



US 169 Rural Safety & Mobility Interchange Project

PROJECT READINESS

FY 2023/2024 Multimodal Project Discretionary Grant (MPDG) Program



Rendering of Interchange project

Project Type: INFRA/Rural Capital Project

Eligible Project Costs: \$50,068,000

FY 2023/2024 MPDG Funds Requested: \$24,732,000

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Supporting Information can be found at:

<https://www.srfconsulting.com/sherburne-county-us-169/>





US 169 Rural Safety & Mobility Interchange Project

Submitted by Sherburne County

FY 2023/2024 MULTIMODAL PROJECT DISCRETIONARY GRANT (MPDG PROGRAM)

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Statutory Project Requirements

Requirement #1 – The project will generate national, or regional economic, mobility, or safety benefits.

The US 169/CR 4 interchange project will generate economic, mobility, and safety benefits through the removal of a congested signalized intersection (final remaining signal along the 75-mile section of US 169). The newly constructed interchange will address a huge safety problem by eliminating an at-grade intersection that is experiencing a crash rate that is five times the statewide average and a serious crash rate that is six times the statewide average. Low stress multimodal trail crossings under the US 169 overpass will also be constructed along with widening roadway shoulders from 4' to 8'. After completion of the project: 1) traffic and freight will be able to freely flow through Zimmerman without stopping and starting; 2) vehicles will be able to safely enter and exit US 169 along on and off ramps with appropriate acceleration and deceleration lanes; and 3) pedestrians and bicyclists will be able to navigate across US 169 safely and easily with minimal conflict points with vehicles.

The Project has considered and incorporates other [FHWA's Proven Safety Countermeasures](#) to the extent possible.

Requirement #2 – The project will be cost effective.

The benefit-cost analysis provides an indication of the economic desirability of a scenario, but results must be weighed by decision-makers along with the assessment of other effects and impacts. Projects are considered cost-effective if the benefit-cost ratio is at least 1.0. The larger the ratio number, the greater the benefits per unit cost. Results of the benefit-cost analysis are shown in Table 1.

Table 1 Total Project Results

	Initial Capital Cost (2021 Dollars)	Project Benefits (2021 Dollars)	Benefit-Cost Ratio (7% Discount Rate)	Net Present Value (2021 Dollars)
No Build vs. Build	\$35.64 million	\$59.18 million	1.66	\$23.54 million

Adjusted to 2021 dollars, the US 169/CR 4 interchange project has an initial capital cost of \$35.64 million and total project benefit of \$59.18 million, which corresponds to a benefit cost ratio of 1.66. Benefit cost analysis details are included in the BCA Memo and Workbook.

Requirement #3 – The project will contribute to 1 or more of the national goals described under Section 150.

The US 169/CR 4 interchange project aligns with USDOT priorities and contributes to the following national goals under Section 150:

Goal	Project Outcome
(1) Safety	The project will contribute to the national safety goal by removing the signalized intersection which will reduce potential conflict points and eliminate the need for high-speed traffic to slow and stop, removing at grade access points, widening shoulders, and installing a trail system with appropriate crossing facilities.
(2) Infrastructure Condition	The project will restore this portion of US 169 to new condition, reducing the associated maintenance costs, and extending its viable life.
(3) Congestion Reduction	The signal-controlled at-grade intersection will be replaced with a grade separated crossing making US 169 a signal-free corridor, allowing traffic to flow through Zimmerman without having to stop at the traffic signal, and eliminating the need for vehicles to queue at the light during peak travel times.
(4) System Reliability	The existing signalized intersection is last remaining one on the 75-mile corridor. Replacing it with an interchange will improve the efficiency of the system by facilitating free flow of traffic between Rodgers and Lake Millie Lacs and reduce travel delays and long queues.
(5) Freight Movement and Economic Vitality	US 169 is on the National Highway System and is a key freight route carrying 3,950 heavy commercial vehicles per day in central Minnesota. Installation of the interchange will allow freight to pass through Zimmerman without stopping. It will also alleviate problematic turning radii by installing on and off ramps, with appropriate acceleration/deceleration lanes.
(6) Environmental Sustainability	The project will allow traffic to flow at increased and more consistent speeds and reduce vehicle acceleration and idle time, which will reduce air pollution and greenhouse gas emissions from the transportation system. Additionally, the project will incorporate stormwater management best practices that work to reduce nutrient loading and stormwater runoff volume.
(7) Reduced Project Delivery Delays	This project has been redesigned from its original layout to improve project delivery. Right-of-way acquisition will be minimal, and the bulk of the environmental permitting has been completed. This project is a priority for both MnDOT and Sherburne County.

