FY2019-2020
INFRA Grant
Application

US 212 Rural Freight Mobility and Safety Project

Submitted by Carver County, Minnesota

2020 Infrastructure for Rebuilding America (INFRA) Program

Project Name **US 212 Rural Freight Mobility and Safety Project**

Project Type NHFN AND NHS

INFRA Request Amount **$47,806,114 (Phase 1 - $10,701,014, Phase 2 - $37,105,100)**

Future Eligible Project Cost **$119,749,700 (Phase 1 - $55,531,600, Phase 2 - $64,218,100)**

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Supporting Information can be found at:

https://www.srfconsulting.com/us-212-infra-grant/

CARVER COUNTY

US 212 Rural Freight Mobility and Safety Project

Submitted by Carver County, Minnesota

COVER PAGE

BASIC PROJECT INFORMATION	
Project Name	**US 212 Rural Freight Mobility and Safety Project**
Project Sponsor	**Carver County**
Was a INFRA application for this project submitted previously?	Yes
If yes, what was the name of the project in the previous application?	US 212 Freight Mobility and Safety Project
PROJECT COSTS	
INFRA Request Amount	**$50,246,127**
Estimated federal funding (excluding INFRA)	$32,000,000
Estimated non-federal funding	$38,644,925
Future Eligible Project Cost	$120,891,052
Previously Incurred Project Cost	$3,514,228
Total Project Cost	$124,405,280
Are matching funds restricted to a specific project component? If so, which one?	No
PROJECT ELIGIBILITY	
Approximately how much of the estimated future eligible project costs will be spent on components of the project currently located on NHFN?	$120,891,052
Approximately how much of the estimated future eligible project costs will be spent on components of the project currently located on the NHS?	$120,891,052
Approximately how much of the estimated future eligible project costs will be spent on components constituting railway-highway grade crossing or grade separation projects?	Not applicable (N/A)
Approximately how much of the estimated future eligible project costs will be spent on components constituting intermodal or freight rail projects, or freight projects within the boundaries of a public or private freight rail, water (including ports), or intermodal facility?	N/A
PROJECT LOCATION	
State(s) in which project is located	Minnesota
Small or large project	Large
Urbanized Area in which the project is located, if applicable	N/A (Designated rural area)
Population of urbanized area	N/A
Is the project located in an opportunity zone?	No
Is the project currently programmed in the:	
• TIP	Yes
• STIP	Yes
• MPO Long Range Transportation Plan	Yes
• State Long Range Transportation Plan	Yes
• State Freight Plan	Yes

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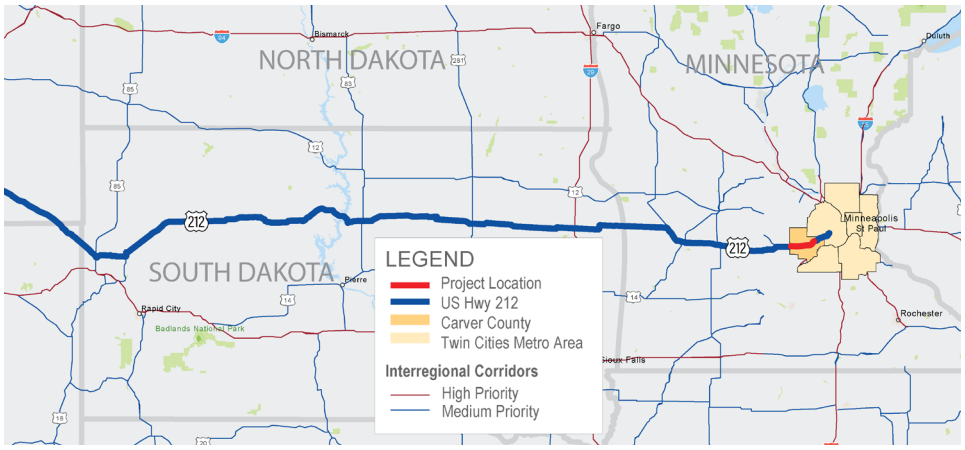
FIGURES

TABLES

I. PROJECT DESCRIPTION

US Highway 212 (US 212) is a regional and national highway system that runs from Wyoming to Minnesota, officially designated in 1926. This grant application proposes expansion and safety improvements to the section of US 212 between the rural communities of Norwood Young America and Carver in Carver County (herein referred to as the "Project Corridor"). The Project Corridor contains aging pavement that has not been expanded or reconstructed in 90 years since its original paving in 1930. U.S. 212 is part of the National Highway System (NHS) and National Highway Freight Network (NHFN), providing a major freight connection for 22,000 square miles of rural Minnesota and South Dakota, whose largest source of employment is manufacturing. US Highway 212 is identified by the Minnesota Department of Transportation (MnDOT) in the Minnesota State Freight Investment Plan as a **Critical Rural Freight Corridor** and was also identified in the Metropolitan Council's Regional Truck Highway Corridor Study as a **Tier 1 Freight Corridor**. Western Minnesota does not have Interstate (or Interstate-like) access to the Twin Cities. Instead, this large area relies on US 212 to provide interstate commerce connectivity from these rural areas to the multi-state economic hub of the Twin Cities. **Figure 1** illustrates the relationship of the Project to the regional and multi-state transportation network.

Figure 1 Project Location in Relationship to Regional Transportation Network



The Project would reconstruct and modernize the existing depression-era bottlenecks in the Glencoe to Twin Cities area from a rural two-lane undivided highway to a four-lane divided, multi-service expressway. These two fragmented segments of two-lane, undivided highway between Norwood Young America and Carver prevent US 212 from being a continuous, four-lane expressway.

These two gaps in the Corridor create bottlenecks in the interstate freight supply chain and safety issues resulting from narrow lanes, narrow shoulders, limited turn lanes, conflicts with rural farm equipment, troubled intersections, and traffic merge issues from a four-lane divided highway to a two-lane undivided highway.

Carver County, in partnership with MnDOT, the Southwest Corridor Transportation Coalition (SWCTC), its 41 communities, local chambers of commerce, and elected officials, is proud to submit this $46.4 million INFRA grant request to partner with the US DOT and FHWA to help eliminate the freight inefficiencies, reduce rural highway fatalities, and strengthen rural access to economic opportunities in the Twin Cities Metropolitan Area.

The Project total future eligible project cost is $112.4 million and complies with the requirements of a large project. The Project will be implemented in two phases. Phase 1 includes expansion of approximately five miles of roadway from a two-lane rural highway to a four-lane expressway between the Cities of Carver and Cologne. Phase 2 includes expansion of approximately five miles of roadway from a two-lane rural highway to a four-lane expressway between the Cities of Cologne and the Norwood Young America. Future eligible project costs for Phase 1 and 2 are $56.5 million and $63 million, respectively, and individually meet the requirements of a small project.

Proposed Improvements

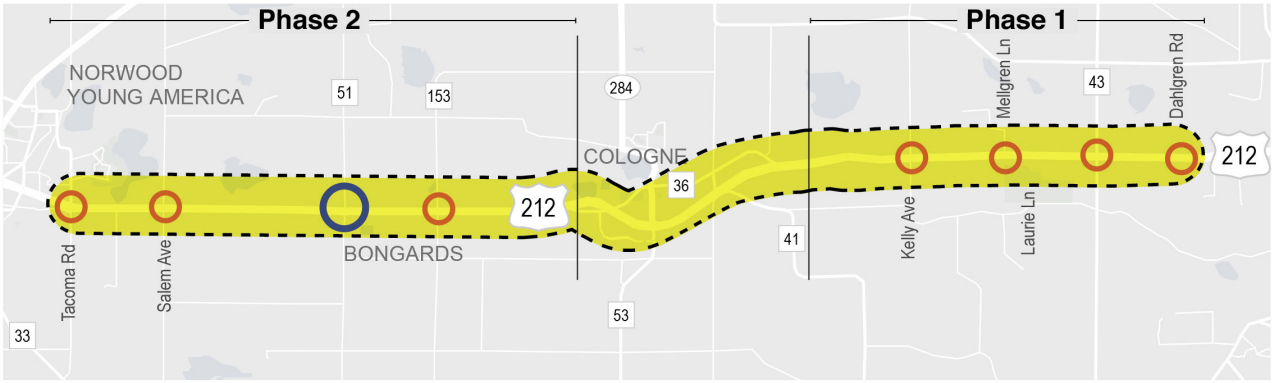
The US 212 Rural Freight Mobility and Safety Project ("the Project") will **modernize and expand approximately ten miles** of rural highway roadway within Carver County. The Project includes several elements that are intended to support economic vitality, leverage unique and cost-effective local and federal funding, incorporate the latest in infrastructure innovation, and deliver timely construction and performance-based outcomes.

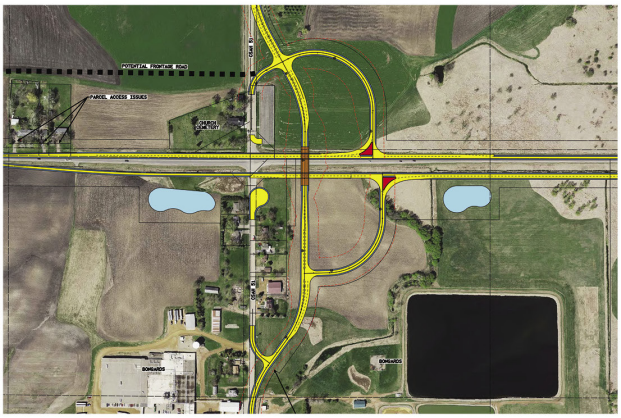
The Project will be implemented in two phases. Phase 1 addresses US 212 from the City of Carver to the City of Cologne, expanding the existing highway from two to four lanes. Phase 2 addresses US 212 from the City of Cologne to the City of Norwood Young America, expanding from two to four lanes, and an approximately two-mile section within the City of Cologne which was previously reconstructed as a four-lane facility.

The Project will update the functionally obsolete two-lane cross-sections to multi-faceted modern four-lane expressways. It will address critical safety issues and conflicts, reconstructing key intersections as **Reduced Conflict Intersections (RCIs)** and constructing a **grade-separated quadrant interchange** at the intersection of US 212 at County Highway 51. Other improvements include the addition of full width shoulders, turn lanes at north-south roadway intersections, replacement of bridges over Carver Creek, new access roads and several access closures or changes in accordance with current MnDOT access management guidelines. **Figure 2** illustrates the proposed project improvements.

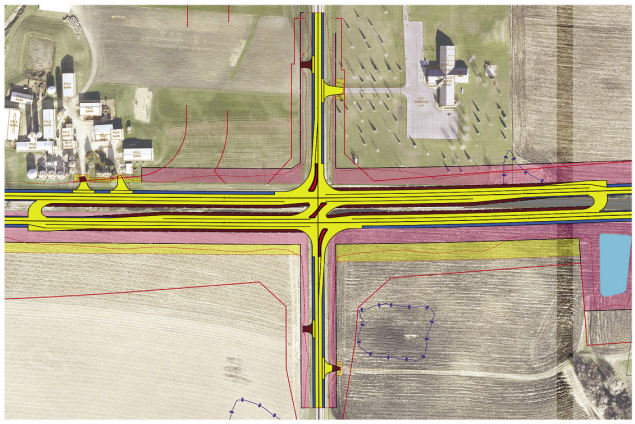
Innovative improvements are included in Phase 1 and Phase 2 of the Project. The Project will include specially designed snow fencing techniques to counter regular snow drifts and icy pavements to reduce current heavy snow-related incidents. Upgrades to the County's fiber optics network and backbone will be made to expand rural broadband, intelligent transportation systems, and future connected automated vehicles.

