7th Annual

SOUTH DAKOTA
Tribal Transportation Safety Summit

PIERRE, SOUTH DAKOTA
OCTOBER 26-27, 2016

SOUTH DAKOTA DEPARTMENT OF PUBLIC SAFETY
prevention – protection – enforcement

Connecting South Dakota and the Nation

U.S. Department of Transportation
Federal Highway Administration

7th Annual South Dakota Tribal Transportation Safety Summit
Pierre, South Dakota
October 26-27, 2016

Report Developed by

KLJ

4585 Coleman Street

Bismarck, ND 58503

Prepared For

Tribal Transportation Safety Summit Planning Committee

December 2016

Contents

Introductions 4
Summit Overview 4
Summit Goals and Recommendations 5
2016 South Dakota Tribal Transportation Summit Topics 5
Welcome, Opening Prayer and Introductions 5
Best Practices and Success Stories 6
Tribal Transportation Program-Safety Funding 7
Rosebud Sioux Tribe Presentation 8
Yankton Sioux Tribe Presentation 9
Driver Safety 11
Congressional Transportation Safety Panel 12
Safety Plan Implementation 14
Rosebud Sioux Tribe Transit Update 14
Crash Reporting 14
Standing Rock Sioux Tribe Presentation 16
Oglala Sioux Tribe Presentation 17
Highway Safety Improvement Program 19
FHWA Report to Congress and Safety Updates 20
Spirit Lake Nation Update 21
Maintenance Best Practices to Improve Safety 22
Meeting Summary and Conclusions 23

Introductions

The 7th Annual South Dakota Tribal Transportation Safety Summit (Summit) was hosted by the Cheyenne River Sioux Tribe on October 26-27, 2016, at the RedRossa Conference Center in Pierre, South Dakota. On its seventh successful year, this annual event provides an opportunity for Tribes, the State of South Dakota, and federal agencies and other safety partners to jointly address transportation safety on Tribal lands. Participating in the Summit provides a way for Tribes to collaborate on the effective practices used to address challenges in providing safe transportation on their respective Reservations and government agencies and elected officials to align their safety priorities with Tribal needs. Please see the appendices for full list of attendees.

The 7th Annual Summit was a collaborative effort by representatives from the Bureau of Indian Affairs (BIA), Federal Highway Administration (FHWA), Northern Plains Tribal Technical Assistance Program (TTAP), South Dakota Department of Public Safety (DPS), South Dakota Department of Transportation (SDDOT), elected officials and the nine South Dakota Tribes.

Figure 1: The RedRossa Conference Center was the venue for the 7th Annual South Dakota Tribal Transportation Safety Summit.

Summit Overview

The purpose of the annual Summit is to allow Tribes, elected officials, law enforcement, and state and federal agencies to exchange information and ideas to improve Tribal transportation safety. The Tribal Transportation Safety Summit Planning Committee plans the summit with the goal of engaging Tribal leaders working toward the common goal of improving safety, quality of life and transportation networks for drivers and pedestrians.

Summit Goals and Recommendations

Each year, goals and recommendations from the previous year's Summit are reviewed. Goals and recommendations from the 6th Annual Summit included the following:

- Highway Safety Media Campaigns
- Tribal Transportation Project Updates
- Wildlife-Vehicle Collision Research Project
- Horizontal Curves
- Seatbelt Usage
- Tribal Safety Plans
- Traffic Incident Management
- Tribal Crash Reporting

2016 South Dakota Tribal Transportation Summit Topics

Each year's Summit topics evolve as funding resources change, new challenges arise and new innovative solutions are introduced. Discussion topics for this year's Summit included the following:

- Tribal Transportation Project Updates
- Driver Safety and Injury Prevention
- Transportation Safety Panel
- Safety Plan Implementation
- Crash Reporting
- Highway Safety Improvement Program
- Maintenance Best Practices

Welcome, Opening Prayer and Introductions

Opening remarks followed by an opening prayer were provided by Dakota Longbrake of the Cheyenne River Sioux Tribe.

Figure 2: The opening prayer was offered by Dakota Longbrake of the Cheyenne River Sioux Tribe.

Best Practices and Success Stories

Tribes attending the Summit were invited to share their stories on utilizing resources, implementing improvements and identifying and overcoming obstacles relating to transportation safety on their respective Reservations. The ten Tribes invited to the summit include the Cheyenne River Sioux, Crow Creek Sioux, Flandreau Santee Sioux, Lower Brule Sioux, Oglala Sioux, Rosebud Sioux, Sisseton Wahpeton Oyate, Standing Rock Sioux, Spirit Lake Tribe and Yankton Sioux.

The image below illustrates the location of each Tribe invited to the Summit and is followed by a summary of each Tribe's presentation. Please see the appendices for full presentations and supporting materials.

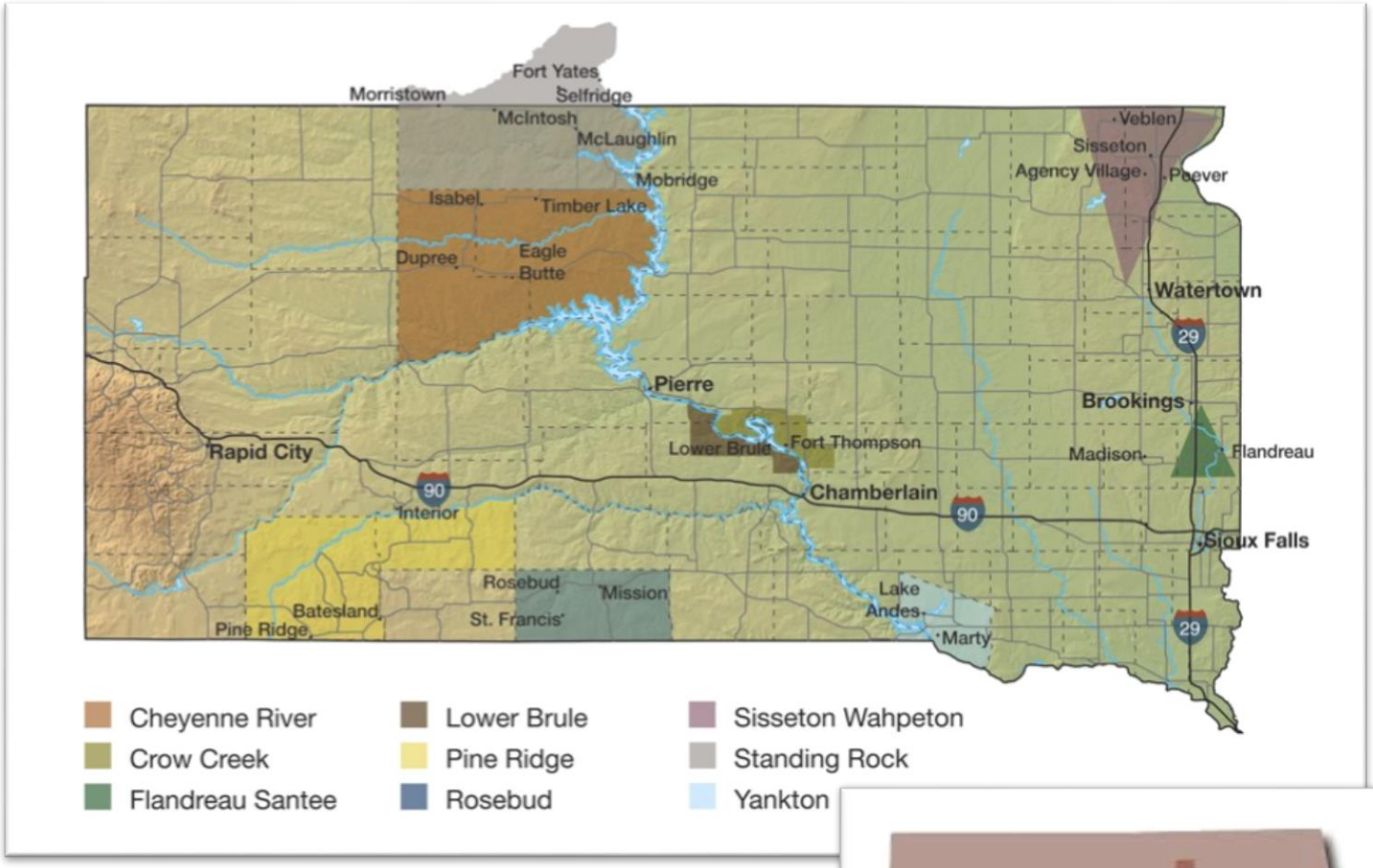


Figure 3: Location of each American Indian Reservation in South Dakota.
Source: *SD Department of Tribal Relations*

Tribal Transportation Program-Safety Funding

Presenter: Tom Croymans, BIA

Tom Croymans, Regional Roads Engineer Bureau of Indian Affairs Great Plains Region, presented on the Tribal Transportation Program Safety Funding program. In FY2016, Tribes across the United States applied for safety funding requesting more than $40 million. Following the conclusion of the FY2016 application cycle, every Tribe in the Great Plains Region has applied for safety funding. Additionally, in FY2017, several Tribes in the Great Plains Region will be eligible for a safety plan update in FY2017. This update process provides Tribes the opportunity to revisit previous priorities and include new priorities relating to transportation safety.

Figure 4: Tom Croymans, Regional Roads Engineer Bureau of Indian Affairs Great Plains Region, presented on the Tribal Transportation Program Safety Funding program.

Below is a breakdown of the FY2016 requests through Tribal Transportation Program.

FY2016 TTPSF Application Summary		
Category	**# of apps**	**Sum of TTPSF requested**
Developing a New Transportation Safety Plan	59	$ 893,400.00
Other activities, primarily infrastructure improvements, as listed in 23 USC 148(a)(4)	86	37,279,876.90
Road Safety Audit or Crash Data Improvement	26	1,950,998.00
Grand Total	**171**	**$ 40,124,274.90**

Croymans explained changes to the program made effective by the FAST Act. The program changes have condensed the safety program to fund: 1) Safety Plans & Safety Planning Activities and 2) Other Eligible Activities as listed in 23 USC 148(a)(4). These two program areas include the following eligible activities:

- Develop and update safety plans
- Road safety audits
- Crash data improvement
- Infrastructure

Croymans also briefly explained new reporting requirements resulting from the FAST Act and offered training and assistance with new reporting requirements. The reporting is to be completed by December 31, 2016. Please see the appendices for the full presentation.

Rosebud Sioux Tribe Presentation

Presenter: LaJuanda Stands and Looks Back, Transportation Planner MAP-21 Program

Figure 5: LaJuanda Stands and Looks Back, Transportation Planner with the Rosebud Sioux Tribe's MAP-21 program, shared the devastating summer crash that is driving transportation safety improvements on the Rosebud Reservation.

LaJuanda Stands and Looks Back shared an unfortunate but all too common occurrence driving the need for additional focus on Tribal transportation safety. Stands and Looks Back shared the devastating result of a July 2016 car crash that claimed 5 lives at the intersection of Highway 44 and Highway 63 on the Rosebud Sioux Tribe Reservation. She walked participants through the transportation safety factors which contributed to the crash, including:

- A hill exist that obstructs the view of the driver making it impossible to see the upcoming SD HWY 63 & 44 intersection.
- Small signage on SD HWY 44 that indicates the presence of SD HWY 63 JCT and a No Passing Zone sign prior to the intersection.
- Only local residents would know to slow down because of the intersection.
- Little to no Law Enforcement patrolling, so speeding in the area is common.

Figure 6: Stands and Looks Back shared the devastating result of a July 2016 car crash that claimed 5 lives.

"Preventing crashes like this is why safety is so important. This is 5 lives that should still be with us."
- LaJuanda Stands and Looks Back

The presentation was concluded by identifying the safety alternatives being explored to prevent deadly occurrences like the accident that devastated the Rosebud community and surrounding area. Safety improvements planned for the site include roadway lighting, additional signage and rumble strips. Additionally, she emphasized the importance of data sharing across jurisdictions in order to move safety initiatives forward effectively across jurisdictions on Reservations. She explained the role data plays in identifying sites in need of transportation safety improvements and the justification necessary to acquire funding to complete improvements before major accidents occur.

Yankton Sioux Tribe Presentation

Presenters: Gail Estes & Bonnie Neiss IDOT Planning and Louis Golus, Maintenance

Figure 7: Gail Estes shared the transportation safety efforts from the Yankton Sioux Reservation.

The Yankton Sioux Tribe presented on existing programs that support safety across the Yankton Sioux Reservation, including programs that support bike safety and car seat safety. The Yankton Sioux Tribe IDOT Transportation/Safety Programs and YST Law Enforcement Services held a Bike Safety Rodeo on May 18-20 throughout the communities on the Yankton Sioux Reservation.

The "Bike Safety Day(s)" was a hands-on exercise using bikes and obstacle courses to teach the kids the skills needed to safely stop and control their bikes. The goal of this event was to provide an opportunity for bicyclists to practice and develop the necessary skills in a fun way, so that the children will take away the proper knowledge to safely navigate bicycling on Tribal roadways and community roadways.

In 2016, the Yankton Sioux Tribe undertook efforts to develop a Tribal Transportation Safety Plan (TTSP) that identified existing safety efforts and transportation safety issues and then identified strategies for implementation that would address these issues. As part of the safety plan development, Tribal, city, county, state, federal and interested parties came together to review existing data, ongoing safety efforts and to identify new or continuing strategies to improve transportation safety in Tribal communities. The strategies were prioritized around the 4Es (Education, Enforcement, Emergency response and Engineering) of safety.

Following completion of a Tribal Transportation Safety Plan, the Yankton Sioux Tribe was able to submit grant requests for the financial resources to make safety improvements across the Reservation. The Tribe was able to submit requests for Tribal Transportation Program Safety Funds to complete the following activities:

- Road Safety Audits
- Marty Pathway Construction
- Roadway Lighting at Fort Randall
- Electronic Crash Records System

Figure 8: IDOT Planner Bonnie Neiss elaborated on the success of the Bike Safety Days hosted on the Yankton Sioux Reservation in May 2016.

Figure 9: Following completion of their Tribal Transportation Safety Plan, the Yankton Sioux Tribe was able to pursue grant funding for projects like the example shown above. The Yankton Sioux Tribe is seeking to utilize Tribal Transportation Program Safety funds (TTPSF) to construct a pathway along 303rd Street near Marty Indian School, Tribal housing, Tribal headquarters and many other amenities including education, health care and living wage employment.

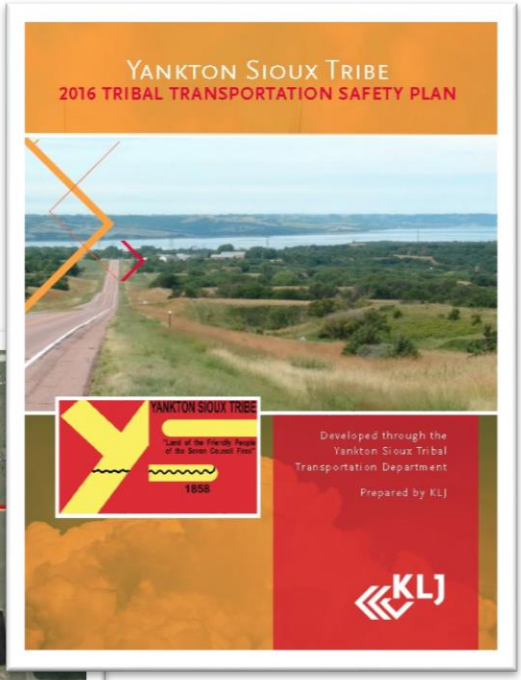


Figure 10: The Yankton Sioux Tribe completed their Tribal Transportation Safety Plan in 2016.

Driver Safety

Presenters: Arden Boxer, Northern Plains Tribal Technical Assistance Program (TTAP), Terrold Menzie Pierre District Sanitation, Indian Health Service

Arden Boxer presented on the resources and opportunities available to Tribes to continue education on transportation safety. Boxer sought information from participants to identify training and resource needs.

"My job is to make sure you have the resources and tools you need to improve safety on your reservation."
– Arden Boxer

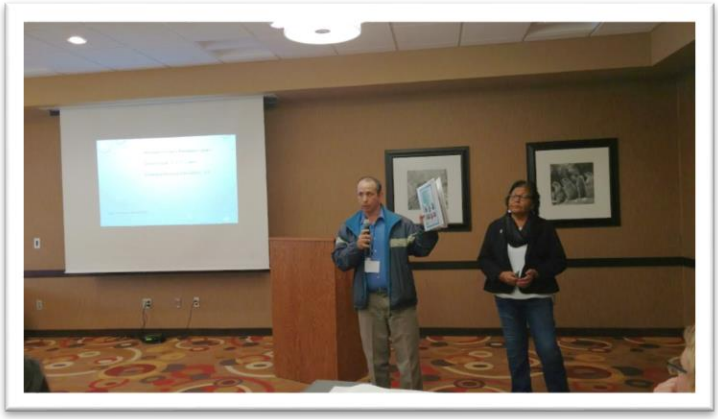


Figure 11: Northern Plains Tribal Technical Assistance Program has resources available to assist Indian Tribal Governments by increasing their technical capabilities in transportation and to expand their workforces to effectively address their transportation needs.

In response to Boxer's request for programming needs, participants expressed the need for assistance relating to multi-jurisdictional crash data collection and pedestrian safety.

Boxer and Terrold Menzie shared the resources available through Northern Plains TTAP, including tribalsafety.org, and elaborated on her plans to develop and provide resources for transportation safety planning and injury prevention. Tribalsafety.org is an online community for practitioners that have a role in reducing injuries and fatalities from transportation incidents. Contents of this site are provided by participating Tribes, Federal and State partners and TTAP Centers.

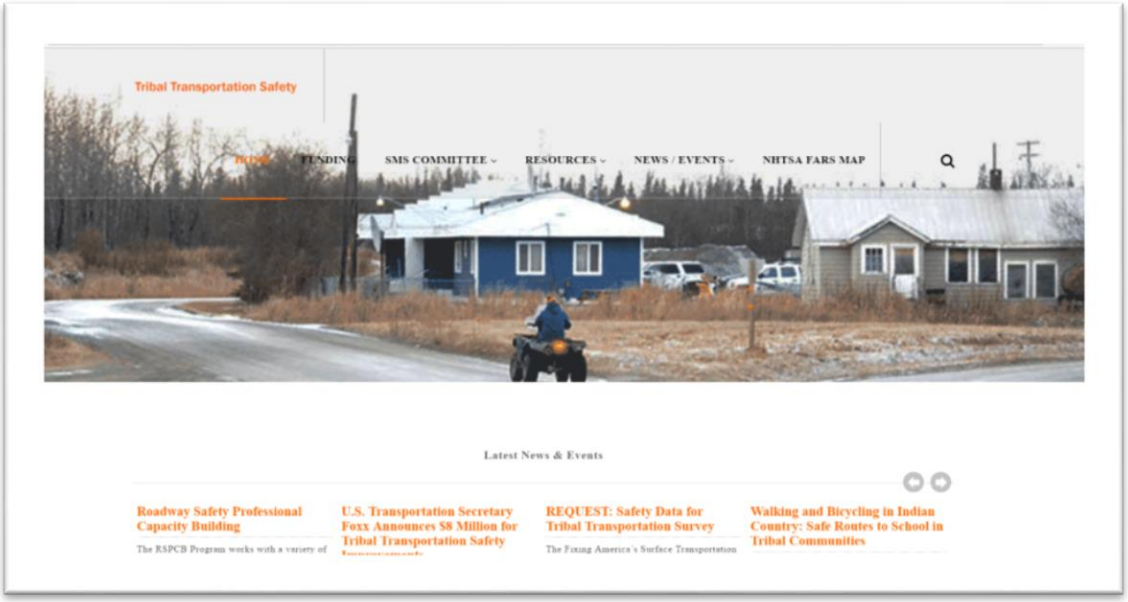


Figure 12: Tribalsafety.org is an online community for practitioners that have a role in reducing injuries and fatalities from transportation incidents.

Congressional Transportation Safety Panel

Presenters: Jeannie Hovland (Senator Thune's Office), Tyler Tordsen (Senator Rounds' Office) Rick Vallery (Representative Noem's Office)

Moderator: Secretary Darin P. Bergquist

Figure 13: The panel of South Dakota's Congressional Delegation was new to the 7th Annual Tribal Transportation Safety Summit in 2016.

New to the Tribal safety summit in 2016, a panel from South Dakota's congressional delegation participated in a listening session on transportation safety issues. This session began with introductions offered by Moderator Secretary of the South Dakota Department of Transportation, Darin Bergquist. After introductions were made, the floor was opened up for participants to ask questions and share comments with the panel.

Topics addressed through the panel discussion included:

- FAST Act and future highway bills

There was considerable discussion and concerns expressed regarding the needs of the large land based Tribes in the region and the allocation of federal transportation funding. While the funding for the program has increased, the formula to distribute TTP dollars has allowed for large numbers of proposed roads, county roads and state roads to allocate funding to Tribes with minimal BIA or Tribal road miles. This has negatively affected the Tribes in the Great Plains Region.

- Tribal Transportation Safety Funding (TTPSF)

The FAST act made a change to the Highway Safety Improvement Program (HSIP) eligibility that eliminated education, enforcement and emergency services projects as eligible activities. When the TTPSF was created, rather than develop regulations for this program, it was tied to the state HSIP program. While this change may not be significant for the state DOTs, it is a devastating blow to the Tribes, as many have applied and received TTPSF for education and enforcement activities. The Tribes present understood that legislative action would be needed, and would like to see regulations be developed for the program that would meet the needs of the Tribes.

Figure 14: Haden Merkel, Traffic Safety Coordinator, Standing Rock Sioux Tribe

- Road Maintenance

DOI funding for maintaining BIA and Tribal roads has not increased for many years and continues to be approximately $25 million per year. This level of funding does not begin to address the maintenance needs for these roads, which is requiring Tribes to transfer funding from their construction program to make up the shortfall. Dakota Longbrake said he had reviewed Tribal Transportation Improvement Programs (TIPs) and last year alone Tribes transferred $65 million in construction funding to road maintenance. This prevents Tribes from completing needed preventive maintenance, reconstruction and safety projects on the roadways. Many Tribes felt that the lack of funding is also contributing to safety problems on the Reservations.

Figure 14: Dave Kelley, Oglala Sioux Tribe Transportation Department Director

- Prompt payment

Funding for Tribal Transportation has been delayed in being made available to Tribes through the BIA and Office of Self-Governance. Some Tribes have even needed to take out loans to keep their programs operating until funds have been received. There were some questions about the prompt payment act and whether it applied to Tribes, but regardless they would like to see some help in funding being allocated promptly.

Figure 15: Cliff Eberhardt, Transportation Project Coordinator with the Sisseton Wahpeton Oyate (SWO) Construction Management Department

Figure 17: Courtney Two Lance, Oglala Sioux Tribe Office of Credit and Finance

Figure 18: LaJuanda Stands and Looks Back, Transportation Planner with the Rosebud Sioux Tribe's MAP-21 program

Other issues that were mentioned included:

- The need for better Agency, Congressional and Tribal coordination.
- Signing needs on BIA and Tribal Roads.
- Tribal consultation: needs are significantly different for large land based Tribes.
- Maintenance reporting should be expanded to include emergencies and equipment needs.

Safety Plan Implementation

Presenter: Craig Genzlinger, KLJ

Craig Genzlinger presented on the implementation of safety plans and the opportunities that exist after safety plans are complete. Genzlinger explained that beyond funding opportunities, safety plans encourage multi-jurisdictional collaboration between Tribes, localities and state Departments of Transportation.

Figure 16: Craig Genzlinger, KLJ, presented on best practices when implementing a safety plan followed by an open discussion on the successes and challenges of safety plan implementation.

Genzlinger introduced multiple safety plan implementation success stories and encouraged participants to share their success stories. Many stories were shared by participants including education programs, pathway construction and road safety audits.

Genzlinger commended the collaboration and efforts of Tribal safety planning in the state of South Dakota.

Rosebud Sioux Tribe Transit Update

Presenter: Leroy Sleeping Bear

Leroy Sleeping Bear shared the success of the transit services offered by the Rosebud Transportation Department. In 2016, Tribal transit has traveled 249,137 miles connecting passengers to employment, medical facilities and educational institutions. Sleeping Bear also explained the plans to expand transit service on the Rosebud Sioux Reservation in 2017.

The Rosebud Sioux Tribe recently received a $14.6 million TIGER grant, which Sleeping Bear said will significantly improve conditions for transit services on the Reservation. The success of the BIA Route 7 to US Highway 83 Improvement Project will minimize miles traveled by transit as the project will connect passengers from the City of Rosebud to the Casino, thus eliminating miles traveling the long way around through Mission, SD.

Figure 17: Leroy Sleeping Bear explained the anticipated benefit the Rosebud Sioux Tribe's recent TIGER award will have on transit services on the Rosebud Reservation.

Crash Reporting

Presenters: Lois Goff, Jenny Serbousek, South Dakota Department of Public Safety

South Dakota Department of Public Safety Office of Accident Records presented on crash reporting measures in place across the state of South Dakota and outlined key pieces of information included in existing crash reports. Goff explained that all the statistical information from crashes are used to generate data reports for traffic engineers, Federal, state and local governments for use in determining high traffic areas, driver improvement, roadway improvements, signing, etc.

Figure 18: South Dakota Department of Public Safety Office of Accident Records is responsible for maintaining the database of motor vehicle traffic crash information.

To encourage the ongoing improvement and Tribal crash data collection and sharing, Serbousek showed multiple ways data can be analyzed and presenting, including the form of graphs, spreadsheets and maps, like shown below.

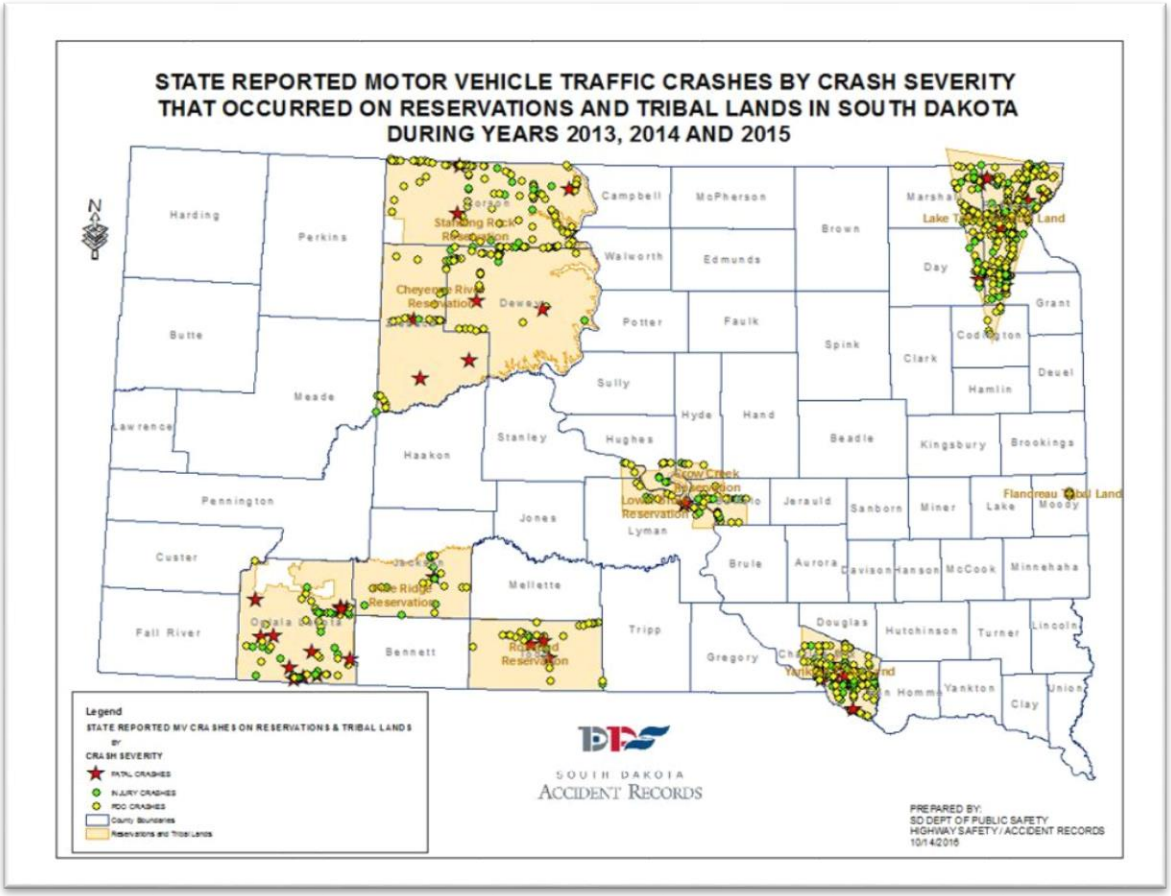


Figure 19: Shared during the presentation, the above map shows the State Reported Motor Vehicle Traffic Crashes by Crash Severity that Occurred on Reservations and Tribal Lands in South Dakota During the Years 2013, 2014 and 2015.

Standing Rock Sioux Tribe Presentation

Presenter: Haden Merkel, Traffic Safety Coordinator

Haden Merkel shared the successes and lessons learned through Standing Rock Sioux Tribe's efforts to implement and utilize TRACS. Merkel shared the pros and cons of implementation, what the Standing Rock Sioux Tribe has learned throughout the process and what commitments are required to make implementation successful. To highlight the ease of use, Merkel shared the following image to show the advanced search ability associated with TRACS:

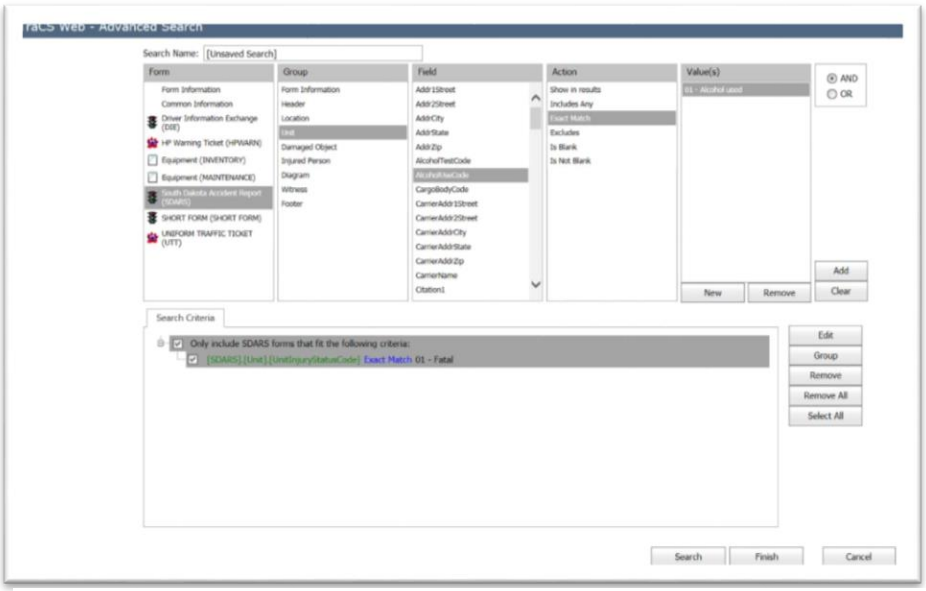


Figure 20: The TRACS software allows a local agency to build a database based upon their unique needs and requirements, and provides a user with the functionality needed to record and retrieve incident information from the database and produce traffic citations and reports.

"Partners, Funders, and Tribal leaders love having the final numbers reported—it's a big motivator to continue the program and raise awareness." – Haden Merkel

Merkel highlighted the following steps as contributing to the successful implementation.

- Designating a Tribal staff member to lead the effort and coordinate partnerships
- Signing a routine use FOIA agreement with our BIA law enforcement for paper crash reports
- Offering to help law enforcement print reports
- Understanding calls for service always come first
- Signing a MOA between the Tribe and our state partners at SDDPS and NDDOT for TRACS access and training

Figure 21: SRST has committed to continuing the development of crash data collection and sharing practices.

Merkel explained that despite struggles with implementation, getting to the point where data can be extracted makes it very worthwhile.

Oglala Sioux Tribe Presentation

Presenter: Ron Williams, KLJ

Ron Williams, KLJ, highlighted two significant projects completed by the Oglala Sioux Tribe. The first project, Scenic BIA 2 Gateway to the Badlands Tribal National Park, was completed in summer 2016. This project, which OSTDOT received a TIGER grant for, has seen a significant increase in users immediately upon completion.

Figure 23: Ron Williams, KLJ, worked with the Oglala Sioux Tribe on both the Scenic BIA 2 Gateway to the Badlands Tribal National Park and the emergency culvert replacement project.

Figure 22: Completed summer of 2016, the BIA Route 2 Gateway to the Badlands National Park Project represents more than a decade of planning and funding efforts amongst the Oglala Sioux Tribe Department of Transportation, South Dakota Department of Transportation, Oglala Sioux Tribe, US National Park Service, and the Oglala Sioux Parks and Recreation Authority and USDOT.

Oglala Sioux Tribe Transportation Director Dave Kelley shared Oglala Sioux Tribe's experience submitting a TIGER grant application 5 times in a row. The Tribe continually sought feedback after each round and continued to invest and develop their project in preparation for each round of TIGER.

Figure 24: Dave Kelley stressed the importance of never giving up and always seeking feedback when pursuing funding.

The second significant project for the Oglala Sioux Tribe was the BIA 2 Emergency Culvert Replacement project. In the spring of 2015, a 14' diameter corrugated multi-plate pipe washed out in heavy flooding. Using approximately $41.6 million of Emergency Relief for Federally Owned Roads Program funding, the emergency project replaced the washed-out culvert with 192 feet of double 11'x10' Concrete Box Culvert. Below is a photo of the culvert washout which resulted in the emergency culvert replacement.

Figure 28: The 14' Diameter Corrugated Multi-Plate Pipe washed out in heavy flooding in the spring of 2015.

"Justification to expand to the double concrete box culvert took significant coordination with multiple federal agencies, but in the end, it was worth it."
– Ron Williams

Figure 25: The washed-out culvert was replaced with 192' of Double 11'x10' Concrete Box Culvert.

Figure 30: Completed by the Tribal construction crew, the BIA 2 Emergency Culvert Replacement Project was completed in the fall of 2016.

Highway Safety Improvement Program

Presenter: Andy Vandel, Highway Safety Engineer, SDDOT

Andy Vandel, Highway Safety Engineer with the South Dakota Department of Transportation, shared the transportation safety improvement opportunities through the Highway Safety Improvement Program (HSIP). The goal of HSIP is a significant reduction in traffic fatalities and serious injuries on all public roads, including non-state-owned public roads and roads on Tribal lands.

Vandel explored eligible activities and explained that the program requires a data-driven, strategic approach to improving highway safety on all public roads. HSIP addresses safety projects that are consistent with the State's strategic highway safety plan (SHSP) and that correct or improve a hazardous road location or feature or address a highway safety problem.

Figure 26: During his presentation, Vandel shared a multi-video comparison of new technologies and practices in the use of rumble strips to enhance transportation safety.

To highlight several successes stemming from the HSIP, Vandel shared the success of multiple projects making the following improvements:

- Signage
- Intersection lighting
- Stop lights
- Turn lanes
- Roundabout
- Intersection Sight Distance Improvements

Vandel explained the significance data plays in justifying projects in general, especially through the HSIP. Vandel explained the relationship and importance of average daily traffic, roadway geometrics and crash modification factors in selecting projects. He also explained methods to be used in evaluating segments or road or proposed project areas through means such as road safety audit reviews and road safety reviews.

Vandel answered questions and pointed participants to resources for areas of concern that participants inquired about that may benefit from the HSIP.

"Everything we have talked about boils down to the data that supports the benefit cost analysis. This allows us to show Federal Highway that we are using our dollars to reduce serious injury and fatal crashes."
– Andy Vandel

FHWA Report to Congress and Safety Updates

Presenter: Adam Larsen, FHWA Federal Lands

Adam Larsen shared updates from FHWA Federal Lands on the TTP Safety Fund, Tribal Transportation Safety Management System Steering Committee and the FAST Act Safety Reports to Congress.

Figure 27: Adam Larsen shared FHWA updates with the group and fielded questions on the program and other efforts FHWA is committed to in enhancing Tribal transportation safety.

Larsen explained EMS activities and education projects are no longer eligible for TTP funds. Larsen shared his department's work on a report to Congress which includes suggestions on how to make the program more aligned with the needs from the Great Plains Region. Below is a breakdown of TTPSF applications submitted through 2016 from the Great Plains Region.

	2013	2014	2015	2016
Funds Available	$8.6M	$8.5M	$8.5M	$8.8M
Funds Requested	$27.2M	$27.1M	$37M	$40.1M
No. of Applications	239	127	167	171

Larsen also explained the role of the Safety Management System (SMS) Steering Committee in agency coordination and Tribal consultation. This committee is comprised of many federal agencies and several Tribes across the nation. The committee membership list and the committee charter is currently avialable on Tribalsafety.org.

FY2016 SMS Activitiy:

- 5 meetings – full meeting notes are available on tribalsafety.org
- Established committee January 2016
- Coordination of activities among federal agencies
- Discuss data sources and research for national safety plan
- Draft report to Congress on Tribal Governments & Safety Data
- Established website tribalsafety.org

SMS has prepared a report to Congress on Tribal governments and safety data. One element to this report relates specifically to improvement measures relating to crash data collection. An example of a recommended improvement is the use of Model Minum Uniform Crash Criteria Data (MMUCC). Further information on this crash form can be found at mmucc.us.

Spirit Lake Nation Update

Presenter: Clarence Greene, Spirit Lake Tribal Roads Director

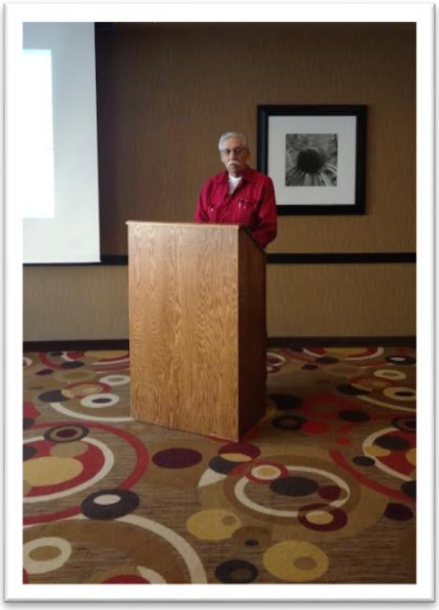


Figure 28: Spirit Lake Tribe has been working hard on improving the safety of their transportation network.

Clarence Greene shared the success of transportation improvements made and proposed on the Spirit Lake Reservation in North Dakota. The Spirit Lake Tribal Roads Department maintains more than 100 miles of BIA and Tribal roads.

Greene shared projects being completed through programs such as TTP, HSIP, and ERFO. In 2016, the Spirit Lake Tribe completed their Tribal Transportation Safety Management Plan and completed several projects including the completion of signage, rumble strips, patching, seal coat and striping.

Maintenance Best Practices to Improve Safety

Presenter: Cliff Reuer, South Dakota Local Transportation Assistance Program

Cliff Reuer reccomended several safety measures encouraged to be used to mitigate public hazards during transportation maintenance activities. Suggested safety measures included signage, slow moving vehicle emblems, amber warning lights and windrows.

Figure 29: SDLTAP also offers training workshops on topics such as asphalt maintenance, asphalt paving, culvert installation, defensive driving, geotextiles, personnel management, risk management, safety awareness, surveying, winter maintenance, work-zone traffic control and gravel roads.

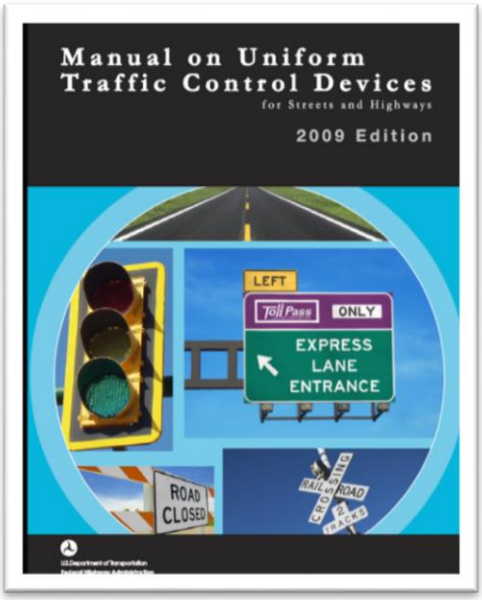


Figure 30: SDLTAP keeps government officials informed on the new publications, techniques and training opportunities that may benefit their communities.

All safety measures must meet NCHRP 350 and/or Manual for Assessing Safety Hardware (MASH) requirements in order to be utilized. The SDDOT has guides for traffic control devices to be used during maintenance activities. The Manual on Uniform Traffic Control Devices is available from the Federal Highway Administration to be used in these circumstances.

Reuer also addressed roadway shape and surface gravel quality throughout his presentation, as shown by the side-by-side comparison below.

Figure 31: Reuer explained gravel road maintenance best practices related to crown, corrugation, superelevation and gravel quality. The photo on the left displays poor practice, and the photo on the right displays best practice in gravel road construction and maintenance.

Meeting Summary and Conclusions

Participants in the Summit were encouraged to continue to collaborate as a means to continue to grow and strengthen programs on their respective Reservations.

Figure 32: June Hansen, Civil Rights Compliance Officer and Tribal Liaison with SDDOT, wrapped up the 2016 Tribal Transportation Safety Summit.

June Hansen, SDDOT, moderated the discussion for future Summit topics and planning for the 2017 Summit. The group reached consensus to host the summit again in October 2017. The Oglala Sioux Tribe has agreed to host the Tribal Transportation Safety Summit in 2017.

