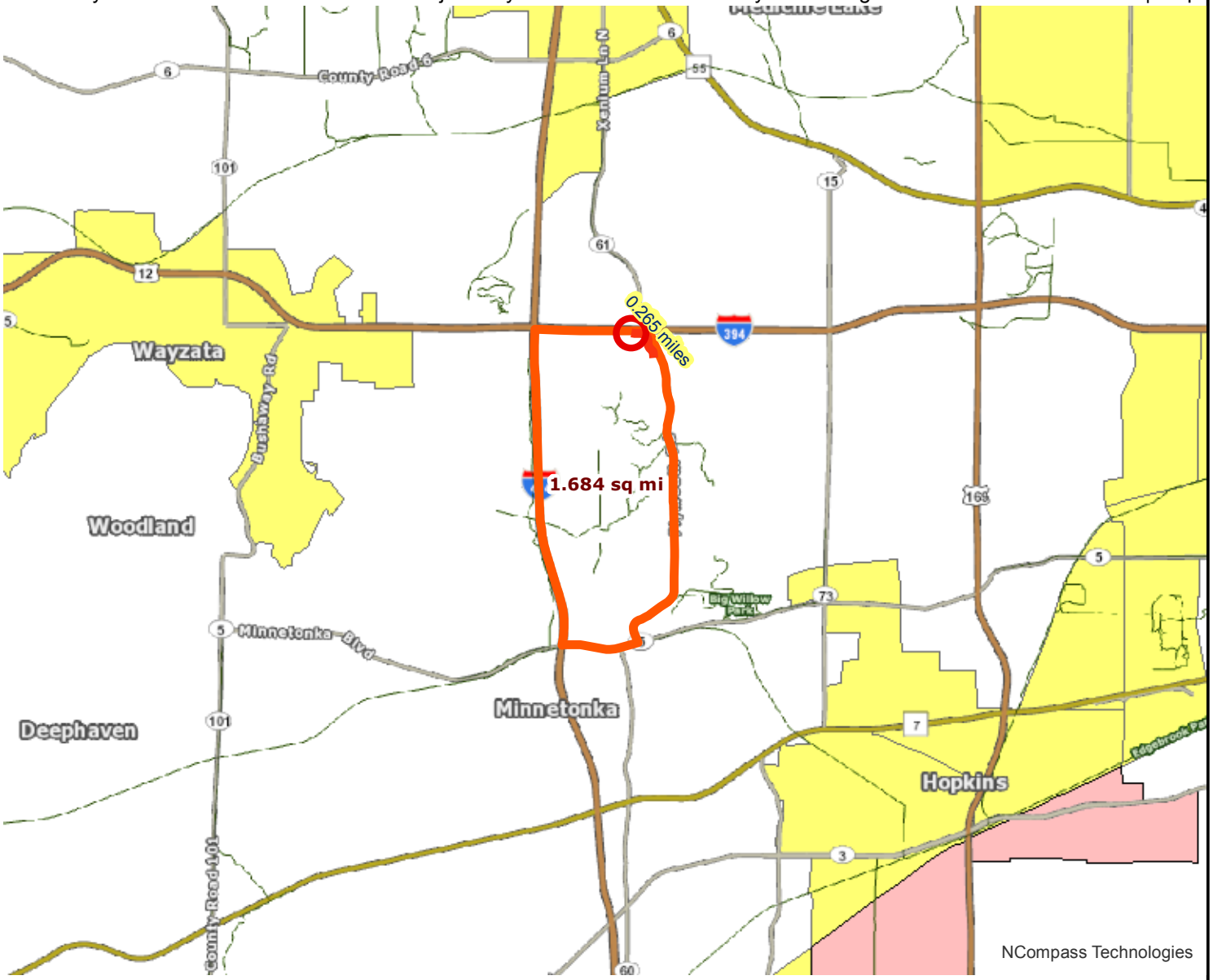
METROPOLITAN COUNCIL

Socio-Economic Conditions

Roadway Reconstruction/Modernization Project: Plymouth Road and Cartway Lane/Ridgehaven Lane Reconstructio | Map ID: 1

Results

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:
(0 to 12 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 0.5 1 2 3 4 Miles

Created: 6/23/2016
LandscapeRSA2

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http://giswebsite.metc.state.mn.us/gissitenew/notice.aspx

METROPOLITAN COUNCIL

2: Ridgedale Dr & Target/Byerly's - Signal

Direction	All
Future Volume (vph)	1752
Total Delay / Veh (s/v)	13
CO Emissions (kg)	1.02
NOx Emissions (kg)	0.20
VOC Emissions (kg)	0.24

5: Ridgedale Dr & Byerlys/Cartway Ln

Direction	All
Future Volume (vph)	1894
Total Delay / Veh (s/v)	33
CO Emissions (kg)	1.89
NOx Emissions (kg)	0.37
VOC Emissions (kg)	0.44

10: Plymouth Rd & 394 N. Park&Ride/I-394 WB Ramp

Direction	All
Future Volume (vph)	3059
Total Delay / Veh (s/v)	16
CO Emissions (kg)	2.72
NOx Emissions (kg)	0.53
VOC Emissions (kg)	0.63

15: Plymouth Rd & Ridgehaven Lane/I-394 EB Ramp

Direction	All
Future Volume (vph)	3452
Total Delay / Veh (s/v)	20
CO Emissions (kg)	3.13
NOx Emissions (kg)	0.61
VOC Emissions (kg)	0.73

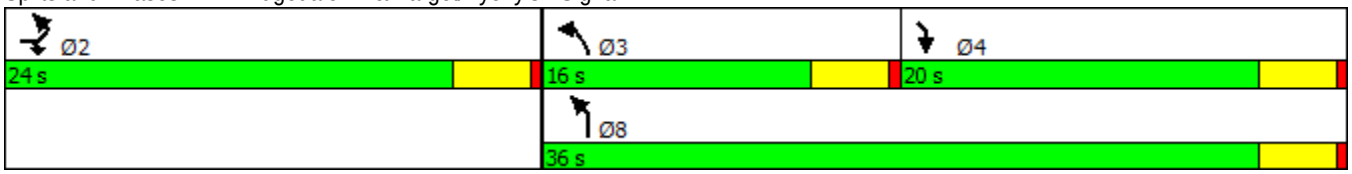
20: Plymouth Rd & Cartway Ln

Direction	All
Future Volume (vph)	2971
Total Delay / Veh (s/v)	48
CO Emissions (kg)	4.05
NOx Emissions (kg)	0.79
VOC Emissions (kg)	0.94

Phase Number	2	3	4	8
Movement	EBL	NBL	SER	NBL
Lead/Lag		Lead	Lag	
Lead-Lag Optimize		Yes	Yes	
Recall Mode	None	None	None	None
Maximum Split (s)	24	16	20	36
Maximum Split (%)	40.0%	26.7%	33.3%	60.0%
Minimum Split (s)	20	8	20	20
Yellow Time (s)	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5
Minimum Initial (s)	1	1	1	1
Vehicle Extension (s)	3	3	3	3
Minimum Gap (s)	3	3	3	3
Time Before Reduce (s)	0	0	0	0
Time To Reduce (s)	0	0	0	0
Walk Time (s)	5		5	5
Flash Dont Walk (s)	11		11	11
Dual Entry	Yes	No	Yes	Yes
Inhibit Max	Yes	Yes	Yes	Yes
Start Time (s)	0	24	40	24
End Time (s)	24	40	0	0
Yield/Force Off (s)	20	36	56	56
Yield/Force Off 170(s)	9	36	45	45
Local Start Time (s)	0	24	40	24
Local Yield (s)	20	36	56	56
Local Yield 170(s)	9	36	45	45

Intersection Summary	
Cycle Length	60
Control Type	Actuated-Uncoordinated
Natural Cycle	60

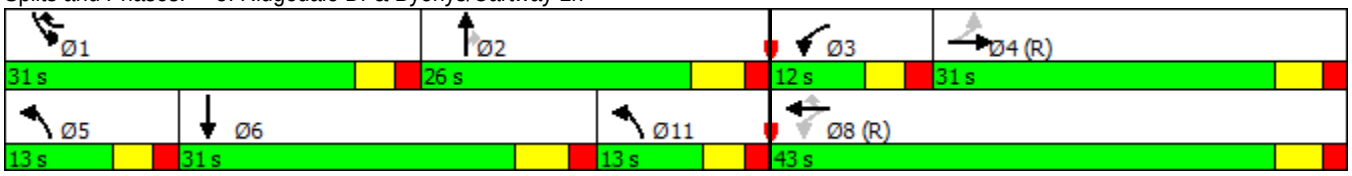
Splits and Phases: 2: Ridgedale Dr & Target/Byerly's - Signal



Phase Number	1	2	3	4	5	6	8	11
Movement	SBL	NBT	WBL	EBTL	NBL	SBT	WBTL	NBL
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag		
Lead-Lag Optimize	Yes	Yes	Yes	Yes	Yes	Yes		
Recall Mode	None	Min	None	C-Max	None	Min	C-Max	None
Maximum Split (s)	31	26	12	31	13	31	43	13
Maximum Split (%)	31.0%	26.0%	12.0%	31.0%	13.0%	31.0%	43.0%	13.0%
Minimum Split (s)	15	25	12	29.5	13	21	19	13
Yellow Time (s)	3	4	3	3.5	3	4	3.5	3
All-Red Time (s)	2	2	2	2	2	2	2	2
Minimum Initial (s)	7	15	5	10	7	15	10	7
Vehicle Extension (s)	3	4	3	3	3	4	3	3
Minimum Gap (s)	3	2	3	3	3	2	3	3
Time Before Reduce (s)	0	20	0	0	0	20	0	0
Time To Reduce (s)	0	20	0	0	0	20	0	0
Walk Time (s)				7		7		
Flash Dont Walk (s)				17		17		
Dual Entry	No	No	No	Yes	No	No	Yes	No
Inhibit Max	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Start Time (s)	87	18	44	56	87	0	44	31
End Time (s)	18	44	56	87	0	31	87	44
Yield/Force Off (s)	13	38	51	81.5	95	25	81.5	39
Yield/Force Off 170(s)	13	38	51	64.5	95	25	81.5	39
Local Start Time (s)	43	74	0	12	43	56	0	87
Local Yield (s)	69	94	7	37.5	51	81	37.5	95
Local Yield 170(s)	69	94	7	20.5	51	81	37.5	95

Intersection Summary	
Cycle Length	100
Control Type	Actuated-Coordinated
Natural Cycle	90
Offset: 44 (44%), Referenced to phase 4:EBTL and 8:WBTL, Start of 1st Green	

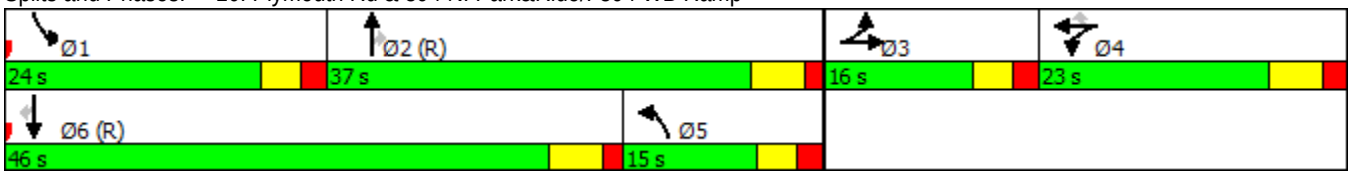
Splits and Phases: 5: Ridgedale Dr & Byerlys/Cartway Ln



Phase Number	1	2	3	4	5	6
Movement	SBL	NBT	EBTL	WBTL	NBL	SBT
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lead
Lead-Lag Optimize	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	None	None	None	C-Max
Maximum Split (s)	24	37	16	23	15	46
Maximum Split (%)	24.0%	37.0%	16.0%	23.0%	15.0%	46.0%
Minimum Split (s)	15	31	16	18	15	31
Yellow Time (s)	3	4	3	4	3	4
All-Red Time (s)	2	1.5	2	2	2	1.5
Minimum Initial (s)	7	20	8	10	7	20
Vehicle Extension (s)	3	4	3	3	3	4
Minimum Gap (s)	3	2	3	2	3	2
Time Before Reduce (s)	0	20	0	20	0	20
Time To Reduce (s)	0	20	0	10	0	20
Walk Time (s)						7
Flash Dont Walk (s)						10
Dual Entry	No	No	No	No	No	No
Inhibit Max	Yes	Yes	Yes	Yes	Yes	Yes
Start Time (s)	92	16	53	69	38	92
End Time (s)	16	53	69	92	53	38
Yield/Force Off (s)	11	47.5	64	86	48	32.5
Yield/Force Off 170(s)	11	47.5	64	86	48	22.5
Local Start Time (s)	0	24	61	77	46	0
Local Yield (s)	19	55.5	72	94	56	40.5
Local Yield 170(s)	19	55.5	72	94	56	30.5

Intersection Summary	
Cycle Length	100
Control Type	Actuated-Coordinated
Natural Cycle	80
Offset: 92 (92%), Referenced to phase 2:NBT and 6:SBT, Start of 1st Green	

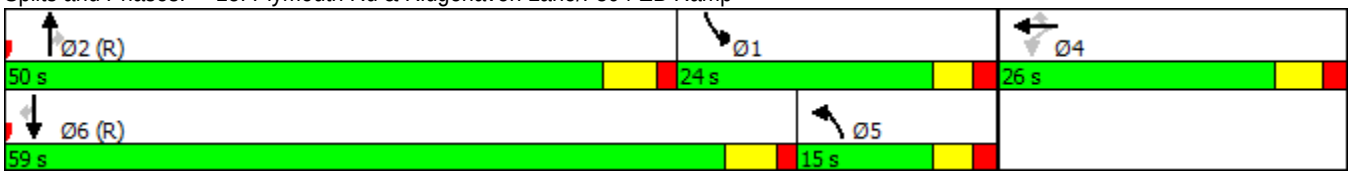
Splits and Phases: 10: Plymouth Rd & 394 N. Park&Ride/I-394 WB Ramp



Phase Number	1	2	4	5	6
Movement	SBL	NBT	WBTL	NBL	SBT
Lead/Lag	Lag	Lead		Lag	Lead
Lead-Lag Optimize	Yes	Yes		Yes	Yes
Recall Mode	None	C-Max	None	None	C-Max
Maximum Split (s)	24	50	26	15	59
Maximum Split (%)	24.0%	50.0%	26.0%	15.0%	59.0%
Minimum Split (s)	15	30	18	15	24
Yellow Time (s)	3	4	3.5	3	4
All-Red Time (s)	2	1.5	2	2	1.5
Minimum Initial (s)	7	15	10	7	15
Vehicle Extension (s)	3	5	3	3	5
Minimum Gap (s)	3	3	3	3	3
Time Before Reduce (s)	0	20	0	0	20
Time To Reduce (s)	0	20	0	0	20
Walk Time (s)					7
Flash Dont Walk (s)					10
Dual Entry	No	No	No	No	No
Inhibit Max	Yes	Yes	Yes	Yes	Yes
Start Time (s)	34	84	58	43	84
End Time (s)	58	34	84	58	43
Yield/Force Off (s)	53	28.5	78.5	53	37.5
Yield/Force Off 170(s)	53	28.5	78.5	53	27.5
Local Start Time (s)	50	0	74	59	0
Local Yield (s)	69	44.5	94.5	69	53.5
Local Yield 170(s)	69	44.5	94.5	69	43.5

Intersection Summary	
Cycle Length	100
Control Type	Actuated-Coordinated
Natural Cycle	80
Offset: 84 (84%), Referenced to phase 2:NBT and 6:SBT, Start of 1st Green	

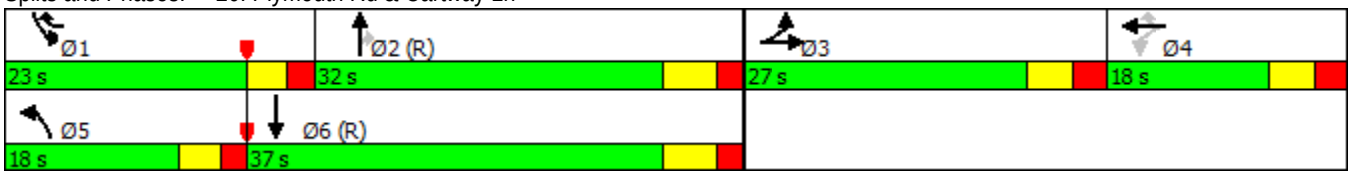
Splits and Phases: 15: Plymouth Rd & Ridgehaven Lane/I-394 EB Ramp



Phase Number	1	2	3	4	5	6
Movement	SBL	NBT	EBTL	WBTL	NBL	SBT
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	None	None	None	C-Max
Maximum Split (s)	23	32	27	18	18	37
Maximum Split (%)	23.0%	32.0%	27.0%	18.0%	18.0%	37.0%
Minimum Split (s)	15	28	18	18	18	37
Yellow Time (s)	3	4	3.5	3.5	3	4
All-Red Time (s)	2	2	2.5	2.5	2	2
Minimum Initial (s)	7	15	8	8	7	15
Vehicle Extension (s)	3	5	3	3	3	5
Minimum Gap (s)	3	3	3	3	3	3
Time Before Reduce (s)	0	20	0	0	0	20
Time To Reduce (s)	0	20	0	0	0	20
Walk Time (s)			7			5
Flash Dont Walk (s)			20			22
Dual Entry	No	No	No	No	No	No
Inhibit Max	Yes	Yes	Yes	Yes	Yes	Yes
Start Time (s)	38	61	93	20	38	56
End Time (s)	61	93	20	38	56	93
Yield/Force Off (s)	56	87	14	32	51	87
Yield/Force Off 170(s)	56	87	94	32	51	65
Local Start Time (s)	82	5	37	64	82	0
Local Yield (s)	0	31	58	76	95	31
Local Yield 170(s)	0	31	38	76	95	9

