

***TH 65 Planning and Environmental Linkages (PEL) Study
Final PEL Study Report***



June 2021



Table of Contents

| | |
|--|------|
| TH 65 Planning and Environmental Linkages (PEL) Study | I |
| Table of Contents | II |
| Tables..... | IV |
| Figures | V |
| Acronym / Terms List..... | VI |
| Agency Authority and Support | VII |
| Local Agency Support | VII |
| Acknowledgements | VIII |
| Executive Summary | IX |
| 1. Study Area | 1 |
| 1.1 PEL Process | 3 |
| 2. Purpose and Need..... | 4 |
| 2.1 Background..... | 4 |
| 2.2 Need..... | 5 |
| 2.3 Purpose..... | 7 |
| 2.4 Additional Considerations..... | 8 |
| 2.5 Goals | 8 |
| 3. Alternatives Analysis | 10 |
| 3.1 Evaluation Criteria and Results | 10 |
| 4. Agency and Public Involvement | 29 |
| 4.1 Local Agency Coordination | 29 |
| 4.2 Public Involvement | 32 |
| 4.3 Engagement Activities and Themes Summary..... | 33 |
| 4.4 Communications..... | 37 |
| 5. Study Recommendations | 38 |
| 5.1 Section 1 Alternatives – 81 st Ave to North of 93 rd Ave..... | 38 |
| 5.2 Section 2 Alternatives – North of 93 rd Ave to 117 th Ave..... | 43 |
| 5.3 Section 3 Alternatives – 117 th Ave to Bunker Lake Blvd | 47 |
| 5.4 Corridor-wide Recommendations..... | 50 |
| 5.5 Construction Related Recommendations | 52 |
| 6. Affected Environment and Environmental Consequences | 54 |
| 6.1 Property Impacts | 56 |
| 6.2 Local and Regional Planning Compatibility | 56 |

| | | |
|---|---|----|
| 6.3 | Environmental Justice | 56 |
| 6.4 | Water Resources | 57 |
| 6.5 | Park Resources - 4(f) and 6(f) | 58 |
| 6.6 | Contaminated Materials | 59 |
| 6.7 | Impervious Surface | 60 |
| 6.8 | Least Environmental Damaging Alternatives | 60 |
| 7. | Implementation Plan | 62 |
| 7.1 | Identification of Projects | 62 |
| 7.2 | Section 1 – 81 st Ave to North of 93 rd Ln | 62 |
| 7.3 | Section 2 – North of 93 rd Ln to 117 th Ave | 66 |
| 7.4 | Section 3 – 117 th Ave NE to North of Bunker Lake Blvd | 69 |
| 8. | Corridor Risks | 72 |
| 8.1 | Drainage | 72 |
| 8.2 | Noise | 72 |
| 8.3 | Right-of-Way | 72 |
| 8.4 | Public Concerns | 73 |
| 8.5 | Driver Expectations and Safety | 73 |
| 8.6 | Maintenance | 73 |
| 8.7 | Downstream Effects | 73 |
| 8.8 | Environmental Justice | 74 |
| 8.9 | Parks – 4(f) and 6(f) | 74 |
| 8.10 | Other Environmental Resources | 74 |
| 9. | Next Steps | 75 |
| Appendix A: Public Engagement and Agency Coordination | | 76 |
| Appendix B: PEL Questionnaire | | 77 |
| Appendix C: Letters of Support | | 78 |
| Appendix D: Concurrence Documentation | | 79 |
| Appendix E: Existing Conditions Review and Future Traffic Operations Memo | | 80 |
| Appendix F: Purpose and Need and Evaluation Criteria Memo | | 81 |
| Appendix G: Alternatives Analysis Memo | | 82 |

Tables

| | |
|--|----|
| Table ES-1 – Level 3 Screening Results | 14 |
| Table 3-1 – Level 1 Screening Results (Totals) | 18 |
| Table 3-2 – Level 1 Alternatives Considered and Screening Results..... | 19 |
| Table 3-3 – Level 2 Screening Criteria..... | 20 |
| Table 3-4 – Level 2 Screening Results (Totals) | 22 |
| Table 3-5 – Level 2 Alternatives Considered and Screening Results..... | 23 |
| Table 3-6 – Level 3 Screening Criteria..... | 25 |
| Table 3-7 – Level 3 Screening Results | 28 |
| Table 4-1 – TAC Meetings | 30 |
| Table 4-2 – Resource Agency Coordination | 31 |
| Table 4-3 – Stakeholder Identification..... | 32 |
| Table 5-1 – Construction Related Recommendations | 52 |
| Table 7-1 – Section 1 Projects..... | 65 |
| Table 7-2 – Section 2 Projects..... | 68 |
| Table 7-3 – Section 3 Projects..... | 71 |

Figures

| | |
|---|----|
| Figure 1-1 – TH 65 Study Area location in Anoka County, Minnesota..... | 12 |
| Figure 1-2 – TH 65 Study Area..... | 13 |
| Figure 3-1 – Evaluation Process Overview..... | 22 |
| Figure 3-2 – TH 65 Study Area..... | 23 |
| Figure 3-3 – Section 1, Alternatives Analysis Evaluation Process and Results..... | 25 |
| Figure 3-4 – Section 2, Alternatives Analysis Evaluation Process and Results..... | 26 |
| Figure 3-5 – Section 3, Alternatives Analysis Evaluation Process and Results..... | 27 |
| Figure 3-6 – TSMO, Alternatives Analysis Evaluation Process and Results..... | 28 |
| Figure 3-7 – Section 1 Detailed Evaluation..... | 37 |
| Figure 3-8 – Section 2 Detailed Evaluation..... | 38 |
| Figure 3-9 – Section 3 Detailed Evaluation..... | 38 |
| Figure 5-1 – US 10 Alternative 1 (Standard Diamond at CSAH 10)..... | 51 |
| Figure 5-2 – US 10 Alternative 2 (Signalized Rotary at CSAH 10)..... | 52 |
| Figure 5-3 – US 10 Alternative 2 (Standard Diamond at CSAH 10)..... | 53 |
| Figure 5-4 – Freeway Alternative 3..... | 55 |
| Figure 5-5 – Hybrid Freeway..... | 56 |
| Figure 5-6 – Hybrid Freeway Sub-Alternative (Interchange at 109 th Ave)..... | 57 |
| Figure 5-7 – Freeway Alternative..... | 59 |
| Figure 5-8 – Superstreet (RCUT at Bunker Lake Blvd)..... | 60 |
| Figure 6-1 – Design Footprint for All Alternatives..... | 66 |
| Figure 7-1 – Section 1 Projects..... | 75 |
| Figure 7-2 – Section 2 Projects..... | 78 |
| Figure 7-3 – Section 3 Projects..... | 81 |

Acronym / Terms List

| Term | Definition | Term | Definition |
|-------|---|-------|---|
| AA | Alternatives Analysis | PEL | Planning and Environmental Linkages |
| CSAH | County State Aid Highway | PMT | Project Management Team |
| DDI | Diverging Diamond Interchange | SHPO | State Historic Preservation Office |
| DOI | United States Department of the Interior | SPUI | Single Point Urban Interchange |
| EJ | Environmental Justice | TAC | Technical Advisory Committee |
| EO | Executive Order | TDM | Travel Demand Management |
| EPA | United States Environmental Protection Agency | TH | Trunk Highway (e.g. TH 65) |
| FHWA | Federal Highway Administration | TPP | Transportation Policy Plan |
| FTA | Federal Transit Administration | TSMO | Transportation Systems Management Options |
| GIS | Geographic Information Systems | US | United States Highway (e.g. US 10) |
| HPDP | Highway Project Development Process | USACE | United States Army Corps of Engineers |
| LOS | Level of Service | USFWS | United States Fish and Wildlife Service |
| MMLOS | Multi-modal Level of Service | | |
| MnDOT | Minnesota Department of Transportation | | |
| MnDNR | Minnesota Department of Natural Resources | | |
| Mph | Miles per hour | | |
| MPCA | Minnesota Pollution Control Agency | | |
| NEPA | National Environmental Policy Act | | |
| NHPA | National Historic Preservation Act | | |
| NPS | National Park Service | | |
| NRHP | National Register of Historic Places | | |
| NWI | National Wetlands Inventory | | |
| OSA | Office of the State Archaeologist | | |
| PAC | Public Advisory Committee | | |

Agency Authority and Support

The Federal Highway Administration (FHWA) has developed the Planning and Environmental Linkages (PEL) approach to accelerate project delivery by linking the planning process with the National Environmental Policy Act (NEPA). FHWA has been involved throughout the Trunk Highway (TH) 65 PEL Study process and provided concurrence at multiple stages throughout the process. The Minnesota Department of Transportation (MnDOT) is the local agency that led the study process. This report is to be used in future NEPA analyses within the study area unless new information is introduced by the project sponsor or FHWA. This study has been prepared in accordance with 23 U.S.C. 168 (Integration of planning and environmental review) and other FHWA policy on PEL process.

Local Agency Support

The following local agencies have been involved throughout the study process and have long supported improvements in the area. After participating in the three levels of screening evaluation through TAC meetings, and providing a robust public information and community comment period, these agencies found the PEL process to be a valuable tool in the alternatives decision-making process resulting in a flexible corridor vision. They support the recommendation of the eight section-wide alternatives that were determined to move forward to NEPA.

When individual projects move into future environmental review processes, they are committed to providing continued support and participation. See Appendix C: Letters of Support for letters.

- Anoka County
- City of Blaine
- City of Ham Lake
- City of Spring Lake Park
- Metropolitan Council

Acknowledgements

The following staff were involved in the development of the TH 65 PEL:

Project Management Team

MnDOT

- Melissa Barnes – Project Manager
- Sheila Kauppi
- Kent Barnard

FHWA

Kris Riesenber

Local Partners

- Jon Haukaas, City of Blaine
- Joe MacPherson, Anoka County
- Dan Buchholtz, Spring Lake Park
- Tom Collins, Ham Lake

Technical Advisory Committee

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- Ashley Roup
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- Erik Thorvig, City of Blaine
- Tom Collins, City of Ham Lake
- Denise Webster, City of Ham Lake
- Dan Buchholtz, City of Spring Lake Park
- Terry Randall, City of Spring Lake Park

Consultant Team

Consultant team members participated in the PMT, TAC, PAC, and public meetings as appropriate.

- Brandi Popenhagen, Consultant Project Manager
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- Scott Reed, Environmental, Existing Conditions
- Caroline Miller, Environmental, Alternatives Analysis, PEL Study Report
- Smith Siromaskul, Concept Lead
- Bobby Oare, Concept Design
- Nic Hentges, Concept Design and Estimates
- Natalie Sager, Traffic, Existing Conditions, Alternatives Analysis
- Shaun Bready, Traffic

Executive Summary

This report documents the Minnesota Department of Transportation's (MnDOT) analysis and recommendations of a Planning and Environmental Linkages (PEL) Study conducted to identify transportation improvements along Trunk Highway (TH) 65 in Anoka County, Minnesota. The project includes about 7 miles of TH 65 from 81st Ave (just south of County State Aid Highway [CSAH] 10) in Spring Lake Park through Blaine, to Bunker Lake Blvd in Ham Lake. TH 65 is a vital link for traffic traveling between the Twin Cities urban core and northern suburban and exurban communities. TH 65 is the only continuous north/south corridor of its functional class and capacity in Anoka County.

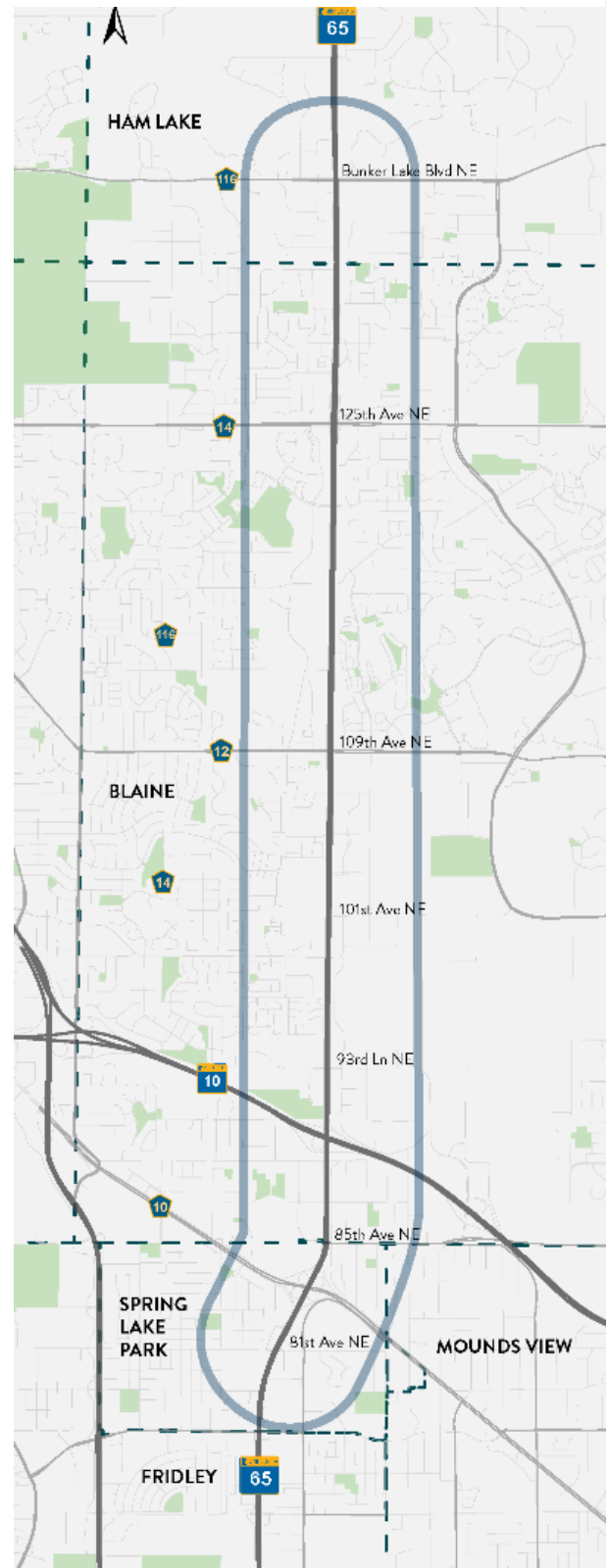
Planning and Environmental Linkages

Planning and Environmental Linkages (PEL) is a study process that is typically used to identify transportation issues and environmental concerns. It can be applied to make planning decisions and for planning analysis. These decisions and analyses, for example, can be used to identify and prioritize future projects, develop the purpose and need for a project, determine project size or length, and/or develop and refine a range of alternatives. PEL studies should be able to link planning to environmental issues and result in useful information that can be carried forward into the National Environmental Policy Act (NEPA) process (in accordance with 23 U.S.C. 168). The adoption and use of a PEL study in the NEPA process is subject to a determination by the Federal Highway Administration (FHWA).

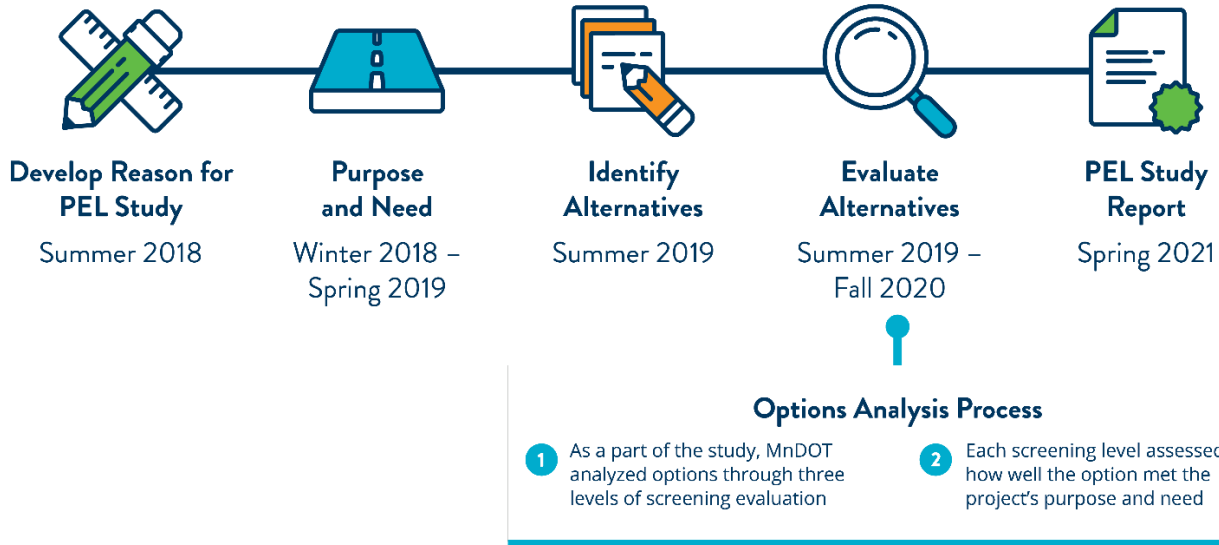
PEL Process

MnDOT, local agency stakeholders, and the Federal Highway Administration (FHWA) worked together through a Technical Advisory Committee (TAC) and a Public

TH 65 Study Area



Advisory Committee (PAC) to develop a vision for the TH 65 corridor. The study began in summer 2018 and concludes with the publication of this report.



Purpose and Need

The purpose of the TH 65 corridor improvement project is to improve motorized traffic flow along and across TH 65 by decreasing average travel times and reducing delays, reduce crash frequencies along the corridor, and create an environment where pedestrians and bicyclists are safer and are able to conveniently access destinations across and along the TH 65 corridor safely.



Creating these conditions will better connect residents and businesses on opposite sides of the corridor, resulting in a more cohesive community (Appendix F: Purpose and Need and Evaluation Criteria Memo).

The project's purpose was developed to address the following needs, which were identified as a part of the existing conditions analysis (Appendix E: Existing Conditions Review and Future Traffic Operations Memo) and purpose and need

development process, consistent with MnDOT’s Highway Project Development Process (HPDP)¹. The primary needs are the main transportation problem(s) to be solved that led to initiation of the project. Secondary needs describe other transportation problems or opportunities for improvements within the project study area that may be able to be addressed, if feasible, at the same time that the primary needs are addressed:

- Primary need: Vehicle safety
- Primary need: Vehicle mobility
- Secondary need: Bikeability/walkability

The **primary** transportation problems are:

VEHICLE SAFETY



Crash rates on segments and at intersections are significantly higher than averages on similar facilities.

VEHICLE MOBILITY



Congestion experienced today along the highway and across the highway is expected to worsen as traffic volumes increase in the future.

The **secondary** transportation problem is:

WALKABILITY/ BIKEABILITY

The roadway is difficult for bicyclists and pedestrians to travel or cross.



¹ MnDOT Highway Project Development Process, <https://www.dot.state.mn.us/planning/hpdp/>

Goals

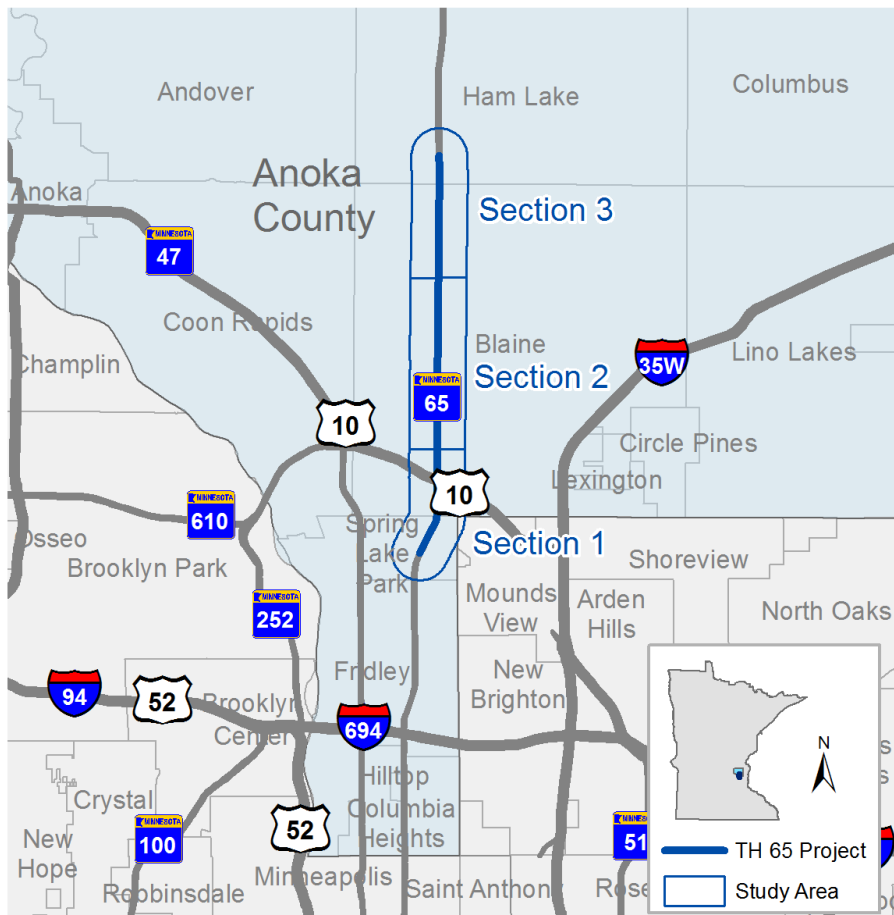
Goals are not considered the transportation needs of the project, however, they provide context that can influence project development and design decisions. A statement of identified goals can provide an additional set of criteria for comparative evaluation of alternatives. The following goals were established for the project:

- Minimizing impacts to socio-economic and environmental resources
- Viability of development/redevelopment potential

Additional Considerations

Additional considerations describe other desirable project elements that were not central to the purpose and need, but were important considerations to the selection of alternative. As transportation improvements are considered for the TH 65 corridor, they should also avoid adversely impacting transit mobility and meet the fiscal limitations for transportation improvements in the region (project is implementable).