The group expressed interest in having Tribal law enforcement attend future summits.

Hansen thanked all participants for attending and participating and reminded all participants that a copy of the Tribal Transportation Safety Summit report will be provided and available for continued collaboration.

Appendices

Appendix A

TTP Safety Fund Update

U.S. Department of Transportation
Federal Highway Administration

Overview

- TTP Safety Fund Update
- Transportation Safety Plans

TTP Safety Fund MAP-21

- Established by MAP-21
- 2% set-aside of TTP (~$9M annually)
- Projects in Engineering, EMS, Enforcement, Education, and Safety Planning

TTP Safety Fund MAP-21

- FY13-FY15 funded 377 projects $25.6M total
- FY13-FY15 Around $91M in requests (3x available)
- ~40% of tribes funded for developing a safety plan

TTP Safety Fund

FAST ACT

- Continues 2% set aside
- Limits to two categories:
  - Safety Plans & Safety Planning Activities
  - Other Eligible Activities as listed in 23 USC 148(a)(4)

FAST Eligible Categories

- Develop & Update Safety Plans
- Road Safety Audits
- Crash Data Improvement
- Infrastructure Improvement

FY-16 TTPSF Applications

Category	# of apps	Sum of TTPSF requested
Developing a New Transportation Safety Plan	59	$ 893,400.00
Other activities, primarily infrastructure improvements, as listed in 23 U.S.C. 148(a)(4)	86	37,279,876.90
Road Safety Audit or Crash Data Improvement	26	1,950,998.00
Grand Total	**171**	**$ 40,124,274.90**

TTPSF Applications

	2013	2014	2015	2016
Funds Available	$8.6M	$8.5M	$8.5M	$8.8M
Funds Requested	$27.2M	$27.1M	$37M	$40.1M
No. of Applications	239	127	167	171

SD Tribal Safety Project Awards

	2013	2014	2015	Total
Cheyenne River	$12,500 Safety Plan	N/A	$39,200 Safety Ed $268,800 Pathway Lighting	$320,500
Flandreau	N/A	$12,500 Safety Plan	N/A	$12,500
Oglala	$12,500 Safety Plan $109,500 BIA 27 Safety Improvements	N/A	N/A	$122,000

SD Tribal Safety Project Awards

	2013	2014	2015	Total
Rosebud	$9,600 Safety Plan	N/A	$40,000 Road Safety Audit	$49,600
Yankton	$12,500 Safety Plan	N/A	N/A	$12,500
Sisseton - Wahpeton	$12,500 Safety Plan	$59,680 Safety Ed $430,950 EMS / LE	N/A	$503,130

SD Tribal Safety Project Awards

	2013	2014	2015	Total
Standing Rock	$7,500 Safety Plan Update	$34,500 Safety Education	$343,200 Pathway Project	$385,200
Crow Creek	N/A	N/A	N/A	Submitted application for Safety Plan in 2016
Lower Brule	N/A	N/A	N/A	Submitted application for Safety Plan in 2016

Ranking Criteria

Develop or Update Safety Plans

- Request for development of new tribal safety plans ($12,500) or to update tribal safety plans that are more than 3 years old ($7,500)

Ranking Criteria

Road Safety Audit or Crash Data Improvement

- **Data Driven**
- **Included in Safety Plan**
- Comprehensive Approach
- Matching funds (not required)

Ranking Criteria

Other Eligible Activities 23 USC 148(a)(4)

- ❑ **Data Driven**
- ❑ **Included in a Safety Plan or RSA**
- ❑ Comprehensive Approach
- ❑ Matching funds (not required)
- ❑ Road Ownership

U.S. Departme
Federal Highwa ation

Data Driven

- **Safety Data Improvement Project –** "Data" is a description of the existing data collection scenario and clear description of how the new data will be used.

- **Road Safety Audit –** Crash history demonstrates a problem on the subject roadway

Data Driven

- **Infrastructure Improvement – Highly Qualified** – Data on subject roadway that project will address

- **Infrastructure Improvement – Qualified** – Data demonstrates a system-wide problem that the project addresses.

- **Infrastructure Improvement – Not Qualified –** no data or data is only the number of crashes on the system.

Questions?

More info:

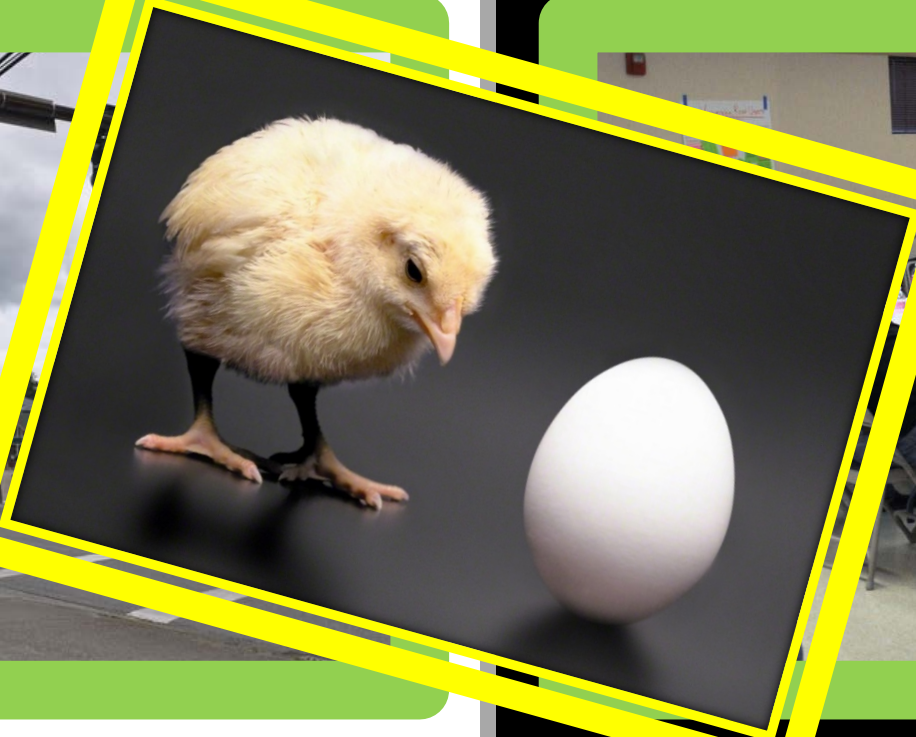
http://flh.fhwa.dot.gov/programs/ttp/safety/

or

TribalSafety.org

Transportation Safety Plans Overview

U.S. Department of Transportation
Federal Highway Administration



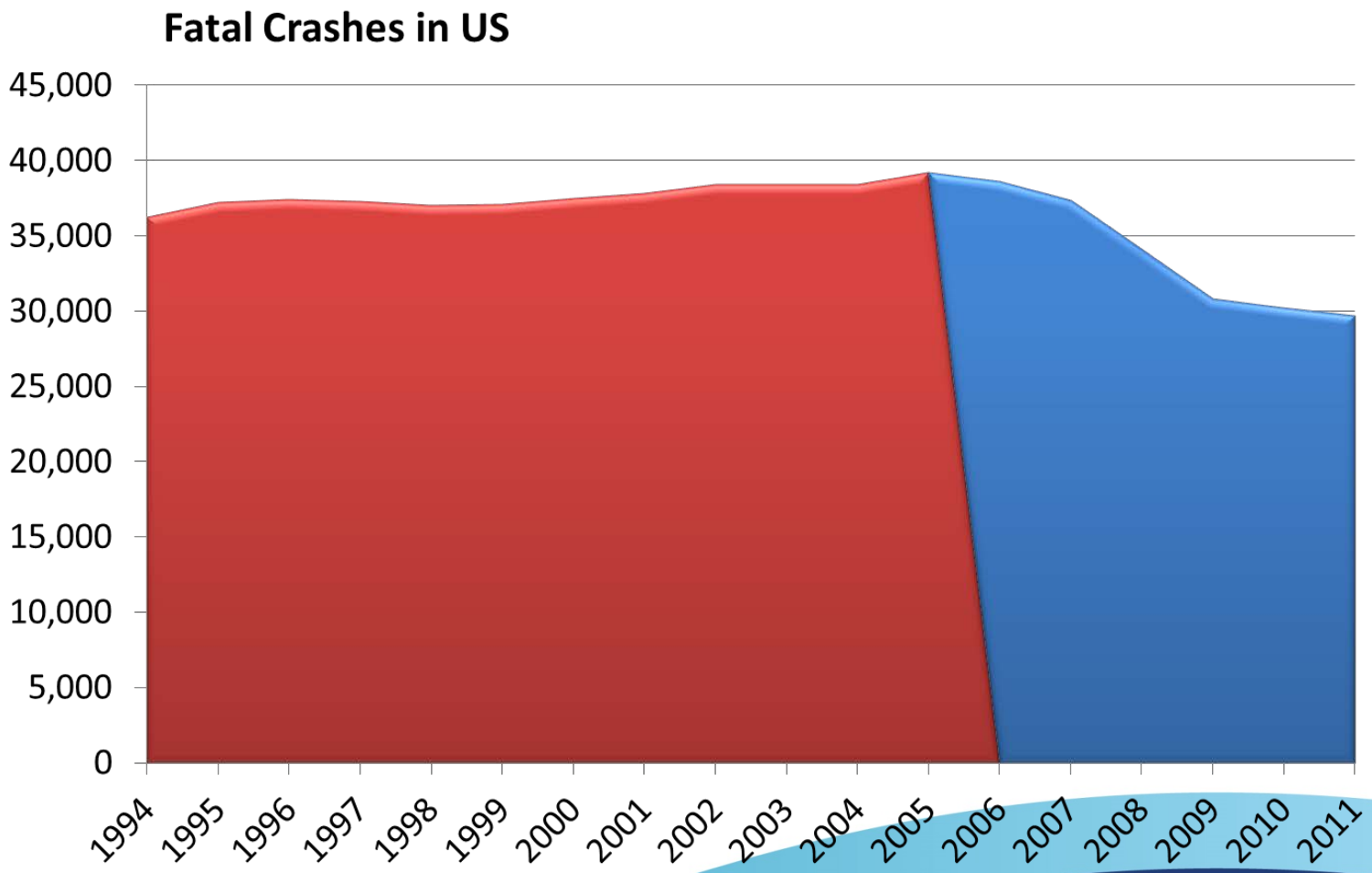
Road Safety Audit

A formal and independent safety performance review of a road project by an independent, multidisciplinary, experienced team of safety professionals, addressing the safety of all road users.

Transportation Safety Plan

A data-driven plan developed by a multi-disciplinary team to improve safety on the entire road network by prioritizing the activities implemented by a government and communicating these priorities with safety partners.

Why Safety Plans?



What is in a Strategic Transportation Safety Plan?

- Vision
- Safety Partners
- Process
- Existing Safety Efforts
- Data Review
- Emphasis Topics
- Implementation
- Evaluation

Strategic Transportation Safety Plan Template

Before you begin, you may want to view a webinar recording entitled "Preparing a Tribal Transportation Safety Plan." http://flh.fhwa.dot.gov/programs/ttp/safety.

Feel free to use this Word document to create your planning document. Delete any instructions and examples, and then start writing!

INTRODUCTION

Briefly describe your Tribe's commitment to transportation safety through this planning process and the drafting of this document. An introduction can be one or more paragraphs, and can be as general or specific as you'd like. It serves two purposes: it gives readers an idea of what the rest of the plan will say; and it provides a reason to keep reading. For example, you should include a description of the document; define the central concept—transportation safety; and perhaps provide some statistics that you'd like to change enough to take on this planning process.

For example, you might say, "The Tribe is committed to improving transportation safety to reduce the risk of death and serious injury that result from incidents on our transportation systems. This plan tells the story of transportation safety needs and strategies for our community. Implementation of the plan will improve transportation safety for the tribe, its people, and its visitors. As part of an ongoing effort to make safety improvements, this Strategic Transportation Safety Plan was developed with input from several safety partners. In the past 5 years, (state some statistic that you want to improve). The Tribe is targeting (cite a goal that will improve this statistic) over the next 5 years."

VISION

Generate interest in the planning process by drafting a vision statement. It can be a team effort. A vision statement is an idealized description of your success. It should inspire, energize, focus, and help you and your partners picture success as you develop the plan.

The best vision statements describe the desired long term outcomes that are five to ten years away. . Summarize your Vision in a powerful phrase. This can greatly enhance the effectiveness of your vision statement. This phrase will serve as a trigger to the rest of the vision in the mind of everyone that reads it. If you are having trouble coming up with your summarizing phrase, try adding **after** you've written the rest of the vision statement.

Here are some examples:

- No fatal incidents, no one dies on our transportation facilities
- Save a Life, Save a Nation
- Toward Zero Deaths on our roads

SAFETY PARTNERS

Select and identify partners that will be able to provide advice in acquiring and analyzing data, selecting emphasis areas, developing safety strategies, and implementing the final plan. Place your list of partners here.

PROCESS

Describe the process you used to develop the plan. This would include identification of team members, public outreach efforts, partner involvement, the timeline, etc.

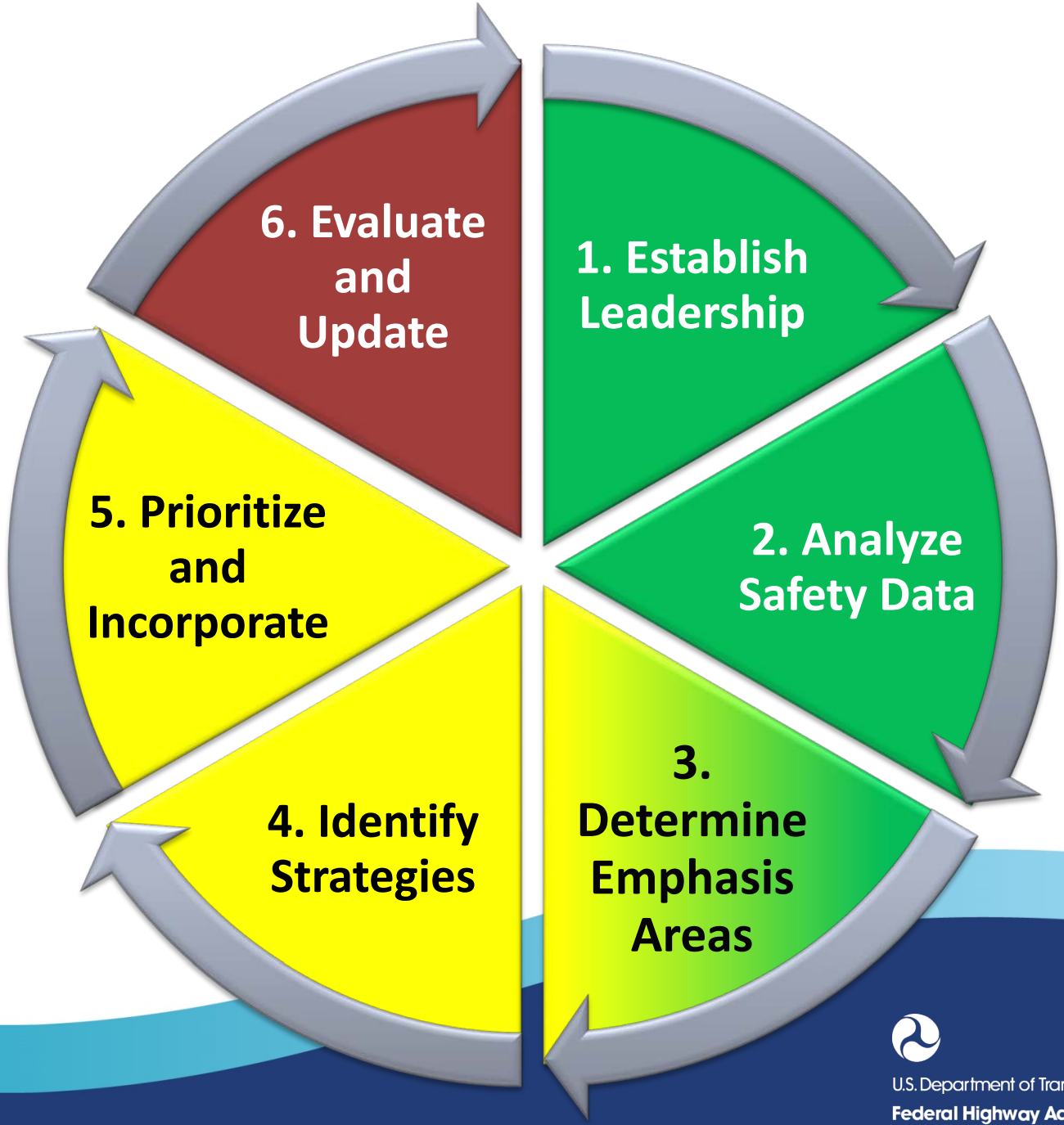
1 | Office of Federal Lands Highway Tribal Transportation Program

U.S. Department of Transportation
Federal Highway Administration

Problem Solving Approach

- Data should lead to decisions on programs and projects

- NOT: Decisions made then supported with data



U.S. Department of Transportation
Federal Highway Administration

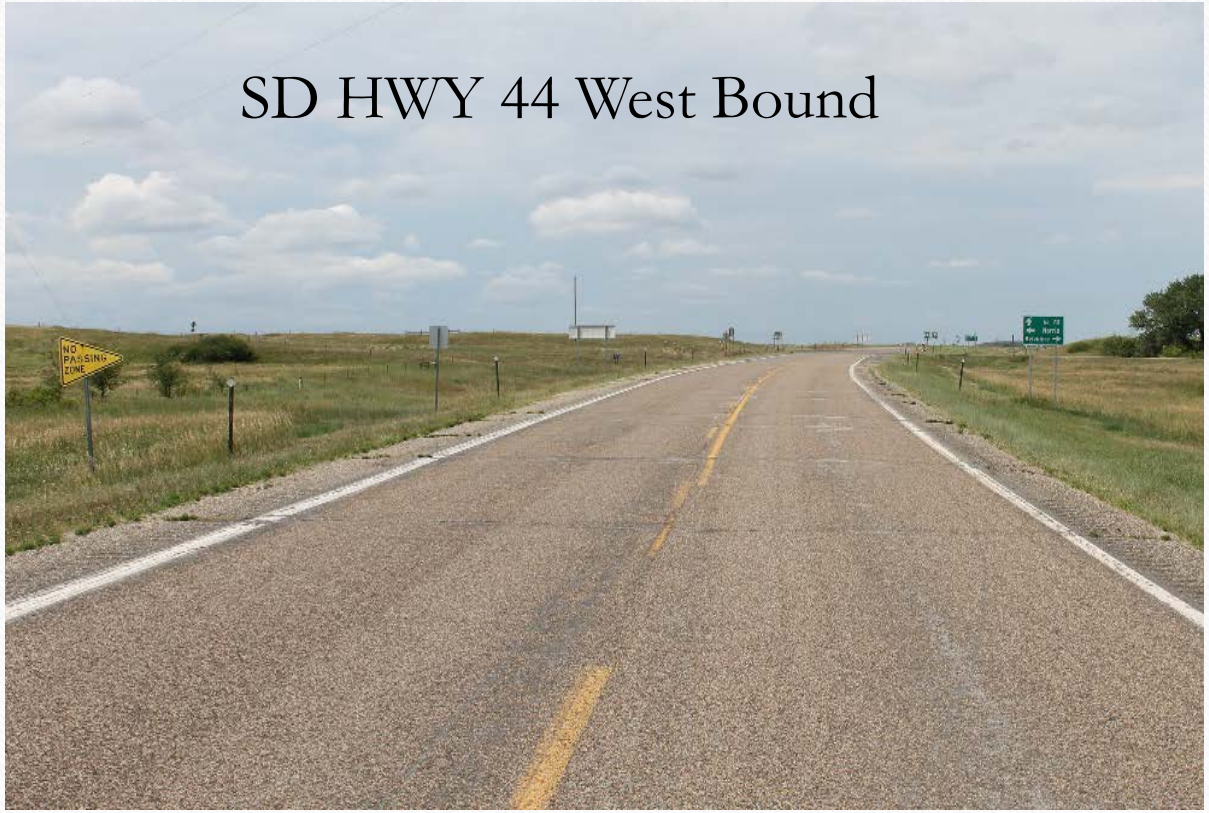
	Roadway Departure
	Night / Low Light Crashes
	Law/Policy Improvement
	Speed Management
	Restraint Usage
	Impaired Driving
	Special Users: Pedestrians and Bicycles (17% of fatal crashes compared to 9% statewide)
	Intersection related crashes
	Vulnerable road users (young drivers, pedestrians, and bicycles)

EMPHASIS AREA		STRATEGIC LINKAGE	
Roadway Departure		57% of fatal crashes involved a single vehicle leaving the roadway. Roadway departure was a factor in 52 crashes in five years of data. 70% of these crashes occurred on two lane rural roads.	
Education	**Enforcement**	**EMS**	**Engineering**
Ensure driver training covers “over-correcting”	See emphasis areas for alcohol and seatbelt use, these behavioral factors influence roadway departure.	Acquire repelling gear and training for faster rescue for roadway departure crashes in canyon.	• Install rumble strips on higher volume, two-lane rural roads • Improved curve signage • Policy to include safety edge when paving

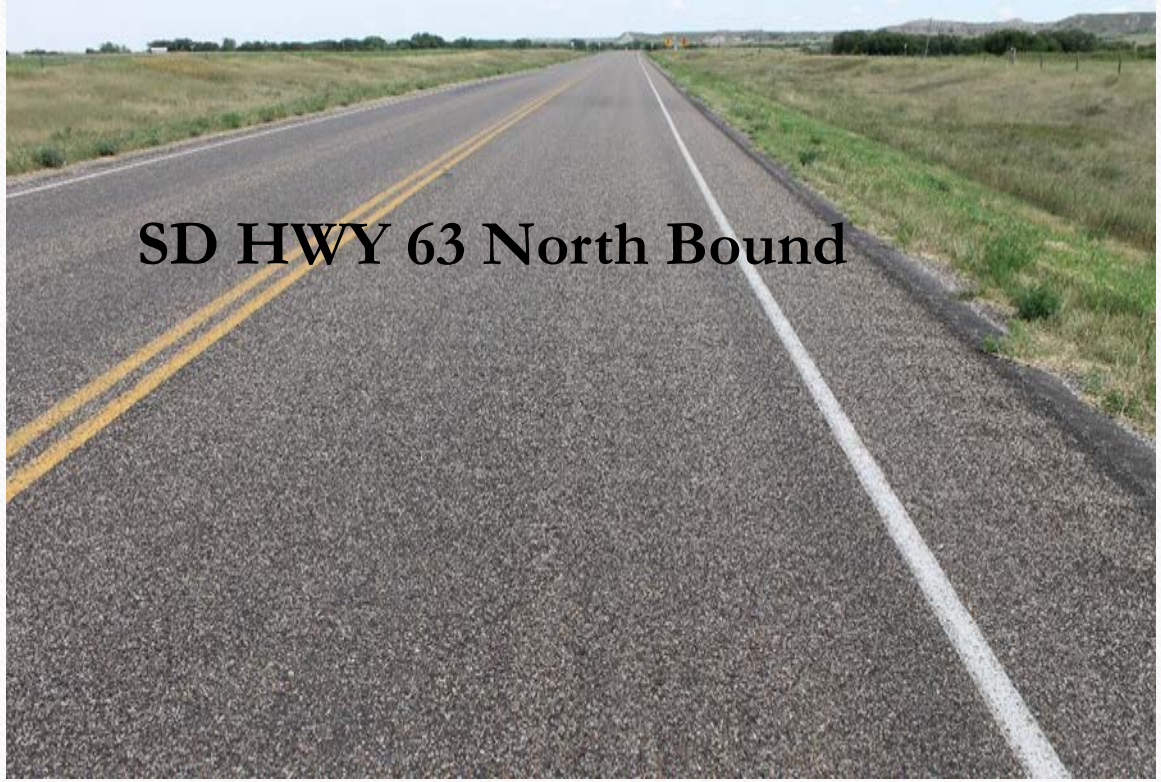
Appendix B

Highway 44 & Highway 63 Deadly Intersection

- On 18 July 2016, a vehicle driven by a person from Wisconsin who is not familiar with the area was travelling westbound on SD HWY 44 approaching the intersection of SD HWY 63.
- Factors:
  - A hill exist that obstructs the view of the driver making it impossible to see the upcoming SD HWY 63 & 44 intersection.
  - Small signage on SD HWY 44 that indicates the presence of SD HWY 63 JCT and a No Passing Zone sign prior to the intersection.
  - Only local residents would know to slow down because of the intersection.
  - This are is rural with little to no Law Enforcement patrolling = SPEEDING!


SD HWY 44 West Bound
NO PASSING ZONE

- Simultaneously, a second vehicle was travelling northbound on SD HWY 63 approaching the SD HWY 44 intersection.



- There is signage indicating that northbound traffic is required to Stop Ahead and the presence of a Stop sign is present at the intersection for northbound vehicles.

- The existing rumble strip prior to the intersection has been worn down to a degree that it would not be noticed by a northbound vehicle travelling over it.

- At approximately 5:30 p.m. these 2 vehicles collide in the Northside lane of SD HWY 44. The Westbound vehicle a pickup truck "T-bones" the Northbound vehicle a mid-size sedan in the back passenger side.

- RST Law Enforcement Services (LES) Traffic Crash Reconstruction has determined the Northbound vehicle did not stop at the posted stop sign. The reason is unknown as the driver is deceased.

- Mellette County Sheriffs office has stated the *pickup has the right of way as there is a stop sign on Highway 63*.

- The 3 passengers in the Westbound vehicle survived. Five of the seven passengers in the Northbound vehicle were instantly killed. A 4 year old girl, whose Mother did not survive the crash, and a young man named Hunter Ritter survived the crash.

AOI

- RST LES Traffic Crash Reconstruction Officer has determined:
  - Alcohol was not a factor.
  - Driver negligence has been identified.
  - There are blind spots when travelling West or East bound on SD HWY 44.
  - The rumble strips on SD HWY 63 are grossly worn down to a point where a driver would not notice them.
  - New signage on SD HWY 44 both West and East bound is needed to alert drivers that they are approaching a community/residential area.
  - *SD HWY 63 has always been considered an alternate route for travel to Rapid City for residents of the Rosebud Reservation. Since the resurfacing of SD HWY 63 from Norris to the intersection of HWY 44, it has become increasingly popular and is now considered a primary route.*

REST IN PEACE

Jeancinda Brotherofall

Kayden and baby Bryer

Katie LaPointe

Jordan Hespe

Appendix C

YST SIOUX TRIBE BIKE SAFETY DAY(S)

May 18th-20th, 2016

YANKTON SIOUX BIKE SAFETY DAY(S)

The Yankton Sioux Tribe IDOT Transportation/Safety Programs and YST Law Enforcement Services held a Bike Safety Rodeo on May 18-20 in each of our communities.

The Yankton Sioux Tribe IDOT Transportation/Safety Programs, YST Law Enforcement Services, IHS Evironmental Health (Brandon Parker) would like to express its appreciation to our network partners: Mid-Towne Oil & Wash, Wagner and Rob Gray, YST Tax Credit Office. YST Child Care and YST Title IV B Program.

INTRODUCTION

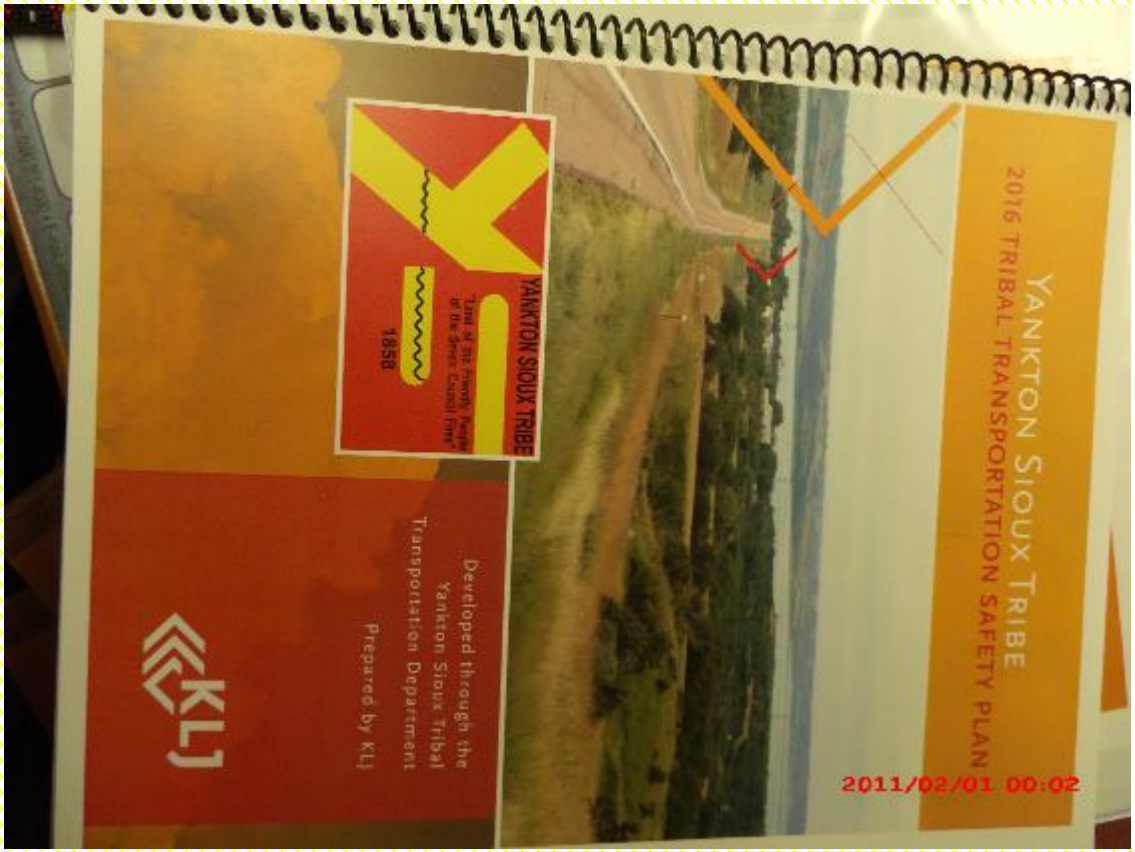
Our “Bike Safety Day(s)” was a hands-on exercise using bikes and obstacle courses to teach the kids the skills needed to safely stop and control their bikes. The goal of this event was to provide an opportunity for bicyclists to practice and develop the necessary skills in a fun way, so that the children will take away the proper knowledge to safely navigate bicycling on our Tribal Road ways and Community Road ways.

THE EVENT

LAKE ANDES COMMUNITY

SAFETY TRAINING

SAFETY PLAN


YANKTON SIOUX TRIBE
"Land of the Friendly People
of the Great Council Fire"
1858
Developed through the
Yankton Sioux Tribal
Transportation Department
Prepared by KLJ
KLJ
YANKTON SIOUX TRIBE
2016 TRIBAL TRANSPORTATION SAFETY PLAN
2011/02/01 00:02

SAFETY TRAINING AND EVENT

Appendix D

SOUTH DAKOTA TRIBAL TRANSPORTATION SAFETY SUMMIT

OCTOBER 26-27, 2016

ARDEN BOXER
TRIBAL SAFETY CIRCUIT RIDER
NORTHERN PLAINS TTAP

“What types of safety-related assistance would be of greatest use to your Tribal Nation?”

Introduction to Injury Prevention – Level 1

Course Length: 3 or 3 ½ days

Continuing Education Units (CEU's): 2.0

https://www.ihs.gov/InjuryPrevention/

WEBINARS

“WATER IS LIFE” “Mni Wiconi”

Thank you!

Appendix E

Tribal Transportation Safety Plan Implementation

South Dakota Tribal Safety Summit

October 2016

Craig Genzlinger

Safety Planning

- Step 1 – apply for and receive safety planning funding from TTP.
- Step 2 – complete a tribal safety plan

Flandreau Santee Sioux Tribe
2015 Tribal Transportation Safety Plan

Developed through the Flandreau Santee Sioux Transportation Department

Prepared by KLJ

July 2015

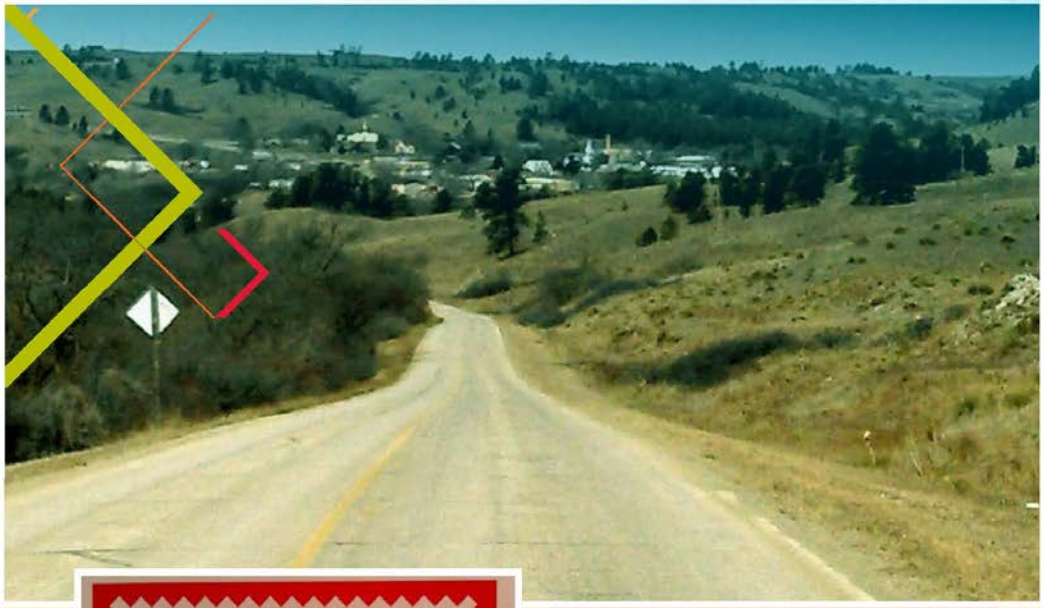
Cheyenne River Sioux Tribe
2015 Tribal Transportation Safety Plan

Developed through the Cheyenne River Sioux Tribal Transportation Department

Prepared by KLJ

July 2015

Rosebud Sioux Tribe
TRIBAL TRANSPORTATION SAFETY PLAN



Developed through the
Rosebud Sioux Tribe
Federal Highway Program

Prepared by KLJ

September 2014

Standing Rock Sioux Tribe

2015 Tribal Transportation Safety Plan

Developed through the Standing Rock Tribal Transportation Program

Prepared by KLJ

March 2015

Sisseton-Wahpeton Oyate Transportation Safety Plan 2014

Sisseton-Wahpeton Oyate Transportation Safety Committee

May 2014

Yankton Sioux Tribe
2016 Tribal Transportation Safety Plan

YANKTON SIOUX TRIBE
"Land of the Friendly People of the Seven Council Fires"
1858

Developed through the Yankton Sioux Tribal Transportation Department

Prepared by KLJ

KLJ

Oglala Sioux Tribe

2016 Tribal Transportation Safety Plan

Developed through the Oglala Sioux Tribe Department of Transportation

Prepared by KLJ

October 2016

KLJ

No Safety Plan?

- Please Apply!
- Need a plan to be competitive for funding
- Analyzes data
- Coordinates Programs
- Identifies safety strategies

Safety Plan Implementation

- Step 3 – So now what?
- All the plans have implementation strategies – need to move those into action!
- So what have you done?
  - Council involvement?
  - Share with other programs and governments?
  - Apply for funding?
  - Implement strategies locally?
  - Use as a door stop?

Safety Funding Strategy Funding

- Not all about funding, but- most activities require funding to support.
- Funding Sources
  - TTP Safety Funding
  - BIA Indian Highway Safety Program
  - State Highway Safety Improvement Program
  - State 402
  - State Transportation Alternatives Funding
  - Safety Plan can support TIGER, FASTLANE and others
  - Others?
  - What have you applied for?

2013 TTP Safety Funds

- Oglala Sioux Tribe of Pine Ridge BIA 27 Safety Improvements Engineering.

2014 TTP Safety Funds

- North Dakota Standing Rock Sioux Tribe Develop educational materials for transportation safety campaigns $34,500.00
- Sisseton-Wahpeton Oyate of the Lake Traverse Reservation
  - Purchase supplies for Safety Education $59,680.97
  - Law Enforcement Equipment and Training to benefit EMS/Enforcement $430,948.76

2015 TTP Safety Funds

- Standing Rock Sioux Tribe, Cannon Ball Pathway $343,200.00.
- Cheyenne River Sioux Tribe, Transportation Safety Education Program $39,200.00
- Cheyenne River Sioux Tribe, Eagle Butte pathway Lighting $268,800.00
- Rosebud Sioux Tribe, Road Safety Audits $40,000.00

2016 TTP Safety Funds

- Adam to announce!
- SD Tribal Applications?

Safety Implementation

- Completed my plan.
- Applied for funding.
- Funding awarded.
- Funds received.
- All is right in the world! I am done.
- Need to move from funding to completion.

So What Have Tribes Done?

- Is still early.
- Examples
  - Standing Rock
  - Northern Cheyenne
  - Confederated Salish and Kootenai
  - MT SOAR

Join SRST Traffic Safety for a

BIKE RODEO

Do I have the right seat?
Is it expired or recalled?
Is it installed correctly?

We care about baby's safety on the road just like you do.

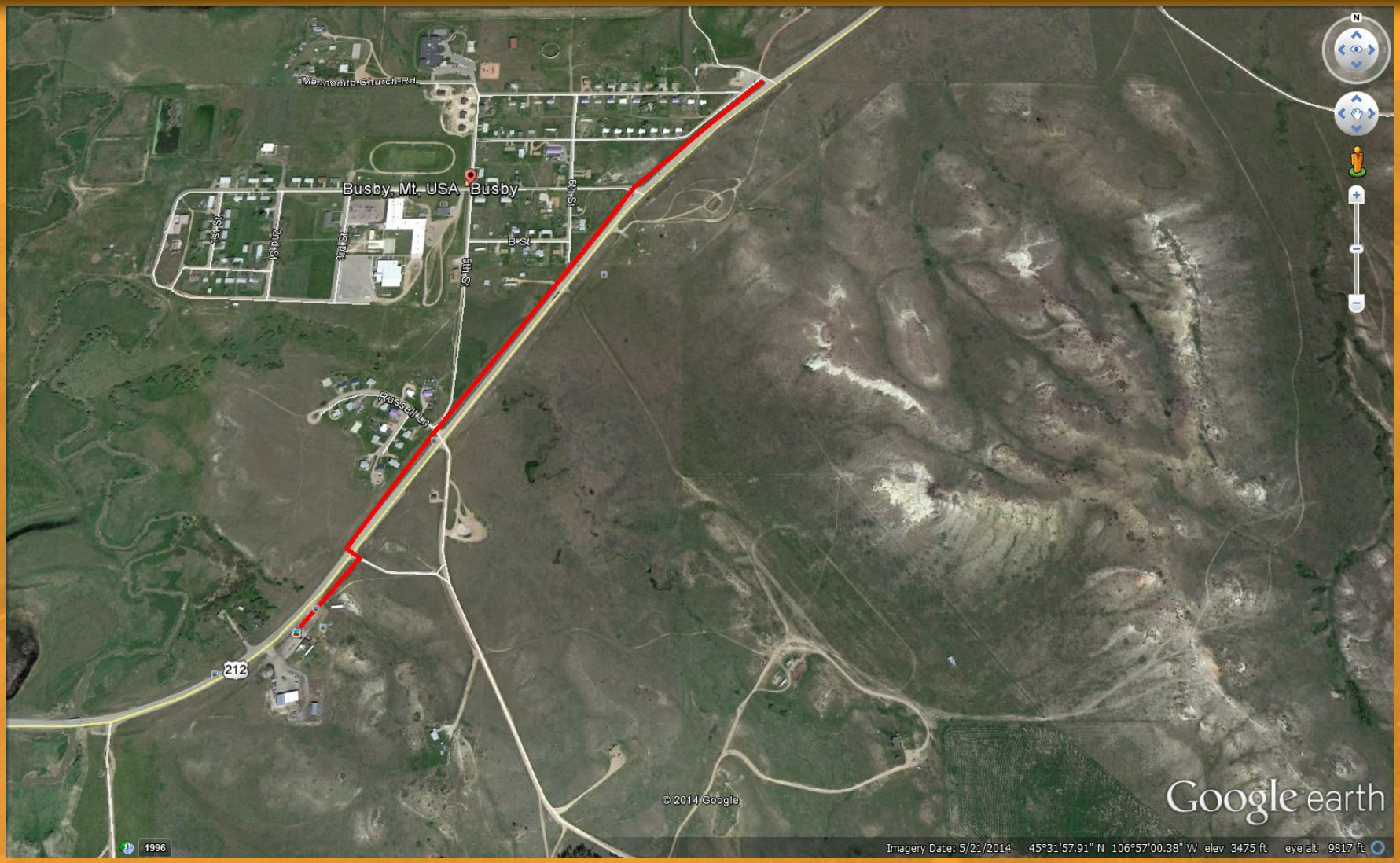
Free Car Seat Check-Up
Monday, June 20
12 noon to 3 p.m.
WIC Parking Lot, Ft. Yates

Walk-Ins Welcome. To ensure you are seen that day, please call the WIC office at 701-854-7263 to schedule an appointment.

SD TAP Funding

Bullhead Pathway

Northern Cheyenne Busby Path



Busby Pathway

- Pathway Design with TTP Funds
- Construction funding TTP Safety Funds
- Pathway lighting, signing and US 212 crosswalk designed by MDT.
- Construction of non-pathway features funded by MDT funding.
- Projects combined and advertised by MDT.

CSKT RSA

- 2015 Received $143,000 to complete RSA of 455 miles of roads and
- 526 intersections.

