



FY2018-2019
INFRA Grant
Application



US 212 Freight Mobility and Safety Project
Submitted by Carver County, Minnesota

2019 Infrastructure for Rebuilding America (INFRA) Program



Project Name US 212 Freight Mobility and Safety Project

Project Type NHFN AND NHS

INFRA Request Amount \$41,907,340

Future Eligible Project Cost \$111,978,340

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Supporting Information can be found at:

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





COVER PAGE

BASIC PROJECT INFORMATION	
Project Name	US 212 Freight Mobility and Safety Project
Project Sponsor	Carver County
Was an INFRA application for this project submitted previously?	Yes
If yes, what was the name of the project in the previous application?	US 212 Freight Bottleneck Project
PROJECT COSTS	
INFRA Request Amount	\$41,907,340
Estimated federal funding (excluding INFRA)	\$22,000,000
Estimated non-federal funding	\$48,071,000
Future eligible project cost	\$111,978,340
Previously incurred project cost	\$3,296,000
Total project cost	\$115,274,340
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?	\$111,978,340
Approximately how much of the estimated future eligible project costs will be spent on components of the project currently located on the NHS?	\$111,978,340
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
Population of urbanized area	N/A
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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I. PROJECT DESCRIPTION

US Highway 212 (US 212) for this grant application is part of the larger US Route 212 regional and national highway system that runs from Wyoming to Minnesota, officially designated in 1926. The project area contains aging pavement that has not been expanded or reconstructed since its original paving in 1930, being overlooked for 90 years. US 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. While serving a similar role as an interstate highway, US 212 is also a key regional highway. Two fragmented segments of two-lane, undivided highway between the Cities of Chaska and Norwood Young America (herein

referred to as "the Corridor") prevent US 212 from being a continuous, four-lane expressway.

These two remaining gaps in the Corridor create bottlenecks in the interstate freight supply chain and safety issues with 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 the MnDOT, the Southwest Corridor Transportation Coalition (SWCTC), its 41 communities, local chambers of commerce, and elected officials, is proud to submit this \$42 million INFRA grant request to partner with the US DOT and FHWA to help eliminate the US 212 freight bottleneck, improve highway safety, and strengthen rural access to economic opportunities in the Twin Cities urban center.

Proposed Improvements

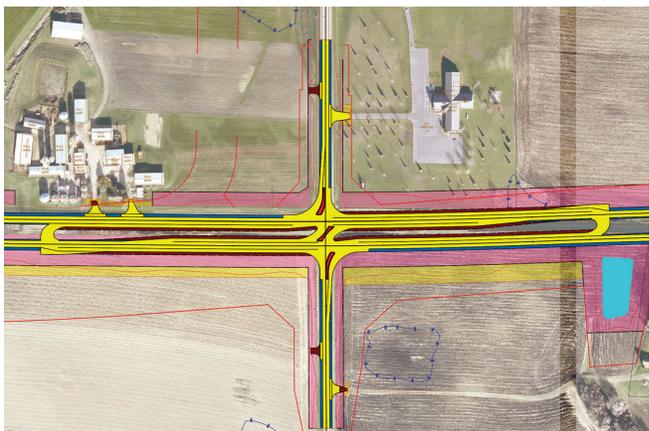
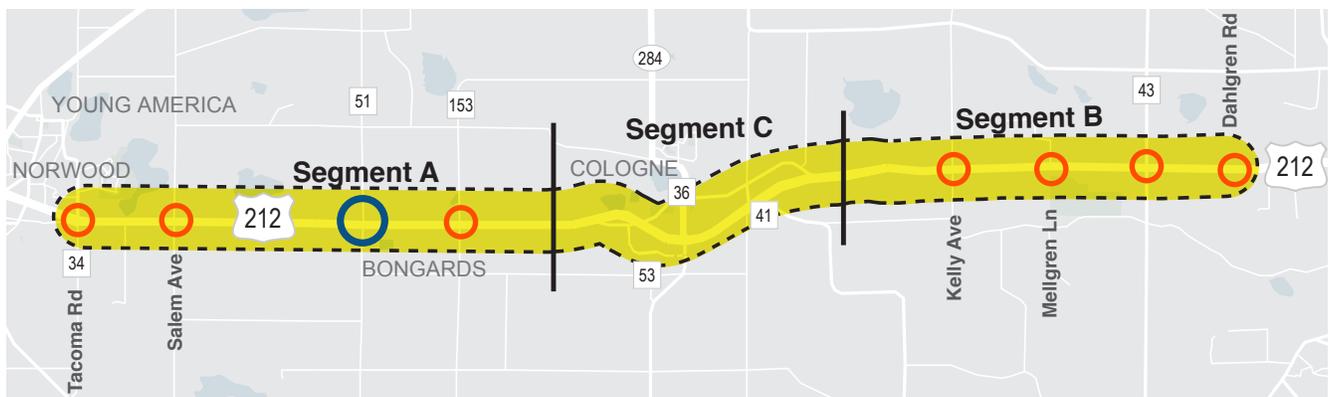
The US 212 Freight Mobility and Safety Project (herein referred to as "the Project") will **modernize and expand the two-lane segments** of rural highway from the City of Norwood Young America to the City of Cologne (Segment A), and the City of Cologne to the City of Carver to a four-lane divided expressway (Segment B). Each of these segments are approximately five miles in length, totaling approximately ten miles. Segment C, an approximately two-mile section within the City of Cologne, was previously reconstructed as a four-lane facility including a 2012 major reduced conflict intersection safety project related to high crash rates and 3 separate fatal crashes in two years there. For the length of the Project, modern innovations are proposed including improvements in intersection design, access management, snow fencing, and the fiber optic broadband network.