Project Location and Study Area Sections



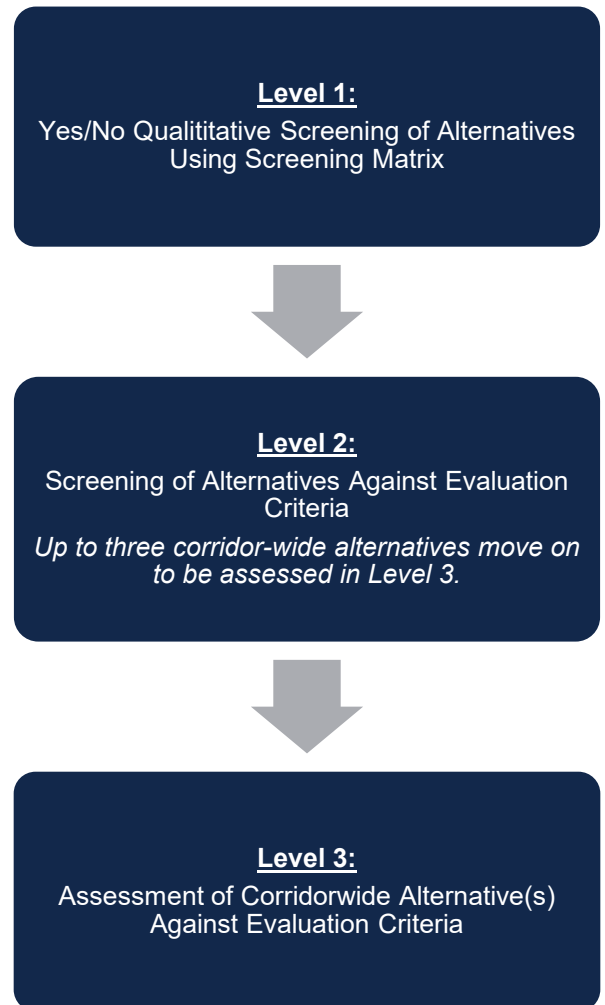
Alternatives Analysis

The purpose and need shaped the development of the evaluation criteria used in each level of evaluation screening. The alternatives analysis process included the development of alternatives and three screening levels of evaluation using criteria based on the project’s Purpose and Need. The study area was divided into three geographic sections to better develop and evaluate different alternatives based on the context throughout the corridor. Each section-wide alternative has the ability to be interchanged with another to achieve the corridor vision. See Section 3 for a description of the alternatives analysis process or Appendix G: Alternatives Analysis Memo for the full memo.

The purpose of the Level 1 screening was to eliminate alternatives that clearly did not meet the project’s Purpose and Need. Criteria in the Level 2 screening compared how well each option met the Purpose and Need, additional considerations and goals of the project. The alternatives were compared against the no-build alternative and each other, by section. The performance measures were a mix of qualitative and quantitative assessments, based on the criteria and the data available at this stage of development. Three corridor-wide alternatives in Level 3 were screened with refined evaluation criteria as well as updated Level 2 screening results based on design refinements.

A total of 42 section-wide, spot location, and Transportation System Management and Operations (TSMO) alternatives² were evaluated in Level 1. A total of 23 section-wide and spot location alternatives were evaluated in Level 2. A total of three corridor-wide alternatives (9 section-wide alternatives) were evaluated in Level 3. During Level 3, all passed the screening except one section-wide alternative, leaving 8 viable section-wide alternatives recommended in this report (see Table ES-1 below for the Level 3 Screening Results). Additionally, TSMO alternatives were not evaluated in the Levels 2 and 3 screenings and will be carried forward for consideration during future NEPA review.

Evaluation Process Overview



² Transportation Systems Management and Operations are technology or design solutions that can be added to a corridor to better manage the flow of traffic and address safety issues. Examples include transit signal priority, variable speed signs, and intelligent transportation systems (ITS).

Table ES-1 – Level 3 Screening Results

| Section or TSMO | No-build Alternative | Corridor-wide Alternative 1 | Corridor-wide Alternative 2 | Corridor-wide Alternative 3 |
|-----------------|----------------------|--|--|--|
| Section 1 | Carried Forward | US 10 Alt 1 (Diamond at CSAH 10): Carried Forward | US 10 Alt 2 (Signalized Rotary at CSAH 10): Carried Forward | US 10 Alt 2 (Diamond at CSAH 10): Carried Forward |
| Section 2 | Carried Forward | Freeway Alt 3: Carried Forward | Hybrid Freeway: Carried Forward | Hybrid Freeway (Interchange at 109 ³): Carried Forward |
| Section 3 | Carried Forward | Freeway Alt: Carried Forward | Superstreet: Carried Forward | Hybrid Freeway: Not Recommended |
| TSMO | N/A | Carried Forward | Carried Forward | Carried Forward |

Considered but Dismissed

As discussed in the previous section, a total of 42 alternatives were evaluated in the Level 1 screening and 23 in Level 2. Some were outright “eliminated,” meaning that they would not be considered in future study. Others were categorized as “not recommended,” meaning they were removed from consideration because similar improvements in other alternatives have demonstrated superior performance. They can be reconsidered in future studies if new information or analysis indicates it would better meet the Purpose and Need. Appendix G: Alternatives Analysis Memoprovides detail regarding these alternatives removed from consideration during Levels 1 and 2.

Agency and Public Involvement

The TH 65 PEL Study included public involvement throughout the process as well as ongoing agency coordination. Details on Agency and Public involvement can be found in Section 4 of the report. A mix of standing committees and coordination at key project milestones kept stakeholders and the public informed of the process and provided opportunities to weigh in and shape the study. Multiple committees including a Local Officials Group and a Technical Advisory Committee provided direct coordination on the project at both the staff level and elected official level. Federal, state, and local resource agencies were also engaged during the study process.

The Public Advisory Committee (PAC) included a group of 23 residents, business owners, and elected officials within the study area, representative of the cross section of stakeholders identified. Meetings were scheduled in tandem with key decision points in the project such as developing the Purpose and Need, developing alternatives, and evaluation of

³ The Hybrid Freeway (Interchange at 109th Ave) was added between Levels 2 and 3 as a variation on the Hybrid Freeway Alternative, but including an interchange at 109th Ave.

alternatives. The general public was also engaged during these key decision points with a variety of methods including in-person and virtual opportunities.

Study Recommendations

Based on the results of the alternatives analysis process, 8 section-wide build alternatives will be carried forward into the future NEPA process for the TH 65 corridor. This discussion can be found in Section 5 of the report and documentation in Appendix A: Public Engagement and Agency Coordination. These alternatives meet the 23 U.S.C. 168 criteria for NEPA. They also generated support from the TAC and PAC, and support from the public based on comments received throughout the process (see Local Agency Support and letters in Appendix C: Letters of Support). Although these alternatives were presented as corridor-wide alternatives in the Level 3 screening, their ability to be mixed and matched by section allows for flexibility in the future NEPA process. Any combination of these section-wide alternatives will result in meeting the Purpose and Need, which was why study recommendations are made at the section level in this report and not corridor-wide.

Section 1 Alternatives – 81st Ave to North of 93rd Ave

Three Section 1 alternatives have been carried forward for future consideration in NEPA:

- US 10 Alternative 1 (Diamond at CSAH 10)
- US 10 Alternative 2 (Signalized Rotary at CSAH 10)
- US 10 Alternative 2 (Diamond at CSAH 10)

These Section 1 Alternatives are similar in their removal of the existing cloverleaf at US 10, right-in/right-out access restrictions at 85th and 89th, and bicycle and pedestrian crossings at 87th Ave and 93rd Ave. The differences between the alternatives are the designs of the US 10 and CSAH 10 interchanges.

Section 2 Alternatives – North of 93rd Ave to 117th Ave

Three Section 2 Alternatives have been carried forward for future consideration in NEPA:

- Freeway Alternative 3
- Hybrid Freeway
- Hybrid Freeway Sub-Alternative (Interchange at 109th Ave)

The main difference in design between the alternatives is that Freeway Alternative 3 would be a six-lane limited access facility with interchanges, while the hybrid freeway alternatives would include a series of slip ramps from frontage roads and grade separated median U-turns that would provide more access points. The Hybrid Freeway Sub-Alternative would also include an interchange at 109th that the Hybrid Freeway Alternative does not include.

Section 3 Alternatives – 117th Ave to Bunker Lake Blvd

Two Section 3 alternatives have been carried forward for future consideration in NEPA:

- Freeway Alternative
- Superstreet

Both alternatives would be limited-access facilities to Bunker Lake Blvd. The Freeway Alternative would include an interchange at Bunker Lake Blvd, while the Superstreet Alternative would include a Reduced Conflict U-turn, thereby transitioning from a freeway to a superstreet approaching the intersection.

Corridor-wide Recommendations

Traffic Operations and Safety

All alternatives improved the morning and afternoon peak travel time along and crossing the corridor, and vehicle throughput along the corridor when compared to the no-build alternative. Notable differences include reducing existing travel times along the seven-mile corridor from over 40 minutes down to around 12 minutes during both morning and afternoon rush hours. As traffic grows, the 2045 no-build travel times increase to 50 minutes, while the alternatives maintained approximately 12 minutes. Just as critical was crossing travel times, which were measured between key origins and destinations throughout the corridor. In several areas where it can take ten minutes to cross, the alternatives reduced crossing times to three or four minutes. Safety performance also improved with all alternatives, with 70 to 80 percent reduction in conflict points⁴ when compared to the no-build alternative.

Transportation Systems Management and Operations (TSMO)

Transit Signal Priority, Variable Speed Signs, and Intelligent Transportation Systems were carried forward from Level 1 and should be considered during future NEPA review. These alternatives could be applied throughout all sections of the corridor as an add-on to any of the alternatives.

Bicycle and Pedestrian

Bicycle and pedestrian improvements vary slightly between alternatives, however, all alternatives include improved north/south travel on both sides of the highway. The alternatives include a mix of new 10-ft trail and low volume frontage road access for contiguous travel from 81st Ave to Bunker Lake Blvd. Crossing times of TH 65 are also improved in all alternatives and will also be more comfortable for users with several new facilities included as a part of the designs.

⁴ A conflict point is an area where vehicles, bicycles, and/or pedestrians may interact. Examples are intersections and driveways. Reducing conflict points improves safety.

Transit Recommendations

The Level 3 evaluation of transit focused on how the alternatives maintained current express route transit service on TH 65, which currently operates only in Section 2. All alternatives improved travel time along the corridor, with similar results as vehicular travel time.

Freight Recommendations

The Level 3 evaluation of freight evaluated heavy commercial vehicle travel time between representative origin and destinations along the corridor. Overall, all the alternatives in Sections 1 and 2 showed improvement over the no-build. Section 3 alternatives maintained the same travel time when compared with the no-build during the PM peak, but improved during the AM peak.

Affected Environment and Environmental Consequences

Environmental resources were considered during screening Levels 2 and 3 of the alternatives analysis. Initial analysis about the existing conditions of the corridor informed the evaluation criteria for which resource categories could be potentially impacted and which resource impacts could vary between alternatives. Both quantitative and qualitative criteria were used to evaluate impacts to environmental resources. Environmental Justice, water resources, and property impacts were the major environmental resource differentiators between alternatives. Other environmental resources not evaluated in the PEL will need to be addressed during future NEPA review.

Implementation Plan

The PEL process is intended to provide a framework for the long-term implementation of recommended improvements as funding becomes available and to be used as a resource for future NEPA documentation. It is anticipated that the funding for all the recommended corridor improvements will not be available at one time. Potential separate projects to implement the study recommendations were identified in coordination with MnDOT and the Technical Advisory Committee.

The implementation plan breaks out potential separate projects within the three geographical sections of roadway. While the timing of funding is unknown, each separate project implementation timeline has the potential to affect other areas of the corridor due to removal of bottlenecks and changes in driver expectations. While a project could be implemented independently, in some locations it will be critical to evaluate and complete the NEPA decision making document for the overall section since the preferred alternative may dictate the outcome of another project within the section.

Corridor Risks

Multiple corridor risks have been identified in the PEL as a roadmap for future NEPA review. The following areas have been identified: Drainage, noise, right-of-way, public concerns, driver expectations and safety, maintenance, downstream effects, Environmental Justice, parks – 4(f) and 6(f), and other environmental resources.

Supporting Documentation Appendices

The following memos and documentation were developed as a part of the PEL study process and are referenced throughout this report.

- Appendix A: Public Engagement and Agency Coordination
- Appendix B: PEL Questionnaire
- Appendix C: Letters of Support
- Appendix D: Concurrence Documentation
- Appendix E: Existing Conditions Review and Future Traffic Operations Memo
- Appendix F: Purpose and Need and Evaluation Criteria Memo
- Appendix G: Alternatives Analysis Memo

Next Steps

The PEL documentation provides reference framework for future implementation of projects as identified in the implementation plan. When a project is chosen for implementation, project proposers will need to complete environmental review in accordance with NEPA, which requires additional design advancement, social, economic and environmental impact analysis, and public involvement.

The following study report summarizes the PEL process and study for TH 65.

1. Study Area

Trunk Highway (TH) 65 is a principal arterial located within the Twin Cities metropolitan area in Anoka County (Figure 1-1). The study area includes about 7 miles of TH 65 from 81st Ave NE (just south of County State Aid Highway [CSAH] 10) in Spring Lake Park through Blaine, to Bunker Lake Blvd in Ham Lake (see Figure 1-1 and Figure 1-2). The study area was divided into three sections for purposes of the analysis. These section breakpoints were determined after technical analysis of traffic, likelihood of independent utility, and after consultation with the Technical Advisory Committee. The alternatives can be interchanged by section to assemble the corridor vision, leaving flexibility for future environmental review. Below are the following section designations:

- Section 1: 81st Ave to North of 93rd Ln
- Section 2: North of 93rd Ln to 117th Ave
- Section 3: North of 117th Ave to Bunker Lake Blvd

Figure 1-1 – TH 65 Study Area location in Anoka County, Minnesota

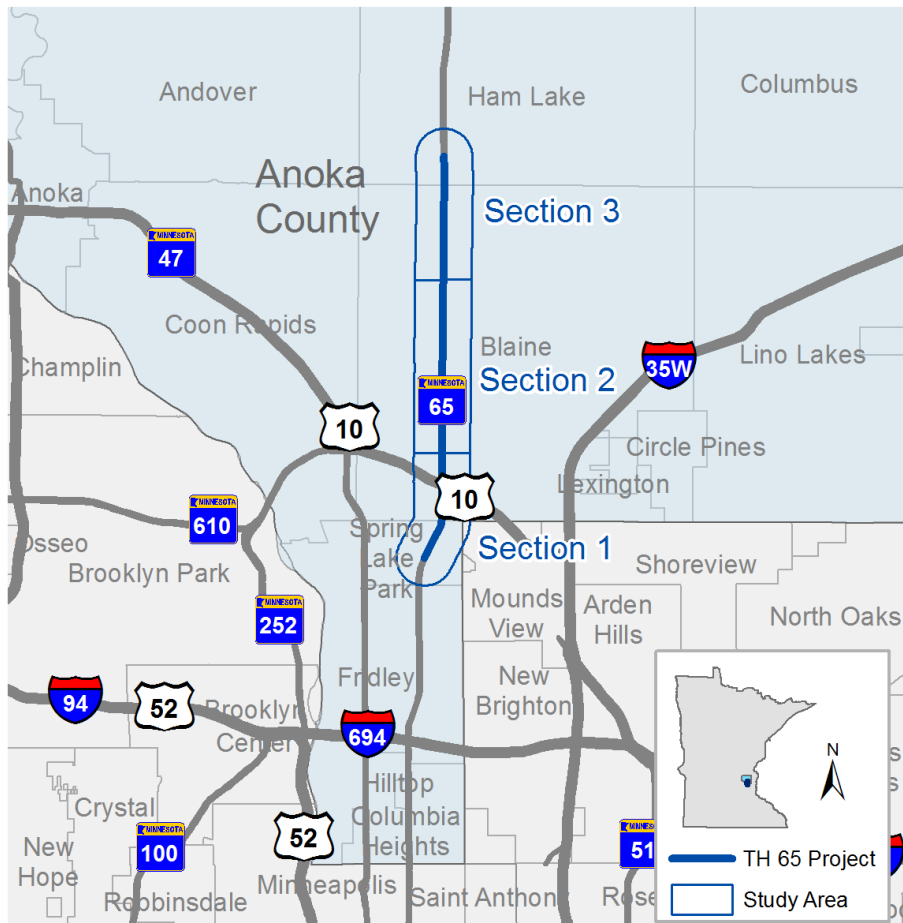


Figure 1-2 – TH 65 Study Area

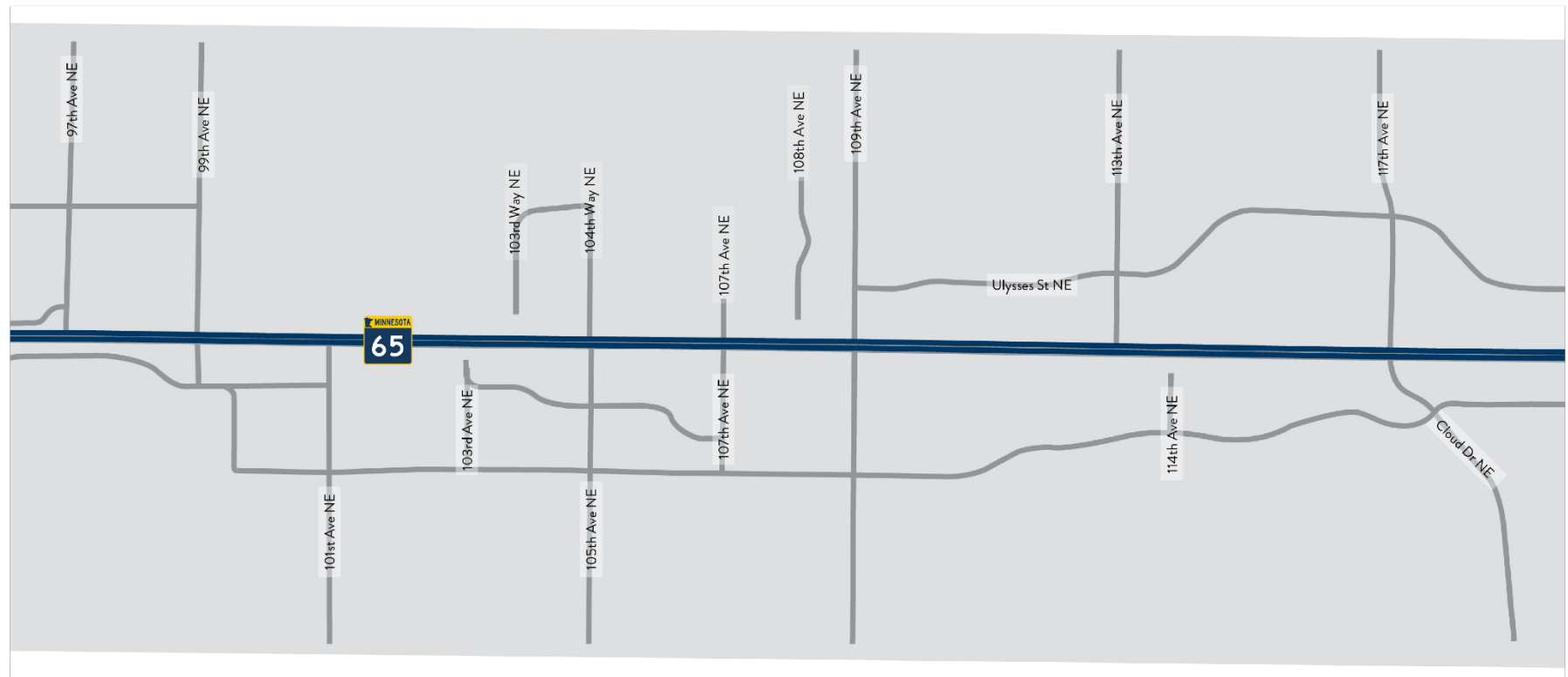
Section 1

TH 65 Study Area

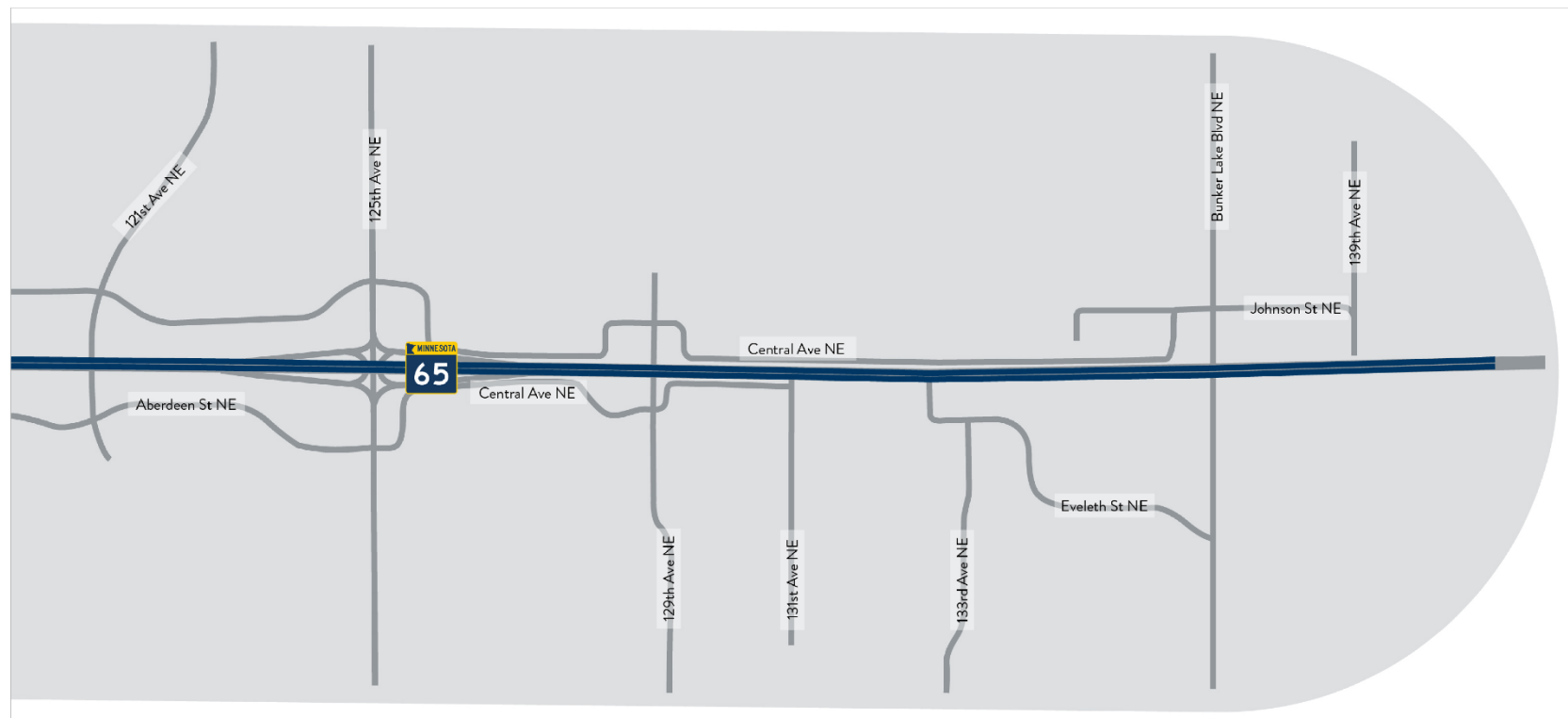


LEGEND:
Highway 65

Section 2



Section 3



1.1 PEL Process

National Environmental Policy Act (NEPA) process principles were followed for this PEL study including preparation of a project Purpose and Need, evaluation of alternatives, and coordination with local, state, and federal agencies. The following are the key points that required Federal Highway Administration (FHWA) concurrence:

- Determining the reason for the PEL study – 9/28/2018
- Purpose and Need and evaluation criteria – 5/10/2019
- Alternatives Analysis – 12/22/2020
- Final PEL study – This Report publication serves as the concurrence date

The project Purpose and Need was developed in accordance with MnDOT's Highway Project Development Process (HPDP) guidance.⁵ The Alternatives Analysis process used technical analysis and public input to support the development and evaluation of a range of reasonable alternatives. Three levels of screening evaluation were used to evaluate and carry forward alternatives that best met the Purpose and Need. Reasonable alternatives include those that are practical or reasonable from a technical or economic standpoint and using common sense. The results of the Alternatives Analysis support carrying forward multiple alternatives for each section of the corridor into future NEPA review.

