Application

19839 - 2024 Roadway Expansion
20330 - TH 65 and CSAH 116 (Bunker Lake Boulevard) Interchange
Regional Solicitation - Roadways Including Multimodal Elements

Status: Submitted
Submitted Date: 12/15/2023 10:15 AM

Primary Contact

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

Organization Information

Name: ANOKA COUNTY
Jurisdictional Agency (if different):
Organization Type: County Government
Organization Website:
Address: 1440 BUNKER LAKE BLVD

* ANDOVER (City) Minnesota (State/Province) 55304 (Postal Code/Zip)

County: Anoka
Phone:* 763-324-3100 Ext.

Fax: 763-324-3020
PeopleSoft Vendor Number 0000003633A15

Project Information

Project Name TH 65/Bunker Lake Boulevard Interchange
Primary County where the Project is Located Anoka
Cities or Townships where the Project is Located: Ham Lake, MN (tie-in in Blaine, MN)
Jurisdictional Agency (If Different than the Applicant):

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

Trunk Highway (TH) 65 is a principal arterial located within the Twin Cities metropolitan area in Anoka County. As the only continuous north/south corridor of its size and capacity in Anoka County, TH 65 is a vital link for passenger and commercial traffic traveling between the Twin Cities urban core and northern suburban and exurban communities. Additionally, TH 65 is a key arterial roadway connecting statewide destinations from I-694 to US 71 near International Falls, making it the third longest state highway in Minnesota.

The project is located at the intersection of TH 65 and CSAH 116 (Bunker Lake Boulevard (Blvd). Existing conditions include an at-grade signalized intersection at TH 65 and Bunker Lake Blvd with TH 65 operating as a four-lane divided roadway. The project would implement a grade separated crossing of TH 65 and Bunker Lake Blvd and associated roadway improvements. The project would add a bowtie configuration at the on and off ramps of TH 65 at Bunker Lake Blvd, and multi-use trails would be added on both sides of Bunker Lake Blvd.

A Planning and Environmental Linkages (PEL) Study was completed for TH 65 in 2021 from 81st Ave to Bunker Lake Blvd. The study recommended implementing a freeway on TH 65 to improve mobility, safety, and access. The area of 97th to 117th is advancing through preliminary design as a freeway concept and the addition of Bunker Lake Blvd would contribute to achieving the overall study vision for a better TH 65. This intersection was also identified in the Principal Arterial Conversion Study as a high priority for grade separation.

(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.

TH 65 AT CSAH 116, NEAR HAM LAKE, FROM 131ST AVE NE TO 139TH AVE NE, 1.2 MILES, NEW GRADE-SEPARATED INTERCHANGE OVER CSAH 116 WITH ROUNDABOUT.

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)

1.2

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)

Minnesota Highway Freight Program, LPP Solicitation, other federal or state grants (RAISE, INFRA, etc.)

Federal Amount

$10,000,000.00

Match Amount

$26,625,500.00

Minimum of 20% of project total

Project Total

$36,625,500.00

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

Match Percentage

72.7%

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

Source of Match Funds

Anoka County, City of Ham Lake, MnDOT State Bonding

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:

2027

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

Project Information-Roadways

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

Anoka County

Functional Class of Road

Principal Arterial

Road System

TH

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

Road/Route No.

65

i.e., 53 for CSAH 53

Name of Road

TH 65

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 *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 *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)*	CSAH
Road/Route No. *i.e., 53 for CSAH 53*	116
Name of Road *Example; 1st ST., MAIN AVE*	Bunker Lake Blvd
In the City/Cities of: *(List all cities within project limits)*	Ham Lake, MN; tie-in in Blaine, MN
PROJECT LENGTH	
Miles *(nearest 0.1 miles)*	1.2
Primary Types of Work (check all the apply)	
New Construction	
Reconstruction	Yes
Resurfacing	
Bituminous Pavement	Yes
Concrete Pavement	Yes
Roundabout	Yes
New Bridge	Yes
Bridge Replacement	
Bridge Rehab	
New Signal	
Signal Replacement/Revision	
Bike Trail	Yes
Other (do not include incidental items)	Storm sewer, curb and gutter, signing, striping, lighting, turf, retaining walls, noise walls
BRIDGE/CULVERT PROJECTS (IF APPLICABLE)	
Old Bridge/Culvert No.:	
New Bridge/Culvert No.:	TBD
Structure is Over/Under (Bridge or culvert name):	Over Bunker Lake Blvd
OTHER INFORMATION:	
Zip Code where Majority of Work is Being Performed	55304
Approximate Begin Construction Date	04/01/2028
Approximate End Construction Date	10/30/2029
Miles of Trail (nearest 0.1 miles)	0.7
Miles of Sidewalk (nearest 0.1 miles)	0
Miles of trail on the Regional Bicycle Transportation Network (nearest 0.1 miles):	0.4
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:

The proposed project fits within the objectives and strategies outlined in Thrive MSP 2040, the 2040 TPP, and other Council planning documents.

Improvements at TH 65/Bunker Lake Blvd would advance three Thrive MSP 2040 outcomes (prosperity, equity, and livability) by improving access to employment opportunities along the corridor; improving freight connectivity; increasing connections to housing, transportation, and recreation options for people of all races, ethnicities, incomes, and abilities; and improved safety and decreased transportation system barriers to improve the quality of residents? lives and experiences in the region.

Specific 2040 Policy Plan goals, objectives, and strategies addressed by the project include:

Safety and Security: In relation to the goal, "The regional transportation system is safe and secure for all users" (p. 2.20), this project will address Objective A: Reduce crashes and improve safety and security by improving crossing conditions for all modal users. Strategies include B1 (p. 2.20), B3 (p. 2.21), B6 (p. 2.23).

Access to Destinations: In relation to the goal, "People and businesses prosper by using a reliable, affordable, and efficient multimodal transportation system that connects them to destinations throughout the region and beyond" (p. 2.24), this project will address Objective A: Increase travel time reliability and predictability for travel on highway and transit systems. Strategies include C7 (p. 2.30), C8 (p. 2.31), C16 (p. 2.36).

Competitive Economy: In relation to the goal "The regional transportation system supports the economic competitiveness, vitality, and prosperity of the region and state" (p. 2.38), this project will address Objective C: Support the region's economic competitiveness through the efficient movement of freight. Strategies include D4 (p. 2.40).

Healthy Environment: In relation to the goal, "The regional transportation system advances equity and contributes to communities' livability and sustainability while protecting the natural, cultural, and developed environments" (p. 2.42), this project will address Objective A: Reduce transportation-related air emissions, and Objective C: Increase the availability and attractiveness of transit, bicycling, and walking to encourage healthy communities and active car-free lifestyles. Strategies include E2 (p. 2.43).

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.

The proposed project is consistent with multiple local, regional, and state plans. The project need and grade separation solutions are identified in the Principal Arterial Intersection Conversion Study completed in 2017. The TH 65 corridor through the project area is summarized on page 24.

This study and the proposed plan to grade separate TH 65 and Bunker Lake Blvd are shown in the 2040 Ham Lake Comprehensive Plan on page 6-11. This corridor was also studied by MnDOT in a Planning and Environmental Linkages Study, completed and approved in 2021. Since this interchange is not technically within the limits of the city of Blaine, it is not listed in their Comprehensive Plan. However, all other recommended improvements from the Principal Arterial Conversion Study within its city limits and the PEL are included, demonstrating implementation of a broader corridor vision of TH 65 (p. 208). Additionally, the Interchange Planning Review Committee approved the proposed interchange and access concepts, finding them consistent with the 5 qualifying criteria found in Appendix F of the Council's TPP (See attachment for letter).

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. Yes

(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: 03/31/2018

Link to plan: https://www.anokacountymn.gov/DocumentCenter/View/33091

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

Date self-evaluation completed:

Link to plan:

Upload plan or self-evaluation if there is no link

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. Yes

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. Yes

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. Yes

Requirements - Roadways Including Multimodal Elements

Specific Roadway Elements

CONSTRUCTION PROJECT ELEMENTS/COST ESTIMATES	Cost
Mobilization (approx. 5% of total cost)	$1,615,400.00
Removals (approx. 5% of total cost)	$861,600.00
Roadway (grading, borrow, etc.)	$987,200.00
Roadway (aggregates and paving)	$5,854,100.00
Subgrade Correction (muck)	$0.00
Storm Sewer	$3,015,400.00
Ponds	$0.00
Concrete Items (curb & gutter, sidewalks, median barriers)	$714,000.00
Traffic Control	$969,300.00
Striping	$0.00
Signing	$1,077,000.00
Lighting	$500,000.00
Turf - Erosion & Landscaping	$861,600.00
Bridge	$5,101,800.00
Retaining Walls	$4,139,500.00
Noise Wall (not calculated in cost effectiveness measure)	$4,400,000.00
Traffic Signals	$0.00
Wetland Mitigation	$0.00
Other Natural and Cultural Resource Protection	$0.00
RR Crossing	$0.00
Roadway Contingencies	$6,187,600.00
Other Roadway Elements	$0.00
Totals	**$36,284,500.00**

Specific Bicycle and Pedestrian Elements

CONSTRUCTION PROJECT ELEMENTS/COST ESTIMATES	Cost
Path/Trail Construction	$341,000.00
Sidewalk Construction	$0.00
On-Street Bicycle Facility Construction	$0.00
Right-of-Way	$0.00
Pedestrian Curb Ramps (ADA)	$0.00
Crossing Aids (e.g., Audible Pedestrian Signals, HAWK)	$0.00
Pedestrian-scale Lighting	$0.00
Streetscaping	$0.00
Wayfinding	$0.00
Bicycle and Pedestrian Contingencies	$0.00
Other Bicycle and Pedestrian Elements	$0.00
Totals	**$341,000.00**

Specific Transit and TDM Elements

CONSTRUCTION PROJECT ELEMENTS/COST ESTIMATES	Cost
Fixed Guideway Elements	$0.00
Stations, Stops, and Terminals	$0.00

Support Facilities	$0.00
Transit Systems (e.g. communications, signals, controls, fare collection, etc.)	$0.00
Vehicles	$0.00
Contingencies	$0.00
Right-of-Way	$0.00
Other Transit and TDM Elements	$0.00
Totals	**$0.00**

Transit Operating Costs

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

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: There are multiple elements that would be eligible for PROTECT funding, including: storm sewer, turf-erosion and landscaping, and retaining walls.

Totals

Total Cost	$36,625,500.00
Construction Cost Total	$36,625,500.00
Transit Operating Cost Total	$0.00

Congestion within Project Area:

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

Free-Flow Travel Speed:	64
The Free-Flow Travel Speed is the black number.	
Peak Hour Travel Speed:	37
The Peak Hour Travel Speed is the red number.	
Percentage Decrease in Travel Speed in Peak Hour compared to Free-Flow:	42.19%
Upload Level of Congestion map:	1702586044117_TH65BunkerLake_LevelsofCongestionMap_2023.pdf

Congestion on adjacent Parallel Routes:

Adjacent Parallel Corridor	Hanson Blvd NW
Adjacent Parallel Corridor Start and End Points:	
Start Point:	131st Ave NW
End Point:	Jay St NW
Free-Flow Travel Speed:	52
The Free-Flow Travel Speed is the black number.	
Peak Hour Travel Speed:	36
The Peak Hour Travel Speed is the red number.	
Percentage Decrease in Travel Speed in Peak Hour Compared to Free-Flow:	30.77%
Upload Level of Congestion Map:	1702596193360_HansonBlvd_LevelsofCongestionMap_2023.pdf

Principal Arterial Intersection Conversion Study:

Proposed interchange or at-grade project that reduces delay at a High Priority Intersection:	Yes
(80 Points)	
Proposed at-grade project that reduces delay at a Medium Priority Intersection:	
(60 Points)	
Proposed at-grade project that reduces delay at a Low Priority Intersection:	
(50 Points)	
Proposed interchange project that reduces delay at a Medium Priority Intersection:	
(40 Points)	
Proposed interchange project that reduces delay at a Low Priority Intersection:	
(0 Points)	
Not listed as a priority in the study:	
(0 Points)	

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

Existing Employment within 1 Mile:	3112
Existing Manufacturing/Distribution-Related Employment within 1 Mile:	468
Existing Post-Secondary Students within 1 Mile:	0
Upload Map	1702586130049_TH65BunkerLake_RegionalEconomyMap_2023.pdf

Please upload attachment in PDF form

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: Yes

Miles: 1.2

(to the nearest 0.1 miles)

Along Tier 3:

Miles: 0

(to the nearest 0.1 miles)

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

None of the tiers:

Measure A: Current Daily Person Throughput

Location TH 65 at CSAH 116 (Bunker Lake Blvd)

Current AADT Volume 46683

Existing Transit Routes on the Project N/A

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

Upload Transit Connections Map 1702586311323_TH65BunkerLake_TransitConnectionsMap_2023.pdf

Please upload attachment in PDF form

Response: Current Daily Person Throughput

Average Annual Daily Transit Ridership 0

Current Daily Person Throughput 60688.0

Measure B: 2040 Forecast ADT

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

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

OR

Identify the approved county or city travel demand model to determine forecast (2040) ADT volume

Forecast (2040) ADT volume

Measure A: 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:

Census tracts within ½ mile of the project (the study area) are comprised of 21% BIPOC residents, which equal to the average for Anoka County. 12% of the population in the analysis area are low income, which is significantly lower than the county average (17%). More residents in the analysis area are older than 65 (17%) than in the county (14%). 29% of residents in the study area are younger than 18, similar to the county average (30%). See attached EJ Screen report for the project area for additional sociodemographic information.

Environmental justice communities further south of this project area have had extensive public engagement activities as there were more complex potential direct impacts as a result of the project. During initial project planning as part of MnDOT?s Planning and Environmental Linkages (PEL) Study completed in June 2021, the project team incorporated an environmental justice (EJ) analysis, identifying EJ communities and potential impacts. During this phase, environmental justice was incorporated as evaluation criteria where potential impacts to EJ communities were assessed related to property and business impacts and connectivity to key origins and destinations via all modes. The project team conducted multiple interviews with local residents particularly focusing on communities which had not traditionally been prioritized in past engagement activities. In addition, the project team held public open houses and online surveys, pop-up events, held Local Official Briefings and has engaged a Public Advisory Committee to vet over 60 alternatives along the total 7-mile PEL corridor from 81st Avenue to Bunker Lake Boulevard. In particular, the project team held multiple events with the Blaine International Village manufactured home community near 103rd Way and provided bi-lingual communications and staff to work through the preliminary design process and elevate under-represented voices.

The feedback and design changes from community discussions informed purpose and need for the project and has been applied to the ongoing design at Bunker Lake Blvd, including a bowtie design minimizing property impacts and a trail adjacent to the roadway instead of a bicycle- and pedestrian-specific underpass which presented safety/security concerns.

As a result of this extensive analysis and engagement, no anticipated impacts to EJ communities related to property impacts or relocations were identified between 117th Ave and Bunker Lake Blvd. Travel times along and across TH 65 improved for all modes providing better mobility and access for EJ communities. Other benefits include improvements to pedestrian safety, traffic congestion, and emissions reductions.

(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:

Realization of this project will offer numerous and impactful benefits to communities located along and adjacent to the corridor. The project will substantially improve the performance of TH 65 and will improve the speed and reliability of access to jobs and essential services in the area. TH 65 has been identified in previous plans and studies as a barrier to east-west pedestrian and bicycle traffic due to the high traffic volumes and speeds as well as long signal wait times. The proposed project will enable much more comfortable and safer east-west crossing access for pedestrians at the Bunker Lake Rd interchange. The project will also improve public health by reducing emissions from the passenger and commercial vehicles currently forced to stop at the signalized intersection.

The replacement of the signalized intersection at Bunker Lake Blvd with grade separated interchange will increase vehicle speeds in the intersection. The potential safety impacts to population groups from these higher speeds will be mitigated by the improved crossing conditions of grade separated interchanges with design speeds of 20 mph for all modes. Conversion of TH 65 to a limited access freeway could also increase noise pollution in the area. Residents will have the option to vote on an inclusion of a noise wall during the NEPA phase of the project.

(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:

Two affordable housing developments are located in census tracts within ½ mile of the project area in the city of Blaine, providing a total of 90 subsidized housing units. North Pointe Townhomes provides 15 units of subsidized housing and Northgate Woods provides 75 units. These units are located outside of the project construction limits and will not be directly impacted. The project would benefit existing and future affordable housing residents by improving access to jobs, retail, and other destinations and substantially improving comfort and safety for all users crossing at the TH 65 and Bunker Lake Blvd intersection.

(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):	Yes
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.	1702586536117_TH65BunkerLake_SocioEconomicConditionsMap_2023.pdf

Measure A: Infrastructure Age

Year of Original Roadway Construction or Most Recent Reconstruction	Segment Length	Calculation	Calculation 2
1953.0	1.2	2343.6	1953.0
	1	**2344**	**1953**

Average Construction Year

Weighted Year	1953.0

Total Segment Length (Miles)

Total Segment Length	1.2

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
80.7	5.9	74.8	4425	4425	357097.5	26107.5	330990.0	N/A	1702599014722_TH_65_BunkerLake_DelayandEmissions_12132023.pdf
						26108			

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):
37.3	22.2	15.1
37	**22**	**15**

Total

Total Emissions Reduced:	15.1
Upload Synchro Report	1702598890431_TH_65_BunkerLake_DelayandEmissions_11302023.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	1702598940359_TH_65_BunkerLake_DelayandEmissions_12132023.pdf

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:	460 - "Convert at-grade intersection into grade separated interchange" (CMF = 0.43, ABC Crashes) 461 - "Convert at-grade interchange into grade separated interchange" (CMF = 0.64, PDO Crashes) 4192 - "Convert signalized intersection to modern roundabout" (CMF = 0.76, All crashes) 3097 - "Absence of access points" (CMF = 0.56, All crashes)
(Limit 700 Characters; approximately 100 words)	
Rationale for Crash Modification Selected:	Crash modifications were selected to best match the description and application of the proposed design changes to TH 65 and Bunker Lake Blvd. 460, 461, 4192 - Existing at-grade signalized intersection of TH 65 and Bunker Lake Blvd is converted to an interchange with teardrop roundabout ramp terminal. 3097 - Access points from at-grade minor roads will be removed from TH 65 from 131st Ave NE to 139th Ave NE. This excludes crashes at the intersection of Bunker Lake Blvd.
(Limit 1400 Characters; approximately 200 words)	
Project Benefit ($) from B/C Ratio:	$20,966,247.00
Total Fatal (K) Crashes:	0
Total Serious Injury (A) Crashes:	3
Total Non-Motorized Fatal and Serious Injury Crashes:	0
Total Crashes:	75
Total Fatal (K) Crashes Reduced by Project:	0
Total Serious Injury (A) Crashes Reduced by Project:	2
Total Non-Motorized Fatal and Serious Injury Crashes Reduced by Project:	0
Total Crashes Reduced by Project:	42
Worksheet Attachment *Please upload attachment in PDF form*	1702593367814_TH_65_BunkerLake_CMF_Crash_BCWorksheets_Combined.pdf

Roadway projects that include railroad grade-separation elements:

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

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 project would result in safer pedestrian crossings of both TH 65 and Bunker Lake Boulevard. Grade-separating TH 65 and Bunker Lake Blvd is appropriate given TH 65?s high traffic volumes, speeds, and role as a major arterial and state highway. Pedestrians trying to cross TH65 would no longer have to navigate through-moving vehicle lanes, only turning traffic from the entrance and exit ramps. Marked crossings would be installed at what is now the north leg of the intersection, giving pedestrians an opportunity to cross where no marked crossing exists now. This will reduce the number of roadway crossings required for non-motor vehicle users to access destinations on the north side of Bunker Lake Blvd. Pedestrians crossing Bunker Lake Blvd would use marked crossings at the roundabouts which would be installed on Bunker Lake Blvd. These roundabout crossings would include median refuges, allowing pedestrians to face only one direction of traffic at a time and resulting in a safer, more comfortable crossing, especially for children, older pedestrians, and disabled pedestrians. Both proposed roundabouts would include median refuges at crossings.