The Project includes a number of 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. With the current, narrow roadway almost 90 years old, new pavement and added lanes are sorely needed to eliminate bottlenecks in the freight network, increase mobility and access for rural populations and economies, and address safety concerns on the Corridor.

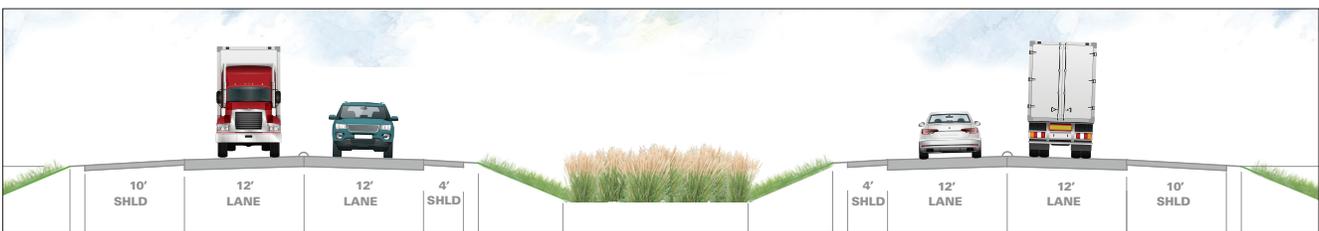
The Project will update the functionally obsolete two-lane cross-section to a multi-faceted modern four-lane expressway. It will address critical safety issues and conflicts, reconstructing key intersections as **Reduced Conflict Intersections** and constructing a **grade separated overpass** at the intersection of US 212 at County Highway 51. 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. 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.

Figure 2 Project Elements



○ 1 Grade Separated Overpass

○ 7 Reduced Conflict Intersections (RCI)



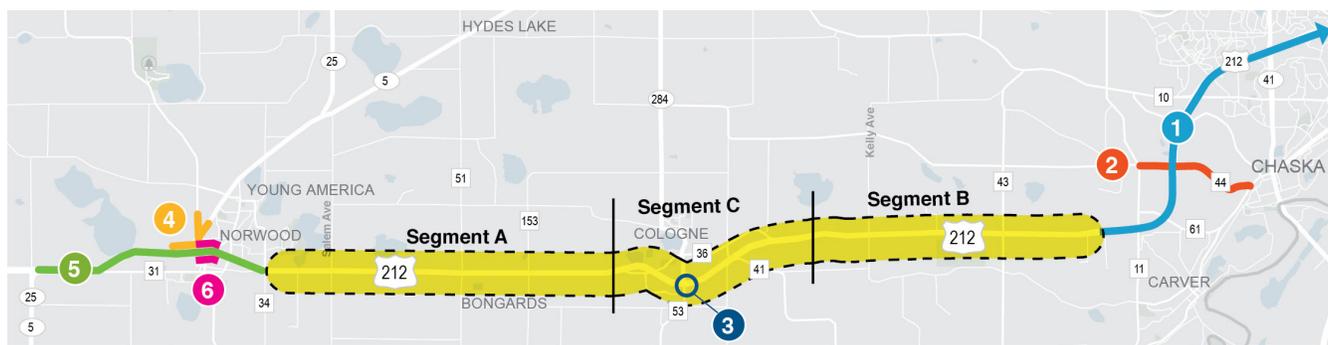
10 Miles of 2-lane to 4-lane expansion

Project History

MnDOT and Carver County have partnered over decades to develop a vision for the Corridor. More recently, the County in partnership with MnDOT, local partners, 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. The study examined three segments along US 212 from the City of Norwood Young America to the City of Carver. The focus of the study was on the remaining two-lane rural highway gaps in the Corridor (Segments A and B) to achieve the long-term vision of a single, continuous four-lane expressway. In prior work, FHWA approved the [Environmental Assessment \(EA\)](#) on December 31, 2009 for a portion of the Project.

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 at I-494 from the City of Eden Prairie westward to the City of Carver. Spot safety measures have been implemented as funding allowed, including mainline turn lanes on US 212 in 2011 at County Hwys 51 and 43, due to fatal and high rate intersection crashes there. 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 2019 and 2020.

Figure 3 Project History



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

Purpose Statement

The Project will accomplish the following:

- Eliminate two remaining gaps in the expressway system
- Remove barriers to efficient freight movement
- Address significant safety issues
- Increase mobility for rural populations and freight
- Expand rural access to the Twin Cities economic hub

Transportation Challenges

The Project addresses multiple transportation challenges including mobility, safety, and reducing gaps in the transportation system to enhance connections between the greater western Minnesota region, South Dakota and the urban center. These challenges are summarized below. Additional details on these issues and anticipated project benefits are provided in the Section V (Merit Criteria).

Challenge 1: Eliminate the Freight Bottleneck

Several bottlenecks in the freight network within the US Highway 212 Corridor exist where the highway transitions from a four-lane expressway to a two-lane rural highway, resulting in reliability, accessibility, and safety challenges.

