

2022 Sisseton Milbank Railroad CRISI Grant Application  
Report to the South Dakota State Railroad Board

The Sisseton Milbank Railroad requests the South Dakota State Railroad Board consider this project for a SDDOT submission as a CRISI Grant.

**Narrative**

The project meets each of the State Rail Plan goals.

The State Rail Plan Goals are:

- Support economic growth and development
- Ensure connectivity for critical industries
- Maintain State railroad assets in a state of good repair
- Reduce highway impacts
- Improve railroad safety, security, and resiliency

**Support economic growth and development**

Rural and tribal communities are often slow to enjoy the economic benefits of more urban areas. As a rural area, the area around the SMRR railroad struggles to attract and retain business and development that would benefit area residents. The lack of good transportation infrastructure is a distinct business disadvantage when compared to the infrastructure of an urban area. It makes little sense to build infrastructure on the belief that if the infrastructure is built the business will follow.

Railroads are essential for businesses that move heavy freight long distances. Agricultural products are often sold to distant and international markets. These products tend to be high-volume price sensitive commodities. The large volumes require facilities designed to handle these volumes in an efficient manner.

This project is not just a railroad project. The rebuilt railroad makes a new shuttle elevator possible, and the new shuttle elevator makes the rebuilding of the SMRR make economic sense. One cannot exist without the other. Wheaton Dumont has committed to building a new shuttle elevator in Sisseton if the railroad is improved. The increased price of grain, decreased cost of fertilizer, increased employment opportunities all have a direct and immediate impact on the people in the area including tribal members.

Ultimately the goal of the project is to increase the margin on agricultural products in the area. Even grain that is shipped by other elevators in the area will see a price increase paid to the farmer, as the elevators compete for the grain. That margin increase drives the additional employment.

Even though the project is justified based on the construction of a shuttle loading facility, the further goal is to make additional use of the railroad by attracting new business to the line.

SMRR (Sisseton Milbank Railroad) will hire a marketing person for the line. Their job will be to attract business to the line and also to work with the tribe to identify and develop rail served tribal businesses.

Railroad projects are always economic development projects. Economic development projects are always about adding value to products. The added value to these products is reflected in the number of jobs, the wages, the diversification, and economic stability of a community and ultimately the survival of some communities. Many rural communities have simply ceased to exist. Rural communities have had declining populations for many years. One good business can reverse that trend in a community. The communities along the SMRR are no different – they have all lost population – while at the same time larger communities in South Dakota have grown. This project is essential for Sisseton, Milbank, Peever and the other communities on the line, if they want to have a chance of surviving the next twenty or thirty years.

Tribal communities struggle for jobs for their members – one of the goals of this project is to enable tribal members to gain employment during construction of the elevator and the railroad, as well as long term employment on the railroad and at the new elevator. These benefits are dependent upon the modernization of the railroad. This project will create and maintain opportunity through improved transportation infrastructure.

### **Ensure connectivity for critical industries**

Agriculture is the largest and most important industry in South Dakota. It is critical for South Dakota agricultural products to be transported to customers by the most efficient means possible. Doing so allows for more of the value of these products to stay in the hands of the producers. Increased commodity prices in a large geographic area improves the overall economy of the entire state because increased crop prices have an economic impact as those additional revenues are spent in the state.

The purpose of the project is modernizing the railroad to allow for the construction of a new shuttle capable (110 car shuttle train) grain loading facility in Sisseton. To receive shuttle trains a grain facility must be located on a rail line that can support shuttle train loads and be able to load a shuttle train in 10 hours or less. The timeframe is important as it allows the elevator to collect Origin Efficiency Payments (OEP) from the railroad that owns the shuttle train (i.e. BNSF). The OEP payments are an incentive for fast loading of the train, the freight rates offered by the shuttle train program allows the elevator to ship grain at a much lower freight rate. With the addition of a shuttle elevator, local and regional grain prices will go up and the cost of inputs such as fertilizer will go down.

