

County State Aid Highway 54 Safety Improvements and Multimodal Connectivity Project PROJECT DESCRIPTION

FY 2024 Rebuilding American Infrastructure with Sustainability and Equity (RAISE) Program



Project Name: County State Aid Highway 54 Safety Improvements and Multimodal Connectivity Project

Project Type: Rural Capital

Future Eligible Project Costs : \$35,365,038

2024 RAISE Funds Requested: \$25,000,000

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Supporting Information can be found at:

<https://www.srfconsulting.com/dakota-county-54/>





County State Aid Highway 54 Safety Improvements and Multimodal Connectivity Project

Submitted by Dakota County, Minnesota

FY 2024 Rebuilding American Infrastructure with Sustainability and Equity (RAISE) Program

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PROJECT DESCRIPTION

Dakota County, Minnesota is submitting this 2024 Rebuilding American Infrastructure with Sustainability and Equity (RAISE) Grant Program application and requesting \$25 million to fund the County State Aid Highway 54 Safety Improvements and Multimodal Connectivity Project (herein referred to as the Project). The Project will address critical safety concerns along County State Aid Highway (CSAH) 54 and extend the active transportation infrastructure in Ravenna Township, to build equitable and sustainable communities in Dakota County. The Project's total future eligible cost is \$35,365,038 and complies with the requirements of rural capital project.

Located in the southeastern quadrant of the Minneapolis-St. Paul urbanized area, Dakota County is the [third-most populous](#) county in Minnesota and serves both urban and rural regions. The County is strategically located next to the Twin Cities with access to airports, highways, railroads, and waterways and is a hub of retail trade, health services, and manufacturing. The City of Hastings, located at the northwestern limits of the Project, was founded in 1853 near the confluence of the Mississippi, Vermillion, and St. Croix rivers. It is the county seat and features a vibrant town center with a population of 22,000. Further, Dakota County also neighbors the Prairie Island Indian Community (PIIC), a Mdewakanton Sioux Indian reservation and federally recognized tribe. Prairie Island is home to two large employers – **Treasure Island Resort and Casino** and **Prairie Island Nuclear Plant**.

Dakota County is a part of the Twin Cities planning region, which is projected to see a 6.2 percent increase in employment levels over the next decade. There were 98,330 job vacancies posted by employers in 2022, indicating extensive opportunity in the region.

County State Aid Highway (CSAH) 54 is a high-speed, two-lane undivided highway that runs parallel to the Vermillion River near the Minnesota-Wisconsin border. It is a rural major collector roadway inside Ravenna Township with an annual average daily traffic (AADT) volume of 4,200 vehicles per day (vpd) (2019) and a statutory speed limit of 55 mph. The roadway has a documented crash history, lacks turn lanes, standard shoulders, and multiuse trail, limiting

pedestrian access. At its southern terminus, CSAH 54 forms a T-intersection with CSAH 68, a minor arterial. CSAH 68 is also a high-speed, two-lane undivided highway that carries 6,400 vpd (2018) and has a posted speed limit of 55 mph. The Project corridor is also a part of the Mississippi River Trail (MRT), a designated bicycle and pedestrian trail that follows the Mississippi River as it snakes from Minnesota to the Gulf of Mexico.

The Project will reconstruct 6.8 miles of CSAH 54, also known as the Ravenna Trail, from Glendale Road to CSAH 68 to improve safety, pavement conditions, and flow of traffic within this critical connection in Dakota County (Figure 1). Additionally, a roundabout will replace the existing T-intersection at the junction of CSAH 54 and CSAH 68 to enhance safety and reduce traffic delays. The Project will also construct 7.5 miles of new multiuse off-road trail along CSAH 54 and further extending along CSAH 68 to the County boundary on the east, connecting it to the Prairie Island Reservation.

