



2021 Cheyenne River Sioux Tribe Long  
Range Transportation Plan  
*Executive Summary*



October 2021

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ENGINEERING. REIMAGINED.



## TABLE OF CONTENTS

<i>Table of Contents</i> .....	<i>ii</i>
<i>Figures</i> .....	<i>ii</i>
<i>Appendices</i> .....	<i>Error! Bookmark not defined.</i>
<i>Definition of acronyms</i> .....	<i>iii</i>
<b>CHAPTER 1 - EXECUTIVE SUMMARY</b> .....	<b>1</b>
STUDY AREA .....	1
ROAD INVENTORY AND OWNERSHIP .....	3
CRASH AND SAFETY DATA .....	5
EXISTING CONDITIONS & RECOMMENDATIONS .....	7
<i>Flood damaged roads and culverts</i> .....	7
<i>Paved Roads</i> .....	8
<i>Non-Paved Roads</i> .....	10
MULTIMODAL RECOMMENDATIONS .....	13
<i>Freight</i> .....	13
<i>Bridges and Culverts</i> .....	13
<i>Pedestrians and Bicycles</i> .....	14
<i>Airports</i> .....	16
<i>Transit System</i> .....	17
<i>Utilities</i> .....	17
POLICY RECOMMENDATIONS .....	17
<i>Tribal Jurisdiction of State Routes</i> .....	17
<i>Housing</i> .....	18
<i>System Management Priorities</i> .....	18
PROJECT FUNDING .....	19
PROJECT PRIORITIZATION PLAN .....	20
RECOMMENDED STUDIES .....	24

## FIGURES

FIGURE EX-1 - CRST STUDY AREA .....	2
FIGURE EX-2 - FUNCTIONAL CLASSIFICATIONS AND SURFACE TYPES .....	3
FIGURE EX-3 - ROADWAY OWNERSHIP AND FUNCTIONAL CLASSIFICATION .....	4
FIGURE EX-4 - ROADWAY OWNERSHIP AND SURFACE TYPES .....	4
FIGURE EX-5 - SHORT RANGE DAMAGED ROADS AND CULVERTS PROJECTS .....	8
FIGURE EX-6 - LONG RANGE PAVEMENT PRESERVATION PROJECTS .....	9
FIGURE EX-7 - LONG RANGE PAVING PROJECTS .....	10





FIGURE EX-8 - SHORT RANGE GRAVEL PROJECTS ..... 11

FIGURE EX-9 - LONG RANGE GRAVEL PROJECTS ..... 11

FIGURE EX-10 - GRAVEL MAINTENANCE PROJECTS ..... 12

FIGURE EX-11 - LONG RANGE BRIDGE PROJECTS..... 13

FIGURE EX-12 - LONG RANGE PEDESTRIAN AND BICYCLE PROJECTS ..... 15

FIGURE EX-13 - SHORT RANGE PROJECTS AND FUNDING ..... 20

FIGURE EX-14 LONG RANGE PROJECTS AND COSTS - PART 1 ..... 21

FIGURE EX-15 - LONG RANGE PROJECTS AND COSTS - PART 2 ..... 22

FIGURE EX-16 - LONG RANGE PROJECTS AND COSTS - PART 3 ..... 23

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## DEFINITION OF ACRONYMS

- AADT - Average Annual Daily Traffic
- ADA - Americans with Disabilities Act
- AIP - Airport Improvement Program
- BIA - Bureau of Indian Affairs
- BIG - Bridge Improvement Grant
- BUILD - Better Utilizing Investments to Leverage Development
- CFR - Code of Federal Regulations
- CRST - Cheyenne River Sioux Tribe
- DEMD - Division of Energy and Mineral Development
- ERFO - Emergency Relief for Federally-owner Roads
- FAA - Federal Aviation Administration
- FAST Act - Fixing America’s Surface Transportation Act
- FEMA - Federal Emergency Management Agency
- FHWA - Federal Highway Administration
- GIS - Geographic Information System
- IHS - Indian Health Services
- IRR - Indian Reservation Roads
- LED - Light-Emitting Diode
- LRTP - Long Range Transportation Plan
- MAP-21 - Moving Ahead for Progress in the 21<sup>st</sup> Century Act
- MnDOT - Minnesota Department of Transportation
- MUTCD - Manual on Uniform Traffic Control Devices
- NPIAS - National Plan of Integrated Airport Systems
- NTTFI - National Tribal Transportation Facility Inventory
- PASER - Pavement Surface Evaluation and Rating
- PM - Particulate Matter
- PMP - Pavement Management Program





RCPT - River Cities Public Transit  
RIFDS - Road Inventory Field Data System  
RSA - Road Safety Audit  
SDDENR - South Dakota Department of Environment and Natural Resources  
SDDOT - South Dakota Department of Transportation  
SDLTAP - South Dakota Local Transportation Assistance Program  
SDDPS - South Dakota Department of Public Safety  
SDSASP - South Dakota State Aviation System Plan  
TA - Transportation Alternatives  
TraCS - Traffic and Criminal Software  
TTIP - Tribal Transportation Improvement Program  
TTP - Tribal Transportation Program  
TTSP - Tribal Transportation Safety Plan  
USDOT - United States Department of Transportation





## CHAPTER 1 - EXECUTIVE SUMMARY

Cheyenne River Sioux Tribe (CRST) officials needed a strategic approach to respond to existing and anticipated future transportation issues. Therefore, the Tribe has undertaken this effort to develop a master plan for transportation infrastructure. The purposes of this plan are:

- To collect and examine information on current and future transportation improvement needs.
- To consider the needs of all modes of travel (vehicular, pedestrian, bicycle, and transit) and develop strategies and recommend projects to accommodate them. This Plan examines the existing system of roads, sidewalks, bridges, and transit facilities and considers opportunities for future improvements.
- To review the current transportation system maintenance strategy and consider opportunities for improvement.
- To provide a basis for future transportation improvement programming that is sustainable. The ability of the Tribe to sustain the transportation system is strongly tied to project costs and available funding. This Plan needed to consider existing and potential funding sources, the costs of maintenance, rehabilitation and new construction, and provide guidance on effective use of limited funding.

The short-range element of this Plan applies through the year 2024. The long-range element for this plan applies through the year 2045. The Federal Register suggests this plan be updated every 5 years.

## STUDY AREA

The Cheyenne River Indian Reservation, located in north central South Dakota, is bordered on the north by the Standing Rock Indian Reservation, on the east by the Missouri River, on the south by the Cheyenne River, and on the west by Meade and Perkins counties. The Reservation covers almost 4,270 square miles, making it the fourth largest Reservation by land area in the United States. The study area is shown in Figure EX-1.