(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:

The proposed project removes the signalized intersection of TH 65 at Bunker Lake Boulevard and converts these crossings to a roundabout with a design speed of 20 mph. While the proposed project technically increases the distance between signalized intersections on TH 65, the current signalized condition is uncomfortable and inconvenient for cyclists and pedestrians. The proposed project improves the crossing at Bunker Lake Blvd for cyclists and pedestrians crossing TH 65 by removing signals and providing grade-separated access across TH 65 for cyclists and pedestrians.

(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: Yes

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

Response: 1

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

Response:

While crossing distance will increase by approximately 100 feet at Bunker Lake Blvd, crossing time will decrease due to the conversion of TH 65 to an above-grade facility at these locations, as pedestrians and cyclists will no longer contend with long signal times (over three minutes) that currently exist to allow at-grade TH 65 to operate in a fashion that minimizes vehicle delay for northbound and southbound vehicle traffic. In the proposed design, pedestrians and cyclists will cross underneath TH 65 on a separated facility. The facility will provide non-motorized users refuge between east and westbound vehicle lanes on Bunker Lake Blvd.

(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: Pedestrian and cyclist crossings will be grade-separated from TH 65.

(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:

The conversion of TH 65 to a limited access freeway with above grade bridges at Bunker Lake Blvd requires restriction of mid-block crossings of TH 65 as pedestrian and cyclist presence is illegal on such facilities. While pedestrians and cyclists can currently cross TH 65 mid-block, it is an unsafe option as the roadway carries similar traffic volumes to the parallel segment of I-35W in Anoka County and has a speed limit of 60 mph. To provide improved mobility across TH 65 enhanced pedestrian and cyclist facilities (as described in previous sections) will be provided at Bunker Lake Blvd. The distance between crossings in the proposed design will not increase as compared to the existing facility.

(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:

Pedestrians and cyclists currently interact with vehicles traveling at posted speeds of 60 mph at the current at-grade signalized intersection of TH 65 and Bunker Lake Blvd. In the proposed design, these users would interact with vehicles in grade-separated roundabouts, which are designed for vehicle operating speeds of 20 mph, a significant improvement from the high vehicle speeds at the existing at-grade intersections. The roundabouts will feature concrete medians and a truck apron to further slow motorist speeds. The bridge structure on TH 65 will result in visual changes to the road shoulders, including vertical barriers and snow storage space. Visual structure changes may have some effect on observed motorist speeds. No travel lane or shoulder width changes will occur on TH 65.

(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 posted speed limit on TH 65 is 60 miles per hour. Operating speeds vary based on traffic congestion on TH 65. It is anticipated that 60 miles per hour would remain the design and posted speed limit for the roadway. The posted speed limit on Bunker Hill Boulevard is 50 miles per hour to the west and 55 miles per hour to the east from TH 65. The proposed design speed for Bunker Lake Boulevard is 50 miles per hour. Through the intersection, the proposed roundabouts would reduce the posted and operating speeds. The roundabouts would be designed for 20 mph vehicle speeds. Greatly reduced vehicle speeds through the intersection combined with shortened crossing distances would make crossing the intersection much more comfortable for pedestrians, especially children, older pedestrians, and disabled pedestrians.

(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	46683

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.)	
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:	Two gas stations with attached convenience stores, Shell and Casey?s, are located on the northwest and southwest corners of the intersection of TH 65 and Bunker Lake Blvd, a retail liquor store, Network Liquors, is located on the southwest corner, and Falcon National Bank is located on the northeast corner. An AmericInn hotel is located about 1600 feet south of the intersection and a Blaine Family Chiropractic office is located about 2000 feet south of the intersection. An Aldi grocery store is located approximately 4500 feet south of the intersection. All the above, plus several auto repair, landscaping, and home renovation businesses are located within 500 feet of the roadway in the project area.

(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:	A K-8 school, Way of the Shepherd, is located approximately 3000 feet south of the intersection of TH 65 and Bunker Lake Blvd. The Blaine Early Childhood Center is located approximately 4500 feet south of the intersection. A liquor store and two convenience stores (attached to gas stations) are located at the intersection. All of these pedestrian generators are located within 500 feet of the roadway in the project area.

(Limit 1,400 characters; approximately 200 words)

Measure A: Multimodal Elements and Existing Connections

Response:

A separated, multiuse trail will be installed along both sides of Bunker Lake Blvd at its intersection with TH 65. Bunker Lake Blvd is a Tier 2 Alignment and TH 65 is a Tier 2 Corridor in the Regional Bicycle Transportation Network (RBTN). Intersection grade-separation and the multiuse trail will provide pedestrians and cyclists with safe roadway crossing facilities and will allow better multimodal access to the east and west of the intersection, especially to Bunker Hills Regional Park about 1.2 miles west of the intersection. a recreational destination identified by the RBTN. The separated facility will provide a safe and comfortable route both across a busy interchange and to the west along a high-speed roadway where no safe route exists currently. The existing multiuse trail to the east along Bunker Hill Blvd will be enhanced by the ability for users to more safely reach destinations across TH 65 to the west. The project leaves the opportunity for future bicycle or multimodal facilities to be installed on the service roads along TH 65 to improve multimodal connections to the south along the Tier 2 Corridor. No transit service exists in the project area.

No locations in the project are specifically identified in completed ADA transition plans.

(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:

During initial project development as part of the June 2021 PEL Study, an extensive outreach and information campaign was conducted to reach a wide cross section of Blaine and Ham Lake residents and seek input. Outreach efforts included a variety of mediums, such as a dedicated project website, email updates, social media posts, emails with individual stakeholders, bilingual communications and engagement, as well as physical handouts, flyers, and postcard mailers. The project team conducted multiple interviews with local residents with the goal of reaching target population groups representing the demographics of the corridor, held a public open house and online surveys, pop-up events, held Local Official Briefings and has engaged a Public Advisory Committee to vet over 60 alternatives along the total 7-mile PEL corridor from 81st Avenue to Bunker Lake Boulevard. This engagement was a critical component of the study and informed the development the project purpose and need, as well as next steps for the project.

As the project continues through the environmental review and project delivery phase, the team is conducting additional general and targeted engagement. In spring 2022, the team engaged the Public Advisory Committee (PAC), Local Officials, and broader community. In addition to ongoing meetings with the PAC and Local Officials, the team has held open houses to continue collecting information on local perspectives and preferences.

Residents were invited to visit the event website, www.anokastpprojects.com (see attached ?STP Summary 2023? document), to ask questions and offer feedback to the project team. While on the website, residents were also invited to fill out a project survey, which collected demographic info including Race, Age, and Income-level. The team has also prepared a virtual, self-paced meeting (www.anokastpprojects.com) for community members unable to attend in person open houses. While on the website, residents were also invited to fill out a project survey, which collected demographic info including Race, Age, and Income-level. Information regarding this outreach event was also made available online. See attached TH65_EngagementSummary document).

(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.

50%

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

25%

Yes

Layout has not been started	
0%	
Attach Layout	1702594813370_BunkerLakeBlvd_lo2.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

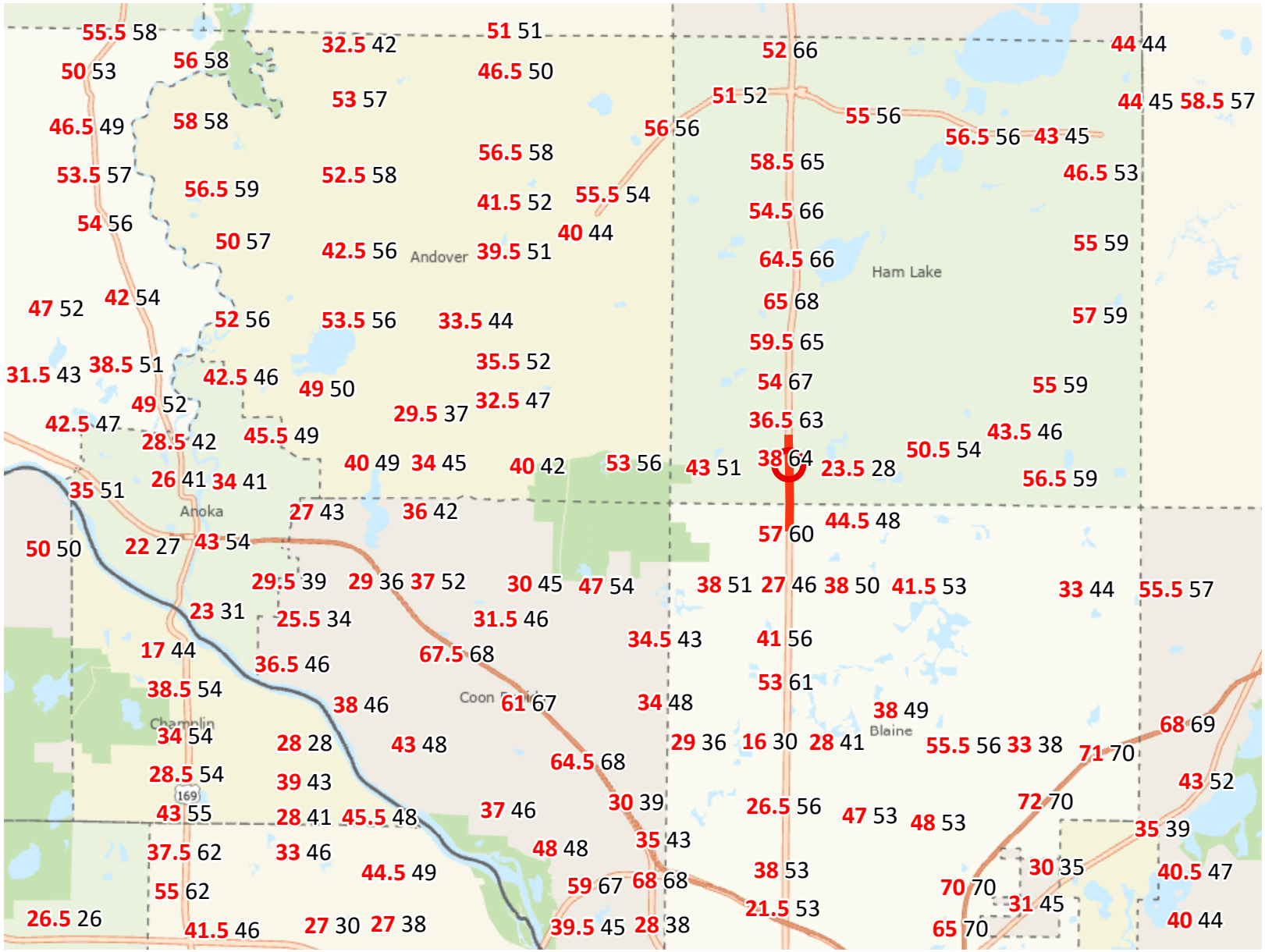
Total Project Cost (entered in Project Cost Form):	$36,625,500.00
Enter Amount of the Noise Walls:	$4,400,000.00
Total Project Cost subtract the amount of the noise walls:	$32,225,500.00
Enter amount of any outside, competitive funding:	$0.00
Attach documentation of award:	
Points Awarded in Previous Criteria	
Cost Effectiveness	$0.00

Other Attachments

File Name	Description	File Size
2024 Regional Solicitation_AC_bunker_MnDOT.pdf	Project Letter of Support - MnDOT	209 KB
EJScreen_CommunityReport_TH65-Bunker_Interchange_Area.pdf	EJScreen Report - TH 65 at Bunker Lake Blvd	964 KB
IPR-Hwy65&BunkerLakeBlvd.pdf	IPR Approval Letter	130 KB
Letter of Support from Andover for the TH65-BunkerLake_STP _Application.pdf	Project Letter of Support - Andover	462 KB
Letter of Support from Blaine for the TH65-BunkerLake_STP _Application.pdf	Project Letter of Support - Blaine	118 KB
Letter of Support from Ham Lake for the TH65-BunkerLake_STP _Application.pdf	Project Letter of Support - Ham Lake	56 KB
Resolution #2023-139_TH 65 Interchange.pdf	Resolution of Support - Anoka County	381 KB
Resolution of Support from Ham Lake for the TH65-BunkerLake_STP _Application.pdf	Resolution of Support - Ham Lake	64 KB
TH_65_BunkerLake_OnePageProjectSummary.pdf	Project Summary (including existing conditions photo and simplified graphic layout)	400 KB
TH_65_BunkerLake_STPSummary2023.pdf	TH 65 Engagement Summary	585 KB

Level of Congestion

Strategic Capacity Project: TH 65 at Bunker Lake Blvd | Map ID: 1701376239370



Project Points

Project

0 1 2 4 6 8 Miles

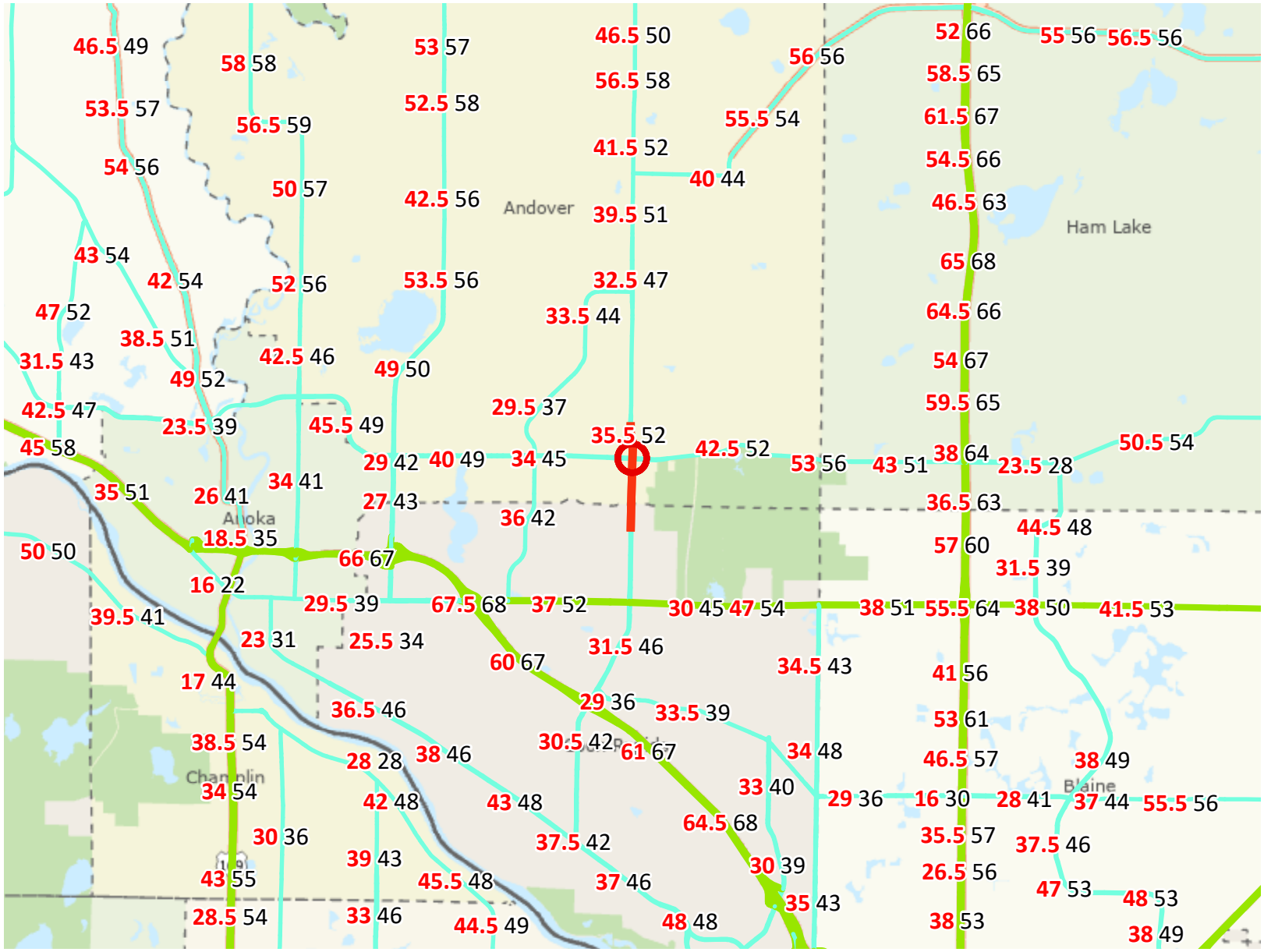
Created: 11/30/2023
LandscapeRSA1

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

METROPOLITAN COUNCIL

Level of Congestion

Strategic Capacity Project: Hanson Blvd NW at Bunker Lake Blvd | Map ID: 1701369387167



Project Points — Principal Arterials — Principal Arterials Planned

Project — A Minor Arterials — A Minor Arterials Planned

0 0.75 1.5 3 4.5 6 Miles

Created: 11/30/2023
LandscapeRSA1

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

METROPOLITAN COUNCIL

Regional Economy

Strategic Capacity Project: TH 65 at Bunker Lake Blvd | Map ID: 1701376239370

Results

WITHIN ONE MI of project:
Postsecondary Students: 0

Totals by City:

Blaine
Population: 6918
Employment: 1306
Mfg and Dist Employment: 12

Ham Lake
Population: 5088
Employment: 1806
Mfg and Dist Employment: 456

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

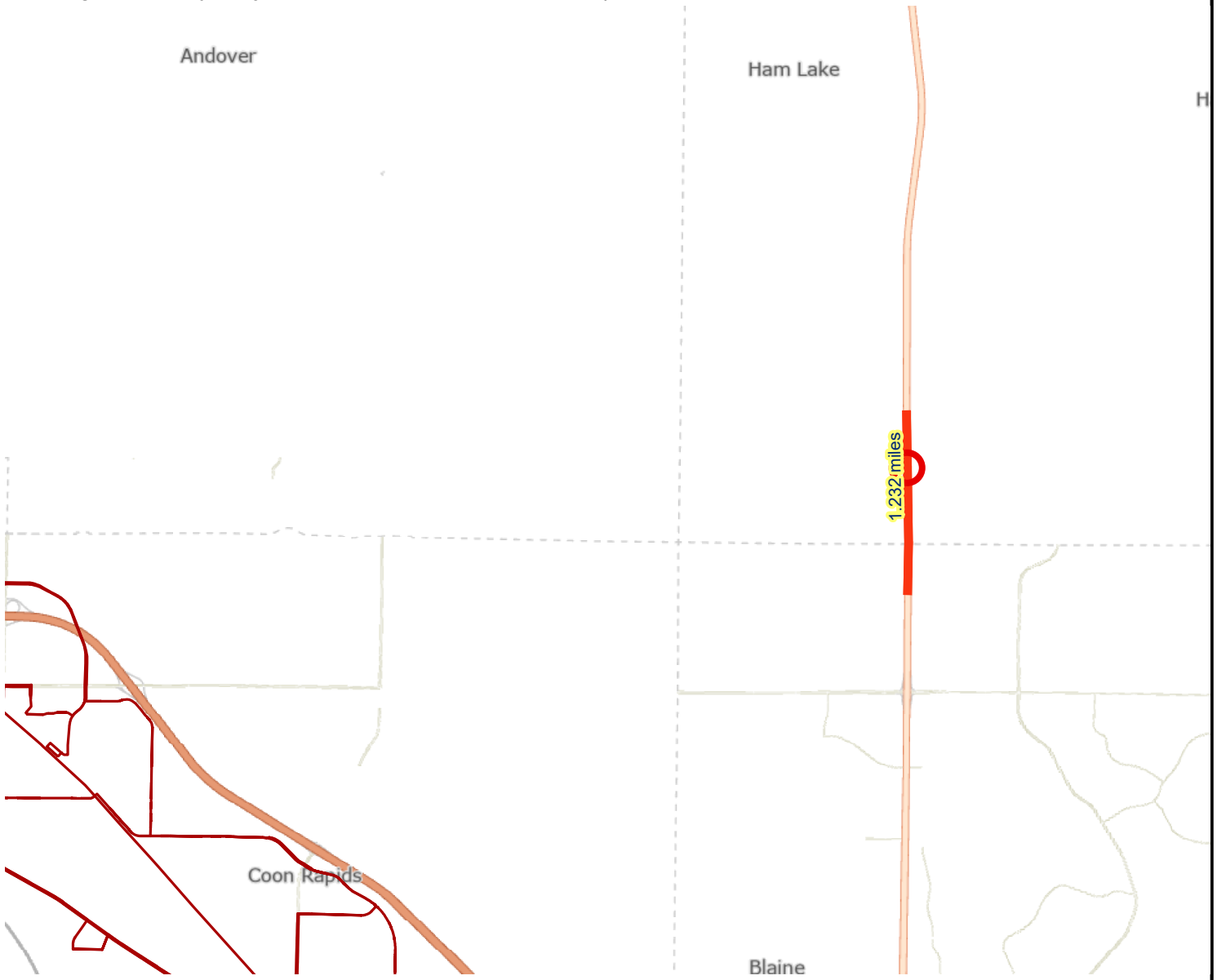
0 0.5 1 2 3 4 Miles

Created: 11/30/2023
LandscapeRSA5

METROPOLITAN COUNCIL

Transit Connections

Strategic Capacity Project: TH 65 at Bunker Lake Blvd | Map ID: 1701376239370



Results

Transit with a Direct Connection to project:
-- NONE --

**indicates Planned Alignments*

Transit Market areas: 4

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LandscapeRSA3

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

METROPOLITAN COUNCIL

Socio-Economic Conditions

Strategic Capacity Project: TH 65 at Bunker Lake Blvd | Map ID: 1701376239370

Results

Total of publicly subsidized rental housing units in census tracts within 1/2 mile: 90

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

Points
Lines
Area of Concentrated Poverty
Regional Environmental Justice Area

0 0.5 1 2 3 4 Miles

Created: 11/30/2023
LandscapeRSA2

METROPOLITAN COUNCIL

Congestion Reduction

Delay was calculated using the attached SimTraffic reports in the following way (highlighted values correspond to the highlighted values in the attached SimTraffic reports):

Total Peak Hour Delay per vehicle **without the project** was calculated using the Bunker Lake Blvd & TH 65 No Build SimTraffic reports (No Build Total Network Performance Table):

2023 No Build Total Peak Hour Delay = 80.7 sec per vehicle

Total Peak Hour Delay per vehicle **with the project** was calculated using the Bunker Lake Blvd & TH 65 Build SimTraffic reports (Build Total Network Performance Table):

2023 Build Total Peak Hour Delay = 5.9 sec per vehicle

HCM and timing reports are also included for reference.

Vehicles Per Hour

Total vehicles per hour **with and without the project** for existing year 2023 were calculated using linear interpolation between the Existing 2018 and No Build 2040 volumes from the TH-65 PEL Study.

2023 No Build Total Peak Hour Volume = 4,425 vehicles

2023 Build Total Peak Hour Volume = 4,425 vehicles

Emissions

Emissions were calculated using the attached SimTraffic reports in the following way (highlighted values correspond to the highlighted values in the attached SimTraffic reports):

Total intersection emissions **without the project** were calculated using the Bunker Lake Blvd & TH 65 No Build SimTraffic reports (No Build Total Network Performance Table):

2023 No Build emissions: 1,506 + 31,675 + 4,143 = 37,324 g (or 37.3 kg)

Total intersection emissions **with the project** were calculated using the Bunker Lake Blvd & TH 65 Build SimTraffic reports (Build Total Network Performance Table):

2023 Build emissions: 864 + 18,949 + 2,395 = 22,208 g (or 22.2 kg)

8: Bunker Lake & TH65 Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	2.2	0.2	2.1	2.6	0.7	2.6	57.3	58.1	57.2	1.8	0.3	1.8
Total Del/Veh (s)	162.8	76.0	15.7	92.7	80.4	61.2	121.3	95.7	58.8	96.8	31.8	2.6
Fuel Used (gal)	4.9	1.3	1.4	2.1	1.0	2.5	2.7	38.2	2.4	1.0	11.5	1.1
Fuel Eff. (mpg)	16.9	23.7	31.9	20.9	22.9	24.9	13.2	15.1	16.4	20.9	29.1	35.5
HC Emissions (g)	29	10	14	14	11	26	30	361	27	12	170	23
CO Emissions (g)	706	267	327	349	217	540	769	7413	725	259	3185	454
NOx Emissions (g)	73	29	41	37	26	65	71	896	71	29	446	61
Vehicles Entered	228	87	121	139	71	193	127	2044	140	64	1028	123
Vehicles Exited	224	86	121	140	69	192	127	2038	139	62	1019	124
Hourly Exit Rate	224	86	121	140	69	192	127	2038	139	62	1019	124
Input Volume	227	87	122	141	75	193	129	2126	148	64	1025	123
% of Volume	99	99	99	99	92	100	98	96	94	96	99	101

8: Bunker Lake & TH65 Performance by movement

Movement	All
Denied Del/Veh (s)	31.7
Total Del/Veh (s)	77.0
Fuel Used (gal)	70.1
Fuel Eff. (mpg)	19.0
HC Emissions (g)	726
CO Emissions (g)	15210
NOx Emissions (g)	1846
Vehicles Entered	4365
Vehicles Exited	4341
Hourly Exit Rate	4341
Input Volume	4461
% of Volume	97

Total Network Performance

Denied Del/Veh (s)	31.7
Total Del/Veh (s)	80.7
Fuel Used (gal)	120.5
Fuel Eff. (mpg)	23.1
HC Emissions (g)	1506
CO Emissions (g)	31675
NOx Emissions (g)	4143
Vehicles Entered	4365
Vehicles Exited	4357
Hourly Exit Rate	4357
Input Volume	8922
% of Volume	49

3: Bunker Lake & TH65 SB Ramps Performance by movement

Movement	EBT	EBR	WBL	WBT	SBL	SBR	All
Denied Del/Veh (s)	0.2	0.1	0.0	0.0	0.4	3.9	0.6
Total Del/Veh (s)	5.2	3.0	1.3	1.8	4.3	2.7	3.2
Fuel Used (gal)	3.3	1.3	0.1	0.2	0.3	0.7	5.8
Fuel Eff. (mpg)	34.8	34.5	21.8	23.3	34.5	31.1	33.6
HC Emissions (g)	29	12	1	3	5	11	62
CO Emissions (g)	643	274	29	74	105	257	1382
NOx Emissions (g)	87	37	4	10	13	33	185
Vehicles Entered	320	122	141	215	63	128	989
Vehicles Exited	319	122	141	215	63	128	988
Hourly Exit Rate	319	122	141	215	63	128	988
Input Volume	314	122	141	208	64	123	972
% of Volume	102	100	100	103	98	104	102

6: TH65 NB Ramps & Bunker Lake Performance by movement

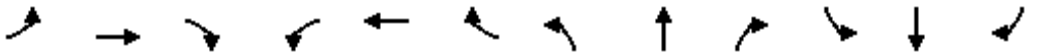
Movement	EBL	EBT	WBT	WBR	NBL	NBR	All
Denied Del/Veh (s)	0.0	0.0	0.2	0.1	0.5	3.7	0.6
Total Del/Veh (s)	1.5	2.0	5.5	3.2	5.6	2.8	3.4
Fuel Used (gal)	0.3	0.2	2.0	1.7	0.5	0.6	5.3
Fuel Eff. (mpg)	20.6	23.8	34.9	34.6	33.2	30.0	33.0
HC Emissions (g)	2	2	25	26	7	10	72
CO Emissions (g)	54	49	508	532	182	252	1576
NOx Emissions (g)	8	7	72	76	20	29	211
Vehicles Entered	225	157	220	189	131	140	1062
Vehicles Exited	225	157	220	190	132	140	1064
Hourly Exit Rate	225	157	220	190	132	140	1064
Input Volume	227	153	216	193	129	148	1066
% of Volume	99	103	102	99	102	94	100

12: TH-65 Mainline Performance by movement

Movement	NBT	SBT	All
Denied Del/Veh (s)	0.5	0.2	0.4
Total Del/Veh (s)	2.8	1.5	2.4
Fuel Used (gal)	17.8	9.8	27.6
Fuel Eff. (mpg)	34.3	34.7	34.4
HC Emissions (g)	173	92	265
CO Emissions (g)	3227	1782	5009
NOx Emissions (g)	468	254	722
Vehicles Entered	2116	1022	3138
Vehicles Exited	2116	1022	3138
Hourly Exit Rate	2116	1022	3138
Input Volume	2126	1025	3151
% of Volume	100	100	100

Total Network Performance

Denied Del/Veh (s)	0.5
Total Del/Veh (s)	5.9
Fuel Used (gal)	80.9
Fuel Eff. (mpg)	32.8
HC Emissions (g)	864
CO Emissions (g)	18949
NOx Emissions (g)	2395
Vehicles Entered	4457
Vehicles Exited	4461
Hourly Exit Rate	4461
Input Volume	10373
% of Volume	43

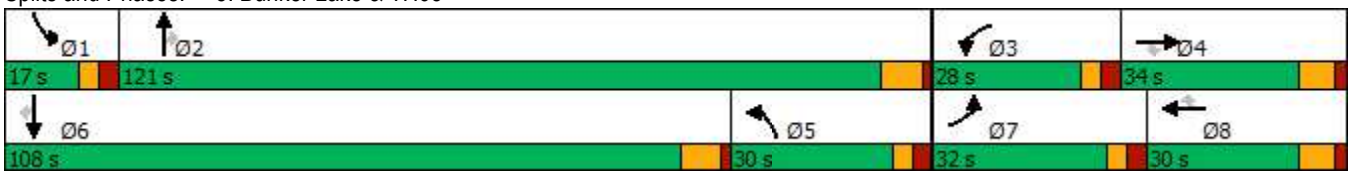


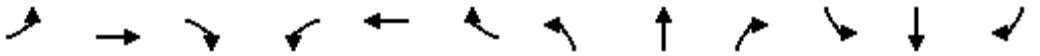
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	225	86	121	140	74	191	128	2108	147	64	1016	122
Future Volume (vph)	225	86	121	140	74	191	128	2108	147	64	1016	122
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	280		280	290		325	640		495	510		640
Storage Lanes	1		1	1		1	2		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	1.00	1.00	0.97	0.95	1.00	1.00	0.95	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	3539	1583	1752	1845	1568	3367	3471	1553	1719	3438	1538
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	3539	1583	1752	1845	1568	3367	3471	1553	1719	3438	1538
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			131			131			115			128
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1960			1744			1540			1768	
Travel Time (s)		44.5			39.6			35.0			40.2	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	2%	2%	2%	3%	3%	3%	4%	4%	4%	5%	5%	5%
Adj. Flow (vph)	237	91	127	147	78	201	135	2219	155	67	1069	128
Shared Lane Traffic (%)												
Lane Group Flow (vph)	237	91	127	147	78	201	135	2219	155	67	1069	128
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100	20	20	100	20	20	100	20
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	20	6	20	20	6	20	20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	1.0	1.0	1.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	10.0	9.0	9.0	32.0	32.0	32.0	11.0	25.5	25.5	11.0	25.5	25.5
Total Split (s)	32.0	34.0	34.0	28.0	30.0	30.0	30.0	121.0	121.0	17.0	108.0	108.0
Total Split (%)	16.0%	17.0%	17.0%	14.0%	15.0%	15.0%	15.0%	60.5%	60.5%	8.5%	54.0%	54.0%
Maximum Green (s)	26.0	26.5	26.5	22.0	22.5	22.5	24.0	113.5	113.5	11.0	100.5	100.5
Yellow Time (s)	3.0	5.5	5.5	3.0	5.5	5.5	3.0	6.0	6.0	3.0	6.0	6.0
All-Red Time (s)	3.0	2.0	2.0	3.0	2.0	2.0	3.0	1.5	1.5	3.0	1.5	1.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	7.5	7.5	6.0	7.5	7.5	6.0	7.5	7.5	6.0	7.5	7.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lag	Lag	Lag	Lead	Lead	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	None	Max	Max	None	Max	Max
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	7.0		7.0	7.0		7.0	7.0
Flash Dont Walk (s)	11.0	11.0	11.0	11.0	11.0	11.0		11.0	11.0		11.0	11.0
Pedestrian Calls (#/hr)	0	0	0	0	0	0		0	0		0	0
Act Effct Green (s)	26.0	21.4	21.4	19.7	15.1	15.1	23.5	113.6	113.6	10.4	100.6	100.6
Actuated g/C Ratio	0.14	0.11	0.11	0.10	0.08	0.08	0.12	0.59	0.59	0.05	0.52	0.52
v/c Ratio	0.99	0.23	0.43	0.82	0.54	0.83	0.33	1.08	0.16	0.72	0.59	0.15
Control Delay	135.7	79.9	14.3	116.9	98.7	57.2	80.4	83.4	5.9	127.3	34.0	3.8
Queue Delay	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 Delay	135.7	79.9	14.3	116.9	98.7	57.2	80.4	83.4	5.9	127.3	34.0	3.8
LOS	F	E	B	F	F	E	F	F	A	F	C	A
Approach Delay		90.7			85.4			78.5			35.9	
Approach LOS		F			F			E			D	

Intersection Summary			
Area Type:	Other		
Cycle Length: 200			
Actuated Cycle Length: 192.2			
Natural Cycle: 150			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 1.08			
Intersection Signal Delay: 68.7		Intersection LOS: E	
Intersection Capacity Utilization 100.1%		ICU Level of Service G	
Analysis Period (min) 15			

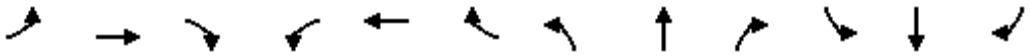
Splits and Phases: 8: Bunker Lake & TH65





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	311	121	140	202	0	0	0	0	64	0	122
Future Volume (vph)	0	311	121	140	202	0	0	0	0	64	0	122
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		50	0		0	0		0	0		150
Storage Lanes	0		0	0		0	0		0	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.958										0.850
Flt Protected					0.980					0.950		
Satd. Flow (prot)	0	3391	0	0	3468	0	0	0	0	1719	0	1538
Flt Permitted					0.980					0.950		
Satd. Flow (perm)	0	3391	0	0	3468	0	0	0	0	1719	0	1538
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1133			151			768			899	
Travel Time (s)		25.8			3.4			17.5			20.4	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	5%	5%	5%
Adj. Flow (vph)	0	327	127	147	213	0	0	0	0	67	0	128
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	454	0	0	360	0	0	0	0	67	0	128
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Yield			Free			Yield			Yield	

Intersection Summary			
Area Type:	Other		
Control Type: Roundabout			
Intersection Capacity Utilization 35.7%		ICU Level of Service A	
Analysis Period (min) 15			



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	225	150	0	0	214	191	128	0	147	0	0	0
Future Volume (vph)	225	150	0	0	214	191	128	0	147	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		50	0		250	0		0
Storage Lanes	0		0	0		0	1		1	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.95	0.95	1.00	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt					0.929				0.850			
Flt Protected		0.971					0.950					
Satd. Flow (prot)	0	3437	0	0	3256	0	1736	0	1553	0	0	0
Flt Permitted		0.971					0.950					
Satd. Flow (perm)	0	3437	0	0	3256	0	1736	0	1553	0	0	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		158			1101			790			891	
Travel Time (s)		3.6			25.0			18.0			20.3	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	2%	2%	2%	3%	3%	3%	4%	4%	4%	2%	2%	2%
Adj. Flow (vph)	237	158	0	0	225	201	135	0	155	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	395	0	0	426	0	135	0	155	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Yield			Yield			Yield	

Intersection Summary			
Area Type:	Other		
Control Type: Roundabout			
Intersection Capacity Utilization	41.6%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations			↑↑			↑↑
Traffic Volume (vph)	0	0	2108	0	0	1016
Future Volume (vph)	0	0	2108	0	0	1016
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	0.95	1.00	1.00	0.95
Frt						
Flt Protected						
Satd. Flow (prot)	0	0	3539	0	0	3539
Flt Permitted						
Satd. Flow (perm)	0	0	3539	0	0	3539
Link Speed (mph)	30		30			30
Link Distance (ft)	59		493			765
Travel Time (s)	1.3		11.2			17.4
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	0	2219	0	0	1069
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	2219	0	0	1069
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	0		0			0
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)	15	9		9	15	
Sign Control	Stop		Free			Free

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 61.6%		ICU Level of Service B	
Analysis Period (min) 15			

Congestion Reduction

Delay was calculated using the attached SimTraffic reports in the following way (highlighted values correspond to the highlighted values in the attached SimTraffic reports):

Total Peak Hour Delay per vehicle **without the project** was calculated using the Bunker Lake Blvd & TH 65 No Build SimTraffic reports (No Build Total Network Performance Table):

2023 No Build Total Peak Hour Delay = 80.7 sec per vehicle

Total Peak Hour Delay per vehicle **with the project** was calculated using the Bunker Lake Blvd & TH 65 Build SimTraffic reports (Build Total Network Performance Table):

2023 Build Total Peak Hour Delay = 5.9 sec per vehicle

HCM and timing reports are also included for reference.