Intersection Summary	
Cycle Length	100
Control Type	Actuated-Coordinated
Natural Cycle	95
Offset: 56 (56%), Referenced to phase 2:NBT and 6:SBT, Start of 1st Green	

Splits and Phases: 20: Plymouth Rd & Cartway Ln



2: Ridgedale Dr & Target/Byerly's

Direction	All
Future Volume (vph)	1753
Total Delay / Veh (s/v)	14
CO Emissions (kg)	0.96
NOx Emissions (kg)	0.19
VOC Emissions (kg)	0.22

6: Ridgedale Dr & Cartway Ln

Direction	All
Future Volume (vph)	1410
Total Delay / Veh (s/v)	30
CO Emissions (kg)	1.24
NOx Emissions (kg)	0.24
VOC Emissions (kg)	0.29

10: Plymouth Rd & 394 N. Park&Ride/I-394 WB Ramp

Direction	All
Future Volume (vph)	3059
Total Delay / Veh (s/v)	16
CO Emissions (kg)	2.80
NOx Emissions (kg)	0.54
VOC Emissions (kg)	0.65

15: Plymouth Rd & Ridgehaven Lane/I-394 EB Ramp

Direction	All
Future Volume (vph)	3462
Total Delay / Veh (s/v)	25
CO Emissions (kg)	3.46
NOx Emissions (kg)	0.67
VOC Emissions (kg)	0.80

20: Plymouth Rd & Cartway Ln

Direction	All
Future Volume (vph)	2507
Total Delay / Veh (s/v)	34
CO Emissions (kg)	2.91
NOx Emissions (kg)	0.57
VOC Emissions (kg)	0.68

Phase Number	3	4	5	8
Movement	NBL	SBT	EBL	NBTL
Lead/Lag	Lead	Lag		
Lead-Lag Optimize	Yes	Yes		
Recall Mode	None	None	Min	None
Maximum Split (s)	20	20	20	40
Maximum Split (%)	33.3%	33.3%	33.3%	66.7%
Minimum Split (s)	11	20	20	20
Yellow Time (s)	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5
Minimum Initial (s)	7	10	4	4
Vehicle Extension (s)	3	3	3	3
Minimum Gap (s)	3	3	3	3
Time Before Reduce (s)	0	0	0	0
Time To Reduce (s)	0	0	0	0
Walk Time (s)		5	5	5
Flash Dont Walk (s)		11	11	11
Dual Entry	No	Yes	Yes	Yes
Inhibit Max	Yes	Yes	Yes	Yes
Start Time (s)	20	40	0	20
End Time (s)	40	0	20	0
Yield/Force Off (s)	36	56	16	56
Yield/Force Off 170(s)	36	45	16	45
Local Start Time (s)	20	40	0	20
Local Yield (s)	36	56	16	56
Local Yield 170(s)	36	45	16	45

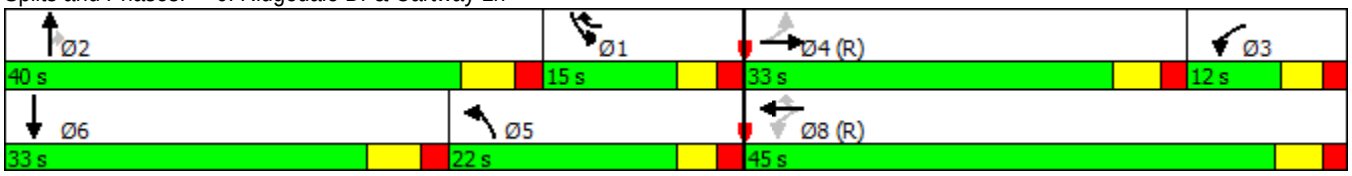
Intersection Summary		
Cycle Length		60
Control Type	Actuated-Uncoordinated	
Natural Cycle		60

Splits and Phases: 2: Ridgedale Dr & Target/Byerly's

Phase Number	1	2	3	4	5	6	8
Movement	SBL	NBT	WBL	EBTL	NBL	SBT	WBTL
Lead/Lag	Lag	Lead	Lag	Lead	Lag	Lead	
Lead-Lag Optimize	Yes	Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	Min	None	C-Max	None	Min	C-Max
Maximum Split (s)	15	40	12	33	22	33	45
Maximum Split (%)	15.0%	40.0%	12.0%	33.0%	22.0%	33.0%	45.0%
Minimum Split (s)	15	25	12	29.5	13	21	19
Yellow Time (s)	3	4	3	3.5	3	4	3.5
All-Red Time (s)	2	2	2	2	2	2	2
Minimum Initial (s)	7	15	5	10	7	15	10
Vehicle Extension (s)	3	3	3	3	3	3	3
Minimum Gap (s)	3	3	3	3	3	3	3
Time Before Reduce (s)	0	0	0	0	0	0	0
Time To Reduce (s)	0	0	0	0	0	0	0
Walk Time (s)				7		7	
Flash Dont Walk (s)				17		17	
Dual Entry	No	Yes	No	Yes	No	Yes	Yes
Inhibit Max	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Start Time (s)	11	71	59	26	4	71	26
End Time (s)	26	11	71	59	26	4	71
Yield/Force Off (s)	21	5	66	53.5	21	98	65.5
Yield/Force Off 170(s)	21	5	66	36.5	21	98	65.5
Local Start Time (s)	85	45	33	0	78	45	0
Local Yield (s)	95	79	40	27.5	95	72	39.5
Local Yield 170(s)	95	79	40	10.5	95	72	39.5

Intersection Summary	
Cycle Length	100
Control Type	Actuated-Coordinated
Natural Cycle	85
Offset: 26 (26%), Referenced to phase 4:EBTL and 8:WBTL, Start of 1st Green	

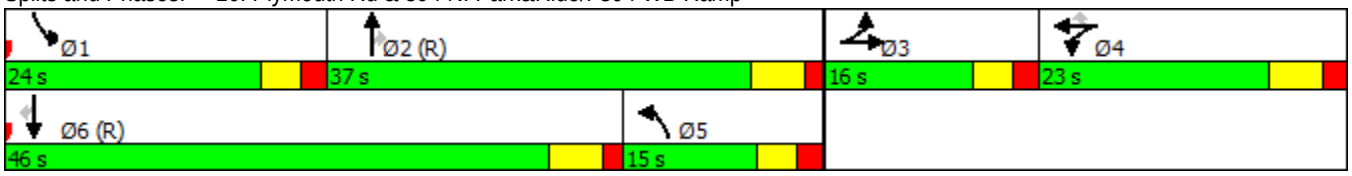
Splits and Phases: 6: Ridgedale Dr & Cartway Ln



Phase Number	1	2	3	4	5	6
Movement	SBL	NBT	EBTL	WBTL	NBL	SBT
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lead
Lead-Lag Optimize	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	None	None	None	C-Max
Maximum Split (s)	24	37	16	23	15	46
Maximum Split (%)	24.0%	37.0%	16.0%	23.0%	15.0%	46.0%
Minimum Split (s)	15	31	16	18	15	31
Yellow Time (s)	3	4	3	4	3	4
All-Red Time (s)	2	1.5	2	2	2	1.5
Minimum Initial (s)	7	20	8	10	7	20
Vehicle Extension (s)	3	4	3	3	3	4
Minimum Gap (s)	3	2	3	2	3	2
Time Before Reduce (s)	0	20	0	20	0	20
Time To Reduce (s)	0	20	0	10	0	20
Walk Time (s)						7
Flash Dont Walk (s)						10
Dual Entry	No	No	No	No	No	No
Inhibit Max	Yes	Yes	Yes	Yes	Yes	Yes
Start Time (s)	49	73	10	26	95	49
End Time (s)	73	10	26	49	10	95
Yield/Force Off (s)	68	4.5	21	43	5	89.5
Yield/Force Off 170(s)	68	4.5	21	43	5	79.5
Local Start Time (s)	0	24	61	77	46	0
Local Yield (s)	19	55.5	72	94	56	40.5
Local Yield 170(s)	19	55.5	72	94	56	30.5

Intersection Summary	
Cycle Length	100
Control Type	Actuated-Coordinated
Natural Cycle	80
Offset: 49 (49%), Referenced to phase 2:NBT and 6:SBT, Start of 1st Green	

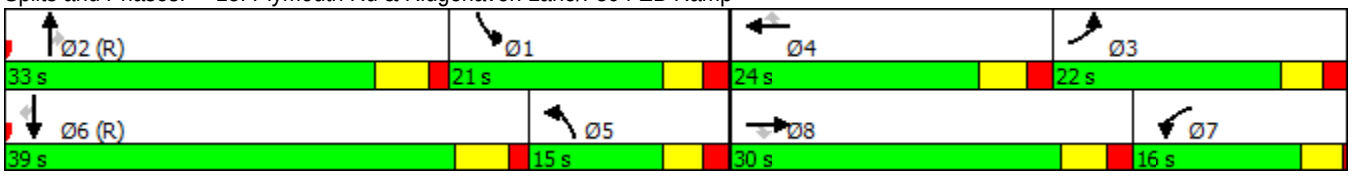
Splits and Phases: 10: Plymouth Rd & 394 N. Park&Ride/I-394 WB Ramp



Phase Number	1	2	3	4	5	6	7	8
Movement	SBL	NBT	EBL	WBT	NBL	SBT	WBL	EBT
Lead/Lag	Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead
Lead-Lag Optimize	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	None	None	None	C-Max	None	None
Maximum Split (s)	21	33	22	24	15	39	16	30
Maximum Split (%)	21.0%	33.0%	22.0%	24.0%	15.0%	39.0%	16.0%	30.0%
Minimum Split (s)	15	30	12	18	15	24	11	18
Yellow Time (s)	3	4	3	3.5	3	4	3	3.5
All-Red Time (s)	2	1.5	2	2	2	1.5	0.5	2
Minimum Initial (s)	7	15	7	10	7	15	7	10
Vehicle Extension (s)	3	5	3	3	3	5	3	3
Minimum Gap (s)	3	3	3	3	3	3	3	3
Time Before Reduce (s)	0	20	0	0	0	20	0	0
Time To Reduce (s)	0	20	0	0	0	20	0	0
Walk Time (s)						7		
Flash Dont Walk (s)						10		
Dual Entry	No	No	No	No	No	No	No	No
Inhibit Max	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Start Time (s)	91	58	36	12	97	58	42	12
End Time (s)	12	91	58	36	12	97	58	42
Yield/Force Off (s)	7	85.5	53	30.5	7	91.5	54.5	36.5
Yield/Force Off 170(s)	7	85.5	53	30.5	7	81.5	54.5	36.5
Local Start Time (s)	33	0	78	54	39	0	84	54
Local Yield (s)	49	27.5	95	72.5	49	33.5	96.5	78.5
Local Yield 170(s)	49	27.5	95	72.5	49	23.5	96.5	78.5

Intersection Summary	
Cycle Length	100
Control Type	Actuated-Coordinated
Natural Cycle	75
Offset: 58 (58%), Referenced to phase 2:NBT and 6:SBT, Start of 1st Green	

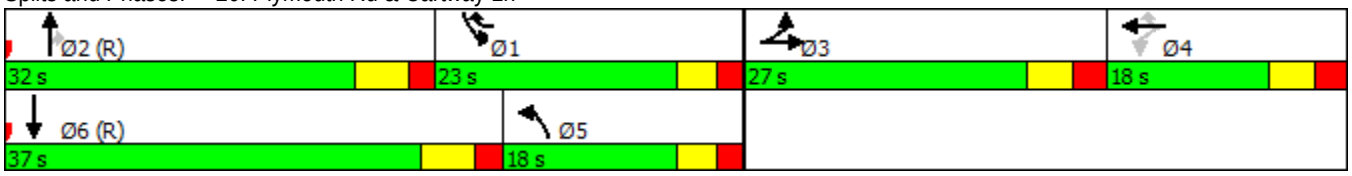
Splits and Phases: 15: Plymouth Rd & Ridgehaven Lane/I-394 EB Ramp



Phase Number	1	2	3	4	5	6
Movement	SBL	NBT	EBTL	WBTL	NBL	SBT
Lead/Lag	Lag	Lead	Lead	Lag	Lag	Lead
Lead-Lag Optimize	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	None	None	None	C-Max
Maximum Split (s)	23	32	27	18	18	37
Maximum Split (%)	23.0%	32.0%	27.0%	18.0%	18.0%	37.0%
Minimum Split (s)	15	28	18	18	18	37
Yellow Time (s)	3	4	3.5	3.5	3	4
All-Red Time (s)	2	2	2.5	2.5	2	2
Minimum Initial (s)	7	15	8	8	7	15
Vehicle Extension (s)	3	5	3	3	3	5
Minimum Gap (s)	3	3	3	3	3	3
Time Before Reduce (s)	0	20	0	0	0	20
Time To Reduce (s)	0	20	0	0	0	20
Walk Time (s)			7			5
Flash Dont Walk (s)			20			22
Dual Entry	No	No	No	No	No	No
Inhibit Max	Yes	Yes	Yes	Yes	Yes	Yes
Start Time (s)	84	52	7	34	89	52
End Time (s)	7	84	34	52	7	89
Yield/Force Off (s)	2	78	28	46	2	83
Yield/Force Off 170(s)	2	78	8	46	2	61
Local Start Time (s)	32	0	55	82	37	0
Local Yield (s)	50	26	76	94	50	31
Local Yield 170(s)	50	26	56	94	50	9

Intersection Summary	
Cycle Length	100
Control Type	Actuated-Coordinated
Natural Cycle	95
Offset: 52 (52%), Referenced to phase 2:NBT and 6:SBT, Start of 1st Green	

Splits and Phases: 20: Plymouth Rd & Cartway Ln



2: Ridgedale Dr & Target/Byerly's - Signal

Direction	All
Future Volume (vph)	1752
Total Delay / Veh (s/v)	13
CO Emissions (kg)	1.02
NOx Emissions (kg)	0.20
VOC Emissions (kg)	0.24

5: Ridgedale Dr & Byerlys/Cartway Ln

Direction	All
Future Volume (vph)	1894
Total Delay / Veh (s/v)	33
CO Emissions (kg)	1.89
NOx Emissions (kg)	0.37
VOC Emissions (kg)	0.44

10: Plymouth Rd & 394 N. Park&Ride/I-394 WB Ramp

Direction	All
Future Volume (vph)	3059
Total Delay / Veh (s/v)	16
CO Emissions (kg)	2.72
NOx Emissions (kg)	0.53
VOC Emissions (kg)	0.63

15: Plymouth Rd & Ridgehaven Lane/I-394 EB Ramp

Direction	All
Future Volume (vph)	3452
Total Delay / Veh (s/v)	20
CO Emissions (kg)	3.13
NOx Emissions (kg)	0.61
VOC Emissions (kg)	0.73

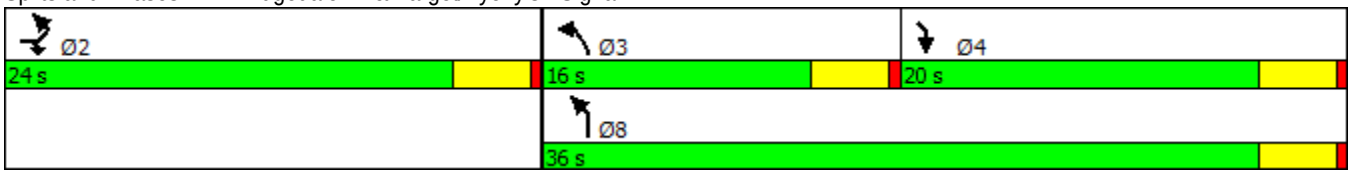
20: Plymouth Rd & Cartway Ln

Direction	All
Future Volume (vph)	2971
Total Delay / Veh (s/v)	48
CO Emissions (kg)	4.05
NOx Emissions (kg)	0.79
VOC Emissions (kg)	0.94

Phase Number	2	3	4	8
Movement	EBL	NBL	SER	NBL
Lead/Lag		Lead	Lag	
Lead-Lag Optimize		Yes	Yes	
Recall Mode	None	None	None	None
Maximum Split (s)	24	16	20	36
Maximum Split (%)	40.0%	26.7%	33.3%	60.0%
Minimum Split (s)	20	8	20	20
Yellow Time (s)	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5
Minimum Initial (s)	1	1	1	1
Vehicle Extension (s)	3	3	3	3
Minimum Gap (s)	3	3	3	3
Time Before Reduce (s)	0	0	0	0
Time To Reduce (s)	0	0	0	0
Walk Time (s)	5		5	5
Flash Dont Walk (s)	11		11	11
Dual Entry	Yes	No	Yes	Yes
Inhibit Max	Yes	Yes	Yes	Yes
Start Time (s)	0	24	40	24
End Time (s)	24	40	0	0
Yield/Force Off (s)	20	36	56	56
Yield/Force Off 170(s)	9	36	45	45
Local Start Time (s)	0	24	40	24
Local Yield (s)	20	36	56	56
Local Yield 170(s)	9	36	45	45

Intersection Summary	
Cycle Length	60
Control Type	Actuated-Uncoordinated
Natural Cycle	60

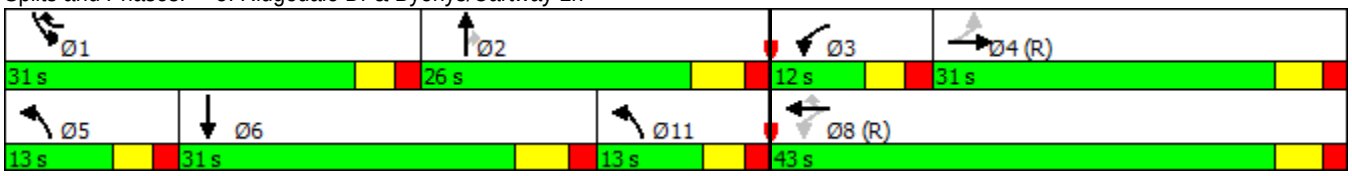
Splits and Phases: 2: Ridgedale Dr & Target/Byerly's - Signal



