

November 2017



Lower Brule Sioux Tribe Transportation Safety Management Plan



ENGINEERING, REIMAGINED

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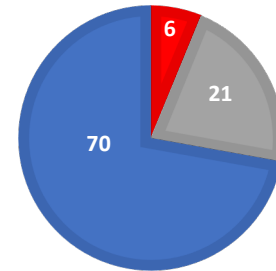


EXECUTIVE SUMMARY

From 2006 to 2016, there were 97 traffic crashes recorded on the Lower Brule Reservation that resulted in six fatalities and 21 injuries. While the data includes Lyman and Stanley Counties, the vast majority of the crashes are occurring near Lower Brule or along BIA Route 10. It was also determined that the data may not include all crashes, since two crashes in 2011 killed a total of seven people on the Reservation. These crashes were recorded by the Lower Brule Sioux Tribal (LBST) Law Enforcement who provides crash reports to the Bureau of Indian Affairs (BIA), who may not have sent these to be recorded by the South Dakota Department of Transportation (SDDOT). The causes of these severe crashes are varied, but can be tied to a few significant factors, including animals, overturn-off-road, and fixed object. In addition, the road conditions on the Lower Brule Reservation have degraded to such an extent, these crashes may be result of drivers trying to avoid or hitting heaves or holes in the roadways.

**TYPES OF CRASHES ON
LOWER BRULE RESERVATION
FROM 2006 TO 2016**

■ Fatal ■ Injury ■ Property Damage



Source: SDDOT Accident Records System, 2017

In 2017 the LBST undertook efforts to develop a Tribal Transportation Safety Plan that would identify existing safety efforts, transportation safety issues and strategies for implementation that would address these issues. As part of the safety plan development, Tribal, state, federal and interested parties came together to review existing data, ongoing safety efforts on the Reservation, and to identify new or continuing strategies to improve transportation safety in the tribal community. The strategies were prioritized around the 4Es (Education, Enforcement, Emergency response and Engineering) of safety. The 4Es are outlined below. Note that enforcement and emergency response have been combined and safety planning/other strategies have been included.

Education

- Develop a Reservation-Wide Transportation Safety Education Program

Enforcement/EMS

- Provide Increased Safety Enforcement or Tribal Highway Safety Officer
- Acquire Transportation Enforcement Equipment
- Modify Existing Traffic Code

Engineering

- Perform Road Safety Audits on BIA, Tribal and County Roadways
- Develop Multi-Use Paths and Pathway Lighting Projects
- Roadways Requiring Improvements for Safety

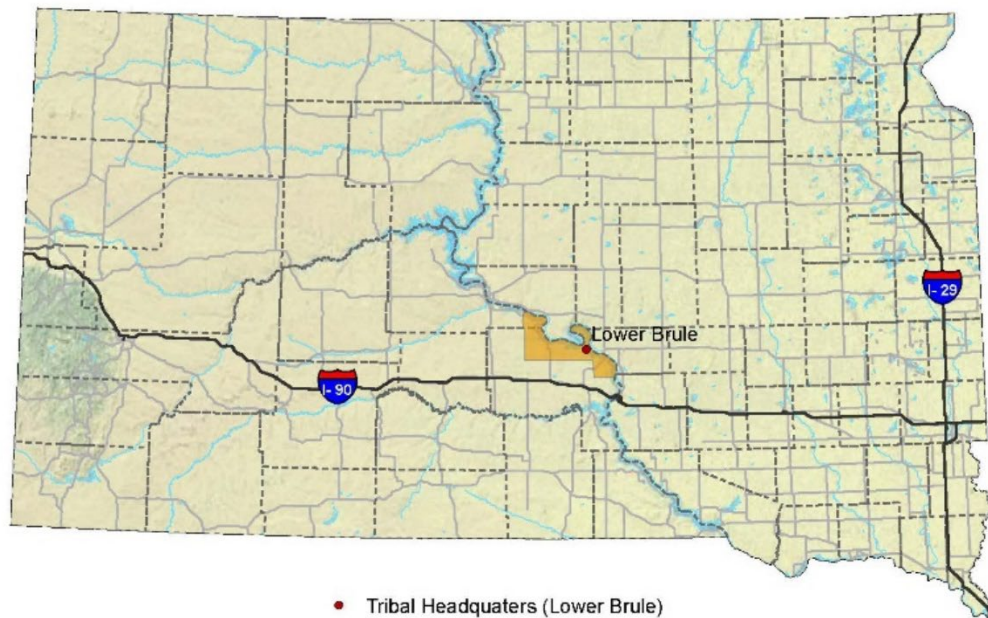
Safety Planning/Other

- Develop a Transportation Safety Committee
- Coordinate With SDDOT On Mowing Ditches
- Transit Program Improvements



BACKGROUND

The Lower Brule Reservation (the Reservation) is in central South Dakota along the western banks of the Missouri River, approximately 15 miles north of Interstate 90. The Reservation encompasses approximately 246,000 acres. The Lower Brule Sioux Tribal (LBST) community mainly resides in the north-central portion of the Reservation, with major roadways proceeding to and from the Lower Brule community including BIA Route 5 to the south-southeast, BIA Route 3 to the north, BIA Route 10 (Medicine Bull Memorial Highway) to the west, and BIA Route 10 to the south - southwest. The Reservation is located within both Lyman County and Stanley County with Lyman County in the southern portion of the Reservation and Stanley County in the northern portion of the Reservation.



The top three industries within the Lower Brule Reservation based on US Census Bureau 2011-2015 American Community Survey 5-year Estimate is public administration, educational services/health care/social assistance, and arts/entertainment/recreation/accommodations/food services. Economic draws to the Lower Brule Reservation include recreation tourism from the Missouri River, gaming (Golden Buffalo Casino, Motel, and Convention Center), and hunting/fishing.

Approximately 175 miles of roadways are owned and maintained by several different entities on the Reservation, including Bureau of Indian Affairs (BIA) South Dakota Department of Transportation (SDDOT) (38 miles), Stanley County, Lyman County, LBST (47.1 miles), and private.



Available data has indicated that injury and fatality crash rates on reservations are higher than the rest of the United States. Federal programs are available to help resolve traffic related crashes and provide safer reservation transportation routes for Tribal members and the traveling public. The Federal Highway Administration (FHWA) created the Tribal Transportation Program Safety Funds (TTPSF) aimed at addressing safety issues and needs of Tribal governments for transportation and access on Reservations. Each year, two percent (of the total available Tribal Transportation Program (TTP) funds of \$475,000,000 (FY 2017) are awarded for safety improvements through a competitive application program. Funds were awarded in four categories to complete improvements that prevent and reduce injuries and fatalities resulting from traffic related crashes, but have recently been reduced to two. The four categories and their respective funding goals are as follows:

Strategy	Funding %
Safety Planning	40%
Engineering	30%
Enforcement/EMS	0%
Education	0%

FHWA has emphasized the development of a Tribal TSMP as a first step in implementing a comprehensive safety program. This is clearly seen in the funding emphasis on safety planning and the ranking criteria that requires any safety project application be linked to a transportation safety plan.