Vehicles Per Hour

Total vehicles per hour **with and without the project** for existing year 2023 were calculated using linear interpolation between the Existing 2018 and No Build 2040 volumes from the TH-65 PEL Study.

2023 No Build Total Peak Hour Volume = 4,425 vehicles

2023 Build Total Peak Hour Volume = 4,425 vehicles

Emissions

Emissions were calculated using the attached SimTraffic reports in the following way (highlighted values correspond to the highlighted values in the attached SimTraffic reports):

Total intersection emissions **without the project** were calculated using the Bunker Lake Blvd & TH 65 No Build SimTraffic reports (No Build Total Network Performance Table):

2023 No Build emissions: 1,506 + 31,675 + 4,143 = 37,324 g (or 37.3 kg)

Total intersection emissions **with the project** were calculated using the Bunker Lake Blvd & TH 65 Build SimTraffic reports (Build Total Network Performance Table):

2023 Build emissions: 864 + 18,949 + 2,395 = 22,208 g (or 22.2 kg)

8: Bunker Lake & TH65 Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	2.2	0.2	2.1	2.6	0.7	2.6	57.3	58.1	57.2	1.8	0.3	1.8
Total Del/Veh (s)	162.8	76.0	15.7	92.7	80.4	61.2	121.3	95.7	58.8	96.8	31.8	2.6
Fuel Used (gal)	4.9	1.3	1.4	2.1	1.0	2.5	2.7	38.2	2.4	1.0	11.5	1.1
Fuel Eff. (mpg)	16.9	23.7	31.9	20.9	22.9	24.9	13.2	15.1	16.4	20.9	29.1	35.5
HC Emissions (g)	29	10	14	14	11	26	30	361	27	12	170	23
CO Emissions (g)	706	267	327	349	217	540	769	7413	725	259	3185	454
NOx Emissions (g)	73	29	41	37	26	65	71	896	71	29	446	61
Vehicles Entered	228	87	121	139	71	193	127	2044	140	64	1028	123
Vehicles Exited	224	86	121	140	69	192	127	2038	139	62	1019	124
Hourly Exit Rate	224	86	121	140	69	192	127	2038	139	62	1019	124
Input Volume	227	87	122	141	75	193	129	2126	148	64	1025	123
% of Volume	99	99	99	99	92	100	98	96	94	96	99	101

8: Bunker Lake & TH65 Performance by movement

Movement	All
Denied Del/Veh (s)	31.7
Total Del/Veh (s)	77.0
Fuel Used (gal)	70.1
Fuel Eff. (mpg)	19.0
HC Emissions (g)	726
CO Emissions (g)	15210
NOx Emissions (g)	1846
Vehicles Entered	4365
Vehicles Exited	4341
Hourly Exit Rate	4341
Input Volume	4461
% of Volume	97

Total Network Performance

Denied Del/Veh (s)	31.7
Total Del/Veh (s)	80.7
Fuel Used (gal)	120.5
Fuel Eff. (mpg)	23.1
HC Emissions (g)	1506
CO Emissions (g)	31675
NOx Emissions (g)	4143
Vehicles Entered	4365
Vehicles Exited	4357
Hourly Exit Rate	4357
Input Volume	8922
% of Volume	49

3: Bunker Lake & TH65 SB Ramps Performance by movement

Movement	EBT	EBR	WBL	WBT	SBL	SBR	All
Denied Del/Veh (s)	0.2	0.1	0.0	0.0	0.4	3.9	0.6
Total Del/Veh (s)	5.2	3.0	1.3	1.8	4.3	2.7	3.2
Fuel Used (gal)	3.3	1.3	0.1	0.2	0.3	0.7	5.8
Fuel Eff. (mpg)	34.8	34.5	21.8	23.3	34.5	31.1	33.6
HC Emissions (g)	29	12	1	3	5	11	62
CO Emissions (g)	643	274	29	74	105	257	1382
NOx Emissions (g)	87	37	4	10	13	33	185
Vehicles Entered	320	122	141	215	63	128	989
Vehicles Exited	319	122	141	215	63	128	988
Hourly Exit Rate	319	122	141	215	63	128	988
Input Volume	314	122	141	208	64	123	972
% of Volume	102	100	100	103	98	104	102

6: TH65 NB Ramps & Bunker Lake Performance by movement

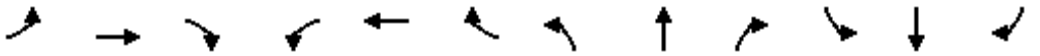
Movement	EBL	EBT	WBT	WBR	NBL	NBR	All
Denied Del/Veh (s)	0.0	0.0	0.2	0.1	0.5	3.7	0.6
Total Del/Veh (s)	1.5	2.0	5.5	3.2	5.6	2.8	3.4
Fuel Used (gal)	0.3	0.2	2.0	1.7	0.5	0.6	5.3
Fuel Eff. (mpg)	20.6	23.8	34.9	34.6	33.2	30.0	33.0
HC Emissions (g)	2	2	25	26	7	10	72
CO Emissions (g)	54	49	508	532	182	252	1576
NOx Emissions (g)	8	7	72	76	20	29	211
Vehicles Entered	225	157	220	189	131	140	1062
Vehicles Exited	225	157	220	190	132	140	1064
Hourly Exit Rate	225	157	220	190	132	140	1064
Input Volume	227	153	216	193	129	148	1066
% of Volume	99	103	102	99	102	94	100

12: TH-65 Mainline Performance by movement

Movement	NBT	SBT	All
Denied Del/Veh (s)	0.5	0.2	0.4
Total Del/Veh (s)	2.8	1.5	2.4
Fuel Used (gal)	17.8	9.8	27.6
Fuel Eff. (mpg)	34.3	34.7	34.4
HC Emissions (g)	173	92	265
CO Emissions (g)	3227	1782	5009
NOx Emissions (g)	468	254	722
Vehicles Entered	2116	1022	3138
Vehicles Exited	2116	1022	3138
Hourly Exit Rate	2116	1022	3138
Input Volume	2126	1025	3151
% of Volume	100	100	100

Total Network Performance

Denied Del/Veh (s)	0.5
Total Del/Veh (s)	5.9
Fuel Used (gal)	80.9
Fuel Eff. (mpg)	32.8
HC Emissions (g)	864
CO Emissions (g)	18949
NOx Emissions (g)	2395
Vehicles Entered	4457
Vehicles Exited	4461
Hourly Exit Rate	4461
Input Volume	10373
% of Volume	43

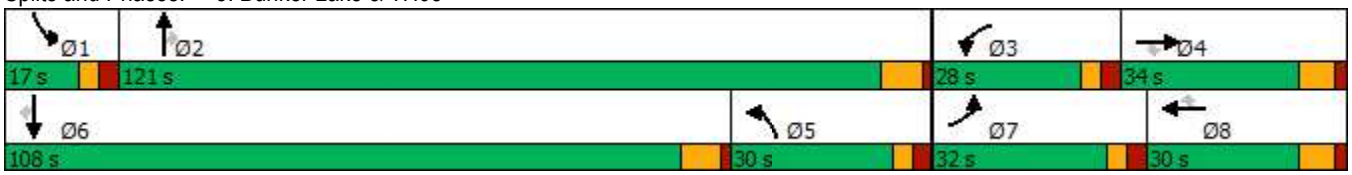


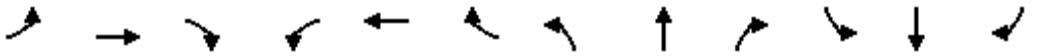
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	225	86	121	140	74	191	128	2108	147	64	1016	122
Future Volume (vph)	225	86	121	140	74	191	128	2108	147	64	1016	122
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	280		280	290		325	640		495	510		640
Storage Lanes	1		1	1		1	2		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	1.00	1.00	0.97	0.95	1.00	1.00	0.95	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	3539	1583	1752	1845	1568	3367	3471	1553	1719	3438	1538
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	3539	1583	1752	1845	1568	3367	3471	1553	1719	3438	1538
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			131			131			115			128
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1960			1744			1540			1768	
Travel Time (s)		44.5			39.6			35.0			40.2	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	2%	2%	2%	3%	3%	3%	4%	4%	4%	5%	5%	5%
Adj. Flow (vph)	237	91	127	147	78	201	135	2219	155	67	1069	128
Shared Lane Traffic (%)												
Lane Group Flow (vph)	237	91	127	147	78	201	135	2219	155	67	1069	128
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100	20	20	100	20	20	100	20
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	20	6	20	20	6	20	20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	1.0	1.0	1.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	10.0	9.0	9.0	32.0	32.0	32.0	11.0	25.5	25.5	11.0	25.5	25.5
Total Split (s)	32.0	34.0	34.0	28.0	30.0	30.0	30.0	121.0	121.0	17.0	108.0	108.0
Total Split (%)	16.0%	17.0%	17.0%	14.0%	15.0%	15.0%	15.0%	60.5%	60.5%	8.5%	54.0%	54.0%
Maximum Green (s)	26.0	26.5	26.5	22.0	22.5	22.5	24.0	113.5	113.5	11.0	100.5	100.5
Yellow Time (s)	3.0	5.5	5.5	3.0	5.5	5.5	3.0	6.0	6.0	3.0	6.0	6.0
All-Red Time (s)	3.0	2.0	2.0	3.0	2.0	2.0	3.0	1.5	1.5	3.0	1.5	1.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	7.5	7.5	6.0	7.5	7.5	6.0	7.5	7.5	6.0	7.5	7.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lag	Lag	Lag	Lead	Lead	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	None	Max	Max	None	Max	Max
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	7.0		7.0	7.0		7.0	7.0
Flash Dont Walk (s)	11.0	11.0	11.0	11.0	11.0	11.0		11.0	11.0		11.0	11.0
Pedestrian Calls (#/hr)	0	0	0	0	0	0		0	0		0	0
Act Effct Green (s)	26.0	21.4	21.4	19.7	15.1	15.1	23.5	113.6	113.6	10.4	100.6	100.6
Actuated g/C Ratio	0.14	0.11	0.11	0.10	0.08	0.08	0.12	0.59	0.59	0.05	0.52	0.52
v/c Ratio	0.99	0.23	0.43	0.82	0.54	0.83	0.33	1.08	0.16	0.72	0.59	0.15
Control Delay	135.7	79.9	14.3	116.9	98.7	57.2	80.4	83.4	5.9	127.3	34.0	3.8
Queue Delay	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 Delay	135.7	79.9	14.3	116.9	98.7	57.2	80.4	83.4	5.9	127.3	34.0	3.8
LOS	F	E	B	F	F	E	F	F	A	F	C	A
Approach Delay		90.7			85.4			78.5			35.9	
Approach LOS		F			F			E			D	

Intersection Summary			
Area Type:	Other		
Cycle Length: 200			
Actuated Cycle Length: 192.2			
Natural Cycle: 150			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 1.08			
Intersection Signal Delay: 68.7		Intersection LOS: E	
Intersection Capacity Utilization 100.1%		ICU Level of Service G	
Analysis Period (min) 15			

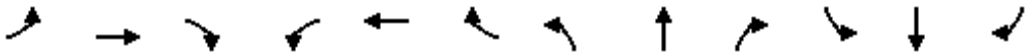
Splits and Phases: 8: Bunker Lake & TH65





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	311	121	140	202	0	0	0	0	64	0	122
Future Volume (vph)	0	311	121	140	202	0	0	0	0	64	0	122
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		50	0		0	0		0	0		150
Storage Lanes	0		0	0		0	0		0	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.958										0.850
Flt Protected					0.980					0.950		
Satd. Flow (prot)	0	3391	0	0	3468	0	0	0	0	1719	0	1538
Flt Permitted					0.980					0.950		
Satd. Flow (perm)	0	3391	0	0	3468	0	0	0	0	1719	0	1538
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1133			151			768			899	
Travel Time (s)		25.8			3.4			17.5			20.4	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	5%	5%	5%
Adj. Flow (vph)	0	327	127	147	213	0	0	0	0	67	0	128
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	454	0	0	360	0	0	0	0	67	0	128
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Yield			Free			Yield			Yield	

Intersection Summary			
Area Type:	Other		
Control Type: Roundabout			
Intersection Capacity Utilization 35.7%		ICU Level of Service A	
Analysis Period (min) 15			



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	225	150	0	0	214	191	128	0	147	0	0	0
Future Volume (vph)	225	150	0	0	214	191	128	0	147	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		50	0		250	0		0
Storage Lanes	0		0	0		0	1		1	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.95	0.95	1.00	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt					0.929				0.850			
Flt Protected		0.971					0.950					
Satd. Flow (prot)	0	3437	0	0	3256	0	1736	0	1553	0	0	0
Flt Permitted		0.971					0.950					
Satd. Flow (perm)	0	3437	0	0	3256	0	1736	0	1553	0	0	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		158			1101			790			891	
Travel Time (s)		3.6			25.0			18.0			20.3	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	2%	2%	2%	3%	3%	3%	4%	4%	4%	2%	2%	2%
Adj. Flow (vph)	237	158	0	0	225	201	135	0	155	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	395	0	0	426	0	135	0	155	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Yield			Yield			Yield	

Intersection Summary			
Area Type:	Other		
Control Type: Roundabout			
Intersection Capacity Utilization	41.6%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations			↑↑			↑↑
Traffic Volume (vph)	0	0	2108	0	0	1016
Future Volume (vph)	0	0	2108	0	0	1016
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	0.95	1.00	1.00	0.95
Frt						
Flt Protected						
Satd. Flow (prot)	0	0	3539	0	0	3539
Flt Permitted						
Satd. Flow (perm)	0	0	3539	0	0	3539
Link Speed (mph)	30		30			30
Link Distance (ft)	59		493			765
Travel Time (s)	1.3		11.2			17.4
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	0	2219	0	0	1069
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	2219	0	0	1069
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	0		0			0
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)	15	9		9	15	
Sign Control	Stop		Free			Free

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 61.6%		ICU Level of Service B	
Analysis Period (min) 15			

Congestion Reduction

Delay was calculated using the attached SimTraffic reports in the following way (highlighted values correspond to the highlighted values in the attached SimTraffic reports):

Total Peak Hour Delay per vehicle **without the project** was calculated using the Bunker Lake Blvd & TH 65 No Build SimTraffic reports (No Build Total Network Performance Table):

2023 No Build Total Peak Hour Delay = 80.7 sec per vehicle

Total Peak Hour Delay per vehicle **with the project** was calculated using the Bunker Lake Blvd & TH 65 Build SimTraffic reports (Build Total Network Performance Table):

2023 Build Total Peak Hour Delay = 5.9 sec per vehicle

HCM and timing reports are also included for reference.

Vehicles Per Hour

Total vehicles per hour **with and without the project** for existing year 2023 were calculated using linear interpolation between the Existing 2018 and No Build 2040 volumes from the TH-65 PEL Study.

2023 No Build Total Peak Hour Volume = 4,425 vehicles

2023 Build Total Peak Hour Volume = 4,425 vehicles

Emissions

Emissions were calculated using the attached SimTraffic reports in the following way (highlighted values correspond to the highlighted values in the attached SimTraffic reports):

Total intersection emissions **without the project** were calculated using the Bunker Lake Blvd & TH 65 No Build SimTraffic reports (No Build Total Network Performance Table):

2023 No Build emissions: 1,506 + 31,675 + 4,143 = 37,324 g (or 37.3 kg)

Total intersection emissions **with the project** were calculated using the Bunker Lake Blvd & TH 65 Build SimTraffic reports (Build Total Network Performance Table):

2023 Build emissions: 864 + 18,949 + 2,395 = 22,208 g (or 22.2 kg)

8: Bunker Lake & TH65 Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Denied Del/Veh (s)	2.2	0.2	2.1	2.6	0.7	2.6	57.3	58.1	57.2	1.8	0.3	1.8
Total Del/Veh (s)	162.8	76.0	15.7	92.7	80.4	61.2	121.3	95.7	58.8	96.8	31.8	2.6
Fuel Used (gal)	4.9	1.3	1.4	2.1	1.0	2.5	2.7	38.2	2.4	1.0	11.5	1.1
Fuel Eff. (mpg)	16.9	23.7	31.9	20.9	22.9	24.9	13.2	15.1	16.4	20.9	29.1	35.5
HC Emissions (g)	29	10	14	14	11	26	30	361	27	12	170	23
CO Emissions (g)	706	267	327	349	217	540	769	7413	725	259	3185	454
NOx Emissions (g)	73	29	41	37	26	65	71	896	71	29	446	61
Vehicles Entered	228	87	121	139	71	193	127	2044	140	64	1028	123
Vehicles Exited	224	86	121	140	69	192	127	2038	139	62	1019	124
Hourly Exit Rate	224	86	121	140	69	192	127	2038	139	62	1019	124
Input Volume	227	87	122	141	75	193	129	2126	148	64	1025	123
% of Volume	99	99	99	99	92	100	98	96	94	96	99	101

8: Bunker Lake & TH65 Performance by movement

Movement	All
Denied Del/Veh (s)	31.7
Total Del/Veh (s)	77.0
Fuel Used (gal)	70.1
Fuel Eff. (mpg)	19.0
HC Emissions (g)	726
CO Emissions (g)	15210
NOx Emissions (g)	1846
Vehicles Entered	4365
Vehicles Exited	4341
Hourly Exit Rate	4341
Input Volume	4461
% of Volume	97

Total Network Performance

Denied Del/Veh (s)	31.7
Total Del/Veh (s)	80.7
Fuel Used (gal)	120.5
Fuel Eff. (mpg)	23.1
HC Emissions (g)	1506
CO Emissions (g)	31675
NOx Emissions (g)	4143
Vehicles Entered	4365
Vehicles Exited	4357
Hourly Exit Rate	4357
Input Volume	8922
% of Volume	49

3: Bunker Lake & TH65 SB Ramps Performance by movement

Movement	EBT	EBR	WBL	WBT	SBL	SBR	All
Denied Del/Veh (s)	0.2	0.1	0.0	0.0	0.4	3.9	0.6
Total Del/Veh (s)	5.2	3.0	1.3	1.8	4.3	2.7	3.2
Fuel Used (gal)	3.3	1.3	0.1	0.2	0.3	0.7	5.8
Fuel Eff. (mpg)	34.8	34.5	21.8	23.3	34.5	31.1	33.6
HC Emissions (g)	29	12	1	3	5	11	62
CO Emissions (g)	643	274	29	74	105	257	1382
NOx Emissions (g)	87	37	4	10	13	33	185
Vehicles Entered	320	122	141	215	63	128	989
Vehicles Exited	319	122	141	215	63	128	988
Hourly Exit Rate	319	122	141	215	63	128	988
Input Volume	314	122	141	208	64	123	972
% of Volume	102	100	100	103	98	104	102