Phase Number	1	2	3	4	5	6	8	11
Movement	SBL	NBT	WBL	EBTL	NBL	SBT	WBTL	NBL
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag		
Lead-Lag Optimize	Yes	Yes	Yes	Yes	Yes	Yes		
Recall Mode	None	Min	None	C-Max	None	Min	C-Max	None
Maximum Split (s)	31	26	12	31	13	31	43	13
Maximum Split (%)	31.0%	26.0%	12.0%	31.0%	13.0%	31.0%	43.0%	13.0%
Minimum Split (s)	15	25	12	29.5	13	21	19	13
Yellow Time (s)	3	4	3	3.5	3	4	3.5	3
All-Red Time (s)	2	2	2	2	2	2	2	2
Minimum Initial (s)	7	15	5	10	7	15	10	7
Vehicle Extension (s)	3	4	3	3	3	4	3	3
Minimum Gap (s)	3	2	3	3	3	2	3	3
Time Before Reduce (s)	0	20	0	0	0	20	0	0
Time To Reduce (s)	0	20	0	0	0	20	0	0
Walk Time (s)				7		7		
Flash Dont Walk (s)				17		17		
Dual Entry	No	No	No	Yes	No	No	Yes	No
Inhibit Max	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Start Time (s)	87	18	44	56	87	0	44	31
End Time (s)	18	44	56	87	0	31	87	44
Yield/Force Off (s)	13	38	51	81.5	95	25	81.5	39
Yield/Force Off 170(s)	13	38	51	64.5	95	25	81.5	39
Local Start Time (s)	43	74	0	12	43	56	0	87
Local Yield (s)	69	94	7	37.5	51	81	37.5	95
Local Yield 170(s)	69	94	7	20.5	51	81	37.5	95

Intersection Summary	
Cycle Length	100
Control Type	Actuated-Coordinated
Natural Cycle	90
Offset: 44 (44%), Referenced to phase 4:EBTL and 8:WBTL, Start of 1st Green	

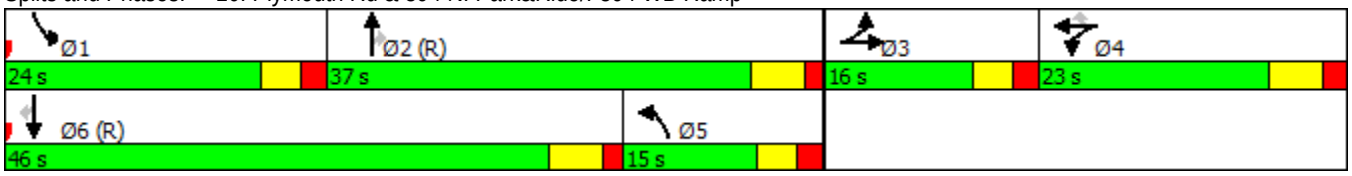
Splits and Phases: 5: Ridgedale Dr & Byerlys/Cartway Ln



Phase Number	1	2	3	4	5	6
Movement	SBL	NBT	EBTL	WBTL	NBL	SBT
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lead
Lead-Lag Optimize	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	None	None	None	C-Max
Maximum Split (s)	24	37	16	23	15	46
Maximum Split (%)	24.0%	37.0%	16.0%	23.0%	15.0%	46.0%
Minimum Split (s)	15	31	16	18	15	31
Yellow Time (s)	3	4	3	4	3	4
All-Red Time (s)	2	1.5	2	2	2	1.5
Minimum Initial (s)	7	20	8	10	7	20
Vehicle Extension (s)	3	4	3	3	3	4
Minimum Gap (s)	3	2	3	2	3	2
Time Before Reduce (s)	0	20	0	20	0	20
Time To Reduce (s)	0	20	0	10	0	20
Walk Time (s)						7
Flash Dont Walk (s)						10
Dual Entry	No	No	No	No	No	No
Inhibit Max	Yes	Yes	Yes	Yes	Yes	Yes
Start Time (s)	92	16	53	69	38	92
End Time (s)	16	53	69	92	53	38
Yield/Force Off (s)	11	47.5	64	86	48	32.5
Yield/Force Off 170(s)	11	47.5	64	86	48	22.5
Local Start Time (s)	0	24	61	77	46	0
Local Yield (s)	19	55.5	72	94	56	40.5
Local Yield 170(s)	19	55.5	72	94	56	30.5

Intersection Summary	
Cycle Length	100
Control Type	Actuated-Coordinated
Natural Cycle	80
Offset: 92 (92%), Referenced to phase 2:NBT and 6:SBT, Start of 1st Green	

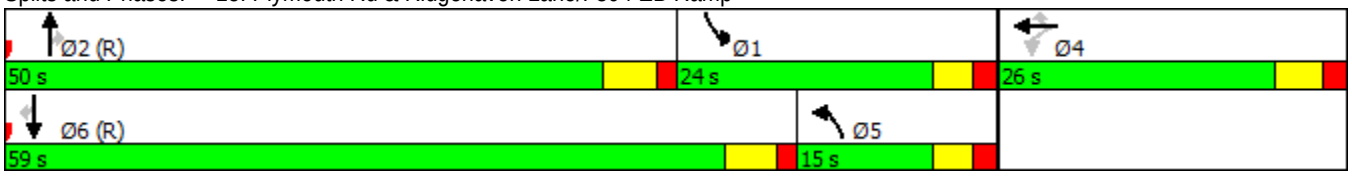
Splits and Phases: 10: Plymouth Rd & 394 N. Park&Ride/I-394 WB Ramp



Phase Number	1	2	4	5	6
Movement	SBL	NBT	WBTL	NBL	SBT
Lead/Lag	Lag	Lead		Lag	Lead
Lead-Lag Optimize	Yes	Yes		Yes	Yes
Recall Mode	None	C-Max	None	None	C-Max
Maximum Split (s)	24	50	26	15	59
Maximum Split (%)	24.0%	50.0%	26.0%	15.0%	59.0%
Minimum Split (s)	15	30	18	15	24
Yellow Time (s)	3	4	3.5	3	4
All-Red Time (s)	2	1.5	2	2	1.5
Minimum Initial (s)	7	15	10	7	15
Vehicle Extension (s)	3	5	3	3	5
Minimum Gap (s)	3	3	3	3	3
Time Before Reduce (s)	0	20	0	0	20
Time To Reduce (s)	0	20	0	0	20
Walk Time (s)					7
Flash Dont Walk (s)					10
Dual Entry	No	No	No	No	No
Inhibit Max	Yes	Yes	Yes	Yes	Yes
Start Time (s)	34	84	58	43	84
End Time (s)	58	34	84	58	43
Yield/Force Off (s)	53	28.5	78.5	53	37.5
Yield/Force Off 170(s)	53	28.5	78.5	53	27.5
Local Start Time (s)	50	0	74	59	0
Local Yield (s)	69	44.5	94.5	69	53.5
Local Yield 170(s)	69	44.5	94.5	69	43.5

Intersection Summary	
Cycle Length	100
Control Type	Actuated-Coordinated
Natural Cycle	80
Offset: 84 (84%), Referenced to phase 2:NBT and 6:SBT, Start of 1st Green	

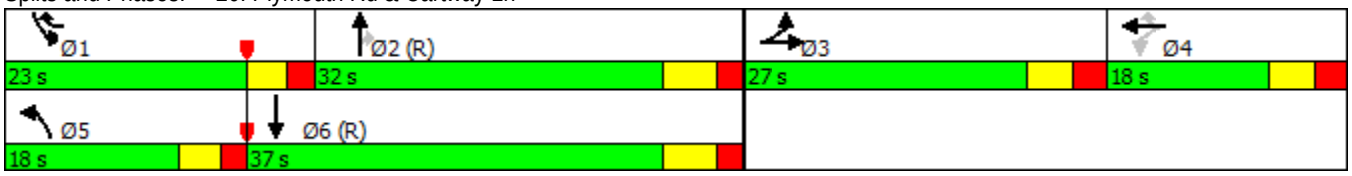
Splits and Phases: 15: Plymouth Rd & Ridgehaven Lane/I-394 EB Ramp



Phase Number	1	2	3	4	5	6
Movement	SBL	NBT	EBTL	WBTL	NBL	SBT
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	None	None	None	C-Max
Maximum Split (s)	23	32	27	18	18	37
Maximum Split (%)	23.0%	32.0%	27.0%	18.0%	18.0%	37.0%
Minimum Split (s)	15	28	18	18	18	37
Yellow Time (s)	3	4	3.5	3.5	3	4
All-Red Time (s)	2	2	2.5	2.5	2	2
Minimum Initial (s)	7	15	8	8	7	15
Vehicle Extension (s)	3	5	3	3	3	5
Minimum Gap (s)	3	3	3	3	3	3
Time Before Reduce (s)	0	20	0	0	0	20
Time To Reduce (s)	0	20	0	0	0	20
Walk Time (s)			7			5
Flash Dont Walk (s)			20			22
Dual Entry	No	No	No	No	No	No
Inhibit Max	Yes	Yes	Yes	Yes	Yes	Yes
Start Time (s)	38	61	93	20	38	56
End Time (s)	61	93	20	38	56	93
Yield/Force Off (s)	56	87	14	32	51	87
Yield/Force Off 170(s)	56	87	94	32	51	65
Local Start Time (s)	82	5	37	64	82	0
Local Yield (s)	0	31	58	76	95	31
Local Yield 170(s)	0	31	38	76	95	9

Intersection Summary	
Cycle Length	100
Control Type	Actuated-Coordinated
Natural Cycle	95
Offset: 56 (56%), Referenced to phase 2:NBT and 6:SBT, Start of 1st Green	

Splits and Phases: 20: Plymouth Rd & Cartway Ln



2: Ridgedale Dr & Target/Byerly's

Direction	All
Future Volume (vph)	1753
Total Delay / Veh (s/v)	14
CO Emissions (kg)	0.96
NOx Emissions (kg)	0.19
VOC Emissions (kg)	0.22

6: Ridgedale Dr & Cartway Ln

Direction	All
Future Volume (vph)	1410
Total Delay / Veh (s/v)	30
CO Emissions (kg)	1.24
NOx Emissions (kg)	0.24
VOC Emissions (kg)	0.29

10: Plymouth Rd & 394 N. Park&Ride/I-394 WB Ramp

Direction	All
Future Volume (vph)	3059
Total Delay / Veh (s/v)	16
CO Emissions (kg)	2.80
NOx Emissions (kg)	0.54
VOC Emissions (kg)	0.65

15: Plymouth Rd & Ridgehaven Lane/I-394 EB Ramp

Direction	All
Future Volume (vph)	3462
Total Delay / Veh (s/v)	25
CO Emissions (kg)	3.46
NOx Emissions (kg)	0.67
VOC Emissions (kg)	0.80

20: Plymouth Rd & Cartway Ln

Direction	All
Future Volume (vph)	2507
Total Delay / Veh (s/v)	34
CO Emissions (kg)	2.91
NOx Emissions (kg)	0.57
VOC Emissions (kg)	0.68

Phase Number	3	4	5	8
Movement	NBL	SBT	EBL	NBTL
Lead/Lag	Lead	Lag		
Lead-Lag Optimize	Yes	Yes		
Recall Mode	None	None	Min	None
Maximum Split (s)	20	20	20	40
Maximum Split (%)	33.3%	33.3%	33.3%	66.7%
Minimum Split (s)	11	20	20	20
Yellow Time (s)	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5
Minimum Initial (s)	7	10	4	4
Vehicle Extension (s)	3	3	3	3
Minimum Gap (s)	3	3	3	3
Time Before Reduce (s)	0	0	0	0
Time To Reduce (s)	0	0	0	0
Walk Time (s)		5	5	5
Flash Dont Walk (s)		11	11	11
Dual Entry	No	Yes	Yes	Yes
Inhibit Max	Yes	Yes	Yes	Yes
Start Time (s)	20	40	0	20
End Time (s)	40	0	20	0
Yield/Force Off (s)	36	56	16	56
Yield/Force Off 170(s)	36	45	16	45
Local Start Time (s)	20	40	0	20
Local Yield (s)	36	56	16	56
Local Yield 170(s)	36	45	16	45

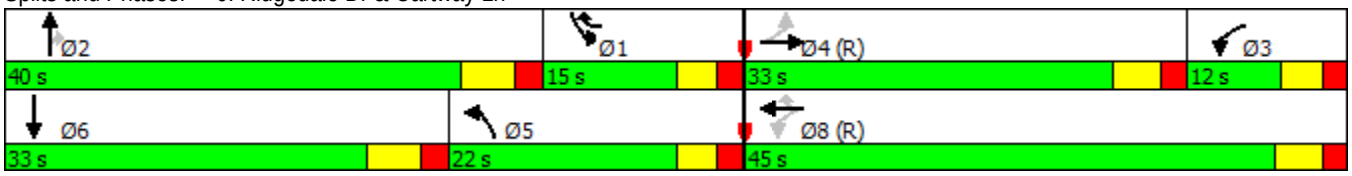
Intersection Summary		
Cycle Length		60
Control Type	Actuated-Uncoordinated	
Natural Cycle		60

Splits and Phases: 2: Ridgedale Dr & Target/Byerly's

Phase Number	1	2	3	4	5	6	8
Movement	SBL	NBT	WBL	EBTL	NBL	SBT	WBTL
Lead/Lag	Lag	Lead	Lag	Lead	Lag	Lead	
Lead-Lag Optimize	Yes	Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	Min	None	C-Max	None	Min	C-Max
Maximum Split (s)	15	40	12	33	22	33	45
Maximum Split (%)	15.0%	40.0%	12.0%	33.0%	22.0%	33.0%	45.0%
Minimum Split (s)	15	25	12	29.5	13	21	19
Yellow Time (s)	3	4	3	3.5	3	4	3.5
All-Red Time (s)	2	2	2	2	2	2	2
Minimum Initial (s)	7	15	5	10	7	15	10
Vehicle Extension (s)	3	3	3	3	3	3	3
Minimum Gap (s)	3	3	3	3	3	3	3
Time Before Reduce (s)	0	0	0	0	0	0	0
Time To Reduce (s)	0	0	0	0	0	0	0
Walk Time (s)				7		7	
Flash Dont Walk (s)				17		17	
Dual Entry	No	Yes	No	Yes	No	Yes	Yes
Inhibit Max	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Start Time (s)	11	71	59	26	4	71	26
End Time (s)	26	11	71	59	26	4	71
Yield/Force Off (s)	21	5	66	53.5	21	98	65.5
Yield/Force Off 170(s)	21	5	66	36.5	21	98	65.5
Local Start Time (s)	85	45	33	0	78	45	0
Local Yield (s)	95	79	40	27.5	95	72	39.5
Local Yield 170(s)	95	79	40	10.5	95	72	39.5

Intersection Summary	
Cycle Length	100
Control Type	Actuated-Coordinated
Natural Cycle	85
Offset: 26 (26%), Referenced to phase 4:EBTL and 8:WBTL, Start of 1st Green	

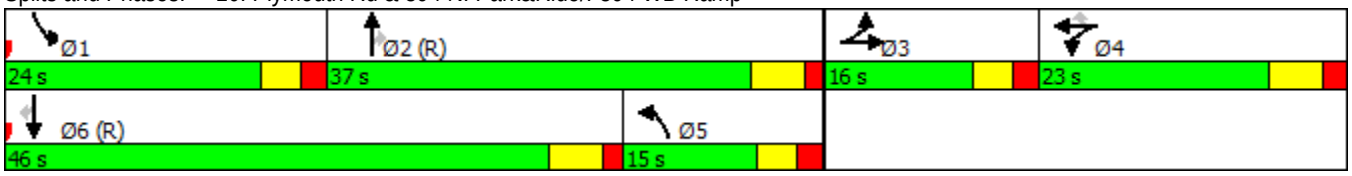
Splits and Phases: 6: Ridgedale Dr & Cartway Ln



Phase Number	1	2	3	4	5	6
Movement	SBL	NBT	EBTL	WBTL	NBL	SBT
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lead
Lead-Lag Optimize	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	None	None	None	C-Max
Maximum Split (s)	24	37	16	23	15	46
Maximum Split (%)	24.0%	37.0%	16.0%	23.0%	15.0%	46.0%
Minimum Split (s)	15	31	16	18	15	31
Yellow Time (s)	3	4	3	4	3	4
All-Red Time (s)	2	1.5	2	2	2	1.5
Minimum Initial (s)	7	20	8	10	7	20
Vehicle Extension (s)	3	4	3	3	3	4
Minimum Gap (s)	3	2	3	2	3	2
Time Before Reduce (s)	0	20	0	20	0	20
Time To Reduce (s)	0	20	0	10	0	20
Walk Time (s)						7
Flash Dont Walk (s)						10
Dual Entry	No	No	No	No	No	No
Inhibit Max	Yes	Yes	Yes	Yes	Yes	Yes
Start Time (s)	49	73	10	26	95	49
End Time (s)	73	10	26	49	10	95
Yield/Force Off (s)	68	4.5	21	43	5	89.5
Yield/Force Off 170(s)	68	4.5	21	43	5	79.5
Local Start Time (s)	0	24	61	77	46	0
Local Yield (s)	19	55.5	72	94	56	40.5
Local Yield 170(s)	19	55.5	72	94	56	30.5

Intersection Summary	
Cycle Length	100
Control Type	Actuated-Coordinated
Natural Cycle	80
Offset: 49 (49%), Referenced to phase 2:NBT and 6:SBT, Start of 1st Green	

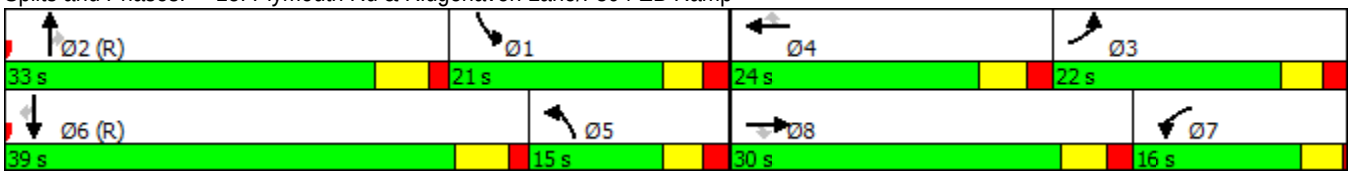
Splits and Phases: 10: Plymouth Rd & 394 N. Park&Ride/I-394 WB Ramp