Figure 2 Project Elements





Grade Separated Quadrant Interchange (Option)



Reduced Conflict Intersections (RCI)

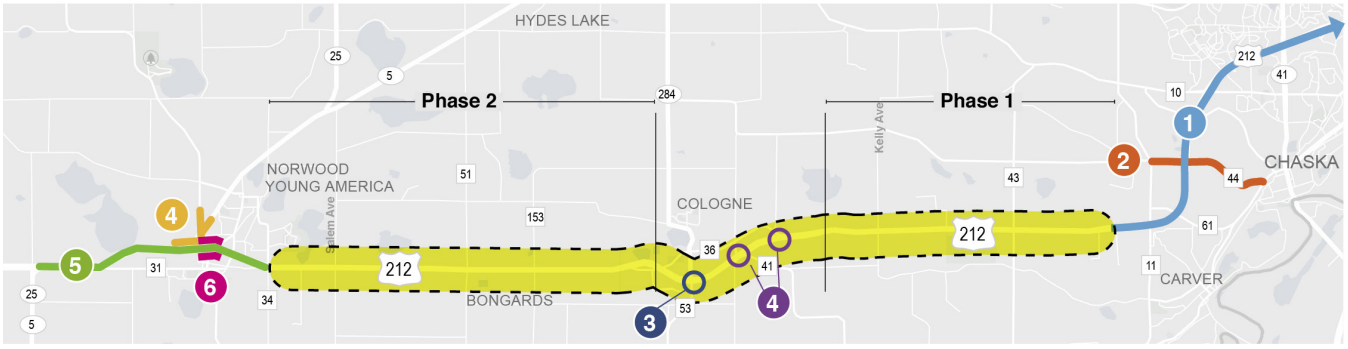
10 Miles of 2-lane to 4-lane expansion

Project History

MnDOT and Carver County have partnered to develop a vision for the Corridor and implement mobility and safety improvements on US 212. The County in partnership with MnDOT, local communities, businesses, elected officials and interested citizens completed the US Highway 212 Corridor Study in 2013 which identified a long-term vision for the Corridor and short-term safety improvements. This study identified expansion of the remaining two-lane, undivided sections of US 212 as a critical priority in achieving a seamless freight corridor.

The County and its partners have made several critical investments in the Corridor to improve safety and mobility. In 2009, MnDOT upgraded a portion of US 212 from a two-lane highway to a four-lane limited access highway from the eastern terminus of the Corridor to the City of Eden Prairie. Carver County, MnDOT and local communities have committed to several other improvements in the Corridor. **Figure 3** identifies improvements that have been completed or will be constructed in 2020.

Figure 3 Project History



1. US 212 2-Lane to 4-Lane Conversion. **Completed 2009**
2. US 212/County Hwy 44 Interchange **Construction 2019**
3. US 212/County Hwy 53 Reduced Conflict Intersection **Completed 2012**
4. US 212/County Highway 36 to 41 Reduced Conflict Intersection. **Completed 2012**
5. TH 5/TH 25/County Hwy 33 Intersection Improvements **Construction 2020**
6. US 212 Pavement Rehab and Intersection Improvements **Construction 2020**
7. US 212 Pedestrian Underpass **Construction 2020**

Purpose Statement

The Project will accomplish the following:

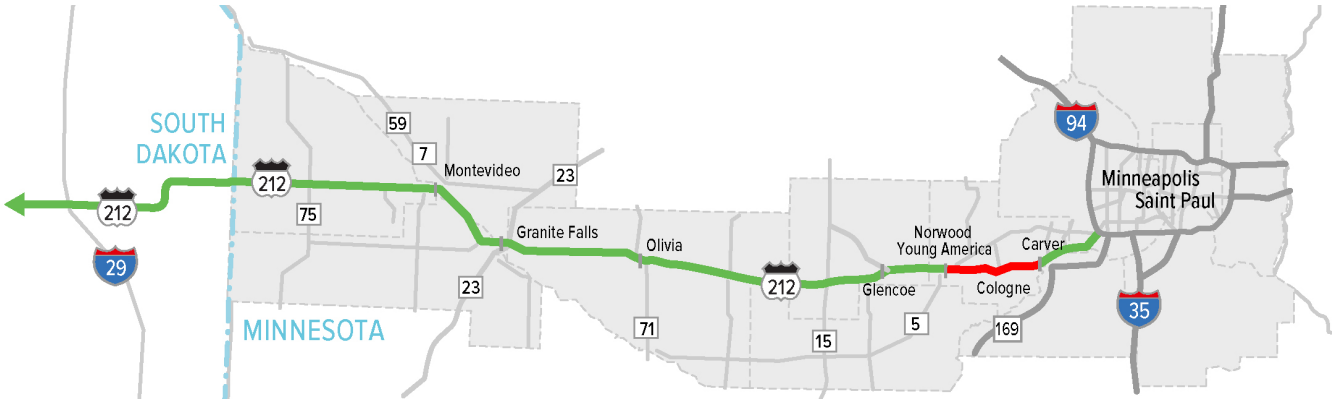
- Reduce rural roadway fatalities
- Expand capacity for efficient freight movement
- Improve pavement quality
- Increase mobility for rural populations and freight
- Expand rural access to economic opportunities

II. PROJECT LOCATION

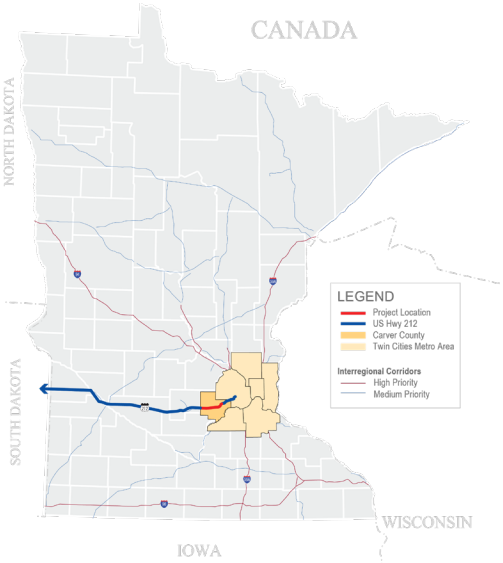
US 212 spans 138 miles from the South Dakota state line to I-494, connecting regional traffic from the urban Twin Cities and Western Minnesota rural communities to the rest of the Great Plains. US 212 serves as a primary route linking Minnesota's economic regional trade centers.

The Project is located approximately 25 miles west of the Minneapolis – St. Paul, MN-WI (Twin Cities) Urbanized Area and is designated as a Rural Area. The Project includes ten miles of US 212 between the Cities of Norwood Young America, Cologne and Carver in Carver County, Minnesota. **Figure 4** depicts the project location.

Figure 4 Project Location



Project Location



Rural Communities:

The entire project corridor is in a rural area, outside of designated urbanized areas. The Project intersects communities whose economies depend upon manufacturing and agricultural industries. The proposed safety and capacity improvements will strengthen the rural transportation infrastructure to reduce rural fatalities and facilitate the efficient movement of goods and people. **Table 1** provides population data on the communities within the Project Corridor.

Table 1 Project Corridor Demographics

Location	Population
City of Norwood Young America	3,700
Benton Township	777
City of Cologne	1,825
City of Carver	4,629
Dahlgren Township	1,315

Source: American Community Survey, 2018

III. PROJECT PARTIES

Grant Recipient

Carver County is the project sponsor of this INFRA grant application. The County has been a proactive leader and advocate for this Project for several years. That the County is leading this effort for major investment on a US highway corridor and investing County funding is a standout feature of this application. The County has extensive experience with procuring and developing transportation improvement projects including several state and federally funded projects. The County owns and operates over 274 miles of road. The County's 2040 Road Systems Plan (RSP) prioritizes major future transportation investments and identifies potential fiscal resources to advance these projects. The RSP identifies $860 million of road and bridge projects to support projected population and employment growth, which includes $670 million for County road and bridge projects and $190 million for critical State highway projects. [1]

Primary Contact

Lyndon Robjent, P.E., County Engineer
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Cologne, MN 55322
Phone: 952.466.5206
Email: lrobjent@co.carver.mn.us

Project Partners

Minnesota Department of Transportation

MnDOT is a dedicated partner in this Project. MnDOT has established a firm commitment of investment towards improving the US 212 corridor. MnDOT has participated in the NEPA environmental review process and development of the final design. MnDOT has reviewed the design plans and will provide final approval.

MnDOT will operate and maintain the Project as part of the State highway system as stated in MnDOT's letter of support for the Project. MnDOT and Carver County have entered into an agreement identifying financial obligations and responsibilities pertaining to right-of-way acquisition requirements for Phase 1 of the Project. MnDOT and Carver County have also established agreement for final design for Phase 1 and preliminary engineering for Phase 2. The County and MnDOT will negotiate agreements on the construction and long-term maintenance of the Project.

Section V, Criterion #4 (Performance and Accountability) includes additional details regarding MnDOT's operation and maintenance commitment towards the Project.

MnDOT and the County have successively partnered on past and planned investments in the Corridor including the freeway construction from Eden Prairie to Carver in 2009, the construction of the US 212/ County Highway 44 in Chaska, construction of three reduced conflict intersections in Cologne at US 212/ County Road 53, US 212/County Road 30, and US 212/ County Highway 41. MnDOT and the County have partnered to fund several other projects in the US 212 Corridor including the US 212 pedestrian underpass in the City of Norwood Young America, and the State Highway 5/State Highway 25/County Highway 33 intersection improvements project in the City of Norwood Young America. **Figure 3** identifies other planned and past investments in the US 212 corridor.

[1] *Carver County. 2018 Long Term Financial Plan (December 18, 2017). https://www.co.carver.mn.us/Home/ShowDocument?id=17545*

Southwest Corridor Transportation Coalition (SWCTC)

The SWCTC was formed to work cooperatively with MnDOT, local governments, businesses, state, and federal legislators and interested citizens to advocate for transportation improvements on US Highway 212 and State Highway 5. The SWCTC travels to Washington DC every year to meet with Members of Congress and transportation officials to promote the importance of US 212 and request funding assistance. These meetings resulted in $1.2 million in federal appropriation to allow project development to occur and assist in project readiness. The SWCTC is a strong partnership with broad representation from all sectors. In total, 41 communities and local chambers of commerce have passed resolutions supporting improvements to expand the capacity of this highway: including the Board of Commissioners of every county along the corridor. Several agencies and jurisdictions passed specific letters of support for this INFRA grant application. Letters of support have been obtained from key agencies, elected officials, counties, cities, Chambers of Commerce, and businesses.

Freight Community

Carver County has solicited input on the Project from several freight generators in the US 212 Corridor. As part of the US Highway 212 Corridor Study, the County, in partnership with the SWCTC and MnDOT, conducted interviews with 16 major freight generators to obtain feedback on the shipping and transportation infrastructure needs of these businesses. The County has incorporated the input received through this outreach to develop the proposed improvements included in this Project. Letters of support have been received by business and industries in the Corridor.