The reservation roads included in the analysis completed by this report did not include any State highways. Most of the roads within reservation cities and towns were also excluded from the analysis. As a result, most of the reservation roads that were addressed by this RSA are rural in nature and carry low traffic volumes (less than 500 Average Daily Traffic (ADT)). Road surface conditions vary between asphalt paved, gravel and dirt surfaces.

FIGURE 1-1 - Study Area

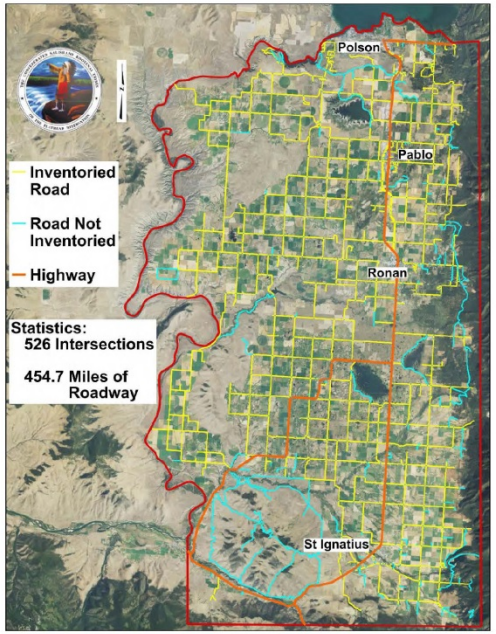
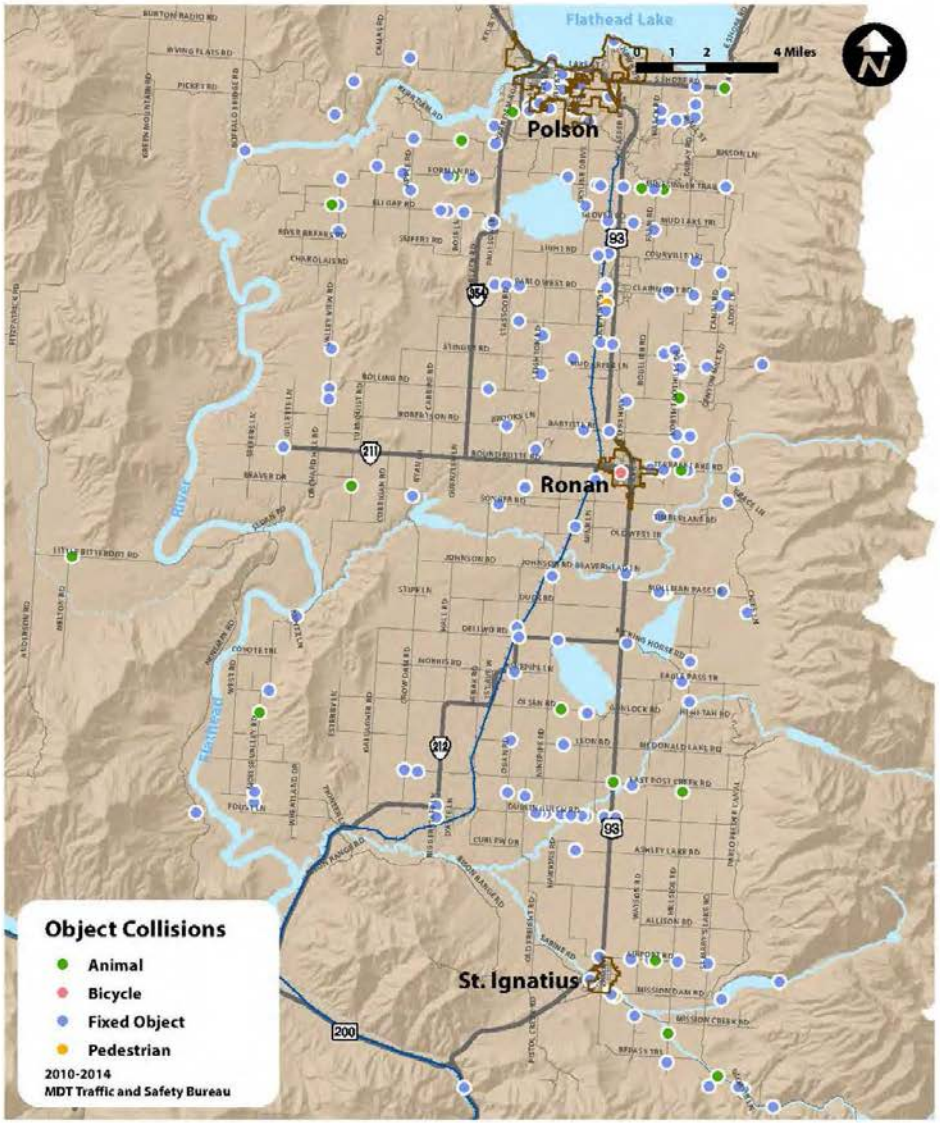


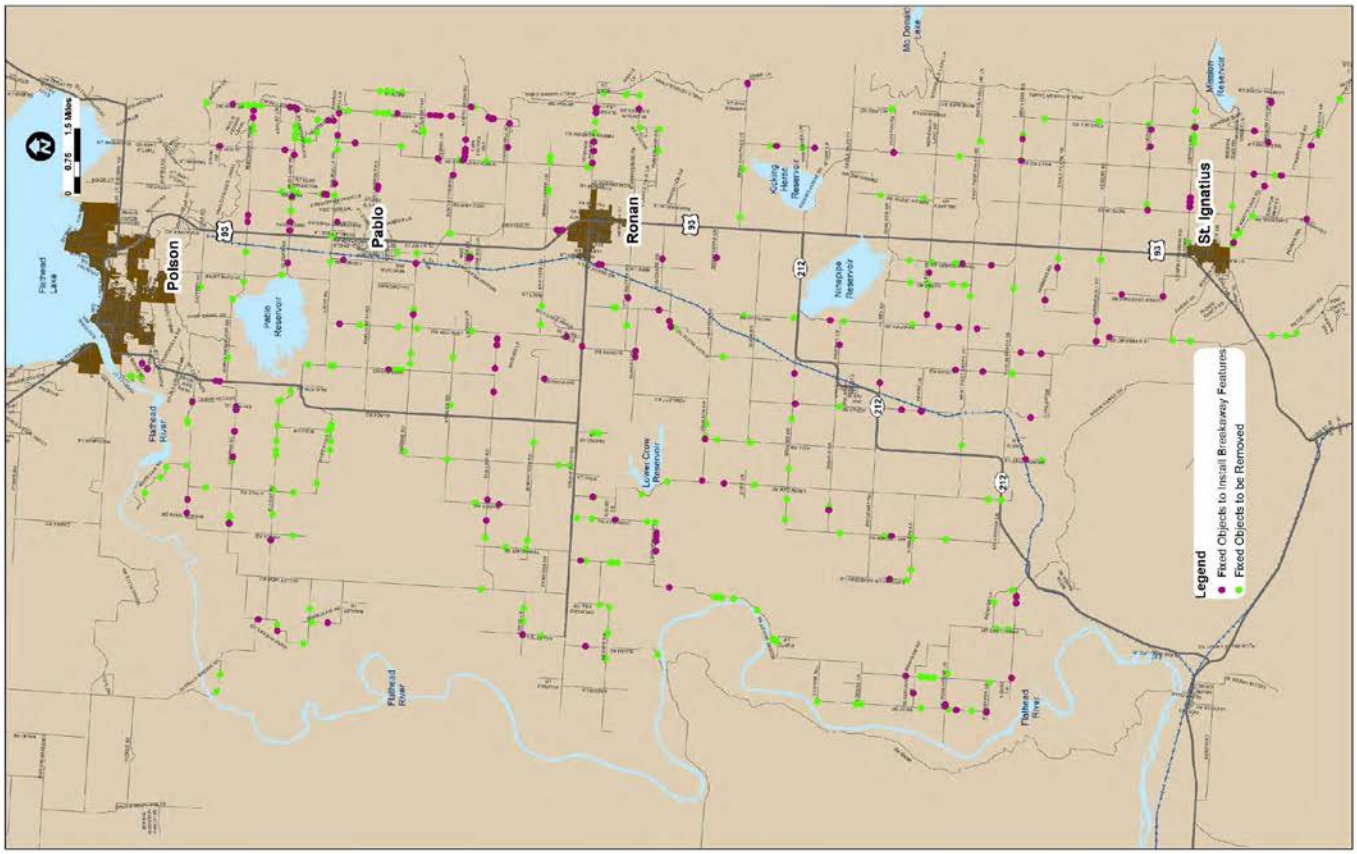
FIGURE 2-14 - Object Collisions

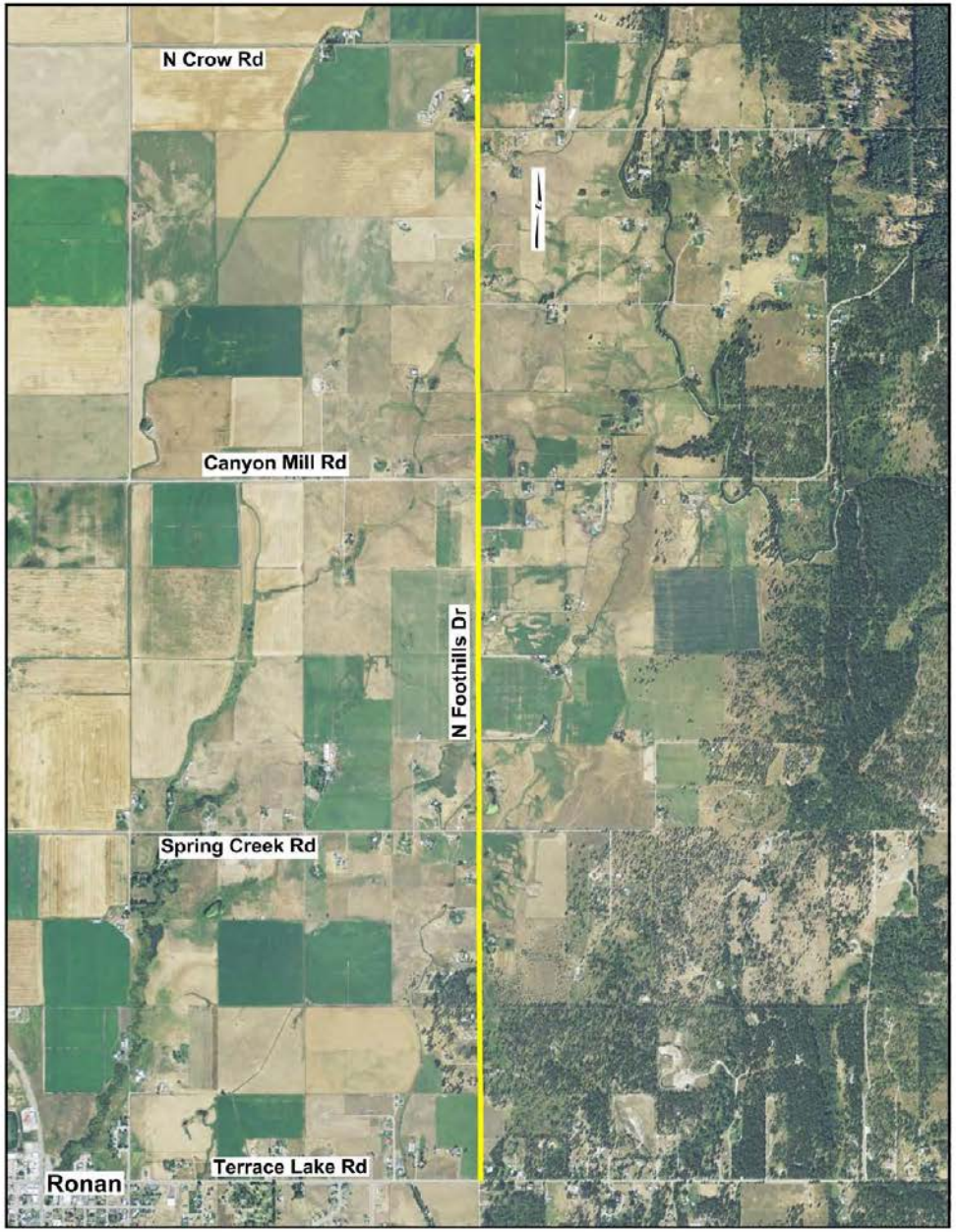


2787
WINESINGER TRAIL

GLACIER
RED ANGUS
40046

FIGURE 3-9 - Fixed Object Locations




N Crow Rd
Canyon Mill Rd
N Foothills Dr
Spring Creek Rd
Terrace Lake Rd
Ronan

Crash History

During the studied 5-year period there were 12 crashes along this corridor segment. Reported crash types included six fixed object crashes and one animal crash. Three of the crashes were non-incapacitating injury crashes. Three crashes occurred on a grade. Four of the crashes were rollover crashes. Three of the crashes occurred on ice or snow covered road surface.

Field Notes

- Install centerline pavement markings to Emory Road
- Slope flattening throughout corridor
- Add shoulders
- Posted 45 mph speed limit

Countermeasures

Many countermeasures can be addressed through system level projects and include installation of centerline pavement markings from Terrace Lake Road to Emory Road, removal of fixed objects or breakaway features installed. Signs should be replaced. Relocation of utility poles is also recommended. An evaluation should be conducted for a possible reduction to a 45 mph speed limit. On a project level, slope flattening throughout the corridor and addition of shoulders is recommended.

MDT SOAR

- MDT Funds a safety coordinator on each reservation
- Main focus is impaired driving, seat belts and behavioral issues.
- SOAR recognized in every tribal safety plan.
- Blackfeet, Crow, Northern Cheyenne and Fort Peck have all received tribal safety funds

Your Implementation

- Again is early into the overall program, but…….
- So what have you done?
- Successes?
- Issues and hurdles?
- Lessons learned?

Questions and Discussion

Craig Genzlinger
KLJ – Helena
(406) 447-3357
Craig.Genzlinger@kljeng.com

STOP

STOP

35

20
M.P.H.

WARNING
We immediately report
all SUSPICIOUS PERSONS and
activities to our Sheriff's Dept.

NO
PASSING
ZONE
HELP
KEEP
YOUR
COMMUNITY
CLEAN
REDUCED
SPEED
15
M.P.H.

Airport Rd
61008

MILROY
33753
N. CROW RD
Missoulian

25

Appendix F

SOUTH DAKOTA
DEPARTMENT OF PUBLIC SAFETY
prevention – protection – enforcement

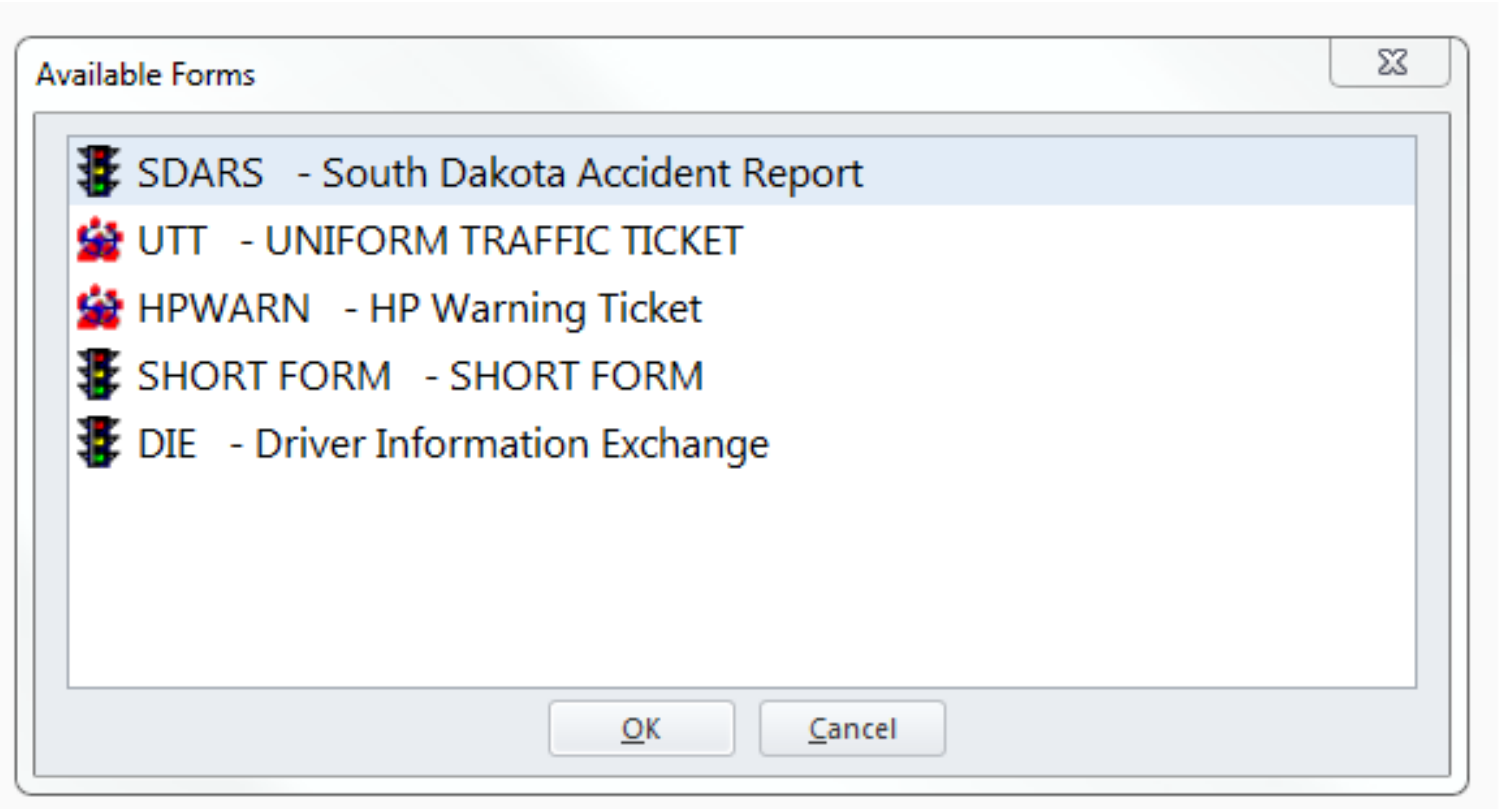
DPS includes Highway Patrol, **Highway Safety**, Driver License, Fire Marshal, Emergency Management, State Inspection, State Radio Dispatch, State 911 Coordinator, Homeland Security, **Accident Records** and Weights & Measures

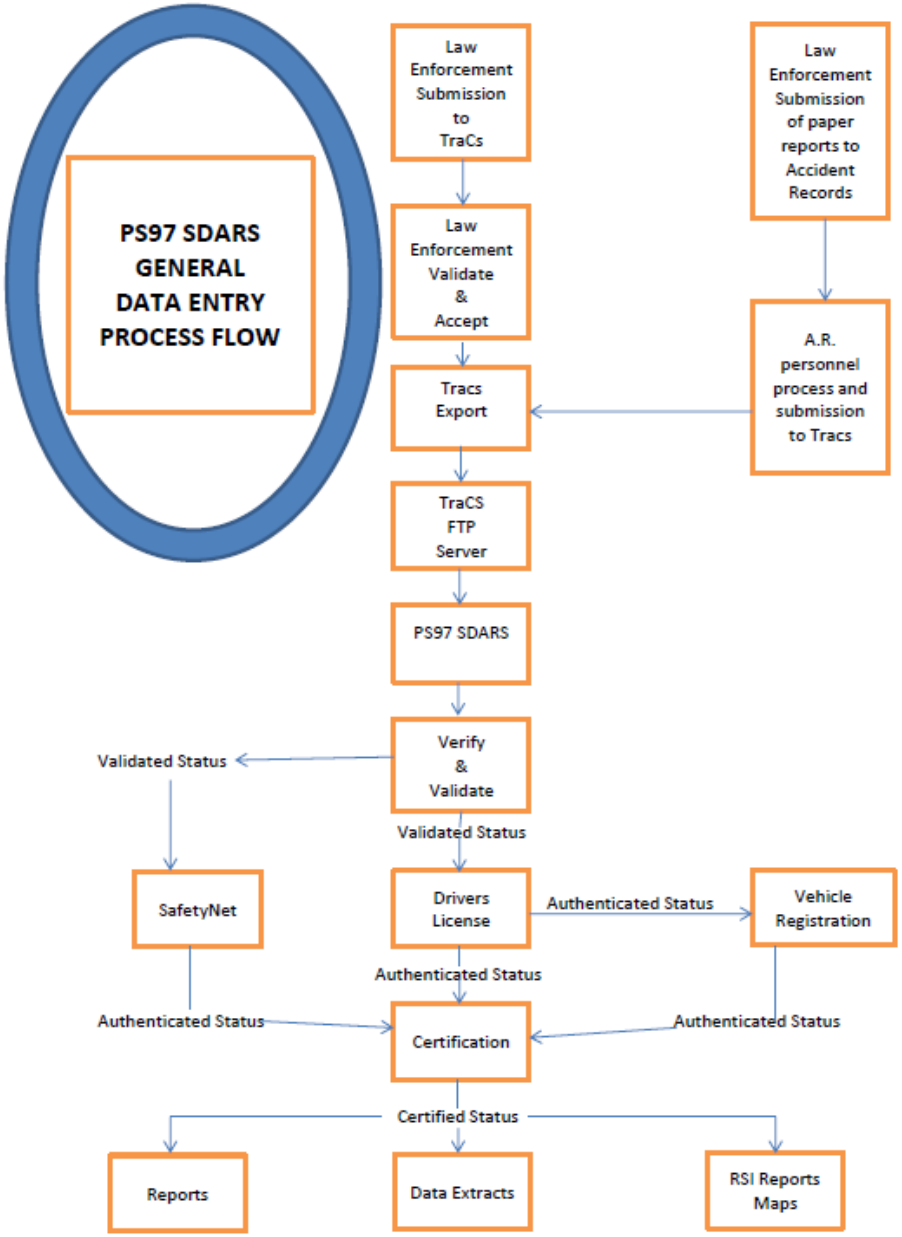
OFFICE OF

ACCIDENT RECORDS

TraCS

Traffic and Criminal Software


Available Forms
SDARS - South Dakota Accident Report
UTT - UNIFORM TRAFFIC TICKET
HPWARN - HP Warning Ticket
SHORT FORM - SHORT FORM
DIE - Driver Information Exchange
OK
Cancel


PS97 SDARS GENERAL DATA ENTRY PROCESS FLOW
Law Enforcement Submission to TraCs
Law Enforcement Validate & Accept
Tracs Export
Law Enforcement Submission of paper reports to Accident Records
A.R. personnel process and submission to Tracs
TraCS FTP Server
PS97 SDARS
Verify & Validate
Validated Status
Validated Status
SafetyNet
Drivers License
Authenticated Status
Vehicle Registration
Authenticated Status
Authenticated Status
Authenticated Status
Certification
Certified Status
Reports
Data Extracts
RSI Reports Maps

All the statistical information from the crashes are used to generate data reports for traffic engineers, Federal, state and local governments for use in determining high traffic areas, driver improvement, roadway improvements, signing, etc.

Highway Safety does have difficulties dispersing funds requested for road improvement when there is limited or no data to back up the requests.

160 1001 01/24/2016 12:32:00PM City - Deadwood LAWRENCE County
RICH DEE WALK - DEADWOOD Photos taken

On US HWY 85 at (MRM 026.11 + .200)
Road: US HWY 85 MRM 26.00 Non-junction
Nearest crossing: 0.16 Miles N of PLUMA HILL RD
Intersection:
Latitude: 44.361407 Longitude: -103.739215

FHE: Other fixed object(wall, building, tunnel, etc.)
FHE Loc: Roadside
Road Cond: Slush
Surface Type: Concrete
Trafficway: Two-way, divided, unprotected (painted >4 feet) median
Road Alignment: Straight on grade
Manner of Collision: No collision between 2 MV in transport
Lighting: Daylight
School bus related: No (school bus not involved)

Work zone related: No
Workers present: No
Work zone location: Not applicable
Work zone type: Not applicable

Weather
Clear

Unit: 1 2015 CHEV TAHOE Plate: X983TB Plate State: UT

Owner: EAN HOLDING COMPANY,
7144 S STATE STREET
MIDVALE, UT 84047

Unit type: Motor vehicle in transport with driver
Cargo body: No cargo body
VIN: 1GNSKBKC1FR652641
Maneuver: Straight ahead
Hit and run: No
Initial point of impact: Mid Right Front
Damage extent: Disabling damage
Traffic device: No controls
MHE: Other fixed object (wall, building, tunnel, etc.)
Damage Amt: $15,000.00
Trailer: No trailer/attachment
Travel Dir: Southbound
Insurance: GEICO GENERAL INS COMPANY
Effective: 02/13/2016
Occupants: 2
Veh config: SUV (sport utility/suburban)
Vehicle towed: Yes
Most damaged area: Mid Right Front
Underride/override: None - no underride or override
Vision Contrib: None
Veh Contrib: None
Road Contrib: None
Est Speed: 40 Driver statement
Speed Limit: 25
Policy: 4406144062
Expiration: 08/13/2016

Events
Ran off road right | Other fixed object (wall, building, tunnel, etc.) | Embankment

Unit 1 HILL, CORBIN GARRET
11004 BLACK FOREST ROAD
LEAD SD 57754
DL: SD *****3938
Age: 31
Airbag: Not deployed
Seating: Operator
No drug use
Drug test not given

Driver Contrib
Drugs-medication
None

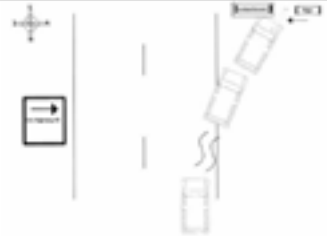
Possible injury
Phone: (605) 569-3777
DL Class: Car/truck/moped
DOB: 03/12/1984
Ejection: Not ejected
Safety Equip: Lap belt and shoulder harness used
Alcohol used
Test not given

Nonmot Contrib

Male
Transported by EMS
DL Status: Normal, w/o restrictions
NO CITATIONS

Page 1

Witnesses
THRALL, CHRISTOPHER ADAM (605)-639-5373
104 CURNOW STREET
LEAD SD 57754



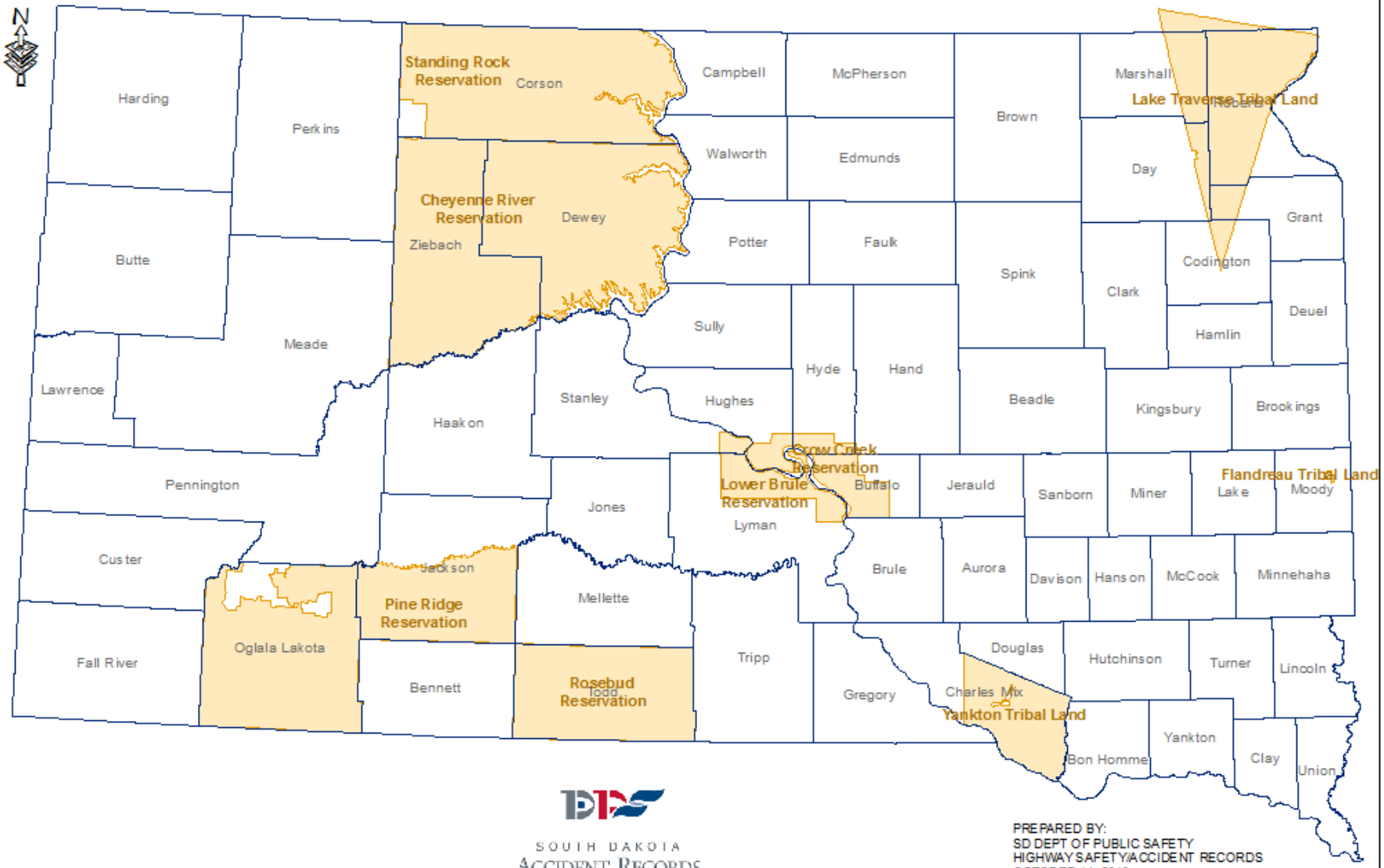
ON JANUARY 24, 2016 I RESPONDED TO A ONE VEHICLE INJURY ACCIDENT ON US HIGHWAY 85. THE DRIVER STATED THAT HE IS TAKING SOME NEW PRESCRIPTION MEDICATIONS THAT CAUSED HIM TO BLACK OUT. THE DRIVER STATED THAT HE THOUGHT THAT HE WAS PROBABLY TRAVELING AT ABOUT 40 MPH WHEN HE RAN OFF THE HIGHWAY, OVER A SNOWBANK AND CRASHED INTO A METAL DRAIN PIPE AND THE SIDE OF THE EMBANKMENT. THE WITNESS STATED THAT HE THOUGHT UNIT ONE WAS TRAVELING AT ABOUT 35-40 MPH. THE WITNESS STATED THAT THE DRIVER OF UNIT ONE APPEARED TO BE PASSED OUT. THE WITNESS STATED THAT UNIT ONE RAN OFF THE HIGHWAY AND THEN OVER THE SNOWBANK. THE WITNESS STATED THAT UNIT ONE THEN STRUCK A METAL DRAIN PIPE AND AN EMBANKMENT.

Page 2

State Reported Motor Vehicle Traffic Crashes on Reservations and Tribal Lands

Investigated by
Various Law Enforcement Agencies
and submitted to SD DPS
Highway Safety / Accident Records

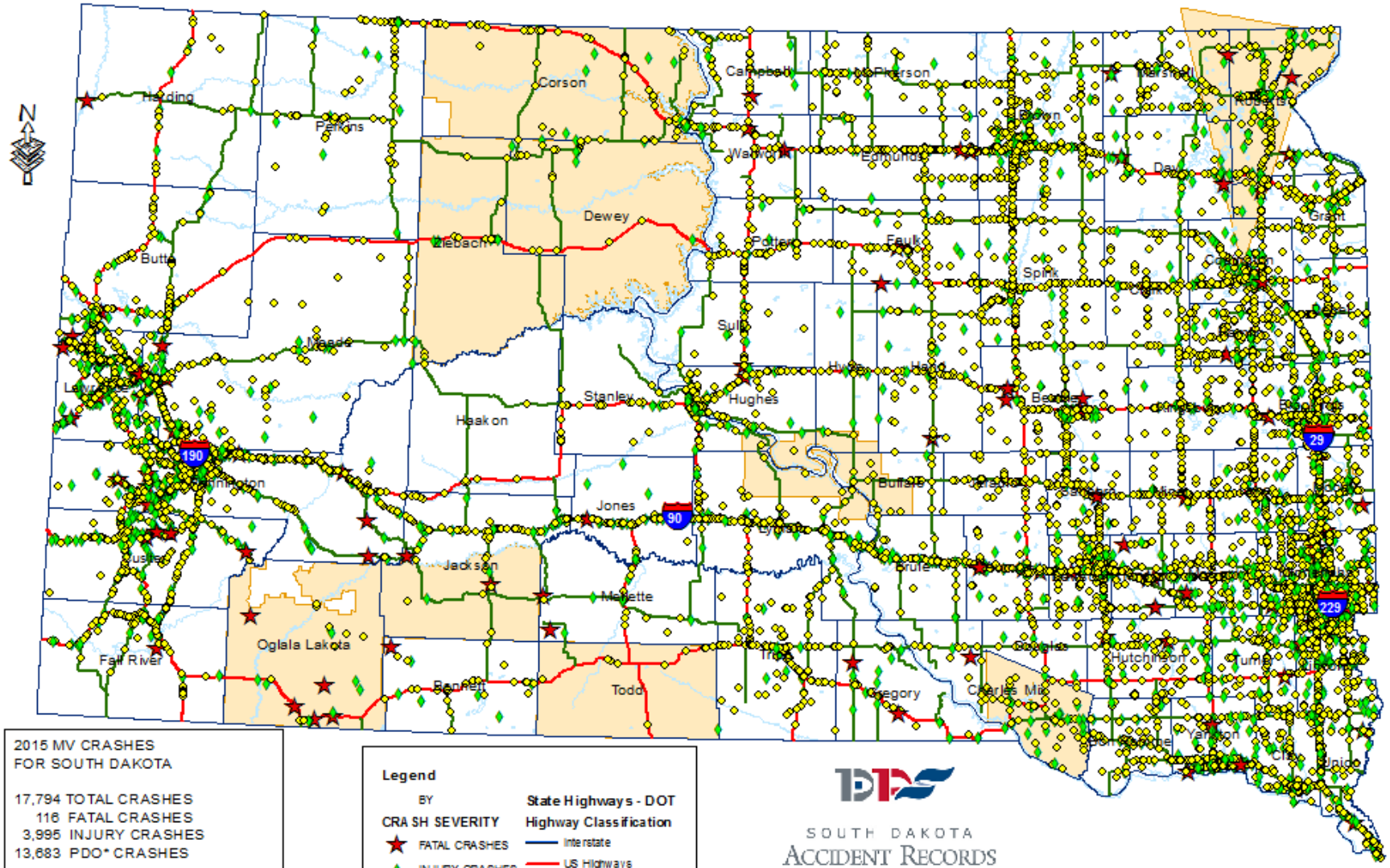
SOUTH DAKOTA
COUNTIES, RESERVATIONS, AND TRIBAL LANDS



SOUTH DAKOTA
ACCIDENT RECORDS

PREPARED BY:
SD DEPT OF PUBLIC SAFETY
HIGHWAY SAFETY/ACCIDENT RECORDS
OCTOBER 14, 2016

2015 STATE REPORTABLE MOTOR VEHICLE TRAFFIC CRASHES BY CRASH SEVERITY IN SOUTH DAKOTA



2015 MV CRASHES
FOR SOUTH DAKOTA

17,794 TOTAL CRASHES
116 FATAL CRASHES
3,995 INJURY CRASHES
13,683 PDO* CRASHES

134 KILLED
5,525 INJURED

PDO* = PROPERTY DAMAGE ONLY

Legend

BY CRASH SEVERITY

- FATAL CRASHES
- INJURY CRASHES
- PDO CRASHES

State Highways - DOT Highway Classification

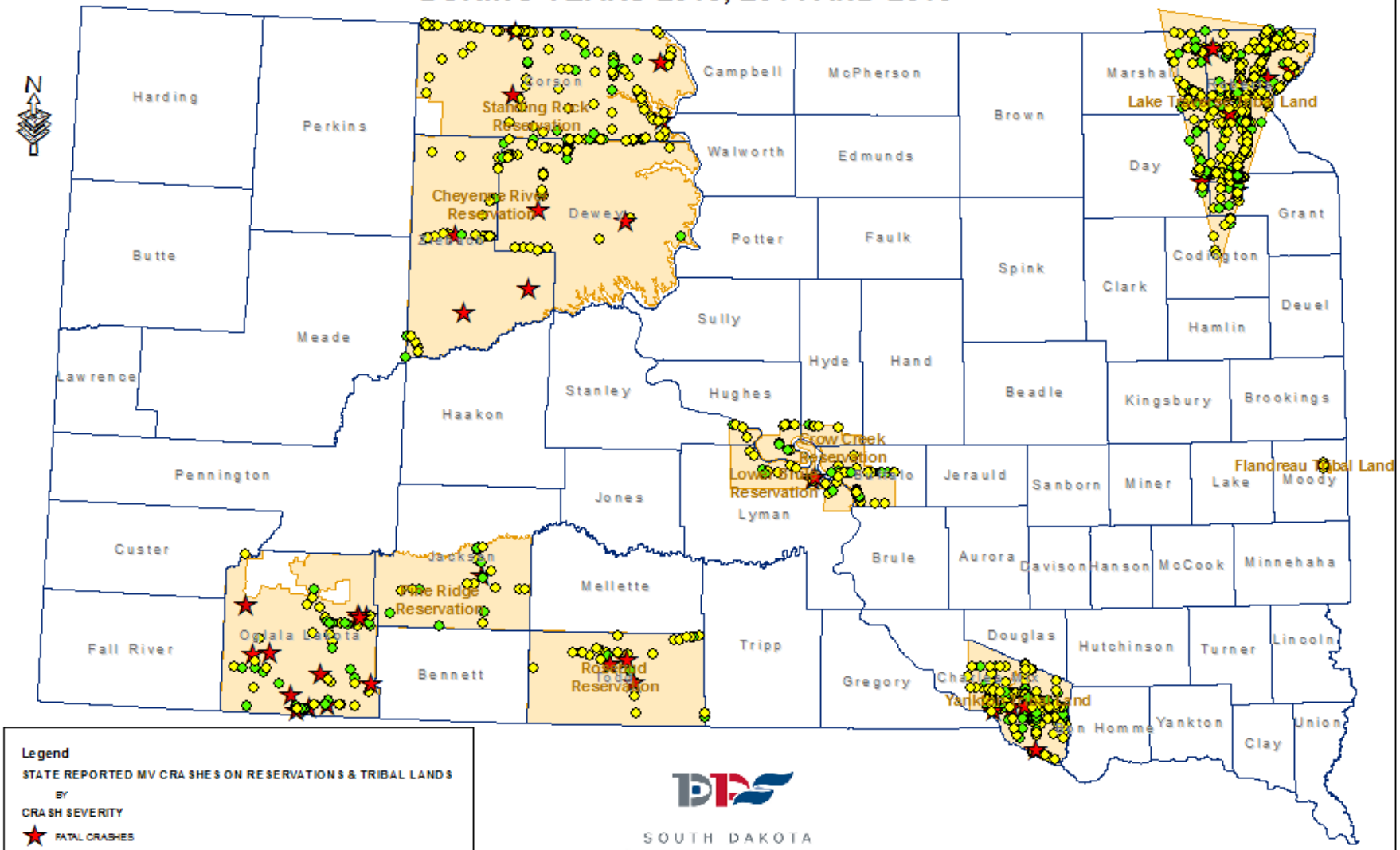
- Interstate
- US Highways
- State Highways
- County - Census 2010
- Water

SOUTH DAKOTA
ACCIDENT RECORDS

The number of crashes are subject to change as data is retrieved from a live dataase.