A Tribal TSMP is a community based, multi-disciplinary approach to identify transportation safety issues and potential implementation strategies with the goal of improving transportation safety on Tribal Lands. The FHWA describes them as:

“Tribal Transportation Safety Plans are a tool used to identify and address transportation risk factors that have a potential of leading to serious injury or death. Safety Plans also organize the efforts of a variety of entities to more effectively reduce risk and can cover multiple transportation modes (roads, maritime, trails, air travel, and others). Safety plans may lead to implementation of a project or program, renewed efforts in an existing program, or further study of a roadway section (using an engineering study or Road Safety Audit).

“A Tribal Safety Plan should not be developed with a focus on any one funding source. Instead, a Tribal Safety Plan should demonstrate the safety concerns in a community and the strategies that will be explored to implement the plan. To the greatest extent possible, the concerns demonstrated by a safety plan should be selected based on incident history (data). Data allows funding



entities to understand the needs and may even compel the funding of the community's needs. Safety Plans can provide a forum for utilizing data sets that are not otherwise considered by funding agencies such as public testimony when formal crash data does not exist.”

Benefits of developing safety plans have been well documented and include the opportunity to leverage resources, work toward a common goal and consider all road users resulting in reduced deaths and injuries in Tribal and other communities.

The Tribal Strategic Safety Plan of August 2017, developed by the Tribal Transportation Safety Management System Steering Committee provides an overall picture of tribal transportation safety issues and measures that can be taken to reduce this issue. As stated in the plan, *“This Tribal Transportation Strategic Safety Plan offers an assessment of transportation safety needs in Tribal areas and provides Tribal Governments with strategies and resources that can be utilized in the pursuit of saving lives.”* Data identified in this plan, although a compilation of national data, can be used in preparation of individual Tribe’s safety plans, especially in comparing national trends to specific reservation crash data and strategies that can be used to reduce crashes and fatalities.

In addition to a safety plan, safety data is considered critical for informed transportation safety decisions. Using crash data systems such as South Dakota Accident Reports and Records that maintain crash statistics for throughout the state, including crash reports submitted to SDDOT for crashes occurring on Reservations helps to identify the routes with the most need for infrastructure improvements for safety.

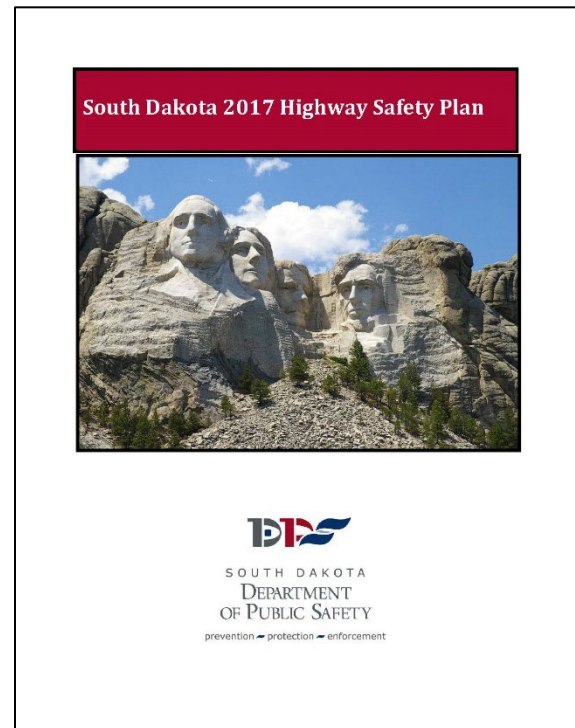
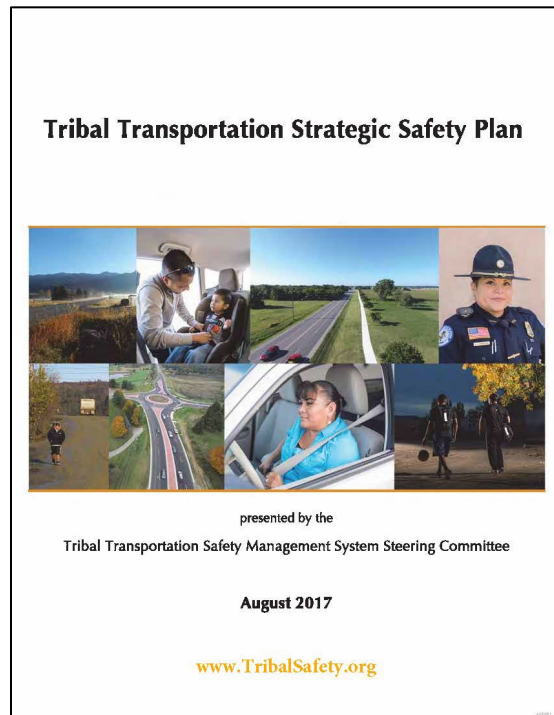
The 2017 South Dakota Highway Safety Plan identifies ways to improve the safety of the state’s highway users. Specifically, this plan, *“...integrates discussion of data trending, priority areas, performance measures and objectives, and specific projects to be undertaken by the Office of Highway Safety through the end of FFY2017”*. Data reviewed for this plan included number and cause of fatalities and number and cause of injuries looking at factors such as speeding, alcohol, and seatbelt use.

The process taken for the 2017 SDDOT HSP is similar to the process for this Transportation Safety Management Plan. The transportation safety issues and the data used to identify these issues is also used to identify the transportation safety issues that need to be addressed on highways/roads on the Reservation.

In addition to the plan above, each year South Dakota Department of Transportation assists in hosting a Tribal Transportation Safety Summit. This Summit is held by a host tribe and allows any tribal members, Federal, State, and local agencies, and private consultants to attend and listen in on safety strategies that have worked and some that may not have from tribal members. This summit provides opportunities for the



tribes to provide comments and information to Washington D.C. representatives to assist in further educating lawmakers on how the use and need for grants and money is needed to address these transportation safety issues.





DATA ANALYSIS

One of the important factors in the development of a Tribal Safety Management Plan is analyzing the available crash data to identify the issues. This will then assist in the development of strategies. Data is also an important resource as Tribes apply for Federal and state safety funding, as many request data to support the grant application. Available crash data shown in this plan was obtained from the South Dakota Department of Public Safety Data (SDDOT data) and was analyzed to reflect contributing factors to traffic-related deaths and injuries on the Reservation. The SDDOT data includes all crash information recorded and submitted to SDDOT. Crash information documented by LBST Tribal Police is provided to BIA and may not be included this data set.

Total Crashes

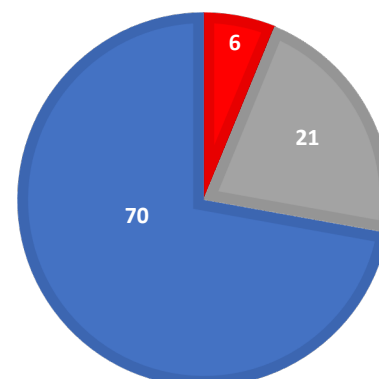
From 2006 until 2016 there were 97 recorded crashes on the Reservation according to the SDDOT accident records data. This included both Lyman and Stanley counties. For this same time span, according to the SDDOT accident records data, the top three contributing factors for crashes in Stanley County and Lyman County are animal-related (approximately 55 percent), fixed object (approximately 11 percent in Stanley and approximately 12 percent in Lyman County), and overturn-off road (approximately 8 percent in Stanley County and 13 percent in Lyman County). Other types of contributors to crashes include rear end, angle-intersections, parked vehicles, and sideswipe-overtake. Of the crashes, the highest percentage occurred during the month of November and on dry pavement.

