Chisago County
MINNESOTA

FY 2023 Rebuilding American Infrastructure with Sustainability and Equity (RAISE) Program

US Highway 8 Reconstruction Project

Submitted by Chisago County, Minnesota

PROJECT DESCRIPTION

HIGHWAY 8
LET'S GET MOVING

Safety

Mobility

Multimodal/ADA

Wildlife

Drainage

Fiber Optics

Project Name **US Highway 8 Reconstruction Project**
Project Type **Rural Capital - Road, Repair/Rehabilitation**
Total Eligible Cost **$80.5M**
2023 RAISE Funds Requested **$20M**

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Supporting Information can be found at:
https://www.srfconsulting.com/chisago-county-mn-us-hwy-8-raise/

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PROJECT DESCRIPTION

Chisago County, Minnesota is submitting the 2023 Rebuilding American Infrastructure with Sustainability and Equity (RAISE) Grant Program application to request $20 million in funds. The United States Highway 8 Reconstruction Project (herein known as the Project) will improve safety and mobility along eight (8) miles of US Highway 8 (US 8) from Interstate 35 (I-35) in the west to Karmel Avenue in the east. Chisago County along with the Minnesota Department of Transportation (MnDOT) will partner with the United States Department of Transportation (USDOT) to improve highway safety, ensure environmental sustainability, leverage economic vitality, and build equitable and sustainable communities in the Twin Cities region. The Project's total eligible project cost is $80.5 million and complies with the requirements of a rural capital project.

US 8 is identified as a vital interregional corridor on the National Highway System (NHS) that serves a variety of transportation needs for freight, commuters, vacationers, business patrons, and rural community members in Minnesota and western Wisconsin. The Project generates economic benefits to the Twin Cities region and optimizes movement as part of the Rural Opportunities to Use Transportation for Economic Success (ROUTES) Initiative. In recent years, the highway has become increasingly strained due to high levels of daily commuters, large trucks hauling freight, and spikes in weekend recreation traffic. In 2017, the project corridor was identified near or at capacity while future 2040 no build forecasts show the entire project corridor at or exceeding capacity. Current annual average daily traffic (AADT) on US 8 ranges from 23,160 (west limits of the Project) to 16,200 (east limits of the Project) for 2021 and has already exceeded capacity for the entire project corridor.

Figure 1 illustrates the US 8 Reconstruction Project location. The Project is in rural Minnesota north of the Minneapolis-St. Paul Metropolitan Area (30 minutes travel time) and immediately west of the Wisconsin border. The Project's westernmost section (1.5 miles) is in Washington County while the remaining 6.5 miles is within Chisago County. US 8 is primarily a rural undivided, two-lane roadway with a posted speed limit of 55 mph. The western one mile of the Project is a four-lane access-controlled, divided highway while the remaining seven miles is a two-lane highway with numerous access points. The Project benefits include:

- improving safety and mobility by adding roadway capacity and reducing congestion,
- addressing current unsafe driver behavior such as passing on the shoulder or in no passing zones,
- promoting rural economic development and access to opportunities by reconstructing the state principal arterial from a two-lane undivided roadway to a four-lane divided highway,
- improving travel patterns by constructing four reduced conflict intersections (RCIs) and one roundabout (RAB)
- removing 60 access points and consolidating access by constructing a local roadway network of frontage and backage roads,
- implementing intersection controls and eliminating uncontrolled intersections/access points,
- enhancing multimodal connectivity by constructing two new pedestrian underpasses and multiuse trails,
- adding Intelligent Transportation Systems (ITS) and other technological upgrades,
- upgrading pedestrian curb ramps and crosswalks to comply with Americans with Disabilities (ADA) standards
- constructing an 8.5-mile long multi-use trail,
- completing pavement and drainage maintenance needs along the existing four-lane segment, and
- protecting our natural resources and endangered species.

