Application

19837 - 2024 Roadway Spot Mobility
20217 - City of Little Canada - 35E/Country Drive/Little Canada Road Interchange
Regional Solicitation - Roadways Including Multimodal Elements

Status: Submitted
Submitted Date: 12/14/2023 4:28 PM

Primary Contact

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Title: Public Works Director

Department:

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Address: 515 Little Canada Road

* LITTLE CANADA (City) | Minnesota (State/Province) | 55117 (Postal Code/Zip)

Phone:* 651-766-4049 (Phone) | (Ext.)

Fax:

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

Organization Information

Name: LITTLE CANADA, CITY OF

Jurisdictional Agency (if different):

Organization Type: City

Organization Website:

Address: 515 LITTLE CANADA RD

* Little Canada (City) | Minnesota (State/Province) | 55117 (Postal Code/Zip)

County: Ramsey

Phone:* 651-766-4026 (Ext.)

Fax:

PeopleSoft Vendor Number 0000004653A1

Project Information

Project Name Little Canada Road and Country Drive Intersection Project

Primary County where the Project is Located Ramsey

Cities or Townships where the Project is Located: City of Little Canada

Jurisdictional Agency (If Different than the Applicant): Ramsey County

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

The proposed project in the City of Little Canada will reconfigure the Little Canada Road and Country Drive intersection from a traffic signal to a single-lane roundabout and realign Country Drive and the intersection with Little Canada Road approximately 600 feet west. Country Drive will be realigned to the west and include a dedicated pedestrian facility. Access to Little Canada Road from the existing Country Drive location will be removed, enhancing operations for the I-35E interchange ramp intersection currently separated by less than 100 feet with coordinated signals. The existing traffic signal serving the intersection, along with the existing access location, will be removed. The Waterworks Trail connection to Little Canada Road will be extended through the existing Country Drive right of way. The new location of the Little Canada Road and Country Drive intersection and conversion to a roundabout will work jointly with the programmed improvement for the Little Canada Road/Lake Shore Avenue/County Road C intersection, which will also be converted to a single-lane roundabout.

Little Canada Road (CSAH 21) is an A Minor Arterial Augmentor at this location just west of I-35E. The intersection and connection to Country Drive is important due to the parallel route serving I-35E and I-694 as it runs immediately adjacent west of where the two interstate corridors merge within the City of Little Canada. The continuous connection of Country Drive from Little Canada Road to Rice Street (CSAH 49) allows local traffic and even some regional traffic to avoid I-35E and I-694 altogether.

(Limit 2,800 characters; approximately 400 words)

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

Reconstruct Little Canada Road and Country Drive intersection to roundabout and realign intersection 600 feet west.

Include both the CSAH/MSAS/TH references and their corresponding street names in the TIP Description (see Resources link on Regional Solicitation webpage for examples).

Project Length (Miles)

0.2

to the nearest one-tenth of a mile

Project Funding

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

Yes

If yes, please identify the source(s)

HSIP and LRIP

Federal Amount

$3,500,000.00

Match Amount

$5,414,000.00

Minimum of 20% of project total

Project Total

$8,914,000.00

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

Match Percentage

60.74%

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

Source of Match Funds

CSAH and MSAS Funds

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

Preferred Program Year

Select one:

2028

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

Additional Program Years:

2026, 2027

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

Project Information: Roadway Projects

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

SAP#:

County, City, or Lead Agency

City of Little Canada

Functional Class of Road

A Minor Arterial Augmentor, Major Collector

Road System

CSAH 21, MSAS 101

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

Road/Route No.

21101

i.e., 53 for CSAH 53

Name of Road	Little Canada Road, Country Drive
Example; 1st ST., MAIN AVE	
TERMINI:(Termini listed must be within 0.3 miles of any work)	
From:	
Road System	
Road/Route No.	
i.e., 53 for CSAH 53	
Name of Road	Little Canada Road
Example; 1st ST., MAIN AVE	
To:	
Road System	
DO NOT INCLUDE LEGAL DESCRIPTION	
Road/Route No.	
i.e., 53 for CSAH 53	
Name of Road	350 feet south of Nadeau Road
Example; 1st ST., MAIN AVE	
In the City/Cities of:	
(List all cities within project limits)	
OR:	
At:	
Road System	
(TH, CSAH, MSAS, CO. RD., TWP. RD., City Street)	
Road/Route No.	
i.e., 53 for CSAH 53	
Name of Road	Little Canada Road and Country Drive
Example; 1st ST., MAIN AVE	
In the City/Cities of:	Little Canada
(List all cities within project limits)	
PROJECT LENGTH	
Miles	0.2
(nearest 0.1 miles)	
Primary Types of Work (check all the apply)	
New Construction	
Reconstruction	Yes
Resurfacing	Yes
Bituminous Pavement	Yes
Concrete Pavement	
Roundabout	
New Bridge	
Bridge Replacement	
Bridge Rehab	
New Signal	
Signal Replacement/Revision	
Bike Trail	Yes
Other (do not include incidental items)	GRADE, AGG BASE, BIT BASE, BIT SURF, SIDEWALK, TRAIL, UNDERPASS, ROUNDABOUT, LIGHTING, PED RAMPS
BRIDGE/CULVERT PROJECTS (IF APPLICABLE)	
Old Bridge/Culvert No.:	
New Bridge/Culvert No.:	
Structure is Over/Under (Bridge or culvert name):	
OTHER INFORMATION:	
Zip Code where Majority of Work is Being Performed	55117
Approximate Begin Construction Date	05/01/2026
Approximate End Construction Date	10/01/2026
Miles of Trail (nearest 0.1 miles)	0.2
Miles of Sidewalk (nearest 0.1 miles)	0.4
Miles of trail on the Regional Bicycle Transportation Network (nearest 0.1 miles):	0.2
Is this a new trail?	Yes

Requirements - All Projects

All Projects

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

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

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

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

Goal B. Safety and Security; Objective A. Reduce fatal and serious injury crashes and improve safety and security for all modes of passenger travel and freight transport; Strategies B1, B4, B6

Goal C. Access to Destinations; Objective A. Increase the availability of multimodal travel options, especially in congested highway corridors; Objective B. Increase travel time reliability and predictability for travel on highway and transit systems; Strategies C1, C9, C17

Goal D. Competitive Economy; Objective A. Improve multimodal access to regional job concentrations identified in Thrive MSP 2040; Strategy D1.

Limit 2,800 characters, approximately 400 words

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

List the applicable documents and pages: Unique projects are exempt from this qualifying requirement because of their innovative nature. City of Little Canada 2024-2033 CIP pages 30-31, Ramsey County 2023-2027 TIP pages 10-15

Limit 2,800 characters, approximately 400 words

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

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

5. Applicant is a public agency (e.g., county, city, tribal government, transit provider, etc.) or non-profit organization (TDM and Unique Projects applicants only). Applicants that are not State Aid cities or counties in the seven-county metro area with populations over 5,000 must contact the MnDOT Metro State Aid Office prior to submitting their application to determine if a public agency sponsor is required.

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

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

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

7. The requested funding amount must be more than or equal to the minimum award and less than or equal to the maximum award. The cost of preparing a project for funding authorization can be substantial. For that reason, minimum federal amounts apply. Other federal funds may be combined with the requested funds for projects exceeding the maximum award, but the source(s) must be identified in the application. Funding amounts by application category are listed below in Table 1. For unique projects, the minimum award is $500,000 and the maximum award is the total amount available each funding cycle (approximately $4,000,000 for the 2024 funding cycle).

Strategic Capacity (Roadway Expansion): *$1,000,000 to $10,000,000*
Roadway Reconstruction/Modernization: *$1,000,000 to $7,000,000*
Traffic Management Technologies (Roadway System Management): *$500,000 to $3,500,000*
Spot Mobility and Safety: *$1,000,000 to $3,500,000*
Bridges Rehabilitation/Replacement: *$1,000,000 to $7,000,000*

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

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

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

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

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

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

Date plan completed:

Link to plan:

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

Date self-evaluation completed: 10/11/2013

Link to plan: https://www.littlecanadamn.org/686/ADA-Self-Evaluation

Upload plan or self-evaluation if there is no link

Upload as PDF

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

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

11. The owner/operator of the facility must operate and maintain the project year-round for the useful life of the improvement. This includes assurance of year-round use of bicycle, pedestrian, and transit facilities, per FHWA direction established 8/27/2008 and updated 4/15/2019. Unique projects are exempt from this qualifying requirement.

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

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

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

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

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

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

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

Roadways Including Multimodal Elements

1. All roadway projects must be identified as a principal arterial (non-freeway facilities only) or A-minor arterial as shown on the latest TAB approved roadway functional classification map. Bridge Rehabilitation/Replacement projects must be located on a minor collector and above functionally classified roadway in the urban areas or a major collector and above in the rural areas.

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

Roadway Strategic Capacity and Reconstruction/Modernization and Spot Mobility projects only:

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

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

Bridge Rehabilitation/Replacement and Strategic Capacity projects only:

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

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

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

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

Bridge Rehabilitation/Replacement projects only:

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

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

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

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

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

7. All roadway projects that involve the construction of a new/expanded interchange or new interchange ramps must have approval by the Metropolitan Council/MnDOT Interchange Planning Review Committee prior to application submittal. Please contact David Elvin at MnDOT (David.Elvin@state.mn.us or 651-234-7795) to determine whether your project needs to go through this process as described in Appendix F of the 2040 Transportation Policy Plan.

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

Requirements - Roadways Including Multimodal Elements

Specific Roadway Elements

CONSTRUCTION PROJECT ELEMENTS/COST ESTIMATES	Cost
Mobilization (approx. 5% of total cost)	$203,000.00
Removals (approx. 5% of total cost)	$280,800.00
Roadway (grading, borrow, etc.)	$1,542,300.00
Roadway (aggregates and paving)	$666,700.00
Subgrade Correction (muck)	$0.00
Storm Sewer	$770,000.00
Ponds	$200,000.00
Concrete Items (curb & gutter, sidewalks, median barriers)	$161,700.00
Traffic Control	$203,000.00
Striping	$60,900.00
Signing	$60,900.00
Lighting	$100,000.00
Turf - Erosion & Landscaping	$203,000.00
Bridge	$0.00

Retaining Walls	$0.00
Noise Wall (not calculated in cost effectiveness measure)	$0.00
Traffic Signals	$0.00
Wetland Mitigation	$0.00
Other Natural and Cultural Resource Protection	$0.00
RR Crossing	$0.00
Roadway Contingencies	$721,900.00
Other Roadway Elements	$101,500.00
Totals	**$5,275,700.00**

Specific Bicycle and Pedestrian Elements

CONSTRUCTION PROJECT ELEMENTS/COST ESTIMATES	Cost
Path/Trail Construction	$350,000.00
Sidewalk Construction	$118,800.00
On-Street Bicycle Facility Construction	$0.00
Right-of-Way	$0.00
Pedestrian Curb Ramps (ADA)	$40,000.00
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	**$508,800.00**

Specific Transit and TDM Elements

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

Transit Operating Costs

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

PROTECT Funds Eligibility

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

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

Response: Eligible items include storm sewer, ponds, and turf erosion control and landscaping. These items total $1,173,000.

Totals

Total Cost	$5,784,500.00
Construction Cost Total	$5,784,500.00
Transit Operating Cost Total	$0.00

Congestion within Project Area:

Free-Flow Travel Speed:	29

The free-flow travel speed is the black number

Peak Hour Travel Speed: 21

The peak hour travel speed is the red number

Percentage Decrease in Travel Speed in Peak Hour Compared to Free-Flow (calculation): 27.59%

Upload the "Level of Congestion" map: 1702419628428_Little Canada Rd-Country Dr_Level of Congestion Map.pdf

Congestion on adjacent Parallel Routes:

Adjacent Parallel Corridor TH 36

Adjacent Parallel Corridor Start and End Points:

Start Point: west of I-35E

End Point: west of I-35E

Free-Flow Travel Speed: 58

The Free-Flow Travel Speed is black number.

Peak Hour Travel Speed: 48

The Peak-Hour Travel Speed is red number.

Percentage Decrease in Travel Speed in Peak Hour Compared to Free-Flow (calculation): 17.24%

Upload the "Level of Congestion" map: 1702419628428_Little Canada Rd-Country Dr_Level of Congestion Map.pdf

Principal Arterial Intersection Conversion Study:

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

(70 Points)

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

(65 Points)

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

(60 Points)

Not listed as a priority in the study: Yes

(0 Points)

Congestion Management and Safety Plan IV:

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

(70 Points)

Not listed as a CMSP priority location: Yes

(0 Points)

Measure C: Current Heavy Commercial Traffic

RESPONSE: Select one for your project, based on the updated 2021 Regional Truck Corridor Study:

Along Tier 1:

Miles: 0

(to the nearest 0.1 miles)

Along Tier 2:

Miles: 0

(to the nearest 0.1 miles)

Along Tier 3:

Miles: 0

(to the nearest 0.1 miles)

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

None of the tiers:

Measure A: Engagement

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

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

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

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

Response:

The project is located in Census Tract 421.01. Census Tract 421.02 is also within a ½ mile of the project area but was excluded due to the dividing barrier of I-35E. 18.3% of the population in the project area is below poverty level, per the 5-year estimate from the 2021 ACS. This is above the Ramsey County's 13.2% and the Region's 8.1%. This percentage is significantly higher for Black or African American alone population in the project area at 42.7% compared to the Ramsey County estimate of 26.7%. The Black or African American population in the project area is 9.1% and Asian alone is 9.3%, compared to 8.8% and 6.8% for the Region, respectively. The percentage of the population over 60 is 32.6% (Region is 20.2%) and the percentage of the population with a disability 15.6% (Region is 10.0%,). This analysis identifies vulnerable populations located in and surrounding the project area and affirms the need for this project.

A public open house was held on November 29th with the goal of better understanding community needs. Postcards were sent to notify households and businesses within a half mile radius of the project. About 30 people attended the meeting and 46 people responded to the online survey. An interactive map was also made available to gather input from the public with 18 comments submitted including concerns, ideas, and opportunities. The engagement revealed that there is frustration around signage and traffic signals at this intersection. There were several comments that the signaling at the intersection is confusing and that many drivers make right turns on red despite adequate signage. There was a lot of interest expressed for a roundabout at this intersection to improve congestion and confusion. Pedestrian and bike safety emerged as a priority for the project including implementing new connecting paths and a higher level of multimodal service. Participants also shared that congestion is a concern to be addressed at this intersection. Residents expressed a clear need for an improved intersection both for vehicles and pedestrians. 66% of survey participants disagree or strongly disagreed that the intersection feels safe for motorists, with 80% disagreeing or strongly disagreeing that the intersection feels safe for pedestrians. 70% agree or strongly agree that the intersection feels congested, with 87% agreeing or strongly agreeing that the intersection feels confusing. Detailed information is included in the attached engagement summary.

This engagement impacted the project by emphasizing the need for improved pedestrian facilities. As an outcome, the existing Country Drive alignment as well as the new Country drive alignment both will have a dedicated multimodal facility.

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

Measure B: Disadvantaged Communities Benefits and Impacts

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

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

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

Acknowledge and describe any negative project impacts to Black, Indigenous, and People of Color populations, low-income populations, children, people with disabilities, youth, and older adults. Describe measures to mitigate these impacts. Unidentified or unmitigated negative impacts may result in a reduction in points.

Below is a list of potential negative impacts. This is not an exhaustive list.

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

Response:

The project area serves residential, commercial, and community uses. Medium and high-density residential developments are located adjacent to the project including Fleur Royale Condominiums, The Provinces Apartments, and townhomes. Adjacent businesses include restaurants such as Porterhouse Steak and Seafood, Gordies, and Caribou Coffee, employment offices such as BevSource, Agility Engineering & Manufacturing Solutions, and American Family Insurance, and stores such as SwineBooks Pro, Advanced Medical Home Care, and New Day Thrift Store. Community uses along Country Dr include a public charter school with approximately 185 students (AFSA) and the Hmong Minnesota Senior Center. Disadvantaged community users will have improved, safer multimodal conditions to and between these destinations.

The connection to Little Canada Rd will be improved, meaning better access to the regional transportation system and less congested and safer access to I-35E. The pedestrian crossing of Little Canada Rd at Country Dr will be significantly improved through the conversion of the existing 4-lane undivided highway crossing with turn lanes to a single lane roundabout intersection with the addition of pedestrian refuge islands and elimination of pedestrian-vehicle conflict points. The existing pedestrian crossing distance is 80 ft from curb to curb. The proposed condition is 18-20 ft crossing distance from curb to pedestrian refuge at the single lane roundabout.

Pedestrian facilities within the project area will be upgraded to meet ADA standards. The existing section of sidewalks on the north and south side of Little Canada Rd from Lakeshore Ave to Country Dr are non-compliant with ADA requirements, per City of Little Canada ADA Self-Evaluation (page 14) and will be upgraded to ADA compliance requirements.

The project will improve the connection from the existing Waterworks trail to Little Canada Rd by expanding the trail approximately 1/8 mile to Little Canada Rd within the existing Country Dr right of way. A new sidewalk connection will be installed on the new alignment of Country Dr. The Waterworks Trail will have a new separated grade crossing underpass of Country Dr. The project will implement two north-south multimodal connections that will better connect to Little Canada Rd and Metro Transit Route 71 Little Canada - Westminster- Concord - Inver Hills. This route runs east-west along Little Canada Rd with the closest designated stop located within the proposed realignment location for Little Canada Rd / Country Dr, approximately 200 feet east of Lake Shore Ave. The transit stop will be incorporated into the project with improved multimodal access to the stop. This route connects to Inver Hills Community College, South St. Paul, and downtown St. Paul.

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

Measure C: Affordable Housing Access

Describe any affordable housing developments?existing, under construction, or planned?within ½ mile of the proposed project. The applicant should note the number of existing subsidized units, which will be provided on the Socio-Economic Conditions map. Applicants can also describe other types of affordable housing (e.g., naturally-occurring affordable housing, manufactured housing) and under construction or planned affordable housing that is within a half mile of the project. If applicable, the applicant can provide self-generated PDF maps to support these additions. Applicants are encouraged to provide a self-generated PDF map describing how a project connects affordable housing residents to destinations (e.g., childcare, grocery stores, schools, places of worship).

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

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

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

Response:

The socioeconomic conditions map shows the project location within a Regional Environmental Justice area. The auto-generated map estimates 154 affordable housing units in Census Tracts within a half mile of the project; however, HousingLink lists specific properties near the project with a number more than 2.5 times higher than that estimate. HousingLink identifies 6 properties with affordable housing served by the project area with a total of 405 units. 58 of these units are for households at or below 30% of AMI, 188 units are for households at or below 50% of AMI, 41 for 60% AMI, and 118 for 80% AMI. These properties include the Provinces Apartments just 300 ft from the project area with 118 units including 1, 2, and 3 bedroom affordable units. The Garden Terrace Apartments and Commons buildings are approximately a half mile from the project area with another 71 affordable units. The North Star Estates Manufactured Home Community is located within a half mile of the project area north on Country Dr and is home to over 200 households. The project area is a key connection point for residents to and from commercial and job locations as well as community uses such as the Hmong Minnesota Senior Center.

The project improvements include significant pedestrian amenities including a dedicated sidewalk along the length of the Country Dr realignment and extension of the Waterworks trail through the existing Country Dr right of way to make two new north-south multimodal connections. The Waterworks Trail will have a new separated grade crossing underpass of Country Dr. Pedestrian crossing environment will be substantially improved through the conversion of the existing 4-lane undivided highway crossing with turn lanes to a single lane roundabout intersection with the addition of pedestrian refuge islands and elimination of pedestrian-vehicle conflict points. The existing pedestrian crossing distance is 80 ft from curb to curb and the proposed condition is 18-20 ft crossing distance from curb to pedestrian refuge at the single lane roundabout. Shifting the Little Canada Rd/Country Dr intersection west 600 feet will mitigate confusion and conflicts with the Little Canada Rd/I-35E southbound ramp intersection, which is currently only 100 feet to the east. Pedestrians will be able to cross one direction of traffic at a time compared to the challenging and confusing coordinated signal intersection of Little Canada Rd/Country Dr and Little Canada Rd/I-35E southbound ramp intersection where pedestrians need to keep track of 8 conflicting directions of traffic during one attempted crossing of Little Canada Rd. The single lane roundabout will act as a traffic calming measure for the corridor to reduce speeds from the existing 4-lane undivided highway condition.

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

Measure D: BONUS POINTS

Project is located in an Area of Concentrated Poverty:

Project?s census tracts are above the regional average for population in poverty or population of color (Regional Environmental Justice Area):

Project located in a census tract that is below the regional average for population in poverty or populations of color (Regional Environmental Justice Area):

Upload the ?Socio-Economic Conditions? map used for this measure. 1702419988788_Little Canada Rd-Country Dr_Socioeconomic Map.pdf

Measure A: Congestion Reduction/Air Quality

Total Peak Hour Delay Per Vehicle Without The Project (Seconds/Vehicle)	Total Peak Hour Delay Per Vehicle With The Project (Seconds/Vehicle)	Total Peak Hour Delay Per Vehicle Reduced by Project (Seconds/Vehicle)	Volume without the Project (Vehicles per hour)	Volume with the Project (Vehicles Per Hour):	Total Peak Hour Delay without the Project:	Total Peak Hour Delay by the Project:	Total Peak hour Delay Reduced by project	EXPLANATION of methodology used to calculate railroad crossing delay, if applicable.	Synchro or HCM Reports
58.3	27.3	31.0	1725	1725	100567.5	47092.5	53475.0	The signals were retimed in May of 2021 . However, the timing shown in the Synchro models was optimized as required for this application. The existing Synchro model shows the existing signals at both Country Drive and the southbound I-35E ramp terminal at Little Canada Rd. Both intersections were included as the two intersections operate under one signal controller and the build condition will result in improved operations at the southbound I-35E ramp terminal at Little Canada Rd. The build model includes the new proposed roundabout at Country Dr and Little Canada Rd, the remaining signal at the southbound I-35E ramp terminal and Little Canada Rd, and a stop controlled access for the Caribou Coffee (the existing south leg of the Country Dr intersection).	1702420312962_Synchro_Combined.pdf
						47093			

Vehicle Delay Reduced

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

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

Total (CO, NOX, and VOC) Peak Hour Emissions without the Project (Kilograms):	Total (CO, NOX, and VOC) Peak Hour Emissions with the Project (Kilograms):	Total (CO, NOX, and VOC) Peak Hour Emissions Reduced by the Project (Kilograms):
5.15	4.91	0.24
5	**5**	**0**

Total

Total Emissions Reduced:	0.24
Upload Synchro Report	1702504056555_Synchro_Combined.pdf

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

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

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

Total Parallel Roadway

Emissions Reduced on Parallel Roadways	0
Upload Synchro Report	

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

New Roadway Portion:

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

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

Cruise speed in miles per hour without the project:	0
Vehicle miles traveled without the project:	0
Total delay in hours without the project:	0
Total stops in vehicles per hour without the project:	0
Cruise speed in miles per hour with the project:	0
Vehicle miles traveled with the project:	0

Total delay in hours with the project:	0
Total stops in vehicles per hour with the project:	0
Fuel consumption in gallons (F1)	0
Fuel consumption in gallons (F2)	0
Fuel consumption in gallons (F3)	0
Total (CO, NOX, and VOC) Peak Hour Emissions Reduced by the Project (Kilograms):	0
EXPLANATION of methodology and assumptions used:(Limit 1,400 characters; approximately 200 words)	

Measure A: Benefit of Crash Reduction

Crash Modification Factor Used:

CMF ID 212 - Conversion of signalized intersection into single or multi-lane roundabout

- Applies to serious injury, minor injury, and possible injury crashes of all type.

CMF ID 209 - Conversion of signalized intersection into single or multi-lane roundabout

- Applies to all crashes of all types and severities.

(Limit 700 Characters; approximately 100 words)

Rationale for Crash Modification Selected:

CMF ID 212 and 209 were selected as the intersection of Country Dr and Little Canada Rd is proposed to be converted from a signalized intersection to a single lane roundabout.

(Limit 1400 Characters; approximately 200 words)

Project Benefit ($) from B/C Ratio	$4,562,651.00
Total Fatal (K) Crashes:	0
Total Serious Injury (A) Crashes:	1
Total Non-Motorized Fatal and Serious Injury Crashes:	1
Total Crashes:	5
Total Fatal (K) Crashes Reduced by Project:	0
Total Serious Injury (A) Crashes Reduced by Project:	1
Total Non-Motorized Fatal and Serious Injury Crashes Reduced by Project:	1
Total Crashes Reduced by Project:	3
Worksheet Attachment	1702587774476_Little Canada Rd-Country Dr_HSIP Benefit Cost Worksheet_CMF_Crashdata.pdf

Upload Crash Modification Factors and B/C Worksheet in PDF form

Measure B: Pedestrian Safety

Determine if these measures do not apply to your project. *Does the project match either of the following descriptions?*

If either of the items are checked yes, then ***score for entire pedestrian safety measure is zero****. Applicant does not need to respond to the sub-measures and can proceed to the next section.*

Project is primarily a freeway (or transitioning to a freeway) and does not provide safe and comfortable pedestrian facilities and crossings.	No
Existing location lacks any pedestrian facilities (e.g., sidewalks, marked crossings, wide shoulders in rural contexts) and project does not add pedestrian elements (e.g., reconstruction of a roadway without sidewalks, that doesn?t also add pedestrian crossings and sidewalk or sidepath on one or both sides).	No

SUB-MEASURE 1: Project-Based Pedestrian Safety Enhancements and Risk Elements

To receive maximum points in this category, pedestrian safety countermeasures selected for implementation in projects should be, to the greatest extent feasible, consistent with the countermeasure recommendations in the Regional Pedestrian Safety Action Plan and state and national best practices. Links to resources are provided on the Regional Solicitation Resources web page.

Please answer the following two questions with as much detail as possible based on the known attributes of the proposed design. If any aspect referenced in this section is not yet determined, describe the range of options being considered, to the greatest extent available. If there are project elements that may increase pedestrian risk, describe how these risks are being mitigated.

1. Describe how this project will address the safety needs of people crossing the street at signalized intersections, unsignalized intersections, midblock locations, and roundabouts.

Treatments and countermeasures should be well-matched to the roadway?s context (e.g., appropriate for the speed, volume, crossing distance, and other location attributes). Refer to the Regional Solicitation Resources web page for guidance links.

Response:

The pedestrian crossing of Little Canada Road will be significantly improved through the conversion of the existing 4-lane undivided highway crossing with turn lanes to a single-lane roundabout intersection with the addition of pedestrian refuge islands and the elimination of pedestrian-vehicle conflict points. The existing pedestrian crossing distance is 80 ft from curb to curb. The proposed condition is 18-20 feet crossing distance from curb to pedestrian refuge at the single-lane roundabout. Shifting the Little Canada Road/Country Drive intersection west 600 feet will mitigate confusion and conflicts with the Little Canada Road/I-35E southbound ramp intersection, which is currently only 100 feet to the east. Pedestrians will be able to cross one direction of traffic at a time compared to the challenging and confusing coordinated signal intersection of Little Canada Road/Country Drive and Little Canada Road/I-35E southbound ramp intersection where pedestrians need to keep track of 8 conflicting directions of traffic during one attempted crossing of Little Canada Road. The risk of a double-blind situation where a vehicle in one lane yields or stops for the pedestrian, masking the visual of the pedestrian for the vehicle in the adjacent lane and likewise of the vehicle in the adjacent lane to the pedestrian, will also be eliminated by the lane reduction from 4 to 2 lanes. The single-lane roundabout will act as a traffic calming measure for the corridor to reduce speeds from the existing 4-lane undivided highway condition.

The project will also improve the connection from the existing Waterworks trail to Little Canada Road by expanding the trail approximately 1/8 mile to Little Canada Road within the existing Country Drive right of way. This will create a dedicated multimodal trail connection and connect to the existing sidewalk on the north side of Little Canada Road. The Waterworks Trail will have a new separated grade crossing underpass of Country Dr. An additional, new sidewalk connection will be installed on the new alignment of Country Drive through the project area.

(Limit 2,800 characters; approximately 400 words)

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

Select one: Yes

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

Response:

In this unique circumstance, the signal at Little Canada Road/Country Drive, one of the two intersections that make up the coordinated signal at Little Canada Road/Country Drive/I-35E southbound ramps, will be removed, realigned 600 feet west and converted to a single-lane roundabout leaving the existing signal at Little Canada Road/I-35E southbound ramps in place. The existing condition only allows one pedestrian crossing of Little Canada Road for both intersections, and this condition will be maintained. Although the signal at Little Canada Road/Country Drive will be removed, the traffic signal at Little Canada Road/I-35E southbound ramps will remain, 100 feet east of the existing Little Canada Road/Country Drive intersection. In addition to maintaining a traffic signal pedestrian crossing in the general proximity of the existing location, the pedestrian crossing environment options will be much improved through the single lane roundabout condition 600 feet west.

(Limit 1,400 characters; approximately 200 words)

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

Select one: No

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

Response:

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

Response:

(Limit 1,400 characters; approximately 200 words)

? If grade separated pedestrian crossings are being added and increasing crossing time, describe any features that are included that will reduce the detour required of pedestrians and make the separated crossing a more appealing option (e.g., shallow tunnel that doesn?t require much elevation change instead of pedestrian bridge with numerous switchbacks).