⁵ Highway Project Development Process, <https://www.dot.state.mn.us/planning/hpdp/>

2. Purpose and Need

The Purpose and Need (see Appendix F: Purpose and Need and Evaluation Criteria Memo) for the TH 65 study was developed for the project based upon a detailed existing and future conditions analysis and FHWA concurred on it on May 10, 2019. Minor non-substantive edits have been made to the Purpose and Need below that improve readability of the section based upon subsequent agency review and comment.

2.1 Background

TH 65 is a vital link for traffic traveling between the Twin Cities urban core and northern suburban and exurban communities. TH 65 is the only continuous north/south corridor of its size and capacity in Anoka County. Within the study area, TH 65 is currently a four-to six-lane divided highway with the following characteristics:

- Classified as a principal arterial with a primary function of providing mobility, while also providing access to adjacent land uses
- Six-lane divide roadway from CSAH 10 to just north of 93rd Ave; four-lane divided roadway north of 93rd Ave and south of CSAH 10
- Auxiliary southbound lane present between approximately TH 10 and 95th Ave
- Posted speed limit is 55 miles per hour (mph) from 81st Ave to 109th Ave; speed limit rises to 60 mph north of 109th Ave
- Signalized intersections are present at approximately ½-mile intervals in the southern half of the corridor; there is a short freeway section in the northern half between 117th Ave and 131st Ave (a distance of approximately one and ¾ miles). No movements are restricted at the signalized intersections.
- There are three interchanges; a full cloverleaf interchange at CSAH 10, a partial cloverleaf at TH 10, and a Single Point Urban Interchange (SPUI) at Main Street (Also known as 125th St).
- Serves approximately 40,000 to 60,000 vehicles per day⁶
- Provides access to TH 65 commercial/retail corridor spanning Fridley, Spring Lake Park, Blaine and East Bethel.

This section of TH 65 handles similar traffic volumes as does the parallel section of Interstate 35W, yet does not have the fully controlled access (i.e., access only provided at interchanges) that allows for a freer flow of traffic.

⁶ 2017-2018, MnDOT Traffic Mapping Application, <https://www.dot.state.mn.us/traffic/data/tma.html>

TH 65 has experienced substantial growth in local and regional travel demand within the project limits, creating traffic levels that exceed current roadway capacity. At this time, only preservation and safety improvements are identified for this section of TH 65 in the 2040 Transportation Policy Plan (TPP). These improvements include resurfacing TH 65 from County Rd 10 to 217th Ave (2024-2029).

While the proposed safety projects would provide limited improvements to intersection operations, primarily by reducing conflicts between through traffic and left turn queues, they would not address the broader transportation issues along TH 65. Additional improvements beyond those identified in the TPP would be necessary to address deficiencies in the study area.

2.2 Need

Many of the issues in the TH 65 corridor arise from the two roles the corridor serves. As noted previously, the corridor is a principal arterial intended to provide mobility to commuters and other traffic traveling through the corridor. However, the presence of residential and commercial development adjacent to the corridor creates a notable need for traffic, both motorized and non-motorized to use and/or cross TH 65 to access these types of developments. Specifically, traffic must use the at-grade intersections to cross the corridor. Signal timing prioritizes the north-south movements causing delays for vehicles, bicycles, and pedestrians crossing at these intersections which discourage motorized traffic from crossing the corridor in many instances. The width of the intersections, volume and speed of traffic, and inconsistent bicycle and pedestrian crossing infrastructure results in many bicyclists and pedestrians avoiding crossing TH 65 out of concern for their safety. Therefore, the TH 65 corridor in its current configuration has a significant negative effect on the mobility and cohesiveness of the surrounding community.

The primary needs for improving the TH 65 corridor are related to vehicle safety and vehicle mobility both for TH 65 through traffic and cross street traffic. Secondary needs include bikeability and walkability along and across the corridor, as there is a notable amount of commercial and residential land use in the corridor. In addition, transit mobility must be considered as there is an express commuter route (Metro Transit Route 865) connecting Blaine and downtown Minneapolis. The following sections present these needs qualitatively; the quantitative analysis supporting the needs of the TH 65 corridor can be found in Appendix E: Existing Conditions Review and Future Traffic Operations Memo.

2.2.1 Primary Needs

The project's purpose was developed to address the following needs, which were identified as a part of the existing conditions analysis and purpose and need development process, consistent with MnDOT's Highway Project Development Process (HPDP). The primary needs are the main transportation problem(s) to be solved that led to initiation of the project.

Vehicle Safety

There are several intersections and segments with crash rates above the critical crash rate⁷, including the TH 65 intersections with 81st Ave, 85th Ave, and 109th Ave. Of even greater concern are the number of intersections and segments with injury or fatality-related crashes above the critical crash rate. Two segments of TH 65, between 81st Ave and CSAH 10 and between 99th Ave and 105th Ave, have injury/fatality crashes above the critical rate. Three intersections along TH 65 have injury/fatality crashes above the critical rate, including 89th Avenue, 93rd Lane NE, and Bunker Lake Blvd.

Vehicle Mobility

Current traffic, including freight, experiences notable delays along TH 65, especially during the evening rush hour. Five signalized intersections in the study area have long enough delays that the intersection is considered to operate poorly (more than 55 seconds of delay per vehicle). These include TH 65 at: 81st Ave, Clover Leaf Pkwy, 99th Ave, 109th Ave, Cloud Drive, and Bunker Lake Blvd. Average travel speeds in the peak directions during peak hours range from 22 to 25 mph and fall around or below a target speed of approximately 20 to 22 mph⁸, indicating excessive delay. Forecasted traffic operations in 2045 indicate that all 12 signalized intersections on the TH 65 corridor will operate poorly and average travel speeds will be further reduced.

Also of concern are the delays and queue lengths on the side streets connecting to TH 65, and some of the traffic movements from TH 65 to the side streets. Every intersection along the TH 65 corridor has at least one movement that operates poorly, many having delays of 100 seconds or more. Forecasted traffic operations in 2045 indicate that delays on side streets will further worsen. Currently, delays on side streets result in motorists revising their trips to avoid crossing the TH 65 corridor entirely. Public input collected via in-depth phone interviews and open-ended online written surveys indicates that TH 65 is enough of a barrier that many residents do not shop in their neighborhood retail stores on the other side of the highway. Some employees chose to work in other communities rather than the businesses on the other side of TH 65. This condition is expected to worsen by 2045.

In addition, for some residents in the corridor, TH 65 is the only option for local trips because of the incomplete frontage road system. For example, residents on the west side of TH 65 between 97th Avenue and 109th Avenue must either use TH 65 or must drive through the residential streets to the west for local trips. This situation likely exacerbates the operational issues at the intersections along TH 65 in this area; especially the 99th Avenue intersection, which provides the most direct connection to TH 65 from these western neighborhoods.

2.2.2 Secondary Needs

Secondary needs describe other transportation problems or opportunities for improvements within the project study area that may be able to be addressed, if feasible, at the same time that the primary needs are addressed.

⁷ The critical crash rate is a statistically significant rate indicating that an intersection or roadway segment has crashes frequently enough that there is a safety problem that may need to be addressed.

⁸ The target speed of 20 to 22 miles per hour was determined using Highway Capacity Manual (HCM) Exhibit 18-1. Base free flow speeds for the corridor were determined to range from 50 to 55 miles per hour (from HCM Equation 18-3) and a threshold of LOS D or better was used.

Walkability and Bikeability

The TH 65 corridor was assessed for pedestrian mobility and safety using a method developed by the Oregon Department of Transportation. This method considered various elements in the TH 65 corridor (e.g. lane configurations and width, presence and size of pedestrian refuges, signal types and timing, among others) both at intersections and along the roadway. The analysis determined the likely safety and comfort of bicyclists and pedestrians traveling across or along

TH 65. Nearly every intersection received a failing rating for pedestrian and bicycle travel. Bicycle travel along the corridor was near failing for the northbound and southbound directions.

Pedestrian and bicycle traffic is more sensitive than motorized traffic to signal delays (i.e. how long walkers and bikers need to wait for a signal, and how long the signal lasts), and the width of the intersection. There are currently no pedestrian or bike routes along TH 65, and pedestrians and bicyclists have to wait for a notable amount of time when crossing the corridor due to long signal cycle lengths. In addition to these concerns, pedestrians and bicyclists have to avoid high volumes of vehicles making right turns. Wider corners at intersections allow vehicles to make turns at higher speeds, which contributes to the potentially unsafe conditions for pedestrians and bicyclists.

MnDOT's pedestrian risk assessment tool was also used to assess risk at intersections on the corridor. With this methodology, risk is assessed based on factors such as: presence of bus stops, presence of medians on the major road, presence of on-street parking, number of through lanes on the major road, speed limit, proximity to school(s), presence of left turn lanes on the major road, and approach volumes. Overall, 11 intersections were considered to have high pedestrian risk and five were considered to have medium pedestrian risk.

Within a five year study period (2013-2017), 14 pedestrian or bicyclist related crashes occurred in the project review area, two of which resulted in severe injuries. A review of the pedestrian and bicyclist environment along TH 65 revealed the lack of comfortable facilities cohesively along TH 65; this may be a contributing factor for pedestrian and bicyclist crashes. Nine of the 14 crashes occurred at signalized intersections, two were mid-block crossings, and three were along TH 65. The majority of crashes occurred on dry road surfaces with clear weather conditions.

2.3 Purpose

Given the information presented in the previous sections, the purpose of the TH 65 corridor improvement project is to improve motorized traffic flow along and across TH 65 by decreasing average travel times and reducing delays, reducing crash frequencies along the corridor, and creating an environment where pedestrians and bicyclists are safer and are able to conveniently access destinations across and along the TH 65 corridor safely. Creating these conditions will better connect residents and businesses on opposite sides of the corridor, resulting in a more cohesive community.

As transportation improvements are considered for the TH 65 corridor, they should also avoid adversely impacting transit mobility and meet the fiscal limitations for transportation improvements in the region.

2.4 Additional Considerations

Additional considerations describe other desirable project elements that were not central to the purpose and need, but were important considerations to the selection of alternatives. As transportation improvements are considered for the TH 65 corridor, they should also avoid adversely impacting transit mobility and meet the fiscal limitations for transportation improvements in the region (project is implementable).

2.4.1 Transit Mobility

Currently, Metro Transit Route 865, an express route between Blaine and downtown Minneapolis, uses the TH 65 corridor between 117th Avenue and TH 10. Three local routes use a segment of TH 65, starting at 89th Avenue and heading south out of the corridor study limits. These routes are able to function effectively along the TH 65 corridor by using the shoulders when congestion exists. Potential improvements to the TH 65 corridor should maintain transit mobility for these routes, and should not impede access to the Metro Transit Park and Ride at the north end of Route 865 (located at the intersection of Ulysses Avenue and Paul Parkway just west of TH 65).

2.4.2 Implementable

The cost of transportation improvements is always a consideration; capital budgets are constrained and must address many needs across the system. Previous studies have suggested that a freeway with access only at interchanges may be the best technical solution for mobility along and across the TH 65 corridor. However, transportation solutions for the corridor must fit within fiscal constraints; therefore, a fully access-controlled solution may not be viable.

2.5 Goals

Goals are not considered the transportation needs of the project, however, they provide context that can influence project development and design decisions. A statement of identified goals can provide an additional set of criteria for comparative evaluation of alternatives. Minimizing impacts to socio-economic and environmental resources will be considered as a project goal.

2.5.1 Environmental Concerns

The TH 65 corridor has certain social, economic, and environmental resources and/or concerns that will be considered. These include:

- The presence of parks and known historical resources within 1000 feet of the TH 65 alignment
- The presence of low income and minority populations
- Areas of wetlands, floodplains, and drainage ways
- A number of sites with known or potential soil and groundwater contamination; many of which are located adjacent to intersections along the corridor

Evaluation of potential improvements to the TH 65 corridor will consider potential effects on these resources.

2.5.2 Development/Redevelopment Potential

The TH 65 corridor is fairly well developed. However, there are several properties that are underutilized for various reasons (e.g. presence of contamination, economics, access). Evaluation of potential improvements to the TH 65 corridor will consider the viability of development and redevelopment options along the corridor, impact on development or redevelopment potential, and potential to enhance development or redevelopment options.

3. Alternatives Analysis

The alternatives analysis process included the development of alternatives and three screening levels of evaluation using criteria based on the project's Purpose and Need. FHWA concurred on the Alternatives Analysis Memo (see Appendix D: Concurrence Documentation) on December 22, 2020. The remaining alternatives after the final (Level 3) screening represent those alternatives that best met the project's Purpose and Need. The study area was divided into three sections to better develop and evaluate different alternatives based on the context throughout the corridor. Each section-wide alternative has the ability to be interchanged with another to achieve the corridor vision. For example, a freeway type of alternative could be included in Sections 1 and 3, and a hybrid freeway type alternative in Section 2 and still be a viable corridor-wide alternative.

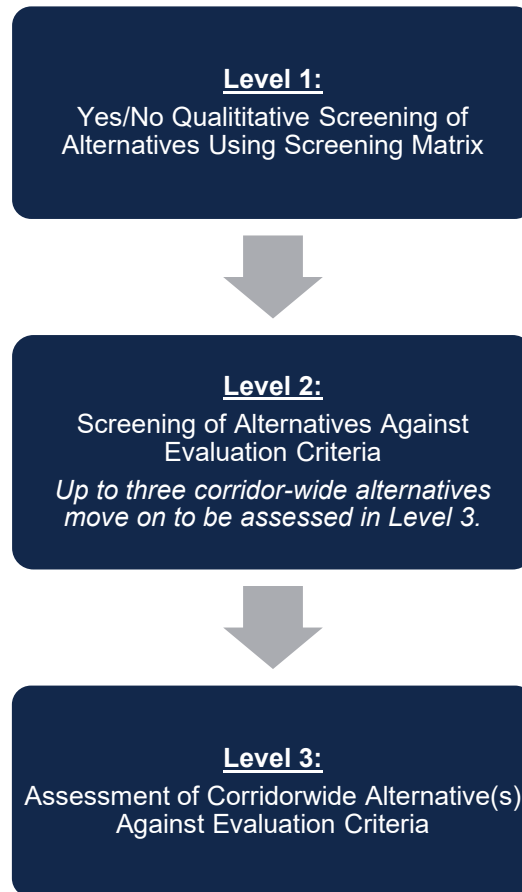
A total of 42 section-wide, spot location, and Transportation System Management and Operations (TSMO) alternatives were evaluated in Level 1. A total of 23 section-wide and spot location alternatives were evaluated in Level 2. A total of three corridor-wide alternatives (9 section-wide alternatives) were evaluated in Level 3. During Level 3, all passed the screening except one section-wide alternative, leaving 8 viable alternatives documented in this report. Additionally, TSMO alternatives were not evaluated in the Levels 2 and 3 screenings and will be carried forward for consideration during future NEPA review. See Appendix G: Alternatives Analysis Memo for additional analysis and documentation.

3.1 Evaluation Criteria and Results⁹

Evaluation criteria were developed based on the project's purpose and need. Additional considerations and known environmental issues are identified in the Purpose and Need and Evaluation Criteria Memo (see Appendix F: Purpose and Need and Evaluation Criteria Memo). The three-step screening process is summarized in Figure 3-1 and further explained in the following sections.

⁹ The Evaluation Criteria section has been updated since the Purpose and Need and Evaluation Memo was approved by FHWA in 2019 to clarify terminology (e.g. use of term "Alternatives" to exclusively describe conceptual designs and "Sections" to describe geographic sections of the corridor) and other minor terminology and tense corrections. Additionally, the Evaluation Criteria for Levels 2 and 3 has been revised based on input from federal agency comments, MnDOT staff, and the Technical Advisory Committee, including FHWA.

Figure 3-1 – Evaluation Process Overview



3.1.1 Section-level Designations

The study area was divided into three sections for purposes of the analysis. The alternatives can be interchanged between sections to assemble the corridor vision, leaving flexibility for the future NEPA process. Below are the following section designations:

- Section 1: 81st Ave to North of 93rd Ln
- Section 2: North of 93rd Ln to 117th Ave
- Section 3: North of 117th Ave to Bunker Lake Blvd

Figure 3-2 – TH 65 Study Area

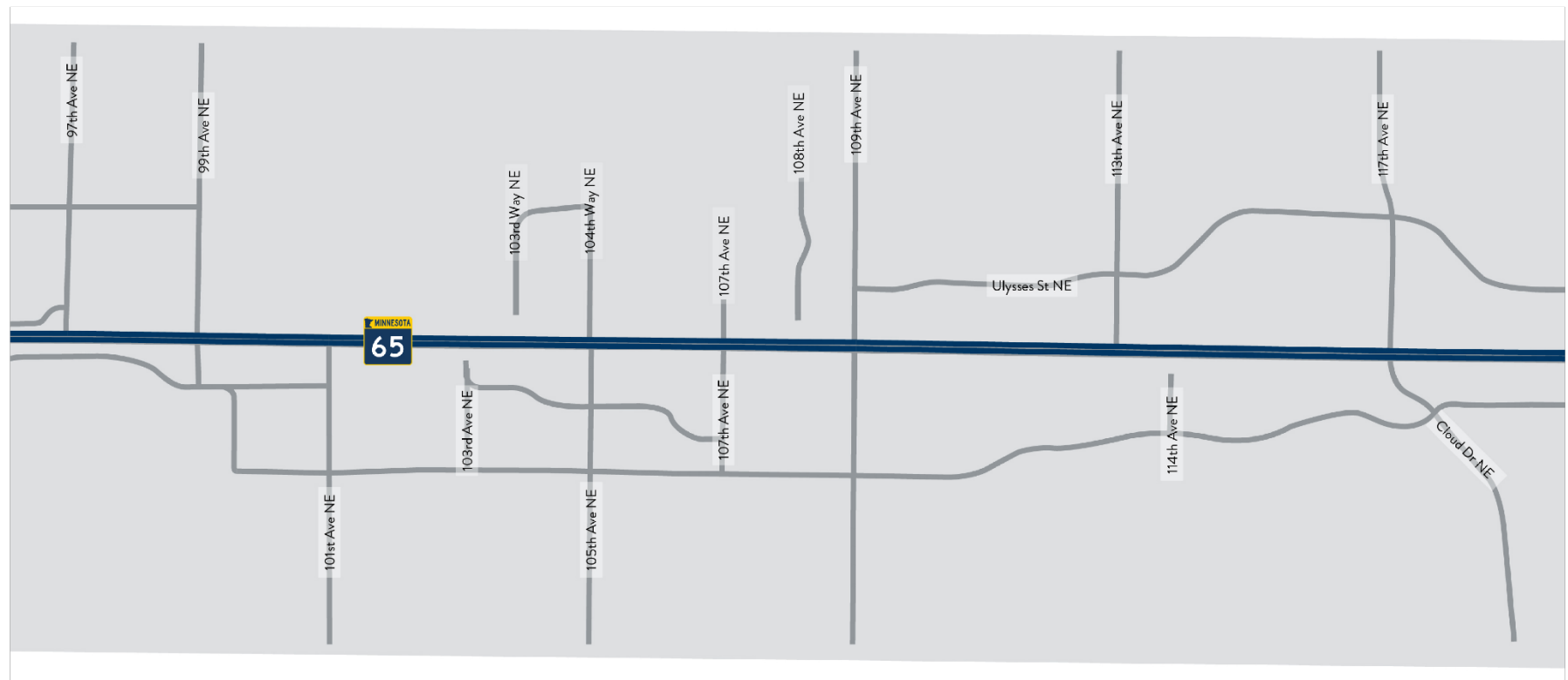
Section 1

TH 65 Study Area

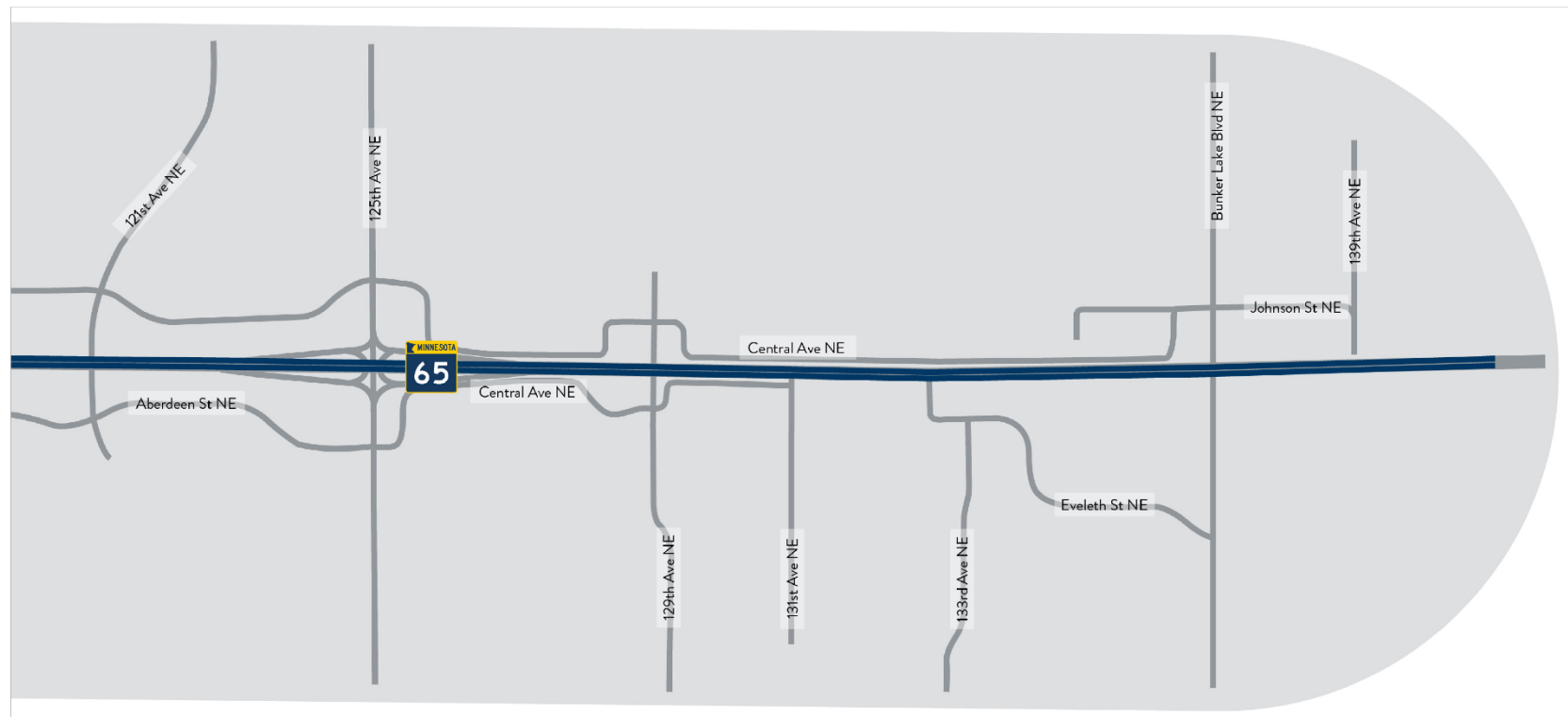


LEGEND:
Highway 65

Section 2



Section 3



3.1.2 Alternatives Evaluated

The following figures below (Figures 3-3 through Figure 3-6) summarize the alternatives considered during the process, the evaluation result, and how alternatives were combined or “re-packaged” between evaluation levels. Alternatives that were combined were limited to Section 1, between Levels 2 and 3, and were the result of the development of spot location alternatives only addressing a specific part of the section.

