6th Annual

SOUTH DAKOTA
Tribal Transportation Safety Summit

MOBRIDGE, SOUTH DAKOTA
OCTOBER 14-15, 2015

STANDING ROCK SIOUX TRIBE
JULY 1873

SOUTH DAKOTA
DEPARTMENT
OF PUBLIC SAFETY
prevention – protection – enforcement

South Dakota DOT
Connecting South Dakota and the Nation

KLJ

6th Annual South Dakota Tribal Transportation Safety Summit
Mobridge, South Dakota
October 14-15, 2015

Report Developed by

KLJ

4585 Coleman Street

Bismarck, ND 58503

Prepared For

Tribal Transportation Safety Summit Planning Committee

December 2015

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Introductions

The 6th Annual South Dakota Tribal Transportation Safety Summit (Summit) was hosted by the Standing Rock Sioux Tribe on October 14-15, 2015, at the Grand River Casino in Mobridge, South Dakota. This annual event provides an opportunity for Tribes, the State of South Dakota, and federal agencies 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 to align their safety priorities with Tribal needs.

The 6th 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), and the nine South Dakota Tribes.

Figure 1: *The Grand River Casino and Hotel was the venue for the 6th Annual South Dakota Tribal Transportation Safety Summit.*

Summit Overview

The purpose of the annual Summit is to allow Tribes and agencies to exchange information and ideas to improve Tribal transportation safety. The Tribal Transportation Safety Summit Planning Committee invited representatives from nine Tribes located throughout South Dakota to share ideas, resources, and concerns with each other and state and federal agencies. Together, Tribes and agencies identify opportunities for working together to reduce the severity and number of crashes on reservation motorized and non-motorized transportation networks. The goal of this collaboration is to engage 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:

- Transit Safety
- Tribal Transportation Program—Safety Program
- Update on Tribal Crash Reporting
- Work Zone Safety and Maintenance Practices
- Tribal Tourism and Safety
- Update on the Process for Tribal Involvement in County Signing Projects
- Motor Carrier and Truck Traffic Safety

2015 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:

- 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

Welcome, Opening Prayer and Introductions

Opening remarks were provided by Leah Fool Bear of the Standing Rock Sioux Tribe followed by an opening prayer offered by Dakota Longbrake of the Cheyenne River Sioux Tribe. Members of the South Dakota American Legion presented the colors and placed the flags in the meeting room. The opening ceremony concluded with an Honor song presented by members of the South Dakota American Legion.

Figure 2: *Members of the South Dakota American Legion presented the colors.*

Figure 3: *Members of the South Dakota American Legion presented the Honor Song.*

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 nine 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 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.

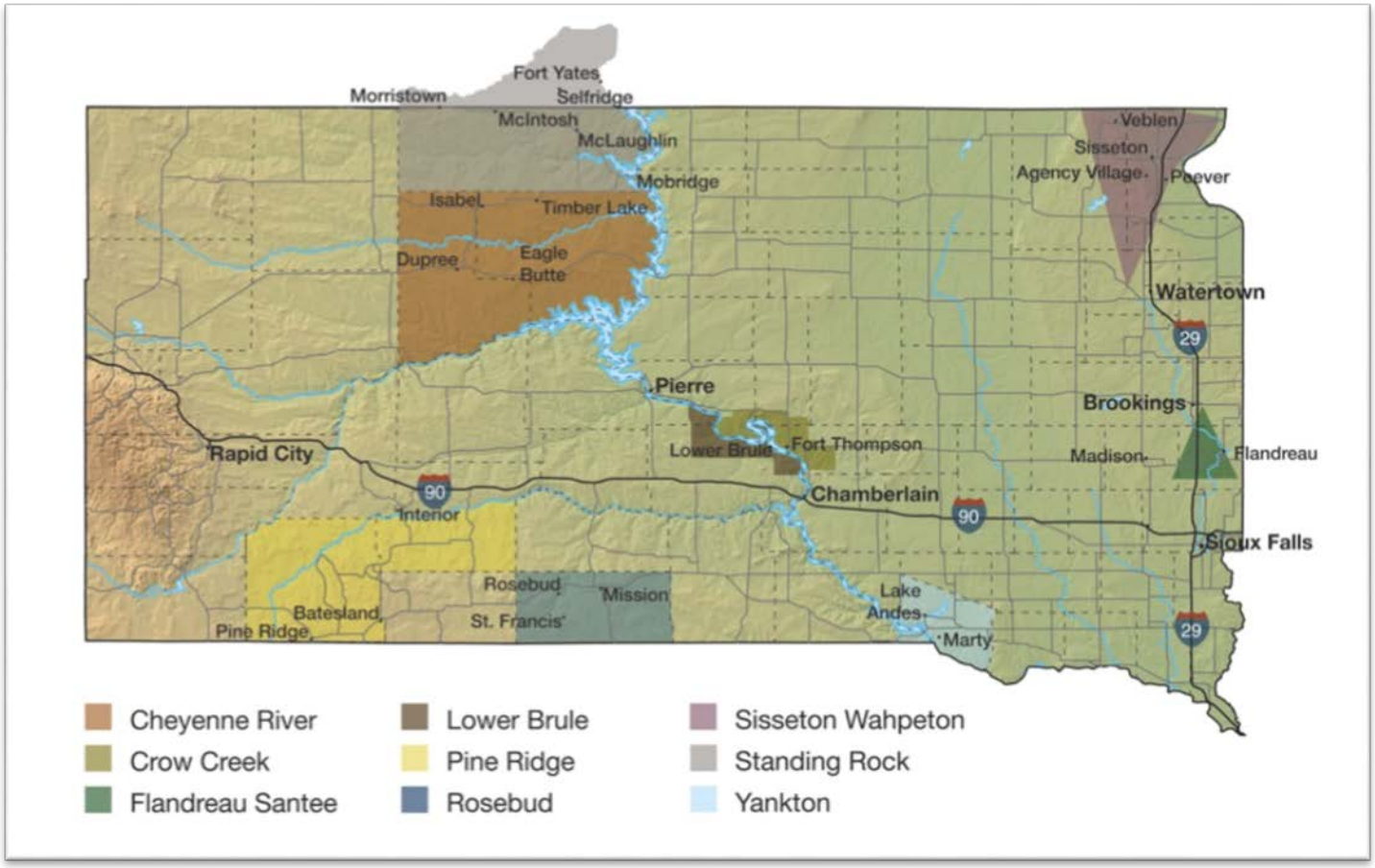


***Figure 4**: Location of each American Indian reservation in South Dakota.*
***Source:** SD Department of Tribal Relations*

Nine tribal governments reside within South Dakota, seven with reservation boundaries and two without. On the nine reservations listed above, approximately 71,800 Native Americans reside in South Dakota.

Standing Rock Sioux Tribe

Presenter: Leah Fool Bear

The Standing Rock Sioux Tribe (SRST) announced they have been successful in hiring a new Tribal Traffic Safety Coordinator. This is a position that has been vacant for some time and is essential in the delivery of their safety programs. The new person will begin in November 2015.

Figure 5: *Photo of the traffic safety educational materials purchased by the SRST that is currently being used at community events and classroom presentations.*

In 2015, SRST received an educational safety grant from the Tribal Transportation Safety Program. SRST intends to use the grant funding to develop and distribute educational materials including print materials, banners and billboards to promote transportation safety. One specific item that was included was the purchase of an informational booth and kiosk to be used at Pow Wows and other public events. This booth will have SRST safety messages and artwork displayed on it.

"The Standing Rock Sioux Tribe is purchasing a booth that will include tribal artwork and safety messages for community events like the pow wow."
–Leah Foolbear

The Tribe also received a grant from FHWA in the past to purchase laptops and software for a Tribal crash reporting system. These have been purchased and provided to Corson County and local emergency medical service (EMS); BIA Enforcement will no longer agree to use them and populate the software. The Tribe is working with fire and EMS to try and get the crash reporting completed.

SRST applied for two Tribal Transportation Program (TTP) Safety grants and are waiting to see if they were successful.

Upon hire, the new Tribal Traffic Safety Coordinator will oversee the implementation of these programs and facilitate the use of the new educational materials.

Figure 6: *Leah Fool Bear presented the Standing Rock Sioux Tribe's Best Practices.*

Sisseton-Wahpeton Oyate

Presenter: Cliff Eberhardt

Cliff Eberhardt, Transportation Project Coordinator with the Sisseton Wahpeton Oyate (SWO) Construction Management Department, shared updates on the traffic safety improvement projects on the Lake Traverse Reservation. The SWO-Construction Management Department has been authorized and delegated authority by the Tribal Council to act and serve as both General Contractor and Construction Contract Administrator for Tribally and federally funded construction projects, including the Agency Village Pathways Project, Enemy Swim Pathway Project and the BIA Route 7 Re-construction Project.

Figure 7: *Cliff Eberhardt presented the Sisseton-Wahpeton Oyate Tribe's best practices.*

After receiving a grant from South Dakota Department of Transportation's Transportation Alternatives Program, the Agency Village Pathway Project is ready for construction. When completed, the project will provide a pathway, separating pedestrians from the roadway vehicular traffic.

TAP is a grant program that uses federal transportation funds, designated by Congress, for specific activities that enhance the intermodal transportation system and provide safe alternative transportation options. TAP provides the opportunity to construct multi-use pathways and TTP safety funds provide the opportunity to add additional safety features such as lighting and crossing enhancements to the existing path. The key to applying for TTP safety funds is having a safety plan in place.

Figure 8: *The Agency Village Pathway Project will seperate pedestrians from the roadway and vehicular traffic.*

The second project, the Enemy Swim Pathway Project, will construct a pathway from Enemy Swim Housing to the fishing bridge where users, often children, currently utilize BIA Route 5, sharing the roadway with vehicle traffic. The Tribe has submitted several grant applications for the project and is working closely with the BIA Regional Office to develop the construction plan. The Tribe is considering the inclusion of parking lots and benches along the Enemy Swim Pathway.

In 2015, a monument dedication was completed for the family in respect of the Blue Dog Mound Burial Site. The Enemy Swim Pathway Project will be ready for construction in 2016.

Figure 9: *Photo of the monument honoring the Blue Dog Mound Burial Site.*

"We try to build in all the safety that we possibly can into our projects."
-Cliff Eberhardt

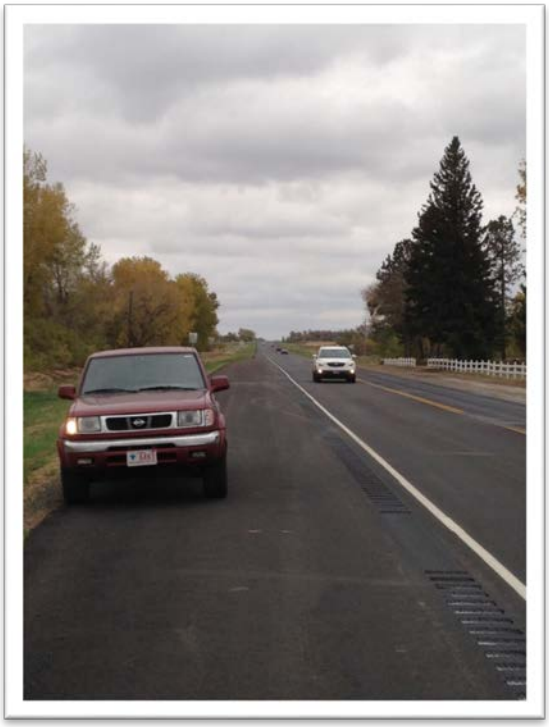


Figure 10: *Photo of the BIA Route 7 Re-construction project safety improvements.*

The final project presented was the BIA Route 7 Re-construction Project which was completed in 2015. Safety improvements in the project included rumble strips, delineators, in slopes, flared ends on all culverts, object markers, wider eight foot shoulders and parking areas for the cemeteries along the route.

SWO Tribal officials worked with community, county and Tribal officials to complete a Tribal Transportation Safety Plan. This plan was developed using funds from the TTP Safety Program. In 2015, SWO applied to the TTP Safety Program for several of the strategies that were identified in the plan and received safety grants for traffic safety education and enforcement. This funding will sustain the existing bike safety training at all seven districts and Tribal schools.

Rosebud Sioux Tribe

Presenters: Lynda Douville; Leroy Sleeping Bear

Lynda Douville, Director of the Rosebud Sioux Tribe's MAP-21 program, and Leroy Sleeping Bear with the Tribal Transit Program, gave an update on projects the Rosebud Sioux Tribe (RST) is working on, as well as highlighted the role the transit service plays on the Rosebud Sioux Reservation.

Figure 11: *Lynda Douville gave the update from The Rosebud Sioux Tribe. Douville was later joined by Leroy Sleeping Bear who gave an update on transit services on the Reservation.*

The RST recently had two large projects start. The first project highlighted was the Rosebud to Highway 83 Improvement project. This project includes a total of 16 miles of surface transportation improvements including approximately six miles of BIA 7 and 10 miles of Lakeview Road and 293rd Street. This project is supported by a partnership with Todd County and will connect the City of Rosebud to US Highway 83 South of Mission. The existing route that connects the community of Rosebud to US Highway 83 is in poor condition and much of it is gravel roads, which can cause hazardous driving conditions, especially during weather related events. In many places the roadway is narrow, has steep slopes and the road shoulder is unstable. This route is the main connection for local residents and emergency services to the Rosebud Casino and Tribal housing located near the Nebraska border.

"The Rosebud Sioux Tribe hopes to improve EMS response times from Rosebud to the Casino with the Rosebud to Highway 83 connection." –Lynda Douville

The project intends to enhance safety not only for drivers but for pedestrians as well. In addition to the surface transportation improvements, multi-use pedestrian infrastructure with lighting will also be included in the project in the vicinity of Rosebud. The RST intends to apply for TIGER funding to help in the construction of the project.

The RST recently had a groundbreaking for the BIA Route 1 reconstruction project in Rosebud. This project will improve the roadway coming into town with new surfacing and will enhance safety by adding crosswalks, a separated pedestrian pathway and lighting. The Map-21 program anticipates advertising for design services for upgrades to Killgore Road as well as for the replacement of four bridges on the reservation.

Leroy Sleeping Bear shared insight on the role the transit service, housed under Tribal Transportation Department, plays across the reservation. Transit offers service to the general public and is not a chartered system. The transit provides demands response service from 5:30 a.m. to 2:30 a.m. and served approximately 6,200 riders in 2014, including riders with disabilities. In 2015, the Transportation Program received $1 million from the US Department of Transportation Federal Transit Administration which is being used for building expansion.

Oglala Sioux Tribe

Presenters: Dave Kelly; Ron Williams

Dave Kelley, Oglala Sioux Tribe Transportation Department Director, along with Ron Williams, KLJ, gave an update on the Oglala Sioux Tribe's Scenic BIA Route 2 Gateway to the Badlands project. The project is a unique and significant project to both the Tribe and the state of South Dakota. Once completed the project will provide a higher level of connectivity to jobs, educational institutions and healthcare facilities on the Pine Ridge reservation, and supports tourism to the reservation and the South Unit of the Badlands National Park.

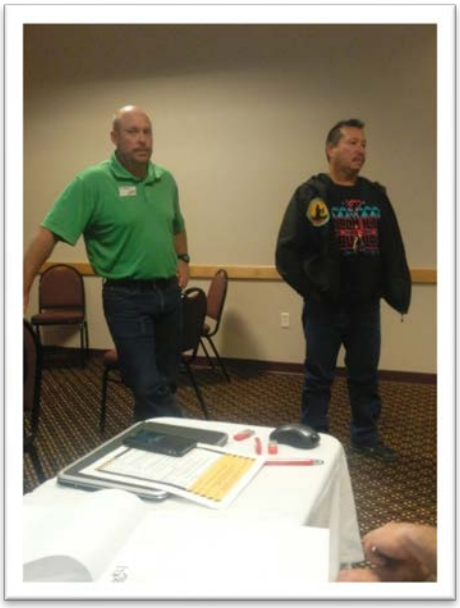


Figure 12: *Dave Kelly, OST and Ron Williams, KLJ during the OST presentation.*

Ron Williams, KLJ, explained the project has now moved to the construction phase, and when complete, a total of 17.6 miles of BIA 2 which runs east-west along the south unit of the Badlands National Park will be constructed between BIA 41 and BIA 27. The Scenic BIA Route 2 project is driven by an $8.7 million Transportation Investments Generating Economic Recovery (TIGER) grant paired with a $100,000 local match commitment from the OST. The grant award took significant commitment from OST, as explained by Kelley; both on the application side and the implementation of the funds.

"We received a TIGER grant in 2013 and we wrote our grant five different times. Be persistent. After announcements are made, you can do a debrief call as to why you weren't funded. Take that and use it to your advantage to continually improve the application."
- Dave Kelly, OST

This project is the result of a decade of planning, studies and efforts to improve the transportation accessibility for this area. The success of this project results from collaboration 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

We don't have the vehicle miles like CA or NY, but we still have a big part in tourism and our livelihood right here in South Dakota. We need safe roads for those that are here and those that come to visit our state."
- Dave Kelly

Cheyenne River Sioux Tribe

Presenters: Dakota Longbrake; Korey Fischer

The Cheyenne River Sioux Tribe Department of Transportation Director Dakota Longbrake and Korey Fischer shared some accomplishments in enhancing transportation safety on the Cheyenne River Sioux Reservation (CRST).

CRST was awarded Transportation Alternatives Program (TAP) grant in 2013 which was used to install pathways and sidewalk, then in 2014 was awarded another TAP grant to extend pathway from town to hospital.

CRST updated their Transportation Safety plan in 2015. Following completion of the plan, the Tribe then applied for safety funds for pathway lighting and education funding.

Completed a culvert replacement project on BIA Route 8 and have applied for a TIGER grant to replace failing culverts across the reservation. CRST is currently working with FHWA on 4 culverts to be replaced and discuss design options.

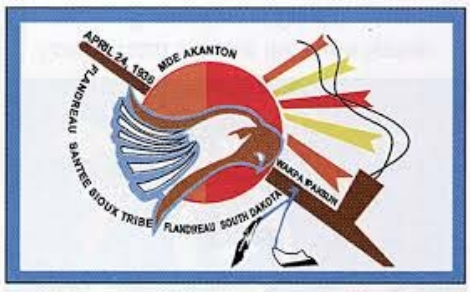
Figure 13: *Dakota Longbrake and Korey Fischer presented the accomplishments and current projects of the Cheyenne River Sioux Tribe.*

Yankton Sioux Tribe

A representative from the Yankton Sioux Tribe was not able to present.

Flandreau Santee Sioux Tribe

A representative from the Flandreau Santee Sioux Tribe was not able to attend.



Lower Brule Sioux Tribe

A representative from the Lower Brule Sioux Tribe was not able to attend.

Crow Creek Tribe

A representative from the Crow Creek Tribe was not able to attend.

Presentations

State and federal agencies and private organizations presented information and resources available to Tribes relating to transportation safety. Copies of the presentations and handouts are included in the Appendices.

Highway Safety Media Campaign

Presenter: Lieutenant Chris Misselt, City of Box Elder Police Department

Chris Misselt, Lieutenant of the Box Elder Police Department, presented the challenges the Box Elder Police Department faces regularly, as well as shared the success of their Highway Safety Media Campaign. Lieutenant Misselt has been in the department for 19 years and shares experience in highway safety grant and program administration.

Lieutenant Misselt explained that the City of Box Elder Police Department faces challenges unique to South Dakota and the region. The Box Elder Police Department straddles two different counties and includes the Ellsworth Airforce base in its jurisdiction. The jurisdiction is spread out over 42 square miles and includes a population of 10,000 people, although the US Census 2010 says a population of 7,200. As a result of the widespread jurisdiction, a commute can take 10-15 minutes for emergency responders.

Figure 14: *The Box Elder Police Department shared best practices to maximize the impact of traffic safety educational materials.*

"No matter what safety programming we do, there is a constant rotation of personnel in and out of the base. One quarter to one third of Ellsworth personnel changes annually. So every 3-5 years I have 100% new population at Ellsworth which impacts traffic programming and safety efforts. The outcomes of our traffic programming efforts lacks permanence due to change in base population, both behavioral and pattern."
- Lieutenant Chris Misselt

According to Lieutenant Misselt, the overwhelming traffic contributor is the Ellsworth Airforce Base and the school district being second. Box Elder experiences an influx of traffic as users cannot get to Ellsworth without traveling through Box Elder.

Despite the challenges the department faces, Lieutenant Misselt shared the efforts the department committed to and carried out. The Highway Safety Media Campaign was successful due to the commitment of the Box Elder Police Department and local government officials.

The Highway Safety Media Campaign included promotional materials including stickers, key chains, and koozies to be distributed at community events. The department also invites other organizations, such as MADD, to their events to help distribute the traffic safety messages. The department also shared their traffic safety message on a billboard along the main arterial route where the school district passes.

Figure 15: *The Box Elder Police Department uses educational materials to keep traffic safety messages flowing to as many audiences as possible.*

The department is also committed to CORE safety and wellness programming which is a safety education effort targeted toward high school freshman. The CORE programming originated as alcohol avoidance and traffic safety and has grown over the years. As part of the CORE program, the department and other volunteers host a mock crash which serve as a learning and awareness tool in the campaign. CORE allows emergency service volunteers to educate and enhance awareness relating to traffic safety.

All members of the Box Elder Police Department assist in educating individuals of all ages through bicycle safety programming.

The effort of advocating for traffic safety is shared amongst the entire Box Elder Police Department.

"If you work for us, at some point you will be making a traffic safety presentation."
- Lieutenant Chris Misselt

The department proudly delivers the traffic safety messages through public speaking and interactions with the community. Examples of areas addressed include seatbelt, helmet and car seat safety.

Figure 16: *The Box Elder Police Department advocates for traffic safety by educating bike users on helmet safety.*

Lieutenant Misselt highlighted a recent successful campaign called Project Visibility. Funded by the South Dakota Department of Public Safety and the City of Box Elder, Project Visibility began with the purchase of high-visibility shirts in neon yellow. The bright yellow shirts generated discussion and gave those wearing them the opportunity to educate and advocate on the safety campaign and remind homecoming attendees not to drink and drive.

In addition to the high visibility shirts, the department also purchased and distributed beverage glasses that had SD Department of Highway Safety campaign and Box Elder logo.

Figure 17: *The high-visibility shirts were worn by officers at the high school homecoming events and also distributed to dispatchers, emergency personnel, and attendants working at local establishments selling alcohol.*

Figure 18: *Project Visibility was a success and resulted in the presentation of an award from South Dakota Department of Public Safety.*

The Box Elder Police Department has now purchased reflective uniforms for informal events to carry on the message and impact from the campaign. An officer wearing the reflective uniform has been informally referred to as a mobile billboard.

Research Project Update—Wildlife Vehicle Collisions

Presenter: Patricia Cramer

Patricia Cramer, a Research Assistant Professor at Utah State University Department of Wildland Resources and Utah Transportation Center, presented a research project update on the use of wildlife crossing structures. The presentation described the practice and science of wildlife crossing structures and highlighted efforts in South Dakota to minimize wildlife vehicle collisions.

Figure 19: *Presenter Patricia Cramer enlightened the group on national, regional and local efforts to decrease the number of wildlife vehicle collisions.*

Last year in South Dakota there were over 5,000 reported crashes with wild life, and we know that many of these crashes are not reported. Other states such as Montana and Utah have started using wildlife crossing structures are designed explicitly for wildlife and placed with wildlife fencing to reduce these crashes. Structures can include culvert underpasses, bridged underpasses and in some cases overpasses.

According to Cramer, wildlife crossing structures are becoming part of doing business in transportation and there are many different structure designs that work. South Dakota is becoming more proactive in addressing wildlife-vehicle collisions. The photos below demonstrate several structure designs being used nationwide.

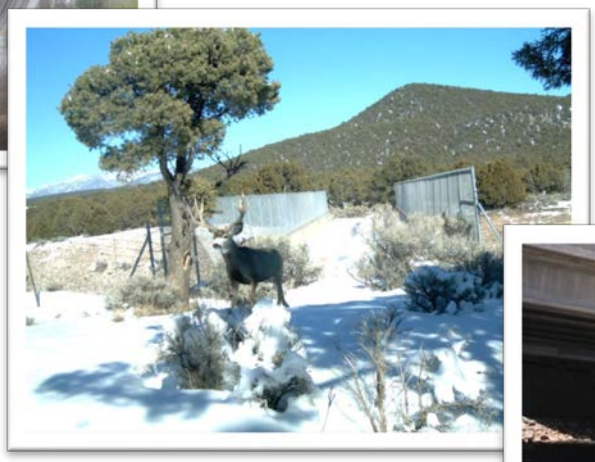


Figure 20: *Attendees were invited to identify areas on maps referred to as "Hot Spots" with a known high frequency of wildlife vehicle collisions.*

Cramer outlined in her presentation the study being done to reduce wildlife-vehicle collisions in South Dakota. She explained the study will first evaluate South Dakota data and methods to record wildlife-vehicle collisions and will then make recommendations for improvements. Recommendations are anticipated to include improvements to data collection, mapping, and efforts to mitigate wildlife-vehicle collisions. Summit attendees were invited to identify areas on the map that would be considered "hot spots" where wildlife-vehicle collisions occur frequently. In addition to identifying hot spots, Cramer also requested copies of wildlife surveys and maps indicating predominance of wildlife for transportation planning purposes.

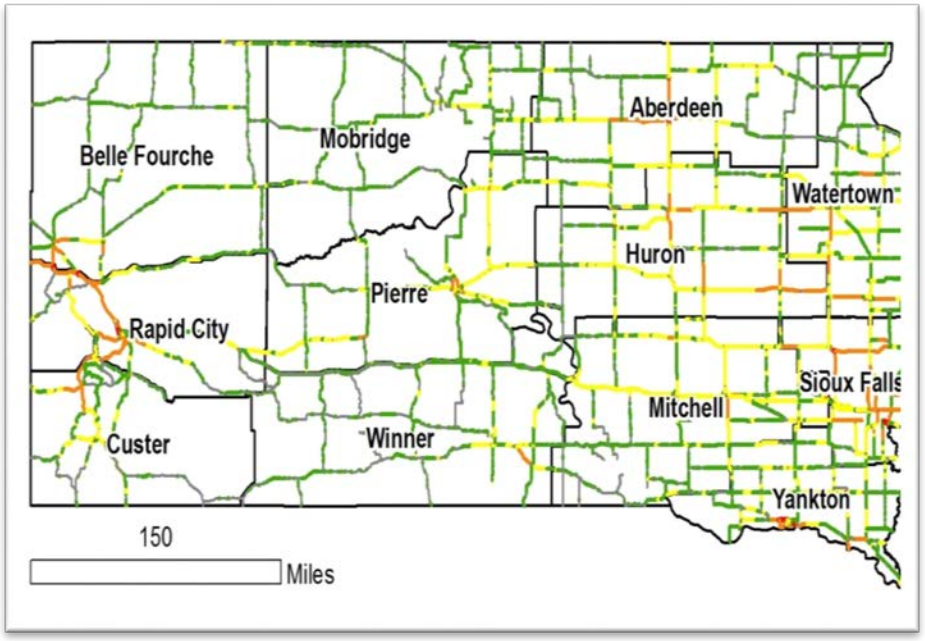


Figure 21: *The Master Map of Wildlife-Vehicle Collision Crash Hotspots. Thirty-four percent of all Wildlife-Vehicle Collision crashes on SDDOT administered roads occur in hotspots, representing nine percent of the road network.*

Lunch presentation on Passenger Restraint Study

Presenter: Bobbi Jo Peltier

Bobbi Jo Peltier is the Injury Prevention Coordinator with the Great Plains Area Indian Health Service. Peltier presented a summary of the Great Plains Area Indian Health Services Observational Seat Belt Survey conducted by the Aberdeen Area Injury Prevention Program Office of Environmental Health and Engineering. The report is typically available in January.

Figure 22: *Bobbie Jo Peltier provided a summary of findings from the Great Plains Area Indian Health Services Observational Seat Belt Safety Survey and recommended several practices where the data would be useful in enhancing traffic safety.*

The protocol used to collect data was developed by the University of North Carolina and instructs observers to note seat belt usage of drivers and front seat passengers only. Observation location are randomly selected at three different time intervals. The number of observation locations selected is based on statistical tests and varies depending on traffic volume assessments.

The standardized seat belt observation survey protocol was used on Tribal reservations to provide yearly seat belt use rates, evaluate the results of injury prevention activities, and to provide seat belt usage rates to Tribal governments as a means of encouraging the passage and enforcement of Tribal primary occupant restraint laws.

In the Great Plains Region, a total of seven sites reported seat belt observation data- including three locations in South Dakota. In the Great Plains Region, a total of seven sites reported seat belt observation data- including three locations in South Dakota. Using this data the HIS develops an annual report of seat belt use rates that can be shared with Tribes for utilization in their safety programs.

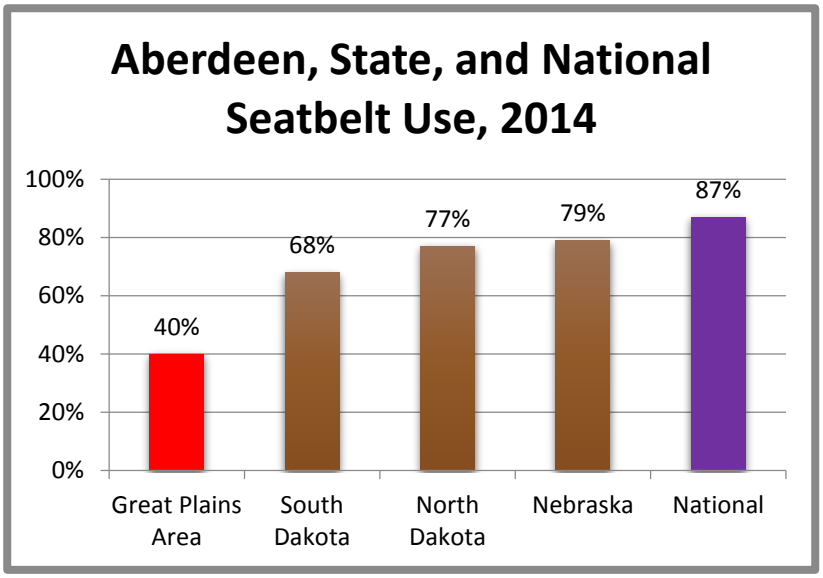


Figure 23: *Area Usage Rate compared to State and National Rates.*

Evidence-based research shows that passage of seat belt use laws, coupled with education and enforcement efforts are effective tools to increase seat belt use.

A full copy of the survey summary can be found in the appendices.

Horizontal Curves

Presenter: Andy Vandel,

Andy Vandel, Highway Safety Engineer with the South Dakota Department of Transportation (SDDOT), presented on past and future horizontal curve improvements being made by SDDOT.

Horizontal curve improvements include low cost, minor roadway and major roadway improvements. Andy also reviewed the statewide crash data and demonstrated how it can be used to identify problem areas and used to calculate crash rates.

Figure 24: *SDDOT's Andy Vandel discussing improvements to address traffic safety on horizontal curves.*

Low cost improvements include:

- Pavement Markings
- Rumble Strips
- Signing and Delineation
    - Horizontal Alignment Signs
    - Advisory Speed Plaque
    - One-Direction Large Arrow Sign
    - Chevron Alignment Sign

Minor Roadway Improvements include:

- Paved Shoulder Treatment
- Shoulder Drop-Off Elimination
- Shoulder Widening
- High Friction Surface Treatments

Major Roadway Improvements include:

- Full grading for realignment
- Correction of cross slope or vertical profile
- Back slope excavation for Sight Distance
- Any combination of improvements

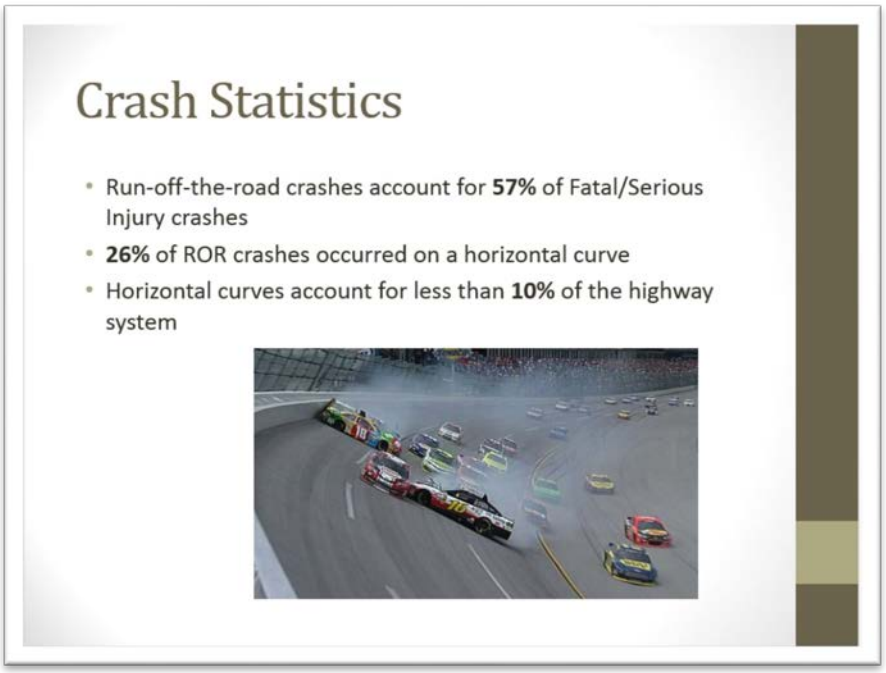


Figure 25: *SDDOT's improvements serve as an effort to minimize danger associated with run-off-the-road crashes which account for 50 percent of fatal and serious injury crashes. Twenty-six percent of run-off-the-road crashes occurred on a horizontal curve.*

Tribal Safety Plans Best Practices

Presenter: Craig Genzlinger

Craig Genzlinger, KLJ, presented on the process and benefits of developing a Tribal Transportation Safety Plan. The US Department of Transportation, Federal Highway Administration defines Tribal Transportation Safety Plans as "a tool used to identify and plan to address transportation risk factors that have a potential of leading to serious injury or death." Developing a Tribal Transportation Safety Plan results in the following benefits:

- Coordinated efforts and shared resources
- Communication and partnerships with Tribal, local, state and Federal officials
- Eligibility for funding sources
- An action plan that outlines strategies for the future

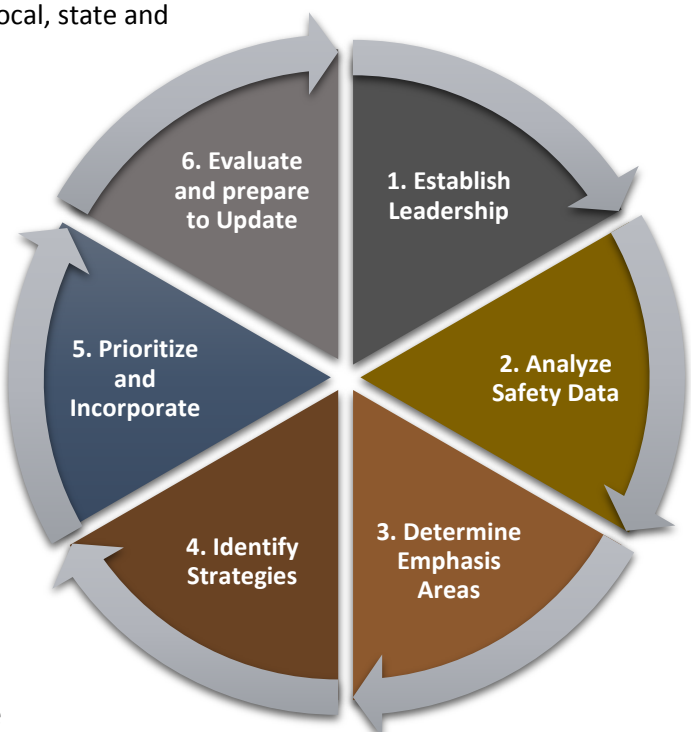


Figure 26: *KLJ's Craig Genzlinger presented the 6 step process of developing a safety plan.*

Craig spoke to the process of developing a safety plan, highlighting the use of data throughout the planning session and encouraging Tribes to focus on the transportation safety needs most significant to their community. The Tribal Safety Plans that have been developed in South Dakota have done a good job of utilizing crash and other data. Specific data elements from the safety plans were summarized and discussed. One of the main emphasis areas was to use the data to help you identify your safety needs and implementation strategies.

In South Dakota the Flandreau Santee Sioux, Cheyenne River Sioux, Standing Rock Sioux, Rosebud Sioux and Sisseton Wahpeton Oyate Tribes have all recently completed safety plans. Common strategies included in Tribal Transportation Safety Plans include:

- Separated Pathways
- Education Programs
- Road Safety Audits
- Drivers Education Programs
- Data Collection and Sharing Improvements
- Cross Jurisdictional Agreements
- Motor Carrier Programs
- Tribal Safety Officers
- Primary Seatbelt Ordinances
- Improved 911 Systems
- Maintenance

"Use the data to tell the story, but don't let the data limit you in developing a safety plan." -Craig Genzlinger, KLJ

Resources available for Tribes to develop a safety plan including opportunities for funding, technical assistance, data sharing and agency involvement were discussed. There are a number of funding sources for planning and projects, but with the implementation of the Tribal Transportation Program Safety Funds, Tribes now have a dedicated funding source available to them. Tribes that do not have a safety plan are guaranteed funding to develop a plan or to update an existing plan if it is over 3 years old.

Traffic Incident Management

Presenter: Dan Staton

Dan Station, SDDOT; Highway Engineer- Rapid City & Pierre Regions, shared information with the group on the National Traffic Incident Management Coalition's Traffic Incident Management (TIM) program. TIM is a training program for emergency responders to enhance commerce, convenience and safety during traffic incident response. TIM consists of a planned and coordinated multi-disciplinary process to detect, respond to, and clear traffic incidents so that traffic flow may be restored as safely and quickly as possible. Effective TIM reduces the duration and impacts of traffic incidents and improves the safety of motorists, crash victims and emergency responders.

Figure 27: *SDDOT's Dan Staton shared information on a 4 hour training package offered to unify and enhance safety practices for first responders.*

BIA Update

Presenters: Tom Croymans

Tom Croymans, Regional Roads Engineer Bureau of Indian Affairs Great Plains Region, presented on the following federal initiatives with potential impact on Tribal transportation safety.

- Tribal Transportation Program Safety Funding
- GROW AMERICA
- DRIVE Act
- TIGER VII

Croymans shared that in 2015, a total of 167 Tribes across the US applied for safety funding requesting for $38 million through the Tribal Transportation Program. A total of $2,439,192 was applied for in the Great Plains Region.

Figure 28: *"When folks are reviewing these applications they are looking only at a file. They can't see you or your project or ask you questions, they only see what is written in your application, so all data and writing helps."*
-Tom Croymans, BIA

BIA Law Enforcement Crash Data

Presenter: Lieutenant Chad Harmon

Standing Rock Sioux Tribe (SRST) Bureau of Indian Affairs (BIA) Lieutenant Chad Harmon served 7 years in the US Air Force and has been in law enforcement for 16 years. Lieutenant Harmon presented on the current practices and the challenges of patrol on the Standing Rock Reservation.

Figure 29: *Lieutenant Chad Harmon presented the challenges and successes the Standing Rock Sioux Tribe Bureau of Indian Affairs experiences in their jurisdiction.*

- Standing Rock does have a primary seatbelt law which means not wearing a seatbelt can be the only reason to be pulled over.
- In North Dakota, the BIA has jurisdiction over nonmembers whereas in South Dakota it only has jurisdiction over Tribal members.
- Meth has increased on the reservation.
- Driving without a license has affected all ages on the reservation. Especially young people who leave the reservation.
- A common practice of the SRST BIA to enhance safety during events is known as saturation patrol where more officers are applied to an area and are advised to stop for any probable cause.
- Number one reason for traffic stops on the reservation is speeding.
- Seventy percent of all calls for service come from Fort Yates and McLaughlin which is where a majority of population on the SRST is located.
- Officers handle traffic safety but also handle crimes such as domestic violence and assault.

"The number one threat to public safety on the Standing Rock Sioux Tribe Reservation is DUI."
- Lieutenant Chad Harmon

Safety Study by WYLTAP & Northern Plains TTAP

Presenter: Dennis Trusty

Figure 30: *Dennis Trusty discussing the Tribal Roadway Safety Improvement Program.*

Dennis Trusty, Northern Plains TTAP, presented on the Tribal Roadway Safety Improvement Program in North Dakota and South Dakota. The objective of the program is to deliver a roadway safety program for the three Tribes that applied in the Northern Plains Region that will aid Tribes with the following challenges:

- Lack of Data/ Incomplete Crash Data
- Limited Resources and Expertise
- Collaboration and Coordination

Three Tribes have applied from Northern Plains include the Yankton Sioux Tribe, Sisseton-Wahpeton Oyate and the Standing Rock Sioux Tribe.

When applying for the Tribal Roadway Safety Improvement Program, Tribes must meet the following criteria:

- Tribes work with and provide resources to NPTTAP and WY/LTAP
- Three years of crash data
- Tribes collaborate with state and local agencies

The program is executed through the following 5 step process:

1. Crash Data Analysis
2. Level I Field Evaluation
3. Combined Ranking
4. Level II Field Evaluation
5. Benefit Cost Analysis

Some of the findings that have been identified from the program include:

- Roadway safety needs vary among Tribes
- Methodology flexible to meet needs of individual Tribes
- System-wide improvements where crash data is lacking
- Strategic plan tool for Tribes to address safety goals
- Livability closely tied to roadway safety
- Roadway safety needs vary among Tribes
- Methodology flexible to meet needs of individual Tribes
- System-wide improvements where crash data is lacking
- Strategic plan tool for Tribes to address safety goals
- Livability closely tied to roadway safety

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.

June Hansen, SDDOT, moderated the discussion for future Summit topics and planning for the 2016 Summit.

The group weighed in on the following potential times for the 2016 summit: hold it in March in odd years, October, or with the Tribal Transportation Planners meeting in April. Hansen said information on options considered will follow.

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.

Figure 31: *June Hansen, Civil Rights Compliance Officer and Tribal Liaison with SDDOT, wrapped up the 2015 Tribal Transportation Safety Summit.*

Appendices

Appendix A

South Dakota Tribal Transportation Safety Summit

Grand River Casino & Resort
Mobridge, South Dakota

OCTOBER 14-15, 2015

Each participant is responsible for making hotel reservations directly with the hotel. There is a block of rooms reserved for the summit. Please ask for "Tribal Safety Summit" room block when making reservations.

Deadline to make reservations and be guaranteed summit rate is **October 9, 2015.**

To reserve hotel room(s) call:

Grand River Casino & Resort
Phone: 605-845-7104

Room Rate: $60.00 plus tax
(State Rate for State Employees will be honored)

Hosted by the Standing Rock Sioux Tribe

Registration Form & Summit Information found online at:

http://www.sddot.com/services/civil/tero.aspx

There is no registration fee charged to attend the summit

Tentative Summit Agenda

October 14, 2015

All Times Listed are Central Time

7:30am Registration Opens / Continental Breakfast
8:30am Welcome, Opening Prayer & Introductions
9:00am – SRST Presentation
9:20am – DPS Presentation
10:05am – BREAK
10:25am – SWO Presentation
10:45am – Wildlife Vehicle Collision Research Project
11:30am – YST Presentation
11:50am – Lunch hosted by SRST
1:00pm – RST Presentation
1:20pm – Horizontal Curves
2:05pm – FSST Presentation
2:25pm – BREAK
2:35pm – Discussion on Tribal Safety Plans
3:20pm – LBST Presentation
3:40pm — BREAK
3:50pm — Traffic Incident Management
4:35pm — OST Presentation
4:55pm – Daily Wrap-Up & Announcements

October 15, 2015

8:00am – Continental Breakfast hosted by SRST
8:30am – BIA Law Enforcement Crash Data
9:15am – CRST Presentation
9:25am – Northern Plains TTAP Presentation
10:20am -- BREAK
10:40am – CCST Presentation
11:00am – BIA Presentation
11:45am – Wrap-Up, Discuss Next Summit & Potential Topics, Closing Prayer & Closing Remarks

Each Tribe is asked to provide a presentation of a best practice or success story in the area of Transportation Safety.
The order of the presentations is subject to change.
If there is a time slot in the agenda that works better –
please make a note of that when you submit your registration.

Please bring any safety posters or other types of safety promotions to display.

Summit Sponsored by:

Bureau of Indian Affairs
Federal Highway Administration
Northern Plains TTAP
SD Department of Public Safety
SD Department of Transportation
Standing Rock Sioux Tribe

Deadline to register for the summit is October 9, 2015

Please complete the registration form and submit form by fax, email or US Mail as follows:

Email: june.hansen@state.sd.us

Fax: 605-773-4442
(please attach fax coversheet)

US Mail: Department of transportation
attn: June Hansen
700 E. Broadway Ave.
Pierre, SD 57501

Appendix B

South Dakota Tribal Transportation Safety Summit 2015				
Name	**Title**	**Tibe/Agency**	**Email**	**Phone Number**
Corey Pinkley	Region Traffic Engineer	DOT	corey.pinkley@state.sd.us	605-626-2244
Amanda Hossle	Management Analtst	SD OHS	amanda.hossle@state.ssd.us	605-773-8210
Sharon Johnson	Safety Engineer	FHWA	sharon.johnson@dot.gov	605-776-1011
Kenith L. Franks	Sgt. Highway Safety	OST	kfranks@ostdps.org	605-867-8135
Greg Ingemunson	LEL	DPS	greg.ingemunson@state.sd.us	605-773-4949
Darin Falcon	PE	KLJ	darin.falcon@kljeng.com	605-721-5553
Tracey Miller	Government Relations	KLJ	tracey.miller@kljeng.com	701-250-5983
Dakota Longbrake	CRST Director	CRST	dlongbrake@lakotanetwork.com	605-964-6960
Terry Keller	HDR	HDR	terry.keller@hdrinc.com	701-280-4381
Andy Vandel	DOT	DOT	andy.vandel@state.sd.us	605-773-5108
Cliff Reuer	Tech Assistance Provider	SDLTAP	cliff.reuer@state.sd.us	605-773-5108
Leroy Sleeping Bear	Transportation Director	RST	rsttrans@gwtc.net	605-747-2718
Mary Kenner	Project Analyst	Louis Berger	mkenner@louisberger.com	
Keith E. Gall	Corson County Sheriff	Corson Co SO	corsoncoso@sdplains.com	605-273-4210
Louis Golus	Safety	Yankton	golus@rocketmail.com	605-491-4601
Jennifer Franks	Sanitarian	IHS- Pine Ridge	jennifer.franks@ihs.gov	605-867-5131
Chris Misselt	Lt	Box Elder	cmisselt@boxelder.us	605-923-1401
Leah Fool Bear	Admin	SRST	lfoolbear@standingrock.org	701-854-8611
LaJuanda Standsandlooksback	Trans Planner	Rosebud	lajuandasalb@gwtc.net	605-856-2944
Philip Beck	Transit	Rosebud	rsttrans@gwtc.net	605-747-2872
Craig Genzlinger	PM	KLJ	craig.genzlinger@kljeng.com	406-461-2222
Glen Bahm	Public Transit	SRST	glenb@sbci.edu	701-854-8035
Patricia Cramer	Researcher	Private Research	cramerwildlife@gmail.com	
Bryan Bald Eagle	DOT/BIA/Planner	BIA/DOT	bryan.baldeagle@bia.gov	605-226-7598
Bobbi Jo Peltier	IP Specialist	IHS	bobbi.peltier@ihs.gov	605-226-7598
Arden Boxer	TSCR	NPTTAP	aboxer@uttc.edu	701-221-1364
Rick Vallery	Field Rep.	Congresswoman Noem		
Tyler Tordsen	Special Assistant	Senator Rounds	tyler_tordsen@rounds.senate.gov	605-224-1450
Doug Kinniburgh	Local Gov't Engineer	SDDOT	doug.kinniburgh@state.sd.us	605-773-4284
Chad Harmon	Lt	BIA OTS	chad.harmon@bia.gov	701-854-7241
Tom Croymans	RRE	BIA	thomas.croymans@bia.gov	701-854-7241
Dennis Trusty	Director	NDTTAP	dtrusty@ottc.edu	701-221-1766

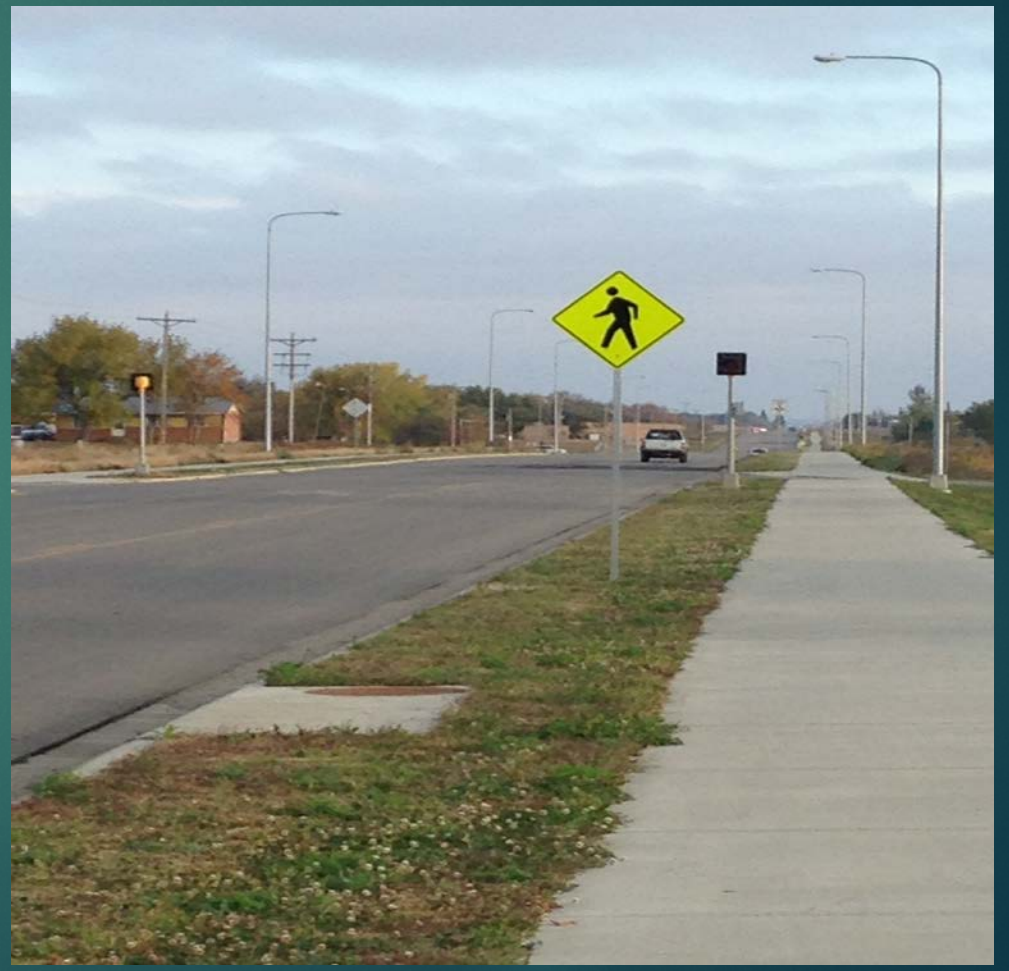
Dan Staton	Gopher	SDDOT	daniel.staton@state.sd.us	605-381-2806
Mark Peterson	Key Op Engineer	SDDOt	mark.peterson@state.sd.us	605-380-8983
Larissa Wolf Necklace	NEPA Coord.	SRST	lwolfnecklace@standingrock.org	701-854-8622
David Spider	Const Mgr	SWO	davids@swo-nsn.gov	605-698-8232
Korey Fischer- Vrooman	Safety Operations Manager	CRST	koreyleefischer@yahoo.com	605-964-6960
Dennis Falken	LEL Highway Safety		dfalken@brookings.net	605-690-5110
James Brooks	Supervisor	SDDOT	james.brooks@state.sd.us	605-845-6221
Tamaleon Wilcox	Ast. Director	RST	wilcox-tammy@hotmail.com	605-747-2718
John Villbrandt	SDDOT		john.villbrandt@state.sd.us	605-854-3844
Lynda Douville	RST-MAP-21	RST	ldouville@gwtc.net	605-856-2944
Adell Douville	RST-MAP-21	RST	ade.ville@hotmail.com	605-856-2944
Robert Starr	SWO-TERO	SWO	robertstarr@swo-nsn.gov	605-698-3549
Ron Williams	Engineer	KLJ	ron.williams@kljeng.com	605-786-5918
David Kelly	Director	OSTDOT	ostroads@hotmail.com	605-867-5376
Courtney Two Lance	Director	OST	ost_credit@yahoo.com	605-867-8422
Karlita Knight	Tech Specialist	NPTTAP	kknight@uttc.edu	701-221-1353
June Hansen	Tribal Liason	SDDOT	june.hansen@state.sd.us	605-773-3540
Pauline Long Feather	Director Trans	SRST	paulinelongfeather@standingrock.org	
October 14-15, 2015 Mobridge, SD				

Appendix C

Sisseton Wahpeton Oyate
2015 project review

- AGENCY VILLAGE PATHWAYS PROJECT
- ENEMY SWIM PATHWAY PROJECT
- BIA ROUTE 7 RE-CONSTRUCTION PROJECT

Agency village pathways project

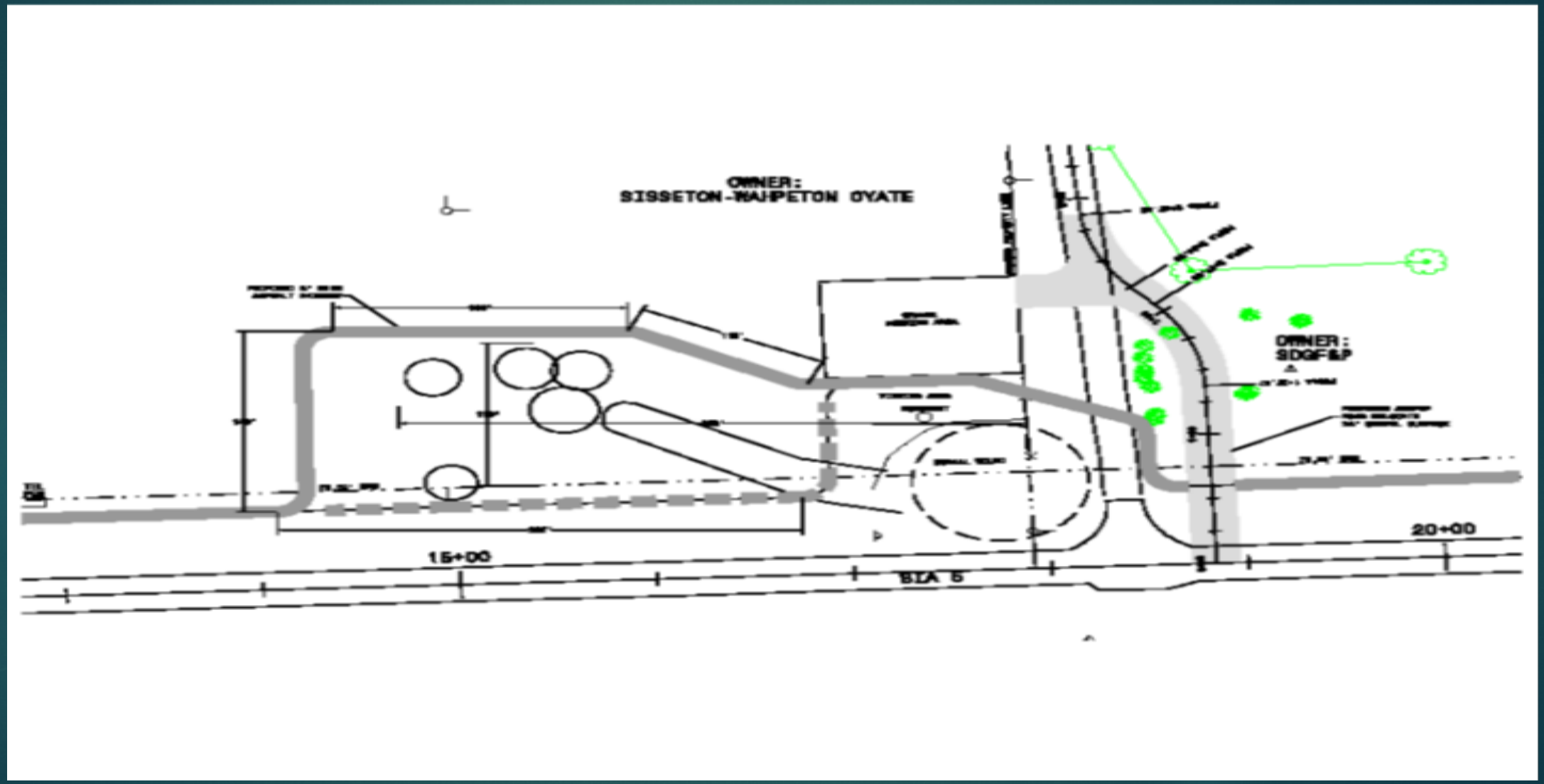


Agency village pathways project

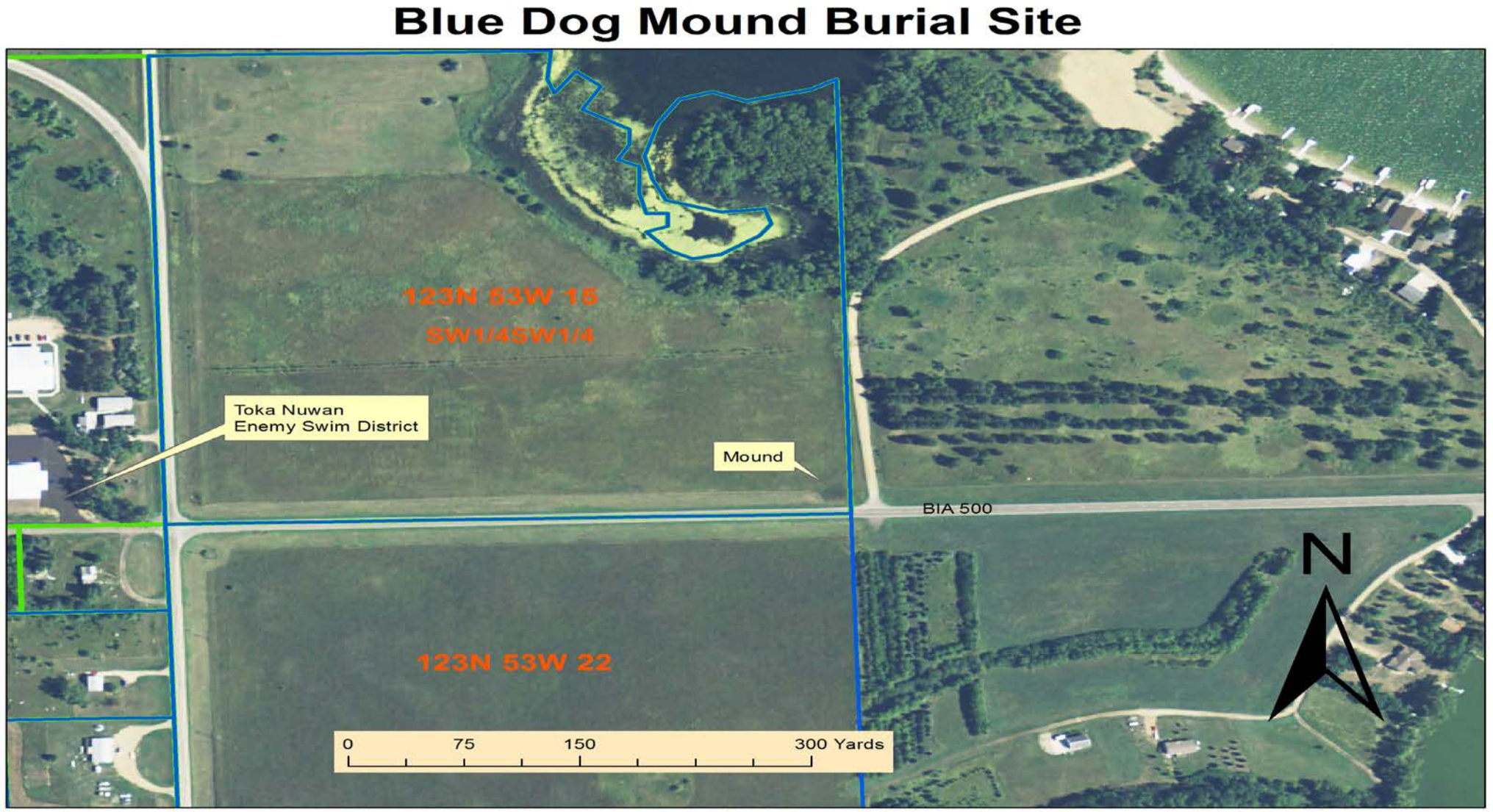
Agency village pathways project Where are we at ??

- We received a grant from South Dakota's Transportation Alternatives Program.
- BIA Regional Office Mike Hauge finalized the construction plans, specifications and estimates.
- We have selected a contractor, Red Lake Builders, also an Engineering firm DGR Engineering for construction layout and testing.
- We have gone through our SWO Legal Department to draft us a contract for both Entities.
- As of 10-7-2015 we are ready to turn key and begin construction.

Enemy Swim Pathway Project



Enemy Swim Pathway Project



Mound Re-Structuring project

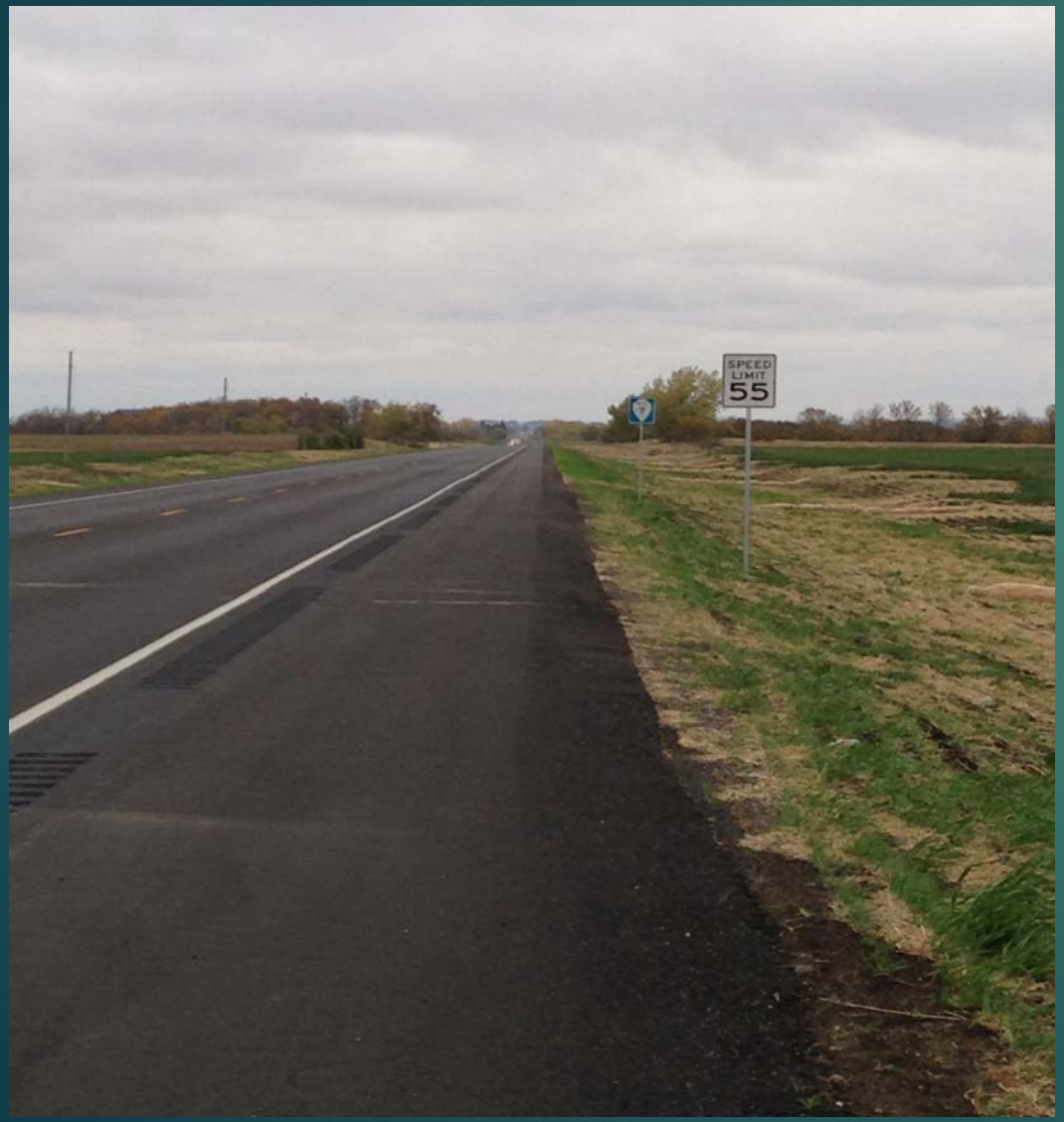
Enemy Swim Pathway Project Where are we at ??

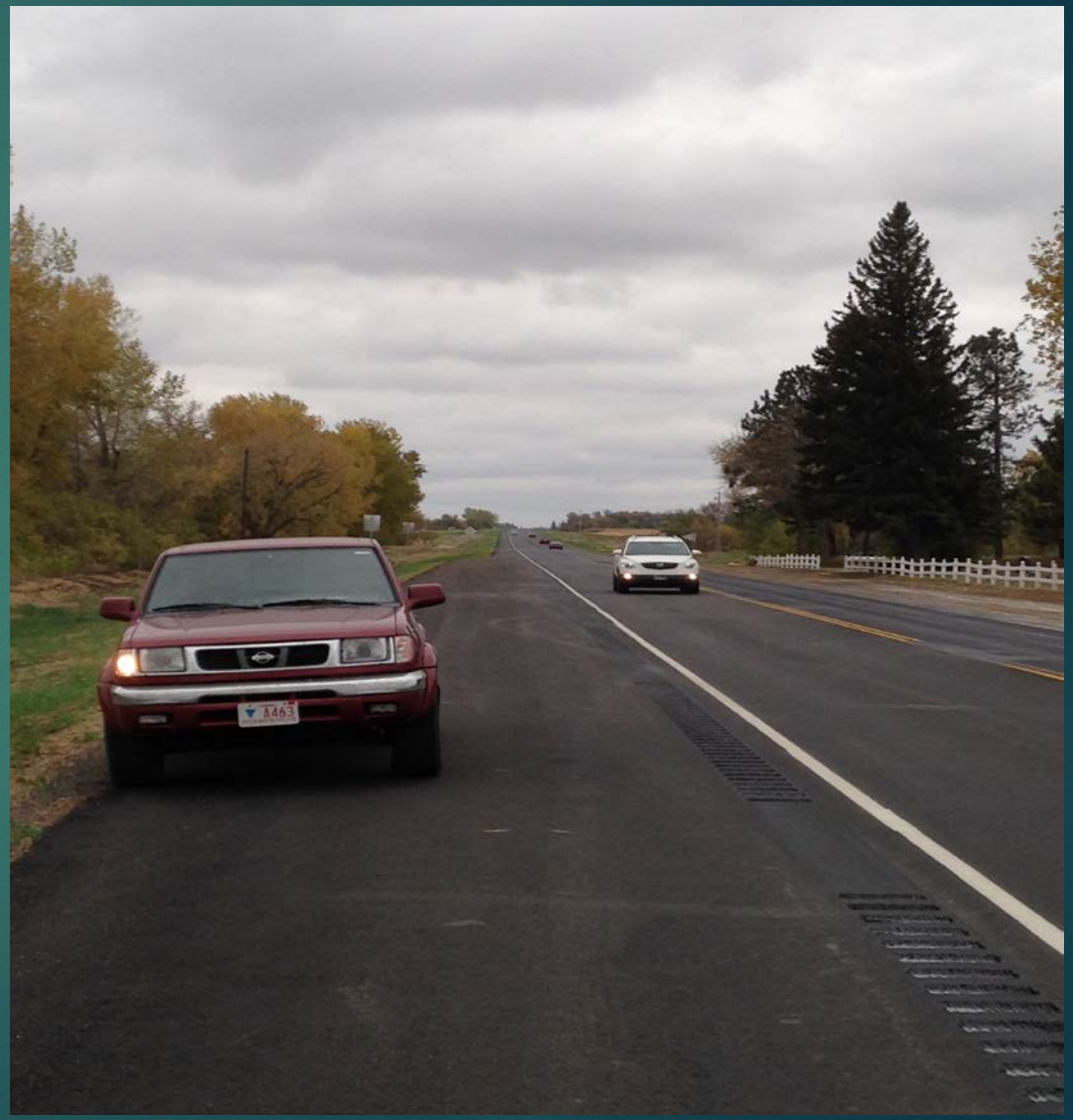
- We have done the mound re-structuring and Monument Dedication for the Family.
- We are working closely with BIA Regional Office to develop our construction PS&E package to include parking lot, bench's at the monument and trails end.
- We have submitted the project for a few grant opportunities
- We are working with South Dakota's Game Fish and Parks on a Joint Powers agreement for the re-location of their lake access road.
- We hope to begin construction on this well needed project in 2016

BIA Route 7 Re-construction Project

BIA Route 7 Re-construction Project

Route 7 Re-construction Project





Route 7 Re-construction Project Where are we at ??