PREPARED BY:
SD Dept of Public Safety
Highway Safety / Accident Records
October 12, 2016

STATE REPORTED MOTOR VEHICLE TRAFFIC CRASHES BY CRASH SEVERITY THAT OCCURRED ON RESERVATIONS AND TRIBAL LANDS IN SOUTH DAKOTA DURING YEARS 2013, 2014 AND 2015



SD RESERVATIONS AND TRIBAL LANDS - ALL STATE REPORTED MV CRASHES FOR 2013-2015 Date Range: 01/01/2013 Thru 12/31/2015

Accident Nbrs: 1300045, 1300046, 1300151, 1300154, 1300155, 1300156, 1300157, 1300488, 1300498, 1300368, 1300378, 1300189, 1300660, 1300213, 1300214, 1300269, 1300700, 1300763, 1300986, 1300332, 1300335, 1300538, 1300539, 1301064, 1300794, 1301074, 1301148, 1300625, 1300626, 1300627

Crash Summary

Driver Contributing Circumstances

Speed-Over Limit	40	Speed-Over Safe	197	Failure to Yield	126	Run Off Road	169	Distracted	44
Follow Too Close	29	Improper Passing	7	Wrong Side Road	14	Swerving/Avoiding	30		
Turn/Lane Change	51	Improper Signal	9	Improper Back/Park	43	Overcorrection	60		
Fell Asleep	26	Traffic Signal	22	Other	42	Cellular/Electronic	8		

Surface Condition

Dry	963
Wet	82
Ice / Frost	191
Snow / Slush	133
Other	1
Sand/Dirt/Gravel	44
Unknown	3
Wild Animal	0

Weather

Clear	950	Blowing Sand/Soil	
Rain	29	Severe Crosswinds	5
Cloudy	227	Snow / Sleet	111
Other		Fog / Smoke	24
		Blowing Snow	66
		Unknown	5

Relation To Intersection

Non-Intersection	1128	Driveway	57
4 Way Intersection	90	Rail Crossing	
T Intersection	39	Cross Over	
Y Intersection	1	Other	1
5 Way Intersection		Alley	4
Intersection Relat	57	Bike path	
Interchange	35	Unknown	0
Wild Animal	5		

Road Alignment

Straight Level	702	Unknown	3
Straight Grade	84	Wild Animal	448
Straight Crest	60		
Curve Level	70		
Curve Grade	35		
Curve Crest	15		

Driver Alcohol / Drugs

Alcohol	137
Drugs	18
Both	8

Vehicle Type

Car	703	Van/Bus	9
Sport Utility Vehicle	381	Motorhome	1
Pickup	381	Single Unit Truck	44
Mini Van	106	Farm Machinery	11
Cargo Van	18	Heavy Equipment	3
Truck / Semi	132	Other	9
Motorcycle	15		

Time	12	1	2	3	4	5	6	7	8	9	10	11	Total
AM	51	28	23	30	21	40	46	72	58	62	54	57	542
PM	62	50	66	66	71	91	102	86	72	89	77	43	875

Injury Severity - Injury Totals

Fatality	Injury2	Injury3	Injury4	No Injury
50	117	196	202	1458

Crash Severity - Crash Totals

Fatality	Injury2	Injury3	Injury4	No Injury
39	76	122	120	1060

Lighting Conditions

Light	Dawn	Dusk	Not lighted	Lighted	Other
692	64	47	563	48	2

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Totals
100	113	143	106	87	118	130	84	75	144	165	152	**1417**

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
162	197	199	206	211	235	207

Property Damage Estimate $10,470,466.20

SD RESERVATIONS AND TRIBAL LANDS - ALL STATE REPORTED MV CRASHES FOR 2013-2015 Date Range: 01/01/2013 Thru 12/31/2015

Accident Nbrs: 1300045, 1300046, 1300151, 1300154, 1300155, 1300156, 1300157, 1300488, 1300498, 1300368, 1300378, 1300189, 1300660, 1300213, 1300214, 1300269, 1300700, 1300763, 1300986, 1300332, 1300335, 1300538, 1300539, 1301064, 1300794, 1301074, 1301148, 1300625, 1300626, 1300627

	01/01/2013 12/31/2013				01/01/2014 12/31/2014				01/01/2015 12/31/2015				Totals			
Crash Type	F	I	P	T	F	I	P	T	F	I	P	T	F	I	P	T
Angle-Intersec	0	12	32	44	1	13	18	32	1	16	21	38	2	41	71	114
Rear End	0	9	22	31	0	14	9	23	0	13	18	31	0	36	49	85
Head-on	1	0	0	1	4	2	0	6	2	5	2	9	7	7	2	16
Fxd Obj in Rd	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Fxd Obj off Rd	2	19	47	68	1	17	48	66	2	24	46	72	5	60	141	206
Overturn on rd	0	3	1	4	0	3	1	4	0	2	3	5	0	8	5	13
Overturn off rd	12	40	64	116	3	34	20	57	2	36	19	57	17	110	103	230
SSW overtake	0	0	10	10	0	1	1	2	0	1	9	10	0	2	20	22
SSW opp dir	0	1	0	1	0	0	5	5	0	2	2	4	0	3	7	10
Angle-no intersec	1	1	12	14	0	2	12	14	0	3	10	13	1	6	34	41
Bicycle	0	2	0	2	0	0	0	0	0	0	0	0	0	2	0	2
Pedestrian	2	3	0	5	0	2	0	2	1	1	0	2	3	6	0	9
Animal	0	3	136	139	0	6	157	163	0	4	207	211	0	13	500	513
Parked Veh	0	1	12	13	0	1	17	18	0	1	24	25	0	3	53	56
Other	1	12	28	41	1	2	29	32	2	7	18	27	4	21	75	100
Totals	19	106	364	489	10	97	317	424	10	115	379	504	39	318	1060	1417

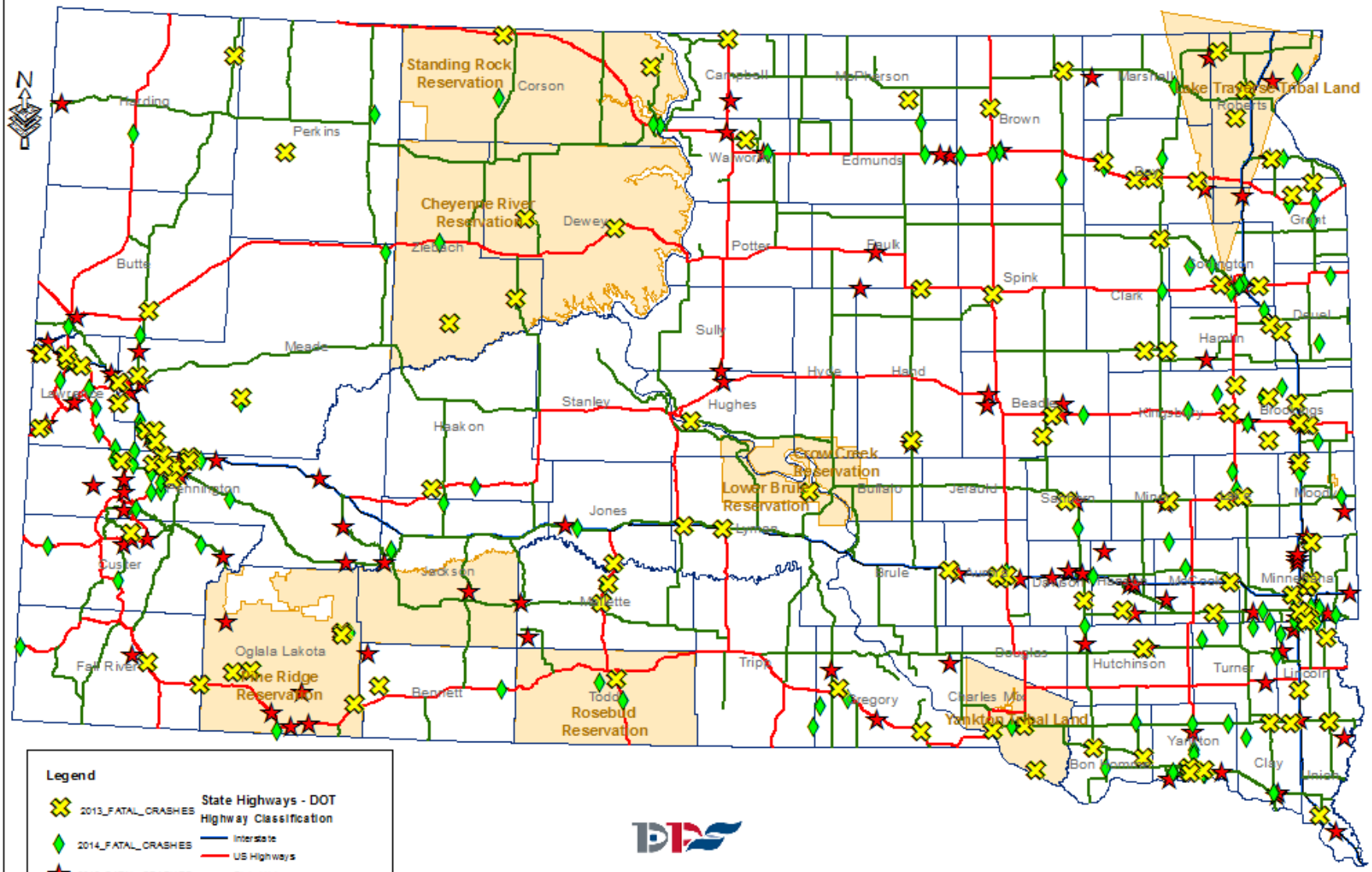
Left Turn Crashes
(at least one vehicle turned left)

F	I	P	T	F	I	P	T	F	I	P	T	F	I	P	T
2	12	16	30	1	8	13	22	1	12	19	32	4	32	48	84

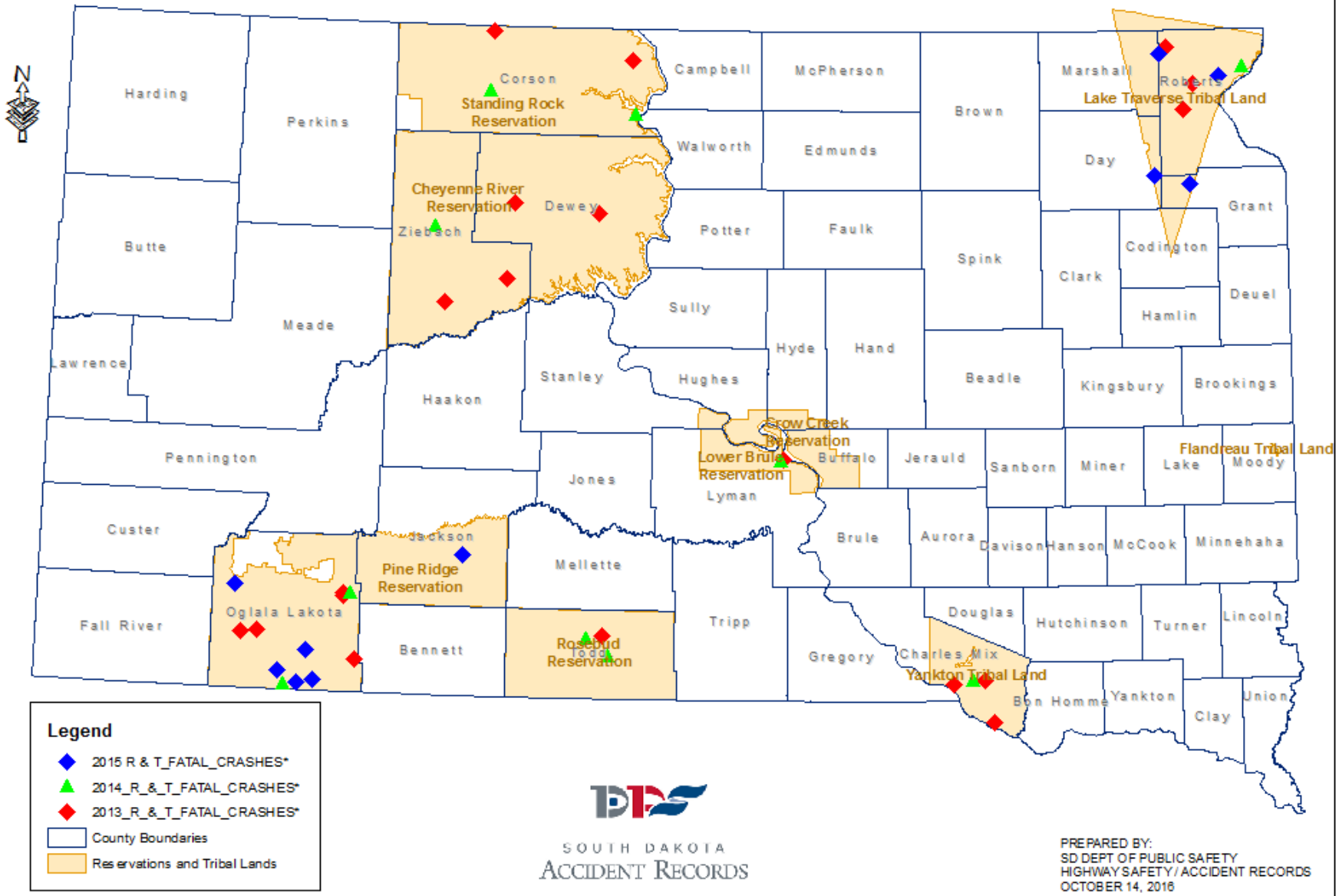
Accident Numbers: 1300045, 1300046, 1300151, 1300154, 1300155, 1300156, 1300157, 1300488, 1300498, 1300368, 1300378, 1300189, 1300660, 1300213, 1300214, 1300269, 1300700, 1300763, 1300986, 1300332, 1300335, 1300538, 1300539, 1301064, 1300794, 1301074, 1301148, 1300625, 1300626, 1300627

1302121	03/05/2013	3:00:00PM	Non-junction	029 N	205.00 +	0.94			Injury
Motor vehicle in transport, Motor vehicle used as equipment (snowplow plowing), Ran off road left									
1302124	03/03/2013	12:35:00PM	Non-junction	034	281.00 +	0.57			Injury
Overturn/rollover, Ran off road right									
1302150	02/05/2013	8:08:00PM	Non-junction	034	272.07 +	0.45	Animal involved		PDO
Animal - domestic									
1302154	02/22/2013	5:20:00PM	Driveway access		0.00 +	0.00			Injury
Motor vehicle in transport									
1302161	02/22/2013	9:00:00PM	Non-junction	025	225.00 +	0.48	Animal involved		PDO
Animal - wild									
1302168	02/14/2013	12:10:00PM	Non-junction	127	213.92 +	0.00			PDO
Motor vehicle in transport									
1302169	02/19/2013	10:01:00AM	Driveway access		0.00 +	0.00			PDO
Motor vehicle in transport									
1302170	02/19/2013	6:08:00PM	Four-way intersection		0.00 +	0.00			Injury
Motor vehicle in transport, Snow bank									
1302171	02/23/2013	3:37:00PM	Driveway access		0.00 +	0.00			PDO
Parked motor vehicle									
1302354	03/06/2013	11:29:00AM	Non-junction	029 N	206.08 +	0.51			PDO
Overturn/rollover, Ran off road left									
1302366	03/07/2013	5:00:00PM	Non-junction	029 S	204.06 +	0.01			PDO
Bridge rail, Ran off road left									
1302369	03/10/2013	4:30:00PM	Non-junction	029 N	204.06 +	0.06			PDO
Motor vehicle in transport									
1302370	03/07/2013	9:10:00AM	Non-junction	025	232.00 +	0.25			PDO
Overturn/rollover, Ran off road right									
1302371	03/08/2013	7:30:00PM	Interchange area	012	366.01 +	0.24			PDO
Motor vehicle in transport									
1302376	03/07/2013	4:36:00PM	Non-junction	029 S	205.00 +	0.87			Injury
Overturn/rollover, Ran off road right									
1302377	03/07/2013	5:57:00PM	Non-junction	029 N	204.00 +	0.03			PDO
Overturn/rollover, Ran off road left									
1302379	03/11/2013	11:07:00AM	Non-junction	029 N	232.76 +	0.03			Injury
Overturn/rollover, Ran off road left									
1302380	03/11/2013	12:45:00PM	Non-junction	029 S	246.44 +	0.37			PDO
Overturn/rollover, Ran off road left									
1302381	03/07/2013	10:45:00PM	Non-junction	029 N	234.00 +	0.09			PDO
Overturn/rollover, Ran off road right									
1302383	03/10/2013	3:58:00PM	Non-junction	029 N	217.00 +	0.90			PDO
Ran off road left, Snow bank									
1302485	03/08/2013	11:10:00AM	Non-junction	029 N	233.00 +	0.89			PDO
Overturn/rollover, Ran off road left									
1302500	02/23/2013	6:59:00PM	Non-junction		0.00 +	0.00			PDO
Motor vehicle in transport									
1302501	02/23/2013	2:52:00PM	Non-junction		0.00 +	0.00			Fatality
Overturn/rollover, Ran off road left									

FATAL MOTOR VEHICLE TRAFFIC CRASHES IN SOUTH DAKOTA DURING YEARS 2013, 2014, AND 2015



STATE REPORTED FATAL MOTOR VEHICLE TRAFFIC CRASHES THAT OCCURRED ON RESERVATIONS AND TRIBAL LANDS IN SOUTH DAKOTA DURING YEARS 2013, 2014 AND 2015



SD RESERVATIONS AND TRIBAL LANDS - ALL STATE REPORTED FATAL MV CRASHES 2013-2015 Date Range: 01/01/2013 Thru 12/31/2015

Accident Nbrs: 1302501, 1302753, 1303832, 1304251, 1305559, 1305610, 1306482, 1307179, 1308061, 1308323, 1308705, 1308967, 1310123, 1311716, 1312345, 1313346, 1313946, 1316568, 1316569, 1404659, 1405116, 1405419, 1409310, 1410392, 1411315, 1411886, 1415270, 1416562, 1416988, 1501046

Crash Summary

Driver Contributing Circumstances

Speed-Over Limit	12	Speed-Over Safe	8	Failure to Yield	5	Run Off Road	7	Distracted	
Follow Too Close		Improper Passing		Wrong Side Road	4	Swerving/Avoiding	1		
Turn/Lane Change	5	Improper Signal		Improper Back/Park		Overcorrection	6		
Fell Asleep		Traffic Signal	1	Other		Cellular/Electronic			

Surface Condition

Dry	33
Wet	2
Ice / Frost	
Snow / Slush	
Other	
Sand/Dirt/Gravel	4
Unknown	0
Wild Animal	0

Weather

Clear	31	Blowing Sand/Soil	
Rain	1	Severe Crosswinds	
Cloudy	6	Snow / Sleet	
Other		Fog / Smoke	
		Blowing Snow	
		Unknown	1

Relation To Intersection

Non-Intersection	32	Driveway	2
4 Way Intersection	1	Rail Crossing	
T Intersection	2	Cross Over	
Y Intersection		Other	
5 Way Intersection		Alley	
Intersection Relat	2	Bike path	
Interchange		Unknown	0
Wild Animal	0		

Road Alignment

Straight Level	23	Unknown	1
Straight Grade	4	Wild Animal	0
Straight Crest	2		
Curve Level	5		
Curve Grade	3		
Curve Crest	1		

Driver Alcohol / Drugs

Alcohol	25
Drugs	4
Both	3

Vehicle Type

Car	17	Van/Bus	
Sport Utility Vehicle	12	Motorhome	
Pickup	11	Single Unit Truck	
Mini Van	4	Farm Machinery	
Cargo Van		Heavy Equipment	
Truck / Semi	6	Other	1
Motorcycle	1		

Time	12	1	2	3	4	5	6	7	8	9	10	11	Total
AM	2	1	2	3	2	1		3	1	2	2	2	21
PM	1	2	3	1	2	4	1	1	2			1	18

Injury Severity - Injury Totals

Fatality	Injury2	Injury3	Injury4	No Injury
50	11	13	7	7

Crash Severity - Crash Totals

Fatality	Injury2	Injury3	Injury4	No Injury
39				0

Lighting Conditions

Light	Dawn	Dusk	Not lighted	Lighted	Other
21	2	1	14	1	

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Totals
1	2	5	3	6	2	4	4	4	3	4	1	39

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
6	3	4	2	6	5	13

Property Damage Estimate $619,337.00

SD RESERVATIONS AND TRIBAL LANDS - ALL STATE REPORTED FATAL MV CRASHES 2013-2015 Date Range: 01/01/2013 Thru 12/31/2015

Accident Nbrs: 1302501, 1302753, 1303832, 1304251, 1305559, 1305610, 1306482, 1307179, 1308061, 1308323, 1308705, 1308967, 1310123, 1311716, 1312345, 1313346, 1313946, 1316568, 1316569, 1404659, 1405116, 1405419, 1409310, 1410392, 1411315, 1411886, 1415270, 1416562, 1416988, 1501046

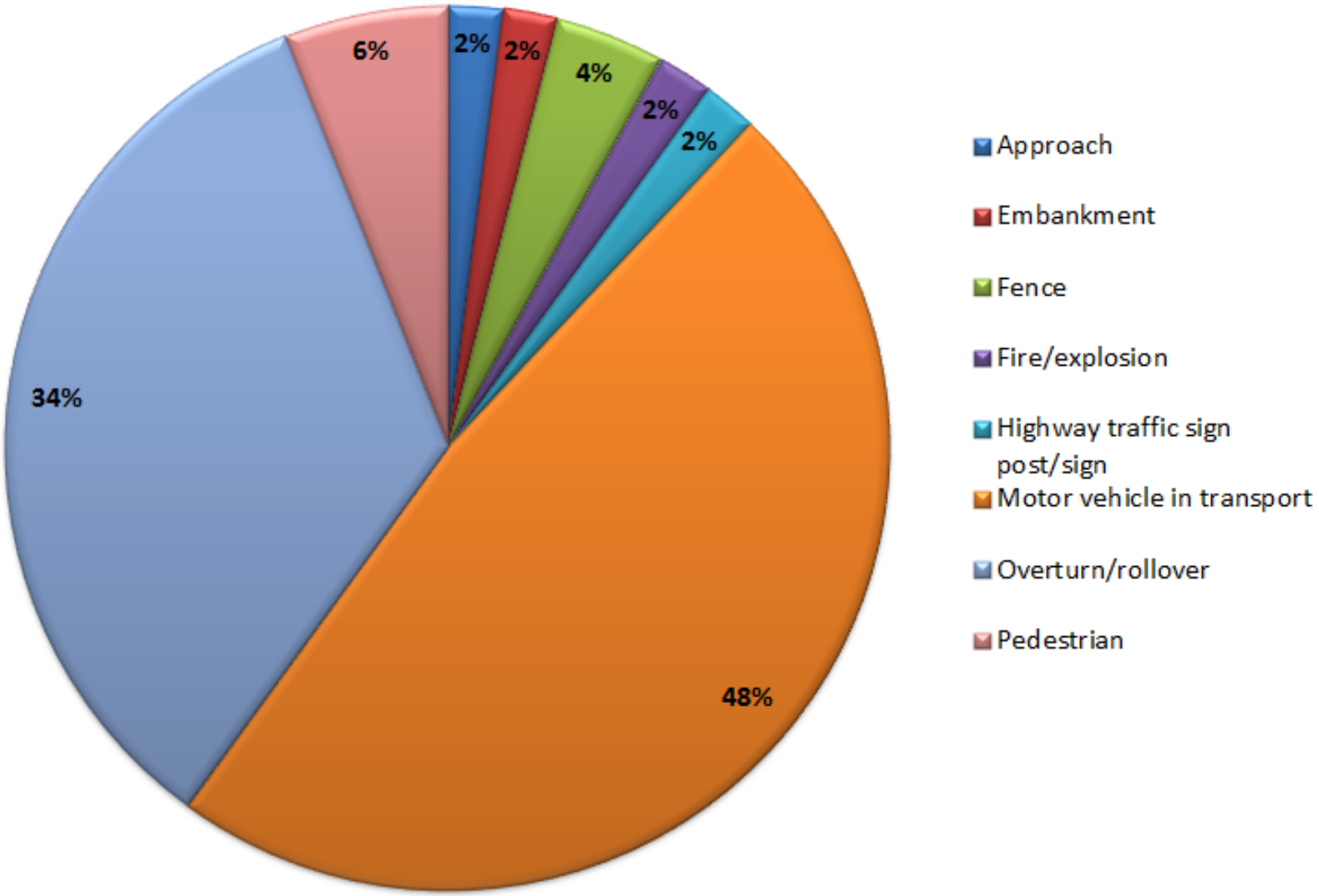
	01/01/2013 12/31/2013				01/01/2014 12/31/2014				01/01/2015 12/31/2015				Totals			
Crash Type	F	I	P	T	F	I	P	T	F	I	P	T	F	I	P	T
Angle-Intersec	0	0	0	0	1	0	0	1	1	0	0	1	2	0	0	2
Rear End	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Head-on	1	0	0	1	4	0	0	4	2	0	0	2	7	0	0	7
Fxd Obj in Rd	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Fxd Obj off Rd	2	0	0	2	1	0	0	1	2	0	0	2	5	0	0	5
Overturn on rd	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Overturn off rd	12	0	0	12	3	0	0	3	2	0	0	2	17	0	0	17
SSW overtake	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SSW opp dir	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Angle-no intersec	1	0	0	1	0	0	0	0	0	0	0	0	1	0	0	1
Bicycle	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian	2	0	0	2	0	0	0	0	1	0	0	1	3	0	0	3
Animal	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Parked Veh	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other	1	0	0	1	1	0	0	1	2	0	0	2	4	0	0	4
Totals	19	0	0	19	10	0	0	10	10	0	0	10	39	0	0	39

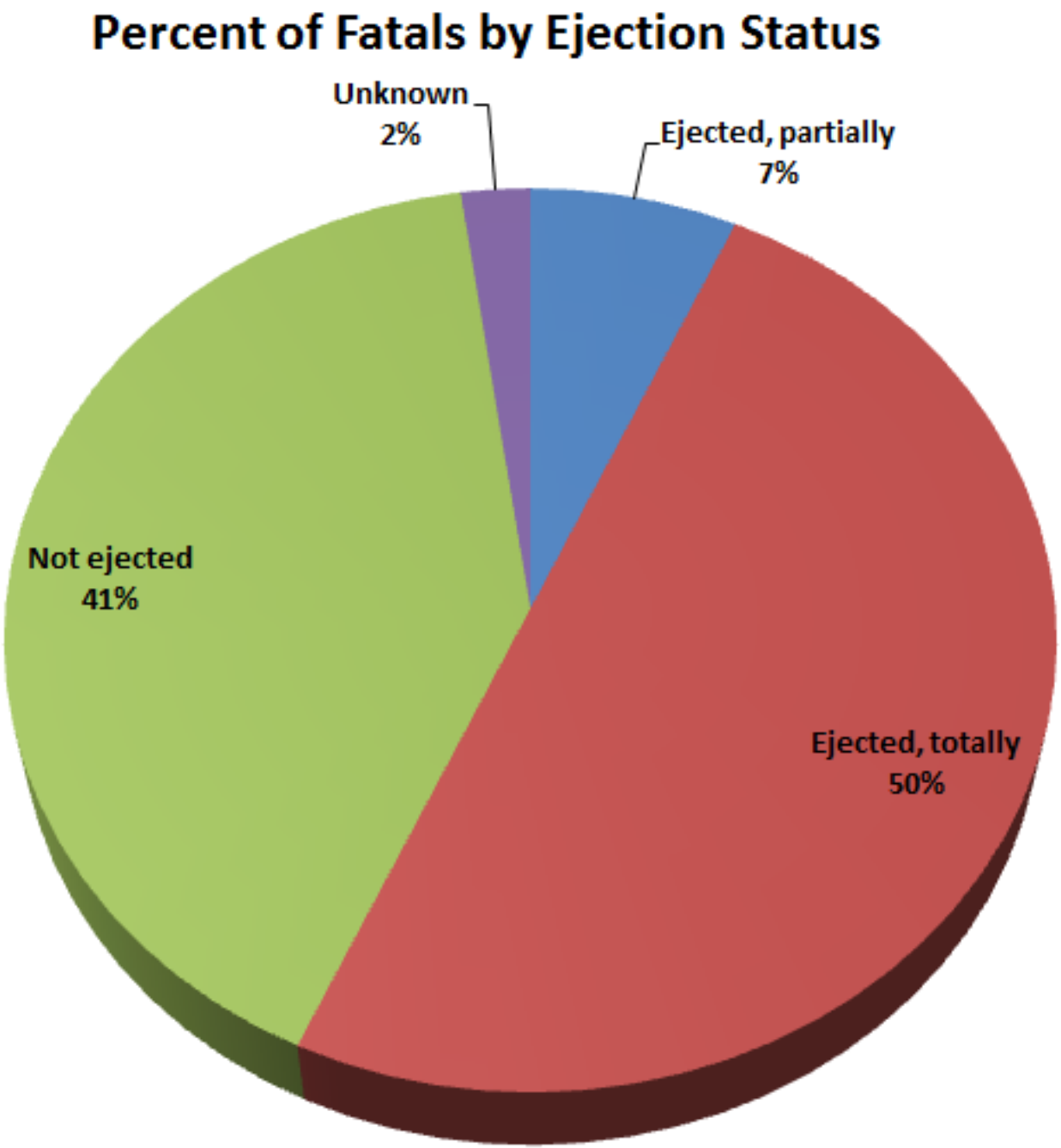
Left Turn Crashes
(at least one vehicle turned left)

F	I	P	T	F	I	P	T	F	I	P	T	F	I	P	T
2	0	0	2	1	0	0	1	1	0	0	1	4	0	0	4

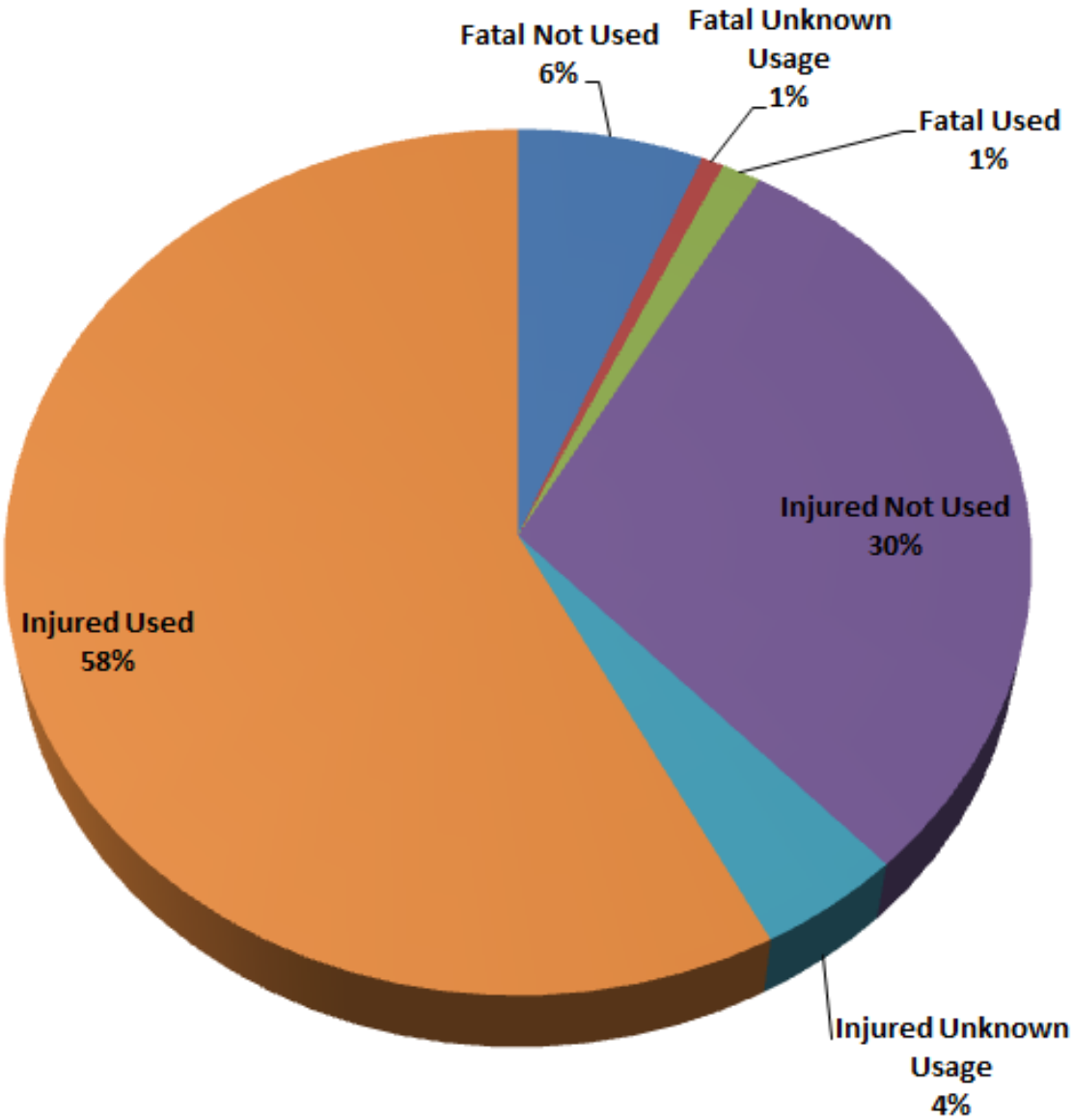
The following graph for First Harmful Event in Fatal Crashes on the Reservations and Tribal Lands in South Dakota for the years of 2013 through 2015 shows that a collision with another motor vehicle in transport accounted for 48% (24 crashes) of the 1st Harmful Events, with Overturn/Rollover equal to 34% (17 crashes), and collisions with Pedestrians accounted for 6% (3 crashes) of the 1st Harmful Event.

FIRST HARMFUL EVENT IN FATAL CRASHES THAT OCCURRED ON RESERVATIONS AND TRIBAL LANDS IN SD FOR YEARS 2013, 2014, 2015

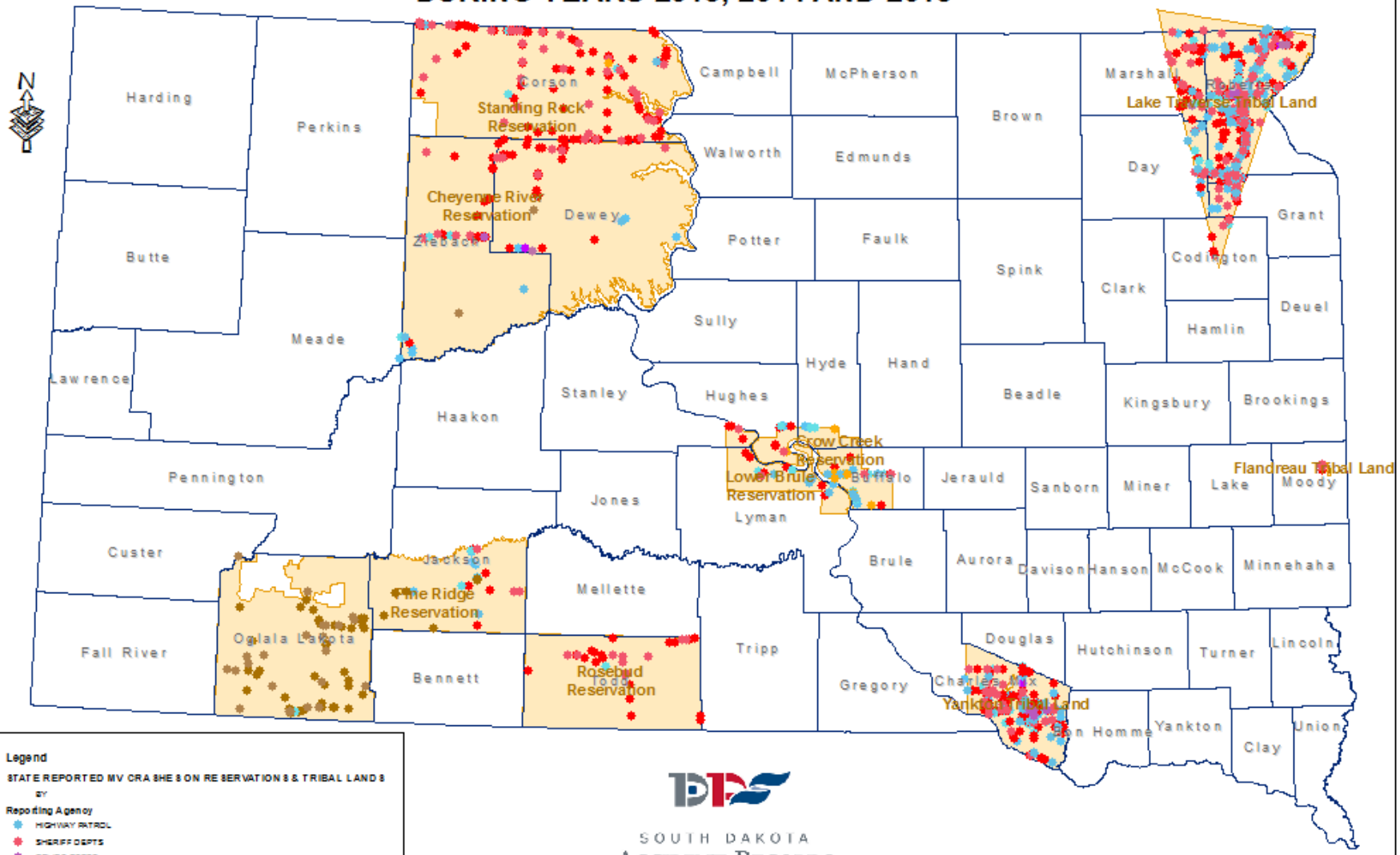



Percent of Fatals by Ejection Status
Unknown
2%
Ejected, partially
7%
Not ejected
41%
Ejected, totally
50%

Safety Equipment Usage



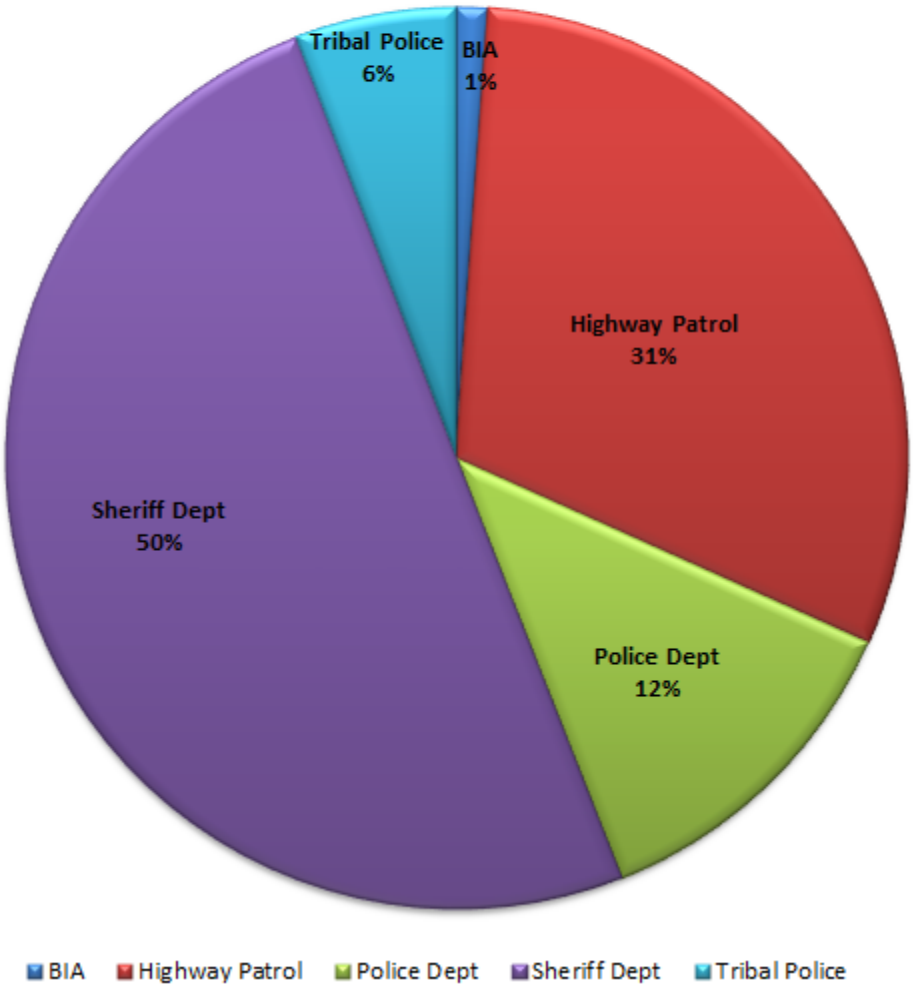
LAW ENFORCEMENT AGENCIES THAT INVESTIGATED REPORTED MOTOR VEHICLE TRAFFIC CRASHES ON RESERVATIONS AND TRIBAL LANDS IN SOUTH DAKOTA DURING YEARS 2013, 2014 AND 2015



SOUTH DAKOTA
ACCIDENT RECORDS

PREPARED BY:
SD DEPT OF PUBLIC SAFETY
HIGHWAY SAFETY / ACCIDENT RECORDS
10/14/2016

LAW ENFORCEMENT AGENCIES THAT REPORTED MOTOR VEHICLE TRAFFIC CRASHES ON RESERVATIONS AND TRIBAL LANDS IN SD FOR YEARS 2013, 2014, 2015



Appendix G

A Standing Rock Sioux Tribe Case Study

CRASH REPORTING: YEAR ONE

WHAT WE HAD BEFORE 2012

- BIA law enforcement jurisdiction
- County Sheriff offices jurisdiction
- States received information directly from BIA and Sheriff offices, often limited to fatalities
- Tribe usually received information on crashes third-hand from state annual crash reports

WITHOUT POLITICAL WILL, THERE IS NO WAY

PROS

- Ability to make better informed decisions on traffic safety measures
- More competitive for grants
- Becoming an asset to state and law enforcement partners, partnership building

CONS

- Managing relationships = potential for conflicts as well as collaboration
- Time consuming for both Tribal staff and partners
- Concerns about sovereignty and protecting tribal members

SETTING UP FOR SUCCESS

- Designating a Tribal staff member to lead the effort, coordinate partnerships
- Signing a routine use FOIA agreement with our BIA law enforcement for paper crash reports
  - Offering to help law enforcement print reports
  - Understanding calls for service come first…always
- Signing a MOA between the Tribe and our state partners at SDDPS and NDDOT for TraCS access and training

LESSONS AFTER YEAR ONE

- Data collected by every agency is slightly different and doesn't always translate well
  - More work on making data useful to all partners is needed
- High turnover/restructuring at partnering agencies and the Tribe makes succession planning (and founding documents) critical
- Getting aggregate data once entered can still take time
- Partners, Funders, and Tribal leaders love having the final numbers reported—it's a big motivator to continue the program and raise awareness

Mail to: Office of Accident Records, 118 W. Capitol Ave., Pierre, SD 57501

STATE OF SOUTH DAKOTA INVESTIGATOR'S MOTOR VEHICLE TRAFFIC ACCIDENT REPORT

Form DPS - AR1 12/11/03

TraC$ ID: HMERKEL TraC$ Sequence: 1607285325
Agency Use BO15007149 Report Type 1 - ORIGINAL

☑ Is this only a Wild Animal Hit Report?
Agency Name: STANDING ROCK SIOUX TRIBE
Date of Accident: 01/23/2015 Time of Accident: 19:30 hrs.
Reporting Officer Last Name: MERKEL Reporting Officer First Name: HADEN Reporting Officer Middle Name: Reporting Officer #: HMERKEL