The Project will address critical capacity issues 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.

Freight Bottleneck
17% increase in operational costs
Negatively affects 65 freight generators

Challenge 2: Reduce Fatalities and Serious Injuries

The existing US Highway 212 Corridor experiences significant safety issues due to limited shoulder width, full access rural intersections, and blowing snow during winter storm events.



Fatalities
9 fatalities in past 10 years

The Project will reduce fatalities and serious injuries in the corridor by eliminating two-lane rural highway gaps, reconstructing key intersections as RCIs and constructing a grade-separated overpass at the intersection of US 212 and County Highway 51.

Challenge 3: Remove Barriers to Employment Opportunities

Rural populations rely on US Highway 212 to connect to employment opportunities in the Twin Cities urban center. US Highway 212 experiences congestion because this segment is reduced to a two-lane, undivided roadway.

The Project will expand highway capacity in the corridor to strengthen US Highway 212 as a major connection linking rural communities to the Twin Cities economic hub.

Employment Barriers
72% of residents travel outside the County for work

Challenge 4: Ensure State of Good Repair

The Corridor needs pavement improvements to maintain a state of good repair. Segments A and B of the Corridor were originally constructed in 1929 and 1930, respectively. The aging infrastructure has not been expanded or reconstructed since.

Pavement Deterioration
Pavement quality projected to deteriorate to "poor" by 2025

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 Highway 212 serves as a primary route linking Minnesota's and South Dakota'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 three segments of US 212 between the Cities of Norwood Young America, Cologne and Carver in Carver County, Minnesota. Each of the segments with two-lane gaps are approximately five miles in length, totaling approximately ten miles. The limits including these three segments are described below. Figure 4 depicts the project location.

Figure 4 Project Location



- US 212 from County Highway 34/ Tacoma Avenue (44.7680938°N, 93.9090599°W) to approximately 0.3 miles west of County Highway 11 (44.7770823°N, 93.6424848°W)
- City of Norwood Young America, Benton Township, City of Cologne, City of Carver, and Dahlgren Township
- Sections 7-18, Township 115N, Range 24W; Sections 14-18, Township 115N, Range 25W; and Section 13, Township 115N, Range 26 W

III. PROJECT PARTIES

Grant Recipient

Carver County is the project sponsor of this INFRA grant application. The County has extensive experience with procuring and developing transportation improvement 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



¹Carver County, 2018 Long Term Financial Plan (December 20, 2016). <https://www.co.carver.mn.us/home/showdocument?id=10027>

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Project Partners

The County has developed this Project in close partnership with MnDOT. MnDOT has established a firm commitment of investment towards improving the US 212 corridor. MnDOT, in partnership with the County, has led other past and planned investments in the corridor including the pavement preservation project planned for the existing four-lane section in the City of Cologne (Segment C). State and local funding has contributed to several other projects in the US 212 Corridor including the planned construction of the US 212/County Highway 44 interchange in the City of Chaska, 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.



MnDOT is committed to operating and maintaining the Project as part of the State highway system. Section V, Criterion #4 (Performance and Accountability) includes additional details regarding MnDOT's operation and maintenance commitment towards the Project.

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.

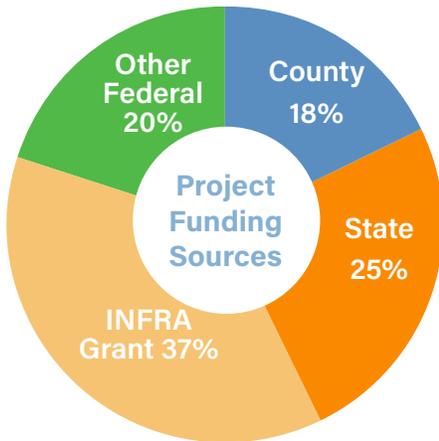
IV. GRANT FUNDS, SOURCES AND USES OF PROJECT FUNDS

Project Budget

Total Project Cost: \$112 million

INFRA Grant Request Amount: \$42 million (37 percent of project cost)

Figure 5 Project Funding Sources



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](#)).

Carver County is committed to contributing \$20 million dollars via the 2017, non-federal revenue from the adopted ½ percent sales tax and \$20 excise tax. MnDOT has allocated \$28 million. To date, over \$3.2 million including \$1.2 million in federal funds and \$2 million in MnDOT and local funds were used for project development such as environmental assessment, project design, and right-of-way official mapping to advance the delivery of the Project. Table 1 presents the project budget. Detailed construction [costs estimates](#) have been prepared.