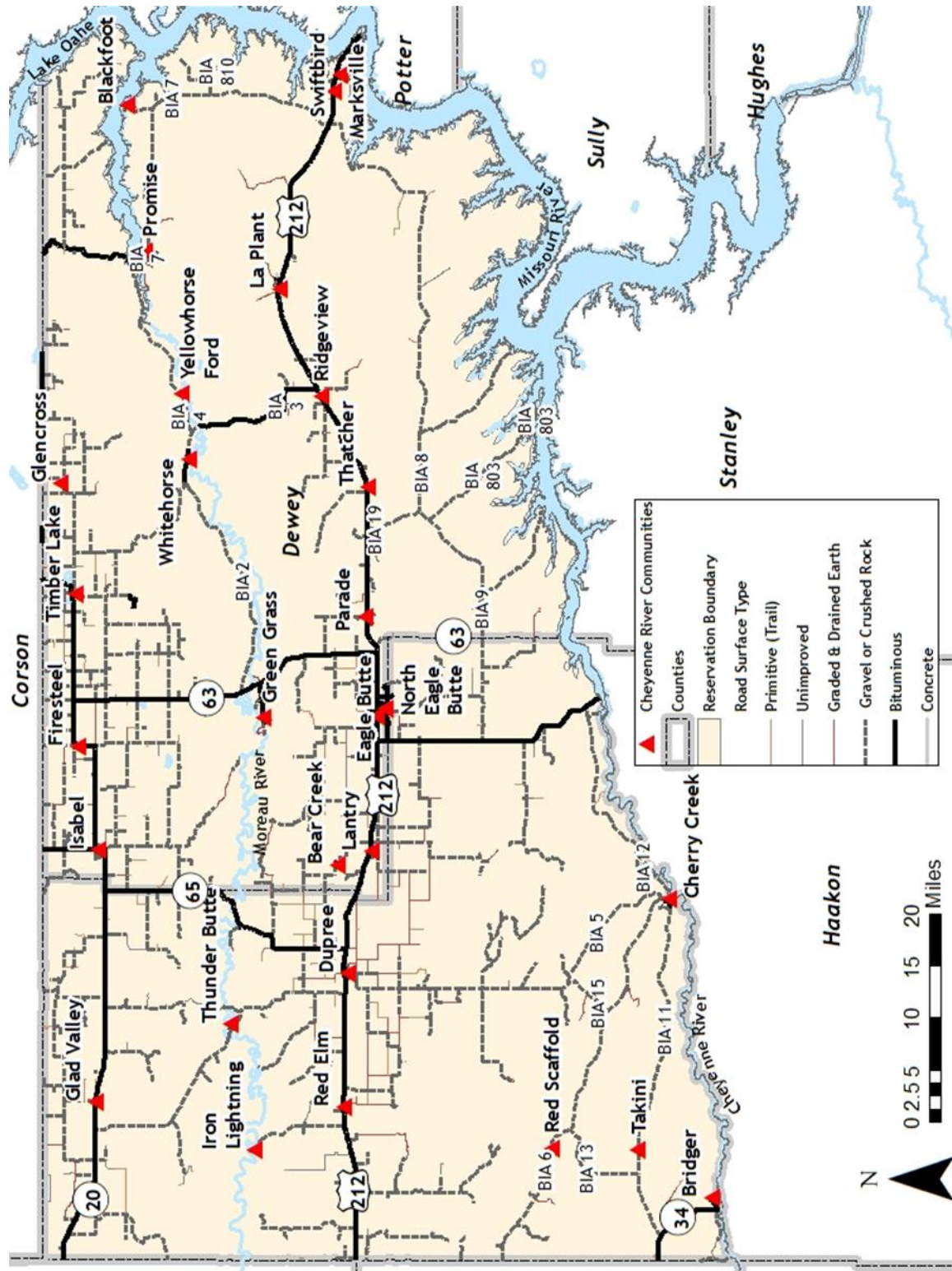
CRST communities that were studied during the LRTP process include North Eagle Butte, Eagle Butte, Dupree and Timber Lake, which are the largest communities on the Reservation. Tribal headquarters and the BIA Cheyenne River Agency are both located in Eagle Butte. Timber Lake hosts the Dewey county seat, while the county seat for Ziebach county is in Dupree. Other studied communities on the Reservation are Bear Creek, Blackfoot, Bridger, Cherry Creek, Green Grass, Iron Lightning, Isabel, La Plant, Promise, Red Scaffold, Swiftbird, Tankini, Thunder Butte, and Whitehorse.







Figure EX-1 - CRST Study Area





## ROAD INVENTORY AND OWNERSHIP

Roads on the Cheyenne River Indian Reservation fall under the ownership of the CRST, BIA, SDDOT, and Dewey and Ziebach Counties.

Road inventory and classification was obtained from the Road Inventory Field Data System (RIFDS). Functional classification establishes a hierarchy for roads. It provides a systematic approach to designing and prioritizing roads that have different purposes.

Road classifications, ownership, and surface types from the Indian Reservation Roads Inventory found in RIFDS are shown in Figures EX-2 through EX-4.

**FIGURE EX-2 - Functional Classifications and Surface Types**

Class	Road Miles by Classification and Surface Type								New Roads by Future Surface Type				Total Miles
	Proposed	Earth	Gravel	Asphalt < 2 inch	Asphalt > 2 inch	Concrete	Trail	None	Earth	Gravel	Paved	None	
		(1)	(3)	(4)	(5)	(6)	(9)	(null)	(E)	(G)	(P)	(null)	
1 - Major Arterial	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2 - Rural Minor	0.0	0.0	15.3	0.0	12.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	28.2
3 - City Local	0.0	1.4	1.5	1.8	13.9	1.2	0.0	0.0	0.0	0.0	0.0	0.0	19.8
4 - Rural Major	0.0	79.7	915.3	29.6	9.5	0.0	0.0	0.0	0.0	14.7	0.0	0.0	1048.8
5 - Rural Local	0.7	53.4	28.8	0.1	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	83.8
6 - City Minor	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7 - City Collector	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8 - Trails	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
9 - Other	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10 - Airstrips	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
null - No Class	0.0	0.0	0.0	8.0	87.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	95.7
<b>Total:</b>	<b>0.7</b>	<b>134.5</b>	<b>960.9</b>	<b>39.5</b>	<b>124.8</b>	<b>1.2</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>14.7</b>	<b>0.0</b>	<b>0.0</b>	<b>1276.3</b>





**FIGURE EX-3 - Roadway Ownership and Functional Classification**

Road Miles by Ownership and Classification											
Owner	Major Arterial	Rural Minor Arterial	City Local	Rural Major Collector	Rural Local	City Minor Arterial	City Collector	Trail	Other Trans Facility	Airstrip	Total
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	
1 - BIA	0.0	28.2	19.8	259.0	0.0	0.0	0.0	0.0	0.0	0.0	307.0
2 - Tribe	0.0	0.0	0.0	1.2	51.1	0.0	0.0	0.0	0.0	0.0	52.3
3 - State	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	95.7
4 - Urban	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5 - County	0.0	0.0	0.0	788.6	32.7	0.0	0.0	0.0	0.0	0.0	821.3
6 - Other BIA Offices	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7 - Other Federal	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8 - Other	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<b>Total:</b>	<b>0.0</b>	<b>28.2</b>	<b>19.8</b>	<b>1,048.8</b>	<b>83.8</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>1,276.3</b>