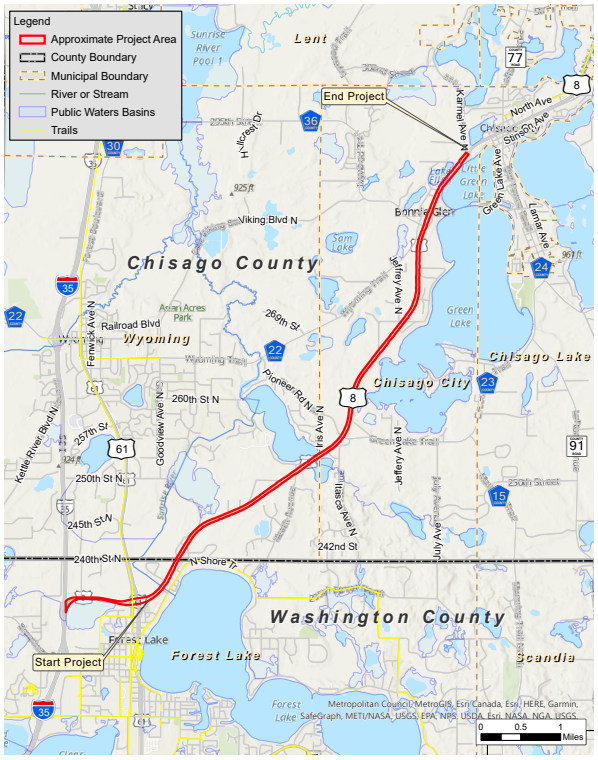

Figure 1 Project Location

Sixty secondary roads and private driveways provide direct access to US 8. This leads to queuing of traffic on the narrow two-lane high-speed roadway. It also makes ingress/egress a challenge and presents a safety concern for drivers who often compromise safety to make their maneuvers. Furthermore, alternative parallel routes are not available to help alleviate existing and future congestion along the Project. As a result, the need for capacity improvement is critical at both the intersection and corridor level. The Project corridor experienced a total of 193 crashes between 2017 and 2021 including two fatal crashes along US 8 between Pioneer Road and Viking Boulevard. The proposed improvements due to the reconstruction of US 8 will develop and construct long-term solutions that will improve the safety and congestion issues and provide better quality of life to local communities.

The Project is identified in the Chisago County 2013 Transportation Plan Update as a corridor with issues and opportunities, which includes roadway expansion, signalized intersections, and construction of multi-use trails. It is also identified as a corridor with the highest existing daily traffic in Chisago County – exceeding 23,000 vehicles per day in some segments. MnDOT has a long history with the Project area, having identified serious safety and capacity issues, as well as a lack of multimodal connectivity, along the length of the Project. MnDOT completed a transportation analysis and engaged the public to develop a Scoping Document in 2002 and completed the Highway 8 Corridor Study in 2008. The Project is included in MnDOT's 10-year Capital Highway Investment Plan (CHIP) with mill and overlay pavement improvements planned for 2025 and a budget of $6.5 million.

Chisago County, in partnership with MnDOT, six surrounding communities, local chambers of commerce, freight-dependent businesses, and elected officials, is proud to submit this $20 million RAISE Grant fund request to partner with the USDOT to enhance the movement of traffic, improve highway safety, and strengthen rural access to economic opportunities in the Minneapolis-St. Paul/Wisconsin region as well as leverage economic development and tourism access for the local rural economy. Letters of support for the project can be found here.

Proposed Improvements

Chisago County identified the need for a long-term solution to improve safety and mobility along US Highway 8 project corridor in the 2013 Transportation Plan Update. The County assessed options for a new corridor design, which would address safety and mobility issues, while taking pedestrian and bicyclist needs into consideration.

The Project will improve safety, ensure a smoother ride, decrease congestion, consolidate access, improve trip time reliability, provide regional roadway system access for economic generators, reduce stormwater runoff, and enhance bicycle and pedestrian movement across the corridor.

Project improvements include:

- reconstructing seven miles of US 8 to a four-lane, divided roadway with a paved or grass median and eight-foot shoulders to **address roadway current capacity and congestion issues**,
- installing concrete barriers and/or cable guardrail in the median areas to **minimize risk for cross-over head-on collisions**,
- rehabilitating one-mile of existing four-lane, divided roadway near I-35 to **upgrade the deteriorating infrastructure**,
- constructing dedicated turn lanes, intersection improvements including three new signals, four RCIs, and one RAB to **address safety issues due to uncontrolled intersections**,
- constructing two new pedestrian underpasses to **provide safe connections for non-motorized users** across US 8,
- constructing or improving a network of over eight miles of local (frontage and backage) roads to close numerous existing access points (private driveways and other local roads) by **consolidating access and reducing conflict** in a high-speed corridor,
- constructing a 10-foot wide, 8.5-mile long multi-use trail along the north side of US 8 to **accommodate pedestrians, bicyclists, and individuals of all ages and abilities**, and to tie into the existing network of Swedish Immigrant Regional Trail (SIRT) for **improved regional connectivity**,
- upgrading the pedestrian crosswalks and trail and intersection curb ramps to **meet current ADA** and Minnesota Public Right-of-Way Guidelines (PROWAG) standards,
- installing undercrossing and fencing to **preserve the existing wildlife ecosystem** around the project,
- installing fiber optics conduits, traffic cameras, weigh-in-motion (WIM) systems, and dynamic messaging signs (DMS) to **create a safer dynamic roadway**, and
- installing stormwater infrastructure to **expand runoff capacity**.