The correlation between animal crashes and the month of November having the highest number of crashes may be due to hunting season and deer moving not only from hunters but to locate places to forage. According to State Farm Insurance rankings of states with high likelihood of deer-vehicle crashes in 2017, South Dakota ranks sixth in the nation. This number is calculated by driver numbers from Federal Highway Administration and insurance claim information.

To further address this issue, South Dakota Game, Fish, and Parks has developed a South Dakota White-Tailed Deer and Mule Deer Management Plan, 2017-2023. One of the reasons for this document is to work cooperatively with municipalities and other agencies in South Dakota to manage urban deer and deer vehicle collisions. Specifically,

**TYPES OF CRASHES ON
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FROM 2006 TO 2016**

■ Fatal ■ Injury ■ Property Damage



Source: SDDOT Accident Records System, 2017



SDGFP is working to develop some MOUs with tribes with natural resource departments (like Lower Brule Sioux Tribe Department of Wildlife, Fish & Recreation) with mutual interests in collaborating operations such as conducting and sharing wildlife surveys. By better tracking populations and locations of the deer, roadways near these areas can then have safety measures put into place to alert drivers (e.g. wildlife crossing signs, keeping vegetation short along roads, etc.)

The data also shows that for total crashes, driver impairment can be a contributing factor. The number of driving while intoxicated incidences in Lyman County has stayed steady from 2006 to 2016 with percentages starting at 8% in 2006 to 5% in 2016. The lowest year for alcohol related crashes was in 2015. Stanley County fluctuates dramatically with 2% for four years (2006, 2007, 2008, 2009, 2010) to 13% in 2016. The data does not show why the trend increased so dramatically in 2016 and at the Stakeholder meeting, participants were not able to clarify why this would be so high.

Below specific roadways/highways are identified that represent high likeliness for the causation of crashes described above based off both SDDOT accident records data and by attendees at the Transportation Safety Stakeholder meeting. These stretches of road include BIA Route 10 (Medicine Bull Memorial Highway, proceeding north from BIA Route 5), BIA Route 5 to the south, BIA Route 10 to the south to SD State Highway 47, BIA Route 3 (Little Bend Road). Additional information regarding these at-risk roadways and intersections are discussed further under the Implementation Strategies section.

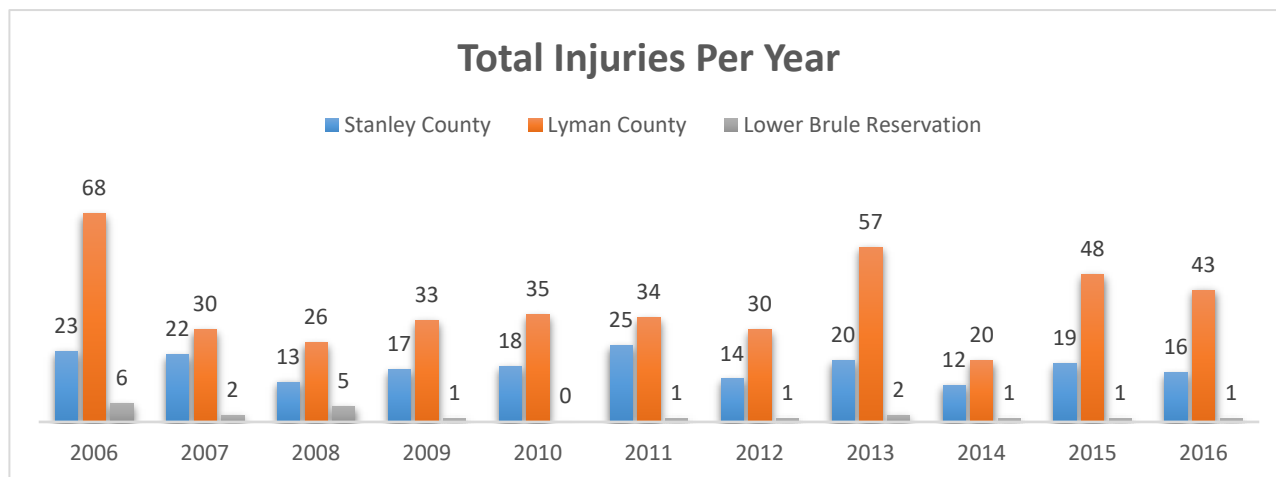
While pedestrian crashes do not show up as one of the top ten causes for overall crashes, near misses with pedestrians was one of the main concerns discussed during the Transportation Safety Stakeholder meeting, especially in relation to the at-risk highways listed above. Poor lighting and lack of pathways along these roadways could lead to pedestrian/vehicle conflicts. This concern is amplified where children walk on these roads unsupervised, especially on BIA Route 10 (Medicine Bull Memorial Highway), where children are crossing between two neighborhoods to reach a new playground or go to the KWO Trading Post gas station and pedestrians are crossing from the BIA Tribal Offices to the Law Enforcement facilities. Also, to and from neighborhoods to schools in Lower Brule, there is limited sidewalks. A need for additional infrastructure (lighting, sidewalks, flashing crossing pedestrian crossing signals, etc.) to prevent crashes and near-misses with pedestrians should be taken into consideration.

Injury Crashes

The SDDOT Public Safety data also shows a relatively low number of crashes resulting in injuries on the Lower Brule Reservation, which may be due to how injury crashes are being reported by the BIA to SDDOT. For Lyman county, injury crashes have begun



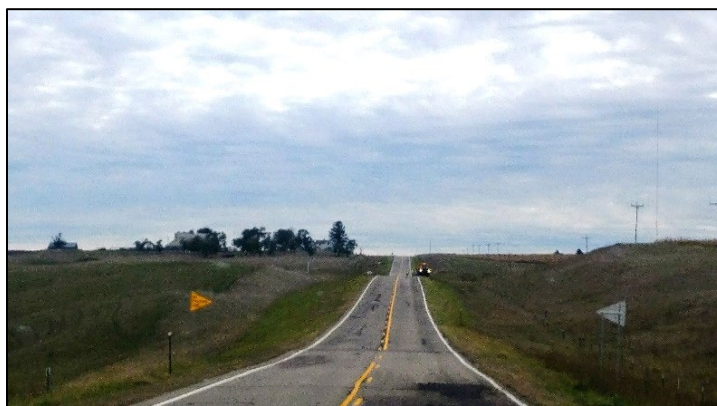
to increase the last few years after relatively stable number of injuries from crashes for six years. It is not known exactly why this is occurring.



Source: SDDOT Accident Records System, 2017

The SDDOT Public Safety Data further looks at injury crashes by breaking out the top ten types of crashes that result in injuries. As identified below, the top type of crash is overturn-off road for both Lyman (44%) and Stanley (28%) counties. This identifies a need to further educate drivers on over correcting and the use of seatbelt and passenger restraints such as car seats and booster seats to prevent injuries from occurring.

