# **Alternatives Evaluation Criteria**

County Road J/I-35E Interchange Project

Ramsey County, Minnesota

Date: May 23, 2022

State Aid Project (SAP) No. 062-593-009 and SAP 062-660-012

# Introduction

The purpose of this report is to describe the alternatives evaluation process and alternatives evaluation criteria for the County Road (CR) J/I-35E Interchange Project. The CR J/I-35E Project is in Ramsey and Anoka counties and the cities of Lino Lakes, North Oaks as well as White Bear Township. The western project terminus is Centerville Road (Ramsey CSAH 59/Anoka CSAH 21) in the cities of North Oaks, Lino Lakes and White Bear Township. The eastern terminus is Otter Lake Road (Ramsey CSAH 60/Anoka CSAH 84) in White Bear Township and the City of Lino Lakes. The total length of the project corridor is approximately 0.5 miles. Figure 1 (attached) illustrates the project location.

# **Existing Conditions**

I-35E is a north-south principal arterial interstate highway that extends through the eastern half of the Twin Cities Metropolitan Area and connects to I-35 at the north and south ends of the Twin Cities. The CR J interchange marks the northerly extent of the northbound E-ZPass lane. South of the interchange, there are three northbound lanes and two southbound lanes. North of the interchange, there are two lanes in each direction. The posted speed limit is 70 mph. The existing Average Annual Daily Traffic (AADT) volume on I-35E is 42,000 vehicles per day (vpd) north of the CR J interchange and 50,300 vpd south of the interchange. The existing Heavy Commercial Annual Average Daily Traffic (HCAADT) volume is approximately 2,000 freight vpd.

CR J is an east-west collector roadway that extends along the border between Ramsey County and Anoka County. CR J is a two-lane facility with a posted speed limit of 40 mph. The existing AADT volume is 10,400 vpd.

### **Brief Summary Purpose and Need Statement**

A purpose and need statement has been developed for the CR J/I-35E Interchange Project. The purpose and need statement explains why Ramsey County and MnDOT are undertaking the proposed action and what its objectives are. The purpose and need statement is documented in a separate report from this alternatives evaluation criteria report and is available for review from the Ramsey County Project Manager. The purpose and need for the CR J/I-35E Interchange Project is summarized below.

### **Purpose Statement**

The purpose of the project is to improve mobility as well as walkability/bikeability and safety along County Road J (Ash Street) and at the I-35E interchange for all users.

### **Project Need**

Ramsey County and MnDOT have identified several factors justifying the need for the CR J/I-35E Interchange Project. The need describes the transportation problems to be solved by the proposed action and are the main problems that led to the initiation of the project.

One primary need has been identified:

Mobility

Two secondary needs have been identified:

- Walkability/Bikeability
- Safety

Three additional considerations have been identified:

- FHWA Interstate Access Policy Points
- Compatibility with Local Land Use Planning
- Asset Management

# **Alternatives Evaluation Process and Criteria**

## **Evaluation Process Overview**

The alternatives evaluation process for the CR J/I-35E Interchange Project uses a two-step process as summarized below. The level of design detail with each step in the alternatives evaluation process is described in the following sections. The proposed interstate ramp accesses will have required analysis at stages throughout the evaluation to ensure no negative operational or safety impacts result on the interstate, as well as address the necessary federal Interstate Access Request Policy Points (see attachment for listing). Additional detailed investigation of project components, analysis and considerations of impacts to the interstate will be completed to ensure alternates considered will meet federal requirements for approval of the preferred alternate The outcome of this two-step alternatives evaluation process is the identification of a Preferred Alternative for the project. The preliminary design layout for the Preferred Alternative will be developed and refined with the Non-Programmatic CATEX.

- Step 1: Do the alternatives have the potential to address the transportation needs for the CR J/I-35E Interchange Project (i.e., the problems that led to the initiation of the project) and meet the federal interstate access requirements?
- Step 2: Qualitative and quantitative assessment of safety and mobility and additional considerations that include FHWA Interstate Access Policy Points, compatibility with local plans, walkability/bikeability and asset management and potential social, economic, and environmental (SEE) impacts.

### **Evaluation Criteria**

### Step 1, Transportation Need Evaluation Criteria

A reasonable range of typical section alternatives will be identified at the start of the alternatives evaluation process. Build Alternatives are anticipated to include, but may not be limited to, new interchange configurations that include access ramps to and from the north on I-35E. CR J improvements are anticipated to include but may not be limited to two-lane and three-lane

roadway typical sections. The No Build Alternative, which assumes no geometric improvements in the study area, will be carried through the evaluation process and environmental document to serve as the baseline for comparison. Alternatives that do not address the needs for the project will be dismissed from further consideration. Alternatives that address the transportation needs and look to fulfill the requirements of the interstate access request process will be carried forward for further evaluation in Step 2.