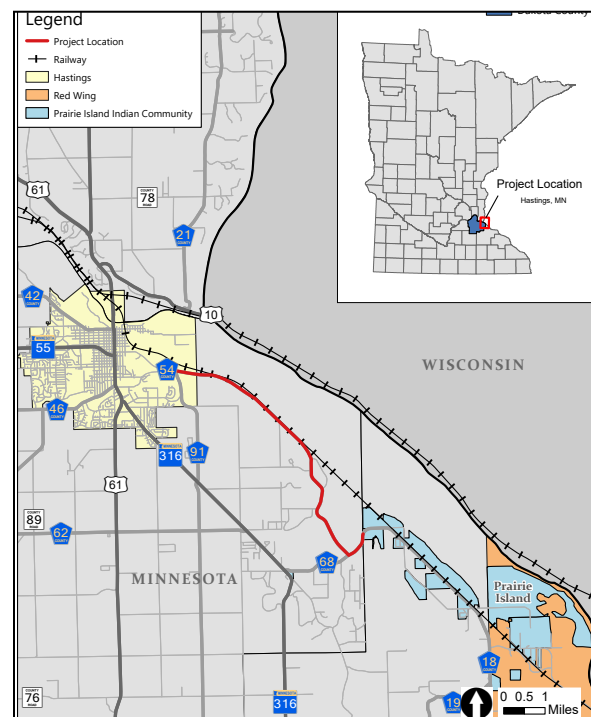
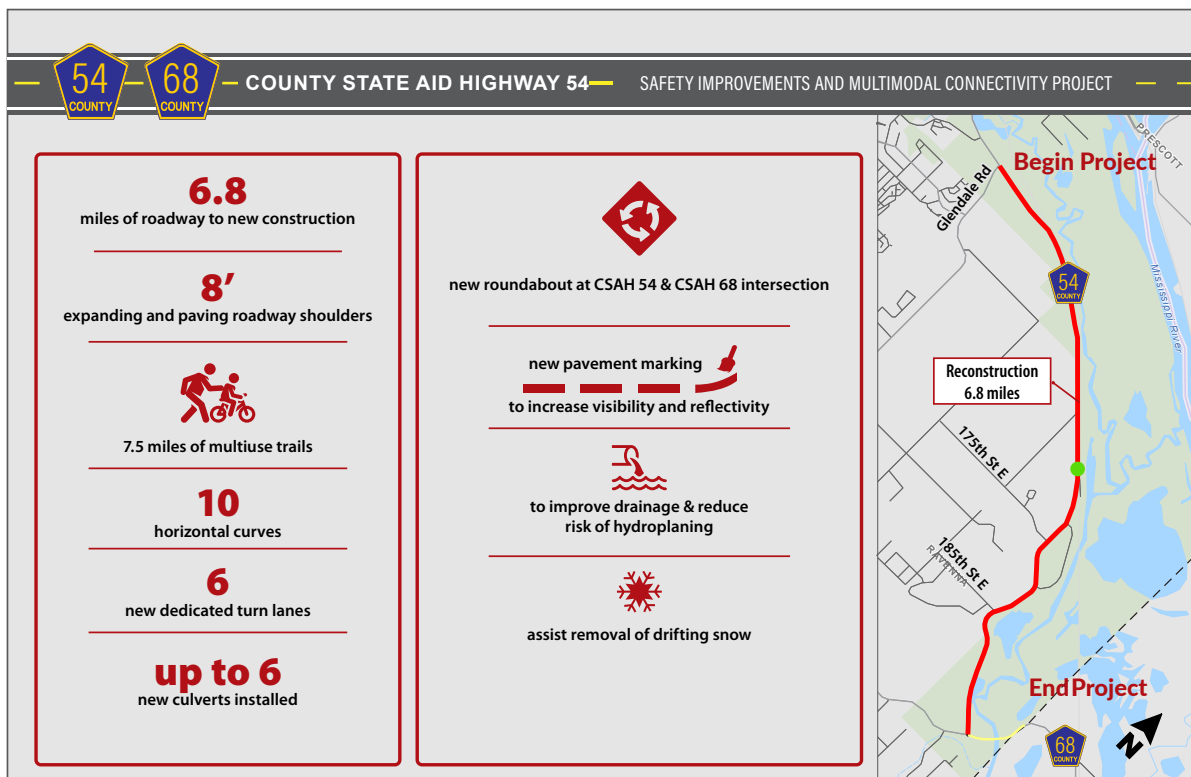