Table 1 INFRA Grant Project Budget

Project Element	Project Funding						Total Cost Estimate	
	Non-Federal		INFRA		Other Federal			
	Dollars	Project Percentage	Dollars	Project Percentage	Dollars	Project Percentage		
Past	Highway Corridor Study, Environmental Assessment, Official Map, Preliminary Engineering	\$1,096,000	48%	\$0	0%	\$1,200,000	52%	\$2,296,000
	Design Engineering	\$1,000,000	100%	\$0	0%	\$0	0%	\$1,000,000
	Total Incurred Expenses	\$2,096,000	64%	\$0	0%	\$1,200,000	36%	\$3,296,000
Future	Environmental Assessment*	\$167,000	100%	\$0	0%	\$0	0%	\$167,000
	Design Engineering	\$5,525,000	100%	\$0	0%	\$0	0%	\$5,525,000
	Right-of-Way	\$5,470,200	100%	\$0	0%	\$0	0%	\$5,470,200
	Construction	\$31,904,000	37%	\$33,381,140	38%	\$22,000,000	25%	\$87,285,140
	Contingency (10%)	\$202,800	2%	\$8,526,200	98%	\$0	0%	\$8,729,000
	Construction Administration	\$4,802,000	100%	\$0	0%	\$0	0%	\$4,802,000
	Total Future Costs	\$48,071,000	43%	\$41,907,340	37%	\$22,000,000	20%	\$111,978,340
Federal Participation (Maximum 80/20)		Non-Federal		\$48,071,000	43%	Total Project Costs		\$115,274,340
		INFRA Request		\$41,907,340	37%			
		Total Federal Funding		\$63,907,340	57%			
Total Future Project Cost				\$111,978,340				

*Note: FHWA approved an Environmental Assessment for Segment B of the Project on December 31, 2009. Given the age of this document, the County is currently completing an Environmental Assessment Re-Evaluation which will also include Segment A in the analysis.

Non-Federal Funding Source

County Funding

Carver County has served as the champion of the Project and is committed to provide 18 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 was originally estimated to provide approximately \$3.5 million annually; however, current revenues from this new funding source are approximately \$7 million annually. This is a 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.



18% of Future Project Costs

State Funding

MnDOT has committed to providing \$28 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 dollars, portions of these MnDOT programmed dollars (approximately \$18 million) will be reallocated towards the Project which is identified in the [MnDOT Metro District 10-Year Capital Highway Investment Plan](#). If awarded, all INFRA dollars and respective match funds will be spent on construction (with a 10 percent contingency).



\$18 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 2017-2018. Since then, Carver County and MnDOT have 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 [2019-2022 State Transportation Improvement Program \(STIP\)](#) and the [Metropolitan Council's 2019-2022 Transportation Improvement Program \(TIP\)](#) as state project number 010-596-012.

**MHFP
\$15 Million**

Metropolitan Council Regional Solicitation

The Metropolitan Council, the Twin Cities regional metropolitan planning organization, administers the Regional Solicitation program, a competitive process where Surface Transportation Block Grant Program 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 (Segment C). Segment C was previously reconstructed as a four-lane highway. Improvements proposed within Segment C 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 Segment C of the Corridor. This project is planned to begin construction in 2023.

Segment C Reduced Conflict Intersections

MnDOT has secured funding to reconstruct the intersections of US 212 at County Highway 41 and County Highway 36 within Segment C as a reduced conflict intersection (RCI) to address safety issues within the Corridor. This project is funded and planned to begin construction in 2020.

INFRA Funding Need

Carver County, in partnership with MnDOT and local communities, has secured approximately \$70 million in non-federal and other Federal funding to invest in the Project. The County anticipates that in the event that INFRA funding is not awarded, the County may be able to proceed with implementing the expansion of Segment B of the Corridor. However, delays in the project schedule are anticipated and the scope of the Project would be reduced. Planned innovative technology and safety components of the Project would be eliminated if INFRA funding is not awarded.

If the INFRA grant is not awarded, the expansion improvement proposed for Segment A 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 for Segment A. The expansion project would be delayed for the lifecycle of the overlay, approximately 15 to 20 years, and the original 1930 pavement would be left in place. In addition, the geometry of the roadway would be unchanged, meaning the project area would see projected increases in the crash cost and crash frequency. None of the planned innovative technology and safety improvements for Segment A and Segment C of the Project would be constructed.

The County has secured \$22 million in other Federal funding to leverage for this Project. A portion of this funding is programmed for 2022 and may be jeopardized if the project is delayed beyond this date. Securing the remaining funding required for the entire Project would ensure that the County is able to take full advantage of the Federal funds awarded to date.

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 14 percent of total daily traffic based on 2016 MnDOT traffic data. **Freight bottlenecks contribute to a 17 percent increase in heavy commercial vehicle operational costs and negatively affect upwards of 65 heavy commercial freight generators** located adjacent or in proximity of the US 212.² Forecasted growth in heavy commercial vehicle volumes by the year 2040 will amplify the existing freight bottleneck in the Corridor.



Capacity issues along US 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 highway. 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 14,400 to 21,000 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 of the roadway. Morning and afternoon PM peak traffic leaves very short gaps available for side street intersections. Some of these limited gap conditions have led to fatal intersection crashes.

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.

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

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

³ Carver County, Draft Comprehensive Plan. Pages 4.38. <https://www.co.carver.mn.us/home/showdocument?id=14307>