3.1.3 Level 1 Screening Criteria

The purpose of the Level 1 screening was to eliminate alternatives that clearly did not meet the project’s Purpose and Need. Alternatives were evaluated in Level 1 by three geographic sections. The following “yes” or “no” questions were included as a part of the Level 1 screening:

Safety

Does the alternative have the potential to reduce the number and severity of crashes along the corridor?

Congestion

Does the alternative have the potential to improve travel time along the corridor?

Does the alternative have the potential to improve travel time crossing the corridor?

Pedestrian/Bicycle

Does the alternative have the potential to improve comfort and safety for pedestrians and bicyclists?

Implementable

Is the alternative practical?

Figure 3-3 – Section 1, Alternatives Analysis Evaluation Process and Results

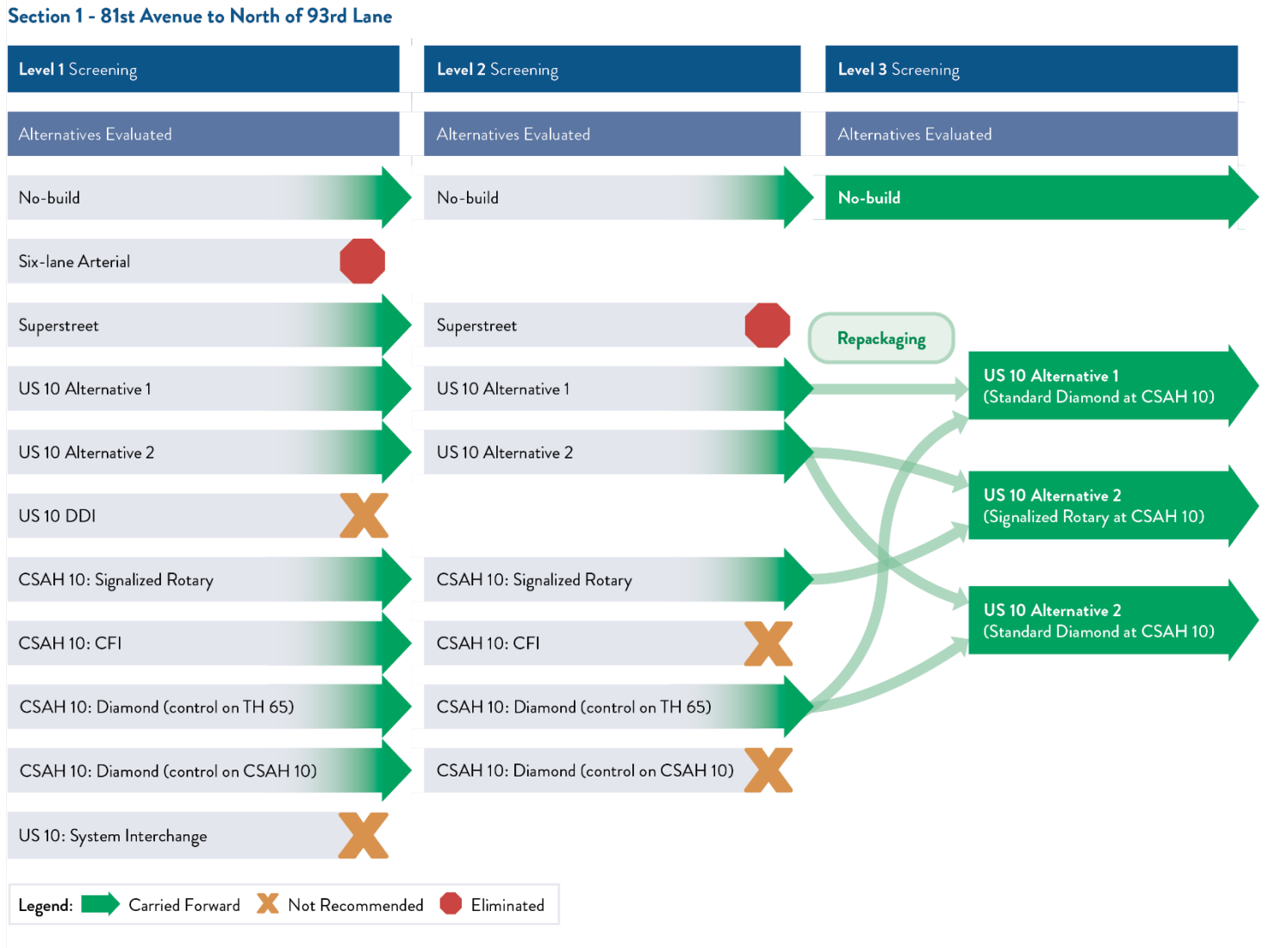
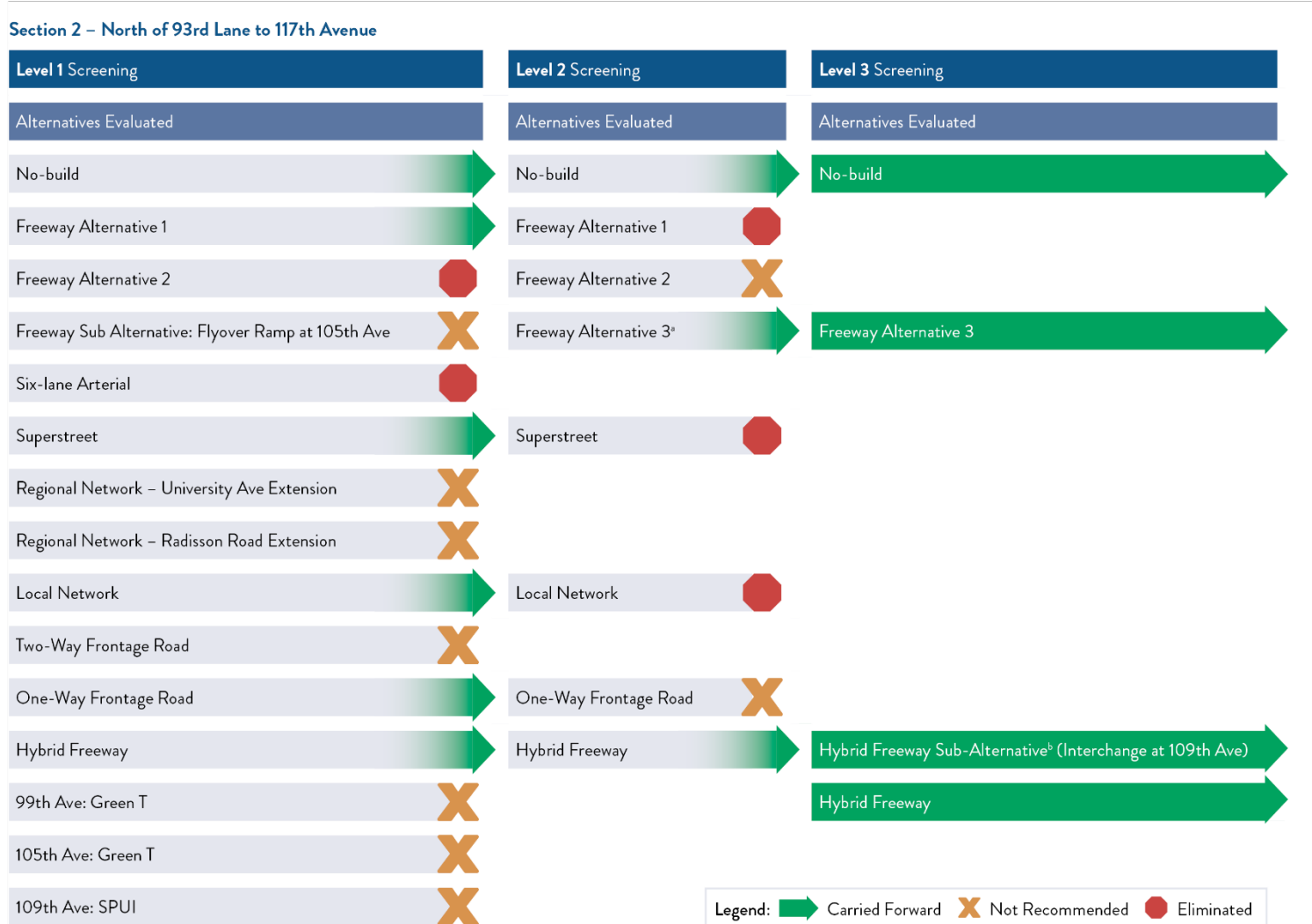


Figure 3-4 – Section 2, Alternatives Analysis Evaluation Process and Results



a. Freeway Alternative 3 was added during the Level 2 screening as another freeway alternative that could better connect the west side of the corridor with the frontage road system.
b. The Hybrid Freeway (Interchange at 109th Ave) was added between Levels 2 and 3 as a variation on the Hybrid Freeway Alternative, but including an interchange at 109th Ave.

Figure 3-5 – Section 3, Alternatives Analysis Evaluation Process and Results

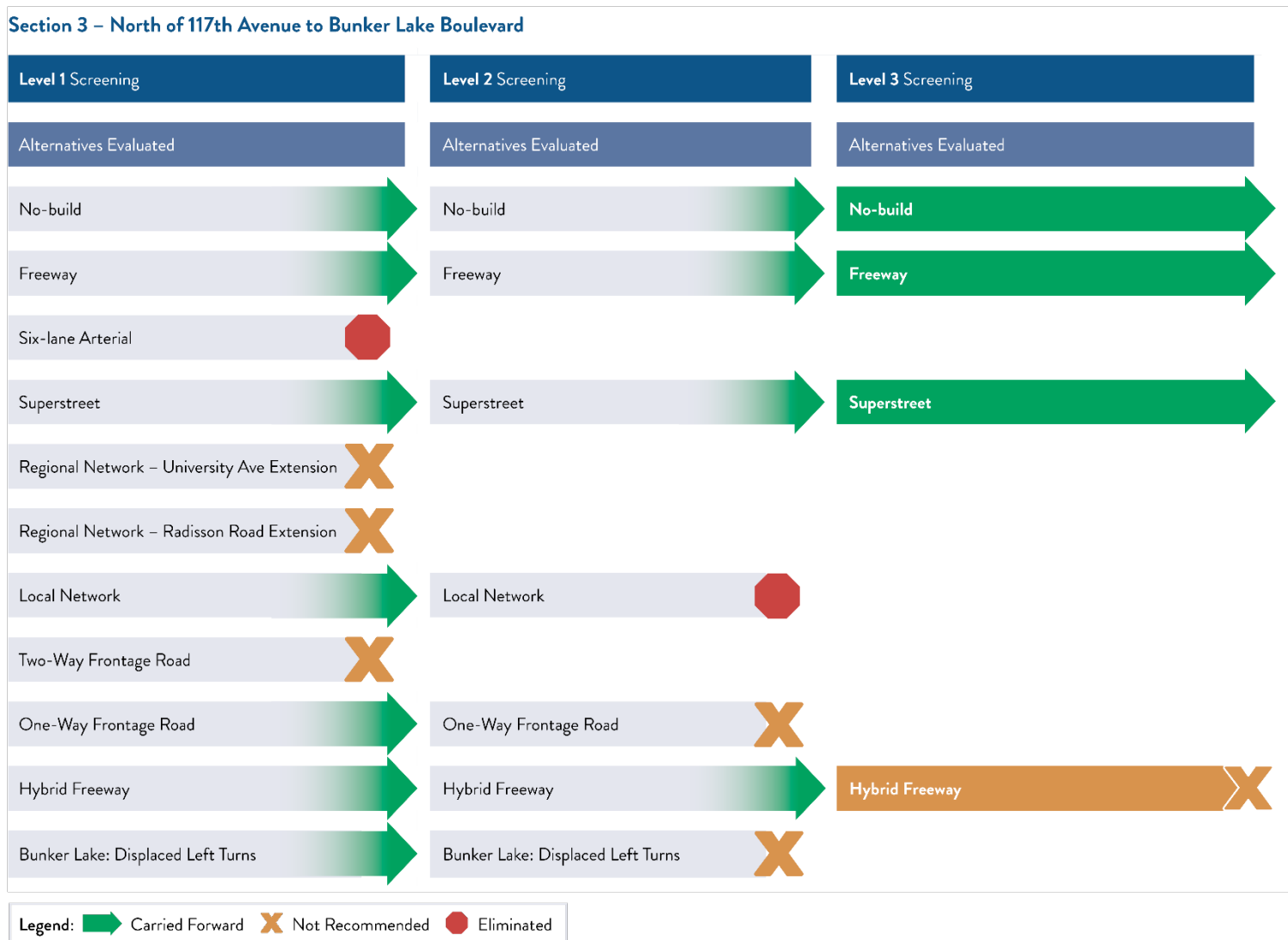
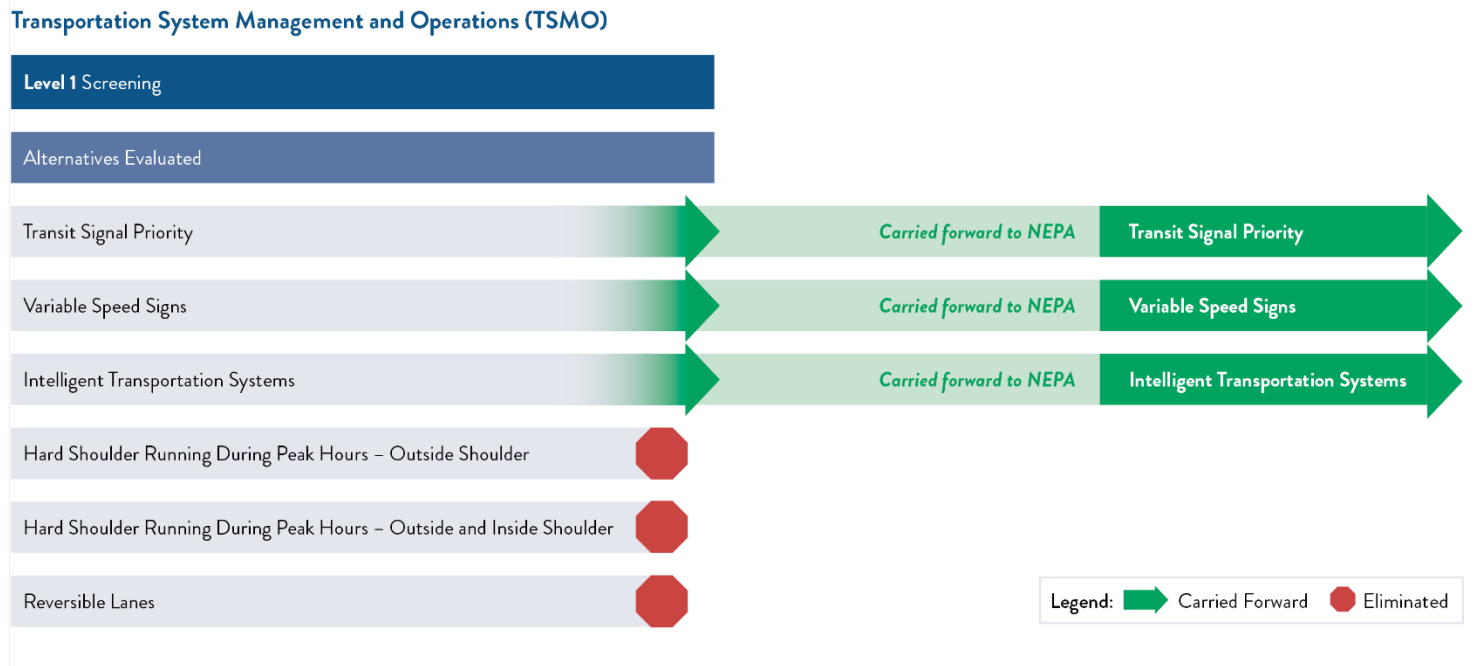


Figure 3-6 – TSMO, Alternatives Analysis Evaluation Process and Results



Level 1 Summary Categories

An alternative that had a “no” response to any of the questions was either eliminated from consideration or not recommended to move forward to Level 2. The screening matrix summarized each alternative into the following categories:

- **Carried Forward:** The alternative will be evaluated further in Level 2 as a stand-alone alternative.
- **Elements Carried Forward:** This alternative is removed from consideration, but specifically identified elements are carried forward into Level 2 for incorporation into other alternatives.
- **Not Recommended:** This alternative is removed from consideration. No elements unique to the alternative are carried forward because similar improvements in other alternatives have demonstrated superior performance. It can be reconsidered in future studies if new information or analysis indicates it would better meet the Purpose and Need.
- **Eliminated:** The alternative does not help address the Purpose and Need and should not be reconsidered in any future analysis (including Level 2) or in NEPA.

3.1.4 Level 1 Screening Results

The Level 1 screening evaluation resulted in the elimination of 7 alternatives, and not recommending 12 alternatives (see Table 3-1). The project team in coordination with the Technical Advisory Committee (TAC) completed the Level 1 evaluation.

Table 3-1 – Level 1 Screening Results (Totals)

| Section or TSMO | Alternatives / Elements Carried Forward | Alternatives Not Recommended | Alternatives Eliminated | Total Alternatives Evaluated |
|-----------------|---|------------------------------|-------------------------|------------------------------|
| Section 1 | 8 | 2 | 1 | 11 |
| Section 2 | 7 | 7 | 1 | 15 |
| Section 3 | 7 | 3 | 1 | 11 |
| TSMO | 3 | 0 | 3 | 6 |
| Total | 24 | 12 | 6 | 42 |

Note: Each section total includes the no-build alternative carried forward

The TAC met on August 7, 2019 and agreed that the following alternatives be eliminated or not recommended. These alternatives were eliminated or not recommended for various reasons related to not meeting the Purpose and Need (See Table 3-2 for the list of alternatives evaluated in Level 1). The categories where the alternatives did not meet the

Purpose and Need include the following: safety, implementable, bikeability/walkability, and congestion. For a more detailed discussion about alternatives considered and rationale for the Level 1 results, reference Appendix G: Alternatives Analysis Memo.

Table 3-2 – Level 1 Alternatives Considered and Screening Results

| Section or TSMO | Alternatives Carried Forward | Alternatives Not Recommended | Alternatives Eliminated |
|-----------------|--|---|----------------------------|
| Section 1 | No-build, Superstreet, US 10 Alternative 1, US 10 Alternative 2, CSAH 10: Signalized Rotary, CSAH 10: CFI, CSAH 10: Diamond (Control on TH 65), CSAH 10: Diamond (Control on CSAH 10) | US 10 DDI, US 10: System Interchange | Six-lane Arterial |
| Section 2 | No-build, Freeway Alternative 1, Freeway Alternative 2, Superstreet, Local Network, One-Way Frontage Road, Hybrid Freeway, | Freeway Sub Alt: Flyover at 105 Ave, Regional Network: University Ave Extension, Regional Network: Radisson Rd Extension, Two-way Frontage Rd, 99 th Ave: Green T, 105 th Ave: Green T, 109 th Ave: SPUI | Six-lane Arterial |
| Section 3 | No-build, Freeway, Superstreet, Local Network, One-way Frontage Road, Hybrid Freeway, | Regional Network: University Ave Extension, Regional Network: Radisson Rd Extension, Two-way Frontage Rd | Six-lane Arterial |

| Section or TSMO | Alternatives Carried Forward | Alternatives Not Recommended | Alternatives Eliminated |
|-----------------|---|------------------------------|---|
| | Bunker Lake: Displaced Left Turns | | |
| TSMO | Transit Signal Priority, Variable Speed Signs, Intelligent Transportation Systems | None | Hard Shoulder (outside, during peak hours), Hard Shoulder (outside and inside, during peak hours), Reversible Lanes |

3.1.5 Level 2 Screening

Criteria in Level 2 screening compared how well each option met the Purpose and Need, additional considerations and goals of the project. The alternatives were compared against the no-build alternative and each other, by section. The performance measures were a mix of qualitative and quantitative assessments, based on the criteria and the data available at this stage of development. All alternatives were considered interchangeable by section (except for no-build). Table 3-3 summarizes evaluation criteria used for Level 2 Screening. TSMO alternatives were not evaluated and carried forward. Reference Figure 3-3 for alternatives considered in Level 2.