**FIGURE EX-4 - Roadway Ownership and Surface Types**

Owner	Road Miles by Ownership and Surface Type								Future Surface Type				Total
	Proposed	Earth (1)	Gravel (3)	< 2 inch (4)	> 2 inch (5)	Concrete (6)	Trail (9)	None (null)	Earth (E)	Gravel (G)	Paved (P)	None (null)	
1 - BIA	0.0	1.4	232.9	21.7	35.1	1.2	0.0	0.0	0.0	14.7	0.0	0.0	307.0
2 - Tribe	0.7	48.0	2.7	0.1	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	52.3
3 - State	0.0	0.0	0.0	8.0	87.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	95.7
4 - Urban	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5 - County	0.0	85.1	725.3	9.7	1.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	821.3
6 - Other BIA Offices	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7 - Other Federal	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8 - Other	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<b>Total</b>	<b>0.7</b>	<b>134.5</b>	<b>960.9</b>	<b>39.5</b>	<b>124.8</b>	<b>1.2</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>14.7</b>	<b>0.0</b>	<b>0.0</b>	<b>1276.3</b>







## CRASH AND SAFETY DATA

An extensive analysis of available crash data was performed for the purpose of identifying safety issues on the road system and to aid in the development of improvements. The analysis found that the following safety issues are the top causes for crashes on the Reservation:

- Animal crashes
- Lack of seatbelt use
- Impaired driving
- Overturning/rollover crashes
- Crashes with fixed objects
- Departure from roadway
- Lack of or inconsistent crash data collection and sharing
- Young drivers
- Need for improved lighting at night

Recommendations from the LRTP include those prioritized around the 4Es of safety - education, enforcement, engineering, and emergency response:

- Education
  - Develop a Reservation-Wide Transportation Safety Education Program: The CRST received a Tribal Transportation Program Safety Fund grant in 2015 to implement a safety education program. The goal was to build on national safety campaign themes on driving, seat belt use, texting and driving, and other transportation safety issues.
- Enforcement
  - Participate in efforts to pass a primary seat belt law: Currently South Dakota has a secondary seat belt law, meaning that violations can only be cited if the driver is stopped for a different infraction. Furthermore, only the driver and front seat passengers younger than 18 are required to use a seat belt. A primary seat belt law passed through Tribal Council would increase drivers and passenger's safety.
  - Provide a Tribal highway safety officer: Currently the Tribe has one officer dedicated to highway safety enforcement and drug and safety training. With the limited staffing and the demands on time that criminal activities require, highway safety enforcement and education often become a lower priority. Tribal Law Enforcement should pursue funding for one additional officer.
  - Implement electronic crash record system and data sharing among agencies: Currently Dewey County, Ziebach County and the CRST collect crash data differently. Placing all three agencies on the same system will allow for better information sharing and
  - develop a complete set of crash data for the Reservation. Dewey County uses the Traffic and Criminal Software (TraCS) electronic crash records system. It is recommended that Ziebach County and the Tribe implement this system as well.
  - Initiate discussions on use of cross jurisdictional agreements: With staffing challenges faced by all



- enforcement agencies, many Tribes, states, and local jurisdictions have entered into cross jurisdictional agreements. This has allowed for increased traffic enforcement during key events such as Powwows. There is currently no such agreement in place on the Cheyenne River Sioux Reservation. The increased traffic enforcement benefits and effects on Tribal sovereignty of an agreement should be presented to the Tribal Council for consideration.
  - Develop a motor carrier enforcement program: With the presence of US 212 bisecting the Reservation and the agricultural activity in the area, there is a high number of large trucks. According to SDDOT data, there were around 11 million vehicle miles traveled by heavy trucks in Ziebach and Dewey counties in 2017.
  - Currently there are no weigh stations within the Reservation and the Tribe is concerned with overweight and unsafe trucks operating on roadways, many which already have safety issues. Other Tribes have established motor carrier enforcement programs that can regulate trucking activities and use portable scales to check vehicle weights. CRST could implement ordinances that would be used to regulate trucks and obtain portable scales to be used on the Reservation.
  - Update Tribal traffic code: CRST currently has a traffic code for enforcement on the Reservation. It includes many items from the state code but has not been updated in recent years. Title 32 of the South Dakota Codified Laws includes a comprehensive section on motor vehicles that could be used for reference to determine changes and updates that would be beneficial to the CRST.
- Engineering
    - Perform Road Safety Audits (RSAs): RSAs are an important tool because they provide an opportunity to bring traffic and safety expertise to assess safety concerns of routes where there are high numbers of crashes or where other concerns have been identified. The goal of the RSAs is to identify safety issues and then develop safety improvements. To build on these improvements and the use of RSAs, it is recommended that the Tribe pursue funding to perform RSAs on BIA, Tribal, and county roadways within the Reservation.
    - Develop sidewalk and shared use paths: Locations have been identified where separated shared use paths and lighting would be beneficial to creating safer pedestrian and bicycling opportunities. They include:
      - Lighting for Fox Ridge Road shared use path, Eagle Butte; lighting has been installed along part of the shared use path. The project was put on hold until additional funding can be obtained.
      - Shared use path along US 212 to include a crosswalk, La Plant.
    - Identify and replace failing roadway culverts: An inventory conducted by the
    - CRST Department of Transportation identified 90 culverts on main BIA routes that were in a failed or failing condition. The culverts present a safety





- issue to the traveling public when they fail and collapse. Culvert failure has increased after flooding during Spring 2019.
- Emergency Management Systems
  - Improve 911 addressing system: Currently the Tribe does not have an enhanced 911 system, which means that when a call is received by a 911 operator, formal location information is unavailable. This requires the operator to get more detailed location information, increasing the time it takes to dispatch an emergency vehicle.
  - Many roads may not be signed or may be known by a local nickname that is not easily identifiable by either the dispatcher or responder. It is recommended that the Reservation system be upgraded to include location information for quicker response times. The Tribe has received funding to assist in installation of intersection signage specifically to assist in emergency response.

## EXISTING CONDITIONS & RECOMMENDATIONS

A detailed investigation was made to identify existing transportation facilities conditions and needs. The investigation determined that there are significant transportation needs throughout the Reservation. These needs, along with recommendations are summarized as follows:

### FLOOD DAMAGED ROADS AND CULVERTS

From March 2019 through July 2019 many South Dakota counties experienced severe snowstorms and rainstorms. These weather events led to flooding that affected most of the state including Dewey and Ziebach counties, where significant damages were sustained. The Federal Emergency Management Agency (FEMA) issued three Major Disaster Declarations for damages that occurred on the Reservation during this time frame. The CRST observed damages to roads and culverts throughout the Reservation as a result of the flooding.

Applications for FEMA and Emergency Relief for Federally Owned Roads (ERFO) assistance have been approved for many of these sites, which have been programmed into the current five year TTIP to be completed in the short range as shown in Figure EX-5. Funding will be allocated according to the disaster declaration under which damages occurred rather than for each individual site, therefore projects two through four include multiple sites programmed for repair.





Figure EX-5 - Short Range Damaged Roads and Culverts Projects

CRST - FLOOD DAMAGED ROADS AND CULVERTS PROJECTS IN TTIP		
Project #	Project Name	FY2021
1	ERFO Project*	\$100,000.00
2	FEMA Storm 4440**	\$441,000.00
3	FEMA Storm 4463**	\$0.00
4	FEMA Storm 4467**	\$8,000.00

\*ERFO funding anticipated

\*\*FEMA funding anticipated

## PAVED ROADS

Perhaps the most important component of analyzing current paved road conditions on the Reservation was a Pavement Surface Evaluation and Rating (PASER) study that was conducted on all paved roads within the study area in 2019.