Figure 1 Project Location in Regional Context

[Originally constructed in 1963](#), CSAH 54 has never been expanded to meet current traffic demands. The AADT in 1994 was 2,100 vpd. In the last 30 years, travel to and from major employers and recreation on Prairie Island has



significantly increased, as CSAH 54 is the main route for residents, tribal members, and visitors to access regional facilities. Prairie Island is home to two of the three largest employers in Red Wing/Goodhue County with Treasure Island Casino and Xcel Energy – Prairie Island Nuclear Plant, employing 1,500 and 750 people respectively. Treasure Island Casino is one of the largest and most popular resort casinos in Minnesota featuring a 788-room hotel, 140-slip marina, 100-space recreation vehicle (RV) park and a 16,000-person capacity amphitheater. The Treasure Island Resort and Casino attracts visitors from the Twin Cities year-round as a premier vacation getaway. The average daily traffic to and from Prairie Island is 11,500 trips, on weekends and on special event days the traffic can be much higher. Approximately half of the trips travel through the CSAH 54/CSAH 68 intersection, as this route is one of only two ways, and the most direct route to get to Twin Cities from Prairie Island and vice-versa.

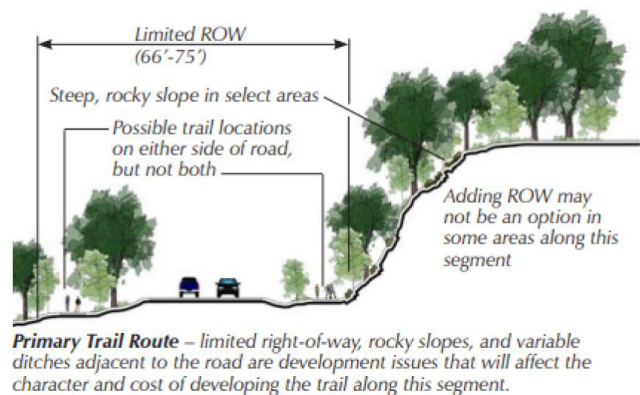


Figure 2 Right-of-way Constraints along CSAH 54

The traffic volumes along CSAH 54 are [expected to increase](#) to 6,400 vpd by 2040. As Dakota County is one of the fastest growing counties in Minnesota, and has reported more than [ten percent increase in population over the last ten years](#), the growing travel demand requires the reconstruction of CSAH 54 to increase capacity, maintain safety, and implement Complete Streets based multimodal improvements for users of all abilities.

In 2009, Dakota County in partnership with Goodhue County, City of Red Wing, and City of Hastings, developed a [regional trail plan](#) to connect the two cities. This trail is intended to complete a missing link between the Twin Cities Metro and southeastern Minnesota trail networks. CSAH

54 corridor is a main hurdle to completing this regional trail because of the right-of-way constraints due to the presence of Canadian Pacific (CP) railroad and floodplains of Vermillion River. These challenges will be resolved through the Project as proposed improvements include an off-road multi-use trail along CSAH 54 and portions of CSAH 68 within the Project corridor, to separate motorized and non-motorized traffic and close the existing trail gap.

The Project addresses safety, mobility, environmental sustainability, state of good repair, and transportation equity while advancing Dakota County's goals to maximize the use of County right-of-way to benefit all users.

CURRENT TRANSPORTATION CHALLENGES

A range of serious operational and safety concerns are present for roadway users in the Project corridor. Existing transportation challenges in the area include the following:

- **Significant Safety Concerns:** There are significant safety concerns along the Project corridor for both motorists and non-motorists. The intersection of CSAH 54 and CSAH 68 is a T-intersection with a stop sign only at CSAH 54. This intersection has a history of severe crashes as many of the drivers reported that they did not see nor anticipate the stop along CSAH 54.
- **Lack of Active Transportation Infrastructure:** There is an absence of sidewalks along CSAH 54 and CSAH 68, which leads to a major safety concerns for local non-motorized users as they share the narrow roadway shoulders with high-speed traffic. This hinders modal choice for residents and tribal members biking and walking to nearby destinations.
- **Road Disrepair:** CSAH 54 exhibits deteriorating pavement along the entire length of the Project corridor. The County has routinely conducted maintenance efforts to stifle the roadway cracking and deterioration of the base aggregate, however, the roadway requires reconstruction to optimize and preserve its long-term performance under growing traffic volumes.
- **Drainage:** The Project is in the vicinity of a 100-year floodplain. The natural drainage flow is conveyed by the existing four large culverts under CSAH 54, and drain towards the Mississippi River. In 2019, [flooding](#) due to the spring snow melt caused closure of CSAH 54 for more than a week eliminating one of the two main access routes to key destinations including Treasure Island Resort and Casino. The 2021 routine structure inspection report documents the culverts have condition scores ranging between 4 and 8 out of 9. Ratings of 7 or higher are considered good condition, 5 and 6 are considered fair and satisfactory, and 4 or less considered poor.

- **Access:** CSAH 54 is relied on by residents who live along it. It is also an important route for tribal members, employees, and visitors to Prairie Island, including employees of the Prairie Island Nuclear Energy Plant and Treasure Island Resort and Casino. Likewise, it is a critical evacuation route for the PIIC in case of flooding or worse - a radiation leak.
- **Right-of-Way Limitations:** The Canadian Pacific (CP) Railroad runs parallel to CSAH 54 on the eastern side. On the other side are rural residences. This provides challenges to widen the roadway.

PROPOSED IMPROVEMENTS

The Project aims to address the above identified issues by designing and implementing a modernized corridor that provides long-term solutions to improve safety and efficiency for all users. The proposed improvements include the following:

- Reconstruction of approximately 6.8-mile segment of CSAH 54 to replace the deteriorated pavement conditions and improve the flow of traffic from Hastings to Prairie Island,
- Construction of approximately 7.5 miles of multi-use off-road trail to remedy existing gaps and provide safer non-motorized user connections:
 - » On one side of CSAH 54 from Glendale Road to CSAH 68 intersection and
 - » On one side of CSAH 68 from the CSAH 54/CSAH 68 intersection to Dakota County eastern boundary, to be connected to the future segments of the MRT,
- Construction of a single lane roundabout (RAB) at the intersection of CSAH 54/CSAH 68 to enhance safety and reduce traffic delays at the intersection,
- Widening to eight feet shoulders along CSAH 54 from Glendale Rd to CSAH 68,

- Addition of dedicated turn lanes along CSAH 54 at six intersections to reduce conflict and delays,
- Replacement of stormwater infrastructure to expand capacity to resolve flooding along the corridor, and
- Replacement of intersection lighting at CSAH 54/CSAH 68 intersection area.

DETAILED STATEMENT OF WORK/DESIGN STATUS

The Project is currently in the conceptual design phase. Dakota County recently released a Request for Proposal (RFP) for preliminary design of the Project in February 2024. The goal of the preliminary design is to obtain a geometric layout with municipal consent and an approved environmental document at the appropriate level of NEPA review. The Project's needs and solutions will be identified through active public and stakeholder engagement conducted to inform, educate, and incorporate gathered feedback into the designed solution. As per the Project schedule, it is expected that the 30 percent design (approved layout and environmental documentation) will be completed by Spring 2025.

Upon completion of the preliminary design, final project plans and specifications will be prepared in accordance with Dakota County Standards. Final design engineering will include preparation of 60 percent, 90 percent, and 100 percent construction plans, finalized cost estimates, drainage, signing, and lighting designs, traffic management plans, right-of-way acquisition plans, and risk management plans, among others. The County will be responsible for facilitating the coordination of all activities necessary for the implementation of the Project.

CSAH 54 will be closed for through-traffic during construction. Access to local traffic will be controlled with approved temporary traffic control devices/practices and local detours where necessary. Access to adjacent properties will be maintained during construction.