Table 3-3 – Level 2 Screening Criteria

| Category and Criteria | Performance Measure |
|---|---|
| Category: Vehicle Safety | Vehicle Safety Performance Measure |
| Ability to address identified unsafe physical or operational conditions | Crash modification factors (CMF) and Highway Safety Manual (HSM) |
| Category: Traffic Operations | Traffic Operations Performance Measure |
| Intersection capacity | Overall intersection v/c (Volume to Capacity Ratio) |
| Quality of the driver experience | Corridor travel speeds resulting in LOS D or better based on Highway Capacity Manual (HCM) methodology (HCM Exhibit 18-1, arterial alternatives only). Use a base free flow speed (BFFS) of 55 mph north of 93rd Lane NE, and 50 mph south of 93rd Lane NE. |
| Quality of traffic operations | Overall intersection LOS |

| Category: Bikeability/Walkability | Bikeability/Walkability Performance Measure |
|--|---|
| Ability to move safely east-west across the corridor | Crossing Level of Service (Oregon Multi-modal Level of Service - MMLOS) |
| Ability to move safely north-south along corridor | Distance to next crossing and Section Level of Service (Oregon Multi-modal Level of Service - MMLOS). |

| Category: Community | Community Performance Measure |
|--|--|
| Minimize impacts to existing landowners and businesses | Number of properties and acres of properties that may be impacted based on alternative footprint. |
| Support of local and regional planning efforts | Visibility and accessibility of existing and planned retail/commercial property consistent with City Land Use Plans. |
| Minimize impacts on Environmental Justice (EJ) communities | Number of properties and acres of potential impacts on identified EJ properties based on alternative footprint. |

| Category: Environmental Resources | Environmental Resources Performance Measure |
|---|---|
| Minimize wetland impacts | Number of wetlands and acres of wetlands that may be impacted based on alternative footprint. |
| Minimize floodplain impacts | Number of floodplains and acres of floodplains that may be impacted based on alternative footprint. |
| Minimize 4(f) impacts | Number of parks and acres of parks that may be impacted based on alternative footprint. |
| Avoid disturbing or acquiring hazardous material sites. | Number of known sites within 100 feet of alternative footprint. |

| Category: Implementable | Implementable Performance Measure |
|-------------------------|--|
| Construction costs | Assessment of probable construction and right-of-way costs (low, moderate, high, very high). This will be based on the number of high cost elements like total right of way impacted, number of bridges, major grading changes, etc. |
| Constructability | Assessment of construction impacts on traveling public (low, moderate, high, very high). |
| Transit | Assessment of adverse impacts to existing or proposed transit routes or facilities. |

Level 2 Summary Categories

An alternative that did not best meet the Purpose and Need while also considering the “Additional Considerations” and “Goals” of environmental, fiscal, and implementable evaluation criteria was either eliminated from consideration or not recommended to move forward to Level 3. Alternatives were evaluated by section.

- Carried Forward: The alternative will be evaluated further in Level 3 as a stand-alone alternative.
- Elements Carried Forward: This alternative is removed from consideration, but specifically identified elements are carried forward into Level 3 for incorporation into other alternatives.

- **Not Recommended:** This alternative is removed from consideration. No elements unique to the alternative are carried forward because similar improvements in other alternatives have demonstrated superior performance. It can be reconsidered in future studies if new information or analysis indicates it would better meet the Purpose and Need.
- **Eliminated:** The alternative does not help address the Purpose and Need and should not be reconsidered in any future analysis (including Level 3) or in NEPA.

3.1.6 Level 2 Screening Results

The TAC met multiple times to deliberate over the Level 2 Alternatives, additional analysis needed, and which alternatives should move forward into Level 3 screening. The TAC met on September 17, 2019, October 2, 2019, and November 6, 2019. During the meeting on November 6, 2019, the TAC held a workshop where the attendees assembled two to three corridor-wide alternatives for consideration in small groups by using the Level 2 evaluation matrix and graphics, and then reported out to the rest of the TAC. The exercise of assembling a corridor-wide alternative helped the group determine which Level 2 section-wide alternatives best met the project’s Purpose and Need and therefore which alternatives should be carried forward to Level 3. The TAC supported the three corridor-wide alternatives recommended for the Level 3 screening. The recommendations by the TAC were presented to the Public Advisory Committee (PAC) on December 19, 2019 for consideration and the PAC supported the recommendations. Additionally, design concepts were presented to the public through online engagement content and pop-up meetings during Fall 2019, which supported grade separated median U-turns, but negatively perceived displaced left turns and at-grade median U-turns. See Section 4.3.3 for more of the engagement themes from this phase.

Table 3-4 – Level 2 Screening Results (Totals)

| Section or TSMO | Alternatives / Elements Carried Forward | Alternatives Not Recommended | Alternatives Eliminated | Total Alternatives Evaluated |
|-----------------|---|------------------------------|-------------------------|------------------------------|
| Section 1 | 5 | 2 | 1 | 8 |
| Section 2 | 3 | 2 | 3 | 8 |
| Section 3 | 4 | 2 | 1 | 7 |
| TSMO | 3 | 0 | 0 | Not evaluated |
| Total | 15 | 6 | 5 | 23 |

Note: Each section total includes the no-build alternative carried forward

The following alternatives were eliminated or not recommended for various reasons related to not best meeting the Purpose and Need (see Table 3-5). The categories where the alternatives *did not best meet* the Purpose and Need include the following: traffic, bikeability/walkability, and community. For a more detailed discussion about alternatives considered and rationale for the Level 2 results, reference Appendix G: Alternatives Analysis Memo.

Table 3-5 – Level 2 Alternatives Considered and Screening Results

| Section or TSMO | Alternatives Carried Forward | Alternatives Not Recommended | Alternatives Eliminated |
|-----------------|---|---|---|
| Section 1 | No-build, US 10 Alt 1, US 10 Alt 2, CSAH 10: Signalized Rotary, CSAH 10: Diamond (Control on TH 65) | CSAH 10: CFI, CSAH 10: Standard Diamond (Control on CSAH 10) | Superstreet |
| Section 2 | No-build, Freeway Alt 3,10 Hybrid Freeway | Freeway Alt 2, One-Way Frontage Rd | Freeway Alt 1, Superstreet, Local Network |
| Section 3 | No-build, Freeway, Superstreet Hybrid Freeway | One-Way Frontage Rd, Bunker Lake: Displaced Left Turns | Local Network |
| TSMO | Transit Signal Priority, Variable Speed Signs, Intelligent Transportation Systems | None | None |

3.1.7 Level 3 Screening

Three corridor-wide alternatives were measured against criteria to illustrate how well each corridor-wide alternative met the Purpose and Need and goals of the project. The performance measures are a mix of qualitative and quantitative assessments, based on the criteria and the data available at this stage of the development. Alternatives in Level 3 were screened with refined evaluation criteria as well as updated Level 2 screening results based on design refinements. A total of three corridor-wide alternatives were evaluated, assembled with a total of 9 section alternatives. In Section 1, spot location alternatives and section alternatives were combined to evaluate three Section 1 alternatives. Input on the Level 3 evaluation criteria was provided by MnDOT technical staff, local and federal agencies and the TAC. For example,

¹⁰ Freeway Alternative 3 was added during the Level 2 screening as another freeway alternative that could better connect the west side of the corridor with the frontage road system.

measuring impervious surfaces was added as a part of the Level 3 evaluation criteria as well as more detailed cost estimate comparing corridor performance against value.

In Level 3, the alternatives developed were corridor-wide, however, there remains flexibility to implement different alternatives by section. Transportation System Management & Operations (TSMO)/Corridor Management alternatives were not evaluated in Level 3 and are to be considered during the NEPA process. Categories evaluated included: vehicle safety, traffic operations, bikeability/walkability, community, environmental, and additional considerations. Table 3-6 summarizes evaluation criteria used for Level 3 Screening.

Level 3 Summary Categories

An alternative that did not best meet the Purpose and Need was either eliminated from consideration or not recommended to move into the NEPA process. Alternatives were evaluated by section.

- **Carried Forward:** The alternative will be considered in future NEPA process.
- **Elements Carried Forward:** This alternative is removed from consideration, but specifically identified elements are carried forward into future NEPA process for incorporation into other alternatives.
- **Not Recommended:** This alternative is removed from consideration. No elements unique to the alternative are carried forward because similar improvements in other alternatives have demonstrated superior performance. It can be reconsidered in future studies if new information or analysis indicates it would better meet the Purpose and Need.

3.1.8 Level 3 Screening Results

The following evaluation charts reflect how each alternative performed against the evaluation criteria during Level 3 (see Figures 3-7 through Figure 3-9).

Table 3-6 – Level 3 Screening Criteria

























| Category and Criteria | Performance Measure |
|---|---|
| Category: Vehicle Safety | Vehicle Safety Performance Measure |
| Ability to address identified unsafe physical or operational conditions | Corridor wide safety performance using SSAM3: Conflict points (% change from No-Build). |
| Category: Vehicle Safety | Vehicle Safety Performance Measure |
| Ability to address identified unsafe physical or operational conditions | Corridor wide safety performance using SSAM3: Conflict points (% change from No-Build). |
| Category: Traffic Operations | Traffic Operations Performance Measure |
| Ability to improve vehicle travel time along the corridor | Corridor travel time in mins. |
| Improve travel time crossing the corridor | East-west travel time across TH 65 at representative origins and destinations. |
| Does the improvement maintain current transit service? | Travel time in mins. |
| How does the improvement impact freight movements? ¹¹ | Travel time in mins at representative origins and destinations. |
| Ability to improve throughput along the corridor. | Throughput in vehicles per hour. |
| Category: Bikeability/Walkability | Bikeability/Walkability Performance Measure |
| Ability to move safely east-west across the corridor ¹¹ | East-west travel time (mins) and distance at representative origins and destinations. |
| Ability to move safely north-south along corridor | Distance to next crossing and Section Level of Service (Oregon Multi-modal Level of Service - MMLOS) |
| Category: Community | Community Performance Measure |
| Minimize impacts to existing landowners and businesses | Number of properties and acres of properties that may be impacted based on alternative footprint. |
| Support of local and regional planning efforts | Visibility and accessibility of existing and planned retail/commercial property consistent with City Land Use Plans. |
| Minimize impacts on Environmental Justice (EJ) communities | Number and acres of potential impact on identified EJ properties based on alternative footprint, and qualitative EJ concerns. |
| Category: Environmental Resources | Environmental Resources Performance Measure |
| Minimize wetland impacts | Number of wetlands and acres of wetlands that may be impacted based on alternative footprint. |
| Minimize floodplain impacts | Number of floodplains and acres of floodplains that may be impacted based on alternative footprint. |

¹¹ Criteria performance measure revised from original Purpose and Need Memo in response to input from TAC.

| Category: Environmental Resources | Environmental Resources Performance Measure |
|--|---|
| Minimize 4(f) impacts | Number of parks and acres of parks that may be impacted based on alternative footprint. |
| Avoid disturbing or acquiring hazardous material sites ¹² | Risk related to release sites of elevated concern, as identified by MnDOT in Environmental Notification Memo. |
| Impervious surface ¹¹ | Increase in impervious surfaces in acres and % over No-Build. |

| Category: Implementable | Implementable Performance Measure |
|-------------------------------------|--|
| Costs | Opinion of probable construction and right-of-way cost range. |
| Performance vs. Value ¹³ | Performance vs. Value. Alternatives were scored quantitatively on the evaluation criteria for performance and divided by total project cost. ¹⁴ |
| Constructability | Assessment of construction impacts on traveling public (low, moderate, high, very high). |

Figure 3-7 – Section 1 Detailed Evaluation

| Evaluation summary | | | | | |
|---|---|---|---|---|-------------------------------|
|  | Addresses the question well |  | Addresses the question okay |  | Addresses the question poorly |
| Criteria | US 10 Alternative 1 (Standard Diamond at CSAH 10) | US 10 Alternative 2 (Signalized Rotary at CSAH 10) | US 10 Alternative 2 (Standard Diamond at CSAH 10) | | |
| Is vehicle safety improved? |  |  |  | | |
| Are vehicles able travel along and across Highway 65 in less time? |  |  |  | | |
| Is safety and comfort for people walking and bicycling improved? |  |  |  | | |
| Level of impacts to existing landowners and businesses |  |  |  | | |
| Cost to build |  |  |  | | |
| Do the benefits outweigh the costs? |  |  |  | | |
| Level of travel impacts during construction |  |  |  | | |




























¹² Criteria added in response to EPA comments received.

¹³ Criteria performance measure revised from original Purpose and Need Memo in response to input from TAC.

¹⁴ See Appendix G: Alternatives Analysis Memo (Appendix E of memo) for detailed methodology and results.

























Source: Adapted from the Level 3 Evaluation Matrix from the Alternatives Analysis Memo

Figure 3-8 – Section 2 Detailed Evaluation

| Evaluation Summary | | | |
|---|---|---|---|
|  Addresses the question well |  Addresses the question okay |  Addresses the question poorly | |
| Criteria | Freeway Alternative 3 | Hybrid Freeway | Hybrid Freeway Sub-Alternative (Interchange at 109th Ave) |
| Is vehicle safety improved? |  |  |  |
| Are vehicles able travel along and across Highway 65 in less time? |  |  |  |
| Is safety and comfort for people walking and bicycling improved? |  |  |  |
| Level of impacts to existing landowners and businesses |  |  |  |
| Level of impact to wetlands |  |  |  |
| Cost to build |  |  |  |
| Do the benefits outweigh the costs? |  |  |  |
| Level of travel impacts during construction |  |  |  |

Source: Adapted from the Level 3 Evaluation Matrix from the Alternatives Analysis Memo

Figure 3-9 – Section 3 Detailed Evaluation

| Evaluation Summary | | | |
|---|---|---|---|
|  Addresses the question well |  Addresses the question okay |  Addresses the question poorly | |
| Criteria | Freeway Alternative | Superstreet (RCUT at Bunker Lake Blvd) | Hybrid Freeway |
| Is vehicle safety improved? |  |  |  |
| Are vehicles able travel along and across Highway 65 in less time? |  |  |  |
| Is safety and comfort for people walking and bicycling improved? |  |  |  |
| Level of impacts to existing landowners and businesses |  |  |  |
| Cost to build |  |  |  |
| Do the benefits outweigh the costs? |  |  |  |
| Level of travel impacts during construction |  |  |  |

Source: Adapted from the Level 3 Evaluation Matrix from the Alternatives Analysis Memo

The table below includes the screening results from Level 3 (Figure 3-7). The hybrid freeway alternative in Section 3 was not recommended in Level 3 due to the additional considerations of relatively higher opinion of construction costs and low cost versus performance result. All other alternatives from Level 3 and the TSMO alternatives will be carried forward into the NEPA process. The Technical Advisory Committee (TAC) met multiple times to discuss the Level 3 evaluation criteria and alternatives. The TAC met to discuss the Level 3 screening on January 8, 2020, February 5, 2020, April 1, 2020, and May 20, 2020. At the meeting on June 3, 2020, the group supported the recommendation to “not recommend” the hybrid freeway alternative in Section 3 (part of Corridor-wide Alternative 3). The Public Advisory Committee met on August 5, 2020 to review the Level 3 Alternatives. The group supported the alternatives and provided feedback on how to present the alternatives to the public.

The results of the Level 3 analysis indicated that while section-wide and spot location alternatives were assembled into corridor-wide alternatives, a specific combination did not greatly improve the results of one over another. Instead, a section of the corridor could be interchanged with any combination of alternatives to achieve the corridor-wide vision, with different trade-offs. Therefore, removal of the hybrid freeway alternative from consideration will not ultimately affect future NEPA review because they can be considered at a section-wide level.

The project team implemented multiple engagement and communications methods to engage the public on the alternatives analysis results, including online engagement content and virtual meeting. A majority of the comments from the community expressed positive opinions about the alternatives, most noting their preference for one over another, or offering suggestions on design refinements. Only a handful of comments expressed negative views towards all of the alternatives. See Section 4.3.4 for additional information on engagement during this phase.

Table 3-7 – Level 3 Screening Results

| Section or TSMO | No-build Alternative | Corridor-wide Alternative 1 | Corridor-wide Alternative 2 | Corridor-wide Alternative 3 |
|-----------------|----------------------|--|--|--|
| Section 1 | Carried Forward | US 10 Alt 1 (Diamond at CSAH 10): Carried Forward | US 10 Alt 2 (Signalized Rotary at CSAH 10): Carried Forward | US 10 Alt 2 (Diamond at CSAH 10): Carried Forward |
| Section 2 | Carried Forward | Freeway Alt 3: Carried Forward | Hybrid Freeway: Carried Forward | Hybrid Freeway (Interchange at 109 th) ¹⁵ : Carried Forward |
| Section 3 | Carried Forward | Freeway Alt: Carried Forward | Superstreet: Carried Forward | Hybrid Freeway: Not Recommended |
| TSMO | N/A | Carried Forward | Carried Forward | Carried Forward |

¹⁵ The Hybrid Freeway (Interchange at 109th Ave) was added between Levels 2 and 3 as a variation on the Hybrid Freeway Alternative, but including an interchange at 109th Ave.

4. Agency and Public Involvement

The TH 65 PEL Study included public involvement throughout the process as well as regular agency coordination. A mix of standing committees and coordination at key project milestones kept stakeholders and the public informed of the process and provided opportunities to weigh in and shape the study. The following paragraphs describe the stakeholders engaged, process, and major themes from each phase of engagement.

4.1 Local Agency Coordination

A Technical Advisory Committee provided direct coordination on the project at the staff level.

4.1.1 Technical Advisory Committee

The Technical Advisory Committee (TAC) included a core group of MnDOT staff representing functional expertise areas, local and state agency representatives. The project team relied on the TAC throughout the process to provide input on the technical analysis, findings, design alternatives, and deliverables. The TAC helped shape the purpose and need, evaluation criteria, alternatives, and alternatives screening. They also provided feedback on engagement strategies and content for the public and elected officials, in addition to supporting public facing meetings. The following agencies were invited to participate on the TAC:

- MnDOT
- FHWA
- Metropolitan Council
- Anoka County
- City of Blaine
- City of Ham Lake
- City of Spring Lake Park

The TAC met regularly throughout the study process for a total of 17 meetings (Table 4-1).

Table 4-1 – TAC Meetings

| Meetings | 2018 | 2019 | 2020 |
|--------------|--------------|--------------|------------|
| Meeting Date | September 28 | January 2 | January 8 |
| | November 7 | February 14 | February 5 |
| | | April 3 | April 1 |
| | | June 5 | May 20 |
| | | July 17 | June 3 |
| | | August 7 | July 8 |
| | | September 17 | October 19 |
| | | October 2 | |
| | | November 6 | |
| | | December 4 | |

4.1.1.1 Local Agency Support

The following local agencies have been involved throughout the study process and have long supported improvements in the area. After participating in the three levels of screening evaluation through TAC meetings, and providing a robust public information and community comment period, these agencies found the PEL process to be a valuable tool in the alternatives decision-making process resulting in a flexible corridor vision. They support the recommendation of the eight section-wide alternatives that were determined to move forward to NEPA.

When individual projects move into future environmental review processes, they are committed to providing continued support and participation. See Appendix C: Letters of Support for letters.

- Anoka County
- City of Blaine
- City of Ham Lake
- City of Spring Lake Park
- Metropolitan Council

4.1.2 Resource Agency Coordination

Federal, state, and local resource agencies were engaged during the study process. MnDOT requested agency comment on the purpose and need and introduced the project through notification letters that were sent between December 2019 and January 2020. Comments from resource agencies were addressed and shaped the development of the Alternatives Analysis memo. Comments were received from the Federal Aviation Administration (FAA) and the Environmental Protection Agency (EPA). Comments from the FAA provided details on the Runway Protection Zone at the Blaine-Anoka County Airport near the project area. Comments from the EPA led to changes in the Level 3 evaluation criteria (adding in impervious surface as a criteria) as noted in the previous chapter.

MnDOT requested resource agency comment on the Alternative Analysis memo in September 2020. From the comments received on the Alternatives Analysis, the EPA acknowledged that their previous comments had been addressed and also noted their role in independent review and comment on future NEPA documents developed for the corridor based on the results of this PEL study. The Office of the State Archaeologist recommended a literature review and archaeological assessment. A summary of resource agency coordination is included in Appendix A: Public Engagement and Agency Coordination. The following resource agencies were engaged as a part of the study (Table 4-2).

Table 4-2 – Resource Agency Coordination

| Agency Type | Federal | Tribes | State | Local |
|-------------|---|--|---------------------------------------|--------------------------------------|
| Agency | Environmental Protection Agency | Fort Peck and Assiniboine and Sioux Tribes | MN State Historic Preservation Office | Metropolitan Council Anoka County |
| | United States Army Corps of Engineers | Leech Lake Band of Ojibwe Mille Lacs Band of Ojibwe | MN Office of the State Archaeologist | City of Blaine |
| | United States Fish and Wildlife Service | Santee Sioux Nation | MN Pollution Control Agency | City of Ham Lake |
| | Federal Aviation Administration | Shakopee Mdewakanton Sioux Community | MN Department of Natural Resources | City of Spring Lake Park |
| | Federal Railroad Administration | Turtle Mountain Band of Chippewa | MN Department of Health | Coon Creek Watershed District |
| | Federal Transit Administration | Upper Sioux Community | MN Department of Agriculture | Rice Creek Watershed District |
| | United States Department of Agriculture | | MN Department of Commerce | |
| | National Park Service | | MN Board of Water and Soil Resources | |

4.2 Public Involvement

4.2.1 Goals

Public and stakeholder engagement was a critical component to the study and focused on the following goals:

- Provide engagement opportunities for stakeholders and the public that will allow the project team to determine the purpose and need for the project
- Develop of objective evaluation criteria
- Broadly define and vet alternatives

4.2.2 Stakeholder Identification

The following stakeholders were identified at the outset of the project and the project team shaped specific engagement methods to reach these groups (Table 4-3).

Table 4-3 – Stakeholder Identification

| Stakeholder Groups | Individuals, Agencies & Organizations |
|--------------------------|---|
| Partner agencies | Spring Lake Park, Blaine, Ham Lake Anoka County Metropolitan Council Metro Transit Federal Highway Administration |
| Elected officials | City councilmembers County commissioners State legislators |
| Business community | In-depth interviews: Walmart, QC Dance National Sport Center Metro North Chamber of Commerce Twin Cities North Chamber of Commerce |
| Advocates | TH 65 North Corridor Coalition |
| General public | Underserved communities Residents/neighborhood groups Commuters Visitors to the area |
| Other stakeholder groups | Schools Public and private utilities Metropolitan Airports Commission Seniors Mobile home park |

4.2.3 Local Officials Briefings

During key decision points throughout the project, the project team met with local agency officials prior to sharing information with the public. Input from the group was discussed at TAC meetings and used by the project team. The local officials briefings occurred on:

- March 12, 2019
- July 31, 2019
- December 19, 2019
- August 5, 2020

4.2.4 Public Advisory Committee

The Public Advisory Committee (PAC) included a group of 23 residents, business owners, and elected officials within the study area, representative of the cross section of stakeholders identified. Meetings were scheduled in tandem with key decision points in the project such as developing the Purpose and Need, developing alternatives, and evaluation of alternatives. Input from the group was discussed at TAC meetings and used by the project team. The PAC met five times on the following dates:

- March 12, 2019
- April 30, 2019
- July 31, 2019
- December 19, 2019
- August 5, 2020

4.3 Engagement Activities and Themes Summary

The following section describes the major engagement activities throughout the project and themes documented from public engagement.