As of 2020, Pattison Sand Company, a new aggregate manufacturer, is locating within Phase 2 of the Project. The company will haul aggregate by rail from Iowa to their site at US 2122 and Salem Avenue. The 100,000 cubic yards of aggregate will be stockpiled on site and shipped to construction projects in the region. The company will be one of the primary manufacturers along the corridor and will bring new jobs to the region. This new facility will generate an average of 150 truck trips per day, which will depend on US 212 as a primary route. Renovation of US 212 is necessary in order to attract and retain businesses of this caliber, ensuring freight is moved safely, efficiently, and without delay.

IV. GRANT FUNDS, SOURCES AND USES OF PROJECT FUNDS

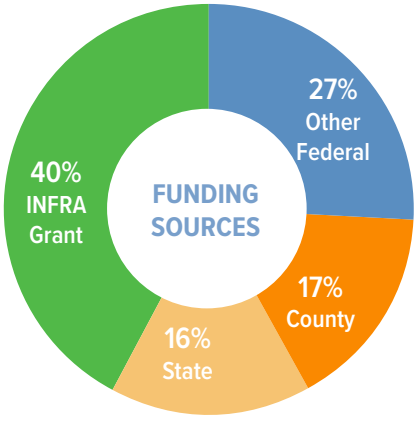
Project Budget

Total Project Cost: 119.7 million

INFRA Grant Request Amount: $47.8 million (40 percent of project cost)

Availability and commitment of funding sources: This funding request is the final piece to the total project funding package. All funding identified below is available and is formally committed to this project (see documentation including MnDOT Letter of Support, MHFP Award Letter, and Carver County Resolution).

Figure 5 Project Funding Sources



Carver County is committed to contributing $20 million dollars from the adopted 16½ percent local option sales tax and $20 excise tax, a new funding source adopted in 2017. MnDOT has allocated $21 million. To date, over $3.5 million including $1.2 million in federal funds and $2 million in MnDOT and local funds was used for project development such as environmental assessment, project design, and right-of-way official mapping to advance the delivery of the Project. Table 2 presents the project budget. Detailed construction costs estimates are available at the grant application website.

Table 2 Project Funding Details

		Project Funding						
		Non-Federal		INFRA		Other Federal		
	Project Element	Dollars	Project Percentage	Dollars	Project Percentage	Dollars	Project Percentage	Total Cost Estimate
Past	Phase 1 Environmental Assessment, Official Map, Preliminary Engineering	$667,000	100%	$0	0%	$0	0%	$667,000
	Phase 1 Final Design Engineering	$1,151,228	100%	$0	0%	$0	0%	$1,151,228
	Highway Corridor Study	$496,000	29%	$0	0%	$1,200,000	71%	$1,696,000
	Total Incurred Expenses	**$2,314,228**	**66%**	**$0**	**0%**	**$1,200,000**	**34%**	**$3,514,228**
Future	**Phase 1: Cologne to Carver**							
	Right-of-Way	$5,000,000	100%	$0	0%	$0	0%	$5,000,000
	Construction	$15,424,386	35%	$6,816,014	15%	$22,000,000	50%	$44,240,400
	Contingency (10%)	$0	0%	$3,885,000	100%	$0	0%	$3,885,000
	Construction Administration	$2,406,200	100%	$0	0%	$0	0%	$2,406,200
	Phase 1 Subtotal	**$22,830,586**	**41%**	**$10,701,014**	**19%**	**$22,000,000**	**40%**	**$55,531,600**
	Phase 2: Norwood Young America to Cologne							
	Environmental Assessment	$100,000	100%	$0	0%		0%	$100,000
	Final Design Engineering	$2,800,000	100%	$0	0%		0%	$2,800,000
	Right-of-Way	$1,800,000	100%	$0	0%		0%	$1,800,000
	Construction	$9,650,000	19%	$32,082,100	62%	$10,000,000	19%	$51,732,100
	Contingency (10%)	$0	0%	$5,023,000	100%		0%	$5,023,000
	Construction Administration	$2,763,000	100%	$0	0%		0%	$2,763,000
	Phase 2 Subtotal	**$17,113,000**	**27%**	**$37,105,100**	**58%**	**$10,000,000**	**16%**	**$64,218,100**
	Total Future Costs	**$39,943,586**	**33%**	**$47,806,114**	**40%**	**$32,000,000**	**27%**	**$119,749,700**

Federal Participation (Maximum 80/20)		
Non-Federal	$39,943,586	33%
INFRA Request	$47,806,114	40%
Total Federal Funding	$79,806,114	67%
Total Future Project Cost	$119,749,700	

Total Project Costs	$123,263,928

Non-Federal Funding Source

County Funding

Carver County has served as the champion of the Project and is committed to provide 16 percent of the future project cost. The Carver County Board of Commissioners adopted a resolution to approve the request for INFRA funding and to commit to the local match for the Project. Local funding from Carver County is dedicated to the Project and leverages a new, non-federal revenue source passed by Carver County in 2017. Carver County adopted a ½ percent sales tax and $20 excise tax on vehicle purchases to finance the local share of this project. The ½ percent sales tax provides approximately $7 million in annual, non-federal revenue dedicated for transportation improvements within the County. This project is specifically identified to receive these local funds in the County's adopted Transportation Tax Plan, which designates eligible projects for the tax revenue. Based on current projections, $20 million from this new revenue source will be available for the project by 2023.

CARVER COUNTY

$20 million

State Funding

MnDOT has committed to providing $21 million in non-federal funding to support the project. MnDOT has programmed dollars for spot improvements and preservation (pavement rehabilitation) throughout the corridor. If the County is successful in securing INFRA Grant dollars, portions of these MnDOT programmed dollars (approximately $14 million) will be reallocated towards the project which are identified in the MnDOT Metro District 10-Year Capital Highway Investment Plan (2019-2028). If awarded, all INFRA dollars and respective match funds will be spent on construction (with a 10 percent contingency).

$19 Million

Additionally, MnDOT is committed to providing State funding for this highway project, which is under their jurisdiction. Since the roadway is a US Highway, future ongoing maintenance and operations of the new facility will be managed by MnDOT. Section V, Criterion #4 provides additional details about MnDOT's operation and maintenance project commitment.

Other Federal Funding Sources

The Project was submitted for INFRA funding in FY 2018-2019. Carver County and MnDOT have previously secured the following funding for additional improvements within the US Highway 212 Corridor.

Minnesota Highway Freight Program (MHFP)

In 2017, Carver County was awarded $15 million in federal Minnesota Highway Freight Program (MHFP) funding through MnDOT. Subsequently, the project was added through the MnDOT and Metropolitan Council transportation planning processes to the 2020-2023 State Transportation Improvement Program (STIP) and the Metropolitan Council's 2020-2023 Transportation Improvement Program (TIP) as state project number 010-596-012.

MHFP

$15Million

Metropolitan Council Regional Solicitation

The Metropolitan Council, the Twin Cities regional metropolitan planning organization, administers the Regional Solicitation program, a competitive process where federal funds are allocated to local governments, state agencies, and transit providers to fund regional transportation needs. In 2018, Carver County was awarded $7 million in federal Regional Solicitation funding to support the Project.

$7 Million

Committed Investments Not Part of this INFRA Request

MnDOT and Carver County have partnered to implement safety and preservation improvements within an approximately three-mile segment of US 212 through the City of Cologne. This segment was previously reconstructed as a four-lane highway. Improvements proposed within this portion of the Corridor that are not included as part of this INFRA grant request are described below.

US Highway 212 Preservation Project

MnDOT is currently advancing a preservation project to resurface the existing pavement, construct a median barrier, rehabilitate two bridges and install lighting to improve safety and improve pavement conditions within this portion of the Corridor. This project is planned to begin construction in 2023.

US 212/County Highway 36 and 41 Reduced Conflict Intersection

MnDOT reconstructed the intersections of US 212 and County Highway 36 and County Highway 41 as a reduced conflict intersection (RCI) in 2019 to address safety issues within the Corridor.

INFRA Funding Need

Carver County, in partnership with MnDOT and local communities, has secured approximately $62 million in non-federal and other Federal funding to invest in the Project. The County has applied for an additional $10 million in grants from the Metropolitan council Regional Solicitation.

If the INFRA grant is not awarded, the expansion improvement proposed from a two-lane rural highway to four-lane divided highway with wider shoulders would be significantly delayed. In the near future, MnDOT would proceed with a significant investment for a pavement preservation overlay project within Phase 2. The expansion project could be delayed for the lifecycle of the overlay, approximately 15 years, and the original 1930 pavement would be left in place. In addition, the geometry of the roadway would be unchanged, meaning the Project Corridor would see projected increases in the crash cost and crash frequency. None of the planned innovative and safety improvements within Phase 2 of the Project would be constructed.

The County has secured $22 million in other Federal funding to leverage Phase 1 of this Project. This funding is programmed for 2022 and may be jeopardized if the project is delayed beyond this date. Securing the INFRA funding ($10.7 million) required for the Project would ensure that the County is able to take full advantage of the Federal funds awarded to date. The County would have to reapply for future grants to complete Phase 2 of the Project.

Figure 6 Existing intersection

US 212 and County Highway 43

V. MERIT CRITERIA

1) Support for National or Regional Economic Vitality

1 **ELIMINATE** the freight bottleneck

2 **IMPROVE** roadway safety

3 **EXPAND** access to employment

4 **Ensure** state of good repair

Eliminate the Freight Bottleneck

US 212 is a critical highway freight corridor that provides connections for over 22,000 square miles of southwest Minnesota and South Dakota to the Twin Cities where access to the interstate highway system does not exist.

On portions of US Highway 212, heavy commercial vehicles represent up to 15 percent of total daily traffic based on 2016 MnDOT traffic data (see **Table 3**). **Freight bottlenecks contribute to a 17 percent increase in heavy commercial vehicle operational costs and negatively affect upwards of 65 heavy**

> *We support the four-lane expansion of Highway 212 in Carver County and prefer that these improvements be made in the short-term.*
>
> – United Farmers' Cooperative

commercial freight generators located adjacent or in proximity of the US 212.[2] Existing freight traffic along the entire ten-mile Corridor serves 85% of Minnesota counties and equally serves the Metro and Greater Minnesota Districts. Forecasted growth in heavy commercial vehicle volumes by the year 2040 will amplify the existing freight bottleneck in the Corridor.