- We have completed construction.
- Safety built into the construction
  - Rumble Strips
  - Delineators
  - In slopes
  - Flared ends on all culvert’s
  - Object markers
  - Wider shoulders
  - Parking areas for the cemetery's along the route

David A. Spider

Construction Manager

605.698.8232 Office

605.742.0434 Fax

605.268.0219 Cell

E-mail davids@swo-nsn.gov

Cliff Eberhardt

Transportation Coordinator

Office (605) 698-8355

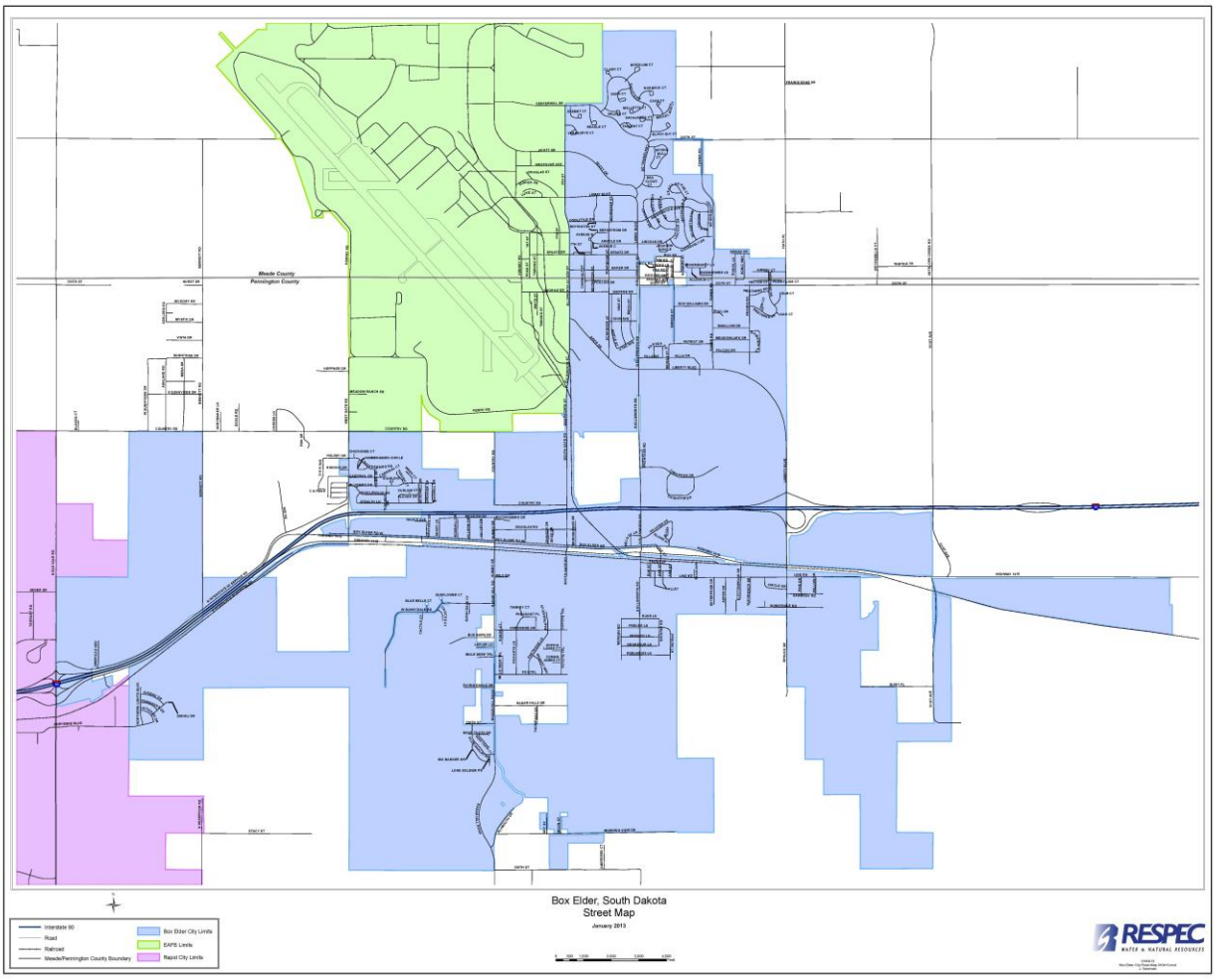
Cell (605) 268-1775

Fax (605) 742-0434

E-mail CliffordE@swo-nsn.gov

Appendix D


N118LN
MELLEN
WILSON


Meade County
Pennington County
Interstate 90
Road
Railroad
Meade/Pennington County Boundary
Box Elder City Limits
EAPS Limits
Rapid City Limits
Box Elder, South Dakota
Street Map
January 2013
RESPEC
WATER & NATURAL RESOURCES


THE SURE SIGN OF A GOOD TIME
HERE WE GO
BUD LIGHT
BOX ELDER BASH
AT THE VILLA
FRIDAY JULY 6th
4PM - 10PM
FOOD, FUN, BEER FOR THE WHOLE FAMILY
FIREWORKS AT DUSK


NIGHT OUT


MADD
We the People
Mothers Against Drunk
MADD
Activism | Victim Services | Education
MADD
Activism | Victim Services | Education


MELLEN


POLICE


SCHOOL BUS
9CF 514

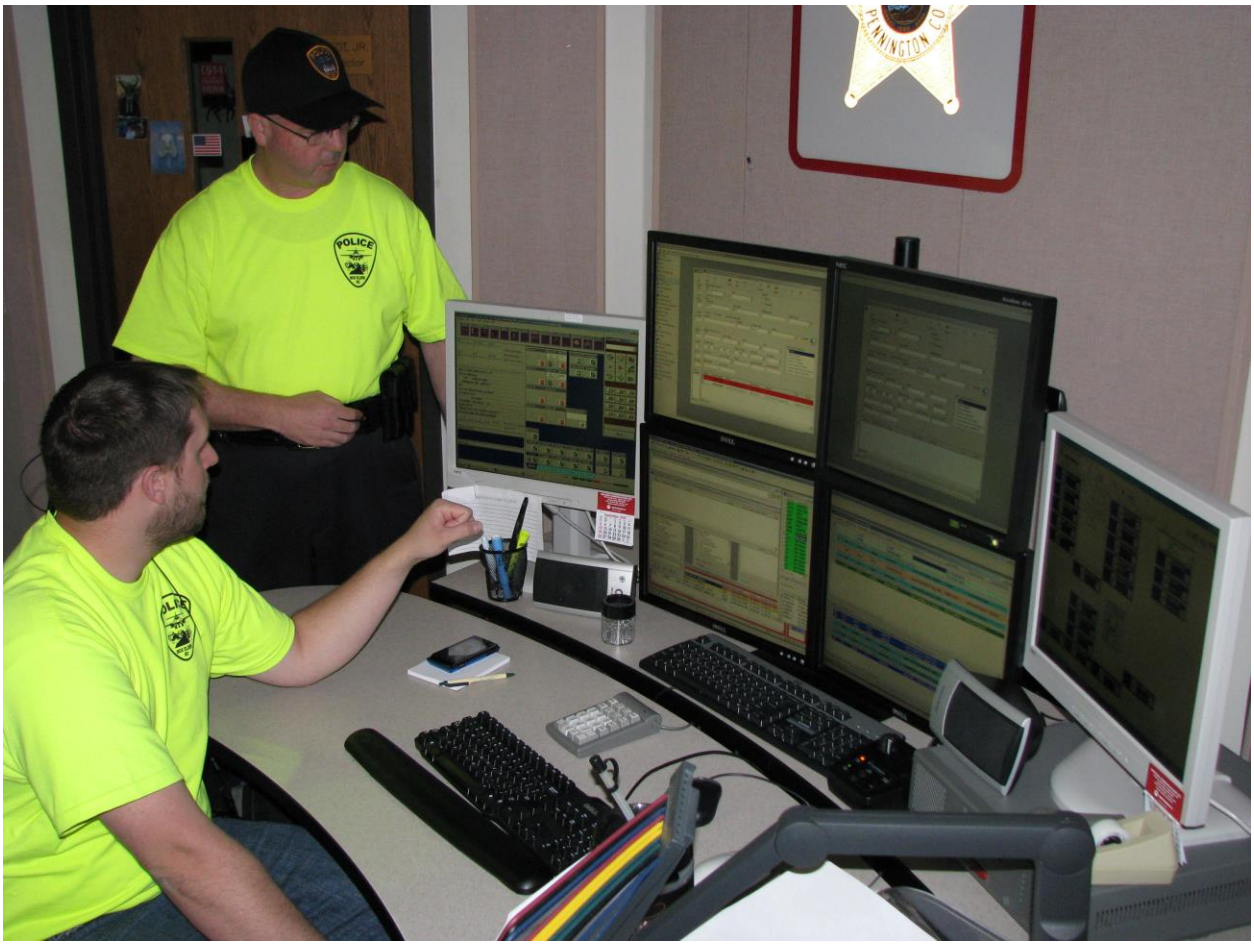

88
SPEED
DAKOTA
PATROL
POLICE
TRL5510
OPEN


SEARCH &
Villa Ranchero


CALL A D.D.
ACT CIVILIZED
CALL A D.D.
www.actcivilized.com


CALL A D.D.
ACT CIVILIZED
CALL A D.D.
SOUTH DAKOTA DEPARTMENT
OF
HIGHWAY SAFETY


12:00
POLICE


POLICE
PENNINGTON CO

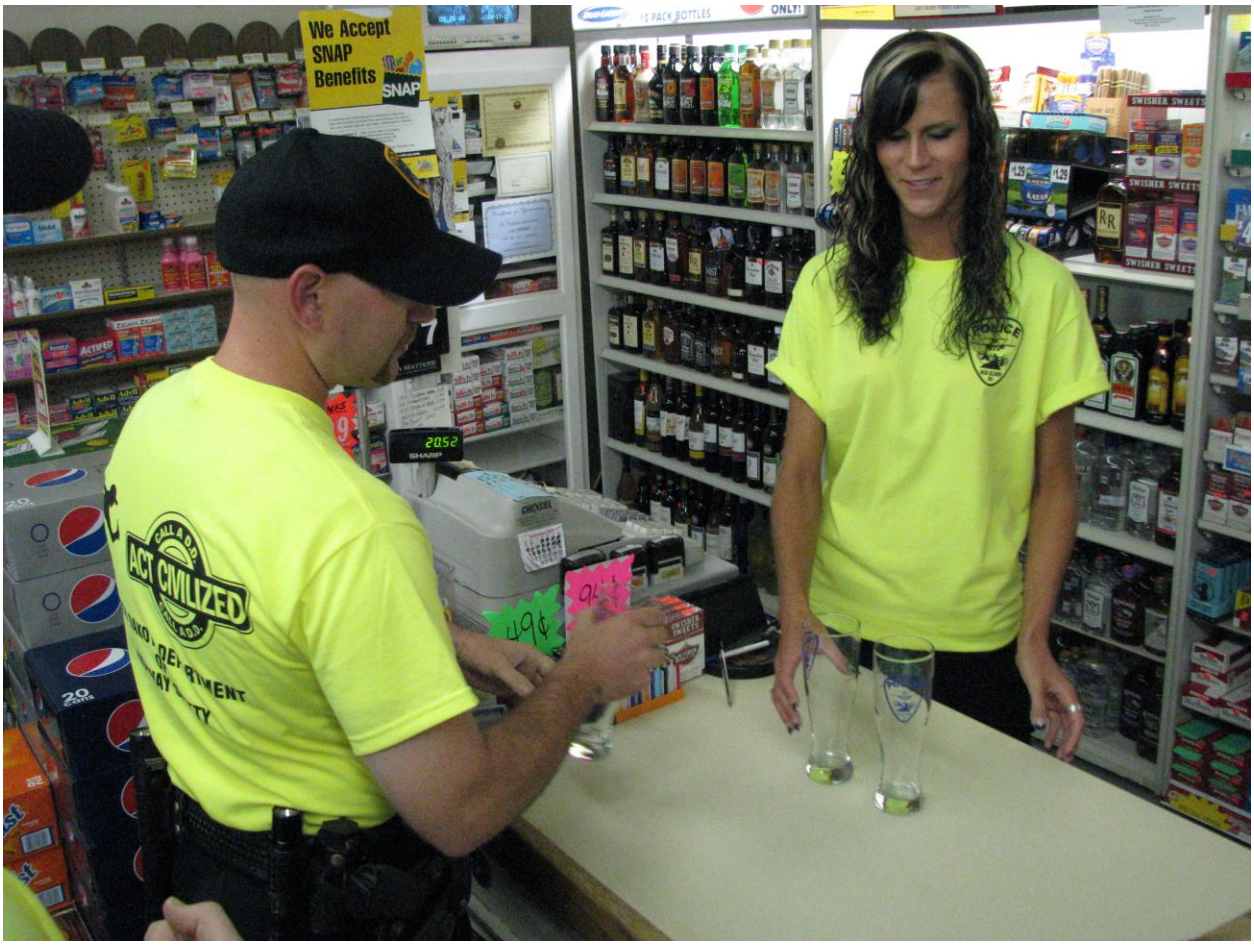

POLICE
CALL A D.D.
ACT CIVILIZED
CALL A D.D.
S.D. DEPT. HIGHWAY SAFETY


Corona


Coors
POLICE


Don't drink&drive.
Plan Ahead.
If You Have Been Drinking.
If Someone You Know Has Been Drinking.
To Report a Drunk Driver, call 911.
Don't drink&drive.
Plan Ahead.
If You Have Been Drinking.
If Someone You Know Has Been Drinking.
To Report a Drunk Driver, call 911.
If you drink, DON'T DRIVE.
DRUNK DRIVING


POLICE

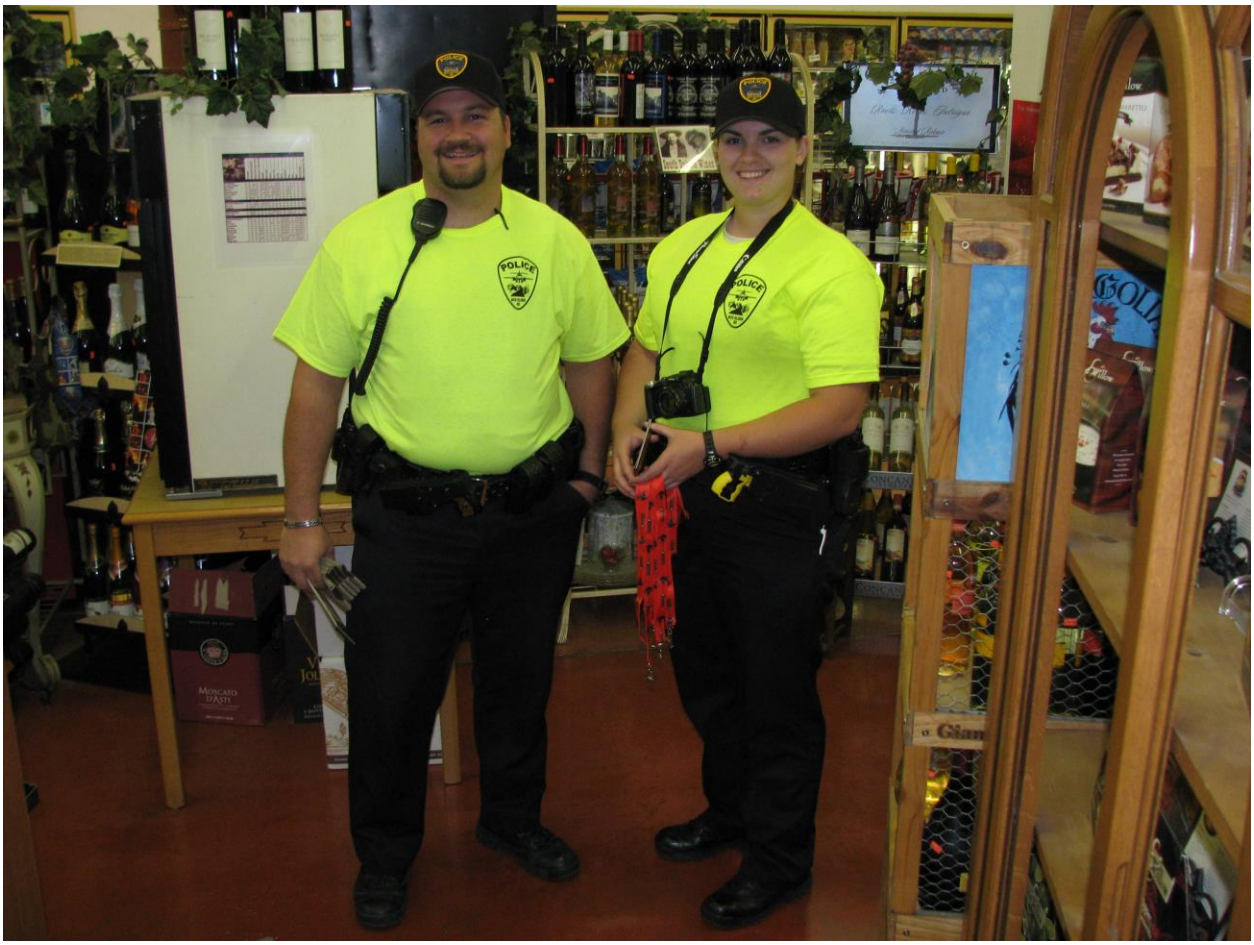

We Accept
SNAP
Benefits
SNAP
ACT CIVILIZED
49¢


HAVE a
TWO-SOME
POLICE
POLICE
NCN


32oz ICEE
89¢
$3.99 Per Can
Marlboro snus
$2.29
RICH FLAVOR
BLENDED MELLOW
$2.29
POLICE
PALL MALL
CAMEL
$580
$580
$580
SAVE 30¢


pepsi
POLICE
ACT CIVILIZED
SOUTH DAKOTA DEPARTMENT
OF
HIGHWAY SAFETY


Ultimat
Vodka
Ultimat

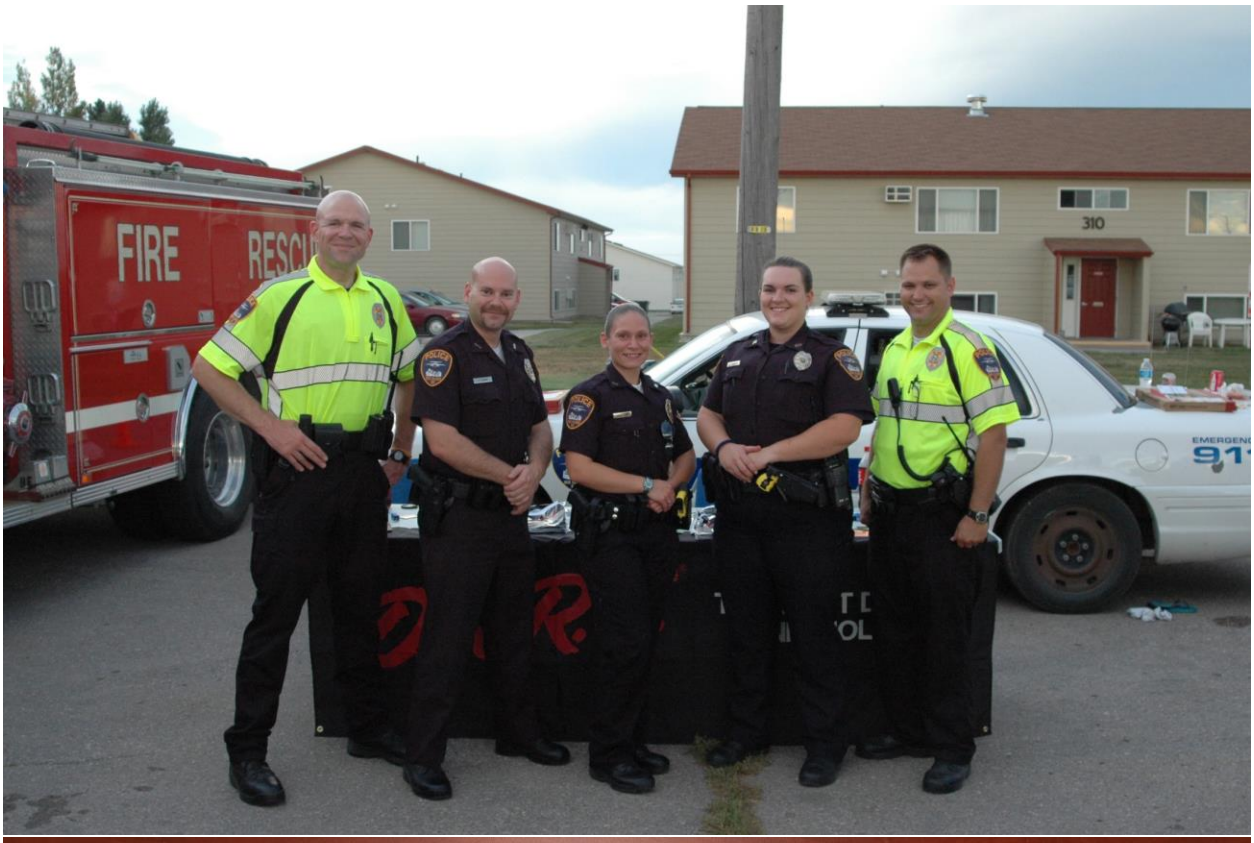

POLICE
POLICE
MOSCATO D'ASTI


CONGRATULATIONS
BOX ELDER
POLICE DEPARTMENT

CONGRATULATIONS
BOX ELDER
POLICE DEPARTMENT

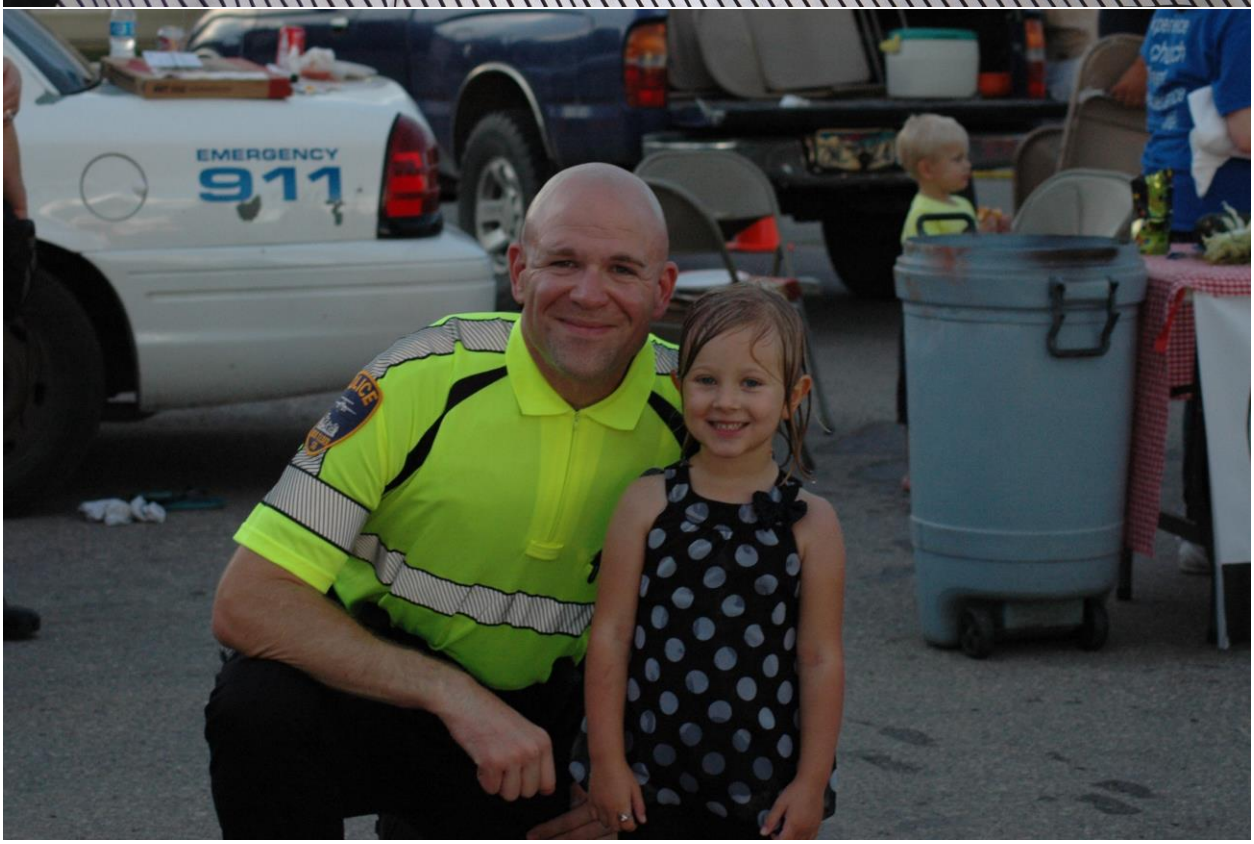
The Office of Highway Safety wishes to commend the Box Elder Police Department on its superb effort to promote responsible alcohol use, and discourage impaired driving. With the help of the local beverage establishments, you did Great Work!

Lee Axdahl
Director of Highway Safety

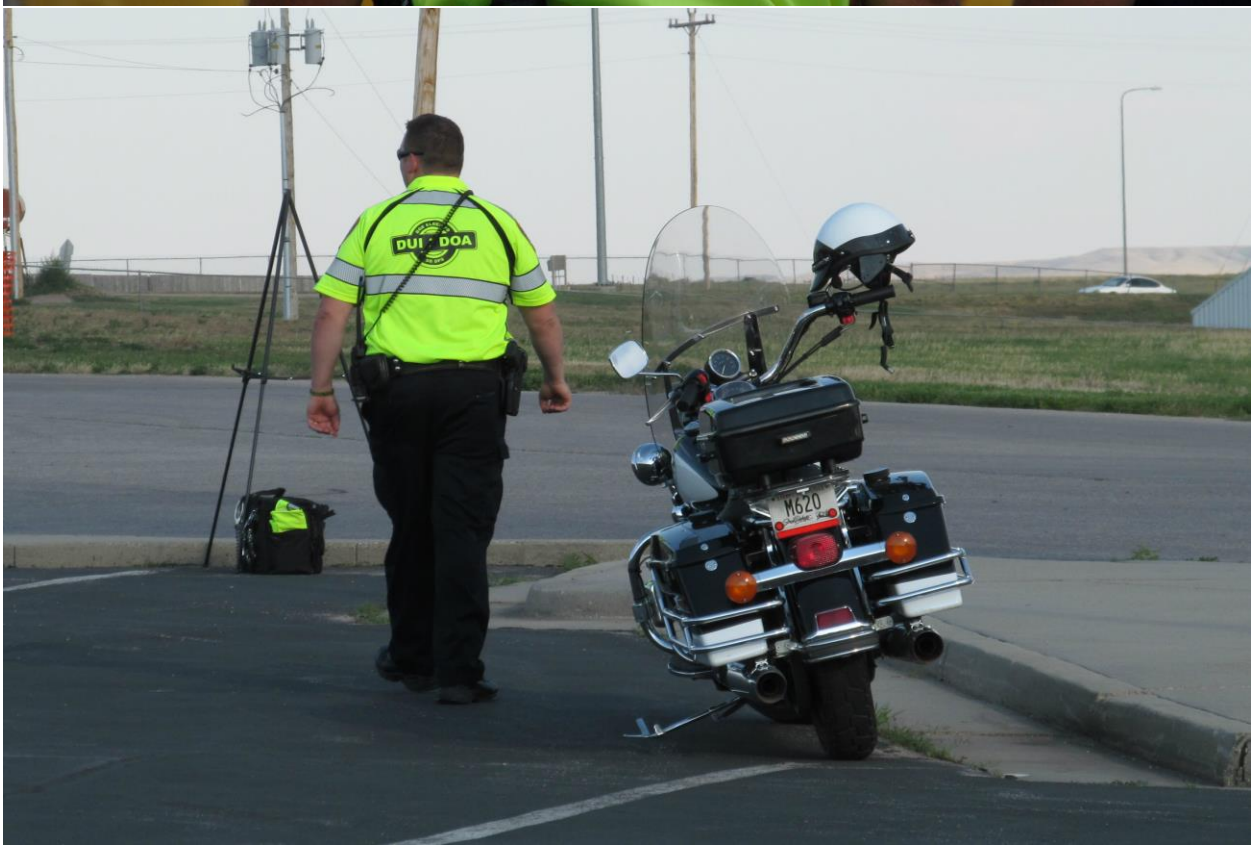

FIRE
310


POLICE
BOX ELDER
SD
Blauer
M
REG
BOX ELDER POLICE
DEPARTMENT
SD
POLICE
BOX ELDER
SD


BOX ELDER PD
DUI : DOA
SD DPS


EMERGENCY
911


BOX ELDER PD
DUI : DOA
SD DPS


DUI : DOA

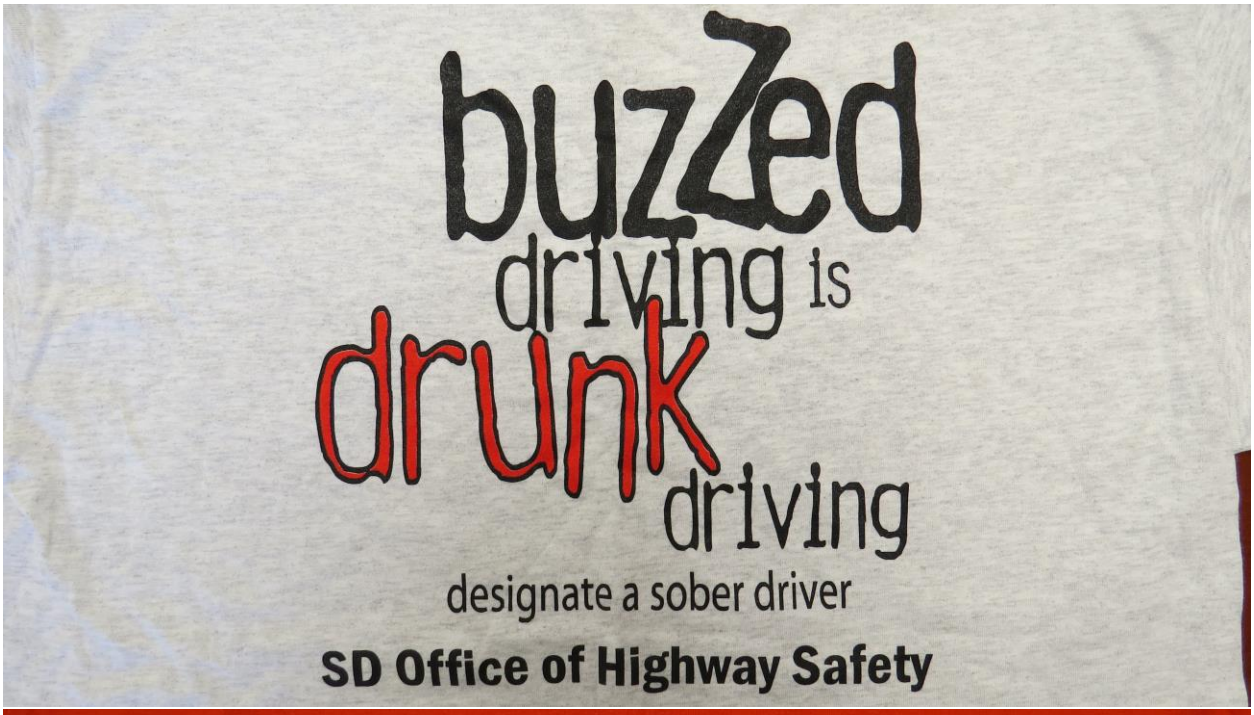

POLICE
BOX ELDER
EMERGENCY
911


ACT CIVILIZED
SOUTH DAKOTA DEPARTMENT
OF
HIGHWAY SAFETY

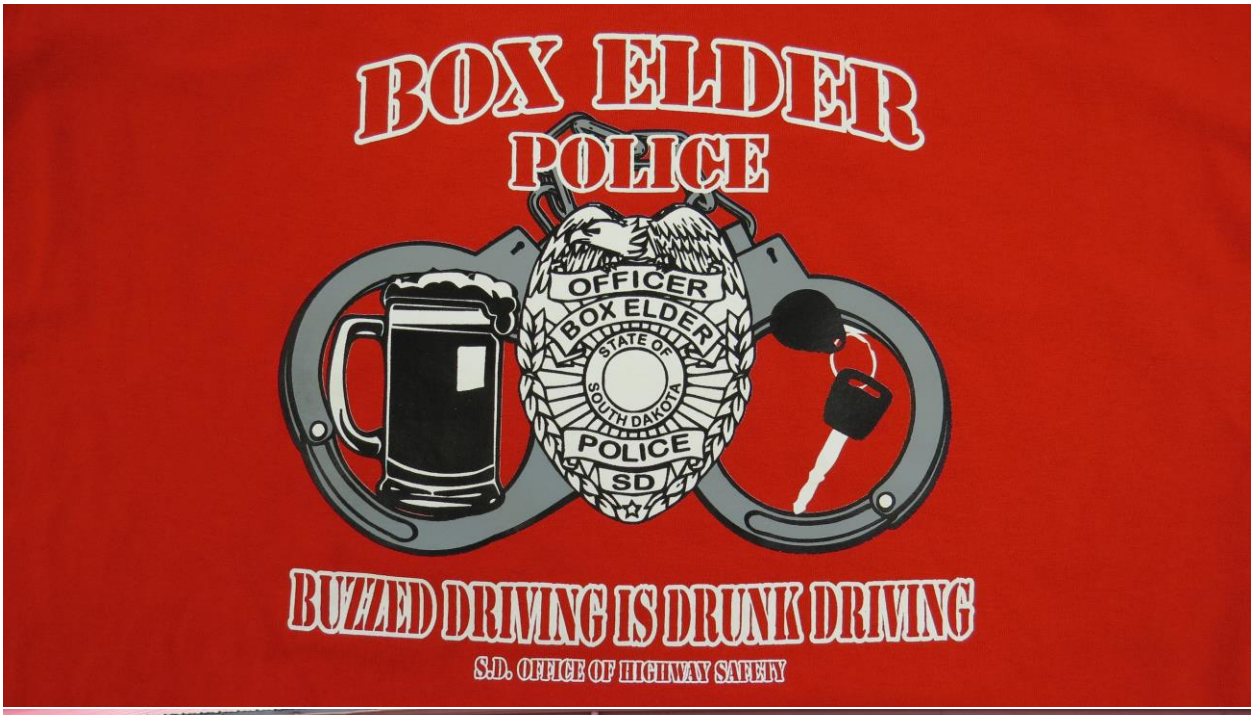
buzzed
driving is
drunk
driving

designate a sober driver

SD Office of Highway Safety


buzzed
driving is
drunk
driving
designate a sober driver
SD Office of Highway Safety


SOMEONE NEEDS YOU.
BUCKLE UP.
South Dakota Office
of
Highway Safety


BOX ELDER
POLICE
OFFICER
BOX ELDER
STATE OF
SOUTH DAKOTA
POLICE
SD
BUZZED DRIVING IS DRUNK DRIVING
S.D. OFFICE OF HIGHWAY SAFETY


BARBER SHOP
POLICE
SOMEONE NEEDS YOU.
BUCKLE UP.
South Dakota Office
of
Highway Safety


BBQ
BBQ

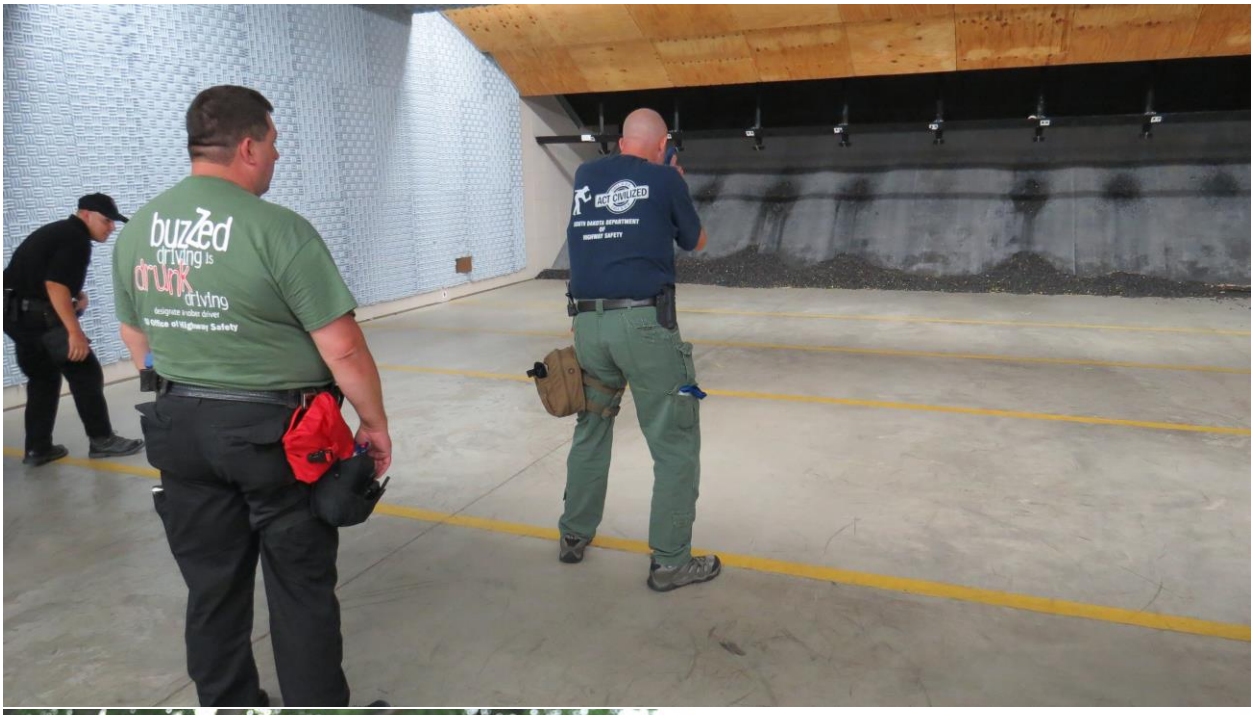

POLICE
POLICE


BOX ELDER
FIRE DEPT.
TENDER 1
WWW.BOXELDERFIRE.COM


POLICE
BUCKLE UP!


South Dakota Office
of
Highway Safety


buzzed
driving is
drunk
driving
Highway Safety


buzzed
driving is
drunk
driving


POLICE


POLICE
SOMEONE NEEDS YOU.
BUCKLE UP.
SD Office of Highway Safety


Stay Safe
for the Holidays
OFFICER
BOX ELDER
POLICE
SD
Impairment = Arrest
S.D. Office of Highway Safety
BOX ELDER POLICE
LAMAR

VERY IMPORTANT
TO ORDER, REFERENCE THIS ID#: 567189001a

Special Notes:
images from thinkstock

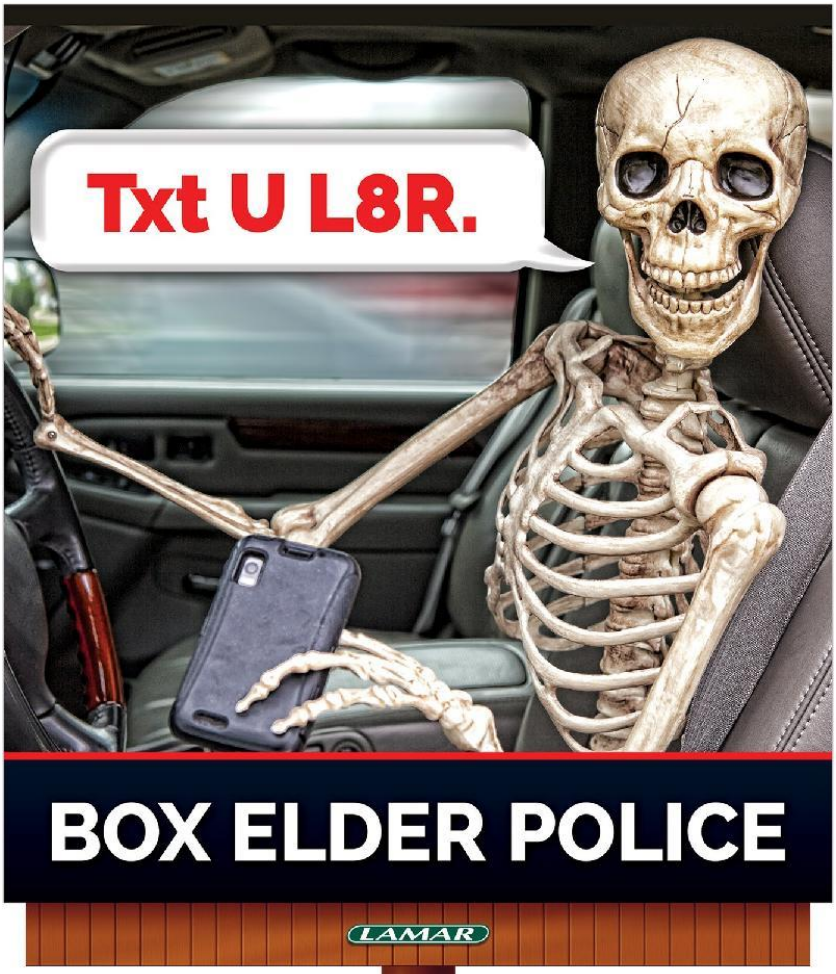
LAMAR

Product Size: 26-0 x 24-0 Vinyl
Plant: Rapid City, SD
Artist: Meredith Johnson
CAP Facility: Baton Rouge, LA
Friday, December 12 2014


We buckle ours.
Please buckle yours.
BOX ELDER POLICE
SD OFFICE OF HIGHWAY SAFETY
LAMAR


It's the little things we look for!
BOX ELDER POLICE
SD OFFICE OF HIGHWAY SAFETY
LAMAR

VERY IMPORTANT
TO ORDER, REFERENCE THIS ID#: 567189002a



Special Notes:
images from thinkstock

LAMAR

Product Size: 26-0 x 24-0 Vinyl
Plant: Rapid City, SD
Artist: Meredith Johnson
CAP Facility: Baton Rouge, LA
Friday, December 12 2014

VERY IMPORTANT
TO ORDER, REFERENCE THIS ID#: 571174002b

Special Notes:
Reference Art Provided.

LAMAR

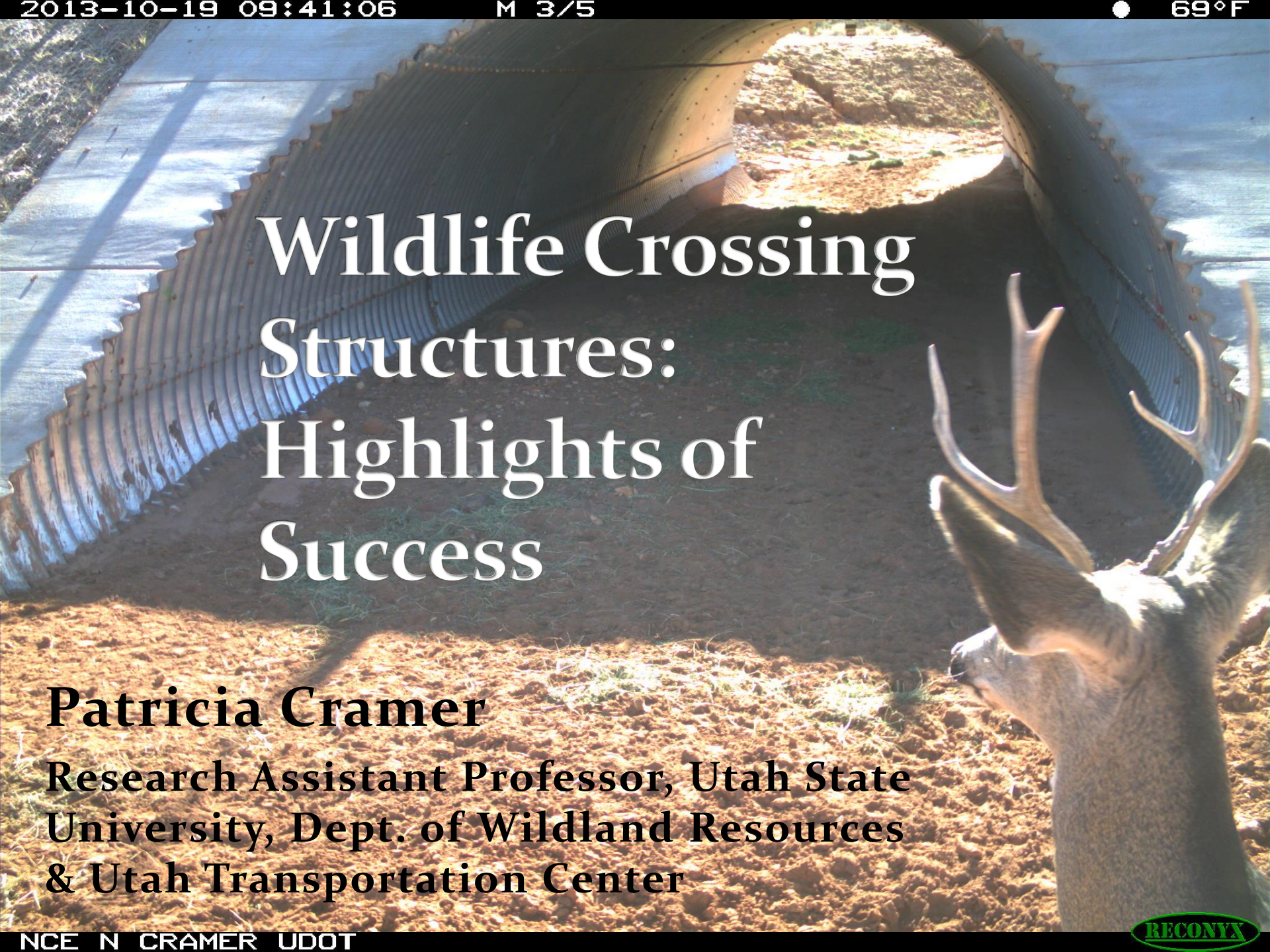
Product Size: 26`0`` x 24`0`` FlexVinyl
Plant: Rapid City, SD
Artist: Wes Dion
CAP Facility: Baton Rouge, LA
Tuesday, January 27 2015


BOX ELDER POLICE DEPARTMENT
POLICE
DRIVE SOBER OR
GET PULLED OVER
SD OFFICE OF HIGHWAY SAFETY


POLICE
Box Elder
SD
CALL A D.D.
ACT CIVILIZ
CALL A D.D.
SOUTH DAKOTA
DEPARTMENT OF HIGHWAY

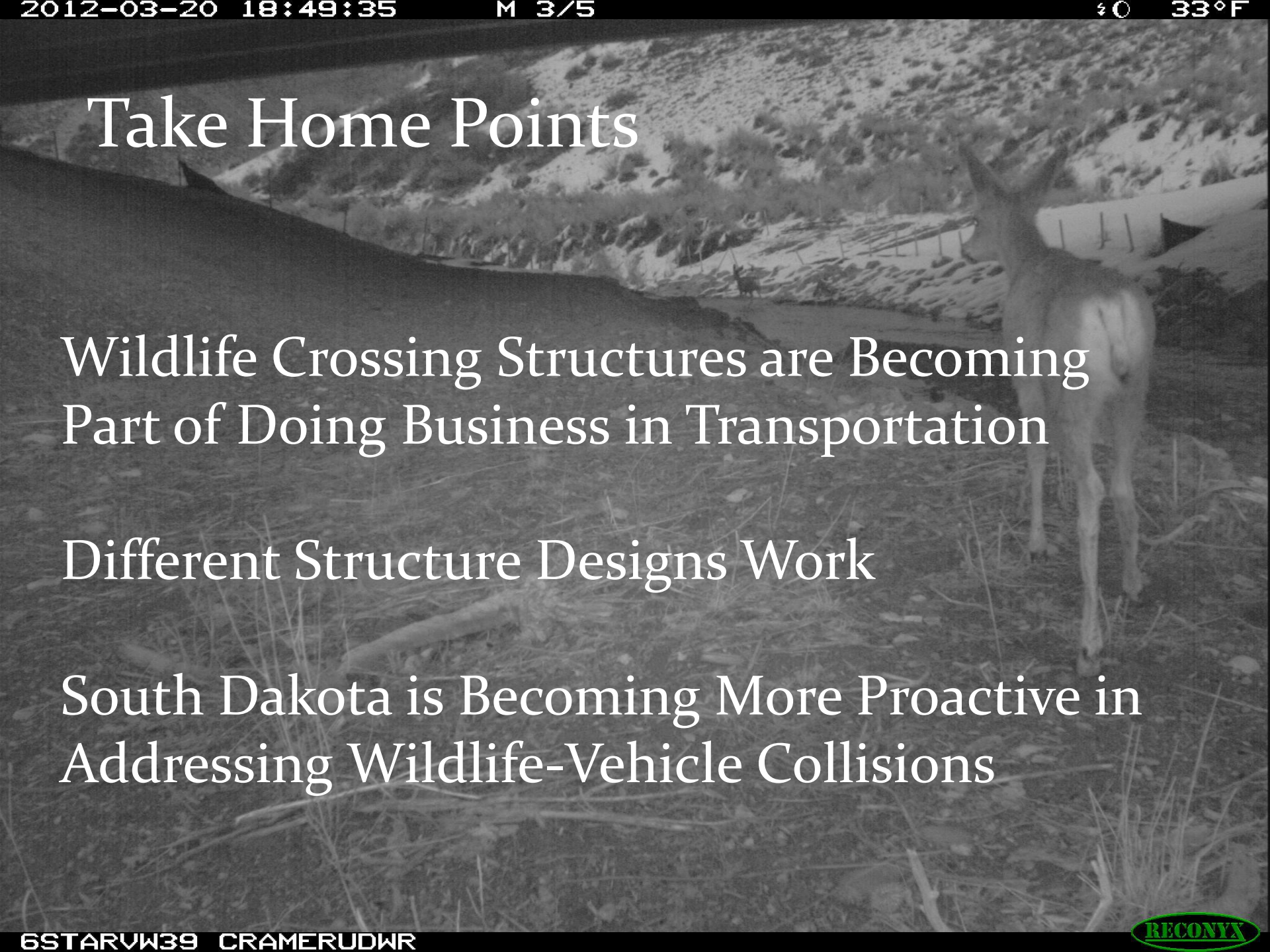

BOX ELDER
SD

Appendix E


2013-10-19 09:41:06 M 3/5 69°F
Wildlife Crossing Structures: Highlights of Success
Patricia Cramer
Research Assistant Professor, Utah State University, Dept. of Wildland Resources & Utah Transportation Center
NCE N CRAMER UDOT
RECONYX

With Thanks to Research Sponsors


2011-05-21 5:21:16 PM M 2/5
77°F
Outline
1. The State of the Practice & Science of Wildlife Crossing Structures
2. South Dakota Efforts
Photo credit: P. Cramer & MDT
US93M18BGS CRAMERMDT
RECONYX



Take Home Points

Wildlife Crossing Structures are Becoming Part of Doing Business in Transportation

Different Structure Designs Work

South Dakota is Becoming More Proactive in Addressing Wildlife-Vehicle Collisions

Why Do We Need Wildlife Crossing Structures?

Endangered San Joaquin Kit Fox trapped by traffic in California

Photo credit: B. Cypher

Moose on highway, Alaska Photographer unknown

South Dakota

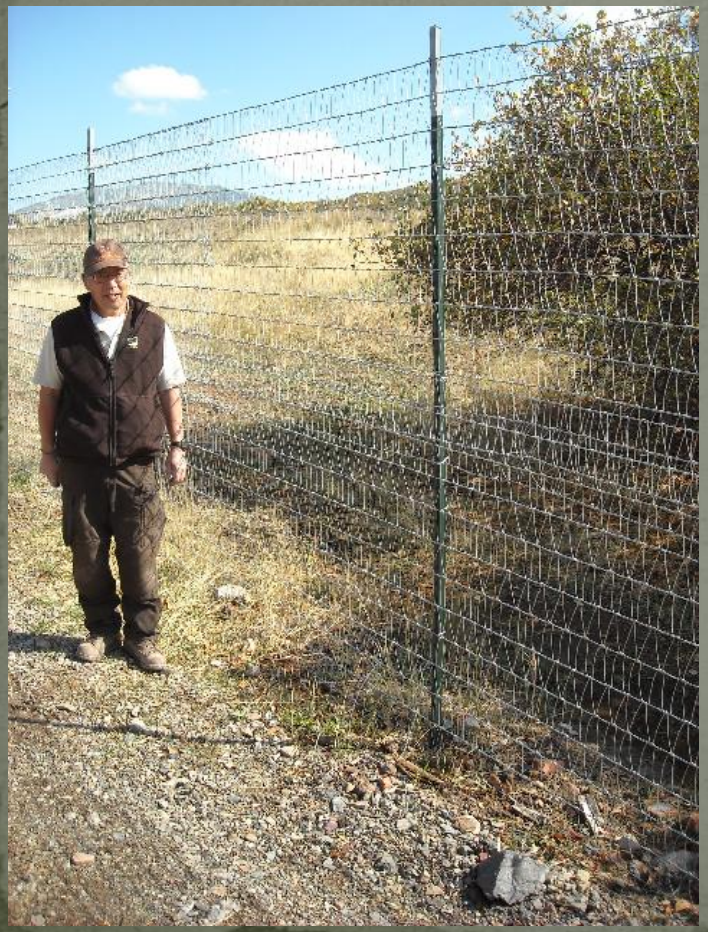
Average of 5,000 Reported Wildlife-Vehicle Collision Crashes Each Year

State Farm Insurance Ranks South Dakota in the Top 5 States with Residents Having the Highest Chance of Hitting a Wild Animal

The State of the Practice & Science of Wildlife Crossing Structures in the Progressive States

What is a Wildlife Crossing Structure?

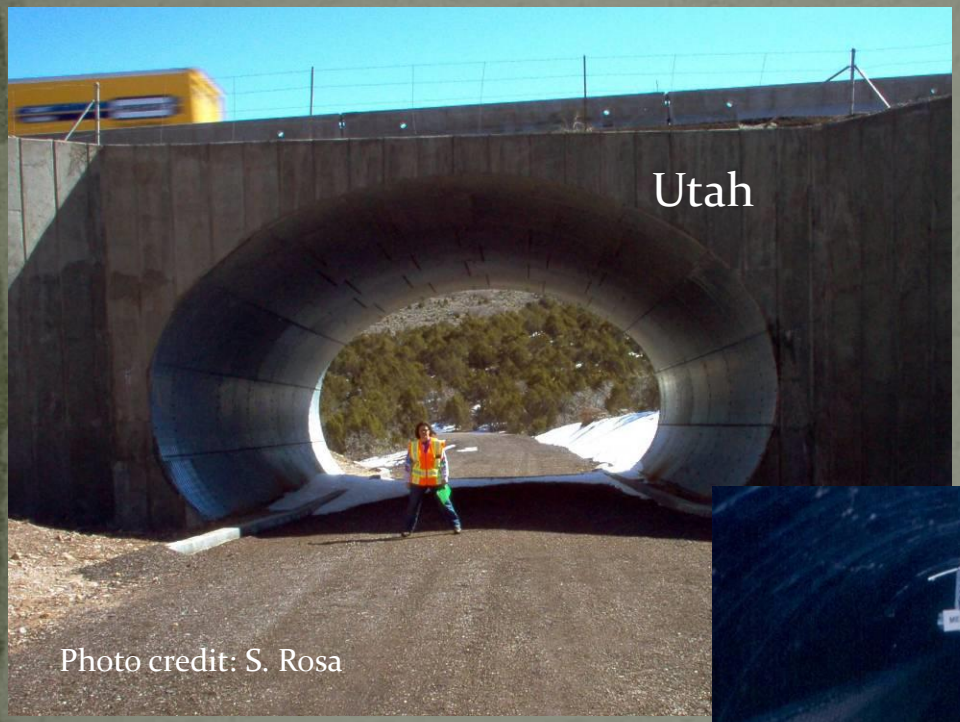
Wildlife Crossing Structures were made explicitly for wildlife and placed with wildlife exclusion fencing

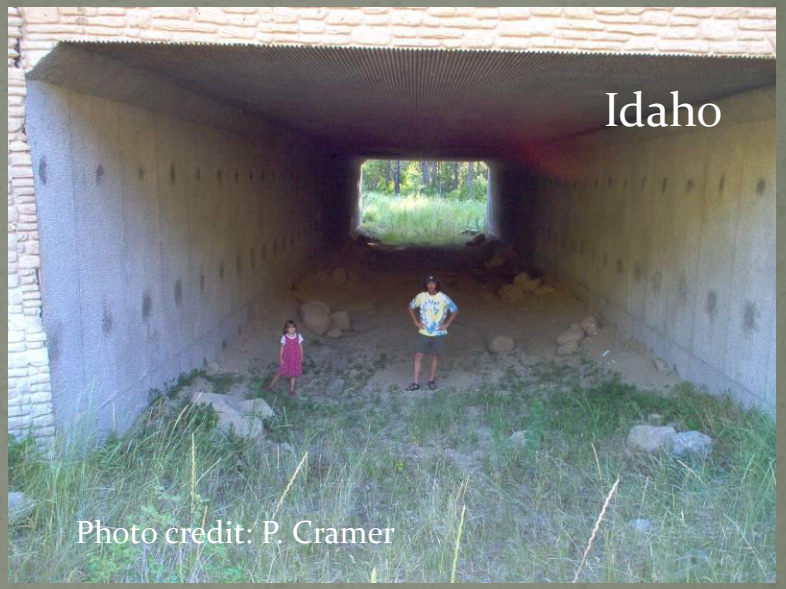


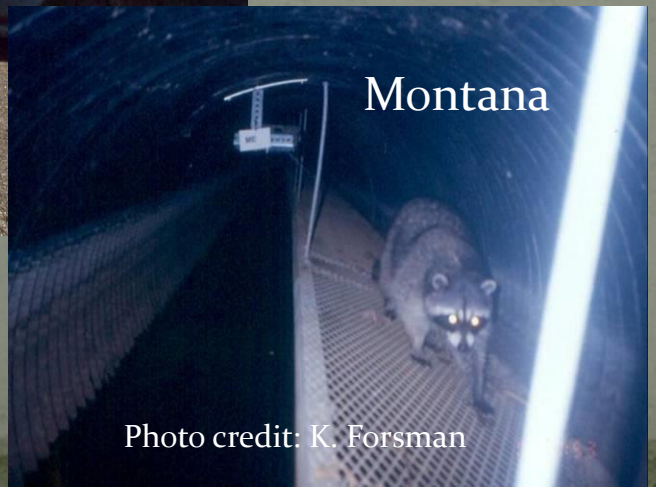
8 feet high

Utah
I-15 Wildcat Wildlife Crossing Culvert

Types of Structures: Culvert Underpasses







Types of Structures: Bridged Underpasses

Montana US 93 Bridge

UT I-80 Weber River Bridge

Types of Structures: Overpass

Escape Ramps

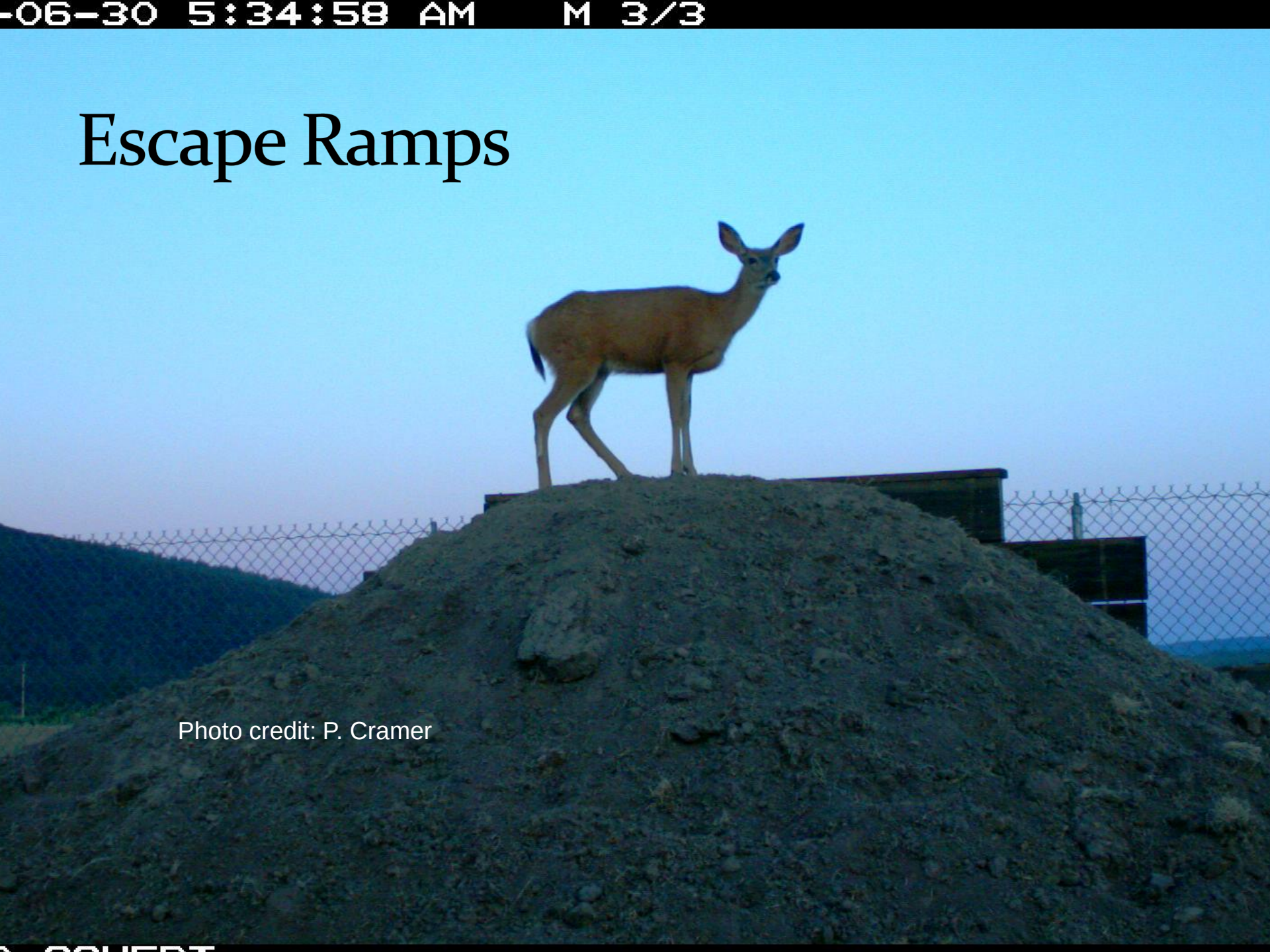


Photo credit: P. Cramer

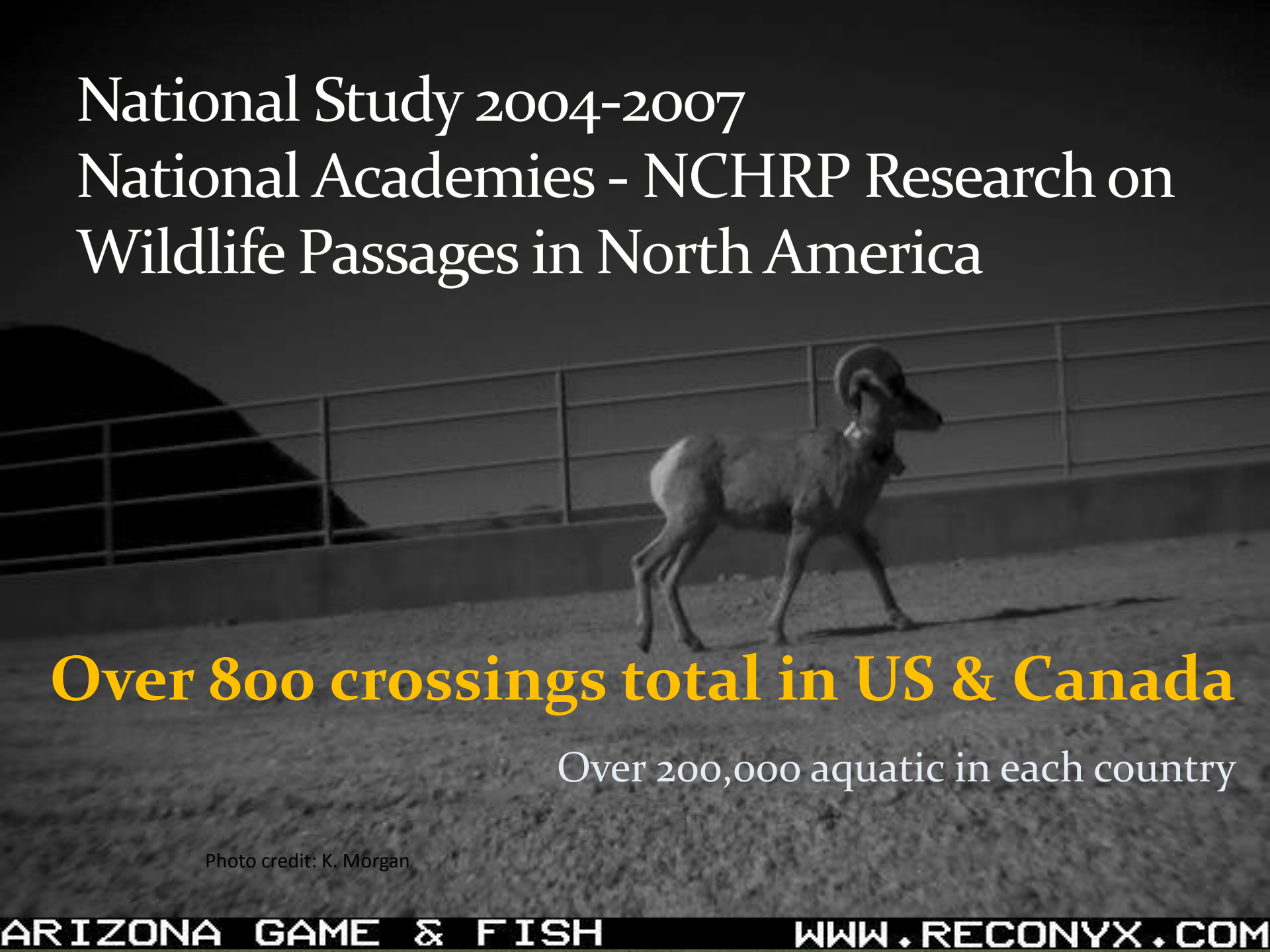
Guards

Wildlife Guard

Double Cattle Guard

Electric Mat

National Study 2004-2007
National Academies - NCHRP Research on Wildlife Passages in North America