The PASER method outputs a simple 1 through 10 rating for each section of roadway studied. This provides an understandable way for an agency to communicate pavement condition to elected officials and the public, and it also allows more time to be put towards scheduling and budgeting. A simplistic explanation of PASER ratings is:

- Rating 1-2: Road has failed with reconstruction or conversion to gravel road required.
- Rating 3-4: Road is in poor condition typically needing a structural overlay.
- Rating 5-6: Road is in fair condition and can be improved with preservation treatments like a non-structural overlay.
- Rating 7-8: Road is in good condition and can be maintained with crack sealing and minor patching.
- Rating 9-10: Road is in excellent condition and no maintenance is required.

Ratings were used to determine required improvements and create a pavement preservation plan. Projects were then prioritized according to preservation needs and included in the LRTP. Figure EX-6 lists pavement preservation projects which are in the long range element but should be prioritized to short range if additional funding becomes available. Other long range pavement projects are shown in Figure EX-7.





Figure EX-6 - Long Range Pavement Preservation Projects

CRST Long Range Pavement Preservation Projects				
Project	Project Title	Project Location	Project Description	Estimated Cost
21	Pavement Preservation - Crack Seal	Community streets in Eagle Butte, Cheyenne River IHS Center, Habitat for Humanity housing, Thunder Butte	2.3 miles crack sealing	\$55,170.00
22	Pavement Preservation - Crack and Chip Seal	Community streets in Bear Creek, Cherry Creek, Eagle Butte, Dupree, Fox Ridge Housing, Habitat for Humanity housing, Iron lightning, No Heart housing, Timber Lake	15.6 miles crack and chip sealing	\$338,550.00
23	Pavement Preservation - Nonstructural Overlay	Community streets in Bear Creek, Bridger, Cherry Creek, Dupree, Takini	1.9 miles nonstructural overlay	\$567,150.00
24	Pavement Preservation - Nonstructural Overlay - East	Community streets in Eagle Butte, Green Grass, Habitat for Humanity housing, LaPlant, No Heart housing, Timber Lake, Whitehorse, one mile of BIA 14	5.2 miles nonstructural overlay	\$1,564,320.00
25	Pavement Preservation - Structural Overlay -	Community streets in Bear Creek, Bridger, Cherry Creek	1.8 miles structural overlay	\$921,500.00
26	Pavement Preservation - Structural Overlay - East	Community streets in Eagle Butte, Green Grass, Habitat for Humanity housing, LaPlant, No Heart housing, Timber Lake, Whitehorse, one mile of BIA 14	2.7 miles structural overlay	\$1,366,380.00
27	Pavement Preservation - Structural Overlay	Community streets in Cherry Creek, Eagle Butte, Swiftbird, Whitehorse, one mile of BIA 14	2.7 miles structural overlay w/digouts	\$1,512,130.00
28	Preservation - Partial Reconstruction	Community streets in Cherry Creek, Eagle Butte, Swiftbird, Takini, and Whitehorse	1.1 miles partial reconstruction	\$1,711,650.00
29	Preservation - Full Reconstruction	Community streets in Swiftbird; BIA 7 north of the Moreau River bridge	1.8 miles full reconstruction	\$3,514,070.00

Slowly and over time, roads that already require expensive reconstruction should be rebuilt as funding allows. The goal is that eventually no roads require expensive reconstruction and more of the Tribes' money will be available to address other needs like new housing street construction and additional pedestrian facilities. This goal will most likely not be realized in the short range unless additional funding sources become available.







Figure EX-7 - Long Range Paving Projects

CRST Long Range Paving Projects				
Project #	Project Title	Project Location	Project Description	Estimated Cost
17	BIA 3 Pavement Preservation*	US212 to Moreau River, Dewey Co	Full and partial reconstruction	\$13,170,000.00
38	County Rd 10 Reconstruction	North of BIA 3/BIA 7 junction, Dewey Co	Asphalt reconstruction, BUILD/TIGER grant application, funding coordination	\$13,650,000.00
43	Eagle Butte Tribal Daycare New Road and Parking Lot	Eagle Butte, Dewey Co	New road and parking lot	\$275,000.00
44	Touch the Clouds Subdivision New Community Streets	Eagle Butte, Dewey Co	Paved construction, 2 mi	\$3,500,000.00

\*Included with other long range paving rather than preservation projects due to scope and cost.

## NON-PAVED ROADS

Most road miles on the Reservation are unpaved. There are 285 miles of earth and gravel roads on the Reservation that fall under the jurisdiction of the Tribe or BIA. County-owned roads account for approximately 800 more miles of earth and gravel roads throughout the Reservation; maintenance for these roads is the responsibility of the applicable jurisdiction.

Issues with non-paved roadways include narrowness, limited or no surface aggregate, poor cross section, lack of proper ditches and drainage, rutting, and dust. Failing or near-failing culverts have also caused road damage. These conditions were worsened on gravel roads throughout the Reservation after flooding in Spring 2019.

It is recommended that the Tribe identify and an develop a new aggregate source to replace the one that is shutting down. It is further recommended that gravel rehabilitation be considered for gravel roadways with poor drainage and cross sections, as adding gravel to roads with these conditions will do little to improve the roadways.

Conversion of primitive roads to gravel roads is desirable wherever practical and as funding allows. Top priority should be given to roads with higher usage, followed by roads leading to cultural sites. Funding can also be set aside annually to upgrade equipment to bolster the gravel maintenance program. Short and long range gravel projects are shown in Figure EX-8 and EX-9. Gravel maintenance projects are shown in Figure EX-10.





Figure EX-8 - Short Range Gravel Projects

CRST - PROJECTS IN TTIP - FY 2021-2025						
Project #	Project Name	FY2021	FY2022	FY2023	FY2024	FY2025
5	BIA 3 Resurfacing					
6	BIA 8 Resurfacing - US 212 to Willow Creek	\$942,000.00	\$258,000.00			
7	BIA 12 - Resurfacing and Safety Upgrades		\$2,455,398.70	\$677,000.00	\$1,600,000.00	\$1,600,000.00
8	Multi Route Gravel 3 & 7					

Figure EX-9 - Long Range Gravel Projects

CRST Long Range Gravel Projects				
Project #	Project Title	Project Location	Project Description	Estimated Cost
10	Tribal Route 8509 Gravel Construction	S from BIA 8, Dewey Co	Upgrade earth road to gravel	\$960,000.00
13	BIA 17 Proposed Road	LaPlant to Promise, Dewey Co	New gravel road construction	\$1,176,000.00
31.1	New Tribal Housing Streets	Reservation wide	Gravel construction w/drainage, 1 mile	\$200,000.00