6: TH65 NB Ramps & Bunker Lake Performance by movement

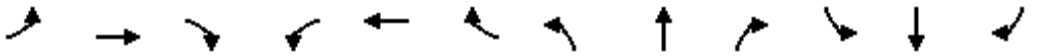
Movement	EBL	EBT	WBT	WBR	NBL	NBR	All
Denied Del/Veh (s)	0.0	0.0	0.2	0.1	0.5	3.7	0.6
Total Del/Veh (s)	1.5	2.0	5.5	3.2	5.6	2.8	3.4
Fuel Used (gal)	0.3	0.2	2.0	1.7	0.5	0.6	5.3
Fuel Eff. (mpg)	20.6	23.8	34.9	34.6	33.2	30.0	33.0
HC Emissions (g)	2	2	25	26	7	10	72
CO Emissions (g)	54	49	508	532	182	252	1576
NOx Emissions (g)	8	7	72	76	20	29	211
Vehicles Entered	225	157	220	189	131	140	1062
Vehicles Exited	225	157	220	190	132	140	1064
Hourly Exit Rate	225	157	220	190	132	140	1064
Input Volume	227	153	216	193	129	148	1066
% of Volume	99	103	102	99	102	94	100

12: TH-65 Mainline Performance by movement

Movement	NBT	SBT	All
Denied Del/Veh (s)	0.5	0.2	0.4
Total Del/Veh (s)	2.8	1.5	2.4
Fuel Used (gal)	17.8	9.8	27.6
Fuel Eff. (mpg)	34.3	34.7	34.4
HC Emissions (g)	173	92	265
CO Emissions (g)	3227	1782	5009
NOx Emissions (g)	468	254	722
Vehicles Entered	2116	1022	3138
Vehicles Exited	2116	1022	3138
Hourly Exit Rate	2116	1022	3138
Input Volume	2126	1025	3151
% of Volume	100	100	100

Total Network Performance

Denied Del/Veh (s)	0.5
Total Del/Veh (s)	5.9
Fuel Used (gal)	80.9
Fuel Eff. (mpg)	32.8
HC Emissions (g)	864
CO Emissions (g)	18949
NOx Emissions (g)	2395
Vehicles Entered	4457
Vehicles Exited	4461
Hourly Exit Rate	4461
Input Volume	10373
% of Volume	43

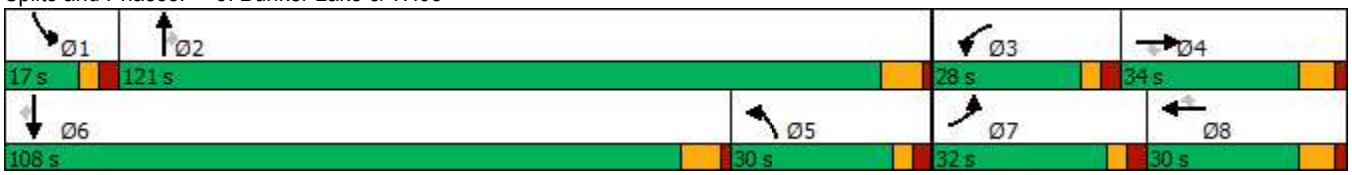


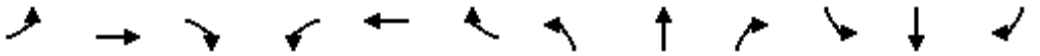
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	225	86	121	140	74	191	128	2108	147	64	1016	122
Future Volume (vph)	225	86	121	140	74	191	128	2108	147	64	1016	122
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	280		280	290		325	640		495	510		640
Storage Lanes	1		1	1		1	2		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	1.00	1.00	0.97	0.95	1.00	1.00	0.95	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	3539	1583	1752	1845	1568	3367	3471	1553	1719	3438	1538
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	3539	1583	1752	1845	1568	3367	3471	1553	1719	3438	1538
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			131			131			115			128
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1960			1744			1540			1768	
Travel Time (s)		44.5			39.6			35.0			40.2	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	2%	2%	2%	3%	3%	3%	4%	4%	4%	5%	5%	5%
Adj. Flow (vph)	237	91	127	147	78	201	135	2219	155	67	1069	128
Shared Lane Traffic (%)												
Lane Group Flow (vph)	237	91	127	147	78	201	135	2219	155	67	1069	128
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100	20	20	100	20	20	100	20
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	20	6	20	20	6	20	20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	1.0	1.0	1.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	10.0	9.0	9.0	32.0	32.0	32.0	11.0	25.5	25.5	11.0	25.5	25.5
Total Split (s)	32.0	34.0	34.0	28.0	30.0	30.0	30.0	121.0	121.0	17.0	108.0	108.0
Total Split (%)	16.0%	17.0%	17.0%	14.0%	15.0%	15.0%	15.0%	60.5%	60.5%	8.5%	54.0%	54.0%
Maximum Green (s)	26.0	26.5	26.5	22.0	22.5	22.5	24.0	113.5	113.5	11.0	100.5	100.5
Yellow Time (s)	3.0	5.5	5.5	3.0	5.5	5.5	3.0	6.0	6.0	3.0	6.0	6.0
All-Red Time (s)	3.0	2.0	2.0	3.0	2.0	2.0	3.0	1.5	1.5	3.0	1.5	1.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	7.5	7.5	6.0	7.5	7.5	6.0	7.5	7.5	6.0	7.5	7.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lag	Lag	Lag	Lead	Lead	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	None	Max	Max	None	Max	Max
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	7.0		7.0	7.0		7.0	7.0
Flash Dont Walk (s)	11.0	11.0	11.0	11.0	11.0	11.0		11.0	11.0		11.0	11.0
Pedestrian Calls (#/hr)	0	0	0	0	0	0		0	0		0	0
Act Effct Green (s)	26.0	21.4	21.4	19.7	15.1	15.1	23.5	113.6	113.6	10.4	100.6	100.6
Actuated g/C Ratio	0.14	0.11	0.11	0.10	0.08	0.08	0.12	0.59	0.59	0.05	0.52	0.52
v/c Ratio	0.99	0.23	0.43	0.82	0.54	0.83	0.33	1.08	0.16	0.72	0.59	0.15
Control Delay	135.7	79.9	14.3	116.9	98.7	57.2	80.4	83.4	5.9	127.3	34.0	3.8
Queue Delay	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 Delay	135.7	79.9	14.3	116.9	98.7	57.2	80.4	83.4	5.9	127.3	34.0	3.8
LOS	F	E	B	F	F	E	F	F	A	F	C	A
Approach Delay		90.7			85.4			78.5			35.9	
Approach LOS		F			F			E			D	

Intersection Summary			
Area Type:	Other		
Cycle Length: 200			
Actuated Cycle Length: 192.2			
Natural Cycle: 150			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 1.08			
Intersection Signal Delay: 68.7		Intersection LOS: E	
Intersection Capacity Utilization 100.1%		ICU Level of Service G	
Analysis Period (min) 15			

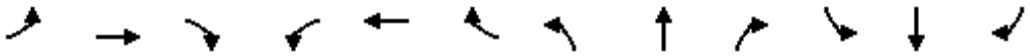
Splits and Phases: 8: Bunker Lake & TH65





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	311	121	140	202	0	0	0	0	64	0	122
Future Volume (vph)	0	311	121	140	202	0	0	0	0	64	0	122
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		50	0		0	0		0	0		150
Storage Lanes	0		0	0		0	0		0	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.958										0.850
Flt Protected					0.980					0.950		
Satd. Flow (prot)	0	3391	0	0	3468	0	0	0	0	1719	0	1538
Flt Permitted					0.980					0.950		
Satd. Flow (perm)	0	3391	0	0	3468	0	0	0	0	1719	0	1538
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1133			151			768			899	
Travel Time (s)		25.8			3.4			17.5			20.4	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	5%	5%	5%
Adj. Flow (vph)	0	327	127	147	213	0	0	0	0	67	0	128
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	454	0	0	360	0	0	0	0	67	0	128
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Yield			Free			Yield			Yield	

Intersection Summary			
Area Type:	Other		
Control Type: Roundabout			
Intersection Capacity Utilization 35.7%		ICU Level of Service A	
Analysis Period (min) 15			



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	225	150	0	0	214	191	128	0	147	0	0	0
Future Volume (vph)	225	150	0	0	214	191	128	0	147	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		50	0		250	0		0
Storage Lanes	0		0	0		0	1		1	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.95	0.95	1.00	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt					0.929				0.850			
Flt Protected		0.971					0.950					
Satd. Flow (prot)	0	3437	0	0	3256	0	1736	0	1553	0	0	0
Flt Permitted		0.971					0.950					
Satd. Flow (perm)	0	3437	0	0	3256	0	1736	0	1553	0	0	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		158			1101			790			891	
Travel Time (s)		3.6			25.0			18.0			20.3	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	2%	2%	2%	3%	3%	3%	4%	4%	4%	2%	2%	2%
Adj. Flow (vph)	237	158	0	0	225	201	135	0	155	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	395	0	0	426	0	135	0	155	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Yield			Yield			Yield	

Intersection Summary			
Area Type:	Other		
Control Type: Roundabout			
Intersection Capacity Utilization	41.6%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations			↑↑			↑↑
Traffic Volume (vph)	0	0	2108	0	0	1016
Future Volume (vph)	0	0	2108	0	0	1016
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	0.95	1.00	1.00	0.95
Frt						
Flt Protected						
Satd. Flow (prot)	0	0	3539	0	0	3539
Flt Permitted						
Satd. Flow (perm)	0	0	3539	0	0	3539
Link Speed (mph)	30		30			30
Link Distance (ft)	59		493			765
Travel Time (s)	1.3		11.2			17.4
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	0	0	2219	0	0	1069
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	2219	0	0	1069
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	0		0			0
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)	15	9		9	15	
Sign Control	Stop		Free			Free

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 61.6%		ICU Level of Service B	
Analysis Period (min) 15			

CRASH MODIFICATION FACTORS CLEARINGHOUSE

CMF / CRF Details

CMF ID: 460

CMF Name: Convert at-grade intersection into grade-separated interchange

Description:

Prior Condition: No Prior Condition(s)

Category: Interchange design

Study ID: *Revision of the Hand Book of Road Safety Measures*, Elvik, R. and Erke, A. 2007

Star Quality Rating	
Star Quality Rating:	1 Star

Crash Modification Factor (CMF)	
Value:	0.43
Adjusted Standard Error:	0.05
Unadjusted Standard Error:	0.03

Crash Reduction Factor	
Value:	57
Adjusted Standard Error:	5
Unadjusted Standard Error:	3

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:	Not Specified
Traffic Volume:	
Average Traffic Volume:	
Time of Day:	
If countermeasure is intersection-based.	
Intersection Type:	Roadway/roadway (interchange ramp terminal)
Intersection Geometry:	4-leg
Traffic Control:	Not specified
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:	Regression cross-section

Other Details

Included in HSM:	Yes. HSM lists this CMF in bold font to indicate that it has the highest
Date Added to Clearinghouse:	Dec 01, 2009
Comments:	

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CRASH MODIFICATION FACTORS CLEARINGHOUSE

CMF / CRF Details

CMF ID: 461

CMF Name: Convert at-grade intersection into grade-separated interchange

Description:

Prior Condition: No Prior Condition(s)

Category: Interchange design

Study ID: *Revision of the Hand Book of Road Safety Measures*, Elvik, R. and Erke, A. 2007

Star Quality Rating	
Star Quality Rating:	1 Star

Crash Modification Factor (CMF)	
Value:	0.64
Adjusted Standard Error:	0.14
Unadjusted Standard Error:	0.08

Crash Reduction Factor	
Value:	36
Adjusted Standard Error:	14
Unadjusted Standard Error:	8

Applicability	
Crash Type:	All
Crash Severity:	O (property damage only)
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:	Not Specified
Traffic Volume:	
Average Traffic Volume:	
Time of Day:	
If countermeasure is intersection-based.	
Intersection Type:	Roadway/roadway (interchange ramp terminal)
Intersection Geometry:	4-leg
Traffic Control:	Not specified
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:	Regression cross-section

Other Details

Included in HSM:	Yes. HSM lists this CMF in bold font to indicate that it has the highest
Date Added to Clearinghouse:	Dec 01, 2009
Comments:	

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CMF / CRF Details

CMF ID: 4192

CMF Name: Convert signalized intersection to modern roundabout

Description:

Prior Condition: Signalized intersection (4 leg)

Category: Intersection geometry

Study ID: *Safety Effectiveness of Converting Signalized Intersections to Roundabouts*, Gross et al. 2012

Star Quality Rating	
Star Quality Rating:	4 Stars

Crash Modification Factor (CMF)	
Value:	0.76
Adjusted Standard Error:	
Unadjusted Standard Error:	0.05

Crash Reduction Factor	
Value:	24
Adjusted Standard Error:	
Unadjusted Standard Error:	5

Applicability	
Crash Type:	All
Crash Severity:	All
Roadway Types:	Not Specified
Minimum Number of Lanes:	1
Maximum Number of Lanes:	2
Number of Lanes Direction:	
Number of Lanes Comment:	
Road Division Type:	
Minimum Speed Limit:	15
Maximum Speed Limit:	35
Speed Unit:	mph
Speed Limit Comment:	
Area Type:	Urban and suburban
Traffic Volume:	
Average Traffic Volume:	
Time of Day:	All
If countermeasure is intersection-based.	
Intersection Type:	Roadway/roadway (not interchange related)
Intersection Geometry:	4-leg
Traffic Control:	Roundabout
Major Road Traffic Volume:	Minimum of 5300 to Maximum of 52500 Annual Average Daily Traffic (AADT)
Minor Road Traffic Volume:	

Average Major Road Volume:	
Average Minor Road Volume:	

Development Details

Date Range of Data Used:	2000 to 2009
Municipality:	
State:	CO,FL,IN,MD,MI,NY,NC,SC,VT,WA
Country:	
Type of Methodology Used:	Before/after using empirical Bayes or full Bayes
Sample Size (sites):	22 sites after

Other Details

Included in HSM:	No
Date Added to Clearinghouse:	Nov 01, 2012
Comments:	Countermeasure name has been slightly modified for consistency across Clearinghouse

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CMF / CRF Details

CMF ID: 3097

CMF Name: Absence of access points

Description:

Prior Condition: No Prior Condition(s)

Category: Access management

Study ID: *Non-intersection-related Crashes at Mid-block in an Urban Divided Arterial Road with High Truck Volume*, Lee et al. 2011

Star Quality Rating	
Star Quality Rating:	4 Stars

Crash Modification Factor (CMF)	
Value:	0.56
Adjusted Standard Error:	
Unadjusted Standard Error:	0.27

Crash Reduction Factor	
Value:	44
Adjusted Standard Error:	
Unadjusted Standard Error:	26.7

Applicability	
Crash Type:	All
Crash Severity:	All
Roadway Types:	Principal Arterial Other
Minimum Number of Lanes:	
Maximum Number of Lanes:	
Number of Lanes Direction:	
Number of Lanes Comment:	
Road Division Type:	Divided by Median
Minimum Speed Limit:	
Maximum Speed Limit:	
Speed Unit:	
Speed Limit Comment:	
Area Type:	Urban
Traffic Volume:	
Average Traffic Volume:	
Time of Day:	All
If countermeasure is intersection-based.	
Intersection Type:	
Intersection Geometry:	
Traffic Control:	
Major Road Traffic Volume:	
Minor Road Traffic Volume:	

Average Major Road Volume:	
Average Minor Road Volume:	

Development Details

Date Range of Data Used:	2000 to 2006
Municipality:	Windsor, Ontario
State:	notusa
Country:	Canada
Type of Methodology Used:	Regression cross-section
Sample Size (crashes):	383 crashes

Other Details

Included in HSM:	No
Date Added to Clearinghouse:	Jul 15, 2011
Comments:	

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Intersection Crashes at TH 65 and Bunker Lake Blvd