Response:

(Limit 1,400 characters; approximately 200 words)

If mid-block crossings are restricted or blocked, explain why this is necessary and how pedestrian crossing needs and safety are supported in other ways (e.g., nearest protected or enhanced crossing opportunity).

Response: Not applicable

(Limit 1,400 characters; approximately 200 words)

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

Response:

The intersection of Little Canada Road and Country Drive will be converted from a 4-lane undivided highway with turn lanes condition to a single-lane roundabout with medians serving as pedestrian refuges. Overall pavement width will be significantly decreased, which is shown to reduce speeds. The single-lane roundabout will incorporate traffic calming measures to slow traffic through the intersection and will be a significant improvement to managing speed and turning movements compared to the existing condition. For example, the existing southbound right from Country Drive to Little Canada Road is designed to encourage vehicles to enter the intersection past the pedestrian crosswalk stop bar and includes extra pavement for faster turning movements. The single-lane roundabout will create a much different, more predictable intersection feel by also eliminating the confusion between the interconnected signal intersection with the I-35E southbound ramp 100 feet east.

(Limit 2,800 characters; approximately 400 words)

If known, what are the existing and proposed design, operation, and posted speeds? Is this an increase or decrease from existing conditions?

Response:

The existing posted speed limit is 35 mph on Country Drive and 30 mph on Little Canada Road. These posted speed limits will not change. The addition of the roundabout at the Little Canada Road/Country Drive intersection will decrease speed from the existing condition. The design speed for vehicles entering the single-lane roundabout is 15 mph.

(Limit 1,400 characters; approximately 200 words)

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

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

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

or

Existing road configuration is a Two-way, 4+ through lanes	Yes
Existing road has a design speed, posted speed limit, or speed study/data showing 85th percentile travel speeds in excess of 30 MPH or more	Yes
Existing road has AADT of greater than 15,000 vehicles per day	Yes
List the AADT	13200

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

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

Existing road has transit running on or across it with 1+ transit stops in the project area (If flag-stop route with no fixed stops, then 1+ locations in the project area where roadside stops are allowed. Do not count portions of transit routes with no stops, such as non-stop freeway sections of express or limited-stop routes.)	Yes
Existing road has high-frequency transit running on or across it and 1+ high-frequency stops in the project area (high-frequency defined as service at least every 15 minutes from 6am to 7pm weekdays and 9am to 6pm Saturdays.)	
Existing road is within 500? of 1+ shopping, dining, or entertainment destinations (e.g., grocery store, restaurant)	Yes

If checked, please describe:

The project is adjacent to commercial businesses including restaurants such as Porterhouse Steak and Seafood, Gordies, and Caribou Coffee, offices such as BevSource, Agility Engineering & Manufacturing Solutions, and American Family Insurance, and stores such as SwineBooks Pro, Advanced Medical Home Care, and New Day Thrift Store.

(Limit 1,400 characters; approximately 200 words)

Existing road is within 500? of other known pedestrian generators (e.g., school, civic/community center, senior housing, multifamily housing, regulatorily-designated affordable housing)	Yes

If checked, please describe:

The project area serves residential and community uses. Medium and high-density residential developments are located adjacent to the project including Fleur Royale Condominiums, The Provinces Apartments, and townhomes. The Hmong Minnesota Senior Center is 500 feet north of the project area and AFSA, a K-8 public charter school with approximately 185 students, is adjacent to the Senior Center.

(Limit 1,400 characters; approximately 200 words)

Measure A: Multimodal Elements and Existing Connections

Response:

The proposed multimodal improvements will better serve regular multimodal users to and from adjacent land uses including multifamily housing, business, restaurants, and community uses including a public charter school and the Hmong Minnesota Senior Center.

The pedestrian crossing of Little Canada Rd will be improved through the addition of pedestrian refuge islands and elimination of pedestrian-vehicle conflict points through the installation of a single-lane roundabout. The existing pedestrian crossing distance is 80 ft from curb to curb. The proposed condition is 18-20 ft from curb to refuge island. Shifting the Little Canada Rd/Country Dr intersection west 600 ft will mitigate confusion and conflicts with the Little Canada Rd/I-35E SB ramp intersection, which is currently only 100 ft to the east. Pedestrians will be able to cross one direction of traffic at a time compared to the confusing coordinated signal intersection where pedestrians need to keep track of 8 conflicting directions of traffic during one crossing of Little Canada Rd.

Pedestrian facilities within the project area will be upgraded to meet ADA standards. The existing sidewalks on the north and south side of Little Canada Rd from Lakeshore Ave to Country Dr are non-compliant with ADA requirements, per City of Little Canada ADA Self-Evaluation (pg 14) and will be upgraded to meet ADA compliance requirements.

An additional, new sidewalk connection will be installed on the new alignment of Country Dr through the project area, meaning two north-south multimodal connections will be built. The connection from the existing Waterworks trail to Little Canada Rd within the existing Country Dr right of way will be expanded approximately 1/8 mile to Little Canada Rd. The Waterworks Trail will have a new separated grade crossing underpass of Country Dr.

Little Canada Rd is an RBTN Tier 1 Corridor and the existing and proposed Country Dr location is within the RBTN Tier 2 Corridor. For the Regional Bicycle Barriers designation, the intersection of Little Canada Rd and Country Dr is within the buffer area for the Tier 2 Expressway Barrier Crossing area for I-35E and I-694. The trail improvements within the existing Country Dr alignment and the sidewalk along the new Country Dr alignment will provide alternative north-south connections within the barrier area.

Metro Transit Route 71 Little Canada - Westminster- Concord - Inver Hills runs east-west along Little Canada Rd with the closest designated stop located within the proposed realignment location for Little Canada Rd / Country Dr, approximately 200 feet east of Lake Shore Ave. The transit stop will be incorporated into the proposed project. This route connects to Inver Hills Community College, South St. Paul, and downtown St. Paul.

(Limit 2,800 characters; approximately 400 words)

Transit Projects Not Requiring Construction

If the applicant is completing a transit application that is operations only, check the box and do not complete the remainder of the form. These projects will receive full points for the Risk Assessment.

Park-and-Ride and other transit construction projects require completion of the Risk Assessment below.

Check Here if Your Transit Project Does Not Require Construction

Measure A: Risk Assessment - Construction Projects

1. Public Involvement (20 Percent of Points)

Projects that have been through a public process with residents and other interested public entities are more likely than others to be successful. The project applicant must indicate that events and/or targeted outreach (e.g., surveys and other web-based input) were held to help identify the transportation problem, how the potential solution was selected instead of other options, and the public involvement completed to date on the project. The focus of this section is on the opportunity for public input as opposed to the quality of input. NOTE: A written response is required and failure to respond will result in zero points.

Multiple types of targeted outreach efforts (such as meetings or online/mail outreach) specific to this project with the general public and partner agencies have been used to help identify the project need.	Yes

100%

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

50%

At least online/mail outreach effort specific to this project with the general public has been used to help identify the project need.

50%

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

25%

No outreach has led to the selection of this project.

0%

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

Response:

A public open house was held on November 29th. Postcards were sent to notify households and businesses within a half mile radius of the project. Approximately 30 people attended and 46 people filled out a project needs survey. An interactive map was also made available to gather input from the public on corridor needs and ideas:

https://gis.bolton-menk.com/inputid/?app=LittleCanadaRoadCountryDrive. 18 responses were received. Detailed information is included in the attached engagement summary.

(Limit 2,800 characters; approximately 400 words)

2. Layout (25 Percent of Points)

Layout includes proposed geometrics and existing and proposed right-of-way boundaries. A basic layout should include a base map (north arrow, scale; legend; city and/or county limits; existing ROW, labeled; existing signals;* and bridge numbers*) and design data (proposed alignments; bike and/or roadway lane widths; shoulder width;* proposed signals;* and proposed ROW). An aerial photograph with a line showing the project?s termini does not suffice and will be awarded zero points. *If applicable*

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

100%

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

100%

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

75%

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

Yes

50%

Layout has been started but is not complete. A PDF of the layout must be attached to receive points.

25%

Layout has not been started

0%

Attach Layout

1702588300633_Reduced_Roundabout_Figure-Location_Map_2023 11 29.pdf

Please upload attachment in PDF form

Additional Attachments

Please upload attachment in PDF form

3. Review of Section 106 Historic Resources (15 Percent of Points)

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

Yes

100%

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

100%

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

80%

Historic/archeological property impacted; determination of ?adverse effect? anticipated

40%

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

0%

Project is located on an identified historic bridge

4. Right-of-Way (25 Percent of Points)

Right-of-way, permanent or temporary easements, and MnDOT agreement/limited-use permit either not required or all have been acquired

100%

Right-of-way, permanent or temporary easements, and/or MnDOT agreement/limited-use permit required - plat, legal descriptions, or official map complete

50%

Right-of-way, permanent or temporary easements, and/or MnDOT agreement/limited-use permit required - parcels identified — Yes

25%

Right-of-way, permanent or temporary easements, and/or MnDOT agreement/limited-use permit required - parcels not all identified

0%

5. Railroad Involvement (15 Percent of Points)

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

100%

Signature Page

Please upload attachment in PDF form

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

50%

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

0%

Measure A: Cost Effectiveness

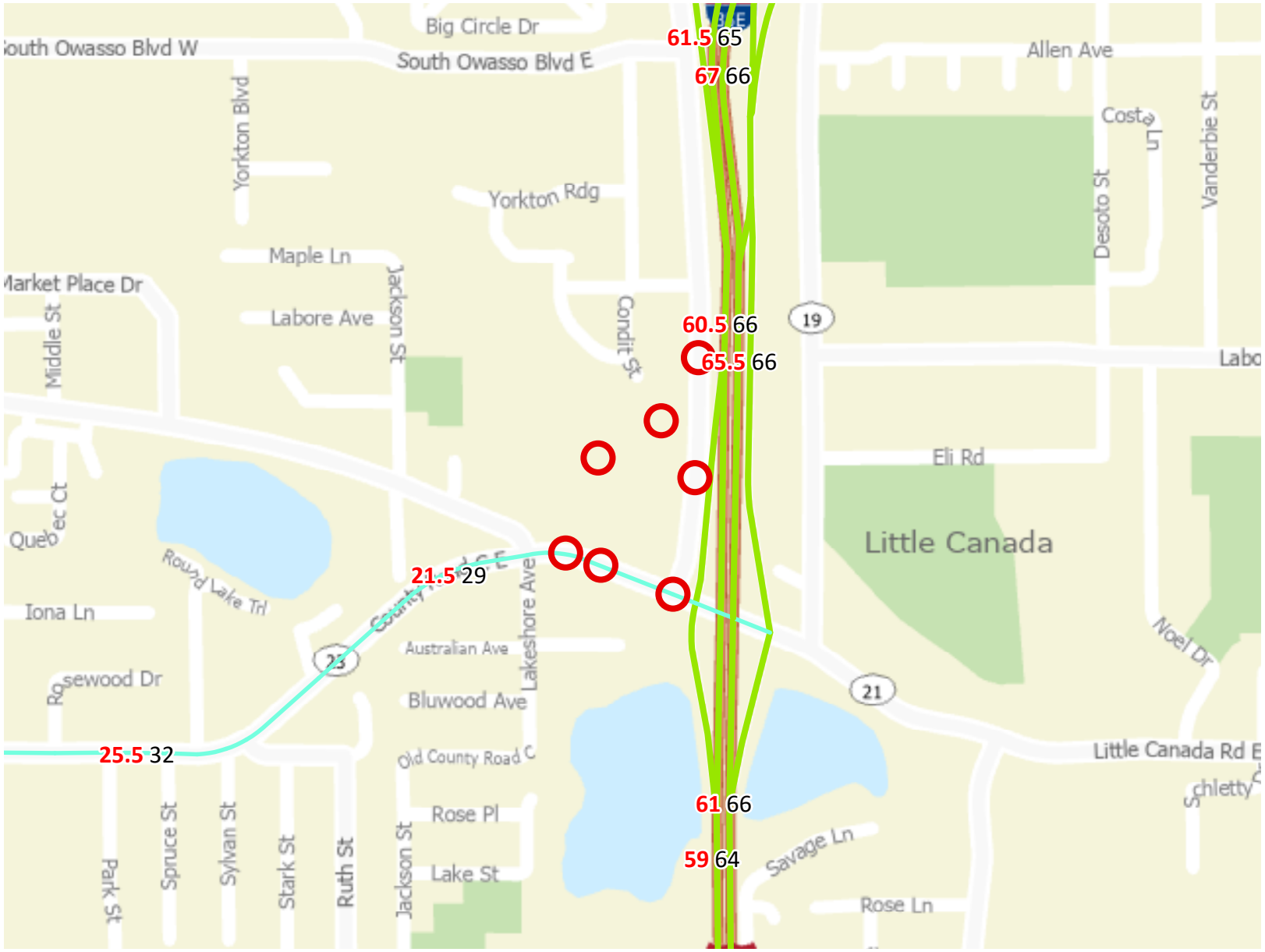
Total Project Cost (entered in Project Cost Form):	$5,784,500.00
Enter Amount of the Noise Walls:	$0.00
Total Project Cost subtract the amount of the noise walls:	$5,784,500.00
Enter amount of any outside, competitive funding:	$0.00
Attach documentation of award:	
Points Awarded in Previous Criteria	
Cost Effectiveness	$0.00

Other Attachments

File Name	Description	File Size
Little Canada Country Dr_Affordable_Housing.pdf	Affordable Housing Map and Attachments	5.2 MB
Little Canada Rd-Country Dr_Ramsey County LOS.pdf	Letter of Support from Ramsey County	250 KB
Little Canada Rd_Country Dr_Existing conditions.pdf	Existing Conditions Photos	7.0 MB
Little Canada Rd_Country Dr_Letters of Support.pdf	Letters of Support	4.1 MB
Little Canada Road OH Summary_07DEC23.pdf	Open House Engagement Summary	851 KB
Little Canada-Country Dr_One Page Description.pdf	One Page Project Summary	400 KB
Little Canada_Resolution 2023-152 - Regional Solicitation.pdf	Resolution	87 KB
MnDOT LOS_2024 Regional Solicitation_LCI-35E.pdf	MnDOT Letter of Support	208 KB
Reduced_Roundabout_Figure-Location_Map_2023 11 29.pdf	Project Location and Layout	2.6 MB

Level of Congestion

Roadway Spot Mobility & Safety Project: Little Canada Rd-Country Drive Intersection | Map ID: 1700603624840



Project Points

A Minor Arterials

A Minor Arterials Planned

Principal Arterials

Principal Arterials Planned

0 0.1 0.2 0.4 0.6 0.8 Miles

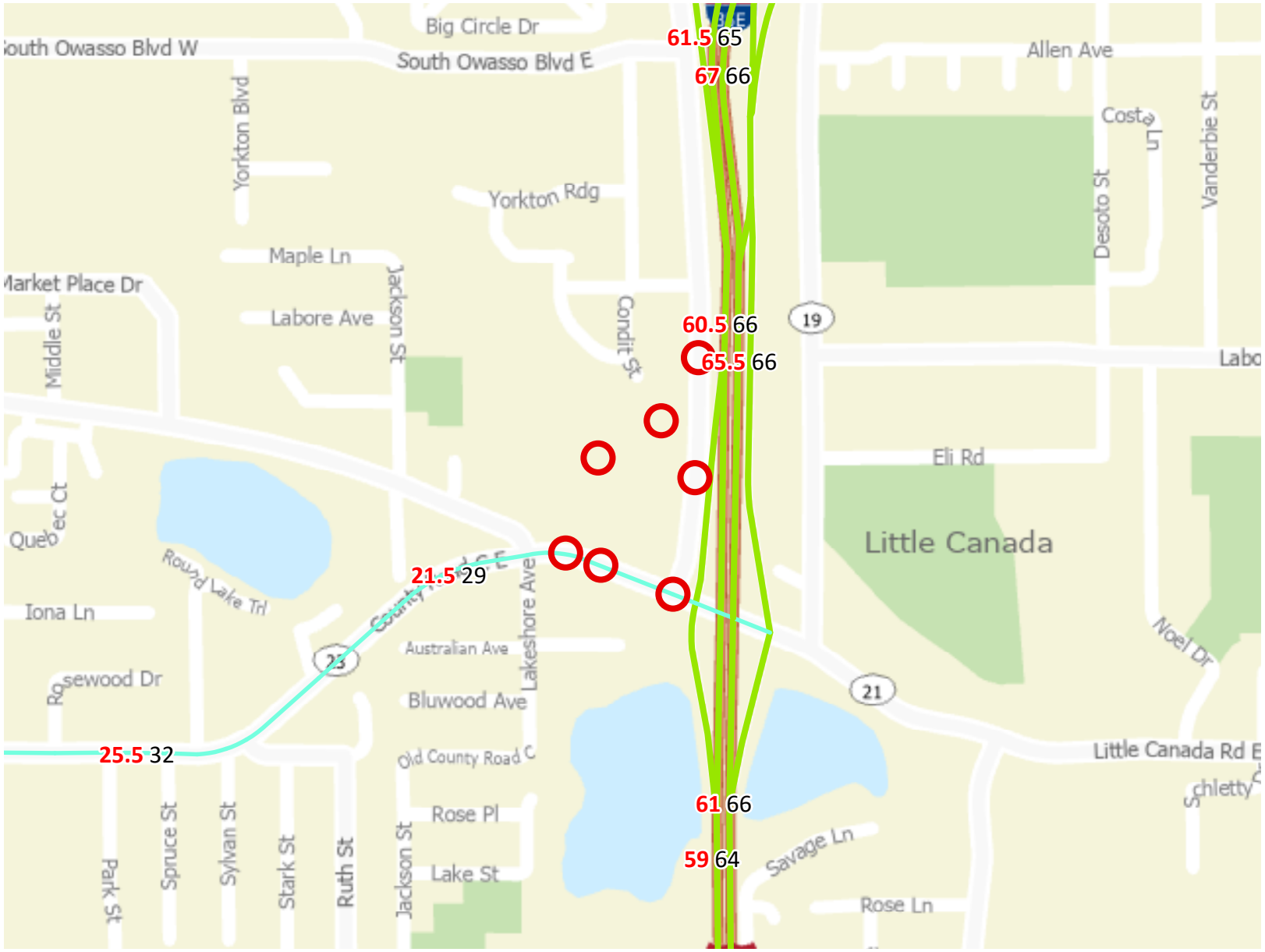
Created: 11/21/2023
LandscapeRSA1

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

METROPOLITAN COUNCIL

Level of Congestion

Roadway Spot Mobility & Safety Project: Little Canada Rd-Country Drive Intersection | Map ID: 1700603624840



Project Points

A Minor Arterials

A Minor Arterials Planned

Principal Arterials

Principal Arterials Planned

0 0.1 0.2 0.4 0.6 0.8 Miles

Created: 11/21/2023
LandscapeRSA1

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

METROPOLITAN COUNCIL

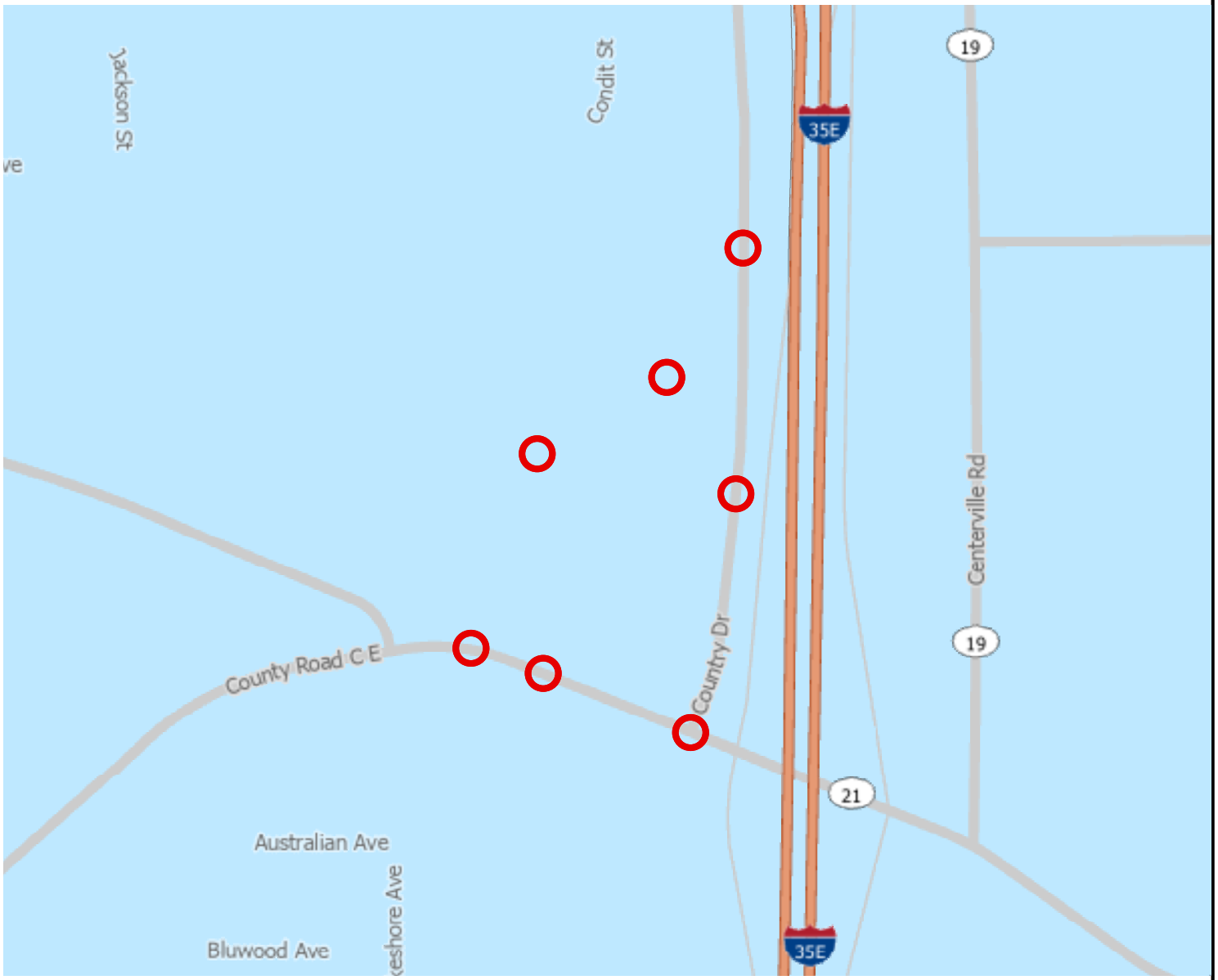
Socio-Economic Conditions

Roadway Spot Mobility & Safety Project: Little Canada Rd-Country Drive Intersection | Map ID: 1700603624840

Results

Total of publicly subsidized rental housing units in census tracts within 1/2 mile: 154

Project located in census tract(s) that are ABOVE the regional average for population in poverty or population of color.



Points

Regional Environmental Justice Area

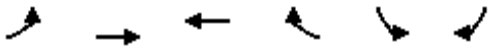
Area of Concentrated Poverty

0 0.05 0.1 0.2 0.3 0.4 Miles

Created: 11/21/2023
LandscapeRSA2

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

METROPOLITAN COUNCIL



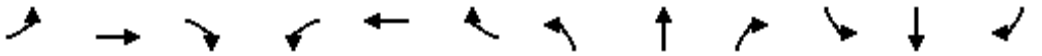
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	15	687	593	153	292	32
Future Volume (vph)	15	687	593	153	292	32
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0			0	0	475
Storage Lanes	0			0	1	0
Taper Length (ft)	100				100	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.972		0.987	
Flt Protected		0.999			0.957	
Satd. Flow (prot)	0	1877	1796	0	1724	0
Flt Permitted		0.999			0.957	
Satd. Flow (perm)	0	1877	1796	0	1724	0
Link Speed (mph)		30	30		30	
Link Distance (ft)		1330	377		708	
Travel Time (s)		30.2	8.6		16.1	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	7%	1%	1%	10%	4%	5%
Adj. Flow (vph)	15	687	593	153	292	32
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	702	746	0	324	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	3		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		32	20		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	17			14	18	14
Sign Control		Yield	Yield		Yield	

Intersection Summary			
Area Type:	Other		
Control Type: Roundabout			
Intersection Capacity Utilization 73.0%		ICU Level of Service C	
Analysis Period (min) 15			

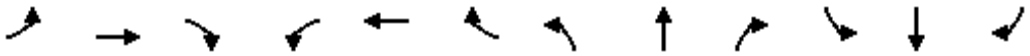
Intersection	
Intersection Delay, s/veh	11.8
Intersection LOS	B

Approach	EB	WB	SB
Entry Lanes	1	1	1
Conflicting Circle Lanes	1	1	1
Adj Approach Flow, veh/h	702	746	324
Demand Flow Rate, veh/h	710	767	338
Vehicles Circulating, veh/h	304	16	599
Vehicles Exiting, veh/h	633	998	184
Ped Vol Crossing Leg, #/h	0	0	0
Ped Cap Adj	1.000	1.000	1.000
Approach Delay, s/veh	15.1	9.0	11.3
Approach LOS	C	A	B

Lane	Left	Left	Left
Designated Moves	LT	TR	LR
Assumed Moves	LT	TR	LR
RT Channelized			
Lane Util	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976
Entry Flow, veh/h	710	767	338
Cap Entry Lane, veh/h	1012	1358	749
Entry HV Adj Factor	0.989	0.973	0.959
Flow Entry, veh/h	702	746	324
Cap Entry, veh/h	1001	1320	718
V/C Ratio	0.702	0.565	0.451
Control Delay, s/veh	15.1	9.0	11.3
LOS	C	A	B
95th %tile Queue, veh	6	4	2



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	581	405	160	533	0	0	0	0	144	2	220
Future Volume (vph)	0	581	405	160	533	0	0	0	0	144	2	220
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	170		0	0		0	0		550
Storage Lanes	0		1	1		0	0		0	0		1
Taper Length (ft)	100			60			100			100		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	0.95	0.95
Frt			0.850								0.965	0.850
Flt Protected				0.950							0.963	
Satd. Flow (prot)	0	3539	1599	1787	3471	0	0	0	0	0	1598	1461
Flt Permitted				0.347							0.963	
Satd. Flow (perm)	0	3539	1599	653	3471	0	0	0	0	0	1598	1461
Right Turn on Red			Yes			Yes			Yes			No
Satd. Flow (RTOR)			405									
Link Speed (mph)		30			30			35			35	
Link Distance (ft)		145			680			675			1315	
Travel Time (s)		3.3			15.5			13.1			25.6	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	0%	2%	1%	1%	4%	0%	0%	0%	0%	5%	0%	5%
Adj. Flow (vph)	0	581	405	160	533	0	0	0	0	144	2	220
Shared Lane Traffic (%)												20%
Lane Group Flow (vph)	0	581	405	160	533	0	0	0	0	0	190	176
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		6			12			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		20			24			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		14	16		9	15		9	16		13
Number of Detectors		0	0	1	2					1	2	2
Detector Template										Left		
Leading Detector (ft)		0	0	26	126					20	126	126
Trailing Detector (ft)		0	0	5	120					0	5	5
Detector 1 Position(ft)		0	0	5	0					0	5	5
Detector 1 Size(ft)		20	20	21	20					20	20	20
Detector 1 Type		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex					Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)		0.0	0.0	0.0	0.0					0.0	0.0	0.0
Detector 1 Queue (s)		20.0	0.0	0.0	20.0					0.0	0.0	0.0
Detector 1 Delay (s)		0.0	0.0	0.0	0.0					0.0	0.0	10.0
Detector 2 Position(ft)					120						120	120
Detector 2 Size(ft)					6						6	6
Detector 2 Type					Cl+Ex						Cl+Ex	Extend
Detector 2 Channel												
Detector 2 Extend (s)					0.0						0.0	0.0
Turn Type		NA	Perm	pm+pt	NA					Perm	NA	Perm
Protected Phases		6		5	2						4	

