SOUTH DAKOTA DEPARTMENT OF TRANSPORTATION (SDDOT)

SD 73 Reconstruction -

Improving Mobility, Safety, and Access to the Pine Ridge Reservation

WHITE RIVER TO KADOKA

FY 2023/24 Multimodal Project Discretionary Grant (MPDG) Program

OUTCOME CRITERIA NARRATIVE

Project Name: SD 73 Reconstruction – Improving Mobility, Safety, and Access to the Pine Ridge Reservation
Project Type: INFRA/Rural Project
Total Project Cost: $29,692,231
Total Future Eligible Project Costs: $27,967,839
FY 2023/2024 Rural Request: $22,374,271
FY 2023/2024 INFRA Request: $16,780,703

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Supporting Information can be found at:
https://www.srfconsulting.com/sddot-sd73-248/

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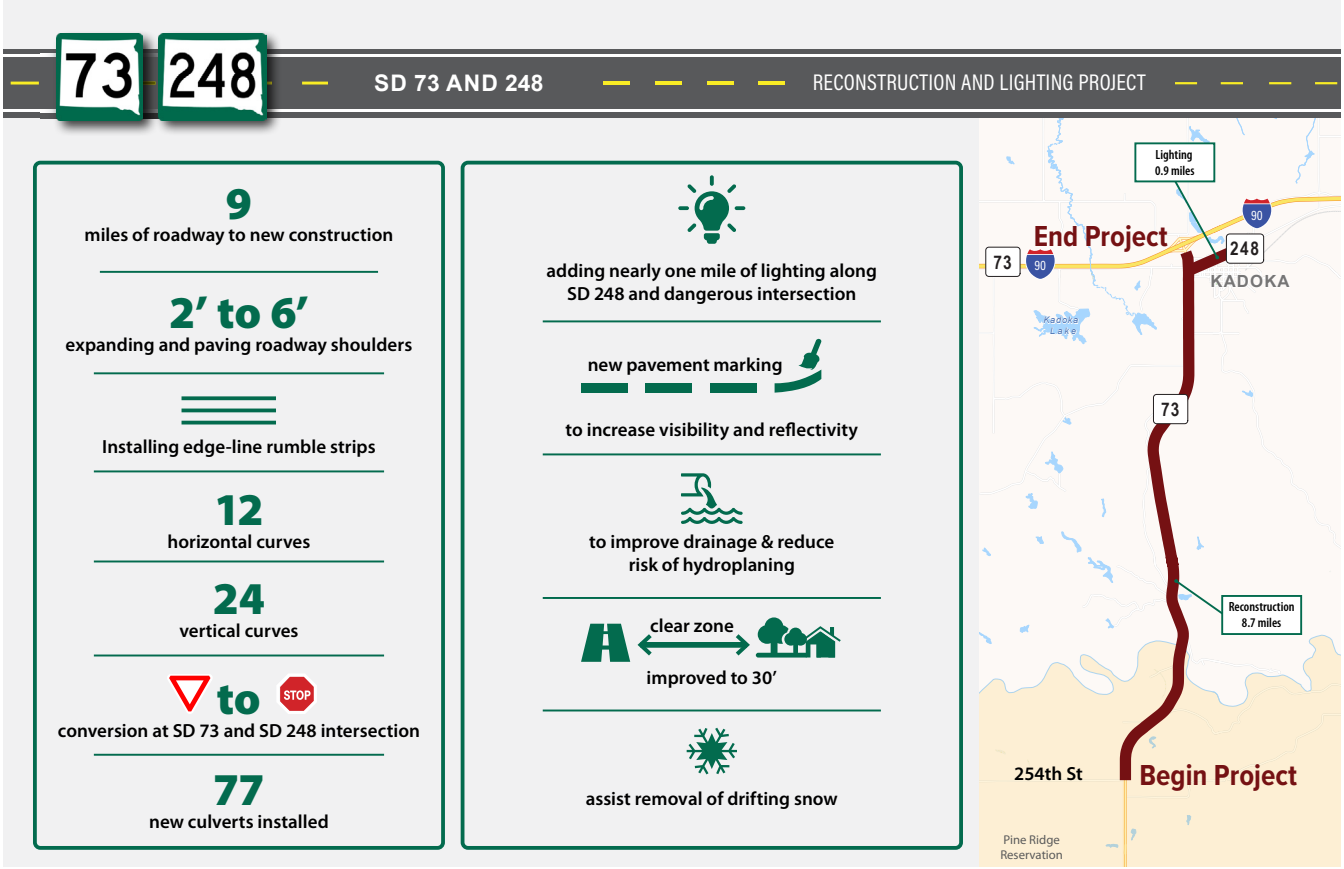
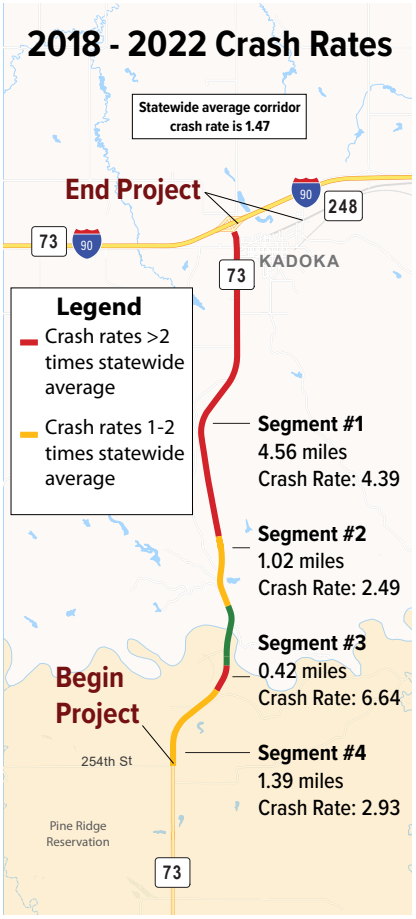
PROJECT OUTCOME CRITERIA