CRASH_DATE_TIME	INCIDENT_ID	NUMBER_OF_VEHICLES	LIGHT_CONDITION	WEATHER PRIMARY	RDWY SURFACE	CITY_NAME	CRASH_SEVERITY	BASIC_TYPE	DIRECTION	SegmentAssociation	intersection_name
2021-06-24 14:26	914288	1	Daylight	Clear	Dry	Ham Lake	Possible Injury	Single Vehicle Other	Northbound	0300000000000065-I	MN 65 and CSAH 116 (Bunker Lake BLVD NE)
2020-10-14 19:12	846434	2	Dark (Str Lights On)	Clear	Dry	Ham Lake	Property Damage Only	Rear End	Northbound	0300000000000065-I	MN 65 and CSAH 116 (Bunker Lake BLVD NE)
2021-07-12 16:11	917736	2	Daylight	Clear	Dry	Ham Lake	Possible Injury	Rear End	Northbound	0300000000000065-I	MN 65 and CSAH 116 (Bunker Lake BLVD NE)
2021-06-10 7:19	913464	2	Daylight	Clear	Dry	Ham Lake	Property Damage Only	Rear End	Northbound	0300000000000065-I	MN 65 and CSAH 116 (Bunker Lake BLVD NE)
2022-08-04 17:32	1039055	3	Daylight	Clear	Dry	Ham Lake	Property Damage Only	Rear End	Northbound	0300000000000065-I	MN 65 and CSAH 116 (Bunker Lake BLVD NE)
2022-12-15 7:14	1065678	3	Daylight	Snow	Snow	Ham Lake	Property Damage Only	Rear End	Northbound	0300000000000065-I	MN 65 and CSAH 116 (Bunker Lake BLVD NE)
2022-04-29 12:57	1020370	2	Daylight	Cloudy	Dry	Ham Lake	Property Damage Only	Rear End	Northbound	0300000000000065-I	MN 65 and CSAH 116 (Bunker Lake BLVD NE)
2022-05-09 13:37	1025754	2	Daylight	Clear	Dry	Ham Lake	Property Damage Only	Rear End	Northbound	0300000000000065-I	MN 65 and CSAH 116 (Bunker Lake BLVD NE)
2021-11-19 18:00	975924	2	Sunset	Clear	Dry	Ham Lake	Property Damage Only	Rear End	Northbound	0300000000000065-I	MN 65 and CSAH 116 (Bunker Lake BLVD NE)
2020-04-14 13:32	807071	2	Daylight	Snow	Wet	Ham Lake	Property Damage Only	Angle	Eastbound	0300000000000065-I	MN 65 and CSAH 116 (Bunker Lake BLVD NE)
2022-08-08 18:12	1038641	2	Daylight	Clear	Dry	Ham Lake	Property Damage Only	Rear End	Northbound	0300000000000065-I	MN 65 and CSAH 116 (Bunker Lake BLVD NE)
2021-05-11 4:27	906654	2	Dark (Str Lights On)	Clear	Dry	Ham Lake	Property Damage Only	Angle	Northbound	0300000000000065-I	MN 65 and CSAH 116 (Bunker Lake BLVD NE)
2020-08-03 17:40	823343	2	Daylight	Clear	Dry	Ham Lake	Minor Injury	Left Turn	Eastbound	0300000000000065-I	MN 65 and CSAH 116 (Bunker Lake BLVD NE)
2020-08-18 14:54	836454	2	Daylight	Clear	Dry	Ham Lake	Possible Injury	Head On	Southbound	0300000000000065-I	MN 65 and CSAH 116 (Bunker Lake BLVD NE)
2021-02-28 12:32	893464	3	Daylight	Snow	Wet	Ham Lake	Possible Injury	Left Turn	Southbound	0300000000000065-I	MN 65 and CSAH 116 (Bunker Lake BLVD NE)
2021-07-06 10:20	916456	2	Daylight	Rain	Wet	Ham Lake	Minor Injury	Angle	Southbound	0300000000000065-I	MN 65 and CSAH 116 (Bunker Lake BLVD NE)
2021-03-22 16:54	897146	3	Daylight	Clear	Dry	Ham Lake	Possible Injury	Angle	Eastbound	0300000000000065-I	MN 65 and CSAH 116 (Bunker Lake BLVD NE)
2021-09-16 15:15	940984	2	Daylight	Clear	Dry	Ham Lake	Property Damage Only	Sideswipe Opposing	Westbound	0300000000000065-I	MN 65 and CSAH 116 (Bunker Lake BLVD NE)
2022-05-27 21:05	1025328	2	Dark (Str Lights On)	Clear	Dry	Ham Lake	Property Damage Only	Left Turn	Eastbound	0300000000000065-I	MN 65 and CSAH 116 (Bunker Lake BLVD NE)
2021-02-18 9:58	891459	1	Daylight	Cloudy	Wet	Ham Lake	Property Damage Only	Single Vehicle Run Off Road	Southbound	0300000000000065-I	MN 65 and CSAH 116 (Bunker Lake BLVD NE)
2021-09-01 13:29	940811	3	Daylight	Clear	Dry	Ham Lake	Property Damage Only	Rear End	Southbound	0300000000000065-I	MN 65 and CSAH 116 (Bunker Lake BLVD NE)
2020-10-12 11:34	846675	3	Daylight	Clear	Dry	Ham Lake	Minor Injury	Rear End	Southbound	0300000000000065-I	MN 65 and CSAH 116 (Bunker Lake BLVD NE)
2021-09-21 12:30	943499	2	Daylight	Clear	Dry	Ham Lake	Property Damage Only	Rear End	Eastbound	0300000000000065-I	MN 65 and CSAH 116 (Bunker Lake BLVD NE)
2021-09-14 9:27	940445	2	Daylight	Cloudy	Wet	Ham Lake	Possible Injury	Angle	Westbound	0300000000000065-I	MN 65 and CSAH 116 (Bunker Lake BLVD NE)
2022-05-24 10:30	1024483	2	Daylight	Clear	Dry	Ham Lake	Property Damage Only	Rear End	Southbound	0300000000000065-I	MN 65 and CSAH 116 (Bunker Lake BLVD NE)
2022-03-10 5:30	1011944	3	Dark (Str Lights On)	Clear	Dry	Ham Lake	Minor Injury	Rear End	Southbound	0300000000000065-I	MN 65 and CSAH 116 (Bunker Lake BLVD NE)
2022-01-10 6:10	998302	3	Dark (Str Lights On)	Clear	Dry	Ham Lake	Property Damage Only	Rear End	Southbound	0300000000000065-I	MN 65 and CSAH 116 (Bunker Lake BLVD NE)
2021-06-18 19:30	913007	3	Daylight	Clear	Dry	Ham Lake	Property Damage Only	Rear End	Eastbound	0300000000000065-I	MN 65 and CSAH 116 (Bunker Lake BLVD NE)
2022-09-16 14:44	1046490	2	Daylight	Cloudy	Dry	Ham Lake	Property Damage Only	Rear End	Eastbound	0300000000000065-I	MN 65 and CSAH 116 (Bunker Lake BLVD NE)
2021-11-25 15:40	975899	2	Daylight	Clear	Dry	Ham Lake	Property Damage Only	Rear End	Eastbound	0300000000000065-I	MN 65 and CSAH 116 (Bunker Lake BLVD NE)
2020-03-23 11:56	805010	3	Daylight	Clear	Dry	Ham Lake	Property Damage Only	Rear End	Eastbound	0300000000000065-I	MN 65 and CSAH 116 (Bunker Lake BLVD NE)
2020-11-30 12:27	866031	2	Daylight	Clear	Dry	Ham Lake	Property Damage Only	Rear End	Eastbound	0300000000000065-I	MN 65 and CSAH 116 (Bunker Lake BLVD NE)
2020-11-11 11:38	862602	2	Daylight	Clear	Wet	Ham Lake	Property Damage Only	Rear End	Eastbound	0300000000000065-I	MN 65 and CSAH 116 (Bunker Lake BLVD NE)
2022-10-22 8:57	1053366	2	Daylight	Clear	Dry	Ham Lake	Property Damage Only	Rear End	Eastbound	0300000000000065-I	MN 65 and CSAH 116 (Bunker Lake BLVD NE)
2021-07-17 21:05	928888	2	Dark (Str Lights On)	Clear	Dry	Ham Lake	Property Damage Only	Rear End	Westbound	0300000000000065-I	MN 65 and CSAH 116 (Bunker Lake BLVD NE)
2022-02-02 17:35	1003817	2	Dark (Str Lights On)	Unknown	Dry	Ham Lake	Property Damage Only	Head On	Eastbound	0300000000000065-I	MN 65 and CSAH 116 (Bunker Lake BLVD NE)
2022-07-07 7:50	1032551	2	Daylight	Clear	Dry	Ham Lake	Property Damage Only	Rear End	Westbound	0300000000000065-I	MN 65 and CSAH 116 (Bunker Lake BLVD NE)
2022-05-19 3:00	1023502	1	Dark (Str Lights On)	Clear	Dry	Ham Lake	Minor Injury	Single Vehicle Other	Northbound	0300000000000065-I	MN 65 and CSAH 116 (Bunker Lake BLVD NE)
2022-03-12 11:57	1012164	3	Daylight	Clear	Dry	Ham Lake	Serious Injury	Angle	Eastbound	0300000000000065-I	MN 65 and CSAH 116 (Bunker Lake BLVD NE)
2020-03-11 21:25	803614	2	Daylight	Cloudy	Dry	Ham Lake	Possible Injury	Rear End	Westbound	0300000000000065-I	MN 65 and CSAH 116 (Bunker Lake BLVD NE)
2022-04-03 16:28	1026042	2	Daylight	Cloudy	Dry	Ham Lake	Property Damage Only	Rear End	Westbound	0300000000000065-I	MN 65 and CSAH 116 (Bunker Lake BLVD NE)
2022-09-15 14:28	1047011	2	Daylight	Clear	Dry	Ham Lake	Property Damage Only	Rear End	Westbound	0300000000000065-I	MN 65 and CSAH 116 (Bunker Lake BLVD NE)

Segment Crashes on TH 65 (not including Bunker Lake Blvd)

CRASH_DATE_TIME	INCIDENT_ID	NUMBER_OF_VEHICLES	LIGHT_CONDITION	WEATHER_PRIMARY	RDWY_SURFACE	CITY_NAME	CRASH_SEVERITY	BASIC_TYPE	DIRECTION	SegmentAssociation
2021-09-16 17:20	941017	2	Daylight	Clear	Dry	Blaine	Property Damage Only	Rear End	Northbound	0300000000000065-I
2021-04-02 16:41	899278	2	Daylight	Clear	Dry	Ham Lake	Property Damage Only	Sideswipe Same Direction	Northbound	0300000000000065-I
2022-07-18 13:21	1034580	2	Daylight	Clear	Dry	Ham Lake	Property Damage Only	Rear End	Northbound	0300000000000065-I
2022-07-06 16:09	1033014	4	Daylight	Clear	Dry	Ham Lake	Property Damage Only	Rear End	Northbound	0300000000000065-D
2022-10-10 14:46	1050939	3	Daylight	Clear	Dry	Ham Lake	Property Damage Only	Rear End	Northbound	0300000000000065-I
2021-05-26 13:37	907998	2	Daylight	Clear	Dry	Ham Lake	Property Damage Only	Sideswipe Same Direction	Northbound	0300000000000065-I
2020-12-28 13:18	871823	2	Daylight	Clear	Dry	Ham Lake	Property Damage Only	Rear End	Southbound	0300000000000065-D
2022-10-12 14:35	1051233	2	Daylight	Rain	Wet	Ham Lake	Property Damage Only	Rear End	Northbound	0300000000000065-I
2022-05-27 15:18	1025586	5	Daylight	Clear	Dry	Ham Lake	Minor Injury	Rear End	Northbound	0300000000000065-D
2020-09-11 16:15	840272	2	Daylight	Clear	Dry	Ham Lake	Property Damage Only	Rear End	Northbound	0300000000000065-D
2022-09-15 14:12	1045933	4	Daylight	Clear	Dry	Ham Lake	Minor Injury	Rear End	Northbound	0300000000000065-I
2022-12-25 17:47	1070071	1	Dark (Str Lights On)	Clear	Ice/Frost	Ham Lake	Possible Injury	Single Vehicle Run Off Road	Southbound	0300000000000065-D
2022-04-19 11:54	1018321	2	Daylight	Clear	Dry	Ham Lake	Property Damage Only	Rear End	Southbound	0300000000000065-D
2022-12-25 11:46	1069883	1	Daylight	Clear	Ice/Frost	Ham Lake	Serious Injury	Single Vehicle Run Off Road	Southbound	0300000000000065-D
2021-10-25 13:00	972065	2	Daylight	Clear	Dry	Ham Lake	Property Damage Only	Rear End	Northbound	0300000000000065-D
2022-11-06 15:51	1057382	2	Daylight	Clear	Dry	Ham Lake	Property Damage Only	Rear End	Northbound	0300000000000065-D
2022-08-30 11:37	1043320	2	Daylight	Clear	Dry	Ham Lake	Property Damage Only	Rear End	Eastbound	0300000000000065-D
2022-10-09 21:00	1050762	2	Dark (Str Lights On)	Clear	Dry	Ham Lake	Property Damage Only	Rear End	Southbound	0300000000000065-D
2022-05-12 9:59	1023301	3	Daylight	Clear	Dry	Ham Lake	Serious Injury	Rear End	Southbound	0300000000000065-D
2020-07-18 21:41	821157	2	Dark (Str Lights On)	Clear	Dry	Ham Lake	Property Damage Only	Rear End	Southbound	0300000000000065-D
2021-07-19 7:30	929760	2	Daylight	Clear	Dry	Ham Lake	Property Damage Only	Rear End	Southbound	0300000000000065-I
2021-09-23 6:45	942392	2	Daylight	Clear	Dry	Ham Lake	Property Damage Only	Sideswipe Same Direction	Southbound	0300000000000065-D
2022-01-01 6:30	985323	2	Dark (Str Lights On)	Clear	Ice/Frost	Blaine	Property Damage Only	Rear End	Southbound	0300000000000065-D
2022-02-14 8:36	1008057	1	Daylight	Clear	Snow	Blaine	Possible Injury	Single Vehicle Run Off Road	Northbound	0300000000000065-I
2022-03-26 13:48	1014431	1	Daylight	Clear	Dry	Ham Lake	Possible Injury	Single Vehicle Run Off Road	Northbound	0300000000000065-D
2020-09-08 15:07	839762	2	Daylight	Clear	Dry	Blaine	Possible Injury	Rear End	Northbound	0300000000000065-I

TH 65 at Bunker Lake Blvd

			K	A	B	C	O	Total	
Existing Crashes:			0	1	5	7	29	42	
CMF	**ID**	**Crash Type**							
0.43	460	ABC Crashes	0	0.43	2.15	3.01	29	34.59	
0.64	461	PDO	0	0.43	2.15	3.01	18.56	24.15	
0.76	4192	All	0	0.33	1.63	2.29	14.11	18.35	<- Predicted Crashes after CMFs applied
Total Reduction in Crashes:			0	0.67	3.37	4.71	14.89	23.65	

TH 65 segment from 131st Ave to 139th Ave (excluding Bunker Lake Blvd)

			K	A	B	C	O	Total	
Existing Crashes:			0	2	2	4	18	26	
CMF	**ID**	**Crash Type**							
0.56	3097	All	0	1.12	1.12	2.24	10.08	14.56	<- Predicted Crashes after CMFs applied
Total Reduction in Crashes:			0	0.88	0.88	1.76	7.92	11.44	

Traffic Safety Benefit-Cost Calculation

Highway Safety Improvement Program (HSIP) Reactive Project

DEPARTMENT OF TRANSPORTATION

A. Roadway Description

Route	TH 65	**District**	Metro	**County**	Anoka
Begin RP	131st Ave	**End RP**	139th Ave	**Miles**	1.100
Location	TH 65 at Bunker Lake Blvd				

B. Project Description

Proposed Work	Conversion of TH 65 / Bunker Lake Blvd to grade separated teardrop interchange		
Project Cost*	$3,239,800	**Installation Year**	2028
Project Service Life	20 years	**Traffic Growth Factor**	0.9%

** exclude Right of Way from Project Cost*

C. Crash Modification Factor

0.43	**Fatal (K) Crashes**	**Reference**	CMF ID 460 (KABC), 461 (PDO)
0.43	**Serious Injury (A) Crashes**		
0.43	**Moderate Injury (B) Crashes**	**Crash Type**	All
0.43	**Possible Injury (C) Crashes**		
0.64	**Property Damage Only Crashes**		www.CMFclearinghouse.org

D. Crash Modification Factor (optional second CMF)

0.76	**Fatal (K) Crashes**	**Reference**	CMF ID 4192 (KABCO)
0.76	**Serious Injury (A) Crashes**		
0.76	**Moderate Injury (B) Crashes**	**Crash Type**	All
0.76	**Possible Injury (C) Crashes**		
0.76	**Property Damage Only Crashes**		www.CMFclearinghouse.org

E. Crash Data

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

Data Source

Crash Severity	**All**	**All**
K crashes	0	
A crashes	1	
B crashes	5	
C crashes	7	
PDO crashes	29	

F. Benefit-Cost Calculation

$12,408,540	**Benefit (present value)**	**B/C Ratio = 3.84**
$3,239,800	**Cost**	

Proposed project expected to reduce 6 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:	0.9%	**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	0.57	0.19	$152,000
B crashes	2.85	0.95	$237,500
C crashes	3.99	1.33	$172,900
PDO crashes	10.44	3.48	$52,200
			$614,600

H. Amortized Benefit

Year	Crash Benefits	Present Value
2028	$614,600	$614,600
2029	$620,131	$615,210
2030	$625,713	$615,820
2031	$631,344	$616,431
2032	$637,026	$617,043
2033	$642,759	$617,655
2034	$648,544	$618,267
2035	$654,381	$618,881
2036	$660,270	$619,495
2037	$666,213	$620,109
2038	$672,209	$620,725
2039	$678,259	$621,340
2040	$684,363	$621,957
2041	$690,522	$622,574
2042	$696,737	$623,191
2043	$703,008	$623,810
2044	$709,335	$624,428
2045	$715,719	$625,048
2046	$722,160	$625,668
2047	$728,660	$626,289
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 = $12,408,540

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

Traffic Safety Benefit-Cost Calculation

Highway Safety Improvement Program (HSIP) Reactive Project

DEPARTMENT OF TRANSPORTATION

A. Roadway Description

Route	TH 65	**District**	Metro	**County**	Anoka
Begin RP	131st Ave	**End RP**	139th Ave	**Miles**	1.100
Location	TH 65 at Bunker Lake Blvd				

B. Project Description

Proposed Work	Conversion of TH 65 to a limited-access facility through access point closures		
Project Cost*	$33,885,800	**Installation Year**	2028
Project Service Life	20 years	**Traffic Growth Factor**	0.9%

** exclude Right of Way from Project Cost*

C. Crash Modification Factor

0.56	**Fatal (K) Crashes**	**Reference**	CMF ID 3097 (K,A,B,C,PDO)
0.56	**Serious Injury (A) Crashes**		
0.56	**Moderate Injury (B) Crashes**	**Crash Type**	All
0.56	**Possible Injury (C) Crashes**		
0.56	**Property Damage Only Crashes**		www.CMFclearinghouse.org

D. Crash Modification Factor (optional second CMF)

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

E. Crash Data

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

Data Source

Crash Severity	All	< optional 2nd CMF >
K crashes	0	
A crashes	2	
B crashes	2	
C crashes	4	
PDO crashes	18	

F. Benefit-Cost Calculation

$8,557,707	**Benefit (present value)**	**B/C Ratio = 0.26**
$33,885,800	**Cost**	

Proposed project expected to reduce 4 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:	0.9%	**Revised**
Project Service Life:	20 years	**Revised**

G. Annual Benefit

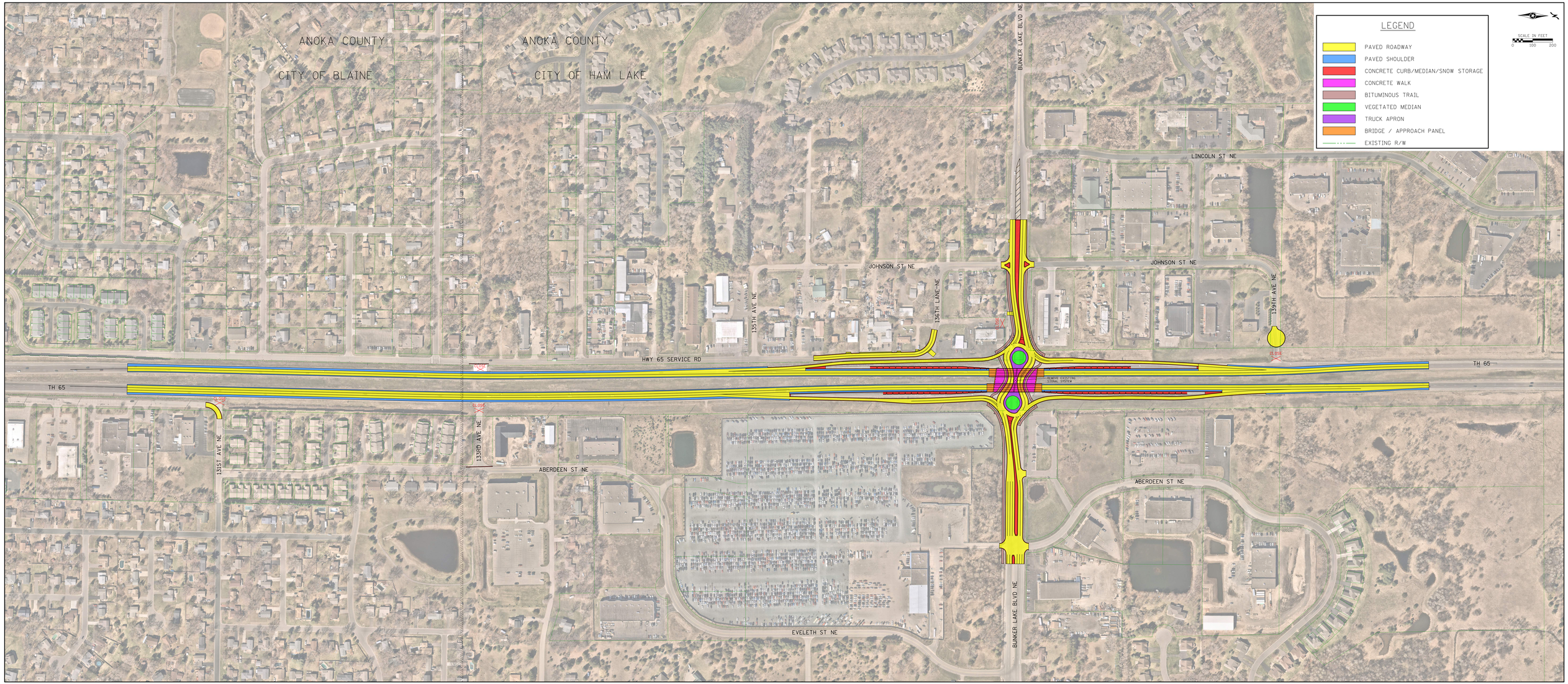
Crash Severity	Crash Reduction	Annual Reduction	Annual Benefit
K crashes	0.00	0.00	$0
A crashes	0.88	0.29	$234,667
B crashes	0.88	0.29	$73,333
C crashes	1.76	0.59	$76,267
PDO crashes	7.92	2.64	$39,600
			$423,867