While the construction of a new elevator will occur because of the upgraded railroad, the new rail also opens the door for additional industries to locate on the line. The current track conditions eliminate the SMRR from consideration for new rail served businesses. Once the track is reconstructed the SMRR will market the track and the multiple Class 1 connections to rail served industries. The SMRR will hire a dedicated marketing person once the project is completed.

## **Maintain state railroad assets in a state of good repair**

This railroad is in poor condition.

The current track classification is exceeded. The track can only support 263,000lb cars at a maximum of 10 mph. Train speeds in practice average 5 mph. There are numerous areas where the trains can only move at “walking speed” or about 3 mph. It takes the train over 7 hours to make the 37-mile trip from Milbank to Sisseton. Broken rail and derailments are a common occurrence. Please see Photo 1 (below) for an example of a broken rail. SMRR averages at least one derailment a year. Most of the time, since the train is going so slow on the SMRR a derailment does not result in tipped over cars. A derailment where the cars do not tip does not usually result in an insurance claim and can be remediated by the railroads’ employees.

The current rail conditions cannot support growing the rail traffic or providing efficient rail traffic. In addition, the railroad cannot attract the new business to the line that can create economic growth for the area due to the rail condition. Without reconstruction the railroad will likely be out of service within five to ten years.



*Photo 1 2017 broken rail*

Because of the light rail and substandard bridges, the elevator is currently loading grain cars to 263,000 pounds instead of the Class 1 railroad standard capacity of 286,000 pounds. The railroad can only safely move a maximum of 13 cars at a time. If the rate is for a 25-car train, they move 12 cars, then 13 cars and assemble the two shorter strings into a 25-car train in Milbank.

If the current track structure is not reconstructed, the elevator will likely continue to move similar volumes as it is now until such time as the rail line goes out of service. Once the line goes out of service the current truck volumes to Graceville, Mn and Tenney, Mn will increase either by the Sisseton Elevator or the farmers themselves.

On Dec 16, 2021 two cars derailed and tripped 6 miles south of Sisseton, destroying the cars. The cause of the derailment was a broken rail. The current track structure consists of 13.6 miles of 60 lb rail from the 1880s, 10 miles of 75 lb rail from 1906, 12 miles of 90 lb rail from 1925 and 1.4 miles of 115 lb rail from 2015. Tie condition on the line is poor.

The project will replace the existing rail with 115lb or heavier new or relay rail, 878 new ties per mile, add 540 tons per mile of ballast, repair 20 crossings, and repair 27 bridges. The track will be reconstructed to AREMA Class II standards, enabling the ability to move 286,000 lb cars at 25 mph. The railroad will need to be able to move 110 cars with 286,000lb gross weight at one time to serve the new shuttle train facility in Sisseton.

### **Reduce highway impacts**

There will be a decrease in 31.31 million truck miles over the analysis period of 30 years. Of those miles 5.28 million miles is due to farmers choosing to sell grain to a shuttle elevator that is closer than their current grain outlet (new bushels). 21.92 million truck miles will be avoided due to fertilizer being moved to Sisseton by rail rather than truck. The remaining 4.11 million miles are a result of the Sisseton Elevator no longer shipping a portion of its grain by truck to the Graceville Elevator. At an average of 6 miles per gallon the project will reduce truck fuel used by 5.2 million gallons. There will be a significant corresponding decrease in emissions as well as described in the BCA.

The project will increase safety by greatly reducing trucking miles – for farm to elevator grain moves, the existing Sisseton Elevator to Graceville Elevator grain move, and the fertilizer to Sisseton. Over the BCA analysis period of 30 years over 31 million truck miles will have been moved to the railroad. This reduction in truck miles results in fewer crashes, less likelihood of fatalities, injuries, property damage, and emissions. The likely savings in crashes alone exceeds \$9 million over the analysis period of 30 years. The project will also virtually eliminate derailments and broken rail, resulting in a safer railroad.

### **Improve railroad safety, security, and resiliency**

In February 2019, a train derailed and tipped over 5 cars. When the cars tip they have to be emptied before righting. The damage to the cars and track resulted in an insurance claim and delayed the customers shipment. Photo 2, below is of that derailment. The weather conditions made righting the train more difficult.