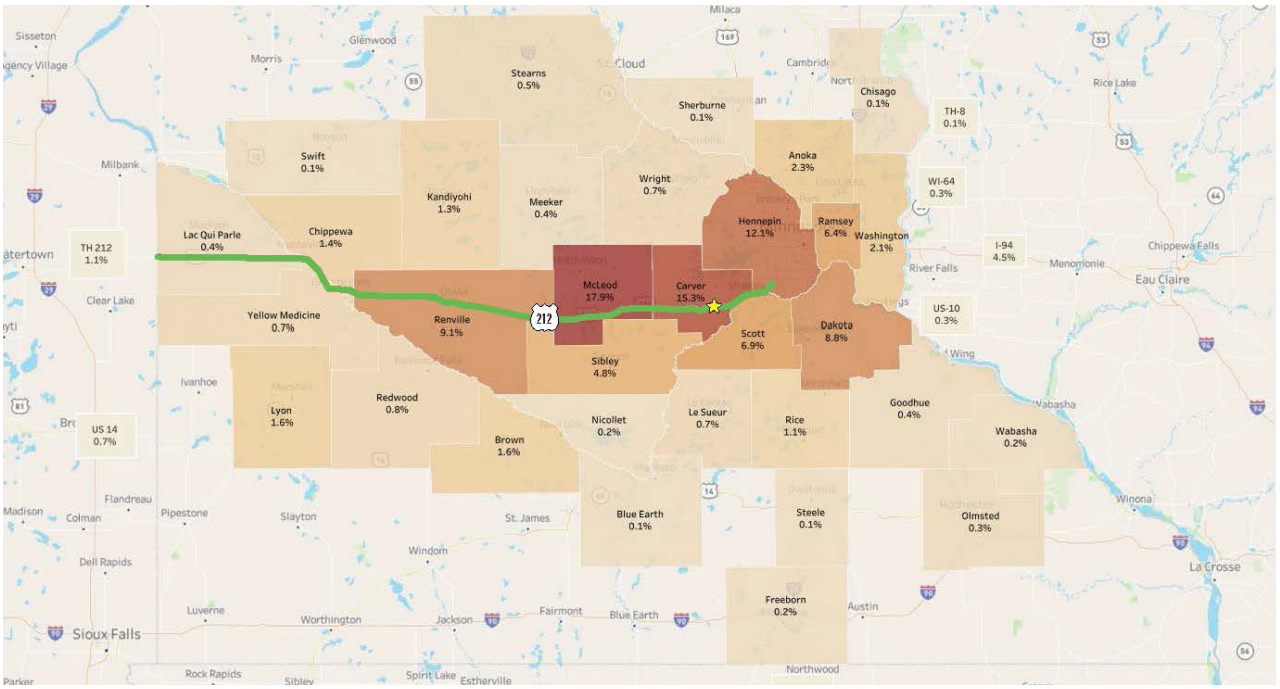
Table 3 Average Heavy Commercial Truck Volume

Day of Week	Average Percent Heavy Commercial
Sunday	7.2
Monday	15.1
Tuesday	15.8
Wednesday	15.0
Thursday	14.1
Friday	13.0
Saturday	8.1

Source: MnDOT, 2018

An origin-destination (OD) analysis using StreetLight was completed to quantify the users of this TH segment of US 212 and the importance of the corridor to the region, Minnesota, and surrounding states. The OD analysis identified users of the corridor and how the corridor serves users from counties in Minnesota and surrounding states for freight. The results of the OD analysis are shown in **Figure 7** below. The percentages shown on the figures represent the percentage of trips using this segment of US 212 that originated or are destined for each County and state crossing.

Figure 7 Commercial Origin-Destination Results



The results of the commercial OD analysis show this segment of US 212 supports both intrastate and interstate freight traffic. The counties of Renville, McLeod, Sibley, Carver, Hennepin, Scott, Dakota, and Ramsey each account for five percent of freight traffic on the corridor. With the substantial amount of agricultural land surrounding the corridor, US 212 becomes even more important during harvest season as US 212 is heavily used to deliver products to the ports in Scott County. Furthermore, almost five percent of the freight traffic using this segment of US 212 crosses the Minnesota/ Wisconsin border using I-94, which shows US 212 also serves interstate freight traffic.

2 Carver County. Comprehensive Plan. Pages 4.100. https://www.co.carver.mn.us/home/showdocument?id=14307

Table 4 Statewide Freight Travel Patterns along US 212

Area	% of Total Volume	Estimated Freight AADT	Total Freight AADT	# of Counties Served	Total Counties Served
Metro District	54%	950	1,800	7	74
Greater Minnesota	46%	850		67	

**Note this data only includes freight vehicles with GPS transponders, which excludes many agricultural and "mom-and-pop" haulers*

Capacity issues along U.S. Highway 212 cause significant mobility and safety issues for trucks traveling in the Corridor due to the lack of lane continuity, substandard shoulders, and safety issues. The existing traffic volumes currently exceed the capacity of a two-lane, undivided freeway. Within the Corridor, existing average daily traffic ranges from 11,600 to 14,500 (2015) vehicles per day. Projected traffic volumes within the Corridor will increase to 15,600 to 19,900 vehicles per day by 2040.[3] Based on a standard maximum daily capacity threshold of 15,000 vehicles per day of a two-lane undivided rural roadway, existing traffic volumes are nearly exceeding capacity or the roadway. Morning and afternoon PM peak traffic leaves very short gaps available for side street intersection. Some of these limited gap conditions have led to fatal intersection crashes. If expanded to a four-lane expressway, traffic volumes are anticipated to increase to 22,300 to 23,000 vehicles per day.

As part of the US Highway 212 Corridor Study, 16 major freight generators in the study area were interviewed. All 16 interviewees supported the four-lane expansion of US Highway 212. **The roadway was identified by every business interviewed as key to receiving inputs to production and shipping manufactured goods to the market**.

88 percent of interviewees identified transit time or speed as the most important US Highway 212 transportation factor. The shippers noted that they time their freight movements to avoid peak hour traffic congestion through the bottleneck when possible. Many of the businesses rely on just-in-time deliveries (e.g., parts for machines) or final outputs (e.g., perishable foods or tight customer-driven deadlines). For instance, if a machine breaks down at Southern Minnesota Beet Sugar, parts are immediately shipped from the Twin Cities. The company stated that **shipping delays on US Highway 212 have interrupted or stopped their production**.

Furthermore, oversized loads are not permitted to operate in narrow segments of the corridor, requiring a State Patrol escort. Due to the increased cost of this escort, oversized shipments often divert onto the county road system. This rerouting adds time and expense to a trip, increases the potential for damaged goods, reduces safety, and affects the local roadway system. Expansion to a four-lane facility will alleviate the need for a State Patrol escort.

The Project will address critical capacity issues and alleviate a ten-mile bottleneck that directly impacts regional and multi-state freight movements. The problematic two-lane segments impact high truck traffic volumes moving freight from western Minnesota to river and rail terminals in the Shakopee/Savage area. **Figure 8** illustrates the importance of US 212 as a major freight connection.

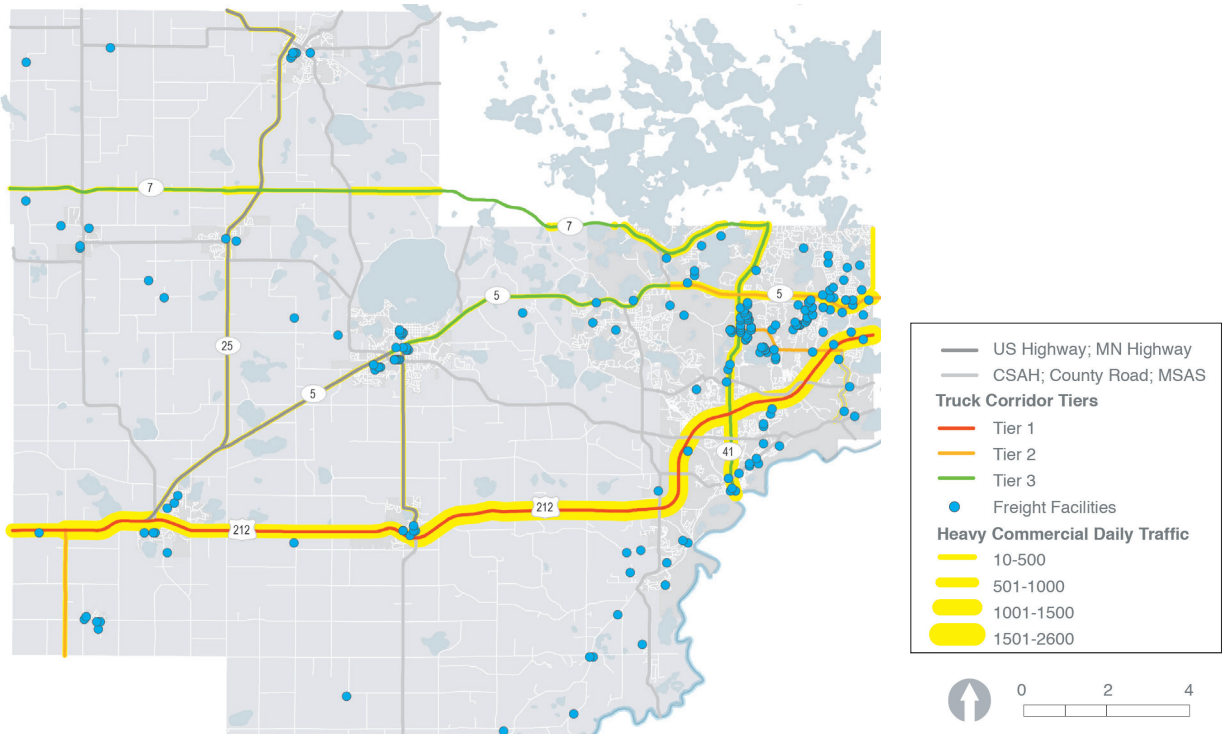
> *Expanding Highway 212 to four lanes will save us time and money, but the safety benefits of the expansion are the most valuable to us.*
>
> – Michael Foods Inc.

> *Many production inputs at our 1,500-person Hutchinson facility come via the Highway 212 corridor. Any delay in receiving these inputs hurts our bottom line.* – 3M

- *Reduces shipping delays*
- *Removes 10-mile bottleneck*

[3] *Carver County. Draft Comprehensive Plan. Pages 4.38. https://www.co.carver.mn.us/home/showdocument?id=14307*

Figure 8 Carver County Freight Network and Generators

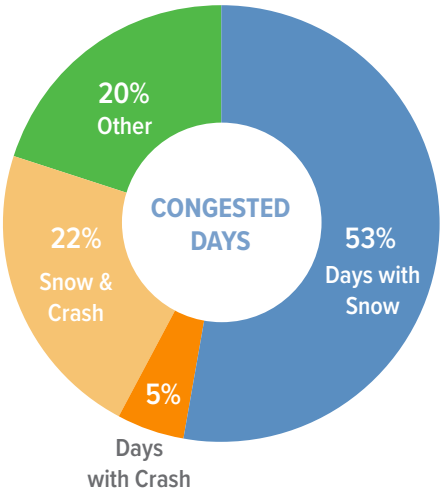


The Project will address these negative impacts on freight by expanding the two significant gaps in the US Highway 212 Corridor, creating one, continuous four-lane expressway from the Twin Cities metropolitan area to Glencoe, Minnesota. The Project will also expand highway shoulder widths and construct additional turn lanes to eliminate inefficiencies in the freight network.

Travel Time Delay and Reliability Issues

A Travel Time Reliability Analysis was completed for the Corridor between the Cities of Cologne and Carver, between County Highway 11 and County Highway 36. The analysis concluded that factors contributing to congestion in the Corridor include crashes, snow and other causes. While crashes are observed to contribute to congestion throughout the year, snow has a more dramatic effect on congestion during the winter months. **Figure 9** illustrates crash occurrences resulting from snow events.

Figure 9 Congested Days by Event



Improve Rural Safety

Minnesota's 2014-2019 Strategic Highway Safety Plan (SHSP) examines the distribution of severe crashes across roadway types and identifies specific design and engineering strategies that can reduce deaths.

From 2008 to 2012, rural roadways in Minnesota accounted for 1,126 severe crashes involving intersections, or 38 percent of the state total. Of these, over two-thirds (763) occurred on two-lane roads with speed limits of 45 miles per hour or greater.