Figure EX-10 - Gravel Maintenance Projects

CRST Gravel Maintenance Projects				
11	BIA 11 Takini West Resurfacing	Takini School to SD34	Stabilized road base with double chip seal and blotter coat	\$2,100,000.00
12	BIA 11 Takini East Resurfacing	BIA 11, Takini School to Cherry Creek, Ziebach Co	Stabilized road base with double chip seal and blotter coat	\$5,610,000.00
19	BIA 2 Resurfacing	BIA 2, Dewey County	Stabilized road base with double chip seal and blotter coat	\$5,520,000.00
34	BIA 6 Resurfacing	BIA 6, Ziebach County	Stabilized road base with double chip seal and blotter coat	\$9,600,000.00
35	BIA 13 Resurfacing	BIA 13, Ziebach County	Stabilized road base with double chip seal and blotter coat	\$2,610,000.00
36	BIA 14 Resurfacing	BIA 14, Ziebach County	Stabilized road base with double chip seal and blotter coat	\$1,410,000.00
37	County Rd 9015 Resurfacing	Between BIA 2 and Whitehorse, Dewey Co	Stabilized road base with double chip seal and blotter coat	\$510,000.00
39	BIA 19 Resurfacing	BIA 19, Dewey Co	Stabilized road base with double chip seal and blotter coat	\$1,560,000.00
40	BIA 8 Resurfacing	Between BIA 19 and Rte 8509, Dewey Co	Stabilized road base with double chip seal and blotter coat	\$4,950,000.00
41	BIA 803 Resurfacing	BIA 803, Dewey Co	Gravel Resurfacing and Gravel Construction	\$795,000.00
45	County Rd 55 Resurfacing	Eagle Butte, Ziebach Co	Stabilized road base with double chip seal and blotter coat	\$420,000.00
46	County Rd 224 1/2	Dupree, Ziebach Co	Correct drainage issues	\$10,000.00
47	County Rd 7810	West of Dupree, Ziebach Co	Stabilized road base with double chip seal and blotter coat	\$150,000.00



## MULTIMODAL RECOMMENDATIONS

### FREIGHT

There are roadways on the Reservation that have sustained damage due to trucking. This damage increases exponentially with heavy loads, exacerbating rutting and accelerating fatigue cracking, which leads to potholes. This impact can be minimized if load limits are established and enforced. Mobile scales can be used to monitor travel by trucks exceeding load limits. It would be beneficial for the CRST to consider development of ordinances, policies, and procedures designed to reduce heavy trucking on Reservation Roads. Ideally, contractors and major businesses would be held responsible for damage to any haul roads on the Reservation.

### BRIDGES AND CULVERTS

There are 21 Tribally- or BIA-owned bridges on the Reservation, all having noted deficiencies or maintenance issues. It is recommended that the Tribe correct any deficiencies before they worsen and implement recommended maintenance practices. There are also three bridges that have been identified by the Tribe for replacement.

There are culverts located throughout the Reservation which need either repair or replacement and have been incorporated into the short and long range portions of this Plan. Some culverts have been repaired on an emergent basis following flooding in 2019. Culvert cleaning and replacement in the different housing clusters is recommended as needed to provide good drainage in these residential areas. Short range bridge and culvert projects are included under the “Flood Damaged Roads and Culverts” section of the Executive Summary and can be seen in Figure EX-5. Long range bridge projects are shown in Figure EX-11.

Figure EX-11 - Long Range Bridge Projects

CRST Long Range Bridge Projects				
Project #	Project Title	Project Location	Project Description	Estimated Cost
14	BIA 7 No Mouth Creek Bridge Replacement	BIA 7, south of Blackfoot, Dewey Co	Bridge Replacement	\$1,000,000.00
15	BIA 7 Virgin Creek Bridge Replacement	BIA 7, east of Promise, Dewey Co	Bridge Replacement	\$1,500,000.00
16	BIA 7 Moreau River Bridge Replacement	BIA 7, north of Promise, Dewey Co	Bridge Replacement	\$4,180,000.00



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## PEDESTRIANS AND BICYCLES

Everyday activities on the Reservation include walking and biking for many of CRST's members. Augmenting these modes of transportation requires not just infrastructure but also a method of linking design, streetscapes, and land use in ways that fortify walking and biking. Safety is also crucial, not only when developing a pedestrian and bicycle network, but also in identifying safety concerns along roads and existing sidewalks and shared use paths. According to Bureau of Transportation statistics, around seven percent of traffic fatalities on the Reservation are pedestrian fatalities. This high percentage warrants special focus on addressing safety concerns.

For this study, new maps of towns on the Reservation have been made that show existing sidewalks and shared use paths, as well as locations that develop a high level of pedestrian and bicycle activity. Examples of high pedestrian and bicycle activity generators include schools, stores, residential developments, health care facilities, and other land uses. These maps also show sidewalk and shared use path project recommendations to fill gaps in the sidewalk and pathway system that should be addressed over time. It is anticipated that these maps will be a valuable resource in future grant applications. The Tribe has several projects in the long range that will provide new or improved pedestrian facilities; see Figure EX-12.







Figure EX-12 - Long Range Pedestrian and Bicycle Projects

Project #	Project Title	Project Location	Project Description	Estimated Cost
48	Community Sidewalks, Bear Creek	Dewey Co, see Figure 5-41	New sidewalks, 0.9 mi	\$180,000.00
49	Community Sidewalks, Blackfoot	Dewey Co, see Figure 5-42	New sidewalks, 0.8 mi	\$160,000.00
50	Community Sidewalks, Bridger	Ziebach Co, see Figure 5-43	New sidewalks, 1.0 mi	\$200,000.00
51	Community Sidewalks, Cherry Creek	Ziebach co, see Figure 5-44	New sidewalks, 0.8 mi	\$160,000.00
52	Community Sidewalks, Dupree	Ziebach Co, see Figure 5-45	New sidewalks, 4.5 mi	\$900,000.00
53	Community Sidewalks, Eagle Butte	Dewey Co, Ziebach Co, see Figure 5-46	New sidewalks, 7.0 mi	\$1,400,000.00
54	Shared Use Path, Eagle Butte	Dewey Co, Ziebach Co, see Figure 5-46	Shared use path w/lighting, 1.4 mi	\$910,000.00
55	Community Sidewalks, North Eagle Butte	Dewey Co, see Figure 5-47	New sidewalks, 8.0 mi	\$1,600,000.00
56	Shared Use Path, North Eagle Butte	Dewey Co, see Figure 5-47	Shared use path w/lighting, 0.95 mi	\$617,500.00
57	Community Sidewalks, Green Grass	Dewey Co, see Figure 5-49	New sidewalks, 0.3 mi	\$60,000.00
58	Community Sidewalks, Iron Lightning	Ziebach Co, see Figure 5-50	New sidewalks, 1.0 mi	\$200,000.00
59	Community Sidewalks, LaPlant	Dewey Co, see Figure 5-29	New sidewalks, 1.0 mi	\$200,000.00
60	Shared Use Path, LaPlant	Dewey Co, see Figure 5-51	Shared use path w/lighting, 1.0 mi	\$650,000.00
61	Community Sidewalks, Promise	Dewey Co, see Figure 5-52	New sidewalks, 0.3 mi	\$60,000.00
62	Community Sidewalks, Red Scaffold	Ziebach Co, see Figure 5-53	New sidewalks, 0.7 mi	\$140,000.00
63	Shared Use Path, Red Scaffold	Ziebach Co, see Figure 5-53	Shared use path w/lighting, 0.5 mi	\$325,000.00
64	Community Sidewalks, Swiftbird	Dewey Co, see Figure 5-54	New sidewalks, 0.8 mi	\$160,000.00
65	Community Sidewalks, Takini	Ziebach Co, see Figure 5-55	New sidewalks, 1.1 mi	\$220,000.00
66	Community Sidewalks, Thunder Butte	Ziebach Co, see Figure 5-56	New sidewalks, 0.4 mi	\$80,000.00
67	Community Sidewalks, Timber Lake	Dewey Co, see Figure 5-57	New sidewalks, 7.7 mi	\$1,540,000.00
68	Community Sidewalks, Whitehorse	Dewey Co, see Figure 5-58	New sidewalks, 0.6 mi	\$120,000.00



## AIRPORTS

There are three active airports on the Reservation: Isabel and Timber Lake Municipal Airports, owned by the Cities of Isabel and Timber Lake, and the Cheyenne Eagle Butte Airport, jointly owned by the CRST and the City of Eagle Butte. The Isabel and Timber Lake Municipal Airports are not registered with the National Plan of Integrated Airport Systems (NPIAS) and will not be included in the 2020 South Dakota State Aviation System Plan (SDSASP).