The rail is very old – 13.6 miles has rail from 1884 – 138 years old! Other than 1.4 miles of 2015 vintage rail the newest rail is from 1925 - 97 years old. Modern rail will greatly improve the safety of the railroad due to less likelihood of rail breakage; the railroad will become more

resilient by being able to withstand soft subgrades in wet years and the new rail will be able to withstand temperature extremes better than the existing rail.



*Photo 2 2019 Derailment*

### **Project Summary (Location, Scope, Schedule)**

The proposed project is to reconstruct 37 miles of rail from Milbank, South Dakota (45°13'19.52"N, 96°38'44.29"W) to Sisseton, South Dakota (45°40'10.04"N, 97°03'22.76"W). Milbank and Sisseton are in the northeast corner of the state – Minnesota is a few miles to the east, North Dakota is a few miles to the north. Milbank is in Grant County; Sisseton is in Roberts County. On the map below (Figure 3) SMRR is shown between Milbank and Sisseton. Traverse County is in Minnesota, Richland County is in North Dakota.

The project is located entirely in a rural area. The north end of the railroad project is in an Opportunity zone. The proposed Wheaton Dumont Elevator is in the Opportunity Zone. Census tract 9408 is an area of Persistent Poverty (APP) and a Historically Disadvantaged Community (HDC) as shown at <https://datahub.transportation.gov/stories/s/tsyd-k6ij>. Census tract 9408

corresponds with the geographic area of the Sisseton-Wahpeton Oyate Reservation. Agency Village (shown on the map straight south of Sisseton) is in Census Tract 9408.

Sisseton and the communities on the line are in a unique geographical area. To the west there is a significant geological feature. The **Coteau des Prairies** is plateau approximately 200 miles in length and 100 miles in width (320 by 160 km), rising from the flatlands in eastern South Dakota, southwestern Minnesota, and northwestern Iowa. The plateau is composed of thick glacial deposits, the remnants of many repeated glaciations, reaching a composite thickness of approximately 900 feet (275 m).

**Schedule assuming a September 2023 award date:**

Award Notification	September 1, 2023
Civil Engineering and Environmental consultant selected	November 1, 2023
Inclusion in SDDOT STIP	January 30, 2024
30% plans completed and submitted to USDOT	March 30, 2024
Environmental field work begins	April 15, 2024
CatEx document submitted to USDOT	June 15, 2024
USDOT approval CatEx and 30% Plans	August 15, 2024
Grant Agreement Signed	September 30, 2024
Final Plans completed	November 30, 2024
Bid award	January 30, 2025
Construction begins	March 1, 2025
Construction complete	October 30, 2025
Project Complete	December 30, 2025



## Project Funding

The following shows a budget estimate for the project:



Engineer's Opinion of Probable Cost  
Sisseton/Milbank Railroad Rehabilitation

02/11/22

### Materials

Item	Description	Unit	Quantity	Unit Price	Total
1	Timber Cross Ties	Each	32,500	\$ 50.00	\$ 1,625,000.00
2	115Lb CWR	Tons	7,489	\$ 1,400.00	\$ 10,484,320.00
3	Anchors	Each	236,000	\$ 2.30	\$ 542,800.00
4	Tie Plates	Each	242,000	\$ 15.00	\$ 3,630,000.00
5	Rail Spikes - 100 Lb Keg	Kegs	4,700	\$ 75.00	\$ 352,500.00
6	No. 10 Turnouts	Each	8	\$ 100,000.00	\$ 800,000.00
7	Timber Crossing Planks	Tr-Ft	584	\$ 200.00	\$ 116,800.00
8	Sales Tax	LS	1	\$ 1,140,800.00	\$ 1,140,800.00
<b>Total Cost:</b>					<b>\$ 18,692,220.00</b>