H. Amortized Benefit

Year	Crash Benefits	Present Value
2028	$423,867	$423,867
2029	$427,681	$424,287
2030	$431,531	$424,708
2031	$435,414	$425,129
2032	$439,333	$425,551
2033	$443,287	$425,973
2034	$447,277	$426,396
2035	$451,302	$426,819
2036	$455,364	$427,242
2037	$459,462	$427,666
2038	$463,597	$428,091
2039	$467,770	$428,515
2040	$471,980	$428,940
2041	$476,227	$429,366
2042	$480,513	$429,792
2043	$484,838	$430,218
2044	$489,202	$430,645
2045	$493,604	$431,072
2046	$498,047	$431,500
2047	$502,529	$431,928
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 = $8,557,707

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


ANOKA COUNTY
CITY OF BLAINE
ANOKA COUNTY
CITY OF HAM LAKE
BUNKER LAKE BLVD NE
LINCOLN ST NE
JOHNSON ST NE
JOHNSON ST NE
135TH AVE NE
136TH LANE NE
139TH AVE NE
HWY 65 SERVICE RD
TH 65
TH 65
CLOSE
CLOSE
CLOSE
REMOVE EXISTING SIGNAL SYSTEM
131ST AVE NE
133RD AVE NE
ABERDEEN ST NE
ABERDEEN ST NE
EVELETH ST NE
BUNKER LAKE BLVD NE
LEGEND
PAVED ROADWAY
PAVED SHOULDER
CONCRETE CURB/MEDIAN/SNOW STORAGE
CONCRETE WALK
BITUMINOUS TRAIL
VEGETATED MEDIAN
TRUCK APRON
BRIDGE / APPROACH PANEL
EXISTING R/W
SCALE IN FEET
0
100
200

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

11/29/2023

Joe MacPherson, P.E.
County Engineer Anoka County Transportation Division
1440 Bunker Lake Boulevard, NW
Andover, MN 55304

Re: MnDOT Letter for Anoka County
Metropolitan Council/Transportation Advisory Board 2024 Regional Solicitation Funding Request for TH 65 and CSAH 116 (Bunker Lake Blvd) Interchange.

Dear Joe MacPherson,

This letter documents MnDOT Metro District's recognition for Anoka County to pursue funding for the Metropolitan Council/Transportation Advisory Board's (TAB) 2024 Regional Solicitation for the TH 65 and CSAH 116 (Bunker Lake Blvd) Interchange.

This project is for the construction of an interchange at the existing at-grade intersection of TH 65 and CSAH 116 (Bunker Lake Blvd) in the City of Ham Lake in Anoka County. The proposed interchange concept was developed as part of a Planning and Environmental Linkage (PEL) study completed by MnDOT in June 2021. Funding was recently awarded to construct TH 65 as a freeway facility from 97th Ave NE to 117th Ave NE. The funded TH 65 project from 97th Ave NE to 117th Ave NE will transform the adjacent TH 65 corridor into a limited access freeway. The separated grade interchange improvement proposed for Bunker Lake Blvd will extend freeway facility north to address safety and mobility needs.

As the agency with jurisdiction over TH 65 MnDOT will allow Anoka County to seek improvements proposed in the application. If funded, details of how the project is delivered and any future maintenance agreement with the County 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 Anoka County as this project moves forward and as we work together to improve safety and travel options within the Metro Area.

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

Sincerely,

Sheila Kauppi

Digitally signed by Sheila Kauppi
Date: 2023.11.29 13:47:02 -06'00'

Sheila Kauppi, PE
Metro District Engineer

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

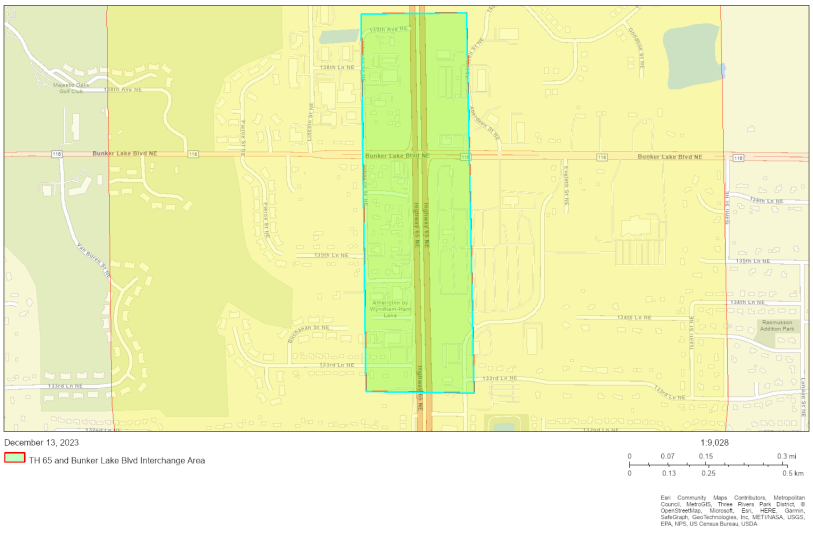
EJScreen Community Report

This report provides environmental and socioeconomic information for user-defined areas, and combines that data into environmental justice and supplemental indexes.

Ham Lake, MN

.5 miles Ring around the Area
Population: 3,155
Area in square miles: 1.89

A3 Landscape



LANGUAGES SPOKEN AT HOME

LANGUAGE	PERCENT
English	77%
Spanish	17%
French, Haitian, or Cajun	1%
German or other West Germanic	1%
Arabic	4%
Total Non-English	23%

COMMUNITY INFORMATION

- Low income: 12 percent
- People of color: 21 percent
- Less than high school education: 7 percent
- Limited English households: 0 percent
- Unemployment: 1 percent
- Persons with disabilities: 13 percent
- Male: 53 percent
- Female: 47 percent
- 83 years — Average life expectancy
- $43,563 — Per capita income
- Number of households: 1,142
- Owner occupied: 94 percent

BREAKDOWN BY RACE

- White: 79%
- Black: 6%
- American Indian: 1%
- Asian: 6%
- Hawaiian/Pacific Islander: 0%
- Other race: 1%
- Two or more races: 2%
- Hispanic: 5%

BREAKDOWN BY AGE

From Ages 1 to 4	6%
From Ages 1 to 18	23%
From Ages 18 and up	77%
From Ages 65 and up	17%

LIMITED ENGLISH SPEAKING BREAKDOWN

Speak Spanish	0%
Speak Other Indo-European Languages	0%
Speak Asian-Pacific Island Languages	100%
Speak Other Languages	0%

Notes: Numbers may not sum to totals due to rounding. Hispanic population can be of any race.
Source: U.S. Census Bureau, American Community Survey (ACS) 2017 -2021. Life expectancy data comes from the Centers for Disease Control.

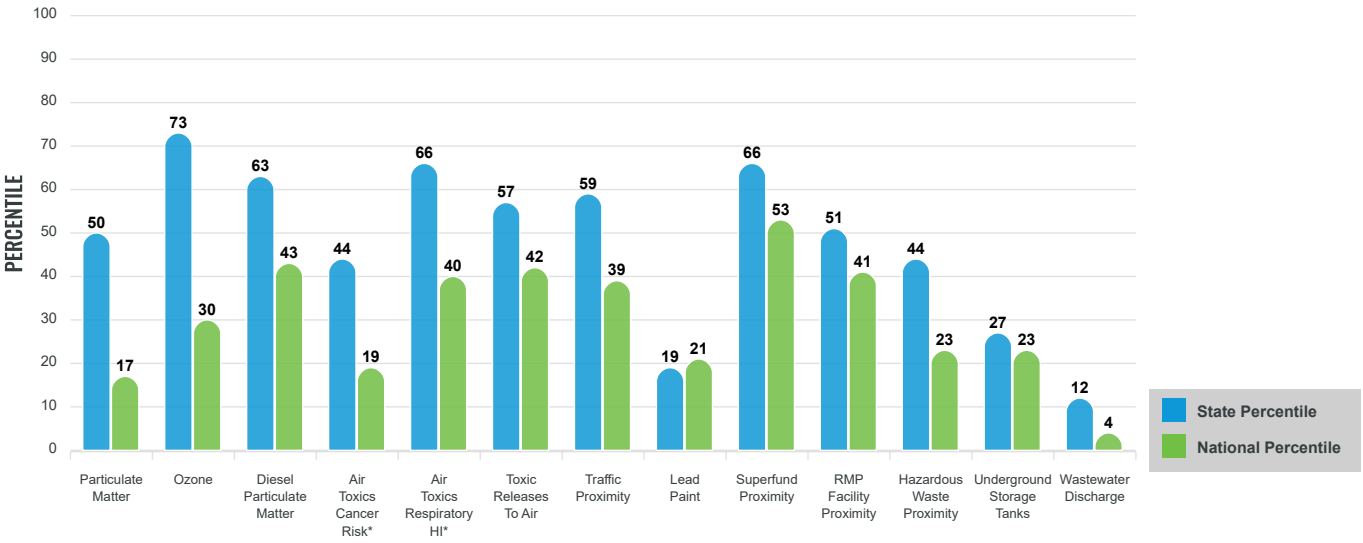
Environmental Justice & Supplemental Indexes

The environmental justice and supplemental indexes are a combination of environmental and socioeconomic information. There are thirteen EJ indexes and supplemental indexes in EJScreen reflecting the 13 environmental indicators. The indexes for a selected area are compared to those for all other locations in the state or nation. For more information and calculation details on the EJ and supplemental indexes, please visit the EJScreen website.

EJ INDEXES

The EJ indexes help users screen for potential EJ concerns. To do this, the EJ index combines data on low income and people of color populations with a single environmental indicator.

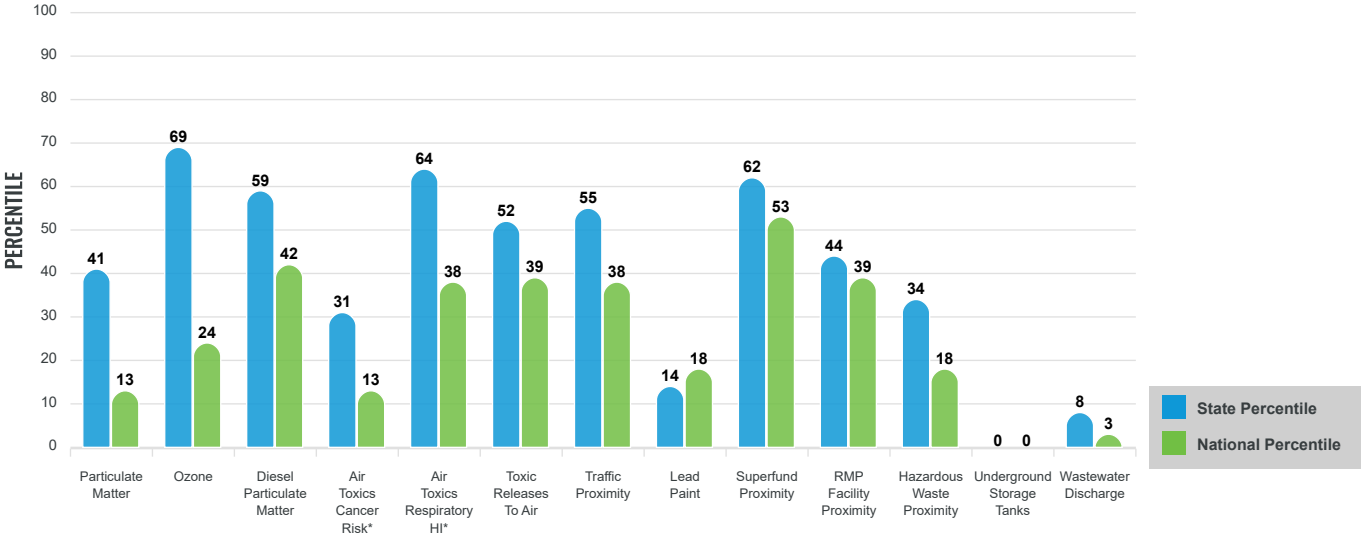
EJ INDEXES FOR THE SELECTED LOCATION



SUPPLEMENTAL INDEXES

The supplemental indexes offer a different perspective on community-level vulnerability. They combine data on percent low-income, percent linguistically isolated, percent less than high school education, percent unemployed, and low life expectancy with a single environmental indicator.

SUPPLEMENTAL INDEXES FOR THE SELECTED LOCATION



These percentiles provide perspective on how the selected block group or buffer area compares to the entire state or nation.

Report for .5 miles Ring around the Area

EJScreen Environmental and Socioeconomic Indicators Data

SELECTED VARIABLES	VALUE	STATE AVERAGE	PERCENTILE IN STATE	USA AVERAGE	PERCENTILE IN USA
POLLUTION AND SOURCES					
Particulate Matter ($\mu g/m^3$)	6.87	6.78	41	8.08	18
Ozone (ppb)	59.5	58.2	87	61.6	36
Diesel Particulate Matter ($\mu g/m^3$)	0.246	0.21	62	0.261	57
Air Toxics Cancer Risk* (lifetime risk per million)	20	22	12	25	5
Air Toxics Respiratory HI*	0.3	0.26	50	0.31	31
Toxic Releases to Air	880	1,500	52	4,600	57
Traffic Proximity (daily traffic count/distance to road)	91	140	64	210	54
Lead Paint (% Pre-1960 Housing)	0.026	0.33	14	0.3	20
Superfund Proximity (site count/km distance)	0.15	0.19	68	0.13	79
RMP Facility Proximity (facility count/km distance)	0.19	0.48	47	0.43	56
Hazardous Waste Proximity (facility count/km distance)	0.12	1.3	33	1.9	23
Underground Storage Tanks (count/km^2)	0.13	1.8	38	3.9	29
Wastewater Discharge (toxicity-weighted concentration/m distance)	2E-07	0.19	9	22	4
SOCIOECONOMIC INDICATORS					
Demographic Index	16%	22%	47	35%	23
Supplemental Demographic Index	7%	11%	30	14%	17
People of Color	21%	20%	65	39%	39
Low Income	12%	23%	29	31%	21
Unemployment Rate	1%	4%	30	6%	27
Limited English Speaking Households	0%	2%	67	5%	0
Less Than High School Education	7%	7%	66	12%	45
Under Age 5	6%	6%	52	6%	56
Over Age 64	17%	17%	53	17%	54
Low Life Expectancy	15%	17%	26	20%	12

*Diesel particulate matter, air toxics cancer risk, and air toxics respiratory hazard index are from the EPA's Air Toxics Data Update, which is the Agency's ongoing, comprehensive evaluation of air toxics in the United States. This effort aims to prioritize air toxics, emission sources, and locations of interest for further study. It is important to remember that the air toxics data presented here provide broad estimates of health risks over geographic areas of the country, not definitive risks to specific individuals or locations. Cancer risks and hazard indices from the Air Toxics Data Update are reported to one significant figure and any additional significant figures here are due to rounding. More information on the Air Toxics Data Update can be found at: https://www.epa.gov/haps/air-toxics-data-update.

Sites reporting to EPA within defined area:

Superfund	0
Hazardous Waste, Treatment, Storage, and Disposal Facilities	0
Water Dischargers	0
Air Pollution	0
Brownfields	0
Toxic Release Inventory	0

Other community features within defined area:

Schools	1
Hospitals	0
Places of Worship	0

Other environmental data:

Air Non-attainment	No
Impaired Waters	No

Selected location contains American Indian Reservation Lands*	No
Selected location contains a "Justice40 (CEJST)" disadvantaged community	No
Selected location contains an EPA IRA disadvantaged community	No

Report for .5 miles Ring around the Area

EJScreen Environmental and Socioeconomic Indicators Data

HEALTH INDICATORS

INDICATOR	HEALTH VALUE	STATE AVERAGE	STATE PERCENTILE	US AVERAGE	US PERCENTILE
Low Life Expectancy	15%	17%	26	20%	12
Heart Disease	4.7	5.6	33	6.1	22
Asthma	9.2	9	62	10	27
Cancer	5.8	6.4	35	6.1	41
Persons with Disabilities	12.5%	11.4%	64	13.4%	50

CLIMATE INDICATORS

INDICATOR	HEALTH VALUE	STATE AVERAGE	STATE PERCENTILE	US AVERAGE	US PERCENTILE
Flood Risk	4%	8%	32	12%	38
Wildfire Risk	94%	4%	99	14%	92

CRITICAL SERVICE GAPS

INDICATOR	HEALTH VALUE	STATE AVERAGE	STATE PERCENTILE	US AVERAGE	US PERCENTILE
Broadband Internet	5%	11%	31	14%	29
Lack of Health Insurance	4%	5%	51	9%	29
Housing Burden	No	N/A	N/A	N/A	N/A
Transportation Access	Yes	N/A	N/A	N/A	N/A
Food Desert	No	N/A	N/A	N/A	N/A

Footnotes

Report for .5 miles Ring around the Area

Metropolitan District
1500 County Road B2 West
Roseville, MN 55113

DEPARTMENT OF TRANSPORTATION

October 13, 2023

Jack Forslund
Transportation Division
Anoka County
1440 Bunker Lake Blvd NW
Andover, MN 55304

Dear Mr. Forslund,

This letter is to serve as your notification that the Interchange Planning Review Committee has determined that the proposed interchange and access concepts along Highway 65 at Bunker Lake Blvd in the City of Ham Lake are consistent with the 5 qualifying criteria found in Appendix F of the Council's Transportation Policy Plan and will be approved. An important aspect of meeting criterion #4 - Local Roadway Network and Access Management, includes consolidation and closure of local road access that will address many of the access management issues and provide a safe and efficient highway system.