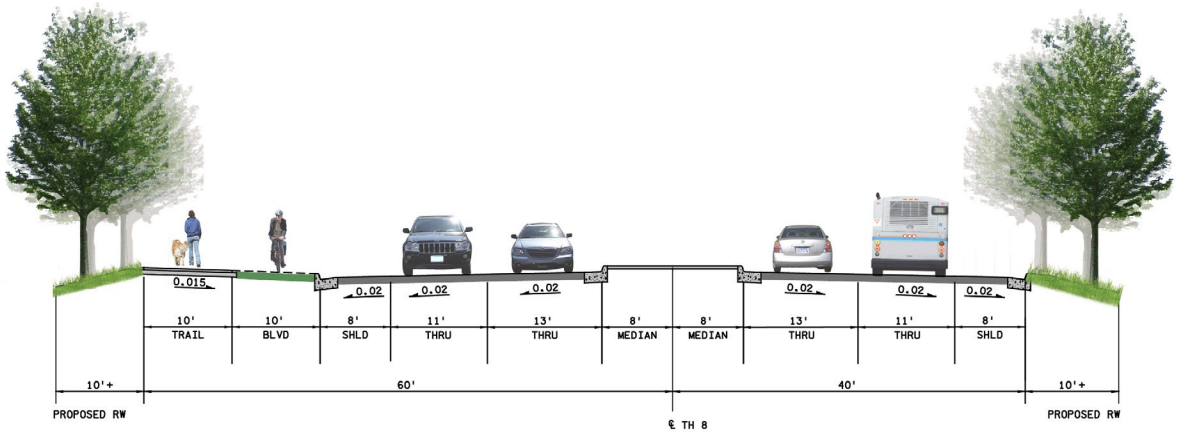

Figure 2 Project Typical Section

Figure 2 illustrates the typical section for the Project. Full access intersection improvements are proposed at eight intersections as shown in Table 1. The two new underpasses, for safer pedestrian crossing, are located 1) at Heath Avenue intersection and 2) at approximately 0.4 miles east of the Juno Court intersection.

Table 1 Intersection Improvements

TH 8 & Greenway Ave	Signalized
TH 8 & Heath Ave	RCI and pedestrian underpass
TH 8 & Hale	RCI
TH 8 & Pioneer Rd	Signalized
TH 8 & James Ave	RCI
TH 8 & 276th St	RCI
TH 8 & Viking Blvd	Signalized
TH 8 & Karmel Ave	Roundabout

Figure 3 shows clear zone maintenance enhancements, a safety feature that will be incorporated in the design. Other design elements that enhance safety without compromising on the operational efficiency of US 8 are Reduced Conflict Intersections (RCIs) and roundabouts (RABs). US 8 is a designated house-moving route in Minnesota and carries oversized vehicles. The RAB at Karmel Avenue is designed to accommodate the movement of oversized and overweight (OSOW) vehicles. Additionally, right-of-way acquisitions and environmental impacts will be addressed innovatively. Reconstruction of the corridor will avoid or minimize property and natural resource impacts.

Wildlife undercrossing and fencing will be developed as a part of the Project to support the Blanding's Turtle, a threatened species

Figure 3 Clear Zone Maintenance

in Minnesota, and other amphibians within the existing ecosystem of adjacent lakes and wetlands. The undercrossing would be facilitated by oversized culverts which serve two needs – safe animal movement and extra capacity for flood events. This infrastructure has been successfully used in other projects statewide and drastically reduced preventable animal deaths and improved motorist safety. Concurrently, water quality is an important consideration to ensure the expanded roadway does not negatively impact nearby water bodies. The Project will include thorough analysis and design considerations to detain and filter stormwater runoff.

Project History

Over the course of the last 20 years, MnDOT and Chisago County have evaluated methods to improve the capacity and safety of US 8 between Forest Lake and Taylors Falls. In 2002, MnDOT worked with communities surrounding the US 8 corridor to identify the capacity and safety issues and developed the Highway 8 Corridor Study Scoping Document. The transportation analysis and community involvement resulted in identifying major issues along the Project segment, which led to the Highway 8 Corridor Study in 2008. The study considered a range of roadway alternatives to address the growing capacity, access, and safety problems and provided a long-term vision of a

four-lane, divided highway between I-35 and Chisago City. More recently, local partners including businesses, elected officials, and other interested stakeholders have publicly supported the expansion and safety improvements to US 8 as it will enhance freight movement and support the local economy.