### Labor

Item	Description	Unit	Quantity	Unit Price	Total
1	Mobilization	LS	1	\$ 500,000.00	\$ 500,000.00
2	Rail Relay	Tr-Ft	195,360	\$ 20.00	\$ 3,907,200.00
3	Tie Replacement	Each	32,500	\$ 25.00	\$ 812,500.00
4	Ballast	Ton	20,000	\$ 40.00	\$ 800,000.00
5	Track Surfacing	Tr-Ft	195,360	\$ 1.50	\$ 293,040.00
6	No. 10 Turnout, Install Only	Each	8	\$ 20,000.00	\$ 160,000.00
7	Timber Crossing Reconstruction	Tr-Ft	584	\$ 200.00	\$ 116,800.00
8	Traffic Control	LS	1	\$ 10,000.00	\$ 10,000.00
9	Rail Train Unloading	LS	1	\$ 100,000.00	\$ 100,000.00
10	Bonding	LS	1	\$ 25,000.00	\$ 25,000.00
11	Railroad Protective Insurance	LS	1	\$ 10,000.00	\$ 10,000.00
12	Bridge Rehabilitation	LS	1	\$ 2,120,700.00	\$ 2,120,700.00
<b>Total Cost:</b>					<b>\$ 8,855,240.00</b>

10% Contingency:	\$ 2,754,700.00
Preliminary Engineering and Environmental:	\$ 150,000.00
Final Design and Construction Administration Engineering Services:	\$ 650,000.00
<b>Total Opinion of Probable Cost:</b>	<b>\$ 31,102,160.00</b>

The project will use \$24,761,728 in federal funds and \$6,190,432 (estimated) in local funds for the grant eligible portion of the project and an additional \$150,000 in local funds for non-grant eligible preliminary costs, \$6,250,000 which will be requested as a loan from the SD Railroad Board and the remaining \$90,432 will be provided by SMRR. SDDOT and SMRR understand the amount of CRISI grant funds is limited to the grant amount – so any costs more than the grant amount will be borne by SMRR. Matching funds are not conditional, nor do they have an expiration date.

A previous loan agreement from the SD Railroad Board to Roberts Regional Railroad Authority can be viewed at <https://www.dakotatransportationgrants.com/home/sisseton-milbank-rehab> . The

project cost estimate is based upon the cost of past projects and anticipated rail prices. The estimate is a planning level estimate performed by Civil Design, Inc. from Brookings, SD.

PROJECT FUNDING TABLE (future eligible costs)

Task #	Task name/project component	Cost	Grant Share	Grant Share percent	Local Share	Local Share Percent	Total Percentage of eligible project cost
1.	Final Design	\$150,000	\$120,000	80	\$30,000	20	.48
2.	Construction Management	\$500,000	\$400,000	80	\$100,000	20	1.62
3.	Construction	\$27,547,460	\$22,037,968	80	\$5,509,492	20	89.00
4.	Contingency	\$2,754,700	\$2,203,760	80	\$550,940	20	8.90
Total Project C		\$30,952,160	\$24,761,728	80	\$6,190,432	20	100
Preliminary Engineering (not project eligible)		\$150,000 not included in total	\$0	0	\$150,000	100	0
CRISI Federal Funds Received From Previous Grant		\$0					0
CRISI 2021 Federal Funding		\$24,761,728					80
Non-Federal Funding/Match		\$6,190,432					20
Total		\$30,952,160					100

### Project Readiness

We do not anticipate design, material supply or construction problems significant enough to cause construction delays. If there is a very wet year, or a late spring there may be construction delays. SDDOT has a long history of effective program management of USDOT funded projects in general and competitive discretionary grants. SDDOT has received and completed 2 TIGER grants for rail projects in the past. SDDOT and TC&WR are experienced in project management in general and specifically TC&WR has completed many successful rail projects in the past. This project management experience reduces the risks of delay and construction problems.

This project does not pose a challenge from a design and implementation standpoint. The design and construction of this project is very well understood. The scope is replacement of rail, ties, OTM (Other Track Material such as plates, spikes, and anchors), ballast, repair of bridge superstructures, and replacement of some rail crossings.



The project does not require any right of way acquisition and will be completed within the existing right of way. The reconstruction of the Sisseton Milbank Railroad Road is listed in the 2014 South Dakota State Rail Plan in Table 41 - Potential Investment Opportunity List as a Track Condition Project. Please see Table 41 at - [https://dot.sd.gov/media/documents/DR2\\_Vol2\\_SDDOT\\_StateRIPln.pdf](https://dot.sd.gov/media/documents/DR2_Vol2_SDDOT_StateRIPln.pdf) page 178.