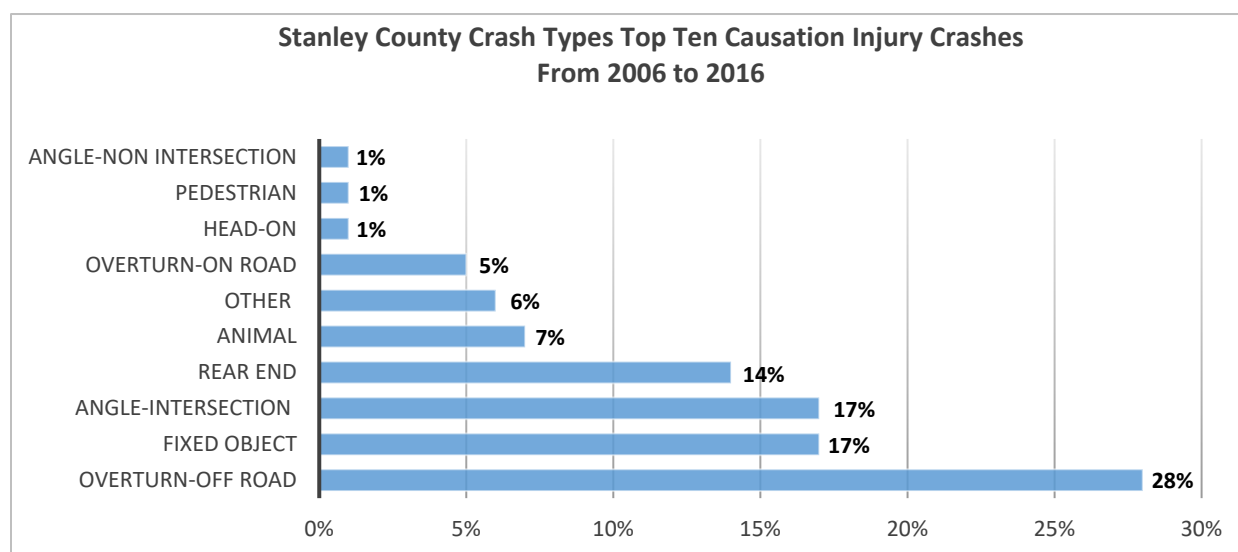
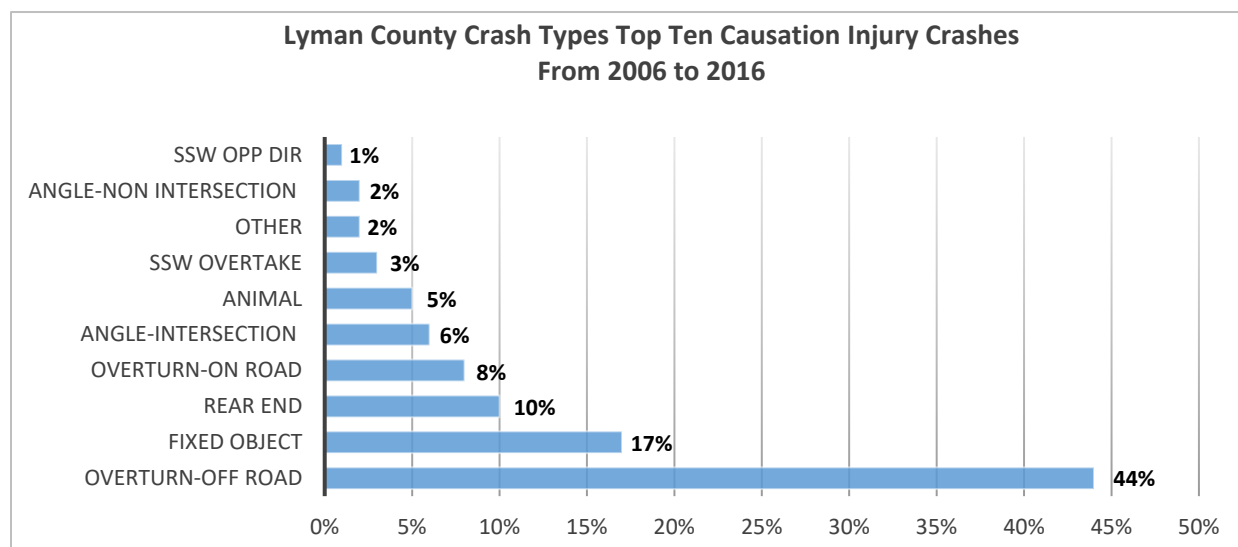
This type of crash is likely frequent on the Lower Brule Reservation due to road conditions. BIA Route 5 and Route 10 have large heaves occurring in the roadway. Even with the posted speed reduced to 35 miles per hour (mph), drivers still at times choose to drive 55 mph and swerve to miss the buckled asphalt or travel over the heaves at a high rate of speed, both resulting in loss of vehicle control at times. This was a concern that was discussed throughout the Stakeholder meeting held for this plan.



Road maintenance on BIA Route 10 to Reliance



Fixed objects crashes are at 17% for both Lyman and Stanley counties from 2006 to 2016 were second highest type of crash causing an injury. In discussions at the stakeholder meeting, fixed object crashes occurring on the Reservation tend to occur from drivers trying to avoid poor road conditions. Other types of fixed object type crashes that were discussed during the Stakeholder meeting was collisions with hay bales/round bales left in the ditches.



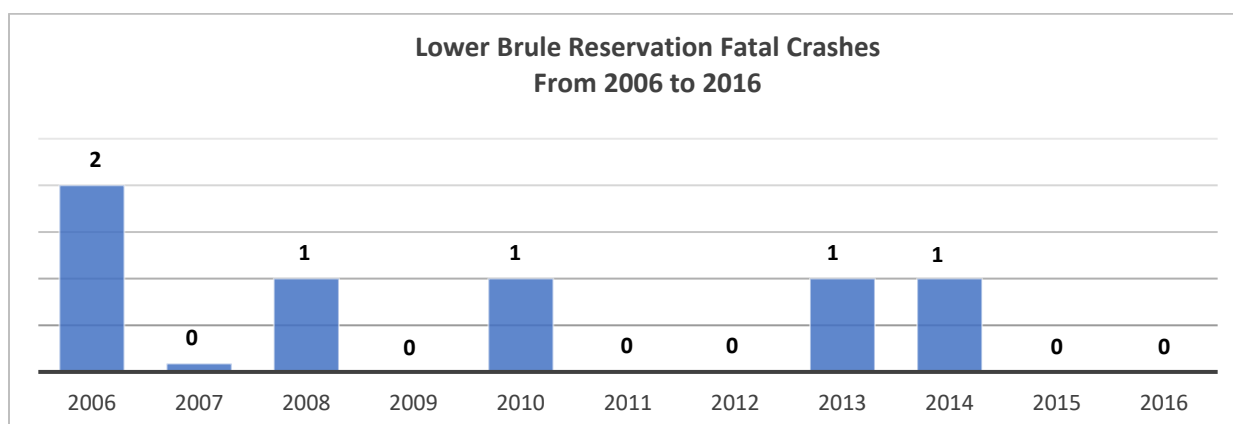
Source: SDDOT Accident Records System, 2017

Fatal Crashes

According to the SDDOT Accident Records System, from 2006 to 2016, there were a total of six fatalities. It was determined that this data may not include all fatalities