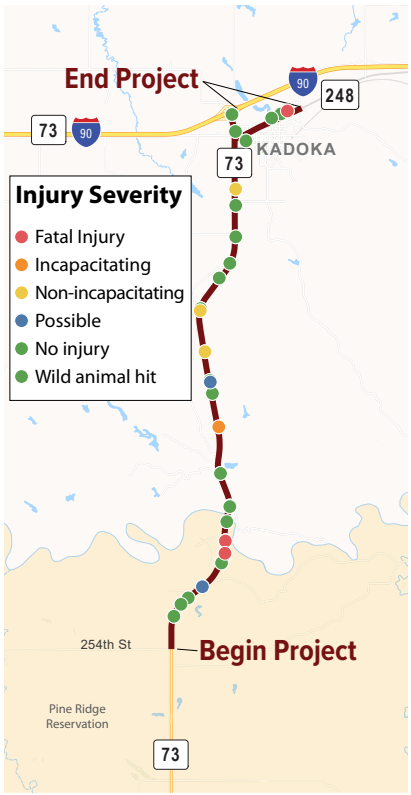
1. SAFETY

The SD 73 Reconstruction – Improving Mobility, Safety, and Access to the Pine Ridge Reservation Project will provide multiple safety outcomes for all roadway users including trucks, motorists, cyclists, and pedestrians. The Project includes proven safety countermeasures to protect non-motorized roadway users (in an underserved community), that will improve safety and contribute to reducing fatalities and serious injuries. Those outcomes will be realized through numerous improvements to SD 73 and SD 248 in Jackson County including:

- Reconstructing nearly nine miles of roadway to new construction
- Expanding and paving of roadway shoulders from two feet to six feet
- Installing edge-line rumble strips
- Adding new pavement marking (paint, epoxy, tape, durable)
- Addressing geometric deficiencies, including twelve horizontal curves and 24 vertical curves to meet 70 mph design speeds
- Flattening backslopes to assist with the removal of drifting snow traps and melting
- Correcting cross-slopes to ensure proper roadway drainage and reduce the risk of hydroplaning
- Changing intersection control at the SD 73/248 intersection from right-turn yield to stop controlled
- Installing lighting at the SD 73/248 intersection and along nearly one mile of SD 248 to improve visibility
- Improve clear zone to 30’
- Replacing 42 cross culverts under mainline, 33 driveway culverts, one box culvert and one cattle pass







Reduce Crash Severity

Despite modest annual daily traffic volumes, the SD 73 and SD 248 segments have significantly higher crash rates than other rural principal arterial roadways in South Dakota. The 0.87 miles of SD 248 segment within Kadoka for example has a segment crash rate of 13.75 – a rate more than **nine times the statewide weighted crash rate of 1.47. Four road segments comprising roughly 7.4 miles of the 8.7-mile corridor along SD 73 south of Kadoka have crash rates above the statewide average.**

Between 2018-2022, there were 33 crashes in the project area resulting in three fatalities, one incapacitating injury, and two possible injuries. One of the fatalities was a pedestrian crash, while the other two were run off- the-road crashes, resulting in an overturned vehicle. As depicted in the figure to the left, crashes are occurring in all areas of the corridor with no identified pattern. However, three of the four severe crashes (fatality and incapacitating injures) have occurred in the southern half of the corridor and two fatality crashes at/near the curve south of the White River.

Planned improvements such as new pavement, wider paved roadway shoulders, rumble strips, and addressing deficient horizontal and vertical curves will contribute to reduced crash severity within the project area.

Reconstruction and Resurfacing the Entire Roadway

This Project will reconstruct, regrade, and resurface the entire nine-mile project area of SD 73. The reconstruction and resurfacing will enhance the safety of the roadway by providing:

- A smoother driving surface and better friction/traction for all users, including heavy trucks, motor vehicles, bicyclists, and pedestrians
- More paved roadway surfaces due to the installation of wider shoulders
- Improved stormwater runoff and roadway drainage reducing the likelihood of hydroplaning
- A reduction of debris accumulating on the highway surface
- New pavement markings that are more visible and reflective during adverse driving conditions

Widening Shoulders

Single vehicle run-off-road crashes are the largest type of fatal vehicle crash in the United States. The proposed improvements will **pave and widen shoulder widths from two feet to six feet** for the entire nine-mile corridor. The safety effects of paving and widening roadway shoulders to six feet are a time-tested way to effectively mitigate crashes and improve facilities for non-motorized users such as pedestrians and bicyclists. The Federal Highway Administration (FHWA) specifies guidelines for shoulder widths. According to FHWA, safety and efficient traffic operations can be adversely affected as shoulder widths narrow. Wider shoulders lessen the likelihood of rear-end

crashes with parked or disabled vehicles, particularly high-speed, two-lane roadways. A Transportation Research Board Record 1195 paper titled "Safety Effects of Cross-Section Design for Two-Lane Roads" determined that crashes will be reduced when wider roadway shoulders are present. The study showed widening and paving roadway shoulders by four feet resulted in crash reductions of 29 percent.

The implementation of wider shoulders along this segment will also help to protect pedestrians and cyclists who need to use it to travel to their jobs and other destinations.

> **"Due to the extreme poverty of the Pine Ridge Reservation, many residents do not have access to private automobiles and oftentimes need to find alternative transportation."**
>
> *According to 2013 testimony for the U.S. Senate Committee on Banking, Housing, and Urban Affairs from Emma Featherman-Sam, the coordinator for Oglala Sioux Transit.*

Furthermore, consistent with FHWA Safety Program and Proven Safety Countermeasures, widening and paving roadway shoulders provides safety benefits for pedestrians and bicyclists as well. **Installing and widening paved shoulders has reduced pedestrian crashes (walking along the roadway) by 71 percent.** Additionally, wider shoulders provide for an increased level of comfort for bicyclists.

Safety benefits of widening the roadway shoulders for this project include:

- Emergency storage of disabled vehicles
- Adequate space for law enforcement stops
- Adequate space for maintenance activities
- Areas for drivers to maneuver to avoid rear-end crashes or animals who enter the roadway
- Areas with a stable, clear recovery for drivers who have departed the travel lane
- Improved areas for bicyclists and pedestrians to safely travel
- Improved driver comfort

Having wider shoulders and storage for stopped, slowly moving, or turning agricultural equipment will also **increase the safety of agricultural operators and the traveling public**. This segment of SD 73 is rural and has vast areas of farmland. Agricultural operations use SD 73 to transport goods and farmers often use SD 73 to move large machinery and implements from one field to another. Towed machinery is a risk for tractor operators and motorists as motorists unfamiliar with the slow-moving machinery can misjudge the speed that the machinery is travelling at which increases the likelihood of a crash taking place. Equipment operators and motorists must be aware of the hazard their use of public roads causes and take necessary precautions.