Phase Number	1	2	3	4	5	6	7	8
Movement	SBL	NBT	EBL	WBT	NBL	SBT	WBL	EBT
Lead/Lag	Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead
Lead-Lag Optimize	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	None	None	None	C-Max	None	None
Maximum Split (s)	21	33	22	24	15	39	16	30
Maximum Split (%)	21.0%	33.0%	22.0%	24.0%	15.0%	39.0%	16.0%	30.0%
Minimum Split (s)	15	30	12	18	15	24	11	18
Yellow Time (s)	3	4	3	3.5	3	4	3	3.5
All-Red Time (s)	2	1.5	2	2	2	1.5	0.5	2
Minimum Initial (s)	7	15	7	10	7	15	7	10
Vehicle Extension (s)	3	5	3	3	3	5	3	3
Minimum Gap (s)	3	3	3	3	3	3	3	3
Time Before Reduce (s)	0	20	0	0	0	20	0	0
Time To Reduce (s)	0	20	0	0	0	20	0	0
Walk Time (s)						7		
Flash Dont Walk (s)						10		
Dual Entry	No	No	No	No	No	No	No	No
Inhibit Max	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Start Time (s)	91	58	36	12	97	58	42	12
End Time (s)	12	91	58	36	12	97	58	42
Yield/Force Off (s)	7	85.5	53	30.5	7	91.5	54.5	36.5
Yield/Force Off 170(s)	7	85.5	53	30.5	7	81.5	54.5	36.5
Local Start Time (s)	33	0	78	54	39	0	84	54
Local Yield (s)	49	27.5	95	72.5	49	33.5	96.5	78.5
Local Yield 170(s)	49	27.5	95	72.5	49	23.5	96.5	78.5

Intersection Summary	
Cycle Length	100
Control Type	Actuated-Coordinated
Natural Cycle	75
Offset: 58 (58%), Referenced to phase 2:NBT and 6:SBT, Start of 1st Green	

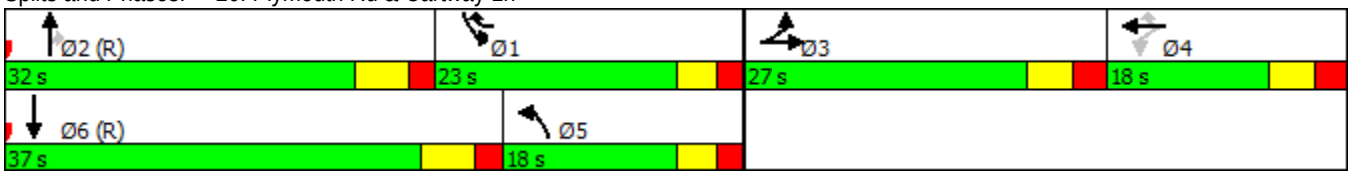
Splits and Phases: 15: Plymouth Rd & Ridgehaven Lane/I-394 EB Ramp



Phase Number	1	2	3	4	5	6
Movement	SBL	NBT	EBTL	WBTL	NBL	SBT
Lead/Lag	Lag	Lead	Lead	Lag	Lag	Lead
Lead-Lag Optimize	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	None	None	None	C-Max
Maximum Split (s)	23	32	27	18	18	37
Maximum Split (%)	23.0%	32.0%	27.0%	18.0%	18.0%	37.0%
Minimum Split (s)	15	28	18	18	18	37
Yellow Time (s)	3	4	3.5	3.5	3	4
All-Red Time (s)	2	2	2.5	2.5	2	2
Minimum Initial (s)	7	15	8	8	7	15
Vehicle Extension (s)	3	5	3	3	3	5
Minimum Gap (s)	3	3	3	3	3	3
Time Before Reduce (s)	0	20	0	0	0	20
Time To Reduce (s)	0	20	0	0	0	20
Walk Time (s)			7			5
Flash Dont Walk (s)			20			22
Dual Entry	No	No	No	No	No	No
Inhibit Max	Yes	Yes	Yes	Yes	Yes	Yes
Start Time (s)	84	52	7	34	89	52
End Time (s)	7	84	34	52	7	89
Yield/Force Off (s)	2	78	28	46	2	83
Yield/Force Off 170(s)	2	78	8	46	2	61
Local Start Time (s)	32	0	55	82	37	0
Local Yield (s)	50	26	76	94	50	31
Local Yield 170(s)	50	26	56	94	50	9

Intersection Summary	
Cycle Length	100
Control Type	Actuated-Coordinated
Natural Cycle	95
Offset: 52 (52%), Referenced to phase 2:NBT and 6:SBT, Start of 1st Green	

Splits and Phases: 20: Plymouth Rd & Cartway Ln



HSIP worksheet

Control Section	T.H. / Roadway	Location	Beginning Ref. Pt.	Ending Ref. Pt.	State, County, City or Township	Study Period Begins	Study Period Ends
	Cartway Lane	Intersections with Ridgedale Dr and Plymouth Rd			Minnetonka	1/1/2011	12/31/2013

Description of Proposed Work: Reduce number of vehicles due to new Ridgehaven Connection

			1 Rear End	2 Sideswipe Same Direction	3 Left Turn Main Line	5 Right Angle	4,7 Ran off Road	8, 9 Head On/ Sideswipe - Opposite Direction	Pedestrian	6, 90, 99 Other	Total
Study Period: Number of Crashes	Fatal	**F**									
	Personal Injury (PI)	**A**									
		B									
		C	2								**2**
	Property Damage	**PD**	3	2	3	1				2	**11**
% Change in Crashes *Use Crash Modification Factors Clearinghouse	Fatal	**F**									
	PI	**A**									
		B									
		C	-25%								
	Property Damage	**PD**	-25%	-25%	-25%	-25%				-25%	
Change in Crashes = No. of crashes **x** % change in crashes	Fatal	**F**									
	PI	**A**									
		B									
		C	**-0.50**								**-0.50**
	Property Damage	**PD**	**-0.75**	**-0.50**	**-0.75**	**-0.25**				**-0.50**	**-2.75**

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

Project Cost (exclude Right of Way): **$ 5,630,000**

Right of Way Costs (optional):

Traffic Growth Factor: **3%**

Capital Recovery

1. **Discount Rate**: **4.5%**
2. **Project Service Life (n)**: **30**

Type of Crash	Study Period: Change in Crashes	Annual Change in Crashes	Cost per Crash	Annual Benefit
F			**$ 1,400,000**	
A			**$ 570,000**	
B			**$ 170,000**	
C	**-0.50**	**-0.17**	**$ 83,000**	**$ 13,833**
PD	**-2.75**	**-0.92**	**$ 7,600**	**$ 6,967**
Total				**$ 20,800**

B/C= 0.09

Using present worth values,

B= $ 509,957

C= $ 5,630,000

See "Calculations" sheet for amortization.

Office of Traffic, Safety and Technology
September 2014

HSIP worksheet

Control Section	T.H. / Roadway	Location	Beginning Ref. Pt.	Ending Ref. Pt.	State, County, City or Township	Study Period Begins	Study Period Ends
	Plymouth Rd	Intersection at 394 South Ramps			Minnetonka	1/1/2011	12/31/2013

Description of Proposed Work: Add NBT and SBL Dual

Accident Diagram Codes		1 Rear End	2 Sideswipe Same Direction	3 Left Turn Main Line	5 Right Angle	4,7 Ran off Road	8, 9 Head On/ Sideswipe - Opposite Direction	Pedestrian	6, 90, 99 Other	Total
Study Period: Number of Crashes	Fatal **F**									
	Personal Injury (PI) **A**									
	Personal Injury (PI) **B**	1								**1**
	Personal Injury (PI) **C**	2								**2**
	Property Damage **PD**	5	1		1					**7**
% Change in Crashes *Use Crash Modification Factors Clearinghouse	Fatal **F**									
	PI **A**									
	PI **B**	-66%								
	PI **C**	-66%								
	Property Damage **PD**	-68%	-82%		-48%					
Change in Crashes = No. of crashes **x** % change in crashes	Fatal **F**									
	PI **A**									
	PI **B**	**-0.66**								**-0.66**
	PI **C**	**-1.32**								**-1.32**
	Property Damage **PD**	**-3.40**	**-0.82**		**-0.48**					**-4.70**

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

Project Cost (exclude Right of Way): **$ 5,630,000**

Right of Way Costs (optional):

Traffic Growth Factor: **3%**

Capital Recovery

1. **Discount Rate:** 4.5%
2. **Project Service Life (n):** 30

Type of Crash	Study Period: Change in Crashes	Annual Change in Crashes	Cost per Crash	Annual Benefit
F			**$ 1,400,000**	
A			**$ 570,000**	
B	**-0.66**	**-0.22**	**$ 170,000**	**$ 37,400**
C	**-1.32**	**-0.44**	**$ 83,000**	**$ 36,520**
PD	**-4.70**	**-1.57**	**$ 7,600**	**$ 11,907**
Total				**$ 85,827**

B/C= 0.37

Using present worth values,

B= $ 2,104,226

C= $ 5,630,000

See "Calculations" sheet for amortization.

Office of Traffic, Safety and Technology
September 2014

Ridgedale Reconsruction
Crash Analysis
July 2016

	Intersections	Total Number of Accidents	Years of Data	ADT*	Calculated Crash Rate (Million Entering Vehicles)	Type of Intersection: Low Vol < 15K ADT; Low Speed < 45 mph	Average Crash Rate for Similar Intersections, Ra	Vehicle Exposure During Study Period, m
Existing	Ridgedale/Cartway	1	3	12725	**0.08**	Signalized; Low Volume, Low Speed	0.54	13.93
Future	Ridgedale/Cartway	0	3	9512.5	**0.00**	Signalized; High Volume, Low Speed	0.54	10.42
Existing	Plymouth/Cartway	12	3	26600	**0.42**	Signalized; High Volume, Low Speed	0.68	29.13
Future	Plymouth/Cartway	10	3	23687.5	**0.39**	Signalized; High Volume, Low Speed	0.68	25.94
Existing	394 South Ramps/Plymouth Rd	10	3	34575	**0.27**	Signalized; High Volume, Low Speed	0.68	37.86
Future	394 South Ramps/Plymouth Rd	10	3	34575	**0.27**	Signalized; High Volume, Low Speed	0.68	37.86

Notes:
* ADT: used the total volume at each leg of the intersection divided by two (to only account for the vehicles entering the intersection)

A total of 3 crashes will be reduced from this project, and no additional crashes will occur at the 394 South Ramps intersection, thus 3 crashes reduced

Represents the Minnesota Average Crash Rates for the Metro Area similar roadway segments or intersections.

Crash Reduction Methodology

Plymouth Rd/Ridgedale New 4th Leg at 394 South Ramps – **Methodology in Red**

Question: For the Roadway Expansion application, how do I complete the Safety measure for a project that involves the construction of a new roadway? More specifically, there isn't a crash modification factor that can be used for the construction of a new roadway in the HSIP methodology.
Answer: With the construction of a new roadway, an analysis should be conducted to determine the parallel routes that will be affected by the project. The crash reduction factor can be calculated using the following methodology:

- Identify the parallel roadway(s) that will be affected by the project.
    - **Cartway Lane between Ridgedale Dr to Plymouth Rd, including both termini intersections**
- Using the crash data for the most recent three years, calculate the existing crash rate for the parallel roadway(s).
    - **Existing Crash rates calculated were 0.08 and 0.42 for the study intersections.**
- Identify the daily traffic volume that will be relocated from the parallel roadway(s) to the new roadway.
    - **Approximately 3000 vehicles**
- Calculate the number of crashes related to the relocated traffic volume using the existing crash rate for the parallel roadway(s). For instance, if 5,000 vehicles are expected to relocate from the existing parallel roadway to the new roadway, calculate the number of crashes related to the 5,000 vehicles.
    - **It was calculated that 3 crashes will be eliminated by reducing the volume by 3000 vpd at the study intersections.**
- Identify the average crash rate for the new roadway using MnDOT's crash rates by roadway type. Using the average crash rate for the new roadway, calculate the number of crashes related to the relocated traffic (such as the 5,000 vehicles).
    - **The total volume at the Plymouth Rd/394 South Ramps intersection is expected to remain the exact same as before. There is just a switch in travel patterns, not volumes.**
- Calculate the crash reduction factor using the existing number of crashes on the existing parallel roadway compared to the new roadway, due to the relocated traffic volume (such as the 5,000 vehicles).
    - **It is estimated that total crashes will be reduced by 3. The crash reduction factor is 3/13 = 25%**
- The calculated crash reduction factor should be used in the HSIP B/C worksheet.

Countermeasure(s)	Crash Type	Crash Severity	Area Type	Config	Control	Major Daily Traffic Volume (veh/day)	Minor Daily Traffic Volume (veh/day)	Ref	Obs	Effectiveness: Crash Reduction Factor / Function	Effectiveness: Std Error	Effectiveness: Range Low	Effectiveness: Range High	Study Type
Install left-turn lane (cont'd)	Left-turn	All			No signal			28		68		50	86	
	Left-turn	All			Signal	>5,000/lane(Total)		15		24				Simple Before-After
	Left-turn	All	Urban	4-Leg (1 app)	Signal	4,600-55,100	100-26,000	21	35	13				Yorked Comparison Before-After
	Left-turn	All	Urban	4-Leg (1 app)	Stop	1,520-40,600	80-8,000	21	7	26				EB Before-After
	Left-turn	All	Urban	4-Leg (2 app)	Signal	4,600-55,100	100-26,000	21	35	24				Yorked Comparison Before-After
	Left-turn	All	Urban	4-Leg (2 app)	Stop	1,520-40,600	80-8,000	21	7	45				EB Before-After
	Night	All			Signal	>5,000/lane(Total)		15		28				Simple Before-After
	Overturn	All			Signal	>5,000/lane(Total)		15		28				Simple Before-After
Install left-turn lane (double)	Head-on	Fatal/Injury						15		75				Simple Before-After
	Left-turn	Fatal/Injury						15		47				Simple Before-After
	Left-turn	PDO						15		71				Simple Before-After
	ROR	Fatal/Injury						15		8				Simple Before-After
	ROR	PDO						15		13				Simple Before-After
	Rear-end	Fatal/Injury						15		29				Simple Before-After
	Rear-end	PDO						15		32				Simple Before-After
	Right-angle	Fatal/Injury						15		20				Simple Before-After
	Right-angle	PDO						15		8				Simple Before-After
	Sideswipe	Fatal/Injury						15		50				Simple Before-After

Countermeasure(s)	Crash Type	Crash Severity	Area Type	Road Type	Daily Traffic Volume (veh/day)	Ref	Effectiveness				Study Type
							Crash Reduction Factor / Function	Std Error	Range		
									Low	High	
Flatten side slopes and remove guardrail	All	All	All	All		27	42	58			EB Before-After
Improve curve superelevation	All	All	Rural	All		21	0				Expert Panel
	All	All	Rural			21	100(1-(1.00+6(SD-0.01))); SD=superelevation deficiency between 0.01 and 0.02				Expert Panel
	All	All	Rural			21	100(1-(1.06+3(SD-0.02))); SD=superelevation deficiency greater than 0.02				Expert Panel
Improve gore area	All	All				15	25				
	All	All	All	All		1	25				
Improve horizontal and vertical alignments	All	All				15	58				
	All	All	All	All		1	50				
	All	All				15	50				
	All	All				15	50				
	All	All				15	73				
Improve longitudinal grade	All	All				15	49				
	All	All	All	All		1	40				
	All	All				15	40				
	All	All				15	57				
	All	Fatal/ Injury				15	87				
	All	PDO				15	83				
Improve superelevation	All	All				15	40				
	All	All				1	40				
	ROR	All				15	50				
Improve superelevation (for drainage)	All	All				15	45				
	All	All				15	40				
	All	All				15	49				
Increase number of lanes	All	All			<5,000/lane	15	20				
	All	All			>5,000/lane	15	31				
	All	All				15	10				
	All	All				15	20				
	All	All				15	22				

Countermeasure(s)	Crash Type	Crash Severity	Area Type	Road Type	Daily Traffic Volume (veh/day)	Ref	Effectiveness				Study Type
							Crash Reduction Factor / Function	Std Error	Range		
									Low	High	
Increase number of lanes (cont'd)	All	All				15	25				
	All	All				15	25				
	All	All				15	25				
	All	Fatal				15	39				
	All	Injury				15	23				
	All	PDO				15	27				
	Head-on	All			<5,000/lane	15	38				
	Head-on	All			>5,000/lane	15	44				
	Head-on	All				15	53				
	Head-on	All				15	53				
	Head-on	PDO				15	50				
	Left-turn	All				15	71				
	Left-turn	PDO				15	67				
	ROR	All				15	44				
	ROR	All				15	26				
	ROR	All				15	44				
	ROR	All				15	44				
	ROR	PDO				15	50				
	Overturn	All			<5,000/lane	15	42				
	Overturn	All			>5,000/lane	15	52				
	Rear-end	All			<5,000/lane	15	42				
	Rear-end	All			>5,000/lane	15	52				
	Rear-end	All				15	32				
	Rear-end	All				15	32				
	Rear-end	All				15	40				
	Rear-end	All				15	53				
	Rear-end	PDO				15	53				
	Right-angle	All			<5,000/lane	15	35				
	Right-angle	All			>5,000/lane	15	45				
	Right-angle	All				15	15				
	Right-angle	PDO				15	46				
	Sideswipe	All			<5,000/lane	15	38				

Countermeasure(s)	Crash Type	Crash Severity	Area Type	Road Type	Daily Traffic Volume (veh/day)	Ref	Effectiveness				Study Type
							Crash Reduction Factor / Function	Std Error	Range		
									Low	High	
Increase number of lanes (cont'd)	Sideswipe	All			>5,000/lane	15	44				
	Sideswipe	All				15	30				
	Sideswipe	All				15	30				
	Sideswipe	All				15	35				
	Sideswipe	PDO				15	64				
Increase vertical grade by 1%	All	All	Rural	2-lane		23	-1.6P; P=percent grade (absolute value)				
Install acceleration/ deceleration lanes	All	All				15	26				
	All	All	All	All		1	10				
	All	All				15	10				
	All	All				15	10				
	All	All				15	10				
	All	All				15	25				
	All	All				15	75				
	Rear-end	All				15	75				
	Sideswipe	All				15	75				
Install channelized lane	All	All				15	67				
	All	PDO				15	62				
	Rear-end	All				15	93				
Install climbing lane (where large difference between car and truck speed)	All	Fatal/ Injury	Rural	2-lane		38	33				
Install passing/climbing lane	All	All	All	All		1	20				
	All	Fatal/ Injury	Rural	2-lane		38	33				
Install shoulder	All	All				15	9				
Install shoulder bus lanes	Head-on	Fatal/ Injury				15	50				
	Head-on	PDO				15	86				
	Left-turn	Fatal/ Injury				15	42				
	Left-turn	PDO				15	57				

Dual CRF for Plymouth Rd/394 South Ramps

Improvements include adding a northbound through lane and southbound dual left-turn lane.