The Cheyenne Eagle Butte Airport is registered with the NPIAS and therefore eligible for funding through the Airport Improvement Plan (AIP) which is administered by the Federal Aviation Administration (FAA); six AIP grants have been received for the years 2010-2018. It is recommended that airport and Tribal officials continue to apply for these funds, which cover a number of eligible project types. In addition, recommendations for the Cheyenne Eagle Butte Airport include the following:

- Upgrade from a visual to a GPS approach type system to increase landing options of incoming aircraft.
- Construct a terminal building. The minimal SDSASP target for a small general aviation airport is a waiting area and restroom.
- Implement a flight training program.
- Construct additional hangar space for based and transient aircraft as needed.
- Purchase snow removal equipment. Snow removal is currently provided by the CRST maintenance department using their roadway equipment. Purchasing bigger plows and blowers will allow snow removal at the airport to be more efficient and allow for roadway equipment to be available for road maintenance.
- Increase airport security by controlling airfield access.





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## TRANSIT SYSTEM

Transit services on the Reservation are provided by River Cities Public Transit (RCPT) based in Pierre, South Dakota. It contracted with CRST in 2010 to manage and operate their transit system.

Transit services offered on the Reservation are based 100% on rider demand. Therefore, rides must be requested prior to when they are needed, and there are no bus stops or shelters located in Reservation communities.

According to Ron Baumgart, Executive Director at RCPT, the services provided on the Reservation have two limiting factors: budget and bad roads. Road improvements are recommended throughout this Plan, and after completion may enable RCPT to access potential transit users who are currently unreachable.

There are several transit grant opportunities offered by the Federal Transit Administration (FTA) that have the potential to increase the budget allocated to RCPT. It is recommended that the Tribe and RCPT continue to apply for the grants from which they currently receive funding and investigate other funding programs to determine eligibility.

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## UTILITIES

During this LRTP process, efforts were made to gather information on the types, locations, and conditions of utilities within the Reservation. Much of this information is either unknown or has never been documented and mapped.

It is recommended that the CRST conduct a utilities study and map the locations, particularly underground utility mains. This information is imperative when planning transportation improvements in communities where utilities are more likely to be impacted. This will also allow for planning utility repairs and upgrades to be performed concurrently with road projects.

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## POLICY RECOMMENDATIONS

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### TRIBAL JURISDICTION OF STATE ROUTES

The CRST wants jurisdiction of SDDOT owned routes crossing through the Reservation transferred to the Tribe. This would enable the Tribe to use federal funds to maintain and repair the SD highways within Reservation boundaries at the Tribe's discretion. It may also, at some point in the future, allow for a larger Tribal allocation of federal funding to the CRST. It is recommended that the Tribe obtain legal advice regarding the proceedings that would be involved in pursuing this goal.



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## HOUSING

Cheyenne River Housing Authority (CRHA) currently manages new housing and development on the Cheyenne River Indian Reservation. Future decisions regarding Tribal growth and locations

It is therefore recommended that current Tribal practices for location of new housing, housing rehabilitation, and other economic development be reviewed. Optimal locations for future housing and economic development should be identified, mapped, and promoted in locations adjacent to well-maintained transportation and utility corridors. Ideally, any new routes or pavements completed as part of new housing should leave maintenance responsibility with the development or agency undertaking the project.

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## SYSTEM MANAGEMENT PRIORITIES

Given that funding is limited, some project needs should be delayed until higher priority needs are addressed. This section of the report suggests priorities for system management.

This transportation plan recommends that a strategic approach to Tribal priorities be established based on the following hierarchy of roadway needs:

- Priority #1 - Complete emergency repairs and conduct normal maintenance and needed upgrades and/or repairs on existing bridges, culverts, and guardrails
- Priority #2 - Address safety issues on arterial routes, followed by safety issues on other routes
- Priority #3 - Correct gravel road surface and cross section/drainage deficiencies on primary routes
- Priority #4 - Complete overlays or reconstruction on paved BIA highways
- Priority #5 - Complete overlays and reconstruction on paved city and subdivision streets
- Priority #6 - Correct road surface and cross section/drainage deficiencies on secondary and primitive roads

It is recommended that maintenance and needed upgrades of existing bridges, culverts, and guardrails, be given top priority over the rest of the transportation system. This will correct damages that were incurred after flooding in Spring 2019.

Paved roadways that are in fair to good condition should be set up on a rotational program of crack sealing, seal coats and/or non-structural overlays. According to FHWA TechBrief, Sealing and Filling Cracks in Asphalt Pavements, long-term crack sealing should be undertaken every 5-8 years on paved roads. Seal coats should be done every 7-10 years and non-structural overlays should be completed when needed, roughly every 15-20 or more years.





Because the preponderance of BIA and Tribal roads on the Reservation are gravel surface, maintenance of the gravel road system is important to the mobility, economic viability, safety, and quality of life of many of the CRST's residents. Maintenance of primary gravel roads has been ongoing and most of the rest of the earth, dirt, primitive, and gravel roads system only receives attention in cases of emergency. A study is recommended to identify secondary routes that should receive maintenance and to improve proactiveness, resulting in fewer emergency events.

Given that the CRST is years away from providing desired conditions of the current roadway system, it is inadvisable for them to use their funds for construction of new routes or for paving existing gravel roads. Use of funds for these projects would result in a further decline in surface conditions elsewhere within the Reservation.

## PROJECT FUNDING

United States and State highways on the Reservation are currently funded and maintained by the South Dakota Departments of Transportation. There are multiple funding sources available for roads, bridges, sidewalks, shared use paths, airports, and transit that are not on the state highway systems.

This Plan provides information on the various funding programs that are available, as well as guidance on the limitations attached to each type of funding. It is recommended that the CRST continue to submit applications to these alternative, supplemental funding sources.







## PROJECT PRIORITIZATION PLAN

Short range projects are those anticipated to be started by the end of the year 2024. The short range projects listed in the Tribe’s TTIP must be financially constrained to fit within the amount of TTP funds allocated to the Tribe each fiscal year. It is expected that the Tribe will receive about \$2,400,000 annually from which a general Tribal maintenance fund receives 25%, or \$600,000.00, leaving about \$1,800,000.00 for construction.

To maintain the Tribe’s economic sustainability, funding must be carefully distributed to the most critical locations. Proposed short range projects are listed in Figure EX-13. These figures do not include any additional funding that the Tribe may receive such as additional emergency funding through ERFO or FEMA, or Tribal Transportation Plan Safety Funds (TTPSF) and Transportation Alternatives (TA) grants. When additional funding is received the Tribe will be able to prioritize a long range project to move into the short range element of the LRTP.