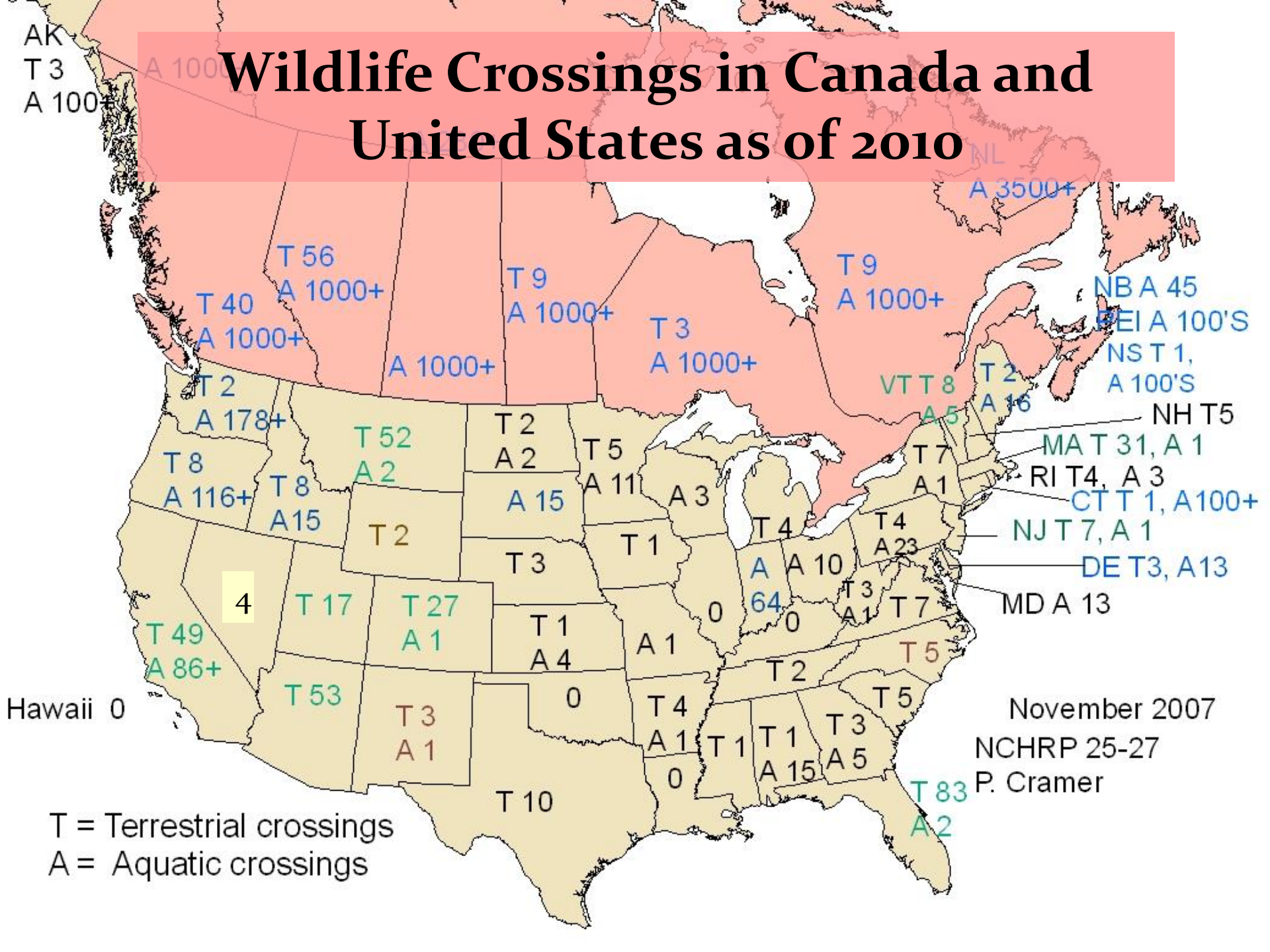


Over 800 crossings total in US & Canada

Over 200,000 aquatic in each country

Photo credit: K. Morgan

Wildlife Crossings in Canada and United States as of 2010



Western U.S. Highlights

How We Study Wildlife Crossings

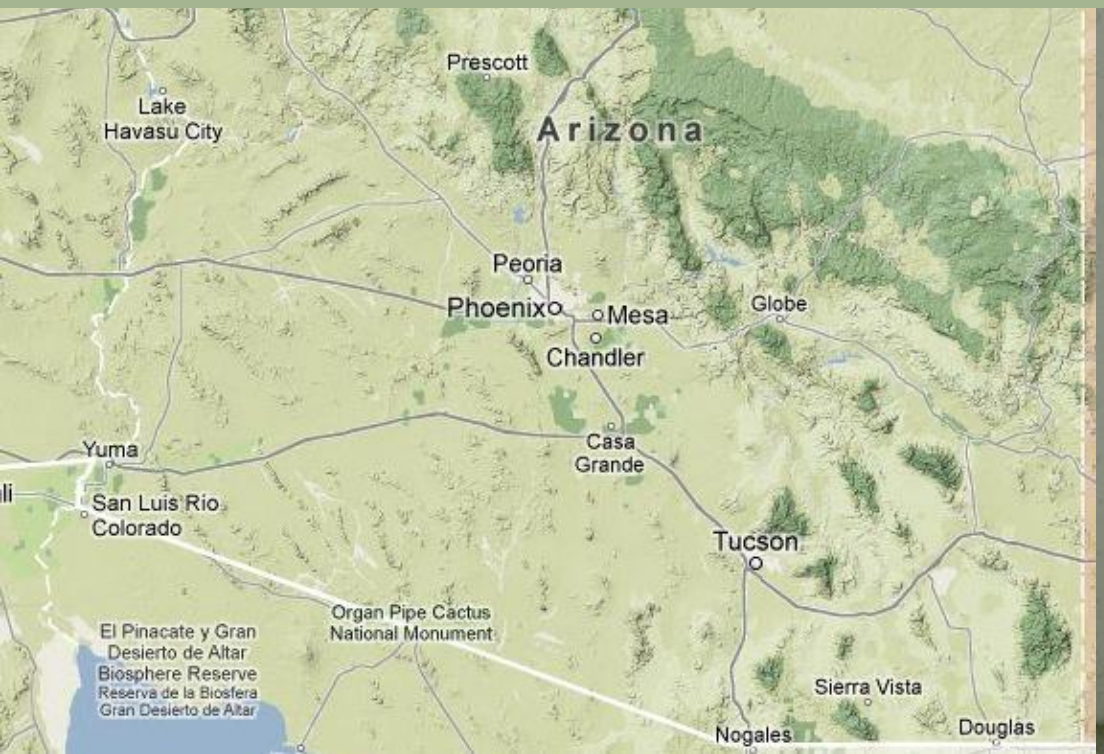
Cameras placed at both entrances to bridge or culvert

Place cameras in utility boxes and protective steel boxes

Arizona

Was Number 1 Western State for Number of Crossings, now Number 2

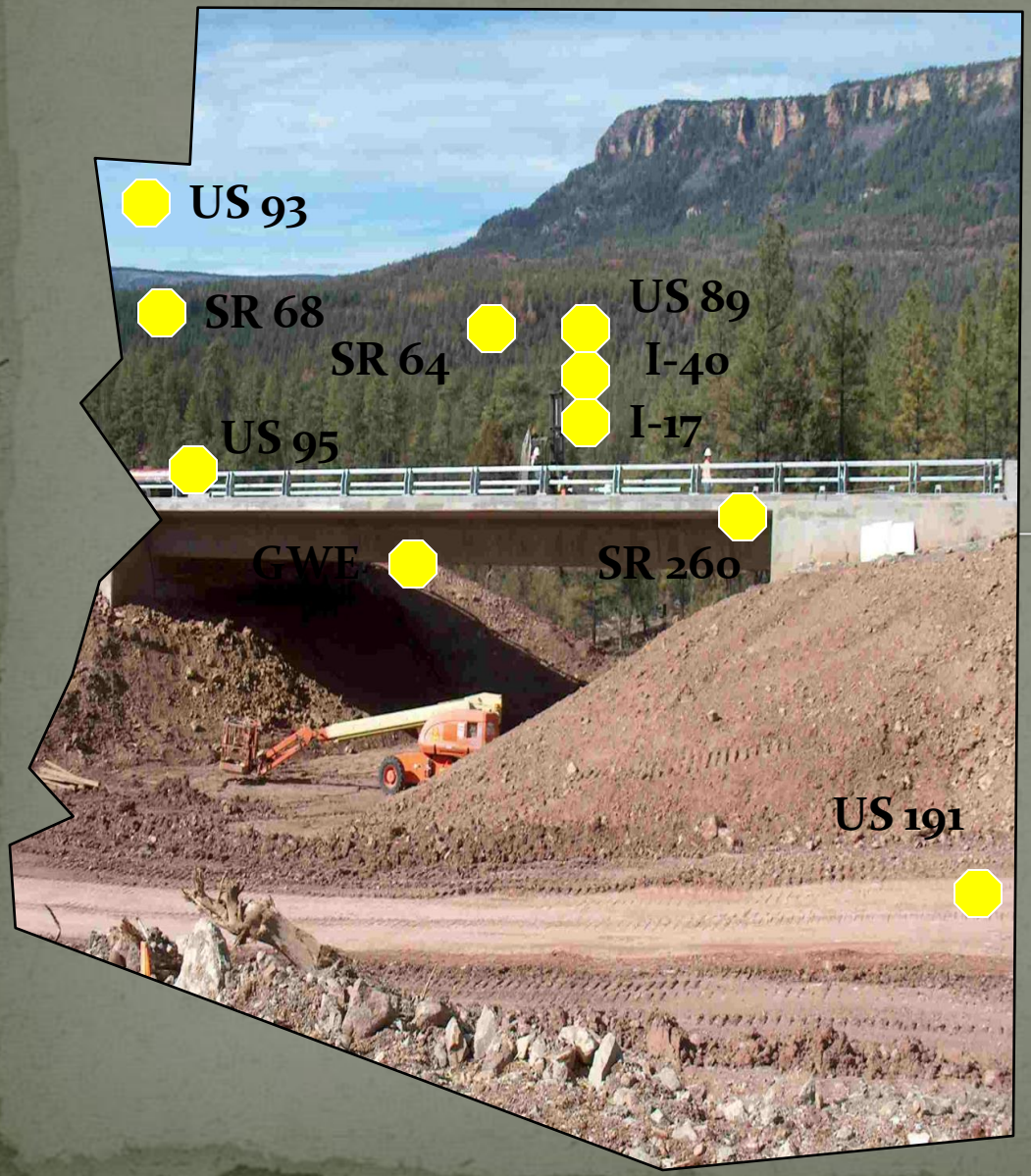
Lots of Research, Lots of Crossings, Lots of Players



terrestrial wildlife crossings

Number 1 State for Wildlife & Roads Research

AZ GPS MOVEMENT STUDIES- HIGHWAYS



10 Projects

7 Species

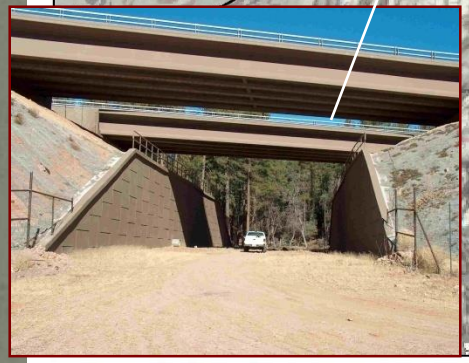
>500 animals

>3,000,000 GPS Locations

Ongoing projects

Jeff Gagnon AZGF Slide

STATE ROUTE 260 PROJECT
Wildlife Underpasses
17 complete



Legend
— HWY260

N

Jeff Gagnon AZGF Slide

Native Tribes & Counties Create Mitigation

Tahona O'Dum Tribe installed tortoise wildlife crossing & fencing

Pima County, AZ created 1st Bird Crossing

Arizona Game & Fish and AZDOT worked together to research Desert Bighorn, then provided 3 overpasses

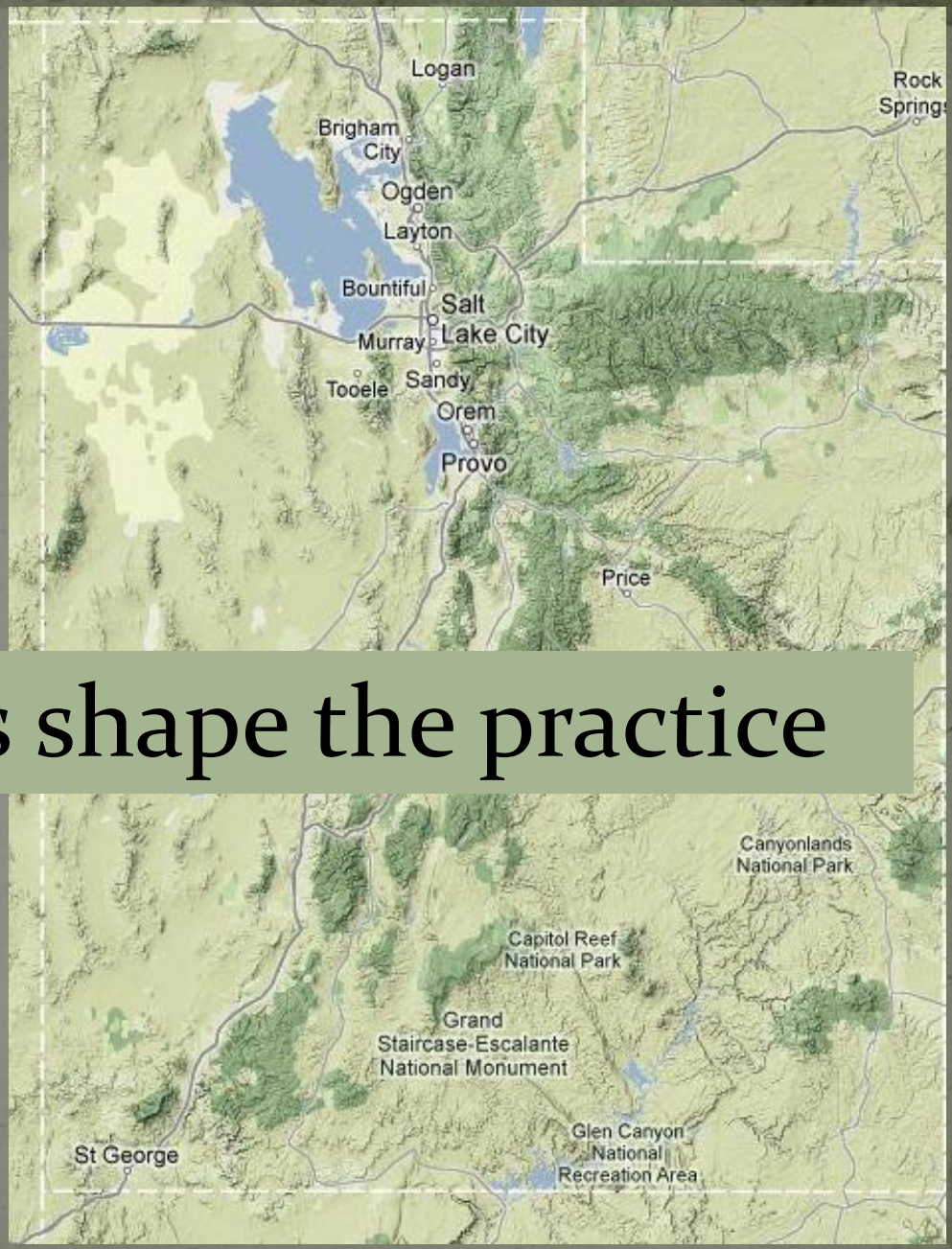

uments and Settings\jgagnon\My Documents\US 93\93 sheep photos and videos\20110
Open
2]
CH02
2011/02/02 12:45
CamStudio
File
Region
Jeff Gagnon AZGF Slide
3 Internet Ex...
FFSetup260
Converted videos
93 sheep phot...
Converted videos
FFOutput
CamStudio
FormatFactory ...
Windows Media...
Windows Media...

Utah

47 Wildlife Crossings

Also installing them on BLM land

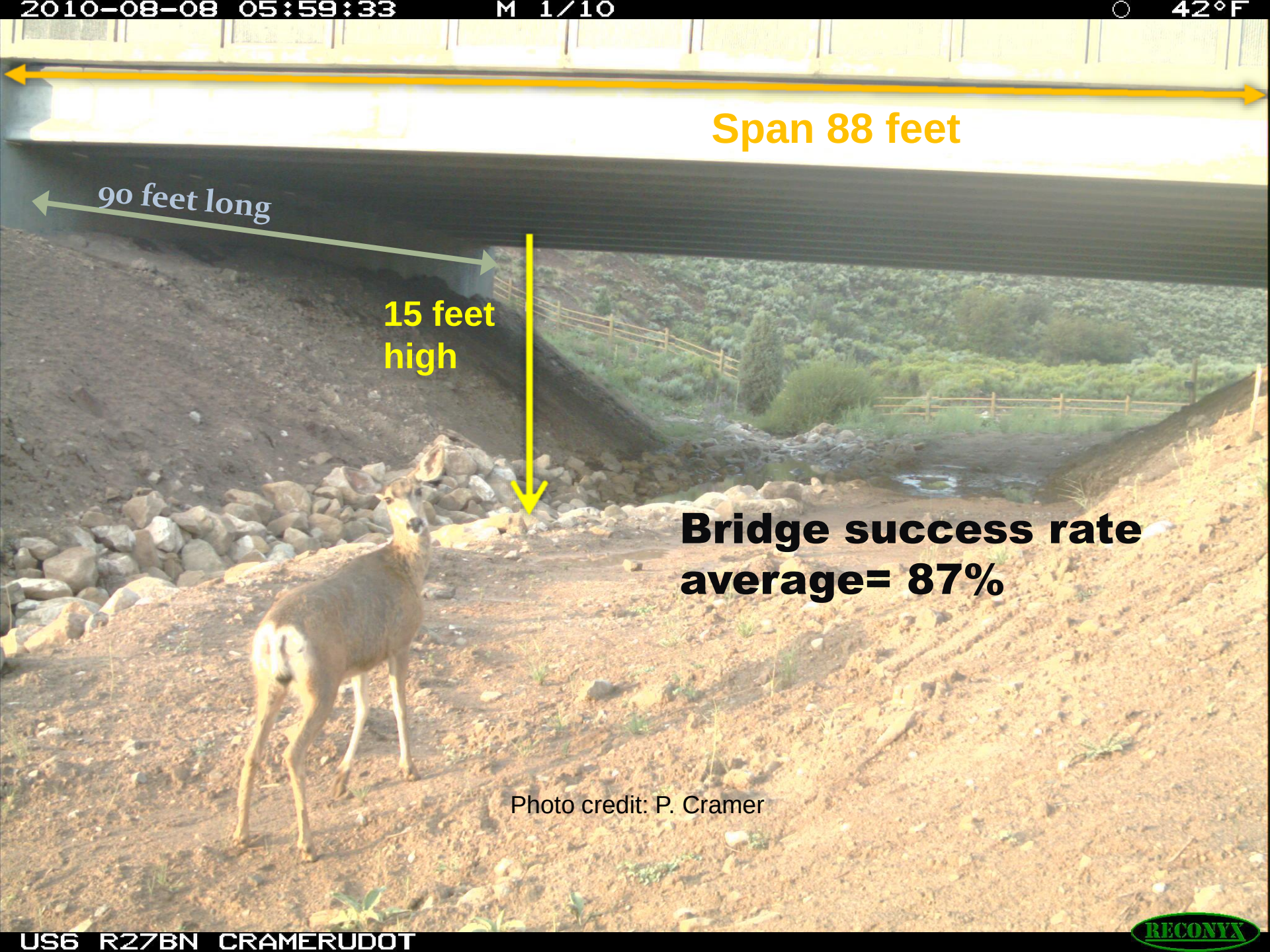
Extraction



Research helps shape the practice

Utah
UDOT and Utah Division of Wildlife Resources Study, P. Cramer PI

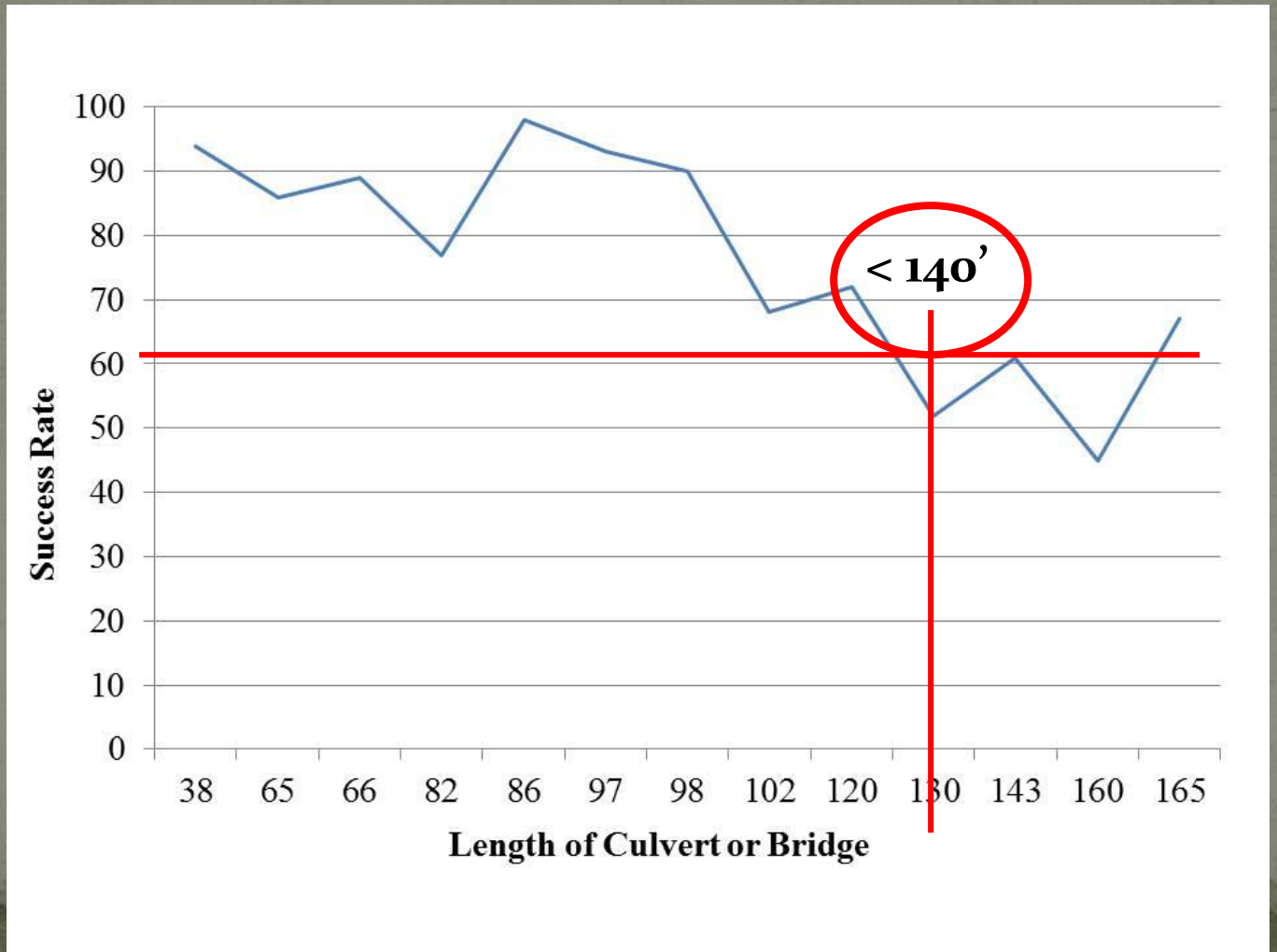
Determining Wildlife Use of Wildlife Crossing Structures Under Different Scenarios


2010-08-08 05:59:33 M 1/10 42°F
Span 88 feet
90 feet long
15 feet high
Bridge success rate average= 87%
Photo credit: P. Cramer
US6 R27BN CRAMERUDOT
RECONYX

US 6 Beaver Creek Wildlife Crossing, Utah


2013-10-14 06:49:13 M 1/5 32°F
Culvert success rate
average= 74%
NCE N CRAMER UDOT
RECONYX

Length is THE Important Dimension for Mule Deer in Utah

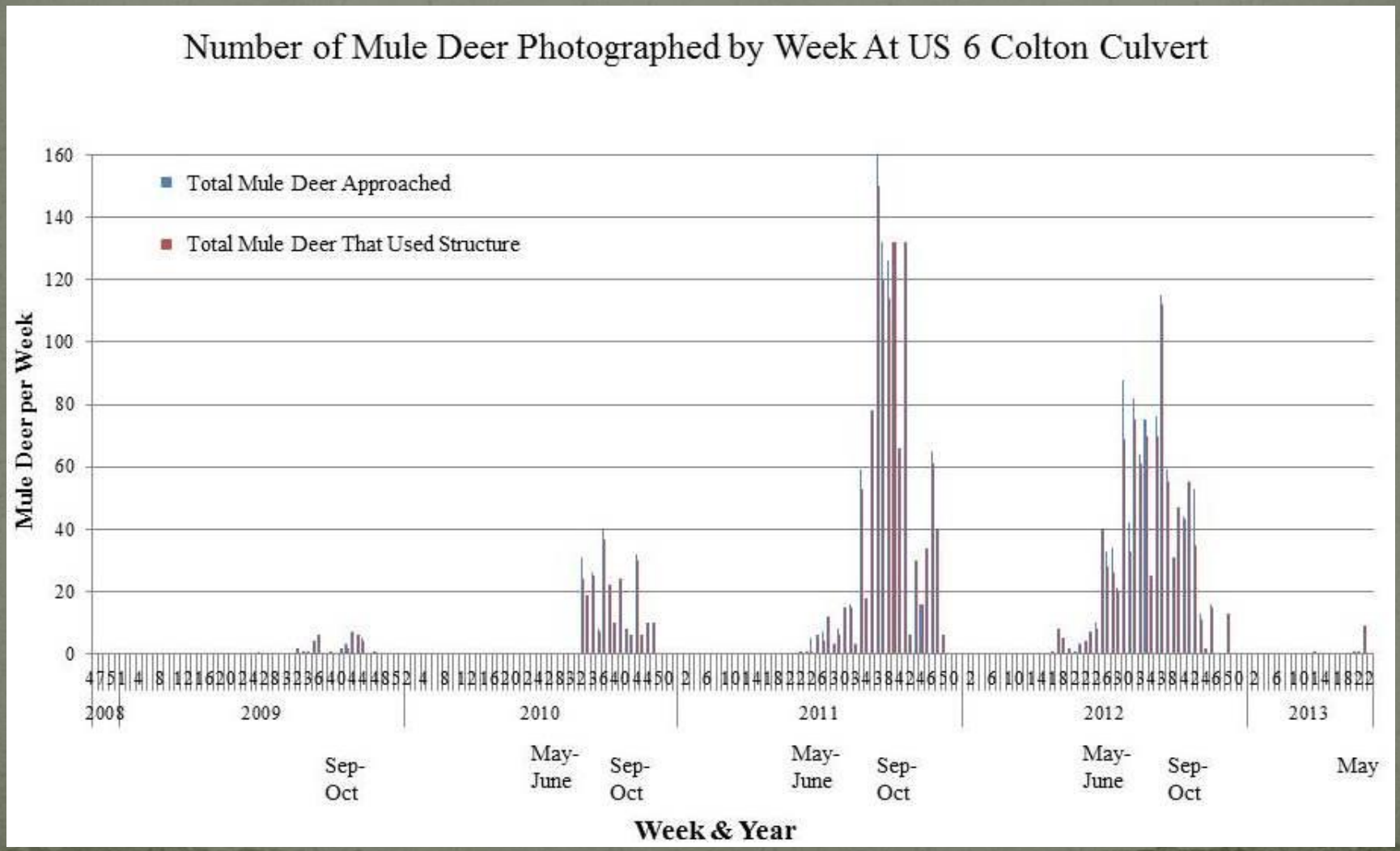


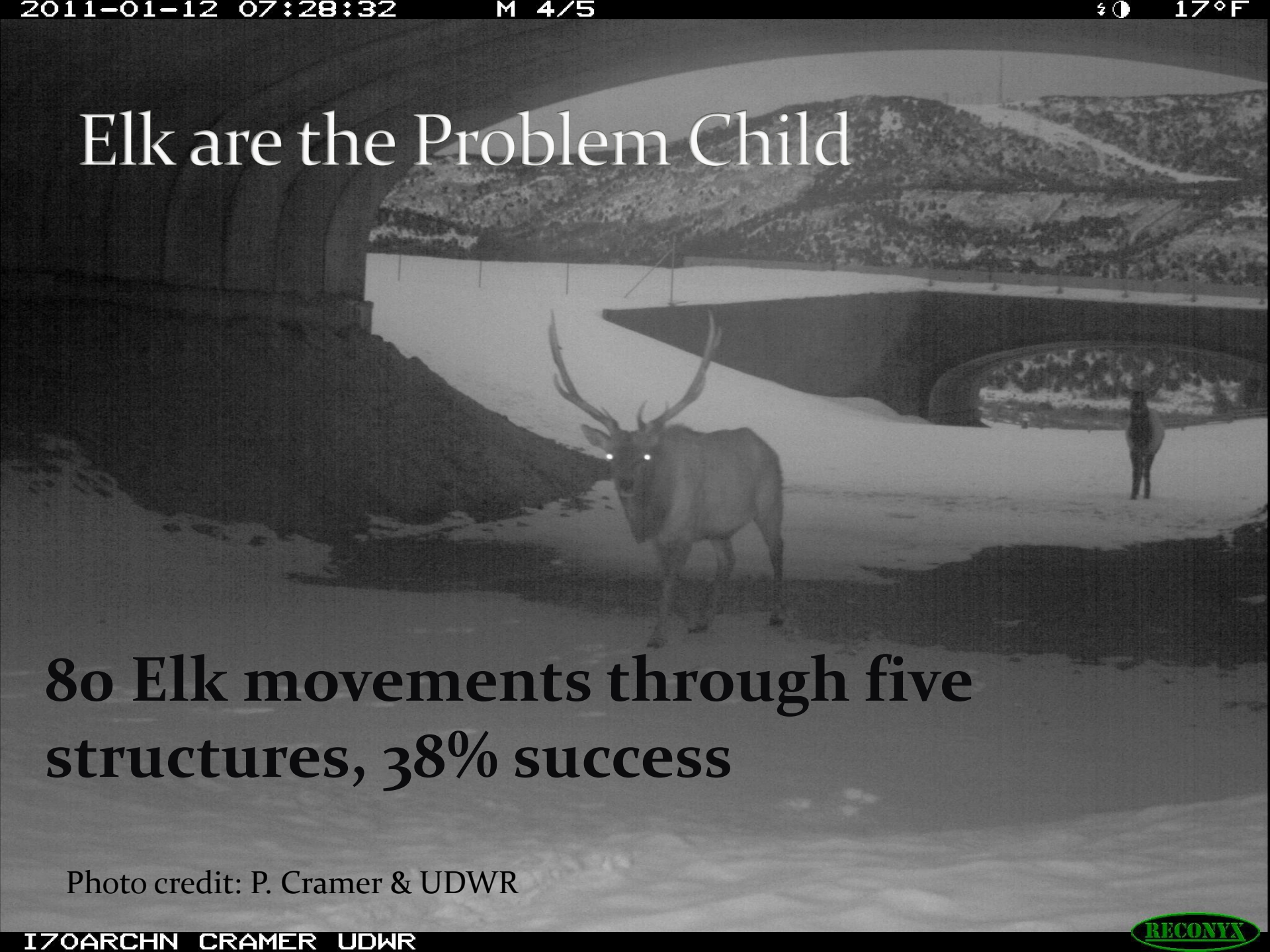
Height

Height may be the least important dimension for large herbivores

In Montana, our study with Montana Department of Transportation reveals what white-tailed deer willingness to use less than perfect structures

It Can Take Years for Wildlife To Adapt to Wildlife Crossing Structures




2011-01-12 07:28:32 M 4/5 17°F
Elk are the Problem Child
80 Elk movements through five structures, 38% success
Photo credit: P. Cramer & UDWR
I70ARCHN CRAMER UDWR
RECONYX

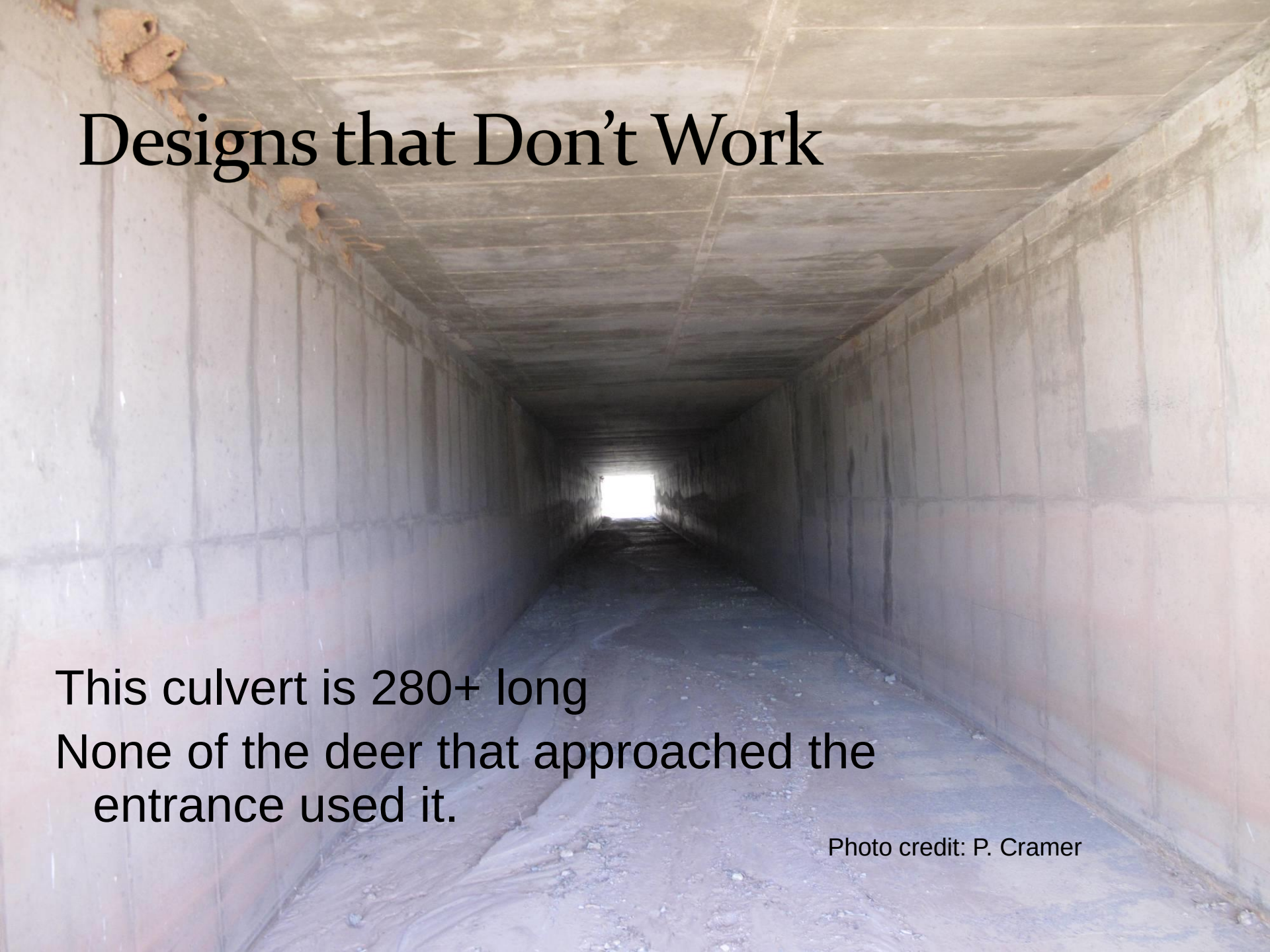

2009-11-07 02:53:29 M 1/5 37°F
28 successful movements over the overpass
R9 OVRPS CRAMER UDOT
RECONYX

Trainer Mule Deer

Carnivores Use Wildlife Crossings and Other Structures Too


2011-02-20 20:52:51 M 2/5 27°F
R9 OVRPS CRAMER UDOT
RECONYX

Designs that Don't Work



This culvert is 280+ long

None of the deer that approached the entrance used it.

Photo credit: P. Cramer

Fencing to Existing Structures

I-80, 3 miles of fencing, 2 bridges at interchanges

3.5 years of monitoring, just 7 mule deer and 1 moose documented using stru

Problem partly due to white stripes
Guards now, still no photos of animal use of Lambs Canyon

Montana

Number 1 Western State, over 80 Wildlife Crossings

The most wildlife crossings in the West, lots of research helping to shape the practice

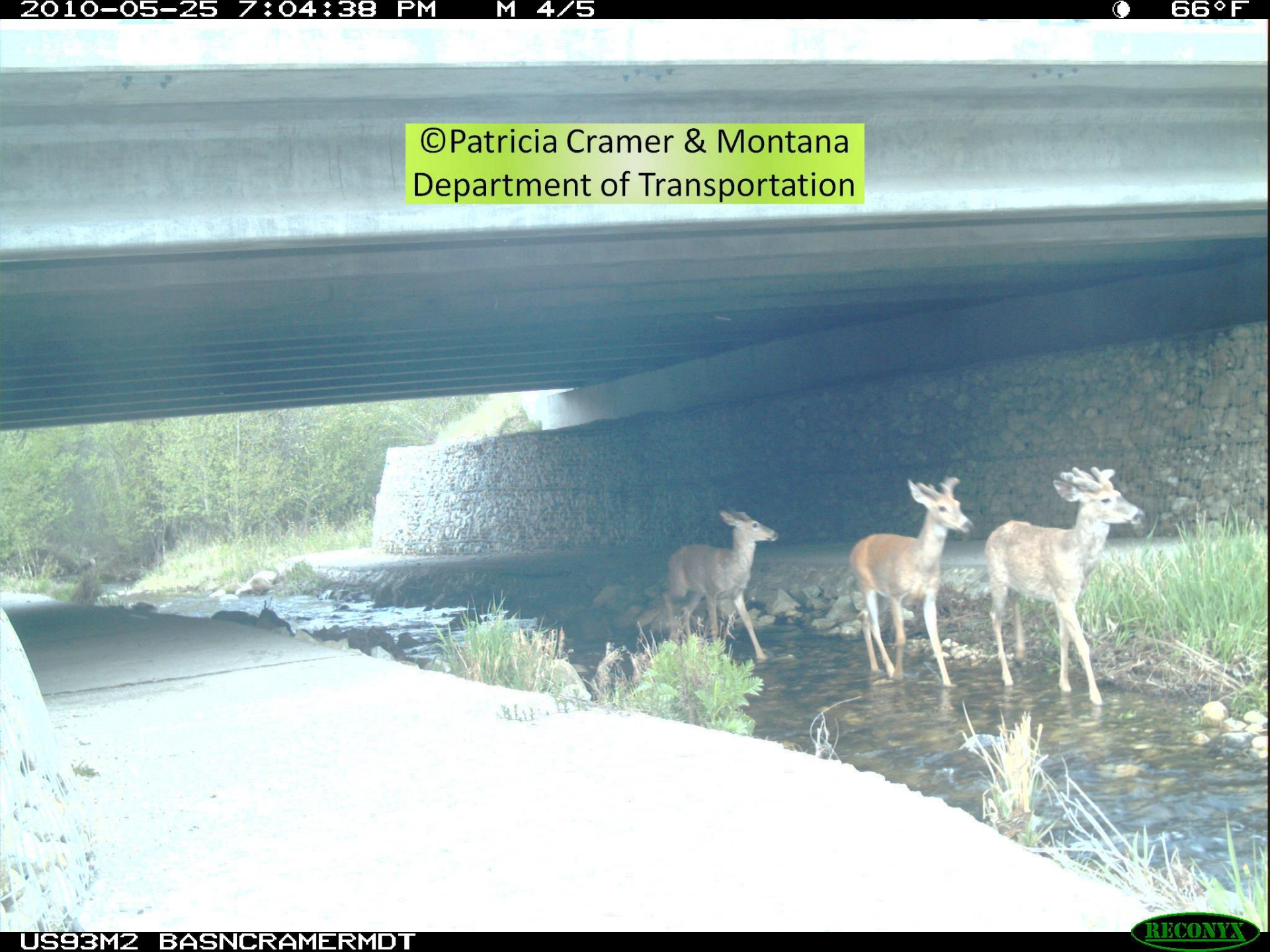
Wildlife Overpass

Photo credit: P. Cramer

Wildlife Overpass, US 93N Evaro, MT

Montana DOT Study, P. Cramer PI

Determine Wildlife Use and Efficacy of 19 Wildlife Crossings on US 93


2010-05-25 7:04:38 PM M 4/5
66°F
©Patricia Cramer & Montana Department of Transportation
US93M2 BASNCRAMERMDT
RECONYX


2009-09-06 7:04:32 PM M 2/3
68°F
Photo credit: P. Cramer & MDT
US93 BFISHIN PCRAMER
RECONYX


2009-10-15 5:55:03 PM M 3/5 56°F
US93M10MCNECRAMERMDT
RECONYX


2011-09-25 12:38:06 AM M 4/5
34°F
US93M3 FISHCRAMERMDT
RECONYX

US 93 Wildlife Crossings Research


2008-12-19 7:48:32 AM M 2/3
16°F
Wyoming
US 30 Nugget Canyon
Study by
West, Inc.
Mule Deer using
Concrete Box Culvert,
US 30 Nugget Canyon
Wyoming
Photo credit: H. Sawyer
37.44RC55
RECONYX


2012-10-07 13:27:36 M 2/2 60°F
Wyoming's First Overpass Pinedale, built over US 191, 2012
Photo credit: West, Inc & WYDOT
105.8MP CE WEST, INC
RECONYX

Nevada's US 93 Overpass

Study by Nova Simpson, Univ. Nevada, Reno, and NVDOT

2-Lane Overpass
$1.8 million
Built in 2010

Photo credits: L. Bellis, NVDOT

Future Trends

Retrofits

Improve existing structures for wildlife movement

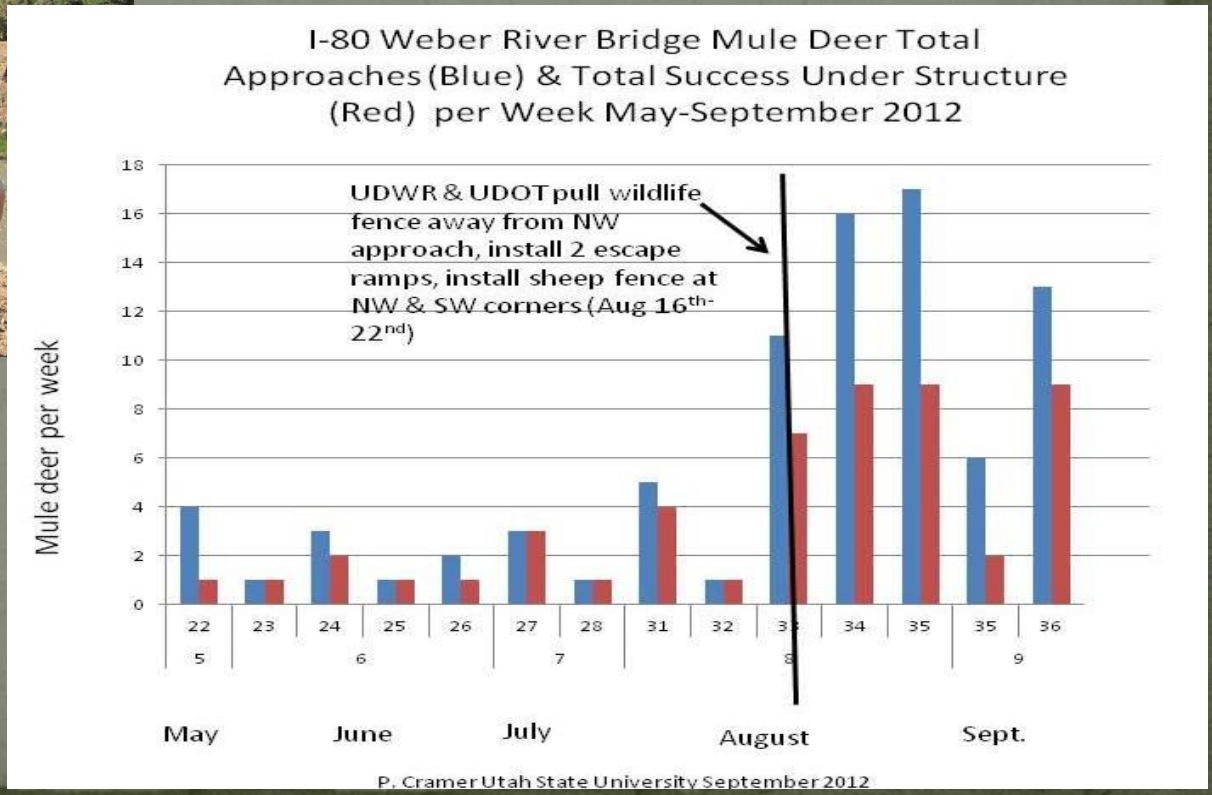
Minnesota DOT installed path in rip rap

Retrofits

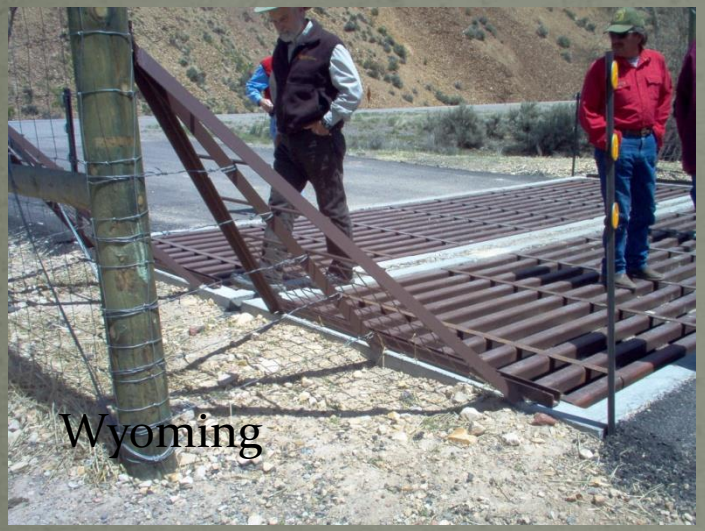

Utah's I-80 removal of pavement for wildlife path under bridge
Photo credit: P. Cramer

Adaptive Management

I-80 Weber Bridge – UDOT & UDWR Collaborative Problem Solved



Wildlife Is Part of Doing Business


Wyoming


Utah


Arizona


Oregon

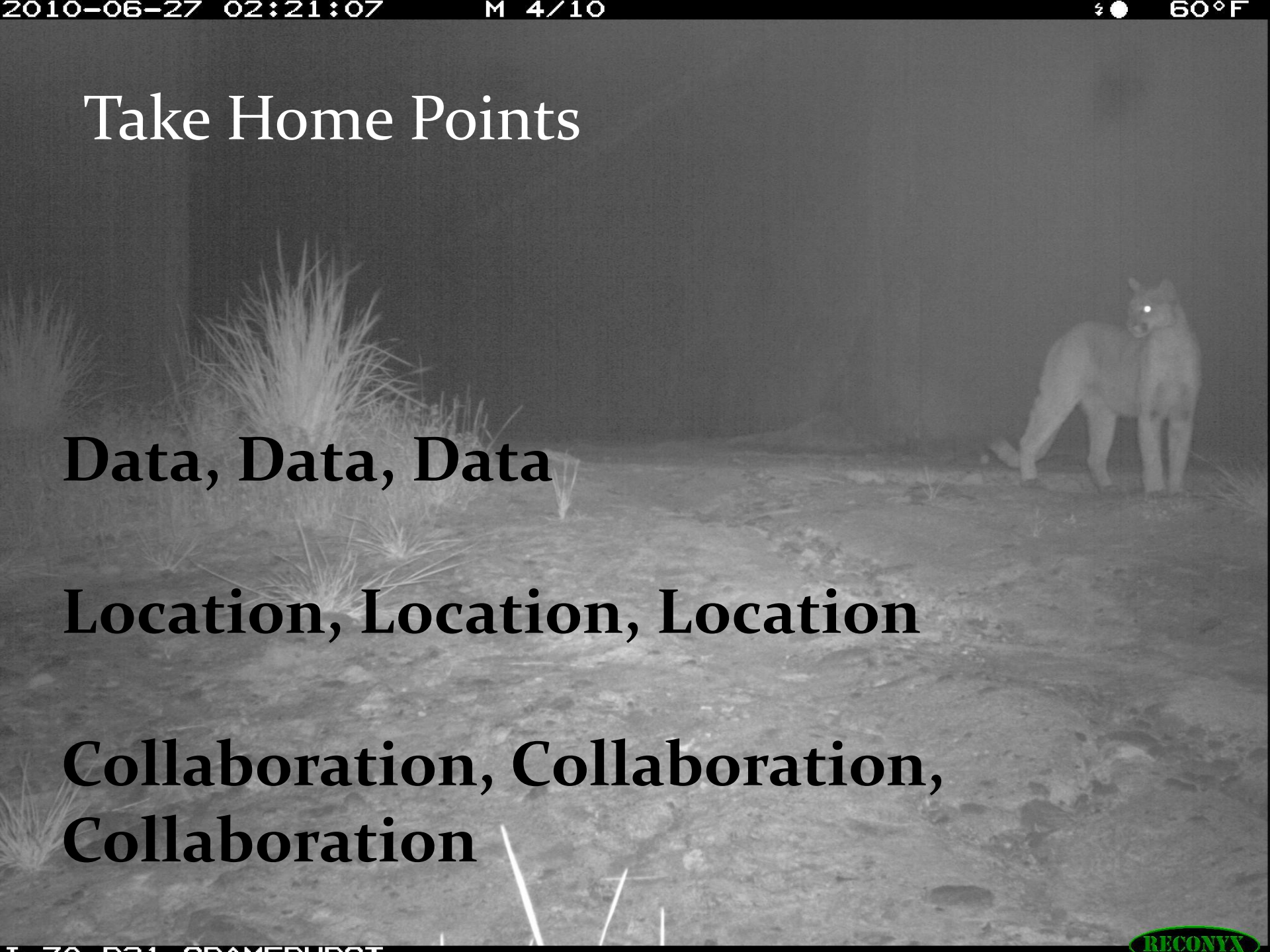
Reducing Wildlife-Vehicle Collisions in South Dakota

Patricia Cramer
Julia Kintsch
Cheryl Chapman
Mary Kenner

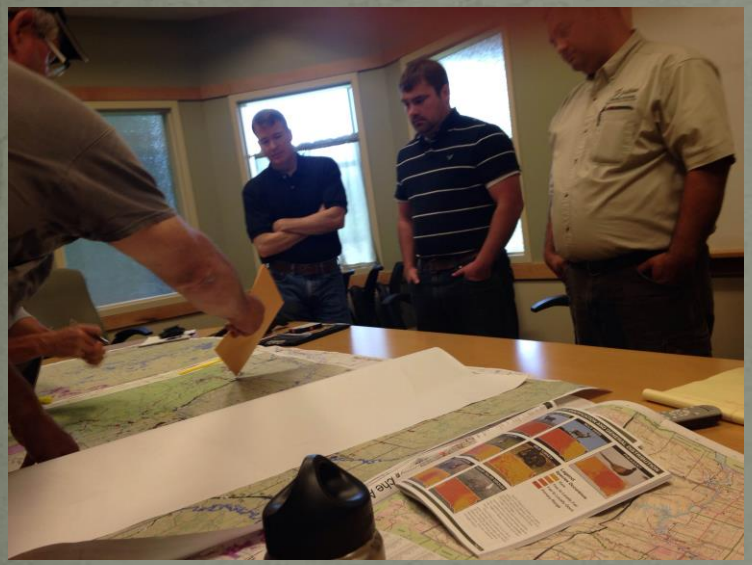
Objectives of Study

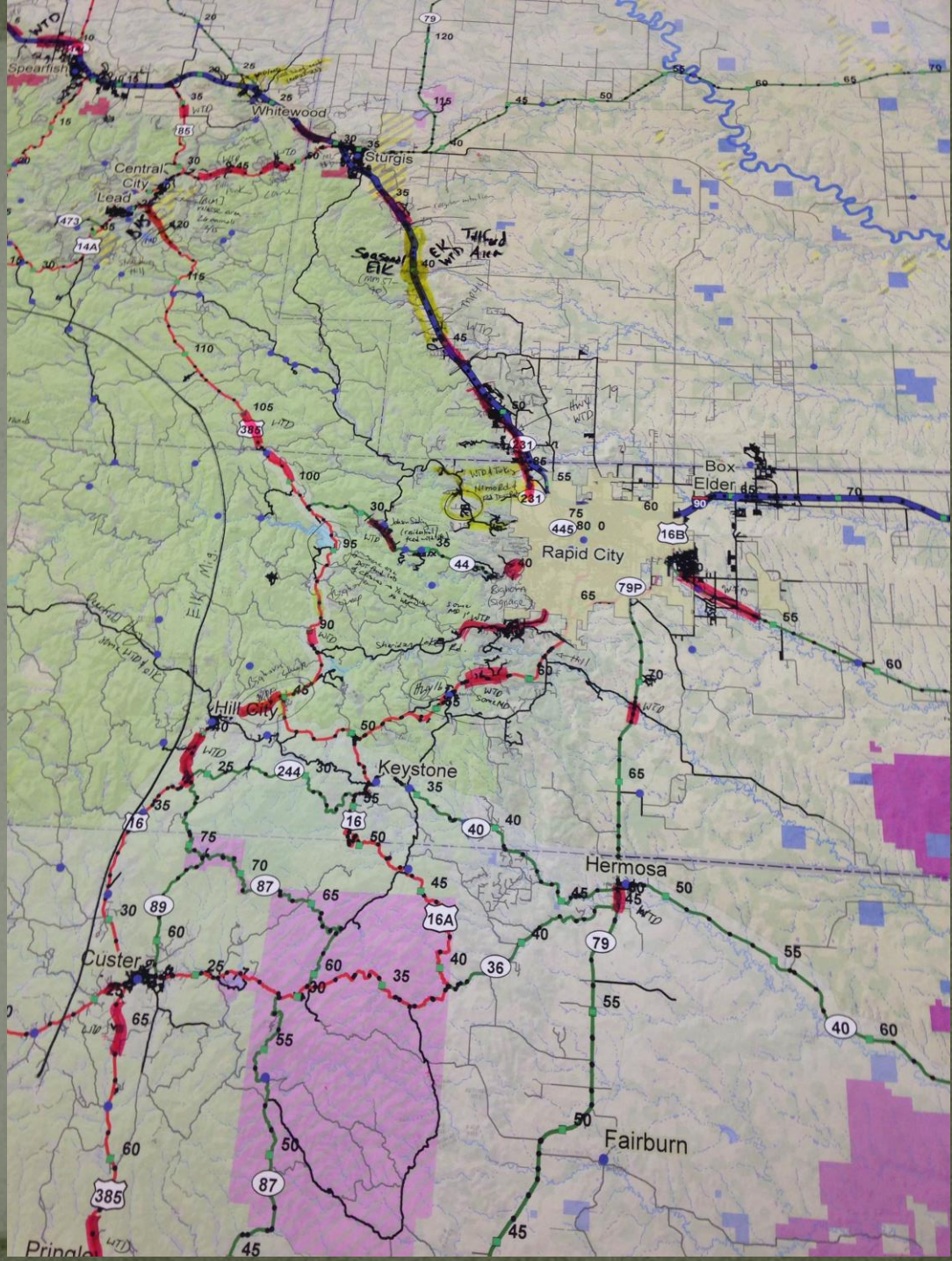
Evaluate South Dakota Data, and Methods to Record Wildlife-Vehicle Collisions (WVC) and Make Recommendations for Improvements

Demonstrate What South Dakota Can Do To Better Collect WVC Data, Map it, and Use it to Mitigate Roads for Wildlife


2010-06-27 02:21:07 M 4/10 60°F
Take Home Points
Data, Data, Data
Location, Location, Location
Collaboration, Collaboration, Collaboration
RECONYX

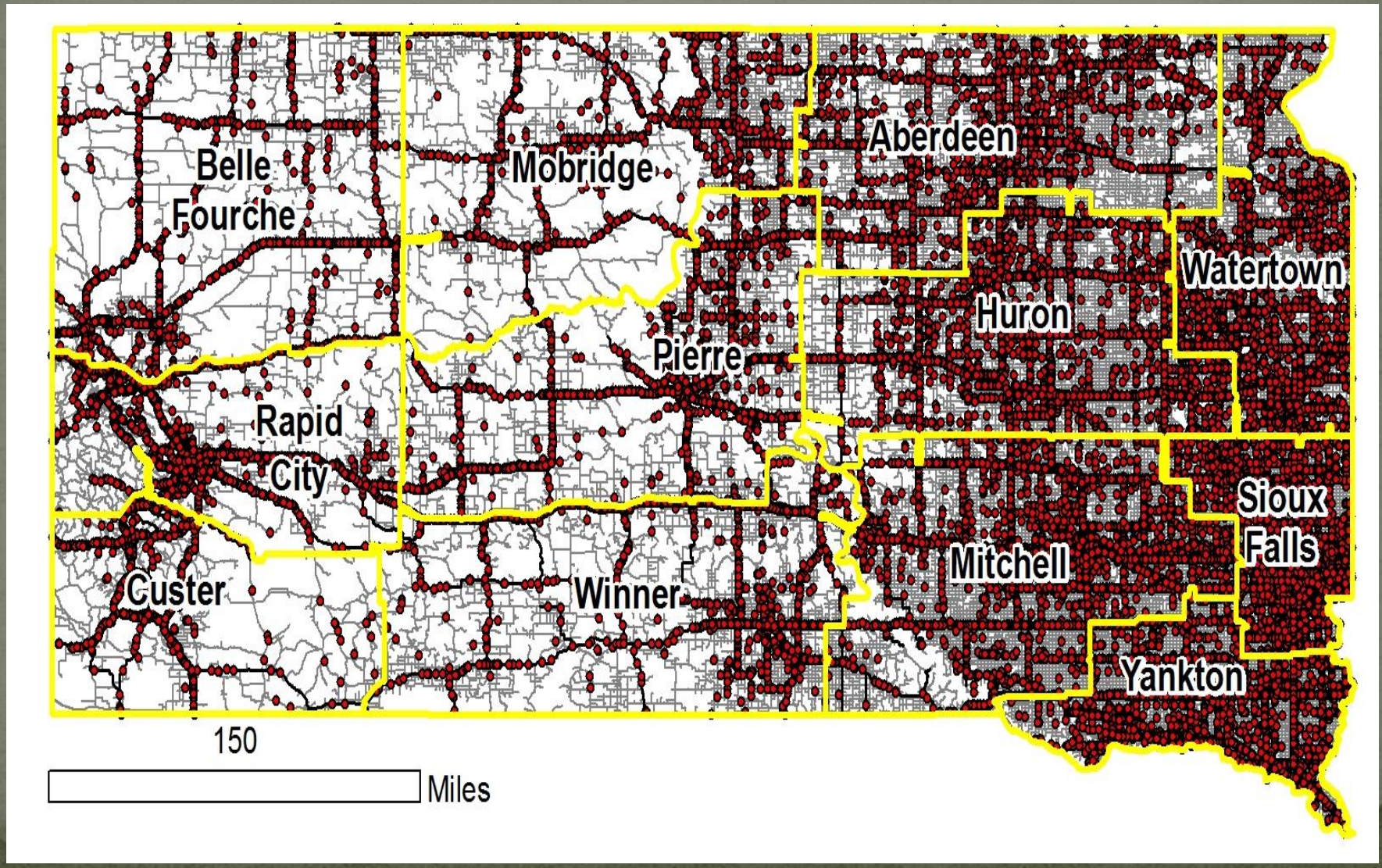
Rapid City Expert Opinion Workshop





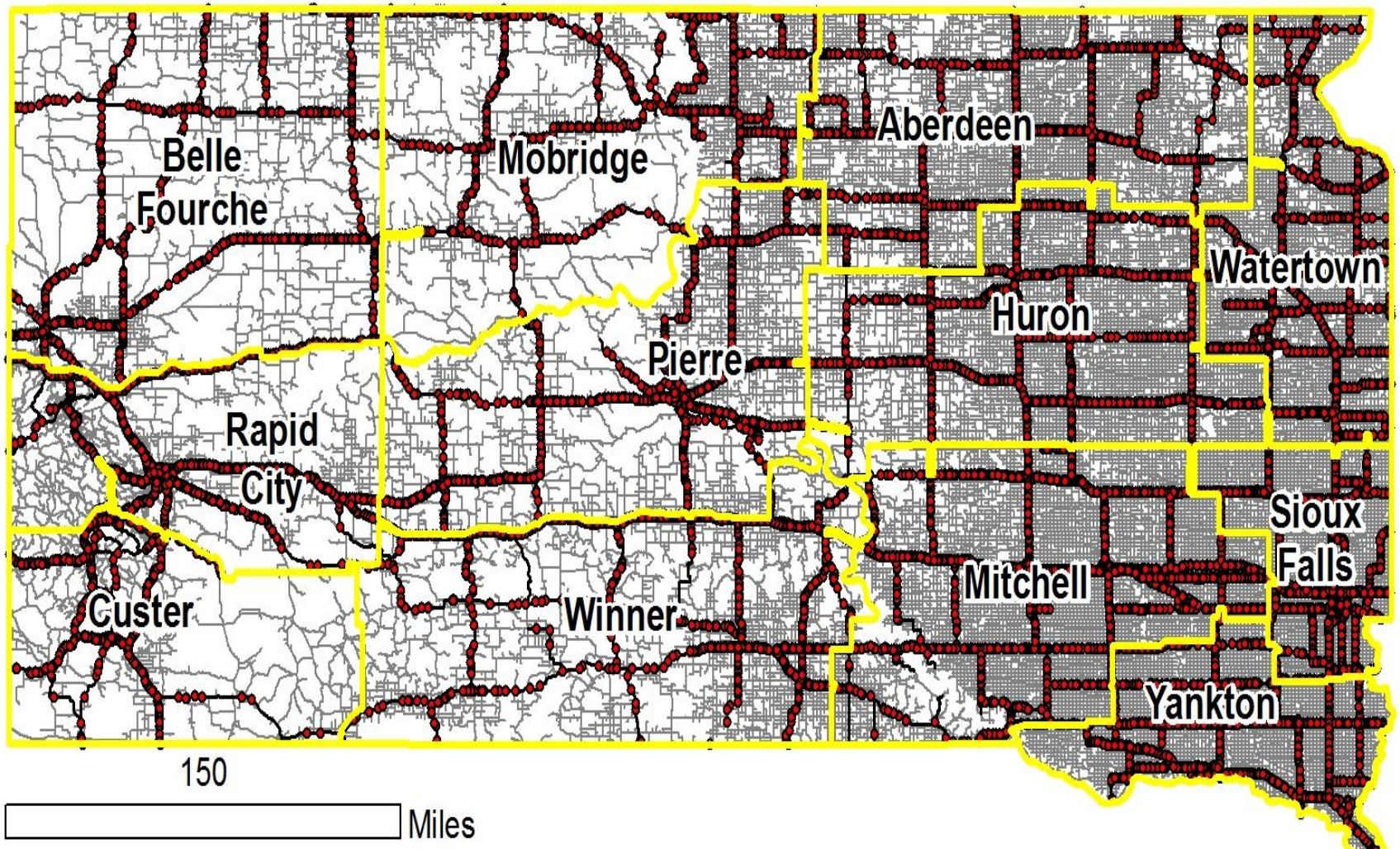
Map of WVC Crashes All Roads

2004-2013

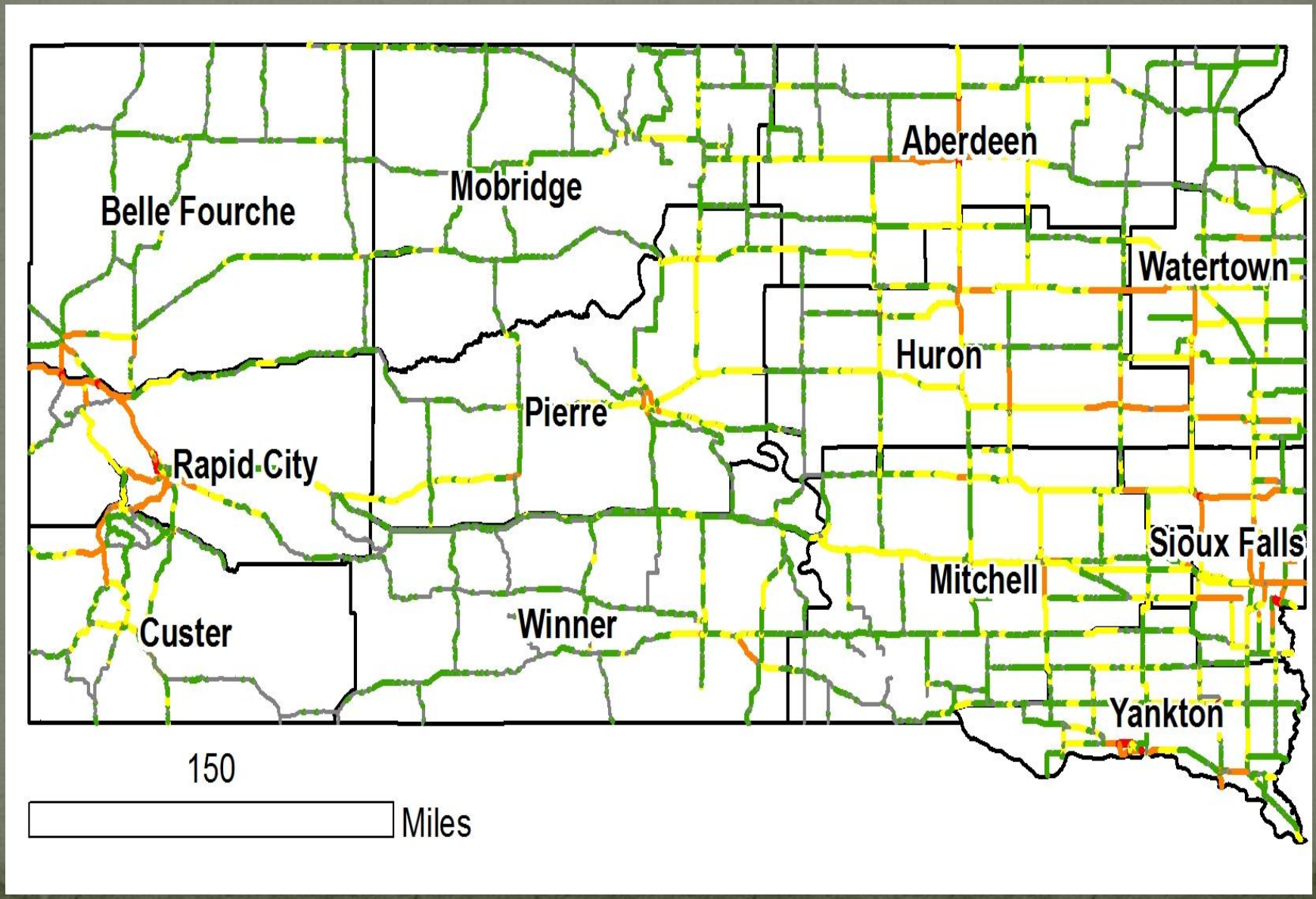


Map of WVC Crashes

SDDOT Administered Roads 2004-2013



Master Map WVC Crash Hotspots

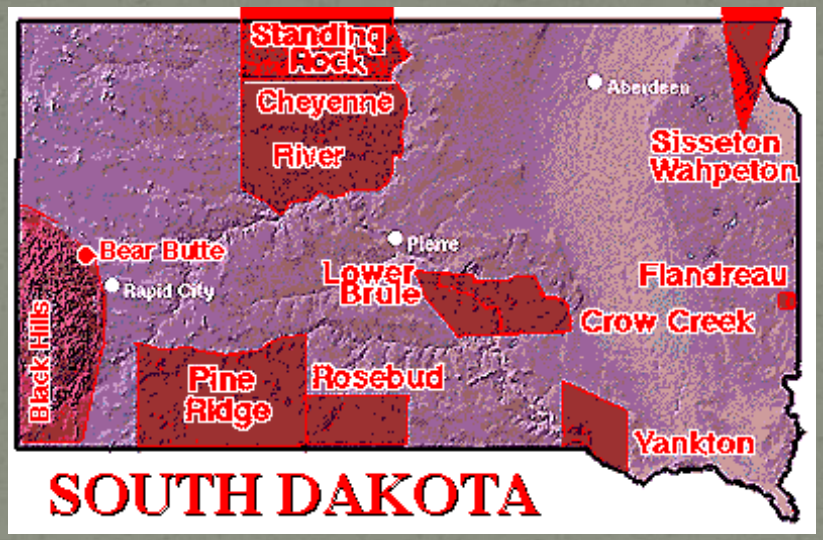


34% of all WVC crashes on SDDOT administered roads occur in WVC hotspots (>10.8 WVC per mile over 10 years), representing 9% of the road network.

Top 5 WVC Crash Hotspots (2004-2013)

Rank	Road & MP	Landmark	Rate (WVC/mile/ 10 yrs)
1	**I-90**: MP 9.9-10.2 & 10.7-11.1	Spearfish (Lawrence County)	127.5
2	**SD 50**: MP 374.8-378	Yankton (Yankton County)	93.7
3	**SD 44**: MP 48.6	Rapid City (Pennington County)	52.3
4	**US 12**: MP 288.3	Aberdeen	49.5
5	**SD 45**: MP 252.8 – 252.9	Miller (Hand County)	44

Reaching Out to Tribes



Contact with Tribal Game, Fish and Parks; Fish and Wildlife; and/or Public Safety Departments

- Significant interest in learning more
- Commitment to meet to discuss WVC prevention

Reaching Out to Tribes

Do you collect data for your reservation?

Yes—2 No—7 (no, not at this time, obtain information from the state)

Does the Tribe conduct carcass pick-up?

Yes—2 No—7 (no, unknown, picked up by State)

Do you have surveys/maps to show predominance of wildlife?

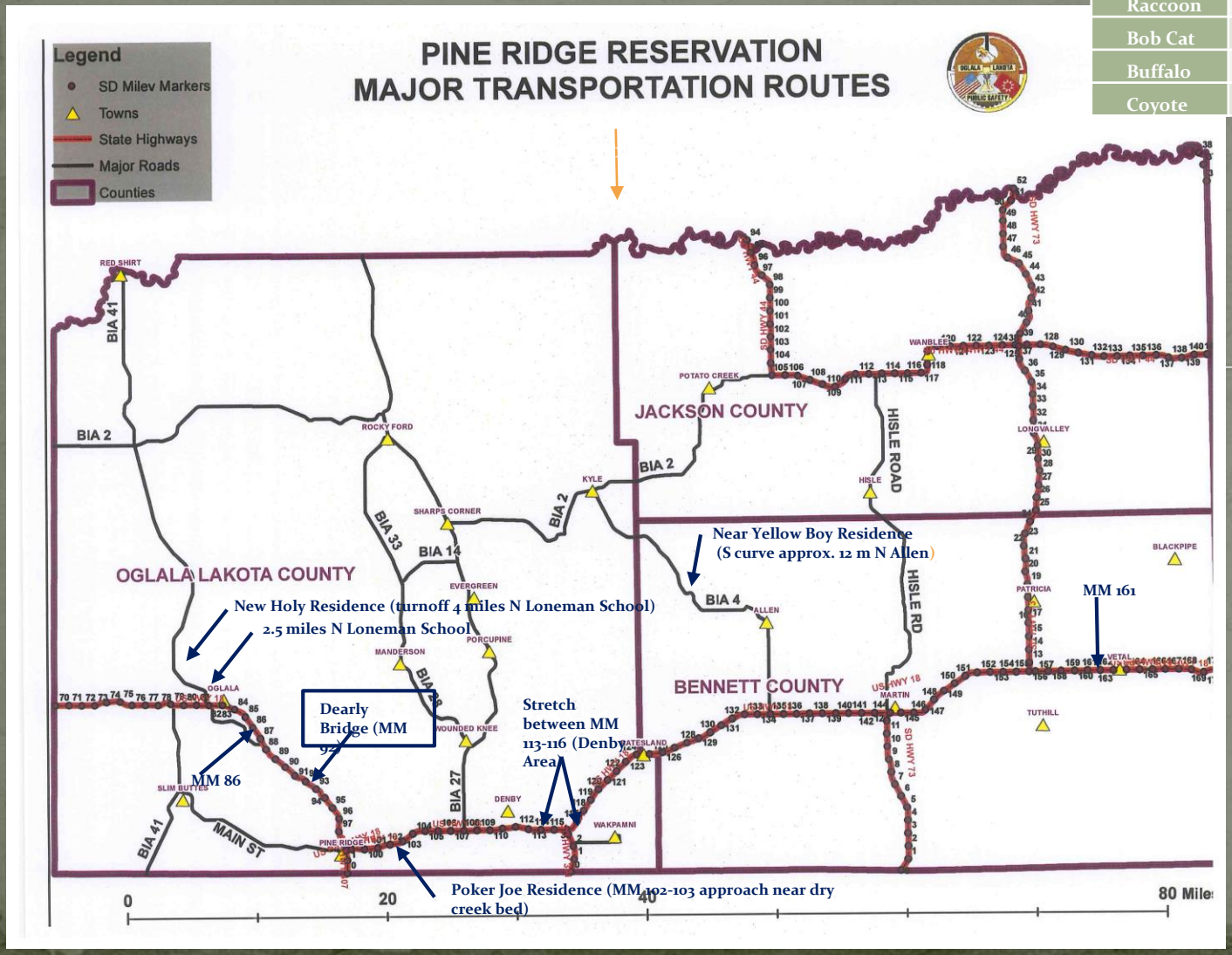
Yes—7 (Big Game Surveys, Aerial Surveys, Deer/Elk Surveys)

Other mitigation strategy recommendations?