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.**

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

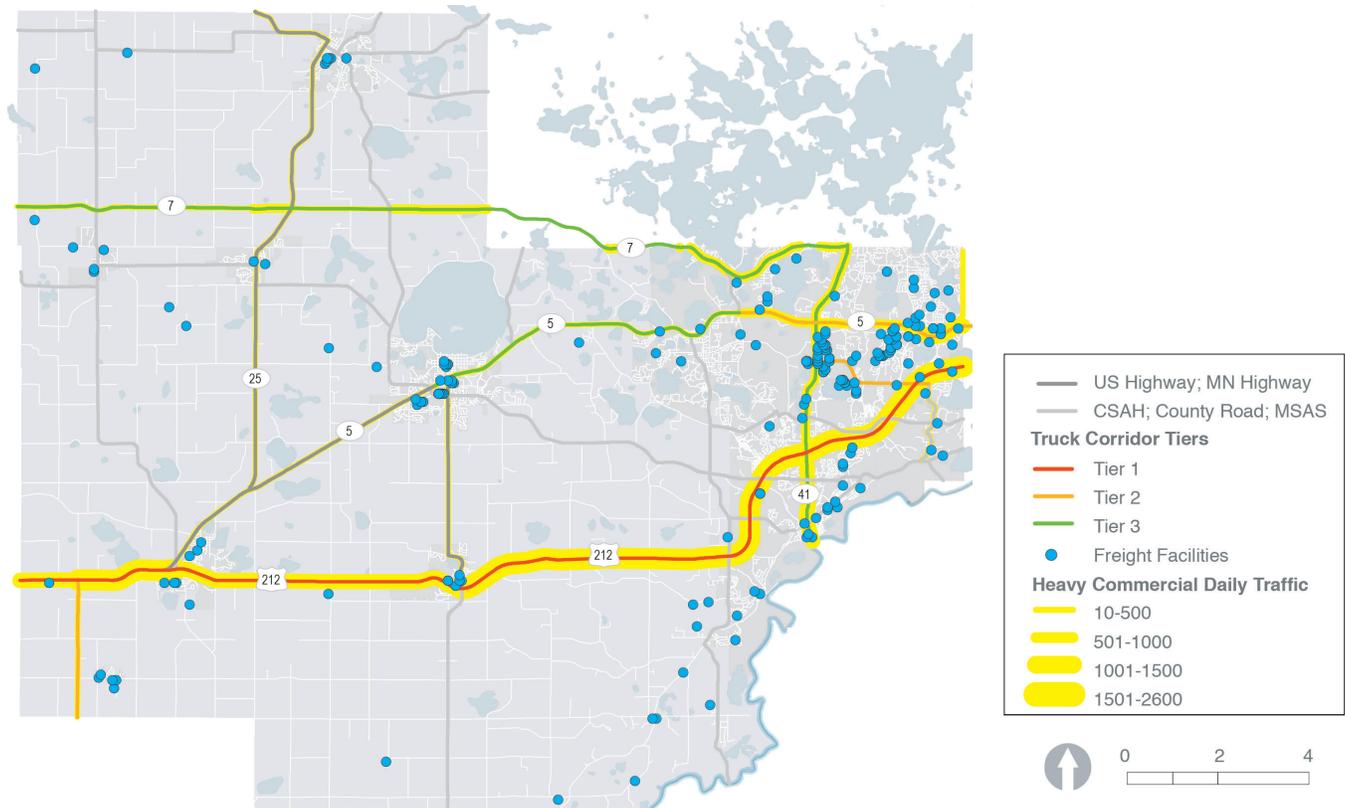
Furthermore, oversized loads are not permitted to operate in narrow segments of the corridor, requiring a State Patrol escort. Due to the increased cost of this escort, oversized shipments often divert onto the county road system. This rerouting adds time and expense to a trip, increases the potential 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.

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.

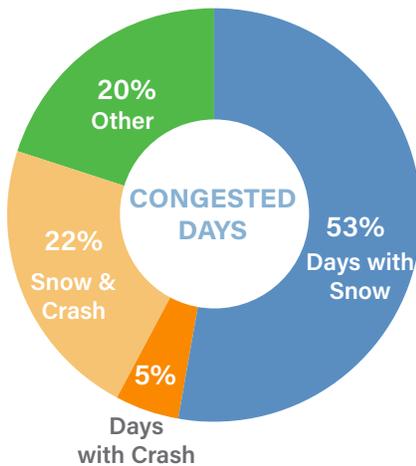
The Project alleviates a ten-mile bottleneck that directly impacts regional and multi-state freight movements. The problematic two-lane segments impact high truck traffic volumes moving freight from western Minnesota to river and rail terminals in the Shakopee/Savage area. Figure 6 illustrates the importance of US 212 as a major freight connection.

Figure 6 Carver County Freight Network and Generators



Travel Time Delay and Reliability Issues

Figure 7 Congested Days by Event



A [Travel Time Reliability Analysis](#) was completed for Segment B of 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.

Over the study period, 55 days observed a travel time index (congested hours) greater than 1.25 the expected travel time, ranging from 1.5 to 7.9. The total vehicle hours of delay observed for these days ranged from 32 to 505 hours for an average of 123 vehicle delay hours per day. Figure 7, illustrates the percentage of days with travel time index above 1.25 that correlated with snow, crash, snow and crash, or other events. 75 percent of the 55 days experienced congested hours due to a snow event or both crash and snow event.

Improve Roadway 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. Key design interventions that could reduce the number of severe crashes at intersections include adding left-turn lanes, widening shoulders, or implementing reduced-conflict intersection designs.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. 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 the past ten years (2009 to 2019), there have been **nine reported traffic fatalities and three severe crashes involving life threatening injuries** on the two-lane gap segments of US 212 from the City of Norwood Young America to the City of Carver. On January 16, 2019, a fatal crash

occurred in Segment B 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. 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.

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

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
- Lack of intersection capacity; side street gaps.