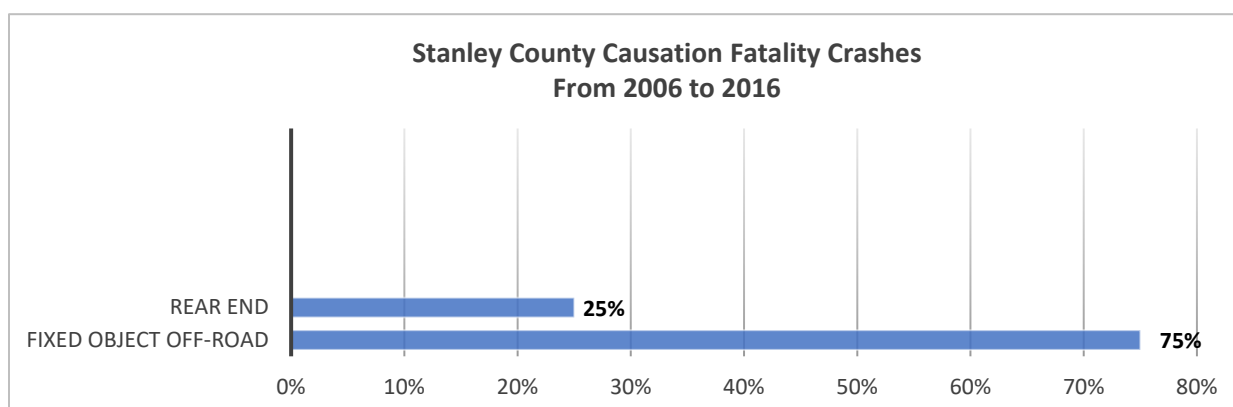


that have occurred on the Reservation. In 2011 (see table below), there were no deaths recorded. This is not accurate since seven deaths were reported by LBST Law Enforcement. Two deaths were the result of a culvert failure that caused a large portion of the roadway to collapse. As a result of this road failure, a detour route was setup. Two vehicles heading opposite directions on the detour route crashed head on, killing five people. Since LBST Tribal Police report to BIA, the reports they prepare may not always get recorded in the Fatal Accident Records System (FARs).



Source: SDDOT Accident Records System, 2017

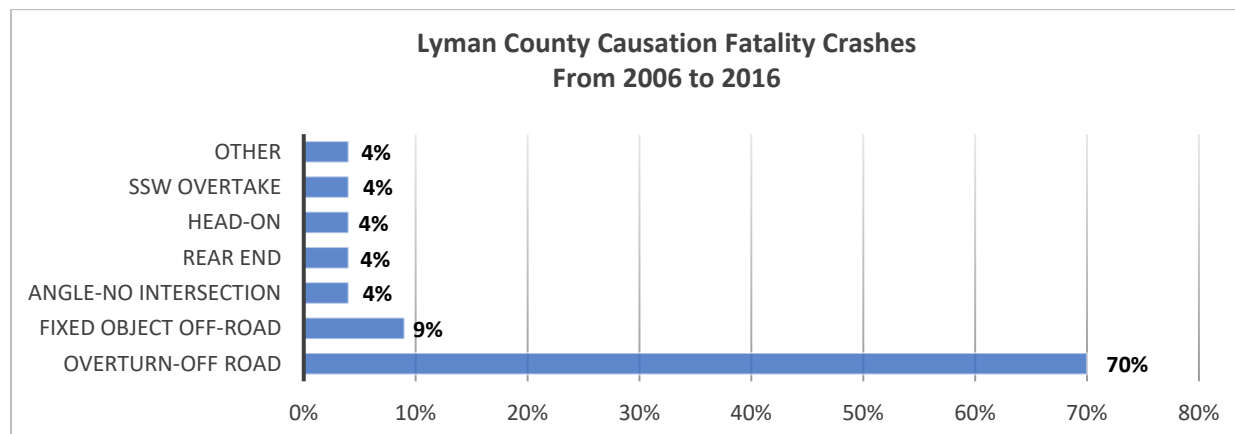
The cause of these fatal crashes, both overturn-off road and fixed object were considered the top types of fatal crashes, with 70% overturn-off road in Lyman County and 75% fixed object in Stanley County. These types of the fatal occurrences typically occur from wildlife/vehicle crashes or poor road conditions (both weather and pavement conditions). Overturn crashes were also identified in the Tribal Transportation Strategic Safety Plan as 63% of all vehicle fatalities in Tribal areas. This may be reflected by the lack of use of vehicle safety restraints which, according to the Tribal Transportation Strategic Safety Plan result in 51%+ of all vehicle fatalities in Tribal areas. The lack of seatbelt use was identified by members of the



Source: SDDOT Accident Records System, 2017



stakeholder meeting, with the need for an updated traffic code and additional traffic enforcement officers.



Source: SDDOT Accident Records System, 2017

2017 TRIBAL TRANSPORTATION SAFETY MANAGEMENT PLAN

This 2017 plan was developed using available data and the personal knowledge and expertise of the Stakeholder meeting participants. The group included state, federal and Tribal safety representatives from engineering, education, public safety and LBST Law Enforcement. A list of participants is included in Attachment B.

The Stakeholder meeting participants reviewed the available crash data and compiled a list of transportation safety issues currently affecting the Reservation. The Stakeholder meeting participants then identified existing programs on the Reservation and identified additional strategies that need to be implemented to address transportation safety issues. The next three sections document these discussions and the outcomes.

ISSUES CAUSING CRASHES ON THE LOWER BRULE RESERVATION

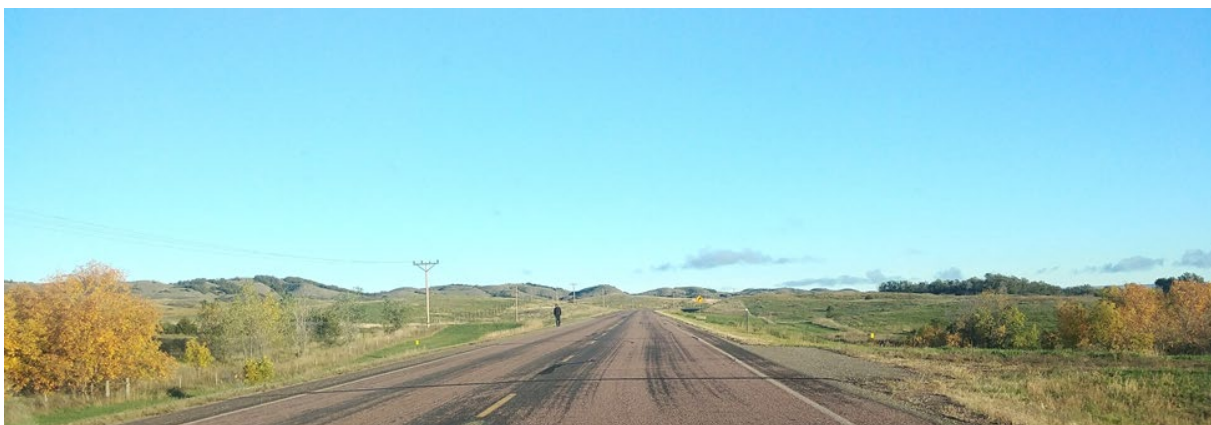
The crash data analysis and Stakeholder meeting participant observations have identified several transportation safety issues that cause crashes, increase crash severity or restrict complete data analysis. Those issue areas that are supported by the current data and based on Stakeholder meeting for increased risk of crashes include:

- Animals
- Fixed object such as roundbales/haybales left in the ditches
- Collapsing or heaving road infrastructure
- Poor road conditions
- Lack of pedestrian facilities
- Lack of lighting