LOCATION

Location Description: ON US HWY 12 AT (MRM 171.00 + .003)
Latitude: 45.686440 Longitude: -100.664354
County: 16 County Name: 16 - CORSON City or Rural: 0000 - RURAL
On Road, Street, or Highway: US HWY 12
At Intersection with:
Distance: 16.4042 Units: FEET Direction: NORTH of MRM (milepost): 171.00
Distance: U Units: Direction: and Distance: Units: Direction: of
Junction or Intersecting Street: Name of Junction, Road, Street, or Highway:
Interchange Area Location: 00 - NOT APPLICABLE & NOT INTERCHANGE (DEFAULT)
Roadway Surface Condition: 99 - UNKNOWN
Roadway Surface Type: 95 - WILD ANIMAL HIT
Roadway Align/Grade: 95 - WILD ANIMAL HIT
Relation to Junction: 95 WILD ANIMAL HIT

UNIT 001

Unit Type: 01 - MOTOR VEHICLE IN TRANSPORT WITH DRIVER Hit and Run: 95 - WIL
Driver's Name - Last: SRST First: MEMBER Middle:
Address: STANDING ROCK Address (Line 2):
City: MCLAUGHLINL State: SD Zip: 57642 Date of Birth: 11/23/1956 Sex: 2 - FEMALE
Phone: DL State: SD DL Class: 1
DL Number: SD
DL Status: 99 - UNKNOWN
Driver Contributing Circumstances (Up to Two): 95 - WILD ANIMAL HIT
Vision Contributing Circumstance: 95 - WILD ANIMAL HIT
Non - Motorist Location: 95 - WILD ANIMAL HIT
Non - Motorist Action: 95 - WILD ANIMAL HIT
Non - Motorist Contributing Circumstances (Up to Two): 95 - WILD ANIMAL HIT
Drug Use: 95 - WILD ANIMAL HI Drug Test: 95 - WILD ANIMAL HIT
Alcohol Use: 95 - WILD ANIMAL HI Alcohol Test: 95 - WILD ANIMAL HIT
Injury Status: 95 - WILD ANIMAL HIT Ejection: 95 - WILD ANIMAL HIT
Safety Equipment: 95 - WILD ANIMAL HIT
Seating Position: 95 - WILD ANIMAL HIT
Air Bag Deployed: 95 - WILD ANIMAL HIT
Transported To:
Source of Transport: 95 - WILD ANIMAL HIT
EMS Trip #:
Citation Charge?: 95 - WILD ANIMAL HIT
Citation #1:
Citation #2:
Citation #3:
Citation #4:
Is Driver the Owner: YES
Owner's Name - Last: SRST First: MEMBER Middle:
Address: STANDING ROCK Address (Line 2):
City: MCLAUGHLIN State: SD Zip: 57642 Red Tag#: N/A
Year: 2010 Make: NISSAN - NISN Model: ALTIMA VIN: 1N4AL2AP9AN463200
License Plate #: SD State: SD Year: 2015 Estimated Travel Speed: 0 Speed - How Estimated?: 95 - WILD ANIMAL HIT
Speed Limit: 65 Total Occupants: Damage Extent: 95 - WILD ANIMAL HIT Vehicle Towed?: 95 - WILD ANIMAL HI
Damage Amount (Vehicle and Contents): $4,000.00 Insurance Co. Name: 24260 - PROGRESSIVE CASUALTY INS CO
Insurance Policy #: YES Effective Date: 09/09/1900 Expiration Date: 04/02/2015
Emergency Vehicle Use?: 95 - WILD ANIMAL H Vehicle Configuration: 01 - PASSENGER CAR
Trailer Type: 95 - WILD ANIMAL HIT Cargo Body Type: 00 - NO CARGO BODY
Direction of Travel Before Crash: 04 - WESTBOUND
Trailer LP # Attached to Power Unit: State: Year:
Trailer 2 License Plate #: State: Year:
Trailer 3 License Plate #: State: Year:
Initial Point of Impact: 95 - WILD ANIMAL HIT Most Damaged Area: 95 - WILD ANIMAL HIT
Underride/Override: 95 - WILD ANIMAL HIT
Traffic Control Device Type: 95 - WILD ANIMAL HIT
Vehicle Maneuver: 95 - WILD ANIMAL HIT
Vehicle Contributing Circumstance: 95 - WILD ANIMAL HIT
Road Contributing Circumstance: 11 - ANIMAL IN ROADWAY
First Event: 23 - ANIMAL - WILD Second Event: 23 - ANIMAL - WILD
Third Event: 23 - ANIMAL - WILD Fourth Event: 23 - ANIMAL - WILD
Most Harmful Event for this Vehicle: 23 - ANIMAL - WILD

☐ Does the accident involve one or more of the following:
- a truck having a GCWR of 10,001 or more pounds; OR
- a vehicle displaying a hazardous material placard; OR
- a vehicle designed to transport 9 or more people, including driver

☐ Did the accident result in one or more of the following:
- a fatality; OR
- an injury requiring transportation for immediate medical attention; OR
- a vehicle was disabled requiring a towaway from the scene

Accident Involved Vehicle - Purpose: 95 - WILD ANIMAL HIT Carrier Name:
Street Address: Street Address (Line 2):
City: State: Zip: US DOT #: 98 GVWR: GCWR:
Hazardous Material Released?: Hazardous Material Content Code: Hazardous Material Class Code: Hazardous Materials Description:
Work Zone Related?: 95 - WILD ANIMAL HIT First Harmful Event?: 23 - ANIMAL - WILD

https://sddps.primepublicsafety.com/tracsweb/TraCSWeb.aspx

TraCS Web

Tribal Safety Home | Injury Prevention and Con... | Chorus | RSDP Toolbox | ND TraCS | SD TraCS

TraCS Web - Advanced Search

Log Out

Search Name: [Unsaved Search]

Form	Group	Field	Action	Value(s)
Form Information	Form Information	Addr1Street	Show in results	01 - Alcohol used
Common Information	Header	Addr2Street	Includes Any	
Driver Information Exchange (DIE)	Location	AddrCity	Exact Match	
HP Warning Ticket (HPWARN)	Unit	AddrState	Excludes	
Equipment (INVENTORY)	Damaged Object	AddrZip	Is Blank	
Equipment (MAINTENANCE)	Injured Person	AlcoholTestCode	Is Not Blank	
South Dakota Accident Report (SDARS)	Diagram	AlcoholUseCode		
SHORT FORM (SHORT FORM)	Witness	CargoBodyCode		
UNIFORM TRAFFIC TICKET (UTT)	Footer	CarrierAddr1Street		
		CarrierAddr2Street		
		CarrierAddrCity		
		CarrierAddrState		
		CarrierAddrZip		
		CarrierName		
		Citation1		

New | Remove

AND
OR

Add
Clear

Search Criteria

Only include SDARS forms that fit the following criteria:

[SDARS].[Unit].[UnitInjuryStatusCode] Exact Match 01 - Fatal

Edit
Group
Remove
Remove All
Select All

Search | Finish | Cancel

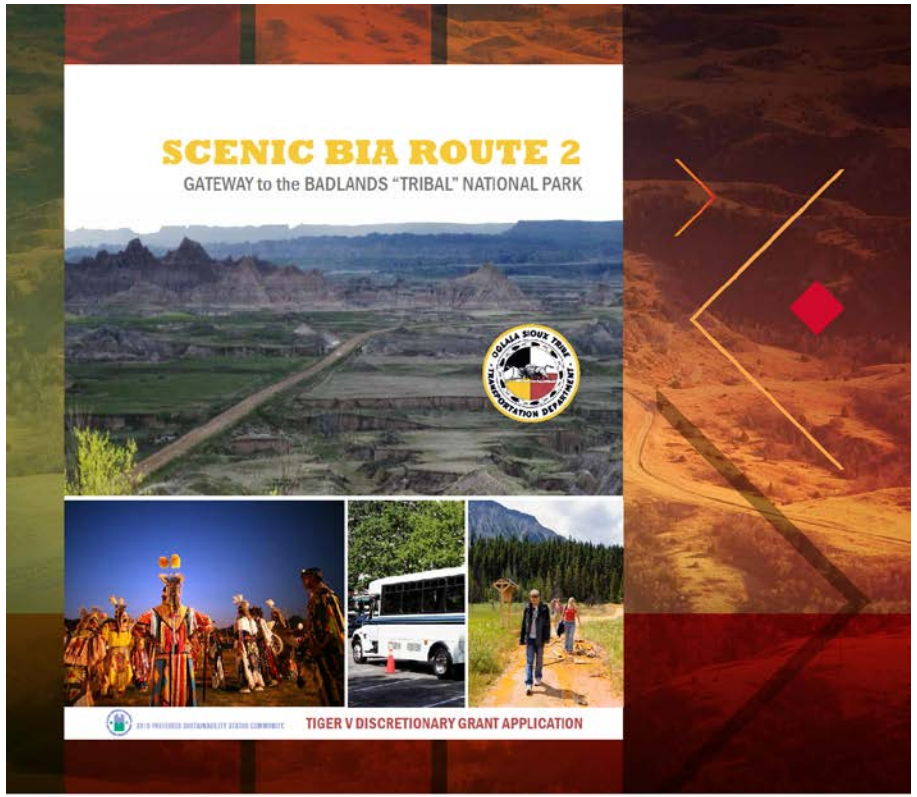
CONTACT INFO

- Haden Merkel, Traffic Safety Coordinator
  hmerkel@standingrock.org, 701-854-8607

Appendix H

Oglala Sioux Tribe Department of Transportation

2016 SOUTH DAKOTA TRIBAL TRANSPORTATION SAFETY SUMMIT



TIGER V Winner

Oglala Sioux Tribe

Total Project Cost: $8,877,960
Grant Funding: $8,777,960

Project Overview

TIGER funds will upgrade 17.6 miles of loose gravel road to a paved surface that will provide a critical arterial route in the Pine Ridge Indian Reservation, the second most economically distressed population in the United States. The project will include a designated bicycle lane, which will provide enough room for motor vehicles and bicyclists to share the road. This project is the result of a decade of planning studies and efforts to improve the transportation accessibility for this area.

kljeng.com

Project: Scenic BIA 2 – Gateway to the Badlands

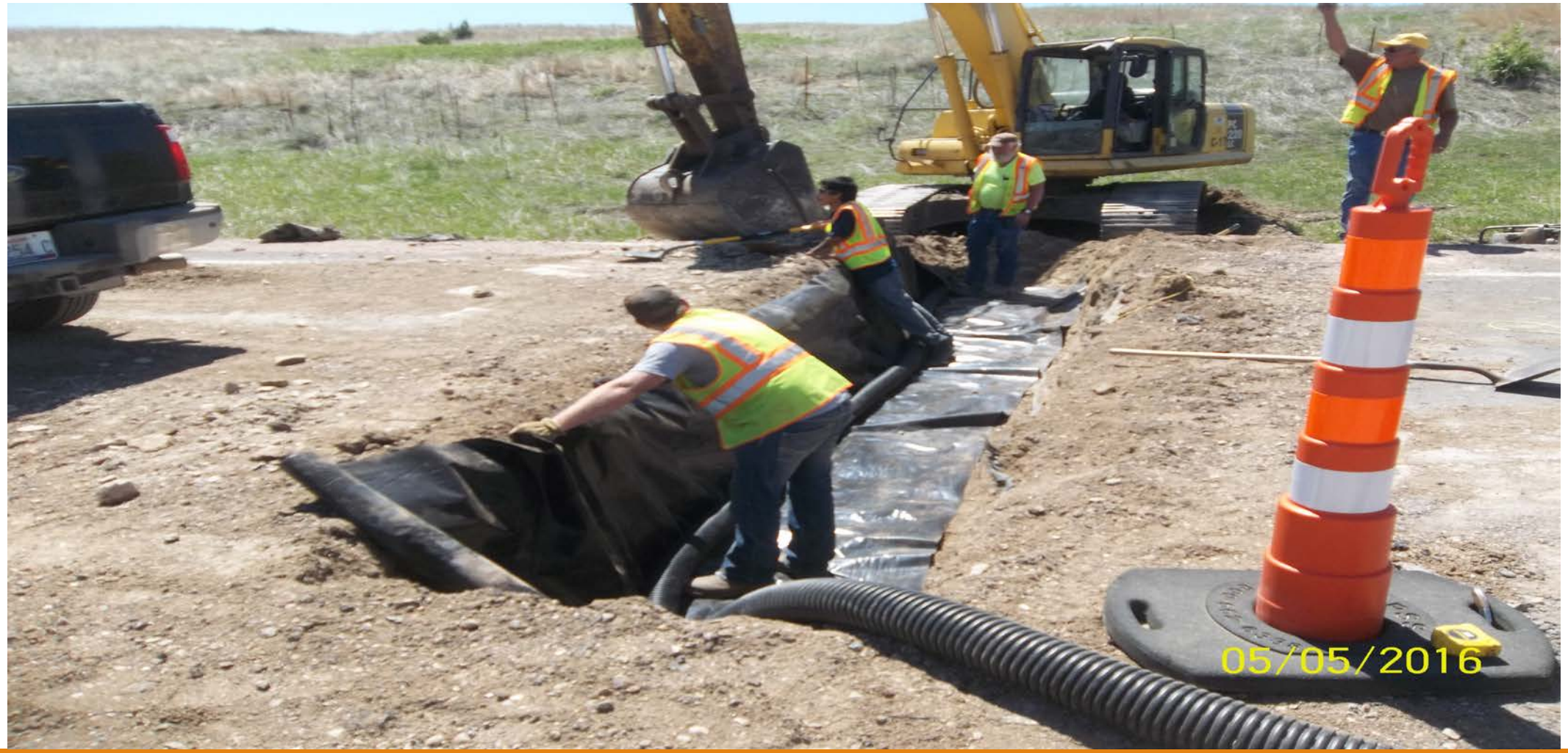
- Approximately 17 Miles in Length
  - 5 Miles of Hot Plant Mix Surfacing
  - 12 Miles of Double Chip Seal Surfacing
- Approximately $10 Million in Construction Costs
- Included $8.7 Million in Tiger V Grant Funding
- Completed Summer 2016

Project: Scenic BIA 2 – Gateway to the Badlands

Project: Scenic BIA 2 – Gateway to the Badlands

Project: Scenic BIA 2 – Gateway to the Badlands

Project: Scenic BIA 2 – Gateway to the Badlands



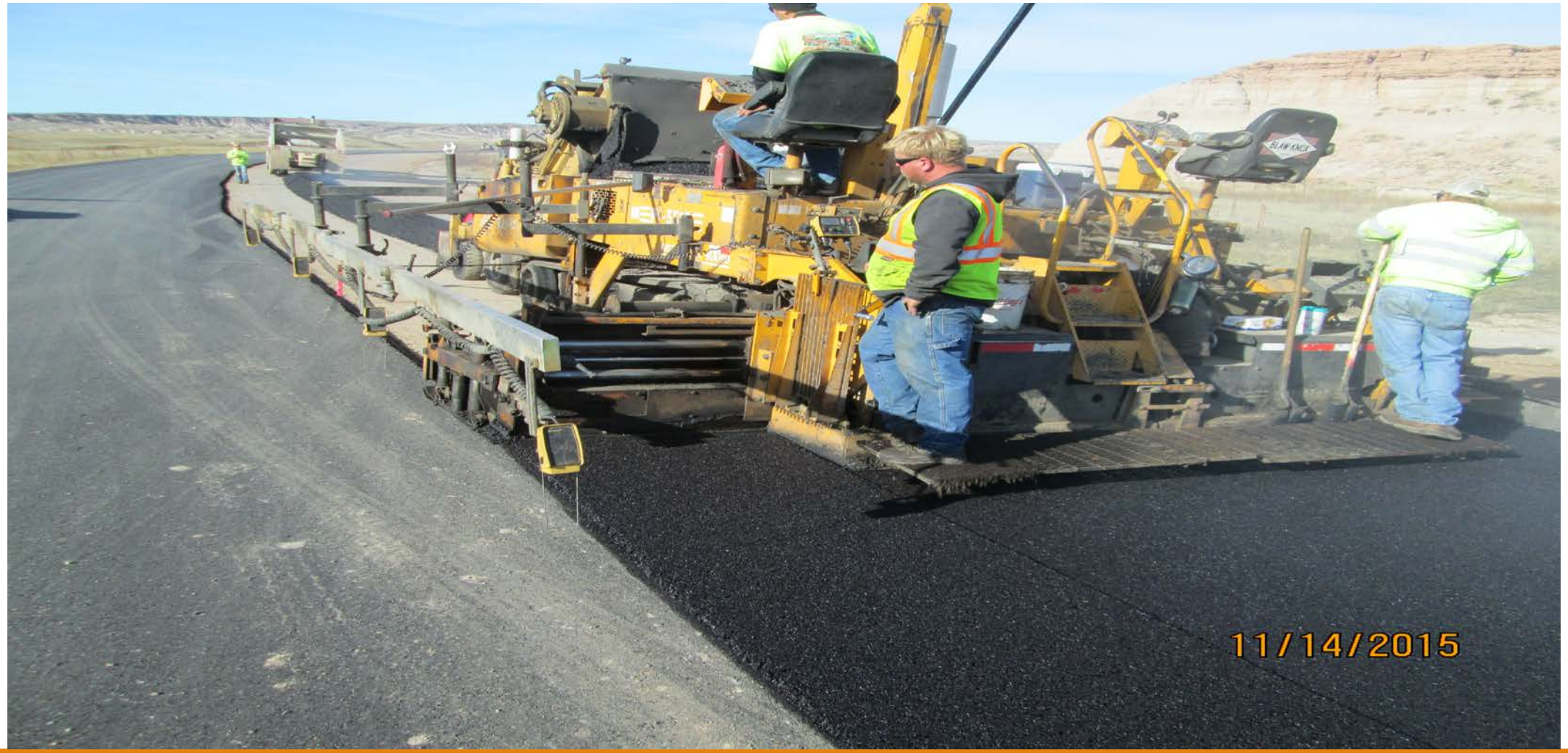
Project: Scenic BIA 2 – Gateway to the Badlands

Project: Scenic BIA 2 – Gateway to the Badlands

Project: Scenic BIA 2 – Gateway to the Badlands

Project: Scenic BIA 2 – Gateway to the Badlands

Project: Scenic BIA 2 – Gateway to the Badlands



Project: Scenic BIA 2 – Gateway to the Badlands

Project: Scenic BIA 2 – Gateway to the Badlands

Project: Scenic BIA 2 – Gateway to the Badlands

Project: BIA 2 Emergency Culvert Replacement

- 14’ Diameter Corrugated Multi-Plate Pipe washed out in heavy flooding – Spring 2015
- Replaced with 192’ of Double 11’x10’ Concrete Box Culvert
- All work completed by Tribal construction crew
- Approximately $1.6 Million in ERFO Funding
- Scheduled Completion Fall 2016

Project: BIA 2 Emergency Culvert Replacement

Project: BIA 2 Emergency Culvert Replacement

Project: BIA 2 Emergency Culvert Replacement

Project: BIA 2 Emergency Culvert Replacement

Project: BIA 2 Emergency Culvert Replacement

Project: BIA 2 Emergency Culvert Replacement

Project: BIA 2 Emergency Culvert Replacement

Project: BIA 2 Emergency Culvert Replacement

Project: BIA 2 Emergency Culvert Replacement

Project: BIA 2 Emergency Culvert Replacement

Project: BIA 2 Emergency Culvert Replacement

QUESTIONS??

Appendix I

South Dakota
Tribal Transportation
Safety Summit

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP)

Andy Vandel, P.E.
Highway Safety Engineer
SDDOT
605.773.4421
andy.vandel@state.sd.us

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP)

- A goal of a significant reduction in traffic fatalities and serious injuries on all public roads, including non-State-owned public roads and roads on tribal lands.
- Requires a data-driven, strategic approach to improving highway safety on all public roads that focuses on performance.

HSIP

Highway Safety Improvement Program

Data Driven Decisions

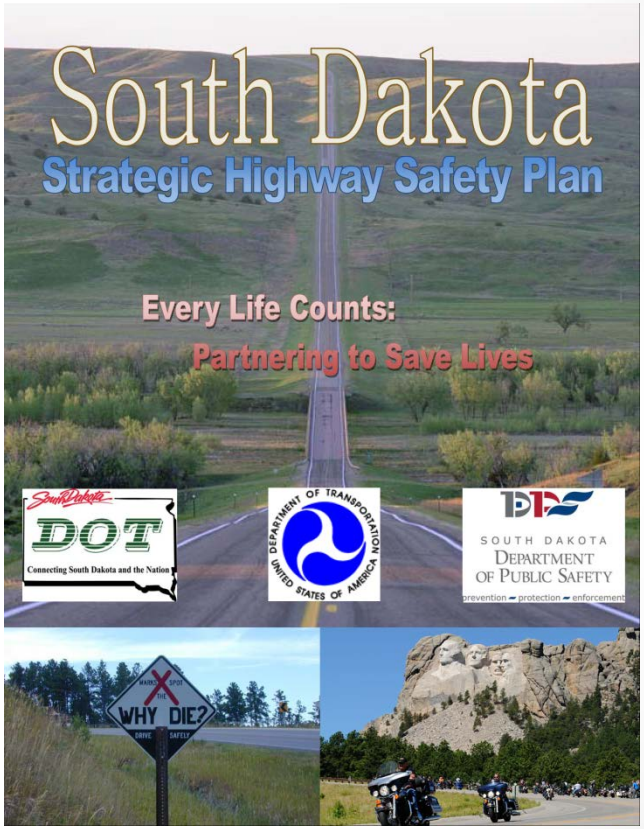
HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP)

Eligible Activities

- Safety projects that are consistent with the State's strategic highway safety plan (SHSP) and that correct or improve a hazardous road location or feature or address a highway safety problem.

South Dakota Strategic Highway Safety Plan (SHSP)

- Data Analysis
- Safety Emphasis Areas
- Safety Strategies
- SHSP Implementation
- Performance Measures



http://www.sddot.com/transportation/highways/traffic/safety/docs/FinalSHSP.pdf

Google "SDDOT SHSP"

Strategic Highway Safety Plan

- Data Analysis

Safety Emphasis Area	Statewide		State Highways		County/Township Roads		City Streets		Other	
	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number
Statewide Totals (Fatal and Serious Injury Crashes)	**3,858**		**1,970**		**945**		**914**		**29**	
Drivers										
Unbelted Vehicle Occupants	37%	1,440	36%	706	50%	475	27%	251	28%	8
Speeding-Related	28%	1,080	29%	573	28%	267	25%	227	45%	13
Drug- and Alcohol-Related	24%	926	20%	386	37%	345	20%	184	38%	11
Young Drivers (age 20 and younger)	23%	899	18%	350	27%	257	31%	286	21%	6
Unlicensed Drivers	12%	470	9%	183	19%	175	12%	108	14%	4
Older Drivers (age 65 and older)	15%	592	19%	373	10%	96	13%	121	7%	2
Inattentive, Distracted, and Asleep Drivers	13%	508	14%	271	12%	109	14%	125	10%	3
Other Users										
Pedestrians	5%	188	3%	53	2%	19	12%	114	7%	2
Bicycles	1%	57	1%	14	0%	1	5%	42	0%	0
Vehicles										
Motorcycles	21%	825	26%	504	19%	175	15%	134	41%	12
Heavy Vehicles	8%	312	12%	236	5%	50	3%	26	0%	0
Highways										
Roadway Departure (includes run-off-the-road, head-on, and sideswipe-opposing crashes)	57%	2,211	60%	1,175	81%	767	27%	248	72%	21
Intersections	27%	1,041	21%	419	14%	137	52%	477	28%	8
Train-Vehicle Collisions	0%	18	0%	7	1%	6	1%	5	0%	0
Run-off-the-Road	52%	2,021	53%	1,048	76%	721	25%	231	72%	21
Consequences of leaving the road *(run-off-the-road crashes involving a fixed object or overturn)*	52%	1,994	53%	1,036	75%	713	25%	225	69%	20
Head-On and Sideswipe-Opposing	5%	190	6%	127	5%	46	2%	17	0%	0
Work Zones	2%	93	4%	75	1%	7	1%	11	0%	0

Notes:
Yellow highlighted rows indicate that the safety emphasis area is one of the seven selected by SDDOT for the updated SHSP.
Some crash reports stated more than one emphasis area contributing to the crash. Therefore, the sum of the numbers in individual cells do not equal the total for that column.
Related crashes could not be identified for several categories and data for these are not shown in the table. These categories include Enhancing Emergency Capabilities (EMS); Information and Decision Support Systems (Management), and More Effective Processes (Management).
Source: 2007-2011 SDARS Crash Data

Strategic Highway Safety Plan

- Safety Emphasis Areas
  - Roadway Departure
  - Intersections
  - Motorcycles
  - Unbelted Vehicle Occupants
  - Speeding-Related
  - Drug- and Alcohol-Related
  - Young Drivers

HSIP Eligible Projects

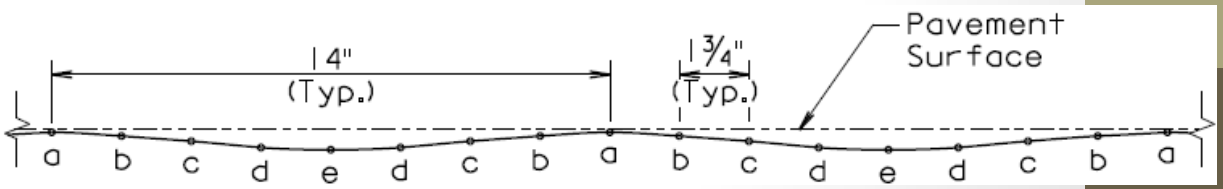
- Shoulder Rumble Strip
  - >4’ shoulder
- Edge Line Rumble Stripe
  - <4’ shoulder

- SD Statistics
  - 24% reduction in Fatal Crashes
  - 20% reduction in Injury Crashes
  - 21% reduction in Road Departure Crashes

HSIP Eligible Projects

- Centerline Rumble Stripe
  - Undivided roadways
  - Minimum lane plus shoulder width of 28’
  - ADT > 2500 unless route has history of head-on collisions
- SDDOT utilizing Sinusoidal “Mumble” Stripe
  - Similar in-vehicle noise and vibration
  - Little to no outside vehicle noise
- 50% crash reduction of targeted crash types

SINUSOIDAL GRINDING	
Location	⊘Depth (In.)
a	1/16
b	5/32
c	9/32
d	7/16
e	1/2



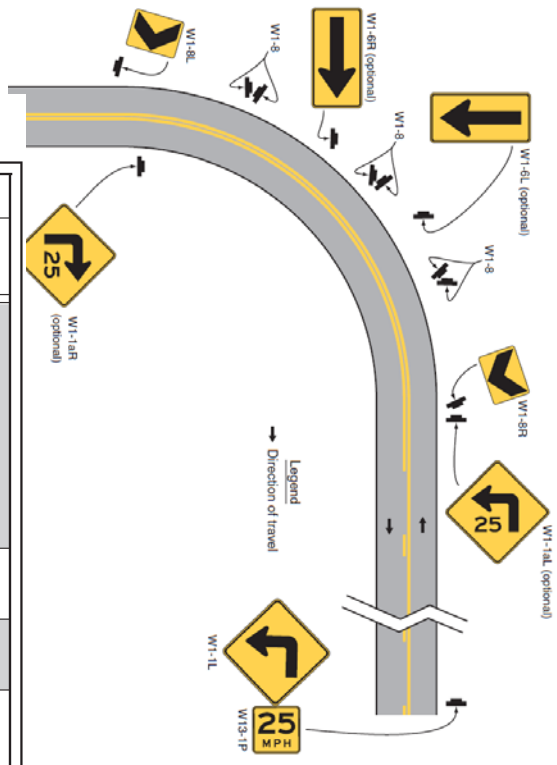
Videos

HSIP Eligible Projects

- Horizontal Curve Improvements
  - Signing and Delineation

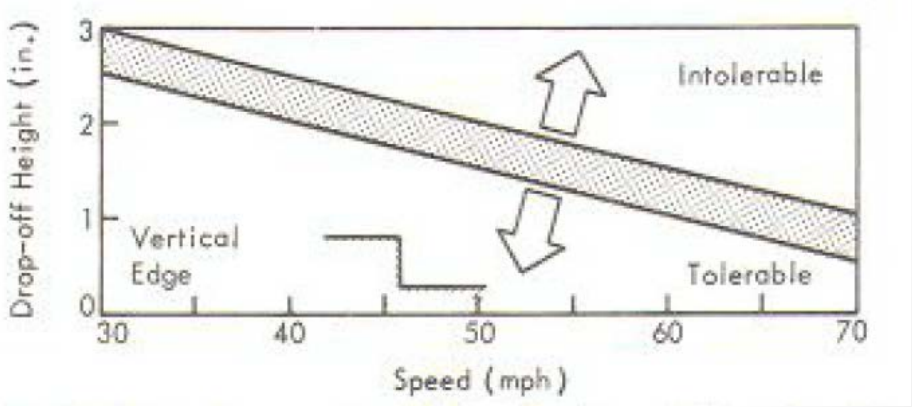
Table 2C-5. Horizontal Alignment Sign Selection

Type of Horizontal Alignment Sign	Difference Between Speed Limit and Advisory Speed				
	5 mph	10 mph	15 mph	20 mph	25 mph or more
Turn (W1-1), Curve (W1-2), Reverse Turn (W1-3), Reverse Curve (W1-4), Winding Road (W1-5), and Combination Horizontal Alignment/Intersection (W10-1) (see Section 2C.07 to determine which sign to use)	Recommended	Required	Required	Required	Required
Advisory Speed Plaque (W13-1P)	Recommended	Required	Required	Required	Required
Chevrons (W1-8) and/or One Direction Large Arrow (W1-6)	Optional	Recommended	Required	Required	Required
Exit Speed (W13-2) and Ramp Speed (W13-3) on exit ramp	Optional	Optional	Recommended	Required	Required



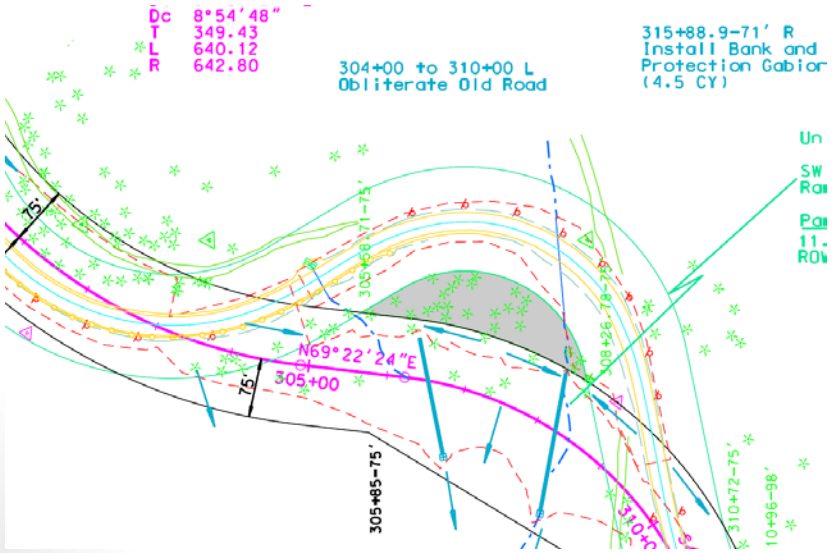
HSIP Eligible Projects

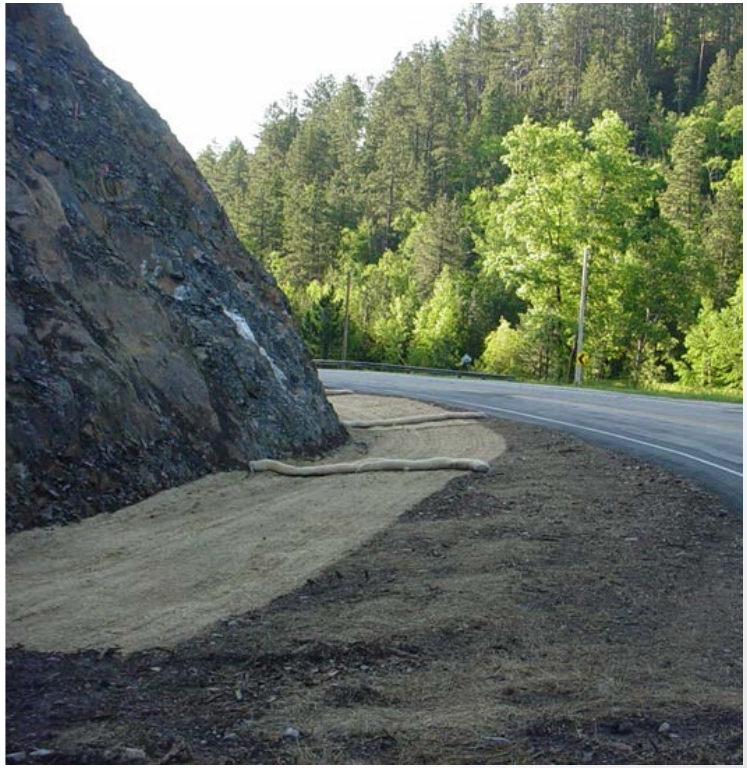
- Horizontal Curve Improvements
  - Shoulder Improvements
    - Widening
    - Paving
    - Drop off elimination



HSIP Eligible Projects

- Horizontal Curve Improvements
  - Geometric
    - Vertical and horizontal alignment
    - Superelevation
    - Sight distance





HSIP Eligible Projects

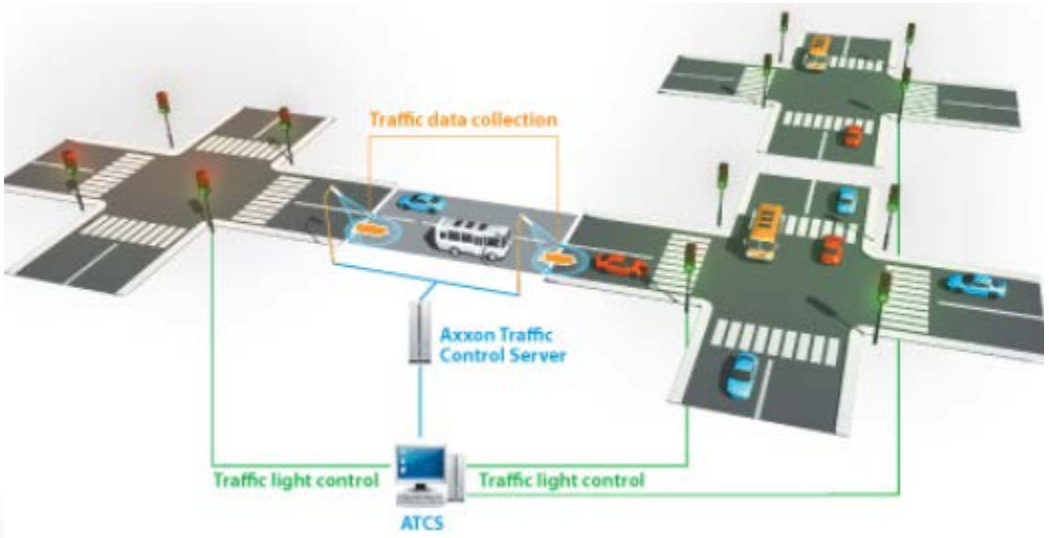
- High Friction Surface Treatment
  - Increase friction at high crash locations
    - Horizontal curves
    - Intersections
    - Bridge decks
  - 80% reduction of snow/ice road condition crashes

HSIP Eligible Projects

- Roadway Signing and Delineation
  - County Signing Project
    - Regulatory
    - Warning
    - Street name

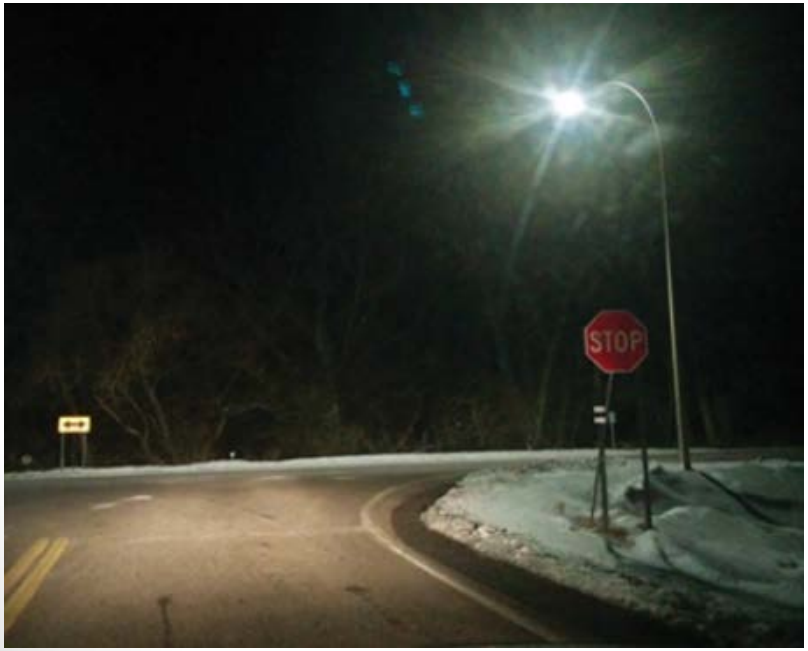
HSIP Eligible Projects

- Traffic Signal Improvements
  - Adaptive Signal Control Technology
  - Corridor Signal Timing
  - Reflective Back Plates



HSIP Eligible Projects

- Intersection Lighting
  - High rate of nighttime crashes
  - Illuminate driver decision points



HSIP Eligible Projects

- Turn lanes
  - Use predictive crash analysis (HSM)

$$N_{spf\,4ST} = exp[-8.56 + 0.60 \times \ln(AADT_{maj}) + 0.61 \times \ln(AADT_{min})]$$

Table 10-13. Crash Modification Factors (CMF_{2i}) for Installation of Left-Turn Lanes on Intersection Approaches

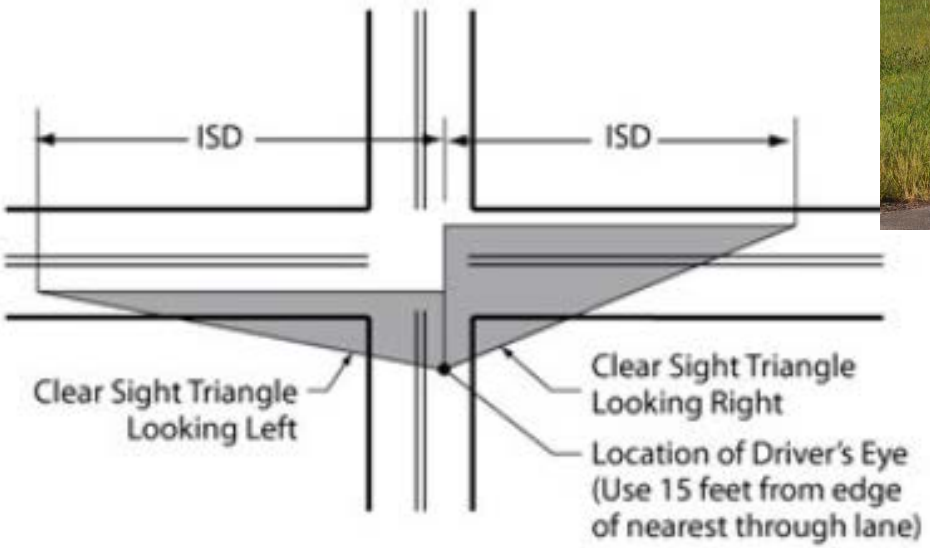
		Number of Approaches with Left-Turn Lanes[a]			
Intersection Type	**Intersection Traffic Control**	**One Approach**	**Two Approaches**	**Three Approaches**	**Four Approaches**
Three-leg Intersection	Minor road stop control[b]	0.56	0.31	—	—
Four-leg Intersection	Minor road stop control[b]	0.72	0.52	—	—
	Traffic signal	0.82	0.67	0.55	0.45

HSIP Eligible Projects

- Roundabout
  - Speed reduction
  - Crash reduction compared to traffic signal
    - 70% reduction of fatal and injury crashes

HSIP Eligible Projects

- Intersection Sight Distance Improvements
  - Identify and mitigate obstructions



HSIP Eligible Projects

- Snow Fence
  - Tree belts
  - Corn strips
  - Wood fence

HSIP Eligible Projects

- Dynamic Speed Signs
  - Horizontal curves
  - Intersections
  - Speed zones

HSIP Eligible Projects

- Rural sweeping – Sturgis Rally
  - Prevent motorcycle crashes

ROAD SAFETY AUDIT REVIEW (RSAR)

- An RSAR is an examination of an existing roadway, by an independent audit team, focusing solely on safety issues
- Review existing crash history for need
- On-site inspection review
- Results of review are documented in a report
- Limitations due to funding amount being tied to a B/C ratio and number of crashes

Making Your Roads Safer

RSAR TEAM

- Includes members of SDLTAP, SDDOT, FHWA, law enforcement, county highway superintendents, tribal representative
- Team has expertise in traffic, safety, design, maintenance, and construction