This project supports the ROUTES initiative, by implementing key design interventions that will reduce the number of fatalities and severe crashes. Proposed improvements include: construction of additional left-turn lanes, widened shoulders, and reduced-conflict intersections.[4]

Over the same time period, rural roadways in Minnesota accounted for 2,067 severe lane-departure crashes, or 65 percent of the state total. Of these, over three-fourths (1,563) occurred on two-lane roads with speed limits of 45 miles per hour or greater. In response to the ROUTES initiative, this Project implements key design interventions that could reduce the number of severe lane-departure crashes include adding shoulder rumble strips and stripes, widening shoulders, and implementing four-lane sections at key locations.[5]

High Crash Corridor

Several crashes have occurred in the Corridor including fatalities and major incapacitating injuries. In total, 557 crashes have occurred within the Project Corridor in the past ten years (January 2009 to September 2019) based on MnDOT data. Of these, eleven crash events resulted in a total of thirteen reported traffic fatalities and six crash occurrences resulted in severe crashes involving life threatening injuries. Approximately 85 of these crashes involved medium to heavy freight trucks, and other freight-related vehicles. On January 16, 2019, a fatal crash occurred within Phase 2 of the corridor when a semitrailer truck collided with a pickup truck making a U-turn after stopping on the shoulder of US 212. Traffic was closed in both directions on US 212 for several hours following the crash. **Figure 10** illustrates the severity of crashes that have occurred on US 212 within the Project Corridor. **Figure 11** presents the total number of crashes by year.

Figure 10 Crash Severity (2009 – 2019)

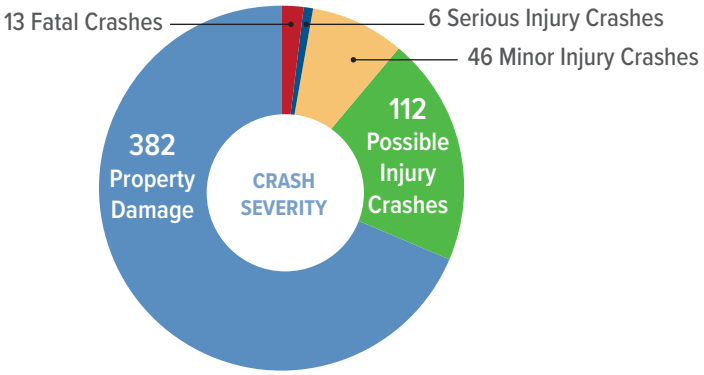
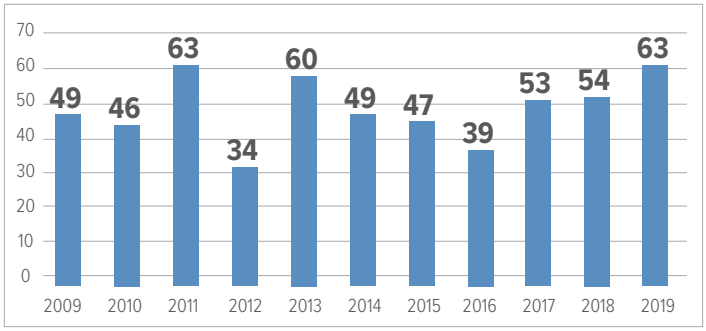


Figure 11 Number of Crashes by Year (2009 – 2019)



[4] *2014-2019 Minnesota Strategic Highway Safety Plan: http://www.dot.state.mn.us/trafficeng/safety/shsp/Minnesota_SHSP_2014.pdf*
[5] *2014-2019 Minnesota Strategic Highway Safety Plan: http://www.dot.state.mn.us/trafficeng/safety/shsp/Minnesota_SHSP_2014.pdf*

45 – 47% Reduction in Severe Crashes

Table 5 summarizes the existing annual crash cost associated with the Corridor, projected total crash reduction, and annual crash cost savings. US 212 experiences a high number of fatal and severe injury crashes. It is anticipated that safety improvements, including RCIs and a grade-separated interchange, **will reduce severe crashes by 44 percent in Phase 2 and 55 percent in Phase 1**. Annual crash costs associated with the existing conditions of the Corridor are estimated to be $11.4 million in Phase 1 and $7.5 million in Phase 2. The project is anticipated to **generate substantial annual crash cost savings ranging from $5.8 million in Phase 1 and $3.4 million in Phase 2**.

Table 5 Crash Analysis

	Existing Annual Crash Cost	Projected Total Crash Reduction	Projected Severe Crash Reduction	Estimated Annual Crash Cost Savings
Phase 1 Cologne to Carver	$11,410,000	37%	51%	$5,830,000
Phase 2 Norwood Young America – Cologne	$7,540,000	27%	51%	$3,370,000

Source: MnDOT Minnesota Crash Mapping Analysis Tool (MNCMAT). Data obtained from January 2009 through September 2019.

The existing geometry of the Corridor contributes to this safety issue. Specific issues identified in the US Highway 212 Corridor Study include:

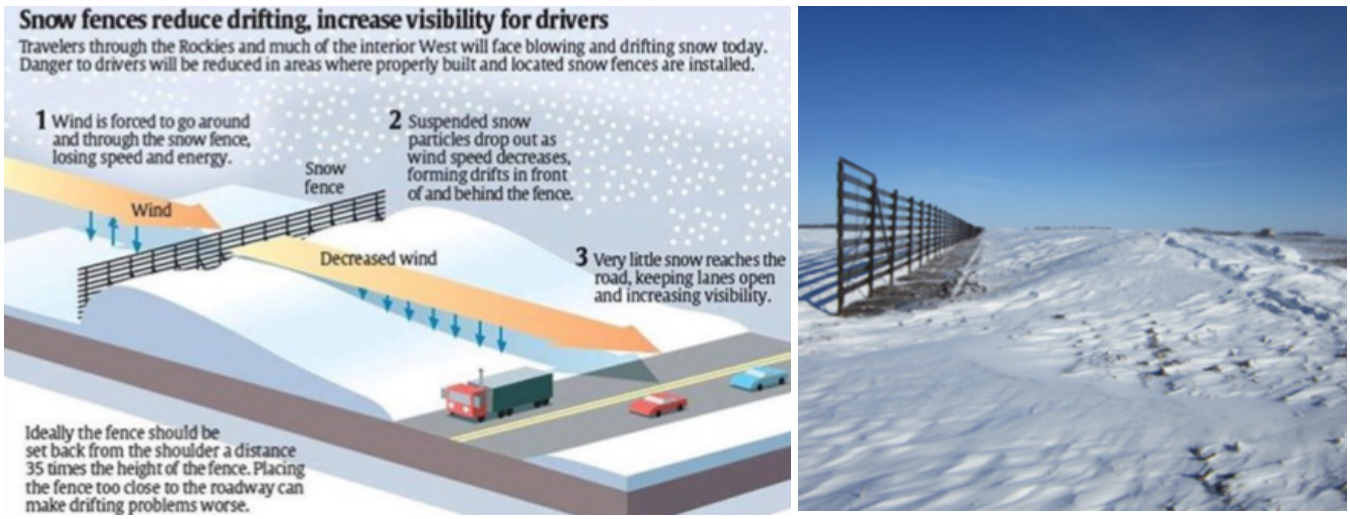
- Transitions from two lanes to four lanes
- Lack of turn lanes on US Highway 212
- Traffic turning on to US Highway 212
- Lack of passing lanes
- Limited right-of-way, including narrow shoulders

Furthermore, the open agricultural landscape of the Corridor often results in increased volumes of congestion and safety hazards during snow events. Blowing and drifting snow can lead to lane blockages, icy conditions, and narrow travel lanes. Snow events tend to lead to increased crash rates, especially for run off the road crashes. In the ten-year crash data (January 2009 -January 2019) 30 percent of the crashes occurred during snow- or ice-covered road conditions.

The Project will address these safety issues by converting the two gaps in the US 212 expressway from a rural two-lane, undivided highway to a four-lane, divided expressway. Based on the crash analysis, it is anticipated that the Project will reduce the crash rate in the Corridor (see **Table 5**).

Additionally, the Project will include snow fencing to increase winter driving safety by creating a barrier to snow drifting during windy conditions. **Figure 12** depicts a ditch design snow fence. A detailed cross section is provided on the grant application website.

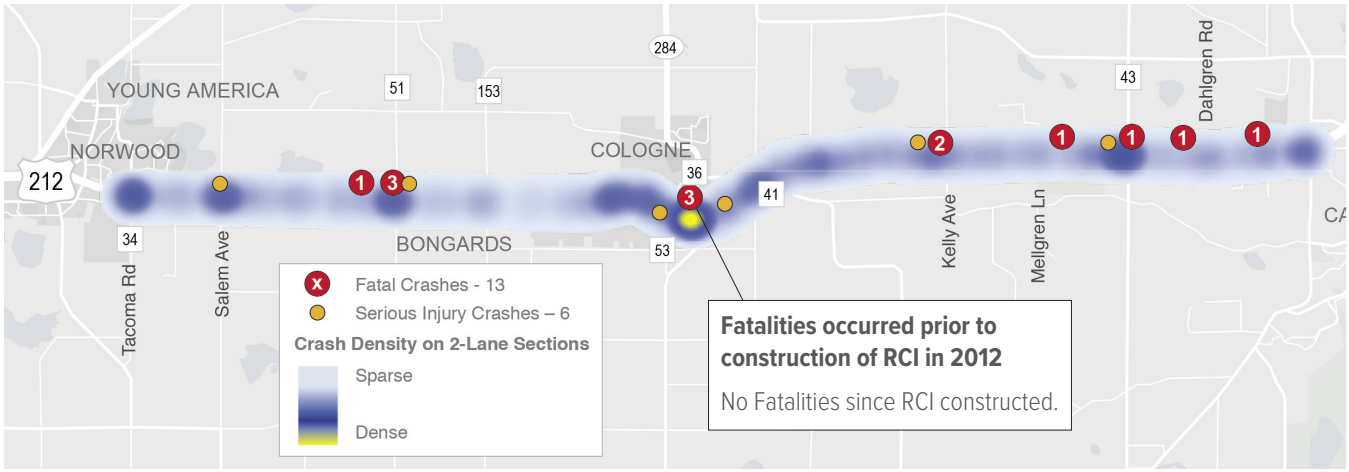
Figure 12 Snow Fence



Intersection Safety

Past studies have identified several high-risk intersections in the Corridor including the US 212 Corridor Study, Carver County Roadway Safety Plan (CRSP), Metropolitan Council's Principal Arterial Intersection Conversion Study (PAICS). These Project intersections include US 212 at County Highway 43, County Highway 51, and County Highway 34. Eight right angle crashes have occurred at the intersection of US 212 and County Highway 43 in the past five years including a recent fatality in 2018. At the intersection of US 212 and County Highway 51 two fatalities occurred in 2009 and a major incapacitating injury occurred in 2010. The US Highway 212 and Highway 34 intersection has also been identified as having an increased risk for crashes. Since 2011, this intersection has had three right-angle, four head-on, and two left turn crashes. Two additional intersections (Kelly Avenue and Mellgren Lane) also experience crashes greater than the average critical crash rate. RCIs are proposed for both intersections. **Figure 13** illustrates crash occurrences in the Corridor and identifies the locations of crashes that resulted in fatalities and major incapacitating injuries.

Figure 13 Crash Occurrences in the Project Corridor Through 2019



To increase safety at intersections, **the Project will utilize RCIs along the Corridor** (see **Figure 2**). Implementing RCI designs will enhance safety by restricting left-turn conflict points from directly crossing multiple travel lanes at once but still allowing access in all directions. Compared to traditional four-lane divided intersections, RCIs have much less severe right-angle (or "T-bone") crashes. Studies have demonstrated a 70 percent reduction in fatalities and a 42 percent reduction in injury crashes.[6]

In 2012, an RCI was installed at the intersection of US 212 and MN Highway 284. A Study of the Traffic Safety at Reduced Conflict Intersections in Minnesota by MnDOT analyzed the type, severity and frequency of crashes both before and after RCI installation. Following implementation of the RCI, MnDOT found the intersection had a 100 percent reduction in fatalities and an 83 percent reduction in injury crashes. **Table 6** summarizes the results of the before and after crash analysis of the RCI Project at the intersection of US 212 and State Highway 284.