The 2008 Study was completed in 2013 through 4 main steps: Project Initiation, Evaluation of Alternatives, Recommendation of Alternative to Advance, and Preparation of an Environmental Assessment Worksheet (EAW). The Evaluation of Alternatives step was accomplished through a two-tier screening processes to assess five alternatives. The "Fatal Flaw" Evaluation and the Preliminary Summary of Potential Impact was developed as a result. The EAW was finalized in May 2013 and the preferred alternative was identified to help guide future development. Unfortunately, no improvements were built following the Study as a result of funding limitations, though it continued to receive support from local, county, and state agencies.

Detailed Statement of Work/Design Status

Ongoing analysis, environmental documentation, preliminary design, and public outreach is in progress despite continued funding limitations. A community-driven approach to the US 8 improvement has produced several successful public engagement events including four pop-up events and three public open houses (2 in-person and 1 virtual) from 2019 to 2021. A report was completed in the Fall of 2019 for Chisago County documenting existing and 2040 no-build traffic conditions. The study informed the project need and documented ongoing issues related to safety and congestion, both during the weekday peak periods as well as peak seasonal traffic. The study found that the corridor is at or over-capacity under existing and 2040 no-build scenarios, two intersections are at the statewide critical crash rate threshold, and significant queuing occurs at the key intersections.

An Environmental Assessment (EA) is currently underway, with a report documenting the Purpose and Need produced in June 2020. EA approval is anticipated in Fall 2023 with a Finding of No Significant Impact (FONSI) decision by December 2023.

The Project layout was approved by MnDOT in October 2022 and includes signal design at three intersections, four RCIs, and a roundabout design at Karmel Avenue. Drainage design has also substantially progressed with the inclusion of seven additional drainage basins along the project corridor. The trail connections have been expanded to provide better access and connections to the Hardwood Creek Regional Trail in Washington County. Geotechnical design is currently under exploration and evaluation stage. Figure 4 shows a segment of the preliminary design with the expanded roadway, RCI intersection, and reconstructed local roadway network to accommodate closed public and private access points. The Project layout can be accessed at this link.

Final design plans and specifications will be prepared in accordance with MnDOT Design Manuals, Standards, and as otherwise indicated in the Request for Proposals issued for this work. Description of the technical and engineering scope of work is detailed here. Final design engineering will include preparation of 60 percent, 90 percent, and 100 percent construction plans, cost estimates, signal, signing, and lighting designs, traffic management plans, right-of-way acquisition plans, and risk management plans, among others. Chisago County and MnDOT will hire contractors to construct the Project in accordance with their workforce and labor development plans. Construction is scheduled to begin in October 2025. The County will be responsible for facilitating the coordination of all activities necessary for implementation of the Project with the project partners. The County and MnDOT will fund maintenance costs of all infrastructure within their respective right-of-way, upon completion of the Project.