More signage, Eliminate blind spots, Provide assistance in tracking data

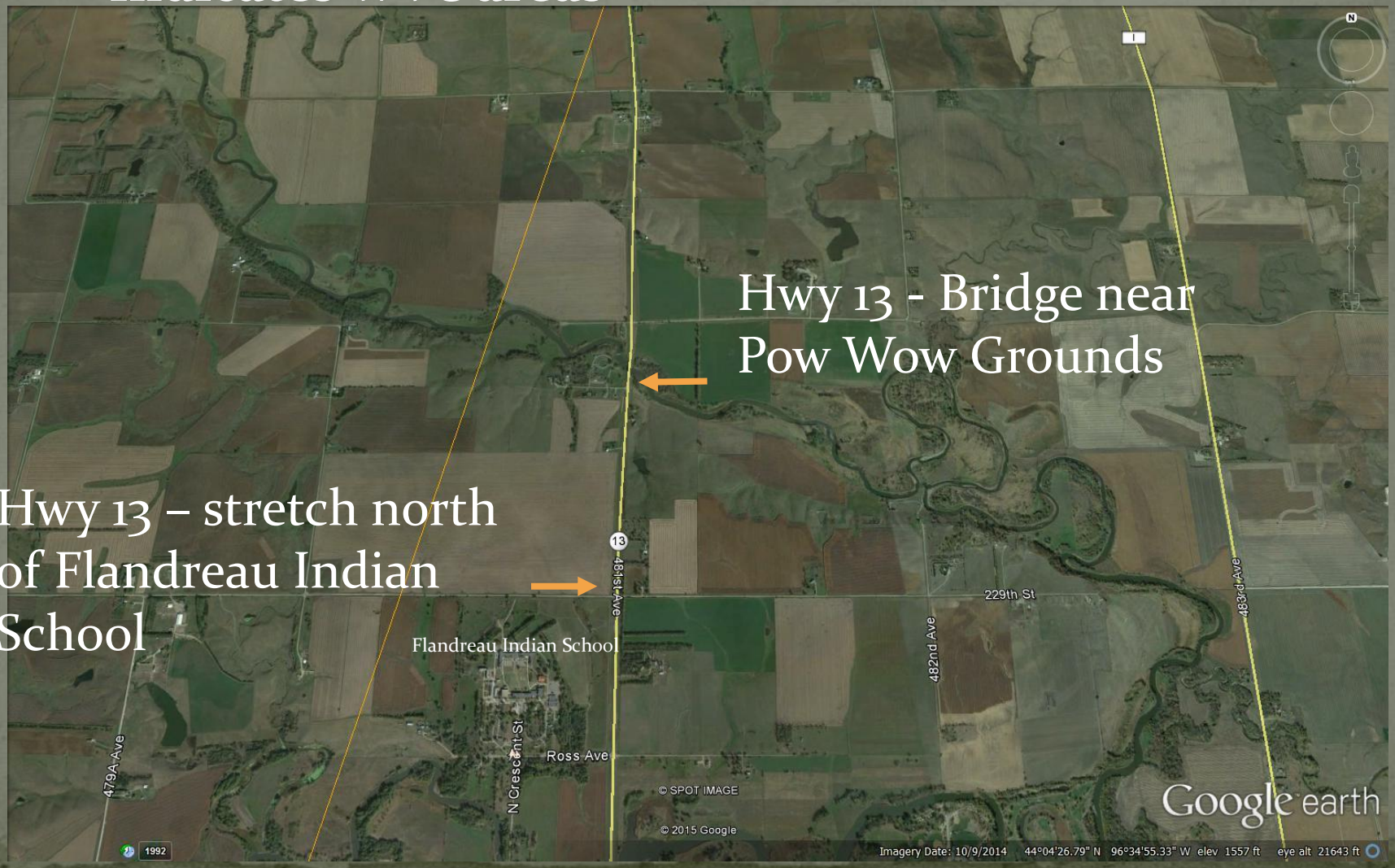
Maps were emailed to Tribal contacts to identify hot spots

Pine Ridge	2010	2011	2012	2013	2014
MVCs	333	306	240	232	257
WVCs	60	44	63	34	22
%	18	14	26	15	9
Deer	58	38	60	32	20
Pheasant	2	2	2	1	1
Raccoon				1	
Bob Cat					1
Buffalo		4			
Coyote			1		



Flandreau Santee Sioux Tribe

→ **Indicates WVC areas**



South Dakota Tribal Transportation Safety Summit

Grand River Casino & Resort
Mobridge, South Dakota

OCTOBER 14-15, 2015

Each participant is responsible for making hotel reservations directly with the hotel. There is a block of rooms reserved for the summit. Please ask for "Tribal Safety Summit" room block when making reservations.

Deadline to make reservations and be guaranteed summit rate is **October 9, 2015.**

Message for Tribal Transportation Safety Summit: We Need Your Help

- Gathering additional information
  - Identifying “hot spots” where WVC’s occur (maps)
  - Receiving copies of wildlife surveys/maps indicating predominance of wildlife for transportation planning purposes
- Please stop by the table at the back of the room to help us identify areas within your jurisdiction where Wildlife Vehicle Collisions frequently occur. Maps and markers are provided.
- Please stop by and let us know if you would be interested in meeting with SDDOT and other Game and Fish/Fish and Wildlife Departments to share best practices for Wildlife Vehicle Collision reduction and to discuss wild populations and trends.

Idaho Memorandum of Understanding

‘We cannot sacrifice transportation for wildlife, and we cannot sacrifice our wildlife for transportation.’


2011-07-19 05:20:48 M 1/5 62°F
Never doubt that a small group of committed individuals can change the world. Indeed that is the only thing that ever has
Margaret Mead
©P. Cramer, UDOT, UDWR, USU
US91MP14W CRAMERUDWR
RECONYX

Appendix F

2015

GREAT PLAINS AREA INDIAN HEALTH SERVICE Observational Seat Belt Survey - Summary

Aberdeen Area Injury Prevention Program
Office of Environmental Health & Engineering
1/15/2015

Table of Contents

Appendices

Introduction

Based on Division of Environmental Health Services (DEHS) staff observations, seat belt usage across the Great Plains Area remains low when compared to state and national averages. Using a seat belt is the most effective way to protect drivers and occupants during a crash and The National and Area Injury Prevention programs can continue to advocate for communities to increase their usage rates. In order to monitor our progress in improving occupant restraint usage the Great Plains Area DEHS program conducts annual occupant restraint surveys.

This report summarizes the results of the Great Plains Area occupant restraint surveys conducted across participating communities. The Area standardized seat belt observation survey protocol was used on Tribal reservations to 1) provide yearly seat belt use rates; 2) evaluate the results of injury prevention activities; and 3) to provide seat belt usage rates to Tribal governments as a means of encouraging the passage and enforcement of Tribal primary occupant restraint laws.

The Great Plains Area's adoption of a standardized protocol for data collection ensures seat belt usage estimates are valid and survey methods are consistent throughout the Area. Using standardized methods strengthens highway safety grant funding applications that Tribal programs may submit to the Bureau of Indian Affairs (BIA) Indian Highway Safety Program, State Highway Safety Department, Indian Health Service or any outside agency.

Background

Unintentional injuries are the leading cause of death for American Indians/Alaska Natives(AI/AN) in the age group 1-44 and the third leading cause of death in all age groups for the years 1999-2012[1]. Unintentional injury death is 3.4 times higher in than the U.S all races unintentional death rate.

Information gathered from the North and South Dakota Departments of Highway Safety revealed the following: the Native American population in South Dakota was 8.6% of the total population, but accounted for 26.4% of the State's motor vehicle fatalities. Likewise, in North Dakota the Native American population comprised 5.4% of the state, but accounted for 26% of the fatalities. Over the past 8 years, the Native American motor vehicle death rate in North and South Dakota has been 59 per 100,000. The National rate is 19.7 per 100,000.The South Dakota state-wide seat belt usage rate is 68% and North Dakota seat belt usage rate is 65%. According to the 2010 NHTSA report, nationally, occupant restraint use is 87%. These statistics demonstrate a health disparity and increasing occupant restraint use is one of the best ways to eliminate the problem.

In the Great Plains Area, there were 560 unintentional and intentional injury deaths from 2010-2012[2]. Out of the 560 deaths, [48%] (N=182) were due to motor vehicle crashes. Since 1981, the IHS has

[1] Centers for Disease Control & Prevention-WISQARS 1999-2012.
[2] Division of Vital Records, North Dakota and South Dakota 1996-2003.

supported activities that assist in preventing injuries to American Indians and Alaska Natives[3]. Activities such as: 1) establishing an Injury Prevention Specialist position in each IHS Service Area; 2) providing funds for Area's and Tribes for special intervention projects; 3) developing two National Injury Prevention Fellowship Programs; 4) developing a series of three injury prevention short courses to increase Tribal capacity; and 5) developing and supporting the Tribal Injury Prevention Cooperative Agreement Program (TIPCAP) to further build Tribal capacity.

The TIPCAPs were established to standardize injury prevention activities on a National level, increase Tribal injury prevention capacity, and incorporate effective strategies in injury prevention. The program is currently in its fourth funding cycle with three Part 1 funded programs in the Great Plains Area. The agency has contracted with Econometrica to provide on-going technical assistance, training, and evaluation services to IHS and Tribal staff working on TIPCAP projects. In 2003, the previous contractor, The University of North Carolina (UNC) School of Public Health's Department of Health Behavior & Health Education, identified a need for a standardized data collection method as a majority of TIPCAPs were conducting seat belt observational surveys[4]. A collaborative approach was used to develop the protocol and conduct pilot-testing in Tribal communities and TIPCAP sites. Currently sites conducting seat belt observations are utilizing the UNC/IHS protocol.

Methods

The protocol instructs observers to note seat belt usage of drivers and front seat passengers only. It is not recommended to set observational survey criteria based on the number of vehicles observed (i.e. observe until you see 100 vehicles).

The protocol contains four important elements:

1. Observation locations are randomly selected from a list of all possible observation locations at a Tribal community to ensure that all observation locations have an equal probability of being selected;
2. Traffic volume assessments are conducted to ensure there are sufficient observations at an observation location and to inform the number of locations to be selected;
3. Three different time intervals are included to ensure that each time of day/location combination has an equal probability of being selected; and
4. The number of observation locations required is based on statistical tests and varies depending on the average number of cluster observations and the design effect.

The protocol details each of the four primary steps and examples of each step. Included in the protocol instructions are tables for determining the number of observation sites, sample data collection forms,

[3] Smith and Robertson, 2000.
[4] UNC Seat Belt Observational Survey Protocol Development Project, Final Report-2005.

and sample spreadsheets. A copy of the protocol and instructions on how to use the protocol can be found in appendix C.

Results

A total of seven (7) sites reported seat belt observation data. Of those, (3) South Dakota, two (3) North Dakota, and one (1) site from Nebraska submitted usage rates. Tribal policy and procedures govern all except the tribes of Nebraska and are directly responsible for current levels of safety belt use. Nebraska tribes are considered a "Public Law 280" which requires Tribal residents to abide by state traffic rules/authorities but they are enforced by Tribal Law Enforcement.

In calendar year 2014, a total of 10,922 occupant seat belt use observations were conducted on the 7 Great Plains Area reservations. The overall passenger seat belt usage rate for individual Tribes ranged from 8% to 69%. When the use rate was combined for all submittals, overall seat belt use rate was 43% for drivers and 30% for passengers and 40% for all occupants. For the entire seat belt use rates see Table 1 in the appendix.

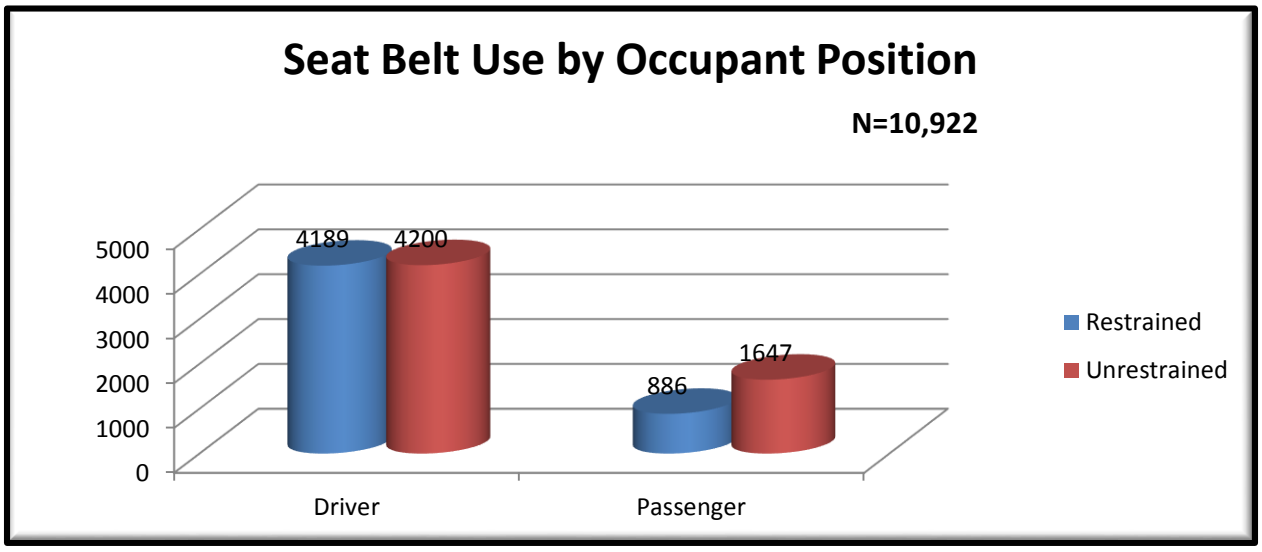


Figure 1- Aberdeen Area Driver vs. Passenger Usage Rates

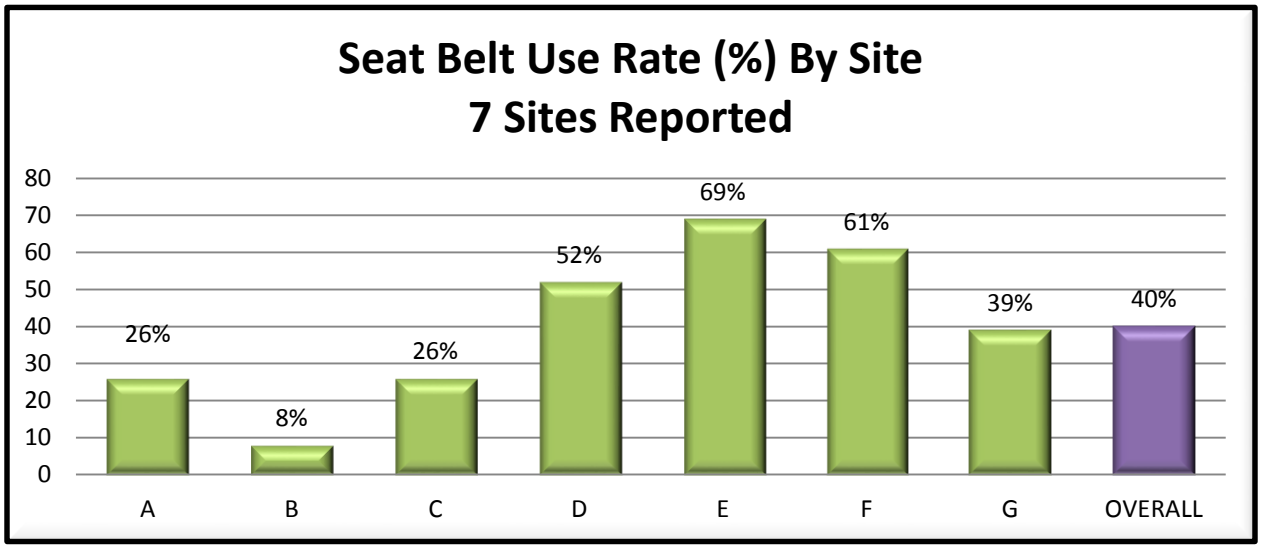


Figure 2- Aberdeen Area Usage Rates by Site

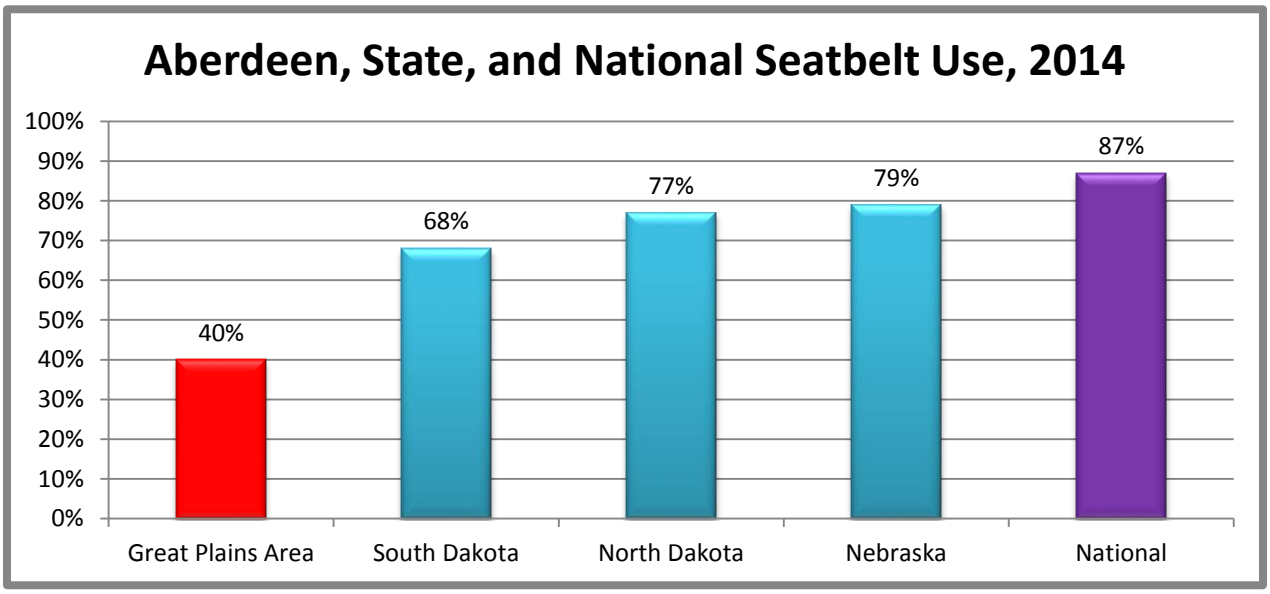


Figure 3 – Area Usage Rate compared to State and National Rates.

Discussion, Conclusion, and Recommendations

Over the past four years the Great Plains Area has seen a dramatic improvement in overall occupant restraint usage in tribal communities. In 2011 the occupant restraint survey found a 30% seat belt usage for drivers, 19% for passengers and an overall usage rate of 24%. The 2015 occupant restraint report found overall occupant restraint usage was 40% which represents 70.8% increase in seat belt use over the last four years. The increases in overall occupant restraint use within the Area can be attributed to the passage of primary seatbelt laws; increased enforcement activity; in some locations dedicated traffic courts to process cases more efficiently; increased funding for occupant restraint work ($720K in IHS TIPCAP and 630K in CDC TMVIPP funding over the last five years) and increased community involvement and $150K in Special Projects from the Great Plains Area to support occupant protection.

During 2015 the DEHS program will be completing the Severe Injury Surveillance (SIS) project which will look at RPMS Injury data from 2010 through 2012. When completed, the DEHS program will be able to compare injury rates from the 2005-2007 study. Based on the increase in overall restraint use, it is hoped that the number of severe injuries and fatalities due to motor vehicle crashes have dropped. This is especially true for communities that had TIPCAP and TMVIPP projects over the past five years (Pine Ridge, Rosebud, Sisseton and the Great Plains Tribal Chairman's Health Board).

It is impossible to put a value on human life, but it is possible to calculate cost savings from preventing a death. The CDC Cost of Injury Report shows that one life lost due to an unintentional injury death in the Great Plains Area costs an average of $838,943 in medical care and lost wages. It is our belief that the increases in occupant restraint usage over the past 4 years have been significant and will result in a reduction in MVC injuries and deaths

The seat belt use rate for Native Americans in the Northern Plains is very low when compared to State and National rates. In 2014, the observed seat belt use rate was 40% (all occupants) for the Native American population in the Great Plains Area, whereas the National rate was 87% (see NHTSA) and the state-wide rate for Nebraska, 79%[5], North Dakota, 77% and South Dakota 68%.

Four of the reservations participating in this National study had primary safety belt laws. On those reservations, 87% of the vehicle occupants were belted. By comparison, three Tribal reservations had secondary belt laws and averaged 53% seat belt use. On the four reservations with no seat belt laws of any kind, the usage rate was 26%. On reservations subject to Tribal law and Tribal law enforcement, the Tribal government can have a major impact on increasing occupant restraint use. The NHTSA study concluded Tribal policy and procedures are directly responsible for current levels of safety belt use, and it is in these areas that Tribal efforts can be most effective in establishing and improving safety belt usage levels.

[5] NHTSA, May 2014

Within the Great Plains Area, BIA law enforcement reported nine reservations passed primary seat belt laws. Fines associated with adult seat belt violations ranged from $20.00-$250.00[6].

Evidence-based research shows that passage of seat belt use laws, coupled with education and enforcement efforts are effective tools to increase seat belt use. Use of seat belts can reduce the risk of death in a motor vehicle crash by 45-60%, and can reduce moderate to critical injury 50-65%.

A sound recommendation is to encourage all Tribal governments to adopt and enforce primary seat belt laws.

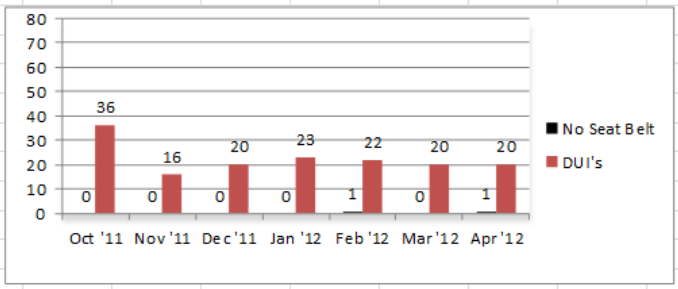
The Turtle Mountain reservation has had a primary seat belt law for many years, but low enforcement led to very low rates of usage. In the latter part of 2012 the Tribe secured a grant for the Tribe to pay Tribal police overtime to conduct additional traffic patrols with emphasis on non-seat belt use. The usage rate at the time of the grant application was 34%. In 2013, following 6 months of increased enforcement, the rate climbed to 73%, which is a dramatic increase, and more in line with state rates. The rates of DUIs have also fallen due to the increased policing.

Although the grant funding has expired and policing has decreased Turtle Mountain continues to have the highest rate of seatbelt usage in the Great Plains area and this is a direct correlation to the increased enforcement and policing.

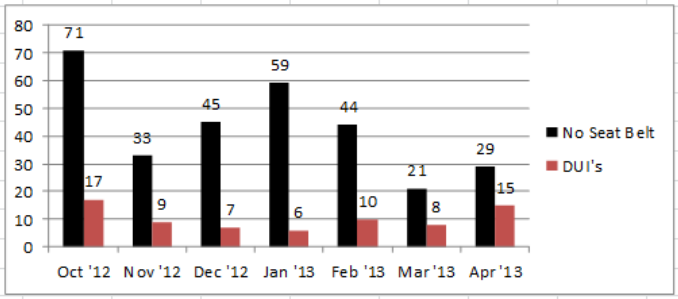
[6] BIA Law Enforcement Survey, May 2014.

Turtle Mountain Tribal Court
No Seat Belt/DUI Citations
Oct. 2011 to Mar. 2012 and Oct. 2012 to Mar. 2013

2011	No Seat Belt	DUI's
Oct '11	0	36
Nov '11	0	16
Dec '11	0	20
Jan '12	0	23
Feb '12	1	22
Mar '12	0	20
Apr '12	1	20



2012	No Seat Belt	DUI's
Oct '12	71	17
Nov '12	33	9
Dec '12	45	7
Jan '13	59	6
Feb '13	44	10
Mar '13	21	8
Apr '13	29	15



So where do we go from here? Future successes in increasing the use of occupant restraints and ultimately the reduction of motor vehicle related mortality requires a coordinated effort on the part of the Federal, State, and Tribal Governments. The Great Plains Area Indian Health Service DEHS program can positively affect these efforts by utilizing the spectrum of prevention [7] for intervention development and to work with Tribes in completing their TIPCAP applications for part I or part II projects in 2015. There is still more work to do in order to gain support for primary seat belt laws and increased enforcement within the Great Plains Area communities and DEHS staff will work with their Injury Prevention partners and IP coalitions to help build stronger support for primary laws and seatbelt enforcement activities. As an example, *Click It or Ticket* and *Operation ABC* mobilizations are part of an effective intervention strategy and DEHS staff will continue to help support those activities along with their IP coalition partners.

In addition to intervention work, the DEHS staff will continue to conduct occupant restraint surveys to monitor progress on this indicator and modify activity when slippage is observed. Each individual approach builds on the previous intervention in order to be successful. Continuing to work on building

[7] Developed by the Prevention Program from the work of Marshall Swift, Ph.D., Hahnemann College, Philadelphia, PA. A paper, "The Spectrum of Prevention," and a video demonstrating this methodology, "Beyond Brochures: New Approaches to Prevention," are available through the Prevention Program.

community level infrastructure through coalitions, development; educating communities about the problem; developing innovative collaborations to accomplish a common goal; providing Injury Prevention training to grassroots organizations, and supporting Tribal policies and sovereignty are ongoing tasks the Great Plains Area DEHS program will carry forward over calendar year 2015.

The Spectrum of Prevention - Six Interventions
Influencing Policy & Legislation
Changing Organizational Practices
Fostering Coalitions & Networks
Educating Providers
Promoting Community Education
Strengthening Individual Knowledge & Skills

Appendix A

Table 1- Area Observational Seat Belt Use Survey Data 2014

Reservation	#Drivers Restrained	#Drivers Unrestrained	Total # Drivers	Driver Usage Rate	# Passengers Restrained	# Passengers Unrestrained	Total # Passengers	Passenger Usage Rate	# Occupants Restrained	Total # Occupants	**Overall Usage**
A	80	203	283	28%	22	92	114	19%	102	397	**26%**
B	96	631	727	7%	27	234	261	10%	123	988	**8%**
C	481	1123	1604	33%	108	548	656	16%	589	2260	**26%**
D	1105	855	1960	57%	389	498	887	44%	1494	2847	**52%**
E	1187	486	1673	72%	306	179	485	63%	1493	2158	**69%**
F	1070	677	1747	61%	N	N	N	N	N	1747	**61%**
G	170	225	395	43%	34	96	130	26%	204	525	**39%**
TOTAL	4189	4200	8389	43%	886	1647	2533	30%	4005	10922	**40%**

`

Limitations in the data may be due to lack of reporting from Tribal locations and/or reporting overall usage rate only.

Appendix B

GREAT PLAINS AREA INDIAN HEALTH SERVICE 2015
Observational Seat Belt Survey - Summary

Site/Location	Staff Name	Phone Number	Address	Email
Pierre District Office	Terrold Menzie	(605) 945-5071	420 S. Garfield, Suite 200	Terrold.Menzie@ihs.gov
Cheyenne River Sioux Tribe	Randolph Runs After	(605) 964-6190	CRST Tribal Health PO Box 590 Eagle Butte, SD 57625	Sanitarian@lakotanetwork.com
Pine Ridge IHS	Kenith Franks Dawn Holguin Jennifer Franks	(605) 867-3049 (605) 867-3368	Pine Ridge IHS PO Box 1201 East Hwy 18 Pine Ridge, SD 57770	Kenith.franks@ihs.gov Dawn.Holguin@ihs.gov Jennifer.Franks@ihs.gov
Ft. Thompson IHS Lower Brule IHS	VACANT (Contact T. Menzie)	(605) 245-1587	Ft. Thompson IHS 1323 BIA Rt. 4 Ft. Thompson, SD 57339	VACANT
Sioux City District Office	Mike Reed	(712) 252-3988	320 6th Street, Rm. 212, Box 19 Sioux City, IA 51101	Mike.Reed@ihs.gov
Winnebago Tribe of Nebraska	VACANT (Contact M. Reed)	(402) 878-2231 x1256	Hwy 75/77 Winnebago, NE 68071	
Omaha Tribe of Nebraska	James Randol	(402) 837-4518	PO Box 250 Omaha, NE 68039	James.randol@ihs.gov
Santee Sioux Tribe	Sam Kitto	(402) 857-2300	110 S. Visiting Eagle St. Niobrara, NE 68760	Anthony.kitto@ihs.gov
Rosebud IHS	Charles Mack Orlanna Schmidt	(605) 747-3267	PO Box 400, Soldier Creek Rd. Rosebud, SD 57570	Charles.Mack@ihs.gov Orlanna.schmidt@ihs.gov
Wagner IHS	Brandon Parker	(605) 384-3621 x282	111 Washington Ave NW Wagner, SD 57360	Brandon.parker@ihs.gov
Sisseton IHS	Veronica Leaf	(605) 742-3750	Woodrow Wilson Keeble Memorial Health Center 100 Lake Traverse Dr. Sisseton, SD 57262	Veronica.leaf@ihs.gov
Minot District Office	Molly Curry	(701) 852-0250	100 1st St. SW, Rm.302 Minot, ND 58701	Molly.Curry@ihs.gov
Belcourt IHS	James Dodd	(701) 477-8524	Quentin N. Burdick Memorial Health Care Facility PO Box 160 Belcourt, ND 58316	James.Dodd@ihs.gov
Three Affiliated Tribes	Shelby Legos	(701) 627-7716	Minne-Tohe Health Center 1 Minne-Tohe Dr. New Town, ND 58763	Shelby.lego@mhahealth.com
Spirit Lake Nation	Janelle Fassett	(701) 766-4236	Spirit Lake Tribe of North Dakota PO Box 480 Ft. Totten, ND 58335	Janelle.fassett@ihs.gov
Standing Rock Sioux Tribe	Lois Two Bears	(701) 854-3649	SRST-Env. Health PO Box D Fort Yates, ND 58568	ltwobears@standingrock.org

Site/Location	Staff Name	Phone Number	Address	Email
Aberdeen Area Office	Bobbi Peltier Tim Balderrma Chris Allen	(605) 226-7598 (605) 226-7453 (605) 226-7597	115 4th Ave SE, Rm.309 Aberdeen, SD 57401	Bobbi.Peltier@ihs.gov Tim.Balderrama@ihs.gov Chris.Allen@ihs.gov
ND Division Vital Records	Carmell Barth	(701) 328-2303	ND Dept. of Health 600 East Blvd. Ave. Bismarck, ND 58505-0200	cbarth@nd.gov
SD Vital Records	Mark Gildemaster	(605) 773-3596	SD Dept. of Health 600 East Capitol Pierre, SD 57501-2536	Mark.Gildemaster@state.sd.us
NE Vital Records	Mihaela Johnson	(402) 471-1063	301 Centennial Mall South Nebraska State Office Building , 3 Lincoln, NE 68509	Mihaela.Johnson@nebraska.gov
Headquarters IHS	Nancy Bill	(301) 443-0105	801 Thompson Ave Suite 120 Rockville, MD 20852	Nancy.Bill@ihs.gov
CDC Injury Prevention	Holly Billie	(770) 488-4712	4770 Buford Highway, NE (F62) Atlanta, GA 30341-3724	Holly.billie@cdc.gov

Appendix G

Horizontal Curve Improvements

2015
Tribal
Transportation
Safety
Summit

Andy Vandel
Highway Safety Engineer
SDDOT

Crash Statistics

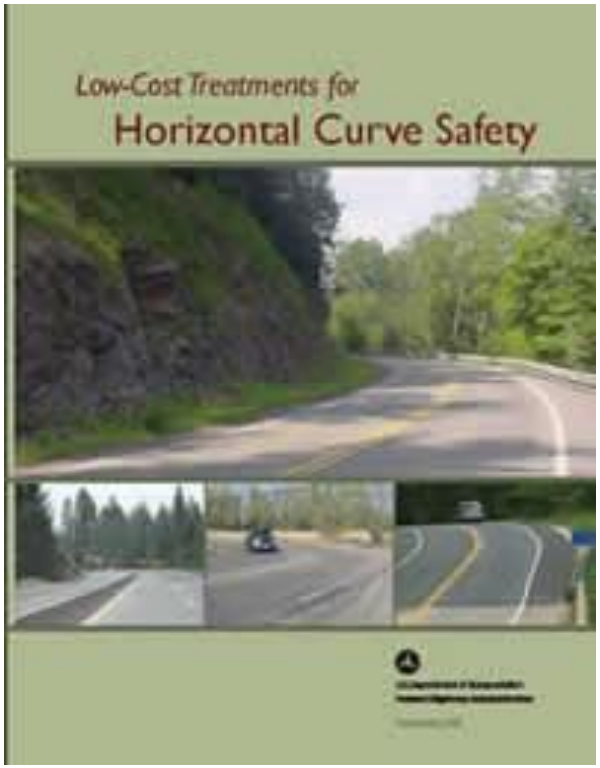
- Run-off-the-road crashes account for **57%** of Fatal/Serious Injury crashes
- **26%** of ROR crashes occurred on a horizontal curve
- Horizontal curves account for less than **10%** of the highway system

Horizontal Curve Improvements

- Low Cost Improvements
- Minor Roadway Improvements
- Major Roadway Improvements

Low-Cost Treatments

- Pavement Markings
- Rumble Strips
- Signing and Delineation
  - Horizontal Alignment Signs
  - Advisory Speed Plaque
  - One-Direction Large Arrow Sign
  - Chevron Alignment Sign



Pavement Markings

- Centerline and Edge line Markings
  - Wider and durable edge lines

Roadway with 4-in edge line

Roadway with 8-in edge line

Rumble Strips

- Centerline
- Shoulder
- Across Roadway

Illustrations of rumble strip for centerline (left), shoulder (middle), and across roadway (right).

Signing and Delineation

- **Horizontal Alignment Signs**
  - Single Curve
  - More than one curve in close proximity
  - Winding Road sign
- Recommended if speed differential is between 5 and 10 mph
- Required if speed differential is greater than 10 mph

Signing and Delineation

- **Advisory Speed Plaque**
  - Set by a ball bank indicator, based on posted speed
    - 16° for speeds 20 mph or less
    - 14° for speeds 25 to 30 mph
    - 10° for speeds 35 mph or greater

  - Recommended if speed differential is between 5 and 10 mph
  - Required if speed differential is greater than 10 mph
  - Used in conjunction with horizontal alignment signs

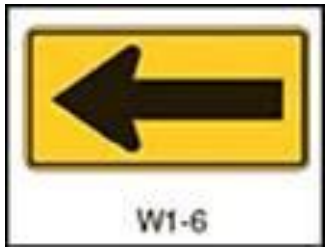
W13-1

Signing and Delineation

- **Combination Horizontal Alignment / Advisory Speed Sign**
  - Use as a supplement to Horizontal Alignment sign and Advisory Speed plaque
  - Optional sign

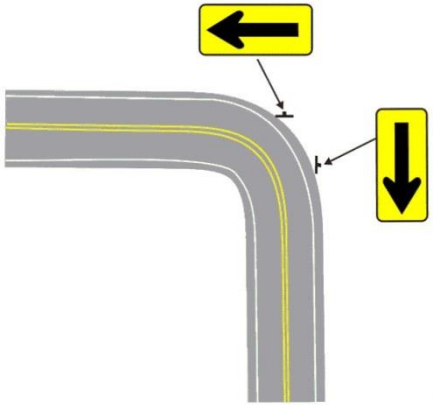
Signing and Delineation

- **One-Direction Large Arrow Sign**

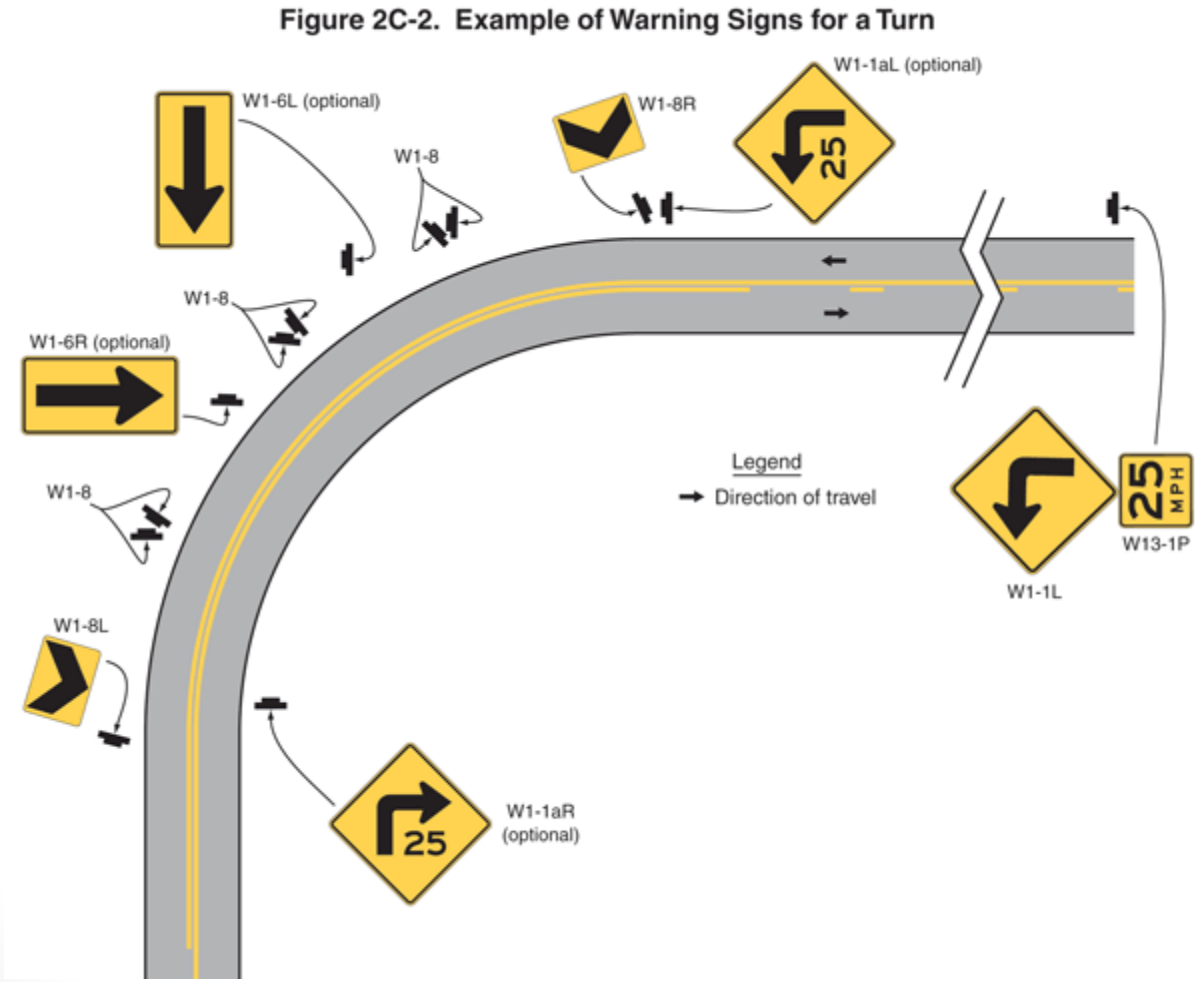


- **Chevrons**

- Optional if speed differential is between 5 and 10 mph
- Recommended if speed differential is between 10 mph and 15 mph
- Required if speed differential is greater than 15 mph



Signing and Delineation



Signing and Delineation

- Dynamic Speed Signs
- AKA, Changeable Message Signs

Minor Roadway Improvements

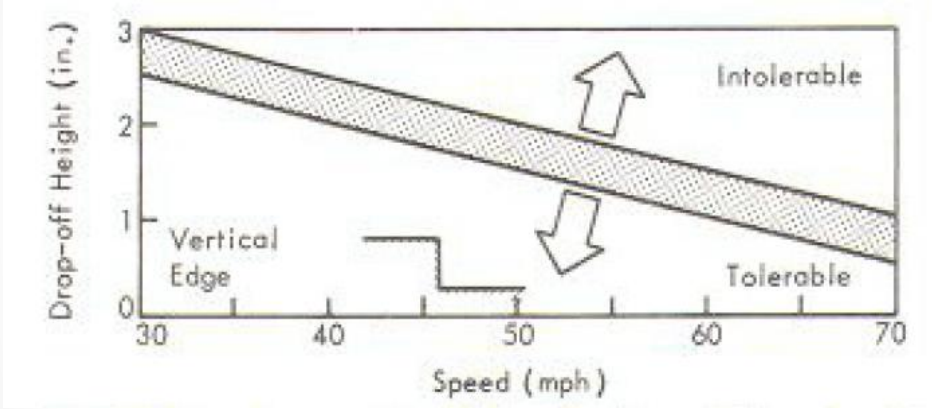
- Paved Shoulder Treatment
- Shoulder Drop-Off Elimination
- Shoulder Widening
- High Friction Surface Treatments

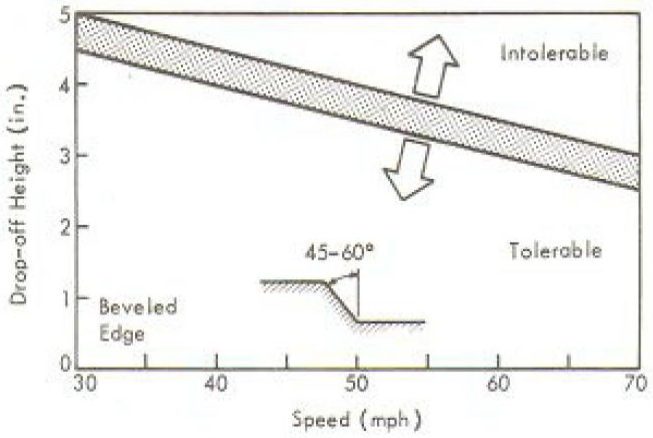
Paved Shoulder Treatments

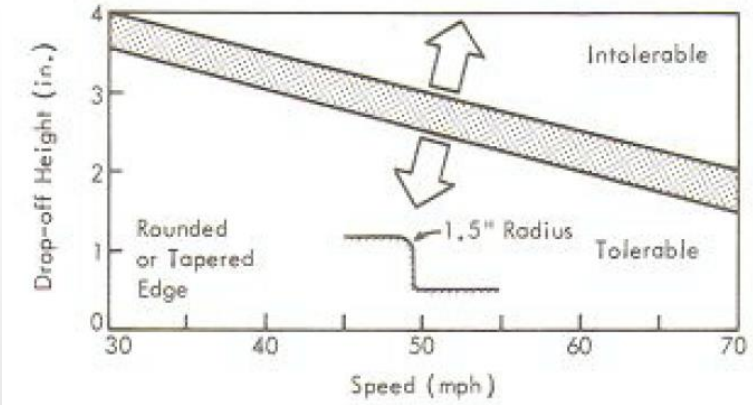
- Provides additional recovery area
- Provides area to add shoulder rumble stripes
- Provides a strong visual effect

Shoulder Drop-Off Elimination

- Vertical drop off creates a snagging hazard





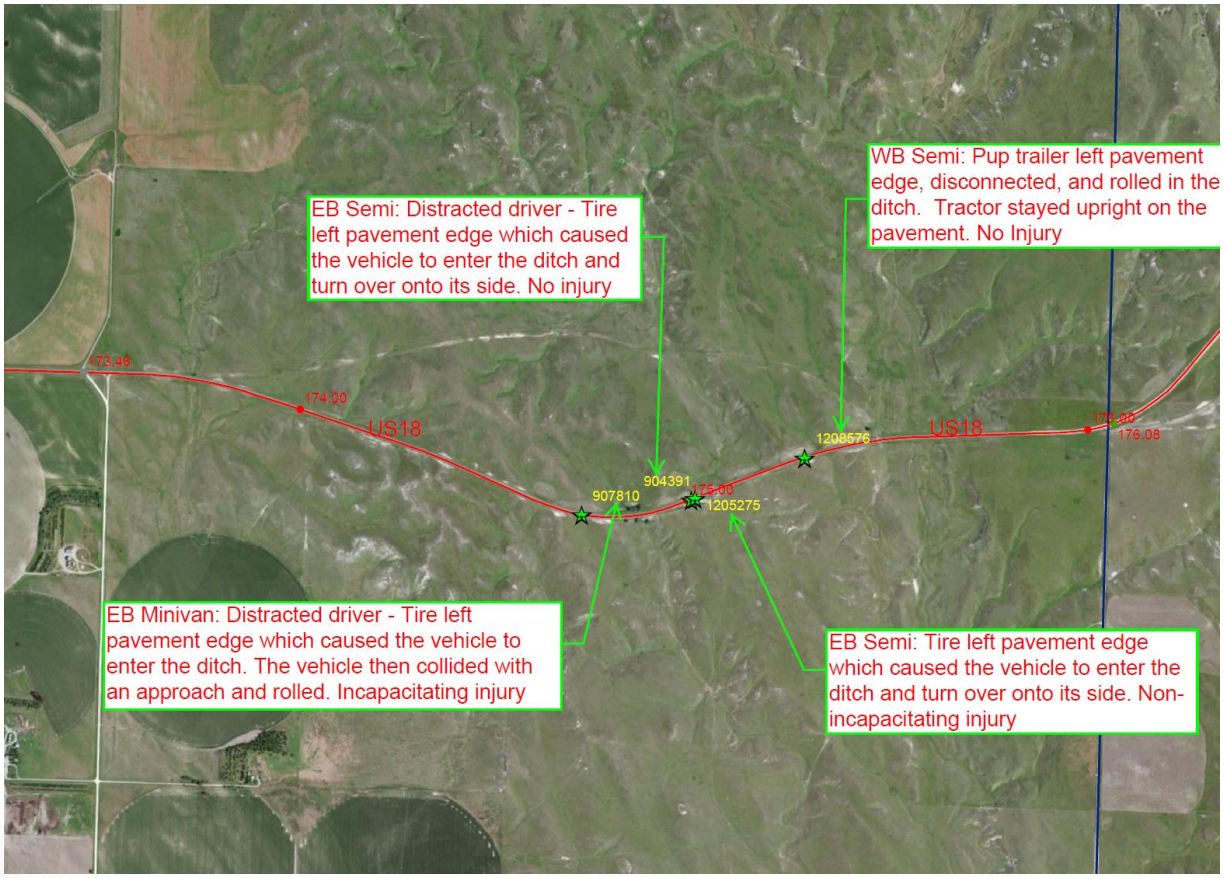


Shoulder Widening

- Provides additional recovery area
- Provides area to add shoulder rumble stripes
- Provides a strong visual effect
- More cost effective then widening a whole corridor

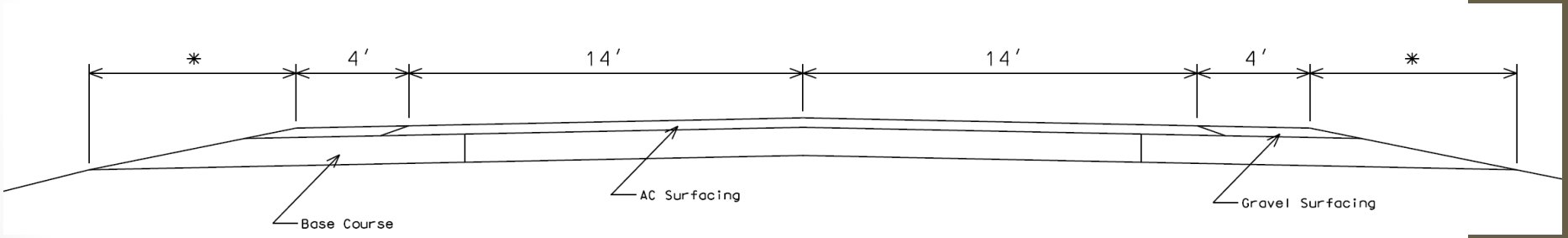
Shoulder Widening

- US18 – From Bennett/Todd Co west 2.5 miles



Shoulder Widening

- US18 – Roadway Section
  - Existing 2’ shoulders
  - Widened to 6’, per the Road Design Manual table 7-1



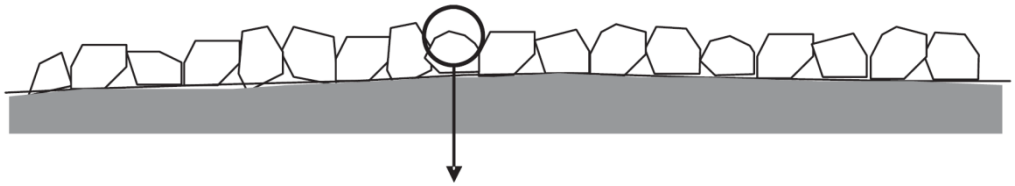
High Friction Surface Treatment

- What is High Friction Surface Treatment (HFST)?
  - Calcined Bauxite Aggregate
  - Polymeric Resin Binder
  - Used at high crash locations due to lack of friction

High Friction Surface Treatment

- Increased Micro and Macro Friction

Macro-texture



Micro-texture

High Friction Surface Treatment

- Application - Polymeric Resin Binder
  - Resin binder applied by automated truck or squeegee
  - Average thickness of 60 mils

High Friction Surface Treatment

- Application - Polymeric Resin Binder

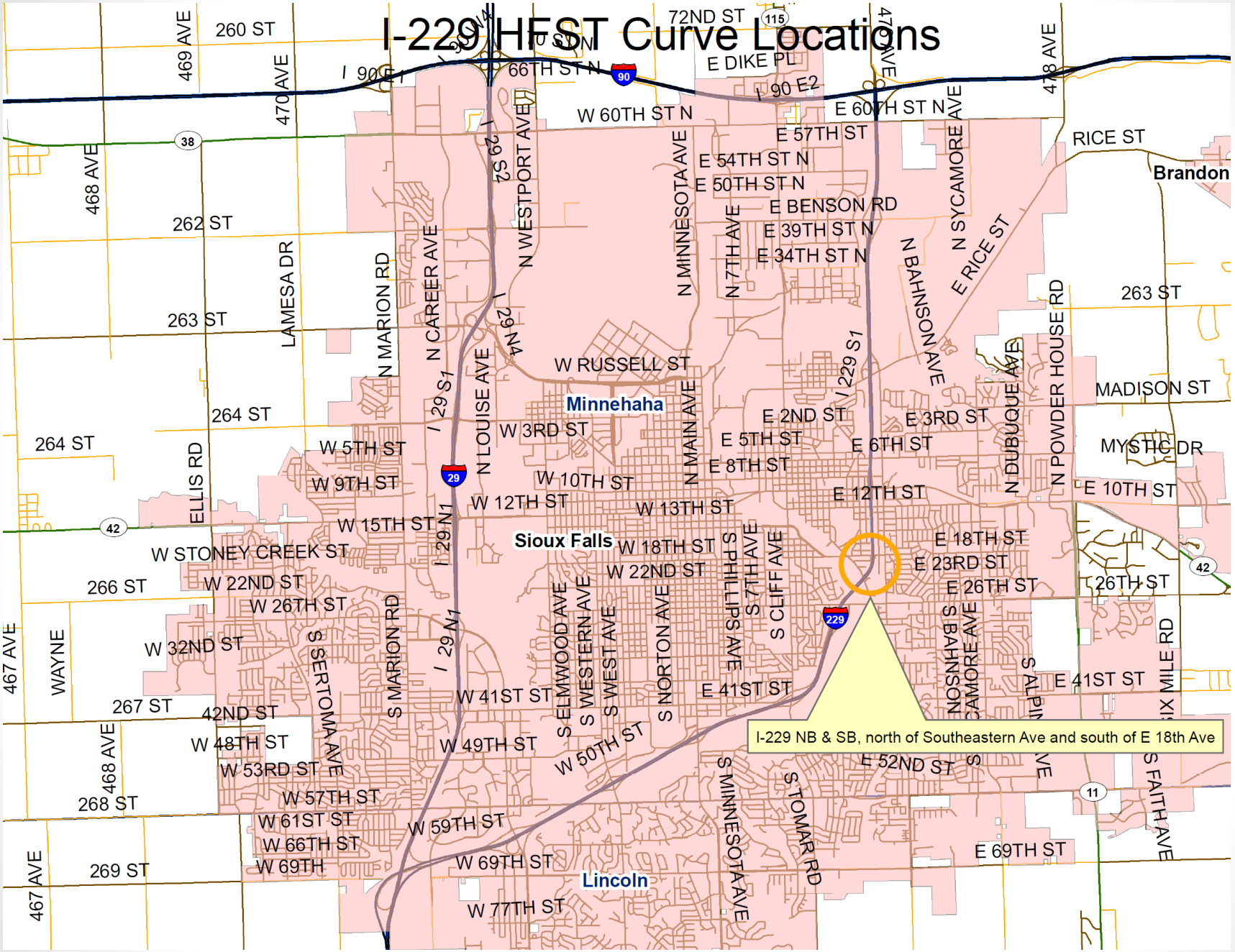
High Friction Surface Treatment

- Application - Calcined Bauxite Aggregate
- Immediately after polymeric resin binder
- Uniform rate of 13 lbs./yd^2

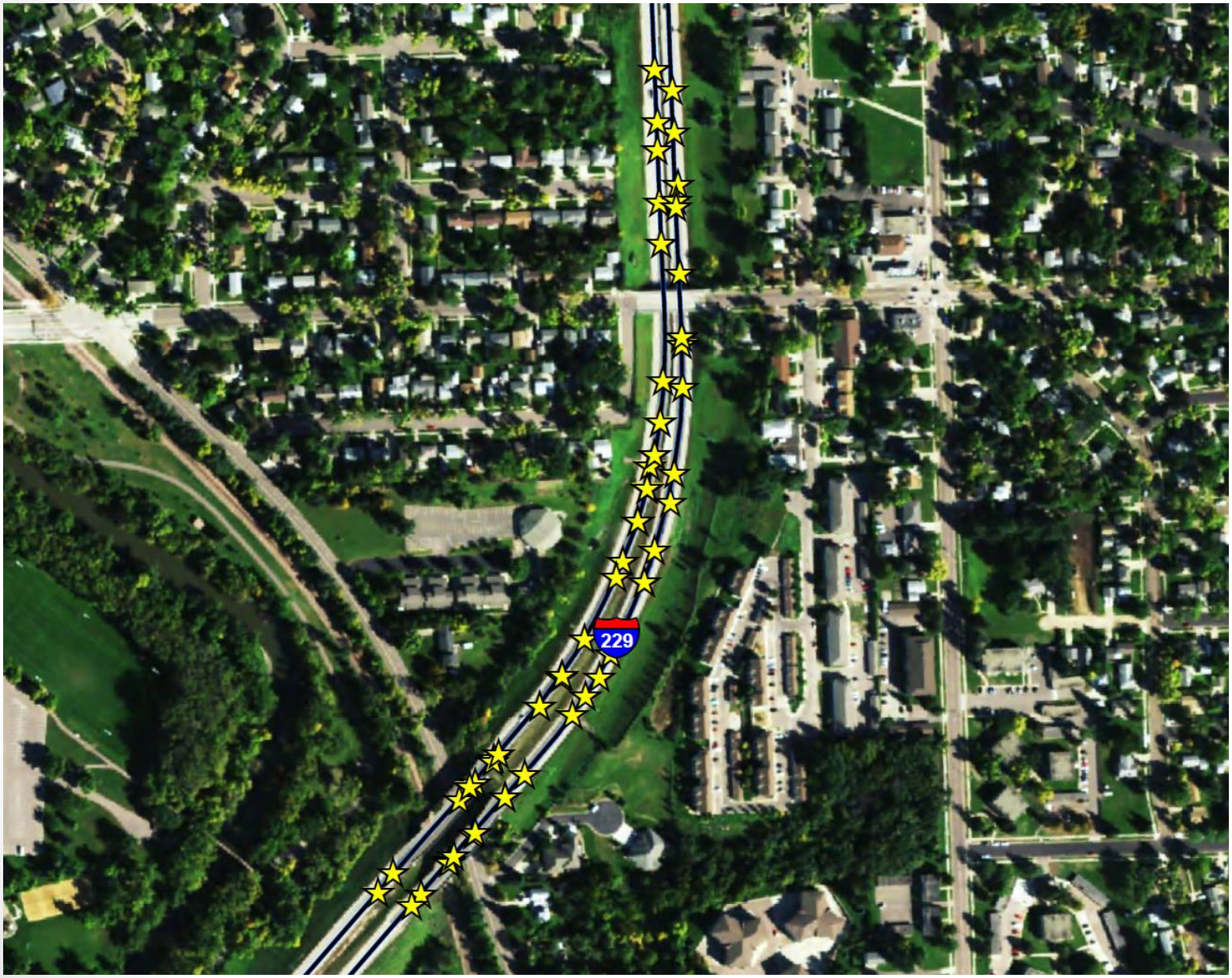
High Friction Surface Treatment

- Curing and Clean Up
  - Cure in accordance with manufacturer's recommendations
  - Clean up by removing excess calcined bauxite aggregate

I-229 HFST Curve Locations



66 Crashes between 2009 and 2013



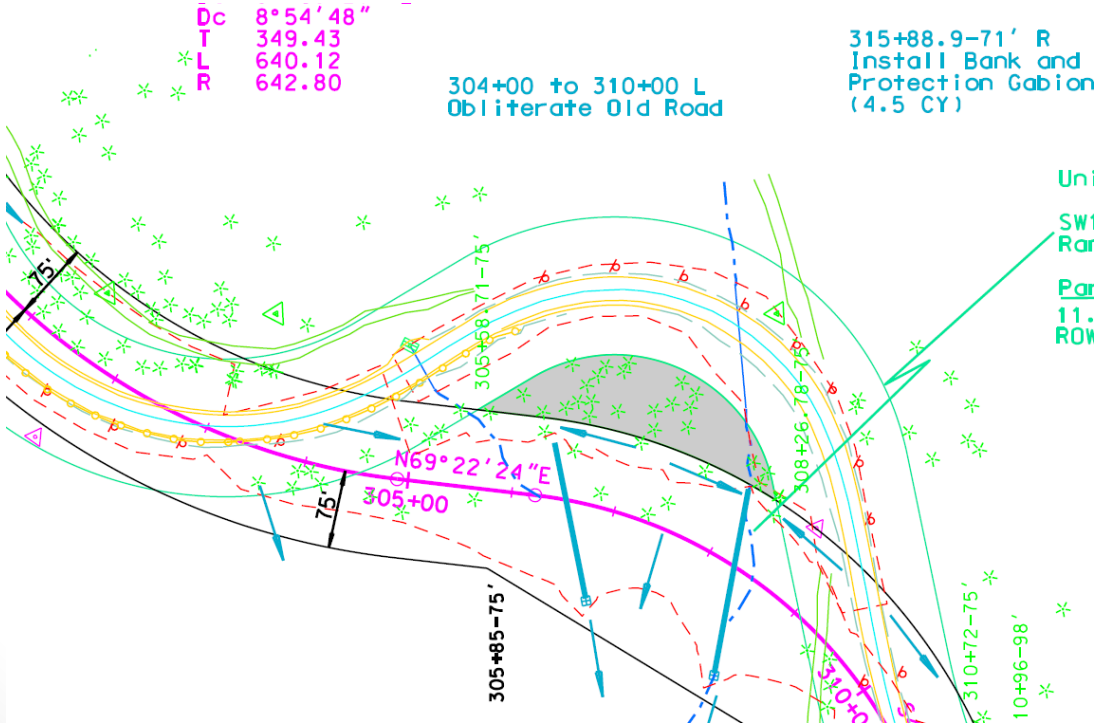
1 Crash so for this winter

12 crashes between 2009 and 2013

1 Crash so for this winter, outside of HFST limits

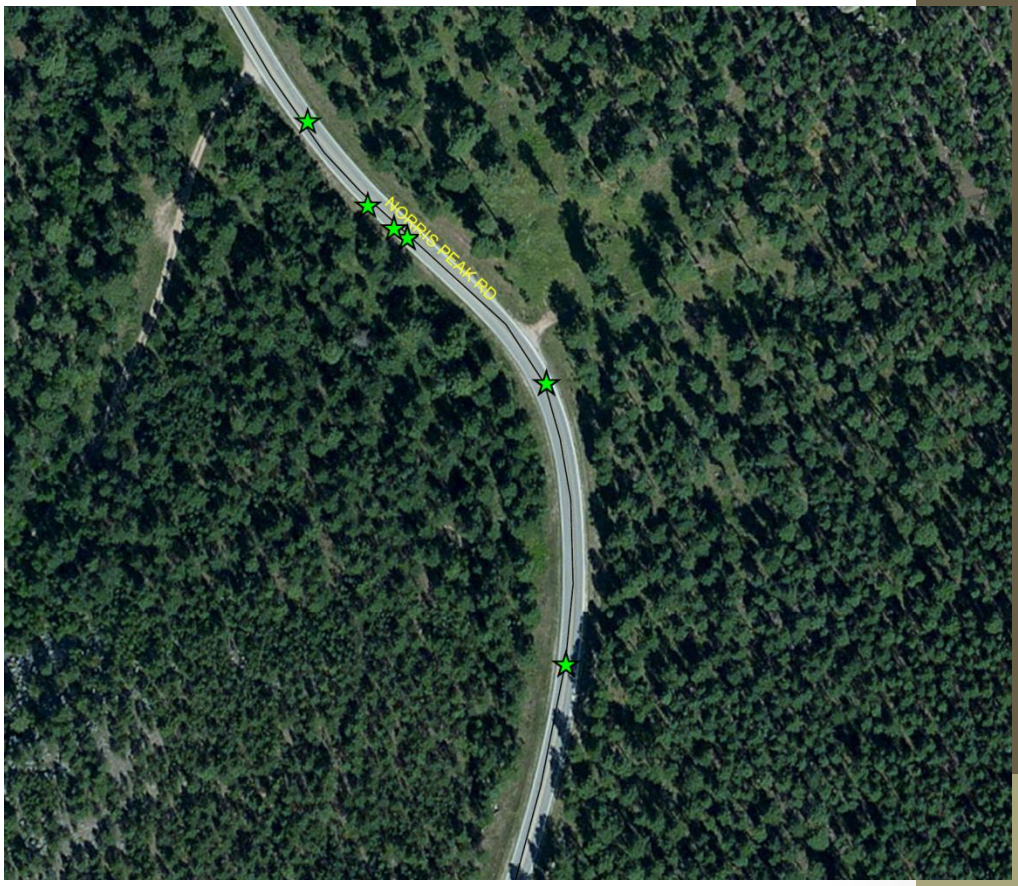
Major Roadway Improvements

- Full grading for realignment
- Correction of cross slope or vertical profile
- Back slope excavation for Sight Distance
- Any combination of improvements

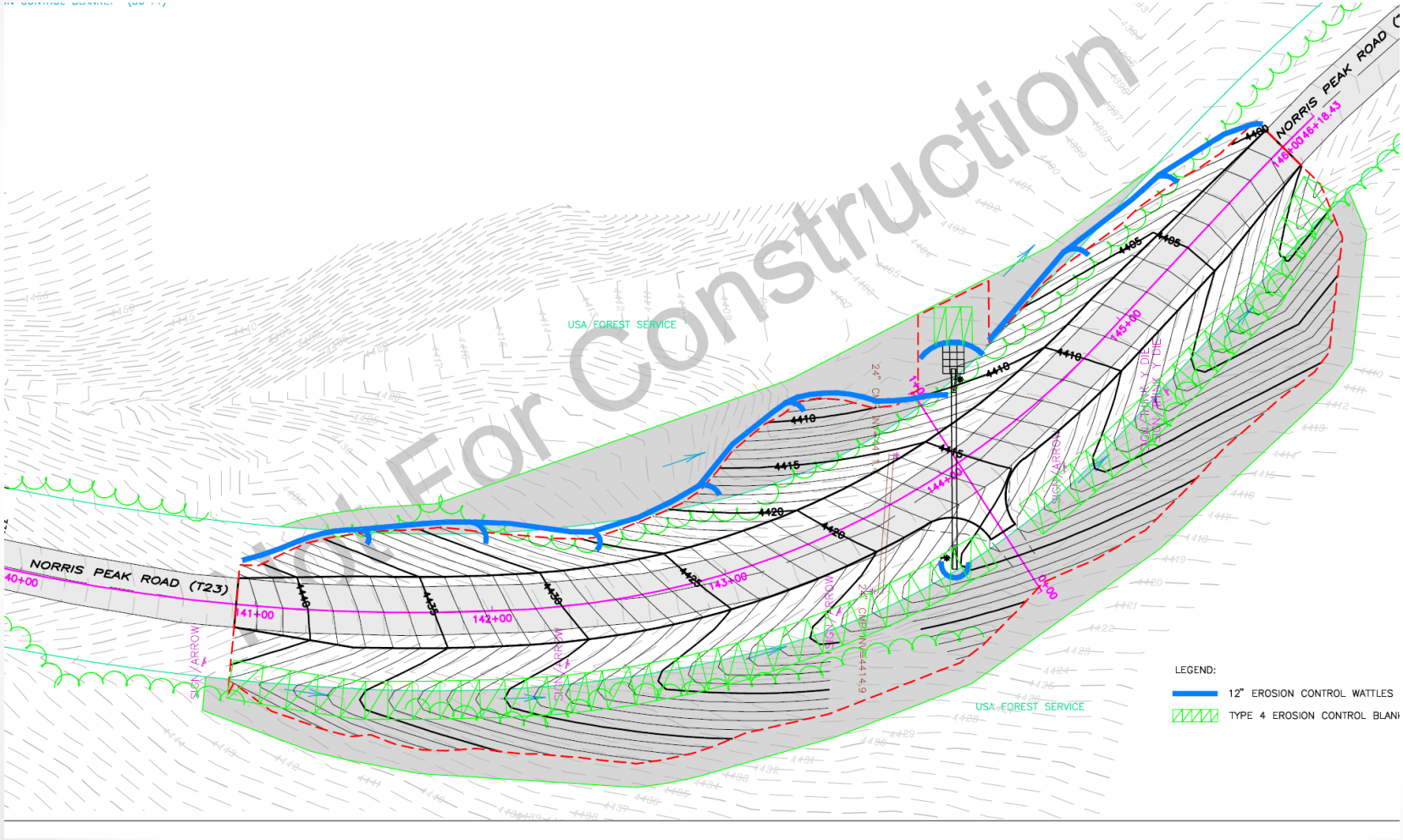


Major Roadway Improvements

- Norris Peak Road
  - Minor Realignment
  - Shoulder Widening
  - Improve Cross Slope