National Goals: Safety & Congestion Reduction

As established in preceding sections, the Project will enhance safety along US 169 for motorists and non-motorists alike. It will also improve multimodal traffic operations and travel time reliability while reducing turning conflicts and congestion.

Construction of a shared use path for pedestrians and bicyclists along CR 4 and wider roadway shoulders (4' to 8') along US 169 will provide safer movement for all users including vulnerable populations.

National Goals: System Reliability & Freight Movement and Economic Vitality

The Project improvements address current and projected vulnerabilities, through both reconstruction or rehabilitation of the corridor and upgradation of the pedestrian infrastructure to Americans with Disabilities Act (ADA) compliant standards, which not only provides much needed safety enhancements but also ensures efficiency of transportation network in the future, mobility of goods, improved accessibility and mobility of people, and accelerated economic growth. Therefore, the Project is a sound investment as it meets current demands for safety and operational improvements and maximizes and preserves the long-term value of US 169 and the surrounding transportation network.

National Goal: Environmental Sustainability

The Project will improve travel time reliability, reduce congestion, and reduce idle time on US 169 and connecting roadways, thereby lowering greenhouse gas (GHG) emissions per user along the corridor. Potentially contaminated materials encountered during construction will be handled and treated in accordance with applicable state and federal regulations. Remediating any potentially contaminated soils will also reduce pollution of local water bodies. The Project will incorporate stormwater management best practices that work to reduce nutrient loading and runoff volume.

National Goal: Reduced Project Delivery Delays

Project partners will implement a project-specific transportation management plan (TMP) that maintains acceptable levels of safety, accessibility, and mobility during construction.

Requirement #4 – The project is based on the results of preliminary engineering.

Preliminary engineering has been completed for this project. A [Preferred Interchange](#) Design Layout has been selected through an [iterative process](#) complete with public comment and agency feedback. A [3D project rendering](#), and a project cost estimate have been completed and updated to the design year and can be accessed in the appendix. In addition, the following activities have been completed: 1) [Environmental Assessments](#); 2) Geotechnical Investigations; 3) Traffic Studies; and 4) Hazardous Materials Assessments.

Requirement #5 – With respect to related non-federal financial commitments, 1 or more stable and dependable sources of funding and financing are available to construct, maintain, and operate the project, and contingency amounts are available to cover unanticipated cost increases.

Sherburne County Funding

Sherburne County has served as the champion of the Project and to date has spent \$4,132,000 in previously incurred expenses studying the project, conducting various studies and designing the intersection. The County has committed \$5 million in FY 2024 local option sales tax funds to the project although those dollars are flexible and can be spread across other FY's as needed.

To fill the remaining \$5.5 million construction costs and right-of-way acquisitions, Sherburne County and the City of Zimmerman have reserves of State Aid funds for the County State Aid Highway and Municipal State Aid Routes that are a portion of the project. For the remaining portion, Sherburne County has \$10.48 million in Local Option Sales Tax fund reserves for transportation purposes related to the interchange project.

State of Minnesota

MnDOT and local agencies have successively partnered on more than \$240 million in roadway construction projects in Sherburne County. Those projects include: 1) \$160 million to the state funded Corridor of Commerce project through Elk River, which removed five signals and constructed four grade separated interchanges; 2) the Restricted Crossing U-Turn (RCUT) project south of Zimmerman; and 3) \$80 million in improvements along US Highway 10 just east of Elk River which remove signals and convert the existing expressway to a grade separated facility.

Throughout project development and design, Sherburne County has had discussions with MnDOT District Staff. MnDOT is actively participating in the project development and design. Sherburne County and MnDOT have had multiple discussions directly related to their participation. MnDOT anticipates providing the soft costs for construction project management of \$7.2 million. Should they not be able to provide those services, depending on when project construction funding becomes available, Sherburne County

is prepared and able to cover the anticipated \$7.2 million in construction administration costs.