RSAR IMPROVEMENTS

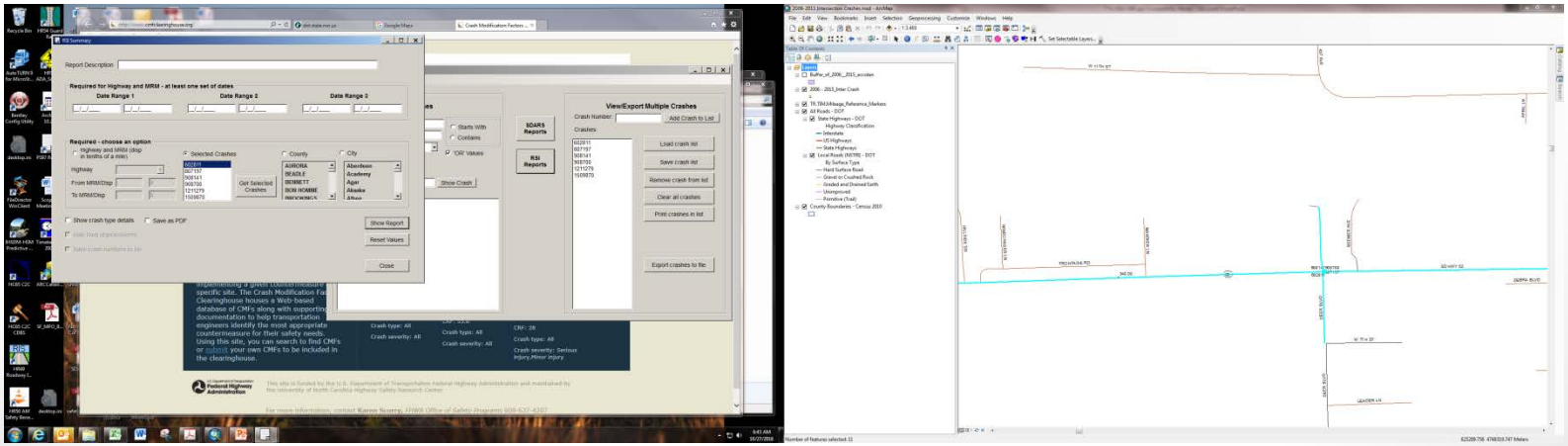
- Areas to improve
  - Signing deficiencies
  - Obstructions in the clear zone
  - Steep inslopes
  - Pavement edge drop off
  - Vertical and horizontal alignments
  - Turn lanes
  - Guardrail
  - Access management
  - Everything is on the table…

RSAR IMPROVEMENTS

- Three categories
  - Immediate safety improvements
    - Signing and striping
  - Improvements included in a formal project
    - Lighting, turn lanes, guardrail
  - Future long range project
    - Full reconstruction

ROAD SAFETY REVIEW (RSR)

- An RSR is an informal safety review and can be requested by anybody for any public road
- Specific location and safety concern
- Review existing crash history
- On-site inspection not typically needed
- Review is followed up with email or phone call
- Limitations due to funding amount being tied to a B/C ratio and crash rate



HSIP Eligible Projects

- Project Eligibility Process
  - Data-driven safety analysis
  - Identify over representation of crash types
  - Crash rates
  - Predictive crash analysis (HSM)
  - Benefit-Cost Ratio

$$N_{spf\,rs} = AADT \times L \times 365 \times 10^{-6} \times e^{(-0.312)}$$

$$BCR = \frac{PV_{\text{benefits}}}{PV_{\text{costs}}}$$

1307464 07/17/2013 11:55:00AM City - Rural LAWRENCE County
MIKE E THOMAS - South Dakota Highway Patrol Photos taken

On US HWY 14A at (MRM 023.00 + .322)
Road: US HWY 14A MRM: 0.00 Non-junction
Nearest crossing: 0.39 Miles S of CALAMITY GULCH LN
Intersection:
Latitude: 44.358232 Longitude: -103.929259

FHE: Motor vehicle in transport
FHE Loc: On roadway
Road Cond: Dry
Surface Type: Asphalt (blacktop)
Trafficway: Two-way, not divided
Road Alignment: Straight on grade
Manner of Collision: Head-on (front to front)
Lighting: Daylight
School bus related: No (school bus not involved)

Work zone related: No
Workers present: No
Work zone location: Not applicable
Work zone type: Not applicable

Weather
Clear

Unit: 1 2009 CHEV COLORADO Plate: 7-7217 Plate State: NE

Owner: ALDAG, TERRY JAY
3912 W NORFOLK AVE
NORFOLK, NE 68701

Unit type: Motor vehicle in transport with driver
Cargo body: No cargo body
VIN: 1GCDT13E698124178
Maneuver: Straight ahead
Hit and run: No
Initial point of impact: Front
Damage extent: Disabling damage
Traffic device: No controls
MHE: Motor vehicle in transport
Damage Amt: $15,000.00
Trailer: No trailer/attachment
Travel Dir: Westbound

Occupants: 2
Veh config: Light truck (2 axles, 4 tires)
Vehicle towed: Yes
Most damaged area: Front
Underride/override: None - no underride or override
Vision Contrib: None
Veh Contrib: None
Road Contrib: None
Est Speed: 10 Driver statement Speed Limit: 35

Data-driven Safety Analysis

- Crash Reports

1409213 **08/09/2014 3:22:00PM** **City - Rural** **PENNINGTON County**
DAN BENDER - SD HIGHWAY PATROL Photos taken

On NEMO RD 329 Feet North of PINE DR
Road: NEMO RD **MRM:** 0.00 Non-junction
Nearest crossing: 0.06 Feet N of PINE DR
Intersection:
Latitude: 44.140203 **Longitude:** -103.440600

FHE: Guardrail face
FHE Loc: Roadside
Road Cond: Dry
Surface Type: Asphalt (blacktop)
Trafficway: Two-way, not divided
Road Alignment: Curve and level
Manner of Collision: No collision between 2 MV in transport
Lighting: Daylight
School bus related: No (school bus not involved)

Work zone related: No
Workers present: No
Work zone location: Not applicable
Work zone type: Not applicable

Weather
Clear

Unit: 1 2002 HAR FX3 [redacted]

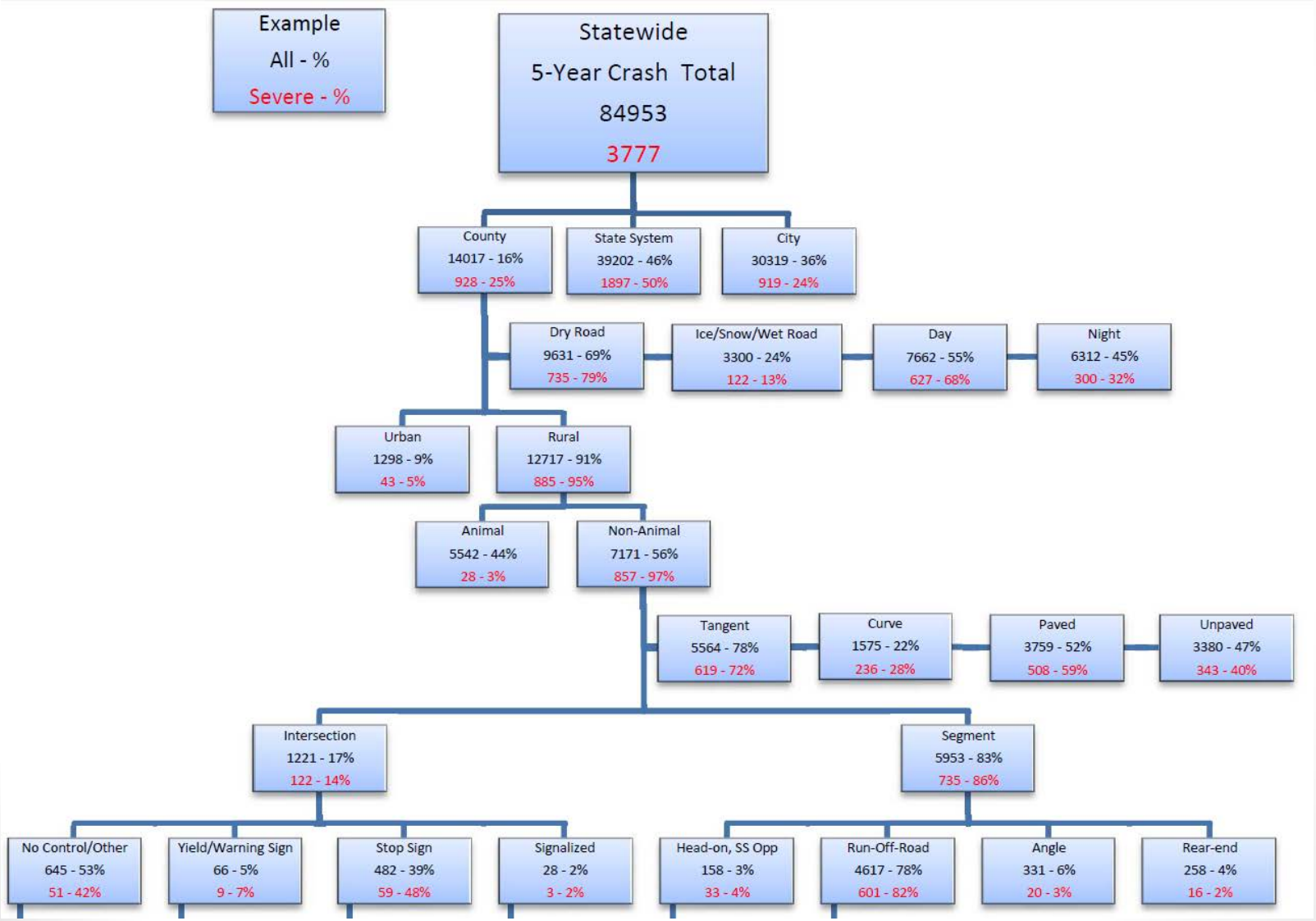
Owner: [redacted]

Unit type: Motor vehicle in transport with driver
Cargo body: No cargo body
VIN: [redacted]
Maneuver: Straight ahead
Hit and run: No
Initial point of impact: Right Middle
Damage extent: Disabling damage
Traffic device: No controls
MHE: Guardrail face
Damage Amt: $2,000.00
Trailer: No trailer/attachment
Travel Dir: Eastbound
Insurance: [redacted]

Occupants: 2
Veh config: Motorcycle
Vehicle towed: Yes
Most damaged area: Right Middle
Underride/override: None - no underride or override
Vision Contrib: None
Veh Contrib: None
Road Contrib: None
Est Speed: 40 Driver statement **Speed Limit:** 50

Events
Ran off road left Guardrail face Overturn/rollover

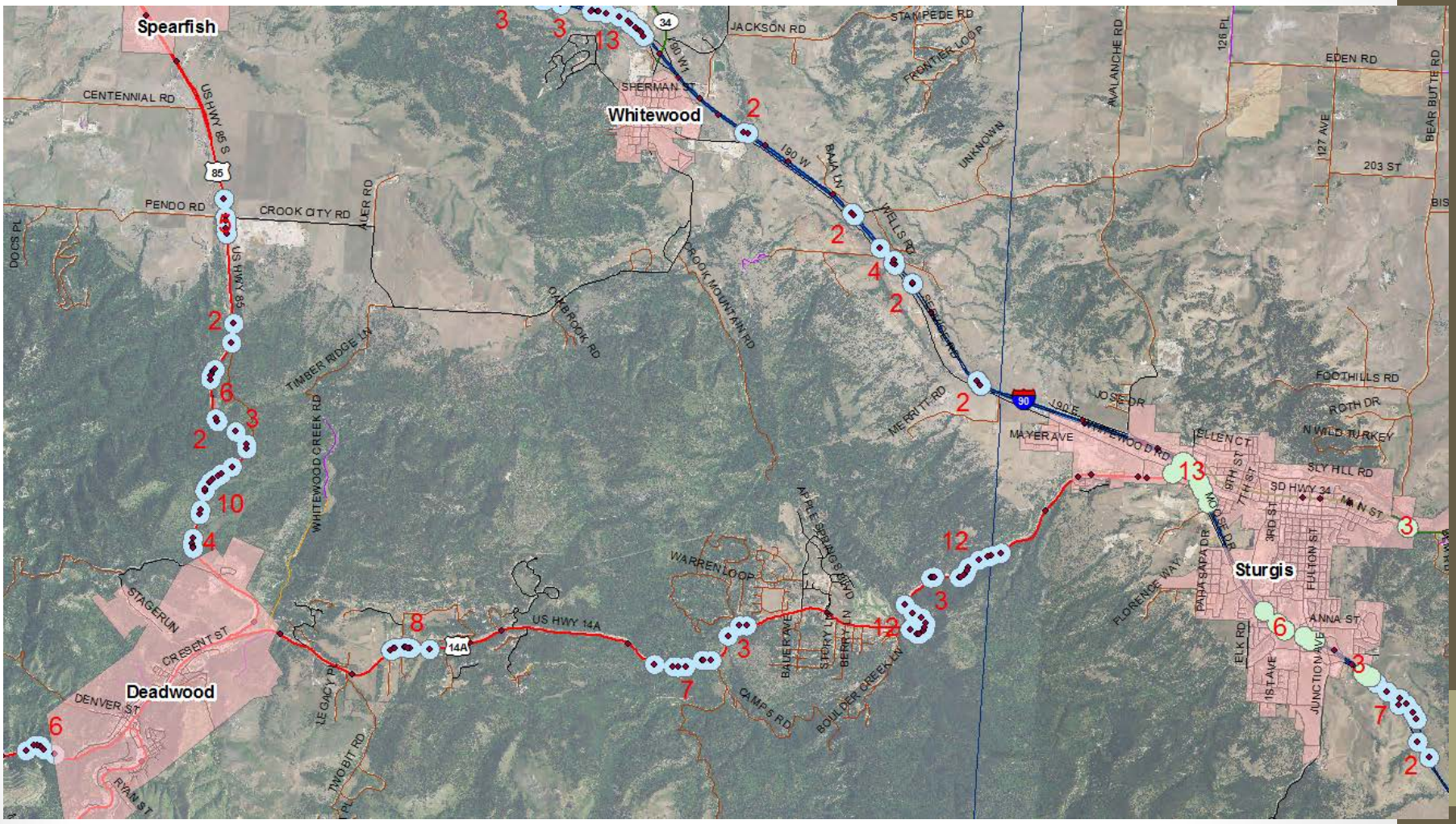
Data-driven Safety Analysis



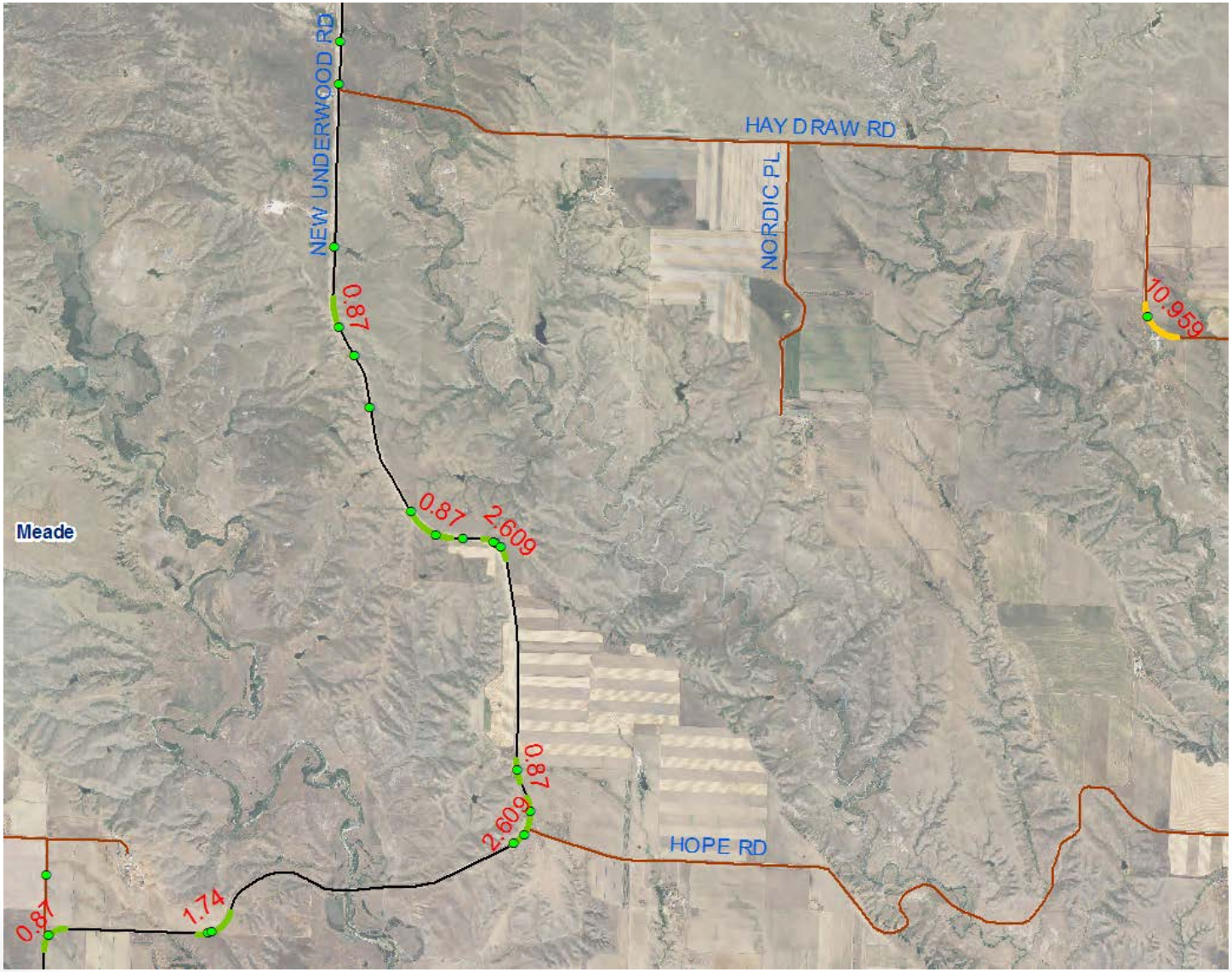
Data-driven Safety Analysis

- Crash Reports

Over Representation of Crashes



Calculated Crash Rates



Highway Safety Manual (HSM)

- Predictive crash analysis
  - Average daily traffic
  - Roadway geometrics
  - Crash Modification Factors (CMF)

$$N_{spf\,rs} = AADT \times L \times 365 \times 10^{-6} \times e^{(-0.312)}$$

$$N_{\text{predicted}\,rs} = N_{spf\,rs} \times C_r \times (CMF_{1r} \times CMF_{2r} \times \ldots \times CMF_{12r})$$

Table 10-9. CMF for Shoulder Width on Roadway Segments (CMF_{wra})

	AADT (vehicles per day)		
Shoulder Width	**< 400**	**400 to 2000**	**> 2000**
0 ft	1.10	$1.10 + 2.5 \times 10^{-4}$ (AADT − 400)	1.50
2 ft	1.07	$1.07 + 1.43 \times 10^{-4}$ (AADT − 400)	1.30
4 ft	1.02	$1.02 + 8.125 \times 10^{-5}$ (AADT − 400)	1.15
6 ft	1.00	1.00	1.00
8 ft or more	0.98	$0.98 - 6.875 \times 10^{-5}$ (AADT − 400)	0.87

Note: The collision types related to shoulder width to which this CMF applies include single-vehicle run-off the-road and multiple-vehicle head-on, opposite-direction sideswipe, and same-direction sideswipe crashes.

Highway Safety Manual (HSM)

- CMF Clearinghouse
  - Hundreds of CMFs available by search

Countermeasure: Change the number of horizontal curves from X to Y

Compare	CMF	CRF (%)	Quality	Crash Type	Crash Severity	Area Type	Reference	Comments
☐	F(x)	F(x)	★★★☆☆	All	All	Not specified	Young-Jun Kweon and Cheol Oh, 2011	The traffic volumes indicated are ... [*read more*]

Countermeasure: Install transverse rumble strips on stop controlled approaches in rural areas

Compare	CMF	CRF (%)	Quality	Crash Type	Crash Severity	Area Type	Reference	Comments
☐	0.745	25.5	★★★★★	All	Fatal,Serious injury	All	Srinivasan et al., 2010	The star rating for this ... [*read more*]

CRASH MODIFICATION FACTORS CLEARINGHOUSE

Calculated Benefit-Cost Ratio

$$BCR = \frac{PV_{\text{benefits}}}{PV_{\text{costs}}}$$

Where:

BCR = Benefit-cost ratio

PV_{benefits} = Present value of project benefits

PV_{costs} = Present value of project costs

Calculated Benefit-Cost Ratio

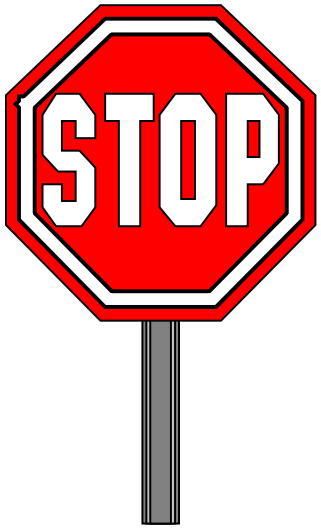
BENEFIT/COST ANALYSIS

Project Number: Horizontal Curve Regrade
PCN:
Location:

Variables		Constants	
Improvement Cost	$1,500,000	Fatal/Injury Crash Cost	$374,800
Crash Modification Factor	0.87	PDO Crash Cost	$17,600
Fatal/Injury Crashes	3		
PDO Crashes	12		
Service Life	40		
Discount Rate	4%		

Annual Benefit	$232,394
Present Value Factor Series	19.793
Present Value of Benefits	$4,599,730
Present Value of Costs	$1,500,000
B/C = PVB/PVC =	**3.07**

Questions or Comments?



Contact Information

Andy Vandel, P.E.
Highway Safety Engineer
Project Development Office
South Dakota Department of Transportation

700 East Broadway Avenue
Pierre, SD 57501

605.773.4421
andy.vandel@state.sd.us

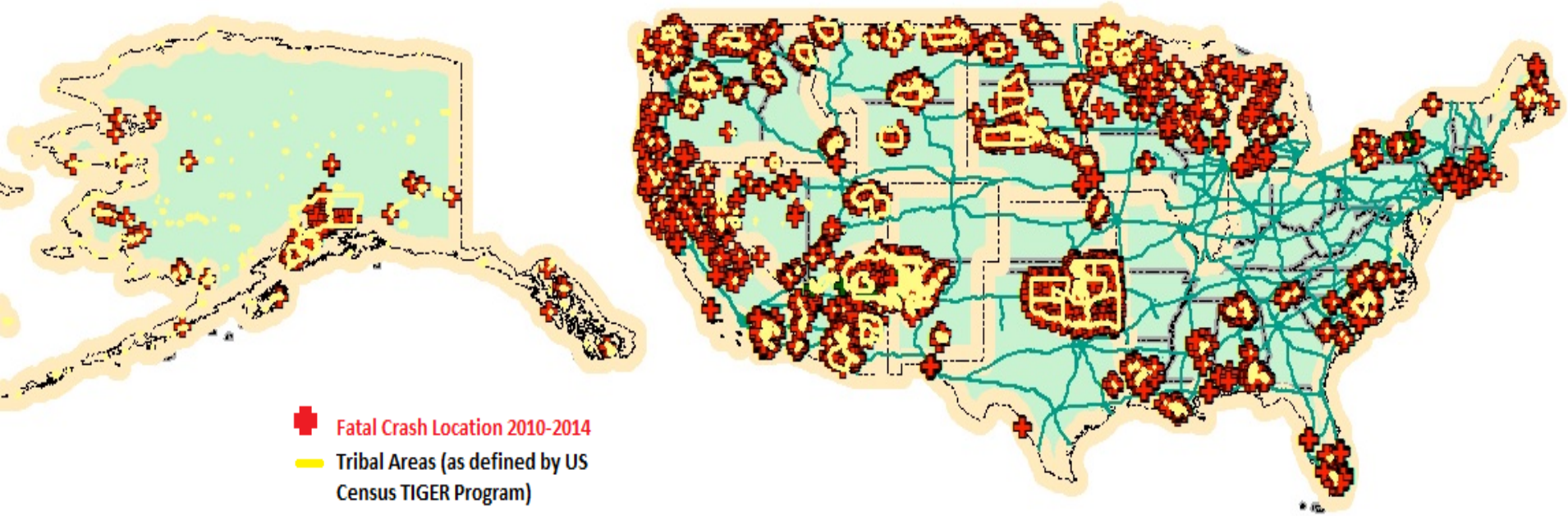
Appendix J

Tribal Transportation Safety Update

Adam Larsen
Safety Engineer
Tribal Transportation Program
Federal Highway Administration
360-619-7751
Adam.Larsen@dot.gov

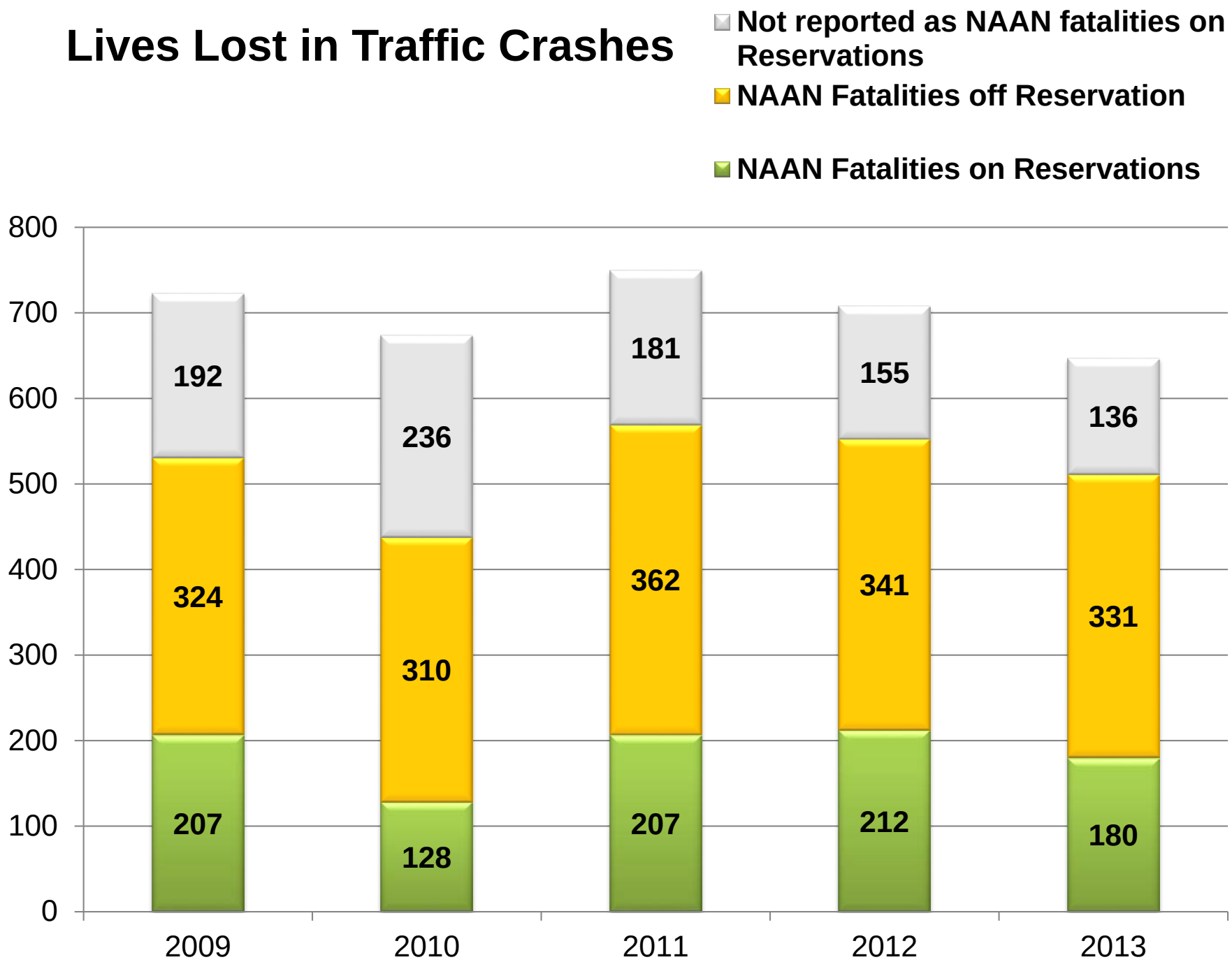
U.S. Department of Transportation
Federal Highway Administration

Fatal Motor Vehicle Crashes & Tribal Areas 2010-2014



Sources: Fatality Analysis and Reporting System (FARS), NHTSA 2016
Topologically Integrated Geographic Encoding and Referencing (TIGER), US Census 2016

Lives Lost in Traffic Crashes



Overview

- TTP Safety Fund Re-cap
- Tribal Transportation Safety Management System Steering Committee
- FAST Act Safety Reports to Congress

TTP Safety Fund

FAST ACT

- Continues 2% set asid
- Limits to two categories:
  - Safety Plans & Safety Planning Activities
  - Other Eligible Activities as listed in 23 USC 148(a)(4)

FAST Eligible Categories

- Develop & Update Safety Plans
- Road Safety Audits
- Crash Data Improvement
- Infrastructure Improvement

TTPSF Applications

	2013	2014	2015	2016
Funds Available	$8.6M	$8.5M	$8.5M	$8.8M
Funds Requested	$27.2M	$27.1M	$37M	$40.1M
No. of Applications	239	127	167	171

History

- 2008 – Strategic Highway Safety Plan for Indian Lands
- 2011 – SMS Implementation Plan
- 2013 – MAP-21; TTP Safety Fund; SMS inactive

History

- 2008 – Strategic Highway Safety Plan for Indian Lands
- 2011 – SMS Implementation Plan
- 2013 – MAP-21; TTP Safety Fund; SMS inactive
- 9/2015 – SMS re-established
- 1/2016 – SMS Charter Signed

Safety Management System Steering Committee Membership

Contact Info at TribalSafety.org

Are you interested?

PURPOSE

The purpose of the Safety Management System Steering Committee is for Federally Recognized Tribes, federal agencies and other regional and local stakeholders to work together to improve tribal transportation safety, provide input into Congressional Reports, and provide documentation and data to the Tribal Transportation Program Coordinating Committee.

The purpose of the Safety Management System Steering Committee is for Federally Recognized

MISSION

Facilitate implementation of effective transportation safety strategies to save lives while respecting Native American and Alaska Native values by fostering communication, collaboration, and cooperation.

VISION

All transportation users arrive safely at their destinations.

GOAL

To prevent and reduce fatalities and injuries associated with the use of tribal transportation facilities.

TribalSafety.org

www.tribalsafety.org

Tribal Transportation Safety

HOME | FUNDING | SMS COMMITTEE | RESOURCES | NEWS / EVENTS | NHTSA FARS MAP

REQUEST: Safety Data for Tribal Transportation Survey

The Fixing America's Surface Transportation (FAST) Act requires two reports to Congress about Tribal transportation safety. Your participation is so...

Walking and Bicycling in Indian Country: Safe Routes to School in Tribal Communities

Across the country, towns and cities of all sizes are improving community health and safety and reducing negative effects on the environment through ...

Roundabouts & Tribal Governments

Successfully delivering a roundabout project requires coordination with all stakeholders. This naturally includes the road authorities involved, but e...

Roadway Safety Professional Capacity Building

The RSPCB Program works with a variety of professional organizations that offer training that improves and enhances the skills and abilities of the ro...

National Center for Rural Road Safety

NHTSA - Kid & Adult Make Seat Belt Excuses

Tribal School Zone Safety

Contact Us
TribalSafety.org

tribalsafety.org/SMS-Committee/Committee-Members

Tribal Transportation Safety

HOME | FUNDING | SMS COMMITTEE | RESOURCES | NEWS / EVENTS | FORUMS

Register | Login

SMS Committee > Committee Members

Tribal Transportation Safety Management System Steering Committee

Member	Entity	Phone	Email
Robert Frazier, Highway Engineer	BIA Division of Transportation	505-563-3319	robert.frazier@bia.gov
Adam Larsen, Safety Engineer	FHWA Tribal Transportation Program	360-619-7751	adam.larsen@dot.gov
Janis Spear, Director	Northern Cheyenne Tribe Transportation Program	406-477-8979	janis.spear@cheyennenation.com
Royce Gchachu, Manager	Pueblo of Zuni Roads Program	505-782-7116 x 7101	royce.gchachu@ashiwi.org
Sandi Tripp, Director	Karuk Tribe Roads Program	530-627-30623	stripp@karuk.us
Clarence Daniel, Director	Association of Village Council Presidents	907-543-7451	clarence@avcp.org
*Will Ware, Director **	*Central Council of the Tlingit and Haida Indian Tribes of Alaska*	*907-463-7765*	*wware@ccthita.org*
Philip Manes, Roads Project Analyst	Cherokee Nation	918-207-3897	philip-manes@cherokee.org

History

- 2008 – Strategic Highway Safety Plan for Indian Lands
- 2011 – SMS Implementation Plan
- 2013 – MAP-21; TTP Safety Fund; SMS inactive
- 9/2015 – SMS re-established

12/2015

- 1/2016 – SMS Charter Signed

FAST ACT

FAST 1117b:
Safety Data in Indian Country

- Quality of Safety Data
- Improving the collection and quality of crash data
- Paperless crash reporting Options/Best Practices
- Fed Transportation Funding for Data Improvement
- Expected Publication January 2016

Draft Complete

FAST 1117c:
National Transportation Safety Plan for Indian Lands

- Options for improving safety on public roads in Tribal areas
- Expected Publication December 2017

FY2016 SMS Activity

- 5 meetings in FY16, Full meeting notes on TribalSafety.org
- Establish Committee
- Coordination of activities among federal agencies
- Discuss data sources and research for national safety plan
- Draft Report to Congress on Tribal Governments & Safety Data
- Establish website TribalSafety.org

Next Task:
Develop National Safety Plan

- Identify problems using available data
- Provide useful suggestions for tribes to address identified problems
- Required report to Congress

Thoughts on Safety Plan?

- **Data Sources**
- **Content**
- **Emphasis Areas**
  - Decision Making Process
  - Data Collection
  - Run Off The Road Crashes
  - Occupant Protection/Child Restraint
  - Alcohol/Drug Impaired Driving
  - Other Driver Behavior and Awareness
  - Drivers Under The Age of 35
  - Pedestrian Safety

Congress finds that…

- in many States, the Native American population is disproportionately represented in (motor vehicle) fatalities and crash statistics;
- improved crash reporting… would facilitate safety planning and would enable Indian tribes to apply more successfully for State and Federal funds for safety improvements
- without more accurate reporting of crashes … it is difficult or impossible to fully understand the nature of the problem and develop appropriate countermeasures

- FAST Act §1117(b)

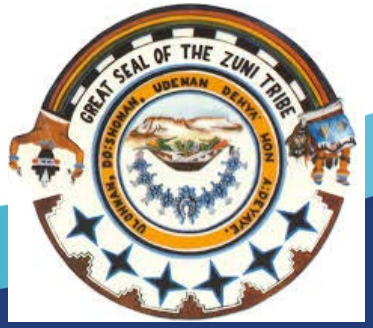
FAST 1117b:
Safety Data in Indian Country

- Quality of Safety Data
- Improving the collection and sharing of crash data
- Paperless crash reporting Options/Best Practices
- Fed Transportation Funding for Data Improvement
- 1 year: Draft due August 1, 2016
- Final Publication: December 2016

FAST 1117c:
Options for Improving Transportation Safety

- Options for improving safety on public roads
- TribalSafety.org → SMS Committee
- 2 years: Due December 2017

Safety Management System Steering Committee Membership



Reports to Congress

- April 5, 2016 – Kickoff meeting
- August 4, 2016 – Final draft
- Dec 16, 2106 – Congressional deadline

- Developed with input from Safety Management System Steering Committee

- Survey Responses from 150 tribes and 22 states

Safety Data Use

- Identify problem locations for infrastructure improvement
- Transportation safety planning
- Identify behavioral trends
- Initiate partnerships
- Recover damages caused by motorists
- Guide law enforcement strategies
- Obtain grant funding
- Adjudication for involved parties

Use the Best Available Data

With good data…
Systemic and Hot Spot Analysis

- Systemic – Projecting risk factors based on serious crash sites

- Hot Spot – screening the road network for high-frequency crash locations

Data Uses

Grants

- Many Funding Sources require data

Estimates of benefits such as crash rates	State Strategic Highway Safety Plan Crash Data driven process to select project	Data Driven Safety Plans Incident Data that supports program or project	

Crash Data Quality

- Timeliness
- Accuracy
- Completeness
- Consistency/Uniformity
- Integration
- Accessibility

Activity: Crash Reports

- 5 minutes
- Write a paragraph describing a crash

C:\MyFiles\IRR\Presentations\2016-08 NWTTAP GIS Workshop\kidcrash.m4v

Crash Report Formats

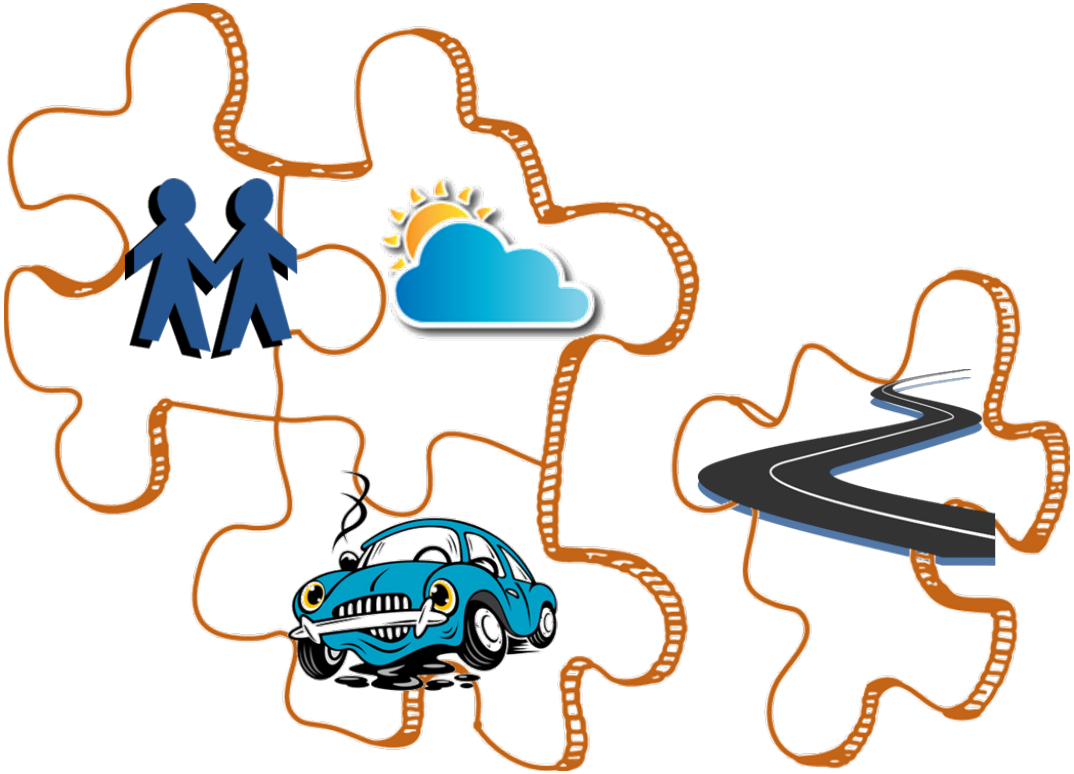
- Uniform Criteria
  - Model Minimum Uniform Crash Criteria (MMUCC) http://mmucc.us/
  - Aids consolidation of data from multiple sources
  - Enables modern analysis
- Narrative Only

MMUCC

Model Minimum Uniform Crash Criteria

mmucc.us

- Crash (environment, roadways)
- Person
- Vehicle



FIRST HARMFUL EVENT

Non-Collision:

01 - Overturn/Rollover
02 - Fire/Explosion
03 - Immersion, Full or Partial
04 - Gas Inhalation
05 - Fell/Jumped from Vehicle
06 - Injured in Vehicle (Non-Collision)
16 - Thrown or Falling Object
07 - Other Non-Collision
44 - Pavement Surface Irregularity (Ruts, Potholes, Grates, etc.)
51 - Jackknife
72 - Cargo/Equipment Loss or Shift

Collision with Motor Vehicle In-Transport:

12 - Motor Vehicle In-Transport
54 - Motor Vehicle In-Transport Strikes or is Struck by Cargo, Persons or Objects Set-in-Motion from/by Another Motor Vehicle In-Transport
55 - Motor Vehicle In Motion Outside the Trafficway

Collision with Non-Fixed Object:

08 - Pedestrian
09 - Pedalcycle
10 - Railway Vehicle
11 - Live Animal: _____
14 - Parked Motor Vehicle
15 - Non-Motorist on Personal Conveyance
18 - Other Object (Not Fixed)
45 - Working Motor Vehicle
49 - Ridden Animal or Animal Drawn Conveyance

Collision with Fixed Object:

17 - Boulder
19 - Building
20 - Impact Attenuator/Crash Cushion
21 - Bridge Pier or Support
23 - Bridge Rail (Includes Parapet)
24 - Guardrail Face
25 - Concrete Traffic Barrier
26 - Other Traffic Barrier
30 - Utility Pole/Light Support
31 - Other Post, Other Pole or Other Support
32 - Culvert
33 - Curb
34 - Ditch
35 - Embankment
38 - Fence
39 - Wall
40 - Fire Hydrant
41 - Shrubbery
42 - Tree (Standing Only)
43 - Other Fixed Object
46 - Traffic Signal Support
48 - Snow Bank
50 - Bridge Overhead Structure
52 - Guardrail End
53 - Mail Box
57 - Cable Barrier
58 - Ground
59 - Traffic Sign Support
99 - Unknown

LOCATION OF FIRST HARMFUL EVENT RELATIVE TO TRAFFICWAY

01 - On Roadway
02 - On Shoulder
03 - On Median
04 - On Roadside
05 - Outside Trafficway
06 - Off Roadway - Location Unknown
07 - In Parking Lane/Zone
08 - Gore
10 - Separator
11 - Continuous Left-Turn Lane
99 - Unknown

MANNER OF COLLISION IMPACT

00 - Not a Collision with a Motor Vehicle In-Transport
01 - Front-to-Rear
02 - Front-to-Front
06 - Angle
07 - Sideswipe-Same Direction
08 - Sideswipe-Opposite Direction
09 - Rear-to-Side
10 - Rear-to-Rear
98 - Other
99 - Unknown

WEATHER *(must have 2 choices)*

00 - No Additional Atmospheric Conditions
01 - Clear
02 - Rain
03 - Sleet or Hail
04 - Snow
05 - Fog, Smog, Smoke
06 - Severe Crosswinds
07 - Blowing Sand, Soil, Dirt
10 - Cloudy
11 - Blowing Snow
12 - Freezing Rain or Freezing Drizzle
98 - Other
99 - Unknown

LIGHT CONDITION

01 - Daylight
02 - Dark-Not Lighted
03 - Dark-Lighted
04 - Dawn
05 - Dusk
06 - Dark-Unknown Lighting
98 - Other
99 - Unknown

ROADWAY SURFACE CONDITION

00 - Non-Trafficway Area
01 - Dry
02 - Wet
03 - Snow
04 - Ice/Frost
05 - Sand
06 - Water (Standing, Moving)
07 - Oil
10 - Slush
11 - Mud, Dirt, Gravel
98 - Other
99 - Unknown

CONTRIBUTING CIRCUMSTANCE(S), ENVIRONMENT CONDITION(S)

(up to 3 choices)

00 - None
01 - Weather Conditions
02 - Visual Obstruction(s)
03 - Glare
04 - Animal(s) in Roadway
98 - Other
99 - Unknown

Findings

- BIA & Tribal Police encouraged to collect MMUCC data
- BIA & Tribes encouraged to share crash data with states
- Tribes & States should consult on crash data sharing barriers, revise State Traffic Records Assessment process to evaluate communication with tribes
- Tribes encouraged to conduct traffic records assessments (NCHRP 788)
- NTTFI should be GIS based

Video: “Recording Our Past, Protecting Our Future”

https://www.youtube.com/watch?v=htbjwO0ck4Y

Or Washington Traffic Safety Commission Website

Thoughts on Safety Plan?