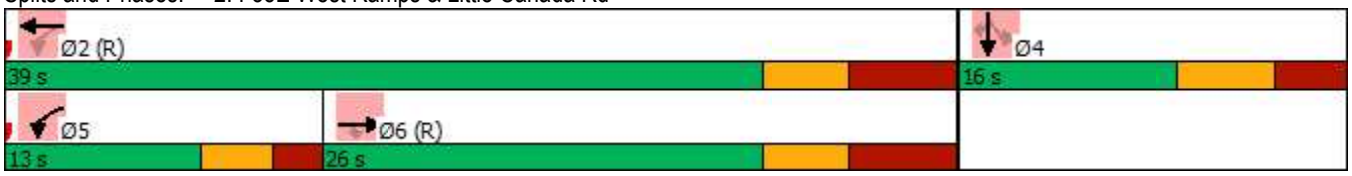


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases			6	2						4		4
Detector Phase		6	6	2 5	2					4	4	4
Switch Phase												
Minimum Initial (s)		15.0	15.0	5.0	15.0					7.0	7.0	7.0
Minimum Split (s)		26.0	26.0	13.0	35.0					15.0	15.0	15.0
Total Split (s)		26.0	26.0	13.0	39.0					16.0	16.0	16.0
Total Split (%)		47.3%	47.3%	23.6%	70.9%					29.1%	29.1%	29.1%
Maximum Green (s)		18.0	18.0	8.0	31.0					9.0	9.0	9.0
Yellow Time (s)		3.5	3.5	3.0	3.5					4.0	4.0	4.0
All-Red Time (s)		4.5	4.5	2.0	4.5					3.0	3.0	3.0
Lost Time Adjust (s)		0.0	0.0	0.0	0.0						0.0	0.0
Total Lost Time (s)		8.0	8.0	5.0	8.0						7.0	7.0
Lead/Lag		Lag	Lag	Lead								
Lead-Lag Optimize?		Yes	Yes	Yes								
Vehicle Extension (s)		3.0	3.0	3.0	3.0					3.0	3.0	3.0
Recall Mode		C-Max	C-Max	None	C-Max					None	None	None
Walk Time (s)		7.0	7.0		7.0							
Flash Dont Walk (s)		11.0	11.0		20.0							
Pedestrian Calls (#/hr)		0	0		0							
Act Effct Green (s)		21.3	21.3	34.3	31.3						8.7	8.7
Actuated g/C Ratio		0.39	0.39	0.62	0.57						0.16	0.16
v/c Ratio		0.43	0.47	0.29	0.27						0.75	0.76
Control Delay		14.9	3.9	5.8	6.6						43.6	46.2
Queue Delay		0.0	0.0	0.0	0.0						0.0	0.0
Total Delay		14.9	3.9	5.8	6.6						43.6	46.2
LOS		B	A	A	A						D	D
Approach Delay		10.4			6.4						44.9	
Approach LOS		B			A						D	
90th %ile Green (s)		18.0	18.0	8.0	31.0					9.0	9.0	9.0
90th %ile Term Code		Coord	Coord	Max	Coord					Max	Max	Max
70th %ile Green (s)		18.0	18.0	8.0	31.0					9.0	9.0	9.0
70th %ile Term Code		Coord	Coord	Max	Coord					Max	Max	Max
50th %ile Green (s)		18.6	18.6	7.4	31.0					9.0	9.0	9.0
50th %ile Term Code		Coord	Coord	Gap	Coord					Max	Max	Max
30th %ile Green (s)		19.3	19.3	6.7	31.0					9.0	9.0	9.0
30th %ile Term Code		Coord	Coord	Gap	Coord					Max	Max	Max
10th %ile Green (s)		32.4	32.4	0.0	32.4					7.6	7.6	7.6
10th %ile Term Code		Coord	Coord	Skip	Coord					Gap	Gap	Gap
Stops (vph)		417	49	60	244						162	148
Fuel Used(gal)		5	1	1	5						5	4
CO Emissions (g/hr)		330	74	96	342						329	310
NOx Emissions (g/hr)		64	14	19	66						64	60
VOC Emissions (g/hr)		77	17	22	79						76	72
Dilemma Vehicles (#)		0	0	0	0						16	0
Queue Length 50th (ft)		77	0	18	41						63	58
Queue Length 95th (ft)		119	50	37	63						#153	#148
Internal Link Dist (ft)		65			600			595			1235	
Turn Bay Length (ft)				170								550
Base Capacity (vph)		1367	866	571	1974						261	239

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Starvation Cap Reductn		0	0	0	0						0	0
Spillback Cap Reductn		0	0	0	0						0	0
Storage Cap Reductn		0	0	0	0						0	0
Reduced v/c Ratio		0.43	0.47	0.28	0.27						0.73	0.74

Intersection Summary			
Area Type:	Other		
Cycle Length: 55			
Actuated Cycle Length: 55			
Offset: 0 (0%), Referenced to phase 2:WBTL and 6:EBT, Start of 1st Green			
Natural Cycle: 55			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.76			
Intersection Signal Delay: 15.2		Intersection LOS: B	
Intersection Capacity Utilization 63.2%		ICU Level of Service B	
Analysis Period (min) 15			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

Splits and Phases: 2: I-35E West Ramps & Little Canada Rd



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	970	9	10	743	3	16
Future Volume (vph)	970	9	10	743	3	16
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	0.95	0.95	0.95	1.00	1.00
Frt	0.999				0.886	
Flt Protected				0.999	0.992	
Satd. Flow (prot)	3536	0	0	3536	1637	0
Flt Permitted				0.999	0.992	
Satd. Flow (perm)	3536	0	0	3536	1637	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	212			145	212	
Travel Time (s)	4.8			3.3	4.8	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	970	9	10	743	3	16
Shared Lane Traffic (%)						
Lane Group Flow (vph)	979	0	0	753	19	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			0	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 37.6%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	0.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	970	9	10	743	3	16
Future Vol, veh/h	970	9	10	743	3	16
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	970	9	10	743	3	16

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	979	0	1367	490
Stage 1	-	-	-	-	975	-
Stage 2	-	-	-	-	392	-
Critical Hdwy	-	-	4.14	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	-	-	2.22	-	3.52	3.32
Pot Cap-1 Maneuver	-	-	701	-	138	524
Stage 1	-	-	-	-	326	-
Stage 2	-	-	-	-	652	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	701	-	135	524
Mov Cap-2 Maneuver	-	-	-	-	135	-
Stage 1	-	-	-	-	326	-
Stage 2	-	-	-	-	636	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.2	15.6
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	360	-	-	701	-
HCM Lane V/C Ratio	0.053	-	-	0.014	-
HCM Control Delay (s)	15.6	-	-	10.2	0.1
HCM Lane LOS	C	-	-	B	A
HCM 95th %tile Q(veh)	0.2	-	-	0	-

1: Little Canada Rd & Country Dr

Direction	All
Future Volume (vph)	1772
Control Delay / Veh (s/v)	0
Queue Delay / Veh (s/v)	0
Total Delay / Veh (s/v)	0
Total Delay (hr)	0
Stops / Veh	1.00
Stops (#)	1772
Average Speed (mph)	30
Total Travel Time (hr)	10
Distance Traveled (mi)	303
Fuel Consumed (gal)	22
Fuel Economy (mpg)	13.6
CO Emissions (kg)	1.56
NOx Emissions (kg)	0.30
VOC Emissions (kg)	0.36
Unserved Vehicles (#)	0
Vehicles in dilemma zone (#)	0

2: I-35E West Ramps & Little Canada Rd

Direction	All
Future Volume (vph)	2045
Control Delay / Veh (s/v)	15
Queue Delay / Veh (s/v)	0
Total Delay / Veh (s/v)	15
Total Delay (hr)	9
Stops / Veh	0.53
Stops (#)	1080
Average Speed (mph)	14
Total Travel Time (hr)	15
Distance Traveled (mi)	207
Fuel Consumed (gal)	21
Fuel Economy (mpg)	9.8
CO Emissions (kg)	1.48
NOx Emissions (kg)	0.29
VOC Emissions (kg)	0.34
Unserved Vehicles (#)	0
Vehicles in dilemma zone (#)	16

8: Little Canada Rd

Direction	All
Future Volume (vph)	1751
Control Delay / Veh (s/v)	0
Queue Delay / Veh (s/v)	0
Total Delay / Veh (s/v)	0
Total Delay (hr)	0
Stops / Veh	0.03
Stops (#)	47
Average Speed (mph)	29
Total Travel Time (hr)	4
Distance Traveled (mi)	131
Fuel Consumed (gal)	6
Fuel Economy (mpg)	22.8
CO Emissions (kg)	0.40
NOx Emissions (kg)	0.08
VOC Emissions (kg)	0.09
Unserved Vehicles (#)	0
Vehicles in dilemma zone (#)	0

Network Totals

Number of Intersections	3
Control Delay / Veh (s/v)	6
Queue Delay / Veh (s/v)	0
Total Delay / Veh (s/v)	6
Total Delay (hr)	9
Stops / Veh	0.52
Stops (#)	2899
Average Speed (mph)	22
Total Travel Time (hr)	30
Distance Traveled (mi)	642
Fuel Consumed (gal)	49
Fuel Economy (mpg)	13.0
CO Emissions (kg)	3.44
NOx Emissions (kg)	0.67
VOC Emissions (kg)	0.80
Unserved Vehicles (#)	0
Vehicles in dilemma zone (#)	16
Performance Index	16.8

1: Little Canada Rd & Country Dr

Direction	EB	WB	SB	All
Future Volume (vph)	702	746	324	1772
Control Delay / Veh (s/v)	0	0	0	0
Queue Delay / Veh (s/v)	0	0	0	0
Total Delay / Veh (s/v)	0	0	0	0
Total Delay (hr)	0	0	0	0
Stops / Veh	1.00	1.00	1.00	1.00
Stops (#)	702	746	324	1772
Average Speed (mph)	30	30	30	30
Total Travel Time (hr)	6	3	1	10
Distance Traveled (mi)	177	83	43	303
Fuel Consumed (gal)	11	8	4	22
Fuel Economy (mpg)	15.8	11.0	12.1	13.6
CO Emissions (kg)	0.78	0.53	0.25	1.56
NOx Emissions (kg)	0.15	0.10	0.05	0.30
VOC Emissions (kg)	0.18	0.12	0.06	0.36
Unserved Vehicles (#)	0	0	0	0
Vehicles in dilemma zone (#)	0	0	0	0

2: I-35E West Ramps & Little Canada Rd

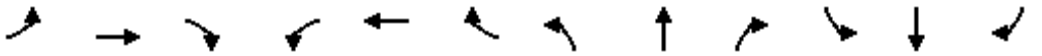
Direction	EB	WB	SB	All
Future Volume (vph)	986	693	366	2045
Control Delay / Veh (s/v)	10	6	45	15
Queue Delay / Veh (s/v)	0	0	0	0
Total Delay / Veh (s/v)	10	6	45	15
Total Delay (hr)	3	1	5	9
Stops / Veh	0.47	0.44	0.85	0.53
Stops (#)	466	304	310	1080
Average Speed (mph)	7	21	13	14
Total Travel Time (hr)	4	4	7	15
Distance Traveled (mi)	27	89	91	207
Fuel Consumed (gal)	6	6	9	21
Fuel Economy (mpg)	4.7	14.3	10.0	9.8
CO Emissions (kg)	0.40	0.44	0.64	1.48
NOx Emissions (kg)	0.08	0.09	0.12	0.29
VOC Emissions (kg)	0.09	0.10	0.15	0.34
Unserved Vehicles (#)	0	0	0	0
Vehicles in dilemma zone (#)	0	0	16	16

8: Little Canada Rd

Direction	EB	WB	NB	All
Future Volume (vph)	979	753	19	1751
Control Delay / Veh (s/v)	0	0	15	0
Queue Delay / Veh (s/v)	0	0	0	0
Total Delay / Veh (s/v)	0	0	15	0
Total Delay (hr)	0	0	0	0
Stops / Veh	0.00	0.04	1.00	0.03
Stops (#)	0	28	19	47
Average Speed (mph)	30	28	7	29
Total Travel Time (hr)	4	1	0	4
Distance Traveled (mi)	109	21	1	131
Fuel Consumed (gal)	4	1	0	6
Fuel Economy (mpg)	24.3	20.0	NA	22.8
CO Emissions (kg)	0.31	0.07	0.01	0.40
NOx Emissions (kg)	0.06	0.01	0.00	0.08
VOC Emissions (kg)	0.07	0.02	0.00	0.09
Unserved Vehicles (#)	0	0	0	0
Vehicles in dilemma zone (#)	0	0	0	0

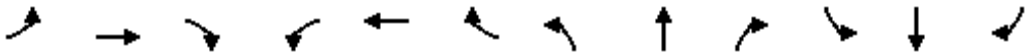
Network Totals

Number of Intersections	3
Control Delay / Veh (s/v)	6
Queue Delay / Veh (s/v)	0
Total Delay / Veh (s/v)	6
Total Delay (hr)	9
Stops / Veh	0.52
Stops (#)	2899
Average Speed (mph)	22
Total Travel Time (hr)	30
Distance Traveled (mi)	642
Fuel Consumed (gal)	49
Fuel Economy (mpg)	13.0
CO Emissions (kg)	3.44
NOx Emissions (kg)	0.67
VOC Emissions (kg)	0.80
Unserved Vehicles (#)	0
Vehicles in dilemma zone (#)	16
Performance Index	16.8



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	15	682	5	10	592	151	1	2	16	288	4	32
Future Volume (vph)	15	682	5	10	592	151	1	2	16	288	4	32
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		175	0		0	0		0	0		475
Storage Lanes	0		1	0		0	0		0	0		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	0.91	0.91	0.91	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.999			0.970			0.886				0.850
Flt Protected		0.999			0.999			0.997			0.953	
Satd. Flow (prot)	0	5119	0	0	3403	0	0	1663	0	0	1742	1538
Flt Permitted		0.903			0.946			0.980			0.715	
Satd. Flow (perm)	0	4627	0	0	3222	0	0	1635	0	0	1307	1538
Right Turn on Red			No			Yes			Yes			No
Satd. Flow (RTOR)					54			16				
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1330			141			395			708	
Travel Time (s)		30.2			3.2			9.0			16.1	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	7%	1%	1%	1%	1%	10%	1%	0%	1%	4%	1%	5%
Adj. Flow (vph)	15	682	5	10	592	151	1	2	16	288	4	32
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	702	0	0	753	0	0	19	0	0	292	32
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			3			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		32			20			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	17		9	15		14	15		9	18		14
Number of Detectors	1	2		1	0		1	1		1	2	1
Detector Template	Left			Left			Left			Left		
Leading Detector (ft)	20	126		20	0		20	26		20	126	26
Trailing Detector (ft)	0	5		0	0		0	5		0	5	5
Detector 1 Position(ft)	0	5		0	0		0	5		0	5	5
Detector 1 Size(ft)	20	21		20	20		20	21		20	21	21
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	20.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	5.0		0.0	0.0	10.0
Detector 2 Position(ft)		120									120	
Detector 2 Size(ft)		6									6	
Detector 2 Type		Cl+Ex									Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0									0.0	
Turn Type	Perm	NA		pm+pt	NA		Perm	NA		Perm	NA	Perm
Protected Phases		6		5	2 4			8			3	

Lane Group	Ø2	Ø4
Lane Configurations		
Traffic Volume (vph)		
Future Volume (vph)		
Ideal Flow (vphpl)		
Storage Length (ft)		
Storage Lanes		
Taper Length (ft)		
Lane Util. Factor		
Frt		
Flt Protected		
Satd. Flow (prot)		
Flt Permitted		
Satd. Flow (perm)		
Right Turn on Red		
Satd. Flow (RTOR)		
Link Speed (mph)		
Link Distance (ft)		
Travel Time (s)		
Peak Hour Factor		
Heavy Vehicles (%)		
Adj. Flow (vph)		
Shared Lane Traffic (%)		
Lane Group Flow (vph)		
Enter Blocked Intersection		
Lane Alignment		
Median Width(ft)		
Link Offset(ft)		
Crosswalk Width(ft)		
Two way Left Turn Lane		
Headway Factor		
Turning Speed (mph)		
Number of Detectors		
Detector Template		
Leading Detector (ft)		
Trailing Detector (ft)		
Detector 1 Position(ft)		
Detector 1 Size(ft)		
Detector 1 Type		
Detector 1 Channel		
Detector 1 Extend (s)		
Detector 1 Queue (s)		
Detector 1 Delay (s)		
Detector 2 Position(ft)		
Detector 2 Size(ft)		
Detector 2 Type		
Detector 2 Channel		
Detector 2 Extend (s)		
Turn Type		
Protected Phases	2	4



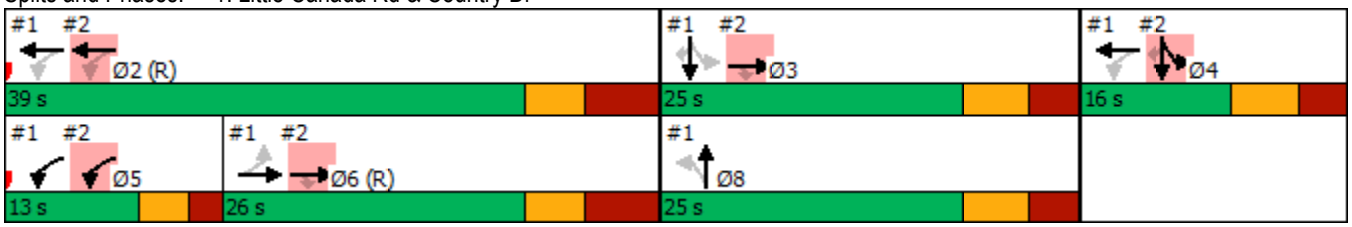
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	6			2 4			8			3		3
Detector Phase	6	6		2 5			8	8		3	3	3
Switch Phase		2										
Minimum Initial (s)	15.0	15.0		5.0			7.0	7.0		5.0	5.0	5.0
Minimum Split (s)	24.0	24.0		13.0			15.0	15.0		13.0	13.0	13.0
Total Split (s)	26.0	26.0		13.0			25.0	25.0		25.0	25.0	25.0
Total Split (%)	32.5%	32.5%		16.3%			31.3%	31.3%		31.3%	31.3%	31.3%
Maximum Green (s)	18.0	18.0		8.0			18.0	18.0		18.0	18.0	18.0
Yellow Time (s)	3.5	3.5		3.0			4.0	4.0		4.0	4.0	4.0
All-Red Time (s)	4.5	4.5		2.0			3.0	3.0		3.0	3.0	3.0
Lost Time Adjust (s)		0.0						0.0			0.0	0.0
Total Lost Time (s)		8.0						7.0			7.0	7.0
Lead/Lag	Lag	Lag		Lead								
Lead-Lag Optimize?	Yes	Yes		Yes								
Vehicle Extension (s)	3.0	3.0		3.0			3.0	3.0		3.0	3.0	3.0
Recall Mode	C-Max	C-Max		None			None	None		None	None	None
Walk Time (s)	7.0	7.0								7.0	7.0	7.0
Flash Dont Walk (s)	11.0	11.0								18.0	18.0	18.0
Pedestrian Calls (#/hr)	0	0								0	0	0
Act Effct Green (s)		18.3			39.0			18.0			18.0	18.0
Actuated g/C Ratio		0.23			0.49			0.22			0.22	0.22
v/c Ratio		0.66			0.47			0.05			0.99	0.09
Control Delay		31.7			2.1			13.5			85.1	25.5
Queue Delay		0.0			0.2			0.0			0.0	0.0
Total Delay		31.7			2.3			13.5			85.1	25.5
LOS		C			A			B			F	C
Approach Delay		31.7			2.3			13.5			79.2	
Approach LOS		C			A			B			E	
90th %ile Green (s)	18.0	18.0		8.0			18.0	18.0		18.0	18.0	18.0
90th %ile Term Code	Coord	Coord		Max			Hold	Hold		Max	Max	Max
70th %ile Green (s)	18.0	18.0		8.0			18.0	18.0		18.0	18.0	18.0
70th %ile Term Code	Coord	Coord		Max			Hold	Hold		Max	Max	Max
50th %ile Green (s)	18.0	18.0		8.0			18.0	18.0		18.0	18.0	18.0
50th %ile Term Code	Coord	Coord		Max			Hold	Hold		Max	Max	Max
30th %ile Green (s)	18.0	18.0		8.0			18.0	18.0		18.0	18.0	18.0
30th %ile Term Code	Coord	Coord		Max			Hold	Hold		Max	Max	Max
10th %ile Green (s)	19.3	19.3		6.7			18.0	18.0		18.0	18.0	18.0
10th %ile Term Code	Coord	Coord		Gap			Hold	Hold		Max	Max	Max
Stops (vph)		616			84			9			242	28
Fuel Used(gal)		15			2			0			8	0
CO Emissions (g/hr)		1064			113			11			560	35
NOx Emissions (g/hr)		207			22			2			109	7
VOC Emissions (g/hr)		247			26			3			130	8
Dilemma Vehicles (#)		0			0			0			0	0
Queue Length 50th (ft)		117			0			1			146	13
Queue Length 95th (ft)		158			m0			18			#302	35
Internal Link Dist (ft)		1250			61			315			628	
Turn Bay Length (ft)												475
Base Capacity (vph)		1056			1608			380			294	346

Lane Group	Ø2	Ø4
Permitted Phases		
Detector Phase		
Switch Phase		
Minimum Initial (s)	15.0	7.0
Minimum Split (s)	24.0	15.0
Total Split (s)	39.0	16.0
Total Split (%)	49%	20%
Maximum Green (s)	31.0	9.0
Yellow Time (s)	3.5	4.0
All-Red Time (s)	4.5	3.0
Lost Time Adjust (s)		
Total Lost Time (s)		
Lead/Lag		
Lead-Lag Optimize?		
Vehicle Extension (s)	3.0	3.0
Recall Mode	C-Max	None
Walk Time (s)	7.0	
Flash Dont Walk (s)	20.0	
Pedestrian Calls (#/hr)	0	
Act Effct Green (s)		
Actuated g/C Ratio		
v/c Ratio		
Control Delay		
Queue Delay		
Total Delay		
LOS		
Approach Delay		
Approach LOS		
90th %ile Green (s)	31.0	9.0
90th %ile Term Code	Coord	Max
70th %ile Green (s)	31.0	9.0
70th %ile Term Code	Coord	Max
50th %ile Green (s)	31.0	9.0
50th %ile Term Code	Coord	Max
30th %ile Green (s)	31.0	9.0
30th %ile Term Code	Coord	Max
10th %ile Green (s)	31.0	9.0
10th %ile Term Code	Coord	Max
Stops (vph)		
Fuel Used(gal)		
CO Emissions (g/hr)		
NOx Emissions (g/hr)		
VOC Emissions (g/hr)		
Dilemma Vehicles (#)		
Queue Length 50th (ft)		
Queue Length 95th (ft)		
Internal Link Dist (ft)		
Turn Bay Length (ft)		
Base Capacity (vph)		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Starvation Cap Reductn		0			261			0			0	0
Spillback Cap Reductn		1			0			0			0	0
Storage Cap Reductn		0			0			0			0	0
Reduced v/c Ratio		0.67			0.56			0.05			0.99	0.09

Intersection Summary			
Area Type:	Other		
Cycle Length: 80			
Actuated Cycle Length: 80			
Offset: 0 (0%), Referenced to phase 2:WBTL and 6:EBTL, Start of 1st Green			
Natural Cycle: 80			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.07			
Intersection Signal Delay: 27.8		Intersection LOS: C	
Intersection Capacity Utilization 63.8%		ICU Level of Service B	
Analysis Period (min) 15			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			
m Volume for 95th percentile queue is metered by upstream signal.			

Splits and Phases: 1: Little Canada Rd & Country Dr

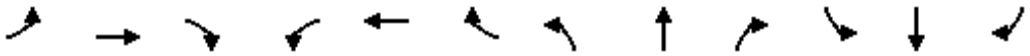


Lane Group	Ø2	Ø4
Starvation Cap Reductn		
Spillback Cap Reductn		
Storage Cap Reductn		
Reduced v/c Ratio		

Intersection Summary

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	581	405	160	533	0	0	0	0	144	2	220
Future Volume (vph)	0	581	405	160	533	0	0	0	0	144	2	220
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	170		0	0		0	0		550
Storage Lanes	0		1	1		0	0		0	0		1
Taper Length (ft)	100			60			100			100		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	0.95	0.95
Frt			0.850								0.965	0.850
Flt Protected				0.950							0.963	
Satd. Flow (prot)	0	3539	1599	1787	3471	0	0	0	0	0	1598	1461
Flt Permitted				0.340							0.963	
Satd. Flow (perm)	0	3539	1599	640	3471	0	0	0	0	0	1598	1461
Right Turn on Red			Yes			Yes			Yes			No
Satd. Flow (RTOR)			405									
Link Speed (mph)		30			30			35			35	
Link Distance (ft)		141			680			675			1315	
Travel Time (s)		3.2			15.5			13.1			25.6	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	0%	2%	1%	1%	4%	0%	0%	0%	0%	5%	0%	5%
Adj. Flow (vph)	0	581	405	160	533	0	0	0	0	144	2	220
Shared Lane Traffic (%)												20%
Lane Group Flow (vph)	0	581	405	160	533	0	0	0	0	0	190	176
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		6			12			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		20			24			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		14	16		9	15		9	16		13
Number of Detectors		0	0	1	2					1	2	2
Detector Template										Left		
Leading Detector (ft)		0	0	26	126					20	126	126
Trailing Detector (ft)		0	0	5	120					0	5	5
Detector 1 Position(ft)		0	0	5	0					0	5	5
Detector 1 Size(ft)		20	20	21	20					20	20	20
Detector 1 Type		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex					Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)		0.0	0.0	0.0	0.0					0.0	0.0	0.0
Detector 1 Queue (s)		20.0	0.0	0.0	20.0					0.0	0.0	0.0
Detector 1 Delay (s)		0.0	0.0	0.0	0.0					0.0	0.0	10.0
Detector 2 Position(ft)					120						120	120
Detector 2 Size(ft)					6						6	6
Detector 2 Type					Cl+Ex						Cl+Ex	Extend
Detector 2 Channel												
Detector 2 Extend (s)					0.0						0.0	0.0
Turn Type		NA	Perm	pm+pt	NA					Split	NA	Perm
Protected Phases		6 3		5	2					4	4	

Lane Group	Ø3	Ø6	Ø8
Lane Configurations			
Traffic Volume (vph)			
Future Volume (vph)			
Ideal Flow (vphpl)			
Storage Length (ft)			
Storage Lanes			
Taper Length (ft)			
Lane Util. Factor			
Frt			
Flt Protected			
Satd. Flow (prot)			
Flt Permitted			
Satd. Flow (perm)			
Right Turn on Red			
Satd. Flow (RTOR)			
Link Speed (mph)			
Link Distance (ft)			
Travel Time (s)			
Peak Hour Factor			
Heavy Vehicles (%)			
Adj. Flow (vph)			
Shared Lane Traffic (%)			
Lane Group Flow (vph)			
Enter Blocked Intersection			
Lane Alignment			
Median Width(ft)			
Link Offset(ft)			
Crosswalk Width(ft)			
Two way Left Turn Lane			
Headway Factor			
Turning Speed (mph)			
Number of Detectors			
Detector Template			
Leading Detector (ft)			
Trailing Detector (ft)			
Detector 1 Position(ft)			
Detector 1 Size(ft)			
Detector 1 Type			
Detector 1 Channel			
Detector 1 Extend (s)			
Detector 1 Queue (s)			
Detector 1 Delay (s)			
Detector 2 Position(ft)			
Detector 2 Size(ft)			
Detector 2 Type			
Detector 2 Channel			
Detector 2 Extend (s)			
Turn Type			
Protected Phases	3	6	8



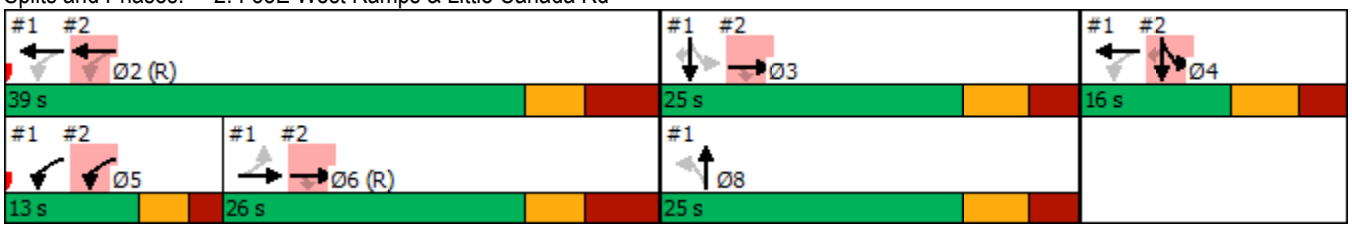
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases			6 3	2								4
Detector Phase				2 5	2					4	4	4
Switch Phase												
Minimum Initial (s)				5.0	15.0					7.0	7.0	7.0
Minimum Split (s)				13.0	24.0					15.0	15.0	15.0
Total Split (s)				13.0	39.0					16.0	16.0	16.0
Total Split (%)				16.3%	48.8%					20.0%	20.0%	20.0%
Maximum Green (s)				8.0	31.0					9.0	9.0	9.0
Yellow Time (s)				3.0	3.5					4.0	4.0	4.0
All-Red Time (s)				2.0	4.5					3.0	3.0	3.0
Lost Time Adjust (s)				0.0	0.0						0.0	0.0
Total Lost Time (s)				5.0	8.0						7.0	7.0
Lead/Lag				Lead								
Lead-Lag Optimize?				Yes								
Vehicle Extension (s)				3.0	3.0					3.0	3.0	3.0
Recall Mode				None	C-Max					None	None	None
Walk Time (s)					7.0							
Flash Dont Walk (s)					20.0							
Pedestrian Calls (#/hr)					0							
Act Effct Green (s)		43.3	43.3	34.0	31.0						9.0	9.0
Actuated g/C Ratio		0.54	0.54	0.42	0.39						0.11	0.11
v/c Ratio		0.30	0.39	0.42	0.40						1.06	1.07
Control Delay		2.2	1.5	18.2	18.8						122.5	129.0
Queue Delay		1.0	2.4	0.0	0.0						0.0	0.0
Total Delay		3.1	4.0	18.2	18.8						122.5	129.0
LOS		A	A	B	B						F	F
Approach Delay		3.5			18.7						125.6	
Approach LOS		A			B						F	
90th %ile Green (s)				8.0	31.0					9.0	9.0	9.0
90th %ile Term Code				Max	Coord					Max	Max	Max
70th %ile Green (s)				8.0	31.0					9.0	9.0	9.0
70th %ile Term Code				Max	Coord					Max	Max	Max
50th %ile Green (s)				8.0	31.0					9.0	9.0	9.0
50th %ile Term Code				Max	Coord					Max	Max	Max
30th %ile Green (s)				8.0	31.0					9.0	9.0	9.0
30th %ile Term Code				Max	Coord					Max	Max	Max
10th %ile Green (s)				6.7	31.0					9.0	9.0	9.0
10th %ile Term Code				Gap	Coord					Max	Max	Max
Stops (vph)		32	39	97	368						151	139
Fuel Used(gal)		1	1	2	7						8	7
CO Emissions (g/hr)		75	55	138	483						537	513
NOx Emissions (g/hr)		15	11	27	94						104	100
VOC Emissions (g/hr)		17	13	32	112						124	119
Dilemma Vehicles (#)		0	0	0	0						9	0
Queue Length 50th (ft)		12	11	49	98						~111	~104
Queue Length 95th (ft)		m14	m15	88	140						#242	#231
Internal Link Dist (ft)		61			600			595			1235	
Turn Bay Length (ft)				170								550
Base Capacity (vph)		1913	1050	386	1345						179	164