Table 6 US 212 and State Highway 284 RCI Before and After Crash Analysis

	3 Years Before 2009 - 2011	3 Years After 2013 - 2015	Percent Change
Total Crashes	15	12	-20.0%
Fatalities	3	0	-100.0%
Incapacitating Injuries	0	0	--
Non-Incapacitating Injuries	2	0	-100.0%
Possible Injury	4	2	-50.0%

Source: Leuer, D. and K. Fleming. MnDOT. A Study of the Traffic Safety at Reduced Conflict Intersections in Minnesota. May 2017.

[6] *FHWA. Field Evaluation of a Restricted Crossing U-Turn Intersection. June 2012. Report No. FHWA-HRT-11-067. https://www.fhwa.dot.gov/publications/research/safety/hsis/11067/11067.pdf*

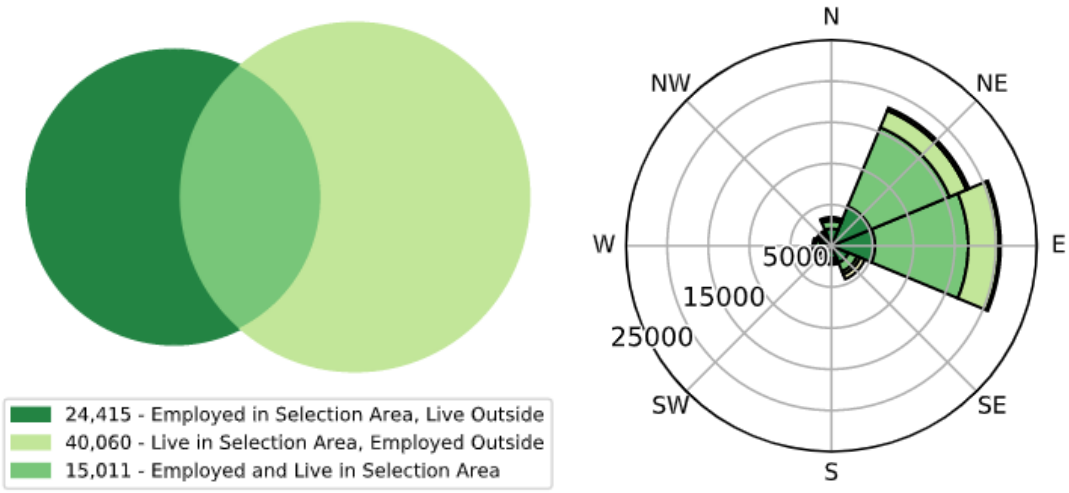
Expanded Rural Access to Employment

US 212 serves as a critical link between rural communities in Carver County and job opportunities in the Twin Cities urban center. As a Principal Arterial roadway through the rural area, US Highway 212 is depended on as a safe and reliable commuting option without similar alternative routes available.

Carver County is a net exporter of workers. According to 2018 U.S. Census data, 61 percent of Carver County residents travel outside of the County for work.[7] The origin destination study completed in 2019 found 66 percent of personal vehicle traffic on US 212 originates from or is destined outside of Carver County. **Figure 14** demonstrates that most employees live within the County and commute outside of the County for employment.

Most commuters to, or from, Carver County must use US 212 to reach work destinations. Approximately 53 percent of the total 35,675 employees in Carver County commute greater than ten miles. Most commuters are traveling eastward into the Twin Cities urban center.[8] **Figure 14** illustrates the direction of commuters between place of residence and workplace.

Figure 14 Commuter Job Flows and Distance/Direction in Carver County (2017)



Source: American Community Survey, 2017

The Project will benefit the employees living and commuting along US 212. **Approximately 12,000 employees live within one mile of US Highway 212 in Carver County**.[9] The Project will expand capacity of the US 212 Corridor by converting the remaining two gaps of rural two-lane highway to one continuous, four-lane expressway.

Ensure State of Good Repair

The pavement condition in the Corridor is deteriorating and will reach a performance ranking of "poor" by 2025 within the Western segment and 2027 within the Eastern segment. **Corridor pavement within the Project Corridor was originally constructed between 1929 and 1930. The aging infrastructure has not been expanded or reconstructed since**.

Although the road surface is currently in acceptable condition, the Depression-Era sub-grade is deteriorating the road surface at a quicker rate than typically expected. The Ride Quality Index (RQI), used by MnDOT in the 2017 Pavement Condition Annual Report to categorize performance measure categories for the NHS, is currently at a 3.0 (2017) and 3.1 (2017) within the Phase 2 Project Corridor and Phase 1 Project Corridor, accordingly. The Corridor is projected to fall within the RQI "Fair" range, which is 2.1 to 3.0, by this year. It is anticipated that these segments will deteriorate to "poor" condition by 2025 and 2027, respectively. In order to maintain a state of good repair, the Corridor needs to be reconstructed prior to 2025.

[7] *U.S. Census Bureau. Longitudinal Employer-Household Dynamics Survey, Inflow/Outflow Job County in 2015. https://onthemap.ces.census.gov/*
[8] *U.S. Census Bureau. Longitudinal Employer-Household Dynamics Survey, Job Counts by Distance/ Direction in 2015. https://onthemap.ces.census.gov/*
[9] *MN Department of Employment and Economic Development (DEED) data based on Metropolitan Council's Transportation Analysis Zone inputs with a base year of 2014.*

The project is consistent with relevant plans to maintain transportation facilities in a state of good repair and address current and projected vulnerabilities. The project is consistent with the goals and policies established in the Minnesota 20-Year State Highway Investment Plan (MnSHIP), Metropolitan Council 2040 Transportation Policy Plan, and Carver County 2040 Transportation Plan. The segment is identified as one of the projects for the Minnesota Highway Freight Program Projects 2018-2022 as well as one of the projects in the Highway Strategic Capacity Enhancements 2018-2025.

Benefit-Cost Analysis

The cost effectiveness of the improvements was evaluated through a detailed benefit-cost analysis (BCA) to monetize the project benefits. A summary of the BCA results and methodology is provided in Section VI of this narrative. A detailed BCA technical memorandum and analysis tables are available at the grant application website: https://www.srfconsulting.com/us-212-infra-grant/.

The BCA analysis demonstrates that the Project will result in regional and national economic benefits and achieves the following key outcomes:

- Significant reduction in fatal and severe injury crash occurrences
- Substantial travel time savings for private vehicles and freight generators
- Operation and Maintenance cost savings

The greatest benefits accrue from travel time cost savings and safety benefits, totaling approximately $168 million when discounted at seven percent. Additionally, the Project will result in approximately $11 million in operation and maintenance cost savings. Based on a discount rate of seven percent, the approximately $84 million investment would generate approximately $161 million in total benefits, a net present value of approximately $77 million, resulting in a benefit to cost ratio of 1.9.

1.9 Regional Benefit/Cost Ratio *based on* **7%** Discount Rate

2) Leveraging of Federal Funding

$40 Million
in local and State funding

Carver County and MnDOT have partnered to secure $40 million in local and State funding to support the Project. This non-federal share represents approximately 34 percent of the anticipated total future eligible project costs. The County has successfully obtained an additional $22 million in other Federal funding to implement the Project. In total, Carver County has secured $62 million in non-federal and Federal funding for this Project (approximately 52 percent of the total future eligible project costs). An INFRA grant award will enable the County to leverage existing non-federal and Federal funding to implement all safety and mobility improvements within the entire Corridor.

The SWCTC has aggressively advocated for funding solutions to alleviate this regional challenge that impacts the economy far beyond Carver County. However, because of its unique nature and geographic position (rural project, next to a major metropolitan area), competing with other urban projects for regional funding has been challenging.

MnDOT Metro District has re-focused mobility funding priorities from the Interregional Corridors to rebuilding major corridors in the Twin Cities and incorporating MnPASS (HOT) lanes. The Project's locations within MnDOT Metro District and Metropolitan Council boundaries forces US Highway 212 to compete for funding with urban freeways and arterials. There is simply not adequate transportation funding to allow US Highway 212 to receive traditional program mobility funds from MnDOT.

This has left Carver County in a difficult funding environment. Carver County is a rural county. While it benefits from being along the US Highway 212 corridor, the larger benefits are spread across the multi-state corridor, while the negative impacts of the two-lane bottlenecks entering the Twin Cities metro occur in Carver County. ***Because of this paradox, the County's Congressional Delegation strongly suggested applying for a Rural INFRA grant***.

3) Potential for Innovation

Innovative Technology

Reduced Conflict Intersections (RCI)

RCIs, also referred to as restricted crossing U-Turn (RCUT) intersections, have been identified through the Federal Highway Administration's (FHWA) Every Day Counts Initiative as an innovative design with proven safety benefits. FHWA studies have determined that RCUT intersections reduce crash occurrences by 28 to 44 percent.[10] Furthermore, RCUT intersections offer substantial cost savings and reduced construction time benefits compared to grade-separated interchanges. The Project proposes construction of seven RCIs in the Corridor to address existing safety issues, capture cost savings compared to alternative intersection designs, and streamline the construction timeframe.

RCIs

67% reduction in fatalities & serious injury crashes

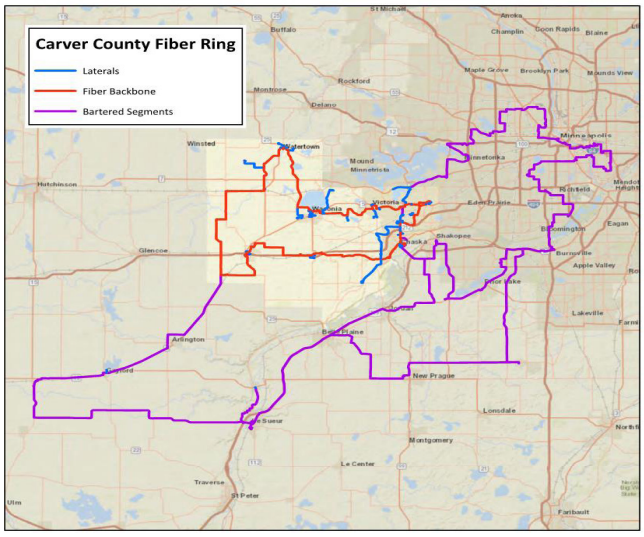
12% reduction in total crashes

The RCI construction at US 212 and TH 284/County Road 53 has reduced fatal and serious injury crashes by 100%. Image Source: MnDOT

Broadband Deployment

The Project will connect rural communities to fiber-optic internet access by utilizing the existing CarverLink, the publicly owned broadband fiber optics network that runs adjacent to the Corridor. The fiber ring connection runs along the US Highway 212 Corridor (see **Figure 15**).