Table 2 summarizes the existing annual crash cost associated with Segments A and B, projected total crash reduction, and annual crash cost savings. The Corridor experiences a high number of fatal and severe injury crashes. It is anticipated that safety improvements, including RCIs and a grade separated overpass, **will reduce severe crashes by 44 percent in Segment A and 47 percent in Segment B.** Annual crash costs associated with the existing conditions of the Corridor are estimated to be \$6,760,00 in Segment A and \$7,090,000 in Segment B. The Project is anticipated to **generate substantial annual crash cost savings ranging from \$2,930,000 in Segment A and \$3,070,000 in Segment B.**

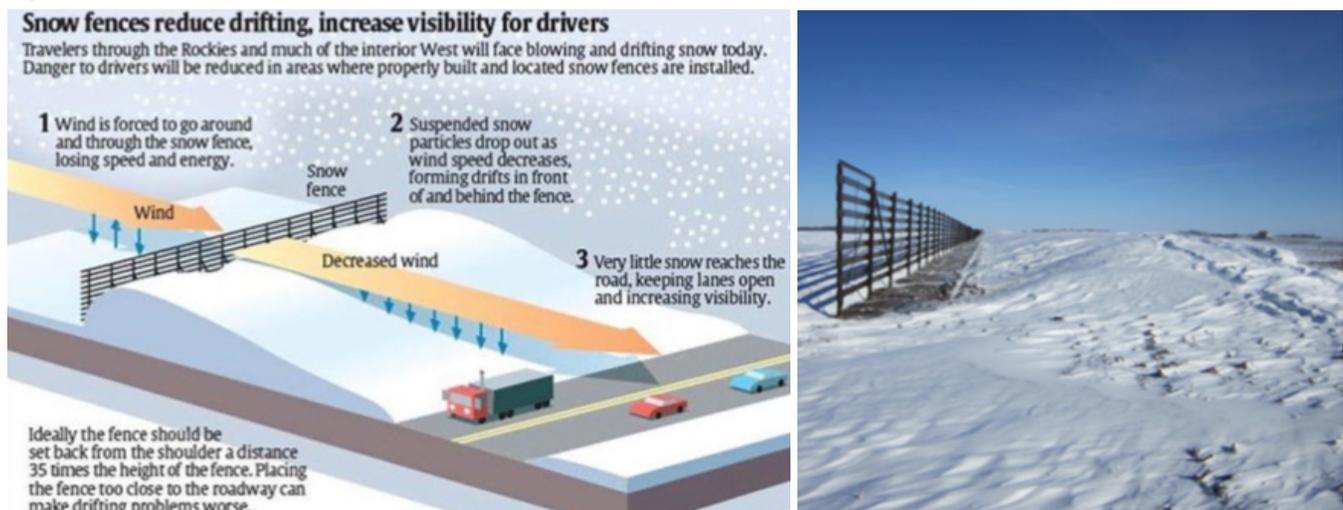
	Existing Annual Crash Cost	Projected Total Crash Reduction	Projected Severe Crash Reduction	Estimated Annual Crash Cost Savings
Segment A (Norwood Young America - Cologne)	\$6,760,000	34%	44%	\$2,930,000
Segment B (Norwood Young America - Cologne)	\$7,090,000	36%	47%	\$3,070,000

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

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) for Segments A and B, approximately 30 percent of the crashes occurred during snow- or ice-covered road conditions.

The Project will include snow fencing to increase winter driving safety by creating a barrier to snow drifting during windy conditions. Figure 8 depicts a ditch design snow fence. A [detailed cross section](#) is provided on the grant application website.