Lane Group	Ø3	Ø6	Ø8
Permitted Phases			
Detector Phase			
Switch Phase			
Minimum Initial (s)	5.0	15.0	7.0
Minimum Split (s)	13.0	24.0	15.0
Total Split (s)	25.0	26.0	25.0
Total Split (%)	31%	33%	31%
Maximum Green (s)	18.0	18.0	18.0
Yellow Time (s)	4.0	3.5	4.0
All-Red Time (s)	3.0	4.5	3.0
Lost Time Adjust (s)			
Total Lost Time (s)			
Lead/Lag		Lag	
Lead-Lag Optimize?		Yes	
Vehicle Extension (s)	3.0	3.0	3.0
Recall Mode	None	C-Max	None
Walk Time (s)	7.0	7.0	
Flash Dont Walk (s)	18.0	11.0	
Pedestrian Calls (#/hr)	0	0	
Act Effct Green (s)			
Actuated g/C Ratio			
v/c Ratio			
Control Delay			
Queue Delay			
Total Delay			
LOS			
Approach Delay			
Approach LOS			
90th %ile Green (s)	18.0	18.0	18.0
90th %ile Term Code	Max	Coord	Hold
70th %ile Green (s)	18.0	18.0	18.0
70th %ile Term Code	Max	Coord	Hold
50th %ile Green (s)	18.0	18.0	18.0
50th %ile Term Code	Max	Coord	Hold
30th %ile Green (s)	18.0	18.0	18.0
30th %ile Term Code	Max	Coord	Hold
10th %ile Green (s)	18.0	19.3	18.0
10th %ile Term Code	Max	Coord	Hold
Stops (vph)			
Fuel Used(gal)			
CO Emissions (g/hr)			
NOx Emissions (g/hr)			
VOC Emissions (g/hr)			
Dilemma Vehicles (#)			
Queue Length 50th (ft)			
Queue Length 95th (ft)			
Internal Link Dist (ft)			
Turn Bay Length (ft)			
Base Capacity (vph)			

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Starvation Cap Reductn		1011	503	0	0						0	0
Spillback Cap Reductn		0	0	0	2						0	0
Storage Cap Reductn		0	0	0	0						0	0
Reduced v/c Ratio		0.64	0.74	0.41	0.40						1.06	1.07

Intersection Summary			
Area Type:	Other		
Cycle Length: 80			
Actuated Cycle Length: 80			
Offset: 0 (0%), Referenced to phase 2:WBTL and 6:EBTL, Start of 1st Green			
Natural Cycle: 80			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.07			
Intersection Signal Delay: 30.5		Intersection LOS: C	
Intersection Capacity Utilization 63.2%		ICU Level of Service B	
Analysis Period (min) 15			
~ Volume exceeds capacity, queue is theoretically infinite.			
Queue shown is maximum after two cycles.			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			
m Volume for 95th percentile queue is metered by upstream signal.			

Splits and Phases: 2: I-35E West Ramps & Little Canada Rd



Lane Group	Ø3	Ø6	Ø8
Starvation Cap Reductn			
Spillback Cap Reductn			
Storage Cap Reductn			
Reduced v/c Ratio			

Intersection Summary

1: Little Canada Rd & Country Dr

Direction	All
Future Volume (vph)	1798
Control Delay / Veh (s/v)	28
Queue Delay / Veh (s/v)	0
Total Delay / Veh (s/v)	28
Total Delay (hr)	14
Stops / Veh	0.54
Stops (#)	979
Average Speed (mph)	11
Total Travel Time (hr)	22
Distance Traveled (mi)	242
Fuel Consumed (gal)	26
Fuel Economy (mpg)	9.5
CO Emissions (kg)	1.79
NOx Emissions (kg)	0.35
VOC Emissions (kg)	0.41
Unserved Vehicles (#)	0
Vehicles in dilemma zone (#)	0

2: I-35E West Ramps & Little Canada Rd

Direction	All
Future Volume (vph)	2045
Control Delay / Veh (s/v)	30
Queue Delay / Veh (s/v)	1
Total Delay / Veh (s/v)	30
Total Delay (hr)	17
Stops / Veh	0.40
Stops (#)	826
Average Speed (mph)	9
Total Travel Time (hr)	24
Distance Traveled (mi)	207
Fuel Consumed (gal)	26
Fuel Economy (mpg)	7.9
CO Emissions (kg)	1.82
NOx Emissions (kg)	0.35
VOC Emissions (kg)	0.42
Unserved Vehicles (#)	22
Vehicles in dilemma zone (#)	9

Network Totals

Number of Intersections	2
Control Delay / Veh (s/v)	29
Queue Delay / Veh (s/v)	0
Total Delay / Veh (s/v)	29
Total Delay (hr)	31
Stops / Veh	0.47
Stops (#)	1805
Average Speed (mph)	10
Total Travel Time (hr)	46
Distance Traveled (mi)	449
Fuel Consumed (gal)	52
Fuel Economy (mpg)	8.7
CO Emissions (kg)	3.61
NOx Emissions (kg)	0.70
VOC Emissions (kg)	0.84
Unserved Vehicles (#)	22
Vehicles in dilemma zone (#)	9
Performance Index	36.2

1: Little Canada Rd & Country Dr

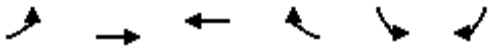
Direction	EB	WB	NB	SB	All
Future Volume (vph)	702	753	19	324	1798
Control Delay / Veh (s/v)	32	2	13	79	28
Queue Delay / Veh (s/v)	0	0	0	0	0
Total Delay / Veh (s/v)	32	2	13	79	28
Total Delay (hr)	6	0	0	7	14
Stops / Veh	0.88	0.11	0.47	0.83	0.54
Stops (#)	616	84	9	270	979
Average Speed (mph)	15	17	12	5	11
Total Travel Time (hr)	12	1	0	9	22
Distance Traveled (mi)	177	20	1	43	242
Fuel Consumed (gal)	15	2	0	9	26
Fuel Economy (mpg)	11.6	12.2	NA	5.1	9.5
CO Emissions (kg)	1.06	0.12	0.01	0.59	1.79
NOx Emissions (kg)	0.21	0.02	0.00	0.12	0.35
VOC Emissions (kg)	0.25	0.03	0.00	0.14	0.41
Unserved Vehicles (#)	0	0	0	0	0
Vehicles in dilemma zone (#)	0	0	0	0	0

2: I-35E West Ramps & Little Canada Rd

Direction	EB	WB	SB	All
Future Volume (vph)	986	693	366	2045
Control Delay / Veh (s/v)	2	19	126	30
Queue Delay / Veh (s/v)	2	0	0	1
Total Delay / Veh (s/v)	3	19	126	30
Total Delay (hr)	1	4	13	17
Stops / Veh	0.07	0.67	0.79	0.40
Stops (#)	71	465	290	826
Average Speed (mph)	14	14	6	9
Total Travel Time (hr)	2	7	15	24
Distance Traveled (mi)	26	89	91	207
Fuel Consumed (gal)	2	9	15	26
Fuel Economy (mpg)	12.1	10.0	6.1	7.9
CO Emissions (kg)	0.15	0.62	1.05	1.82
NOx Emissions (kg)	0.03	0.12	0.20	0.35
VOC Emissions (kg)	0.04	0.14	0.24	0.42
Unserved Vehicles (#)	0	0	22	22
Vehicles in dilemma zone (#)	0	0	9	9

Network Totals

Number of Intersections	2
Control Delay / Veh (s/v)	29
Queue Delay / Veh (s/v)	0
Total Delay / Veh (s/v)	29
Total Delay (hr)	31
Stops / Veh	0.47
Stops (#)	1805
Average Speed (mph)	10
Total Travel Time (hr)	46
Distance Traveled (mi)	449
Fuel Consumed (gal)	52
Fuel Economy (mpg)	8.7
CO Emissions (kg)	3.61
NOx Emissions (kg)	0.70
VOC Emissions (kg)	0.84
Unserved Vehicles (#)	22
Vehicles in dilemma zone (#)	9
Performance Index	36.2



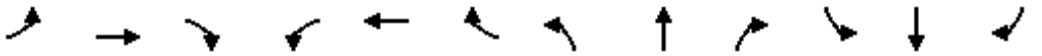
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	15	687	593	153	292	32
Future Volume (vph)	15	687	593	153	292	32
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0			0	0	475
Storage Lanes	0			0	1	0
Taper Length (ft)	100				100	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.972		0.987	
Flt Protected		0.999			0.957	
Satd. Flow (prot)	0	1877	1796	0	1724	0
Flt Permitted		0.999			0.957	
Satd. Flow (perm)	0	1877	1796	0	1724	0
Link Speed (mph)		30	30		30	
Link Distance (ft)		1330	377		708	
Travel Time (s)		30.2	8.6		16.1	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	7%	1%	1%	10%	4%	5%
Adj. Flow (vph)	15	687	593	153	292	32
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	702	746	0	324	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	3		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		32	20		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	17			14	18	14
Sign Control		Yield	Yield		Yield	

Intersection Summary			
Area Type:	Other		
Control Type: Roundabout			
Intersection Capacity Utilization 73.0%		ICU Level of Service C	
Analysis Period (min) 15			

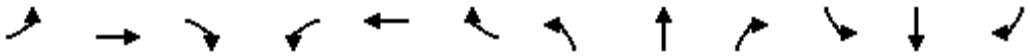
Intersection	
Intersection Delay, s/veh	11.8
Intersection LOS	B

Approach	EB	WB	SB
Entry Lanes	1	1	1
Conflicting Circle Lanes	1	1	1
Adj Approach Flow, veh/h	702	746	324
Demand Flow Rate, veh/h	710	767	338
Vehicles Circulating, veh/h	304	16	599
Vehicles Exiting, veh/h	633	998	184
Ped Vol Crossing Leg, #/h	0	0	0
Ped Cap Adj	1.000	1.000	1.000
Approach Delay, s/veh	15.1	9.0	11.3
Approach LOS	C	A	B

Lane	Left	Left	Left
Designated Moves	LT	TR	LR
Assumed Moves	LT	TR	LR
RT Channelized			
Lane Util	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976
Entry Flow, veh/h	710	767	338
Cap Entry Lane, veh/h	1012	1358	749
Entry HV Adj Factor	0.989	0.973	0.959
Flow Entry, veh/h	702	746	324
Cap Entry, veh/h	1001	1320	718
V/C Ratio	0.702	0.565	0.451
Control Delay, s/veh	15.1	9.0	11.3
LOS	C	A	B
95th %tile Queue, veh	6	4	2



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	581	405	160	533	0	0	0	0	144	2	220
Future Volume (vph)	0	581	405	160	533	0	0	0	0	144	2	220
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	170		0	0		0	0		550
Storage Lanes	0		1	1		0	0		0	0		1
Taper Length (ft)	100			60			100			100		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	0.95	0.95
Frt			0.850								0.965	0.850
Flt Protected				0.950							0.963	
Satd. Flow (prot)	0	3539	1599	1787	3471	0	0	0	0	0	1598	1461
Flt Permitted				0.347							0.963	
Satd. Flow (perm)	0	3539	1599	653	3471	0	0	0	0	0	1598	1461
Right Turn on Red			Yes			Yes			Yes			No
Satd. Flow (RTOR)			405									
Link Speed (mph)		30			30			35			35	
Link Distance (ft)		145			680			675			1315	
Travel Time (s)		3.3			15.5			13.1			25.6	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	0%	2%	1%	1%	4%	0%	0%	0%	0%	5%	0%	5%
Adj. Flow (vph)	0	581	405	160	533	0	0	0	0	144	2	220
Shared Lane Traffic (%)												20%
Lane Group Flow (vph)	0	581	405	160	533	0	0	0	0	0	190	176
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		6			12			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		20			24			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		14	16		9	15		9	16		13
Number of Detectors		0	0	1	2					1	2	2
Detector Template										Left		
Leading Detector (ft)		0	0	26	126					20	126	126
Trailing Detector (ft)		0	0	5	120					0	5	5
Detector 1 Position(ft)		0	0	5	0					0	5	5
Detector 1 Size(ft)		20	20	21	20					20	20	20
Detector 1 Type		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex					Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)		0.0	0.0	0.0	0.0					0.0	0.0	0.0
Detector 1 Queue (s)		20.0	0.0	0.0	20.0					0.0	0.0	0.0
Detector 1 Delay (s)		0.0	0.0	0.0	0.0					0.0	0.0	10.0
Detector 2 Position(ft)					120						120	120
Detector 2 Size(ft)					6						6	6
Detector 2 Type					Cl+Ex						Cl+Ex	Extend
Detector 2 Channel												
Detector 2 Extend (s)					0.0						0.0	0.0
Turn Type		NA	Perm	pm+pt	NA					Perm	NA	Perm
Protected Phases		6		5	2						4	

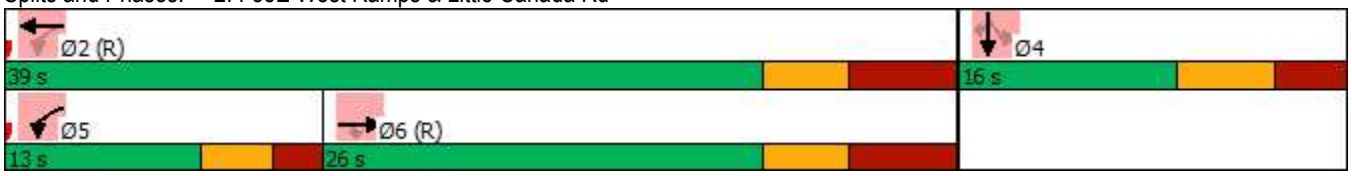


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases			6	2						4		4
Detector Phase		6	6	2 5	2					4	4	4
Switch Phase												
Minimum Initial (s)		15.0	15.0	5.0	15.0					7.0	7.0	7.0
Minimum Split (s)		26.0	26.0	13.0	35.0					15.0	15.0	15.0
Total Split (s)		26.0	26.0	13.0	39.0					16.0	16.0	16.0
Total Split (%)		47.3%	47.3%	23.6%	70.9%					29.1%	29.1%	29.1%
Maximum Green (s)		18.0	18.0	8.0	31.0					9.0	9.0	9.0
Yellow Time (s)		3.5	3.5	3.0	3.5					4.0	4.0	4.0
All-Red Time (s)		4.5	4.5	2.0	4.5					3.0	3.0	3.0
Lost Time Adjust (s)		0.0	0.0	0.0	0.0						0.0	0.0
Total Lost Time (s)		8.0	8.0	5.0	8.0						7.0	7.0
Lead/Lag		Lag	Lag	Lead								
Lead-Lag Optimize?		Yes	Yes	Yes								
Vehicle Extension (s)		3.0	3.0	3.0	3.0					3.0	3.0	3.0
Recall Mode		C-Max	C-Max	None	C-Max					None	None	None
Walk Time (s)		7.0	7.0		7.0							
Flash Dont Walk (s)		11.0	11.0		20.0							
Pedestrian Calls (#/hr)		0	0		0							
Act Effct Green (s)		21.3	21.3	34.3	31.3						8.7	8.7
Actuated g/C Ratio		0.39	0.39	0.62	0.57						0.16	0.16
v/c Ratio		0.43	0.47	0.29	0.27						0.75	0.76
Control Delay		14.9	3.9	5.8	6.6						43.6	46.2
Queue Delay		0.0	0.0	0.0	0.0						0.0	0.0
Total Delay		14.9	3.9	5.8	6.6						43.6	46.2
LOS		B	A	A	A						D	D
Approach Delay		10.4			6.4						44.9	
Approach LOS		B			A						D	
90th %ile Green (s)		18.0	18.0	8.0	31.0					9.0	9.0	9.0
90th %ile Term Code		Coord	Coord	Max	Coord					Max	Max	Max
70th %ile Green (s)		18.0	18.0	8.0	31.0					9.0	9.0	9.0
70th %ile Term Code		Coord	Coord	Max	Coord					Max	Max	Max
50th %ile Green (s)		18.6	18.6	7.4	31.0					9.0	9.0	9.0
50th %ile Term Code		Coord	Coord	Gap	Coord					Max	Max	Max
30th %ile Green (s)		19.3	19.3	6.7	31.0					9.0	9.0	9.0
30th %ile Term Code		Coord	Coord	Gap	Coord					Max	Max	Max
10th %ile Green (s)		32.4	32.4	0.0	32.4					7.6	7.6	7.6
10th %ile Term Code		Coord	Coord	Skip	Coord					Gap	Gap	Gap
Stops (vph)		417	49	60	244						162	148
Fuel Used(gal)		5	1	1	5						5	4
CO Emissions (g/hr)		330	74	96	342						329	310
NOx Emissions (g/hr)		64	14	19	66						64	60
VOC Emissions (g/hr)		77	17	22	79						76	72
Dilemma Vehicles (#)		0	0	0	0						16	0
Queue Length 50th (ft)		77	0	18	41						63	58
Queue Length 95th (ft)		119	50	37	63						#153	#148
Internal Link Dist (ft)		65			600			595			1235	
Turn Bay Length (ft)				170								550
Base Capacity (vph)		1367	866	571	1974						261	239

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Starvation Cap Reductn		0	0	0	0						0	0
Spillback Cap Reductn		0	0	0	0						0	0
Storage Cap Reductn		0	0	0	0						0	0
Reduced v/c Ratio		0.43	0.47	0.28	0.27						0.73	0.74

Intersection Summary			
Area Type:	Other		
Cycle Length: 55			
Actuated Cycle Length: 55			
Offset: 0 (0%), Referenced to phase 2:WBTL and 6:EBT, Start of 1st Green			
Natural Cycle: 55			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.76			
Intersection Signal Delay: 15.2		Intersection LOS: B	
Intersection Capacity Utilization 63.2%		ICU Level of Service B	
Analysis Period (min) 15			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

Splits and Phases: 2: I-35E West Ramps & Little Canada Rd



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	970	9	10	743	3	16
Future Volume (vph)	970	9	10	743	3	16
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	0.95	0.95	0.95	1.00	1.00
Frt	0.999				0.886	
Flt Protected				0.999	0.992	
Satd. Flow (prot)	3536	0	0	3536	1637	0
Flt Permitted				0.999	0.992	
Satd. Flow (perm)	3536	0	0	3536	1637	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	212			145	212	
Travel Time (s)	4.8			3.3	4.8	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	970	9	10	743	3	16
Shared Lane Traffic (%)						
Lane Group Flow (vph)	979	0	0	753	19	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			0	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 37.6%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	0.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	970	9	10	743	3	16
Future Vol, veh/h	970	9	10	743	3	16
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	970	9	10	743	3	16

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	979	0	1367	490
Stage 1	-	-	-	-	975	-
Stage 2	-	-	-	-	392	-
Critical Hdwy	-	-	4.14	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	-	-	2.22	-	3.52	3.32
Pot Cap-1 Maneuver	-	-	701	-	138	524
Stage 1	-	-	-	-	326	-
Stage 2	-	-	-	-	652	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	701	-	135	524
Mov Cap-2 Maneuver	-	-	-	-	135	-
Stage 1	-	-	-	-	326	-
Stage 2	-	-	-	-	636	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.2	15.6
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	360	-	-	701	-
HCM Lane V/C Ratio	0.053	-	-	0.014	-
HCM Control Delay (s)	15.6	-	-	10.2	0.1
HCM Lane LOS	C	-	-	B	A
HCM 95th %tile Q(veh)	0.2	-	-	0	-

1: Little Canada Rd & Country Dr

Direction	All
Future Volume (vph)	1772
Control Delay / Veh (s/v)	0
Queue Delay / Veh (s/v)	0
Total Delay / Veh (s/v)	0
Total Delay (hr)	0
Stops / Veh	1.00
Stops (#)	1772
Average Speed (mph)	30
Total Travel Time (hr)	10
Distance Traveled (mi)	303
Fuel Consumed (gal)	22
Fuel Economy (mpg)	13.6
CO Emissions (kg)	1.56
NOx Emissions (kg)	0.30
VOC Emissions (kg)	0.36
Unserved Vehicles (#)	0
Vehicles in dilemma zone (#)	0

2: I-35E West Ramps & Little Canada Rd

Direction	All
Future Volume (vph)	2045
Control Delay / Veh (s/v)	15
Queue Delay / Veh (s/v)	0
Total Delay / Veh (s/v)	15
Total Delay (hr)	9
Stops / Veh	0.53
Stops (#)	1080
Average Speed (mph)	14
Total Travel Time (hr)	15
Distance Traveled (mi)	207
Fuel Consumed (gal)	21
Fuel Economy (mpg)	9.8
CO Emissions (kg)	1.48
NOx Emissions (kg)	0.29
VOC Emissions (kg)	0.34
Unserved Vehicles (#)	0
Vehicles in dilemma zone (#)	16

8: Little Canada Rd

Direction	All
Future Volume (vph)	1751
Control Delay / Veh (s/v)	0
Queue Delay / Veh (s/v)	0
Total Delay / Veh (s/v)	0
Total Delay (hr)	0
Stops / Veh	0.03
Stops (#)	47
Average Speed (mph)	29
Total Travel Time (hr)	4
Distance Traveled (mi)	131
Fuel Consumed (gal)	6
Fuel Economy (mpg)	22.8
CO Emissions (kg)	0.40
NOx Emissions (kg)	0.08
VOC Emissions (kg)	0.09
Unserved Vehicles (#)	0
Vehicles in dilemma zone (#)	0

Network Totals

Number of Intersections	3
Control Delay / Veh (s/v)	6
Queue Delay / Veh (s/v)	0
Total Delay / Veh (s/v)	6
Total Delay (hr)	9
Stops / Veh	0.52
Stops (#)	2899
Average Speed (mph)	22
Total Travel Time (hr)	30
Distance Traveled (mi)	642
Fuel Consumed (gal)	49
Fuel Economy (mpg)	13.0
CO Emissions (kg)	3.44
NOx Emissions (kg)	0.67
VOC Emissions (kg)	0.80
Unserved Vehicles (#)	0
Vehicles in dilemma zone (#)	16
Performance Index	16.8

1: Little Canada Rd & Country Dr

Direction	EB	WB	SB	All
Future Volume (vph)	702	746	324	1772
Control Delay / Veh (s/v)	0	0	0	0
Queue Delay / Veh (s/v)	0	0	0	0
Total Delay / Veh (s/v)	0	0	0	0
Total Delay (hr)	0	0	0	0
Stops / Veh	1.00	1.00	1.00	1.00
Stops (#)	702	746	324	1772
Average Speed (mph)	30	30	30	30
Total Travel Time (hr)	6	3	1	10
Distance Traveled (mi)	177	83	43	303
Fuel Consumed (gal)	11	8	4	22
Fuel Economy (mpg)	15.8	11.0	12.1	13.6
CO Emissions (kg)	0.78	0.53	0.25	1.56
NOx Emissions (kg)	0.15	0.10	0.05	0.30
VOC Emissions (kg)	0.18	0.12	0.06	0.36
Unserved Vehicles (#)	0	0	0	0
Vehicles in dilemma zone (#)	0	0	0	0

2: I-35E West Ramps & Little Canada Rd

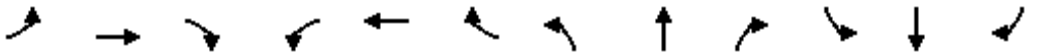
Direction	EB	WB	SB	All
Future Volume (vph)	986	693	366	2045
Control Delay / Veh (s/v)	10	6	45	15
Queue Delay / Veh (s/v)	0	0	0	0
Total Delay / Veh (s/v)	10	6	45	15
Total Delay (hr)	3	1	5	9
Stops / Veh	0.47	0.44	0.85	0.53
Stops (#)	466	304	310	1080
Average Speed (mph)	7	21	13	14
Total Travel Time (hr)	4	4	7	15
Distance Traveled (mi)	27	89	91	207
Fuel Consumed (gal)	6	6	9	21
Fuel Economy (mpg)	4.7	14.3	10.0	9.8
CO Emissions (kg)	0.40	0.44	0.64	1.48
NOx Emissions (kg)	0.08	0.09	0.12	0.29
VOC Emissions (kg)	0.09	0.10	0.15	0.34
Unserved Vehicles (#)	0	0	0	0
Vehicles in dilemma zone (#)	0	0	16	16

8: Little Canada Rd

Direction	EB	WB	NB	All
Future Volume (vph)	979	753	19	1751
Control Delay / Veh (s/v)	0	0	15	0
Queue Delay / Veh (s/v)	0	0	0	0
Total Delay / Veh (s/v)	0	0	15	0
Total Delay (hr)	0	0	0	0
Stops / Veh	0.00	0.04	1.00	0.03
Stops (#)	0	28	19	47
Average Speed (mph)	30	28	7	29
Total Travel Time (hr)	4	1	0	4
Distance Traveled (mi)	109	21	1	131
Fuel Consumed (gal)	4	1	0	6
Fuel Economy (mpg)	24.3	20.0	NA	22.8
CO Emissions (kg)	0.31	0.07	0.01	0.40
NOx Emissions (kg)	0.06	0.01	0.00	0.08
VOC Emissions (kg)	0.07	0.02	0.00	0.09
Unserved Vehicles (#)	0	0	0	0
Vehicles in dilemma zone (#)	0	0	0	0

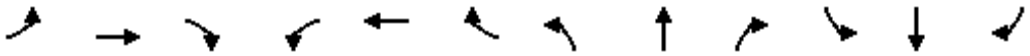
Network Totals

Number of Intersections	3
Control Delay / Veh (s/v)	6
Queue Delay / Veh (s/v)	0
Total Delay / Veh (s/v)	6
Total Delay (hr)	9
Stops / Veh	0.52
Stops (#)	2899
Average Speed (mph)	22
Total Travel Time (hr)	30
Distance Traveled (mi)	642
Fuel Consumed (gal)	49
Fuel Economy (mpg)	13.0
CO Emissions (kg)	3.44
NOx Emissions (kg)	0.67
VOC Emissions (kg)	0.80
Unserved Vehicles (#)	0
Vehicles in dilemma zone (#)	16
Performance Index	16.8



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	15	682	5	10	592	151	1	2	16	288	4	32
Future Volume (vph)	15	682	5	10	592	151	1	2	16	288	4	32
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		175	0		0	0		0	0		475
Storage Lanes	0		1	0		0	0		0	0		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	0.91	0.91	0.91	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.999			0.970			0.886				0.850
Flt Protected		0.999			0.999			0.997			0.953	
Satd. Flow (prot)	0	5119	0	0	3403	0	0	1663	0	0	1742	1538
Flt Permitted		0.903			0.946			0.980			0.715	
Satd. Flow (perm)	0	4627	0	0	3222	0	0	1635	0	0	1307	1538
Right Turn on Red			No			Yes			Yes			No
Satd. Flow (RTOR)					54			16				
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1330			141			395			708	
Travel Time (s)		30.2			3.2			9.0			16.1	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	7%	1%	1%	1%	1%	10%	1%	0%	1%	4%	1%	5%
Adj. Flow (vph)	15	682	5	10	592	151	1	2	16	288	4	32
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	702	0	0	753	0	0	19	0	0	292	32
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			3			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		32			20			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	17		9	15		14	15		9	18		14
Number of Detectors	1	2		1	0		1	1		1	2	1
Detector Template	Left			Left			Left			Left		
Leading Detector (ft)	20	126		20	0		20	26		20	126	26
Trailing Detector (ft)	0	5		0	0		0	5		0	5	5
Detector 1 Position(ft)	0	5		0	0		0	5		0	5	5
Detector 1 Size(ft)	20	21		20	20		20	21		20	21	21
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	20.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	5.0		0.0	0.0	10.0
Detector 2 Position(ft)		120									120	
Detector 2 Size(ft)		6									6	
Detector 2 Type		Cl+Ex									Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0									0.0	
Turn Type	Perm	NA		pm+pt	NA		Perm	NA		Perm	NA	Perm
Protected Phases		6		5	2 4			8			3	