4.3.1 Existing Conditions Engagement

At the beginning of the study, the project team was focused on identifying and connecting with stakeholders, understanding corridor problems and learning how people wanted to move around in their community. In fall 2018, the project team conducted an ethnographic analysis of the community by engaging 23 people with an open-ended online survey and conducting in-depth one-on-one interviews with seven people. The respondents represented broad range of

ages, occupations, income brackets and neighborhoods including: Blaine, St. Paul, East Bethel, Ham Lake, Coon Rapids, Lino Lakes and Cambridge.

Short-term issues identified

- The infrastructure along TH 65 in Blaine, as configured today, is ill equipped to handle the clash of commuters and residents (e.g. regional trips vs. local trips).
- The most problematic pocket is between 105th and 109th, in those points where commuter traffic moving N/S is forced to intersect with local traffic headed E/W, causing sizeable delays.
- The situation is further exacerbated by traffic lights that fail to adapt to the volumes of traffic and redundant feeder routes along the intersections.
- Nearly every respondent highlighted the desire to reconfigure TH 65 as a freeway through a series of bridges and thoughtfully placed exits.

Big picture issues identified

- Residents welcome economic expansion in and around Blaine, but are uneasy about their future quality of life.
- The city's initiatives to embrace commercial and residential developers without undertaking simultaneous efforts to address infrastructure, connectivity, and place-making, threatens to turn Blaine into another generic urban outskirts.
- The situation calls for a comprehensive master plan that will ensure sustainable growth over the next 2-3 decades.

The initial input from the in-depth interviews and surveys helped with the development of a community profile and identification of engagement methods for reaching key stakeholder groups.

4.3.2 Purpose and Need and Evaluation Criteria Engagement

The project team held an open house on March 18, 2019 at the National Sports Center seeking input from the public on the identified project needs, evaluation criteria, and existing conditions findings. A total of 98 people attended the meeting and provided input to project staff verbally and through comment forms. A workshop inviting the business community was held on the same day in the morning with 12 attendees. A companion online open house was launched on the project website throughout March 2019, which included the same information as the in-person event. A total of 664 users visited the site and spent an average of four minutes on the site. Input was provided through an online comment form and online survey (200 respondents). The following themes synthesized feedback during this phase of engagement:

- The majority of respondents want alternatives to address all problem areas

- Vehicle congestion and vehicle safety are the problem areas with the most support
- Least support that walking/biking is a problem
- Nearly 50% of the additional comments (in the survey) were about the need to turn Hwy 65 into a freeway (i.e. we need bridges, exit ramps, frontage roads)
- Several respondents commented that MnDOT should act now to fix the problems
- For evaluation criteria, most support for vehicle safety and vehicle congestion criteria

The input received from this phase of engagement helped the project team confirm that they had identified the appropriate project needs and evaluation criteria to analyze design alternatives. The input also helped shape the next phase of the project in developing alternatives that would best meet the project purpose and need.

Mobile Home Park Engagement

After completing an analysis to identify Environmental Justice communities along the corridor, the Mobile Home park at 103rd Way was a top priority for follow up engagement. The project team reached out to the Blaine International Village near 103rd Way at least six times and left flyers to hand out to residents, letting them know about the study. Efforts to schedule a small group focus discussion or a one-on-one discussion with residents was unsuccessful. See Section 6.3 for a more robust discussion on the Environmental Justice analysis completed for the study.

4.3.3 Alternatives Development Engagement

While the project team was developing design alternatives, they hosted a series of pop-up events and online engagement in September and October 2019. The focus was to introduce some of the newer intersection concepts being explored for the TH 65 corridor to the community and inform them about the potential benefits. The project team discussed the alternatives with participants and collected verbal and written comments. The four pop-up events were hosted at the following venues:

- Caribou Coffee, 10400 Baltimore St, Blaine, MN
- Mary Ann Young Senior Center, 9150 Central Ave NE, Blaine, MN
- Blaine World Fest, Blaine City Hall, 10801 Town Square Dr, Blaine, MN
- Centerview Elementary, 10365 Davenport St NE, Blaine, MN

The project team received feedback through conversations and from comment cards, reaching approximately 100 people. A companion online survey was also sent out to the public looking for similar feedback on intersection designs. A total of approximately 275 people responded to the survey. The major takeaways from this engagement phase were:

- Most preferred the Median U-Turns (Grade Separated) option

- Many had a negative perception of displaced left turns
- The at-grade Median U-Turns had negative feedback based on how the ones north of the project area operate
- General negative perception of a bowtie concept. It would only work in certain intersections within the project area

The input from the public at this stage helped the project team with the screening of alternatives and refinement of intersection designs.

4.3.4 Alternatives Analysis Results Engagement

The project team implemented multiple engagement and communications methods to engage the public on the alternatives analysis results; all these engagement events occurred after March 2020. Due to MnDOT policies related to COVID-19, no in-person events were planned and instead the project team used virtual engagement methods to reach the community. A live virtual meeting was held for the public on September 29, 2020, which focused on walking attendees through the interactive website content. Approximately 119 people attended the meeting. Self-directed virtual engagement content on the Alternatives Analysis was posted from August 27, 2020 through October 9, 2020. The web content included interactive maps and videos showing the alternatives, highlighting differences in benefits and impacts and soliciting feedback on designs. The content also included plain language contextual information about the history of the project, description of a Planning and Environmental Linkages Study, and what to expect after the study is complete. The Alternatives Analysis memo was also posted to the project website from August 27, 2020 through October 9, 2020.

A total of 1,902 people visited the website and stayed on the site for an average of 13 minutes and 21 seconds. There were a total of 2,319 sessions, meaning that users returned multiple times to the website. The top visitor locations were from the following cities: Blaine, Minneapolis, St. Paul, Coon Rapids, and Shoreview.

The input received from the community focused on the following themes:

- **All three corridor-wide build alternatives were positively received.** A majority of the comments from the community expressed positive opinions about the alternatives, most noting their preference for one over another, or offering suggestions on design refinements. Only a handful of comments expressed negative views towards all of the alternatives.
- **Traffic flow is the most important problem to fix.** Commenters were most concerned with improving vehicular traffic flow along Highway 65 and minimizing the number of traffic signals along the roadway. Other comments focused on prioritizing improvements to bicycles and pedestrian facilities, minimizing traffic impacts to adjacent neighborhoods, right of way impacts, and business impacts.

- **Mixed reactions to median u-turns.** Several general comments and section-based comments noted concern about how complicated it would be to navigate the corridor with median u-turn configurations in the Hybrid Freeway Alternatives (regardless of grade separation). Others noted they were concerned about safety with making u-turns on a high speed roadway (for at-grade solutions). Commenters that had noted their use of median u-turns in other cities were more favorable to them than those who did not express familiarity with the design type. A few commenters noted that grade separated median u-turns would allow for more crossings for people walking and bicycling with fewer conflict points that would feel more comfortable.

Detailed comments on individual section alternatives are summarized in Section 8.4. Comments received during this phase and a Q & A responding to questions received at the online meetings are included in Appendix A: Public Engagement and Agency Coordination. The input gathered during this phase confirmed the results of the remaining Level 3 alternatives documented in this study and will be considered in future NEPA review for individual projects.

4.4 Communications

During the study process, the project team used several types of communications methods to reach a broad set of stakeholders. The following communications methods were used:

- MnDOT Project website
- MnDOT GovDelivery email updates
- MnDOT social media posts
- Individual stakeholder emails
- Targeted social media ads to promote events and surveys
- One-pager handouts/flyers
- Postcard mailers

In addition to these formal methods, the project team also relied upon City and County TAC members and elected officials to help spread the word with their constituents through newsletters and online social media channels.

5. Study Recommendations

Based on the results of the alternatives analysis process, 8 section-wide build alternatives will be carried forward into the future NEPA process for the TH 65 corridor. These alternatives generated support from the TAC and PAC, and support from the public based on comments received throughout the process as noted in the previous two sections. Although these alternatives were presented as corridor-wide alternatives in the Level 3 screening, their ability to be mixed and matched by section allows for flexibility in the future NEPA process. Any combination of these section-wide alternatives will result in meeting the Purpose and Need, which was why study recommendations are made at the section level in this report and not corridor-wide.

5.1 Section 1 Alternatives – 81st Ave to North of 93rd Ave

Three Section 1 alternatives have been carried forward. These Section 1 Alternatives are similar in their removal of the existing cloverleaf at US 10, right-in/right-out access restrictions at 85th and 89th, and bicycle and pedestrian crossings at 87th Ave and 93rd Ave. The differences between the alternatives are the designs of the US 10 and CSAH 10 interchanges.

5.1.1 US 10 Alternative 1 (Standard Diamond at CSAH 10)

The CSAH 10 Interchange would include a standard diamond with signals on TH 65 (See Figure 5-1). Access changes at TH 10 include the use of a grade separated U-turn for northbound TH 65 to westbound US 10 and westbound US 10 to southbound TH 65 traffic, restriction of most left turns between CSAH 10 to 93rd Ave, and a bridge over 87th Ave. The bridges over 87th Ave and 93rd Ave would provide separated pedestrian and bicycle crossings. A separated trail would be provided along both sides of TH 65, with an exception between 85th Ave and 89th Ave, where parallel local roads exist.

5.1.2 US 10 Alternative 2 (Signalized Rotary at CSAH 10)

This alternative is similar to US 10 Alternative 1, except in this alternative, the loop ramp is removed and replaced with displaced left turn lanes for southbound 65 to eastbound 10 traffic (see Figure 5-2). Additionally, the existing cloverleaf interchange at CSAH 10 would be converted to a signalized rotary configuration (four two-phase signals with one-way roads). Access changes at US 10 include the use of a grade separated U-turn for northbound TH 65 to westbound TH 10 and westbound TH 10 to southbound TH 65 traffic, restriction of most left turns between CSAH 10 to 93rd Ave, and a bridge over 87th Ave. The bridges over 87th Ave and 93rd Ave would provide an opportunity to improve at-grade pedestrian and bicycle crossings. A separated trail would be provided along both sides of TH 65, with an exception between 85th Ave and 89th Ave, where parallel local roads exist.

5.1.3 US 10 Alternative 2 (Standard Diamond at CSAH 10)

This alternative is similar to US 10 Alternative 1, except in this alternative, the loop ramp is removed and replaced with displaced left turn lanes for southbound 65 to eastbound US 10 traffic (see Figure 5-3). Additionally, the existing cloverleaf interchange at CSAH 10 would be converted to a standard diamond with control on TH 65. Access changes at US 10 would include the use of a grade separated U-turn for northbound TH 65 to westbound TH 10 and westbound TH

10 to southbound TH 65, restriction of most left turns between CSAH 10 to 93rd Ave, and a bridge over 87th Ave. The bridges over 87th Ave and 93rd Ave would provide an opportunity to improve at-grade pedestrian and bicycle crossings. A separated trail would be provided along both sides of TH 65, with an exception between 85th Ave and 89th Ave, where parallel roads exist.

Figure 5-1 – US 10 Alternative 1 (Standard Diamond at CSAH 10)

Alternative 1

Section 1



Figure 5-2 – US 10 Alternative 2 (Signalized Rotary at CSAH 10)

Alternative 2

Section 1



Figure 5-3 – US 10 Alternative 2 (Standard Diamond at CSAH 10)

Alternative 3

Section 1



5.2 Section 2 Alternatives – North of 93rd Ave to 117th Ave

Three Section 2 Alternatives have been carried forward. The main difference in design between the alternatives is that Freeway Alternative 3 would be a six-lane limited access facility with interchanges, while the hybrid freeway alternatives would include a series of slip ramps from frontage roads and grade separated median U-turns that would provide more access points. The Hybrid Freeway Sub-Alternative would also include an interchange at 109th that the Hybrid Freeway Alternative does not include.

5.2.1 Freeway Alternative 3

In this alternative, the roadway would be converted to a six-lane, limited access facility (see Figure 5-4). A two-way frontage road, with a separated trail, would connect 99th Ave to 109th Ave on the west side of TH 65 with ramp access to SB TH 65 between 99th Ave and 105th Ave. NB TH 65 ramps would be provided at 99th Ave that includes a roundabout which allows for circulation to and from the frontage road system. Interchanges are also included at 109th Ave (assumed a diverging diamond interchange), and 117th Ave (assumed a tight diamond interchange). Access would be limited to right-in-right-out at 105th Ave via the ramp from northbound TH 65 to 109th Ave. A pedestrian/bicycle tunnel would be provided to allow crossings under TH 65 at 105th Ave. The new bridges at 99th Ave, 109th Ave, and 117th Ave and a tunnel at 105th Ave would provide separated trails to cross TH 65.

5.2.2 Hybrid Freeway (refined from Level 2)

This alternative converts TH 65 to a six-lane limited access facility from 93rd Ave to 117th Ave (see Figure 5-5). A contiguous one-way frontage road system with parallel separated trail would connect to TH 65 on either side with several right-in right-out intersections, grade-separated U-turns, and slip ramps. A roundabout under a bridge near 101st Ave would provide crossing and U-turn opportunities with a two-way western frontage road between 101st Ave and 103rd Way. Access at 105th Ave and 109th Ave would be reduced to right-in/right-out configurations. Separated trail crossings under TH 65 would be provided at 97th Ave, 101st Ave, 107th Ave, 109th Ave, 113th Ave and 117th Ave.

5.2.3 Hybrid Freeway Sub-Alternative (Interchange at 109th Ave)

This alternative converts TH 65 to a six-lane arterial with limited access from 93rd Ave to 117th Ave (see Figure 5-6). A contiguous one-way frontage road system with trail would connect to TH 65 on either side with several right-in right-out intersections, grade-separated U-turns, and slip ramps. A roundabout under a bridge near 101st Ave would provide crossing and U-turn opportunities. Access at 105th Ave would be reduced to a right-in/right-out configuration and 109th Ave would be converted to a DDI interchange configuration. Separated trail crossings would be provided under TH 65 at 97th Ave, 101st Ave, 107th Ave, 109th Ave, 113th Ave, and 117th Ave.

Figure 5-4 – Freeway Alternative 3

Alternative 1

Section 2



Figure 5-5 – Hybrid Freeway

Alternative 2

Section 2



Figure 5-6 – Hybrid Freeway Sub-Alternative (Interchange at 109th Ave)

Alternative 3

Section 2



5.3 Section 3 Alternatives – 117th Ave to Bunker Lake Blvd

Two Section 3 alternatives have been carried forward. Both alternatives would be limited-access facilities to Bunker Lake Blvd. The Freeway Alternative would include an interchange at Bunker Lake Blvd, while the Superstreet Alternative would include a Reduced Conflict U-turn, thereby transitioning from a freeway to a superstreet approaching the intersection.

5.3.1 Freeway Alternative

The roadway would be converted to a six-lane, limited access facility with a tight diamond interchange at Bunker Lake Blvd and would maintain the existing interchange at 125th Ave (see Figure 5-7). A new frontage road with a parallel trail would be added between 131st Ave and 133rd Ave on the east side of TH 65 to fill a gap in the existing frontage road system and provide a contiguous network. A pedestrian tunnel would be provided to allow crossings under TH 65 at 133rd Ave NE. The new bridge at Bunker Lake Blvd would provide separated trail to cross TH 65.

5.3.2 Superstreet (RCUT at Bunker Lake Blvd)

This alternative converts TH 65 to a six-lane limited access facility from 117th Ave to Bunker Lake Blvd and maintains the existing in place interchange at 125th Ave (see Figure 5-8). The intersection at Bunker Lake Blvd would be converted to a reduced conflict U-turn (RCUT) intersection configuration. A new frontage road with a separate parallel trail would be added between 131st Ave and 133rd Ave on the east side of TH 65 to fill a gap in the existing frontage road system and provide a contiguous network. An at-grade trail crossing would be provided at the RCUT. Pedestrians and bicyclists travelling along TH 65 would use the existing local road system.

Figure 5-7 – Freeway Alternative

Alternative 1

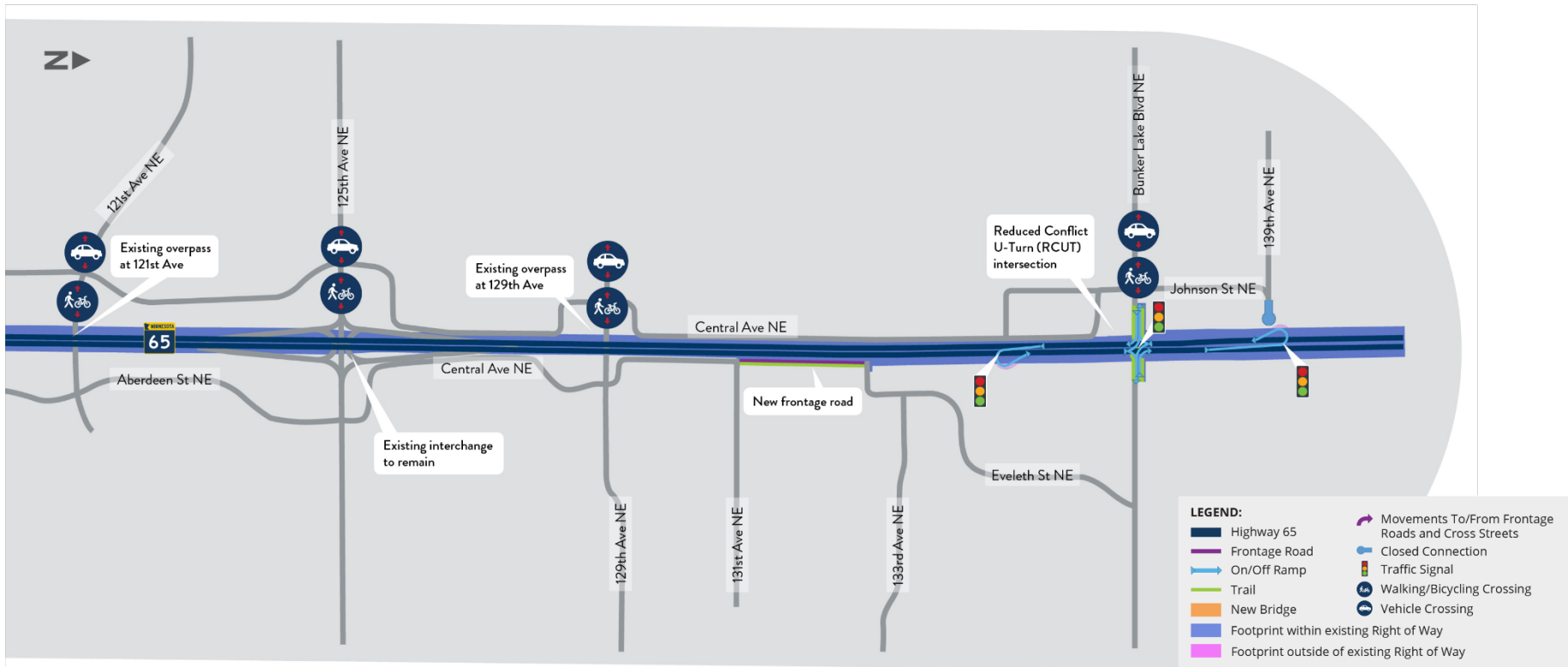
Section 3



Figure 5-8 – Superstreet (RCUT at Bunker Lake Blvd)

Alternative 2

Section 3



5.4 Corridor-wide Recommendations

The following section summarizes the transportation-related screening results from the Level 3 Alternatives Analysis and provides recommendations for what to consider in future NEPA analyses. For more detailed information on the topics below, reference Appendix G: Alternatives Analysis Memo (and the Level 3 Evaluation Matrix located in the memo's appendix).

5.4.1 Traffic Operations and Safety

All alternatives improved the morning and afternoon peak travel time along and crossing the corridor, and vehicle throughput along the corridor when compared to the no-build alternative. Notable differences include reducing existing travel times along the seven-mile corridor from over 40 minutes down to around 12 minutes during both morning and afternoon rush hours. As traffic grows, the 2045 no-build travel times increase to 50 minutes, while the alternatives maintained approximately 12 minutes. For all three build alternatives in 2045, there is improved mobility at the southern terminus of the project as it transitions out of the study area. At the northern terminus, all build alternatives in 2045 have improved mobility over the no-build; however, drivers are likely to experience backups at the northernmost signal at the transition (either Bunker Lake Blvd or Andover Blvd depending upon the alternative).

Just as critical were crossing travel times, which were measured between key origins and destinations throughout the corridor. In several areas where it can take ten minutes to cross, the alternatives reduced crossing times to three or four minutes. Safety performance also improved with all alternatives, with 70 to 80 percent reduction in conflict points when compared to the no-build alternative.

5.4.2 Transportation Systems Management and Operations (TSMO)

The following TSMO alternatives were carried forward from Level 1 and should be considered during future NEPA review. These alternatives could be applied throughout all sections of the corridor as an add-on to any of the alternatives.

Transit Signal Priority

Transit Signal Priority includes equipping traffic signals with the ability to detect and prioritize transit movements in the corridor.

Variable Speed Signs

Variable speed signs could have an adjusted posted speed limit depending upon traffic conditions, weather, or other roadway conditions.

Intelligent Transportation Systems (ITS)

Examples of ITS include real-time information boards displaying travel time and delay information, adaptive traffic signal control, and dynamic speed display signs.

5.4.3 Bicycle and Pedestrian Recommendations

North/South Mobility

Bicycle and pedestrian improvements vary slightly between alternatives, however, all alternatives include improved north/south mobility on both sides of the highway. The alternatives include a mix of new 10-ft trail and low volume frontage road connections for contiguous travel from 81st Ave to Bunker Lake Blvd, which contributed to the improved connectivity. The Level 3 evaluation showed improved Multi-modal Level of Service results for all alternatives corridor-wide with scores in the A-C range except south of 125th Ave on west side of TH 65 on Ulysses, which scored a C-D. Adding separated multi-modal facilities to existing frontage roads could further improve mobility and comfort for users.

Crossing TH 65

Crossings of TH 65 are also improved in all alternatives. In Section 1, new vehicle bridges at 87th Ave and 93rd Ave would include bike/ped facilities, making it more comfortable and quicker to cross the highway. In the Level 3 evaluation, travel time crossing TH 65 utilizing the 87th Ave bridge would be 6 minutes faster on foot and 3 minutes faster on bicycle compared with the no-build. The variations in intersection/interchange design at US 10 and CSAH 10 should be further evaluated in the NEPA process for bikeability and walkability to improve user comfort and safety in crossing TH 65.

In Section 2, the Freeway Alternative would include new grade-separated crossings at 99th Ave, 105th Ave, 109th Ave, and 117th Ave. In the same section, the hybrid freeway alternatives would include new grade-separated crossings at 97th Ave, 101st Ave, 107th Ave and 109th Ave, 113th Ave, and 117th Ave (most at grade-separated median U-turn locations). These grade separated crossings would make it more comfortable and quicker to cross the highway. Travel times improved when compared to the no-build for most of the hybrid freeway alternatives, however travel times remained the same for the Freeway Alternative.