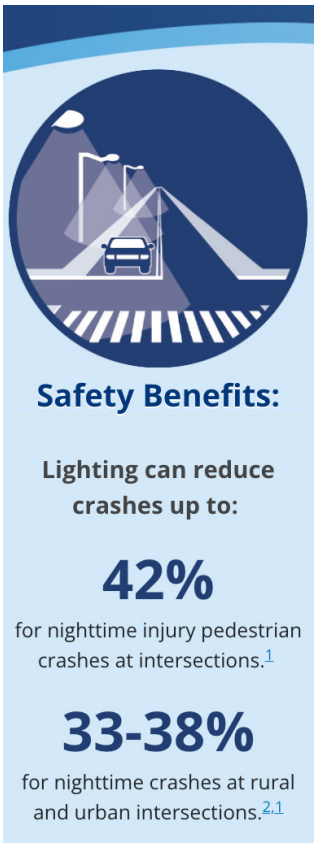
Adding Edge Line Rumble Strips

Edge line rumble strips will be installed throughout the project area. In combination with wider roadway shoulders, **rumble strips allow drivers to make corrections and avoid run-off-the-road crashes, of which there have been 13 such incidents in the last five years in the project area**. Additionally, rumble strips can assist drivers in avoiding perilous situations they might find themselves in due to the extreme weather conditions that can sometimes arise from South Dakota's climate. Whether it be heavy rain, hail, snow, or fog, motorists can use rumble strips to help them navigate in bad weather. The vibration provided by the strips can warn drivers that they are about to unintentionally cross the edge line when they're not able to see pavement markings. Rumble strips can also contribute to safety when the reflectivity of pavement markings is reduced by poor weather conditions or the deteriorating visibility of the marking itself.

Installations and investments in rumble strips have proven worthwhile not only as a safety benefit but also due to an almost nonexistent maintenance need. Rumble strips are essentially self-cleaning, as snow, rain, ice, or sand do not typically remain for any length of time due to the wind created by passing vehicles. Additionally, milled rumble strips do not increase deterioration of pavement conditions.

Adding Improved Lighting

Intersection and street lighting will be installed along 0.87 miles of SD 248 from 13th Avenue in the town of Kadoka (population 546), and at the SD 73 and SD 248 intersection. **Nighttime fatality rates are three times higher than daytime rates.** At nighttime, vehicles traveling at higher speeds may not have the ability to stop once a hazard or change in the road ahead becomes visible by the headlights. In the past five years there have been four crashes on this stretch of roadway, one of which resulted in the fatality of a pedestrian. The fatality took place in the late evening and with no extenuating circumstances other than the fact that it was dark outside and the segment of road where the crash took place had sporadic and inadequate lighting. Improved and consistent lighting, as well as improved sight distance at the SD 73 and SD 248 intersection and along SD 248, will reduce the likelihood of this type of crash occurring in the future. Adequate lighting can also provide benefits in terms of personal security for pedestrians, wheelchair and other mobility device users, bicyclists, and transit users as they travel along and across roadways.



According to FHWA, lighting can reduce nighttime injury crashes by up to 42 percent at intersections, and 33-38 percent at intersections. The lighting of intersections and segments is a FHWA Proven Safety Countermeasure. Most new lighting installations are made with breakaway features, shielded, or placed far enough from the roadway to reduce the probability and/or severity of fixed-object crashes. Modern lighting technology gives precise control with minimal excessive light affecting the nighttime sky or spilling over to adjacent properties.

Installation of Stop-Controlled Intersection

With the reconstruction of the SD 73/SD 248 intersection a right turn yield sign will be removed in favor of a two-way stop-controlled intersection. As mentioned above, the lighting of the intersection will also be improved. The current intersection of SD 73 and SD 248 currently operates as a stop and yield intersection. Stop and yield signs assign right-of-way to vehicles entering or crossing a roadway at an intersection. Stop signs alert drivers that they must come to a complete stop to ensure an intersection is clear of vehicles and pedestrians before proceeding through it. Yield signs alert drivers that they must prepare to slow down or stop to let vehicles on another approach proceed through an intersection.

If a stop or yield sign is improperly installed or unnecessary, drivers may not comply with signs which leads to a safety risk. A two-way stop only requires vehicles on the approach with the stop sign, usually a lower-volume, minor roadway,

to come to a complete stop at the intersection. When approaching a two-way stop intersection, vehicles on the street without stop signs (SD 73) do not stop or yield. Vehicles on the street with the stop sign (SD 248) should come to a complete stop and wait for a gap in traffic before proceeding through the intersection. A two-way stop is used at most highway intersections when a minor or side road intersects with a major road.

This intersection has seen one non-injury crash within the past five years. **Low-cost countermeasures at stop-controlled intersections provide proven safety benefits such as a 27 percent reduction of fatal and injury crashes at rural intersections and a 15 percent reduction of nighttime crashes at all locations. Investments also have extremely high average cost-benefit ratios.**

2. STATE OF GOOD REPAIR

The *SD 73 Reconstruction – Improving Mobility, Safety, and Access to the Pine Ridge Reservation Project* specifically addresses State of Good Repair criteria in the FY 2023-2024 MPDG NOFO. SD 73 is being reconstructed as it has reached the end of its useful life. In its full reconstruction, thoughtful planning, engineering, agency, and public engagement with underserved communities has occurred and continues to take place as the Project progresses from final design into construction.

Consistent with the NOFO State of Good Repair criteria, SD 73 reconstruction is a primary project purpose, and the Project has clear and demonstrated benefits backed up by dependable data and credible sources. Reconstruction of SD 73 will modernize the facility and provide a dependable and safe north-south connection to/from I-90 for all roadway users. SDDOT will construct SD 73 to a new condition and will upgrade old and outdated infrastructure including a new subgrade, new pavement, new pavement markings, pipes, and culverts; address substandard curves and bring the road to a 70 mph design speed, and drastically reduce maintenance costs.