**FIGURE EX-13 - Short Range Projects and Funding**

Project Description	Est. Project Cost	Year Constructed	FY2021	FY2022	FY2023	FY2024	FY2025
Pavement Marking/Striping	\$25,000.00		\$25,000.00	\$25,000.00	\$25,000.00	\$25,000.00	\$25,000.00
General Tribal Maintenance 25% of TTP			\$575,000.00	\$575,000.00	\$575,000.00	\$575,000.00	\$575,000.00
ERFO (not TTP money)(planning)	\$650,000.00						
ERFO (not TTP money)(Construction)	\$5,085,000.00	2021-2022	\$100,000.00				
FEMA 4440 Construction	\$750,000.00	2021	\$441,000.00				
FEMA 4463 Construction	\$1,559,000.00	2021	\$0.00				
FEMA 4467 Construction	\$2,345,000.00	2021	\$8,000.00				
Long Range Transportation Plan & Inventory Update			\$92,000.00				
BIA Rt 6 Cherry Creek Slide Area (Match)(NRCS Design)		2022	\$500,000.00				
BIA 3 Moreau River Road Encroachment (Match)(NRCS Design)	\$750,000.00	2022		\$750,000.00			
BIA Rt 8 Resurfacing US 212 to Willow Creek 13.6 mi	\$1,200,000.00	2022	\$942,000.00	\$258,000.00			
BIA Rt 12 Rehabilitation	\$6,500,000.00	2026		\$2,455,398.70	\$677,000.00	\$1,600,000.00	\$1,600,000.00
Badger Park Pedestrian Pathway (TA Program Match)	\$973,000.00	2023			\$573,000.00		
LaPlante Pedestrian Pathway (TA Program Match)	\$750,000.00	2023			\$350,000.00		
BIA Rt 3 Resurfacing (construction)	\$3,501,000.00						
Multi Route Gravel 3 & 7	\$1,427,000.00						
White Horse Community Streets	\$450,000.00						
BIA Rt 11 (Takini West) Design	\$190,000.00						
BIA Rt 11 (Takini West)	\$2,100,000.00						
Willow St., Eagle Butte							
Takini Housing							
Total Budgeted			\$2,683,000.00	\$4,063,398.70	\$2,200,000.00	\$2,200,000.00	\$2,200,000.00

Long range projects are those anticipated to be started after the year 2024. While many of these projects are desired sooner, funding limitations indicate that it may not be possible to complete them during the short range element of the plan. Some of these projects may become short range projects if the Tribe is able to pull from alternative funding sources described earlier. Long range projects are shown in Figures EX-14 through EX-16.





Figure EX-14 Long Range Projects and Costs - Part 1

Project #	Project Title	Project Location	Project Description	Estimated Cost
9	BIA 6 Cherry Creek Slide	0.5 mi N of Cherry Creek, Ziebach Co	Scour protection and bank stabilization	\$2,000,000.00
10	Tribal Route 8509 Gravel Construction	S from BIA 8, Dewey Co	Upgrade earth road to gravel	\$960,000.00
11	BIA 11 Takini West Resurfacing	Takini School to SD34	Stabilized road base with double chip seal and blotter coat	\$2,100,000.00
12	BIA 11 Takini East Resurfacing	BIA 11, Takini School to Cherry Creek, Ziebach Co	Stabilized road base with double chip seal and blotter coat	\$5,610,000.00
13	BIA 17 Proposed Road	LaPlant to Promise, Dewey Co	New gravel road construction	\$1,176,000.00
14	BIA 7 No Mouth Creek Bridge Replacement	BIA 7, S of Blackfoot, Dewey Co	Bridge Replacement	\$1,000,000.00
15	BIA 7 Virgin Creek Bridge Replacement	BIA 7, E of Promise, Dewey Co	Bridge Replacement	\$1,500,000.00
16	BIA 7 Moreau River Bridge Replacement	BIA 7, north of Promise, Dewey Co	Bridge Replacement	\$4,180,000.00
17	BIA 3 Pavement Preservation	US212 to Moreau River, Dewey Co	Full and partial reconstruction	\$13,170,000.00
18	BIA 2 Culvert Assessment and Scour Protection	3 locations between SD63 and Whitehorse Rd, Dewey Co	Culvert replacement and scour protection	\$1,607,390.00
19	BIA 2 Resurfacing	BIA 2, Dewey County	Stabilized road base with double chip seal and blotter coat	\$5,520,000.00
20	BIA 2 Moreau River Encroachment	4 mi E of SD63, Dewey Co	Scour protection and bank stabilization	\$371,000.00
21	Pavement Preservation - Crack Seal	Community streets in Eagle Butte, Cheyenne River IHS Center, Habitat for Humanity housing, Thunder Butte	2.3 miles crack sealing	\$55,170.00
22	Pavement Preservation - Crack and Chip Seal	Community streets in Bear Creek, Cherry Creek, Eagle Butte, Dupree, Fox Ridge Housing, Habitat for Humanity housing, Iron lightning, No Heart housing, Timber Lake	15.6 miles crack and chip sealing	\$338,550.00
23	Pavement Preservation - Nonstructural Overlay - West	Community streets in Bear Creek, Bridger, Cherry Creek, Dupree, Takini	1.9 miles nonstructural overlay	\$567,150.00
24	Pavement Preservation - Nonstructural Overlay - East	Community streets in Eagle Butte, Green Grass, Habitat for Humanity housing, LaPlant, No Heart housing, Timber Lake, Whitehorse, one mile of BIA 14	5.2 miles nonstructural overlay	\$1,564,320.00
25	Pavement Preservation - Structural Overlay - West	Community streets in Bear Creek, Bridger, Cherry Creek	1.8 miles structural overlay	\$921,500.00
Subtotal				\$42,641,080.00