- **Data Sources**
- **Content**
- **Emphasis Areas**
  - Decision Making Process
  - Data Collection
  - Run Off The Road Crashes
  - Occupant Protection/Child Restraint
  - Alcohol/Drug Impaired Driving
  - Other Driver Behavior and Awareness
  - Drivers Under The Age of 35
  - Pedestrian Safety

Questions / Discussion

Adam Larsen
360-619-7751
Adam.Larsen@dot.gov

Appendix K

SPIRIT LAKE NATION

Transportation Update
September 2016

Spirit Lake Nation
Tribal & BIA Routes
BIA/SLN Gravel
BIA/SLN Paved
State Highways
US Highways
County CMC
County Non-CMC
BIA Dams
Township Roads
Misc. Roads & Trails
KLJ
2012 NAIP aerial photo courtesy USDA-FSA-APFO.
Miles
0 0.5 1 2 3
Jetty Dam
St. Michael Dam
Fort Totten
St. Michael
Spring Lake Dam
Kurtz Dam
Tokio

ATTACHMENT TO RESOLUTION A05-06-174

SPIRIT LAKE TRIBE

Kadrmas Lee & Jackson
Engineers Surveyors Planners

INDIAN RESERVATION ROADS WITHIN THE SPIRIT LAKE NATION AND WITHIN NORTH DAKOTA

MILES OF ROADS SUMMARY	
ROAD TYPE	MILES OF ROADS
Existing BIA Routes	79.5 Miles
2006 Tribal Routes	22.9 Miles
County Roads	93.6 Miles
Township Roads	270.4 Miles
State Highways	48.4 Miles
US Highways	20.8 Miles
TOTAL MILES OF ALL TYPES:	**535.6 Miles**

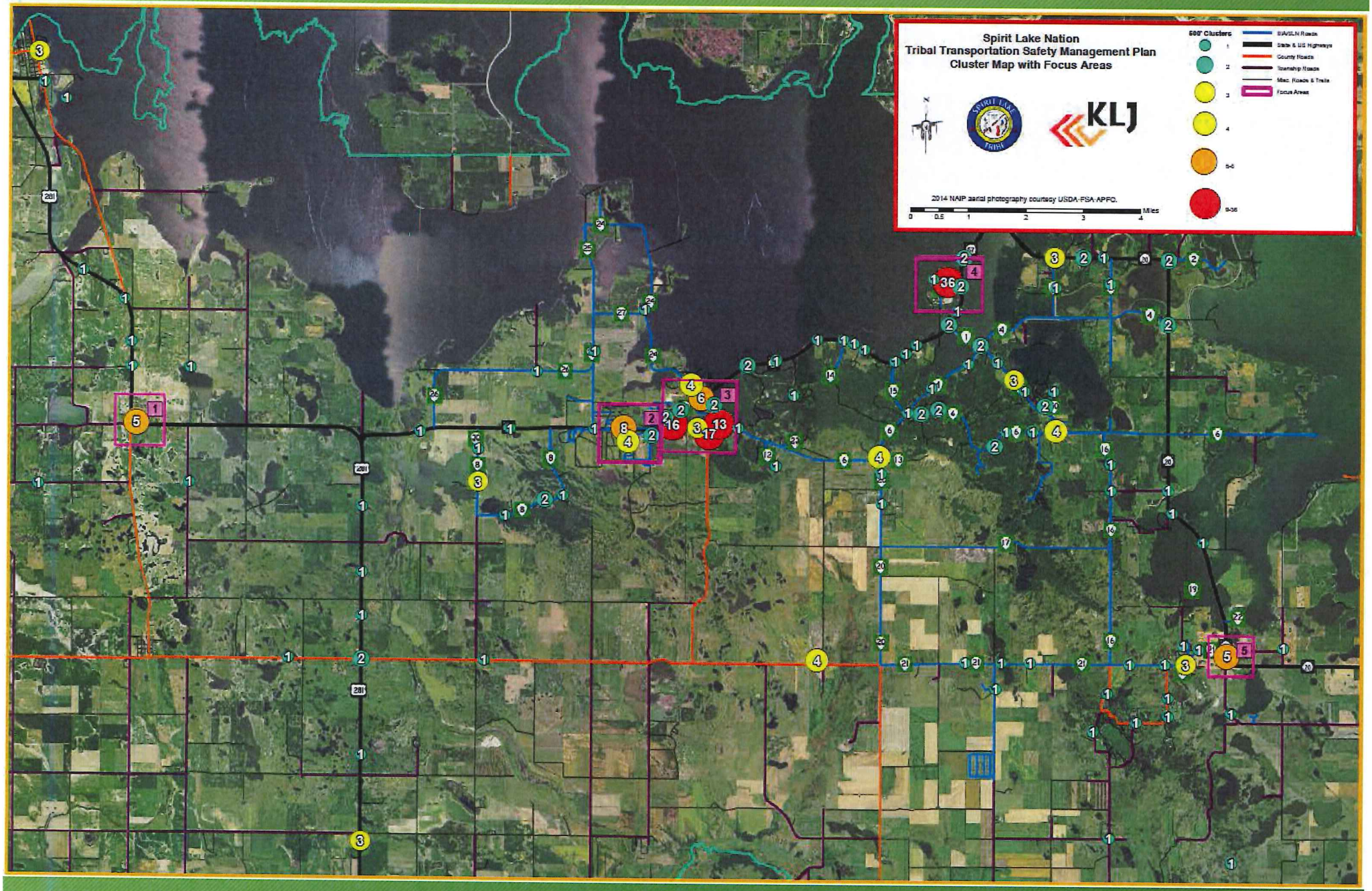
Project Funding Sources

- Spirit Lake Roads Department Projects:
  - Tribal Transportation Program (TTP)
  - Highway Safety Improvement Program (HSIP)
    - Annual HSIP MOU with NDDOT
    - NDDOT HSIP Competitive Grants
  - Emergency Relief for Federally Owned Roads (ERFO)

Completed Projects - 2016

- TTPSF Safety Management Plan
- Multi-Route Patching, Chip Seal, and Striping
  - Patching – All Paved Routes
  - Seal Coat – BIA 6, 7, 30,
  - Striping – All Paved Routes

TTPSF Safety Management Plan



Multi-Route Patching, Chip Seal, and Striping

Multi-Route Patching, Chip Seal, and Striping

Multi-Route Patching, Chip Seal, and Striping

Multi-Route Patching, Chip Seal, and Striping

Multi-Route Patching, Chip Seal, and Striping

Multi-Route Patching, Chip Seal, and Striping

Future Projects

- Safety Projects
  - HSIP – Competitive Grant
    - BIA Route 1 & 6 Recovery Approach
    - BIA Route 21 Shoulder Widening
    - Intersection Lighting – 4 Locations

Future Projects

- Safety Projects
  - HSIP – Annual Allocation from NDDOT
    - Shoulder Widening – BIA Route 6
    - Chevrons on BIA15
    - Shared Use Path from Fort Totten to Crow Hill
    - 911 Street Signs
    - Mile Markers

Future Projects

- TTP Projects FY2017
  - 2016 Patch & Chip Seal Balance
  - Depressed Transverse Crack Repair – BIA20 & BIA21
  - Fort Totten Pathway Reconstruction
  - Housing Street N. St. Michael - Preliminary

THANK YOU!

PAUL BJORNSON

KLJ

(701)662-1960

paul.bjornson@kljeng.com

CLARENCE GREENE

SPIRIT LAKE TRIBAL ROADS

(701)351-2307

roadsbia@gondtc.com

SPIRIT LAKE TRIBE

SISITONWAN WAHPETONWAN IHANKTONWANNA WOODLAKE MISSION CROWHILL FT. TOTTEN

TREATY 1867

Clarence Greene, Spirit Lake Tribal Roads Director, Spirit Lake Nation, ND & Paul Bjornson – KLJ Devils Lake, ND

ATTACHMENT TO RESOLUTION A05-06-174

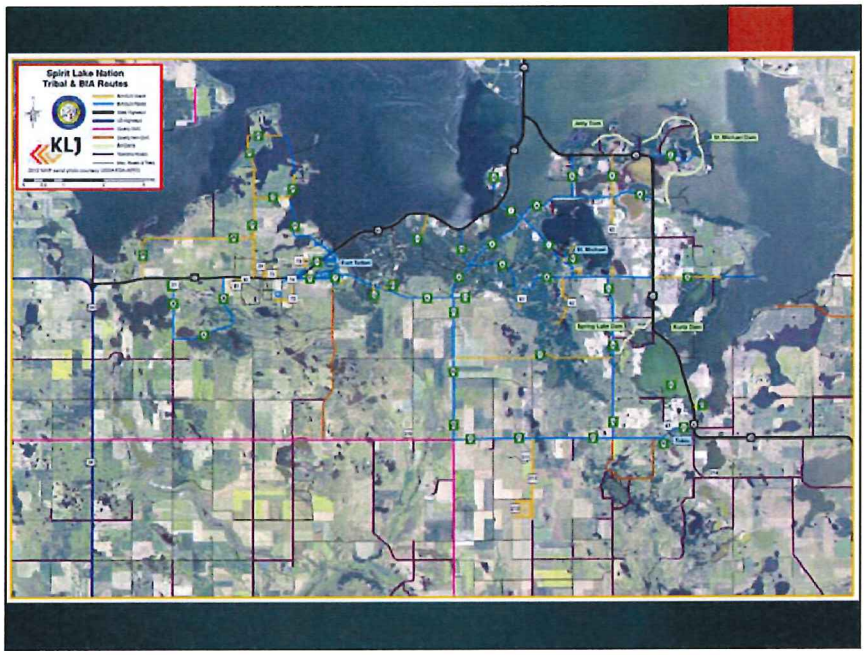
SPIRIT LAKE TRIBE

Kadrmas Lee & Jackson
Engineers Surveyors Planners

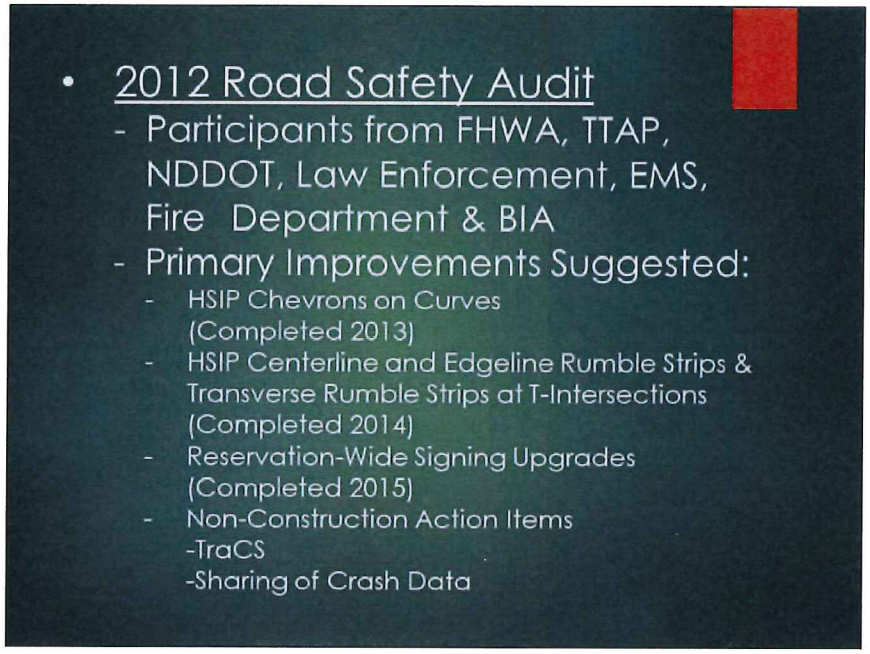
INDIAN RESERVATION ROADS WITHIN THE SPIRIT LAKE NATION AND WITHIN NORTH DAKOTA

MILES OF ROADS SUMMARY	
ROAD TYPE	MILES OF ROADS
Existing BIA Routes	79.5 Miles
2006 Tribal Routes	22.9 Miles
County Roads	93.6 Miles
Township Roads	270.4 Miles
State Highways	48.4 Miles
US Highways	20.8 Miles
TOTAL MILES OF ALL TYPES:	**535.6 Miles**

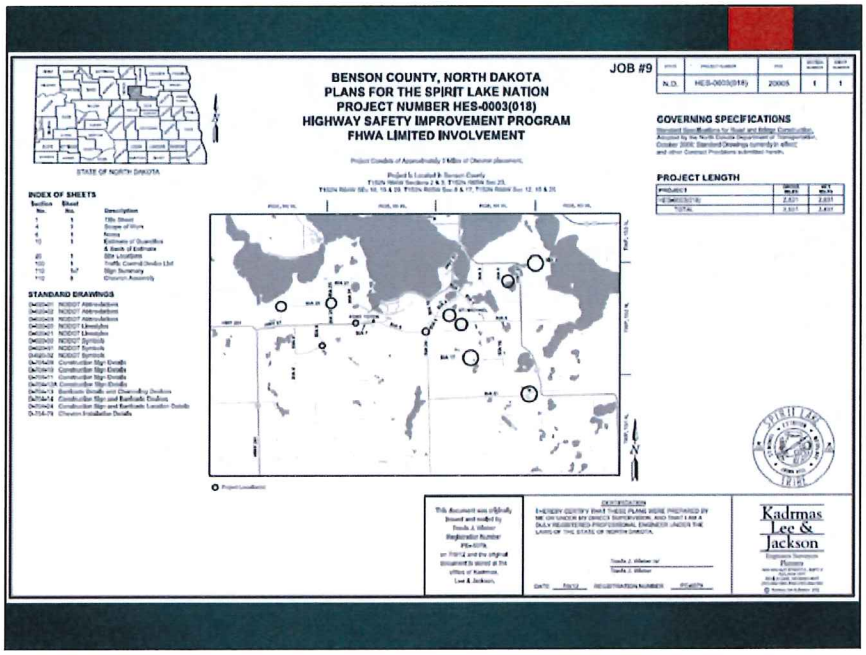
The Spirit Lake Tribal Roads Department maintains over 100 miles of BIA and Tribal roads, plus driveways.



Blue roads are paved, Orange are gravel. The primary area covered by the Spirit Lake Tribal Roads Department is approximately 15 miles by 10 miles.

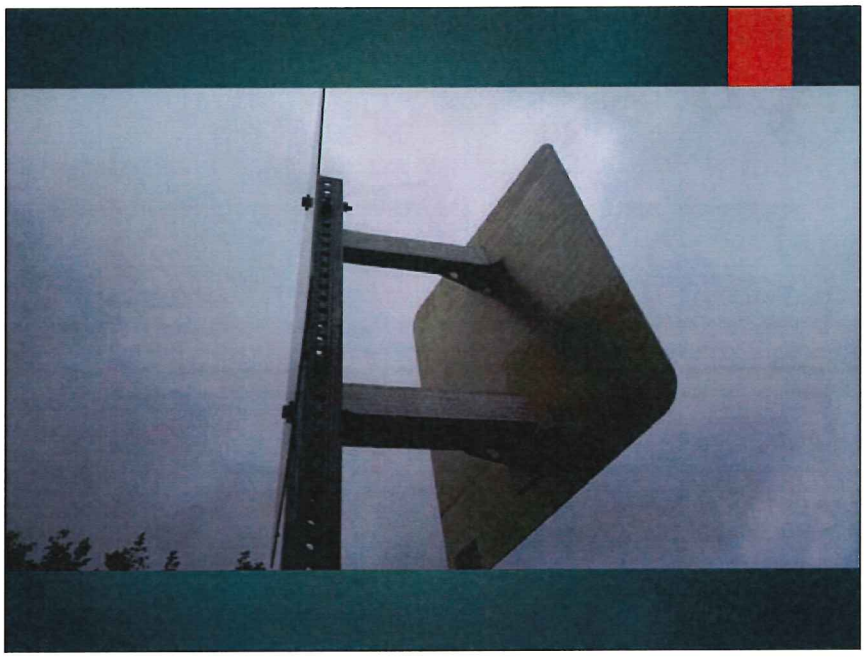


NDDOT reviews and approves Highway Safety Improvement Program funding applications. Once selected, the Tribe completes designs to NDDOT and BIA standards.
Projects are bid through NDDOT and the NDDOT makes the construction payments directly to the contractor.
A Construction & Maintenance Agreement will be signed by NDDOT, BIA, and the Tribe agreeing to the capped funding amount and agreeing that the road owner will maintain the improvements once installed.
Design costs are paid by the Tribe. Material Tax and Tribal Profit/Administration may be paid with TTP funds (but not HSIP). TERO can be included in the bid prices (not additional).
Construction Engineering is an eligible cost for HSIP, but the Request for Proposal (RFP) process must be followed.
If federal aid is used for CE, the NDDOT now requires that the RFP be advertised through their website. There may be other advertising requirements also.

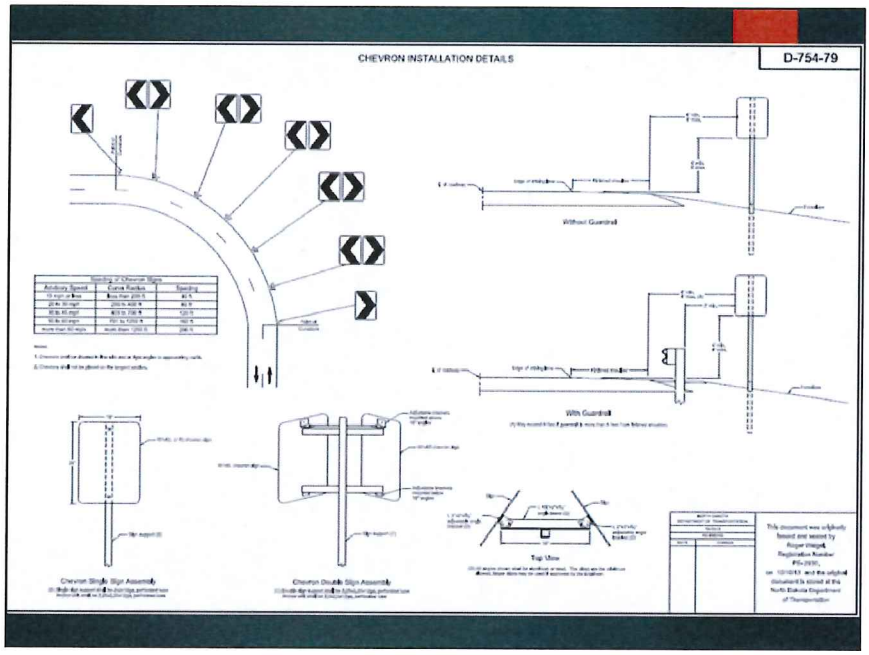


Project construction cost $40,542.02.
135 Chevrons were installed at 24 locations.

This is a double curve on BIA Route 2, with water on both sides.

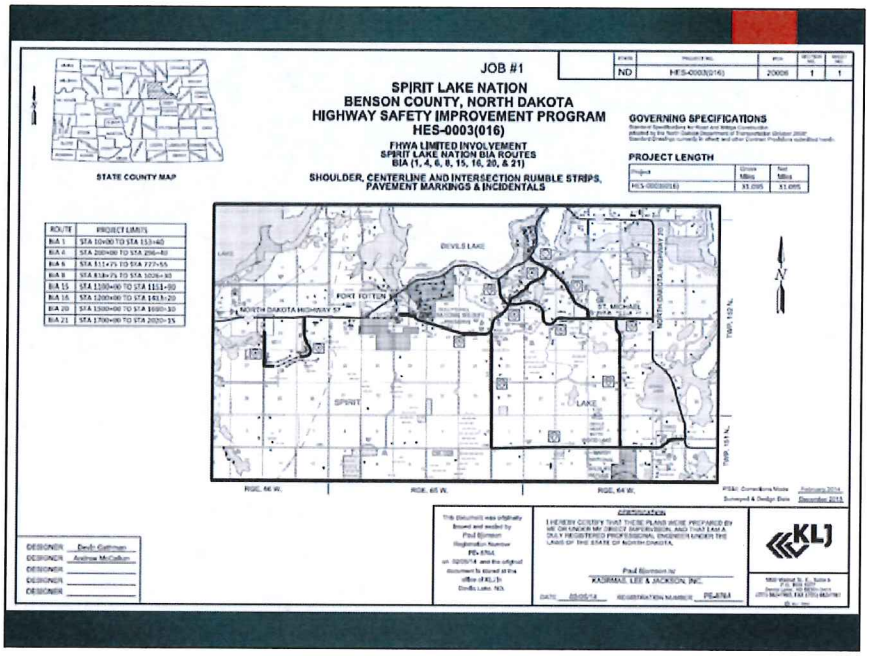


This method of installation had one panel adjustable. The post had to be driven at the appropriate angle to oncoming traffic for the non-adjustable panel.

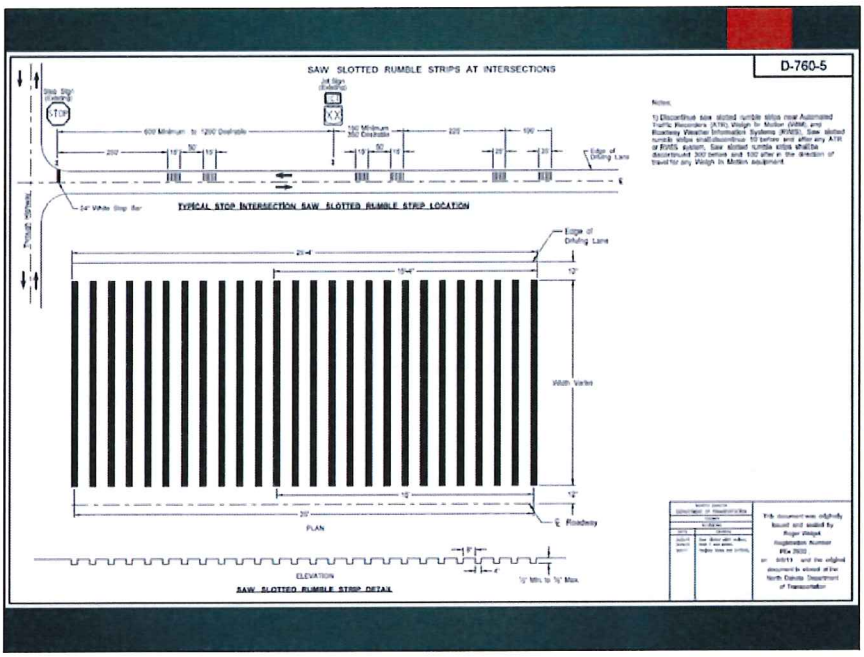


This is the new NDDOT standard drawing for chevron installation. Note that the angles of both panels are adjustable.

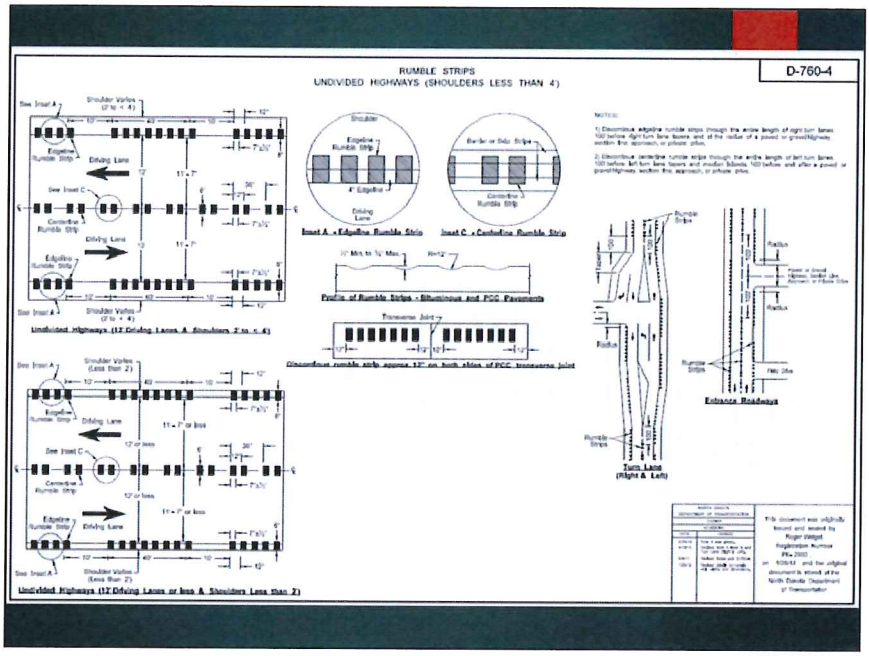
Tight curves on BIA Route 6, west of St. Michael, ND. They are installed at 8' off the shoulder. Note the rumble strips along the edgeline.



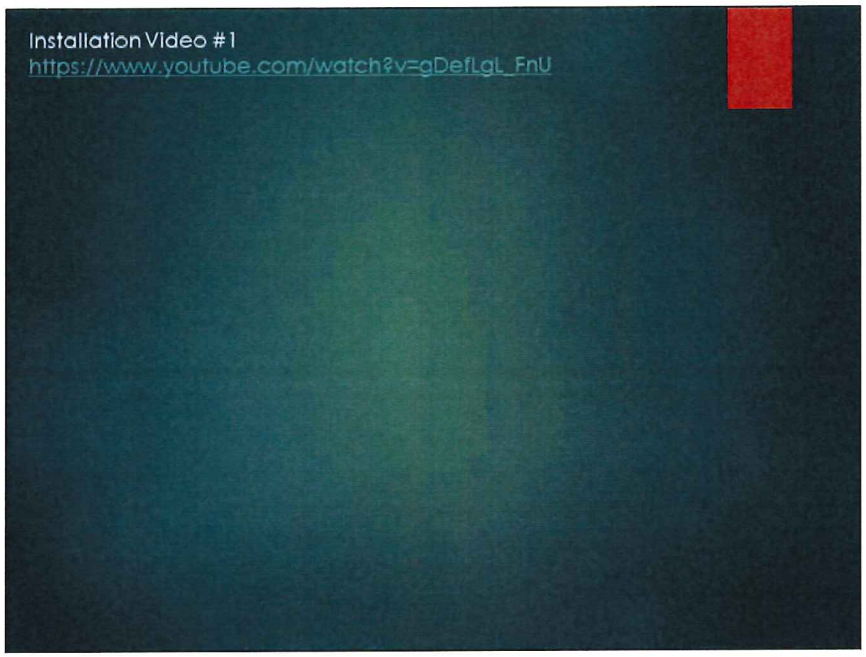
Project construction cost was $164,873.03.
This included $1,790.61 in non-participating costs for additional striping outside the project limits.
A Change Order was executed for the additional work, which was completed at the contract unit prices.
The NDDOT paid the contractor and billed the Tribal Roads Department for this additional work.



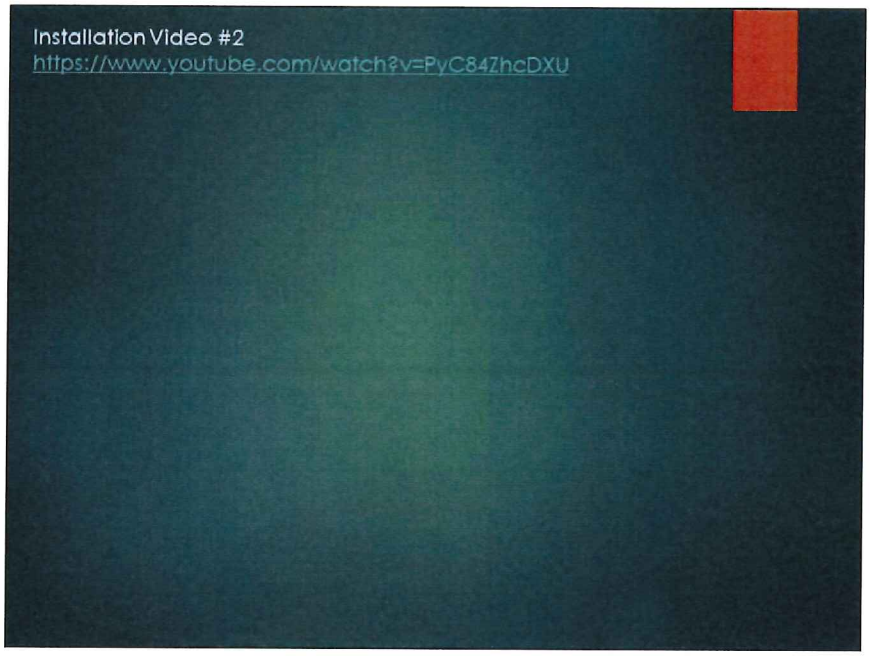
Transverse rumble strips installed at T-intersections.



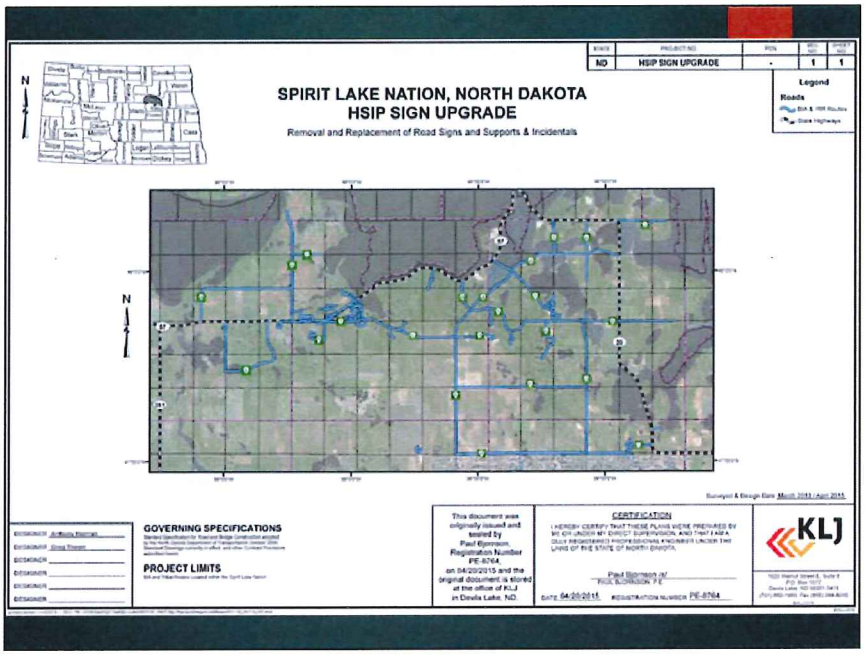
Rumble strips were installed at 12" wide at centerline (4" stripe, 4" gap, 4" stripe).
They were installed 8" wide at the edge line, centered on the 6" edge line.
265 tires are 10.4" wide, so if you have room, this is a good practice.
NDDOT standard for roadways with 4' shoulders or greater is 12" wide at center and edge line.



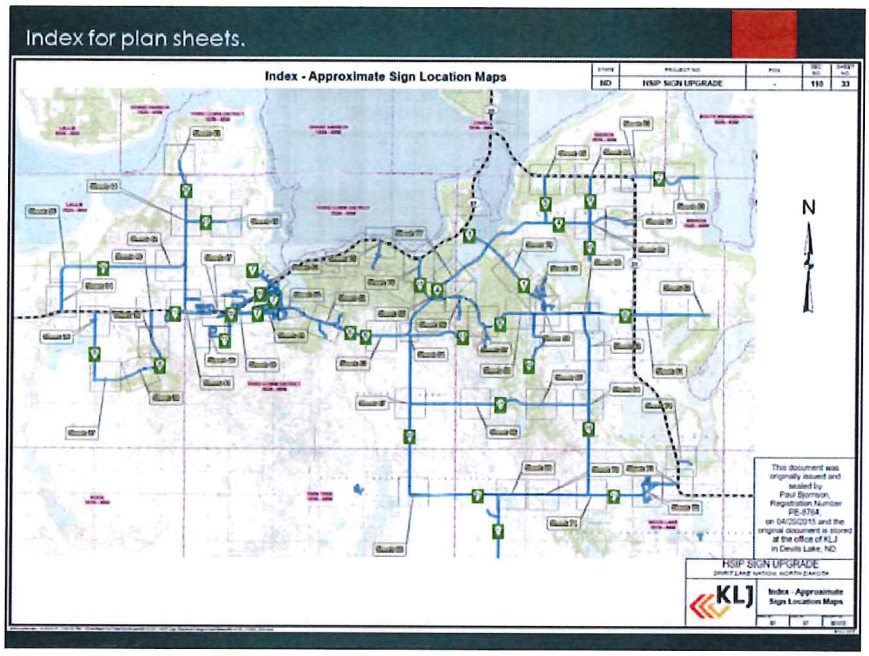
Surface Preparation Technologies, LLC installed the rumble strips with 3 pieces of equipment; the milling machine with broom attachment, power broom, and attenuator truck. The rumble strips were then fog sealed. Once the fog seal cured, pavement markings followed. The contractor chose to use CRS-2P emulsified asphalt for the fog seal, the same oil as is commonly used for chip seals. This cured quickly and provided an added benefit of a black surface under the pavement markings, making a big difference on how well the marking stood out.



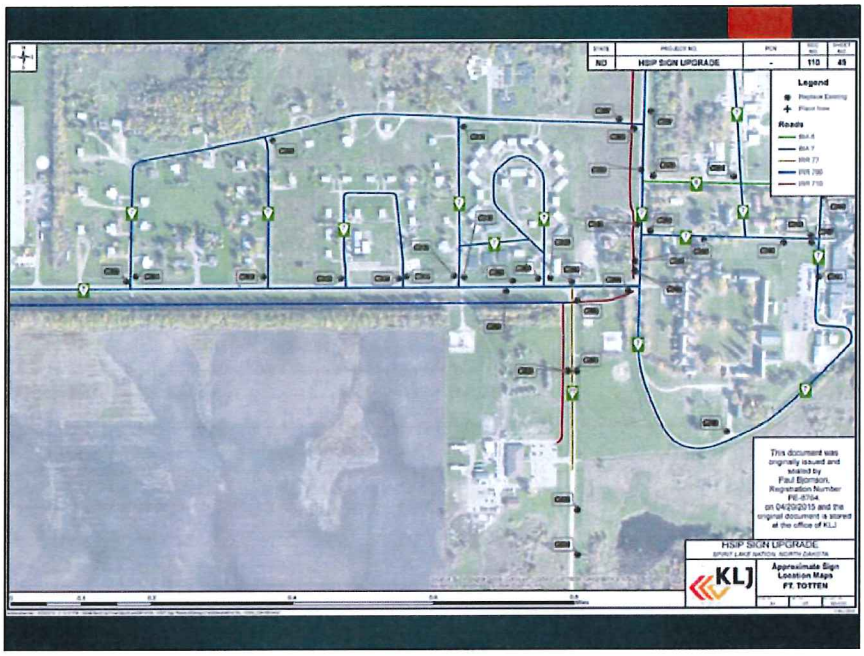
Surface Preparation Technologies achieved installation speeds of approximately 500 feet per minute. For centerline and both edge lines, installation takes just over ½ hour per mile. They cut all 31 miles of our rural paved roads in just 3 days.



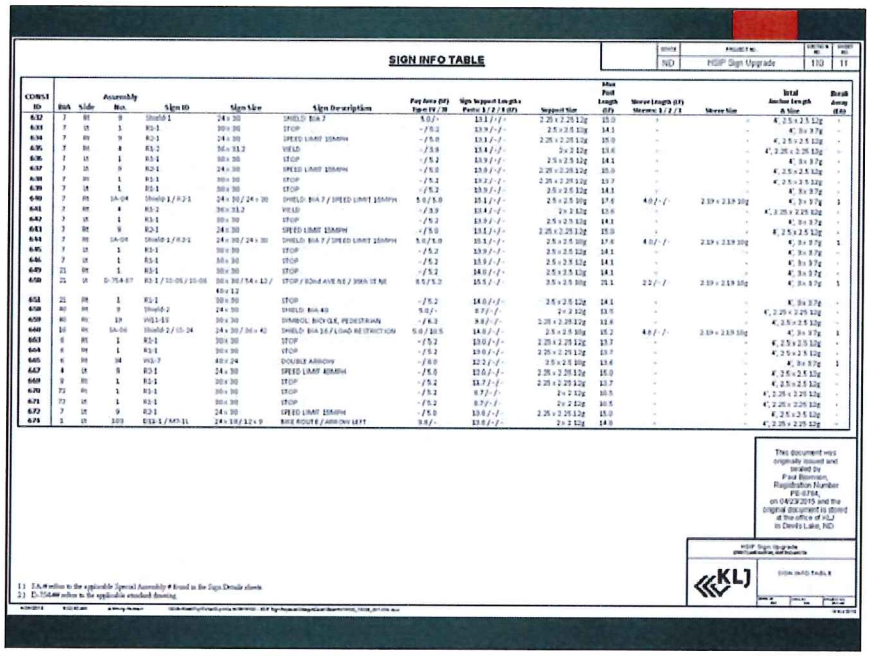
Final Construction Cost was $233,484.73.
Other costs: GPS Sign inventory $20,000; Design $20,000; Full-time construction engineering $62,000.



We found this sheet index to be very helpful to contractors unfamiliar with our roadway network.



Fort Totten, ND. Please note the Construction ID numbers associated with each sign location.