As the project layout and design progresses, please continue to work with the Minnesota Department of Transportation (MnDOT) and the Metropolitan Council to assure that the project is developed consistent with the region's plan. In addition, please ensure that appropriate steps are taken to complete the Metropolitan Council's Metro Freeway Project Approval process. The formal Metro Freeway Project Approval request typically happens toward the end of the planning process once an environmental document is completed. However, the approval must take place before the project right-of-way is purchased or construction begins. Additional information on the Metro Freeway Project Approval process can be found by following this link: https://metrocouncil.org/Transportation/Planning-2/Transit-Plans,-Studies-Reports/Highways-Roads/ControlledAccessApproval.aspx or by contacting Bethany Brandt-Sargent at 651-602-1725.

We appreciate your work with the Interchange Planning Review Committee in our effort to understand this project. If you have any questions concerning this review, please feel free to contact me at (651) 234-7793.

Sincerely,

Michael J. Corbett

Michael J. Corbett, PE

State Program Administrator Coordinator

Copy sent via E-Mail:

Molly McCartney, MnDOT
Tod Sherman, MnDOT
David Elvin, MnDOT
Steve Peterson, Metropolitan Council
Jerry Auge, Anoka County
Eric Lauer-Hunt, MnDOT
Michael Kronzer, MnDOT
Jake Rueter, MnDOT
Bethany Brandt-Sargent, Metropolitan Council

CITY OF ANDOVER

1685 CROSSTOWN BOULEVARD N.W. • ANDOVER, MINNESOTA 55304 • (763) 755-5100
FAX (763) 755-8923 • WWW.ANDOVERMN.GOV

October 4, 2023

Mr. Joe MacPherson
Chief Officer of Transportation/County Engineer
Anoka County Transportation Division
1440 Bunker Lake Blvd. NW
Andover, MN 55304

RE: Trunk Highway 65 Corridor Improvements
Corridors of Commerce Funding Program – Letter of Support

Dear Mr. MacPherson:

The City of Andover would like to express our strong support for the proposed Trunk Highway (TH) 65 Corridor improvements at Bunker Lake Boulevard NW within the City of Ham Lake. Our communities depend upon this vital transportation corridor to support our businesses, residents and visitors.

The proposed improvements were thoroughly vetted through a recently completed, comprehensive TH 65 Planning and Environmental Linkages Study (TH 65 PEL). The study was led by the Minnesota Department of Transportation (MnDOT), in collaboration with Anoka County, the City of Blaine, the City of Ham Lake, the City of Spring Lake Park, various community groups and the Federal Highway Administration. The TH 65 PEL examined a range of cost-effective roadway alternatives to address safety, reliability, access, multimodal mobility and congestion between 81st Avenue in the City of Spring Lake Park and County State Aid Highway (CSAH) 116 in the City of Ham Lake.

To date, MnDOT, Anoka County, and the cities of Blaine, Ham Lake and Spring Lake Park have made significant progress in moving improvements along this corridor forward towards construction. We support the continued momentum by working with partners to secure the necessary funding to deliver these important improvements.

If you have any questions or require additional information, please reach out to me at (763) 767-5133 or d.berkowitz@andovermn.gov.

Sincerely,

David D. Berkowitz, P.E.
Director of Public Works/City Engineer

City of Blaine
10801 Town Square Drive NE
Blaine MN 55449-8100
City Hall 763-784-6700 | **BlaineMN**.gov

October 4, 2023

Mr. Joe MacPherson
Division Manager/County Engineer
Anoka County Transportation Division
1440 Bunker Lake Blvd NW Andover, MN 55304

RE: Trunk Highway (TH) 65 Corridor Improvement: Interchange at TH 65 and County State Aid Highway (CSAH 116) in Ham Lake, MN

Dear Mr. MacPherson:

We would like to express our strong support for the proposed improvement of the existing at-grade intersection of TH 65 and CSAH 116 (Bunker Lake Blvd.) in the City of Ham Lake. The proposed interchange was thoroughly vetted through the TH 65 Planning and Environmental Linkages Study (TH 65 PEL). The study was led by the Minnesota Department of Transportation (MnDOT), in collaboration with Anoka County, the City of Blaine, the City of Ham Lake, the City of Spring Lake Park, various community groups, and the Federal Highway Administration.

To date, MnDOT, Anoka County, and the cities of Blaine, Ham Lake, and Spring Lake Park have made significant progress in advancing the improvements identified in the PEL. This addition of this new interchange at CSAH 116 (Bunker Lake Blvd.) would add to these improvements and result in greatly increasing the efficiency of freight movement to and from the Twin Cities Metropolitan Area. We support the continued momentum by working with partners to secure the necessary funding to deliver these important improvements.

Sincerely

Tim Sanders, Mayor

CITY OF HAM LAKE

15544 Central Avenue NE
Ham Lake, Minnesota 55304
(763) 434-9555
Fax: (763) 434-9599

October 2, 2023

Mr. Joe MacPherson
Division Manager/County Engineer
Anoka County Transportation Division
1440 Bunker Lake Blvd NW Andover, MN 55304

RE: Trunk Highway (TH) 65 Corridor Improvement: Interchange at TH 65 and County State Aid Highway (CSAH 116) in Ham Lake, MN

Dear Mr. MacPherson:

We would like to express our strong support for the proposed improvement of the existing at-grade intersection of TH 65 and CSAH 116 (Bunker Lake Blvd.) in the City of Ham Lake. The proposed interchange was thoroughly vetted through the TH 65 Planning and Environmental Linkages Study (TH 65 PEL). The study was led by the Minnesota Department of Transportation (MnDOT), in collaboration with Anoka County, the City of Blaine, the City of Ham Lake, the City of Spring Lake Park, various community groups, and the Federal Highway Administration.

To date, MnDOT, Anoka County, and the cities of Blaine, Ham Lake, and Spring Lake Park have made significant progress in advancing the improvements identified in the PEL. This addition of this new interchange at CSAH 116 (Bunker Lake Blvd.) would add to these improvements and result in greatly increasing the efficiency of freight movement to and from the Twin Cities Metropolitan Area. We support the continued momentum by working with partners to secure the necessary funding to deliver these important improvements.

Sincerely

Brian Kirkham
City of Ham Lake Mayor

BOARD OF COUNTY COMMISSIONERS

Anoka County, Minnesota

DATE: December 1, 2023 **RESOLUTION #2023-139**

OFFERED BY COMMISSIONER: Braastad

AUTHORIZING SUBMITTAL OF A FEDERAL FUNDING APPLICATION FOR THE TH 65 / CSAH 116 (BUNKER LAKE BOULEVARD) INTERCHANGE PROJECT

WHEREAS, the existing at-grade intersection of TH 65, a Principal Arterial, and CSAH 116 (Bunker Lake Boulevard), an "A" Minor Arterial Reliever, experiences a high level of traffic congestion, safety concerns, and mobility issues; and,

WHEREAS, Anoka County and the City of Ham Lake propose to construct a grade-separated interchange at TH 65 and CSAH 116; and,

WHEREAS, this improvement project is consistent with the goals and objectives of the TH 65 Planning and Environmental Linkages (PEL) Study completed in 2021 through a partnership with the Minnesota Department of Transportation (MnDOT), Federal Highway Administration (FHWA), Anoka County, City of Blaine, City of Ham Lake, City of Spring Lake Park, and Metropolitan Council; and,

WHEREAS, Anoka County and the City of Ham Lake are proposing to submit an application to the Transportation Advisory Board through the Metropolitan Council's 2024 Regional Solicitation Program to receive federal transportation funds to construct a grade-separated interchange at TH 65 and CSAH 116 in the city of Ham Lake; and,

WHEREAS, Anoka County has the necessary capabilities to adequately fund its local cost share for this public improvement project:

NOW, THEREFORE, BE IT RESOLVED that Anoka County, by and through its Board of Commissioners, hereby authorizes the Anoka County Highway Department to submit an application to the Transportation Advisory Board through the Metropolitan Council's 2024 Regional Solicitation program in the Roadway Expansion category to construct an interchange at TH 65 and CSAH 116 in the city of Ham Lake.

STATE OF MINNESOTA)
COUNTY OF ANOKA) ss

I, Rhonda Sivarajah, County Administrator, Anoka County, Minnesota, hereby certify that I have compared the foregoing copy of the resolution of the county board of said county with the original record thereof on file in the Administration Office, Anoka County, Minnesota, as stated in the minutes of the proceedings of said board at a meeting duly held on December 1, 2023, and that the same is a true and correct copy of said original record and of the whole thereof, and that said resolution was duly passed by said board at said meeting.

Witness my hand and seal this 1st day of December 2023.

RHONDA SIVARAJAH
COUNTY ADMINISTRATOR

	YES	NO
DISTRICT #1 – LOOK	X	
DISTRICT #2 – BRAASTAD	X	
DISTRICT #3 – REINERT	X	
DISTRICT #4 – SCHULTE	X	
DISTRICT #5 – GAMACHE	X	
DISTRICT #6 – JEPPSON	X	
DISTRICT #7 – MEISNER	X	

RESOLUTION NO. 23-54

A RESOLUTION AUTHORIZING SUBMITTAL OF A FEDERAL FUNDING APPLICATION FOR THE TRRUNK HIGHWAY 65 AND COUNTY STATE AID HIGHWAY (CSAH) 116 (BUNKER LAKE BOULEVARD) INTERCHANGE PROJECT

WHEREAS, the existing at-grade intersection of Trunk Highway 65 (a Principal Arterial) and CSAH 116 (Bunker Lake Blvd., an "A" Minor Arterial Reliever) experiences a high level of traffic congestion, safety concerns, and mobility issues; and

WHEREAS, Anoka County proposes to construct a grade-separated interchange at Trunk Highway 65 and CSAH 116 (Bunker Lake Blvd.); and

WHEREAS, this improvement project is consistent with the goals and objectives of the Trunk Highway 65 Planning and Environmental Linkages (PEL) Study completed in 2021 through a partnership with the Minnesota Department of Transportation (MnDOT), Federal Highway Administration (FHWA), Anoka County, City of Blaine, City of Ham Lake, City of Spring Lake Park, and Metropolitan Council; and

WHEREAS, Anoka County is proposing to submit an application to the Transportation Advisory Board through the Metropolitan Council's 2024 Regional Solicitation Program to receive federal transportation funds to construct a grade-separated interchange at Trunk Highway 65 and CSAH 116 (Bunker Lake Boulevard) in the City of Ham Lake; and

NOW, THEREFORE, BE IT RESOLVED that Ham Lake, by and through its City Council, hereby supports the Anoka County Highway Department submittal of an application to the Transportation Advisory Board through the Metropolitan Council's 2024 Regional Solicitation program in the Roadway Expansion category to construct an interchange at Trunk Highway 65 and CSAH 116 (Bunker Lake Boulevard) in the City of Ham Lake.

Adopted by the City Council of the City of Ham Lake this 4th day of December, 2023.

Brian Kirkham, Mayor

Denise Webster, City Clerk

TH 65 Interchanges to serve CSAH 116 (Bunker Lake Blvd) in Ham Lake

Funding Opportunity: Roadway Expansion

Applicant: Anoka County

Location: Ham Lake, MN

Project Limits: 131st Ave NE to 139th Ave NE

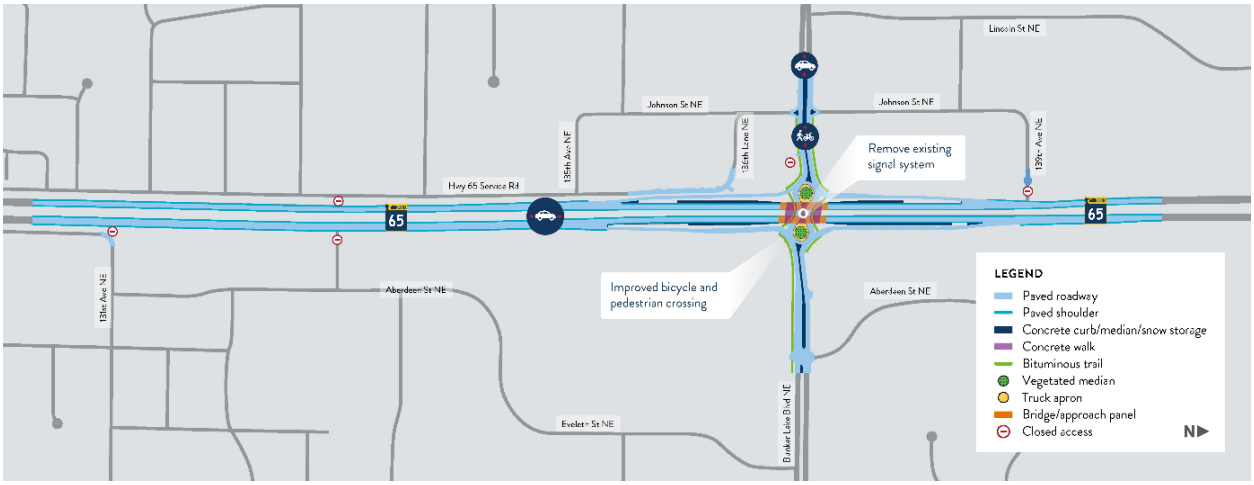
Total Project Cost: $37,125,600

Requested Award Amount: $10,000,000

Trunk Highway (TH) 65 is a principal arterial located within the Twin Cities metropolitan area in Anoka County. As the only continuous north/south corridor of its size and capacity in Anoka County, TH 65 is a vital link for passenger and commercial traffic traveling between the Twin Cities urban core and northern suburban/exurban communities. TH 65 is a key arterial roadway connecting statewide destinations from I-694 to US 71 near International Falls, making it the third longest state highway in Minnesota.

The TH 65 corridor in its current configuration has a significant negative effect on the mobility and cohesiveness of the surrounding community. A Planning and Environmental Linkages (PEL) Study was completed for TH 65 in 2021 from 81st Ave to Bunker Lake Blvd. The study recommended implementing a freeway on TH 65, including at the Bunker Lake Blvd intersection, to improve mobility, safety, and access. The width of the intersection, volume and speed of traffic, and signal timing challenges result in significant delays and safety concerns for drivers, bicyclists, and pedestrians crossing TH 65.

The project would implement a grade separated crossing of TH 65 and Bunker Lake Blvd and associated roadway improvements. The project would add a bowtie configuration at the on and off ramps of TH 65 at Bunker Lake Blvd, and multi-use trails would be added on both sides of Bunker Lake Blvd.



Existing conditions at the TH 65 & Bunker Lake Blvd intersection (facing north along TH 65)

Anoka County
MINNESOTA

Solicitation for Transportation Funding
Website Summary

Highway 65 at Bunker Lake Boulevard, from 133rd Avenue to 139th Avenue

A Unique Approach

Anoka County created an interactive website to share six future projects that will be submitted for federal funding through the Metropolitan Council:

www.anokastpprojects.com

This mobile-friendly website provides transparency into the funding process, educates readers on how projects are funded, and allows the community to see and comment on future transportation and mobility improvements. The six projects fit into four funding categories: Roadway Expansion, Roadway Spot Mobility & Safety, Traffic Management Technologies, and Multi-use Trail.

The Anoka STP website tells a story about transportation funding and showcases each of the nine projects in a color-coded, interactive map. Explore the map by clicking on the image!

The website opens into a series of storyboards that guide the reader through the content they are about to see, and why it matters. This approach provides our key messages and call-to-action up front so the reader knows how to navigate the information and what is being asked of them. Six project overview pages are arranged within an interactive map using pins organized by funding category. An additional content tab provides information on how projects get funding and the STP timeline, as well as links to external resources such as the Metropolitan Council.

The website was launched on November 3, 2023, and will remain live past the application deadline. When the Metropolitan Council announces its awards later in the year, an update will be made and promoted to stay connected to the people who participated in this phase of engagement.

Promotions & Outreach

The projects will benefit residents, businesses, commuters, and visitors across the county. The interactive website was promoted via the following communication channels beginning November 3, 2023:

Notifications on the following **websites**:

- Anoka County
- City of Coon Rapids
- City of Lino Lakes
- City of Blaine
- City of Fridley

NextDoor **post**

Anoka County Twitter **post**

Anoka County Construction Weekly **email distribution**

Electronic announcement (PowerPoint slide looping on screen) at Anoka County **government buildings**:

- Anoka County Health and Human Services Center
- Anoka County Job Training Center

Public Feedback Opportunities

Various opportunities to provide comments and feedback encouraged site visitors to share their thoughts in the format that worked best for them.

A general **comment form** could be accessed at any time on the site.

Contact information for **emails** and **phone calls** with county staff was also provided.

Public input was requested **online** through open-ended and demographic survey questions embedded into each project page. *See page 2.*

1 survey submission: Strongly in favor of this future project.

"It absolutely aligns. Highway 65 should be a freeway all the way up to Cambridge."

Website Performance: November 3-December 8, 2023

93 Total Visitors

131 Total Visits*

* includes multiple visits by the same user

1m 2s

Average Visit Length

DEVICES

20% Mobile

3% Tablet

76% Desktop

TOP MINNESOTA VISITOR LOCATIONS

Minneapolis
Andover
Coon Rapids
Anoka
Blaine
Cambridge
Columbia Heights
Ramsey
Saint Paul
Columbus

ACQUISITION Direct visits: **109** | Referral visits: **4** | Via search: **18**

PEAK VISITATION Tuesday, **Nov. 14** | Wednesday, **Nov. 29**

Solicitation for Transportation Funding

Survey Example

What are your thoughts?

How do you feel about this future project?

- [ ] Strongly opposed
- [ ] Opposed
- [ ] Neutral
- [ ] In favor
- [ ] Strongly in favor

We want to know what you think about this project. Does it align with your vision for our community?

Share your thoughts.

Our goal is to get input from a wide range of individuals and understand the needs and preferences of our community. In order to understand who is participating in this survey, we are collecting demographic information to identify who we're hearing from.

The next four questions are optional.

What is your zip code?

What is your age?

- [ ] Under 18
- [ ] 18-24
- [ ] 25-34
- [ ] 35-44
- [ ] 45-54
- [ ] 55-64
- [ ] 65-74
- [ ] 75+
- [ ] Prefer not to answer

Which of these describes your personal income?

- [ ] Under $10,000
- [ ] $10,000 - $24,999
- [ ] $25,000 - $49,999
- [ ] $50,000 - $74,999
- [ ] $75,000 - $99,999
- [ ] $100,00 - $149,999
- [ ] $150,000+
- [ ] Prefer not to answer

Please describe your race/ethnicity.

- [ ] American Indian or Alaska Native
- [ ] Asian
- [ ] Black or African American
- [ ] Hispanic or Latino
- [ ] Native Hawaiian or Pacific Islander
- [ ] White
- [ ] Other

Submit