Figure 15 Existing Fiber-Optic Network



Providing reliable and fast data communications is becoming necessary as local agencies and communities adopt technology. Fiber optic communications can vastly improve the speed and reliability of internet service – a requirement as population and employment centers continue to grow. CarverLink, the publicly owned broadband fiber optics network that covers hundreds of miles of Carver County, provides internet service and network connectivity to communities, businesses, and people across the County, though there is still room for the network to expand. Improving internet access along the US 212 Corridor will benefit the businesses, employees, and residents who work and live near the roadway, in particular providing more reliable connections to help small businesses compete. **Fiber optic networks will guarantee quality internet speeds along the corridor and also serve as a reliable communication method for transportation applications** such as traditional ITS applications as well as connected and automated vehicles.

[10] *FHWA. Intersection and Interchange Geometrics Project Case Study. https://safety.fhwa.dot.gov/intersection/innovative/uturn/case_studies/mn/mn_rcut.pdf*

Rural internet access is a growing concern. Rural communities are far less likely to have access to reliable internet service. Fiber-optic rings can vastly improve internet service in rural areas. Federal internet service standards have increased, and many rural areas have not been able to maintain quality internet access. Carver County can resolve this issue by ensuring fiber optic internet access along higher population and employment densities, including US 212.

Blow Ice Warning Systems

Figure 16 Blow Ice Warning System Sign

Ice on roadways is a significant concern for a region that experiences below-freezing temperatures for the better part of three months. Even the most experienced drivers can be caught off-guard when traveling over black ice, through freezing rain, and on snow-packed roadways. "Blow ice" forms when snow blows across the highway, creating an unexpected sheet of ice for travelers. This blow ice phenomenon has caused numerous accidents. An innovative technology-based solution to this problem has been developed utilizing in-pavement ice sensors, cameras, and warning signs with flashing beacons upstream. Carver County will identify the most effective locations for installation of blow ice warning systems to improve safety in the Corridor. **Figure 16** shows a blow ice warning system sign.

Other Intelligent Transportation Systems (ITS)

The Project will include Intelligent Transportation Systems (ITS) elements. ITS technologies advance transportation safety, mobility, and efficiency by integrating advanced technologies into transportation infrastructure or vehicles. ITS encompasses a broad range of electronic communication and sensing technologies but traditionally includes elements such as dynamic message signs, CCTV cameras, and vehicle detection. By deploying these ITS elements along US 212, the County can provide traveler information such as travel times, alternate routes, and incident notifications. These enhance driver awareness and allow drivers to make informed decisions while traveling. These deployments can also be used for incident management purposes such as identifying crashes, detecting queued traffic, and emergency response.

The Project will explore installation of wireless dynamic message signs that provide real-time traffic advisory and route guidance information to road users. By providing information to road users in advance of a situation, they help to improve safety and reduce congestion when an incident occurs or in the event of poor road or weather conditions.

Innovative Project Delivery

Civil Information Management Software

During public engagement of the corridor study, project designers used innovative Civil Information Management (CIM) software for preliminary modeling and visualization of the proposed project to understand and mitigate impacts. This allowed stakeholders and partners to make decisions through a visual compare and contrast in real-time.

The Project will continue to utilize CIM software to model and visualize the project, as well as increased transparency of the project. The transparency will enable owners, consultants, contractors, and stakeholders to work together easily. The CIM software enables designers to make constant adjustments to the design to ensure the best alternatives. The software also uses embedded 3D visualization as part of the process. This enables an effective conflict detection, rapid design review and validation. These efforts will reduce project schedule timelines and overall costs.

Best Value Procurement

Since 2007, public agencies in Minnesota have been explicitly enabled and encouraged to use the best value method to procure construction contracts. MnDOT and related transportation agencies utilize the best value procurement process to deliver high-quality projects faster and more cost effectively by awarding contracts based on quality rather than price alone. It is anticipated that best value procurement will help

the Project deliver long-term benefits on an efficient schedule and budget. Carver County has utilized the best value procurement process for several transportation projects and will consider applying this procurement process for this Project.

Design-Build Process

Carver County is leading the effort for a design-build procurement process for this project. Design-build project delivery methods significantly accelerates project completion, which will result in project savings by avoiding inflation in construction and other associated costs. Design-build projects are typically led by the state, so Carver County's efforts are unique and innovative. Carver County's leadership in this project showcases how vital the US Highway 212 corridor is to the county network. The County will ensure that the project delivery will be completed efficiently.

The following is a summary of the design-build options that will be pursued:

- **MnDOT State Aid Design-Build Contracting**: Recent legislation allows for the use of the design-build program for Minnesota cities and counties through a program administered by MnDOT's State Aid for Local Transportation (SALT) Division.
- **Cooperative Agreement**: There is recent precedent in the metro area of MnDOT and local agencies administering design-build contracts via cooperative agreements. MnDOT's authority would be utilized to administer the design-build procurement and administration process, while Carver County would be responsible for leading the overall project.
- **Local Agency Led Design-Build**: Precedent exists for the local agencies to be granted temporary legislative authority to administer design-build transportation projects. There is significant political backing and agency support (see letters of support) for this highly visible and beneficial project.

Environmental Review and Permitting

The Project is nearing completion of the environmental review of Phase 1 and incorporated feedback from agency stakeholders into proposed design to minimize the Project's impacts to sensitive environmental resources. An Environmental Assessment (EA) for Phase 1 was approved by FHWA in 2009 in accordance with the National Environmental Policy Act (NEPA). The County is close to completing a EA Re-Evaluation for Phase 1. The Project will be able to take advantage of past environmental analysis to accelerate the EA effort for Phase 2.

The Project will benefit from existing MnDOT programmatic agreements and agency liaisons to maximize the efficiency of environmental review and permitting processes. MnDOT has executed a programmatic agreement with FHWA and the State Historic Preservation Office (SHPO) to streamline the Section 106 review process. Additionally, MnDOT has established a MnDOT has established agency liaisons with the US Army Corps of Engineers (USACE) to directly manage the Section 404 permitting process for state highway projects.

Innovative Financing

Carver County is one of the leading counties in Minnesota to implement both a ½ percent sales tax and an excise tax to create a new, non-federal transportation revenue source for county and state transportation projects in the County. Over the next twenty-four years, the collected revenue is expected at $102 million. This new dedicated transportation funding source will enable the County to provide a local match to state and federal funding for critical infrastructure projects, including the US 212 Rural Freight Mobility and Safety Project.

In 2017, Carver County passed resolutions to approve a new, dedicated, non-federal transportation revenue. The resolutions enabled Carver County to implement a ½ percent sales tax, a $20 excise tax on vehicle purchases, and to increase the wheelage tax to $20 per vehicle (See Carver County Resolution #25-17: Implementing a ½ Percent Local Option Sales Tax and $20 Vehicle Excise Tax for Transportation and Resolution #26-17: Implementing a $20 Annual Wheelage Tax for Transportation). The ½ percent sales tax will result in at least $3.5 million in annual revenue for the County dedicated for transportation improvements.

4) Performance and Accountability

Carver County has extensive experience with managing roadway improvement projects and has worked with MnDOT on numerous highway improvement projects. In coordination with MnDOT, the County has identified the anticipated cost estimates to effectively operate and maintain the Project Corridor once it is constructed. MnDOT will be responsible for the operation and maintenance of the state highway and has dedicated funding available to ensure that the roadway is properly maintained. The County has committed to meeting construction start and end dates and is willing to implement an accountability measures based on these dates.

Lifecycle Costs

US 212 Operation and Maintenance Plan

MnDOT will operate and maintain US Highway 212 as it does the 12,000-mile state highway system. Long-term maintenance operations will be performed by MnDOT based upon its typical maintenance schedule for bituminous roadways. **Table 7** presents key maintenance improvements that would be required during the lifecycle of the Project based on guidance from MnDOT's Metro District Materials and Pavements Engineer.

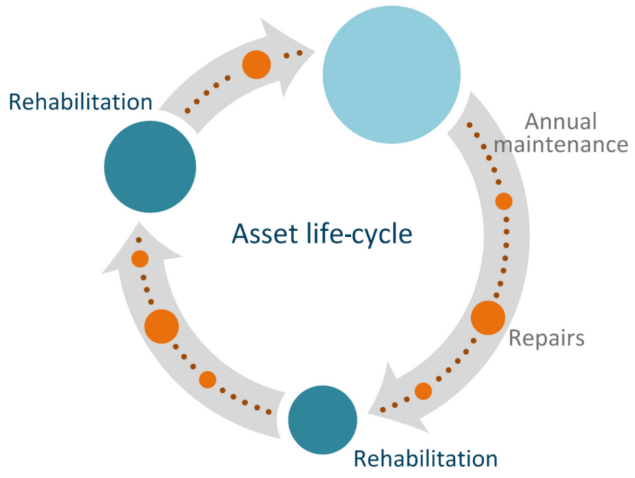
Table 7 Operation and Maintenance Schedule

Activity	Year	Cost (per lane-mile)	Total Cost
Annual Routine Maintenance	Annual	$8,100	$314,280
Thin (2-inch) bituminous mill and overlay	20	$250,000	$9,700,000
Medium (4-inch) bituminous mill and overlay	35	$350,000	$13,580,000

Operation and Maintenance Funding

Financial trends indicate that operation and maintenance revenues have slowed compared to previous decades. Consequently, MnDOT is committed to implementing timely investments in capital and preventative maintenance treatments to extend the service life of assets while reducing lifecycle costs. Ongoing operating and maintenance (O&M) costs on the state highway system are funded by taxes and fees from four main revenue sources: [11]

- State gas tax (motor fuel excise tax)
- State tab fees (motor vehicle registration tax)
- State motor vehicle sales tax
- Federal highway funds (highway user tax distributions, flexible highway account, and County State Aid Highway Fund).



Graphic Source: MnDOT TAMP

MnDOT Transportation Asset Management Plan (TAMP)

MnDOT has a demonstrated history of fully funding maintenance improvements and has established the agency as a leader in asset management. MnDOT developed its first Transportation Asset Management Plan (TAMP) in accordance with the 2012 Moving Ahead for Progress in the 21st Century Act (MAP-21). MnDOT's TAMP expanded beyond minimum requirements per MAP-21 to include the entire state highway system as well as other infrastructure within the right-of-way corridor. MnDOT's TAMP was a national pilot project and serves as a guide for other states.

11 MnDOT Transportation Asset Management Plan. Chapter 8 – Financial Plan and Investment Strategies. http://www.dot.state.mn.us/assetmanagement/pdf/tamp/10ch8.pdf

MnDOT applies the TAMP as a guide to analyze life-cycle costs, evaluate risks and develop mitigation strategies, establish asset condition performance measures and targets, and develop investment strategies. The TAMP will serve as a guide to ensure all necessary Project operation and maintenance is implemented.

Accountability Measure

Carver County is willing to meet specific construction start and completion dates subject to forfeit of up 10 percent or $12 million if not met. As proposed in the detailed project schedule, the County intends to begin construction on Phase 1 by July 31, 2021 and end construction by November 15, 2023. The County anticipates that Phase 2 construction will begin by July 31, 2022 and be completed by November 15, 2024.