Lane Group	Ø2	Ø4
Lane Configurations		
Traffic Volume (vph)		
Future Volume (vph)		
Ideal Flow (vphpl)		
Storage Length (ft)		
Storage Lanes		
Taper Length (ft)		
Lane Util. Factor		
Frt		
Flt Protected		
Satd. Flow (prot)		
Flt Permitted		
Satd. Flow (perm)		
Right Turn on Red		
Satd. Flow (RTOR)		
Link Speed (mph)		
Link Distance (ft)		
Travel Time (s)		
Peak Hour Factor		
Heavy Vehicles (%)		
Adj. Flow (vph)		
Shared Lane Traffic (%)		
Lane Group Flow (vph)		
Enter Blocked Intersection		
Lane Alignment		
Median Width(ft)		
Link Offset(ft)		
Crosswalk Width(ft)		
Two way Left Turn Lane		
Headway Factor		
Turning Speed (mph)		
Number of Detectors		
Detector Template		
Leading Detector (ft)		
Trailing Detector (ft)		
Detector 1 Position(ft)		
Detector 1 Size(ft)		
Detector 1 Type		
Detector 1 Channel		
Detector 1 Extend (s)		
Detector 1 Queue (s)		
Detector 1 Delay (s)		
Detector 2 Position(ft)		
Detector 2 Size(ft)		
Detector 2 Type		
Detector 2 Channel		
Detector 2 Extend (s)		
Turn Type		
Protected Phases	2	4



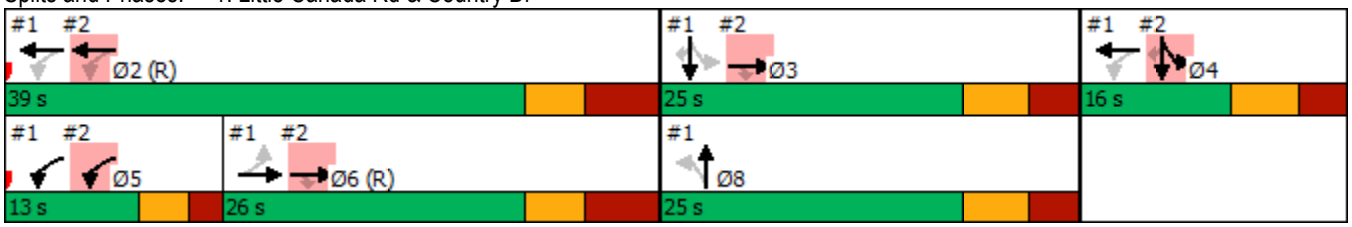
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	6			2 4			8			3		3
Detector Phase	6	6		2 5			8	8		3	3	3
Switch Phase		2										
Minimum Initial (s)	15.0	15.0		5.0			7.0	7.0		5.0	5.0	5.0
Minimum Split (s)	24.0	24.0		13.0			15.0	15.0		13.0	13.0	13.0
Total Split (s)	26.0	26.0		13.0			25.0	25.0		25.0	25.0	25.0
Total Split (%)	32.5%	32.5%		16.3%			31.3%	31.3%		31.3%	31.3%	31.3%
Maximum Green (s)	18.0	18.0		8.0			18.0	18.0		18.0	18.0	18.0
Yellow Time (s)	3.5	3.5		3.0			4.0	4.0		4.0	4.0	4.0
All-Red Time (s)	4.5	4.5		2.0			3.0	3.0		3.0	3.0	3.0
Lost Time Adjust (s)		0.0						0.0			0.0	0.0
Total Lost Time (s)		8.0						7.0			7.0	7.0
Lead/Lag	Lag	Lag		Lead								
Lead-Lag Optimize?	Yes	Yes		Yes								
Vehicle Extension (s)	3.0	3.0		3.0			3.0	3.0		3.0	3.0	3.0
Recall Mode	C-Max	C-Max		None			None	None		None	None	None
Walk Time (s)	7.0	7.0								7.0	7.0	7.0
Flash Dont Walk (s)	11.0	11.0								18.0	18.0	18.0
Pedestrian Calls (#/hr)	0	0								0	0	0
Act Effct Green (s)		18.3			39.0			18.0			18.0	18.0
Actuated g/C Ratio		0.23			0.49			0.22			0.22	0.22
v/c Ratio		0.66			0.47			0.05			0.99	0.09
Control Delay		31.7			2.1			13.5			85.1	25.5
Queue Delay		0.0			0.2			0.0			0.0	0.0
Total Delay		31.7			2.3			13.5			85.1	25.5
LOS		C			A			B			F	C
Approach Delay		31.7			2.3			13.5			79.2	
Approach LOS		C			A			B			E	
90th %ile Green (s)	18.0	18.0		8.0			18.0	18.0		18.0	18.0	18.0
90th %ile Term Code	Coord	Coord		Max			Hold	Hold		Max	Max	Max
70th %ile Green (s)	18.0	18.0		8.0			18.0	18.0		18.0	18.0	18.0
70th %ile Term Code	Coord	Coord		Max			Hold	Hold		Max	Max	Max
50th %ile Green (s)	18.0	18.0		8.0			18.0	18.0		18.0	18.0	18.0
50th %ile Term Code	Coord	Coord		Max			Hold	Hold		Max	Max	Max
30th %ile Green (s)	18.0	18.0		8.0			18.0	18.0		18.0	18.0	18.0
30th %ile Term Code	Coord	Coord		Max			Hold	Hold		Max	Max	Max
10th %ile Green (s)	19.3	19.3		6.7			18.0	18.0		18.0	18.0	18.0
10th %ile Term Code	Coord	Coord		Gap			Hold	Hold		Max	Max	Max
Stops (vph)		616			84			9			242	28
Fuel Used(gal)		15			2			0			8	0
CO Emissions (g/hr)		1064			113			11			560	35
NOx Emissions (g/hr)		207			22			2			109	7
VOC Emissions (g/hr)		247			26			3			130	8
Dilemma Vehicles (#)		0			0			0			0	0
Queue Length 50th (ft)		117			0			1			146	13
Queue Length 95th (ft)		158			m0			18			#302	35
Internal Link Dist (ft)		1250			61			315			628	
Turn Bay Length (ft)												475
Base Capacity (vph)		1056			1608			380			294	346

Lane Group	Ø2	Ø4
Permitted Phases		
Detector Phase		
Switch Phase		
Minimum Initial (s)	15.0	7.0
Minimum Split (s)	24.0	15.0
Total Split (s)	39.0	16.0
Total Split (%)	49%	20%
Maximum Green (s)	31.0	9.0
Yellow Time (s)	3.5	4.0
All-Red Time (s)	4.5	3.0
Lost Time Adjust (s)		
Total Lost Time (s)		
Lead/Lag		
Lead-Lag Optimize?		
Vehicle Extension (s)	3.0	3.0
Recall Mode	C-Max	None
Walk Time (s)	7.0	
Flash Dont Walk (s)	20.0	
Pedestrian Calls (#/hr)	0	
Act Effct Green (s)		
Actuated g/C Ratio		
v/c Ratio		
Control Delay		
Queue Delay		
Total Delay		
LOS		
Approach Delay		
Approach LOS		
90th %ile Green (s)	31.0	9.0
90th %ile Term Code	Coord	Max
70th %ile Green (s)	31.0	9.0
70th %ile Term Code	Coord	Max
50th %ile Green (s)	31.0	9.0
50th %ile Term Code	Coord	Max
30th %ile Green (s)	31.0	9.0
30th %ile Term Code	Coord	Max
10th %ile Green (s)	31.0	9.0
10th %ile Term Code	Coord	Max
Stops (vph)		
Fuel Used(gal)		
CO Emissions (g/hr)		
NOx Emissions (g/hr)		
VOC Emissions (g/hr)		
Dilemma Vehicles (#)		
Queue Length 50th (ft)		
Queue Length 95th (ft)		
Internal Link Dist (ft)		
Turn Bay Length (ft)		
Base Capacity (vph)		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Starvation Cap Reductn		0			261			0			0	0
Spillback Cap Reductn		1			0			0			0	0
Storage Cap Reductn		0			0			0			0	0
Reduced v/c Ratio		0.67			0.56			0.05			0.99	0.09

Intersection Summary			
Area Type:	Other		
Cycle Length: 80			
Actuated Cycle Length: 80			
Offset: 0 (0%), Referenced to phase 2:WBTL and 6:EBTL, Start of 1st Green			
Natural Cycle: 80			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.07			
Intersection Signal Delay: 27.8		Intersection LOS: C	
Intersection Capacity Utilization 63.8%		ICU Level of Service B	
Analysis Period (min) 15			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			
m Volume for 95th percentile queue is metered by upstream signal.			

Splits and Phases: 1: Little Canada Rd & Country Dr

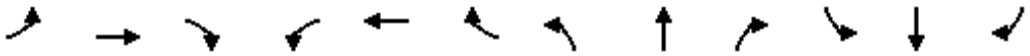


Lane Group	Ø2	Ø4
Starvation Cap Reductn		
Spillback Cap Reductn		
Storage Cap Reductn		
Reduced v/c Ratio		

Intersection Summary

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	581	405	160	533	0	0	0	0	144	2	220
Future Volume (vph)	0	581	405	160	533	0	0	0	0	144	2	220
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	170		0	0		0	0		550
Storage Lanes	0		1	1		0	0		0	0		1
Taper Length (ft)	100			60			100			100		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	0.95	0.95
Frt			0.850								0.965	0.850
Flt Protected				0.950							0.963	
Satd. Flow (prot)	0	3539	1599	1787	3471	0	0	0	0	0	1598	1461
Flt Permitted				0.340							0.963	
Satd. Flow (perm)	0	3539	1599	640	3471	0	0	0	0	0	1598	1461
Right Turn on Red			Yes			Yes			Yes			No
Satd. Flow (RTOR)			405									
Link Speed (mph)		30			30			35			35	
Link Distance (ft)		141			680			675			1315	
Travel Time (s)		3.2			15.5			13.1			25.6	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	0%	2%	1%	1%	4%	0%	0%	0%	0%	5%	0%	5%
Adj. Flow (vph)	0	581	405	160	533	0	0	0	0	144	2	220
Shared Lane Traffic (%)												20%
Lane Group Flow (vph)	0	581	405	160	533	0	0	0	0	0	190	176
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		6			12			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		20			24			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		14	16		9	15		9	16		13
Number of Detectors		0	0	1	2					1	2	2
Detector Template										Left		
Leading Detector (ft)		0	0	26	126					20	126	126
Trailing Detector (ft)		0	0	5	120					0	5	5
Detector 1 Position(ft)		0	0	5	0					0	5	5
Detector 1 Size(ft)		20	20	21	20					20	20	20
Detector 1 Type		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex					Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)		0.0	0.0	0.0	0.0					0.0	0.0	0.0
Detector 1 Queue (s)		20.0	0.0	0.0	20.0					0.0	0.0	0.0
Detector 1 Delay (s)		0.0	0.0	0.0	0.0					0.0	0.0	10.0
Detector 2 Position(ft)					120						120	120
Detector 2 Size(ft)					6						6	6
Detector 2 Type					Cl+Ex						Cl+Ex	Extend
Detector 2 Channel												
Detector 2 Extend (s)					0.0						0.0	0.0
Turn Type		NA	Perm	pm+pt	NA					Split	NA	Perm
Protected Phases		6 3		5	2					4	4	

Lane Group	Ø3	Ø6	Ø8
Lane Configurations			
Traffic Volume (vph)			
Future Volume (vph)			
Ideal Flow (vphpl)			
Storage Length (ft)			
Storage Lanes			
Taper Length (ft)			
Lane Util. Factor			
Frt			
Flt Protected			
Satd. Flow (prot)			
Flt Permitted			
Satd. Flow (perm)			
Right Turn on Red			
Satd. Flow (RTOR)			
Link Speed (mph)			
Link Distance (ft)			
Travel Time (s)			
Peak Hour Factor			
Heavy Vehicles (%)			
Adj. Flow (vph)			
Shared Lane Traffic (%)			
Lane Group Flow (vph)			
Enter Blocked Intersection			
Lane Alignment			
Median Width(ft)			
Link Offset(ft)			
Crosswalk Width(ft)			
Two way Left Turn Lane			
Headway Factor			
Turning Speed (mph)			
Number of Detectors			
Detector Template			
Leading Detector (ft)			
Trailing Detector (ft)			
Detector 1 Position(ft)			
Detector 1 Size(ft)			
Detector 1 Type			
Detector 1 Channel			
Detector 1 Extend (s)			
Detector 1 Queue (s)			
Detector 1 Delay (s)			
Detector 2 Position(ft)			
Detector 2 Size(ft)			
Detector 2 Type			
Detector 2 Channel			
Detector 2 Extend (s)			
Turn Type			
Protected Phases	3	6	8



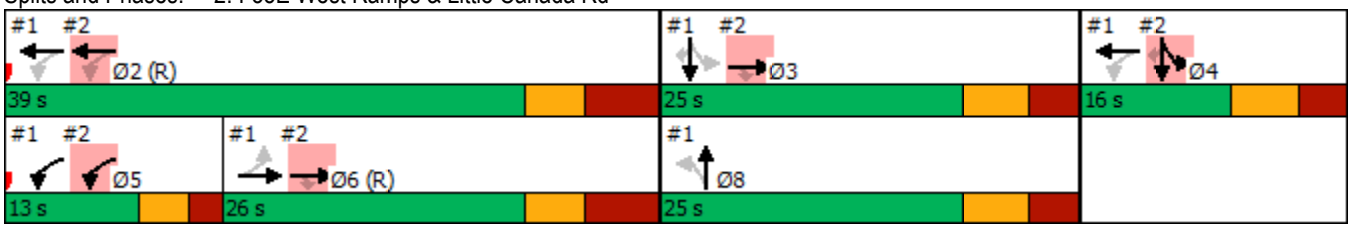
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases			6 3	2								4
Detector Phase				2 5	2					4	4	4
Switch Phase												
Minimum Initial (s)				5.0	15.0					7.0	7.0	7.0
Minimum Split (s)				13.0	24.0					15.0	15.0	15.0
Total Split (s)				13.0	39.0					16.0	16.0	16.0
Total Split (%)				16.3%	48.8%					20.0%	20.0%	20.0%
Maximum Green (s)				8.0	31.0					9.0	9.0	9.0
Yellow Time (s)				3.0	3.5					4.0	4.0	4.0
All-Red Time (s)				2.0	4.5					3.0	3.0	3.0
Lost Time Adjust (s)				0.0	0.0						0.0	0.0
Total Lost Time (s)				5.0	8.0						7.0	7.0
Lead/Lag				Lead								
Lead-Lag Optimize?				Yes								
Vehicle Extension (s)				3.0	3.0					3.0	3.0	3.0
Recall Mode				None	C-Max					None	None	None
Walk Time (s)					7.0							
Flash Dont Walk (s)					20.0							
Pedestrian Calls (#/hr)					0							
Act Effct Green (s)		43.3	43.3	34.0	31.0						9.0	9.0
Actuated g/C Ratio		0.54	0.54	0.42	0.39						0.11	0.11
v/c Ratio		0.30	0.39	0.42	0.40						1.06	1.07
Control Delay		2.2	1.5	18.2	18.8						122.5	129.0
Queue Delay		1.0	2.4	0.0	0.0						0.0	0.0
Total Delay		3.1	4.0	18.2	18.8						122.5	129.0
LOS		A	A	B	B						F	F
Approach Delay		3.5			18.7						125.6	
Approach LOS		A			B						F	
90th %ile Green (s)				8.0	31.0					9.0	9.0	9.0
90th %ile Term Code				Max	Coord					Max	Max	Max
70th %ile Green (s)				8.0	31.0					9.0	9.0	9.0
70th %ile Term Code				Max	Coord					Max	Max	Max
50th %ile Green (s)				8.0	31.0					9.0	9.0	9.0
50th %ile Term Code				Max	Coord					Max	Max	Max
30th %ile Green (s)				8.0	31.0					9.0	9.0	9.0
30th %ile Term Code				Max	Coord					Max	Max	Max
10th %ile Green (s)				6.7	31.0					9.0	9.0	9.0
10th %ile Term Code				Gap	Coord					Max	Max	Max
Stops (vph)		32	39	97	368						151	139
Fuel Used(gal)		1	1	2	7						8	7
CO Emissions (g/hr)		75	55	138	483						537	513
NOx Emissions (g/hr)		15	11	27	94						104	100
VOC Emissions (g/hr)		17	13	32	112						124	119
Dilemma Vehicles (#)		0	0	0	0						9	0
Queue Length 50th (ft)		12	11	49	98						~111	~104
Queue Length 95th (ft)		m14	m15	88	140						#242	#231
Internal Link Dist (ft)		61			600			595			1235	
Turn Bay Length (ft)				170								550
Base Capacity (vph)		1913	1050	386	1345						179	164

Lane Group	Ø3	Ø6	Ø8
Permitted Phases			
Detector Phase			
Switch Phase			
Minimum Initial (s)	5.0	15.0	7.0
Minimum Split (s)	13.0	24.0	15.0
Total Split (s)	25.0	26.0	25.0
Total Split (%)	31%	33%	31%
Maximum Green (s)	18.0	18.0	18.0
Yellow Time (s)	4.0	3.5	4.0
All-Red Time (s)	3.0	4.5	3.0
Lost Time Adjust (s)			
Total Lost Time (s)			
Lead/Lag		Lag	
Lead-Lag Optimize?		Yes	
Vehicle Extension (s)	3.0	3.0	3.0
Recall Mode	None	C-Max	None
Walk Time (s)	7.0	7.0	
Flash Dont Walk (s)	18.0	11.0	
Pedestrian Calls (#/hr)	0	0	
Act Effct Green (s)			
Actuated g/C Ratio			
v/c Ratio			
Control Delay			
Queue Delay			
Total Delay			
LOS			
Approach Delay			
Approach LOS			
90th %ile Green (s)	18.0	18.0	18.0
90th %ile Term Code	Max	Coord	Hold
70th %ile Green (s)	18.0	18.0	18.0
70th %ile Term Code	Max	Coord	Hold
50th %ile Green (s)	18.0	18.0	18.0
50th %ile Term Code	Max	Coord	Hold
30th %ile Green (s)	18.0	18.0	18.0
30th %ile Term Code	Max	Coord	Hold
10th %ile Green (s)	18.0	19.3	18.0
10th %ile Term Code	Max	Coord	Hold
Stops (vph)			
Fuel Used(gal)			
CO Emissions (g/hr)			
NOx Emissions (g/hr)			
VOC Emissions (g/hr)			
Dilemma Vehicles (#)			
Queue Length 50th (ft)			
Queue Length 95th (ft)			
Internal Link Dist (ft)			
Turn Bay Length (ft)			
Base Capacity (vph)			

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Starvation Cap Reductn		1011	503	0	0						0	0
Spillback Cap Reductn		0	0	0	2						0	0
Storage Cap Reductn		0	0	0	0						0	0
Reduced v/c Ratio		0.64	0.74	0.41	0.40						1.06	1.07

Intersection Summary			
Area Type:	Other		
Cycle Length: 80			
Actuated Cycle Length: 80			
Offset: 0 (0%), Referenced to phase 2:WBTL and 6:EBTL, Start of 1st Green			
Natural Cycle: 80			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.07			
Intersection Signal Delay: 30.5		Intersection LOS: C	
Intersection Capacity Utilization 63.2%		ICU Level of Service B	
Analysis Period (min) 15			
~ Volume exceeds capacity, queue is theoretically infinite.			
Queue shown is maximum after two cycles.			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			
m Volume for 95th percentile queue is metered by upstream signal.			

Splits and Phases: 2: I-35E West Ramps & Little Canada Rd



Lane Group	Ø3	Ø6	Ø8
Starvation Cap Reductn			
Spillback Cap Reductn			
Storage Cap Reductn			
Reduced v/c Ratio			

Intersection Summary

1: Little Canada Rd & Country Dr

Direction	All
Future Volume (vph)	1798
Control Delay / Veh (s/v)	28
Queue Delay / Veh (s/v)	0
Total Delay / Veh (s/v)	28
Total Delay (hr)	14
Stops / Veh	0.54
Stops (#)	979
Average Speed (mph)	11
Total Travel Time (hr)	22
Distance Traveled (mi)	242
Fuel Consumed (gal)	26
Fuel Economy (mpg)	9.5
CO Emissions (kg)	1.79
NOx Emissions (kg)	0.35
VOC Emissions (kg)	0.41
Unserved Vehicles (#)	0
Vehicles in dilemma zone (#)	0

2: I-35E West Ramps & Little Canada Rd

Direction	All
Future Volume (vph)	2045
Control Delay / Veh (s/v)	30
Queue Delay / Veh (s/v)	1
Total Delay / Veh (s/v)	30
Total Delay (hr)	17
Stops / Veh	0.40
Stops (#)	826
Average Speed (mph)	9
Total Travel Time (hr)	24
Distance Traveled (mi)	207
Fuel Consumed (gal)	26
Fuel Economy (mpg)	7.9
CO Emissions (kg)	1.82
NOx Emissions (kg)	0.35
VOC Emissions (kg)	0.42
Unserved Vehicles (#)	22
Vehicles in dilemma zone (#)	9

Network Totals

Number of Intersections	2
Control Delay / Veh (s/v)	29
Queue Delay / Veh (s/v)	0
Total Delay / Veh (s/v)	29
Total Delay (hr)	31
Stops / Veh	0.47
Stops (#)	1805
Average Speed (mph)	10
Total Travel Time (hr)	46
Distance Traveled (mi)	449
Fuel Consumed (gal)	52
Fuel Economy (mpg)	8.7
CO Emissions (kg)	3.61
NOx Emissions (kg)	0.70
VOC Emissions (kg)	0.84
Unserved Vehicles (#)	22
Vehicles in dilemma zone (#)	9
Performance Index	36.2

1: Little Canada Rd & Country Dr

Direction	EB	WB	NB	SB	All
Future Volume (vph)	702	753	19	324	1798
Control Delay / Veh (s/v)	32	2	13	79	28
Queue Delay / Veh (s/v)	0	0	0	0	0
Total Delay / Veh (s/v)	32	2	13	79	28
Total Delay (hr)	6	0	0	7	14
Stops / Veh	0.88	0.11	0.47	0.83	0.54
Stops (#)	616	84	9	270	979
Average Speed (mph)	15	17	12	5	11
Total Travel Time (hr)	12	1	0	9	22
Distance Traveled (mi)	177	20	1	43	242
Fuel Consumed (gal)	15	2	0	9	26
Fuel Economy (mpg)	11.6	12.2	NA	5.1	9.5
CO Emissions (kg)	1.06	0.12	0.01	0.59	1.79
NOx Emissions (kg)	0.21	0.02	0.00	0.12	0.35
VOC Emissions (kg)	0.25	0.03	0.00	0.14	0.41
Unserved Vehicles (#)	0	0	0	0	0
Vehicles in dilemma zone (#)	0	0	0	0	0

2: I-35E West Ramps & Little Canada Rd

Direction	EB	WB	SB	All
Future Volume (vph)	986	693	366	2045
Control Delay / Veh (s/v)	2	19	126	30
Queue Delay / Veh (s/v)	2	0	0	1
Total Delay / Veh (s/v)	3	19	126	30
Total Delay (hr)	1	4	13	17
Stops / Veh	0.07	0.67	0.79	0.40
Stops (#)	71	465	290	826
Average Speed (mph)	14	14	6	9
Total Travel Time (hr)	2	7	15	24
Distance Traveled (mi)	26	89	91	207
Fuel Consumed (gal)	2	9	15	26
Fuel Economy (mpg)	12.1	10.0	6.1	7.9
CO Emissions (kg)	0.15	0.62	1.05	1.82
NOx Emissions (kg)	0.03	0.12	0.20	0.35
VOC Emissions (kg)	0.04	0.14	0.24	0.42
Unserved Vehicles (#)	0	0	22	22
Vehicles in dilemma zone (#)	0	0	9	9

Network Totals

Number of Intersections	2
Control Delay / Veh (s/v)	29
Queue Delay / Veh (s/v)	0
Total Delay / Veh (s/v)	29
Total Delay (hr)	31
Stops / Veh	0.47
Stops (#)	1805
Average Speed (mph)	10
Total Travel Time (hr)	46
Distance Traveled (mi)	449
Fuel Consumed (gal)	52
Fuel Economy (mpg)	8.7
CO Emissions (kg)	3.61
NOx Emissions (kg)	0.70
VOC Emissions (kg)	0.84
Unserved Vehicles (#)	22
Vehicles in dilemma zone (#)	9
Performance Index	36.2

Traffic Safety Benefit-Cost Calculation

Highway Safety Improvement Program (HSIP) Reactive Project

DEPARTMENT OF TRANSPORTATION

A. Roadway Description

Route	Little Canada Rd	**District**	Metro	**County**	Ramsey
Begin RP		**End RP**		**Miles**	
Location	Little Canada Rd at Country Dr				

B. Project Description

Proposed Work	Install single lane roundabout at intersection of Little Canada Rd at Country Dr		
Project Cost*	$5,784,500	**Installation Year**	2026
Project Service Life	20 years	**Traffic Growth Factor**	0.5%

** exclude Right of Way from Project Cost*

C. Crash Modification Factor

	Fatal (K) Crashes	**Reference**	CMF ID 209 and 212
0.26	**Serious Injury (A) Crashes**		
	Moderate Injury (B) Crashes	**Crash Type**	CMF ID 209 was applied to the PDO crashes, CMF ID 212 was applied to the injury crashes
0.26	**Possible Injury (C) Crashes**		
0.65	**Property Damage Only Crashes**		www.CMFclearinghouse.org

D. Crash Modification Factor (optional second CMF)

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

E. Crash Data

Begin Date	1/1/2020	**End Date**	12/31/2022	3 years
Data Source	MnCMAT2			

Crash Severity	CMF ID 209 was applied to the PDO crashes, CMF ID 212 was applied to the injury crashes	**< optional 2nd CMF >**
K crashes		
A crashes	1	
B crashes		
C crashes	1	
PDO crashes	3	

F. Benefit-Cost Calculation

$4,562,651	**Benefit (present value)**	**B/C Ratio = 0.79**
$5,784,500	**Cost**	

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

F. Analysis Assumptions

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

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

Real Discount Rate:	0.8%	Default
Traffic Growth Rate:	0.5%	**Revised**
Project Service Life:	20 years	**Revised**

G. Annual Benefit

Crash Severity	Crash Reduction	Annual Reduction	Annual Benefit
K crashes	0.00	0.00	$0
A crashes	0.74	0.25	$197,333
B crashes	0.00	0.00	$0
C crashes	0.74	0.25	$32,067
PDO crashes	1.05	0.35	$5,250
			$234,650

H. Amortized Benefit

Year	Crash Benefits	Present Value
2026	$234,650	$234,650
2027	$235,823	$233,952
2028	$237,002	$233,255
2029	$238,187	$232,561
2030	$239,378	$231,869
2031	$240,575	$231,179
2032	$241,778	$230,491
2033	$242,987	$229,805
2034	$244,202	$229,121
2035	$245,423	$228,439
2036	$246,650	$227,759
2037	$247,883	$227,081
2038	$249,123	$226,405
2039	$250,368	$225,732
2040	$251,620	$225,060
2041	$252,878	$224,390
2042	$254,143	$223,722
2043	$255,413	$223,056
2044	$256,690	$222,392
2045	$257,974	$221,731
0	$0	$0
0	$0	$0
0	$0	$0
0	$0	$0
0	$0	$0
0	$0	$0
0	$0	$0
0	$0	$0
0	$0	$0
0	$0	$0
0	$0	$0

Total = $4,562,651

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

CRASH MODIFICATION FACTORS CLEARINGHOUSE

CMF / CRF Details

CMF ID: 209

CMF Name: Conversion of signalized intersection into single- or multi-lane rou

Description:

Prior Condition: No Prior Condition(s)

Category: Intersection geometry

Study ID: *Observational Before-After Study of the Safety Effect of U.S. Roundabout Conversions Using the Empirical Bayes Method*, Persaud et al. 2001

Star Quality Rating	
Star Quality Rating:	4 Stars

Crash Modification Factor (CMF)	
Value:	0.65
Adjusted Standard Error:	0.16
Unadjusted Standard Error:	0.09

Crash Reduction Factor	
Value:	35
Adjusted Standard Error:	16
Unadjusted Standard Error:	9

Applicability	
Crash Type:	All
Crash Severity:	All
Roadway Types:	Not specified
Minimum Number of Lanes:	
Maximum Number of Lanes:	
Number of Lanes Direction:	
Number of Lanes Comment:	
Road Division Type:	
Minimum Speed Limit:	
Maximum Speed Limit:	
Speed Unit:	
Speed Limit Comment:	
Area Type:	Urban
Traffic Volume:	
Average Traffic Volume:	
Time of Day:	
If countermeasure is intersection-based.	
Intersection Type:	Roadway/roadway (not interchange related)
Intersection Geometry:	Not specified
Traffic Control:	Stop-controlled
Major Road Traffic Volume:	
Minor Road Traffic Volume:	