The pavement management unit is responsible for the operation of SDDOT's pavement management system. This includes collecting, maintaining, and analyzing pavement and roadway data for the state highway system. The pavement management unit uses the data to provide pavement condition assessments. The 8.7-mile section of SD 73 between Kadoka and White River was built in 1955. Their analysis concluded that the surface condition index of the segment of road within the project area is rated as 4.33 or "good," however the SD 73 segment has far outlived its useful life at the age of 68 years and is in its last years in the pavement life cycle before needing total reconstruction. Aside from the grading and surfacing in 1955 and asphalt resurfacing projects in 1992, 1996, and 2013, there have been no major projects in the proposed project area.

SDDOT pavement engineers have concluded that SD 73, if allowed to degrade, will reach a surface condition index of zero and no longer be able to carry traffic by 2037.

This situation would threaten the livelihood of those living in Jackson County and the Pine Ridge Reservation by cutting residents off from employment opportunities, goods, and services.

While the area had all new surfacing placed in 2013, the subgrade was not undercut and reconstructed at the time necessitating further work. Two projects in 1992 and 1995 consisted of slight shoulder widening but the projects had 60 mph design speeds and therefore do not meet current SDDOT 70 mph standards. **Twelve horizontal curves (ranging from 50 mph to 65 mph design speeds) and 24 vertical curves will be addressed and meet the current SDDOT minimum 70 mph design standards.**

In addition to resurfacing and reconstruction of the roadway and the widening of shoulders, all pipes within the regrading sections of this project will need to be replaced. A box culvert located north of White River Structure (36-307-159) will be retained but there may be need to extend this culvert when adjustments to the grade lines are made to meet design standards. **In total, 42 cross culverts under the mainline, 33 driveway culverts, one box culvert, and one cattle pass will be replaced with the reconstruction project.**

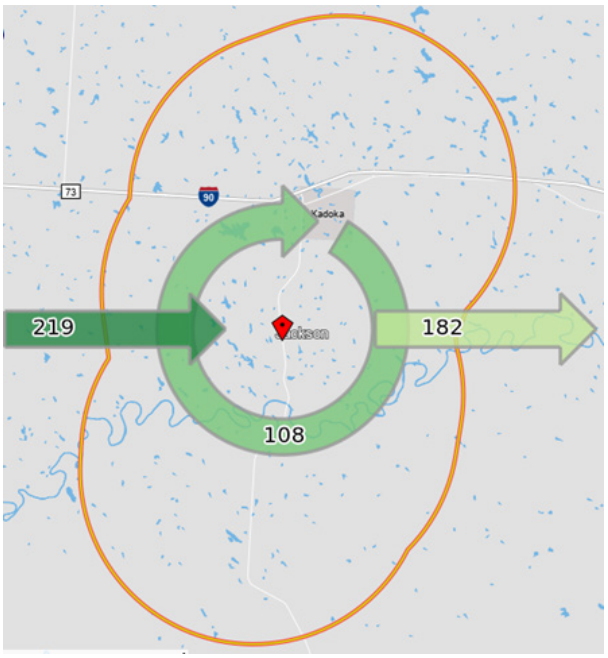
3. ECONOMIC IMPACTS, FREIGHT MOVEMENT, AND JOB CREATION

The SD 73 Reconstruction – Improving Mobility, Safety, and Access to the Pine Ridge Reservation Project will improve economic competitiveness by improving intermodal and multimodal freight mobility, promoting job creation and access to employment in an area of persistent poverty and within a tribal reservation: creating a safer transportation network for residents, business owners, and the traveling public, and increasing tourism.

Access to Employment

According to LEHD On the Map, there were 327 total jobs within five miles of the project limits. Of those jobs, 219 jobs (67 percent) were held by employees who lived outside the five-mile radius. As for workers, there were 290 workers who lived within five miles of SD 73. 182 of the workers (62.8 percent) that lived in the five-mile radius of project limits worked outside the five-mile area.

Job counts by distance and direction was also provided by LEHD. In 2019, over 80 workers indicated they are heading west (towards Rapid City) as their primary direction. **About 37 percent of all workers within the project area travel more than 50 miles each way to their places of employment** while an additional 8.3 percent travel between 25 and 50 miles each way for work. Many of these workers are utilizing Interstate 90 for commuting which indicates they are traveling along SD 73 to access the interstate during the work week.

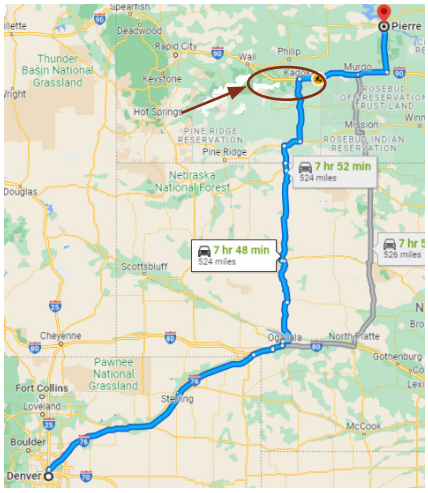


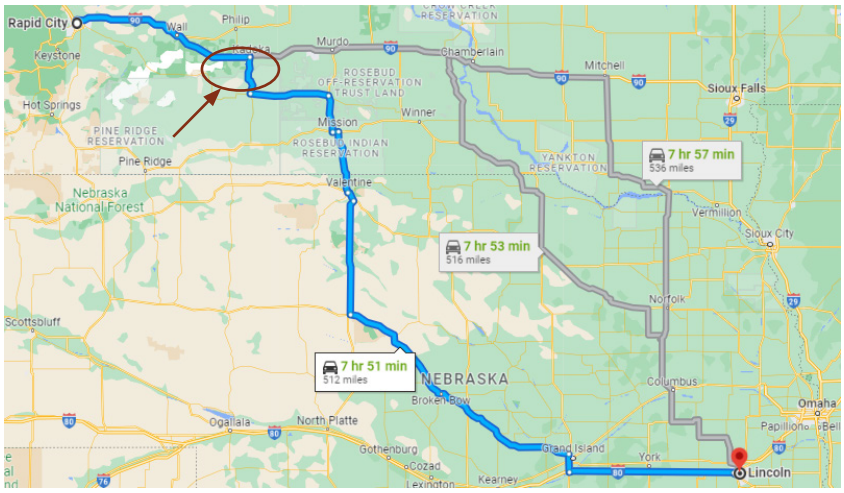
SD 73 crosses a very rural area, so few alternative routes are available for residents. The SD 73 Reconstruction – Improving Mobility, Safety, and Access to the Pine Ridge Reservation Project will improve the economic competitiveness of the area by providing improved access to opportunities through a safe and reliable transportation network, which in turn will continue to give area residents easier and more consistent access to employment.