The group identified a number of other transportation safety concerns based upon personal experience in the local communities. These include:

- Limited traffic code
- Intersection between LBST tribal offices and Tribal law enforcement offices needs to be re-constructed. Currently, right-turn lane identified was supposed to be temporary; Needs to be correctly designed and marked.
- Limited LBST Law Enforcement resources including no traffic officer and old traffic monitoring equipment (i.e. radars)
- Lack of pedestrian facilities along roads used by pedestrians daily including children walking to and from school and clinic
- Need for intersection improvements (sight distance, lighting, advanced warnings)
- Speeding
- No specific transit route or pick-up locations
- Need additional safety restraints for children on transit vehicles
- Need a location to house transit vehicles
- Lack of community transportation safety outreach
- Lighting that is bullet-proof
- Lack of ditches being mowed causes view obstruction and wildlife habitat



Pedestrian walking towards Lower Brule on shoulder of BIA Route 3



EXISTING SAFETY PROGRAMS ON THE LOWER BRULE RESERVATION

The LBST has currently or previously implemented or is working on safety projects and programs to address transportation safety issues on the Reservation. The list is not all inclusive, but documents programs that the Stakeholders participating in the development of the safety plan were aware of.

- The Tribe offers drivers education
- The Tribe has developed a traffic code
- LBST Law Enforcement complete accident reports and submit to BIA for crashes investigated on the Reservation. Smaller crashes that do not result in property damage or crashes where vehicle has been abandoned may not get submitted
- The Tribe has a seatbelt ordinance
- Lower Brule Transit program; Developed a manual for transit users
- Project 8 has provided childseat training and childseats to the Tribe
- The Tribe has an emergency management plan

IMPLEMENTATION STRATEGIES

The plan's main goal is to use a multi-disciplinary approach to identify safety strategies for implementation that can address the transportation safety issues on the Lower Brule Reservation. The strategies are intended to be implemented over the next several years and each have a Strategy Champion and Funding Opportunities identified. The strategies were developed as a comprehensive approach to safety, including engineering, enforcement, education and emergency management opportunities.

Education Strategies

DEVELOP A RESERVATION-WIDE TRANSPORTATION SAFETY EDUCATION PROGRAM

The LBST, law enforcement and other interested parties on the Reservation have or do provide education on transportation safety. One area that was particularly identified in the data analysis and during the stakeholder meeting was education for drivers and drivers of tribal transit vehicles on behavioral issues such as distracted driving, seat belt use and impaired driving, as well as, corrective driving maneuvers. With the high rate of crashes involving overturned off-road vehicles on the Reservation, this will be a critical program in helping to reduce crashes. This effort would use and build on national safety campaign themes on impaired driving, seat belt use, texting and driving and other transportation safety issues, by using local leaders or other notable Tribal Community members/leaders to promote safety themes. Many safety campaigns across the country have





shown a greater rate of success when they are made culturally relevant to the Tribal audience and utilize local talent to deliver the safety message. The LBST has received past funding but it was not sufficient for larger cost-items such as PSAs, Arrive Alive Programs, billboards using local artistry, banners, videos, Tribal safety posters and other safety education materials that would be used in education programs, during Pow Wows and at other community events.

Strategy Champion: Lower Brule College, LBST Transportation Department, and LBST Law Enforcement

Funding Opportunity: BIA Indian Highway Safety Program Funding.

Enforcement/EMS Strategies

PROVIDE INCREASED SAFETY ENFORCEMENT OR TRIBAL HIGHWAY SAFETY OFFICERS

Currently the LBST law enforcement is understaffed and does not have dedicated highway safety officers providing traffic enforcement services. While regular officers assist with traffic enforcement, there continues to be a large number of crashes on the Reservation. To assist in education and enforcement within the Lower Brule Reservation, it was felt that an additional officer is needed, particularly since there are only two officers currently serving the entire Lower Brule Reservation. With inadequate staffing and the demands on time that criminal activities require, highway safety enforcement by necessity becomes a lower priority. To elevate the level of highway safety enforcement, the LBST should pursue obtaining at least one or possibly two additional highway safety enforcement officers. If it is determined by law enforcement that the highest need is only during the summer months and if part time assistance is available, these could be seasonal positions.

Strategy Champion: LBST Law Enforcement

Funding Opportunity: BIA Indian Highway Safety Program Funding

ACQUIRE TRANSPORTATION ENFORCEMENT EQUIPMENT

Transportation enforcement equipment (e.g. radar guns) that the LBST Law Enforcement are currently using are older and are in limited quantities. To better ensure that roadways are monitored, the LBST Law Enforcement will require additional equipment. One way the LBST Law Enforcement can acquire equipment is by purchasing used equipment. By purchasing used equipment, the LBST Law Enforcement can purchase additional equipment for less than what new equipment would cost.

Strategy Champion: LBST Law Enforcement

Funding Opportunity: BIA Indian Highway Safety Program Funding



MODIFY EXISTING TRAFFIC CODE

The Lower Brule Sioux Tribe currently has a Traffic Code for enforcement on the Reservation. While it includes many of the items from the state code, it has not been updated in recent years. To ensure that the code covers all areas that could improve transportation safety and has an adequate fine structure, the Traffic Code should be reviewed and revised accordingly. Title 32 of the South Dakota Codified Laws includes a comprehensive section on motor vehicles that could be used for reference to determine what changes and updates would be beneficial and proposed to the Lower Brule Sioux Tribal Council.

Strategy Champion: LBST Law Enforcement, LBST Tribal Council and LBST Department of Transportation.

Funding Opportunity: None Required.

Engineering Strategies

PERFORM ROAD SAFETY AUDITS ON BIA, TRIBAL AND COUNTY ROADWAYS

Road Safety Audits (RSAs) have been an important tool for many Tribes and one that the LBST Transportation Department could utilize. RSAs provide an opportunity to bring traffic and safety expertise to assess safety concerns of routes where there are high numbers of crashes or where they have specific concerns. The goal of these RSAs is to identify safety issues and then develop specific transportation safety improvements that may include signing, lighting, striping, pathways, intersection improvement and other activities to rectify shortcomings.

To continue to build on the safety improvement and the use of RSAs, the LBST should pursue funding to accomplish RSAs on the BIA, Tribal and county roadways within the Reservation.