Average Major Road Volume:	
Average Minor Road Volume:	

Development Details

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

Other Details

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

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

CRASH MODIFICATION FACTORS CLEARINGHOUSE

CMF / CRF Details

CMF ID: 212

CMF Name: Conversion of signalized intersection into single- or multi-lane rou

Description:

Prior Condition: No Prior Condition(s)

Category: Intersection geometry

Study ID: *Observational Before-After Study of the Safety Effect of U.S. Roundabout Conversions Using the Empirical Bayes Method*, Persaud et al. 2001

Star Quality Rating	
Star Quality Rating:	4 Stars

Crash Modification Factor (CMF)	
Value:	0.26
Adjusted Standard Error:	0.25
Unadjusted Standard Error:	0.14

Crash Reduction Factor	
Value:	74
Adjusted Standard Error:	25
Unadjusted Standard Error:	14

Applicability	
Crash Type:	All
Crash Severity:	A (serious injury),B (minor injury),C (possible injury)
Roadway Types:	Not specified
Minimum Number of Lanes:	
Maximum Number of Lanes:	
Number of Lanes Direction:	
Number of Lanes Comment:	
Road Division Type:	
Minimum Speed Limit:	
Maximum Speed Limit:	
Speed Unit:	
Speed Limit Comment:	
Area Type:	Urban
Traffic Volume:	
Average Traffic Volume:	
Time of Day:	
If countermeasure is intersection-based.	
Intersection Type:	Roadway/roadway (not interchange related)
Intersection Geometry:	Not specified
Traffic Control:	Stop-controlled
Major Road Traffic Volume:	
Minor Road Traffic Volume:	

Average Major Road Volume:	
Average Minor Road Volume:	

Development Details

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

Other Details

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

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

Crash Detail Report - Short Form

INCIDENT ID	ROUTE SYS	ROUTE NUM	MEASURE	ROUTE NAME	ROUTE ID	COUNTY	CITY
01011236	04-CSAH	0021	0.154	LITTLE CANADA RD	0400006595070021-I	62-Ramsey	Little Canada

INTERSECT WITH	# VEH	# KILL	DATE	TIME	DAY	LAT	LONG	UTM X	UTM Y	WORK ZONE TYPE
COUNTRY DR	2	0	03/03/22	14:50	Thu	45.023219	-93.091012	492830.4	4985532.9	NOT APPLICABLE

BASIC TYPE	CRASH SEVERITY	FIRST HARMFUL	LIGHT CONDITION	WEATHER PRIMARY
Rear End	N - Prop Damage Only	Motor Vehicle In Transport	Daylight	Clear

	Unit 1	Unit 2	Unit 3	Unit 4
Unit Type	Motor Vehicle in Transport	Motor Vehicle in Transport		
Vehicle Type	Passenger Car	Passenger Car		
Direction of Travel	Southbound	Southbound		
Maneuver	Turning Left	Vehicle Stopped or Stalled in		
Age/Sex	40 F	47 F		
Physical Cond	Apparently Normal	Apparently Normal		
Contributing Factor 1	Following Too Closely	No Clear Contributing Action		

OFFICER SKETCH

NARRATIVE

UNIT 1 - 2013 WHITE HONDA CROSSTOUR BEARING MN PLATE NNB590 OPERATED BY BONO OHALLORAN, SARAH ELISABETH D.O.B. 7/21/81. AMERICAN FAMILY INSURANCE POLICY NUMBER 1716-5872-04-95-FPPA-MN UNIT 2 - 2015 UNK CHRYSLER TOWN & COUNTRY BEARING MN PLATE NHF995 OPERATED BY PARKER, SARAH ELIZABETH D.O.B 10/12/74 (IDENTIFIED BY DL) PROGRESSIVE INSURANCE POLICY NUMBER 932830530 THE INTERSECTION IS CONTROLLED BY A SEMAPHORE. THE CONDITIONS OF THE ROAD WERE DRY AND THE WEATHER CLEAR WITH NO PRECIPITATION. BONO (UNIT 1) STATED SHE WAS AT THE STOPLIGHT SOUTHBOUND COUNTRY DR. AT LITTLE CANADA RD. IN THE LEFT TURN LANE TO MERGE ONTO THE ON RAMP TO 35E SOUTH. THE LIGHT TURNED GREEN SHE BEGAN TO DRIVE. SHE THOUGHT UNIT 2 BEGAN TO DRIVE. WHEN UNIT 2 DID NOT MOVE SHE RAN INTO THE BACK OF THE VEHICLE. I OBSERVED THE REAR DOOR OF UNIT 2 PUSHED IN. BONO STATED THAT BEFORE MY

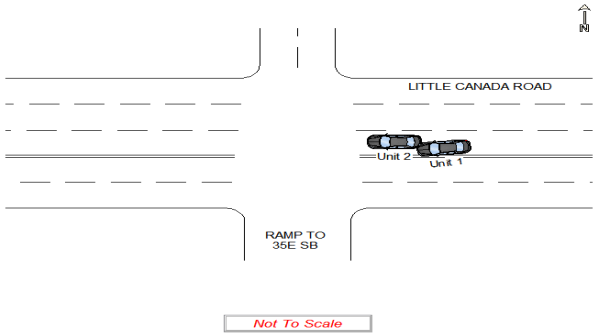
INCIDENT ID	ROUTE SYS	ROUTE NUM	MEASURE	ROUTE NAME	ROUTE ID	COUNTY	CITY
00848261	04-CSAH	0021	0.177	LITTLE CANADA RD	0400006595070021-I	62-Ramsey	Little Canada

INTERSECT WITH	# VEH	# KILL	DATE	TIME	DAY	LAT	LONG	UTM X	UTM Y	WORK ZONE TYPE
	2	0	10/20/20	15:35	Tue	45.023109	-93.090578	492864.5	4985520.6	NOT APPLICABLE

BASIC TYPE	CRASH SEVERITY	FIRST HARMFUL	LIGHT CONDITION	WEATHER PRIMARY
Rear End	C - Possible Injury	Motor Vehicle In Transport	Daylight	Snow

	Unit 1	Unit 2	Unit 3	Unit 4
Unit Type	Hit-And-Run Vehicle	Motor Vehicle in Transport		
Vehicle Type	Passenger Car	Passenger Car		
Direction of Travel	Westbound	Westbound		
Maneuver	Moving Forward	Vehicle Stopped or Stalled in		
Age/Sex		44 M		
Physical Cond		Apparently Normal		
Contributing Factor 1		No Clear Contributing Action		

OFFICER SKETCH



NARRATIVE

DRIVER OF VEHICLE #2 (MR. BANUELOS) WAS STOPPED AT A RED LIGHT ON WESTBOUND LITTLE CANADA ROAD OVER 35E; HE STATED VEHICLE #1 REAR-ENDED HIS VEHICLE, AND THE DRIVER FLED IN THE VEHICLE. DRIVER OF VEHICLE #2 STATED THE REGISTRATION ON VEHICLE #1 WAS DJU 684; HE ALSO STATED THE DRIVER (ONLY OCCUPANT) WAS AN AFRICAN AMERICAN MALE, THIRTY FIVE, OR THIRTY EIGHT YEARS OLD, WITH A FAT FACE, AND VERY SHORT HAIR. MR. BANUELOS STATED HIS BACK AND NECK WERE SORE, HOWEVER HE DID NOT WANT TO BE SEEN BY MEDICS. A STATE TROOPER IN THE MARSHALL DISTRICT SPOKE TO THE REGISTERED OWNER LISTED TO VEHICLE #1; SHE ADVISED HIM SHE SOLD THE VEHICLE BUT DID NOT KNOW WHO THE VEHICLE WAS SOLD TO.

Crash Detail Report - Short Form

INCIDENT ID	ROUTE SYS	ROUTE NUM	MEASURE	ROUTE NAME	ROUTE ID	COUNTY	CITY
00811141	05-MSAS	0101	0000	COUNTRY DR	0500023957330101-I	62-Ramsey	Little Canada

INTERSECT WITH	# VEH	# KILL	DATE	TIME	DAY	LAT	LONG	UTM X	UTM Y	WORK ZONE TYPE
LITTLE CANADA RD	2	0	05/21/20	09:00	Thu	45.023184	-93.090862	492842.2	4985529.0	NOT APPLICABLE

BASIC TYPE	CRASH SEVERITY	FIRST HARMFUL	LIGHT CONDITION	WEATHER PRIMARY
Sideswipe Same Direction	N - Prop Damage Only	Motor Vehicle In Transport	Daylight	Clear

	Unit 1	Unit 2	Unit 3	Unit 4
Unit Type	Motor Vehicle in Transport	Hit-And-Run Vehicle		
Vehicle Type	Passenger Van (Seats Install	Passenger Car		
Direction of Travel	Westbound	Westbound		
Maneuver	Moving Forward	Changing Lanes		
Age/Sex	32 M			
Physical Cond	Apparently Normal			
Contributing Factor 1	No Clear Contributing Action			

OFFICER SKETCH

NARRATIVE

DRIVER 1 STATES HE WAS W/B ON LITTLE CANADA RD AT COUNTRY DRV IN THE LEFT LANE GOING STRAIGHT. VEH 2 IN THE RIGHT LANE WAS BEHIND OTHER VEHICLES STOPPED TO MAKE A RIGHT TURN ON COUNTRY DRV. VEH 2 SWERVED INTO THE LEFT LANE TO GET AROUND OTHER VEHICLES AND STRUCK VEH 1 IN THE PASSENGER SIDE DOOR. VEH 2 DID NOT STOP AND FLED W/B ON LITTLE CANADA RD DRIVER 1 WAS ABLE TO SNAP A PHOTO OF THE LICENSE PLATE OF VEH 2 AS IT WAS LEAVING. OWNER AH-GHAZALI STATES HE SOLD/GAVE THE VEHICLE TO VAN SAI LEE ON 04/15/20

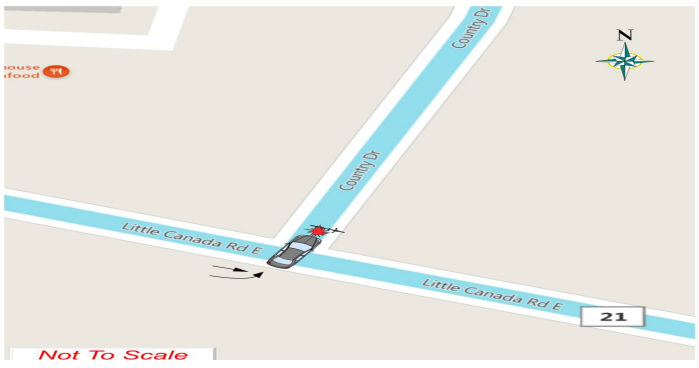
INCIDENT ID	ROUTE SYS	ROUTE NUM	MEASURE	ROUTE NAME	ROUTE ID	COUNTY	CITY
01080997	05-MSAS	0101	0000	COUNTRY DR	0500023957330101-I	62-Ramsey	Little Canada

INTERSECT WITH	# VEH	# KILL	DATE	TIME	DAY	LAT	LONG	UTM X	UTM Y	WORK ZONE TYPE
LITTLE CANADA RD	1	0	10/24/22	06:45	Mon	45.023181	-93.090863	492842.1	4985528.6	NOT APPLICABLE

BASIC TYPE	CRASH SEVERITY	FIRST HARMFUL	LIGHT CONDITION	WEATHER PRIMARY
Bike	A - Serious Injury	Pedalcyclist (Bicyclist)	Dark (Str Lights On)	Cloudy

	Unit 1	Unit 2	Unit 3	Unit 4
Unit Type	Bicycle	Hit-And-Run Vehicle		
Vehicle Type				
Direction of Travel		Northbound		
Maneuver	Walk/Cycle Across Traffic (X-			
Age/Sex	31			
Physical Cond	Apparently Normal			
Contributing Factor 1	Unknown			

OFFICER SKETCH



NARRATIVE

SQUAD 2265 BWC/ICC AVAILABLE AT 0647 HRS, 10/24/2022, I DEPUTY M. SOMOGYI WAS DISPATCHED TO AN ACCIDENT WITH INJURIES/HIT AND RUN AT LITTLE CANADA RD E / COUNTRY DR, LITTLE CANADA, MN 55117. UPON ARRIVAL, LITTLE CANADA FIRE WERE ACTIVELY EVALUATING/TREATING BANDA FOR INJURIES ON THE SHOULDER OF COUNTRY DRIVE. -I WAS INFORMED THAT BANDA WAS RIDING HIS BIKE EASTBOUND ON LITTLE CANADA ROAD WHEN HE WAS STRUCK BY A VEHICLE THAT FLED THE SCENE WHILE HE WAS CROSSING COUNTRY DRIVE. -DEPUTY XIONG INFORMED ME THAT A WITNESS OBSERVED A WHITE IN COLOR VAN OR SUV STRIKE BANDA AND FLEE NORTHBOUND ON COUNTRY DRIVE. -I OBSERVED BROKEN GLASS ON THE ROADWAY NEAR THE CROSSWALK AT COUNTRY DRIVE WHERE LC FIRE INFORMED ME THAT BANDA WAS STRUCK. -I WAS APPROACHED BY THIELKE WHO INFORMED ME THAT HE WITNESSED THE ACCIDENT, AND BELIEVED THAT EITHER BANDA OR HIS BICYCLE

Crash Detail Report - Short Form

Selection Filter:

WORK AREA: County('659507') - FILTER: Year('2020','2021','2022') - SPATIAL FILTER APPLIED

Analyst: Bryan Nemeth

Notes:

Crash Detail Report - Short Form

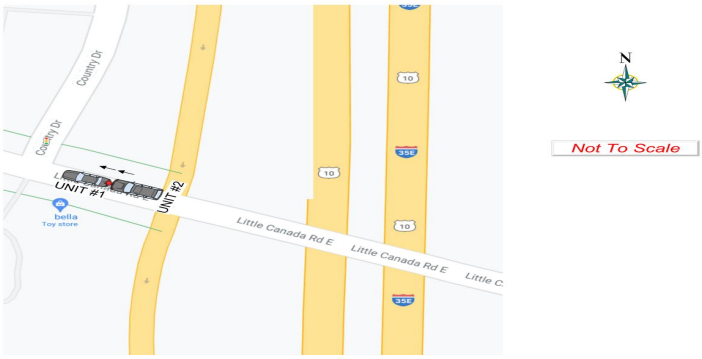
INCIDENT ID	ROUTE SYS	ROUTE NUM	MEASURE	ROUTE NAME	ROUTE ID	COUNTY	CITY
00917925	04-CSAH	0021	0.198	LITTLE CANADA RD	0400006595070021-I	62-Ramsey	Little Canada

INTERSECT WITH	# VEH	# KILL	DATE	TIME	DAY	LAT	LONG	UTM X	UTM Y	WORK ZONE TYPE
	2	0	07/10/21	15:51	Sat	45.023001	-93.090175	492896.3	4985508.6	NOT APPLICABLE

BASIC TYPE	CRASH SEVERITY	FIRST HARMFUL	LIGHT CONDITION	WEATHER PRIMARY
Rear End	N - Prop Damage Only	Motor Vehicle In Transport	Daylight	Clear

	Unit 1	Unit 2	Unit 3	Unit 4
Unit Type	Motor Vehicle in Transport	Motor Vehicle in Transport		
Vehicle Type	Passenger Car	Sport Utility Vehicle		
Direction of Travel	Westbound	Westbound		
Maneuver	Vehicle Stopped or Stalled in	Moving Forward		
Age/Sex	66 F	31 F		
Physical Cond	Apparently Normal	Apparently Normal		
Contributing Factor 1	No Clear Contributing Action	No Clear Contributing Action		

OFFICER SKETCH



NARRATIVE

BWC AVAILABLE / NO ICC ON 7/10/21 AT APPROXIMATELY 1551 HOURS, I DEPUTY MUELLNER WAS DISPATCHED TO THE AREA OF LITTLE CANADA RD / COUNTRY DR FOR A TWO VEHICLE PROPERTY DAMAGE ACCIDENT. UPON ARRIVAL, I IDENTIFIED THE FOLLOWING INVOLVED PARTIES: - UNIT #1 - - WHITE, SANDRA (DOB:2/21/55) - 994TTA - FARMERS INSURANCE POLICY # 192066864 - UNIT #2 - - LOPEZ DE ASCENCIO, SONYA (DOB:9/29/89) DRIVER - LOPEZ ASCENCIO, ALISON (DOB:11/30/09) PASSENGER - GFF766 - PROGRESSIVE POLICY #920869512 BOTH VEHICLES WERE DRIVING WESTBOUND ON LITTLE CANADA RD APPROACHING COUNTRY DRIVE WHEN UNIT #1 STOPPED FOR THE RED LIGHT. UNIT #2 REAR ENDED UNIT #1 WHILE SHE WAS STOPPED AT THE LIGHT. LOPEZ STATED SHE WAS GOING TO CHANGE LANES SO SHE WAS LOOKING IN HER MIRROR AND DID NOT REALIZE THE LIGHT WAS RED. NO INJURIES. NO TOWS. PHOTOS ATTACHED. STATE ACCIDENT REPORT ATTACHED. EOR.

Selection Filter:

WORK AREA: County('659507') - FILTER: Year('2020','2021','2022'), Date('07/10/2021') - SPATIAL FILTER APPLIED

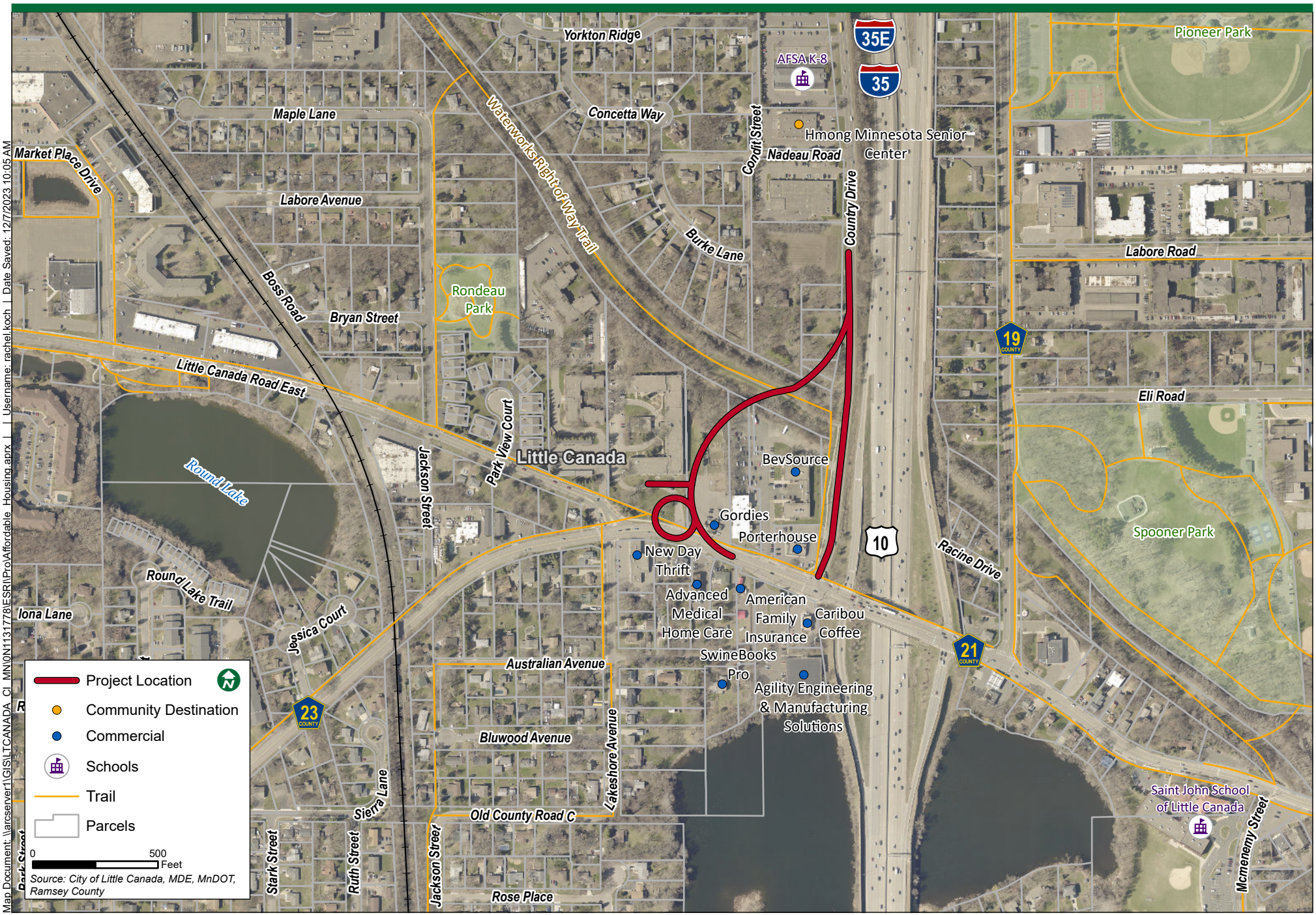
Analyst: Bryan Nemeth

Notes:

Country Drive - Little Canada Road Intersection

Project Location

December 2023



Map Document: \\arcserver1\GIS\LTCANADA_CI_MN\0N1131778\ESRI\Pro\Affordable_Housing.aprx | Username: rachel.koch | Date Saved: 12/7/2023 10:05 AM

LEGEND

- PROPOSED ROADWAY
- RAISED CONC. MEDIAN, CURB & GUTTER, WALK
- TRAIL
- BOULEVARD/GRASS AREA
- INTERSECTION IMPROVEMENT FUNDED THROUGH 2022 HSIP FY 2026
- COUNTY LED 4 TO 3 CONVERSION IMPROVEMENT FUNDED THROUGH 2022 HSIP FY 2026
- PARCEL LINES
- PROPOSED RIGHT OF WAY
- ST PAUL REGIONAL WATER SERVICES CONDUITS (90")
- RAILING
- EXISTING TRAFFIC SIGNAL
- MNDOT SIGNAL REPLACEMENT PROGRAMMED FOR 2027

N

175

SCALE IN FEET

WATERWORKS TRAIL

EXTEND 84" GERVAIS CREEK PIPELINE

EXTEND 60" GERVAIS CREEK PIPELINE

PROTECT SPRWS NORTH CONDUIT #1

PROTECT SPRWS SOUTH CONDUIT #2

PROTECT 48" MCES PIPELINE

RECONFIGURE 36" CITY STORM OUTFALL

TRAIL BOX CULVERT/ UNDERPASS

REALIGNED COUNTRY DRIVE

LITTLE CANADA RD

COUNTY ROAD C

RAMSEY COUNTY 4 TO 3 LANE CONVERSION AND INTERSECTION IMPROVEMENTS

LAKE SHORE AVE

COUNTRY DRIVE SIGNAL TO BE REMOVED

CENTERVILLE RD

WATERWORKS TRAIL

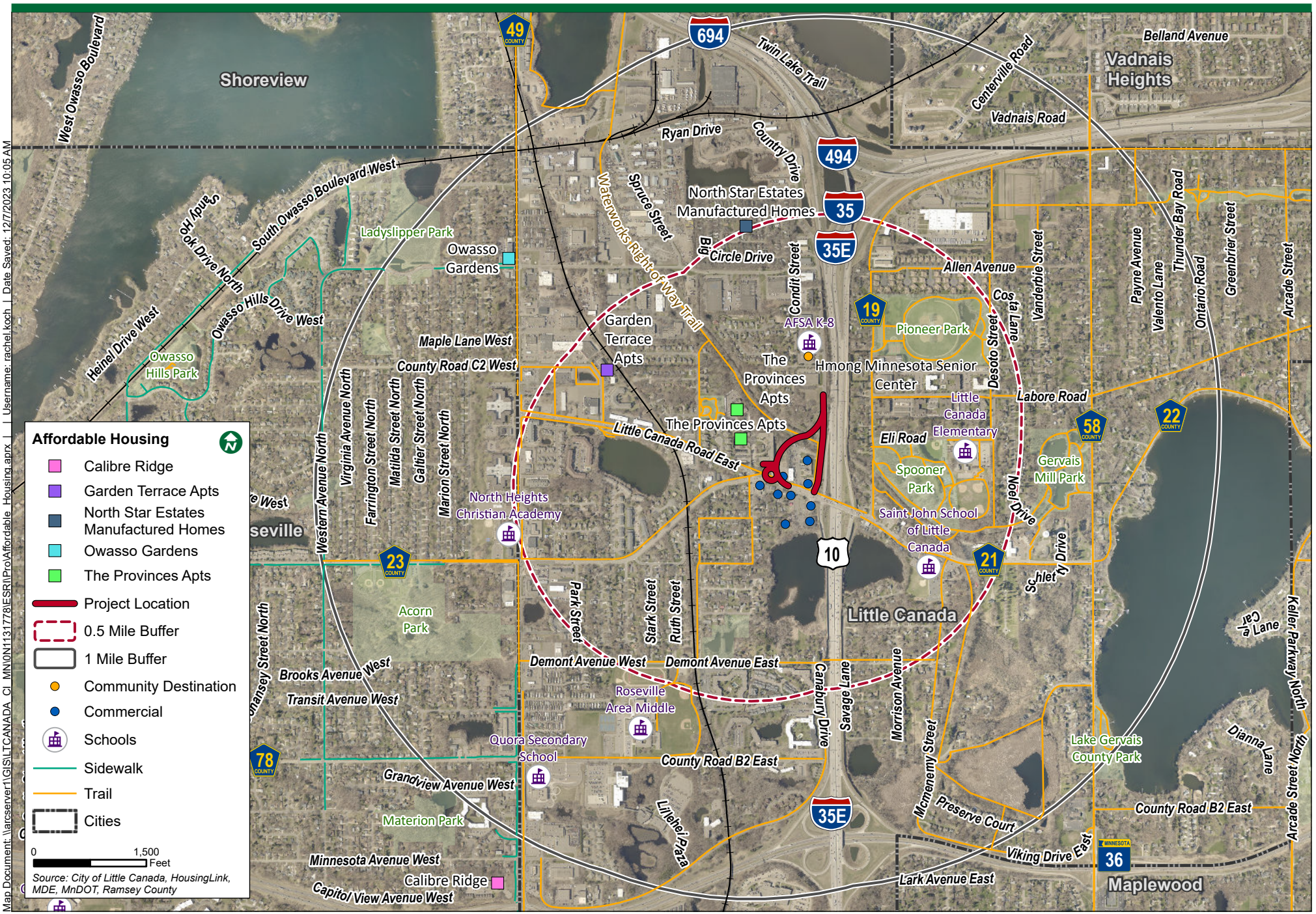
BOLTON & MENK

LITTLE CANADA ROAD AND COUNTRY DRIVE IMPROVEMENTS

Country Drive - Little Canada Road Intersection

Affordable Housing

December 2023



Map Document: \\arcserver1\GIS\LTCANADA_CI_MN\0N1131778\ESRI\Pro\Affordable_Housing.aprx | Username: rachel.koch | Date Saved: 12/7/2023 10:05 AM

HousingLink

Streams

Return to main site

Streams (Data through 12/31/2022)

About Streams

Search by Property Name or Address

Or Search by HUD, MN Housing, Public Housing, USDA/RD, or Tax Credit ID

Or filter by:

Funding Source

- Federal
- State
- Local
- Philanthropic

Funding Categories

- Project-Based Subsidy
- Public Housing
- Tax Credit
- Tax Credit (LIHTC 4%)
- Tax Credit (LIHTC 9%)
- Subsidized-Other
- Local 4d

Groups Served

- Family
- Elderly
- Disabled

Obligation End Year

Start Year / End Year

Last Finance Year

Start Year / End Year

First Finance Year

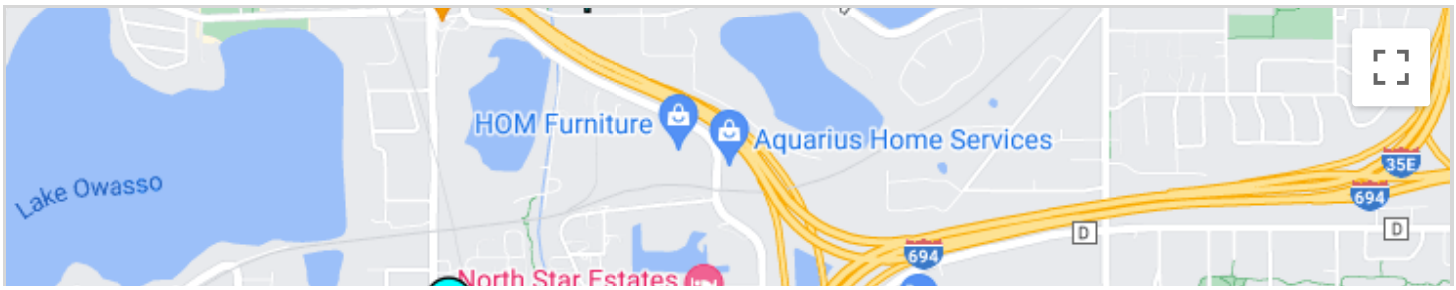
Start Year / End Year

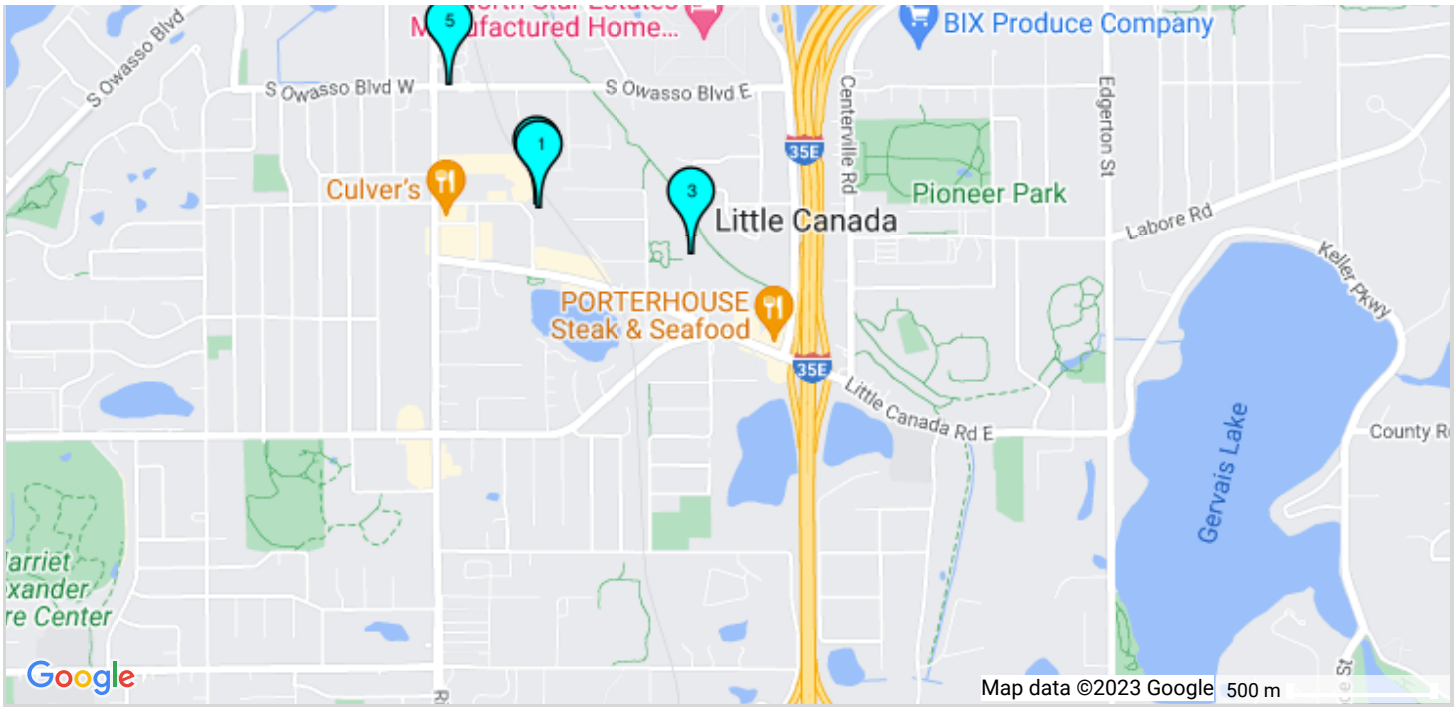
- New Construction
- Other

Show Results

Clear All

Map Search City Search Greater MN





Send us feedback

Properties found.