Importance of Tourism

Badlands National Park is located approximately 30 miles west of the SD 73 project area. Over 1.2 million tourists visited the Badlands National Park in 2021 and the dollars that are spent in and near the park benefit the local economy and State of South Dakota greatly. A 2021 report by the National Park Service showed that the 1.2 million visitors spent $88.29 million, which supported 1,193 local jobs and had a cumulative benefit to the local economy of $114.1 million. Approximately 98.7 percent of visitor spending at the Badlands National Park is from non-local visitors.

Additionally, SD 73 is the preferred and quickest route (via google maps), for travelers in and around Pierre, South Dakota, traveling towards Denver, or for those in and around Rapid City, South Dakota, traveling towards Lincoln or Omaha, Nebraska.





Freight Route

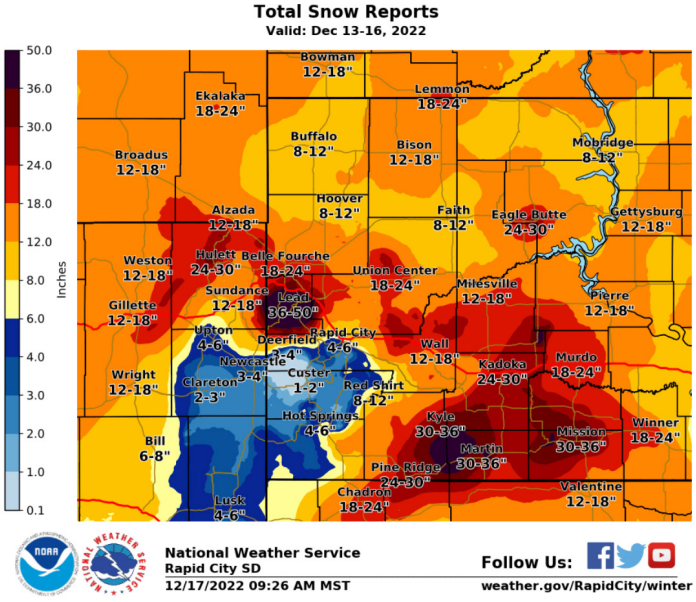
SD 73 is a vital north-south trucking route which is utilized by freight trucks traveling between Nebraska and North Dakota. The route is on the South Dakota Preferential Truck Route Network. The purpose of this SDDOT plan is to guide the improvement of the state's overall freight system while maintaining and improving the connectivity between freight facilities and destinations. The plan also prioritizes the mitigation and maintenance of the freight system during national disasters and extreme weather events. Approximately 19.7 percent of vehicular traffic that uses SD 73 is truck/freight traffic. According to the SDDOT Freight Plan, the projected annual daily truck traffic on SD 73 by 2040 will be between 101-500 trucks. Currently the ADT along SD 73 is 1,123 vehicles and the SD 73 corridor carries an average of 221 trucks per day.

4. CLIMATE CHANGE, RESILIENCY, AND THE ENVIRONMENT

SD 73 is a critical north-south route for freight and people, as the highway serves as a direct connection to the 2.22-million-acre Pine Ridge Reservation and its nearly 20,000 residents. Maintaining the roadway is vital to insulating the amount of harm that will be experienced by the reservation in the coming years due to climate change.

For example, due to rising global temperatures, snow and rainfall patterns are shifting which are in turn causing more extreme climate events in the United States. **Native American tribes, including the Oglala Sioux on the Pine Ridge Reservation, are uniquely vulnerable to climate change, in part due to the relatively inhospitable portions of the country where they reside**. Often situated in rural areas with limited emergency resources, dealing with severe weather events can prove challenging for tribal and state authorities.

From December 13-16, 2022, a blizzard dropped more than 36 inches of snow on the Pine Ridge Reservation and wind caused massive drifts which forced the closing



of all BIA and tribal secondary roads and trapped many families in their homes. **Cut off from public services and with frequent power outages, many residents resorted to using woodstoves to keep warm – with some even being forced to burn clothes when their firewood ran out.** When the South Dakota National Guard was sent to provide firewood and assistance, they used state highways such as SD 73 to reach portions of the reservation that were inaccessible via other routes. By repaving and reconstructing this portion of SD 73, this project will further improve the climate resilience and reliability of at-risk infrastructure to withstand future extreme weather events and natural disasters caused by climate change. This improved infrastructure will allow residents within and around the Pine Ridge Reservation to evacuate safely in an extreme event or allow aid to be rendered from outside the area.