In Section 3, both alternatives would include a new bike/ped only crossing at 133rd Ave and crossing at Bunker Lake Blvd (grade separated in the Freeway Alternative and at-grade in the Superstreet Alternative). For both alternatives, travel time crossing at Bunker Lake Blvd remained the same when compared to the no-build alternative. Future NEPA analysis should consider bicyclist and pedestrian safety and comfort for both grade-separated and at-grade crossings of TH 65.

5.4.4 Transit Recommendations

The Level 3 evaluation of transit focused on how the alternatives maintained current express route transit service on TH 65, which currently operates only in Section 2. All alternatives improved travel time along the corridor, with similar results as vehicular travel time. Future NEPA study and analysis should consider how the proposed alternatives would affect local bus service and the park and ride facility at 117th Ave. During the Level 2 evaluation, US 10 Alternative 1 and US 10 Alternative 2 include removed left turns at 85th Ave and 89th Ave which would affect existing local bus route service (Routes 25, 59, 825).

5.4.5 Freight Recommendations

The Level 3 evaluation of freight evaluated heavy commercial vehicle travel time between representative origin and destinations along the corridor. Overall, all the alternatives in Sections 1 and 2 showed improvement over the no-build.

Section 3 alternatives maintained the same travel time when compared with the no-build during the PM peak, but improved during the AM peak. Future NEPA analyses should consider freight movements and freight related businesses along the corridor.

5.5 Construction Related Recommendations

The Level 3 evaluation developed high-level cost ranges (-15% to +50% cost range estimate) to compare relative costs of implementation between alternatives (See Table 5-1). The methodology for developing these can be found in Appendix G: Alternatives Analysis Memo(Cost Estimate appendix). The higher opinion of costs were correlated with right-of-way acquisition costs for alternatives that would require additional space beyond the existing right-of-way and new infrastructure such as frontage roads and bridges. Freeway alternatives and freeway elements, such as interchanges require additional space. The Hybrid Freeway alternatives had fewer right-of-way costs but more infrastructure such as bridges, walls and lane-miles to construct.

Table 5-1 – Construction Related Recommendations

| Section/Alternative | Opinion of Costs (\$2020-millions) |
|----------------------------------|------------------------------------|
| Section 1 | Cost range |
| US 10 Alt 1 (Diamond at CSAH 10) | \$66 to \$116 |
| US 10 Alt 2 (Rotary at CSAH 10) | \$62 to \$110 |
| US 10 Alt 2 (Diamond at CSAH 10) | \$66 to \$117 |

| Section/Alternative | Opinion of Costs (\$2020-millions) |
|---|------------------------------------|
| Section 2 | Cost range |
| Freeway Alt 3 | \$124 to \$219 |
| Hybrid Freeway | \$120 to \$212 |
| Hybrid Freeway Sub-Alt (Interchange at 109th) | \$147 to \$260 |

| Section/Alternative | Opinion of Costs (\$2020-millions) |
|--|------------------------------------|
| Section 3 | Cost range |
| Freeway Alt | \$32 to \$57 |
| Superstreet (RCUT at Bunker Lake Blvd) | \$18 to \$31 |

Other construction related recommendations include evaluating the performance versus costs and impact of construction on the traveling public. The Section 1 alternatives had a beneficial rating, but high construction impacts to the traveling public. The Section 2 alternatives had a mediocre score, with the Hybrid Freeway Sub-Alt (Interchange at 109th Ave) receiving a poor rating due to the additional infrastructure footprint at 109th Ave. The Freeway Alternative 3 had high construction impacts to the travelling public. The Section 3 alternatives of Freeway and Superstreet had a mediocre and beneficial score, respectively. The Freeway Alternative also had high construction impacts to the traveling public, while the Superstreet had low impacts.

The performance evaluation rated and compared project attributes (evaluation criteria) such as how well each alternative met the purpose and need, minimized environmental impacts, its constructability and implementability. It did not consider the long-term maintenance or life-cycle costs between alternatives since life-cycle cost values for various alternative components (i.e. bridges, lane-miles, retaining walls) were not available. This should be evaluated in the next phase of project development (environmental analysis and preliminary design) when the alternative designs are advanced beyond a planning level. MnDOT's Benefit-Costs Analysis (BCA) for Transportation Projects¹⁶ methodology could be applied which considers routine maintenance, major rehabilitation and life-cycle costs in defining the Project's overall costs. The BCA and life-cycle costs could be important information in selecting a recommended alternative for implementation.

¹⁶ Benefit-Cost Analysis for Transportation Projects, Benefit-Cost Analysis - MnDOT (state.mn.us)

6. Affected Environment and Environmental Consequences

Based on the findings of the existing conditions report that future improvements have the potential to impact certain environmental resources and that impacts could vary between alternatives, several environmental topic areas were selected as a part of the Alternatives Analysis evaluation criteria. For more detail on the following sections, reference Appendix E: Existing Conditions Review and Future Traffic Operations Memo and Appendix G: Alternatives Analysis Memo.

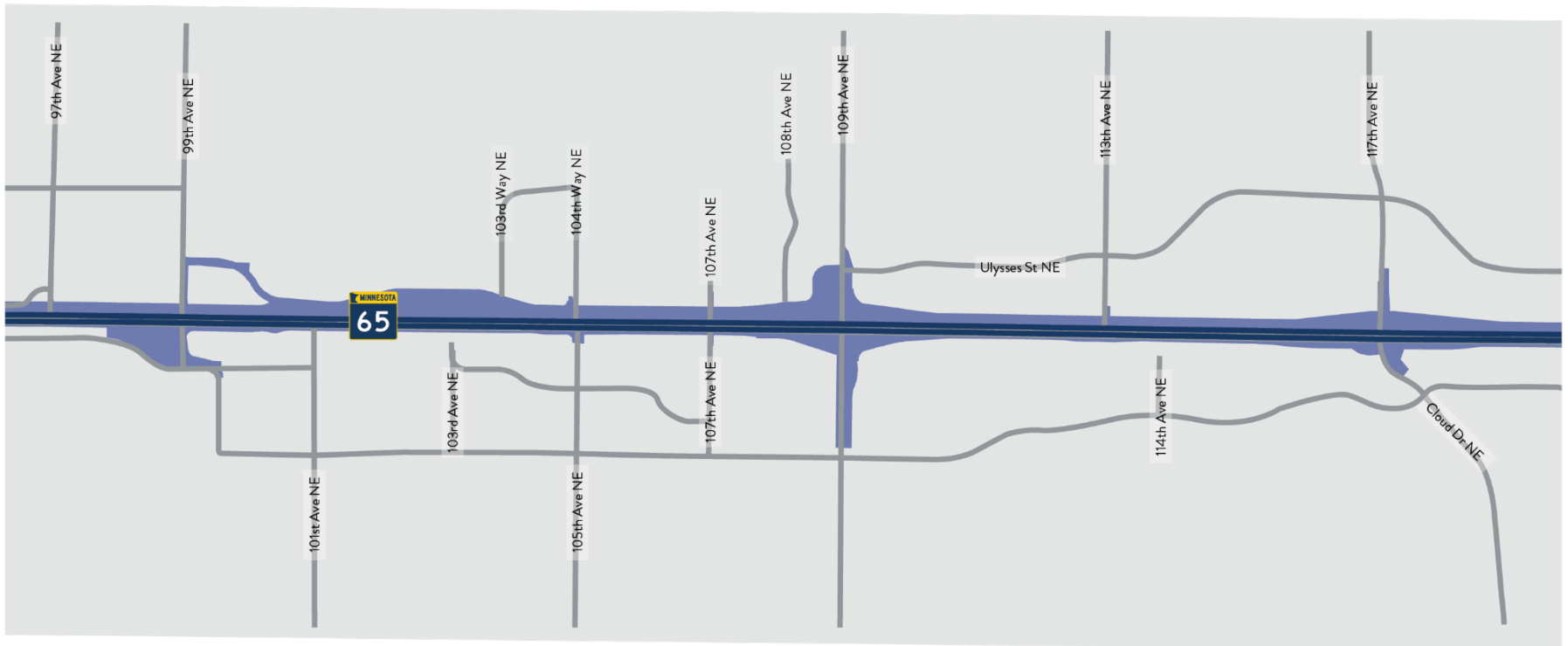
Figure 6-1 – Design Footprint for All Alternatives

Section 1

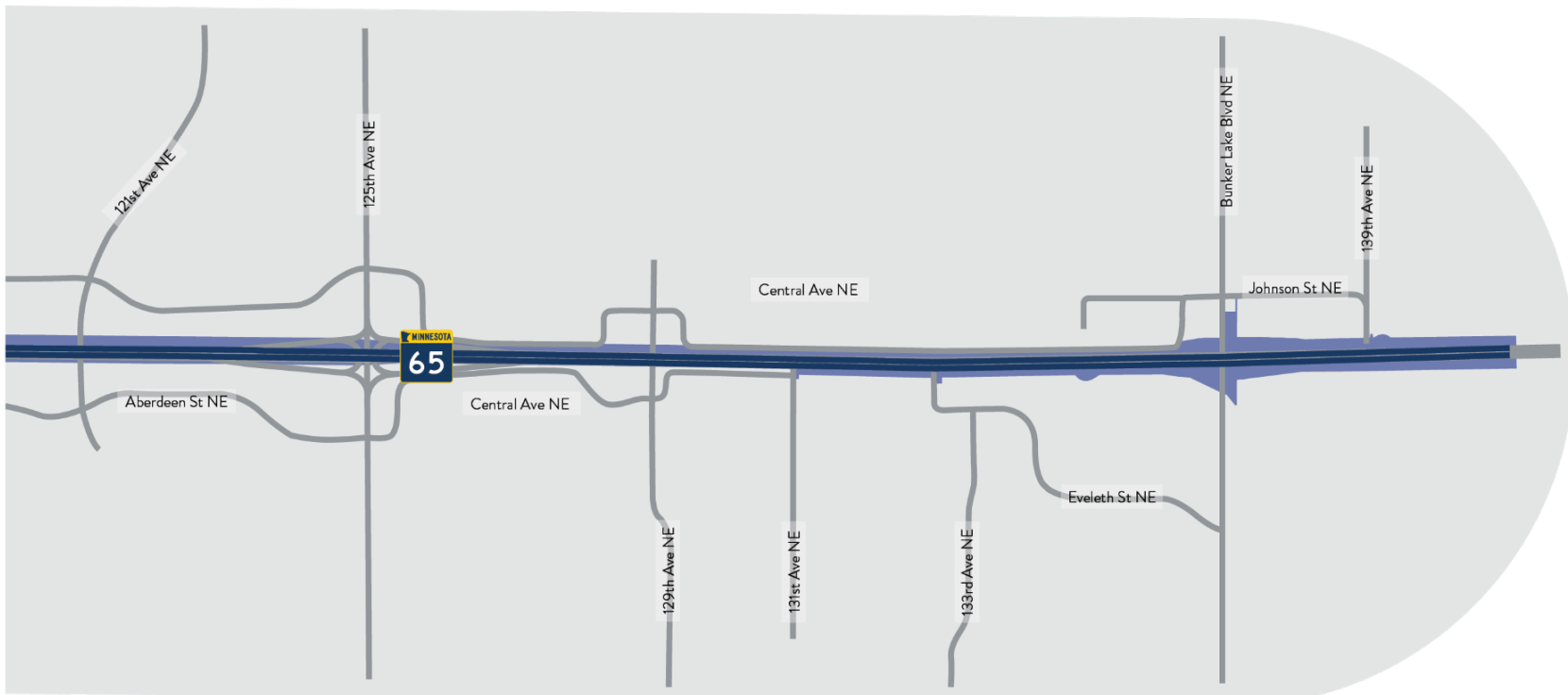
All Alternatives



Section 2



Section 3



6.1 Property Impacts

Major infrastructure projects often require right-of-way acquisitions to accommodate design features, such as interchanges and ramps. These impacts can affect both businesses and residential properties, potentially harming the economic vitality and community cohesion of the corridor. Right-of-way acquisitions are often drivers of implementation costs, which is the case with TH 65.

6.1.1 Findings

Levels 2 and 3 of the Alternatives Analysis evaluation considered property impacts by documenting the number and acres of potential property impacts, including potential relocations. The approach taken considered a worst-case scenario for impacts, however, further design of the corridor could result in fewer impacts. The Freeway Alternative 3 in Section 2 has the highest documented impact of 26 acres, including 3-5 potential residential relocations and 16-17 business relocations. The Hybrid Freeway Sub-Alternative (Interchange at 109th Ave) has the second highest documented impacts with 7.6 acres, including 12-13 business relocations. Future NEPA analyses should seek to avoid residential relocations where possible. The relocations in Section 2 also correlate with potential Environmental Justice populations.

6.2 Local and Regional Planning Compatibility

Both existing land use and future land use were reviewed to understand the effects or potential effects land use has on transportation in the project review area. Existing land use along TH 65 is primarily commercial and industrial with some institutional and office. Further away from the TH 65 alignment, the project review area is primarily made up of residential and parks and recreation uses. There are few future planned land use changes along the TH 65 corridor in the review area. Primarily, these changes are for further development of commercial areas. These changes are most prevalent at the south end of the corridor, south of CSAH 10 in Spring Lake Park, on the west side of the corridor between 99th Ave and 105th Ave, and at the north end of the corridor, starting at 133rd Ave in Ham Lake.

6.2.1 Evaluation Results

Levels 2 and 3 of the Alternatives Analysis evaluation considered compatibility to local and regional plans by qualitatively documenting access and visibility to existing and planned retail/commercial property. The proposed alternatives with the addition of a frontage road system on both sides of the highway will improve access. Proposed retaining walls near on/off ramps may reduce visibility to some businesses. Future NEPA analyses will need to consider the balance of access and visibility across the roadway in existing and future planned land use.

6.3 Environmental Justice

All projects involving a federal action (funding, permit, or land) must comply with Executive Order (EO) 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, signed by President Clinton on February 11, 1994. Executive Order 12898 directs the Federal departments and agencies take the appropriate steps to identify and address any “disproportionately high and adverse” human health or environmental effects of Federal programs, policies, and activities on minority and low-income populations.

The analyses presented in this section were prepared in compliance with EO 12898; the US Department of Transportation's (USDOT) Order to Address Environmental Justice in Minority Populations and Low-Income Populations [USDOT Order 5610.2(a), May 2, 2012]; and Minnesota Department of Transportation's Highway Project Development Process (HPDP).

According to the HPDP, any program, policy, activity, or project funded or approved by the Federal Highway Administration (FHWA), the Federal Transit Administration (FTA), or other U.S. DOT component and not covered by the Programmatic Categorical Exclusion Approval Agreement between the Federal Highway Administration and the Minnesota Department of Transportation requires an Environmental Justice (EJ) analysis. The purpose of EJ is to:

- Avoid, minimize or mitigate disproportionately high and adverse human health and environmental effects, including social and economic effects, on minority populations and low-income populations
- Ensure the full and fair participation by all potentially affected communities in the transportation decision-making process
- Prevent the denial of, reduction in, or significant delay in the receipt of benefits by minority and low-income populations

The existing conditions analysis revealed that although the project review area does not exceed EJ thresholds, there are several block groups that may warrant further research and exploration to ensure they are not subject to EJ protections. Three of the block groups exhibit a high share of minority populations, while another block group exhibits a high share of low-income populations.¹⁷

6.3.1 Evaluation Results

Levels 2 and 3 of the Alternatives Analysis evaluation considered impacts to environmental justice communities by documenting the number and acreage of potential properties impacted. The Freeway Alternative 3 in Section 2 would result in three unavoidable residential parcel acquisitions and two mobile home relocations of potential EJ populations near 103rd Ave. Future NEPA analyses should include field verification beyond desktop census demographic analysis to confirm the presence of EJ populations around 103rd Ave and elsewhere in the corridor. Engagement efforts early in the process to connect with Blaine International Village residents were unsuccessful and should be pursued again in any future studies of the corridor (see Section 4.3.1).

6.4 Water Resources

A review of publicly available data, which identified wetlands, stream crossings, floodplains, and wells within the project review area, was completed. One large pond (Laddie Lake), approximately 52 acres in area, was identified in the project review area. The perimeter of the pond is surrounded by approximately 16 acres of Freshwater Emergent Wetland.

¹⁷ See Section 4.6.11 of Appendix E: Existing Conditions Review and Future Traffic Operations Memo.

Laddie Lake, and the associated wetlands, are located near the south end of the corridor, adjacent to TH 10 and TH 65. In addition, there are several smaller wetlands that are present in the project review area, based on National Wetland Inventory data. Wetland delineations should be completed as specific improvement projects are identified and developed in the future.

TH 65 crosses four streams in the project review area. Existing culverts at these locations may need to be extended depending on the final design of the project. Existing 100 and 500-year floodplains in the project review area are largely associated with these stream crossing areas.

6.4.1 Evaluation Results

Levels 2 and 3 of the Alternatives Analysis evaluation considered impacts to wetlands and floodplains by documenting the number and acreage of impacts. The Freeway Alternative 3 in Section 2 documented the wetland impact acreage at 3 acres, with 11 wetlands impacted. All other alternatives had less than or equal to 0.5 acres of impact. Floodplain impacts were only found in Section 2, with all three alternatives in that section impacting 1.1 to 1.2 acres of floodplain. Future NEPA analyses will need to reevaluate wetland and floodplain impacts based on refined design.

6.5 Park Resources - 4(f) and 6(f)

Locations of parks within the review area pose a risk of 4(f) or 6(f) impacts if any of the alternatives would require right-of-way acquisition (temporary or permanent) on any of these properties. There are 24 parks and one golf course located within the project review area. Parks located less than 1,000 feet from the TH 65 centerline have a higher risk of being impacted with permanent or construction right-of-way needs. Six parks are located less than 1,000 feet from the TH 65 alignment. The name, location, and distance to the TH 65 alignment of these parks are listed below.

- Aquatore Park – northwest quadrant of TH 65 and TH 10 (less than 100 feet)
- Suzanna Park – southwest quadrant of TH 65 and 109th Ave (275 feet)
- The Green Park – southeast of TH 65 and 114th Ave (675 feet)
- Pine Grove Gardens Park – northeast of TH 65 and 114th Ave (225 feet)
- Ostmans Park – west of TH 65 and 131st Ave (875 feet)
- Carrara West Park – northeast of TH 65 and 131st Ave (575 feet)

Aquatore Park is the only park in the study area identified as a Minnesota park subject to permanent land use requirements. Converting part of all of the site to a non-recreation use requires prior approval by the state commissioner of natural resources. This program is administered by the Minnesota Department of Natural Resources (MnDNR). Aquatore Park is not a federally funded Land and Water Conservation Fund (LWCF) site and therefore would not require coordination with the National Park Service.

6.5.1 Evaluation Results

Levels 2 and 3 of the Alternatives Analysis evaluation considered impacts to park resources by documenting the number and acreage of potential park impacts. Of the recommended alternatives, all three Section 1 alternatives document an impact of 0.2 acres to Aquatone Park. Future NEPA analyses will need to re-evaluate parks impacts based on refined design.

6.6 Contaminated Materials

The presence of contaminated properties within the project review area can pose issues relating to worker exposure, special handling and disposal requirements, and potential liability for cleanup. Encountering unknown contamination during construction can also lead to significant delays if not adequately addressed during the planning phase.

A search for federal, state, and local environmental listings was conducted for the corridor. The U.S. Environmental Protection Agency (USEPA) EnviroMapper, a tool for accessing USEPA environmental data, did not indicate any National Priorities List (NPL) or Superfund Sites (sites which are nationally prioritized for cleanup) within 1.5 miles of the TH 65 alignment. A further search of the Minnesota Pollution Control Agency (MPCA) “What’s In My Neighborhood” (WIMN) database was conducted to identify listed hazardous waste sites and contaminated properties located within project review area. The WIMN database identifies listings associated with air quality, environmental review, feedlots, hazardous waste, investigation and cleanup, water quality, and tanks.

A total of 527 unique points were found in the project review area; these sites have the potential to impact the project, due to the presence or likely presence of contamination associated with the properties.

A review of the database search results found the types and number of listings that have the most potential to impact the corridor. A majority of the listings are related to hazardous material use and wastes associated with commercial and industrial properties located along the corridor. Eighty-three sites were identified as having multiple listings in several databases. A number of former dump sites, brownfields properties, gas stations, automotive repair facilities, automotive dealerships, and industrial uses are also concentrated in the project review area, particularly in the southern half of the corridor, between 109th Ave and TH 10.

6.6.1 Evaluation Results

Level 2 of the Alternatives Analysis evaluation considered impacts to contaminated materials by documenting the number of potential sites impacted. Level 3 of the evaluation assessed only sites identified as “sites of elevated concern” as documented by MnDOT staff. In Section 1, municipal wells are present, but are likely below any construction depth. In Section 2, the Freeway Alternative may require a partial acquisition near the Lee Wrecking site at 117th Ave where residual waste could be encountered. Section 2 also has a few dump sites near 117th Ave, but all alternatives avoid these. Section 3 contains no sites of elevated concern. A Phase I and Phase II Environmental Site Assessment will be required in future NEPA review to adequately characterize the corridor for contamination issues.

6.7 Impervious Surface

Impervious surfaces are defined as areas where water cannot infiltrate, such as roadway pavement. Increases in impervious surfaces force runoff to enter the stormwater systems in greater volume, which can lead to flooding of local streams and water quality issues if not properly managed. The impervious surface category was added to the evaluation criteria for the Level 3 evaluation in response to comments received from the EPA on the Purpose and Need and Evaluation Criteria (see Appendix A: Public Engagement and Agency Coordination for comment letter).

6.7.1 Evaluation Results

Level 3 of the Alternatives Analysis evaluation measured the change in impervious surface by documenting the percent change from the no-build. All the alternatives in all sections resulted in an increase of impervious surface, from as little as 18 percent up to 93 percent. These findings indicate an unavoidable increase in impervious surface and future NEPA analyses should consider strategies to manage surface water. See Section 8.1 for more discussion regarding drainage risks with the implementation of alternatives.

6.8 Least Environmental Damaging Alternatives

The following alternatives were identified as the least environmental damaging from the Level 3 screening analysis. Future NEPA review will include a more detailed impact analysis with refined design. For additional detail on the results of the Level 3 screening analysis, refer to Appendix G: Alternatives Analysis Memo.