Property Search Summary

Properties	Total Units	30% AMI*	50% AMI*	60% AMI*	80% AMI*	Total Aff Units*
7	465	64	188	41	172	465

* AMI level and units are estimated if not provided, set to least restrictive AMI for largest number of units.
** Obligation expiration dates are estimated based on program definition if not provided.
*** There may be other funders. This funder provided for reference.

HousingLink

Streams

Return to main site

Property Detail

About Streams

The Provinces Apts

Multiple addresses listed at bottom of page

Funding Categories

Tax Credit
Subsidized-Other
Tax Credit (LIHTC 4%)
Tax Credit (LIHTC 9%)

Property Information

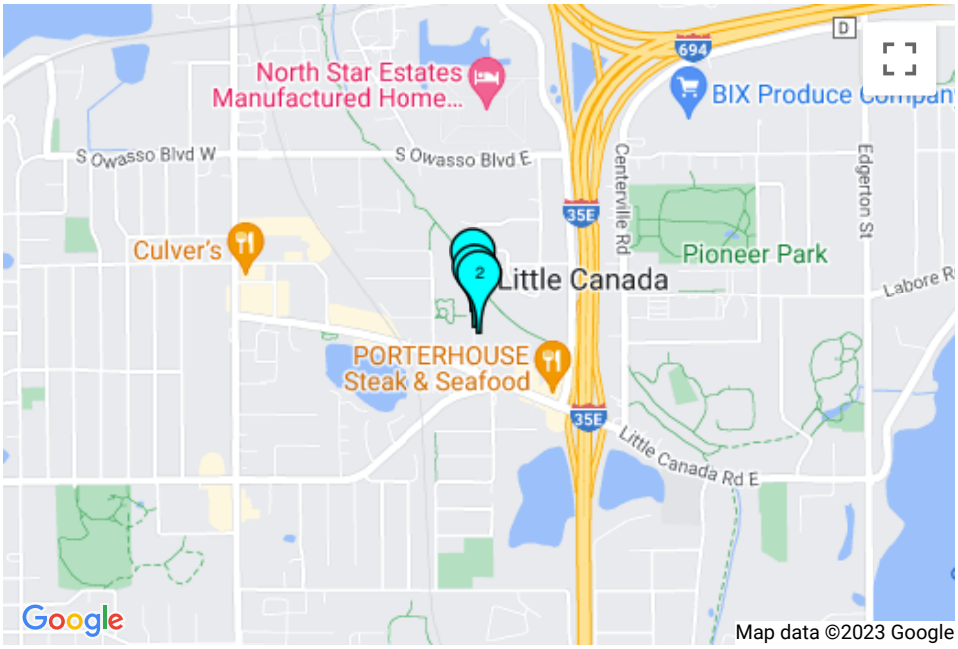
Year Built:
Building Type: Apartment
Groups Served:
Total Units: 118
Affordable Units: 118

Affordable Units by Bedroom

1 BR: 29
2 BR: 48
3 BR: 1

Units by Area Median Income

80%: 118



Housing+Transit Cost Walk Score®: 34 Report a problem

Listing Summary

BR Size	1st Listing	Last Listing	Low Rent	High Rent	Last Rent
1	07/31/2018	12/12/2019	$875	$875	$955
2	12/12/2019	12/12/2019	$1,175	None	$1,175

Known Property Addresses

1	153 Little Canada Rd E	Little Canada
2	155 Little Canada Rd E	Minneapolis
3	155 Little Canada Rd E	Little Canada

Funding Dates & Programs

First known closing: 1/1/1996
Most recent closing: 7/1/2022
Earliest estimated expiration: 1/1/2026
Last Activity: Preservation

MHFA: Housing Tax Credits 9%
Close Date: 1/1/1996
Estimated Expiration: 1/1/2026

MHFA: Housing Tax Credits 4%
Close Date: 1/1/1997
Expiration: 1/1/2027

MHFA: Housing Tax Credits
Close Date: 1/1/1998
Expiration: 1/1/2028

City: City
Close Date: 7/1/2022
Expiration: 7/1/2052

Known Property Identifiers

HousingLink: 6457
MHFATC4: D3004
HUDLIHTC: MNA19989011
City: The Provinces Apts

HousingLink

Streams

Return to main site

Property Detail

About Streams

Garden Terrace
2874 Market Pl Dr
Little Canada, MN 55117

Funding Categories
Project-Based Subsidy
Tax Credit (LIHTC 4%)

Property Information
Year Built: 2003
Building Type: Apartment
Groups Served: Elderly
Total Units: 41
Affordable Units: 41

Affordable Units by Bedroom
1 BR: 40
2 BR: 1

Units by Area Median Income
60%: 41

Housing+Transit Cost Walk Score®: 69 Report a problem

Listing Summary

BR Size	1st Listing	Last Listing	Low Rent	High Rent	Last Rent
1	06/23/2010	03/01/2018	Subsidized	Subsidized	Subsidized

Known Property Addresses

1	2874 Market Pl Dr	Little Canada

Funding Dates & Programs
First known closing: 1/1/2005
Most recent closing: 7/28/2020
Earliest expiration: 1/1/2035
Last Activity: Preservation

MHFA: Housing Tax Credits 4%
Close Date: 1/1/2005
Estimated Expiration: 1/1/2035

HUD: Section 202
Close Date: 7/1/2015
Expiration: 6/30/2035

HUD: Section 202
Close Date: 7/1/2015
Expiration: 6/30/2035

Known Property Identifiers

HousingLink: 3547
MHFATC4: D3339
HUD: 800010925

HousingLink

Streams

Return to main site

Property Detail

About Streams

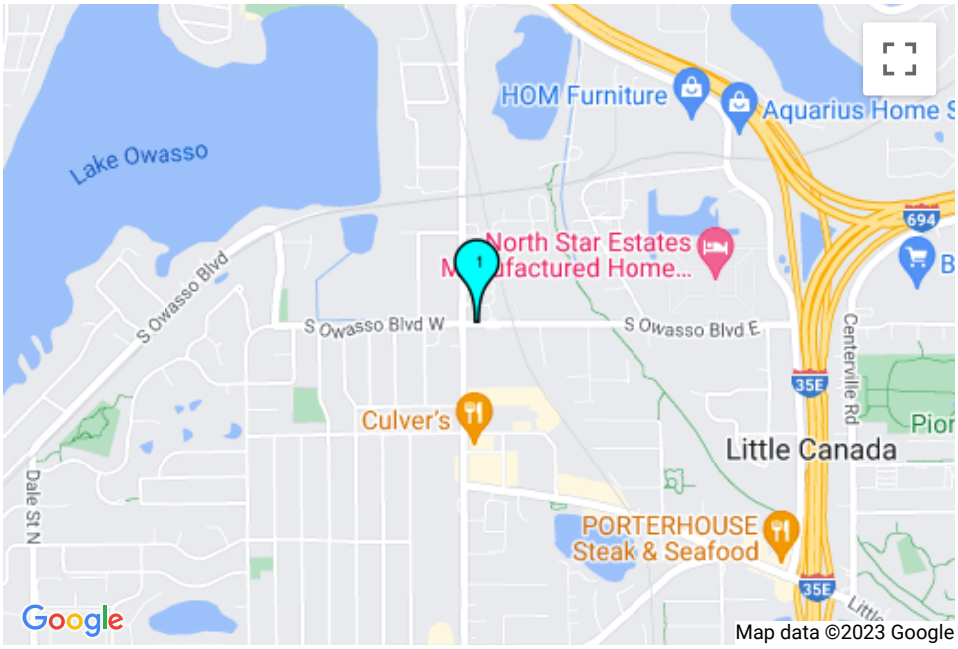
Owasso Gardens
161 S Owasso Blvd W
Roseville, MN 55113

Funding Categories
Subsidized-Other
Tax Credit (LIHTC 4%)

Property Information
Year Built:
Building Type: Apartment
Groups Served: Elderly
Total Units: 60
Affordable Units: 60

Affordable Units by Bedroom
1 BR: 40
2 BR: 20

Units by Area Median Income
30%: 8
50%: 52



Housing+Transit Cost Walk Score®: 52 Report a problem

Known Property Addresses

1	161 S Owasso Blvd W	Roseville

Funding Dates & Programs
First known closing: 1/1/2020
Most recent closing: 1/29/2021
Earliest expiration: 7/1/2040
Last Activity: New Construction

County: County
Close Date: 7/1/2020
Expiration: 7/1/2040

MHFA: Housing Tax Credits 4%
Close Date: 1/1/2020
Estimated Expiration: 1/1/2050

MHFA: HIB
Close Date: 1/29/2021
Expiration: 3/1/2062

MHFA: LMIR
Close Date: 1/29/2021
Expiration: 3/1/2062

Known Property Identifiers

HousingLink: 15634
Ramsey Cnty: Owasso Gardens
MHFA: D8233
MHFATC4: D8233

HousingLink

Streams

Return to main site

Property Detail

About Streams

Garden Terrace Commons

2880 Market Pl Dr
Little Canada, MN 55117

Funding Categories

Project-Based Subsidy
Tax Credit (LIHTC 4%)

Property Information

Year Built:
Building Type: Apartment
Groups Served: Elderly
Total Units: 35
Affordable Units: 35

Affordable Units by Bedroom

1 BR: 35

Units by Area Median Income

30%: 35

Housing+Transit Cost Walk Score®: 65 Report a problem

Listing Summary

BR Size	1st Listing	Last Listing	Low Rent	High Rent	Last Rent
1	03/01/2016	07/08/2019	Subsidized	$744	Subsidized

Known Property Addresses

1	2880 Market Pl Dr	Little Canada

Funding Dates & Programs

First known closing: 7/28/2020
Most recent closing: 7/28/2020
Earliest expiration: 7/27/2043
Last Activity: Preservation

MHFA: Housing Tax Credits 4%
Close Date: 1/1/2006
Expiration: 1/1/2036

HUD: Section 202
Close Date: 7/28/2020
Expiration: 7/27/2043

Known Property Identifiers

HousingLink: 15632
HUD: 800215011

RAMSEY COUNTY
Public Works

November 9, 2023

Attn: Elaine Koutsoukos
Transportation Advisory Board Coordinator
390 Robert Street North
St. Paul, MN. 55101

Re: Little Canada Road (CSAH 21) and Country Drive Improvements
Metropolitan Council Regional Solicitation

Dear Ms. Koutsoukos,

On behalf of Ramsey County Public Works, I want to express my support for the City's Application to the Metropolitan Council's Regional Solicitation Program to fund the Little Canada Road (CSAH 21) and Country Drive Improvements Project.

Little Canada Road (CSAH 21) is a vital regional corridor in the City of Little Canada. It provides a critical link to Interstate 35-E for the residents and business owners in the area. The County and City have been partnering for the last several years to scope and program improvements in this corridor to improve safety and mobility.

Specifically, the intersection of Little Canada Road (CSAH 21) and Country Drive is too close to the interchange ramps. This has resulted in unsafe conditions and a very poor level of service due to the unique configuration of traffic signals and lane geometry. As traffic continues to increase over time, the intersection conditions will continue to deteriorate. A significant infrastructure investment is required at this location in order to improve the safety and level of service. As such, Ramsey County has programmed this project in its 2024-2028 Transportation Improvement Plan (TIP) as a 2026 project. This project would complement other programmed improvements along the corridor:

- County-led 4-lane to 3-lane conversion (2026)
  - County Road C, from Lexington Avenue to Little Canada Road
- City-led all-way stop to roundabout conversion (2026)
  - Intersection of County Road C / Little Canada Road / Lakeshore Drive
- MnDOT-led replacement of the I-35E interchange signal system (2027)

Thank you for your time and consideration in reviewing the Little Canada Road (CSAH 21) and Country Drive Improvements Project application.

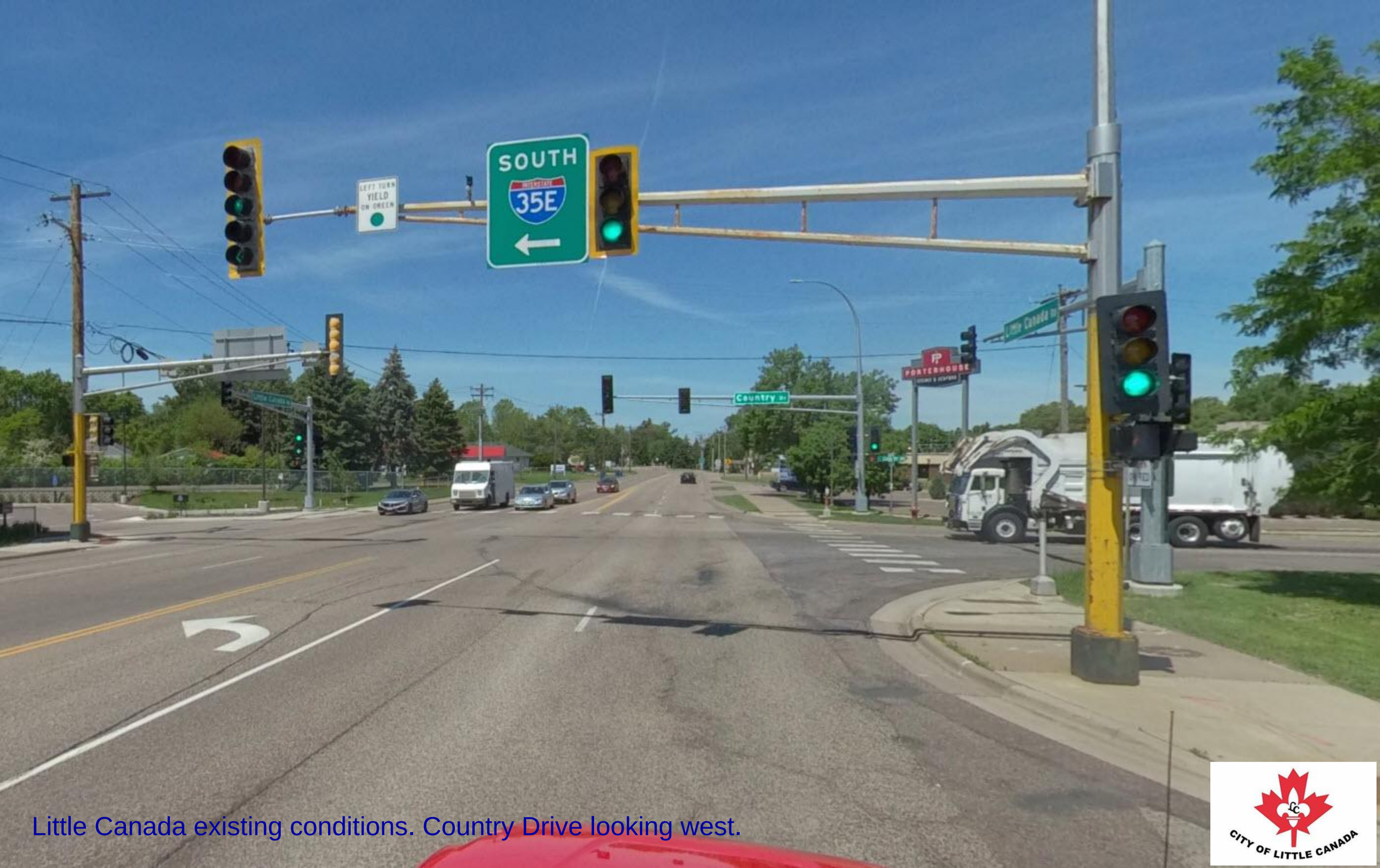
Sincerely,

Brian E Isaacson

Brian Isaacson
Director of Public Works

1425 Paul Kirkwold Drive
Arden Hills, MN 55112
651-266-7100
www.ramseycounty.us

Little Canada existing conditions. Country Drive looking East.



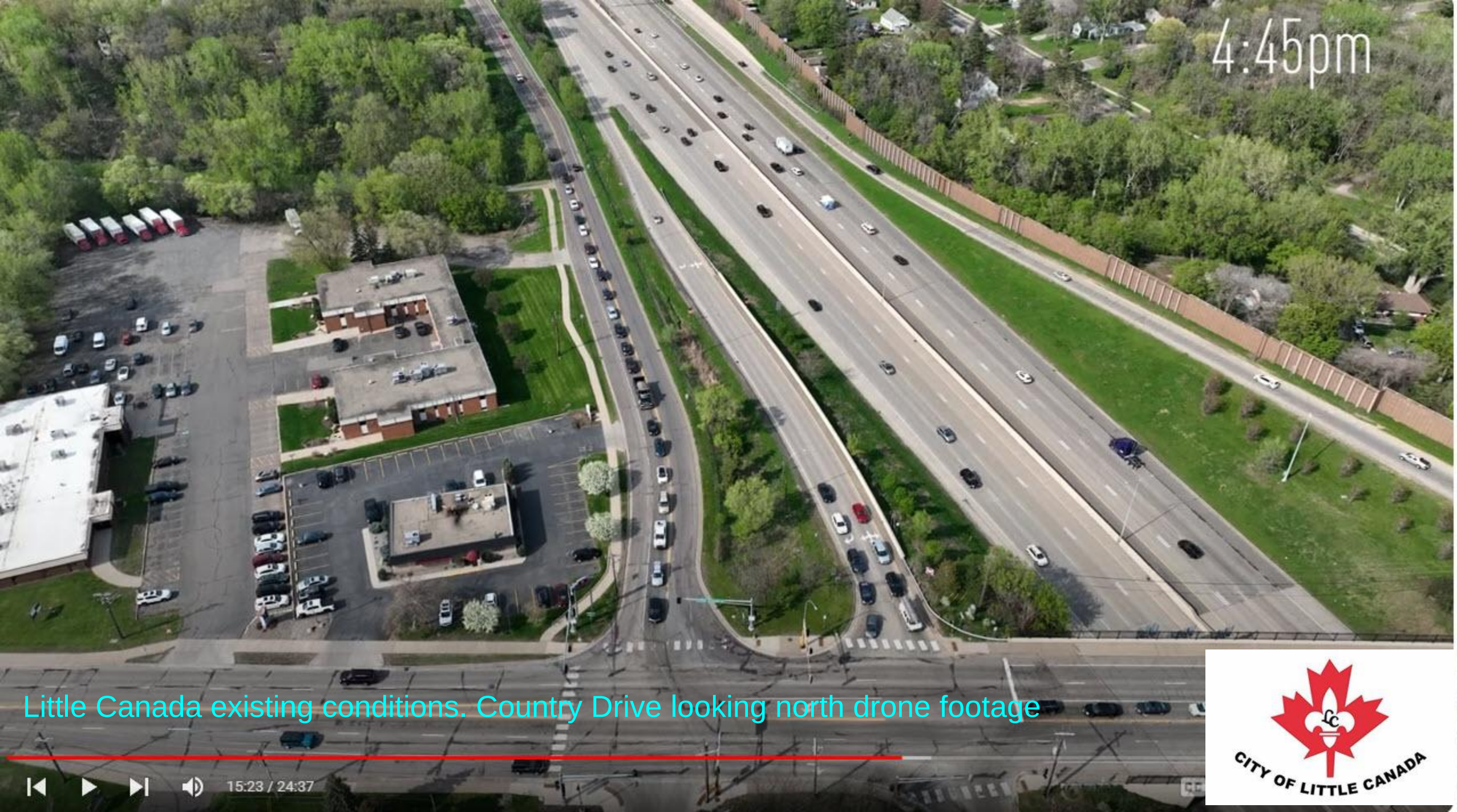
Little Canada existing conditions. Country Drive looking west.

Little Canada existing conditions. Country Drive looking South.

Little Canada existing conditions. Country Drive looking east.

Little Canada existing conditions, County Road/Rice Frontage looking south

Little Canada existing conditions. Drone footage.


4:45pm
Little Canada existing conditions. Country Drive looking north drone footage
15:23 / 24:37
CITY OF LITTLE CANADA

City of Little Canada

515 Little Canada Road, Little Canada, MN 55117-1600
(651) 766-4029 / FAX: (651) 766-4048
www.littlecanadamn.org

November 9, 2023

Attn: Elaine Koutsoukos
Transportation Advisory Board Coordinator
390 Robert Street North
St. Paul, MN. 55101

Re: Little Canada Road (CSAH 21) and Country Drive Improvements
Metropolitan Council Regional Solicitation

Dear Ms. Koutsoukos,

As Mayor of the City of Little Canada, I want to express my support for the City's Application to the Minnesota Department of Transportation's Local Road Improvement Program to fund the Little Canada Road (CSAH 21) and Country Drive Improvements Project.

Little Canada Road (CSAH 21) is a vital regional corridor in the City of Little Canada. Its intersection with Country Drive and the I-35E interchange has been problematic during my entire tenure on the City Council and now as Mayor. The city's residents and business owners seek a safe and effective transportation system. As such, addressing the deficiencies at this intersection is a top priority for me and for the City Council.

This is a challenging intersection with multi-agency coordination required. The City Council recognizes those challenges and have authorized City staff to lead this project with collaboration and support from Ramsey County and MnDOT.

Thank you for your time and consideration in reviewing the Little Canada Road (CSAH 21) and Country Drive Improvements Project application.

Sincerely,

Tom Fischer
Mayor
City of Little Canada

RAMSEY COUNTY
Public Works

November 9, 2023

Attn: Elaine Koutsoukos
Transportation Advisory Board Coordinator
390 Robert Street North
St. Paul, MN. 55101

Re: Little Canada Road (CSAH 21) and Country Drive Improvements
Metropolitan Council Regional Solicitation

Dear Ms. Koutsoukos,

On behalf of Ramsey County Public Works, I want to express my support for the City's Application to the Metropolitan Council's Regional Solicitation Program to fund the Little Canada Road (CSAH 21) and Country Drive Improvements Project.

Little Canada Road (CSAH 21) is a vital regional corridor in the City of Little Canada. It provides a critical link to Interstate 35-E for the residents and business owners in the area. The County and City have been partnering for the last several years to scope and program improvements in this corridor to improve safety and mobility.

Specifically, the intersection of Little Canada Road (CSAH 21) and Country Drive is too close to the interchange ramps. This has resulted in unsafe conditions and a very poor level of service due to the unique configuration of traffic signals and lane geometry. As traffic continues to increase over time, the intersection conditions will continue to deteriorate. A significant infrastructure investment is required at this location in order to improve the safety and level of service. As such, Ramsey County has programmed this project in its 2024-2028 Transportation Improvement Plan (TIP) as a 2026 project. This project would complement other programmed improvements along the corridor:

- County-led 4-lane to 3-lane conversion (2026)
  - County Road C, from Lexington Avenue to Little Canada Road
- City-led all-way stop to roundabout conversion (2026)
  - Intersection of County Road C / Little Canada Road / Lakeshore Drive
- MnDOT-led replacement of the I-35E interchange signal system (2027)

Thank you for your time and consideration in reviewing the Little Canada Road (CSAH 21) and Country Drive Improvements Project application.

Sincerely,

Brian E Isaacson

Brian Isaacson
Director of Public Works

1425 Paul Kirkwold Drive
Arden Hills, MN 55112
651-266-7100
www.ramseycounty.us

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

12/11/2023

Bill Dircks
Public Works Director
2858 Centerville Road
Little Canada, MN 55117

Re: MnDOT Letter for The City of Little Canada
Metropolitan Council/Transportation Advisory Board 2024 Regional Solicitation Funding Request for Little Canada Road (CSAH 21) and Country Drive Improvements.

Dear Bill Dircks,

This letter documents MnDOT Metro District's recognition for The City of Little Canada to pursue funding for the Metropolitan Council/Transportation Advisory Board's (TAB) 2024 Regional Solicitation for the for Little Canada Road (CSAH 21) and Country Drive Improvements.

The proposed project includes construction of two roundabouts on Little Canada Road (CSAH 21) at County Road C and Country Drive, with the realignment of County Road Drive and construction of a trail adjacent to I-35E. This project does not directly impact the Trunk Highway System but is adjacent to the I-35E Interchange with CSAH 23.

As the agency with jurisdiction over I-35E, MnDOT will allow the City of Little Canada to seek improvements proposed in the application. If funded, details of how the project is delivered and any future maintenance agreement with the City will need to be determined during the project's development to define how the improvements will be maintained for the project's useful life.

MnDOT does not anticipate partnering on local projects beyond current agreements. If your project receives funding, continue to work with MnDOT Area staff to coordinate and review needs and opportunities for cooperation.

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

If you have questions or require additional information at this time, please reach out to your Area Manager at Molly.McCartney@state.mn.us or 651-775-0326.

Sincerely,

Sheila Kauppi, PE
Metro District Engineer

CC:
Molly McCartney, North Area Manager
Aaron Tag, Metro Program Director
Dan Erickson, Metro State Aid Engineer

HMONG MINNESOTA SENIOR CENTER

2905 Country Drive, Suite 140
Little Canada, MN 55117
651-770-0338
hmnsc@live.com

November 9, 2023

Attn: Elaine Koutsoukos
Transportation Advisory Board Coordinator
390 Robert Street North
St. Paul, MN. 55101

Re: Little Canada Road (CSAH 21) and Country Drive Improvements
Metropolitan Council Regional Solicitation

Dear Ms. Koutsoukos,

As a business owner in Little Canada, I am pleased to express my support for the Little Canada Road and Country Drive Improvements Project.

The Country Drive and Little Canada Road intersection acts as a gateway to the business district north of Little Canada Road. The proposed project will improve access, congestion, and safety in the area. Improvements to this intersection will surely have a positive impact on the daily operations of our business.

Investment in this area by the City, County, and MnDOT shows a positive commitment to the business owners who have also invested resources and who want their businesses to thrive in the community for years to come.

Thank you for your time and consideration in reviewing the Little Canada Road (CSAH 21) and Country Drive Improvements Project application.