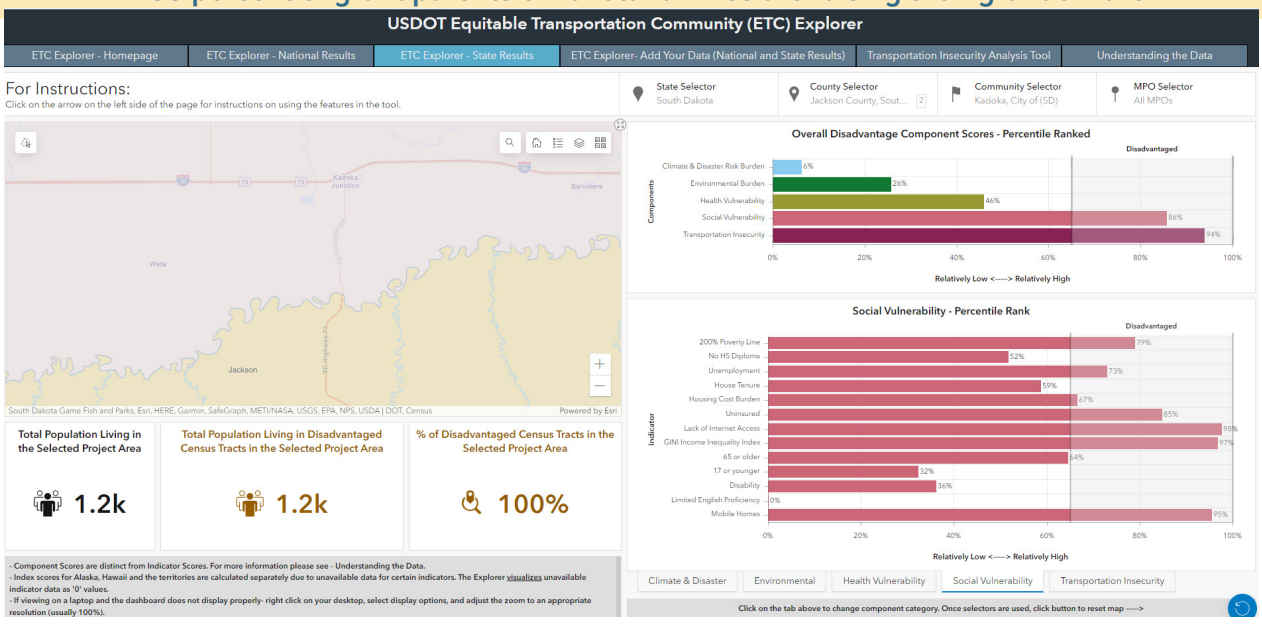
This project will also ensure greenhouse gas emissions do not increase via the lengthy detours that would result from the closure of SD 73 if it reached an unusable condition. According to a SDDOT Benefit Cost Analysis done for the project, approximately **23,329 metric tons of carbon dioxide (CO2) will be reduced as a result of this project**. An additional **30 metric tons of nitrogen oxide (NOx) and trace amounts of sulfur dioxide (SO2) and particulate matter 2.5 (PM2.5) will be saved as well**.

5. EQUITY, MULTIMODAL OPTIONS, AND QUALITY OF LIFE

SD 73 directly connects into the Pine Ridge Reservation, a place experiencing extreme quality of life struggles. Numerous sources have uncovered the following:

In 2016, the Pine Ridge Reservation was the poorest Native American Reservation in the United States, where life expectancy was the second-lowest in the western hemisphere and 80 percent of the people were unemployed. There are 3,141 counties in the United States; the Oglala Lakota County, contained entirely within the boundaries of the Pine Ridge Reservation, has the lowest per capita income in the country (1/4 of the United States average) and ranks as the "poorest" county in the nation. Additionally:

- **70 percent of the native population do not have a high school diploma**
- **Teen suicides are 1.5 higher than America as a whole**
- **Infant mortality rates are three times higher**
- **85 percent of Lakota families are affected by alcoholism**
- **58 percent of grandparents of Lakota families are raising their grandchildren**



According to the USDOT Equitable Transportation Community Explorer, Oglala Lakota County is categorized as having high levels of transportation insecurity (99 percent) and social vulnerability (98 percent). Residents of the county meet or exceed the disadvantaged criteria in nine of the thirteen social vulnerability indicators and exceed the criteria for all three indicators of the transportation insecurity component. Meanwhile, the City of Kadoka in Jackson County, where the majority of the reconstruction project will take place, is also considered to be disadvantaged for social vulnerability (86 percent) and transportation insecurity (94 percent). Residents of the town meet or exceed seven of the thirteen social vulnerability indicators and exceed all three transportation insecurity indicators.

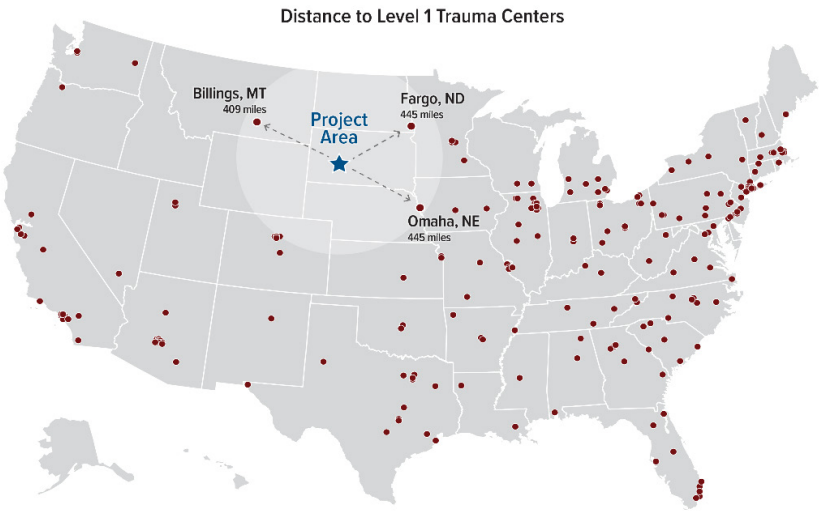
Preventing the further decline of quality of life in this area of South Dakota is a driving factor for this SD 73 project. As mentioned previously, SD 73 is the only north-south state highway serving the Pine Ridge Reservation. Members of the reservation rely heavily on the highway to get to Interstate 90, and to access everyday essential goods and services, and obtain healthcare.

Access to Healthcare and Health Outcomes

In general, data shows that Native Americans experience significantly worse health outcomes compared to non-natives. Alcoholism, drug addiction, and suicide occur at higher rates within reservations and according to the Indian Health Service there is a significant disparity in mortality rates for American Indians compared to all U.S. races. Diseases of the heart, malignant neoplasm, unintentional injuries, and diabetes are leading causes of American Indian and Alaska Native deaths. Additionally, rural communities such as Kadoka typically have substantial populations of older Americans with underlying health conditions. These conditions are often exacerbated by air pollutants that can be attributed to increased vehicle exhaust. According to the Centers for Disease Control and Prevention (CDC), rural U.S. residents often have a higher age-adjusted prevalence of Chronic Obstructive Pulmonary Disease (COPD) – a group of lung diseases that makes it harder to breath. These same rural residents also have higher rates of hospitalizations and deaths associated with respiratory diseases such as COPD than residents who live in micropolitan or metropolitan areas. For the Pine Ridge Reservation and the rural communities surrounding the project area access to healthcare is vital in preventing and combating these long-standing health disparities.