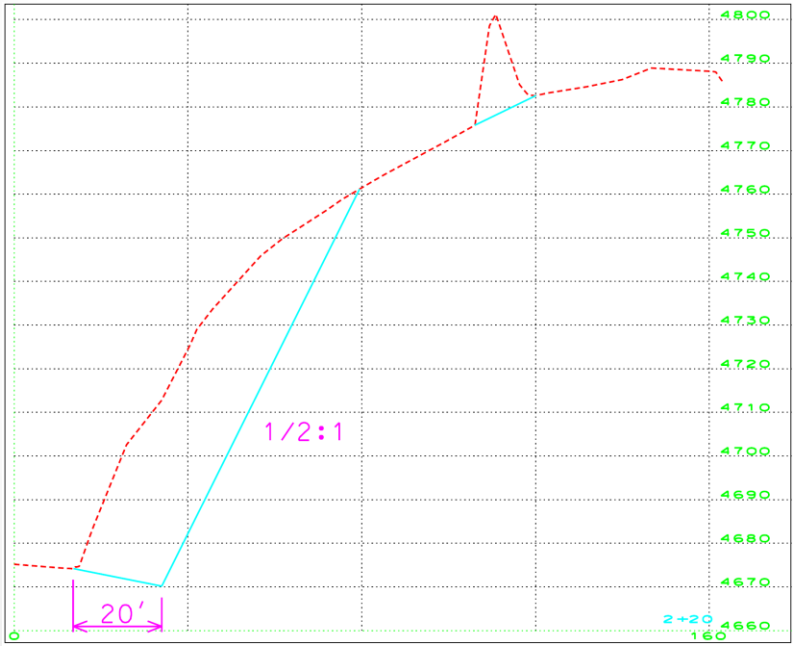


Norris Peak Road



Broken Boot – US14A west of Deadwood

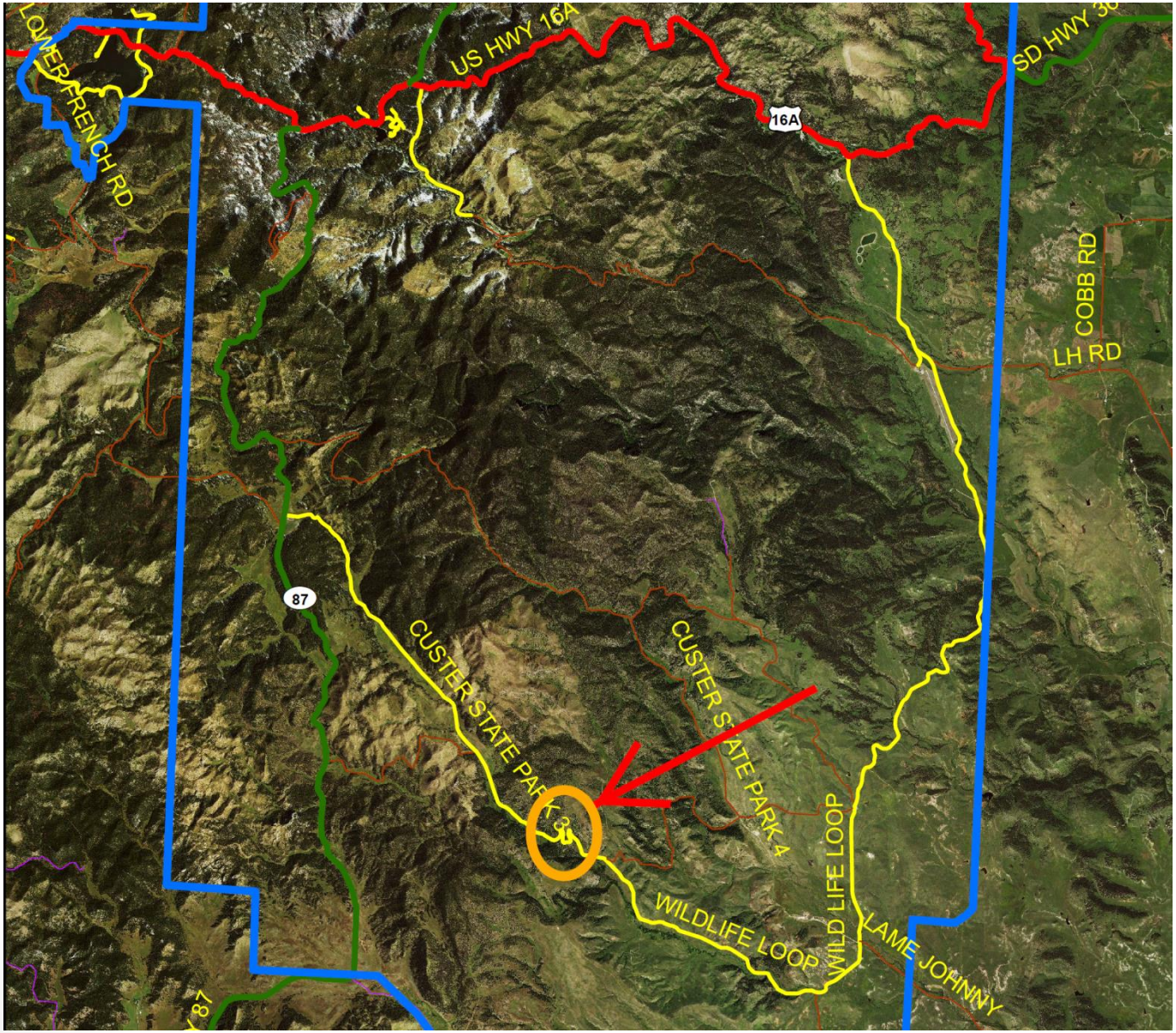
- Before rock excavation



Broken Boot – US14A west of Deadwood

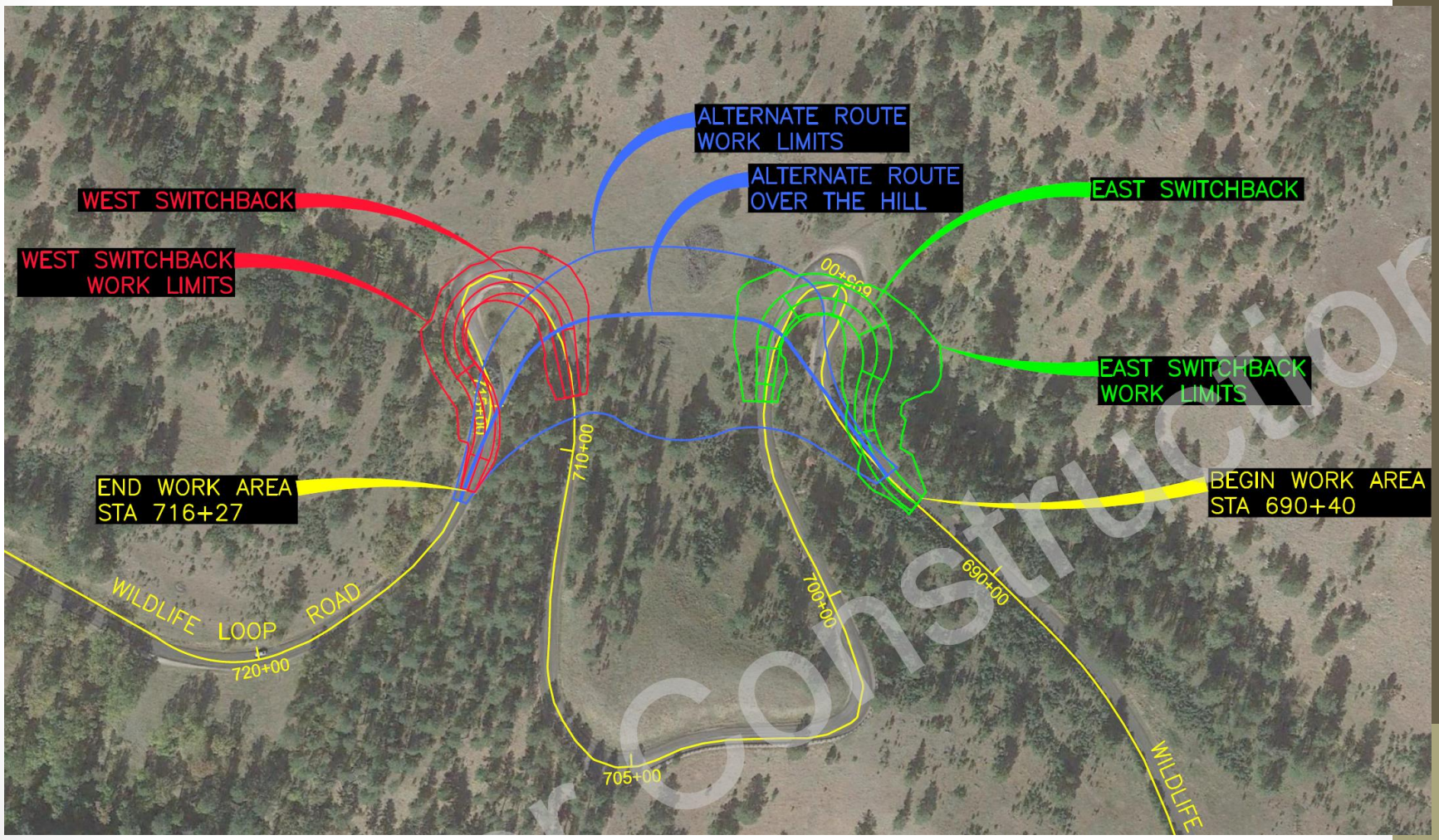
- After rock excavation

CSP - Wildlife Loop



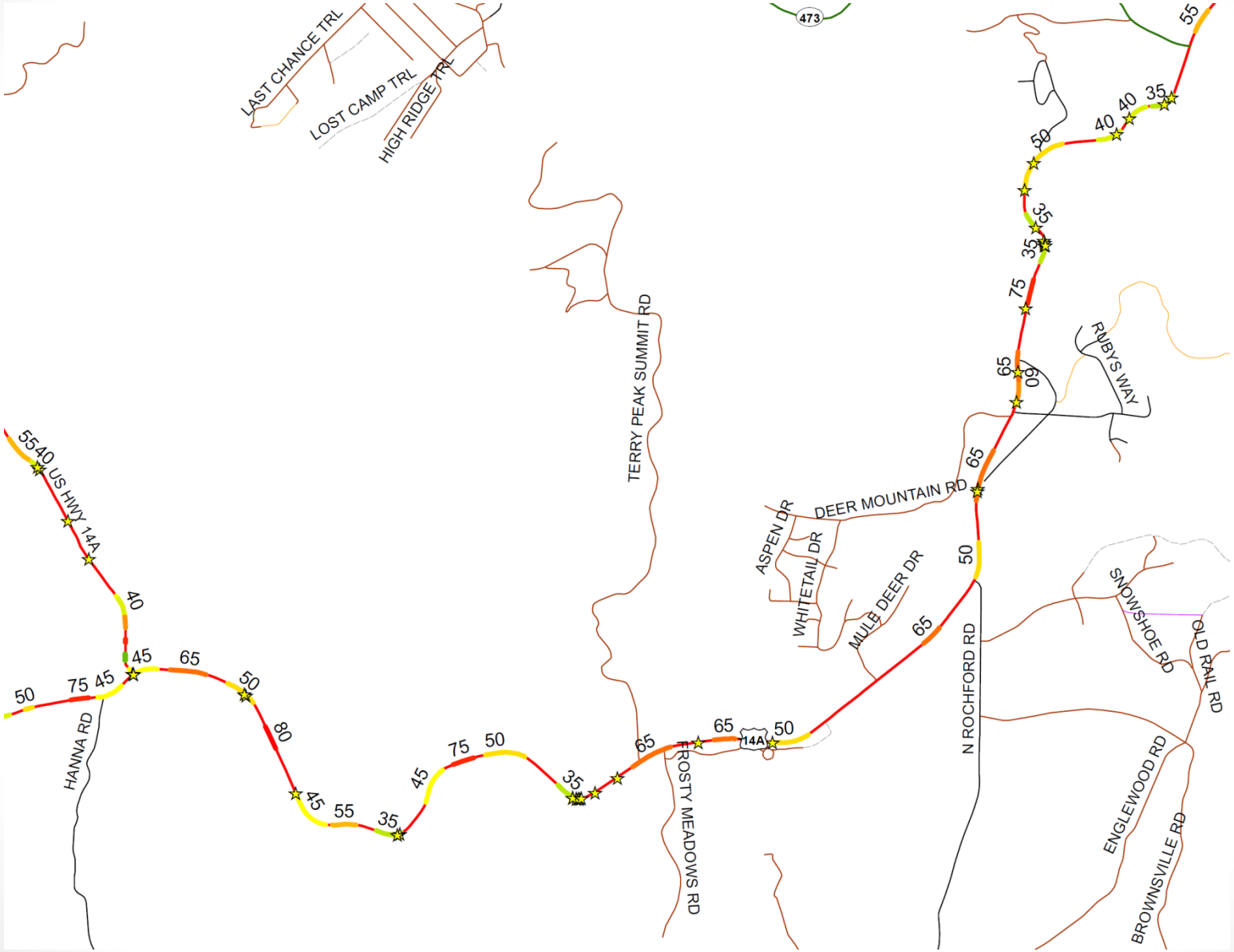
CSP – Wildlife Loop

CSP – Wildlife Loop

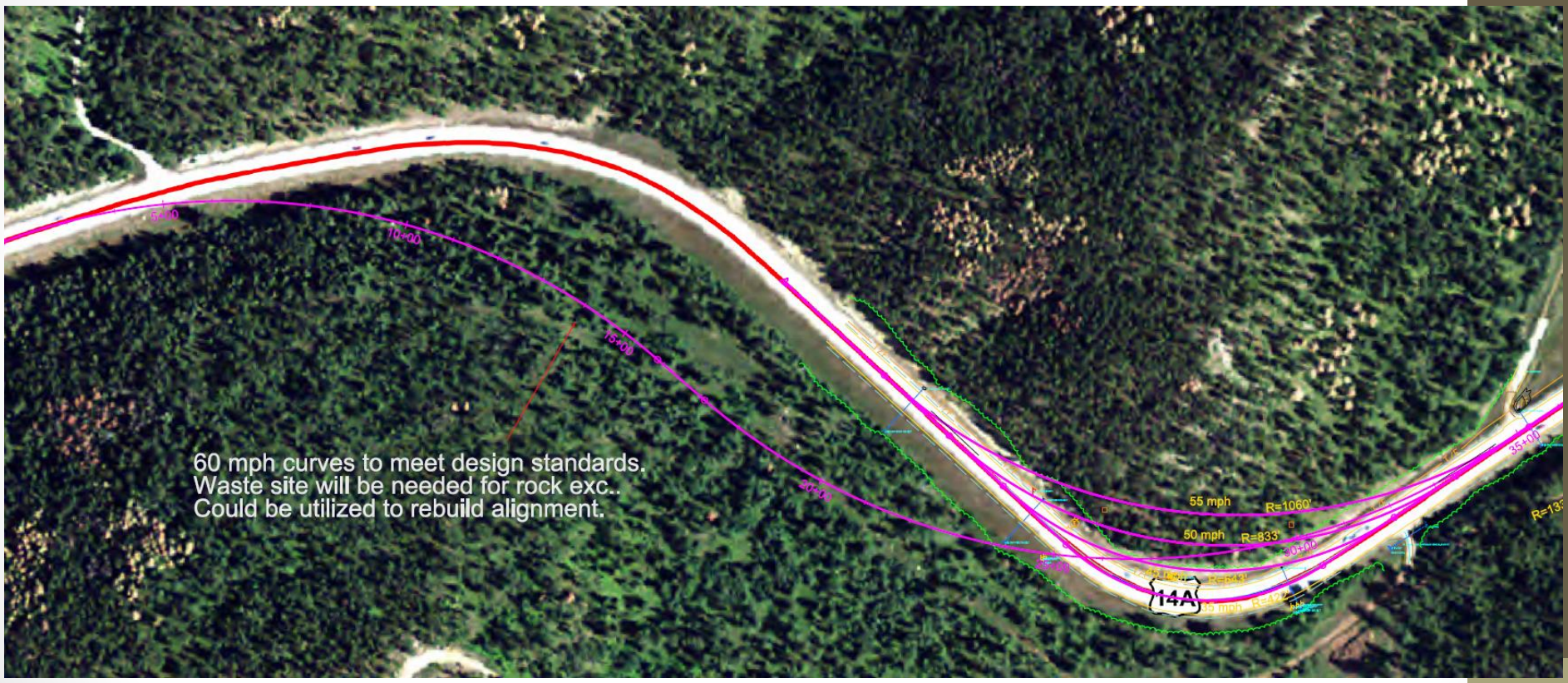


US14A – 2 east of Cheyenne Crossing

US14A – 2 west of Cheyenne Crossing



US14A – 2 miles east of Cheyenne Crossing



Questions??

Contact Info

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SDDOT

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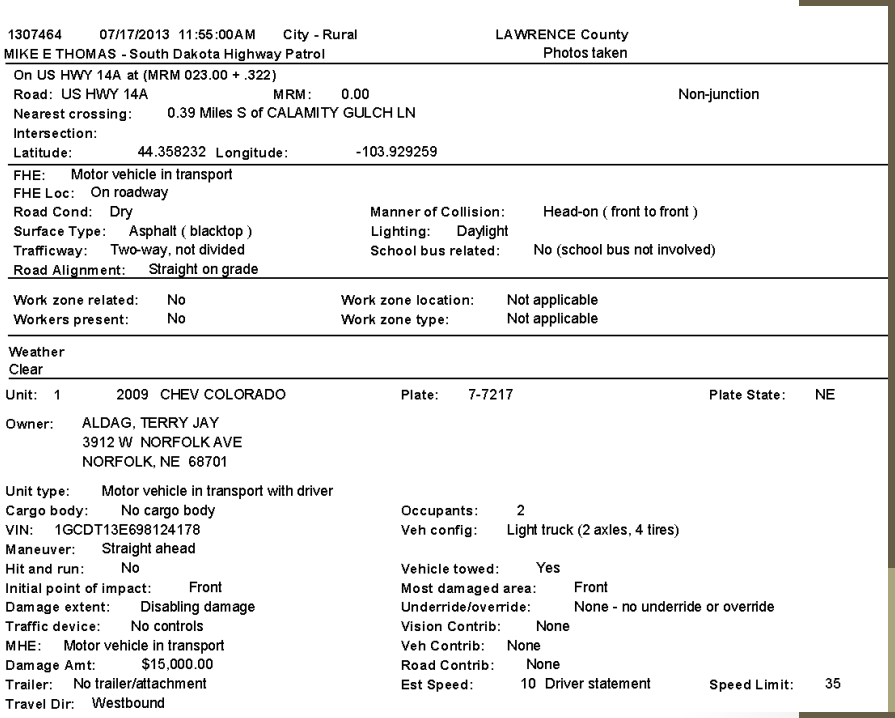
Pierre, SD 57501

andy.vandel@state.sd.us

605.773.4421

Use of Crash Reports

- Data-driven safety analysis
- Identify over representation of crash types
- Crash rates
- Benefit-Cost Ratio



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

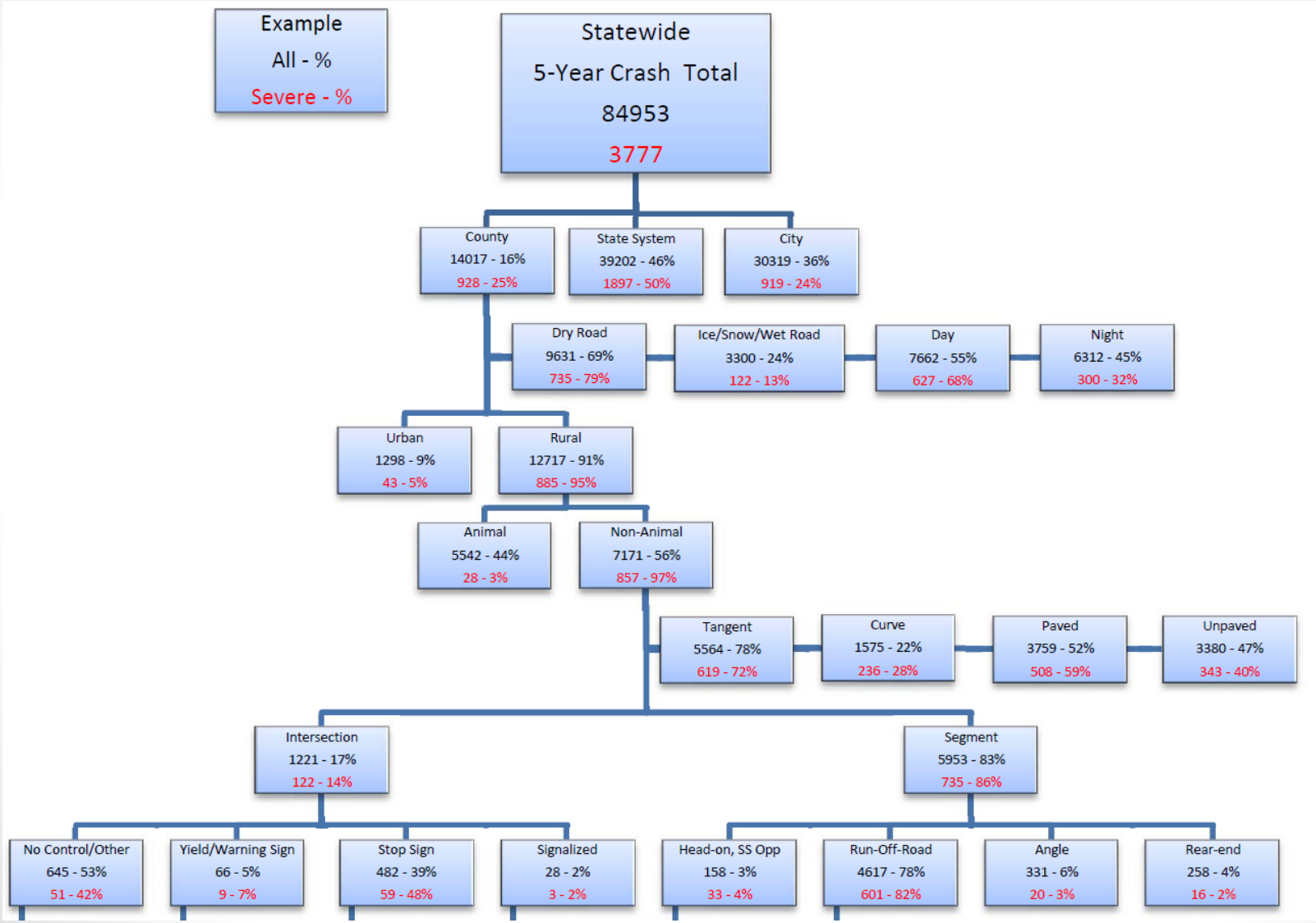
Weather
Clear

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

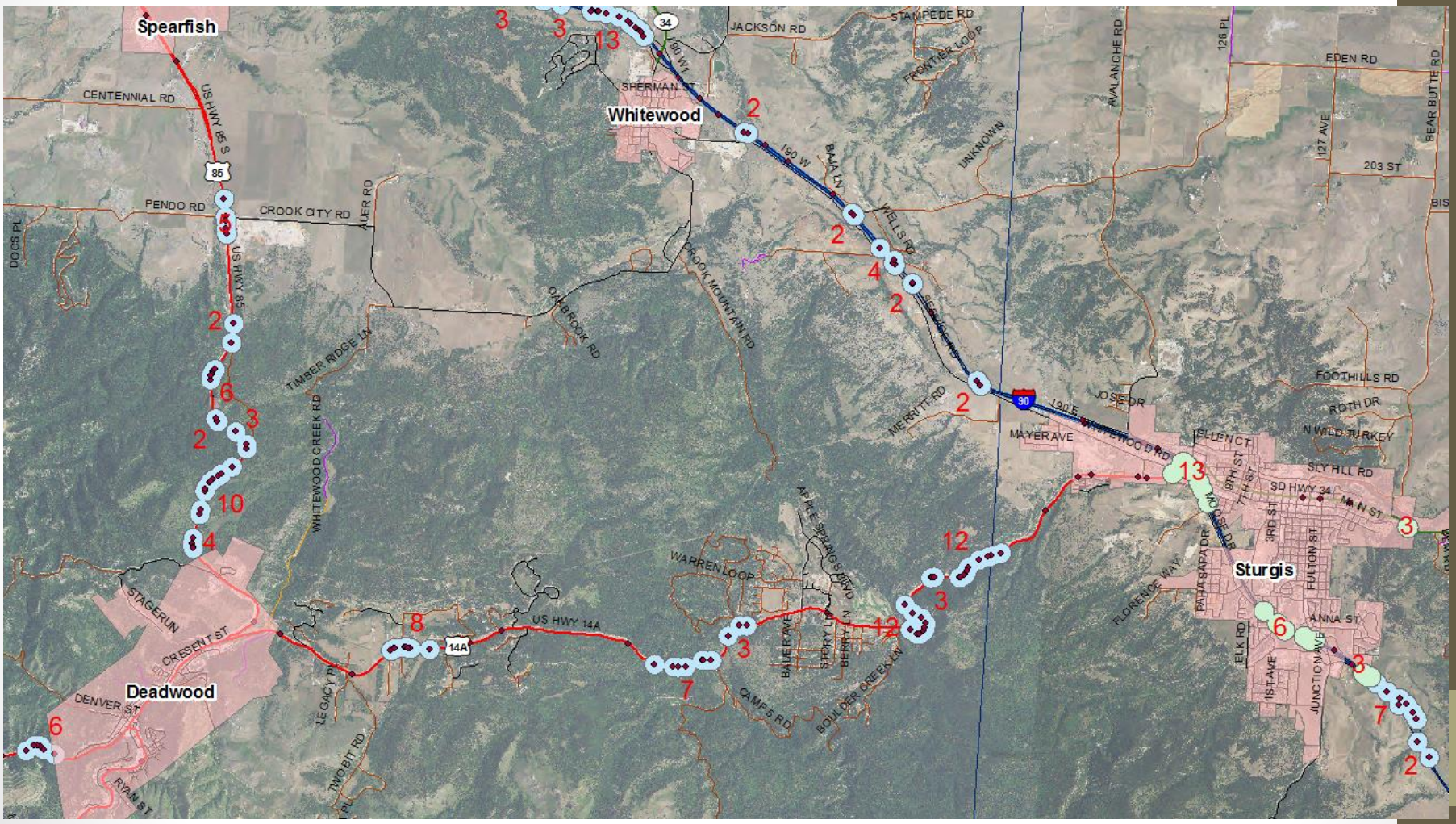


Data-driven Safety Analysis

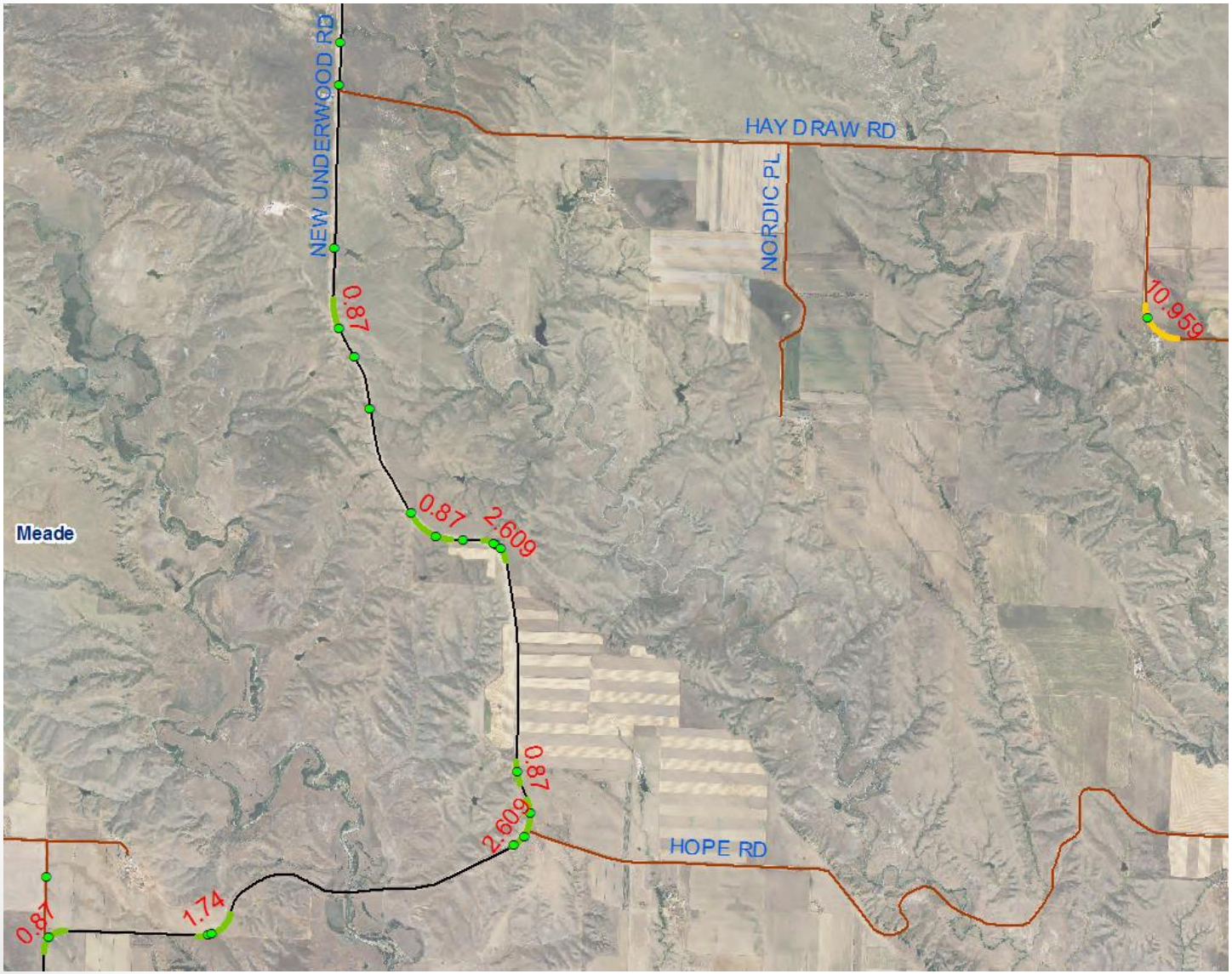
Safety Emphasis Area	Statewide		State Highways		County/Township Roads		City Streets		Other	
	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number
Statewide Totals (Fatal and Serious Injury Crashes)	**3,858**		**1,970**		**945**		**914**		**29**	
Drivers										
Unbelted Vehicle 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

Over Representation of Crashes



Calculated Crash Rates



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

Appendix H

Tribal Transportation Safety Plans

South Dakota Tribal Safety Summit

October 2015

Craig Genzlinger

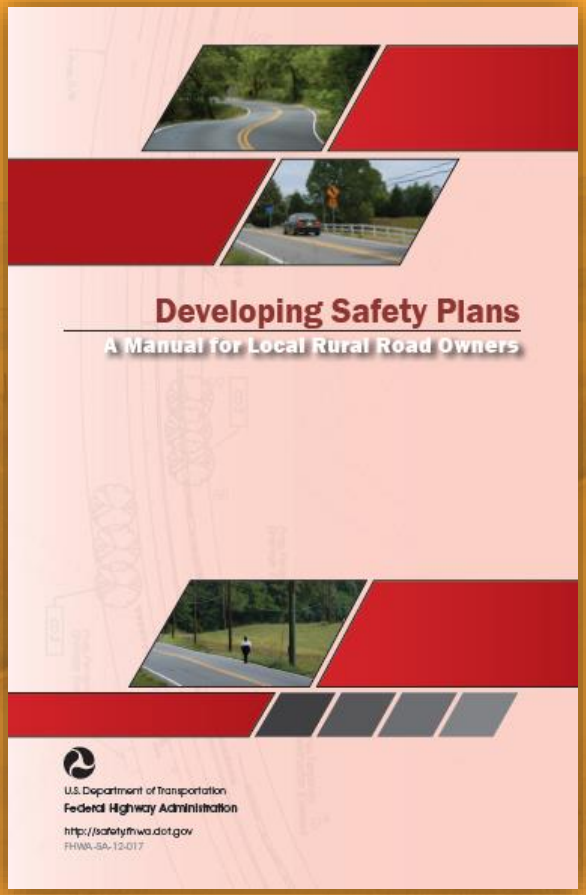
Benefits of Safety Planning

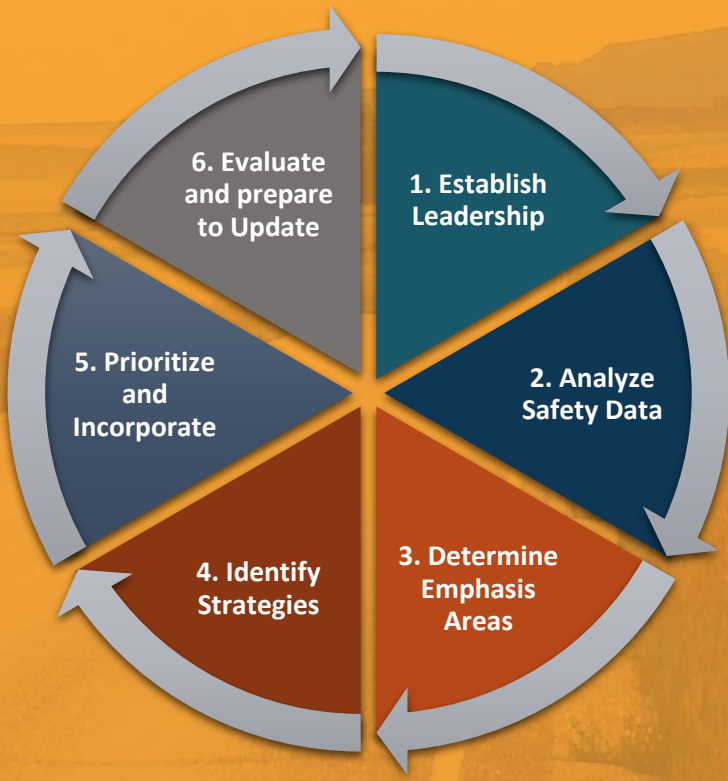
- Opportunity for coordinated efforts & shared resources within a community toward common goal
  - Common goals across multiple agencies
- Establish communication & form partnerships with Tribal, Local, State, and Federal officials
- Tool to leverage funding and resources
  - Enhanced efforts
  - CDC Rosebud and TTP
- Action Plan that outlines strategies for future.

Safety Plan Focus

- Not focused on any one funding source or program
- Focused on the modes that are most significant to the community Its your plan!
  - Roads
  - Trails
  - Pathways
  - Air
  - ATV

Safety Planning Process





Getting Started

- TTP Safety Funds available to develop plan
  - $12,500 for new plan
  - $7,500 to update plan
  - Ranking – Step 1 develop a plan!
- Assistance Available
  - In house
  - BIA and FHWA – Federal Lands
  - TTAP
  - Consultants
- SD Funding
  - 7 Tribes applied and received 2013 or 2014 TTP Safety Planning Funds

Best Practices

- Data
- Data
- Data
- Public Involvement and Agency Input
- Strategies
- Results

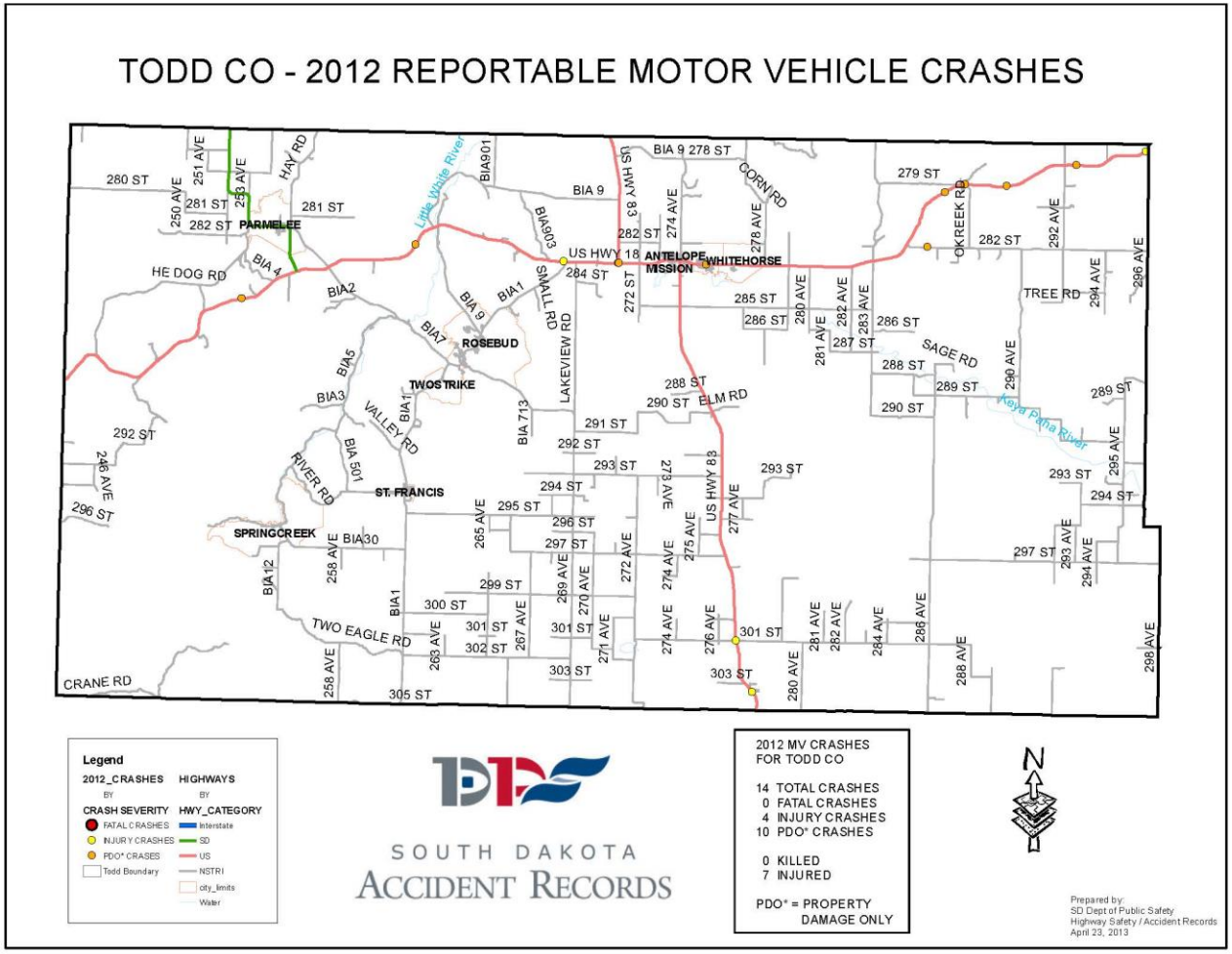
Data

- Past plans had little data to support efforts
- All Safety Programs Data Driven
  - Does it have to be from a crash report?
- Data sharing and availability
  - SDDPS – maps and causes
    - http://dps.sd.gov/enforcement/accident_records/county_city_crash_annual_reports.aspx
  - Tribal – wide variety
  - FARs – available on line reported fatals only
    - http://www.nhtsa.gov/FARS
  - EMS – location information, little on causes.
  - Anecdotal – reliability?
  - IHS and CDC
    - Darcy Merchant

Data

- Identify Issues and Strategies
- Tell a story!
- Let the data drive your plan
- But don’t let it limit you either
  - Lack of Complete Data

SDDOT Data


TODD CO - 2012 REPORTABLE MOTOR VEHICLE CRASHES
PARMELEE
ROSEBUD
TWOSTRIKE
ST. FRANCIS
SPRINGCREEK
ANTELOPE MISSION
WHITEHORSE
CRANE RD
TWO EAGLE RD
HE DOG RD
VALLEY RD
RIVER RD
LAKEVIEW RD
SAGE RD
TREE RD
ELM RD
CORN RD
OKREEK RD
US HWY 18
US HWY 83
US HWY 83
Little White River
Keya Paha River
Legend
2012_CRASHES BY
CRASH SEVERITY
FATAL CRASHES
INJURY CRASHES
PDO* CRASES
Todd Boundary
HIGHWAYS BY
HWY_CATEGORY
Interstate
SD
US
NSTRI
city_limits
Water
SOUTH DAKOTA
ACCIDENT RECORDS
2012 MV CRASHES
FOR TODD CO
14 TOTAL CRASHES
0 FATAL CRASHES
4 INJURY CRASHES
10 PDO* CRASHES
0 KILLED
7 INJURED
PDO* = PROPERTY
DAMAGE ONLY
N
Prepared by:
SD Dept of Public Safety
Highway Safety / Accident Records
April 23, 2013

Tribal Data

Oglala Sioux Tribe Department of Public Safety
MVC FY 2010 (Oct 2009 - Sept 2010)

REPORT FILE NUMBER	VEH 1 & AGE	VEH 2 & AGE	VEH 3 & AGE	FATAL	Injury	LOCATION	CAUSE OF CRASH
10-MVC-001	F	M		N		OLL PARKING LOT	FENDER BENDER
10-MVC-002	M	M		N	Y	COMMOD BUILDING	AUTO ACCIDENT
10-MVC-003	M			N		HWY 18 DEARLY BRIDGE	HIT/RUN
10-MVC-004	F			N		BIA 35	VEH VS HORSE
10-MVC-005	F (48)			N	N	BIA 39	VEH VS DEER
10-MVC-006	F			N		LITTLES FLAT US 18	WEATHER
10-MVC-007	F			N		HWY 18 NORTH OF PINE RIDGE	VEH VS DEER
10-MVC-008	F	M		N	N	WOUNDED KNEE 27&28 JCT	VEH SIDE SWIPED
10-MVC-009	M	M		N	N	PR BUS GARAGE	FENDER BENDER
10-MVC-010	F (39)			N	N	BIA 41 5 S OF 18 JCT	VEH VS DEER
10-MVC-011	F	M		N	N	QUANSET,EVERGREEN	FENDER BENDER
10-MVC-012	M			N	N	1 N OF MANDERSON	FENDER BENDER
10-MVC-013	F (34); M (26); M (35)			Y	Y	3 EAST BIA 23,PORCUPINE	VEH VS DITCH
10-MVC-014	M (26)	F		N	Y	HWY 18 &407 4WAY	FENDER BENDER
10-MVC-015	F (33)	F 38		N	N	US HWY 18 CALICO, NEAR CROSS DOG TURN OFF	FENDER BENDER
10-MVC-016	M			N	U	BACK RD FROM RED CLOUD TO MANDERSON	VEH VS DITCH
10-MVC-017	F			N	N	BIA 27 S OF PORCUPINE	VEH VS DEER
10-MVC-018	M			N	N	KYLE PD	VEH VS DEER
10-MVC-019	M			N	N	PINE RIDGE AREA	FENDER BENDER
10-MVC-020	M (23)	F		N	N	BIA 32 X SLIM BUTTES TURN	HIT AND RUN
10-MVC-021	F (56)	F (29)		N	Y	NORTH ROUTE RD	VEH VS VEH
10-MVC-022	F (41)			N	N	S OF KYLE/ALLEN JCT	VEH VS DEER
10-MVC-023	M (29)	M (39)		N	N	S SIDE OF WK HILL	FENDER BENDER
10-MVC-024	F (46)			N	N	BIA 14	VEH VS DEER
10-MVC-025	M (46)			N	N	BIA 35	VEH VS DEER

IHS

The Northern Cheyenne Tribe Motor Vehicle Crash Site Identification Project

Darcy Merchant, MPH

Staff Sanitarian

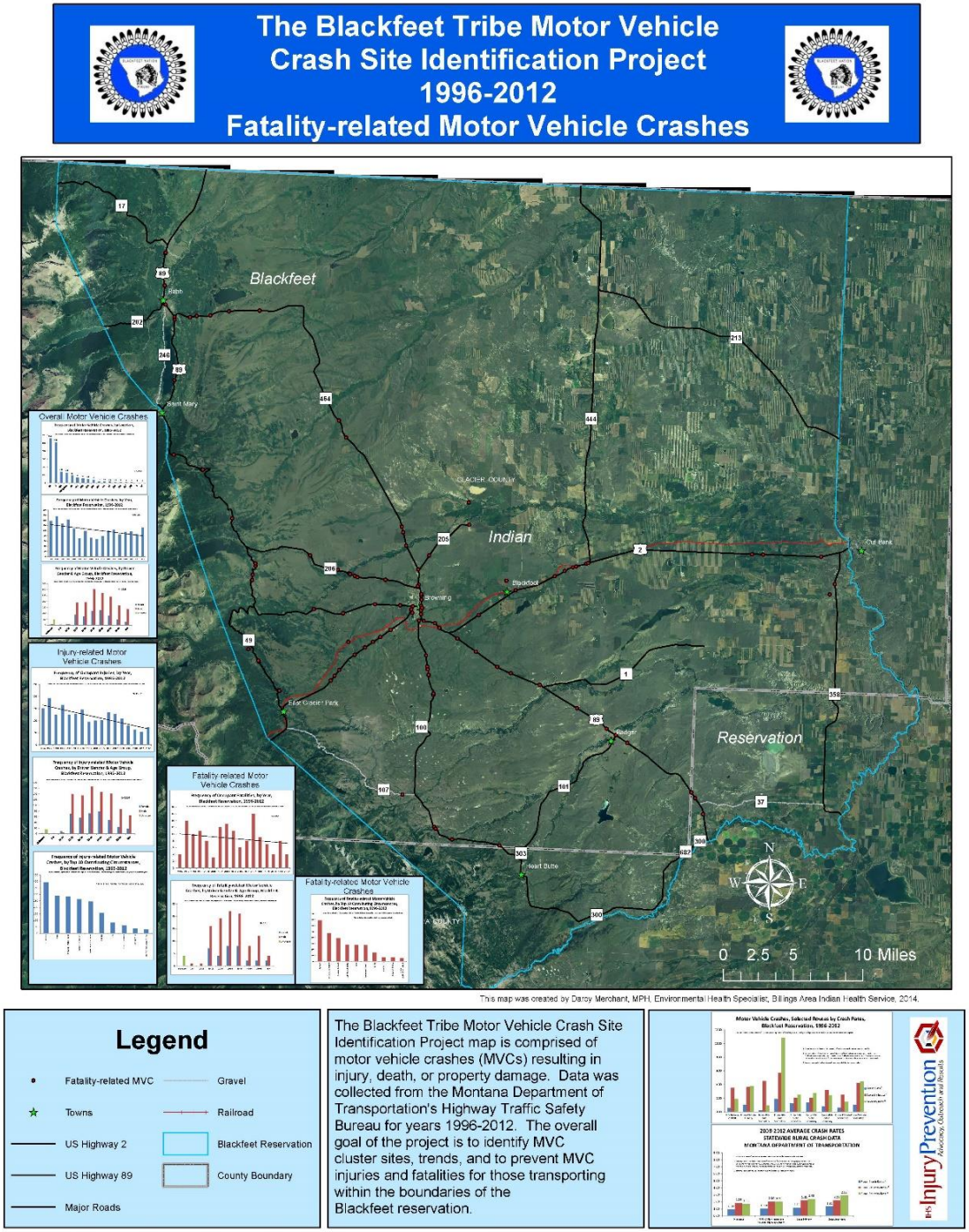
Division of Environmental Health Services

Billings Area Indian Health Service

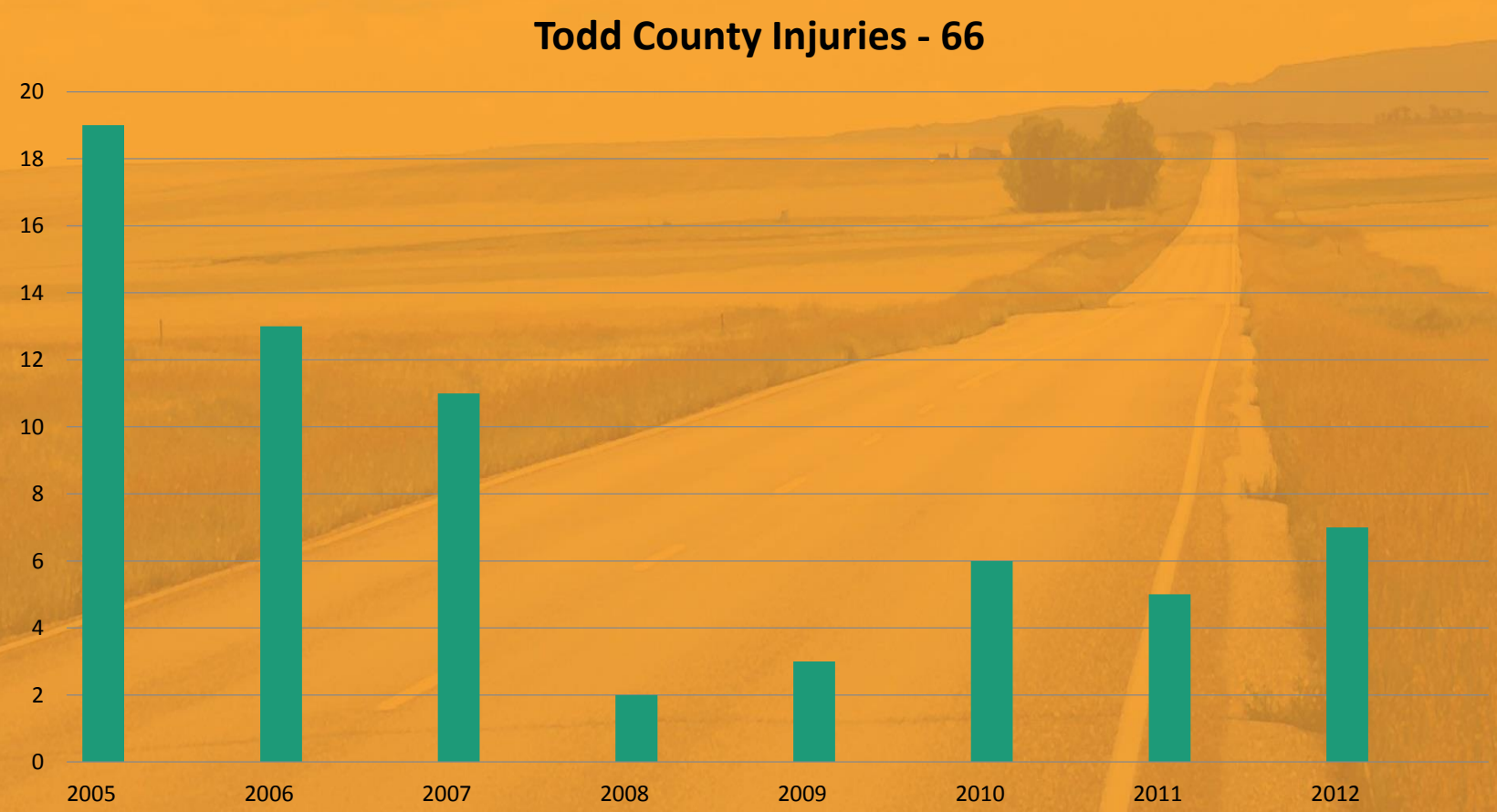
IHS Injury Prevention
Advocacy, Outreach and Results

Environmental Health and Engineering
Billings Area IHS

IHS Data

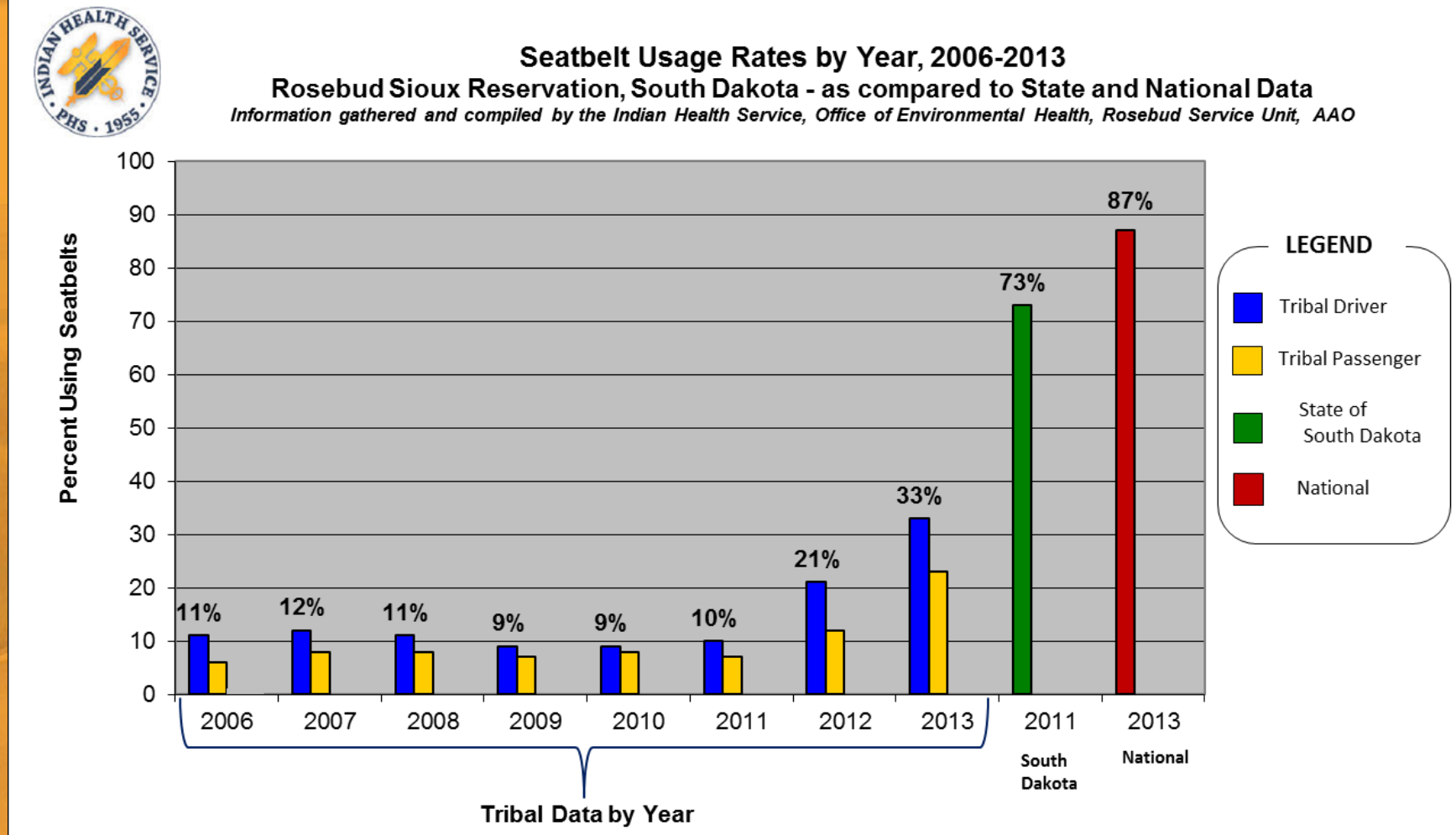

The Blackfeet Tribe Motor Vehicle Crash Site Identification Project
1996-2012
Fatality-related Motor Vehicle Crashes
Blackfeet
Indian
Reservation
Overall Motor Vehicle Crashes
Injury-related Motor Vehicle Crashes
Fatality-related Motor Vehicle Crashes
Fatality-related Motor Vehicle Crashes
0 2.5 5 10 Miles
This map was created by Darcy Merchant, MPH, Environmental Health Specialist, Billings Area Indian Health Service, 2014.
Legend
Fatality-related MVC
Towns
US Highway 2
US Highway 89
Major Roads
Gravel
Railroad
Blackfeet Reservation
County Boundary
The Blackfeet Tribe Motor Vehicle Crash Site Identification Project map is comprised of motor vehicle crashes (MVCs) resulting in injury, death, or property damage. Data was collected from the Montana Department of Transportation's Highway Traffic Safety Bureau for years 1996-2012. The overall goal of the project is to identify MVC cluster sites, trends, and to prevent MVC injuries and fatalities for those transporting within the boundaries of the Blackfeet reservation.
Injury Prevention

Rosebud SDDPS Data

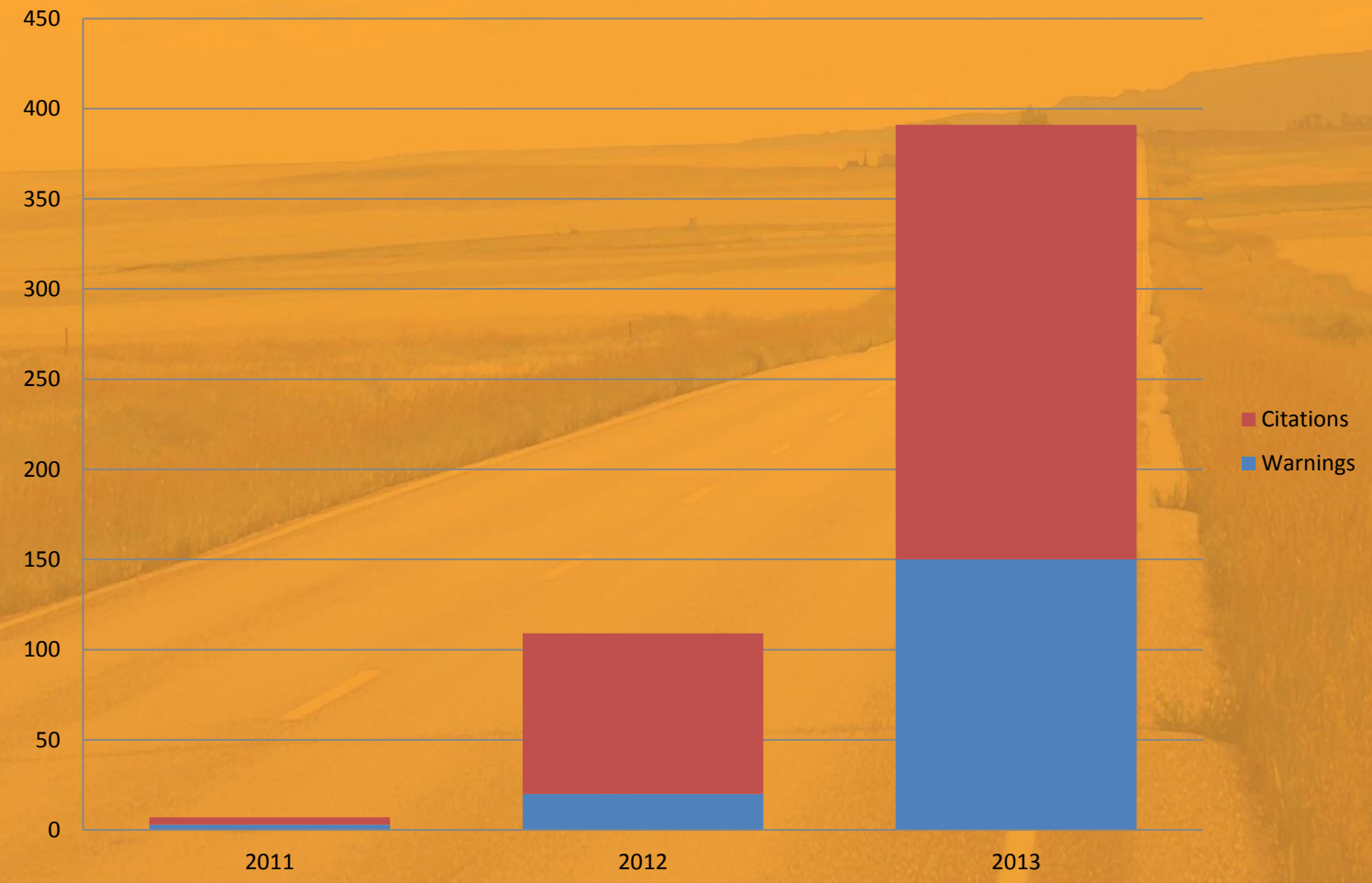


Rosebud Police Data

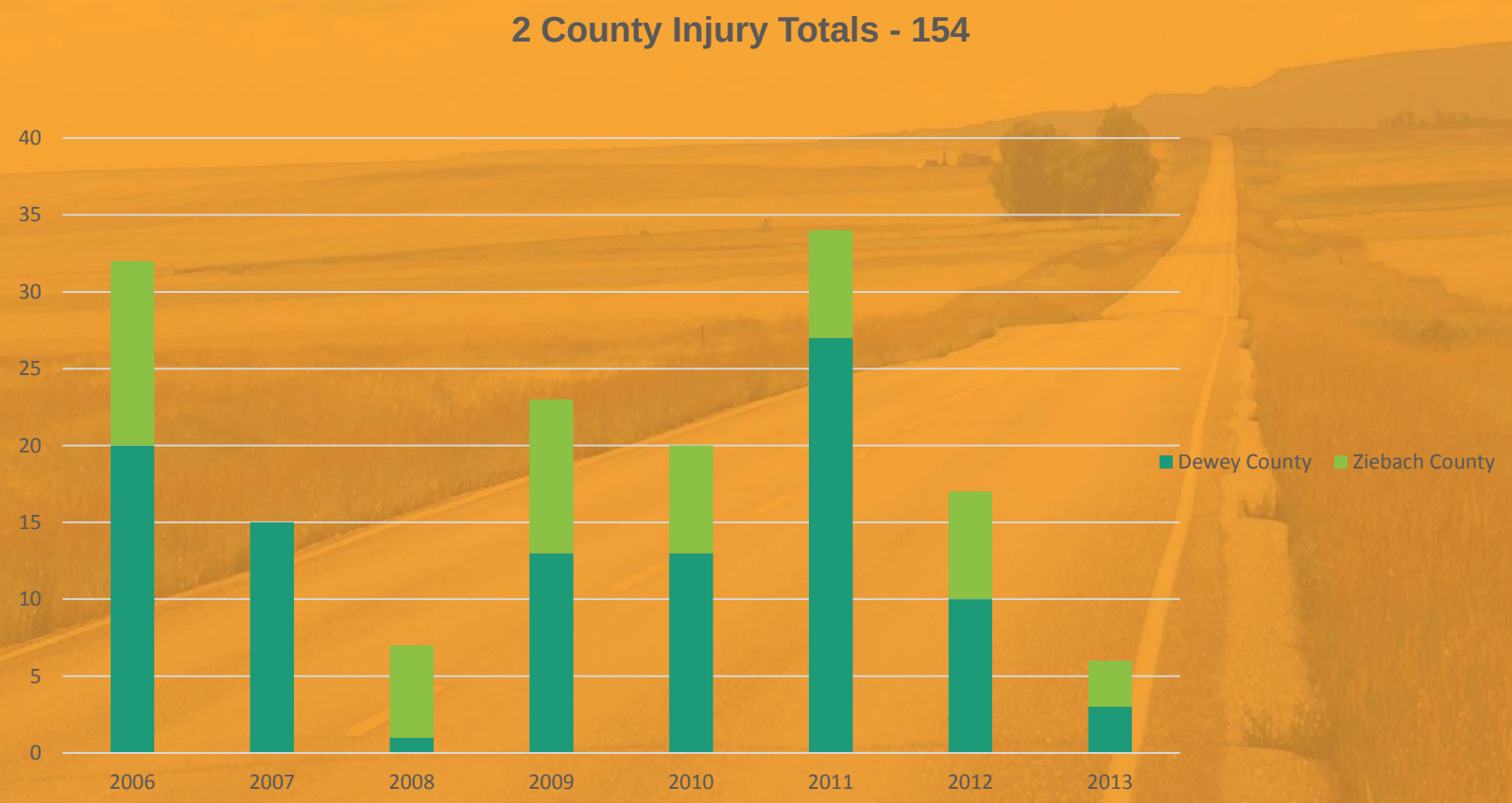
Rosebud Sioux Seatbelts



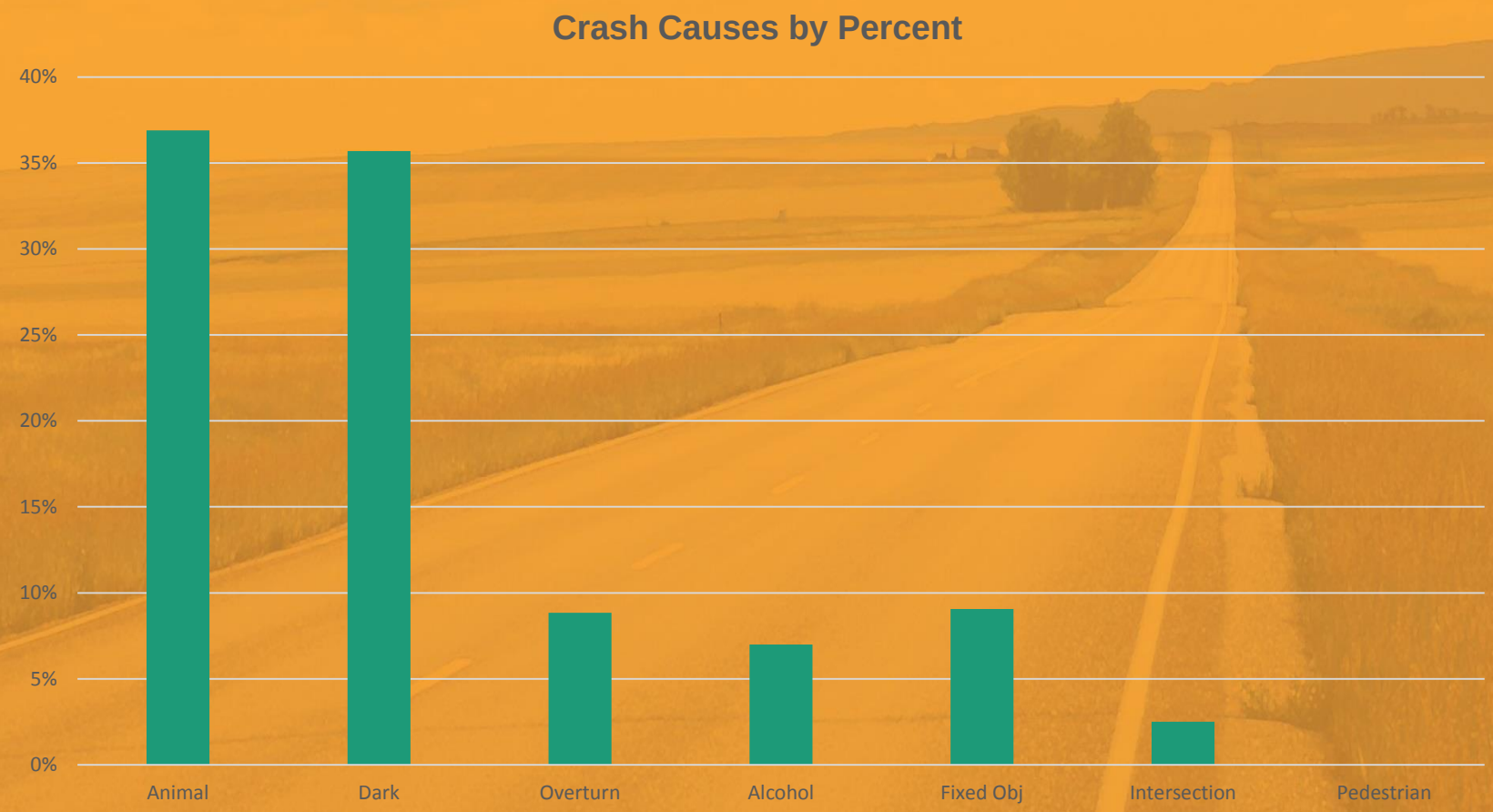
Rosebud Seatbelt Data



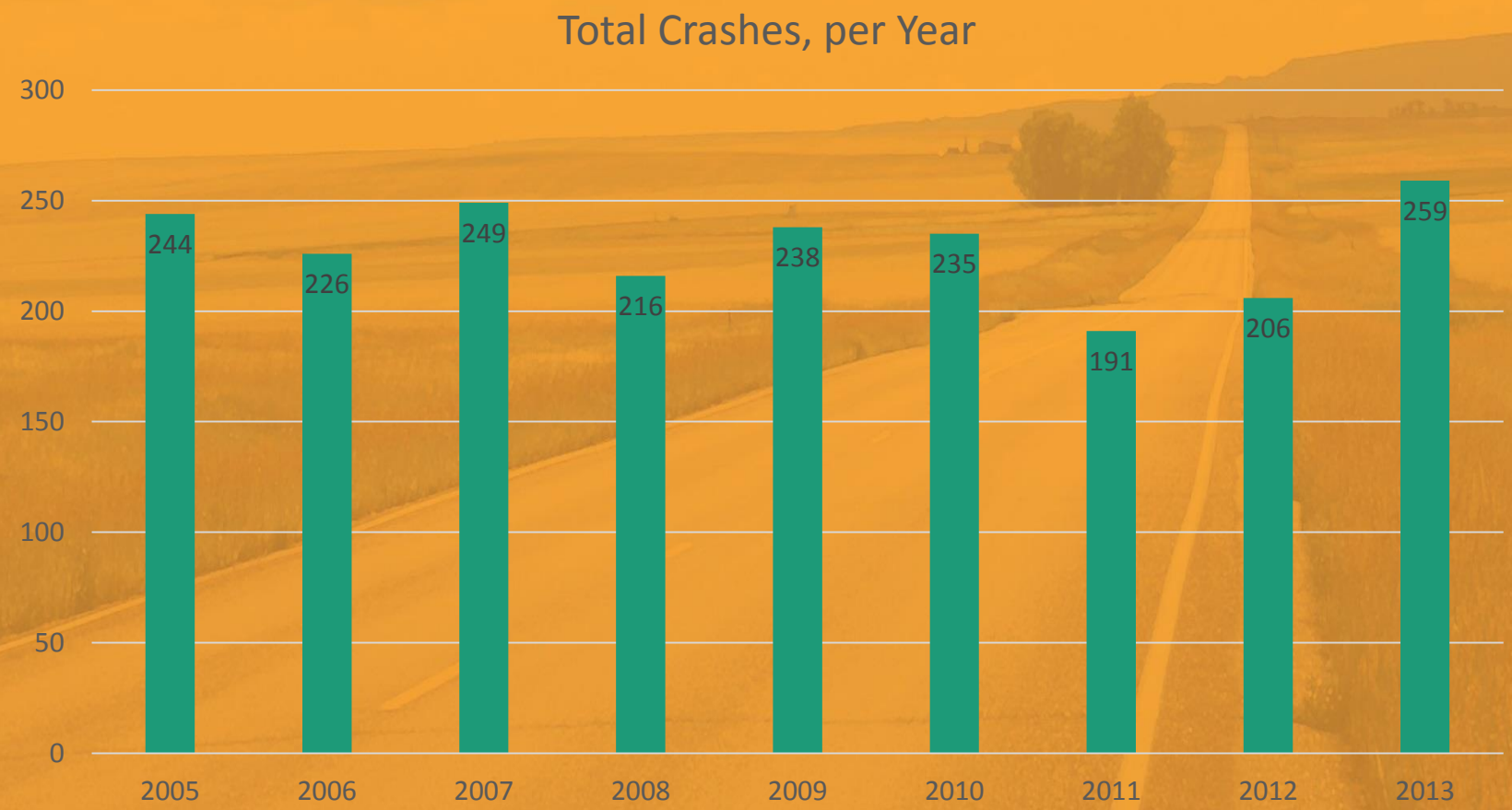
Cheyenne River Sioux Tribe



Cheyenne River Sioux Tribe

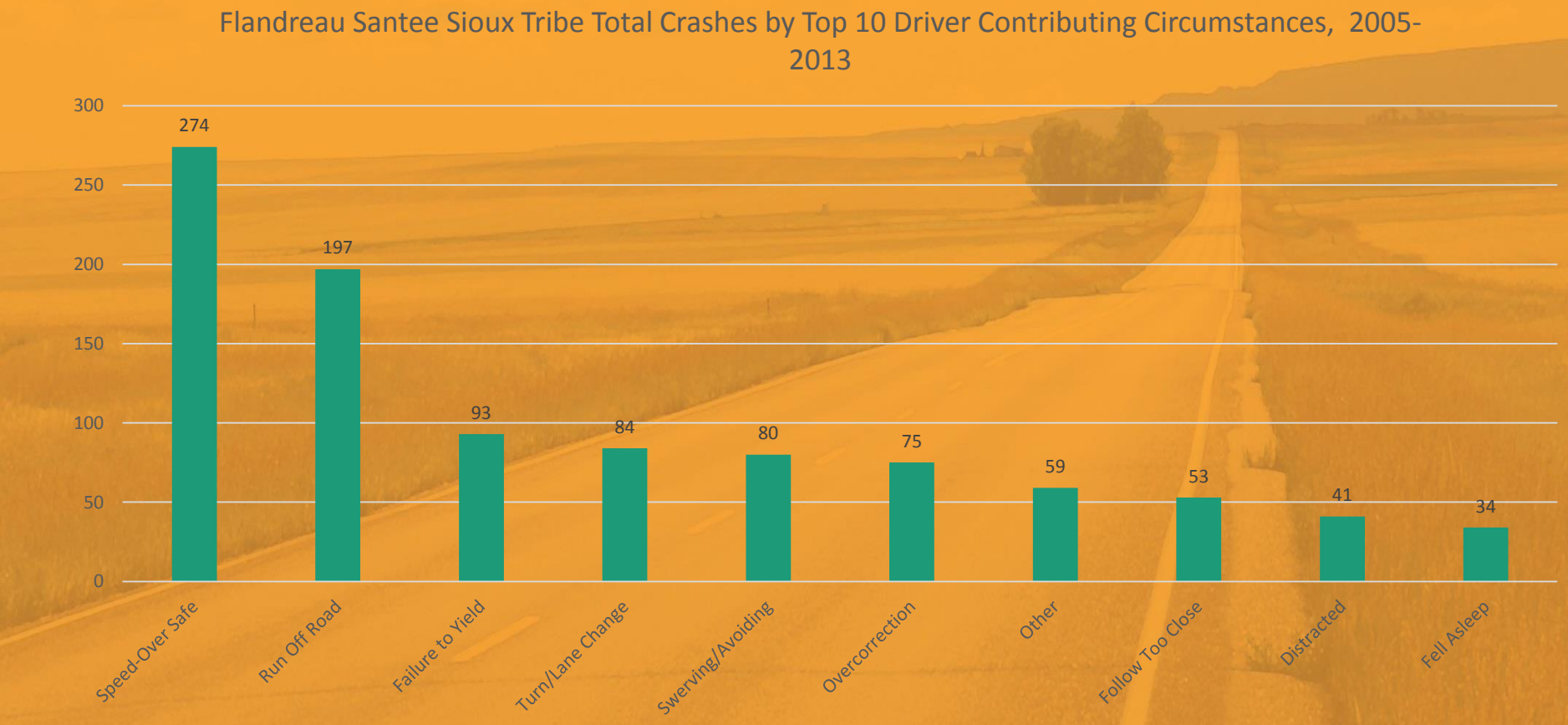


Flandreau Santee Sioux



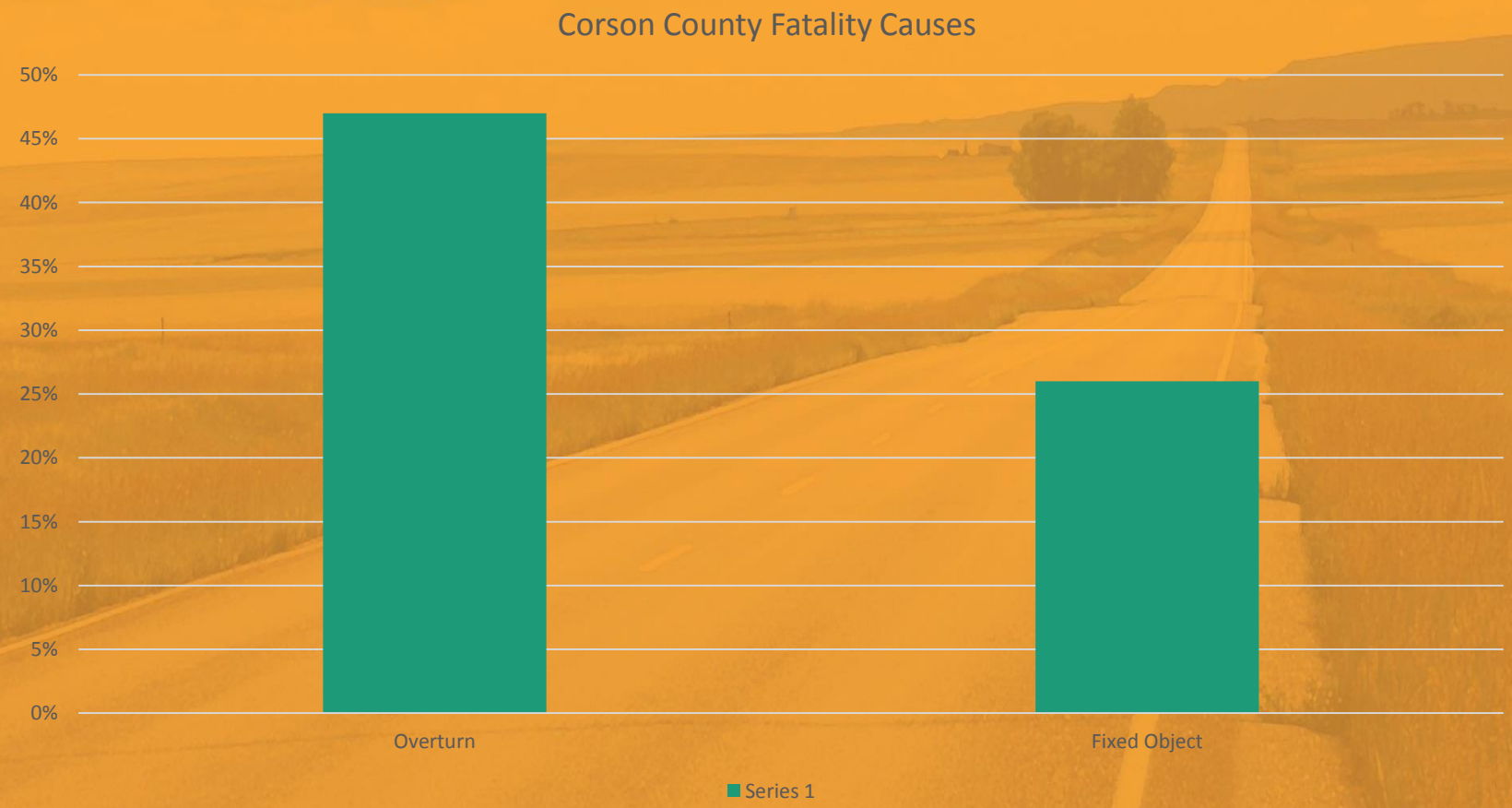
Flandreau Santee Sioux

Flandreau Santee Sioux



Standing Rock Sioux

Standing Rock Sioux



SWO Plan

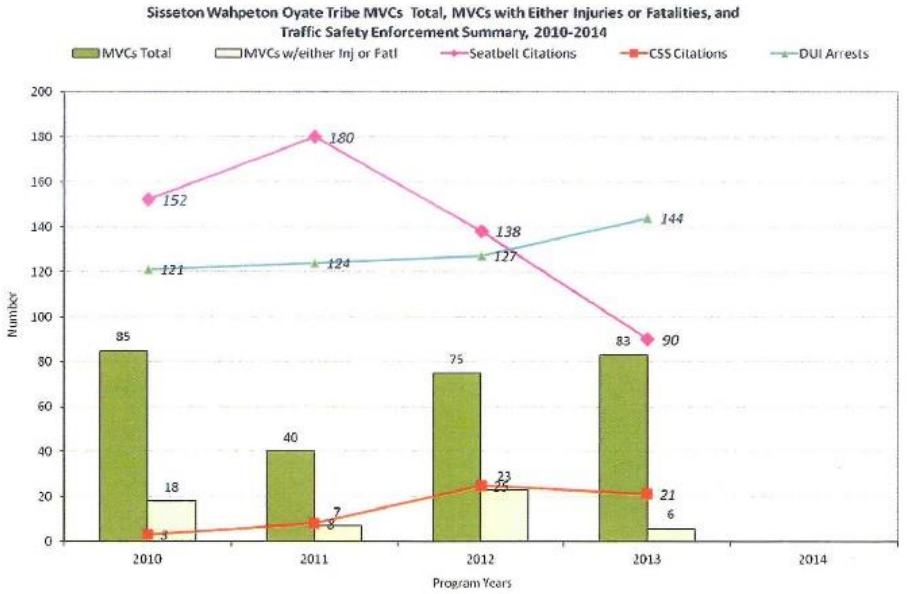
engineering safety principles, Construction Management is developing a 7-year Transportation Improvement Plan that will correct the road safety deficiencies through either individual safety projects (Reservation Wide Striping & Replacement of BIA Route Signing) or through new construction or reconstruction projects.