Sincerely,

Mang Chu-Yang-Heu
President

North Star Estates
live life. live it here.®
3001 Country Drive I Little Canada, MN 55117 I (651) 484-8567
northstar@rhp-properties.com I BayshoreHomeSales.com

November
9, 2023

Attn: Elaine Koutsoukos
Transportation Advisory Board Coordinator
390 Robert Street North
St. Paul, MN. 55101

Re: Little Canada Road (CSAH 21) and Country Drive Improvements
Metropolitan Council Regional Solicitation

Dear Ms. Koutsoukos,

As a high-density residential property with access from the Little Canada Road and Country Drive intersection, North Star Estates is pleased to express our support for the proposed intersection improvement project.

The Country Drive and Little Canada Road intersection acts as a gateway to our All-Age Manufactured Home Community just north of the intersection. The proposed project will improve access, congestion, and safety in the area. Improvements to this intersection will surely have a positive impact on the daily lives of our residents.

Improvements to the intersection will also improve the pedestrian experience for those who walk, run, or bike in the area, including our residents traveling to and from jobs or services.

Thank you for your time and consideration in reviewing the Little Canada Road (CSAH 21) and Country Drive Improvements Project application.

Sincerely,
Tom Ludden
Community Manager

MID CONTINENT
Management Corporation
37 East Isabel Street | St. Paul, MN 55107

November 9, 2023

Attn: Elaine Koutsoukos
Transportation Advisory Board Coordinator
390 Robert Street North
St. Paul, MN. 55101

Re: Little Canada Road (CSAH 21) and Country Drive Improvements
Metropolitan Council Regional Solicitation

Dear Ms. Koutsoukos,

As a high-density residential property with access from the Little Canada Road and Country Drive intersection, the Quebec Apartments is pleased to express our support for the proposed intersection improvement project.

The Country Drive and Little Canada Road intersection acts as a gateway to our apartment complex just north of the intersection. The proposed project will improve access, congestion, and safety in the area. Improvements to this intersection will surely have a positive impact on the daily lives of our residents.

Improvements to the intersection will also improve the pedestrian experience for those who walk, run, or bike in the area, including our residents traveling to and from jobs or services.

Thank you for your time and consideration in reviewing the Little Canada Road (CSAH 21) and Country Drive Improvements Project application.

Sincerely,

Angie French

Angie French
Vice President
Mid Continent Management Corporation

Fra-Dor Inc.
Black Dirt • CL-5 Recycle
Landscape Supplies

www.frador.com

November 14, 2023

Attn: Elaine Koutsoukos
Transportation Advisory Board Coordinator
390 Robert Street North
St. Paul, MN. 55101

Re: Little Canada Road (CSAH 21) and Country Drive Improvements
Metropolitan Council Regional Solicitation

Dear Ms. Koutsoukos,

As a business owner in Little Canada, I am pleased to express my support for the Little Canada Road and Country Drive Improvements Project.

The Country Drive and Little Canada Road intersection acts as a gateway to the business district north of Little Canada Road. The proposed project will improve access, congestion, and safety in the area. Improvements to this intersection will surely have a positive impact on the daily operations of our business.

Investment in this area by the City, County, and MnDOT shows a positive commitment to the business owners who have also invested resources and who want their businesses to thrive in the community for years to come.

Thank you for your time and consideration in reviewing the Little Canada Road (CSAH 21) and Country Drive Improvements Project application.

Sincerely,
Fra-Dor, Inc.

Tony Frattalone
President

3137 Country Dr, Little Canada, MN 55117 **(651) 484-8180**

Frattalone COMPANIES

• Earthwork • Demolition • Utilities

November 14, 2023

Attn: Elaine Koutsoukos
Transportation Advisory Board Coordinator
390 Robert Street North
St. Paul, MN. 55101

Re: Little Canada Road (CSAH 21) and Country Drive Improvements
Metropolitan Council Regional Solicitation

Dear Ms. Koutsoukos,

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Investment in this area by the City, County, and MnDOT shows a positive commitment to the business owners who have also invested resources and who want their businesses to thrive in the community for years to come.

Thank you for your time and consideration in reviewing the Little Canada Road (CSAH 21) and Country Drive Improvements Project application.

Sincerely,
Frattalone Companies, Inc.

Tony Frattalone
COO

3205 Spruce Street • St. Paul, MN 55117 • Phone 651.484.0448 • Fax 651.484.7839 • Visit us at: www.Frattaloneco.com

Primoris

November 20, 2023

Attn: Elaine Koutsoukos
Transportation Advisory Board Coordinator
390 Robert Street North
St. Paul, MN. 55101

Re: Little Canada Road (CSAH 21) and Country Drive Improvements
Metropolitan Council Regional Solicitation

Dear Ms. Koutsoukos,

As a representative of Q3 Contracting working in Little Canada, I am pleased to express my support for the Little Canada Road and Country Drive Improvements Project.

The Country Drive and Little Canada Road intersection acts as a gateway to the business district north of Little Canada Road. The proposed project will improve access, congestion, and safety in the area. Improvements to this intersection will surely have a positive impact on the daily operations of our business.

Investment in this area by the City, County, and MnDOT shows a positive commitment to the business owners who have also invested resources and who want their businesses to thrive in the community for years to come.

Thank you for your time and consideration in reviewing the Little Canada Road (CSAH 21) and Country Drive Improvements Project application.

Sincerely,

Brandon Rumpca
Vice President of Operations

LITTLE CANADA ROAD & COUNTY DRIVE

OPEN HOUSE SUMMARY

Little Canada Road & County Drive Intersection Improvements

The City of Little Canada and Bolton & Menk hosted a public open house on Wednesday, November 29, 2023. The purpose of the meeting was to inform the public of current and projected traffic operations and introduce the proposed improvements for four intersections within the project area. Attendees were given an opportunity to review and respond to the improvements via comment cards. Residents were also invited to provide feedback via an online survey and interactive comment map on the project website.

November 29, 2023

Little Canada City Hall

5:30 - 7p.m.

~30 attendees

46 survey responses

5 comment cards

What We Heard

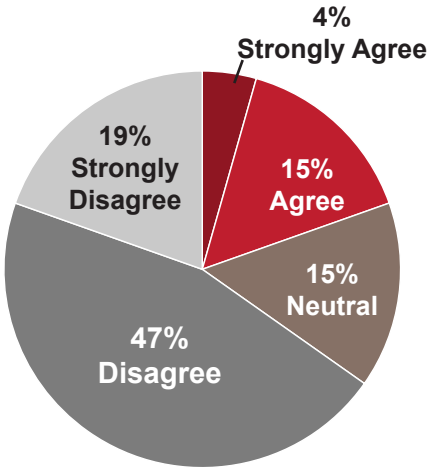
- **Signage and Signal Improvements:** There is frustration around signage and traffic signals at this intersection. There were several comments that the signaling at the intersection is confusing and that many drivers make right turns on red despite adequate signage.
- **Consider Roundabouts:** Several people expressed interest in a roundabout at this intersection to improve congestion and confusion.
- **Pedestrian and Bike Safety:** Residents were in agreement that pedestrian safety is a priority for this intersection. Suggested improvements included a bike or bike and pedestrian lane, a pedestrian bridge, and connecting new paths to existing ones.
- **Congestion:** There were several locations identified as congested areas including the Caribou exit, the Little Canada Road and Lakeshore Drive intersection, and the Little Canada Road and County Drive intersection due to the lack of a left turn lane.

Advertisement methods

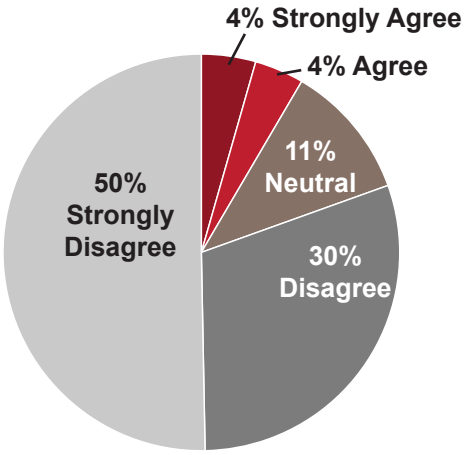
- ✓ Postcard
- ✓ Social media
- ✓ Website update

Survey Results

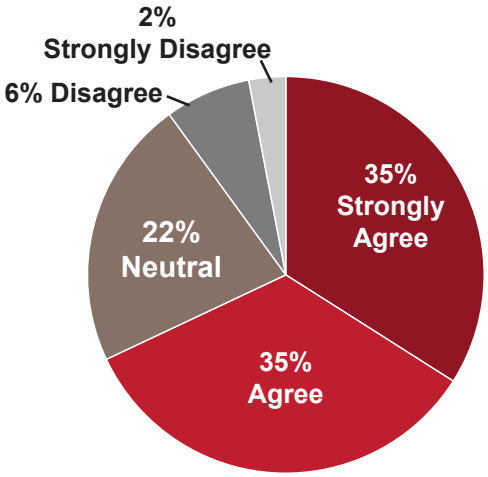
The County Drive and Little Canda Road intersection feels safe for motorists.



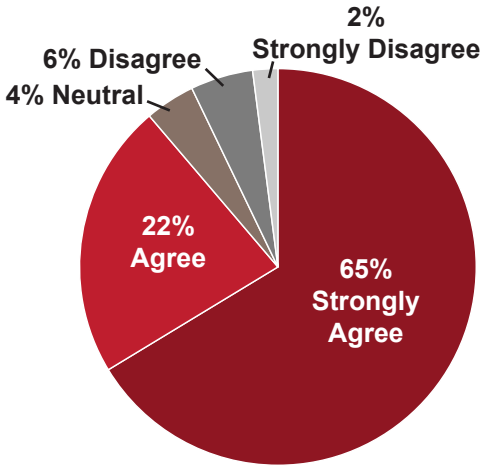
The County Drive and Little Canda Road intersection feels safe for pedestrians.



The County Drive and Little Canda Road intersection feels congested.



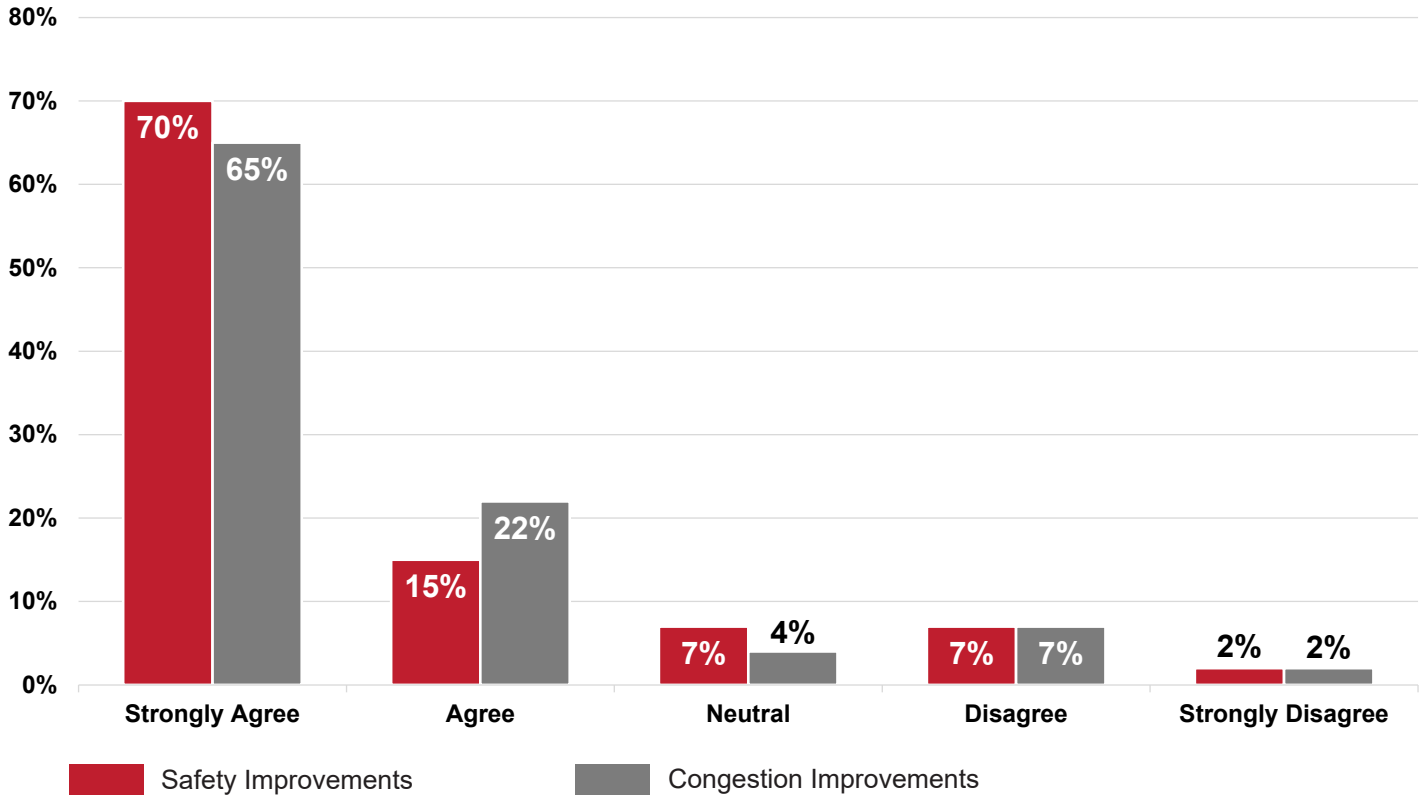
The County Drive and Little Canda Road intersection feels confusing.



Open House Summary

Survey Results

I support the City's effort to improve safety and congestion at this intersection.

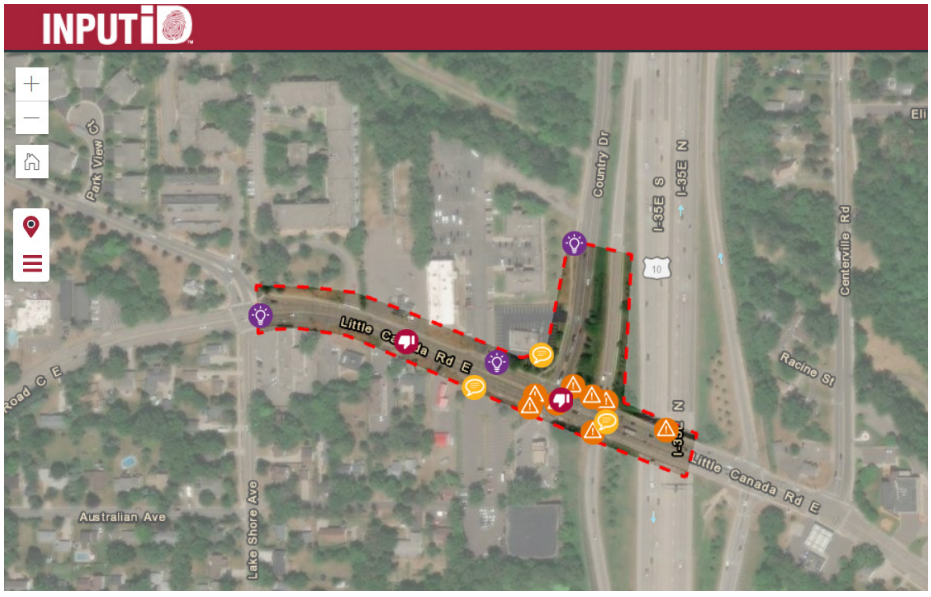


INPUTiD Comment Map

There were 18 comments submitted on the interactive INPUTiD comment map. The comments were consistent with the feedback submitted via the survey.

Key themes included:

- Confusing traffic signals
- Unsafe intersection for pedestrians and bicyclists
- Consider construction and long-term impact to existing businesses
- Opportunity for more pedestrian connections and bike lanes



Map Legend

- Concerns
- Dislike
- Ideas and Opportunities
- Other

Update with client branding colors and fonts

Little Canada Road and Country Drive Intersection Improvement

City of Little Canada

Project Name: Little Canada Road and Country Drive Intersection Improvement Project

Applicant: City of Little Canada

Primary Contact:

Bill Dircks
Public Works Director
515 Little Canada Road East
651-776-4049
Bill.dircks@littlecanadamn.org

Location & Route:

Little Canada Road (CSAH 21) and Country Drive intersection west of I-35 E

Application Category:

Spot Mobility and Safety

Funding Information:

Requested Award Amount: $3.5 million
Local Match: $5,414,000
Project Total: $8,914,500

Additional Funding Sources:

- MSA and CSAH funding

Corridor Fast Facts:

- Existing condition is a coordinated signal with the southbound I-35E ramp
- Solve a long-standing safety and congestion problem at this location via single-lane roundabout and realignment of intersection
- Significant improvement to pedestrian safety
- Project located in a regional Environmental Justice area

2024 Award → 2024-25 Design → 2026 Construction

RAMSEY COUNTY
Working with you to enhance our quality of life

Project Description

The proposed project in the City of Little Canada will reconfigure the Little Canada Road and Country Drive intersection from a traffic signal to a single-lane roundabout and realign Country Drive and the intersection with Little Canada Road approximately 600 feet west. Country Drive will be realigned to the west and include a dedicated pedestrian facility. Access to Little Canada Road from the existing Country Drive location will be removed, enhancing operations for the I-35E interchange ramp intersection currently separated by less than 100 feet with coordinated signals. The existing traffic signal serving the intersection, along with the existing access location, will be removed. The Waterworks Trail connection to Little Canada Road will be extended through the existing Country Drive right of way. The new location of the Little Canada Road and Country Drive intersection and conversion to a roundabout will work jointly with the programmed improvement for the Little Canada Road/Lake Shore Avenue/County Road C intersection, which will also be converted to a single-lane roundabout.

Project Regional Significance

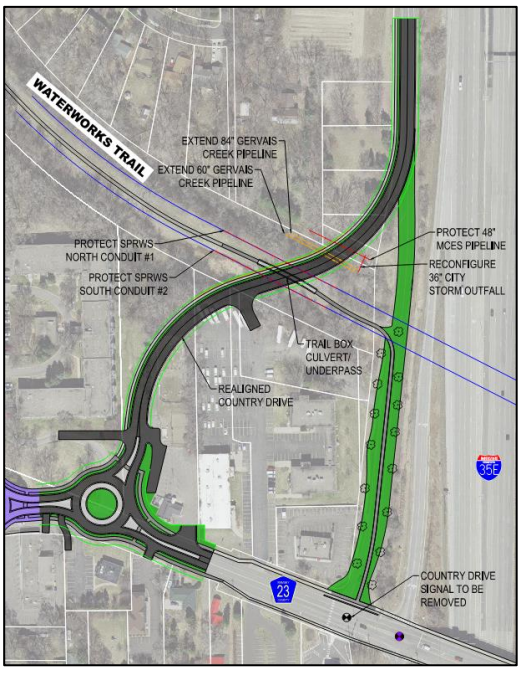
Little Canada Road (CSAH 21) is an A Minor Arterial Augmentor at this location just west of I-35E. The intersection and connection to Country Drive is important due to the parallel route serving I-35E and I-694 as it runs immediately adjacent west of where the two interstate corridors merge within the City of Little Canada.

Project Benefits

The focus of this project is a safety and mobility improvement by implementation of a realigned intersection and conversion to a single-lane roundabout in place of a 4-lane undivided highway and confusing coordinated dual intersection with I-35E southbound ramps. The project includes realignment a major emphasis on pedestrian safety and multimodal investment throughout the project corridor.

Project Development

The City of Little Canada has been working for several years to develop possible improvement projects to address safety and congestion along Little Canada Road between Lakeshore Avenue and I-35E. This work has been done in coordination with Ramsey County, MnDOT and FHWA staff, all of which have jurisdictional authority on adjacent roadways. The proposed project is a result of on-going coordination and partnership with these agencies.



CITY OF LITTLE CANADA
COUNTY OF RAMSEY
STATE OF MINNESOTA

RESOLUTION 2023-152

A RESOLUTION AUTHORIZING SUBMISSION OF A SPOT MOBILITY AND SAFETY APPLICATION TO THE 2024 REGIONAL SOLICITATION FOR THE LITTLE CANADA ROAD AND COUNTRY DRIVE INTERSECTION IMPROVEMENT PROJECT

WHEREAS, the Metropolitan Council administers the Regional Solicitation grant program, intended to distribute Surface Transportation Program (STP) and Congestion Mitigation and Air Quality (CMAQ) program funds that meet regional transportation needs; and,

WHEREAS, the 2024 Regional Solicitation has approximately $250 million in federal dollars available and up to $163 million of which may be awarded to projects that improve roadways with multimodal elements including Spot Mobility and Safety projects, with a minimum award of $1,000,000 and a cap of $3,500,000 for Spot Mobility and Safety projects; and,

WHEREAS, these funds have been designated for standalone projects with the expectation that the executing agency will provide matching funds equal to or greater than 20% of the project cost; and,

WHEREAS, the City of Little Canada intends to apply for Metropolitan Council's regional solicitation Spot Mobility and Safety category to fund the Little Canada Road and Country Drive Intersection Improvement Project; and,

WHEREAS, the planned intersection improvements would improve safety, reduce congestion, and improve pedestrian connections through and adjacent to the Little Canada Road and Country Drive intersection; and

WHEREAS, the City of Little Canada has agreed to maintain the proposed improvements for the lifetime of such improvement; and,

NOW, THEREFORE, IT IS HEREBY RESOLVED by the City Council of the City of Little Canada; that

1. The City of Little Canada supports the Spot Mobility and Safety Regional Solicitation Grant Application for the Little Canada Road and Country Drive Intersection Improvement Project and authorizes staff to prepare and submit such application; and

2. The City Council hereby commits to funding project elements not eligible for Regional Solicitation grant funding and funding and ensuring the Project complies with Regional Solicitation funding requirements and timelines.

Adopted by the Council this 29th day of November, 2023.

Thomas Fischer, Mayor

Attest: _____
Christopher Heineman, City Administrator

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

12/11/2023

Bill Dircks
Public Works Director
2858 Centerville Road
Little Canada, MN 55117

Re: MnDOT Letter for The City of Little Canada
Metropolitan Council/Transportation Advisory Board 2024 Regional Solicitation Funding Request for Little Canada Road (CSAH 21) and Country Drive Improvements.

Dear Bill Dircks,

This letter documents MnDOT Metro District's recognition for The City of Little Canada to pursue funding for the Metropolitan Council/Transportation Advisory Board's (TAB) 2024 Regional Solicitation for the for Little Canada Road (CSAH 21) and Country Drive Improvements.

The proposed project includes construction of two roundabouts on Little Canada Road (CSAH 21) at County Road C and Country Drive, with the realignment of County Road Drive and construction of a trail adjacent to I-35E. This project does not directly impact the Trunk Highway System but is adjacent to the I-35E Interchange with CSAH 23.

As the agency with jurisdiction over I-35E, MnDOT will allow the City of Little Canada to seek improvements proposed in the application. If funded, details of how the project is delivered and any future maintenance agreement with the City will need to be determined during the project's development to define how the improvements will be maintained for the project's useful life.

MnDOT does not anticipate partnering on local projects beyond current agreements. If your project receives funding, continue to work with MnDOT Area staff to coordinate and review needs and opportunities for cooperation.

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

If you have questions or require additional information at this time, please reach out to your Area Manager at Molly.McCartney@state.mn.us or 651-775-0326.

Sincerely,

Sheila Kauppi

Digitally signed by Sheila Kauppi
Date: 2023.12.11 22:56:05 -06'00'

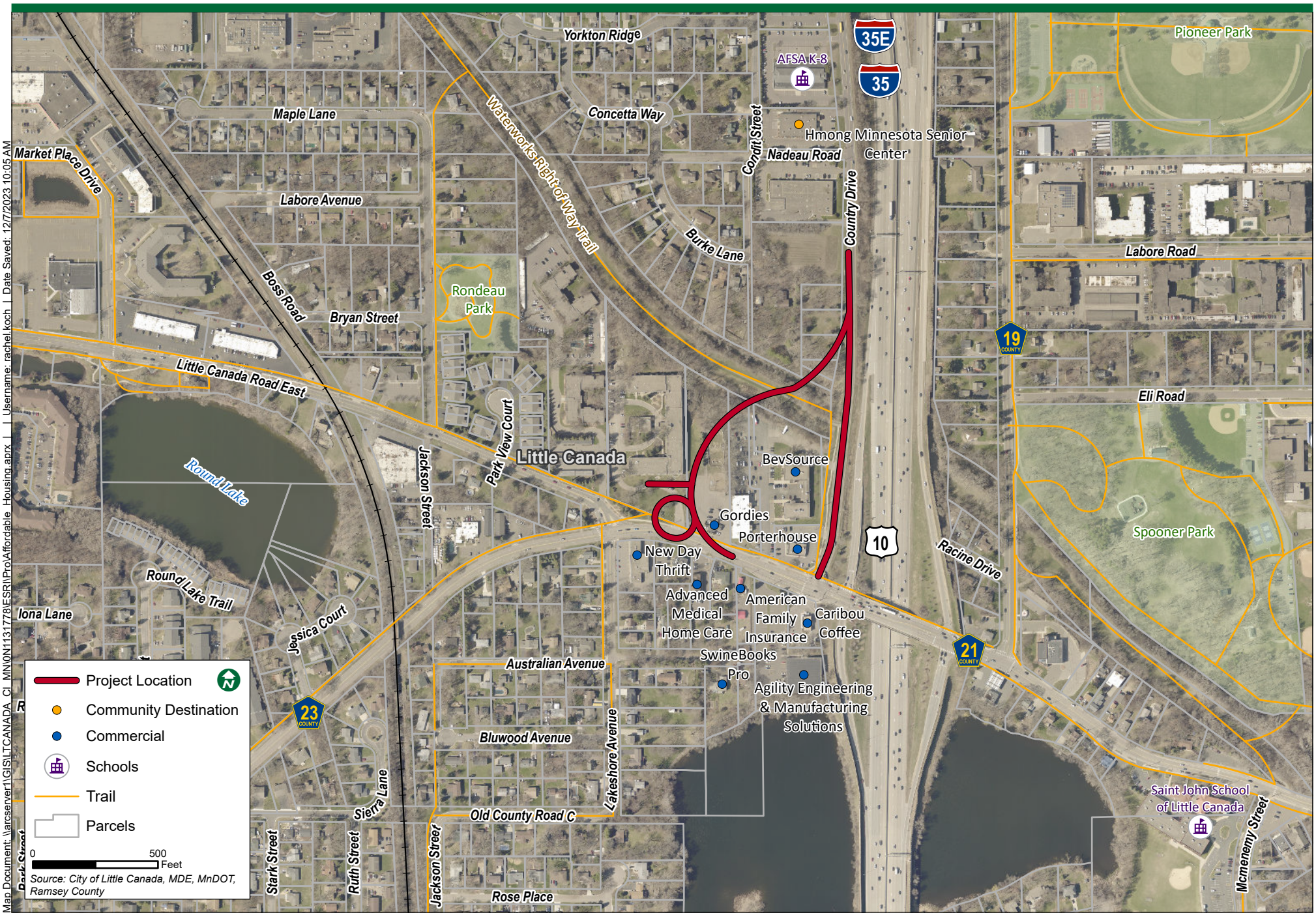
Sheila Kauppi, PE
Metro District Engineer

CC:
Molly McCartney, North Area Manager
Aaron Tag, Metro Program Director
Dan Erickson, Metro State Aid Engineer

Country Drive - Little Canada Road Intersection

Project Location

December 2023



Map Document: \\arcserver1\GIS\LTCANADA_CI_MN\0N1131778\ESRI\Pro\Affordable_Housing.aprx | Username: rachel.koch | Date Saved: 12/7/2023 10:05 AM

LEGEND

- PROPOSED ROADWAY
- RAISED CONC. MEDIAN, CURB & GUTTER, WALK
- TRAIL
- BOULEVARD/GRASS AREA
- INTERSECTION IMPROVEMENT FUNDED THROUGH 2022 HSIP FY 2026
- COUNTY LED 4 TO 3 CONVERSION IMPROVEMENT FUNDED THROUGH 2022 HSIP FY 2026
- PARCEL LINES
- PROPOSED RIGHT OF WAY
- ST PAUL REGIONAL WATER SERVICES CONDUITS (90")
- RAILING
- EXISTING TRAFFIC SIGNAL
- MNDOT SIGNAL REPLACEMENT PROGRAMMED FOR 2027

N

175

SCALE IN FEET

WATERWORKS TRAIL

EXTEND 84" GERVAIS CREEK PIPELINE

EXTEND 60" GERVAIS CREEK PIPELINE

PROTECT SPRWS NORTH CONDUIT #1

PROTECT SPRWS SOUTH CONDUIT #2

PROTECT 48" MCES PIPELINE

RECONFIGURE 36" CITY STORM OUTFALL

TRAIL BOX CULVERT/ UNDERPASS

REALIGNED COUNTRY DRIVE

LITTLE CANADA RD

COUNTY ROAD C

RAMSEY COUNTY 4 TO 3 LANE CONVERSION AND INTERSECTION IMPROVEMENTS

LAKE SHORE AVE

COUNTRY DRIVE SIGNAL TO BE REMOVED

CENTERVILLE RD

WATERWORKS TRAIL

BOLTON & MENK

LITTLE CANADA ROAD AND COUNTRY DRIVE IMPROVEMENTS