Table 1 lists the Step 1 transportation need evaluation criteria, performance measurements, and methodologies/tools used for each evaluation criteria.

Category	Evaluation Criteria	Measurement	Methodology/Tool
Transportation Needs	Mobility Need Policy Point #1: Demonstrate that the existing interchange cannot accommodate the design-year traffic demands Policy Point 3: Operational and safety analysis of interstate traffic with new proposed access alternates.	Does or does not improve vehicle mobility Impact to the Interstate	<ul> <li>Travel demand model (forecastdaily traffic volumes)</li> <li>HCS – Highway Capacity Software</li> <li>Synchro/SimTraffic – traffic operations software</li> <li>RODEL – roundabout delay software</li> </ul>

 Table 1 - Step 1, Evaluation Criteria

### Step 2, Qualitative and Quantitative Assessment

Build Alternatives in Step 2 will be developed based on typical sections, alignments, and corridor footprints. Evaluation criteria in Step 2 include a range of operational, cost, and potential SEE impact considerations. The No Build Alternative and Build Alternatives will be compared based on their ability to address the range of transportation considerations and a qualitative and quantitative assessment of anticipated SEE impacts. The outcome of Step 2 is the identification of a technically recommended alternative that is presented to the public for review and comment prior to determining a Preferred Alternative.

The evaluation criteria were identified based on an understanding of the key issues and resources in the project study area. The SEE evaluation criteria in Step 2 reflect those criteria that are anticipated to differentiate alternatives. For example, the Build Alternatives are anticipated to require acquisition of right of way; therefore, the SEE evaluation criteria includes a performance measure for property impacts. However, the SEE evaluation criteria do not include environmental justice because an assessment of census data indicates that the percentage of low income and minority populations within the census blocks that encompass the study area are lower than in Ramsey County and Anoka County as a whole. All SEE issues will be addressed in the Non-Programmatic CATEX. Table 2 lists the transportation considerations and the SEE evaluation criteria, performance measures, and methodology/tools used with each evaluation criteria in Step 2.

Category	Evaluation Criteria	Measurement	Methodology/Tool
Transportation Considerations	Vehicle Safety	<ul> <li>Intersection Conflict Points</li> <li>Exposure (highest volume conflict points)</li> <li>Operations and Safety on the Interstate</li> </ul>	<ul> <li>Crash reduction (CMF Clearinghouse)</li> <li>Predicted corridor crash estimate</li> </ul>
	Traffic Operations	<ul> <li>Peak hour intersection V/C</li> <li>Overall intersection LOS and delay (seconds)</li> <li>Average network speed</li> <li>Interstate System</li> </ul>	<ul> <li>Highway Capacity Software (HCS)</li> <li>Synchro/SimTraffic – traffic operations software</li> <li>VISSIM – traffic flow simulation software</li> <li>RODEL – roundabout delay software</li> </ul>
	Walkability/Bikeability	Change in MMLOS and change in bicycle level of traffic stress	<ul> <li>MMLOS tool</li> <li>Bicycle level of traffic stress assessment</li> </ul>
	Asset Management	<ul> <li>Square footage of new bridge structure</li> </ul>	Concept layouts
	Compatibility with Adopted Local or Regional Plans	<ul> <li>Poor – not compatible</li> <li>Fair – partially compatible</li> <li>Good - compatible</li> </ul>	<ul> <li>Adopted local and regional plans</li> </ul>
	NEPA IAMR Policy Points 2-7	<ul> <li>Policy Point 2</li> <li>Policy Point 3</li> <li>Policy Point 4</li> <li>Policy Point 5</li> <li>Policy Point 6</li> <li>Policy Point 7</li> </ul>	<ul> <li>Assess Existing Network</li> <li>VISSIM – traffic flow simulation software</li> <li>Concept layouts</li> <li>Adopted local and regional plans</li> </ul>