Plymouth Rd and 394 South Ramps
CMF's for additional NBT, SBT, EBL, WBL lanes.

CR1=Increase Number of Lanes
CR2=Install Double Left Turn Lane

CR=1 – (1-CR1)*(1-CR2)

Sideswipe: CR=1 – (1-.64)*(1-.50) = .82
Right Angle: CR=1 – (1-.46)*(1-.08) = .48
Rear End: CR=1 – (1-.53)*(1-.32) = .68
Rear End (injury): CR=1 – (1-.52)*(1-.29) = .66

Cartway Lane from approx. 125' east of Ridedale Drive (2013 -2015)

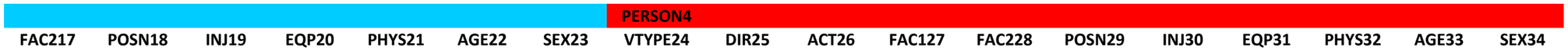
Crash data is managed by the Mn/DOT Office of Traffic, Safety, and Operations.

SYS	NUM	REF_POINT	GIS_ROUTE	GIS_TM	RD_DIR	ELEM	RELY	INV	R_U
10	26100936	000+00.012	1026100936	0.012	Z		1	3	U

ATP	CO	CITY	DOW	MONTH	DAY	YEAR	TIME	SEV
V1 TURNING LEFT FORM RIDGEDALE DRIVE TO CARTWAY LN. V2 STOPPED IN TRAFFIC ON CARTWAY LN. D1 TURNED	27	2610	1-Sun	12	13	2015	1255	N

															PERSON1				
NUM_KILLED	**NUM_VEH**	**JUNC**	**SL**	**TYPE**	**DIAG**	**LOC1**	**TCD**	**LIT**	**WTHR1**	**WTHR2**	**SURF**	**CHAR**	**DESGN**	**ACC_NUM**	**VTYPE**	**DIR**	**ACT**	**FAC1**	**FAC2**
0	2	4	30	1	1	1	1	1	3	2	2	1	90	153490032	1	3	6	15	21

						PERSON2											PERSON3			
POSN	INJ	EQP	PHYS	AGE	SEX	VTYPE2	DIR3	ACT4	FAC15	FAC26	POSN7	INJ8	EQP9	PHYS10	AGE11	SEX12	VTYPE13	DIR14	ACT15	FAC116
1	N	4	1	22	F	1	3	1	1	1	1	N	4	1	49	M				


PERSON4
FAC217
POSN18
INJ19
EQP20
PHYS21
AGE22
SEX23
VTYPE24
DIR25
ACT26
FAC127
FAC228
POSN29
INJ30
EQP31
PHYS32
AGE33
SEX34

Plymouth Road and Cartway Lane Ridgehaven Lane - created on 06-17-2016 by rile1che

Crash data is managed by the Mn/DOT Office of Traffic, Safety, and Operations.

SYS	NUM	REF_POINT	GIS_ROUTE	GIS_TM	RD_DIR	ELEM	RELY	INV	R_U
04	27000061	015+00.222	0427000061	15.222	Z		1	0	U
04	27000061	015+00.222	0427000061	15.222	Z		1	0	U
04	27000061	015+00.222	0427000061	15.222	Z		1	0	U
04	27000061	015+00.222	0427000061	15.222	Z		1	0	U
04	27000061	015+00.222	0427000061	15.222	Z		1	3	U
04	27000061	015+00.235	0427000061	15.235	Z		1	0	U
04	27000061	015+00.240	0427000061	15.240	N		1	3	U
04	27000061	015+00.260	0427000061	15.260	S		2	3	U
10	26100936	000+00.052	1026100936	0.052	Z		1	3	U
10	26100936	000+00.052	1026100936	0.052	Z		1	3	U
10	26100936	000+00.052	1026100936	0.052	S		1	3	U
10	26100936	000+00.063	1026100936	0.063	S		1	3	U

ATP	CO	CITY	DOW	MONTH	DAY	YEAR	TIME	SEV
	27	2610	6-Fri	3	29	2013	1204	N
	27	2610	6-Fri	4	19	2013	1705	N
	27	2610	7-Sat	7	27	2013	1559	N
	27	2610	7-Sat	1	3	2015	1920	N
BOTH VEHICLES WERE SOUTHBOUND ON PLYMOUTH ROAD. V1 (CMV)WAS STOPPED IN THE RT LANE WITH ITS 4-WAY F	27	2610	2-Mon	11	23	2015	0701	N
	27	2610	1-Sun	3	2	2014	1400	N
VEH 1 IN MIDDLE LN. DRV STATED A VEHICLE CAME INTO HER LANE FROM THE LEFT HAND LN. DRV 1 STATED S	27	2610	6-Fri	3	7	2014	1321	C
ON DECEMBER 6, 2013 2 CAR PD ACCIDENT UNIT 1 WAS UNINSURED AT THE TIME OF THE ACCIDENT. REFER TO	27	2610	6-Fri	12	6	2013	1430	N
VEHICLE 2 W/B CARTWAY LANE WAITING IN TRAFFIC TO TURN N/B ONTO PLYMOUTH ROAD. VEHICLE 1 W/B CARTWAY	27	2610	5-Thu	1	31	2013	1544	C
DRIVER #1 SAID HE LOST TRACTION WHILE MAKING A LEFT TURN ONTO PLYMOUTH RD FROM CARTWAY LN. DRIVER #	27	2610	7-Sat	3	1	2014	1915	N
INFORMATION BASED OFF DRIVERS STATMENTS.NO WITNESSES. VEHICLE 1 STOPPED AT RED LIGHT IN THE LEFT LN	27	2610	2-Mon	4	14	2014	1854	N
. NO INJURIES. VEH 1 WAS TOWED TO MATTS AUTO BY MATT'S AUTO. SQD 435 VID. '	27	2610	1-Sun	6	7	2015	1508	N

															PERSON1		
NUM_KILLED	NUM_VEH	JUNC	SL	TYPE	DIAG	LOC1	TCD	LIT	WTHR1	WTHR2	SURF	CHAR	DESGN	ACC_NUM	VTYPE	DIR	ACT
0	2	0	25	1	5	0	1	1	2	0	2	0	0	131210031	1	3	8
0	2	0	0	1	1	0	1	1	1	0	1	0	0	131410067	1	2	6
0	2	0	35	1	3	0	1	1	2	0	1	0	0	132410068	1	2	6
0	2	0	35	1	3	0	1	4	7	0	3	0	0	150360086	3	2	6
0	2	4	40	1	6	1	1	1	1	0	1	2	5	153400040	35	6	1
0	2	0	15	1	2	0	1	1	1	0	1	0	0	140940112	1	5	1
0	2	1	35	1	1	1	98	1	2	0	2	1	5	140660190	3	1	99
0	2	1	35	1	2	1	98	1	99	99	99	1	5	133530144	3	5	37
0	2	7	25	1	1	1	1	1	1	0	1	1	5	130320025	1	8	5
0	2	4	35	1	90	1	1	4	2	0	5	1	5	140610019	1	2	6
0	2	4	35	1	3	1	1	1	1	0	1	1	5	141040114	3	7	6
0	2	4	40	1	1	1	1	1	1	0	1	1	3	151580093	1	5	1

								PERSON2											PERSON3
FAC1	FAC2	POSN	INJ	EQP	PHYS	AGE	SEX	VTYPE	DIR	ACT	FAC1	FAC2	POSN	INJ	EQP	PHYS	AGE	SEX	VTYPE
0	0	1	N	0	0	29	F	3	5	1	0	0	1	N	4	0	66	F	
0	0	1	N	4	0	34	M	1	2	6	0	0	1	N	0	0	49	F	
0	0	1	N	4	0	26	M	1	2	6	0	0	1	N	0	0	35	M	
0	0	1	N	4	0	65	F	3	5	1	0	0	1	N	0	0	33	M	
8	0	1	N	4	1	51	M	2	6	5	1	0	1	N	4	1	37	M	
0	0	1	N	4	0	55	M	1	5	4	0	0	1	N	0	0	50	F	
99	0	1	C	4	1	23	F	1	1	99	99	0	1	N	3	1	52	F	
2	8	1	N	99	1	46	F	1	5	1	1	0	1	N	99	1	61	F	
1	0	1	C	4	1	52	F	3	7	1	4	0	1	N	4	1	48	F	
0	0	1	N	4	1	87	F	35	2	17	11	0	1	N	4	1	51	M	
1	0	1	N	4	1	16	F	1	5	32	5	2	1	N	4	1	55	M	
15	0	1	N	4	1	24	F	1	5	1	1	0	1	N	4	1	55	M	


PERSON4
DIR
ACT
FAC1
FAC2
POSN
INJ
EQP
PHYS
AGE
SEX
VTYPE
DIR
ACT
FAC1
FAC2
POSN
INJ
EQP
PHYS
AGE
SEX

Plymouth Road (300's & 400's) 2013 - 2015

Crash data is managed by the Mn/DOT Office of Traffic, Safety, and Operations.

SYS	NUM	REF_POINT	GIS_ROUTE	GIS_TM	RD_DIR	ELEM	RELY	INV	R_U
04	27000061	015+00.454	0427000061	15.454	N	351	1	3	U
04	27000061	015+00.454	0427000061	15.454	Z	351	1	3	U
~~04~~	~~27000061~~	~~015+00.454~~	~~0427000061~~	~~15.454~~	~~W~~	~~B04~~	~~1~~	~~3~~	~~U~~
04	27000061	015+00.454	0427000061	15.454	Z	351	1	3	U
04	27000061	015+00.454	0427000061	15.454	Z	351	2	3	U
04	27000061	015+00.454	0427000061	15.454	Z	351	2	3	U
04	27000061	015+00.454	0427000061	15.454	Z	A14	1	1	U

ATP	CO	CITY	DOW	MONTH	DAY	YEAR	TIME	SEV	NUM_KILLED
DRIVER OF VEHICLE #1 WAS STOPPED N/B ON PLYMOUTH RD PRIOR TO THE ENTRANCE RAMP TO E/B I-394 AND STA	27	2610	6-Fri	3	7	2014	1156	N	0
	27	2610	1-Sun	3	16	2014	1742	C	0
~~UNIT 1 FOLLOWING ROADWAY EXITING OFF OF 394 FOR PLYMOUTH RD IN LEFT LANE TO TURN LEFT. UNIT 2 IN MI~~	~~27~~	~~2610~~	~~5 Thu~~	~~5~~	~~1~~	~~2014~~	~~1957~~	~~N~~	~~0~~
DRIVER #1 STATED SHE WAS HEADED SOUTH ON COUNTY RD 61 AND WAS STOPPED AT THE STOPLIGHT TO TURN WEST	27	2610	3-Tue	2	24	2015	1919	N	0
DRIVER OF UNIT 2 SB ON PLYMOUTH ROAD TO MAKE A RIGHT TURN ONTO RIDGEHAVEN LN. DRIVER OF UNIT 1 HAD	27	2610	5-Thu	5	7	2015	1635	N	0
DRIVER #1 STATED SHE WAS GOING SOUTHBOUND ON CO RD 61 AND WAS FOLLOWING A VEHICLE IN FRONT OF HER.	27	2610	7-Sat	6	6	2015	0957	N	0
VEH 1 AND VEH 2 WERE ENTERING RAMP TO E/B 394 FROM PLYMOUTH ROAD. VEH 1 SLOWED FOR OTHER MERGING T	27	2610	6-Fri	9	4	2015	1626	N	0

														PERSON1						
NUM_VEH	JUNC	SL	TYPE	DIAG	LOC1	TCD	LIT	WTHR1	WTHR2	SURF	CHAR	DESGN	ACC_NUM	VTYPE	DIR	ACT	FAC1	FAC2	POSN	INJ
2	2	30	1	1	1	1	1	1	0	4	1	5	140660134	1	1	1	1	0	1	N
2	1	35	1	1	1	98	1	2	0	1	2	5	140750068	1	1	11	16	0	1	N
~~2~~	~~1~~	~~25~~	~~1~~	~~2~~	~~1~~	~~98~~	~~3~~	~~1~~	~~0~~	~~1~~	~~5~~	~~2~~	~~141220007~~	~~1~~	~~7~~	~~1~~	~~1~~	~~0~~	~~1~~	~~N~~
2	4	30	1	1	1	1	4	1	0	1	2	5	150550201	1	6	3	0	0	1	N
2	7	35	1	5	1	1	1	2	0	1	1	5	151280024	1	7	1	1	0	1	N
2	4	35	1	2	1	1	1	1	0	1	2	5	151570164	1	5	1	15	2	1	N
2	4	30	1	1	1	1	1	1	0	1	1	2	153080238	1	3	16	1	0	1	N

				PERSON2								PERSON3						
EQP	PHYS	AGE	SEX	VTYPE2	DIR3	ACT4	FAC15	FAC26	POSN7	INJ8	EQP9	PHYS10	AGE11	SEX12	VTYPE13	DIR14	ACT15	FAC116	FAC217	POSN18
4	1	26	F	1	1	1	21	0	1	N	4	1	37	F						
4	1	16	F	1	1	11	1	0	1	C	4	98	32	F						
~~4~~	~~1~~	~~45~~	~~M~~	~~3~~	~~7~~	~~1~~	~~10~~	~~15~~	~~1~~	~~N~~	~~4~~	~~1~~	~~28~~	~~F~~						
4	1	54	F	1	6	3	0	0	1	N	4	1	47	F						
4	1	52	F	3	5	5	2	5	1	N	4	1	23	M	3	5				
4	1	40	F	1	6	6	0	0	1	N	4	1	55	F						
4	1	31	F	1	3	16	1	0	1	N	4	1	36	M						


PERSON4
INJ19
EQP20
PHYS21
AGE22
SEX23
VTYPE24
DIR25
ACT26
FAC127
FAC228
POSN29
INJ30
EQP31
PHYS32
AGE33
SEX34

TH 394 (100's & 200's) (A&B's) 2013 -2015

Crash data is managed by the Mn/DOT Office of Traffic, Safety, and Operations.