Figure 8 Snow Fence

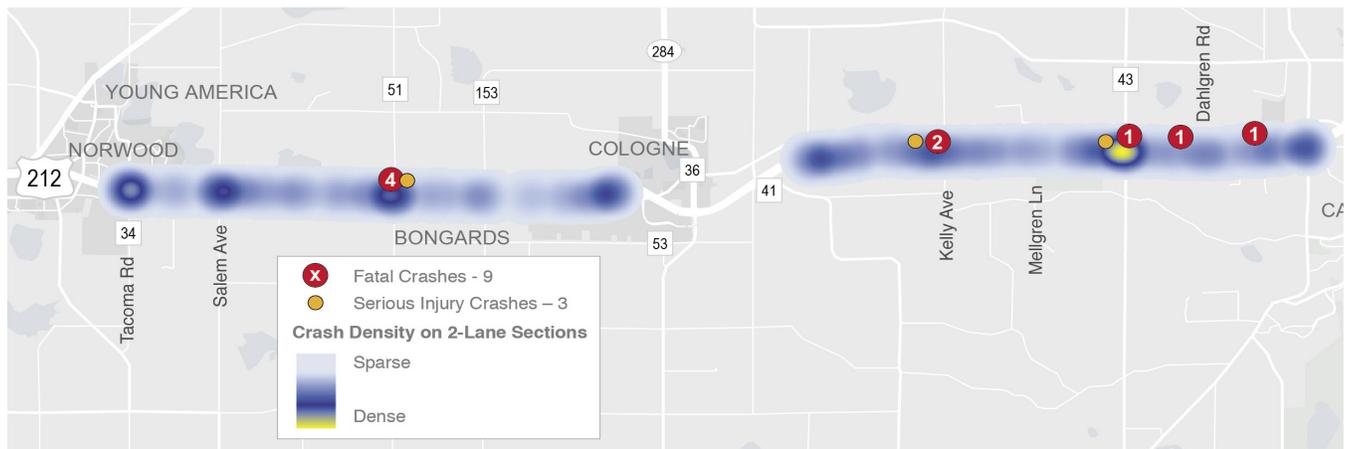


Intersection Safety – High Levels of Fatal Crashes

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, two **fatalities** in 2018, and and a major incapacitating injury occurred in 2010. The US Highway 212 and County Highway 34 intersection, which is a two to four-lane transition 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. **Two fatalities occurred at Kelly Ave in 2014**. RCIs are proposed for both of these intersections. Figure 9 illustrates crash occurrences in the Corridor and identifies the locations of crashes that resulted in fatalities and major incapacitating injuries.

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

Figure 9 Crash Occurrences in the Project Corridor



Expanded 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.

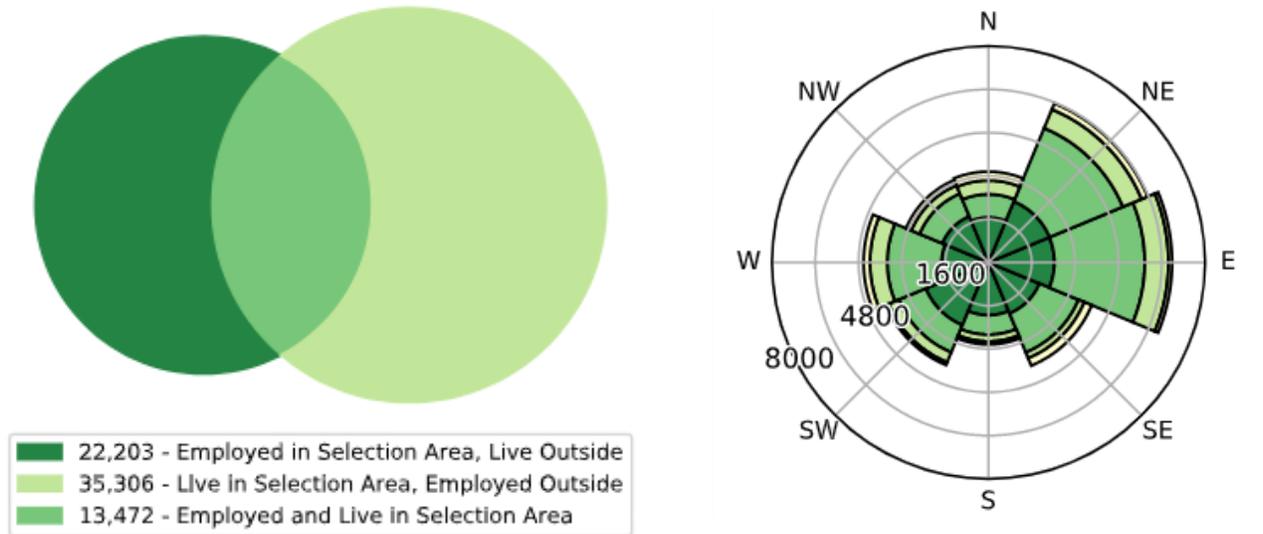
Carver County is a net exporter of workers. According to 2015 US Census data, 72 percent of Carver County residents travel outside of the County for work.⁷ Figure 10 demonstrates that the majority of employees live within the County and commute outside of the County for employment.

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>

⁷ US Census Bureau. *Longitudinal Employer-Household Dynamics Survey, Inflow/Outflow Job County in 2015*. <https://onthemap.ces.census.gov/>

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. The majority of commuters are traveling eastward into the Twin Cities urban center.⁸ Figure 10 illustrates the direction of commuters between place of residence and work place.

Figure 10 Commuter Job Flows and Distance/Direction in Carver County (2015)



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 Segment A and 2027 within Segment B. Segments A and B of the Corridor were originally constructed in 1929 and 1930, respectively. 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 Segment A and Segment B, 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 Segments A and B 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.**

⁸ US 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.

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:

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

The greatest benefits accrue from travel time cost savings and safety benefits, totaling approximately \$162 million when discounted at seven percent. Additionally, the Project will result in approximately \$4.5 million in operation and maintenance cost savings. Based on a discount rate of seven percent, the approximately \$75 million investment would generate approximately \$144 million in total benefits, a net present value of approximately \$69 million, resulting in a benefit to cost ratio of 1.9.

1.9 *Regional Benefit/Cost Ratio* at the **7%** *Discount Rate*

2. Leverage Federal Funding

Carver County and MnDOT have partnered to secure \$48 million in local and State funding to support the Project. This non-federal share represents approximately 43 percent of the anticipated total future eligible project costs.

\$48 Million
in local and State funding

The County has successfully obtained an additional \$22 million in other Federal funding to implement the Project. In total, Carver County has secured \$70 million in non-federal and Federal funding for this Project (approximately 63 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 location 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 Intersection (RCI)

RCI's, 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.