 Table 2 - Step 2 Evaluation Criteria

Category	Evaluation Criteria	Measurement	Methodology/Tool
Social, Economic, and Environmental (SEE) Considerations	Right-of-Way Impacts	<ul> <li>Total acres of right-of-way required</li> <li>Acres of conservation easement property impacted</li> <li>Commercial and residential relocations (number of parcels and acres impacted)</li> <li>Commercial and</li> </ul>	<ul> <li>Concept layouts</li> <li>GIS parcel data</li> </ul>
		residential strip takings (number of parcels and acres impacted)	
	Environmental Justice	NA – Census assessment concluded no identifiable populations within project area.	NA
	Wetlands	Total acres of wetland Impacts	Concept layouts
	Northern Long-Eared Bat	Acres of tree removal	Concept layouts
	Utility Impacts	Lineal feet of major overhead electrical utilities impacted	Concept layouts
	Cost	Construction cost compared to other alternatives	LWD cost estimates (range of costs)
		·	·



Docume	ntation	
Technical	NEPA	FHWA Interstate Access Policy Points
Keport	X	<b>Policy Point 1</b> : The need being addressed by the request cannot be adequately satisfied by existing interchanges to the Interstate, and/or local roads and streets in the corridor can neither provide the desired access, nor can they be reasonably improved (such as access control along surface streets, improving traffic control, modifying ramp terminals and intersections, adding turn bays or lengthening storage) to satisfactorily accommodate the design-year traffic demands (23 CFR 625.2(a)).
	х	<b>Policy Point 2</b> : The need being addressed by the request cannot be adequately satisfied by reasonable transportation system management (such as ramp metering, mass transit, and HOV facilities), geometric design, and alternative improvements to the Interstate without the proposed change(s) in access (23 CFR 625.2(a)).
X		<b>Policy Point 3</b> : An operational and safety analysis has concluded that the proposed change in access does not have a significant adverse impact on the safety and operation of the Interstate facility (which includes mainline lanes, existing, new, or modified ramps, ramp intersections with crossroad) or on the local street network based on both the current and the planned future traffic projections. The analysis shall, particularly in urbanized areas, include at least the first adjacent existing or proposed interchange on either side of the proposed change in access (23 CFR 625.2(a), 655.603(d) and 771.111(f)). The crossroads and the local street network, to at least the first major intersection on either side of the proposed change in access, shall be included in this analysis to the extent necessary to fully evaluate the safety and operational impacts that the proposed change in access must include a description and assessment of the impacts and ability of the proposed changes to safely and efficiently collect, distribute and accommodate traffic on the Interstate facility, ramps, intersection of ramps with crossroad, and local street network (23 CFR 625.2(a) and 655.603(d)). Each request must also include a conceptual plan of the type and location of the signs proposed to support each design alternative (23 U.S.C. 109(d) and 23 CFR 625.603(d)).
X		<b>Policy Point 4</b> : The proposed access connects to a public road only and will provide for all traffic movements. Less than ``full interchanges" may be considered on a case-by-case basis for applications requiring special access for managed lanes (e.g., transit, HOVs, HOT lanes) or park and ride lots. The proposed access will be designed to meet or exceed current standards (23 CFR 625.2(a), 625.4(a)(2), and 655.603(d)).
	x	Policy Point 5: The proposal considers and is consistent with local and regional land use and transportation plans. Prior to receiving final approval, all requests for new or revised access must be included in an adopted Metropolitan Transportation Plan, in the adopted Statewide or Metropolitan Transportation Improvement Program (STIP or TIP), and the Congestion Management Process within transportation management areas, as appropriate, and as specified in 23 CFR part 450, and the transportation conformity requirements of 40 CFR parts 51 and 93.
	Х	<b>Policy Point 6</b> : In corridors where the potential exists for future multiple interchange additions, a comprehensive corridor or network study must accompany all requests for new or revised access with recommendations that address all of the proposed and desired access changes within the context of a longer-range system or network plan (23 U.S.C. 109(d), 23 CFR 625.2(a), 655.603(d), and 771.111).

Documentation			
Technical NEPA		FHWA Interstate Access Policy Points	
Report	Doc.		
	x	<b>Policy Point 7</b> : When a new or revised access point is due to a new, expanded, or substantial change in current or planned future development or land use, requests must demonstrate appropriate coordination has occurred between the development and any proposed transportation system improvements (23 CFR 625.2(a) and 655.603(d)). The request must describe the commitments agreed upon to assure adequate collection and dispersion of the traffic resulting from the development with the adjoining local street network and Interstate access point (23 CFR 625.2(a) and 655.603(d)).	
		Policy Point 8: The proposal can be expected to be included as an alternative in the required environmental evaluation, review and processing. The proposal should include supporting information and current status of the environmental processing (23 CFR 771.111).	