SYS	NUM	REF_POINT	GIS_ROUTE	GIS_TM	RD_DIR	ELEM	RELY	INV	R_U	ATP
01	00000394	000+00.727	0100000394	0.727	Z	—	1	3	U	ACCORDING TO THE DRIVERS INVOLVED, VEHICLE 1 REAR-ENDED VEHICLE 2 AS BOTH WERE ON THE RAMP TO WB I-
01	00000394	000+00.727	0100000394	0.727	E	—	1	1	U	UNIT 1 TRAVELING UP THE PLYMOUTH RD RAMP FROM EB 394 WHEN UNIT 2 REAR ENDED UNIT 1. NO AIRBAGS DEPL
01	00000394	000+00.748	0100000394	0.748	W	B04	1	1	U	D1 STTAED GOING 30 MPH, LIGHT TRAFFIC ON ROAD, WAS DOWNSHIFTING WHEN HE FELT VEHICLE START TO ROLL
01	00000394	000+00.748	0100000394	0.748	W	220	2	1	U	THE DRIVER OF VEHICLE ONE STATED THAT HE WAS TRAVELING WEST ON ISTH 394 IN THE RIGHT LANE. HE STAT
01	00000394	000+00.748	0100000394	0.748	W	220	1	1	U	THE DRIVER OF V1 STATED THAT SHE WAS LOOKING BACK TO CHANGE LANES AND TRAFFIC WAS SLOWING WHEN SHE
01	00000394	000+00.748	0100000394	0.748	W	220	1	1	U	VEHICLE 2 WAS WB 394 IN THE CENTER LANE. VEHICLE 1 WAS COMING OF THE WB 394 RAMP FROM PLYMOUTH RD.
01	00000394	000+00.748	0100000394	0.748	E	108	1	1	U	LIGHT SNOW CONDITIONS. ROADWAY WET WITH AREAS OF SLUSH. V1 WAS I-394 E/B WHEN IT SPUN OUT AND HIT
01	00000394	000+00.748	0100000394	0.748	W	220	1	1	U	D1 SAID THAT HE WAS IN THE LEFT LANE GOING EB 394 WHEN HE SAID THAT VAN CAME INTO HIS LANE FROM TH
01	00000394	000+00.748	0100000394	0.748	E	108	2	1	U	DV1 WAS IN THE RIGHT LANE AND WAS FOLOWING TRAFFIC, WHEN DV2 ATTEMPTED A LANE CHANGE FROM THE CENTE
01	00000394	000+00.748	0100000394	0.748	W	206	1	1	U	THE DRIVER OF VEHICLE ONE STATED THAT HE WAS TRAVELING WEST ON ISTH 394 IN THE RIGHT LANE OF THREE.
01	00000394	000+00.748	0100000394	0.748	W	206	1	1	U	VEH 1 WAS TRAVELING WESTBOUND IN THE RIGHT LANE AT THE POSTED SPEED LIMIT, ACCORDING TO HIS STATEME
01	00000394	000+00.748	0100000394	0.748	E	A14	1	1	U	V1 STOPPED AT RED LIGHT ON TOP OF RAMP EB ISTH 394 TO PLYMOUTH RD. DRIVER STATED THAT AS SHE WAS W
01	00000394	000+00.748	0100000394	0.748	W	206	2	1	U	V1 TRAVELING WB ISTH 394 @ PLYMOUTH RD IN RIGHT LANE OF TRAFFIC. DRIVER STATED TRAFFIC SLOWED SUD
01	00000394	000+00.748	0100000394	0.748	E	110	1	1	U	V1 HAD RUN OUT OF GAS AND WAS PARKED ON THE RIGHT SHOULDER, WITH THE DRIVERS SIDE TIRES STOPPED ON
01	00000394	000+00.748	0100000394	0.748	E	A14	1	3	U	VEHICLE 1 WAS ROUNDING CURVE COMING OFF OF 394EB TO PLYMOUTH ROAD. DRIVER 1 STATED SHE WAS PLANNING
01	00000394	000+00.748	0100000394	0.748	Z	A05	1	1	U	VEH #1, DRIVER STATED SHE WAS COMMING DOWN RAMP FROM PLYMOUTH ROAD TO 394 EAST BOUND WHEN THE CARS
01	00000394	000+00.748	0100000394	0.748	W	200	1	1	U	THE DRIVER OF VEHICLE ONE STATED THAT HE WAS TRAVELING WEST ON ISTH 394 IN THE RIGHT LANE. HE STAT
01	00000394	000+00.748	0100000394	0.748	W	B04	1	3	U	DRIVER VEH #1 STATED SHE WAS TRYING TO STOP ON EXIT RAMP FROM W/B I-394 ONTO PLYMOUTH RD. DRIVER VE
01	00000394	000+00.748	0100000394	0.748	E	110	1	1	U	VEH 1 WAS SLOWING DOWN FOR TRAFFIC ON 394 APPROACHING PLYMOUTH RD. VEH 2 WAS UNABLE TO STOP AND RE
01	00000394	000+00.748	0100000394	0.748	W	220	1	1	U	D1 STATED THAT SHE CAME DOWN THE RAMP, FISH-TAILED, SPUN OUT TO THE RIGHT AND MADE CONTACT WITH THE
01	00000394	000+00.748	0100000394	0.748	E	110	2	1	U	VEH 1 TRAVELING 394 EB APPROACHING PLYMOUTH ROAD. VEH 1 SLOWED FOR TRAFFIC. VEH 2 WAS BEHIND VEH
01	00000394	000+00.748	0100000394	0.748	W	203	1	1	U	V#1 WAS TRAVELING WB ON 394 NEAR PLYMOUTH ROAD. IT WAS SNOWING AND THE ROADS WERE SNOW-COVERED A
01	00000394	000+00.748	0100000394	0.748	E	102	2	1	U	VEHICLE #1 WAS EAST BOUND ISTH394 IN THE CENTER LANE. DRIVER OF VEHCLE #1 SAID SHE HIT SLUSH ON TH
01	00000394	000+00.748	0100000394	0.748	E	102	1	1	U	WITNESS SAID THAT D1 WAS GOING EB 394 TRAVELING ABOUT 65-70 MPH THEN SWERVED OVER TO THE RIGHT, HIT
01	00000394	000+00.748	0100000394	0.748	W	201	1	1	U	BOTH VEHICES IN RIGHT LANE TRAVELING W/B ON I-394 JUST EAST OF PLYMOUTH ROAD. TRAFFIC WAS SLOWING
01	00000394	000+00.748	0100000394	0.748	W	203	1	1	U	D1 STATED THAT SHE WAS TRAVELING IN THE RIGHT LANE OF THREE LANES AND THERE WAS A SEMI IN THE MIDDL
01	00000394	000+00.748	0100000394	0.748	W	—	1	1	U	FOUR VEHICLE CRASH OCCURRED IN THE RIGHT LANE OF 394 WB. TRAFFIC WAS HEAVY AT THE TIME OF THE CRA
01	00000394	000+00.748	0100000394	0.748	Z	A05	1	0	U	
01	00000394	000+00.748	0100000394	0.748	W	B04	2	1	U	- UNIT 1 WAS TRAVELING WESTBOUND ON I394 RAMP TO PLYMOUTH RD. UNIT 1 WAS ATTEMPTING TO TURN NORTHBO
01	00000394	000+00.748	0100000394	0.748	W	101	1	1	U	- UNIT 1 WAS TRAVELING WESTBOUND ON I394 AT RIDGEDALE DRIVE IN THE LEFT LANE. - UNIT 1 SPUN OUT AND
01	00000394	000+00.748	0100000394	0.748	E	A29	2	1	U	D1 WAS SLOWING TO STOP WITH TRAFFIC WHEN SHE WAS REARENDED BY D2. D2 SAID SHE WAS SLOWING TO STOP W
01	00000394	000+00.748	0100000394	0.748	E	102	2	1	U	- UNIT 1 WAS TRAVELING EASTBOUND ON I394 AT PLYMOUTH RD IN THE RIGHT LANE. - UNIT 2 WAS TRAVELING E
01	00000394	000+00.748	0100000394	0.748	E	A29	1	1	U	THE DRIVER OF VEHICLE ONE STATED THAT HE WAS TRAVELING EAST ON THE RAMP FROM ISTH 394 TO GO ONTO PL
01	00000394	000+00.748	0100000394	0.748	E	102	2	1	U	VEH 1 SIDE SWIPED VEH 2... VEH 1 DID NOT STOP. NO INJURIES, MODERATE DAMAGE TO VEHICLE 2, DRIVER
01	00000394	000+00.748	0100000394	0.748	W	203	2	1	U	DRIVER FOUND ON SIDE OF ROAD. SUSPECTED FELL ASLEEP, HIT BARRIER WALL ON LEFT SIDE. CRAWLED OUT ON
01	00000394	000+00.748	0100000394	0.748	Z	A14	1	0	U	
01	00000394	000+00.748	0100000394	0.748	S	—	1	3	U	VEH 1 WAS TRAVELING SB ON PLYMOUTH ROAD NEAR THE NORTH FRONTAGE ROAD AND THE WB I-394 EXIT RAMP. V
01	00000394	000+00.748	0100000394	0.748	N	102	2	3	U	//
01	00000394	000+00.748	0100000394	0.748	W	206	2	1	U	- UNIT 1 WAS TRAVELING WESTBOUND ON I394 AT PLYMOUTH ROAD IN THE RIGHT CENTER LANE. - UNIT 2 WAS TR
01	00000394	000+00.748	0100000394	0.748	E	201	2	1	U	DRIVER # 2 STATED THAT SHE WAS MERGING ONTO EAST BOUND 394 WHEN SHE CRASHED INTO UNIT # 1. DRIVER
01	00000394	000+00.748	0100000394	0.748	E	102	2	1	U	VEHICLE 2 WAS SLOWING IN HEAVY TRAFFIC. DRIVER 1 WAS FOLLOWING TOO CLOSE AND INATTENTIVE TO CONDITI
01	00000394	000+00.748	0100000394	0.748	W	—	1	1	U	- UNIT 1 WAS TRAVELING WESTBOUND ON I394 AT PLYMOUTH RD IN THE RIGHT LANE. - UNIT 2 WAS TRAVELING N
01	00000394	000+00.748	0100000394	0.748	Z	A29	2	3	U	VEH 2 EB RAMP 394 TO RIDGDALE DR/LEFT LANE. VEH 1 EB RAMP 394 TO PLYMOUTH RD/RIGHT LANE. DRV 2 STA
01	00000394	000+00.748	0100000394	0.748	E	—	2	1	U	DRIVER OF VEHICL #1, HAD JUST STOPPED IN TRAFFIC WHEN SHE WAS REAR ENDED BY VEHICLE #2. DRIVER OF
01	00000394	000+00.748	0100000394	0.748	E	103	2	1	U	V1 WAS COMING FROM PLYMOUTH AVE. THE VEH CROSSED OVER THE BRIDGE THAT WAS ICE COVERED. DV1 STATED
01	00000394	000+00.748	0100000394	0.748	W	203	2	1	U	V1 WAS ENTERING FROM PLYMOUTH ROAD. D1 WAS MERGING FROM THE RIGHT LANE, THAT ENDS INTO THE R/C LAN
01	00000394	000+00.749	0100000394	0.749	E	B04	1	1	U	D1 SAID THAT SHE WAS IN THE LEFT (LEFT) TURN LANE TO TAKE PLYMOUTH ROAD FROM WB 394 STOPPED AT THE
01	00000394	000+00.763	0100000394	0.763	W	—	1	1	U	V1, V2, AND V3 WERE TRAVELING WB 394 AT PLYMOUTH ROAD. ALL VEHICLES WERE IN THE RIGHT LANE. V3 WA

CO	CITY	DOW	MONTH	DAY	YEAR	TIME	SEV	NUM_KILLED	NUM_VEH	JUNC	SL	TYPE	DIAG	LOC1	TCD	LIT	WTHR1	WTHR2	SURF	CHAR	DESGN
27	2610	1-Sun	6	16	2013	1321	C	0	2	1	30	1	1	1	98	1	1	0	1	6	2
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27	2610	4-Wed	1	2	2013	0050	N	0	1	1	55	54	90	1	98	4	1	0	2	6	2
27	2610	6-Fri	1	25	2013	1547	N	0	2	1	55	1	1	1	98	1	1	0	1	1	1
27	2610	4-Wed	2	6	2013	0820	C	0	2	1	55	1	1	1	98	1	1	0	1	1	1
27	2610	4-Wed	3	13	2013	1612	N	0	2	1	55	1	90	1	98	1	1	0	5	4	1
27	2610	6-Fri	4	19	2013	0855	N	0	1	22	55	34	90	1	98	1	4	0	4	2	1
27	2610	6-Fri	7	12	2013	1344	N	0	2	1	55	1	2	1	98	1	1	0	1	1	1
27	2610	7-Sat	7	27	2013	1303	N	0	2	1	55	1	2	1	98	1	2	0	1	1	1
27	2610	7-Sat	8	10	2013	1146	C	0	2	1	55	1	1	1	98	1	1	0	1	1	1
27	2610	4-Wed	8	14	2013	1755	C	0	4	1	55	1	1	1	98	1	1	0	1	1	1
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27	2610	3-Tue	9	10	2013	0751	N	0	3	1	55	1	1	1	98	1	2	0	1	2	1
27	2610	3-Tue	10	1	2013	1806	C	0	2	1	55	1	1	1	98	1	1	0	1	1	1
27	2610	3-Tue	10	22	2013	0838	C	0	3	4	35	1	1	1	1	1	2	0	1	5	2
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27	2610	7-Sat	12	21	2013	1116	N	0	2	1	55	1	1	1	98	1	1	0	2	1	1
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27	2610	6-Fri	11	13	2015	1721	N	0	3	1	55	1	1	1	98	3	1	0	1	1	1

	PERSON1											PERSON2										
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PERSON3											PERSON4										
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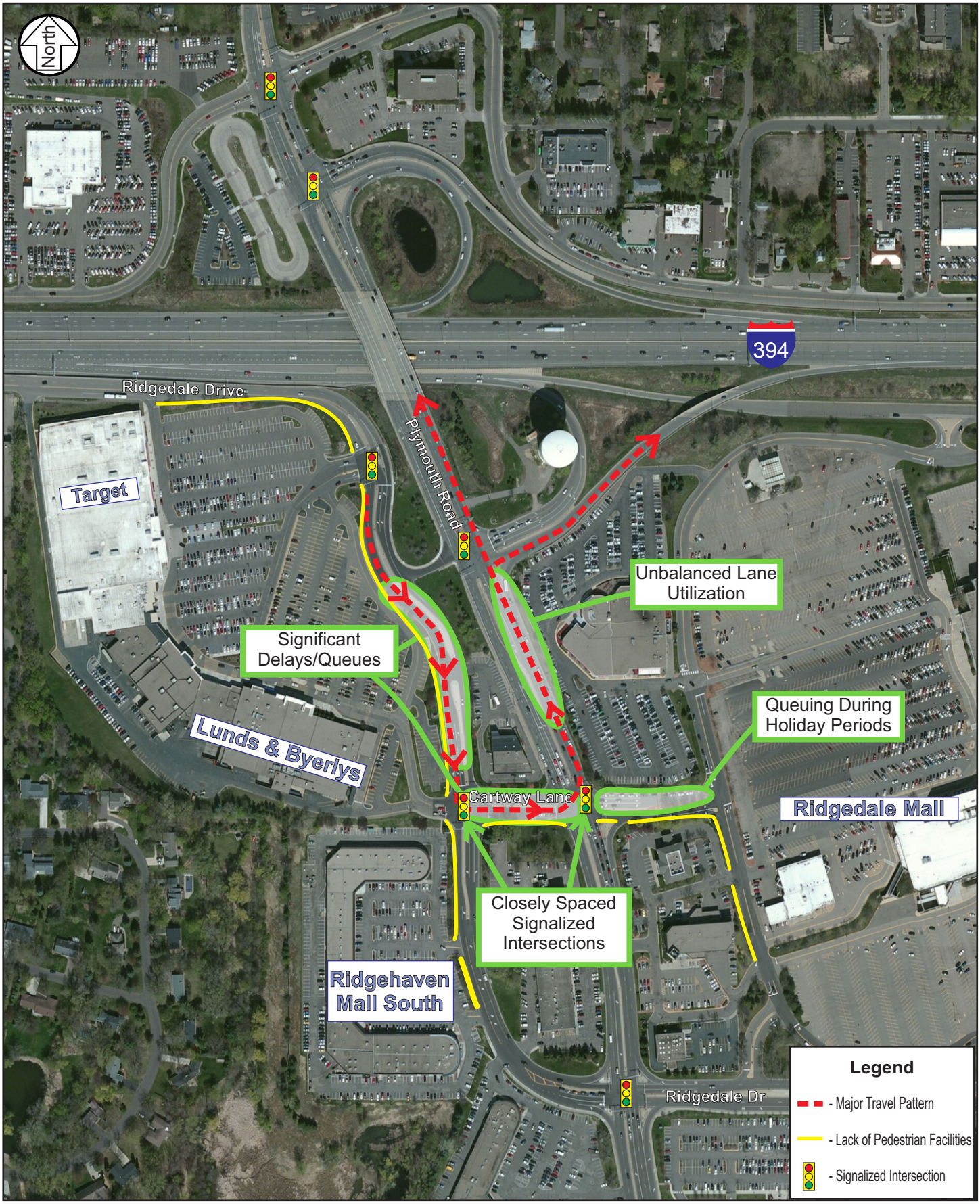

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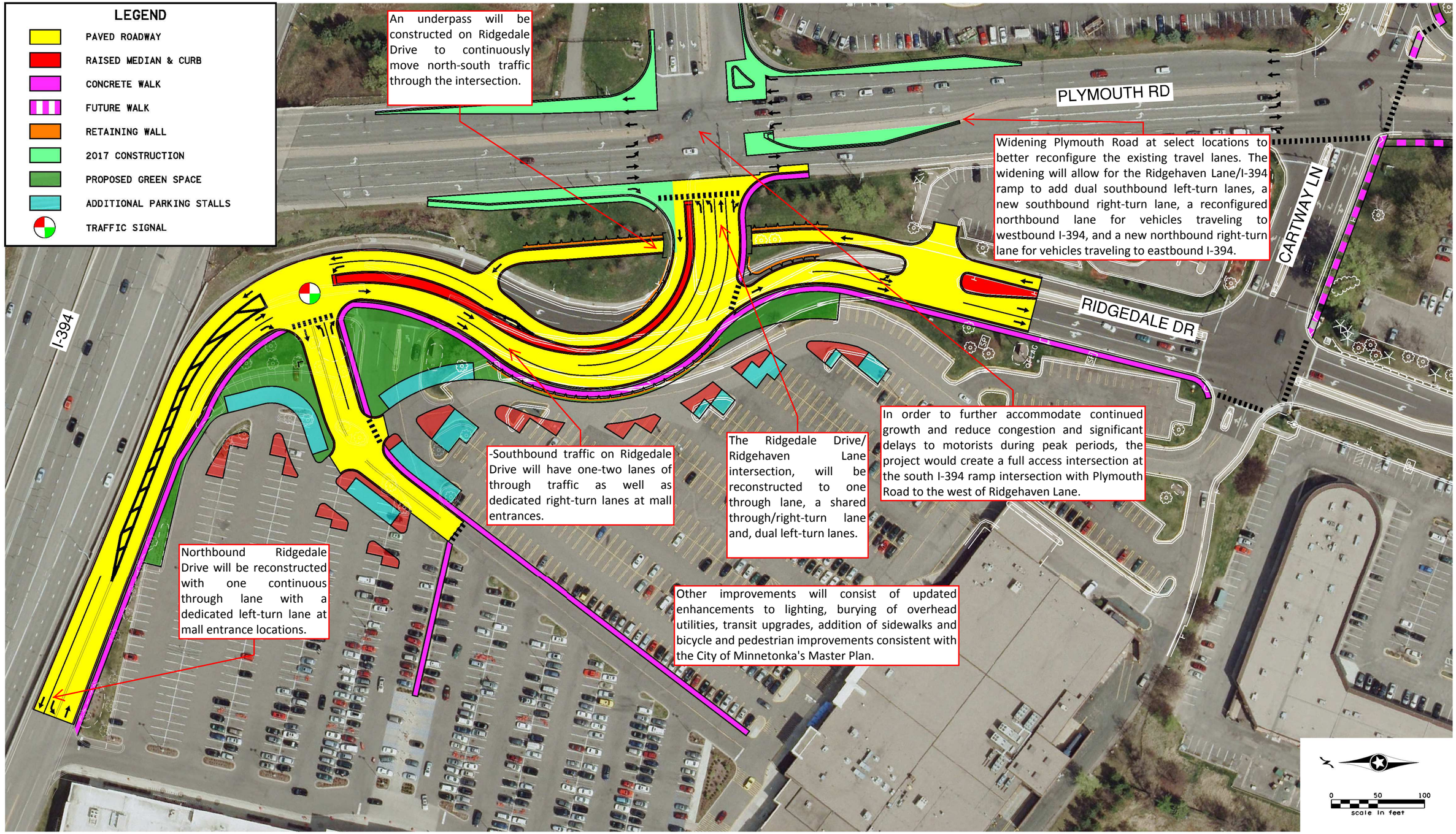
SRF Consulting Group, Inc.