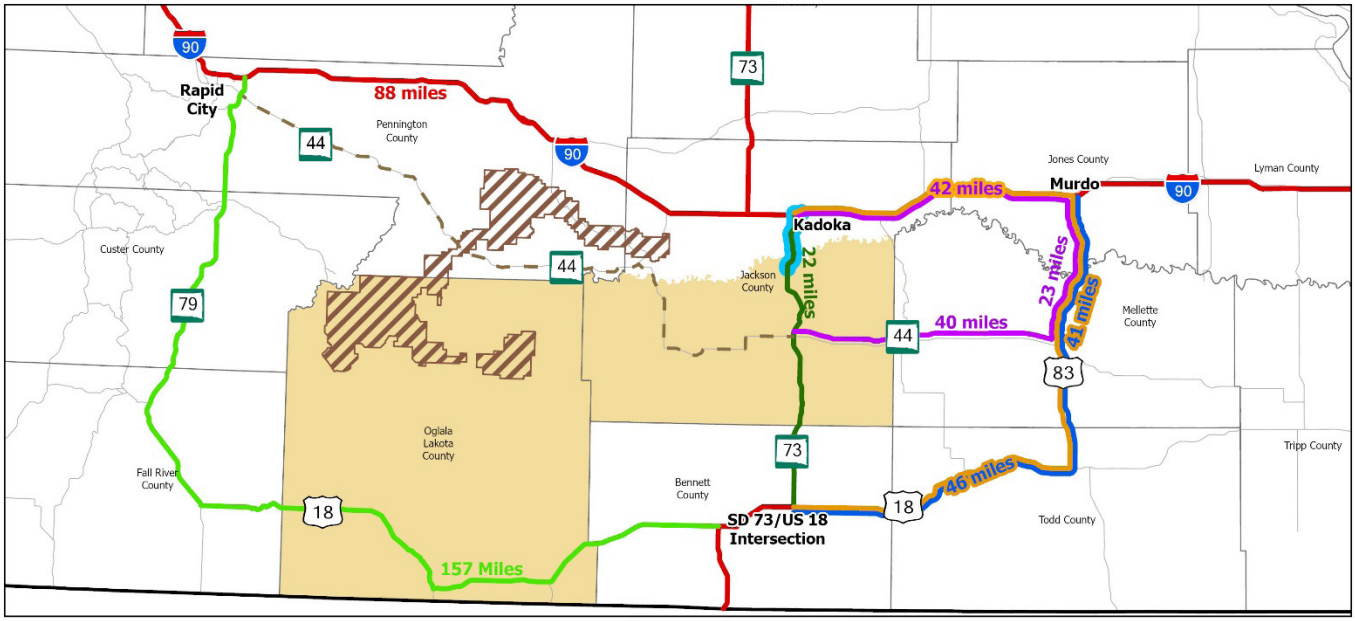
The two general healthcare facilities located on the reservation are the Wanblee Public Health Center and the Lacreek District Clinic, both of which are accessed by residents via SD 73. **Off-reservation, the nearest north/eastern medical clinic is the Kadoka Clinic which is only staffed by a medical provider three days per week when staffing is at full capacity**. The nearest emergency room and hospital for many people on the eastern side of the reservation is the Hans P. Peterson Memorial Hospital located in the town of Philip to the north of Pine Ridge which is also accessed via SD 73 and is 20 miles to the north of Kadoka.

The American Trauma Society publishes an interactive tool to find the closest Level 1 to Level 5 hospitals to any specific location. Level I Trauma is a designation from the American College of Surgeons (ACS) that is given to comprehensive care facilities with a large patient capacity and the ability to treat trauma patients with greater degrees of injury severity, while providing the highest level of trauma care to critically ill or injured patients. There currently are no ACS verified Level I Trauma Centers in Montana, Wyoming, Idaho, or South Dakota although Billings, Montana is expected to have one in operation within the next few years.



Level 1 Trauma Centers (located in Fargo, North Dakota and Omaha, Nebraska) are 445 miles away (as measured from the SD 73 and 254th intersection). Each of these destinations are over 6 ½ hours away by car. The closest Level 2 Trauma Center is in Rapid City (104 miles).

Access to other health care services is also severely limited. The nearest pharmacy is located in the town of Philip (29.7 miles). The nearest addiction recovery centers are in Martin (50 miles).



Legend

Available Routes

- Existing Route
  46 miles Kadoka to SD 73/US 18 Intersection
- Primary North/Southbound Closure Reroute
  136 miles Kadoka to SD 73/US 18 Intersection
- Primary Northeast/Southwestbound Closure Reroute
  87 miles SD 73/US 18 Intersection to Murdo
- Primary Northwest/Southeastbound Closure Reroute
  157 miles Rapid City to SD 73/US 18 Intersection
- Seconday North/Southbound Closure Reroute
  105 miles Kadoka to SD 73/SD 44 Intersection
- SDDOT Identified Not a Closure Reroute

- SD 73 Reconstruction - Improving Mobility, Safety, and Access to the Pine Ridge Reservation
- Badlands National Park
- Pine Ridge Reservation

N

0 12.5 25 50 Miles

Residents in Jackson County, South Dakota are at the epicenter of the furthest away a person in the United States would have to travel to access a Level I Trauma Center. Residents of Jackson County are located nearly 450 miles from either Fargo, North Dakota, or Omaha, Nebraska, both are over a 6 ½ hour drive away.

If SD 73 were to fall into disrepair and be closed, the harmful impact to the health outcomes of residents of the reservation would be substantial, in some cases adding hours in travel time to crucial medical services. Additionally, any resulting detours would add dozens of miles to a one-way trip. These additional miles would result in increased greenhouse gas emissions from both local traffic and the regional truck traffic that uses the corridor to transport cargo. Residents of the Pine Ridge Reservation who already suffer disproportionally from such respiratory illnesses would bear the brunt of the adverse health effects caused by the increased carbon emissions from a potential closing of SD 73.