Construction Management is continually seeking additional grant and funding resources and opportunities to support transportation safety efforts. Presently, this includes constructing new pathways/sidewalks through the South Dakota Department of Transportation - Transportation Alternatives Program and TIGER6 Grants from the Federal Highway Administration for completion of reconstruction projects for Housing Streets, additional Pathways Projects and Shoulder Widening and Re-Surfacing on narrow routes. There still remain numerous unmet needs.

In working with the Sisseton Wahpeton Housing Authority, Construction Management and the Tribe are developing a new sidewalk and snow removal ordinance for the Housing communities.

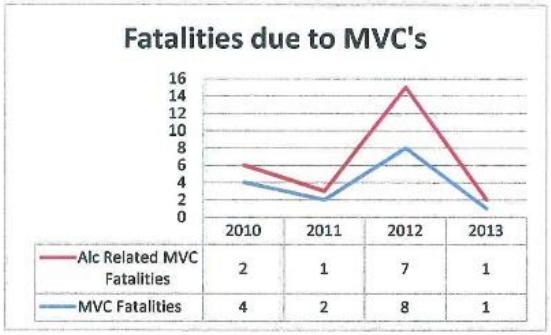
DATA SUMMARY

Sisseton-Wahpeton Law Enforcement tracks motor vehicle crashes (MVC) and enforcement efforts. The following is a chart detailing the total number of MVC's, the MVC's that resulted in injury or fatality, and enforcement efforts in three areas: seatbelt citations, car seat safety citations and driving under the influence arrests.



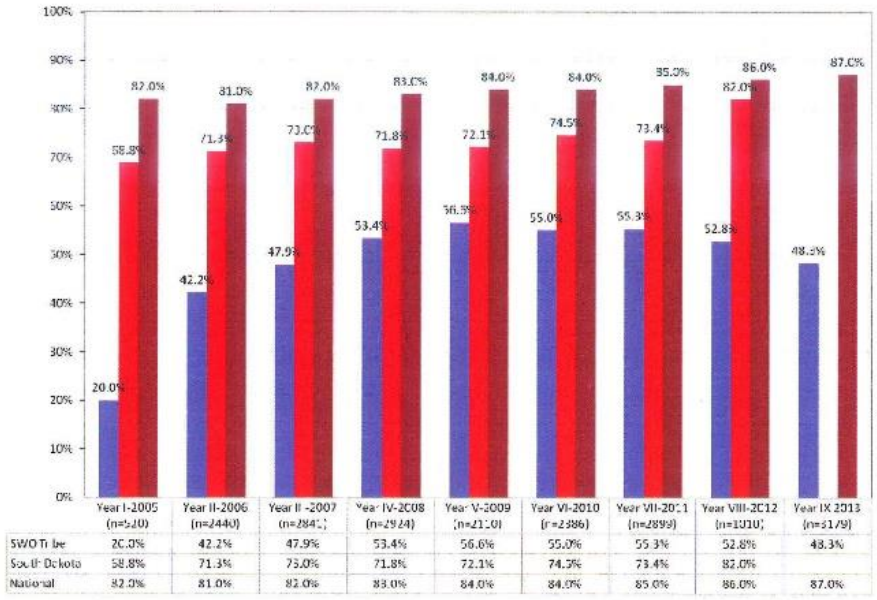
In looking at MVC's with fatalities, 65% of all fatalities are alcohol related. The following chart shows fatality data:

SWO Plan



The Sisseton-Wahpeton Oyate has had some success in raising the seatbelt usage rate using a combination of high visibility law enforcement such as checkpoints and saturation patrols, media campaigns and public education. The Sisseton-Wahpeton Oyate is still well below state and national rates, leaving much room for improvement. The following chart documents the seatbelt use rate over time:

Figure 2. SWO Tribe, South Dakota, and National Seatbelt Use, 2011-2013

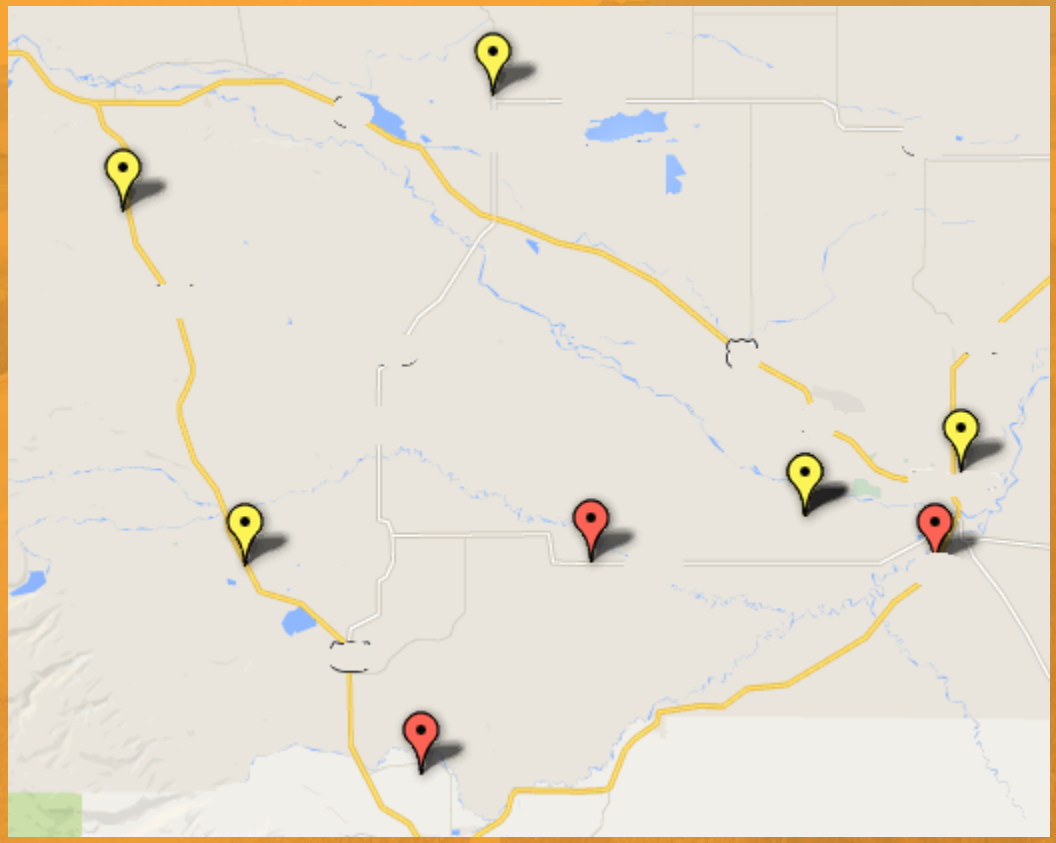


	Year I-2005 (n=520)	Year II-2006 (n=2440)	Year II -2007 (n=2841)	Year IV-2008 (n=2924)	Year V-2009 (n=2100)	Year VI-2010 (n=2386)	Year VII-2011 (n=2899)	Year VIII-2012 (n=1010)	Year IX 2013 (n=5179)
SWO Tribe	20.0%	42.2%	47.9%	53.4%	56.6%	55.0%	55.3%	52.8%	48.3%
South Dakota	58.8%	71.3%	73.0%	71.8%	72.1%	74.5%	73.4%	82.0%	
National	82.0%	81.0%	82.0%	83.0%	84.0%	84.0%	85.0%	86.0%	87.0%

Systematic Approach

- Not Focused on Specific High Crash Locations
- Target Crash Types
- Uses Proven Low Cost Countermeasures

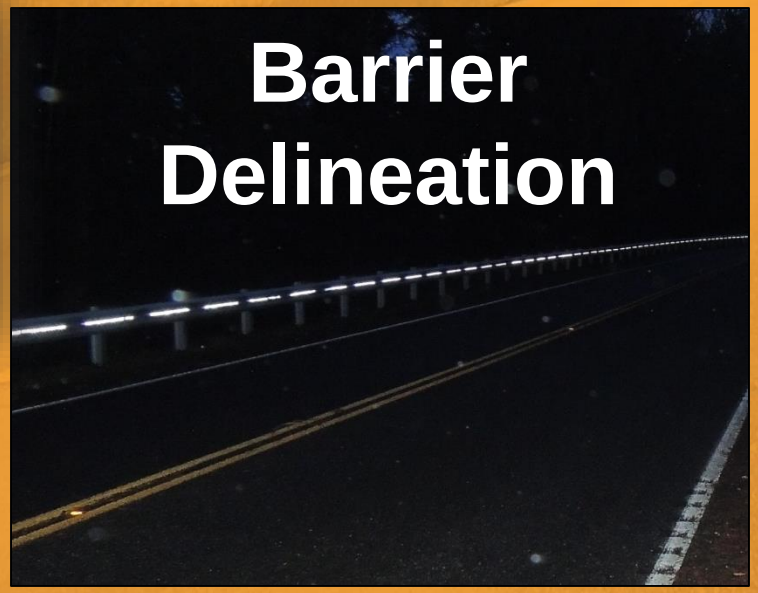
Horizontal Curve Fatalities



Potential Risk Factors

Example Focus Crash Type	Potential Risk Factors
Rural Crashes	
Road Departure	• Road edge condition • Access density • Curve density • Traffic volume
Urban Crashes	
Pedestrian	• Intersection control type • Major road characteristics (e.g., number of lanes, divided or undivided) • Traffic volume • Traffic speed • Presence or proximity of pedestrian generator • Presence or proximity of transit stop • Presence of sidewalk

Run Off Road Countermeasures



Source: Scott Davis, Thurston County, WA

Public / Agency Involvement

- Facilitated Agency Meetings
  - Most Common Input
  - Most Include:
    - Tribal Agencies
    - State Agencies
    - Federal Agencies
- Council Meetings
- Public Meetings and Open Houses

Strategies

- Many Strategies Identified
- Common Themes:
  - Separated Pathways
  - Education Programs
  - Road Safety Audits
  - Drivers Education Programs
  - Data Collection and Sharing Improvements
  - Cross Jurisdictional Agreements
  - Motor Carrier Programs
  - Tribal Safety Officers
  - Primary Seatbelt Ordinances
  - Improved 911 Systems
  - Maintenance

Visuals and Maps

Visuals and Maps

Summary

- **Reservation-wide Transportation Safety Education Program**

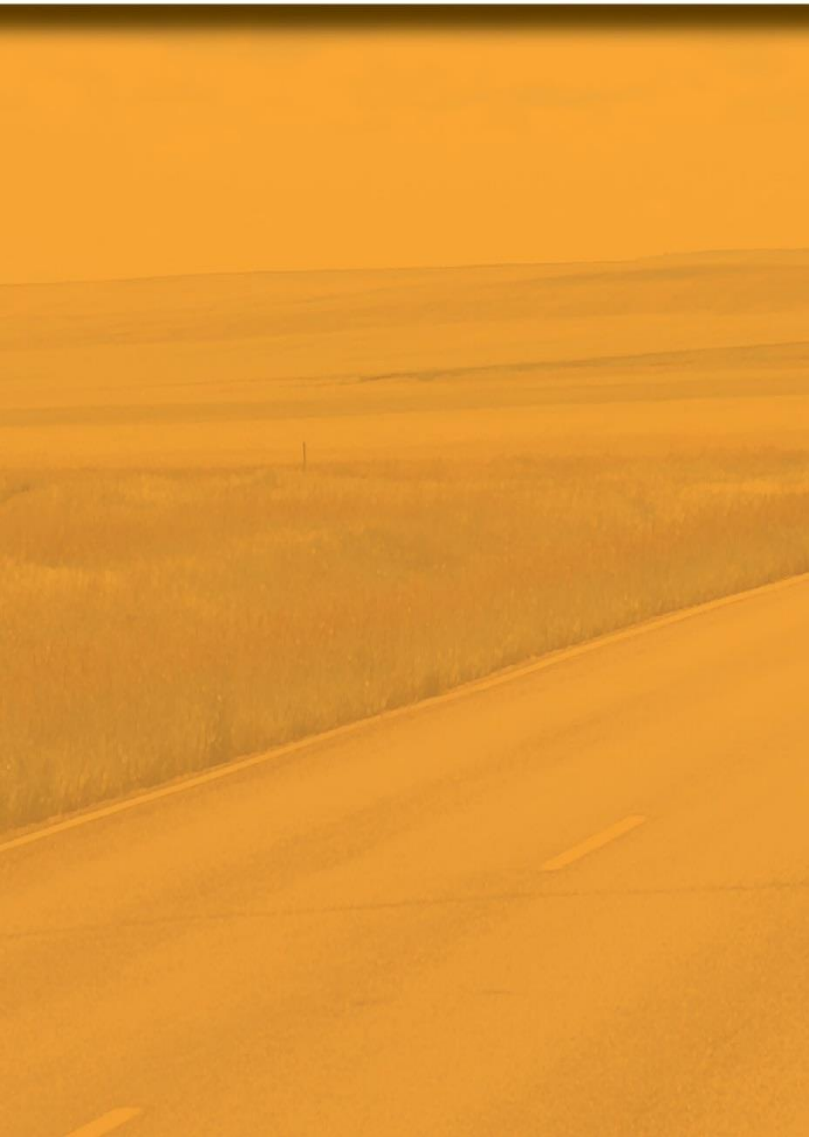
The Flandreau Santee Sioux Tribe has worked with law enforcement, schools and other interested parties on the Reservation to provide education on transportation safety, particularly to younger drivers on behavioral issues such as seat belt use, texting and driving, impaired driving and child restraint.

This project would use and build on national safety campaign themes on impaired driving, seat belt use, texting and driving and other transportation safety issues, by using local leaders, or other easily recognizable individuals from the Tribal community to promote these safety themes. Many safety campaigns across the country have shown a greater rate of success when they are made culturally relevant to the Tribal audience and utilize local talent to deliver the safety message. The Tribe has received funding for items in the past, but funding is not sufficient for larger items, such as billboards, using local artistry, banners, videos, Tribal safety posters and other safety education materials. These materials would be used in education programs or at community events, with a strong emphasis to provide outreach at Riverside Park Days.

Strategy Champion: FSST Roads Program.

Funding Opportunity: TTP Safety Funding, BIA IHSP Funding.

Summaries



ENFORCEMENT EMPHASIS AREAS

Sisseton-Wahpeton Law Enforcement is the first line of defense in transportation safety. Sisseton-Wahpeton Law Enforcement currently employs twelve officers and eleven staff. With a force this small, there are times when only one officer is patrolling a reservation with boundaries that extend across four counties and whose land base extends into North Dakota. Over the last four years (2010-2013) Officers on the Lake Traverse Reservation wrote 4,282 traffic citations, arrested 555 drunk drivers and responded to 283 motor vehicle crashes, 15 of which were fatalities.

Good law enforcement is the key to any transportation safety effort. Sisseton-Wahpeton Law Enforcement has a history of collaborating with other groups in the fight against motor vehicle crash deaths. Since 2005 they have partnered with the Sisseton-Wahpeton Oyate Injury Prevention in implementing high visibility law enforcement efforts.

Sisseton-Wahpeton Law Enforcement addresses the major causal factors of motor vehicle crashes: speed, impairment due to substances (such as alcohol) and restraint usage. Their efforts have begun to make changes in some areas, but lack the resources needed to take their work to the next level.

Description of Emphasis Area 8: Data Collection

- Currently, Sisseton-Wahpeton Law Enforcement has no software to keep records. All statistics are collected from the logs and tabulated by hand by one staff person. What is contained in the logs depends on how the individual dispatcher enters the information. This leads to human error and discrepancies in the data.
- When using the police data, there is no way to sort information to look for trends. Officers fill out paper citations and reports. There is no electronic tabulation of any police information. Records have been lost when there is turnover in the administrative position in charge of keeping stats for Sisseton-Wahpeton Law Enforcement.

Goal for Emphasis Area 8:

- By 2017, Sisseton-Wahpeton Law Enforcement will purchase a data software system and maintain electronic records, including electronic citations and reports from the individual officers.

Strategies for Emphasis Area 8:

- The Captain of Sisseton-Wahpeton Law Enforcement will research grants to pay for a data system and the equipment associated (laptops in the squad cars, e-ticket citation printers, software, computers in the dispatch office, a server for the Police Department, etc.)
- Sisseton-Wahpeton Law Enforcement will supply reports to the SWO Transportation Safety Committee and other committees focused on transportation safety. The reports will detail crash and enforcement information and will be used to describe the motor vehicle crash problem on the Lake Traverse Reservation.

Description of Emphasis Area 9: Law Enforcement Staffing and Training

- Sisseton-Wahpeton Law Enforcement currently employs twelve Officers, two who are not patrol Officers and one that is a School Resource Officer and will only patrol in the summer months. That leaves nine Officers actively patrolling tribal roads.
- The nine Officers not only answer calls and patrol tribal roads; they are also responsible for conducting bi-monthly seat belt and sobriety checkpoints and saturation patrols year round. They participate in national

Strategies

- Important Items to Consider
  - Strategy Champion
  - Supporting Data
    - Crash Data
    - Anecdotal Data
    - Health Service Data
    - Systemic Approach Data
    - Pathways???
  - Available Funding Sources
    - TTPSF
    - SDDOT
    - BIA IHSP
    - Transportation Alternatives
  - Staff Availability and Scheduling

2013 Safety Funds

- Oglala Sioux Tribe of Pine Ridge Develop Safety Plan
- Oglala Sioux Tribe of Pine Ridge BIA 27 Safety Improvements Engineering
- Rosebud Sioux Tribe Development of comprehensive Tribal Safety Plan
- Yankton Sioux Tribe Transportation Safety Program Safety Plans and Safety Planning Activities
- Sisseton-Wahpeton Oyate Develop Safety Plan
- Cheyenne River Sioux Tribe Tribal Transportation Safety Plan
- Standing Rock Sioux TribeSafety Plan Update

2014 Safety Funds

- Flandreau Santee Sioux Tribe, South Dakota Development of a Tribal Transportation Safety Plan
- 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 and 2016 Safety Funds

- 2015 Application period recently closed
  - Expect announcement around December
  - 10 to 12 Applications
- 2016 Notice of Funding Availability early in 2016.
  - If no safety plan – apply!
  - Apply in multiple categories
  - Include supporting data
  - For pathways and engineering projects FHWA is recommending applying for design funds first and construction in subsequent year.

MT Example

- MT Tribes have had plans since 2008
- All seven applied to update plan in 2013
- Since had existing plans also applied for project in 2013 and in 2014 after updates.
- Funds Received:
  - 2013 - $1,522,000
  - 2014 - $1,112,000

Flandreau Santee Sioux Tribe

2015 Tribal Transportation Safety Plan

Developed through the
Flandreau Santee Sioux
Transportation Department

Prepared by KLJ

July 2015

KLJ

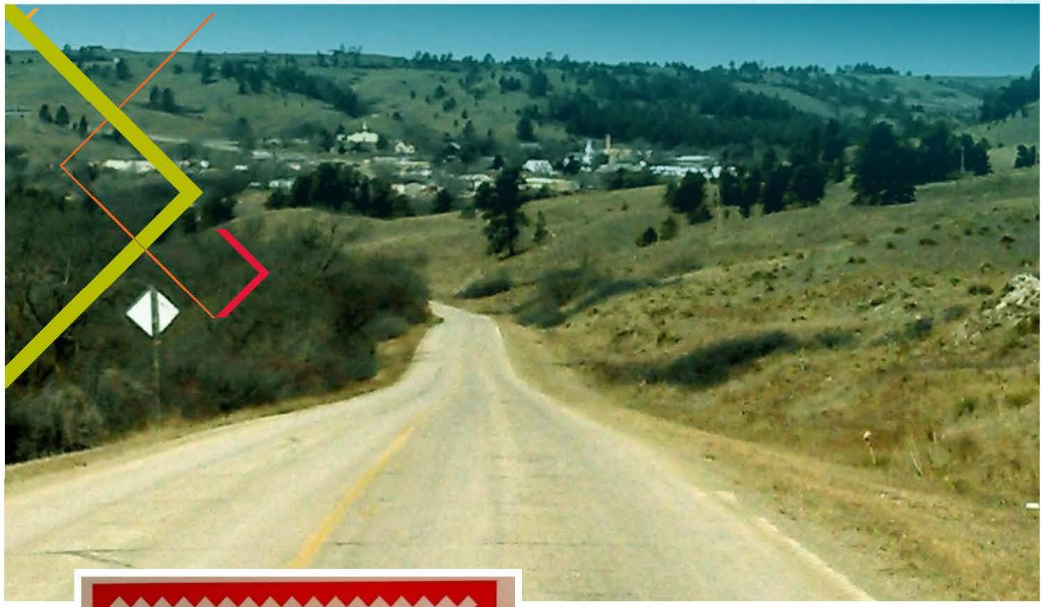
Cheyenne River Sioux Tribe
2015 Tribal Transportation Safety Plan

Developed through the Cheyenne River Sioux Tribal Transportation Department

Prepared by KLJ

July 2015

Rosebud Sioux Tribe
Tribal Transportation Safety Plan



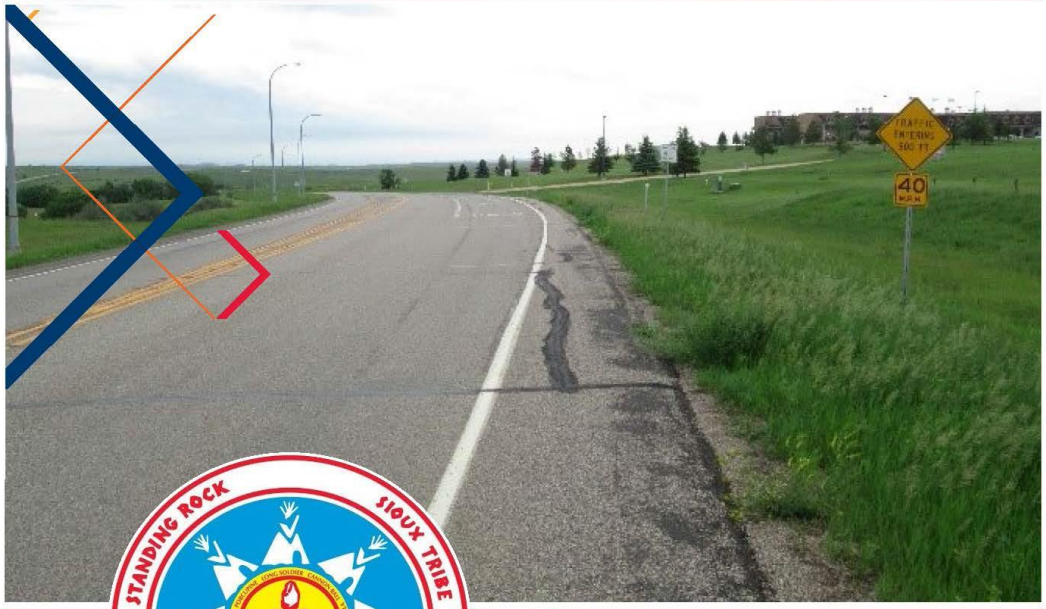
Developed through the
Rosebud Sioux Tribe
Federal Highway Program

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

Questions and Discussion

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

Appendix I

TRIBAL TRANSPORTATION SAFETY SUMMIT

Tom Croymans
Regional Roads Engineer
Bureau of Indian Affairs
Great Plains Region

Grand River Casino
2015 Annual Conference
October 14-15
Mobridge, SD

Agenda

- TTPSF FY15 Update
- FY15 TTPSF Program Funding
- Safety Plan Implementation and Sustainment

FY 15 TTP Safety Program

- Available funds = $8.5 mil
- Applications received = 167 from (Internal process number of Tribes not yet known) Tribes
- Target date for announcing awards
- Scoring Criteria
  - Planning
  - Engineering
  - Enforcement & Emergency
  - Education

FY 16 TTP Safety Program

- Available funding – No change under MAP- 21
- FY16 NOFA

Safety Plan Implementation

- Identify a Champion
  - Lead person or organization
- Project Development
  - Identify goals and parameters of project
  - Identify other stake holders
- Funding
  - Research and develop funding sources

Best practices for application process

- A complete application for the development for a Safety Plan should consist of:
  - a completed online application which replaces the SF-424
  - a brief project narrative
- A complete application for any other activity should consist of:
  - A completed online application which replaces the SF-424
  - A project narrative
  - Supporting incident data
  - Supporting Safety Plan
  - Any other applicable supporting documents

Current GPR Applications

- 2 - Cheyenne River Sioux Tribe
  - Education and Engineering for Pathway - $308.000
- 2 – Flandreau Santee Sioux Tribe
  - Education and Engineering - $74,500
- 3 – Rosebud Sioux Tribe
  - Engineering, Education & Safety Audits - $709,800
- 1 – Santee Sioux Tribe
  - Development of Safety Plan - $12,500
- 1 - Three Affiliated Tribes
  - Education - $97,469
- 1 - Turtle Mountain Band of Chippewa
  - Engineering – Jack Rabbit Road - $1,188,270
- 1 – Yankton Sioux Tribe
  - Education - $48,562

- Region Total - $2,439,102

Safety Plan Sustainment

- Monitor Progress
  - Establish milestones
  - Record progress
- Review the Safety Plan
  - Look back to evaluate effectiveness of the plan
- Keep the Safety Plan Relevant
  - Measure effectiveness
  - Adjust for changing conditions
  - Regularly scheduled updates

Thank You

Contact Information

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Regional Road Engineer– Great Plains Region

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Appendix J

Severe Crashes

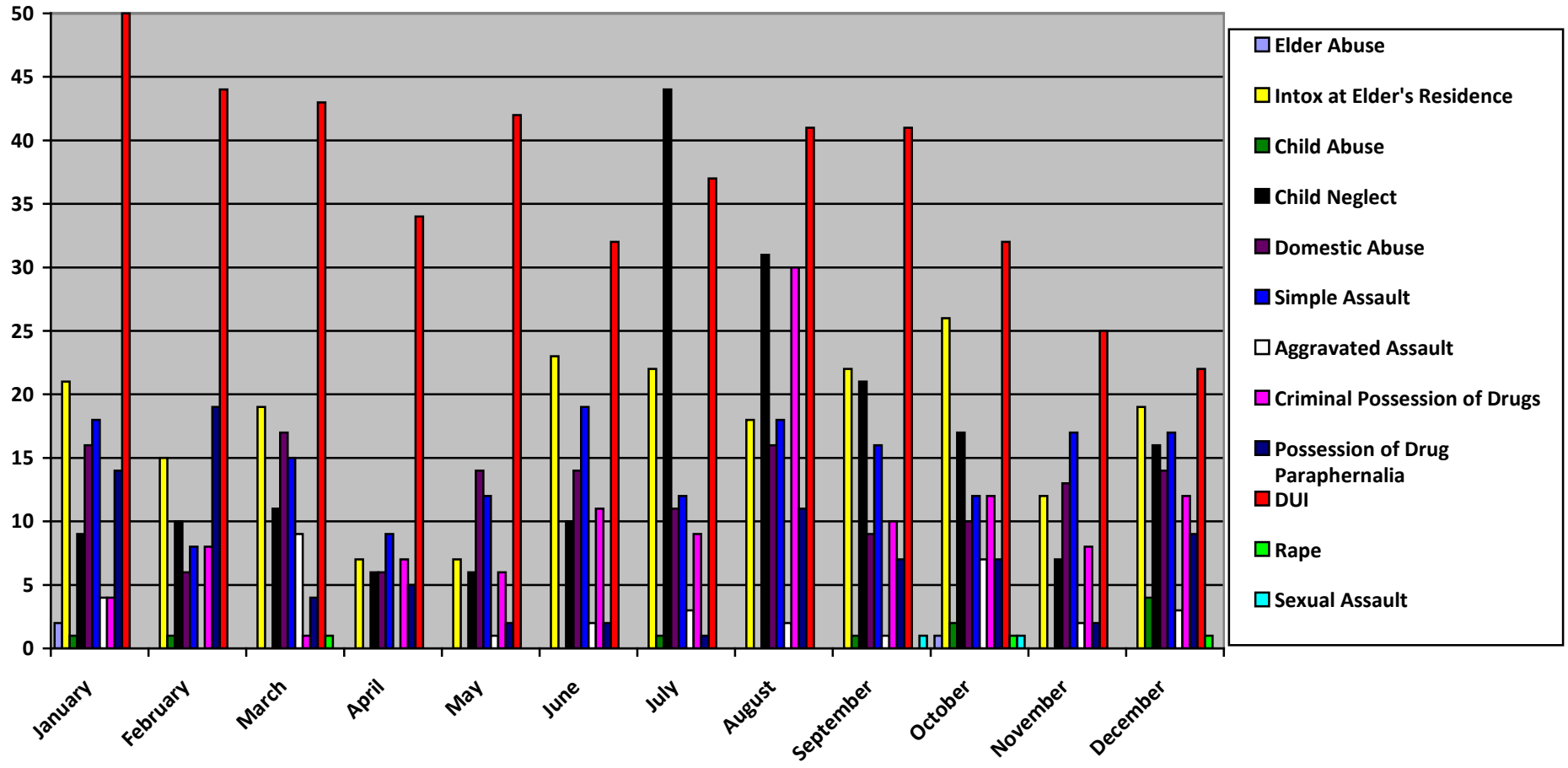
	Lane Departure	unbelted occupants	alcohol related	driver under 21	driver over 64	ATV Crashes	distracted drivers	Pedestrian crashes	Animal Crashes	Intersectrion Crashes	Heavy Vehichle Crashes	Total
January			1				1		3			5
February	1	1	1									3
March			1	1	1		1					4
April	2		2		1		2	1	2	2		12
May	2		4	4		1			1	3		15
June	1		3									4
July	2		2	1	1				2	5		13
August	4		2	2	1	1	1		1	3		17
September	2		4	1			3		3	1		14
October	2			2	1							5
November	4		1	2	1		1					9
December	3			5		1		2	2	3		16
Totals	23	1	21	18	6	3	9	3	14	17		117

Standing Rock Agency Traffic Statistics 2014

	January	February	March	April	May	June	July	August	September	October	November	December	Total
11-101 Driving without a License	28	15	27	21	27	28	71	41	29	35	28	51	401
11-102 Permitting a Minor to Drive					3								3
11-103 No Vehicle Registration/ Unsafe Vehicle	5	2	6	8	4	4	11	8	10	3	4	6	71
11-104 Starting, turning, Stopping without Regard	5	8	3	1	4	7	16	10	3	9	7	12	85
11-105 Speeding	12	21	15	24	24	15	59	35	17	21	11	59	313
11-106 Reckless or Careless Driving	12	3	8	4	7	2	8	5	7	3	5	6	70
11-107 DUI/APC	30	6	19	20	22	17	29	30	22	17	19	22	253
11-108 Failure to Drive on Right Side of Roadway	1				2			1	3		1		8
11-109 Following to Closely									1				1
11-110 Overtaking a Vehicle without Saftey				1							1		2
11-111 Failure to Stop for School Bus Lights								1					1
11-112 Failure to give Right of Way					1	1			2				4
11-113 Stopping, Standing, or Parking on Highway					1		1	1					3
11-114 Coasting													
11-115 Obstruction of Drivers View													
11-116 Riding on Fenders or Bumpers													
11-117 Pedestrian on Roadways	3	2	7	4	8	16	9	12	7	5		6	79
11-118 Littering					1	1							2
11-119 Emergency Medical Assistance													
11-120 Driving in Violation of an order of the Court								1	1	1			3
11-121 Duties in the Event of an accident	1	1	1	3	1	1	2	1	1	1		1	14
11-122 Law Officers to Report Accidents	1												1
11-123 Unlawful use or Tampering with a motor Vehicle	1		3	1			1	1	1	2		3	13
11-124 Open Container in a Motor Vehicle	11	2	5	5	15	7	24	16	8	11	9	14	127
11-125 Traffic Violations... Procedures													
11-126 Notification of Parents/Guardians of Juvenilles													
11-127 Penalties not otherwise Prescribed													
11-128 Driving without Liability Insurance	11	10	14	10	9	7	24	13	15	6	7	19	145
11-201 Infant/ Child Restraints													
11-202 Child Restraints	1	1	2	2	3	5	12	2	8	4		5	45
11-205 Saftey Belts	3	2	2	4	1	1	23	8	2	6	1	15	68
Total Traffic Charges	125	73	112	108	133	112	290	186	137	124	93	219	1712

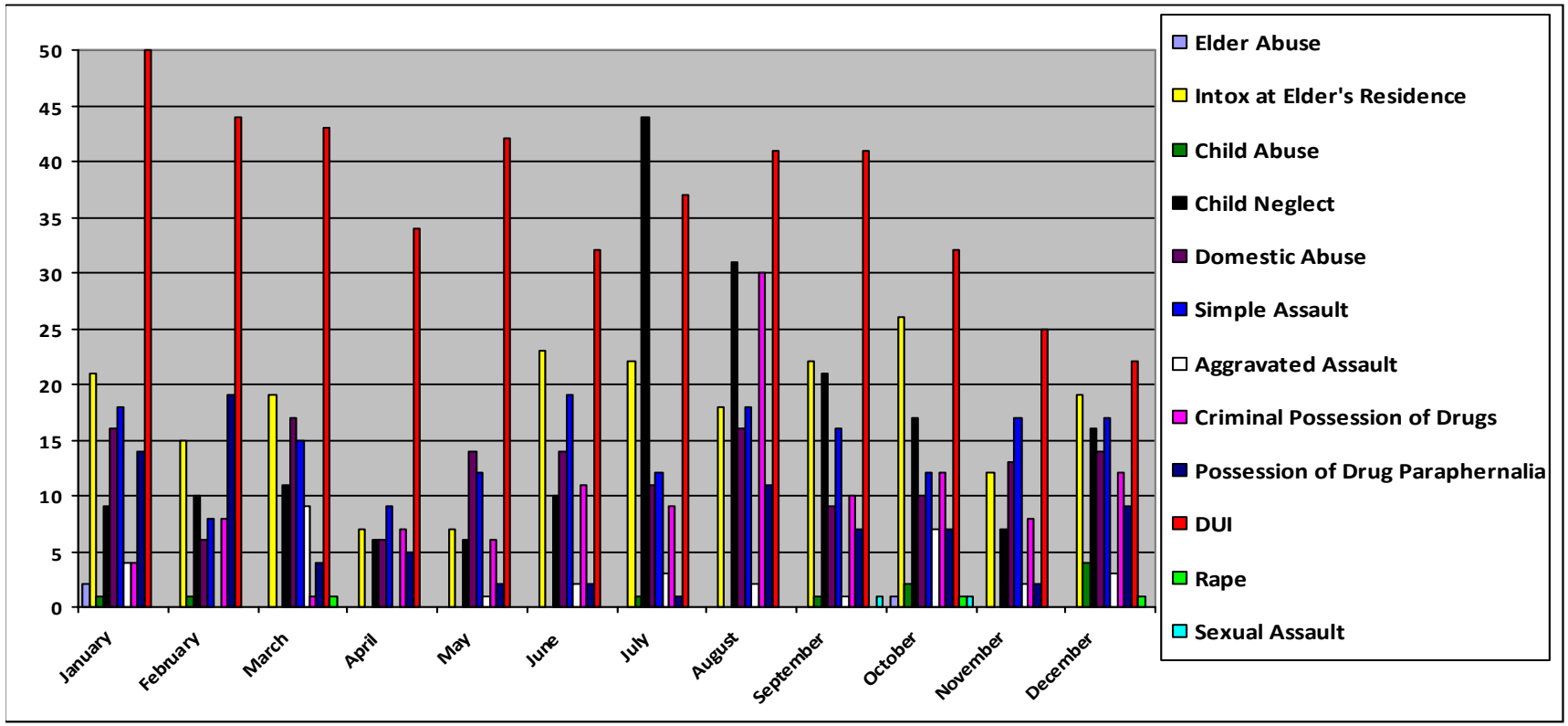
October 7, 2014

BIA OJS STANDING ROCK AGENCY 2013 STATISTICS



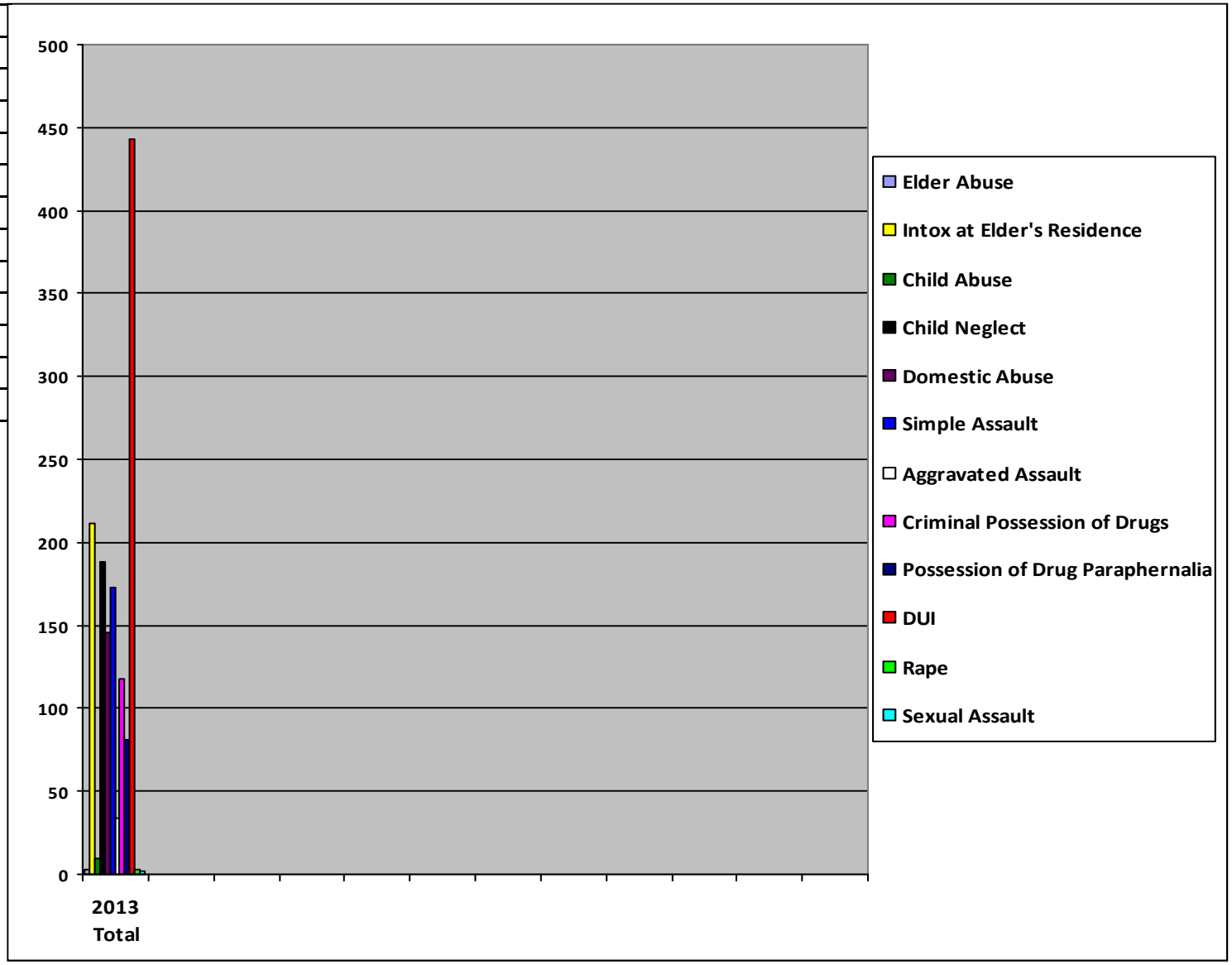
BIA OJS STANDING ROCK AGENCY
2013 ARREST STATISTICS

	January	February	March	April	May	June	July	August	September	October	November	December
Elder Abuse	2	0	0	0	0	0	0	0	0	1	0	0
Intox at Elder's Residence	21	15	19	7	7	23	22	18	22	26	12	19
Child Abuse	1	1	0	0	0	0	1	0	1	2	0	4
Child Neglect	9	10	11	6	6	10	44	31	21	17	7	16
Domestic Abuse	16	6	17	6	14	14	11	16	9	10	13	14
Simple Assault	18	8	15	9	12	19	12	18	16	12	17	17
Aggravated Assault	4	0	9	0	1	2	3	2	1	7	2	3
Criminal Possession of Drugs	4	8	1	7	6	11	9	30	10	12	8	12
Possession of Drug Paraphernalia	14	19	4	5	2	2	1	11	7	7	2	9
DUI	50	44	43	34	42	32	37	41	41	32	25	22
Rape	0	0	1	0	0	0	0	0	0	1	0	1
Sexual Assault	0	0	0	0	0	0	0	0	1	1	0	0



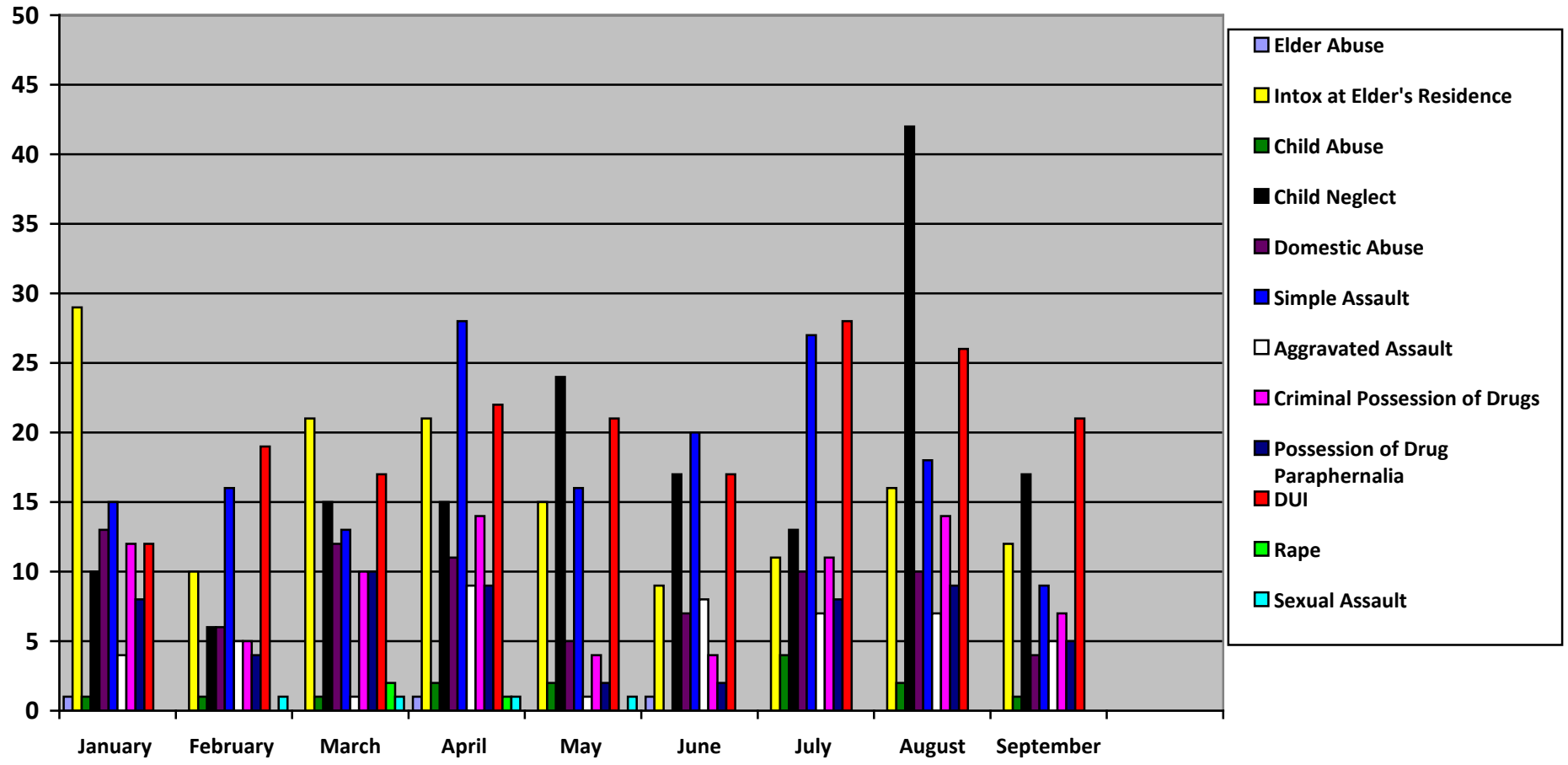
BIA OJS Standing Rock Agency
2013 Total Arrests/ Charges

	2013 Total
Elder Abuse	3
Intox at Elder's	211
Child Abuse	10
Child Neglect	188
Domestic Abus	146
Simple Assault	173
Aggravated As	34
Criminal Posse	118
Possession of I	81
DUI	443
Rape	3
Sexual Assault	2



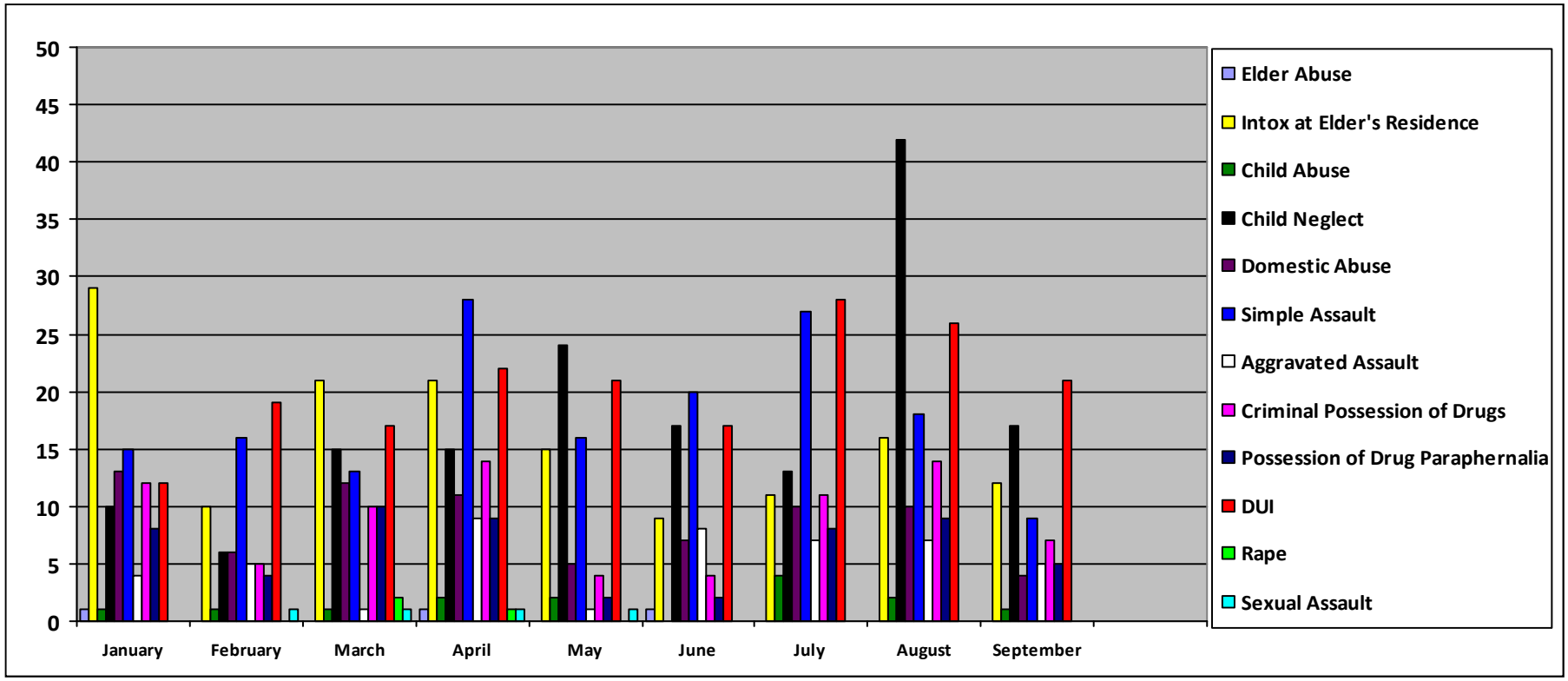
October 7, 2014

BIA OJS STANDING ROCK AGENCY 2014 STATISTICS



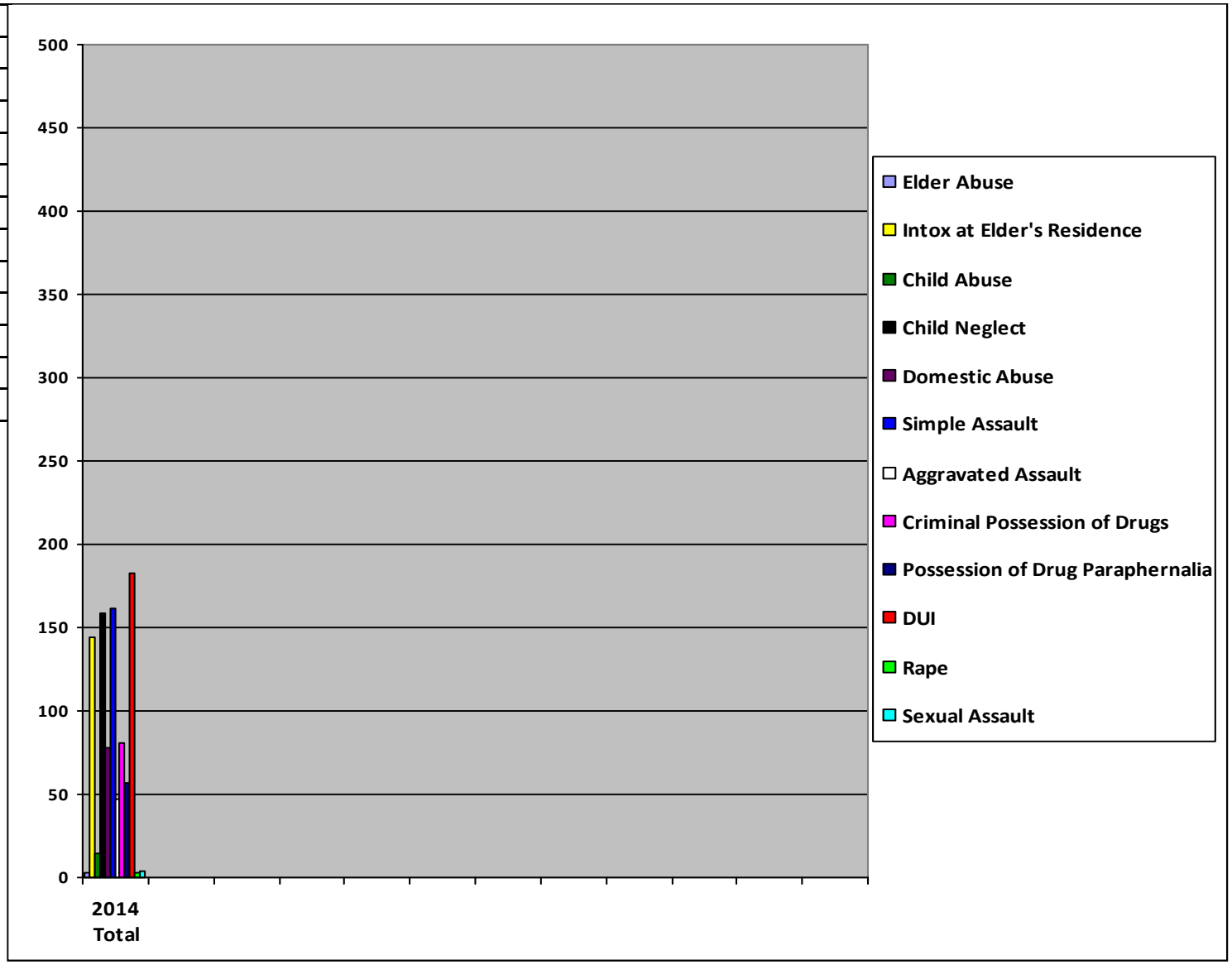
BIA OJS STANDING ROCK AGENCY
2014 ARREST STATISTICS

	January	February	March	April	May	June	July	August	September
Elder Abuse	1	0	0	1	0	1	0	0	0
Intox at Elder's Residence	29	10	21	21	15	9	11	16	12
Child Abuse	1	1	1	2	2	0	4	2	1
Child Neglect	10	6	15	15	24	17	13	42	17
Domestic Abuse	13	6	12	11	5	7	10	10	4
Simple Assault	15	16	13	28	16	20	27	18	9
Aggravated Assault	4	5	1	9	1	8	7	7	5
Criminal Possession of Drugs	12	5	10	14	4	4	11	14	7
Possession of Drug Paraphernalia	8	4	10	9	2	2	8	9	5
DUI	12	19	17	22	21	17	28	26	21
Rape	0	0	2	1	0	0	0	0	0
Sexual Assault	0	1	1	1	1	0	0	0	0



BIA OJS Standing Rock Agency
2014 Total Arrests/ Charges

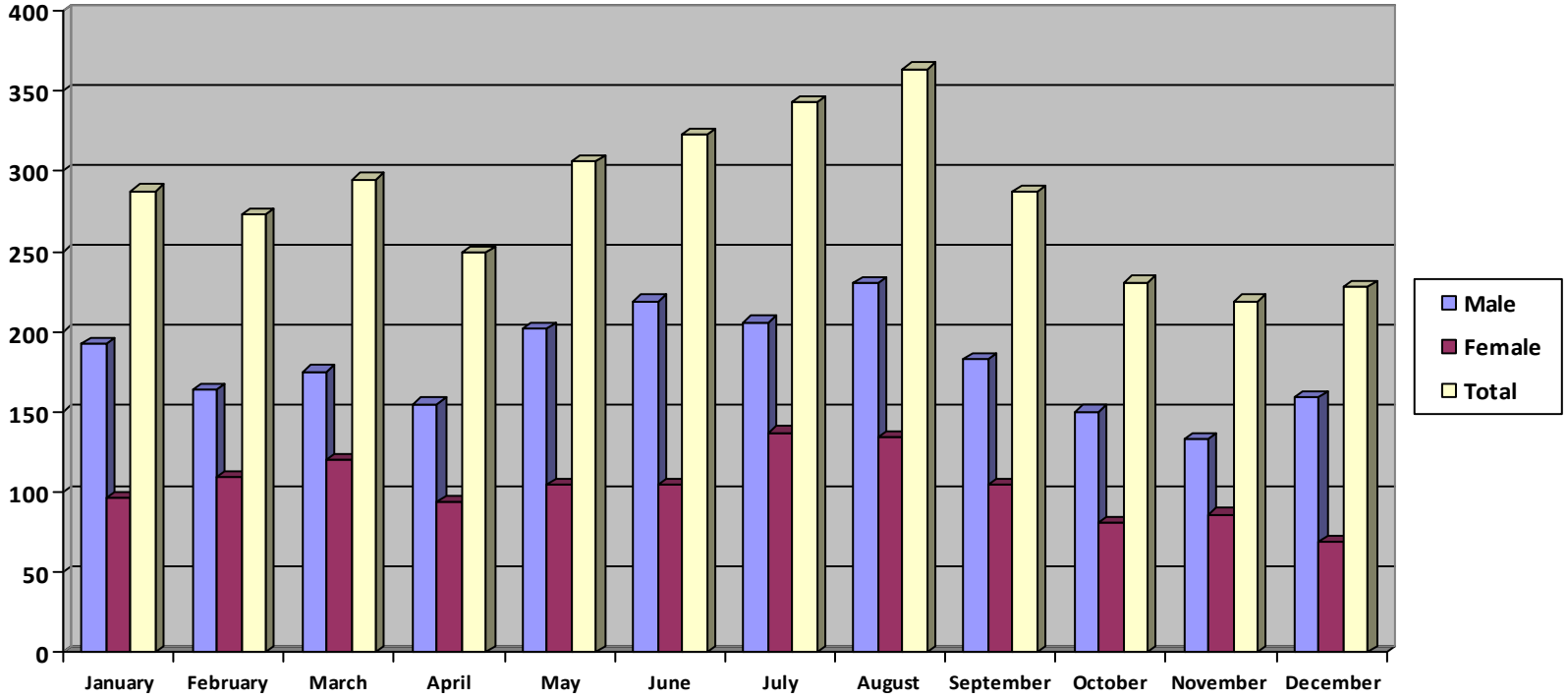
	2014 Total
Elder Abuse	3
Intox at Elder's	144
Child Abuse	14
Child Neglect	159
Domestic Abus	78
Simple Assault	162
Aggravated As	47
Criminal Posse	81
Possession of I	57
DUI	183
Rape	3
Sexual Assault	4



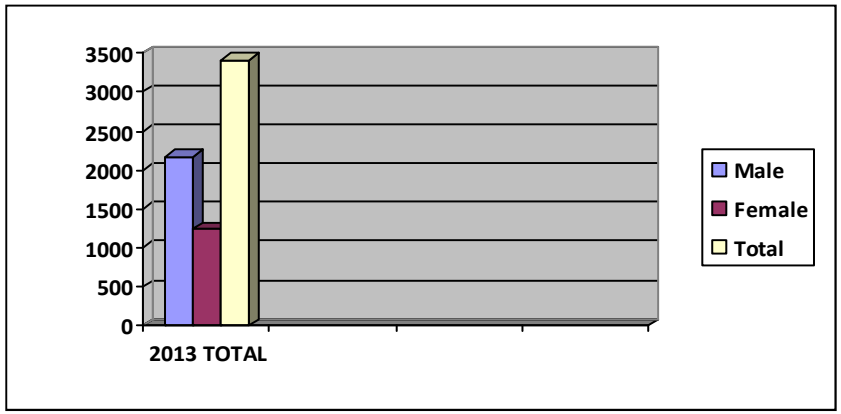
BIA OJS STANDING ROCK AGENCY

2013 ARRESTS

	January	February	March	April	May	June	July	August	September	October	November	December
Male	192	164	175	155	202	219	206	230	183	150	133	159
Female	96	109	120	94	104	104	137	134	104	81	86	69
Total	288	273	295	249	306	323	343	364	287	231	219	228



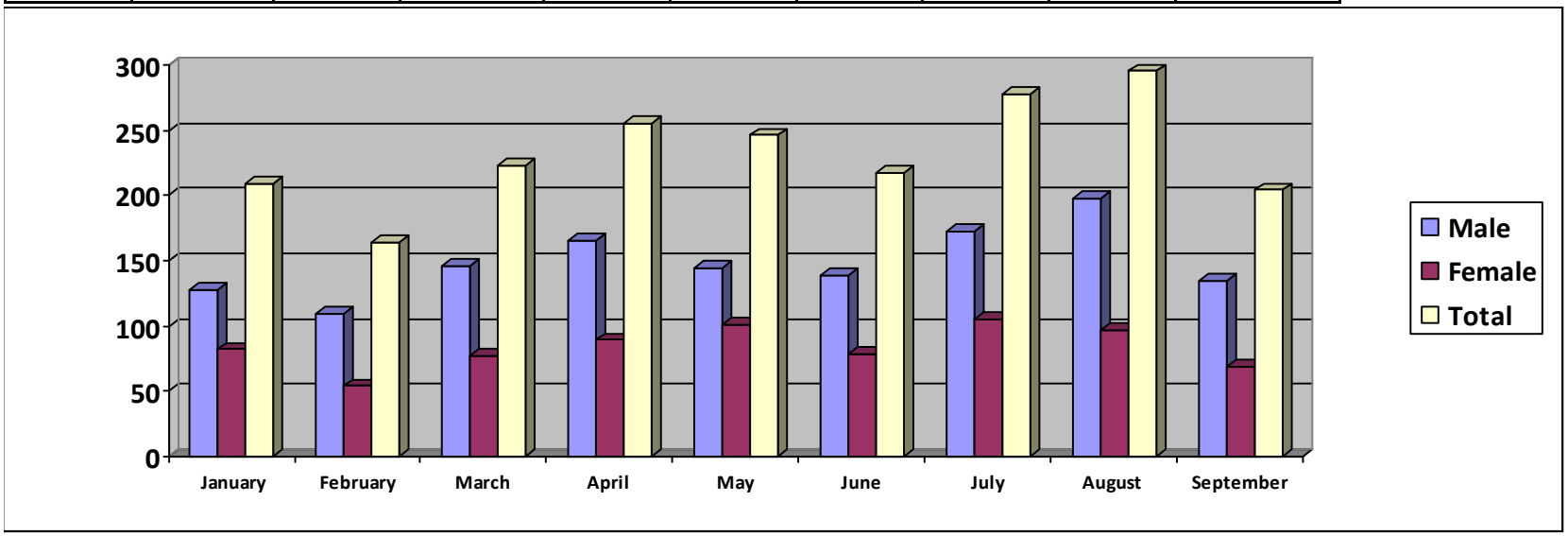
	2013 TOTAL
Male	2168
Female	1238
Total	3406