Issues Map

Plymouth Road and Cartway Lane/Ridgehaven Lane Reconstruction
City of Minnetonka

Figure 1A

00169236
June 2016



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SRF Consulting Group, Inc.

Job # 8685
11/4/2015

PREFERRED ALTERNATIVE - Alternate 5B

Ridgedale Drive / Cartway Lane Alternative Evaluation
MINNETONKA

Figure 1B

I-394 South Ramps, Looking West Figure 2 - Existing Conditions - Google Street View

Ridgehaven Lane (entrance into Ridgedale Center) Looking West

Byerly's Driveway Entrance, Ridgedale Drive, Looking North

Target Entrance – Ridgedale Drive, Northern Project Limits - Looking West

Plymouth Road (CSAH 61), / Ridgedale Drive Intersection, Looking North

Plymouth Road (CSAH 61 / Cartway Lane intersection – Looking South

Ridgedale Drive / Cartway Lane intersection – Looking North

Ridgehaven Lane Entrance, Looking East from Ridgedale Drive towards I-394 ramps

Hennepin County
Public Works

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

612-596-0300, Phone
612-321-3410, Fax
www.hennepin.us/transportation

July 6, 2016

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

RE: Ridgehaven Mall Improvements near CSAH 61 (Plymouth Road) and I-394
Regional Solicitation Funding Submittal

Dear Ms. Koutsoukos:

Hennepin County has been notified that the City of Minnetonka is submitting an application for regional solicitation funding for the proposed Ridgehaven Mall project. This project includes improvements to the Ridgedale Avenue at CSAH 61 (Plymouth Road) intersection. Throughout the development of this project, the City of Minnetonka has coordinated with Hennepin County by providing review and comment opportunities as various alternatives were studied.

Hennepin County supports this funding application and will operate and maintain CSAH 61 (Plymouth Road) for the useful life of the improvement. Hennepin County looks forward to working with the City of Minnetonka on this project, if the city is successful in securing regional solicitation funding.

Sincerely,

James N. Grube

James Grube, P.E.
Director of Transportation Project Delivery and County Engineer

Minnesota Department of Transportation
Metropolitan District
Waters Edge Building
1500 County Road B2 West
Roseville, MN 55113

July 8, 2016

Will Manchester
City of Minnetonka
11522 Minnetonka Blvd
Minnetonka, MN 55305

Dear Mr. Manchester,

This letter is to serve as your notification that the Interchange Review Committee has determined that the proposed interchange modifications at I-394 and Plymouth Road are consistent with the qualifying criteria found in Appendix F of the Council's Transportation Policy Plan and no additional documentation is necessary.

As the design process continues please be sure to clarify alternative 5b. The left turn coupled with the lack of lane continuity for the 2 southbound through lanes as shown could cause backups.

As the project layout and design progresses, please continue to work with MnDOT, FHWA and Met Council to assure the technical and design criteria of Appendix F continue to be met and that appropriate steps are taken to complete the Metropolitan Council's Controlled Access Approval (contact Steve Peterson at 651-602-1819) and FHWA's Interchange Access Request (IAR) (including a PM peak hour analysis) when needed.

We appreciate your efforts to work with the Interchange Review Committee in our effort to understand this project.

If you have any questions concerning this letter, please contact me at (651) 234-7784.
Sincerely,

Karen Scheffing
Principal Planner

CC:
Lynne Bly, MnDOT
Tony Fischer, MnDOT
Ron Rauchle, MnDOT
John Griffith, MnDOT
Steve Peterson, Met Council
Ryan Hickson, FHWA
Cyrus Knutson, MnDOT

Minnesota Department of Transportation
Metro District
1500 West County Road B-2
Roseville, MN 5511

July 8, 2016

William D. Manchester, P.E.
Director of Engineering
City of Minnetonka
14600 Minnetonka Blvd
Minnetonka MN 55345

RE: Regional Solicitation Application for the Ridgehaven Area Improvements project

Dear Mr. Manchester:

Thank you for requesting a letter of support from MnDOT for the Metropolitan Council/Transportation Advisory Board (TAB) 2016 Regional Solicitation. Your application for the Ridgehaven Area Improvements project impacts MnDOT right of way on trunk highway I-394.

MnDOT, as the agency with jurisdiction over I-394, would allow the improvements included in the application for Ridgehaven Area Improvements project. Details of any future maintenance agreement with the City would be determined during project development to define how the improvements will be maintained for the project's useful life.

This project has no funding from MnDOT. In addition, the Metro District currently has no discretionary funding in year 2020 of the State Transportation Improvement Program (STIP) or year 2021 of the Capital Highway Investment Plan (CHIP) to assist with construction or assist with MnDOT services such as final design or construction engineering of the project. Please continue to work with MnDOT Area staff to assist in identifying additional project funding if needed.

Sincerely,

Scott McBride, P.E.
Metro District Engineer

Cc: Elaine Koustsoukos, Metropolitan Council
John Griffith, MnDOT Metro District – West Area Manager

City Council Agenda Item #14
Meeting of April 11, 2016

Brief Description: Resolution for the Ridgehaven Lane/Ridgedale Drive (Cartway Lane) and Plymouth Road improvement projects

Recommended Action: Adopt the resolution

Introduction

The Ridgedale area has seen a number of changes over the past several years including the recent addition of Nordstrom and expansion of Ridgedale Center, construction of the I-394 westbound ramp at Ridgedale Drive, and redevelopment of the Highland Bank site. These improvements align with the long term progression of this area as envisioned in the city's Ridgedale Village Center study. As new development interest continues to grow in the area, the city is positioning for the continued transformation.

The 2016-2020 Capital Improvement Program (CIP) was reviewed by the city council on April 27, 2015. As a part of that discussion, several Ridgedale area improvements were discussed including road, infrastructure, and pedestrian improvements. These improvements included the reconstruction of Ridgedale Drive near Cartway Lane and Ridgehaven Lane, as well as capacity improvements on Plymouth Road. These projects also include undergrounding of overhead utility lines, street lighting, and streetscaping.

Background

The primary source of congestion in this area is due to the heavy southbound left-turn movement on Ridgedale Drive to go eastbound on Cartway Lane, followed by a heavy left-turn movement for eastbound Cartway Lane to go northbound on Plymouth Road. This multiple dual left-turn situation handles approximately 500-600 vehicles in peak hour movements during non-holiday peak times, and substantially higher numbers during holiday peak hours, creating delays between the traffic signals in the area.

Cartway Lane/Ridgedale Drive area roadway improvements
Staff presented a preferred Cartway Lane/Ridgedale Drive improvements concept to the city council on August 17, 2015. The proposed concept was designed to reduce congestion by eliminating the Cartway Lane and Ridgedale Drive signal system. Eliminating this signal would reduce delays by allowing just one signal to control the heavy left-turn movement, instead of two.

This staff preferred concept was originally supported by Byerly's (Invesco) representatives following several meetings with staff; however, just prior to the council meeting support was retracted. Due to limited property and funding, this partnership with other area businesses was necessary in order to make the project feasible. Byerly's, Target, and Ridgehaven North and South representatives expressed further concerns at the meeting regarding the preferred concept and their desire to keep the public north to south connection on Ridgedale Drive through the intersection of Cartway Lane. Council directed staff to review additional concepts to relieve congestion in the area.

Staff developed six additional concepts and met with Byerly's, Target, and Ridgehaven North and South representatives multiple times to discuss revised concept alternatives that could be agreeable to all parties. Many of the new concepts were not previously possible because of right of way considerations, however recent support from Target provided new opportunities and options.

Proposed Improvements

Ridgehaven Lane/Ridgedale Drive area roadway improvements
At the October 19, 2015 study session with council, three concepts were presented focusing on the Ridgehaven Lane/Ridgedale Drive intersection and maintaining north to south connection on Ridgedale Drive.

Meetings with area businesses and residents prior to this session determined the newly proposed options to be reasonable to all parties. Each option provided improved traffic flow and reduced congestion in the area, as well as provided new pedestrian connectivity. Each option also varied in impacts to parking, type of traffic flow and cost.

The staff recommended option, Ridgehaven Underpass (5B), was generally agreed upon as the new preferred alternative for construction in 2017. This alternative created a full access intersection at Ridgehaven Lane/Plymouth Road while providing an underpass for Ridgedale Drive under Ridgehaven Lane to maintain continuous north to south traffic through the intersection. Creating this full access reduces traffic volumes at the intersections of Cartway Lane with Ridgedale Drive and Plymouth Road, and redirects it to the new full access, improving overall traffic operations in the area. The addition of sidewalks and street lighting to improve pedestrian mobility in the area is also included in the project along Ridgedale Drive and Ridgehaven Lane.

Although the project creates little to no impacts to permanent parking at Target and Byerly's, it will however need to be phased during construction to minimize traffic disruptions as much as possible and maintain traffic through the area. The recommended concept layout has been discussed with MnDOT and Hennepin County and they have expressed preliminary support, however did indicate full reviews would be necessary during final design.

Target has officially agreed to donate property needed to make this recommended option feasible at no cost to the city.

Plymouth Road area improvements
Additional capacity and safety improvements were also identified as a part of the Ridgedale Village Center study at the Plymouth Road and south I-394 ramp intersection at Ridgehaven Lane. The improvements along Plymouth Road provide widening in select locations to better reconfigure the existing travel lanes. In particular, the widening would allow for the necessary space near the Ridgehaven Lane/I-394 ramp for dual southbound left-turn lanes, a new southbound right-turn lane, a reconfigured northbound lane for vehicles traveling to westbound I-394, and potentially a new northbound right-turn lane for vehicles traveling to eastbound I-394. These improvements will require some easement acquisition.

Also, overhead utility lines are proposed to be buried starting this fall in conjunction with this project along Plymouth Road from I-394 to south of Ridgedale Drive to visually enhance the corridor as well as provide for future sidewalk and streetscaping opportunities to be completed at the time of future redevelopments.

Street Lighting/Streetscape Design
To ensure consistency for the entire Ridgedale area, staff also worked to develop master plans for decorative lighting and streetscaping. The decorative lighting master planning is intended to refresh the Ridgedale area image and provide a sense of character. This would be similar to other areas of the city including Glen Lake, Minnetonka Boulevard at County Road 101, and Shady Oak Road north of Excelsior Boulevard. The lighting would include enhanced and energy efficient LED technology and provide a variety of needs including highway/intersection, road, and pedestrian lighting. The decorative lighting master planning allows the proposed lighting style to be incorporated into the lighting needs for this project, as well as provide a consistent theme to the area for future projects or as redevelopment occurs. The staff recommended general lighting style is illustrated in this report.

Streetscaping and landscaping opportunities were also reviewed to plan for a consistent appearance to the area. Limited right of way and city property provide very limited space for these opportunities; however, redevelopment in the future will allow additional enhancements to be considered at those times. General concepts are included in this report.

Pedestrian/Trail Plan
The pedestrian and trail plan for the Ridgedale area took a comprehensive look at the pedestrian network in this area to find opportunities to improve pedestrian mobility. Staff is in the process of reviewing the city wide trail plan, internally, with the city's trails team to further identify missing links and needs. The installation of future connections in the area following this project would be proposed to be completed at the time a redevelopment occurs, or a city project is completed.

The pedestrian trail plan for Ridgedale area will be discussed further at a future time as part of the city wide trail plan review and prioritization efforts, in conjunction with the 2017-2021 Capital Improvement Program (CIP).

Public Input

Initial informational meetings for area residents and businesses regarding the on-going planning of city projects in the Ridgedale area were held on April 30, 2015. Following that meeting, the city hosted a series of three community meetings to further discuss and allow an opportunity for comments of Ridgedale area planning efforts on August 3, October 5, and December 1, 2015. The meetings included a discussion of the progress and refinement of the proposed Cartway Lane/Ridgehaven Lane/Ridgedale Drive roadway improvements, general concepts for the Ridgedale area streetscape and lighting design, and refinement of the city's pedestrian and trail plan in the area. Developing these master plans for decorative lighting and pedestrian facilities ensures cohesion for the entire Ridgedale area as development and infrastructure improvements occur. Staff further contacted 100 area business owners and tenants via letter and phone calls to solicit feedback; responses and conversations were in general supportive of the proposed improvements.

Estimated Project Costs and Funding

The total estimated construction cost, including engineering, administration, easement acquisition and contingency is $8,800,000. The budget amount for the project is shown below and is included in the 2016-2020 CIP. Estimated costs will be further refined during final design and as easement acquisition becomes more apparent. When final costs are known at the time bids are awarded, the city council will likely be requested to amend the CIP to reflect any funding changes. Currently available municipal state aid allotment can support the proposed funding.

	Budget Amount	**Proposed Funding**	**Expense**
Construction Costs			**$8,800,000**
Ridgehaven Lane/Ridgedale Drive			
Municipal State Aid	$2,000,000	$3,300,000	
Street Improvement Fund	340,000	340,000	
Storm Water Fund	600,000	600,000	
Tax Abatement	660,000	660,000	
Electric Franchise Fees	500,000	500,000	
Total	**$4,100,000**	**$5,400,000**	**$5,400,000**
Plymouth Road			

Municipal State Aid	$1,500,000	$1,500,000	
Street Improvement Fund	400,000	400,000	
Storm Water Fund	100,000	100,000	
Electric Franchise Fees	$1,400,000	$1,400,000	
Total	**$3,400,000**	**$3,400,000**	**$3,400,000**
Project Total	**$7,500,000**	**$8,800,000**	

Schedule

If the recommended actions are approved by the city council, staff anticipates developing the final plans from April through January with final council approval in January. Bids would be presented for acceptance following and construction would likely begin in April 2017. Utility burial and relocation would likely start in 2016 to allow adequate time for this work.

Recommendation

Adopt the attached resolution:

1) Approving layout #5B
2) Ordering the improvements
3) Authorizing preparation of plans and specifications
4) Authorizing easement acquisition

for the Ridgehaven Lane/Ridgedale Drive (Cartway Lane) and Plymouth Road improvement projects.

Submitted through:
Geralyn Barone, City Manager

Originated by:
Will Manchester, PE, Director of Engineering

Resolution No. 2016

Resolution approving Layout #5B, ordering the improvements in, authorizing preparation of Plans and Specifications, and authorizing Easement Acquisition for the Ridgehaven Lane/Ridgedale Drive (Cartway Lane) and Plymouth Road Improvements

---

Be It Resolved by the City Council of the City of Minnetonka, Minnesota as follows:

Section 1. Background.

1.01. A concept layout was prepared by and/or under the direction of the engineering department of the City of Minnetonka with reference to the proposed Ridgehaven Lane/Ridgedale Drive and Plymouth Road improvements.

1.02. This layout was received by the City Council on April 11, 2016 with the project to be known as: Ridgehaven Lane.

Section 2. Council Action.

2.01. The concept layout is hereby approved and the preparation of plans and specifications are hereby authorized.

2.02. The proposed improvements are hereby ordered as proposed.

2.03. The city engineer is hereby designated as the engineer for this improvement.

2.04. The city attorney and the city engineer are hereby authorized to acquire necessary easements by negotiation or condemnation.

Adopted by the City Council of the City of Minnetonka, Minnesota, on April 11, 2016.