### **Environmental Risk**

The risks to the schedule are related to review times for the environmental and plan approvals. If there is an environmental problem, it will increase the timeframes for grant award. However, we do not anticipate any significant environmental problems. Upon award the project will be added to the Statewide Transportation Improvement Plan by amendment.

There are no other state or local approvals required. There are no public involvement meetings required (other than the STIP amendment meeting by the SDDOT Transportation Commission).

There will be no filling or disturbing of waterways or wetlands. There is no property acquisition needed for the project. We anticipate the project will qualify for a Categorical Exclusion as the project does not disturb any wetlands or areas outside the existing Right of Way. We will begin the environmental process upon award notification.

### **Benefit/Cost Study**

The project on the SMRR is to rebuild the track structure from Milbank to Sisseton – a distance of 37 miles. The existence of a large shuttle elevator that ships out agricultural products will have a positive impact on prices paid to farmers. Based upon past project results we estimate that to be 12 cents per bushel. We assumed that current customers of the Sisseton Elevator will continue to do business with a new Sisseton elevator and the Sisseton elevator will increase their market share due to an increased price paid per bushel and decreased wait times (currently averaging 1.5 hours per truck) to deliver grain during harvest (as compared to further away shuttle elevators). The increased price benefit comes from the reduced cost of transporting grain from Sisseton to a rail destination. We assumed fast growth in grain volumes the first five years then a slower growth of about 2% per year thereafter. Likewise, we assumed an immediate increase in fertilizer volumes then steady growth in fertilizer volumes for the remainder of the analysis period. For new bushels we assumed these bushels would be attracted by a shuttle elevator closer to their farm – reducing the farm to elevator transportation costs. We assumed, on average, a closer farm to elevator truck haul of 10 loaded miles.

The state and local governments benefit by reduced local truck miles and wear on the highways. If there are reduced trucking miles, there are less crashes – also a benefit. The BCA was performed over a 30-year period. We used trucking costs for operation as described in the BCA Guidance (Benefit-Cost Analysis Guidance for Discretionary Grant Programs, USDOT, February 2021) as a per mile costs (Table A5) and truck driver wage rates as described in the BCA Guidance (Table A3) for the value of reducing truck wait times.

We used the cost of VOC, NO<sub>x</sub>, SO<sub>2</sub> and PM as described in the BCA guidance document (Table A6). We used the rate of fatalities, injury, and property damage as described in the latest

SDDOT crash reporting. We used the cost of those crashes from Table A1 of the BCA guidance. Because SDDOT does not report crash statistics in as many categories as presented in the BCA guidance, we used values of \$11,600,000 for a fatality, \$554,800 for moderate injury and \$4,600 for property damage only. The guidance has a value for serious injury that is much higher, but SDDOT does not report that category. We used the value in the table for moderate injury – a more conservative number. These dollar amounts as shown in the MAIS Level part of the table.

We assumed a useful project life of 50 years. We did so because railroads are a long lasting, durable investment. As per the BCA guidance we used a straight-line depreciation for the value of the improvement after 30 years to calculate the benefit cost ratio. The residual value of the project after 30 years is \$812,902 after being discounted. We used emission rates for a 2013 model truck as described in a report entitled “Updated Emission Factors of Air Pollutants from Vehicle Operations in GREET using MOVES” done by Argonne National Labs in September 2013. We calculated the benefits at 7% discount rate except CO2 which was discounted at 3%. The project has NPV of \$19.2 million. A discounted construction cost of \$23.2 million and a benefit plus residual value of \$42,391,481 million result in a BCR of 1.83:1 BCA Excel Spreadsheet below double click to open or view at <https://www.dakotatransportationgrants.com/home/sisseton-milbank-rehab>.

### **Developing and Funding the Application**

SMRR/TC&WRR will be responsible for developing the CRISI application and will fund the creation of the application. The application will be completed for SDDOT submission on or before the deadline date established by the SD Railroad Board.