Access to Everyday Goods

Due to the rural nature of this area, residents have limited options for accessing everyday retail goods. **The Project is in a food desert, where residents have "few to no convenient options for securing affordable and healthy food."** Specifically, the nearest grocery store for rural residents in this area is the small People's Market in Kadoka which offers a limited stock of food. Larger grocery stores can be found in Philip (29 miles north), Wall (40 miles west), and Rapid City (90 miles west). Lack of a reliable transportation system is a key contributor to the creation of food deserts. The proposed project will help to ensure SD 73 remains a usable and reliable transportation corridor for residents.

Additionally, the nearest gas stations to the project area are located in Kadoka, providing residents within 50 miles with limited options to purchase fuel. There is no big box retail in close proximity (a Dollar General is located in Kadoka, but the nearest Walmart is in Rapid City over 90 miles away) and access to other services is also limited. As a result, residents are dependent on SD 73 for access to a variety of smaller retail stores and service providers that are scattered throughout the corridor.

In 2019 testimony to the Subcommittee for Indigenous Peoples of the United States House Natural Resources Committee, Julian Bear Runner, the President of the Oglala Sioux Tribe, highlighted how the lack of good roads and transportation systems have an outsized impact on residents of the Pine Ridge Reservation.

"Due in part to our remote location, there are few job opportunities for our people. The lack of good roads, reliable communications systems, and other necessary infrastructure further impedes economic development, job creation, and a good quality of life on our Reservation. These circumstances also contribute to the many social challenges that our people currently face, which include extreme poverty, alcohol and substance abuse, inadequate health care, and high crime rates," Bear Runner wrote. "A modernized infrastructure would significantly improve these conditions; help revitalize our economy and expand opportunities for our people and improve the quality of life on our Reservation."

Improving Mobility and Community Connectivity

Improving mobility and community connectivity is a key aspect of the SD 73 Reconstruction – Improving Mobility, Safety, and Access to the Pine Ridge Reservation Project. The reconstructed SD 73 roadway will include transportation features that increase the accessibility for non-motorized travelers in an underserved area. This section of SD 73 is a key north-south connector through a very rural area. This road connects numerous small communities and provides area residents with access to their employment, as well as goods and services.

Currently, SD 73 has only two-foot-wide shoulders which do not provide opportunities to safely walk or bicycle. While SD 73 is a rural road that primarily serves motor vehicles and truck traffic, expansion of the roadway shoulders from 2' to 6' will provide non-vehicular mobility opportunities such as walking, bicycling, and running. This will improve the mobility options for those who do not have access to a motor vehicle but must still travel to access goods and services or use the roadway to connect to employment or school.

The Project will also provide street lighting for the residents and users within the town of Kadoka.

Partnership and Collaboration

The *SD 73 Reconstruction – Improving Mobility, Safety, and Access to the Pine Ridge Reservation Project* has dedicated support from local stakeholders and state officials. Letters of support for the project have been received from U.S. Senator John Thune, U.S. Representative Dusty Johnson, and the Jackson County Commission.

The SDDOT held a public input meeting during late summer of 2020. Due to limitations on public gatherings recommended by the Centers for Disease Control at the time, project information was posted on the department's website rather than presented at an in-person public meeting. Members of the public were able to submit questions or comments via an online form or by calling the SDDOT.

In total two written comments were received. One, from the owners of property adjacent to the project area, asked about temporary fencing associated with the project and how it might impact their use of their pastures for summer grazing, as well as what steps the SDDOT would be taking to control noxious weeds at the project site. The other comment was from SD State Representative Steve Livermont who represents the legislative district just to the north of where the project is taking place. Representative Livermont expressed support for the project and commented about how the segment of road has "little or no shoulder."

Project Updates will continue to be provided throughout the life of SD 73 project on SDDOT's Public Meetings website. Residents will be notified, and public notices will be mailed and advertised.

Utilization of Disadvantaged Business Enterprises (DBE)

This project will be subject to SDDOT bidding and contract regulations and policies. SDDOT maintains a Disadvantaged Business Enterprise Program in accordance with regulations of USDOT, 49 CFR Parts 23 and 26. As part of its DBE Program, the Department maintains a directory identifying all certified DBEs and has also developed a Business Development program that is intended to encourage current and future DBE firms to take advantage of the twin opportunities of learning about how to set and achieve long-term business goals based on their skills and abilities; and to meet short-term participation standards as listed in 49 CFR Part 26, Appendix C. Additionally, SDDOT continues to facilitate competition for FHWA projects by taking all reasonable steps to eliminate obstacles such as unnecessary or unjustified bundling or other contract requirements that may preclude small business participation in procurement as prime contractors and subcontractors. In an effort to ensure there is competitive bidding on all sizes of projects, the Department keeps track of and reviews the number of all bidders on an annual basis.

6. INNOVATION

SDDOT has established an innovative project delivery practice through an e-Construction process that includes a web portal for construction-related data, the implementation of electronic payroll submissions, and the creation of an electronic change order process that has cut processing time from 30 days to less than a week. In December 2018, SDDOT initiated MySD, which is a web portal that gives contractors and other entities that do business with SDDOT one location to sign in for all their business needs. Contractors use this portal to access the SDDOT Electronic Payroll Submission System (EPSS). The EPSS allows contractors to submit payrolls electronically, which saves more than 100,000 pieces of paper mail annually. The SD 73 Reconstruction – Improving Mobility, Safety, and Access to the Pine Ridge Reservation Project will utilize this process prior to, during, and after its implementation.

SDDOT plans to use a significant amount of recycled asphalt pavement and concrete to construct this project. Plans include the stockpiling of approximately 12,500 tons of salvaged asphalt from project ID 05HV to use in Class Q3R asphalt for project ID 05U4. This will be a 20 percent RAP mix. SDDOT has used these recycled materials in several projects in recent years and has recorded great performance of the pavement. This will improve energy efficiency and reduce carbon production by using salvaged materials instead of new material and reduce haul distances.