Strategy Champion: LBST Transportation Division

Funding Opportunity: TTP Safety Funding

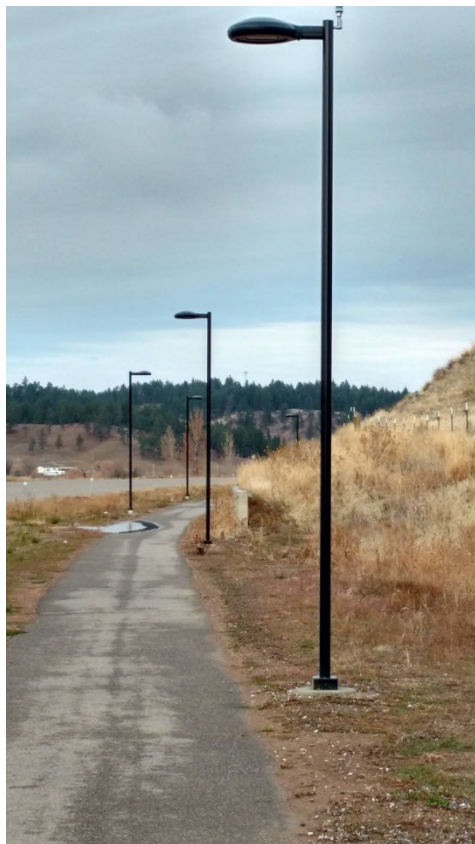
DEVELOP MULTI-USE PATHS AND PATHWAY LIGHTING PROJECTS

There are locations within the LBST Reservation where there is pedestrian/bike traffic and the LBST has identified a specific need for pathways. The locations included sidewalks within the town limits, especially near schools and health center. While the SDDOT crash data does not identify pedestrian or bike as a major crash cause, the use of these roadways by pedestrians including children make these roadways high risk for pedestrian/vehicle conflicts. Multi-use pathways need to be considered to separate pedestrians from vehicle traffic. The need for these pathways have been present for some time and have increased as new LBST Tribal housing has developed and there is a need for access to and from LBST Tribal communities and schools.



Source: Lower Brule Schools, 2017 http://www.lowerbruleschools.com/_80.html

Lighting should be considered along urban or other pathways as appropriate to increase pedestrian visibility, provide for traffic calming and potentially increase security. Solar powered and/or LED lighting could be used to reduce the cost for providing power and the need for continual power usage. Also, by using LED lights and bullet proof glass, this can prevent lights from being shot out.



Examples of pedestrian path lighting.





Roadway identified for improvements, pedestrian path and lighting due to safety concerns on the Lower Brule Reservation include:

- **BIA Route 10 (Medicine Bull Memorial Highway): From BIA Route 5 to the BIA Tribal Administration Building**

BIA Route 10 (Medicine Bull Memorial Highway) proceeds from Lower Brule to the north, to the Lower Brule Community College and BIA Tribal Administration Building. Although a sidewalk has been built along the north-side of Route 10, this sidewalk is in poor condition and requires new pavement (concrete) and needs to be widened. In addition, barricades are needed to prevent all-terrain vehicles or motorcycles from using the path as well as lighting that has bullet-proof glass to prevent the lights from being shot out. This sidewalk can then be tied into the updated walking path with lighting to the north of the BIA Tribal Administration Building.



Strategy Champion: LBST Transportation Department

Funding Opportunity: TTP Safety



Funding, TTP Funding, TAP Funding



- **BIA Route 10 (Medicine Bull Memorial Highway): West Brule Pathway and Pedestrian Crossing**



Existing pathway

BIA Route 10 (Medicine Bull Memorial Highway) from the Tribal Government Center to the west, has considerable traffic and pedestrians, especially to the new playground that was recently constructed and the KOW Gas Station. Although a side-walk has been recently built along the north-side of Route 10 with lighting, there is no sidewalk on the southside of Route 10 or access to the playground and KOW gas station. In addition, residents on the northside do not have a pedestrian crossing to allow for adults/children to cross BIA Route 10.

A pedestrian crossing including pavement markings and rapid-flashing pedestrian signs, and building a concrete path that connects to the existing path and provides access to the playground and gas station with lighting that can sustain any potential damage would greatly reduce the potential for a vehicle and pedestrian conflict.



Strategy Champion: LBST Transportation Department
Funding Opportunity: TTP Safety Funding, TTP Funding, TAP Funding



ROADWAYS REQUIRING IMPROVEMENTS FOR SAFETY

In addition to roadways that require pedestrian pathways and lighting to avoid pedestrian and vehicle crashes, there are roadways that have been identified that would benefit from additional safety measures to avoid crashes from occurring. This includes roadway infrastructure and maintenance such as signalized intersections or road re-pavement. These roadways are:

- **BIA Route 10 and SD Highway 47 to the Missouri River Crossing**

BIA Route 10 from County Road 273 to the east, where it connects SD Highway 47 and on SD Highway 47 to the Missouri River Crossing. This Route is one of the main roads to get to and from Lower Brule, as well as to access Fort Thompson. This road is relatively rural and due heaves in the roadway the speed for the route has been reduced to 35 mph but drivers still consistently drive 55mph and may swerve into oncoming lane to avoid the buckled pavement. The Tribe does attend to pothole repairs but due to lack of funding has not been able to attend to heaves. Road maintenance activities are needed to address road damage and additional signage is needed to warn drivers to slow down (e.g. flashing speed sign). Infrastructure such as rumble strips should also be used to slow drivers and prevent crossing shoulder and centerline.



Strategy Champion: LBST Transportation Department/LBST Superintendent
Funding Opportunity: TTP Safety Funding, TTP Funding



- **BIA Route 10 Culvert Replacement Sites**

The areas identified below on BIA Route 10 have been identified for culvert replacement. Due to the corrosive and unstable nature of the soils, culverts have failed in the past on the Reservation resulting in fatalities. The National Guard has committed to replacing these culverts but the Tribe is responsible for providing the materials. Due to limited funds, the materials have not been able to be purchased to replace these culverts. To prevent the potential of road failure and the potential fatalities, these culverts need to be replaced.



Strategy Champion: LBST Transportation Department/LBST Superintendent
Funding Opportunity: TTP Safety Funding, TTP Funding, TIGER Funding



- **BIA Route 5 Councilor Creek Bridge Repair/Replacement**

The BIA Route 5 Councilor Creek Bridge that crosses an inlet connected to the Missouri River has recently been reviewed and received a rating of 47, making it deficient. This BIA Route 5 is one of the main roads to get to and from Lower Brule to Fort Thompson. With a weight restriction of 17 tons, this limits what vehicles can travel across the bridge, including plow trucks used in the winter months. Vehicles over this weight limit may still travel over the bridge due to the limited Tribal law enforcement available to enforce the weight restriction. To make sure there is no bridge failure, repairs or replacement of this bridge is required.



Existing bridge

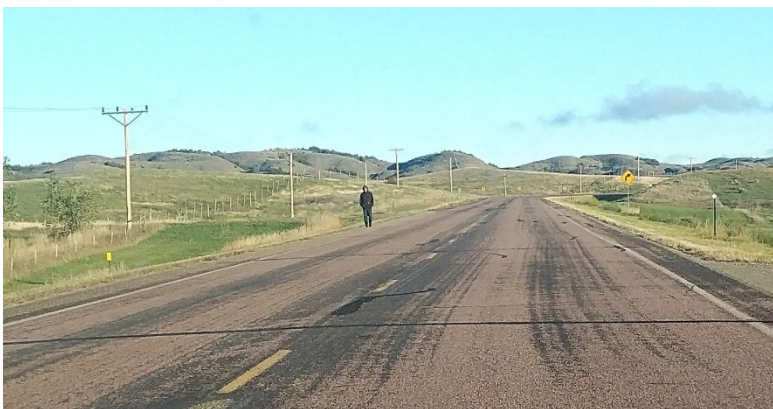


Strategy Champion: LBST Transportation Department/LBST Superintendent
Funding Opportunity: TTP Safety Funding, TTP Funding, TIGER Funding



- **BIA Route 5 and BIA Route 3 Shoulder Widening**

BIA Route 5 and BIA Route 3, extending from the northern most point from Lower Brule to the southeast, where BIA Route 5 connects to SD Highway 47, paralleling the Missouri River, has dispersed residential and recreational areas. This two-lane road has small shoulders and in some areas, steep grades that would not allow for pedestrian to easily get out of the roadway or an incapacitated car to move outside of the roadway. This



Pedestrian on BIA Route 3 proceeding north

is especially dangerous at night since there is no lighting on these roads. By widening the shoulder on these roads, this would allow for safe area for pedestrians to be out of the roadway and for stalled cars to stay out of the way of other vehicles.