Requirement #6 – The project cannot be easily and efficiently completed without other Federal funding or financing available to the project sponsor.

To date, project partners including the State of Minnesota, MnDOT, Sherburne County, and the City of Zimmerman have worked tirelessly to contribute to the non federal portion of the project amassing nearly \$20 million so far. However, in addition to other federal funds allocated to the project totaling \$7 million, there is still a \$24,732,000 shortfall. If the FY 2023/2024 MPDG Rural or INFRA grant is not awarded, the proposed safety and mobility improvements would again be significantly delayed, and the county would be unable to deliver the project. None of the planned innovative or safety improvements within the Project would be constructed. Sherburne County would likely continue to seek other funding opportunities, however significant delays and inflation would be expected.

The Project is of local, regional, and statewide importance. This project was submitted to the United States Department

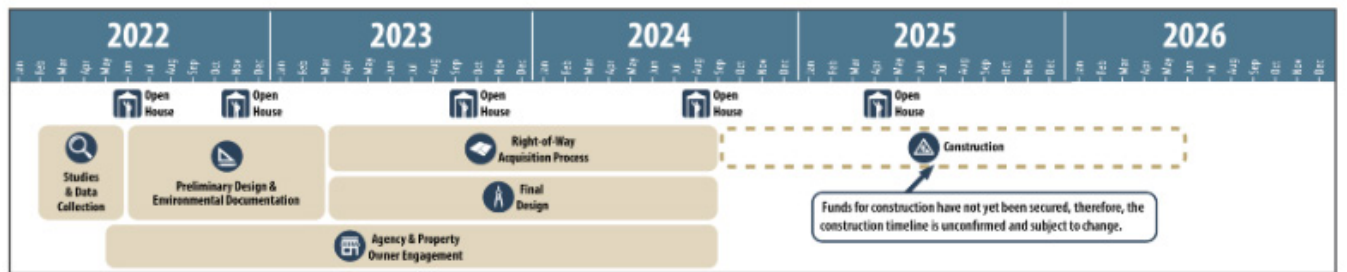
of Transportation for funding previously on seven separate occasions:

- RAISE: FY 23, FY 22, FY 21
- MPDG: FY 22 (Rural and INFRA), FY 21 INFRA
- BUILD: FY 20

The US 169 Rural Safety and Mobility Interchange Project also applied for but was not selected to receive MnDOT Corridors of Commerce funding in 2022. Sherburne County has participated in United States Department of Transportation (USDOT) debriefs and based on feedback received, the design of the Project has been modified to better reflect updated priorities as identified in the Notice of Funding Opportunity.

Requirement #7 – The project is reasonably expected to begin not later than 18 months after the date of obligation of funds for the project.

As shown in the project schedule below, final design and right-of-way acquisition is anticipated to be completed in the summer of 2024 and construction can begin at that time. All construction activities applied for under this application will easily be able to obligated by September 30, 2026 as soon as a grant agreement can be executed.



INFRA Small Grant Statutory Selection Requirements

As stated in Requirement #2, the project will be cost effective adjusted to 2021 dollars, the US 169 Rural Safety and Mobility Interchange Project has an initial capital cost of \$35.64 million and total project benefit of \$59.18 million, which corresponds to a benefit cost ratio of 1.66. Benefit cost analysis details are included in the BCA Memo and Workbook. Results of the benefit-cost analysis are shown in Table 2.

Table 2 Total Project Results

	Initial Capital Cost (2021 Dollars)	Project Benefits (2021 Dollars)	Benefit-Cost Ratio (7% Discount Rate)	Net Present Value (2021 Dollars)
No Build vs. Build	\$35.64 million	\$59.18 million	1.66	\$23.54 million

US 169 is a key transportation corridor that connects central Minnesota to the Twin Cities Metropolitan Area. The intersection between US 169 and CR 4 creates significant mobility problems resulting in congestion, unreliable travel times, and safety hazards. This project will improve freight, passenger, and multimodal mobility by replacing the signalized intersection with an interchange, with pedestrian and bicycle facilities. Mobility benefits are described in detail in the Project Outcome Criteria.

This portion of US 169 has higher-than-average crash rates, with a disproportionate number of injuries. This project will produce significant safety benefits, which are discussed in detail the Project Outcome Criteria.