**FIGURE EX-15 - Long Range Projects and Costs - Part 2**

Project #	Project Title	Project Location	Project Description	Estimated Cost
26	Pavement Preservation - Structural Overlay - East	Community streets in Eagle Butte, Green Grass, Habitat for Humanity housing, LaPlant, No Heart housing, Timber Lake, Whitehorse, one mile of BIA 14	2.7 miles structural overlay	\$1,366,380.00
27	Pavement Preservation - Structural Overlay w/Digouts	Community streets in Cherry Creek, Eagle Butte, Swiftbird, Whitehorse, one mile of BIA 14	2.7 miles structural overlay w/ digouts	\$1,512,130.00
28	Pavement Preservation - Partial Reconstruction	Community streets in Cherry Creek, Eagle Butte, Swiftbird, Takini, and Whitehorse	1.1 miles partial reconstruction	\$1,711,650.00
29	Pavement Preservation - Full Reconstruction	Community streets in Swiftbird; BIA 7 north of the Moreau River bridge	1.8 miles full reconstruction	\$3,514,070.00
30	Sidewalks Condition Survey	Reservation wide	Assessment, GIS mapping	\$12,500.00
31	New Tribal Housing Streets	Reservation wide	Paved construction, 1 mile	\$1,750,000.00
31.1	New Tribal Housing Streets	Reservation wide	Gravel construction w/drainage, 1 mile	\$200,000.00
32	Inventory Updates	Reservation wide	Surveying, GIS, administrative	\$35,000.00
33	NTTFI Route 7061	Eagle Butte S of 2nd Airport Rd, Ziebach Co	Curve flattening and safety updates	\$1,172,500.00
34	BIA 6 Resurfacing	BIA 6, Ziebach County	Stabilized road base with double chip seal and blotter coat	\$9,600,000.00
35	BIA 13 Resurfacing	BIA 13, Ziebach County	Stabilized road base with double chip seal and blotter coat	\$2,610,000.00
36	BIA 14 Resurfacing	BIA 15, Ziebach County	Stabilized road base with double chip seal and blotter coat	\$1,410,000.00
37	County Rd 9015 Resurfacing	Between BIA 2 and Whitehorse, Dewey Co	Stabilized road base with double chip seal and blotter coat	\$510,000.00
38	County Rd 10 Reconstruction	North of BIA 3/BIA 7 junction, Dewey Co	Asphalt reconstruction, BUILD/TIGER grant application, funding coordination	\$13,650,000.00
39	BIA 19 Resurfacing	BIA 19, Dewey Co	Stabilized road base with double chip seal and blotter coat	\$1,560,000.00
40	BIA 8 Resurfacing	Between BIA 19 and Rte 8509, Dewey Co	Stabilized road base with double chip seal and blotter coat	\$6,360,000.00
41	BIA 803	BIA 803, Dewey Co	Gravel Resurfacing and Gravel Construction	\$795,000.00
42	New Tribal Transportation Facility	Eagle Butte, Co undetermined	New facility construction, parking lot access	\$3,500,000.00
43	Eagle Butte Tribal Daycare New Road and Parking Lot	Eagle Butte, Dewey Co	New road and parking lot	\$275,000.00
44	Touch the Clouds Subdivision New Street	Eagle Butte, Dewey Co	Paved construction, 2 mi	\$3,500,000.00
45	County Rd 55 Resurfacing	Eagle Butte, Ziebach Co	Stabilized road base with double chip seal and blotter coat	\$420,000.00
46	County Rd 224 1/2	Dupree, Ziebach Co	Correct drainage issues	\$10,000.00
47	County Rd 7810	West of Dupree, Ziebach Co	Stabilized road base with double chip seal and blotter coat	\$150,000.00
Subtotal				\$55,624,230.00





**FIGURE EX-16 - Long Range Projects and Costs - Part 3**

Project #	Project Title	Project Location	Project Description	Estimated Cost
48	Community Sidewalks, Bear Creek	Dewey Co, see Figure 5-19	New sidewalks, 0.9 mi	\$180,000.00
49	Community Sidewalks, Blackfoot	Dewey Co, see Figure 5-20	New sidewalks, 0.8 mi	\$160,000.00
50	Community Sidewalks, Bridger	Ziebach Co, see Figure 5-21	New sidewalks, 1.0 mi	\$200,000.00
51	Community Sidewalks, Cherry Creek	Ziebach co, see Figure 5-22	New sidewalks, 0.3 mi	\$60,000.00
52	Shared Use Path, Cherry Creek	Ziebach co, see Figure 5-22	Shared use path w/lighting, 0.4 mi	\$260,000.00
53	Community Sidewalks, Dupree	Ziebach Co, see Figure 5-23	New sidewalks, 4.5 mi	\$900,000.00
54	Community Sidewalks, Eagle Butte	Dewey Co, Ziebach Co, see Figure 5-24	New sidewalks, 7.0 mi	\$1,400,000.00
55	Community Sidewalks, North Eagle Butte	Dewey Co, see Figure 5-25	New sidewalks, 8.0 mi	\$1,600,000.00
56	Shared Use Path, Eagle Butte	Dewey Co, Ziebach Co, see Figure 5-26	Shared use path w/lighting, 1.4 mi	\$910,000.00
57	Community Sidewalks, Green Grass	Dewey Co, see Figure 5-27	New sidewalks, 0.3 mi	\$60,000.00
58	Community Sidewalks, Iron Lightning	Ziebach Co, see Figure 5-28	New sidewalks, 1.0 mi	\$200,000.00
59	Community Sidewalks, LaPlant	Dewey Co, see Figure 5-29	New sidewalks, 1.0 mi	\$200,000.00
60	Shared Use Path, LaPlant	Dewey Co, see Figure 5-29	Shared use path w/lighting, 1.0 mi	\$650,000.00
61	Community Sidewalks, Promise	Dewey Co, see Figure 5-30	New sidewalks, 0.3 mi	\$60,000.00
62	Community Sidewalks, Red Scaffold	Ziebach Co, see Figure 5-31	New sidewalks, 0.7 mi	\$140,000.00
63	Shared Use Path, Red Scaffold	Ziebach Co, see Figure 5-31	Shared use path w/lighting, 0.5 mi	\$325,000.00
64	Community Sidewalks, Swiftbird	Dewey Co, see Figure 5-32	New sidewalks, 0.8 mi	\$160,000.00
65	Community Sidewalks, Takini	Ziebach Co, see Figure 5-33	New sidewalks, 1.1 mi	\$220,000.00
66	Community Sidewalks, Thunder Butte	Ziebach Co, see Figure 5-34	New sidewalks, 0.4 mi	\$80,000.00
67	Community Sidewalks, Timber Lake	Dewey Co, see Figure 5-35	New sidewalks, 7.7 mi	\$1,540,000.00
68	Community Sidewalks, Whitehorse	Dewey Co, see Figure 5-36	New sidewalks, 0.6 mi	\$120,000.00
			Subtotal	\$9,425,000.00

**Grand total - all long range projects \$107,690,310.00**



## RECOMMENDED STUDIES

Some transportation issues were identified that were beyond the scope of this transportation plan. Additional analysis is needed to explore potential improvements. A list of recommended transportation studies follows:

- Sidewalk Conditions and Needs Survey - There were several areas observed in CRST communities where sidewalks are old and deteriorating or missing altogether. Sidewalk replacement and repair can be costly. CRST has limited resources and cannot reasonably repair or replace sidewalks in the same year that the needs are identified. A comprehensive survey would provide current conditions of existing sidewalks, which the Tribe can then utilize to establish a schedule for maintenance, repairs and replacement, and new construction. There is a project in the long range element of the LRTP for this scope of work (Project #21).
- Signing Inventory and Consistency Study - Existing traffic control signs within the Reservation should be inventoried. This will allow further analysis to determine whether they have been appropriately and consistently applied. This measure would provide verification that appropriate traffic control signing (stop and yield signs) are in place and within MUTCD specifications, increasing safety for the traveling public. The SDDOT conducted a paved roads sign inventory in each county beginning late 2018.
- Non-paved roadway conditions survey - a set of standards and procedures needs to be established for categorizing non-paved roadway conditions, as well as for establishing future priorities for varying levels of effort to be applied to improve these roads.
- Complete a study of street lighting conditions and needs within CRST towns and subdivisions.
- Complete Reservation wide road safety audits (RSAs).
- Complete a culvert inventory. Analyzed data can then be used to update the Tribe's FEMA database, and input into GIS to provide spatial relationships.
- Reservation wide crash data analysis to be used for data collection, sharing, and analysis. This would include entering BIA crash records into TraCS system.
- Conduct Reservation wide seat belt utilization study.
- Conduct a geological study to identify and develop a new aggregate source in the southwest part of the Reservation.
- Conduct a utilities study to identify underground mains and record locations with GIS mapping.