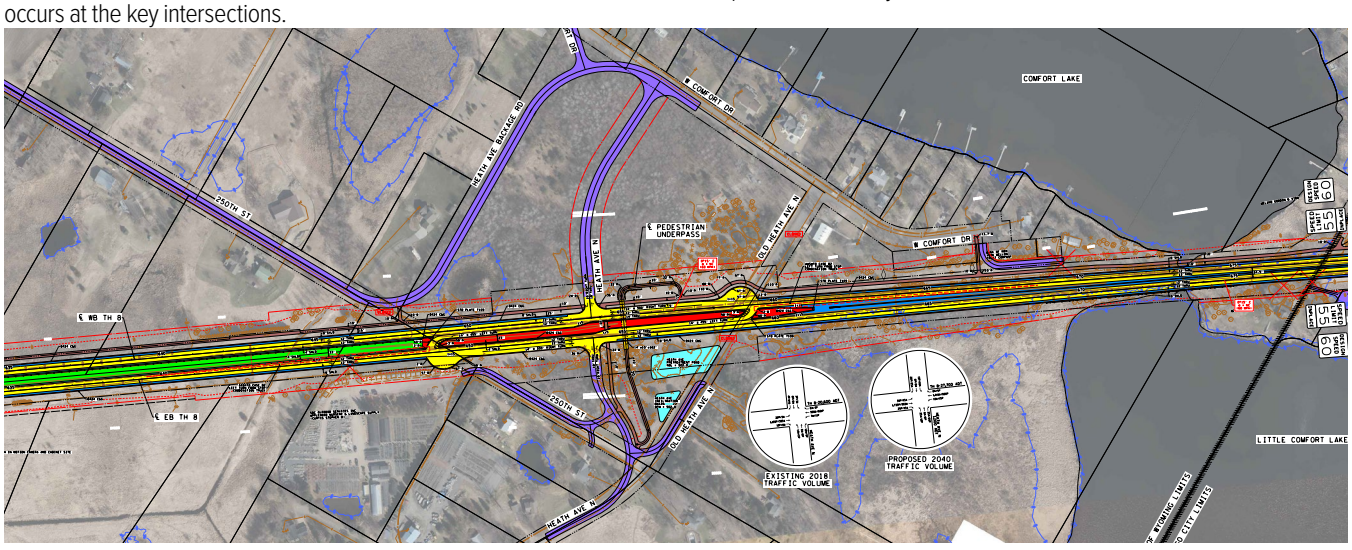

Figure 4 US 8 Expansion and Improvements

PROJECT LOCATION

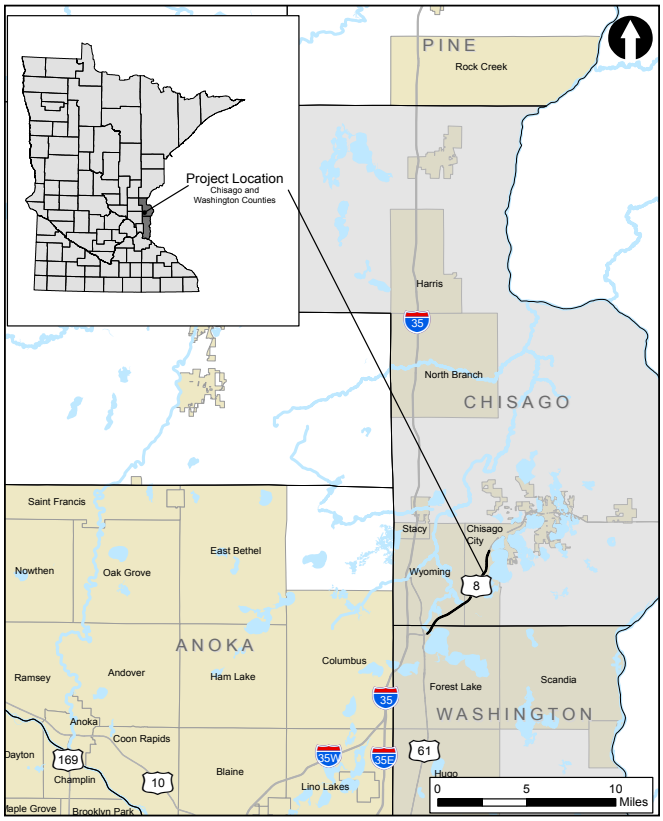

Figure 5 Project Location

US 8 runs 280 miles along a rural corridor from the Upper Peninsula of Michigan, across northern Wisconsin, and terminating at I-35 in Forest Lake, Minnesota. The Project limits extend eight miles through the communities of Wyoming and Chisago City from I-35 and terminates just west of and prior to the central business district of Chisago City (Figure 5). The Project is located primarily within Chisago County, but ties into the existing four-lane roadway at its western terminus in Washington County. The Project is located outside of a Census-designated urbanized area with a population greater than 200,000, and therefore, designated a rural capital project. The Project sits across three census tracts (701.03, 1104.01, and 1105.02). The Project is not located in an Areas of Persistent Poverty (APP), Historically Disadvantaged Community (HDC), Empowerment Zones, Promise Zones, or Choice Neighborhoods.

US 8 is an important regional transportation system for east-west travel between the Twin Cities and the northern regions of Wisconsin. In addition to project area communities, US 8 also provides access to other rural Minnesotan communities including Lindstrom, Center City, Shafer, and Taylors Falls. Key community cultural components include lake access, historic town centers, small-town culture, and local history. As a part of the National Highway System (NHS), the main function as a non-freeway principal arterial roadway, is to accommodate the movements of through traffic along the corridor.

SUPPORTING DOCUMENTS

Links to supporting documents are included throughout this narrative. All supporting documents and the RAISE grant application narrative are available to view at the following webpage: https://www.srfconsulting.com/chisago-county-mn-us-hwy-8-raise/