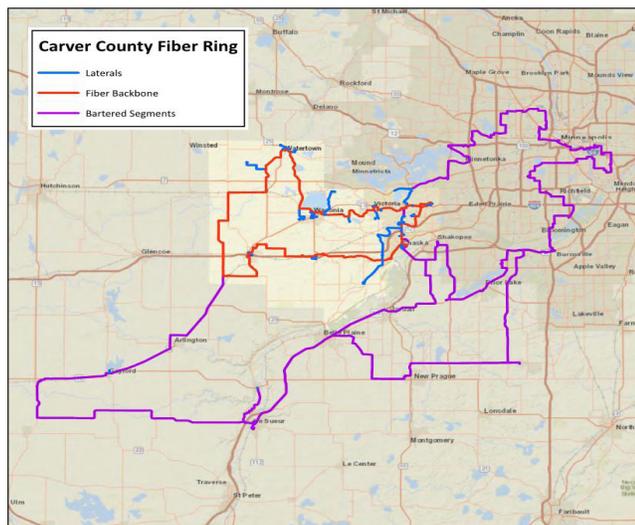
RCIs
70% reduction in fatalities
42% reduction in injury crashes

Image Source: MnDOT

Expansion of Broadband Deployment

The Project will expand technology applications and options to fiber-optic internet access by making upgrades to the existing CarverLink, publicly owned broadband fiber optics network that runs with the Corridor. The fiber ring connection runs adjacent to the US 212 Corridor (see Figure 11).

Figure 11 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

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

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.

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 12 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 12 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 has already completed an environmental review of Segment B and incorporated feedback from agency stakeholders into proposed design to minimize the Project's impacts to sensitive environmental resources. An Environmental Assessment (EA) for Segment B was approved by FHWA in 2009 in accordance with the National Environmental Policy Act (NEPA). The County is currently in the process of initiating a new EA that will include Segment A and re-evaluate potential impacts resulting from Segment B. The Project will be able to take advantage of past environmental analysis to accelerate the new EA effort.

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 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 was projected 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 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 is exceeding original projections and is currently estimated at \$7 million in annual revenue 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 measure 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 3 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.

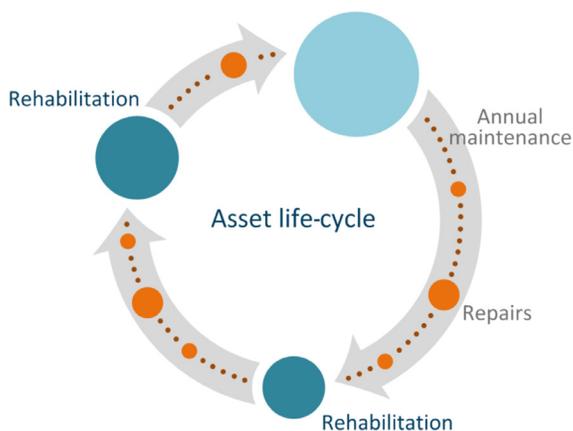
Table 3 Operation and Maintenance Schedule

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).



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.

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 to 10 percent or \$10 million if not met. As proposed in the detailed [project schedule](#), the County intends to begin construction by March 31, 2022 and end construction by June 1, 2024.

Project Readiness

Technical Feasibility

The County is already the lead agency on the [US Highway 212 Corridor Study](#) and all other project development activities which also 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](#) and [cost estimates](#) including contingency levels have been completed for the Project.

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

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 2022 in advance of the INFRA funding obligation date requirement of September 30, 2022. Carver County anticipates that construction will begin by March 2022 and be completed by June 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. 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 to address any new impacts and include Segment A of the Corridor.



Required Approvals

Environmental Approvals

FHWA approved an [Environmental Assessment](#) (EA) on December 31, 2009 for Segment B 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. Since the Project includes both Segment A and Segment B, a new EA will be completed. Carver County has initiated this effort and is coordinating with MnDOT and FHWA on the process. Final plan submittal is expected by Fall 2021. 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 4-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.

Large Project Requirements

The US Highway 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 3 demonstrates how the Project addresses each of these requirements.

Table 4 Large Project Requirements

Criteria	Response
Does the project generate national or regional economic, mobility, or safety benefits?	Yes – See Section V, pages 10-16
Is the project cost effective?	Yes – See Section V, pages 15-16
Does the project contribute to one or more of the Goals listed under 23 USC 150?	Yes – See Section V, pages 10-16
Is the project based on the results of preliminary engineering?	Yes – See Section V, page 21
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 20-21
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 IV, 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

VI. 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, grade separation, and snow fences 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 2017 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 2017 project cost for the INFRA Grant components of the overall project is expected to be about \$111.8 million. The current 2017 project costs discounted at a rate of 7 percent are approximately \$75.1 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, such as providing access and connectivity to a very economically depressed region. 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. Results of the benefit-cost analysis are included in Table 5.

Table 5 Benefit Cost Analysis Summary

	7% Discount
Benefits	\$144 million
Costs	\$75 million
B/C Ratio	1.9
Net Present Value	\$69 million

VII. ASSESSMENT OF PROJECT RISKS AND MITIGATION STRATEGIES

Right of way acquisition is a risk to cost and schedule. 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. An approved Environmental Assessment was completed in 2009 for Segment B of the Project. The County is currently preparing an updated environmental document that includes both segments of the corridor. There are no other risks to the project given the amount of study that has already occurred.

VIII. SUPPORTING DOCUMENTS

As recommended in the INFRA Notice of Funding Opportunity, links to supporting documentation are included throughout this narrative rather than providing separate attachments. 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/>.