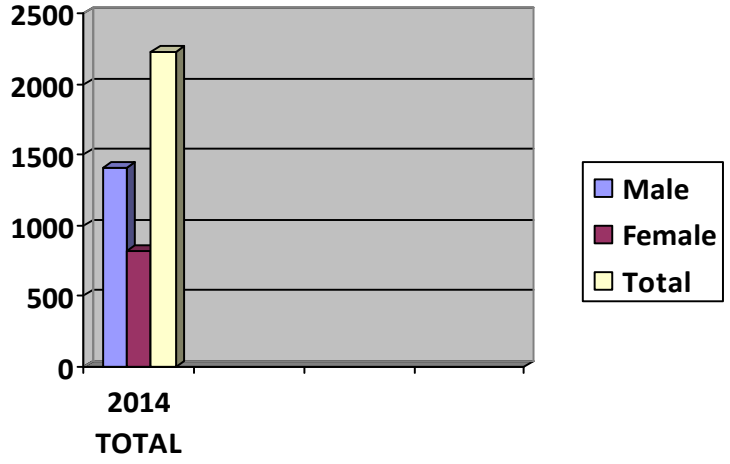
BIA OJS STANDING ROCK AGENCY

2014 ARRESTS

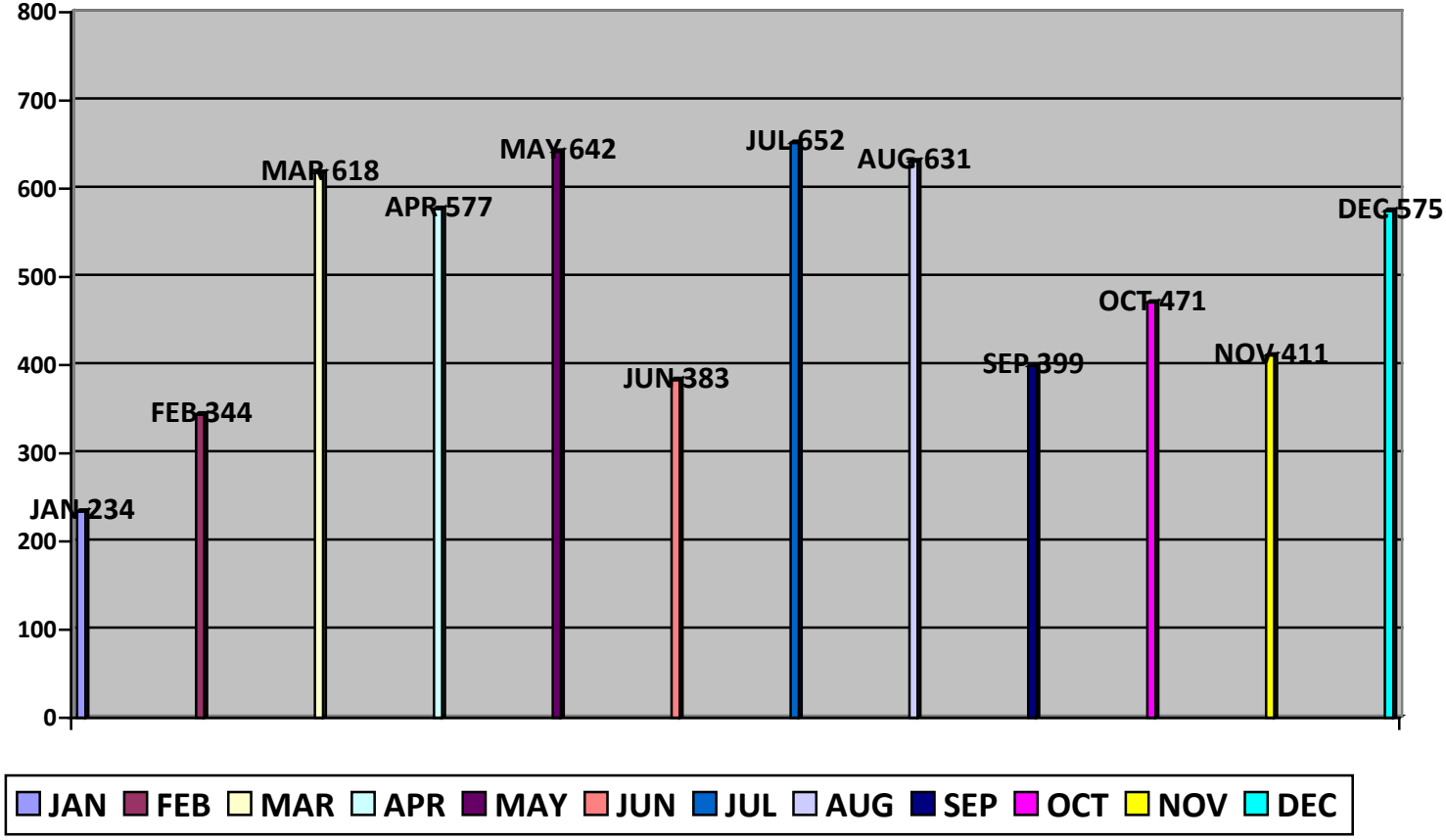
	January	February	March	April	May	June	July	August	September
Male	127	110	146	166	145	139	172	198	135
Female	82	54	77	89	101	78	105	97	69
Total	209	164	223	255	246	217	277	295	204



	2014 TOTAL
Male	1407
Female	818
Total	2225



STANDING ROCK AGENCY CALLS FOR SERVICE 2014
5,937 CALLS FOR SERVICE



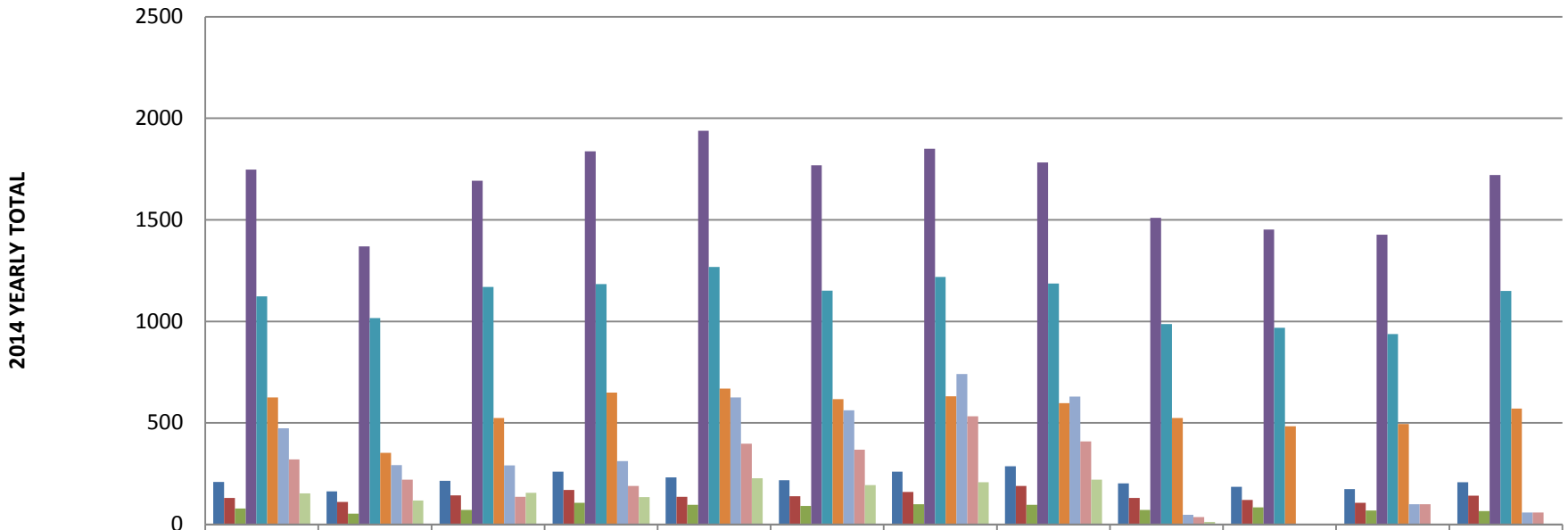
Standing Rock Agency Traffic Statistics 2015
Month:

TRAFFIC OFFENSE	NUMBER OF TRAFFIC CHARGES
11-101 Driving Without a License	
11-102 Permitting a Minor to Drive	
11-103 No Vehicle Registration/ Unsafe Vehicle	
11-104 Starting, Turning, Stopping without Regard	
11-105 Speeding	
11-106 Reckless or Careless Driving	
11-107 DUI or APC	
11-108 Failure to Drive on Right Side of Roadway	
11-109 Following to Closely	
11-110 Overtaking a Vehicle without Safety	
11-111 Failure to Stop for School Bus Flashing Lights	
11-112 Failure to Give Right of Way	
11-113 Stopping, Standing, or Parking on Highway	
11-114 Coasting	
11-115 Obstruction of Driver's View	
11-116 Riding on Fenders or Bumpers	
11-117 Pedestrian on Roadways	
11-118 Littering	
11-119 Emergency Medical Assistance	
11-120 Driving in Violation of an Order of the Court	
11-121 Duties in the Event of an Accident	

Standing Rock Agency Traffic Statistics 2015
Month:

TRAFFIC OFFENSE	NUMBER OF TRAFFIC CHARGES
11- 122 Law Officers to Report Accidents	
11-123 Unlawful Use or Tampering with a Motor Vehicle	
11-124 Open Container in a Motor Vehicle	
11-125 Traffic Violations…Procedures	
11-126 Notification of Parents/ Guardians of Juveniles	
11-127 Penalties not otherwise prescribed	
11-128 Driving Without Liability Insurance	
11-201 Infant/ Child Restraints	
11-202 Child Restraints	
11-205 Safety Belts	

Standing Rock Detention Center Adult
2014 Yearly Totals

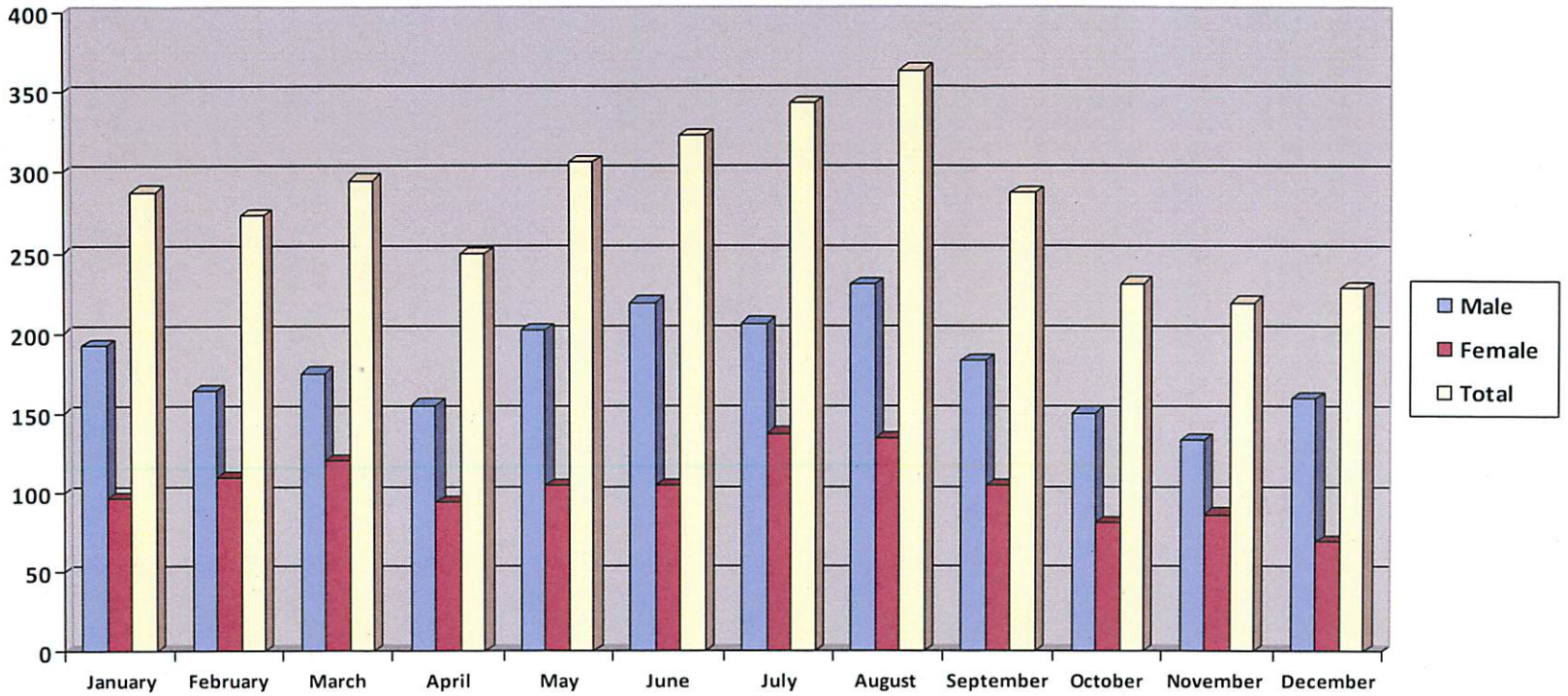


	January	February	March	April	May	June	July	August	Sept.	October	November	December
Total Intakes	209	163	214	259	232	218	260	287	202	185	174	208
Males Intakes	130	110	143	170	136	139	160	189	131	121	107	142
Females Intakes	79	53	71	107	96	91	100	97	71	84	68	66
Housing Total	1748	1369	1693	1838	1939	1768	1850	1783	1510	1452	1427	1721
Male Housing	1123	1016	1169	1184	1268	1151	1219	1186	986	969	937	1150
Female Housing	625	352	524	649	669	617	631	597	524	483	495	571
Contract Total	473	292	291	312	625	562	741	629	48	0	100	59
Male Contract	320	221	136	189	398	368	533	409	36	0	100	59
Female Contract	153	117	155	135	227	194	208	220	12	0	0	0

BIA OJS STANDING ROCK AGENCY

2013 ARRESTS

	January	February	March	April	May	June	July	August	September	October	November	December
Male	192	164	175	155	202	219	206	230	183	150	133	159
Female	96	109	120	94	104	104	137	134	104	81	86	69
Total	288	273	295	249	306	323	343	364	287	231	219	228



	2013 TOTAL
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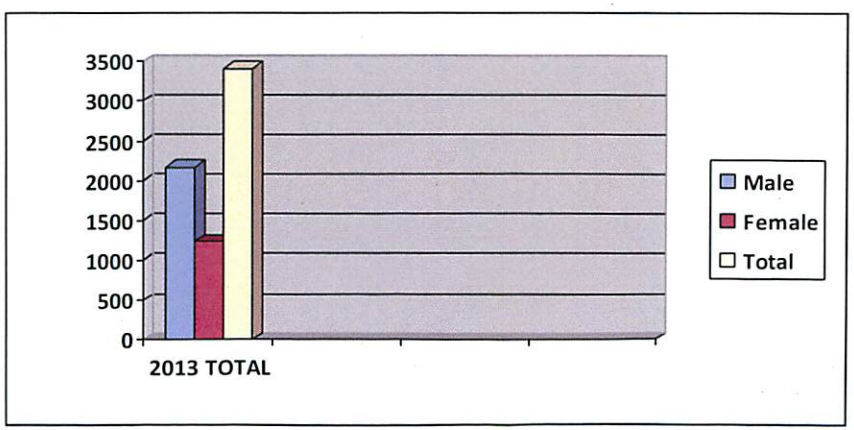
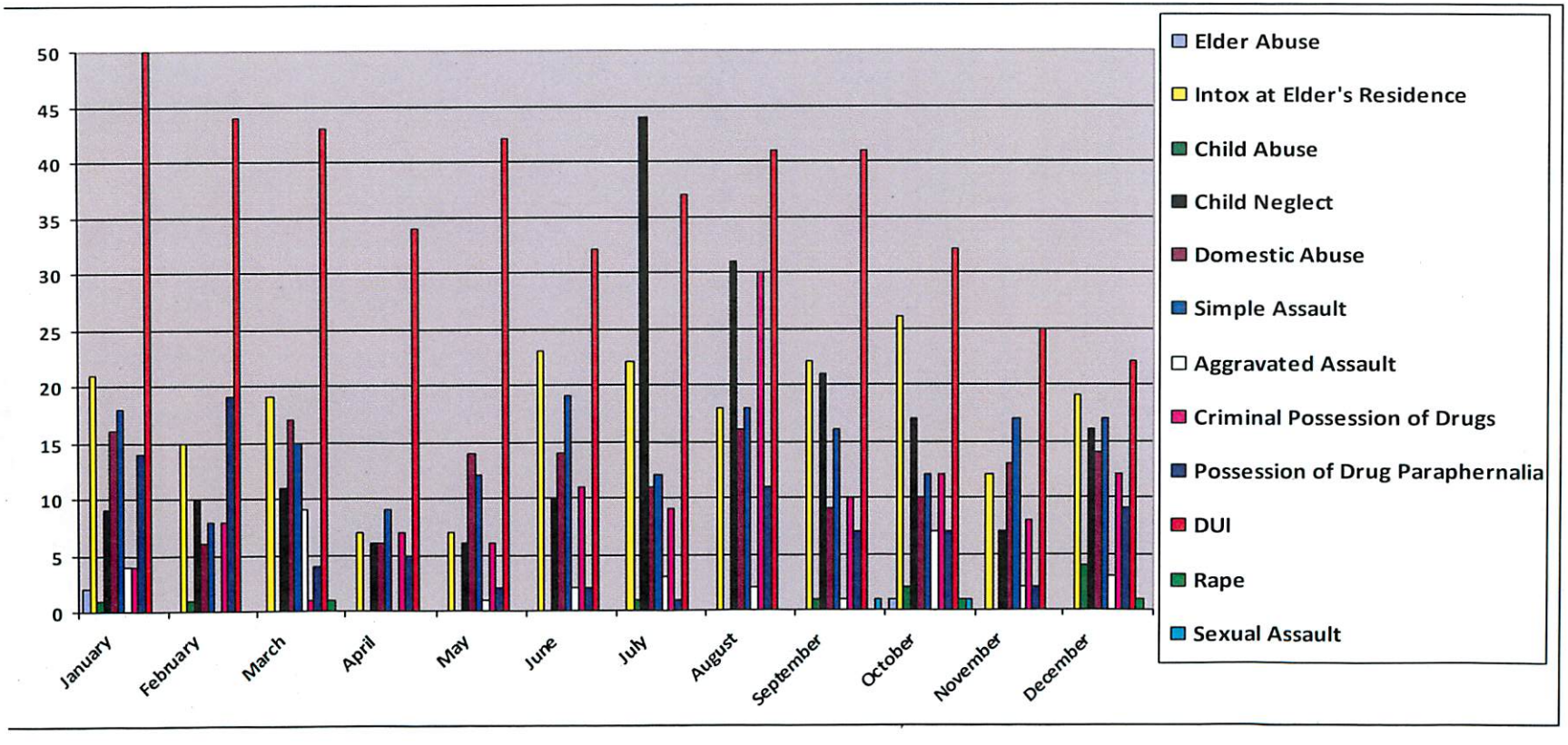


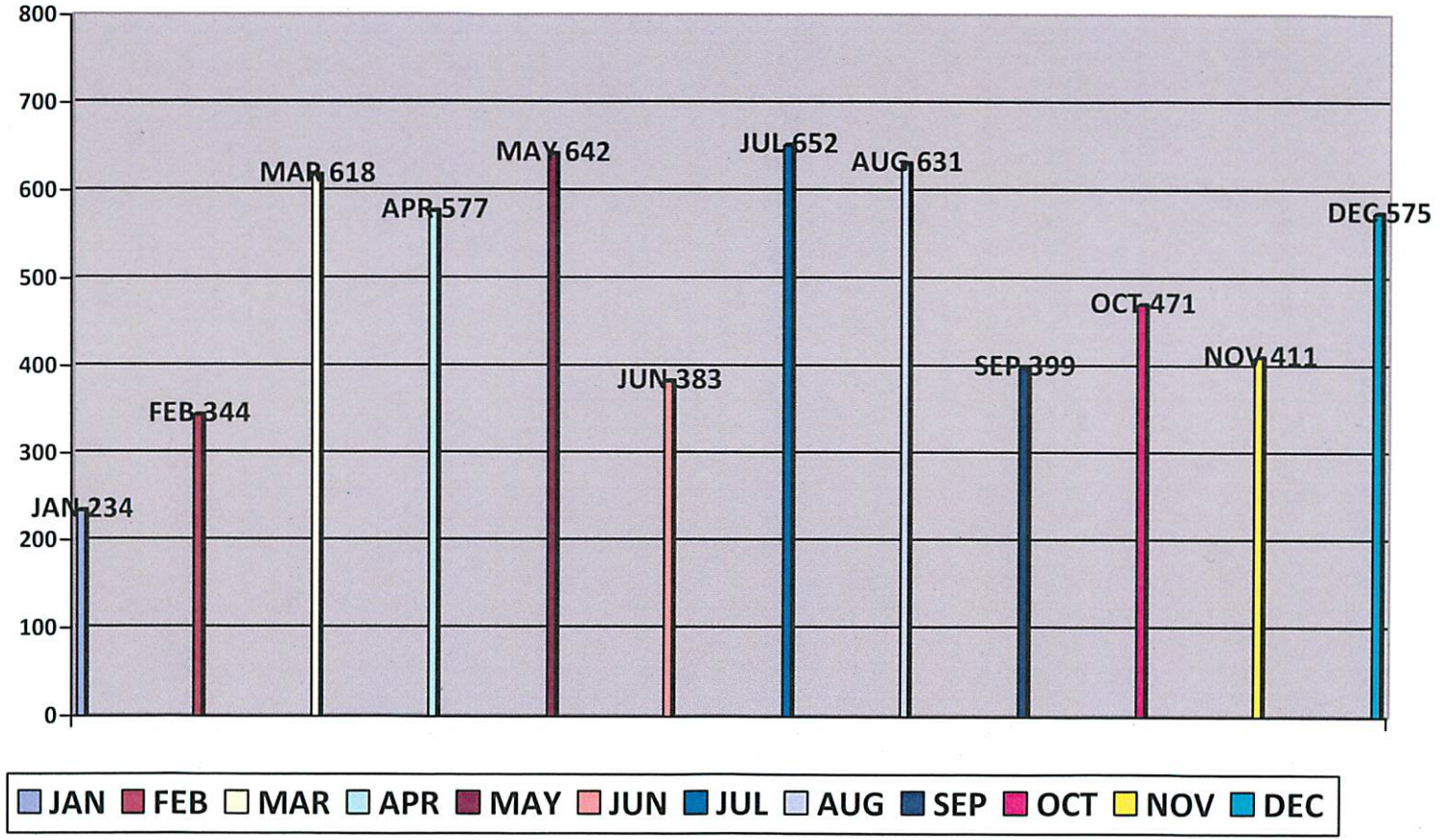
BIA OJS STANDING ROCK AGENCY
2013 ARREST STATISTICS

	January	February	March	April	May	June	July	August	September	October	November	December
Elder Abuse	2	0	0	0	0	0	0	0	0	1	0	0
Intox at Elder's Residence	21	15	19	7	7	23	22	18	22	26	12	19
Child Abuse	1	1	0	0	0	0	1	0	1	2	0	4
Child Neglect	9	10	11	6	6	10	44	31	21	17	7	16
Domestic Abuse	16	6	17	6	14	14	11	16	9	10	13	14
Simple Assault	18	8	15	9	12	19	12	18	16	12	17	17
Aggravated Assault	4	0	9	0	1	2	3	2	1	7	2	3
Criminal Possession of Drugs	4	8	1	7	6	11	9	30	10	12	8	12
Possession of Drug Paraphernalia	14	19	4	5	2	2	1	11	7	7	2	9
DUI	50	44	43	34	42	32	37	41	41	32	25	22
Rape	0	0	1	0	0	0	0	0	0	1	0	1
Sexual Assault	0	0	0	0	0	0	0	0	1	1	0	0



STANDING ROCK AGENCY CALLS FOR SERVICE 2014

5,937 CALLS FOR SERVICE



BIA OJS STANDING ROCK AGENCY
2014 ARRESTS

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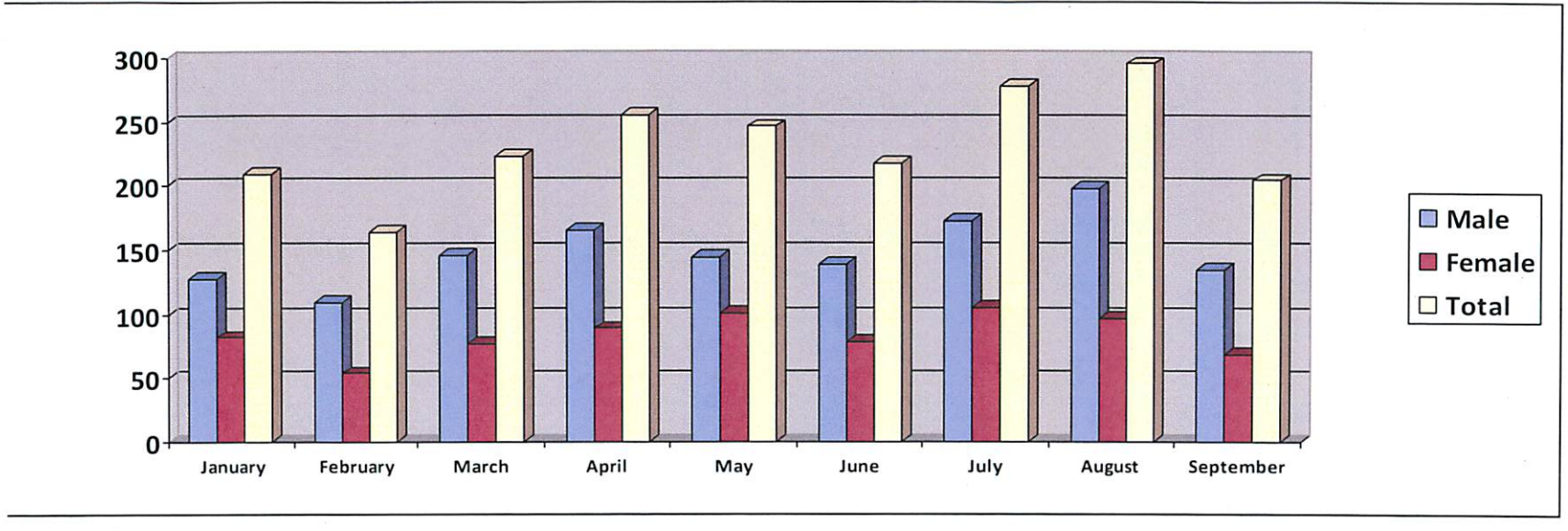
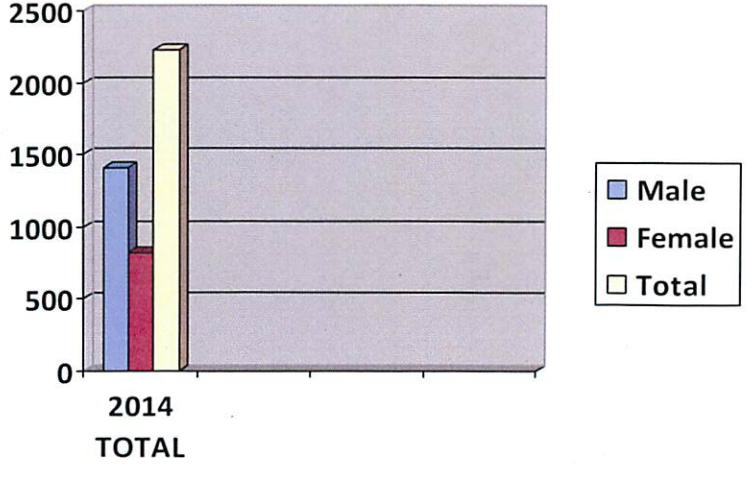
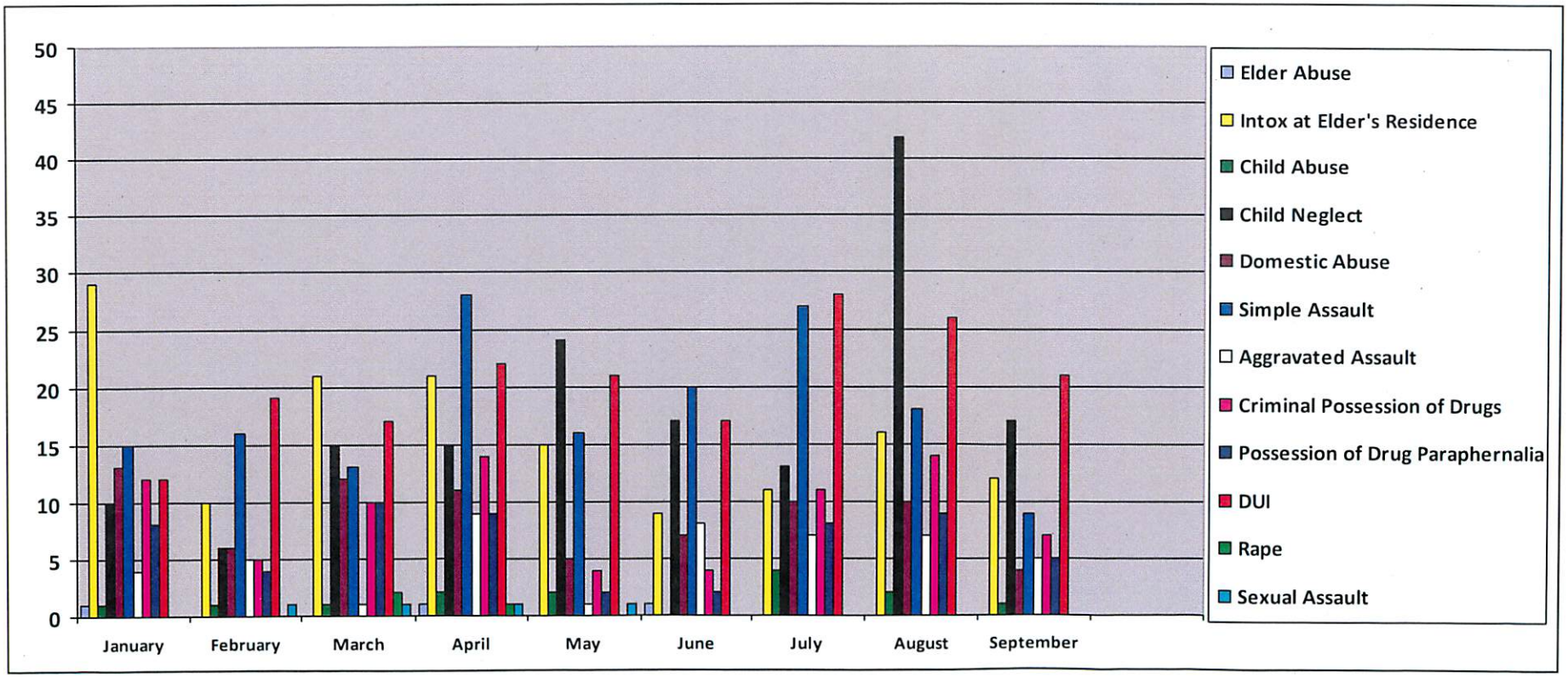


	2014 TOTAL
Male	1407
Female	818
Total	2225



BIA OJS STANDING ROCK AGENCY
2014 ARREST STATISTICS

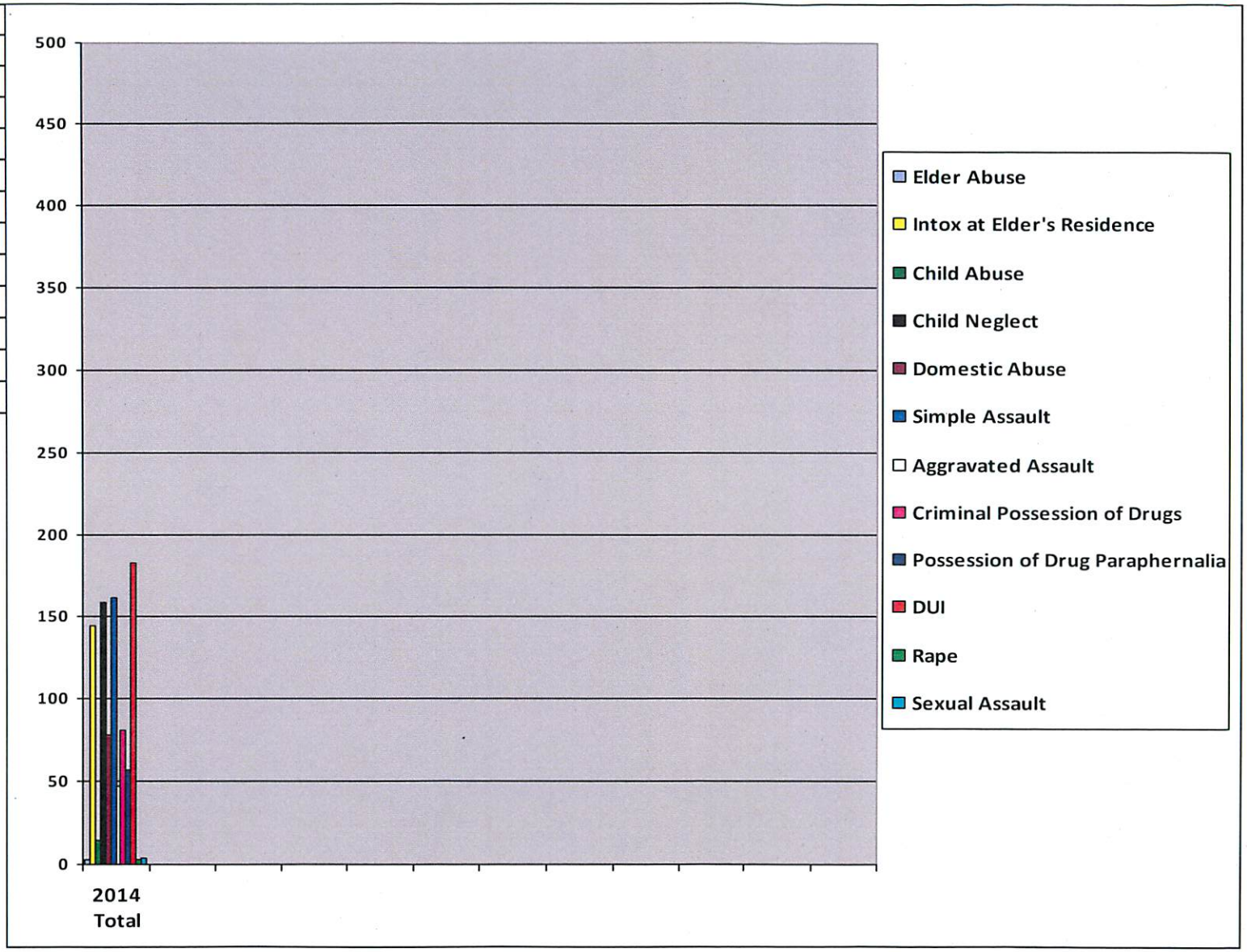
	January	February	March	April	May	June	July	August	September
Elder Abuse	1	0	0	1	0	1	0	0	0
Intox at Elder's Residence	29	10	21	21	15	9	11	16	12
Child Abuse	1	1	1	2	2	0	4	2	1
Child Neglect	10	6	15	15	24	17	13	42	17
Domestic Abuse	13	6	12	11	5	7	10	10	4
Simple Assault	15	16	13	28	16	20	27	18	9
Aggravated Assault	4	5	1	9	1	8	7	7	5
Criminal Possession of Drugs	12	5	10	14	4	4	11	14	7
Possession of Drug Paraphernalia	8	4	10	9	2	2	8	9	5
DUI	12	19	17	22	21	17	28	26	21
Rape	0	0	2	1	0	0	0	0	0
Sexual Assault	0	1	1	1	1	0	0	0	0



BIA OJS STANDING ROCK AGENCY
2014 ARREST STATISTICS

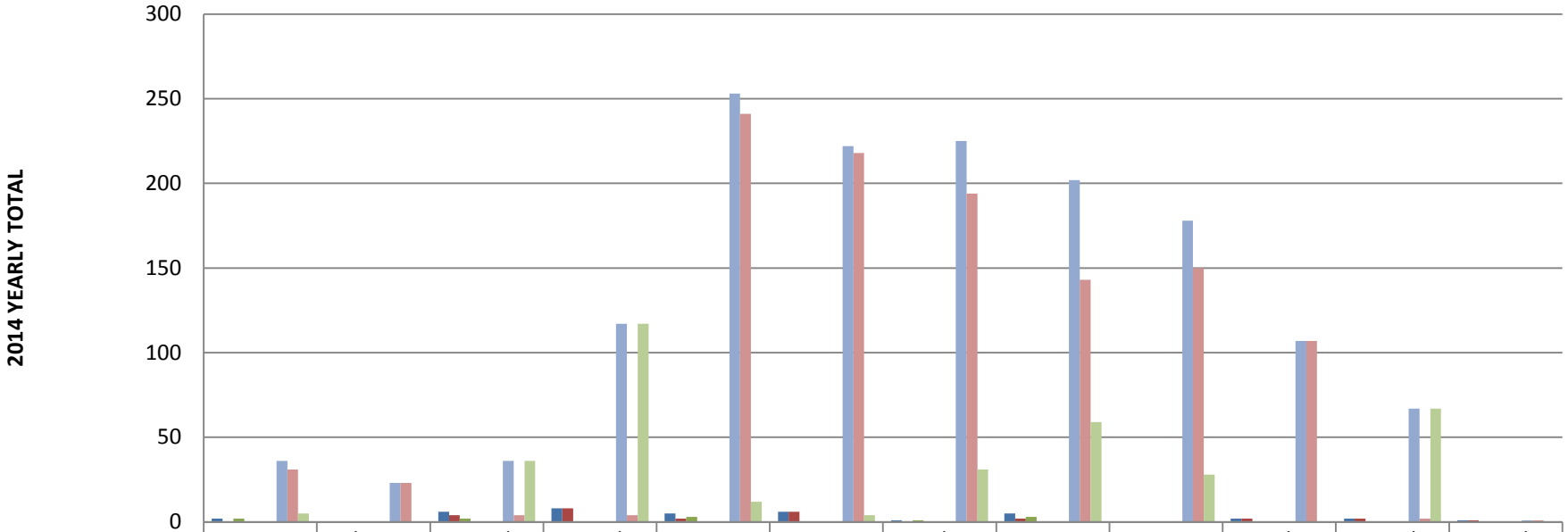
BIA OJS Standing Rock Agency
2014 Total Arrests/ Charges

	2014 Total
Elder Abuse	3
Intox at Elder's	144
Child Abuse	14
Child Neglect	159
Domestic Abus	78
Simple Assault	162
Aggravated Ass	47
Criminal Posse	81
Possession of D	57
DUI	183
Rape	3
Sexual Assault	4



BIA OJS Standing Rock Agency
2014 Total Arrests/ Charges

Standing Rock Detention Center Juvenile
2014 Yearly Totals



	January	February	March	April	May	June	July	August	Sept.	October	November	December
Total Intakes	2	0	6	8	5	6	1	5	0	2	2	1
Males Intakes	0	0	4	8	2	6	0	2	0	2	2	1
Females Intakes	2	0	2	0	3	0	1	3	0	0	0	0
Housing Total												
Male Housing												
Female Housing												
Contract Total	36	23	36	117	253	222	225	202	178	107	67	1
Male Contract	31	23	4	4	241	218	194	143	150	107	2	1
Female Contract	5	0	36	117	12	4	31	59	28	0	67	0

Standing Rock Agency Traffic Statistics 2014

	January	February	March	April	May	June	July	August	September	October	November	December	Total
11-101 Driving without a License	28	15	27	21	27	28	71	41	29	35	28	51	**401**
11-102 Permitting a Minor to Drive					3								**3**
11-103 No Vehicle Registration/ Unsafe Vehicle	5	2	6	8	4	4	11	8	10	3	4	6	**71**
11-104 Starting, turning, Stopping without Regard	5	8	3	1	4	7	16	10	3	9	7	12	**85**
11-105 Speeding	12	21	15	24	24	15	59	35	17	21	11	59	**313**
11-106 Reckless or Careless Driving	12	3	8	4	7	2	8	5	7	3	5	6	**70**
11-107 DUI/APC	30	6	19	20	22	17	29	30	22	17	19	22	**253**
11-108 Failure to Drive on Right Side of Roadway	1				2			1	3		1		**8**
11-109 Following to Closely									1				**1**
11-110 Overtaking a Vehicle without Saftey				1							1		**2**
11-111 Failure to Stop for School Bus Lights								1					**1**
11-112 Failure to give Right of Way					1	1			2				**4**
11-113 Stopping, Standing, or Parking on Highway					1		1	1					**3**
11-114 Coasting													
11-115 Obstruction of Drivers View													
11-116 Riding on Fenders or Bumpers													
11-117 Pedestrian on Roadways	3	2	7	4	8	16	9	12	7	5		6	**79**
11-118 Littering					1	1							**2**
11-119 Emergency Medical Assistance													
11-120 Driving in Violation of an order of the Court								1	1	1			**3**
11-121 Duties in the Event of an accident	1	1	1	3	1	1	2	1	1	1		1	**14**
11-122 Law Officers to Report Accidents	1												**1**
11-123 Unlawful use or Tampering with a motor Vehicle	1		3	1			1	1	1	2		3	**13**
11-124 Open Container in a Motor Vehicle	11	2	5	5	15	7	24	16	8	11	9	14	**127**
11-125 Traffic Violations… Procedures													
11-126 Notification of Parents/Guardians of Juvenilles													
11-127 Penalties not otherwise Prescribed													
11-128 Driving without Liability Insurance	11	10	14	10	9	7	24	13	15	6	7	19	**145**
11-201 Infant/ Child Restraints													
11-202 Child Restraints	1	1	2	2	3	5	12	2	8	4		5	**45**
11-205 Saftey Belts	3	2	2	4	1	1	23	8	2	6	1	15	**68**
Total Traffic Charges	**125**	**73**	**112**	**108**	**133**	**112**	**290**	**186**	**137**	**124**	**93**	**219**	**1712**

Appendix K

Tribal Roadway Safety Improvement Program In North and South Dakota

Dennis Trusty
Debbie S. Shinstine, P.E., Ph.D.
Trenna Terrill, E.I.T
Khaled Ksaibati, Ph.D., P.E.

Overview

- Objectives
- Background
- Methodology
- Regional Implementation
  - Crash Data
  - Planning
- Livability
- Conclusions

Objectives

- Implement a five-step methodology
- Present roadway safety program for three Tribes

Background

- Fatal crashes leading cause of death among Native Americans
- Need for improved Tribal traffic safety
- Rural nature of roadways

Challenges

- Lack of and Incomplete Crash Data
- Limited Resources and Expertise
- Collaboration and Coordination

Wind River Reservation

- Safety program implemented at Wind River
- Adjustments made based on WRR feedback
- System-wide projects funded by WYDOT
- Fremont County funding county roads

Wind River Reservation

- Developing GIS inventory of IRR roads
- WYDOT and Tribal law enforcement improving crash reporting
- Developed strategic plan
- Implementing Livability program
  - Roadway safety a priority

Regional Implementation

- Success of Wind River Reservation
- WY/LTAP & Northern Plains TTAP (NPTTAP) collaboration
  - Developed criteria for Tribes in the region to apply for program

Regional Implementation

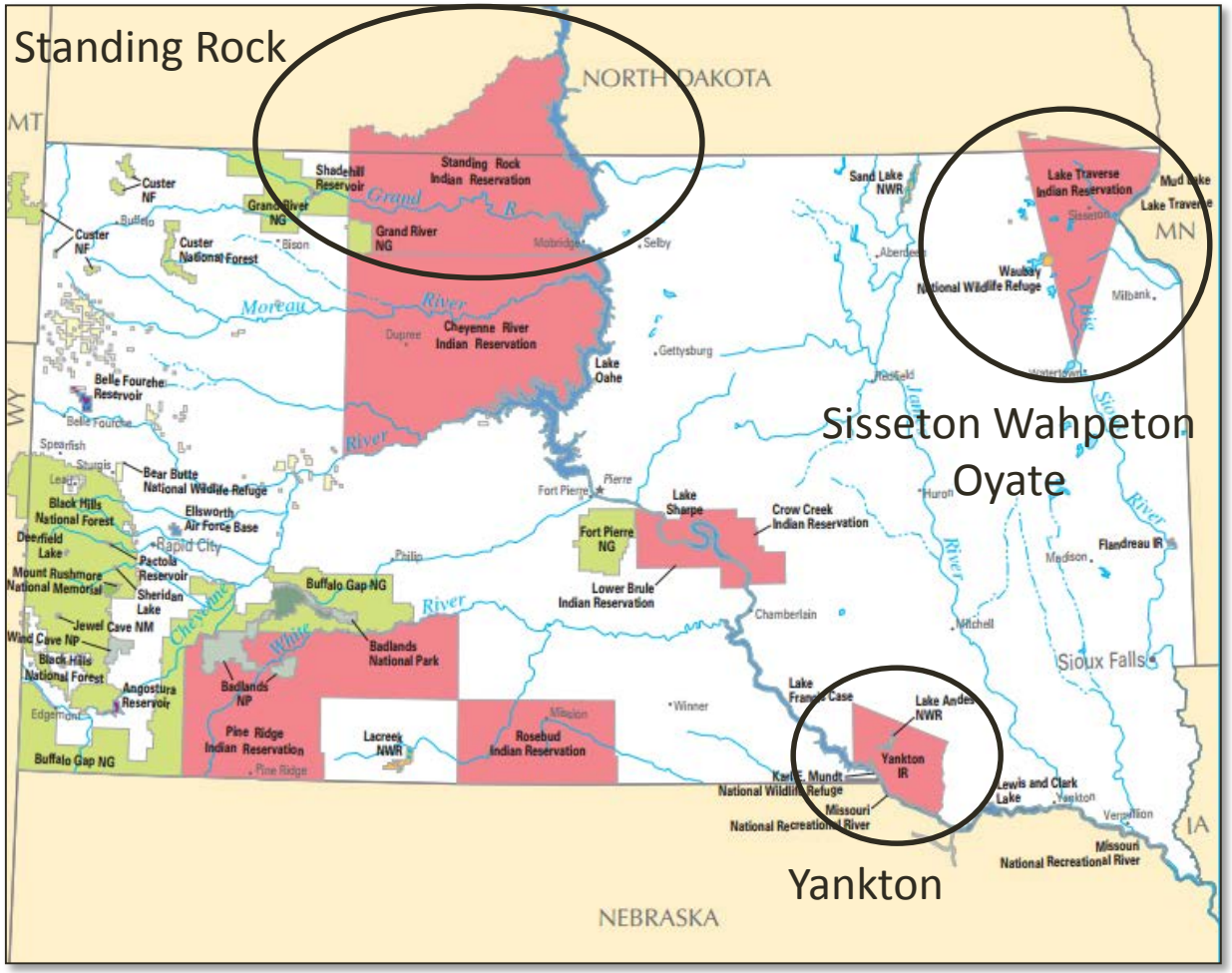
- Criteria for Tribes
  - Tribes work with and provide resources to NPTTAP and WY/LTAP
  - 3 years of crash data
  - Tribes collaborate with state and local agencies

Regional Implementation

- Criteria for Tribes cont.
  - Provide strategic plans or initiatives
  - Desire to improve roadway safety
  - Application & commitment letter
- Three tribes applied

Regional Implementation

- Three Tribes Implementing



Regional Implementation

- Standing Rock Sioux Tribe
  - Coordination with ND and SD DOT
  - 2.3 million acres
  - Maintain 128 miles of tribal roads
  - Maintain 232 miles of BIA roads

Regional Implementation

- Sisseton Wahpeton Oyate Tribe
  - 9,894 enrolled members
  - 106,153 acres (w/o boundaries)

- Yankton Sioux Tribe
  - 4,500 enrolled members
  - 40,000 acres

YANKTON SIOUX TRIBE
LAND OF THE FRIENDLY PEOPLE
OF THE
SEVEN COUNCIL FIRES
1858

Methodology

- Five Step Process
- High Risk Locations
- Low Cost Safety Improvements
- ID Physical and Behavioral Improvements
- Identify System-Wide Improvements

5 Step Process

1. Crash Data Analysis
2. Level I Field Evaluation
3. Combined Ranking
4. Level II Field Evaluation
5. Benefit Cost Analysis

1. Crash Data Analysis

- Analysis Period: 5 – 10 years
- Route/Segment
- Severity
- Road, Weather, & Lighting Conditions
- First Harmful Event (FHE) & Location
- Hot Spots Analyzed (crashes per mile)
- Ranked by hot spots

2. Level I Field Evaluation

- One-mile segments
- Rated score 0-10 (0 worst)
- Categories:
  - General
  - Intersections & RR Crossings
  - Signage & Pavement Markings
  - Fixed Objects & Clear Zone
  - Shoulder & ROW
- Ranked by score

3. Combined Rank

Route	Beg MP	End MP	Total Crashes	Crash Rank	Level I Rank	Combined Rank
A	0	1	2	14	15	29
A	1.01	2	4	12	10	22
A	2.01	3	2	14	13	27
A	3.01	4	14	2	1	3
A	4.01	5	12	4	3	7
B	0	1	14	2	2	4
B	1.01	2	8	6	12	18
B	2.01	3	9	5	2	7
C	0	1	9	8	9	17
C	1.01	2	15	1	3	4
D	0	1	3	10	11	21
D	1.01	2	11	2	5	7

4. Level II Field Evaluation

• Horizontal curvature measurements • Stopping sight distances • Slopes • Shoulders • Intersections	• Signs, pavement marking, & delineators • Fencing • Fixed objects in ROW • Bridges • Cattle guards

Countermeasures selected for entire roadway

5. Benefit-Cost Analysis

$$Improvement\ Cost = \frac{10\ years}{service\ life} \times Present\ Cost$$

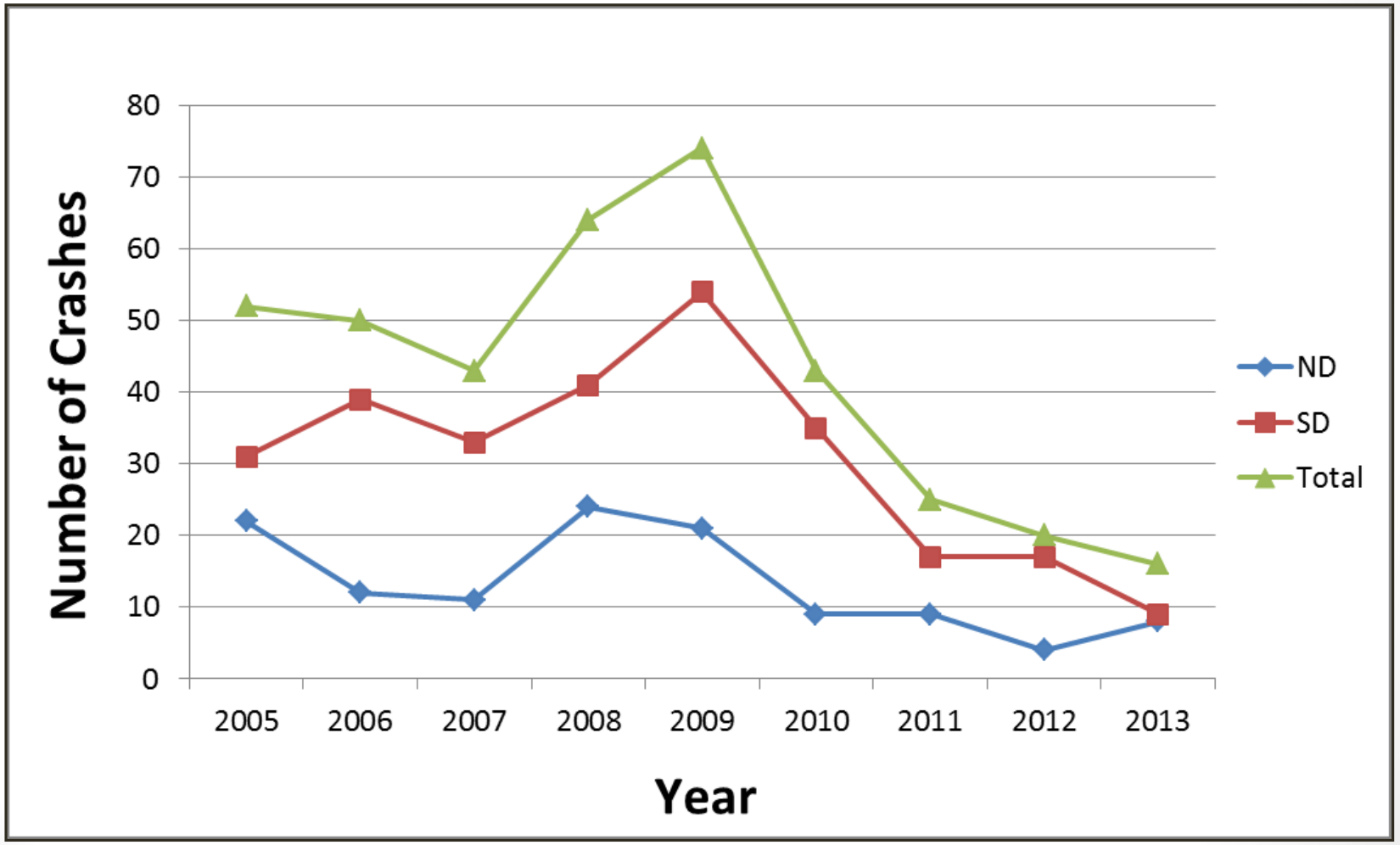
$$\begin{aligned} &Benefit \\ &= (\#PDO\ Crashes \times PDOCRF \times PDO\ Crash\ Cost) \\ &+ (\#Injury\ Crashes \times Injury\ CRF \times Injury\ Crash\ Cost) \\ &+ (\#Fatal\ Crashes \times Fatal\ CRF \times Fatal\ Crash\ Cost) \end{aligned}$$

Crash Cost	
Fatal	*$2,500,000*
Injury	*$60,000*
PDO	*$6,000*

SRST Crash Analysis

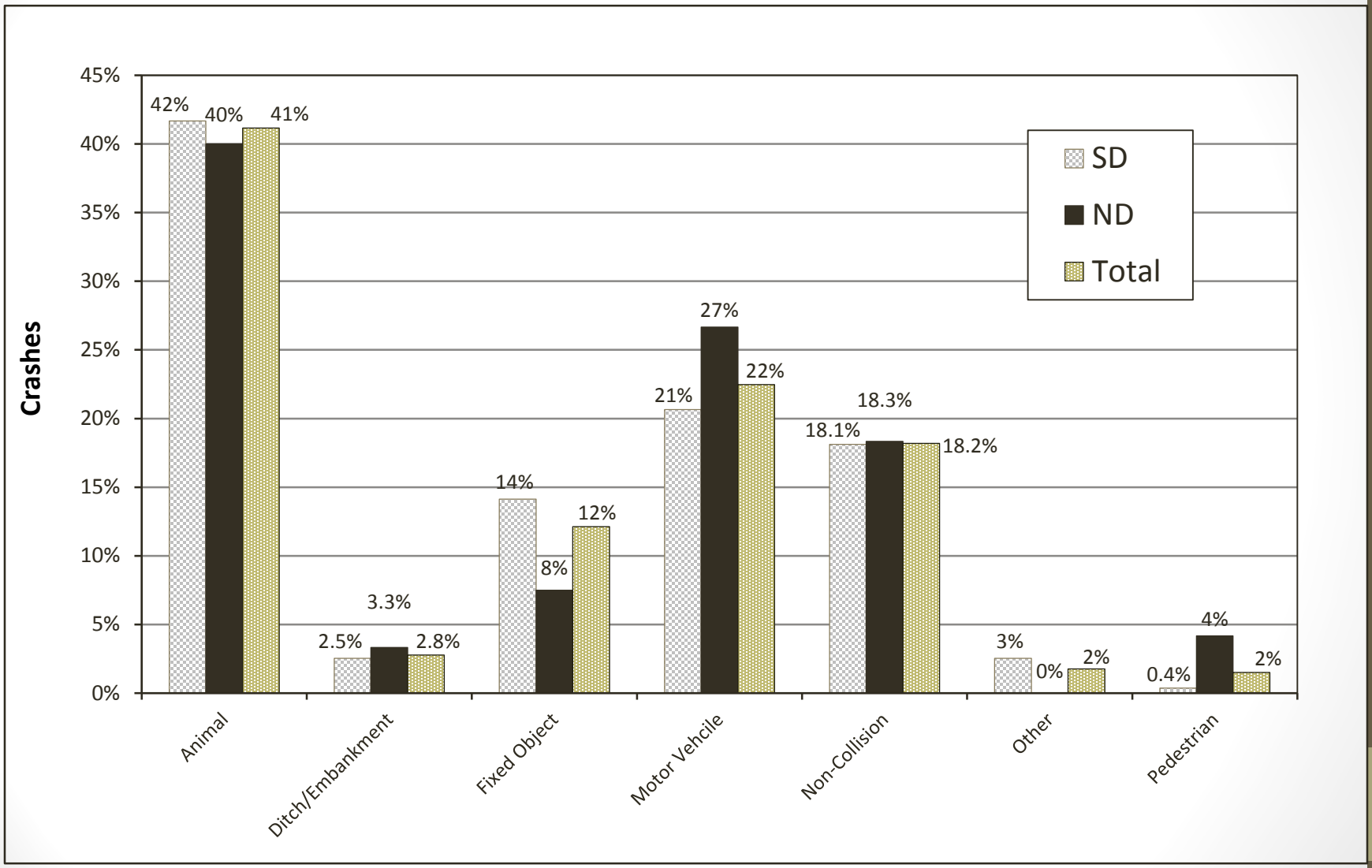
- North Dakota
  - DOT manages crash data
  - 2005-2013 analysis period
- South Dakota
  - DPS manages crash data
  - 2004-1013 analysis period
- BIA has own system
  - Last three years
  - Data not received

SRST Crash Analysis



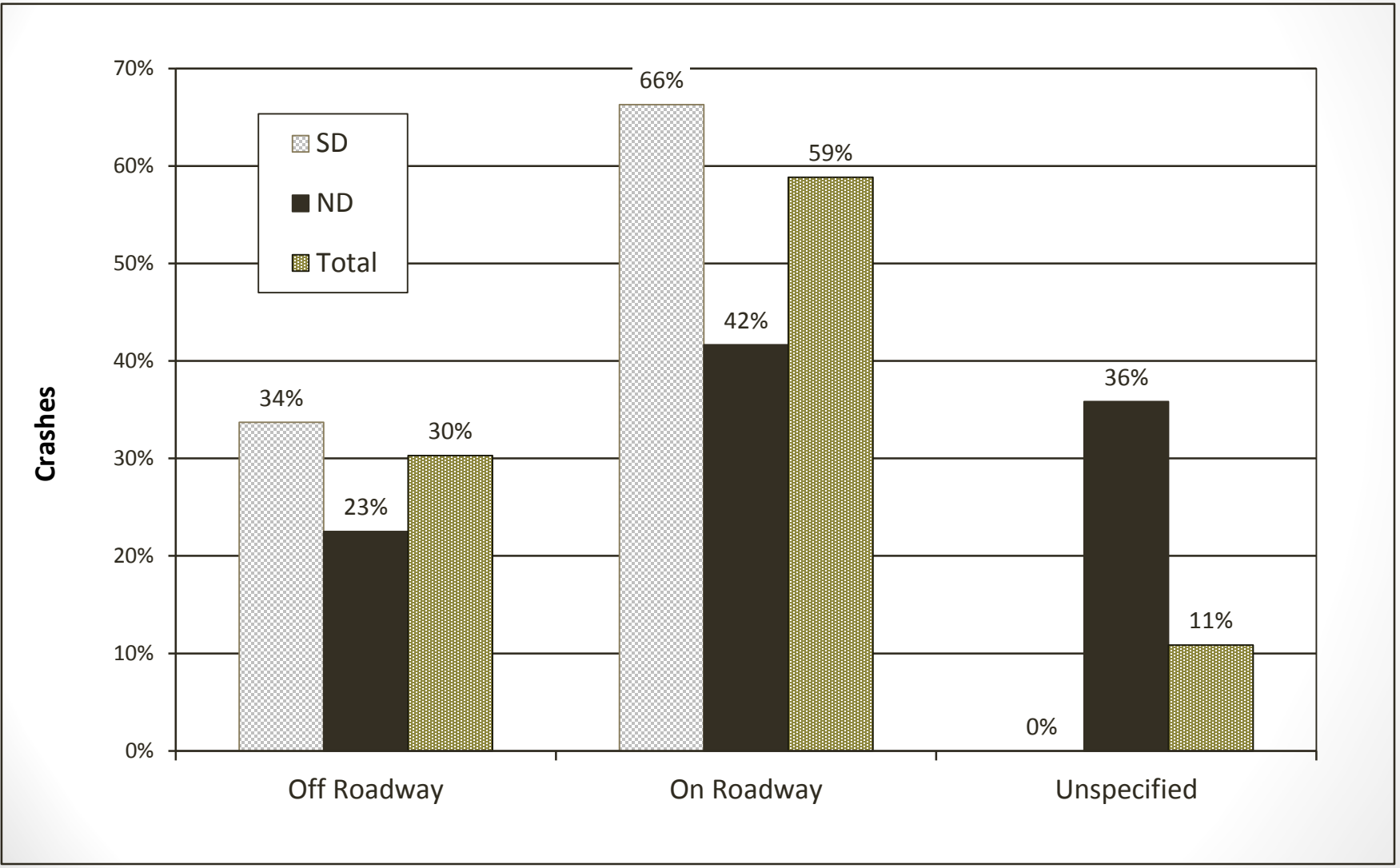
Annual Reporting

SRST Crash Analysis



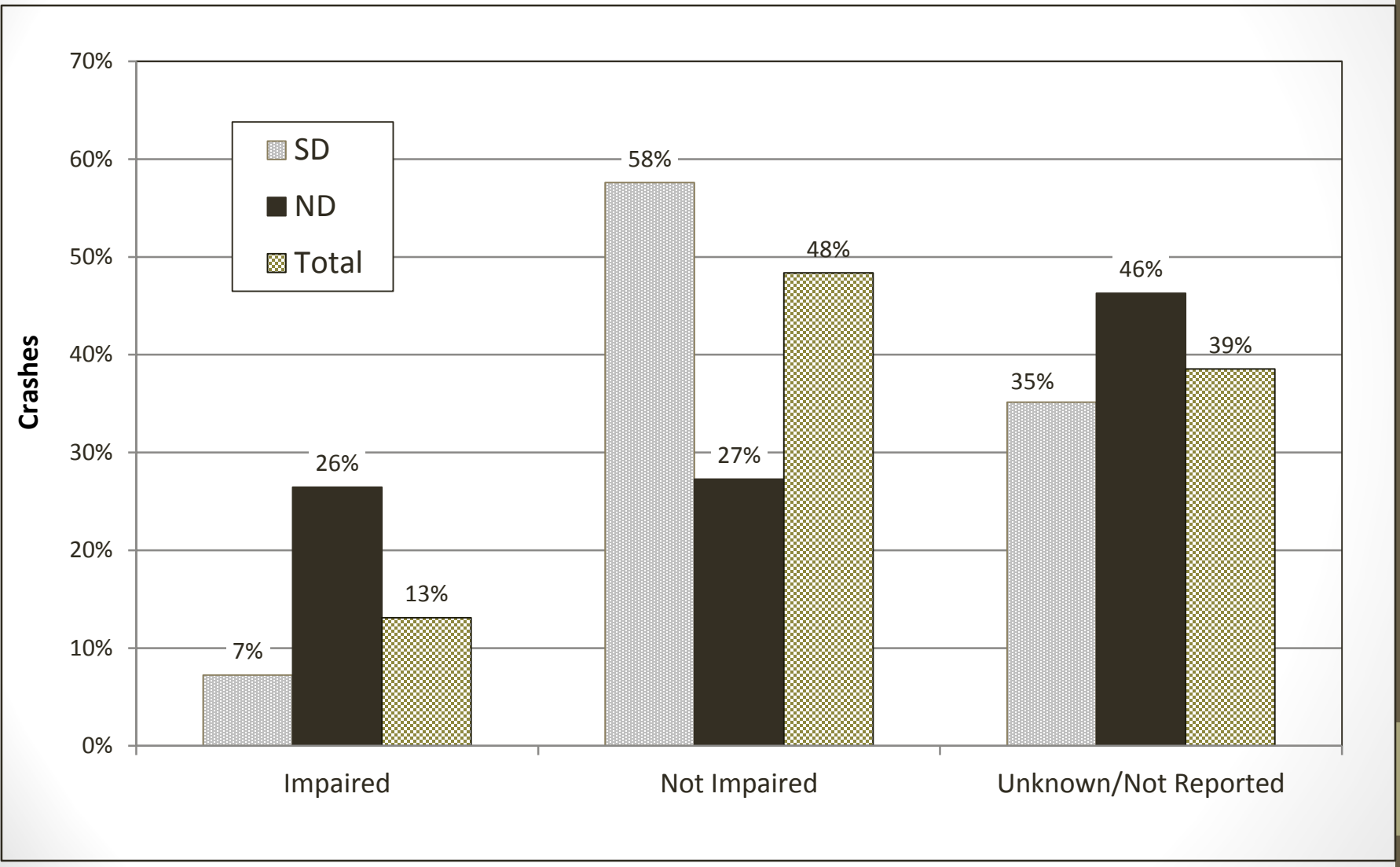
First Harmful Event

SRST Crash Analysis

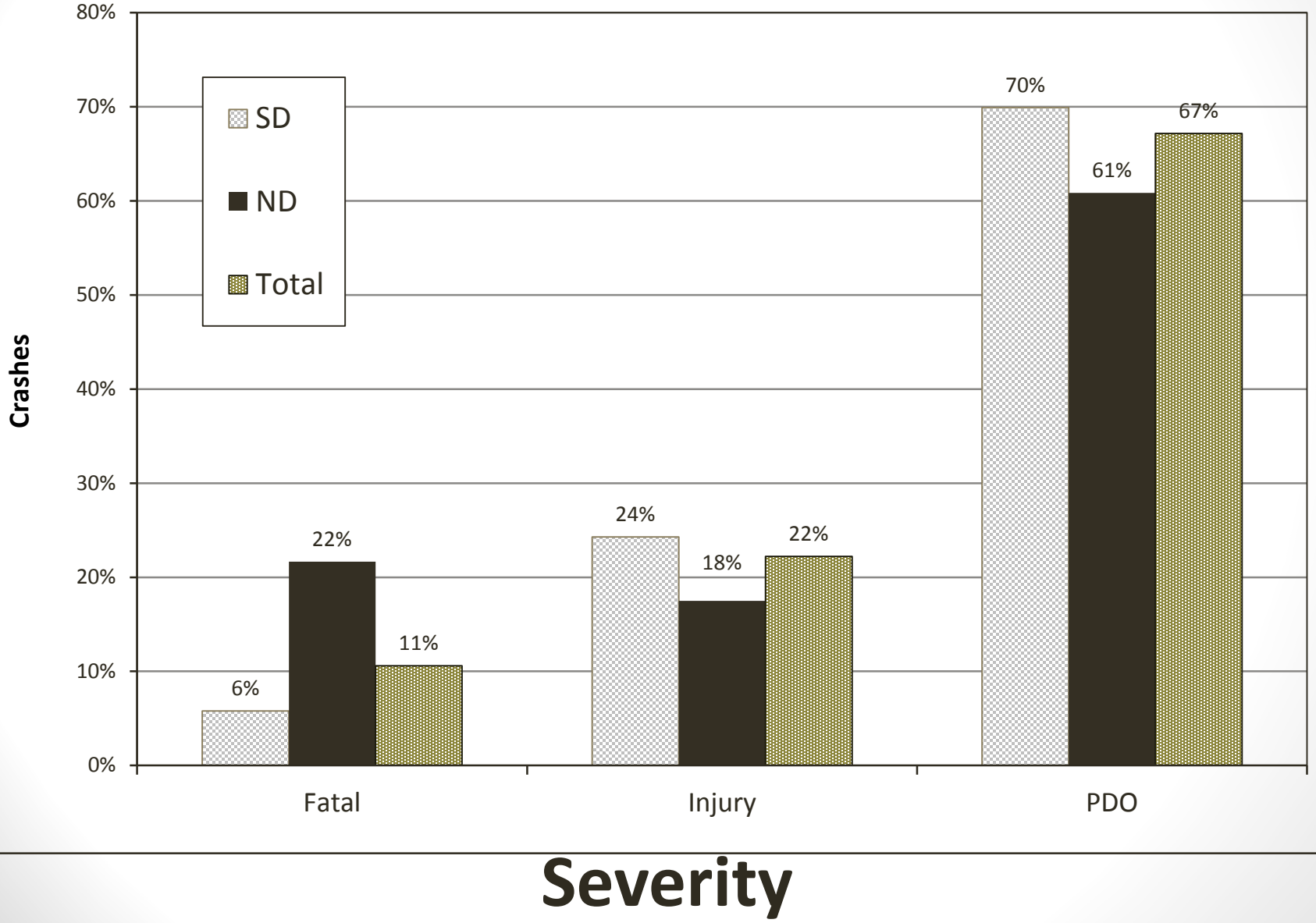


FHE Location

SRST Crash Analysis



SRST Crash Analysis



SRST Summary

- ND higher fatal severity and alcohol
- High amounts of animal crashes

SRST Field Evaluations

US Highway 12
at Grand River Casino
Sight Distance at Entrance

SRST Field Evaluations

ND Highway 24 Curve at Bridge (MP 14 to MP 15) Propose Installation of Guardrail

ND Highway 24 North of Prairie Knights Casino Adequate Pedestrian Facilities Needed