6.8.1 Section 1: US 10 Alternative 1 (Standard Diamond at CSAH 10)

In Section 1, US 10 Alternative 1 (Standard Diamond at CSAH 10) was identified as the least environmentally damaging alternative based on the Level 3 screening analysis. This alternative included the fewest number and acreage of community and natural resources by a small margin. It should be noted that all three alternatives in Section 1 are similar in terms of impacts with all documenting less than 3.5 acres in property impacts, include no residential relocations, less than 3 acres of potential environmental justice properties, less than 0.5 acres in wetland impacts, 0.2 acres of impact to Aquatone Park, and a similar increase in impervious surface (8-10 acres). There were no identified contamination sites of elevated concern, nor any floodplain impacts identified. The visibility and accessibility of existing and planned retail/commercial properties showed similar access benefits across all alternatives and potential impacts to visibility with retaining walls near US 10. Additional design refinement could potentially avoid or minimize some of these impacts with any of the alternatives.

6.8.2 Section 2: Hybrid Freeway

In Section 2, the Hybrid Freeway Alternative was identified as the least environmentally damaging alternative based on the Level 3 screening analysis. This alternative has notably fewer community and natural resources impacts when compared with the Freeway 3 Alternative, and slightly fewer impacts when compared with the Hybrid Freeway Sub-Alternative (Interchange at 109th Ave). This alternative has the fewest property impacts at 2.3 acres when compared with Freeway Alternative 3 (26 acres), and the Hybrid Freeway Sub-Alternative (Interchange at 109th Ave) (7.6 acres). In

terms of floodplain (1.1 acres), wetland (0.4-0.5 acres), contamination impacts (avoids sites of elevated concern), and impervious surface increase (40 acres), the Hybrid Freeway and Sub-Alternative perform similarly. None of the alternatives identified any park impacts (4f or 6f properties). The visibility and accessibility of existing and planned retail/commercial properties showed similar access benefits across all alternatives with the addition of the frontage road system and potential impacts to visibility with retaining walls near ramps.

6.8.3 Section 3: Superstreet (RCUT at Bunker Lake Blvd)

In Section 3, the Superstreet (RCUT at Bunker Lake Blvd) was identified as the least environmentally damaging alternative based on the Level 3 screening analysis. This alternative has minor property impacts of 0.2 acres, 0.1 acres of wetland impacts, and a minor increase in impervious surface (9 acres). There were no visibility/accessibility, environmental justice, floodplain, parks, or contamination impacts identified. The Freeway Alternative has slightly more property impacts of 1.4 acres, but no wetland impacts. Other than these two categories, the two alternatives resulted in similar community and environmental impacts.

7. Implementation Plan

The PEL process is intended to provide a framework for the long-term implementation of recommended improvements as funding becomes available and to be used as a resource for future NEPA documentation. It is anticipated that the funding for all the recommended corridor improvements will not be available at one time. Potential separate projects to implement the study recommendations were identified in coordination with MnDOT and the Technical Advisory Committee.

The following breaks out potential separate projects within the three geographical sections of roadway which as described in the Alternatives Analysis include concept alternatives that can be interchangeable by section. While the timing of funding is unknown, each separate project implementation timeline has the potential to affect other areas of the corridor due removal of bottlenecks and changes in driver expectations. While a project could be implemented independently, in some locations it will be critical to evaluate and complete the NEPA decision making document for the overall section since the preferred alternative may dictate the outcome of another project within the section.

7.1 Identification of Projects

To implement separate projects, care must be taken to ensure that the area transportation system operates acceptably at the conclusion of each separate project and selecting a recommended alternative is evaluated for each section so that the project does not predetermine a section alternative. The ability of each separate project to operate on its own is referred to as “independent utility”. Also, mitigation measures needed in response to overall area impacts must be implemented with the project in which the impacts occur, and not deferred to a later phase of the ultimate planned transportation system. The separate projects should meet the following criteria:

- Independent Utility – Each project should have independent utility to the extent that the project provides a functional transportation system even in the absence of other elements of the recommended alternative.
- Elements of the Purpose and Need – Each project should contribute to meeting the Purpose and Need for the overall recommended alternative.
- Environmental Impacts – Each project should avoid the introduction of substantial additional environmental impacts that cannot be mitigated.
- Mitigation Directly Related to Impacts – Each project should include appropriate mitigation measures to match the environmental impacts of that project phase of the overall recommended alternative.

7.2 Section 1 – 81st Ave to North of 93rd Ln

Figure 7-1 identifies three potential projects located in Section 1 of the study area. These projects could be constructed at different times but selecting a preferred alternative is necessary at the section level under one NEPA document. The

only exception to this is if a standalone bicycle and pedestrian improvements project advanced. Logical termini and independent utility will need to be solidified once the NEPA process officially begins. The Transportation System Management & Operations (TSMO) improvements identified in the Alternatives Analysis which include Transit Signal Priority, Variable Speed Signs and Intelligent Transportation Systems. Transit Signal Priority can be done project by project, but Variable Speed Signs and Intelligent Transportation Systems will likely need to be applied from south to north to capture the intended benefits. The potential separate projects described in detail in the Alternatives Analysis include improvements at the following locations:

- CSAH 10 - spot improvement
- 83rd Ave to 89th Ave – section improvement that changes access and local circulation
- US 10 to 93rd Ln - section improvement that changes access and local circulation

The recommended alternatives identified in the Alternatives Analysis could likely be interchanged in this area but the breakout of potential separate projects are recommended due to how the improvements change TH 65 access and local circulation and the likelihood of independent utility. Note, there are no specified improvements to the frontage road system between CSAH 10 and US 10 with the exception of how TH 65 is accessed therefore if improvements are proposed to these existing roadways they can be completed independent of TH 65 potential projects identified in Section 1.

Figure 7-1 – Section 1 Projects



The potential separate projects each contribute to meeting the purpose and need as described in Table 7-1 below. The table also summarizes the opinion of costs (2020 \$) and potential environmental resources that will need to be considered with further project development.

Table 7-1 – Section 1 Projects

| Project | Crash Reduction | Congestion Reduction | Multi-modal Enhancements | Key Environmental Resources Affected | Opinion of Cost |
|--|--|--|--|--|-----------------|
| CSAH 10 | Reduction in conflict points | Reduces corridor travel time. | Incorporates multi-modal trail along TH 65. Improves bicycle/pedestrian crossings with signal. | Noise | \$6M to \$16M |
| 83 rd Ave to 89 th Ave | Substantial reduction in conflict points | Reduces corridor and crossing travel time. | Improves bicycle/pedestrian crossings by removing conflict with TH 65. | Noise Visual | \$16M to \$30M |
| US 10 to 93 rd Ln | Substantial reduction in conflict points | Reduces corridor and crossing travel time. | Incorporates multi-modal trail along TH 65. Improves bicycle/pedestrian crossings by removing conflict with TH 65. | Noise Visual Parks Right-of-Way Environmental Justice | \$40M to \$71M |

7.2.1 Project Timeline

The timeline (potentially 5-10 years) for implementing Section 1 Projects are recommended after implementing the projects in Section 2 (a very congested part of the corridor) and will depend on funding availability. While Section 2 is a bottleneck along the corridor, so is Section 1. Improving congestion at US 10 has the potential to shift regional traffic to the TH 65 corridor, resulting in the pursuit for mobility improvements, due to the pent-up travel demand on TH 65. The PEL did not evaluate how travel demand shifts with improvements to each individual section and should be considered in the next phase of project development. The order of improvements in this section would potentially start with the US 10 to 93rd Ln due to the congestion that is expected to worsen over time at this heavily utilized interchange with US 10. The closely spaced traffic signals are contributing to the congestion and removing the bottleneck in Section 2 could potentially increase demand at the interchange with US 10. The next project would shift to 83rd Ave to 89th Ave which would remove closely spaced traffic signals also contributing to congestion. Finally, CSAH 10 would be improved which would eliminate the weaving contributing to congestion at this location.

7.2.2 Vision south of CSAH 10

A PEL Study is currently underway on TH 65 south of CSAH 10. The study outcomes have the potential of influencing the improvements at CSAH 10.

7.2.3 Interaction with Section 2

The distance between access (ramp locations) between 93rd Ln and 99th Ave has the potential to introduce a weave. The recommended alternatives for the US 10 and 93rd Ln is a shared access resulting in substantial demand on the ramps north of 93rd Ln. Traffic operations should be considered when developing the preferred alternative at this location and the next project to the north in Section 2.

Section 2 is a bottleneck on TH 65 which results in users choosing other routes to avoid congestion along this section. If this bottleneck is relieved it has the potential to shift more demand to TH 65 in Section 1 especially at US 10. Future phases should evaluate how this shift affects congestion in this area.

7.3 Section 2 – North of 93rd Ln to 117th Ave

Section 2 consists of three potential separate projects that incorporate access changes and lane additions on TH 65 and new frontage roads shown in Figure 7-2. The lane additions are necessary to increase mainline capacity and in some locations to provide auxiliary lanes between proposed ramp locations. During the concept development phase it was assumed that TH 65 would be elevated in each alternative in Section 2, therefore lane additions for capacity would likely occur when each project is implemented. While each project could be built separately, one NEPA document is likely necessary to determine the preferred alternative for this section since the recommended alternatives are section wide and the selection of one-element would determine the preferred alternative section-wide. The breakout of potentially separate projects is predicated on how access and changes to local circulation is affected within each project. The Transportation System Management & Operations (TSMO) improvements identified in the Alternatives Analysis which include Transit Signal Priority, Variable Speed Signs and Intelligent Transportation Systems. Transit Signal Priority can be done project by project, but Variable Speed Signs and Intelligent Transportation Systems will likely need to be applied from south to north to capture the intended benefits. The potential separate projects described in detail in the Alternatives Analysis include improvements at the following locations:

- 97th Ave to 103rd Way – section improvement that changes access and local circulation (including new frontage roads) and adds lanes on TH 65
- 103rd Way to 113th Ave – section improvement that changes access and local circulation (including new frontage roads) and adds lanes on TH 65
- 113th Ave to north of 117th Ave - section improvement that changes access and local circulation (including new frontage roads) and adds lanes on TH 65

Figure 7-2 – Section 2 Projects

Section 2



The potential separate projects each contribute to meeting the purpose and need as described in Table 7-2 below. The table also summarizes the opinion of costs (2020 \$) and potential environmental resources that will need to be considered with further project development.

Table 7-2 – Section 2 Projects

| Project | Crash Reduction | Congestion Reduction | Multi-modal Enhancements | Key Environmental Resources Affected | Opinion of Cost |
|---|---|--|--|---|-----------------|
| 97 rd Ave to 103 rd Way | Substantial reduction in conflict points. | Reduces corridor travel time. | Incorporates multi-modal trail along new TH 65 frontage roads. Improves bicycle/ pedestrian crossings by removing conflicts with TH 65. | Noise Visual Right-of-Way Wetlands Floodplains Environmental Justice | \$30M to \$83M |
| 103 rd Way to 113 th Ave | Substantial reduction in conflict points. | Reduces corridor travel time and crossing travel time. | Incorporates multi-modal trail along new TH 65 frontage roads. Improves bicycle/ pedestrian crossings by removing conflicts with TH 65. | Noise Visual Right-of-Way | \$30M to \$102M |
| 113 th Ave to north of 117 th Ave | Substantial reduction in conflict points. | Reduces corridor travel time and crossing travel time. | Incorporates multi-modal trail along new TH 65 frontage roads. Improves bicycle/ pedestrian crossings by removing conflicts with TH 65. | Noise Visual Right-of-Way | \$37M to \$76M |

7.3.1 Project Timeline

This section includes a substantial bottleneck along the corridor and east-west travel. Addressing the congestion and safety needs in this section is considered a priority with a shorter-term timeline (potentially within five years) for implementation depending on funding availability. Anoka County is prioritizing improvements at 105th and 109th Aves including obtaining state bonding for preliminary and final design, and the City of Blaine has received federal funding and state funding for construction of improvements between 97th and 113th Aves. The City of Blaine is also seeking funding to construct all improvements between 93rd and 113th Aves. Their next priority is to implement improvements between 113th Ave to north of 117th Ave.

7.3.2 Interaction with Section 1

The distance between access (ramp locations) between 93rd Ln and 99th Ave has the potential to introduce a weave. The recommended alternatives for the US 10 and 93rd Ln is a shared access resulting in substantial demand on the ramps north of 93rd Ln. Traffic operations should be considered when developing the preferred alternative in this section and future projects to the north in Section 1.

Section 2 is a bottleneck on TH 65 which results in users choosing other routes to avoid congestion along this section. If this bottleneck is relieved it has the potential to shift more demand to TH 65 in Section 1 especially at US 10 although US 10 is also a substantial bottleneck. Future phases should evaluate how this shift affects travel demands along the corridor including the timing for adding an additional lane on TH 65.

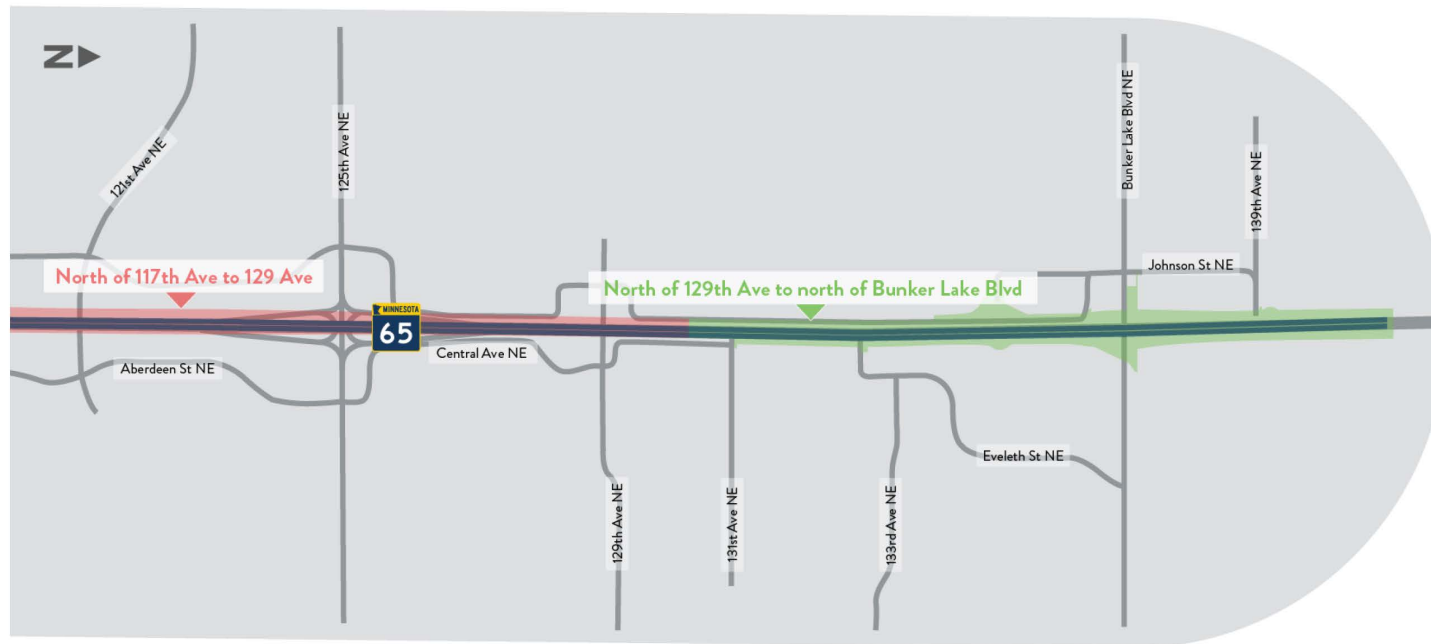
7.4 Section 3 – 117th Ave NE to North of Bunker Lake Blvd

Section 3 consists of two potential separate projects that incorporate access changes and lane additions on TH 65 shown in Table 7-3. The lane additions are necessary to increase mainline capacity. During the concept development phase it was assumed that TH 65 would be elevated at Bunker Lake Blvd, therefore lane additions for capacity would likely occur when this location improvement is implemented. While each project could be built separately, one NEPA document would cover the entire section to determine the preferred alternative. The breakout of potentially separate projects is predicated on how access and changes to local circulation is affected within each project. The Transportation System Management & Operations (TSMO) improvements identified in the Alternatives Analysis which include Transit Signal Priority, Variable Speed Signs and Intelligent Transportation Systems. Transit Signal Priority can be done project by project, but Variable Speed Signs and Intelligent Transportation Systems will likely need to be applied from south to north to capture the intended benefits. The potential separate projects described in detail in the Alternatives Analysis include improvements at the following locations:

- North of 117th Ave to north of 129th Ave – Add lane on TH 65
- North of 129th Ave to north of Bunker Lake Blvd - section improvement that changes access, improves Bunker Lake Blvd intersection, adds frontage road and adds lanes on TH 65

Figure 7-3 – Section 3 Projects

Section 3



The potential separate projects each contribute to meeting the purpose and need as described in Table 7-3 below. The table also summarizes the opinion of costs (2020 \$) and potential environmental resources that will need to be considered with further project development.

Table 7-3 – Section 3 Projects

| Project | Crash Reduction | Congestion Reduction | Multi-modal Enhancements | Key Environmental Resources Affected | Opinion of Cost |
|---|-------------------------------|--|--|--------------------------------------|-----------------|
| North of 117 th Ave to 129 th Ave | No change. | Reduces corridor travel time. | None | Noise | \$7M to \$13M |
| North of 129 th Ave to north of Bunker Lake Blvd | Reduction in conflict points. | Reduces corridor travel time and crossing travel time. | Improves bicycle/ pedestrian crossings by removing conflicts with TH 65. | Noise Visual Right-of-Way | \$10M to \$44M |

7.4.1 Project Timeline

This section includes is the least congested area along the corridor. Addressing the congestion and safety needs in this section is considered less of a priority and is considered longer term (greater than ten years) for implementation depending on funding availability. The timing of lane additions, access changes and intersection improvements at Bunker Lake Blvd will likely depend on how traffic demands change due to improvements occurring in Sections 1 and 2.

8. Corridor Risks

The following risks have been identified and should be considered when further developing the projects listed in the implementation plan and in future NEPA review.

8.1 Drainage

8.1.1 Sections 1, 2, and 3

While additional impervious surface was estimated for the recommended alternatives, mitigation was not studied. The footprints have the potential to change and grow based how the project resolves increases in impervious surface. Future study will include developing an overall stormwater plan at logical drainage basin breaks for the corridor.

8.2 Noise

8.2.1 Sections 1, 2, and 3

Noise impacts were not analyzed in the Alternatives Analysis. The alternatives considered assumed TH 65 would be elevated with the grade separated alternatives. This resulted in an assumption of short noise walls on top of retaining walls along TH 65 mainline. The assumption of elevating TH 65 could change during the next phase of study which could shift the location of noise walls as well as their height (potentially requiring additional right-of-way beyond the existing footprint).

8.3 Right-of-Way

8.3.1 Section 1

Alternatives in Section 1 assumed lower (non-freeway) design speeds that dictated geometric design, elevating TH 65 using retaining walls, and designated offsets in determining footprints and potential impacts to adjacent private properties. Right-of-way costs considered market values and general multipliers. Market values can change over time and multipliers could differ depending on the impacts. Design criteria changes have the potential to change overall footprints and potential right-of-way impacts.

8.3.2 Sections 2 and 3

Recommended Alternatives in Section 2 assumed different (non-freeway and freeway) design speeds that dictated geometric design, elevating TH 65 using retaining walls, and designated offsets in determining footprints and potential impacts to adjacent private properties. Right-of-way costs considered market values and general multipliers. Market values can change over time and multipliers could differ depending on the impacts. Design criteria changes have the potential to change overall footprints and potential right-of-way impacts. This section includes recommended alternatives with very different right-of-way footprints. Some alternatives have more infrastructure than right-of-way needs while others have less infrastructure but greater right-of-way needs.

8.4 Public Concerns

8.4.1 Section 1

The changes in access between 83rd Ave and 89th Ave were met with some resistance due to circulation changes in the surrounding area. Education and additional outreach regarding these changes will be critical in the next phase. Concerns were also expressed regarding removal of the cloverleaf interchanges at CSAH 10. The removal has been recommended to reduce congestion due to weaves between ramps.

8.4.2 Section 2

The alternatives that considered grade separated median U-turns were met with some resistance due to circulation changes in the surrounding area. Education and additional outreach regarding these changes will be critical in the next phase.

8.4.3 Section 3

The alternatives that considered signalized median U-turns (RCUT) were met with resistance due to circulation changes at Bunker Lake Blvd. Education and additional outreach regarding these changes will be critical in the next phase.

8.5 Driver Expectations and Safety

8.5.1 Section 2

While the potential separate projects result in substantial reduction in conflicts, improving safety, they have a potential to shift crashes to the next traffic signal due to driver's expectations of a free flowing driving environment.

8.6 Maintenance

8.6.1 Section 2

The recommended alternatives include frontage roads, some of which would be essential to completing the access from TH 65 to the local system along the corridor (i.e. grade separated median U-turns). MnDOT and the City of Blaine would need an ownership and maintenance agreements for proposed frontage roads.

8.7 Downstream Effects

8.7.1 Section 3

Improving capacity and removing bottlenecks south of Bunker Lake Blvd has shown to draw more traffic demand on TH 65. This has the potential to affect operations at the next major signalized intersection at Andover Blvd and need to be considered with the next phase for Section 3.

8.8 Environmental Justice

8.8.1 Sections 1, 2, and 3

As described in Section 6.3, the Freeway Alternative in Section 2 would result in 3 residential parcel acquisitions and two mobile home relocations of potential EJ populations near 103rd Ave. Future NEPA analyses should include field verification beyond desktop census demographic analysis to confirm the presence of EJ populations around 103rd Ave and elsewhere in the corridor. Future study and design refinement should seek to avoid or minimize property impacts in these communities and conduct more community engagement to better understand how these alternatives may benefit or impact these communities.

8.9 Parks – 4(f) and 6(f)

8.9.1 Sections 1, 2, and 3

As described in Section 6.5, all three Section 1 alternatives document an impact of 0.2 acres to Aquatore Park. Future NEPA analyses will need to re-evaluate parks impacts based on refined design. Aquatore Park is both a 4(f) resource and a Minnesota park subject to permanent land use requirements. Future coordination will be required with MnDNR

8.10 Other Environmental Resources

8.10.1 Sections 1, 2, and 3

The Alternatives Analysis process analyzed several environmental and community resource categories as described in Section 6; however, the NEPA process will require detailed analysis of additional categories. While the resource categories chosen were the result of the existing conditions analysis, resource issues could potentially surface depending on refined design decisions.

Additionally, the Office of the State Archaeologist recommended a literature review and archaeological assessment. This should be addressed in future NEPA review. See Appendix A: Public Engagement and Agency Coordination for the letter dated September 29, 2020.

9. Next Steps

The PEL documentation provides reference framework for future implementation of projects as identified in the implementation plan. When a project is chosen for implementation, project proposers will need to complete environmental review in accordance with NEPA, which requires additional design advancement, social, economic and environmental impact analysis, and public involvement.