Strategy Champion: LBST Transportation Department/LBST Superintendent
Funding Opportunity: TTP Safety Funding, TTP Funding



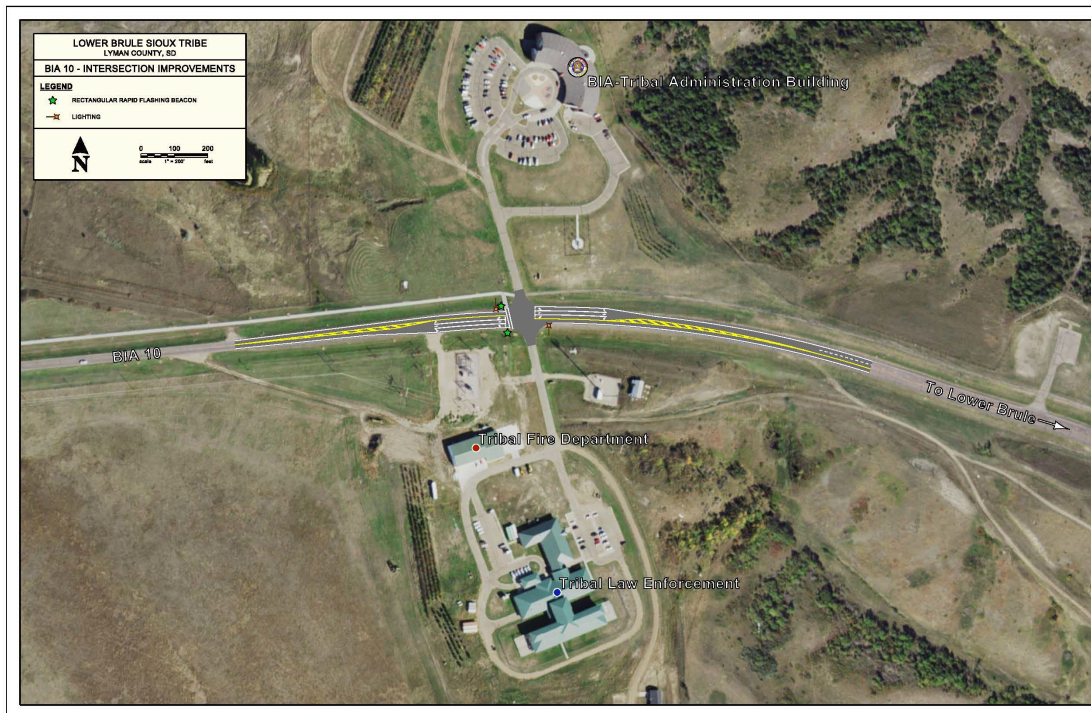
- **Intersection of BIA Tribal Administration Building and Future Fire Hall**

This intersection on BIA Route 10 is used to access the BIA Tribal Administration Building, as well as detention center and future fire hall. Currently there is not a standard turn-lane going into the Tribal Center with faded lane markers. This turn lane was originally supposed to be temporary but due to lack of funding has not been redesigned/repainted. To provide a safe turn lane that meets highway standards, this turn lane



Existing turn lane

needs to be redesigned and pavement tape or epoxy is needed to identify the lanes. A cross-walk, rapid flashing pedestrian beacon and flashing light to identify when emergency vehicles are leaving the future fire hall would also provide warning to drivers on BIA Route 10, especially when heading north and drivers have short line of sight to where vehicles may be pulling into the intersection.



Strategy Champion: LBST Transportation Department/LBST Superintendent
Funding Opportunity: TTP Safety Funding, TTP Funding



Safety Planning and Other Strategies

DEVELOPMENT OF A TRANSPORTATION SAFETY COMMITTEE

Building on the efforts that have been initiated in the development of the 2017 Tribal Transportation Safety Plan, the Tribe would like to establish a committee that includes all transportation safety stakeholders to work together to address Tribal transportation safety issues. This group could meet on a quarterly basis to develop a stronger relationship among tribal safety agencies, promote safety ordinances, identify training opportunities for transportation and law enforcement personnel, collect baseline data in seatbelt use, impaired drivers and crash statistics and apply for safety grants to address transportation safety needs. This group would become the leaders on the reservation in tracking issues and developing implementation strategies to address them.

Strategy Champion: LBST Transportation Department, LBST EMS, Lower Brule College, and LBST Law Enforcement, Indian Health Service, SD DOT.

Funding Opportunity: None required.

COORDINATE WITH SDDOT ON MOWING DITCHES

Need to coordinate with SDDOT to make sure vegetation along SDDOT roadways on the Reservation is no taller than 18" to prevent view obstructions to wildlife in the ditches. This will help to reduce potential animal/vehicle crashes.

Strategy Champion: LBST Superintendent, SDDOT

Funding Opportunity: None required.

TRANSIT PROGRAM IMPROVEMENTS

Currently, the LBST Transit program does not have a set route or pickup locations. By identifying a specific route, allows for efficient pickups that can adhere to a schedule. In addition, once a route is established, pick-up locations then can be established, allowing for shelters to be constructed to protect riders. Currently the transit vehicles do not have child seats for children under 40lbs. due to lack of funding. This limits those who can be transported. By acquiring child seats, this will allow for LBST transport families.

In addition, to better maintain vehicles and to provide a safe location for transit personnel, a storage shed should also be constructed.

Strategy Champion: LBST Superintendent, LBST Transit

Funding Opportunity: TTP Safety Funding, TTP Funding



ATTACHMENT A

LOWER BRULE
TRIBAL TRANSPORTATION SAFETY PLAN STAKEHOLDER MEETING
Meeting Agenda
October 04, 2017

- 10:00 a.m. Welcome and Introductions
- 10:15 a.m. Background and Overview
Discussion of Tribal Safety Plans, including need
Presentation of Crash and Safety Data
Questions and Discussion of Data
- 11:00 a.m. Existing safety approaches (this is any practice the Tribe is utilizing to address transportation safety i.e. education to public, crash reporting/processes, EMS or engineering projects)
- 11:30 a.m. Development of Activities for Tribal Transportation Safety Plan:
Identification/Discussion of Safety issues and concerns
Safety approaches to include
Safety approaches to develop
Integration with other safety plans
- 12:00 Lunch - Provided
- 1:00 p.m. Finalize Development of Safety Activities to include in Plan
Sort by 4E's
Identification of Implementation Steps
Identification of Champions for Specific Elements
Identification of Potential Funding Sources
- 2:15 p.m. Break
- 2:30 p.m. Questions/Discussion of Process or other Items
- 3:00 p.m. Wrap up and/or Site Visit to any Locations



ATTACHMENT B

LOWER BRULE TRIBAL TRANSPORTATION SAFETY PLAN STAKEHOLDER MEETING Meeting Participants

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ATTACHMENT C

LOWER BRULE TRIBAL TRANSPORTATION SAFETY PLAN STAKEHOLDER MEETING Presentation