PROJECT HISTORY

CSAH 54 has a variety of users, such as agri-businesses, locals, tourists, commuters, and hunters. Dakota County has been investing in safety improvements along the corridor over the last 20 years. It has installed warning signs for speed, curves, and school bus stops. During the most recent resurfacing project in 2007, rumble strips were added to reduce single-vehicle run-off-the-road crashes by warning drivers of lane departure. In 2018, in response to concern about crashes at the intersection of CSAH 54 and CSAH 68, a [safety study](#) was performed. It determined that the blind approach in a T-intersection were hazardous for motorists approaching along CSAH 54. Dakota County implemented the recommendations from this study by repositioning the intersection lighting and clearing some of the vegetation obscuring the intersection.

Planning for the Hastings to Red Wing trail began in 2004 with a feasibility study by the Parks and Trails Council of Minnesota. In 2009, a [master plan](#) for the regional trail was published, outlining the purpose and need for a 18-mile connection between the two cities.

CSAH 54 was closed for flooding in 2019. During this event, some of the [pavement was undermined](#) by the high waters.

The County has dedicated significant resources towards maintaining CSAH 54 during the last two decades and has extended the life of the roadway balancing the outcomes with the financial efficiencies of such investments. CSAH 54 is slated for a micro-resurfacing project in 2024, however the resulting high-cost improvements will not result in the development of a comprehensive transportation network. Dakota County envisions fulfilling several of its transportation goals by expanding the scope into a full reconstruction project incorporating traffic calming strategies and multimodal active transportation infrastructure and based on the principles of USDOT's [National Roadway Safety Strategy Plan](#) (NRSS).

PROJECT LOCATION

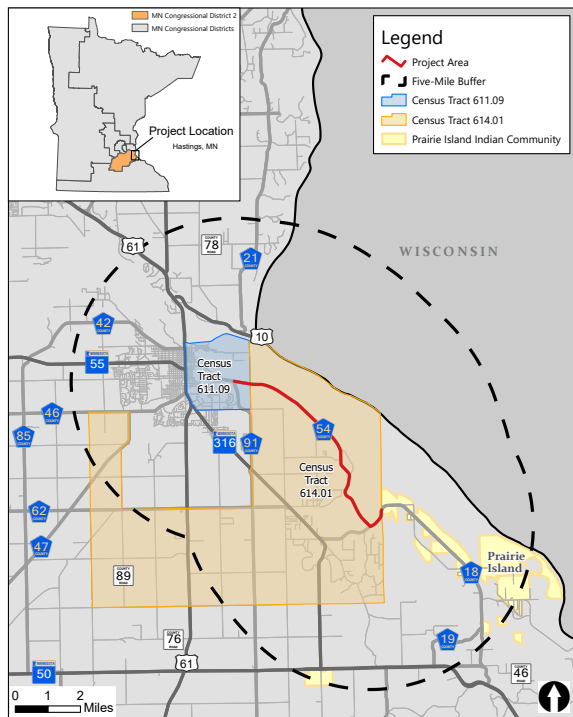


Figure 3 Project Census Tracts

The Project is in Dakota County, a southeastern county within the greater Minneapolis-St. Paul metropolitan area. Dakota County is known as a [hub of distribution](#). The Project Area is a diverse group of urban and rural contexts. It has proximity to multiple rivers, floodplains, railroads, hunting grounds, farms, residences, industrial zones, and the Minnesota-Wisconsin state boundary, all located less than 30 miles from a massive metropolitan area.

The Project is, however, [located](#) outside the urbanized area boundaries of Minneapolis-St. Paul metropolitan area and is therefore, categorized as a rural project. It is also not located within a census-designated urban area. It is in two census tracts: primarily in 614.01 and partially in 611.09. Neither of these tracts are designated as an area of persistent poverty (APP) or historically disadvantaged community (HDC), as defined in the NOFO.

CSAH 54 is a major [collector](#) that follows the rim of the Mississippi River valley. The road winds from its southern terminus at CSAH 68, near the Prairie Island Indian Community, into the heart of the City of Hastings.

[Prairie Island](#) is a federally recognized reservation established in the lowland plains of the Mississippi River to the southeast of Dakota County, and within a five-mile buffer of the Project corridor. CSAH 54/CSAH 68 route is one of the only two roads connecting Twin Cities to/from Prairie Island.

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/dakota-county-54/>