SIGN INFO TABLE

ND	HSIP Sign Upgrade	110	11

CONST ID	Assembly Dist	Side	Assembly Dist.	Sign ID	Sign Size	Sign Description	Pay Item (SF) Type IV / III	Sign Support Length Posts 1 / 2 / 3 (LF)	Support Size	Max Post Length (LF)	Sleeve Length (LF) Sleeves 1 / 2 / 3	Sleeve Size	Total Anchor Length & Size	Break Away (BA)
632	7	RT	9	Shield 1	24 x 30	SHIELD: BIA 7	5.0 / -	13.1 / - / -	2.25 x 2.25 12g	15.0	-	-	4', 2.5 x 2.5 12g	-
633	7	LT	1	R3-1	30 x 30	STOP	- / 5.2	13.9 / - / -	2.5 x 2.5 12g	14.1	-	-	4', 3x 3.7g	-
634	7	RT	9	R2-1	24 x 30	SPEED LIMIT 15MPH	- / 5.0	13.1 / - / -	2.25 x 2.25 12g	15.0	-	-	4', 2.5 x 2.5 12g	-
635	7	RT	4	R1-2	36 x 31.2	YIELD	- / 5.9	13.4 / - / -	2x 2 12g	13.6	-	-	4', 2.25 x 2.25 12g	-
636	7	LT	1	R3-1	30 x 30	STOP	- / 5.2	13.9 / - / -	2.5 x 2.5 12g	14.1	-	-	4', 3x 3.7g	-
637	7	LT	9	R2-1	24 x 30	SPEED LIMIT 15MPH	- / 5.0	13.0 / - / -	2.25 x 2.25 12g	15.0	-	-	4', 2.5 x 2.5 12g	-
638	7	RT	1	R3-1	30 x 30	STOP	- / 5.2	13.2 / - / -	2.25 x 2.25 12g	13.7	-	-	4', 2.5 x 2.5 12g	-
639	7	LT	1	R3-1	30 x 30	STOP	- / 5.2	13.9 / - / -	2.5 x 2.5 12g	14.1	-	-	4', 3x 3.7g	-
640	7	RT	1A-04	Shield 1 / R2-1	24 x 30 / 24 x 30	SHIELD: BIA 7 / SPEED LIMIT 15MPH	5.0 / 5.0	15.1 / - / -	2.5 x 2.5 10g	17.6	4.0 / - / -	2.19 x 2.19 10g	4', 3x 3.7g	1
641	7	RT	4	R1-2	36 x 31.2	YIELD	- / 5.9	13.4 / - / -	2x 2 12g	13.6	-	-	4', 2.25 x 2.25 12g	-
642	7	LT	1	R3-1	30 x 30	STOP	- / 5.2	13.9 / - / -	2.5 x 2.5 12g	14.1	-	-	4', 3x 3.7g	-
643	7	RT	9	R2-1	24 x 30	SPEED LIMIT 15MPH	- / 5.0	13.1 / - / -	2.25 x 2.25 12g	15.0	-	-	4', 2.5 x 2.5 12g	-
644	7	RT	1A-04	Shield 1 / R2-1	24 x 30 / 24 x 30	SHIELD: BIA 7 / SPEED LIMIT 15MPH	5.0 / 5.0	15.1 / - / -	2.5 x 2.5 10g	17.6	4.0 / - / -	2.19 x 2.19 10g	4', 3x 3.7g	1
645	7	LT	1	R3-1	30 x 30	STOP	- / 5.2	13.9 / - / -	2.5 x 2.5 12g	14.1	-	-	4', 3x 3.7g	-
646	7	LT	1	R3-1	30 x 30	STOP	- / 5.2	13.9 / - / -	2.5 x 2.5 12g	14.1	-	-	4', 3x 3.7g	-
649	21	RT	1	R3-1	30 x 30	STOP	- / 5.2	14.0 / - / -	2.5 x 2.5 12g	14.1	-	-	4', 3x 3.7g	-
650	21	LT	D-754-87	R3-1 / 11-05 / 11-06	30 x 30 / 54 x 12 / 60 x 12	STOP / 82nd AVE NE / 39th ST NE	5.5 / 5.2	15.5 / - / -	3.5 x 3.5 10g	21.1	2.2 / - / -	2.19 x 2.19 10g	4', 3x 3.7g	1
651	21	RT	1	R3-1	30 x 30	STOP	- / 5.2	14.0 / - / -	2.5 x 2.5 12g	14.1	-	-	4', 3x 3.7g	-
658	40	RT	9	Shield-2	24 x 30	SHIELD: BIA 40	5.0 / -	9.7 / - / -	2x 2 12g	13.5	-	-	4', 2.25 x 2.25 12g	-
659	40	RT	19	W11-15	30 x 30	SYMBOL: BICYCLE, PEDESTRIAN	- / 4.3	9.8 / - / -	2.25 x 2.25 12g	13.6	-	-	4', 2.5 x 2.5 12g	-
660	10	RT	1A-06	Shield-2 / 15-24	24 x 30 / 36 x 42	SHIELD: BIA 16 / LOAD RESTRICTION	5.0 / 10.5	14.9 / - / -	2.5 x 2.5 10g	15.2	4.0 / - / -	2.19 x 2.19 10g	4', 3x 3.7g	1
663	6	RT	1	R3-1	30 x 30	STOP	- / 5.2	13.0 / - / -	2.25 x 2.25 12g	13.7	-	-	4', 2.5 x 2.5 12g	-
664	6	RT	1	R3-1	30 x 30	STOP	- / 5.2	13.0 / - / -	2.25 x 2.25 12g	13.7	-	-	4', 2.5 x 2.5 12g	-
665	6	RT	34	W6-7	48 x 24	DOUBLE ARROW	- / 8.0	12.2 / - / -	2.5 x 2.5 10g	13.6	-	-	4', 3x 3.7g	1
667	8	LT	9	R2-1	24 x 30	SPEED LIMIT 45MPH	- / 5.0	13.0 / - / -	2.25 x 2.25 12g	15.0	-	-	4', 2.5 x 2.5 12g	-
669	8	RT	1	R3-1	30 x 30	STOP	- / 5.2	13.7 / - / -	2.25 x 2.25 12g	13.7	-	-	4', 2.5 x 2.5 12g	-
670	72	RT	1	R3-1	30 x 30	STOP	- / 5.2	9.7 / - / -	2x 2 12g	10.5	-	-	4', 2.25 x 2.25 12g	-
671	72	LT	1	R3-1	30 x 30	STOP	- / 5.2	9.7 / - / -	2x 2 12g	10.5	-	-	4', 2.25 x 2.25 12g	-
672	7	LT	9	R2-1	24 x 30	SPEED LIMIT 15MPH	- / 5.0	13.0 / - / -	2.25 x 2.25 12g	15.0	-	-	4', 2.5 x 2.5 12g	-
673	3	LT	103	D13-1 / M7-11	24 x 18 / 12 x 9	BIKE ROUTE / ARROW LEFT	3.0 / -	13.0 / - / -	2x 2 12g	14.0	-	-	4', 2.25 x 2.25 12g	-

1) 1A,# refers to the applicable Special Assembly # found in the Sign Details sheets
2) D-754-## refers to the applicable standard drawing

This document was originally issued and sealed by Paul Bosman, Registration Number PE-8754, on 04/23/2015 and the original document is stored at the office of KLJ in Devils Lake, ND

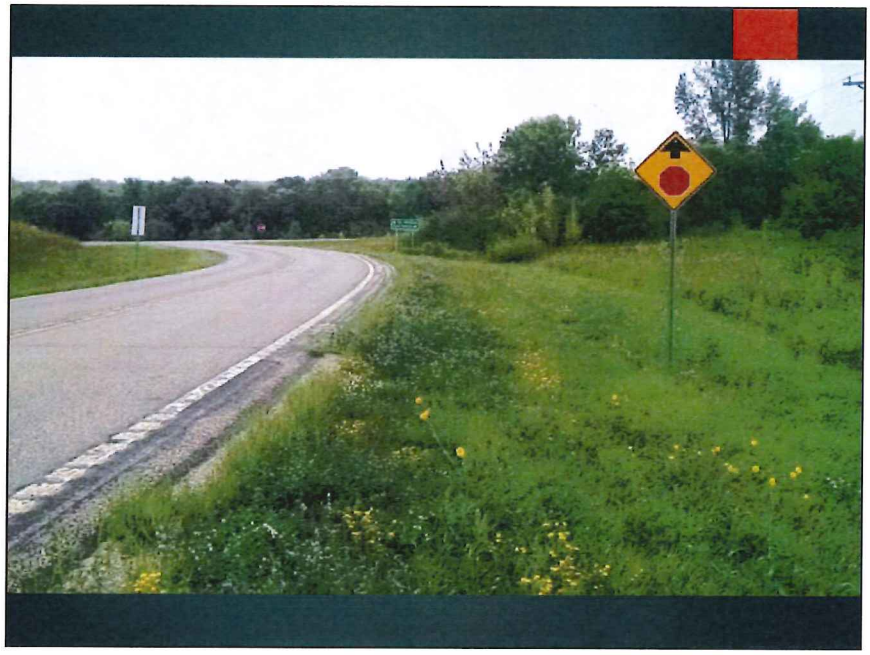
HSIP Sign Upgrade
Grand Forks, Grand Forks County

KLJ

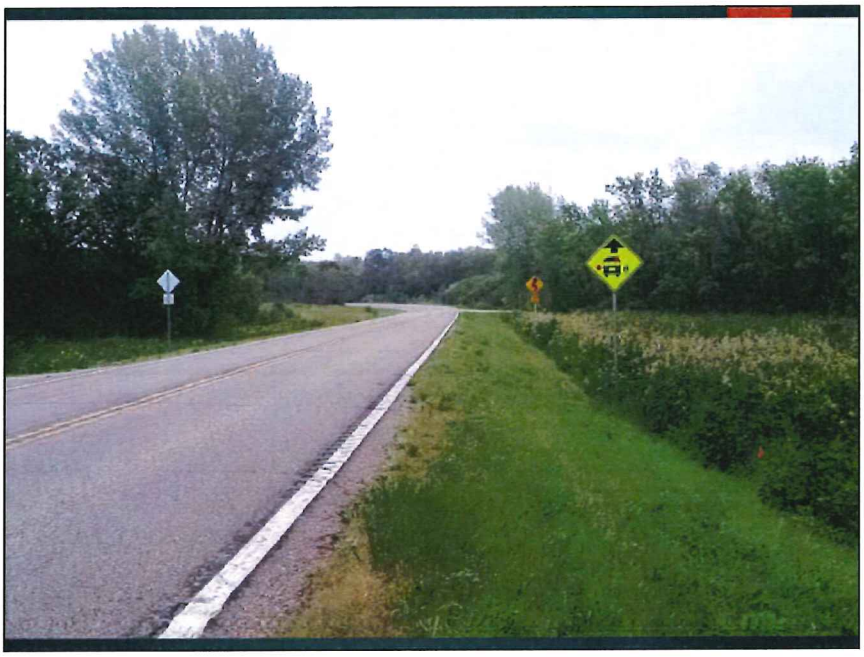
SIGN INFO TABLE

The sign information table is sorted by Construction ID.
The table was done in Excel, so we could also easily sort by Route for field installation.
Max post length was calculated with the NDDOT sign calculator program.
If the post length needs to be longer to get the appropriate height above the roadway, the post will need to be redesigned.
We included a plan note allowing the engineer 2 working days to size a longer support if needed.

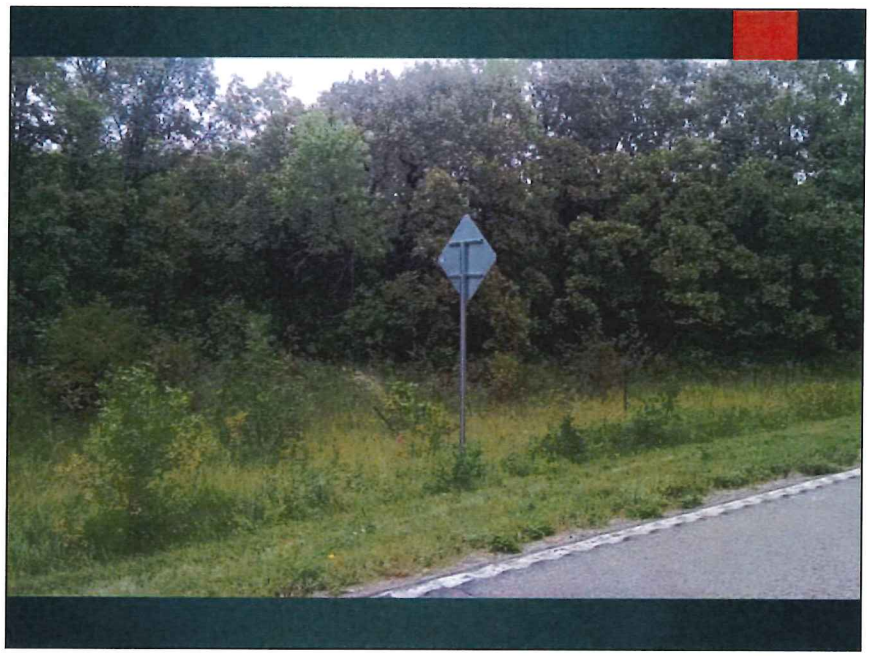
The old sign is in the foreground. The support was leaning slightly and the panel was very faded and weathered. It was a 30" sign installed on 2" support.
The new sign is installed closer to the curve. This is due to the higher retroreflectivity standards and changes in installation practices. Drivers can see the signs from a greater distance.
The new sign is also a 30" sign, but has 2-1/4" 12ga support.



Stop Ahead signs were standardized to the W3-1 (symbol rather than W3-1a text). There were no chevrons installed due to the low speed (30mph) of this roadway, but we may add them later.



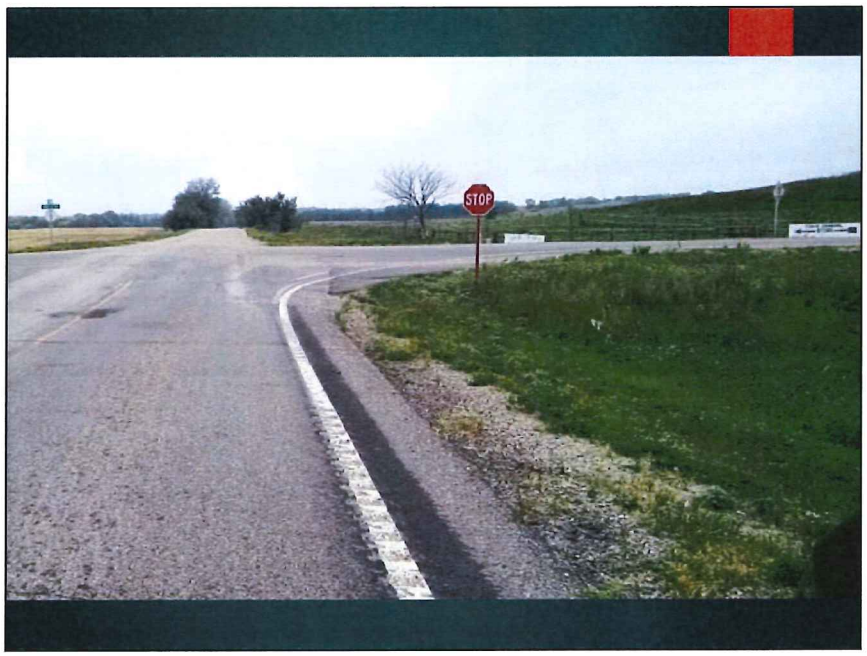
School bus stop warning signing was standardized, with the bright fluorescent yellow-green indicating a school zone.



This is a 36" sign. A larger support was needed, as well as cross-braces. Previously, this would have been installed without the braces and on a 2" post.

Previously, there were five distinct types of BIA Route Markers in use. There were at least two different shades of blue, some had black borders, and there were varying heights and widths of the arrowhead. Some had B.I.A. above the route number also.
The load restriction signs were very wordy and in small print. Drivers could not read them as they were driving by.

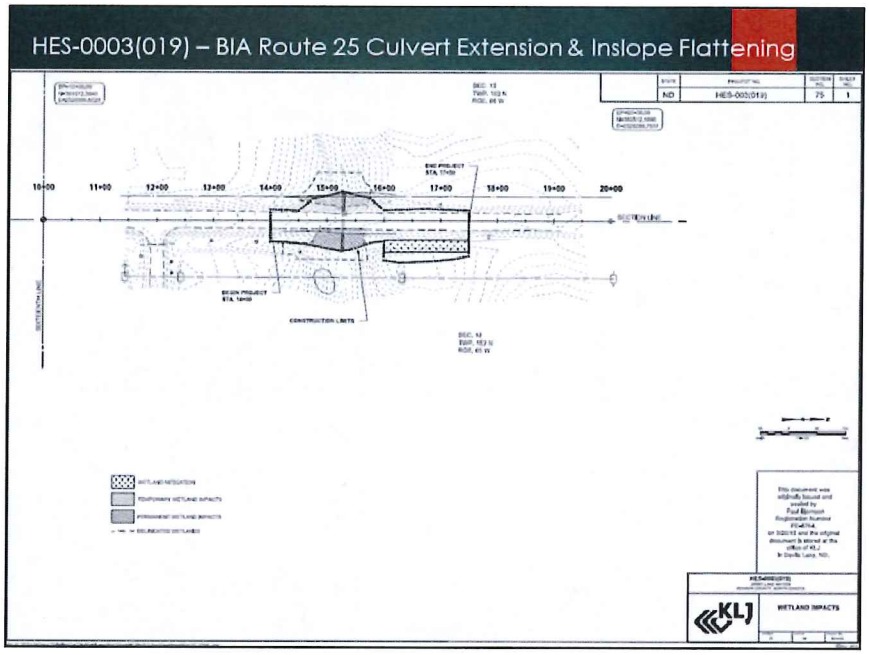
The BIA Route markers were standardized to this format.
Load limit signs were updated to this much easier to read format.



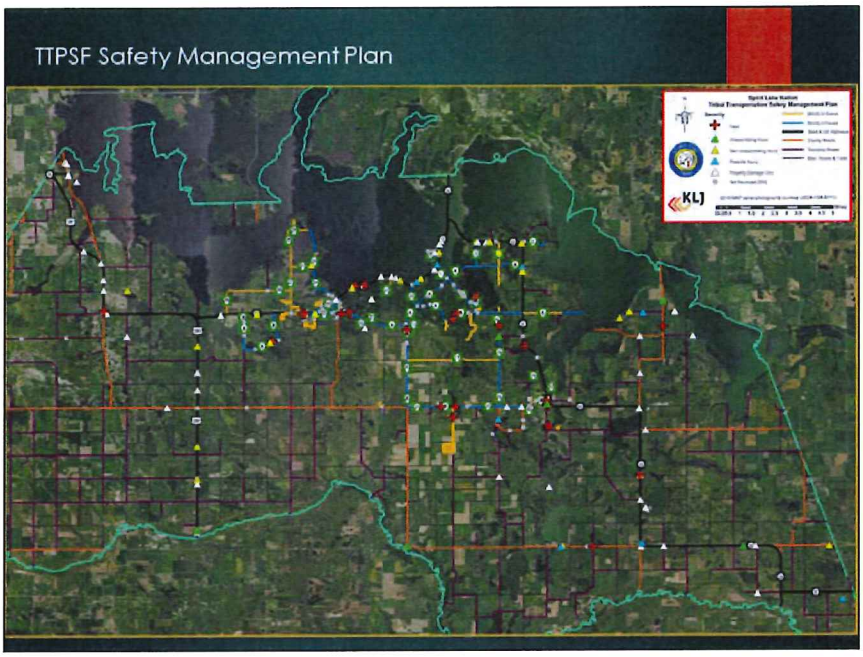
Post reflectors were added.

Native crossing signs were installed. These were present in several locations prior to this project. Post reflectors were added.

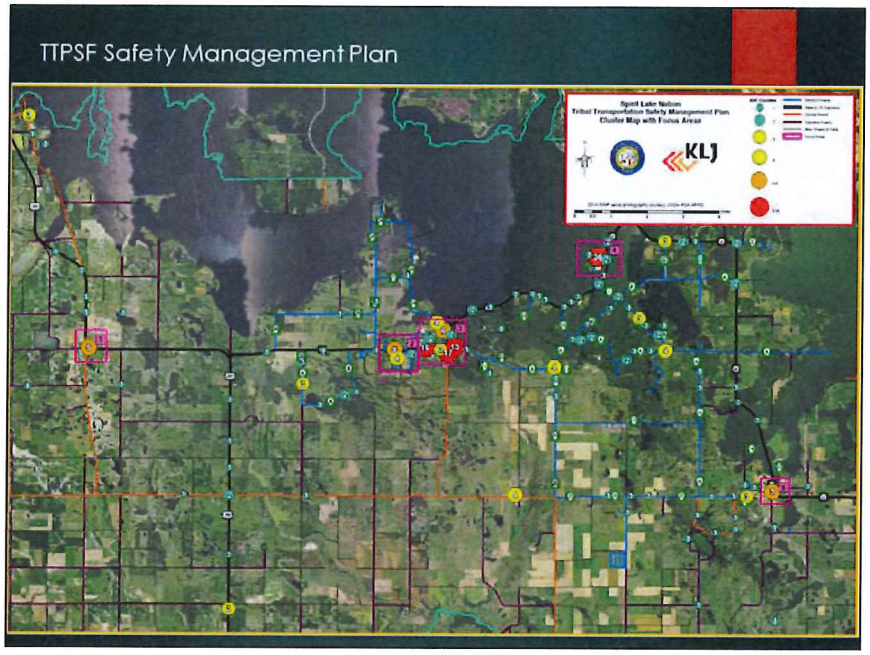
Project cost for HES-0003(019) was $98,092.20, of which NDDOT provided $46,243.00.
Tribal Transportation Program Safety Funds are available for safety plans.
If you do not have a transportation safety plan, you cannot apply for TTPSF projects.
The BIA Route 21 and BIA 1/6 Recovery Approach projects are being designed now and are scheduled to be constructed in 2017. NDDOT has set aside HSIP funds for these tied projects.



This is a wetland impact map for the HES-0003(019) project on BIA Route 25.
With the HSIP funds come all the federal requirements for wetland mitigation etc.
The rectangle from 16+00 to 17+50RT is the on-site wetland mitigation.
Erosion control was about 17% of the project cost, roughly the same as the 52LF of 36" RCP.
Mobilization and borrow totaled 50% of the project cost.
HSIP funds are often better suited to larger projects, or low cost/low impact safety improvements.



Gray dots indicate 3 years of BIA Law Enforcement crash data. We were able to gather 214 crashes from BIA Law Enforcement. Locations were reported by address, resident's name, business name or other descriptive location. We were able to plot 85% of their crash data on the map. The other 15% did not have enough information to locate. Still, this provided a great amount of data for many locations that we didn't previously have access to. The BIA reported over three times as many crashes as the NDDOT in the same time period. The ND Highway Patrol is only called off the state highways for serious and fatal crashes, so we were missing out ¾ of the crashes previously. It would be extremely beneficial if the BIA would add GPS locations to their crash reports.



Clusters were generated on a 500' radius.
5 focus areas were chosen as indicated.
NDDOT has a project planned at Area 1, and is looking into funding options for chevrons at Area 5 and other curves on state highways.

THANK YOU!
PAUL BJORNSON
KLJ
(701)662-1960
paul.bjornson@kljeng.com
CLARENCE GREENE
SPIRIT LAKE TRIBAL ROADS
(701)351-2307
roadsbia@gondtc.com
SPIRIT LAKE TRIBE

Appendix L

Safety Issues on Gravel Roads

2016 Tribal Safety Conference
Pierre, SD

Cliff Reuer,
SDLTAP Technical Assistance Provider

Primary Concerns:

Safety in Maintenance Operations

Keeping Good Roadway Shape

Surface Gravel Quality

Maintenance Operations

Biggest Problems:

Failure to provide warning

- Warning lights
- Warning signs when needed

Collisions between motorgraders and vehicles

“Excess” windrows

Routine blade maintenance is commonly done in much of the US without warning signs.

<u>Always</u> have a flashing amber warning light!

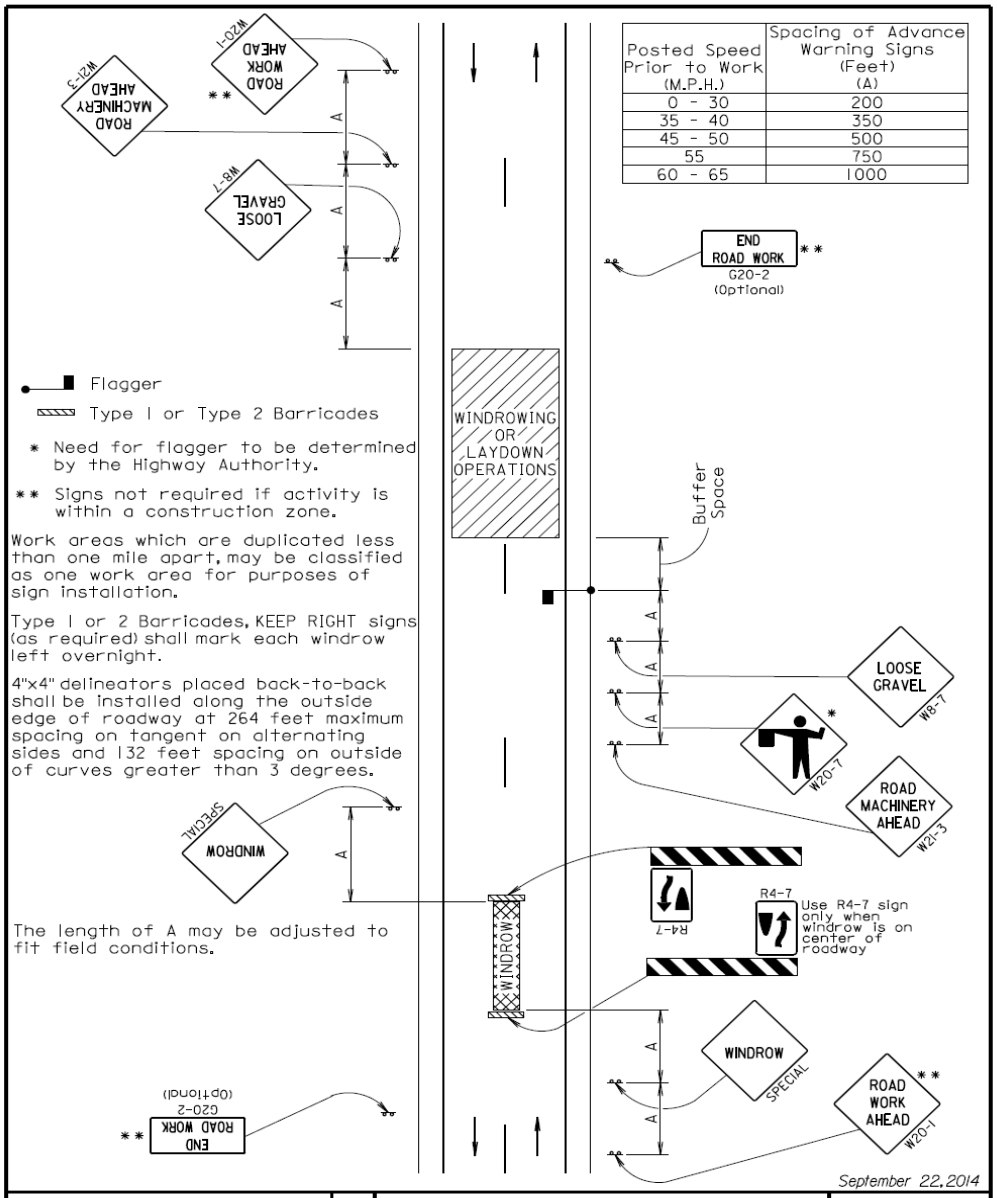
Slow Moving Vehicle Emblem

ROAD
CONSTRUCTION
AHEAD
AUG 12 2004

GRAVEL WINDROW
ROAD
WORK
AHEAD

Put signs up when anything more than routine maintenance work is planned!!

Posted Speed Prior to Work (M.P.H.)	Spacing of Advance Warning Signs (Feet) (A)
0 - 30	200
35 - 40	350
45 - 50	500
55	750
60 - 65	1000



* Need for flagger to be determined by the Highway Authority.

** Signs not required if activity is within a construction zone.

Work areas which are duplicated less than one mile apart, may be classified as one work area for purposes of sign installation.

Type 1 or 2 Barricades, KEEP RIGHT signs (as required) shall mark each windrow left overnight.

4"x4" delineators placed back-to-back shall be installed along the outside edge of roadway at 264 feet maximum spacing on tangent on alternating sides and 132 feet spacing on outside of curves greater than 3 degrees.

The length of A may be adjusted to fit field conditions.

September 22, 2014

Published Date: 1st Qtr. 2016

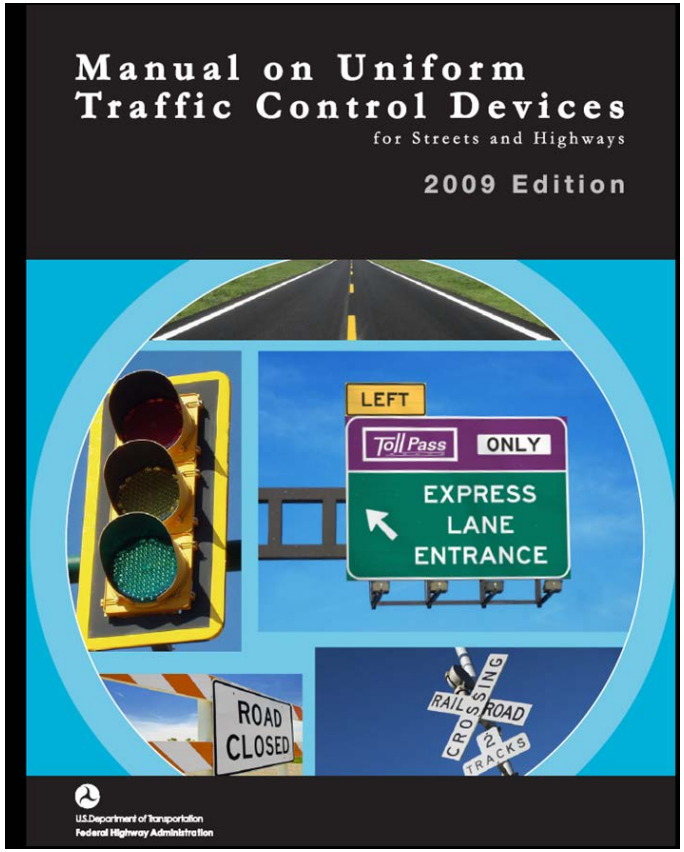
SDDOT

GUIDES FOR TRAFFIC CONTROL DEVICES
WINDROWING OR LAYDOWN OPERATION

PLATE NUMBER
634.27

Sheet 1 of 1

MUTCD – 2009 EDITION



Careful with excess windrows without warning signs during routine maintenance operations.

Acceptable in the 1950s – not today

Roadway Shape

Primary Concerns:

Roadway crown

- Lack of crown
- Excessive crown

Rough surface or unsafe driving condition

- Corrugation (washboard), potholes, high shoulders

Superelevation in curves

No Crown

Excessive Crown

Corrugation

Bad geometry in curves - superelevation

Excellent example:

Substandard Surface Gravel

Generally two problems will be defined:

Does not meet state or "standard" specification

or

Simple allegation that gravel was not of proper type to provide a safe driving surface

Know your gravel quality

Hard to defend!

Aggregates for granular bases and surfacing shall conform to the requirements of Table 1.

TABLE 1

REQUIREMENT	Subbase	Gravel Cushion	Aggregate Base Course	Limestone Ledge Rock		Gravel Surfacing
				Base Course	Gravel Cushion	
SIEVE	PERCENT PASSING					
2" (50 mm)	100					
1" (25.0 mm)	70-100		100	100		
3/4" (19.0 mm)		100	80-100	80-100	100	100
½" (12.5 mm)			68-91	68-90		
No. 4 (4.75 mm)	30-70	50-75	46-70	42-70	46-70	50-78
No. 8 (2.36 mm)	22-62	38-64	34-58	29-53	29-53	37-67
No. 40 (425 µm)	10-35	15-35	13-35	10-28	10-28	13-35
No. 200 (75 µm)	0.0-15.0	3.0-12.0	3.0-12.0	3.0-12.0	3.0-12.0	4.0-15.0
Liquid Limit Max		25	25	25	25	
Plasticity Index	0-6	0-6	0-6	0-3	0-3	4-12
L.A. Abra. Loss, max.	50	40	40	40	40	40
Foot Notes		2	1,2			
Processing Required	crushed	crushed	crushed	crushed	crushed	crushed

Know and understand your state's specification for surface gravel

Some Final Thoughts:

Risk is always present on public roads

You must manage it

Are all pavements safe?

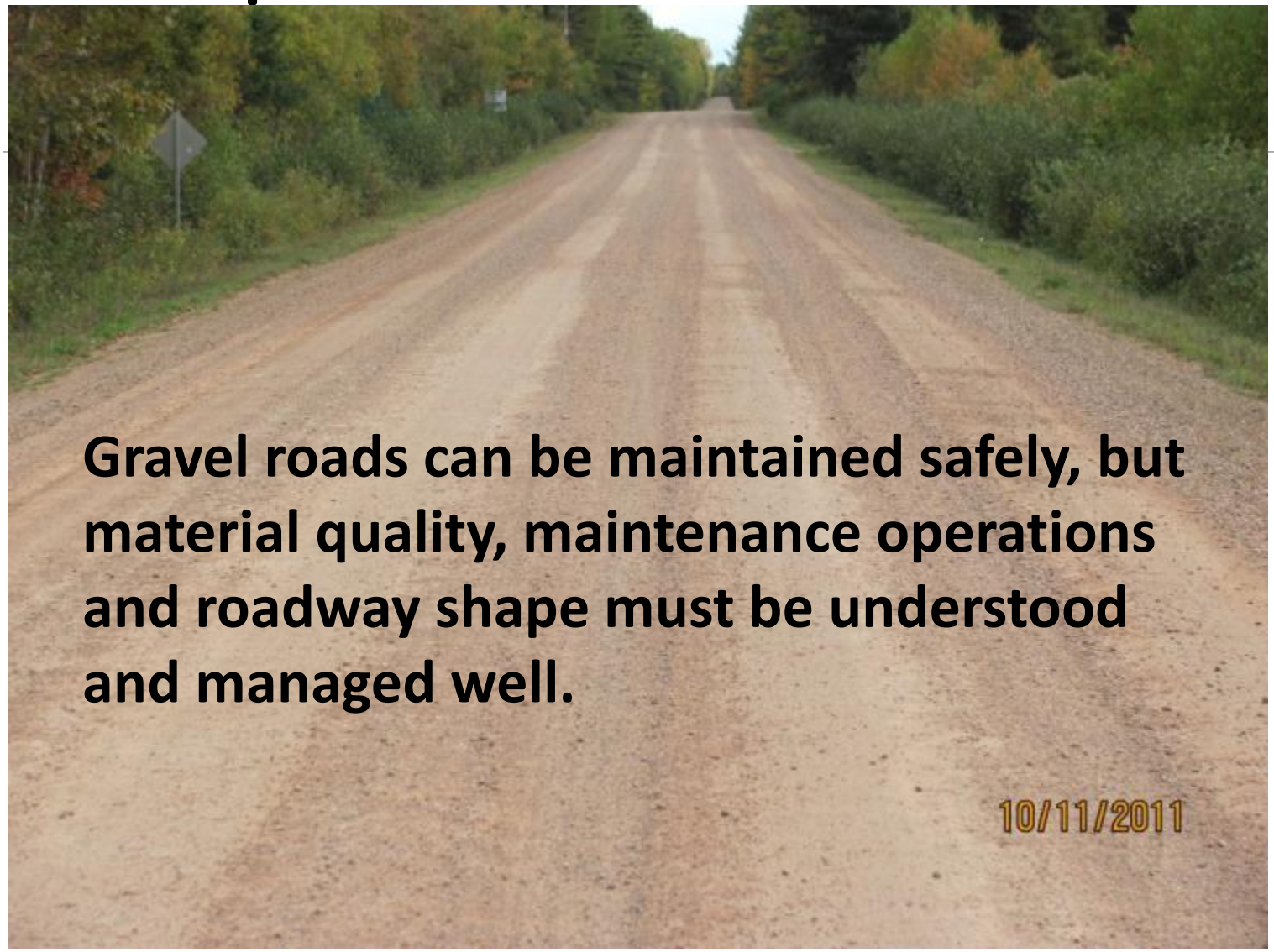
Are all unpaved roads dangerous?

Is this a safe road?

Is this a safe road?

Which is worse? This paved surface or --(see next slide)

The unpaved surface?



Gravel roads can be maintained safely, but material quality, maintenance operations and roadway shape must be understood and managed well.

ROW CONCERNS

UNAPPROVED MAIL BOXES

Mailboxes not meeting AASHTO

Tree Stump in Right of Way…

Hay Bales – In Ditch

Farming the R-O-W

Intersection Sight Distance???

Objects in Ditch

Examples of serious public hazards…

Stay safe!

GOOD LUCK!

Appendix M

South Dakota Tribal Transportation Safety Summit Agenda

October 26-27, 2016

RedRossa Conference Center
Pierre, South Dakota

Wednesday, October 26th

All Times Listed are Central Time

7:30am Registration Open
Continental Breakfast Hosted by Cheyenne River Sioux Tribe

8:30am Welcome, Opening Prayer & Introductions
Moderator — Dakota Longbrake (CRST)

9:00am Tribal Transportation Program—Safety Program
Presenter: Tom Croymans (BIA)

9:45am Cheyenne River Sioux Tribe (CRST) Presentation
Presenter: Chief of Police Joseph Wicks (CRST)

10:05am BREAK

10:25am Yankton Sioux Tribe (YST) Presentation
Presenter: Gail Estes

10:45am Driver Safety
Presenter: Arden Boxer (Northern Plains TTAP)

11:30am Lunch Hosted by CRST

1:00pm Listening Session on Transportation Safety Issues
Panel: Jeannie Hovland (Thune), Tyler Tordsen (Rounds) & Rick Vallery (Noem)
Moderator: Secretary Darin P. Bergquist (SDDOT)

October 26th Continued

2:00pm Special Recognition

2:25pm BREAK

2:35pm Safety Plan Implementation
Presenter: Craig Genzlinger (KLJ)

3:20pm Rosebud Sioux Tribe (RST) Presentation
Presenter: LaJuanda Stands and Looks Back (RST)

3:40pm BREAK

3:50pm Crash Reporting
Presenters: Lois Goff & Jenny Serbousek (SDDPS)

4:35pm Standing Rock Sioux Tribe (SRST) Presentation
Presenter: Haden Merkel (SRST)

4:55pm Daily Wrap Up & Announcements
Dinner on your own

Thursday, October 27, 2016

8:00am Continental Breakfast Hosted by CRST

8:30am Highway Safety Improvement Program
Presenter: Andy Vandel (SDDOT)

9:15am Tribal Presentation

9:35am FHWA Report to Congress & Safety Updates
Presenter: Adam Larsen (FHWA — Federal Lands)

10:20am BREAK

10:40am Tribal Presentation

11:00am Maintenance Best Practices to Improve Safety
Presenter: Cliff Reuer (SDLTAP)

11:30am Summit Wrap-Up, Discuss Next Summit & Potential Topics, Closing Remarks & Closing Prayer

Appendix N

South Dakota Tribal Transportation Safety Summit 2016				
Name	**Title**	**Tibe/Agency**	**Email**	**Phone Number**
Doug Atkin	Acting DA	FHWA	doug.atkin@dot.gov	224-8033
Clarence Greene	Roads Director	Spirit Lake	roadsbia@stellarnet.com	701-351-2307
Philip Beck	Transit	Rosebud	rsttrans@gwtc.net	605-747-2718
Amanda Hossle	Management Analyst	SD OHS	amanda.hossle@state.sd.us	605-773-8210
Adam Larsen	Safety Engineer	FHWA	adam.larsen@dot.gov	360-619-7751
Tyler Tordsen	Special Assistant	Senator Rounds	tyler_tordsen@rounds.senate.gov	605-224-1450
Terrold Menzie	Pierre District Sanitarian	HIS	terrold.menzie@ihs.gov	605-945-5428
Dustin Witt	Highway Safety Planning Engineer	SDDOT	dustin.witt@state.sd.us	605-773-5361
Mark Hoines	Planning/Civil Rights	FHWA	mark.hoines@dot.gov	605-776-1010
David Kelly	Director	OSTDOT	ostroads@hotmail.com	605-867-5376
June Hansen	Tribal Liason	SDDOT	june.hansen@state.sd.us	605-773-3540
Tom Croymans	Regional Roads Engineer	BIA	thomas.croymans@bia.gov	701-854-7241
Lou Golus Jr	Roads Supervisor	YST	ystroads@yahoo.com	605-384-5003
Joe Sarisky	Env. Health Spec. IHS	HIS	joseph.sarisky@ihs.gov	605-945-2400
Dennis Falken	LEL Highway Safety		dfalken@brookings.net	605-690-5110
Greg Ingemunson	LEL	DPS	greg.ingemunson@state.sd.us	605-787-4181
John Ganshow	Highway Maint.	SDDOT		660-1291
Doug Kinniburgh	Local Gov't Engineer	SDDOT	doug.kinniburgh@state.sd.us	605-773-4284
Cliff Eberhardt	Trans. Director	SWO	clifforde@swo-nsn.gov	698-8355
Kyle Chase	Policy Analyst	DTR	kyle.chase@state.sd.us	773-3415
LaJuanda Standsandlooksback	Trans Planner	Rosebud	lajuandasalb@gwtc.net	605-856-2944
Andrew Peterson	SDLTAP	LTAP	andrew.peterson@sdstate.edu	605-661-7882
L. Scott Brown	Lt.	SDHP	scott.brown@state.sd.us	605-773-4578
Craig Genzlinger	PM	KLJ	craig.genzlinger@kljeng.com	406-461-2222
Lynda Douville	RST-MAP-21	RST	ldouville@gwtc.net	605-856-2944
Gail Estes	YST Safety	Yankton	gailestes62@hotmail.com	605-384-5003
Terry Keller	HDR	HDR	terry.keller@hdrinc.com	701-280-4381
Leroy Sleeping Bear	Transportation Director	RST	rsttrans@gwtc.net	605-747-2718
Jason Cooke	YST Council	YST	jwcooke69@gmail.com	605-469-5145
Haden Merkel	SRST Traffic Safety Coordinator	SRST	hmerkel@standingrock.org	701-854-8607
Tracey Miller	Government Relations	KLJ	tracey.miller@kljeng.com	701-250-5983
Ron Williams	Engineer	KLJ	ron.williams@kljeng.com	605-786-5918
Cliff Reuer	Tech Assistance Provider	SDLTAP	cliff.reuer@state.sd.us	605-773-5108
Darin Falcon	PE	KLJ	darin.falcon@kljeng.com	605-593-6979

Debra Martin	Self-Determination Specialist	GPR-SDO	debra.martin@bia.gov	226-7426
Carol Robertson	Econ. Dev./Roads Director	FSST	carol.robertson@fsst.org	997-3891
John Villbrandt	Area Engineer	SDDOT	john.villbrandt@state.sd.us	605-854-3844
Bonnie Neiss	IDOT Planner	YST	bneiss@yanktonsiouxtribe.net	605-384-5003
Tiffany Ewing	Hwy Engineer	BIA	tiffany.ewing@bia.gov	605-226-7645
Karlita Knight	Tech Specialist	NPTTAP	kknight@uttc.edu	701-221-1353
Arden Boxer	TSCR	NPTTAP	aboxer@uttc.edu	701-221-1364
Dakota Longbrake	CRST Director	CRST	dlongbrake@lakotanetwork.com	605-964-6960
Korey Fischer- Vrooman	Safety Operations Manager	CRST	koreyleefischer@yahoo.com	605-964-6960
Jody Zephier	YST Vice-Chairman	YST	zephierj@yahoo.com	605-384-3641
Alberta Redfox	SLT Counselor	SLT	kangi@spiritlakenation.com	701-230-4951
Jeannie Hovland	Senator Thune	FSST	jeannie_hovland@thune.senate.gov	
Courtney Two Lance	Director	OST	ost_credit@yahoo.com	605-867-8422
Rick Vallery	Field Rep.	Congresswoman Noem		
Lois Goff	State Program Acc Rec			773-3370
Jenny Serbousek	Acc Rec			773-3869
James Ainslie	Contact Adm. Engineer	SDDOT	james.ainslier@state.sd.us	773-8115
Darin Bergquist	Secretary	SDDOT		605-773-3265
Andy Vandel	DOT	DOT	andy.vandel@state.sd.us	605-773-5108