_____

Terry Schneider, Mayor

Attest:

_____

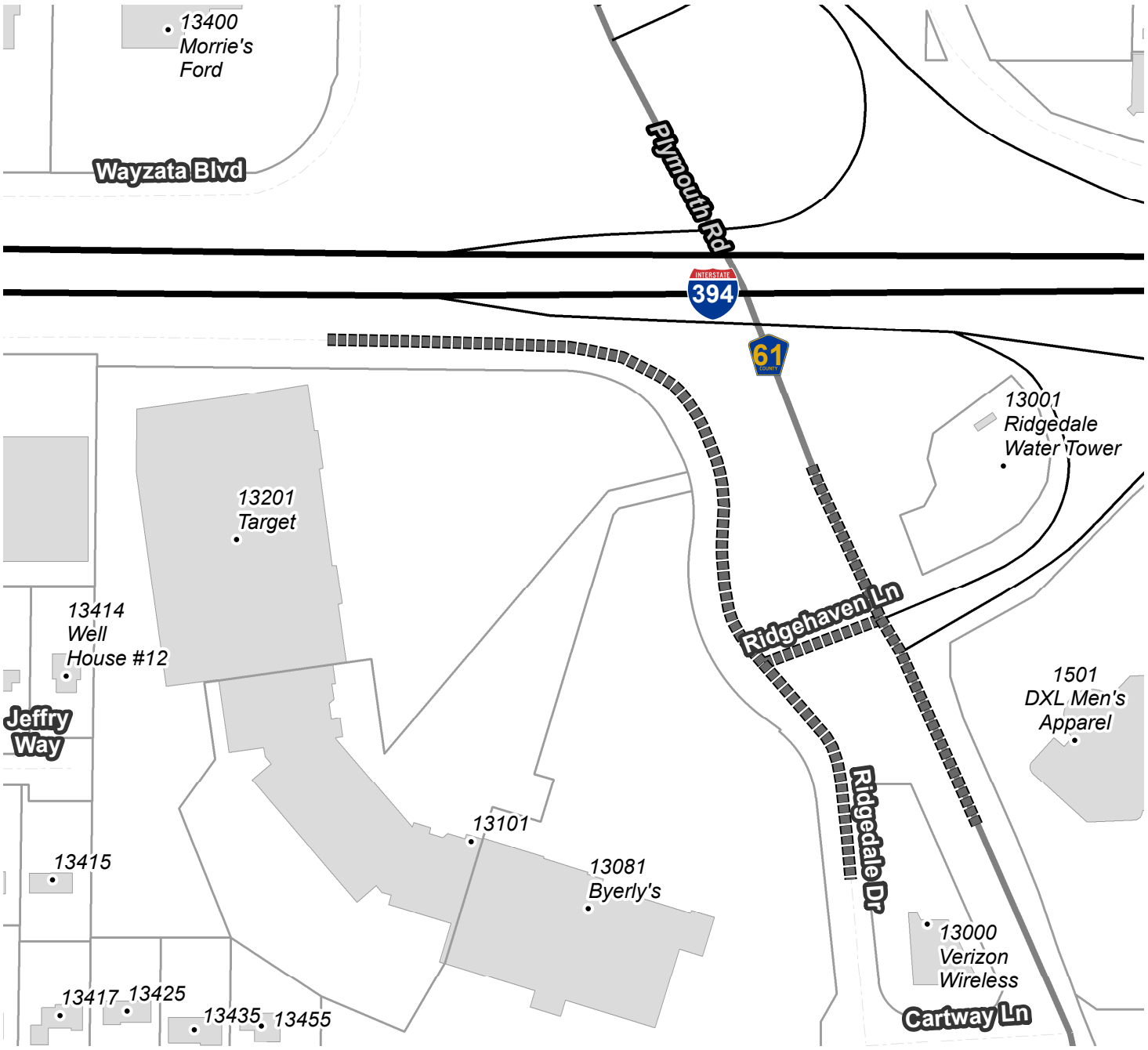
David E. Maeda, City Clerk

Action on This Resolution:

Motion for adoption:
Seconded by:
Voted in favor of:
Voted against:
Abstained:
Absent:
Resolution adopted.

I hereby certify that the foregoing is a true and correct copy of a resolution adopted by the City Council of the City of Minnetonka, Minnesota, at a duly authorized meeting held on April 11, 2016.

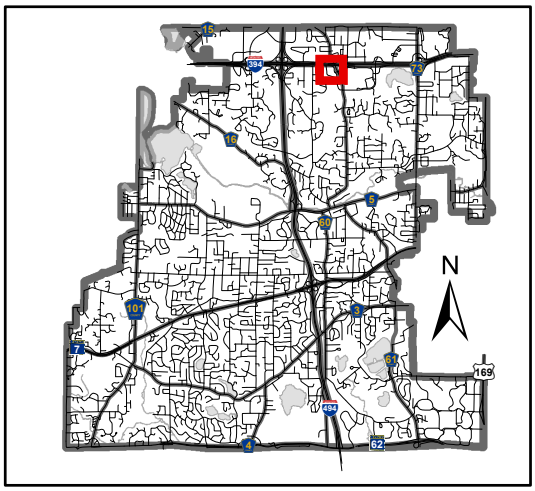
David E. Maeda, City Clerk



Ridgehaven Lane/Ridgedale Drive & Plymouth Road Improvements

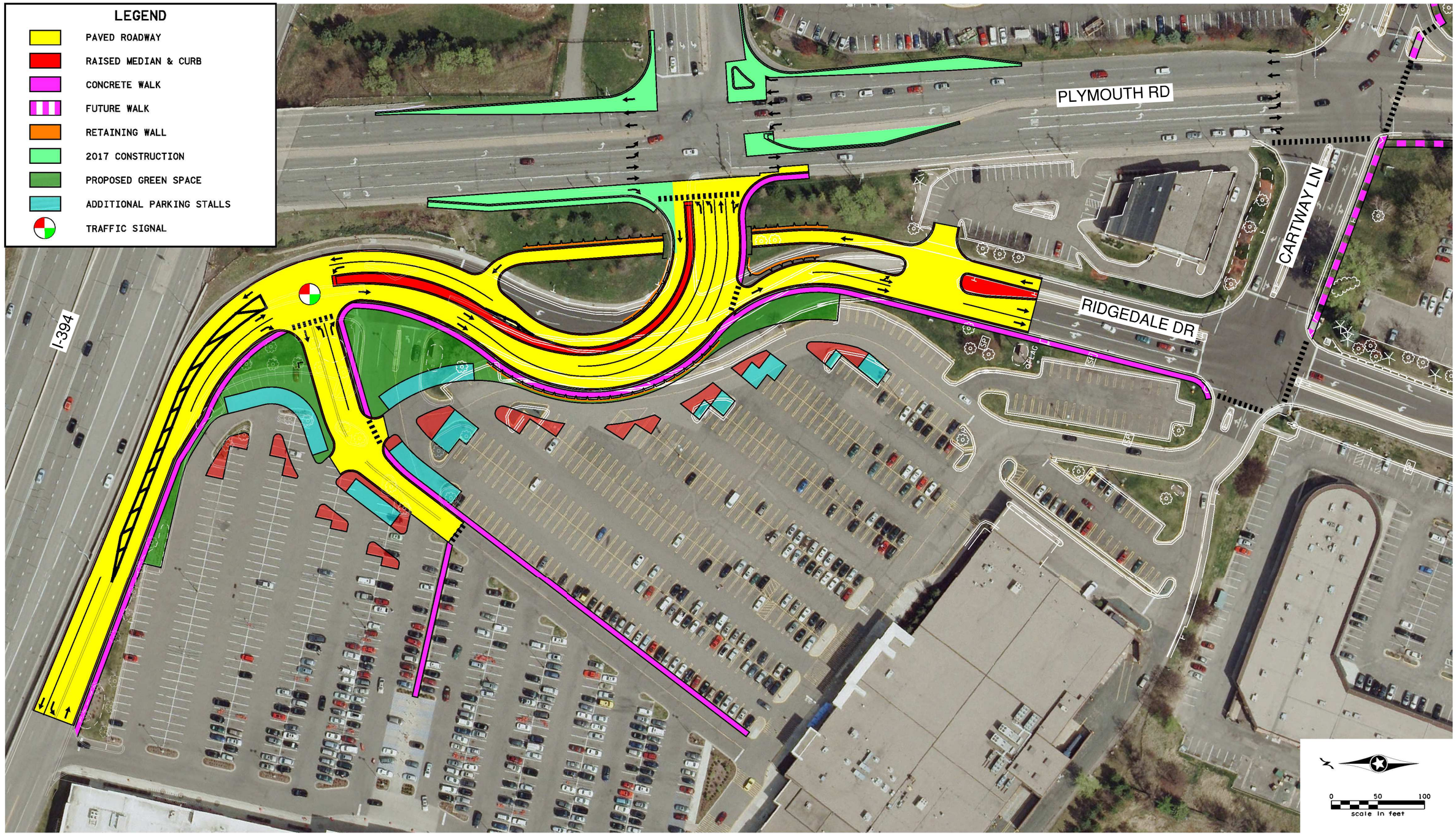
Improvement Area

minnetonka
Where quality is our nature



This map is for illustrative purposes only.

Document Path: F:\GIS\Users\Engineering\Fong\Location Map_Ridgehaven.mxd



H:\Projects\8685\CAD_BIM\Graphics\FINAL\RIDGEHAVEN\8685_Draft Ridgehaven alt 5B 151104.dgn

SRF Consulting Group, Inc.

Job # 8685
11/4/2015

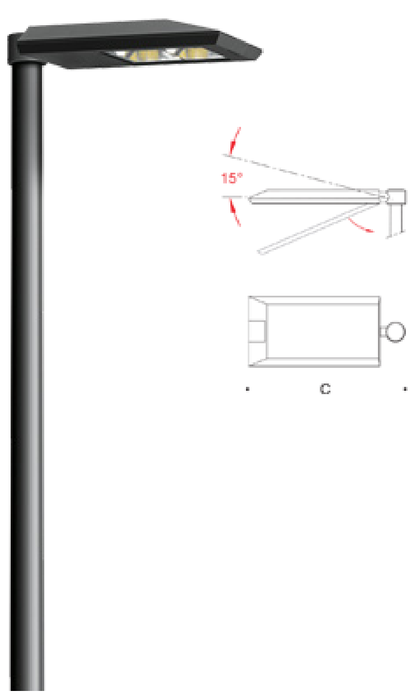
REFINED ALTERNATIVE 5B - RIDGEHAVEN UNDERPASS

Ridgedale Drive / Cartway Lane Alternative Evaluation
MINNETONKA

Figure 5B-2

Lantern Option A - Pole Top, Bega

Lantern Option B - Kipp Post, Louis Poulsen



Intersection - Fixture Options

Concrete or Metal Textures and Patterns

Base Options

PARKING LIGHTING, 25′ POLE WITH DUAL FIXTURE
SIDEWALK LIGHTING, 18′ POLE WITH SINGLE FIXTURE

PUBLIC REALM IMPROVEMENTS MINNETONKA

PARKING LIGHTING, 25’ POLE WITH DUAL FIXTURE
SIDEWALK LIGHTING, 22’ POLE WITH SINGLE FIXTURE

PUBLIC REALM IMPROVEMENTS MINNETONKA

03.23.2016 DF/ DAMON FARBER

EXISTING

MINNETONKA PUBLIC REALM IMPROVEMENTS Intersection & Streetscape Design Elements

DF/ DAMON FARBER
12.01.15

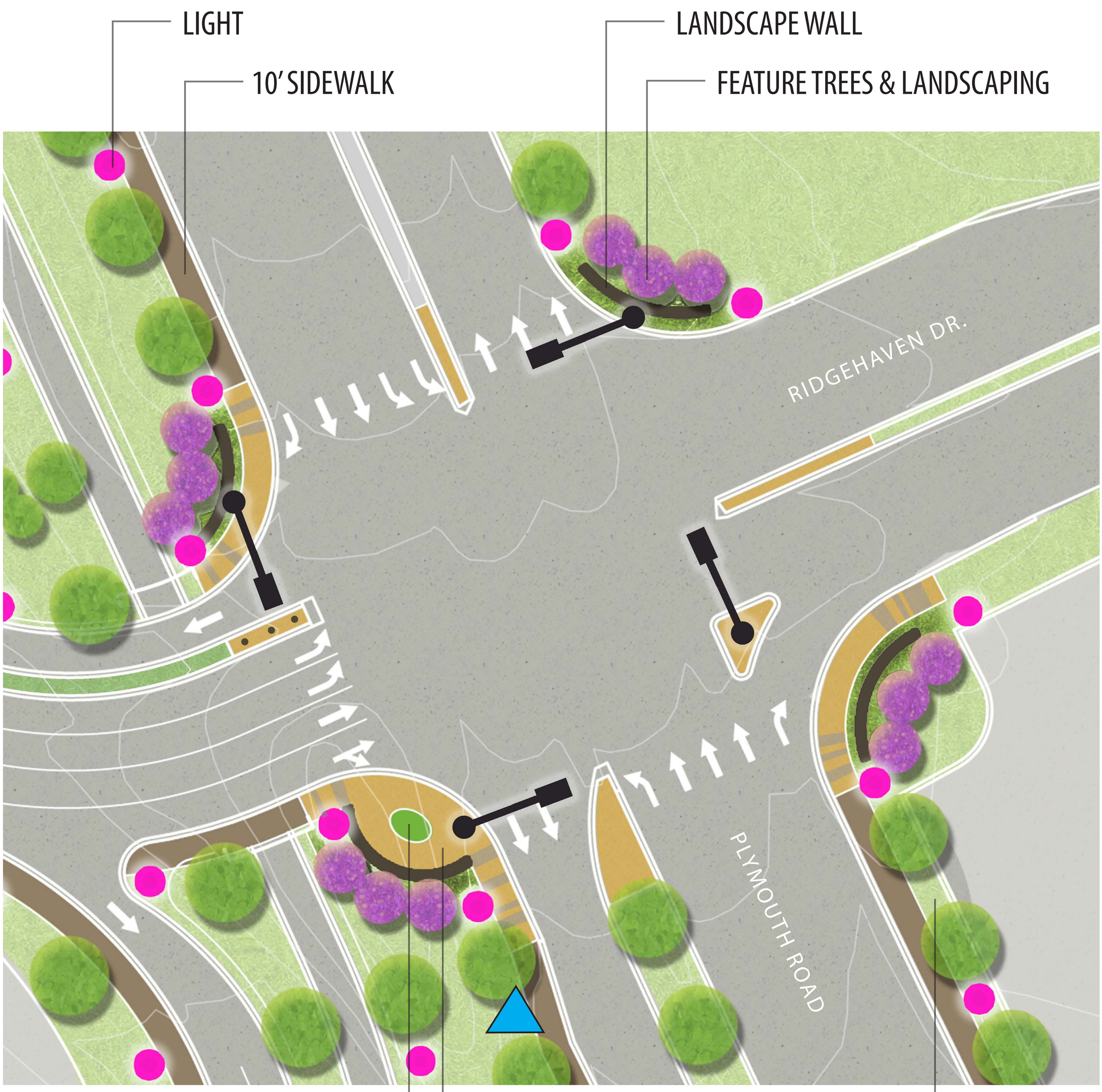
Phase 1 - 2016-2017 Improvements

MINNETONKA PUBLIC REALM IMPROVEMENTS

City of minnetonka
Where quality is our nature

DF/ DAMON FARBER

12.1.15



Intersection Design

MINNETONKA PUBLIC REALM IMPROVEMENTS

City of minnetonka
Where quality is our nature

DF/ DAMON FARBER

12.1.15

Will Manchester

From: John.Dietrich <[redacted]>
Sent: Tuesday, November 10, 2015 6:46 PM
To: Will Manchester
Cc: Kurt Stenson ([redacted]); Abramson, Norman M.; Julie Wischnack; Matt Pacyna
Subject: RE: Ridgedale Drive
Attachments: T100 Preffered Plan 11-4-15.pdf

Will,
Thank you for your investment to pursue a plan for Ridgedale Drive which Target is pleased to support. The attached plan dated 11-4-2015 is the plan Target has approved to be pursued for final design. I trust we will have numerous discussions over the forthcoming year as the plan goes through the SD, DD and final design phases. Assuming a 2017 construction time table we will be very interested in the construction phasing and a wrap up of the roadway and drives by early November of 2017 as we prepare for the holiday shopping season. Thank you for the partnership and commitment provided by your team to work with the property owners to arrive at a plan which achieves all of our objectives.
As previously stated, Target is in full support for this plan and will dedicate / quit claim the property for the expanded Ridgedale drive at no cost provided the proposed improvements to the public RoW and the internal geometrics of the Target property are a part of the redesign and are installed at no cost to Target. Thank you, please contact me with any questions. John

John Dietrich | Manager-Real Estate Portfolio Management | Target | 1000 Nicollet Mall _ TPN-12K _ Minneapolis, MN 55403 | [redacted] direct [redacted] _ cell [redacted] mySite

-----Original Message-----
From: Will Manchester [mailto:wmanchester@eminnetonka.com]
Sent: Wednesday, November 04, 2015 3:29 PM
To: John.Dietrich <[redacted]>
Cc: Kurt Stenson ([redacted]) <[redacted]>; Abramson, Norman M. <[redacted]>; Julie Wischnack <jwischnack@eminnetonka.com>; Matt Pacyna <[redacted]>
Subject: RE: Ridgedale Drive

John,

How does this look? Let us know. Thanks.

Will

William D. Manchester, P.E.
Director of Engineering
City of Minnetonka
14600 Minnetonka Blvd
Minnetonka MN 55345
Phone: 952-939-8232
wmanchester@eminnetonka.com

-----Original Message-----
From: John.Dietrich [mailto:[redacted]]
Sent: Wednesday, November 04, 2015 8:32 AM
To: Will Manchester <wmanchester@eminnetonka.com>

Will Manchester

From: Brown, Bill (Dallas) <[redacted]>
Sent: Monday, March 21, 2016 1:47 PM
To: Will Manchester
Cc: Kurt Stenson ([redacted]); [redacted]
Subject: Ridgedale Drive Redesign Minnetonka, MN
Attachments: Ridgehaven_Cartway_Ridgedale Layout.pdf

Will-

Invesco owner of Ridgehaven has reviewed the attached plan 5B and approves the plan as listed.

Please let us know the result of your funding request in the meeting on April 11th.

Thanks,
Bill

Bill Brown, CPM, CCIM
Director, Asset Management
Invesco Real Estate
2001 Ross Avenue, Suite 3400
Dallas, Texas 75201
[redacted]

[redacted]

Will Manchester

From: Abramson, Norman M. <[redacted]>
Sent: Tuesday, March 29, 2016 7:44 PM
To: Will Manchester
Subject: Re: Ridgehaven Lane/Ridgedale Drive

Will this looks good. Thanks

Sent from my iPad

On Mar 29, 2016, at 10:45 AM, Will Manchester <wmanchester@eminnetonka.com> wrote:

> Hi Norm,
>
> Below is the link to the proposed Ridgehaven Lane/Ridgedale Drive concept as we just discussed. Staff is proposing to take this layout to council on April 11, 2016. Please let us know if you have questions, comments and are still in agreement with the layout. Thanks!
>
> http://eminnetonka.com/images/engineering/cartwaylane/Mtka_RidgehavenUnderpassConcept_151102.pdf
>
> Will
>
> William D. Manchester, P.E.
> Director of Engineering
> City of Minnetonka
> 14600 Minnetonka Blvd
> Minnetonka MN 55345
> Phone: 952-939-8232
> wmanchester@eminnetonka.com

Norman Abramson
Attorney

Gray Plant Mooty
500 IDS Center
80 South Eighth Street
Minneapolis, MN USA 55402

[redacted]