VI. PROJECT READINESS

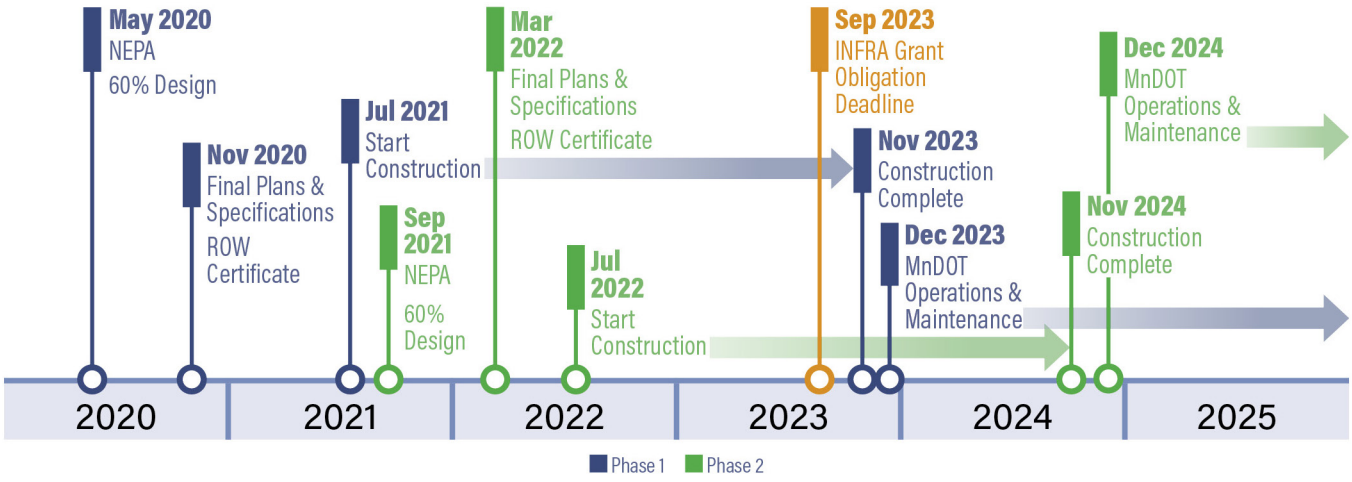
Technical Feasibility

The County is the lead agency on the US Highway 212 Corridor Study and all other project development activities which utilize federal funds. The County has delivered several federally funded highway projects and understands the rules and procedures to manage a federal grant.

Carver County and MnDOT have worked together to explore the best ways to address access, safety, freight movement, and mobility needs along US Highway 212. To move the project forward and fully understand the impacts and cost, Carver County has proceeded with detailed design and preparation of a final bid package for construction letting. Preliminary design layouts for Phase 1 and Phase 2 have been completed. Cost estimates have been prepared for Phase 1 and Phase 2 that include contingency levels. Phase 1 studies completed include a Phase I Environmental Site Assessment, wetland delineation report, traffic analysis and hydraulic analysis.

The proposed design meets all current USDOT, AASHTO, and MnDOT standards for multi-lane highways. General details of the design include: 70 mph design speed, 12-foot lanes, 10-foot outside shoulder, 4-foot inside shoulder, rural ditch drainage (NOAA Atlas 14 - Precipitation Frequency met for design), 84-foot centerline spacing, and bituminous pavement. The final design has identified the final roadway alignment, profiles, geometry, drainage elements, and grading limits for the Project. From the final design information, real quantities were derived. Expected unit costs are based on the most recent record of similar highway construction projects in Minnesota.

Project Schedule



The Project schedule demonstrates that grant funds can be obligated by Spring 2021 in advance of the INFRA funding obligation date requirement of September 30, 2023. Carver County anticipates that construction will begin by July 31, 2021 and be completed by November 2024. All property and right-of-way acquisition will be completed in accordance with 49 CFR Part 24 and other Federal regulations. The County has an experienced right-of-way acquisition staff that have been actively involved during the project development process and have

worked with MnDOT on numerous state highway projects. An official map has been prepared and a right-of-way agreement with MnDOT is close to completion. As discussed in the following section, an Environmental Assessment was approved in 2009. The County is in the process of updating this environmental review document which is anticipated to be completed in May 2020.

Required Approvals

Environmental Approvals

FHWA approved an Environmental Assessment (EA) on December 31, 2009 for Phase 1 of the Corridor. The EA found that the Project is not expected to cause adverse impacts to any community or neighborhood. No categories of people uniquely sensitive to transportation would be unduly impacted. The EA also found that the Project impacts are distributed evenly throughout the Corridor and the proposed improvements would provide benefits for all who utilize the roadway. The environmental justice section concluded that the Project would not have disproportionately high and adverse human health or environmental effects to any minority population or low-income population.

Due to the age of the approved document, an EA Re-Evaluation is required to address any new environmental impacts along the corridor. Carver County has coordinated with MnDOT and FHWA on the process and anticipates that the EA Re-Evaluation will be completed by May 2020. Wetland delineation was completed in 2019 and permitting has been initiated. The proposed alignment was designed to avoid impacts to historic properties while minimizing impacts to wetland resources to the extent possible. Final plan submittal is expected by Summer 2020. As required, all remaining permits will be included in the final submittal. Since being designated as a MnDOT Interregional Corridor in 2000, the US Highway 212 corridor has undergone significant analysis. Carver County, MnDOT and respective federal agencies foresee no issue with permit issuance.

State and Local Approvals

Support for the Project is provided for by several different levels. There is a broad base of support for the project, as shown by the letters of support submitted for this application. These include Letters of Support from MnDOT, Metropolitan Council, and US Senate Representatives from MN to cities and local businesses along the US 212 Corridor. A portion of the Project is programmed in MnDOT's State Transportation Improvement Program (STIP) and in the Metropolitan Council's Transportation Improvement Program (TIP) as state project number 010-596-012. This project is programmed due to the Minnesota Highway Freight Program funding awarded for Fiscal Year 2022. Upon award of INFRA funds, the TIP and STIP would be amended to incorporate the full project scope. The Project is currently listed in the Metropolitan Council Transportation Policy Plan (TPP) for four-lane expansion from Carver to Cologne. Likewise, the TPP would be amended to incorporate the full project scope. This project is specifically identified to receive Carver County local sales tax funds in the County's adopted Transportation Tax Plan and is in the Capital Improvement Plan as the highest priority project. Based on current annual revenues of the adopted ½ percent sales tax, $20 million is allocated for the project by 2022.

The US 212 Project is included in all relevant local, metropolitan, and state planning documents. This includes the MN Statewide Freight System and Investment Plan (2018) and related Metropolitan Council and Carver County comprehensive planning elements.

Risks and Mitigation Strategies

The County and MnDOT are close to executing a right-of-way agreement that identifies the responsibilities and financial commitments for Phase 1 right-of-way requirements. Right-of-way acquisition requirements for Phase 1 have been identified and detailed cost estimates have been prepared. Identification of right-of-way requirements for Phase 2 has been initiated, and conservative cost estimates are included in the Project budget. The estimate includes significant contingency for acquisition cost. The County will exercise eminent domain if necessary, to gain access to the property to construct the Project within the required schedule constraints.

The EA Re-Evaluation for Phase 1 is near completion. Sensitive resources have been thoroughly evaluated and avoidance, minimization and mitigation measures have been identified. During the 2009 Environmental Assessment for Phase 1, historical and archaeological surveys were completed and SHPO was consulted. During the survey, several properties listed or eligible for listing in the National Register of Historic Places were found to be impacted. To avoid these impacts MnDOT shifted the alignment to avoid impacting historic properties and provide vegetative buffers. With these mitigation techniques, MnDOT CRU determined no listed or eligible archaeological properties would be impacted. During reevaluation of project impacts in 2019, no additional adverse impacts were found.

VII. LARGE PROJECT REQUIREMENTS

The US 212 Freight Mobility and Safety Project is a large project that complies with minimum project size requirements and meets the criteria established in D.2.b.vii of the Notice of Funding. **Table 8** demonstrates how the Project addresses each of these requirements.

Table 8 Large Project Requirements

Criteria	Response
Does the project generate national or regional economic, mobility, or safety benefits?	Yes – See Section V, pages 9-17
Is the project cost effective?	Yes – See Section V, pages 17
Does the project contribute to one or more of the Goals listed under 23 USC 150?	Yes – See Section V, page 9-17; Section VIII, page 24 -25
Is the project based on the results of preliminary engineering?	Yes – See Section V, page 22-23 supporting documentation
With respect to non-Federal financial commitments, does the project have one or more stable and dependable funding or financing sources to construct, maintain, and operate the project?	Yes – See Section V, pages 21-22
Are contingency amounts available to cover unanticipated cost increase?	Yes – See Section V, page 21 and Section IV page 7
Is it the case that the project cannot be easily and efficiently completed without other Federal funding or financial assistance available to the project sponsor?	Yes – See Section V, page 9
Is the project reasonably expected to begin construction not later than 18 months after the date of obligation of funds for the project?	Yes – See Section V, page 22

VIII. BENEFIT COST ANALYSIS

The objective of a benefit-cost analysis (BCA) is to bring all the direct effects of a transportation investment into a common measure (dollars), and to account for the fact that benefits accrue over an extended period while costs are incurred primarily in the initial years. The primary elements that can be monetized are travel time, changes in vehicle operating costs, vehicle crashes, environmental impacts, remaining capital value, and maintenance costs. The results of the BCA are briefly summarized below. A detailed technical memorandum of the analysis is available to view at the grant application website: https://www.srfconsulting.com/us-212-infra-grant/.

No Build Alternative

The No Build Alternative included leaving the US 212 Corridor from the Cities of Norwood Young America on the west to Carver on the east in its current geometric and operational condition; with no modifications or restrictions to current access. This includes the two-lane undivided sections of US 212 from Norwood Young America to Cologne, and from Cologne to Carver. Regional roadway improvements that are currently programmed were included as part of the regional transportation network.

Build Alternative

The Project will replace the existing two-lane undivided sections with a four-lane divided roadway; thus, connecting the existing four-lane sections of US 212 west of Norwood Young America and east into the Twin Cities metro area. The spot mobility and safety improvements consisting of RCIs and grade separation were also assumed at the locations denoted previously in this document.

BCA Methodology

The primary cost and benefit components analyzed in the BCA included:

- Travel time/delay (vehicle hours traveled – VHT)
- Operating costs (vehicle miles traveled – VMT)
- Environmental and air quality impacts
- Crashes by severity
- Initial capital costs
- Remaining Capital Value: The remaining capital value (value of improvement beyond the analysis period) was considered a benefit and was added to other user benefits.
- Maintenance and rehabilitation costs
- Other analysis considerations included:
- It was assumed that right-of-way acquisition for the Build Alternative would take place in year 2021, and construction would be incurred during years 2022 to 2024. Therefore, year 2025 was assumed to be the first full year that benefits will be accrued.
- The present value of all benefits and costs was calculated using 2018 as the year of current dollars.
- A benefit-cost analysis period of 20 years was used to determine net project costs and benefits.

Project Costs

Year 2018 project cost for the INFRA Grant components of the overall project is expected to be about $119.7 million. The current 2018 project costs discounted at a rate of 7 percent are approximately $84 million.

BCA Results

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 greater than 1.0. The larger the ratio number, the greater the benefits per unit cost. The results of the analysis demonstrate that the combined, large project is the most cost-effective approach, resulting in benefit-cost ratio of 1.9. Results of the benefit-cost analysis are included in **Table 9**.

Table 9 Benefit Cost Analysis Summary

	Combined Phase 1 and 2	Phase 1	Phase 2
Benefits	$161 million	$60 million	$39 million
Costs	$84 million	$37 million	$47 million
B/C Ratio	1.9	1.6	0.8
Net Present Value	$77 million	$23 million	-$8 million

Note: Results based on seven percent discount rate.

IX. SUPPORTING DOCUMENTS

Links to supporting documents are included throughout this narrative. All supporting documents and the INFRA grant application narrative are available to view at the following webpage: https://www.srfconsulting.com/us-212-infra-grant/.