SRST Field Evaluations

Big Lake Road
No Shoulders and Steep Slopes

SRST Field Evaluations

US Highway 12 (MP 116.3)
Reverse Superelevation

BIA 44
Railroad Crossings

SRST Proposed Safety Improvements

- Install warning signs
  - Chevrons
  - Intersection ahead signs
  - Deer Xing signs
  - Warning flashers
- Install rumble strips
- Widen roadway at bridge
- Realignment

SRST Proposed Safety Improvements

Highway	Project
ND 24	Install Chevrons Install Intersection Ahead Signs Install Guardrail
ND 1806	Install Deer Xing Signs
Big Lake Road	Widen Roadway at Bridge
113 ST	Install Rumble Strip
BIA 44	Install Curve Warning Signs w/ Advisory Speed Install Stop Ahead/RR Xing Ahead
BIA 3	Change Speed Limit Sign Install Curve Warning Signs Install Chevrons
BIA 3	Realign 100 Street
US 12	Install Advisory Speed Signs* Install Chevrons
US 12	Install Advanced Warning Flashers*
Honky Tonk Road	Install Intersection Ahead Sign Install Double Arrow Sign

* Dependent on DOT Speed and Safety Study Results

SRST Proposed Safety Improvements

BIA 3 at State Line and Proposed Realignment

SRST Benefit-Cost Ratio

North Dakota			
Route	Combined Cost	Combined Benefit	B/C Combined Ratio
ND 1806	$1,200	$2,298,600	1915.5
ND 24	$68,400	$27,484,688	401.8
Big Lake Road	$100,000	$226,080	2.2

South Dakota			
Route	Combined Cost	Combined Benefit	B/C Combined Ratio
US 12	$25,200	$3,808,800	151.1
BIA 44	$2,400	$31,200	13
113 St.	$15,000	$27,936	1.8
BIA 3	$56,000	$58,344	1.0
Honky Tonk Road	$2,400	$0	0

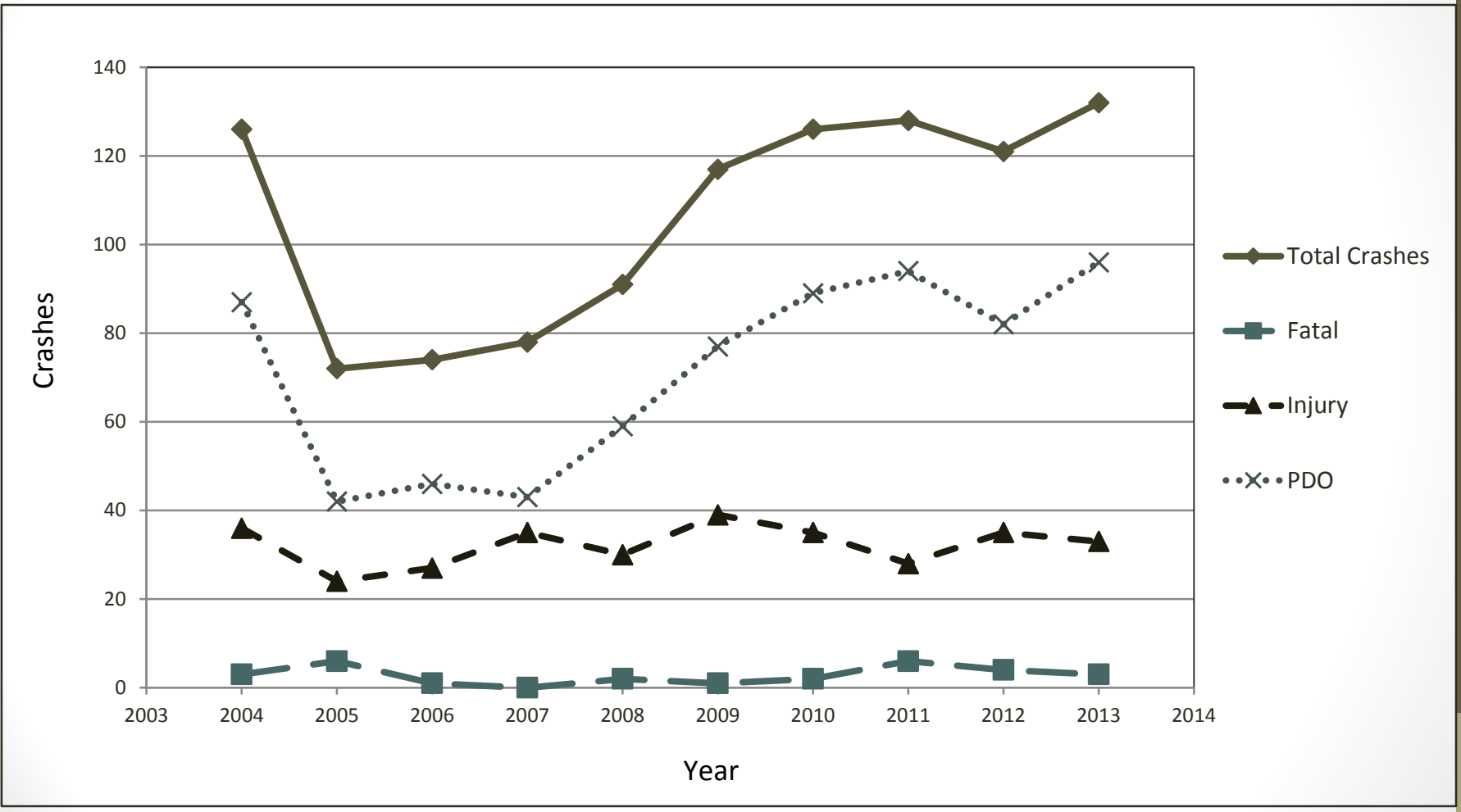
SRST Planning

- The proposed improvement projects submit to the respective state DOT's for funding
- Strategic plan should be updated to include safety concerns identified not related to engineering improvements
- Long range pedestrian plan
- Speed safety studies
- Animal crashes should be investigated

SWO Crash Analysis

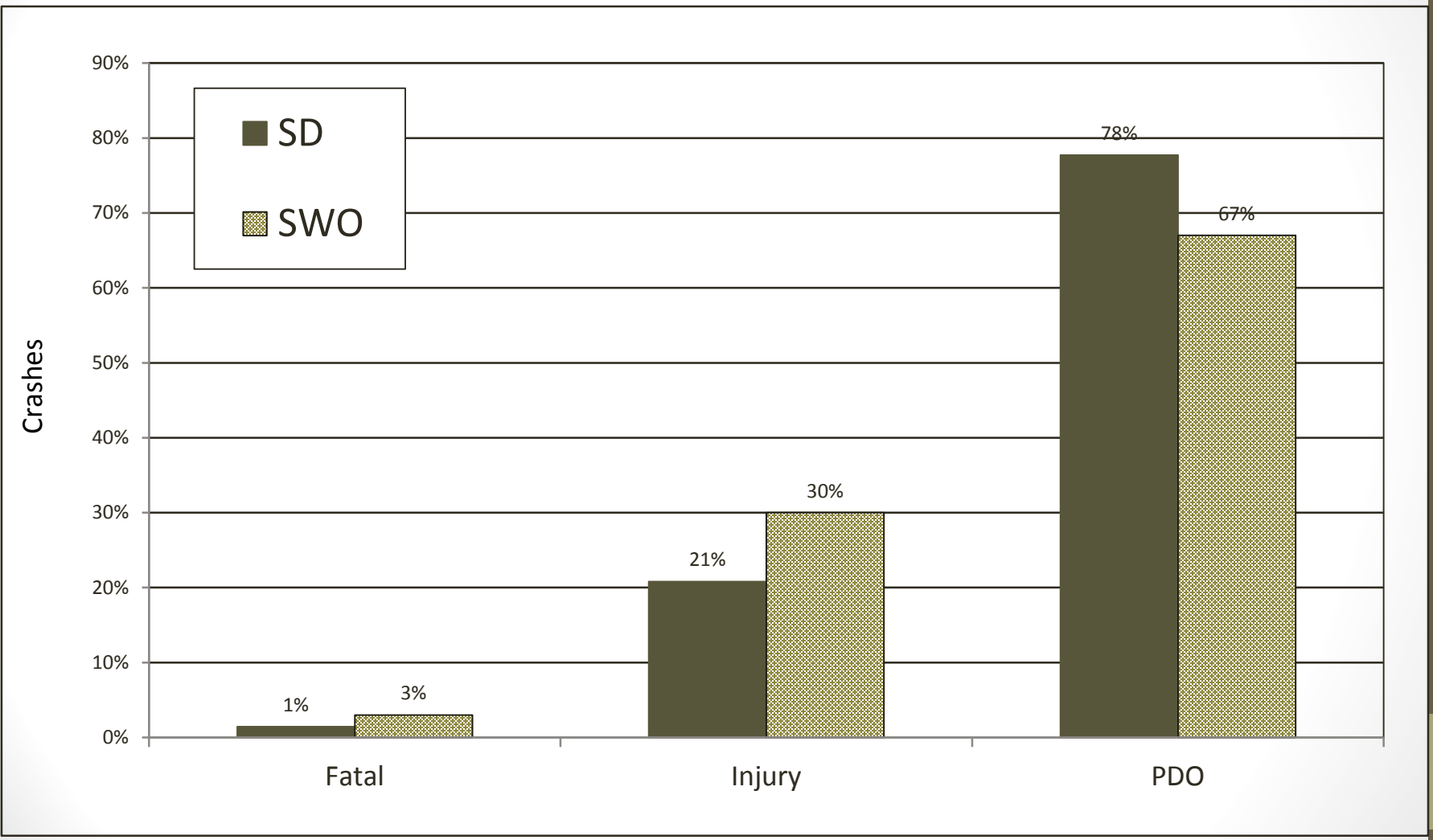
- South Dakota
  - DPS manages crash data
  - 2004-1013 analysis period
  - Compared crashes within SWO with all state rural roads

SWO Crash Analysis



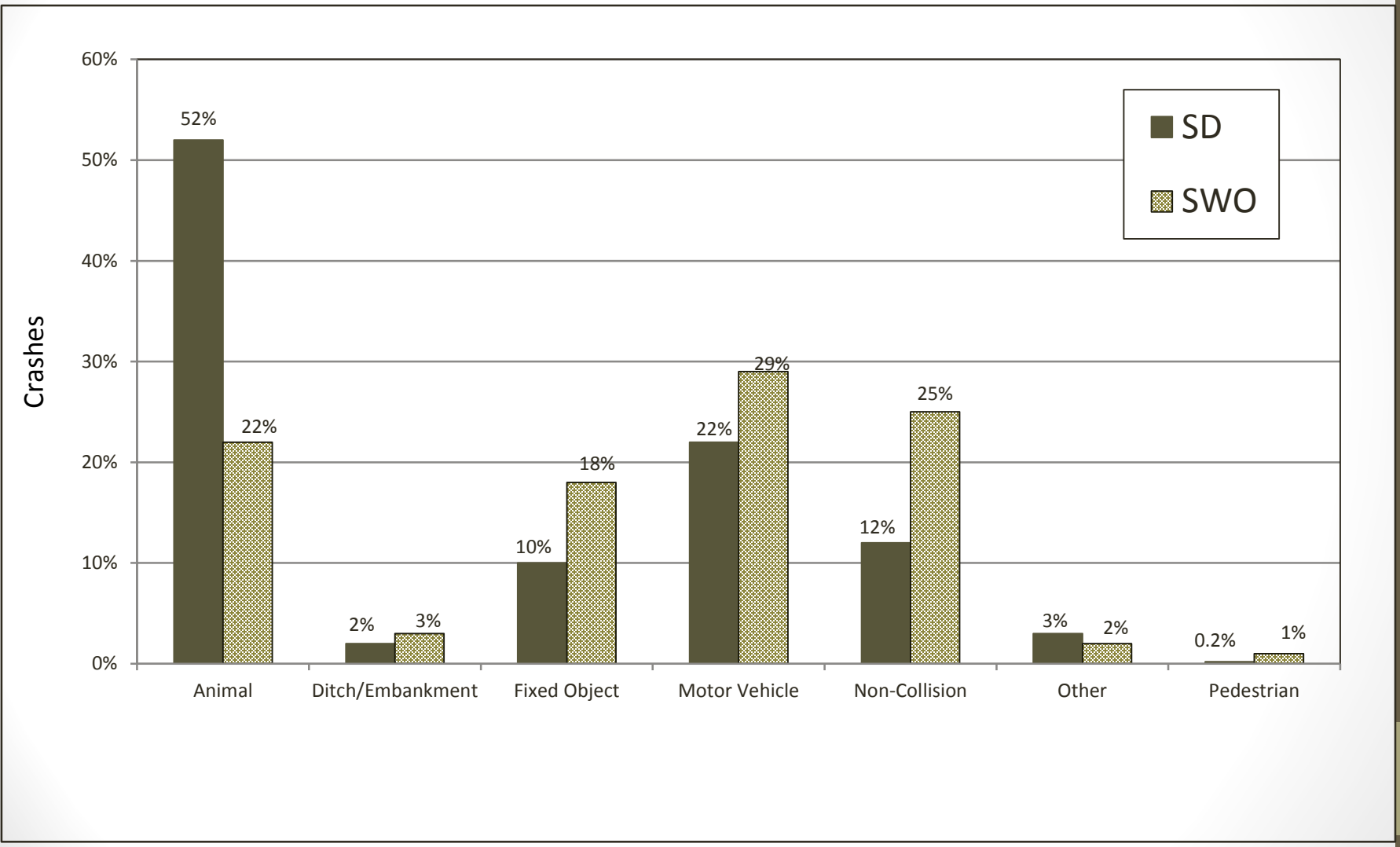
Annual Reporting

SWO Crash Analysis



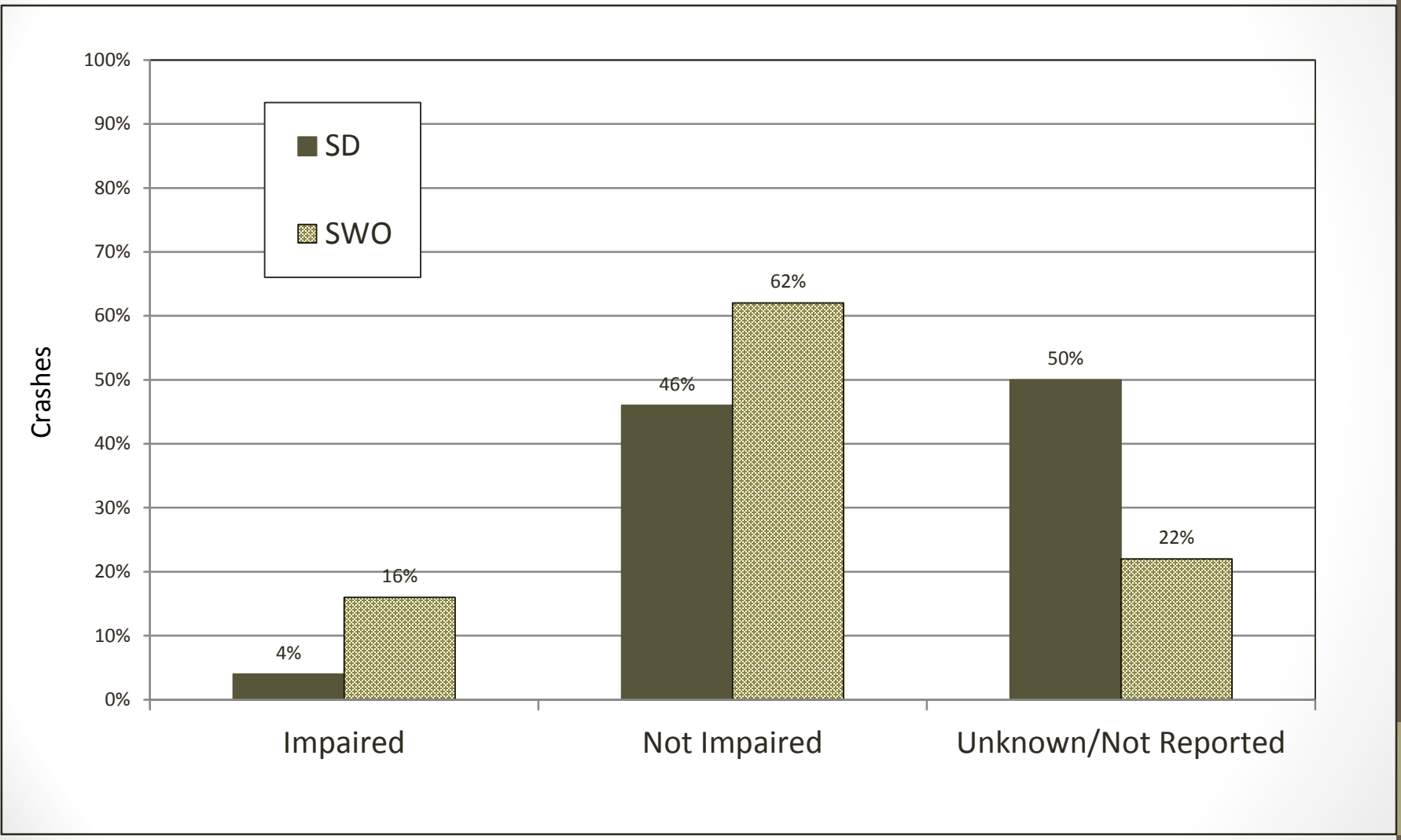
Severity

SWO Crash Analysis



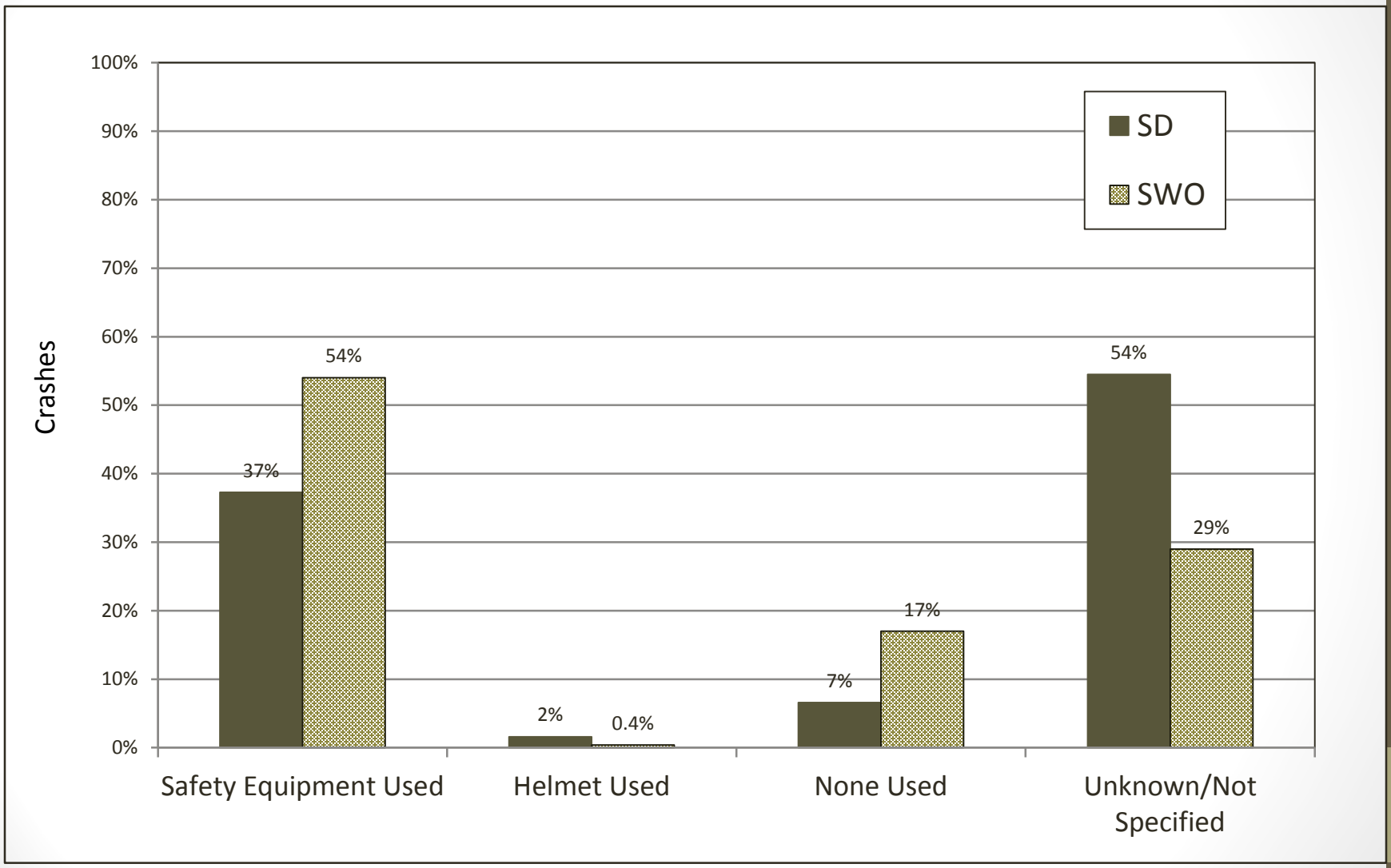
First Harmful Event

SWO Crash Analysis



Impairment

SWO Crash Analysis



Safety Equipment

SWO Summary

- SWO higher severity rates than statewide
- SWO has more young drivers involved in crashes than statewide
- SWO has higher driver impairment rates than statewide
- SWO has high seatbelt compliance
- Many intersection related crashes

SWO Proposed Safety Improvements

- Install warning signs
  - Chevrons, Curve warnings
  - Intersection ahead signs
- Install edge lines, centerlines
- Install rumble strips, or stripe
- Repair pavement and overlay
- Replace guardrail
- Remove objects in Clear Zone

SWO Field Evaluations

118th Street

Intersection with 458 Ave

Maintenance of Ditches

SWO Field Evaluations

164th Street Approach to 455th Avenue

Intersection of 473rd Avenue and 111th Street

SWO Field Evaluations

446th Avenue

446thA Avenue

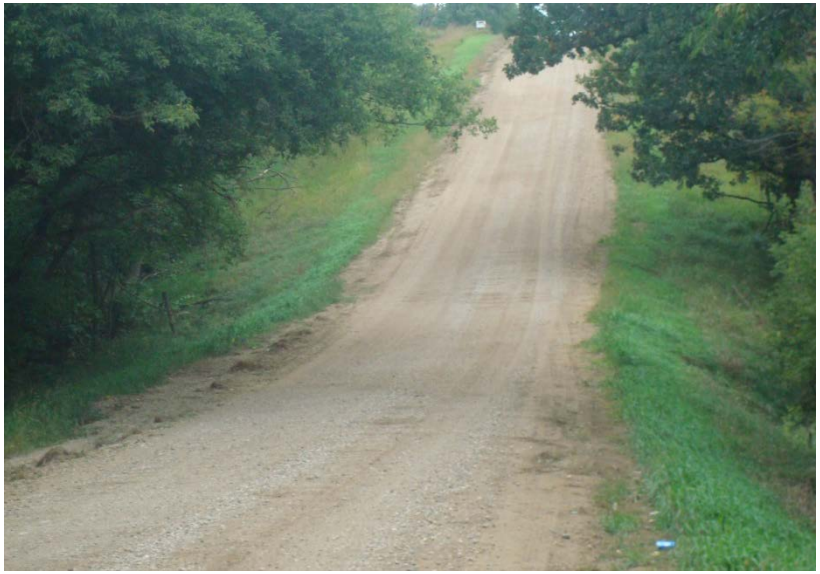
SWO Field Evaluations

455th Avenue
With Low Cable Guardrail

SWO Field Evaluations

124th Street End of Roadway at Water's Edge

SWO Field Evaluations



456th Avenue
With Steep Slopes and Recent Shoulder Maintenance

452nd Avenue

SWO Field Evaluations

Lake Road

BIA 200

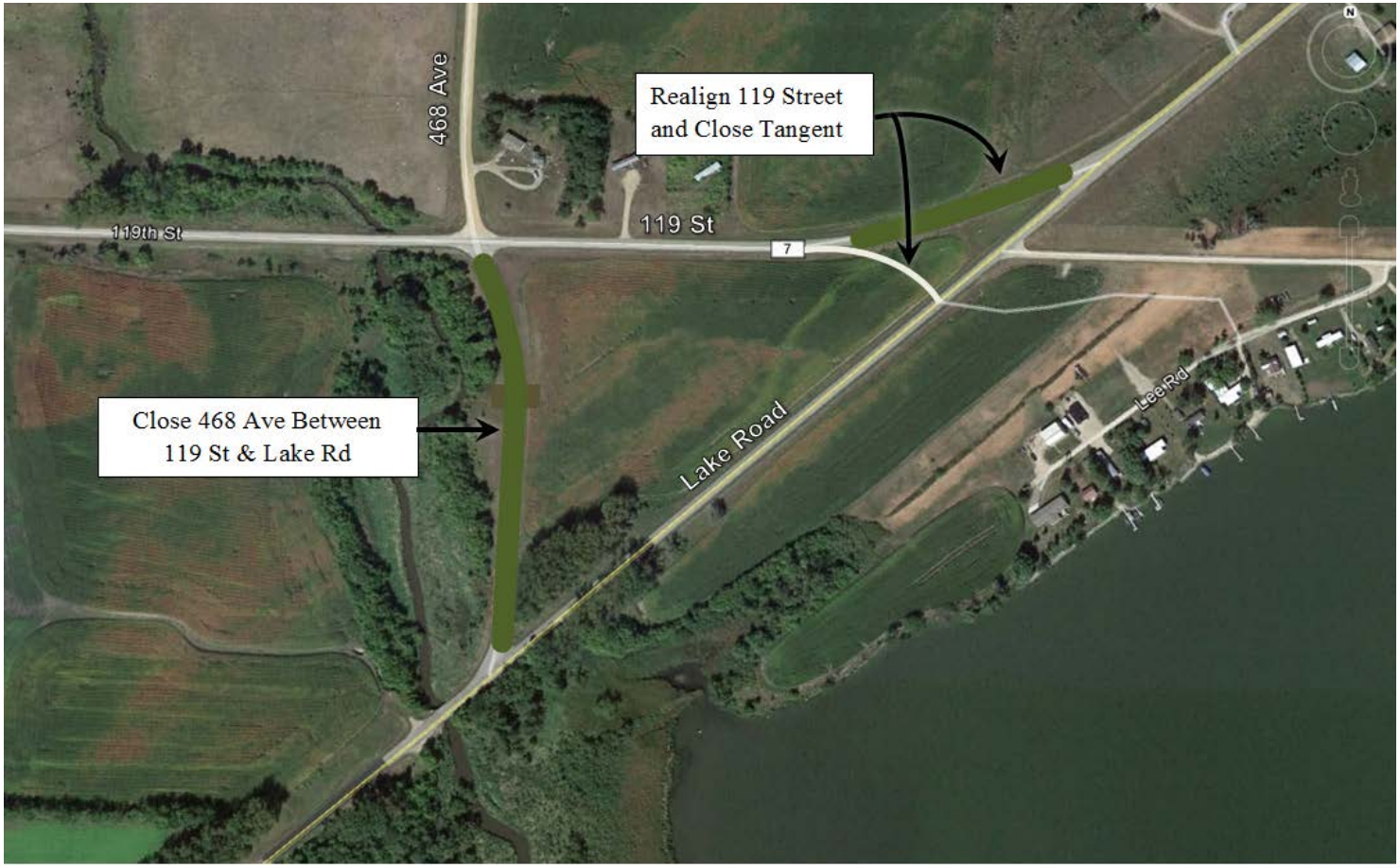
SWO Field Evaluations

Township Roads

SWO Proposed Safety Improvements

Highway	Project
127 Street	Install Rumble Strip/Stripe
164 Street	Install Transverse Rumble Strip
445 Avenue	Install Curve Warning Signs Install Chevrons Replace Curve Sign Repair pavement and overlay
446 Avenue (South)	Install Rumble Stripe Install Chevrons
446A/446 Avenue	Install Rumble Strip Install Chevrons Replace Double Arrow Sign
455 Avenue (North)	Install Edgelines Install Safety Wedge
455 Avenue (South)	Install Edgelines and Centerline Replace Guardrail Remove Objects in Clear Zone Install Intersection Ahead Signs
459/458 Avenue	Install Safety Wedge Install Delineators in Curve
462 Avenue	Install Edgelines Install Safety Wedge
Lake Road	Install Edgelines and Centerline Clear Vegetation in ROW Replace Guardrail
System-Wide	Speed Study
System-Wide	Intersection Study

SWO Proposed Safety Improvements



Proposed Realignment of 119th Street with Lake Road

SWO B-C Ratio Analysis

Sisseton Wahpeton Oyate			
Route	**Combined Cost**	**Combined Benefit**	**B/C Combined Ratio**
458/459 Ave.	$10,000	$1,247,568	124.7
446 A Ave.	$15,600	$1,802,826	115.5
127 St	$21,200	$1,658,984	78.2
455 Ave. (S)	$71,200	$2,841,521	39.9
455 Ave. (N)	$13,000	$308,112	23.7
446 Ave. (S)	$7,100	$157,200	22.1
462 Ave.	$5,000	$69,120	13.8
164 St	$19,066	$127,548	6.6
445 Ave	$6,000	$21,600	3.6
Lake Road	$50,000	$147,258	2.9
118 St	$10,000	$13,800	1.3
123 St	$10,000	$13,800	1.3
456 Ave.	$10,000	$7,200	0.7

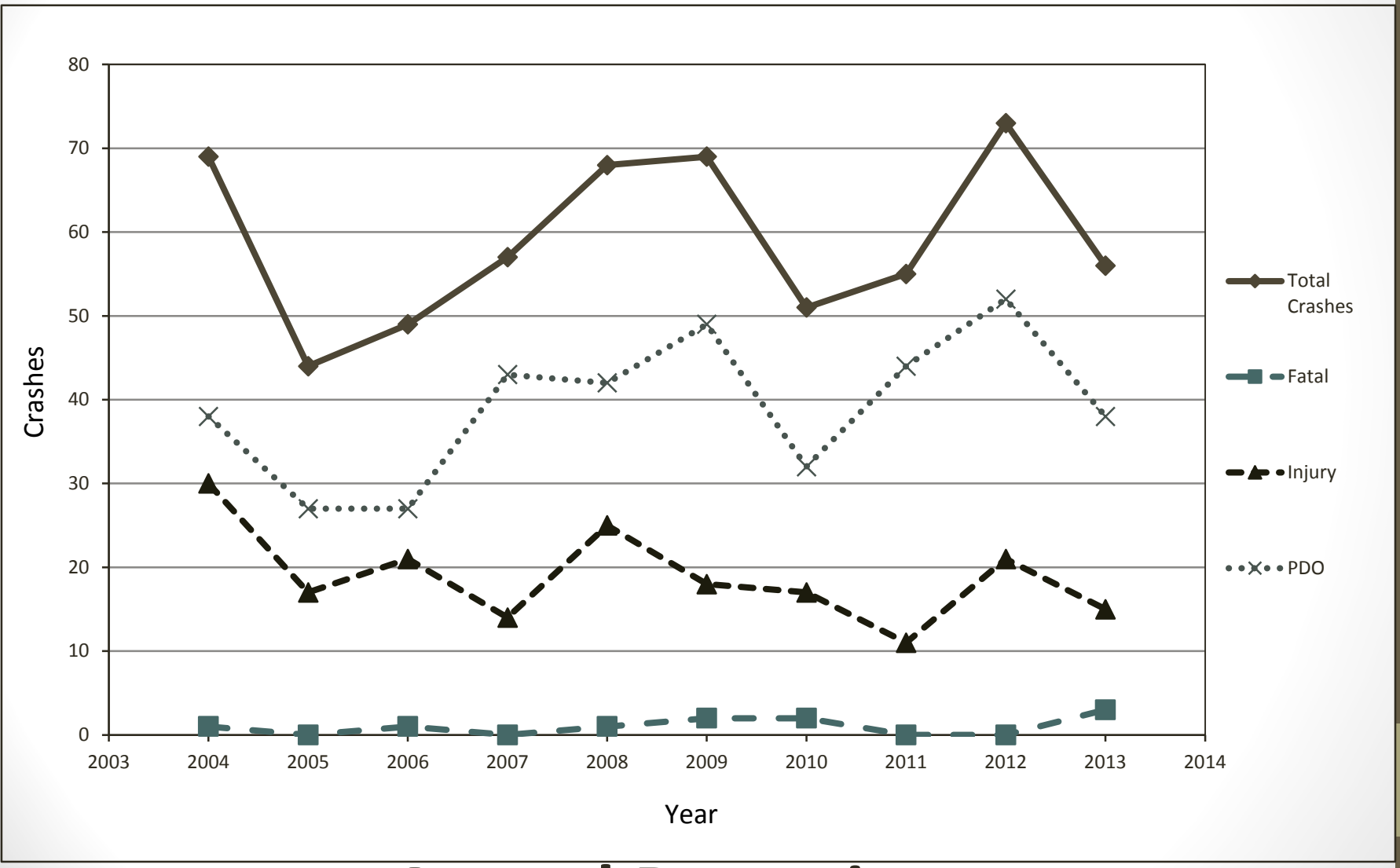
SWO Planning

- The proposed improvement projects should be coordinated with DOT and respective counties for funding
- Strategic plan should be updated to include safety concerns identified not related to engineering improvements
- Intersection study
- Speed safety studies
- Consider partnership with Townships

YST Crash Analysis

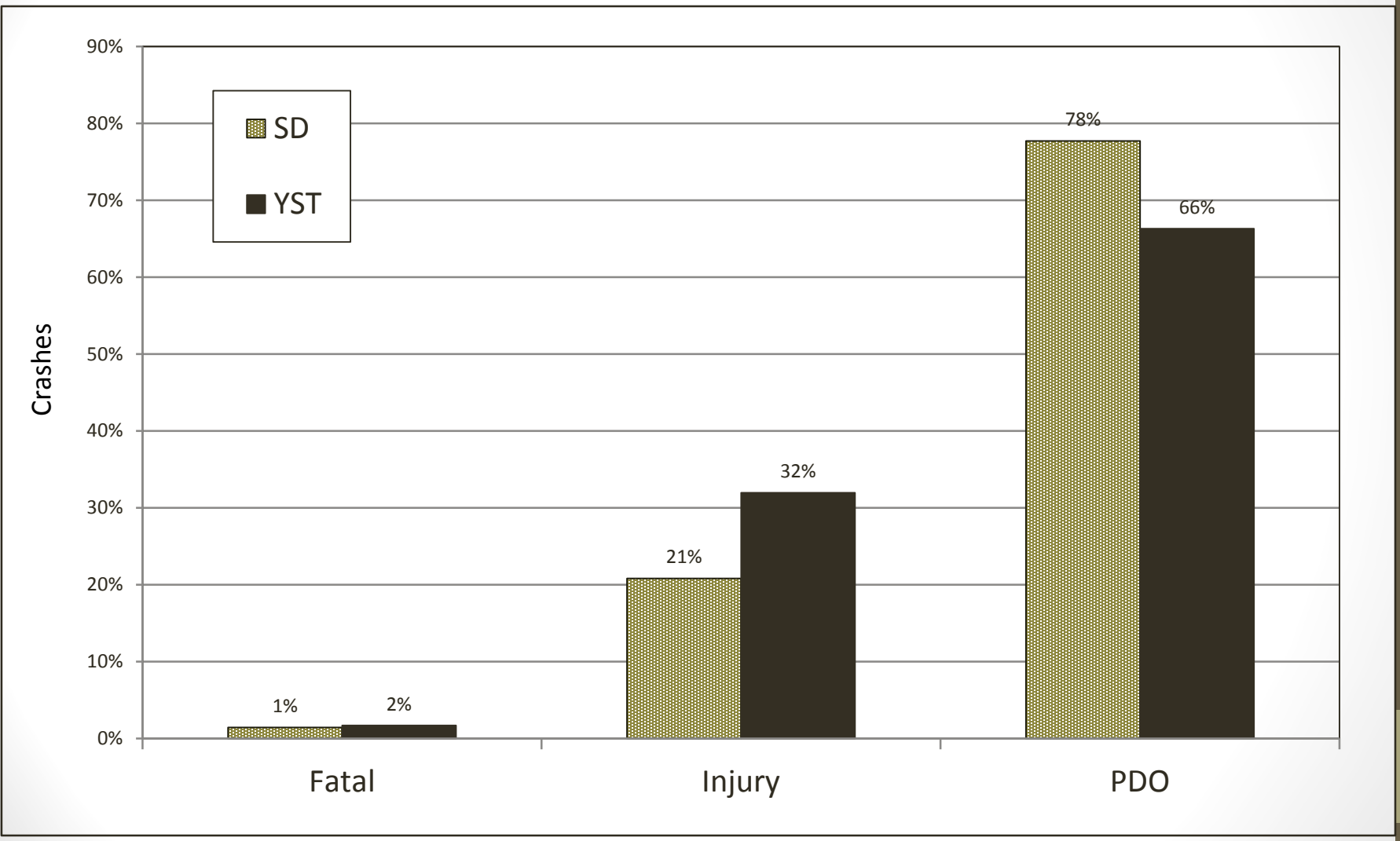
- South Dakota
  - DPS manages crash data
  - 2004-1013 analysis period
  - Compared crashes within YST with all state rural roads

YST Crash Analysis

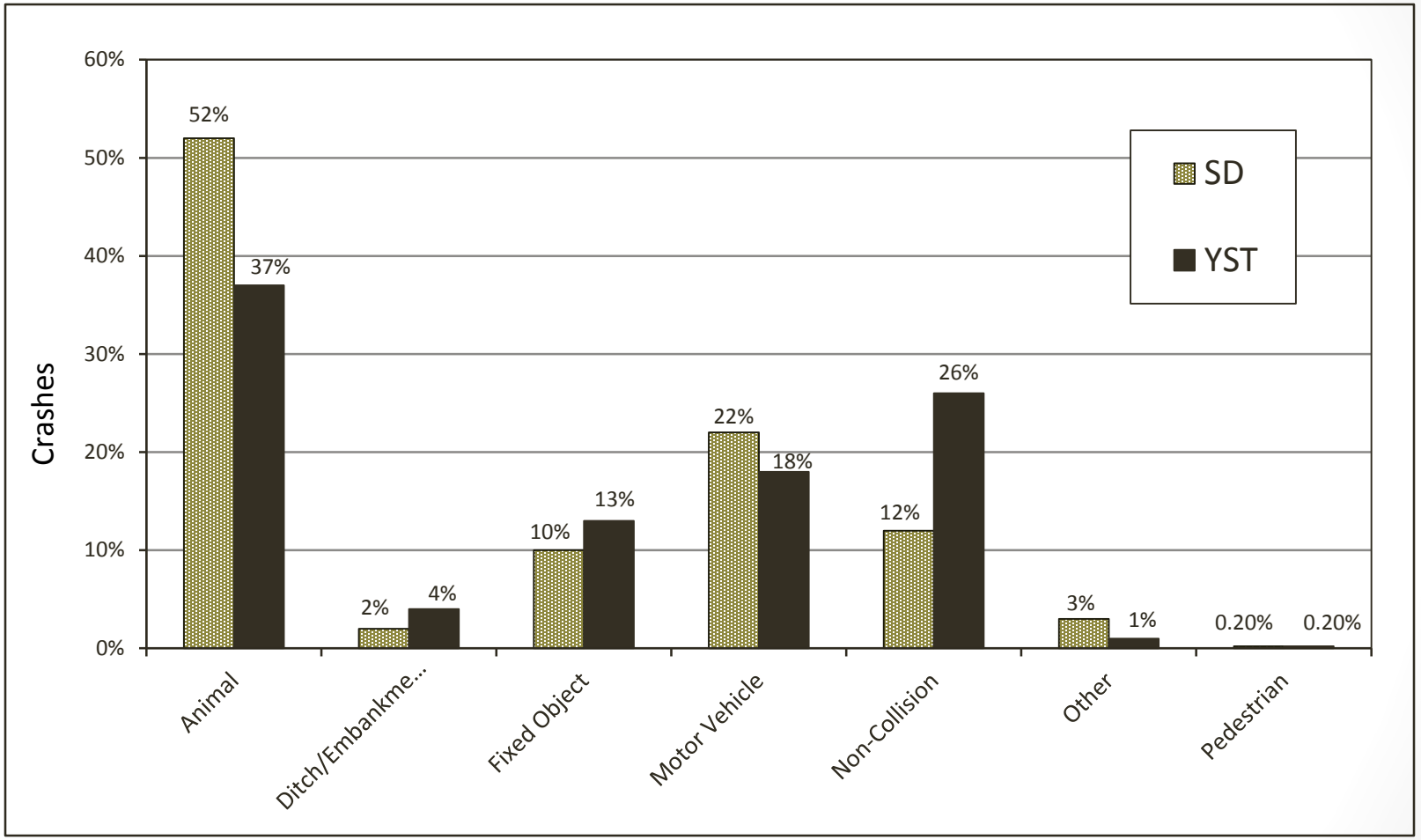


Annual Reporting

YST Crash Analysis

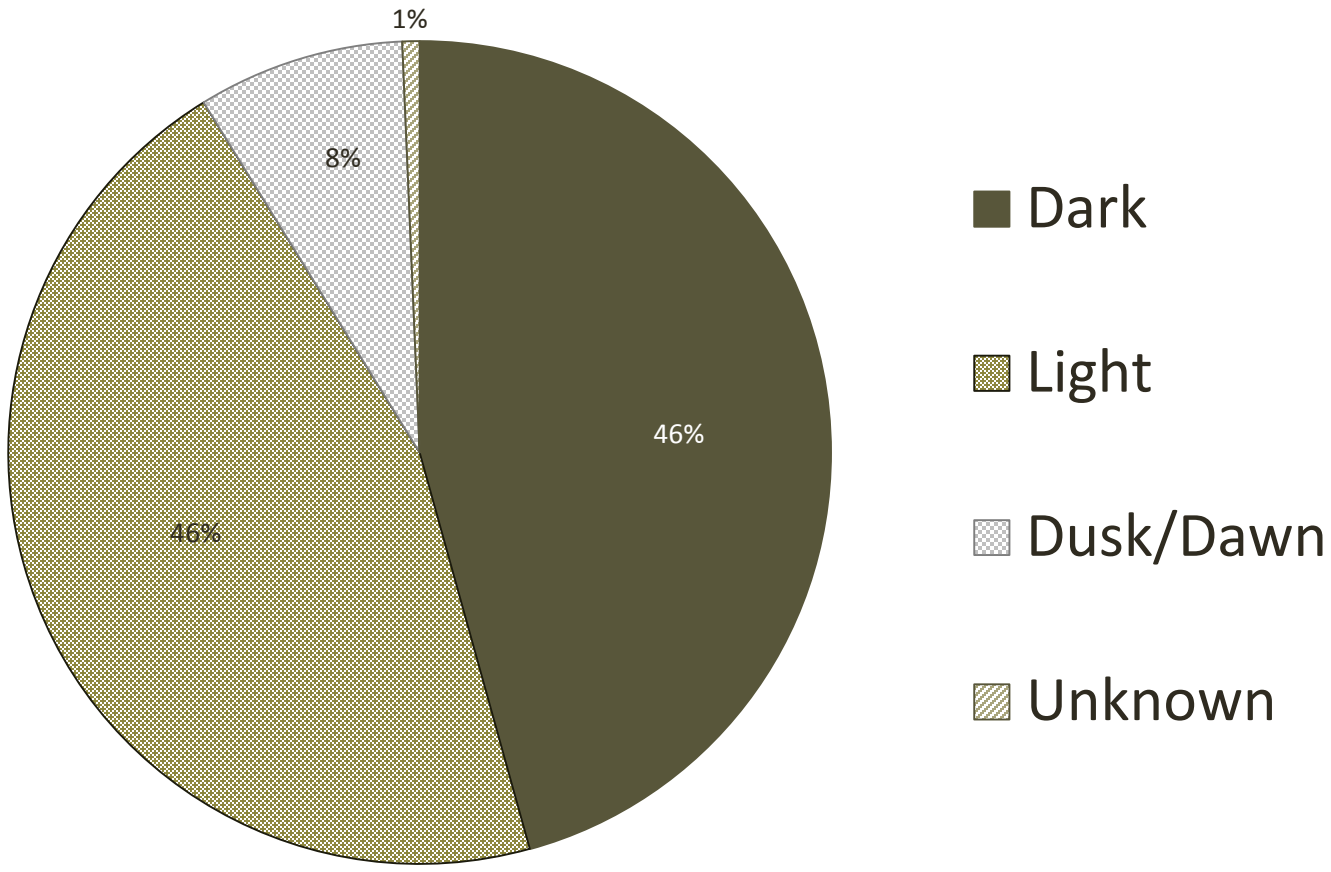


YST Crash Analysis



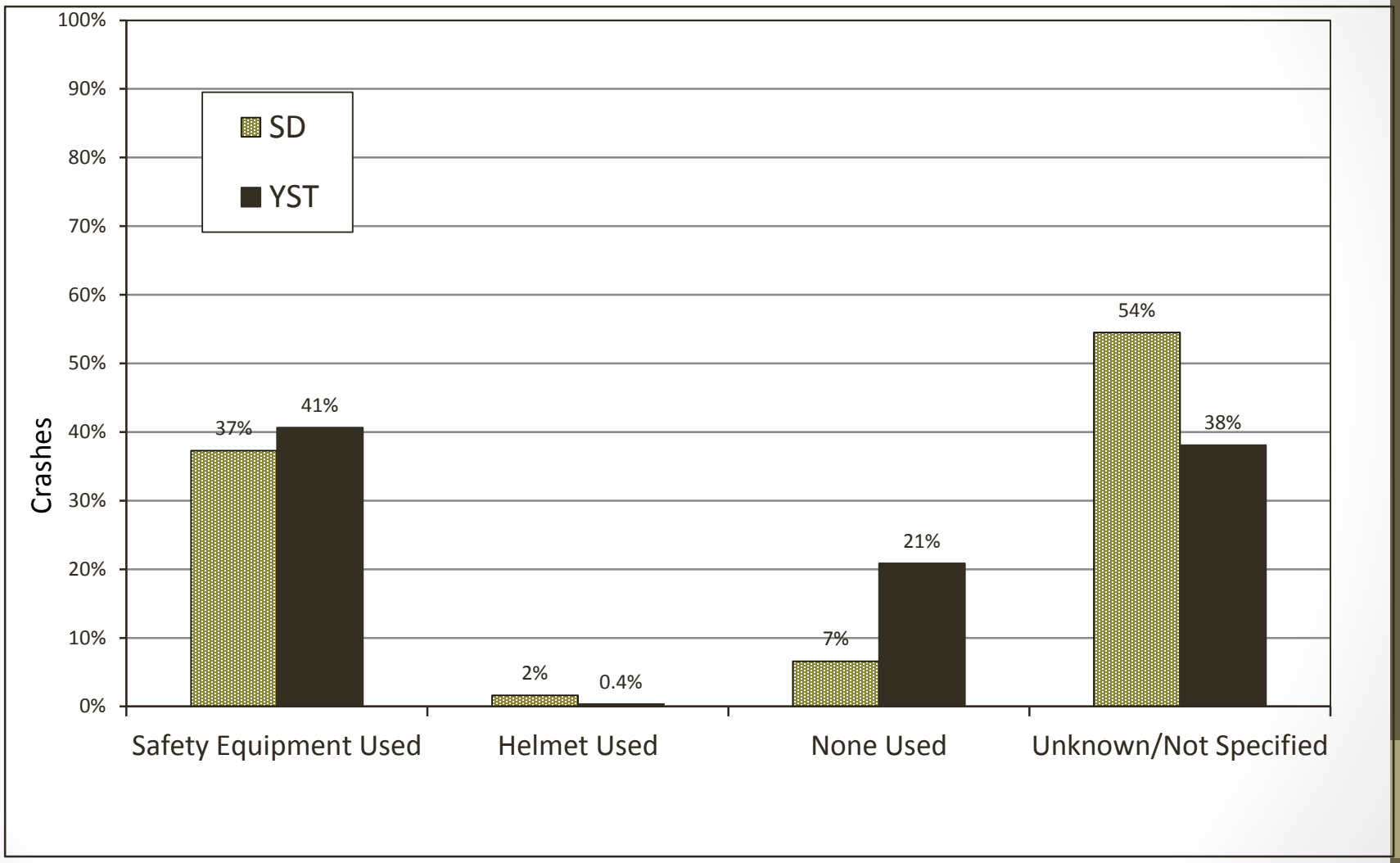
First Harmful Event

YST Crash Analysis



Lighting

YST Crash Analysis



Safety Equipment

YST Summary

- YST higher severity rates than statewide
- YST has more young drivers involved in crashes than statewide
- YST has higher driver impairment rates than statewide
- YST had less safety restraint usage compared to statewide
- Many crashes occurred at night

YST Field Evaluations

388th Avenue

400th Avenue

YST Field Evaluations

303rd Street in the Town of Marty

YST Field Evaluations

395th Avenue

YST Field Evaluations

285th Street

382nd Avenue

YST Field Evaluations

US Highway 281/18

SD Highway 50

YST Field Evaluations

395th Avenue

YST Field Evaluations

SD Highway 46 East of Wagner

SD Highway 50 North of Wagner

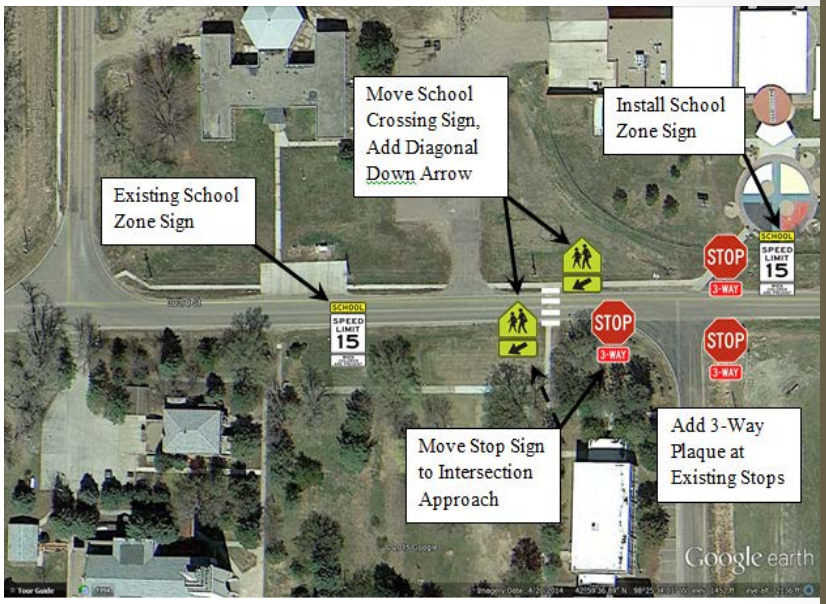
YST Proposed Safety Improvements

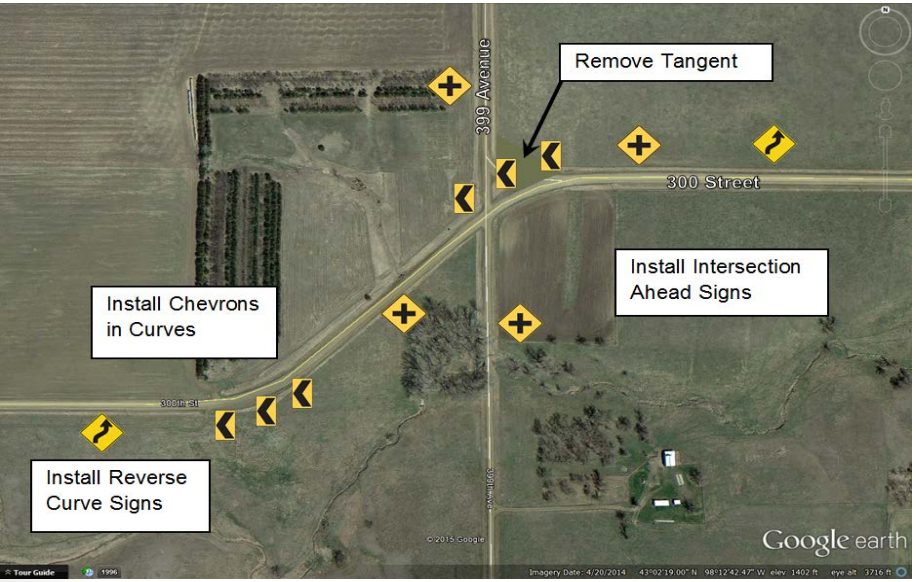
- Install warning signs
  - Chevrons, Curve warnings
  - Intersection ahead
  - School zones
  - Deer Xing & Livestock Xing

- Install bridge rail
- Intersection improvements, lighting
- Install edge line, rumble strips

YST Proposed Safety Improvements

Proposed Signage Imporvements





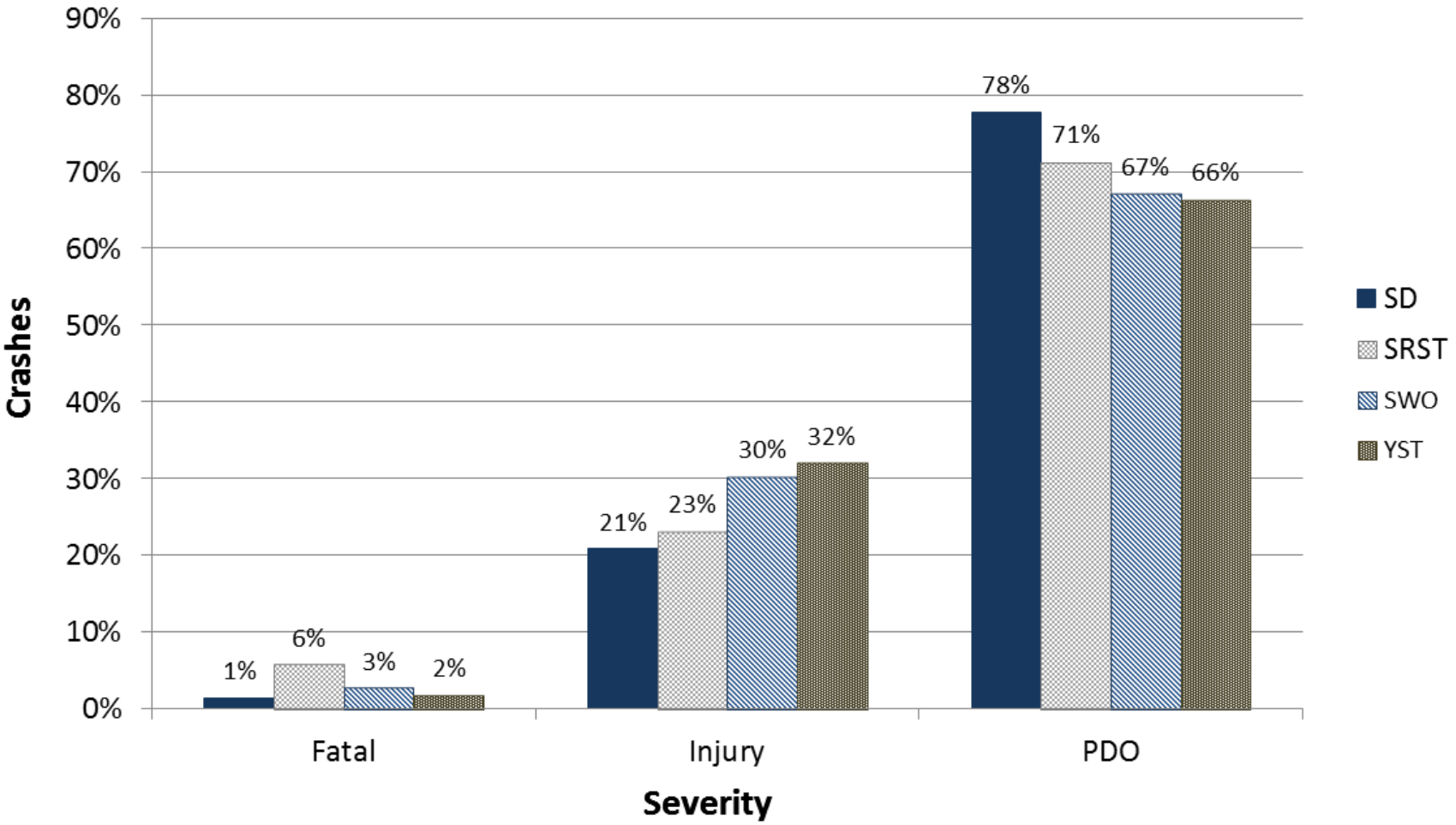
YST B-C Ratio Analysis

Yankton Sioux Tribe			
Route	**Combined Cost**	**Combined Benefit**	**B/C Combined Ratio**
SD Hwy 46	$20,000	$3,554,800	177.7
SD Hwy 50 (Central)	$6,000	$192,124	32.0
395 Ave. (S)	$4,800	$141,600	29.5
County Road 2	$4,800	$86,400	18
394 Ave.	$16,100	$204,108	12.6
400 Ave.	$26,000	$126,360	4.8
395 Ave. (N)	$30,000	$126,762	4.2
388 Ave.	$21,200	$85,248	4.0
Chalk Rock Rd	$7,200	$26,400	3.6
300 St	$57,200	$170,880	2.9
303 St	$71,200	$111,340	1.5

YST Planning

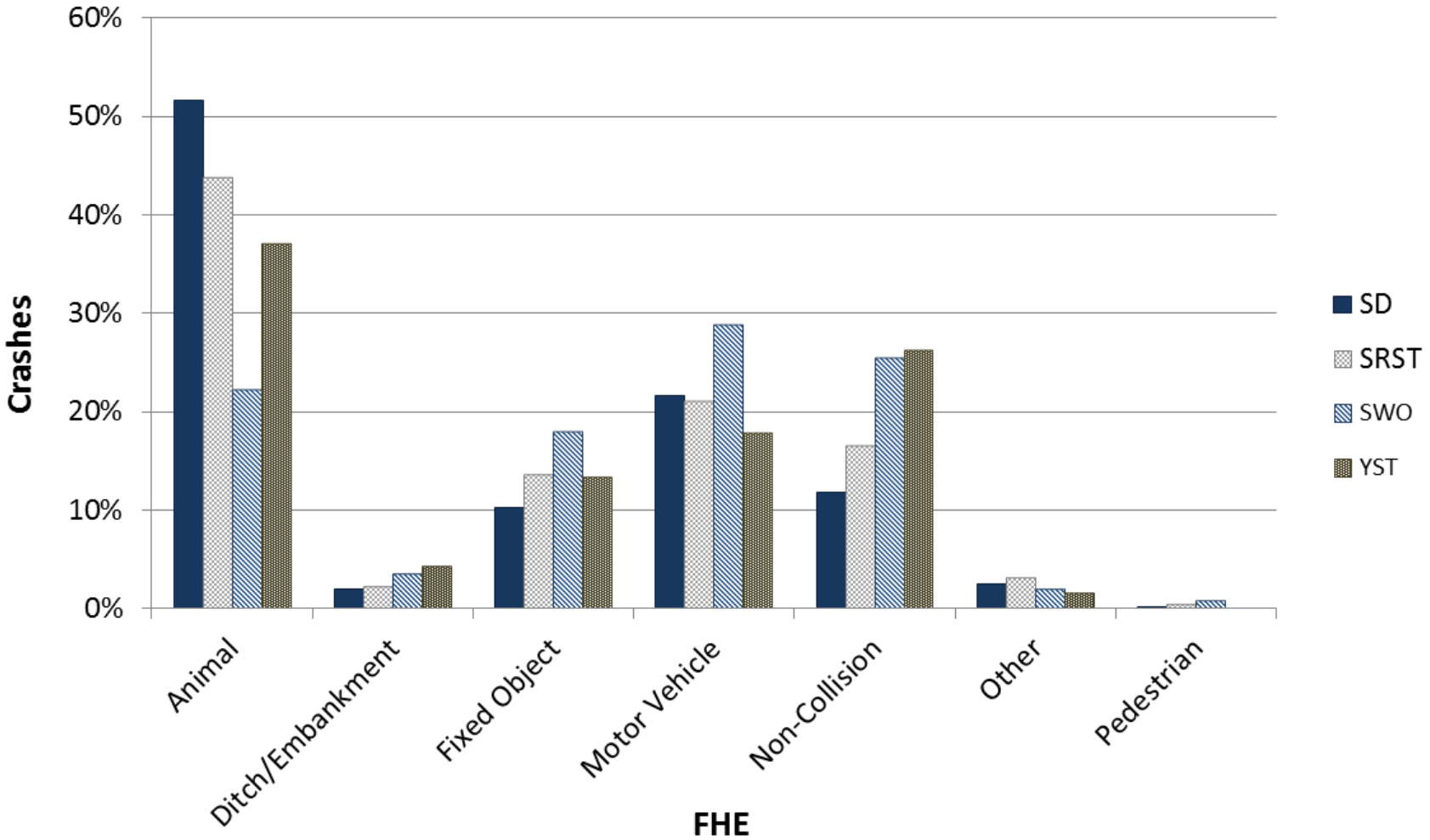
- The proposed improvement projects should be coordinated with DOT and respective counties for funding
- Strategic plan should be updated to include safety concerns identified not related to engineering improvements
- Stop warrant study
- Speed safety studies
- Animal crash reduction study

SD Crash Comparisons



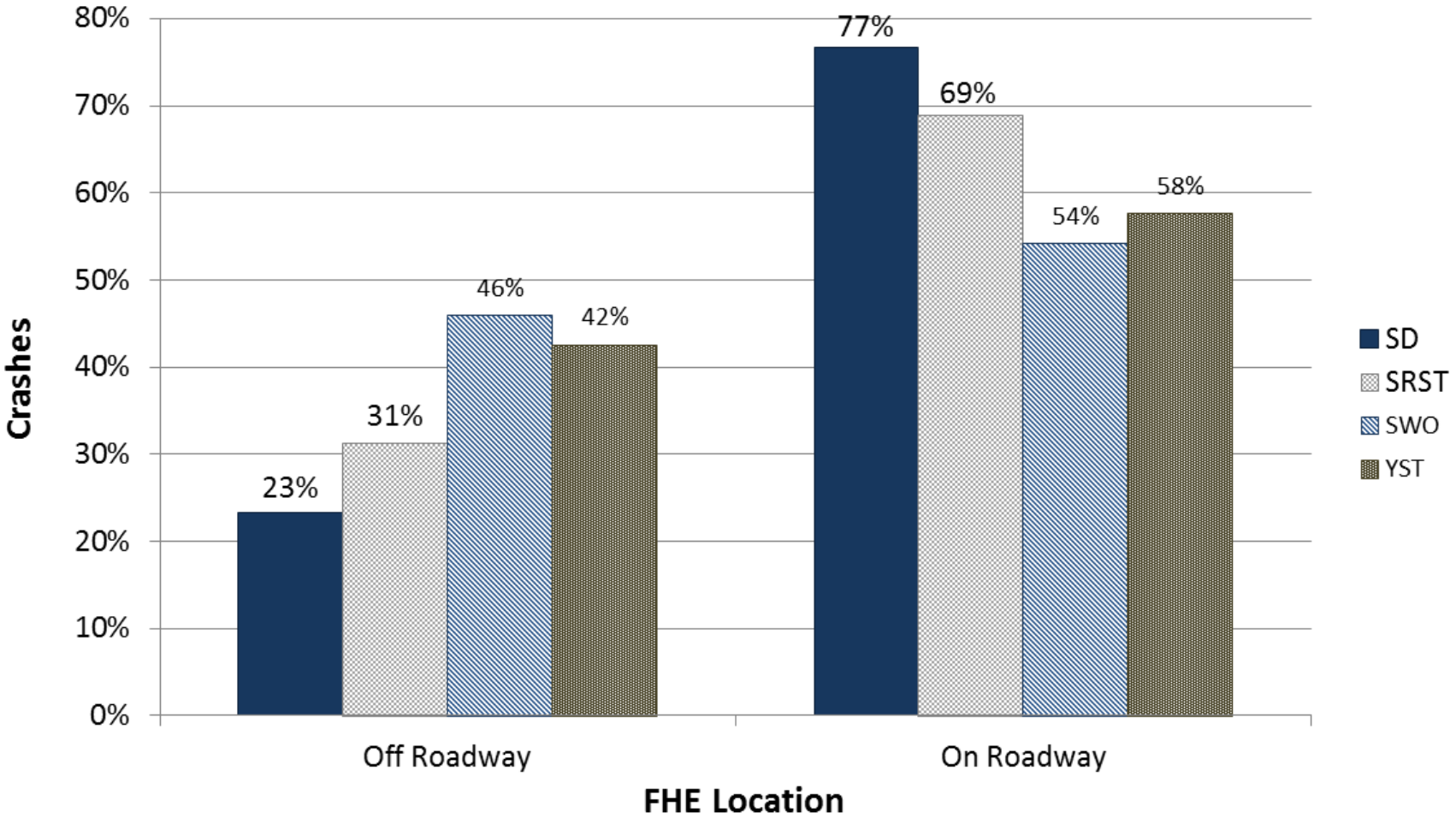
Severity

SD Crash Comparisons



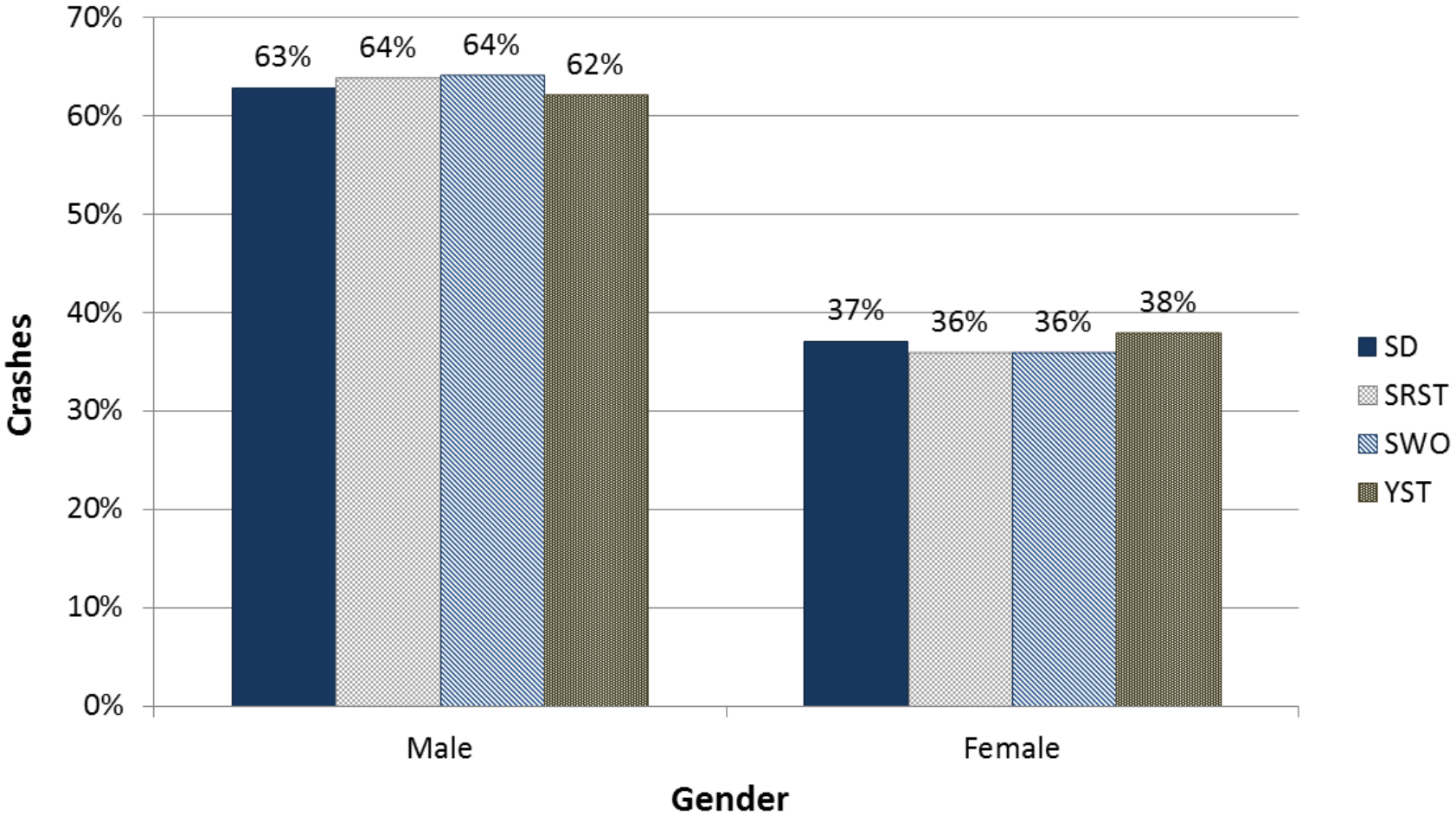
First Harmful Event

SD Crash Comparisons



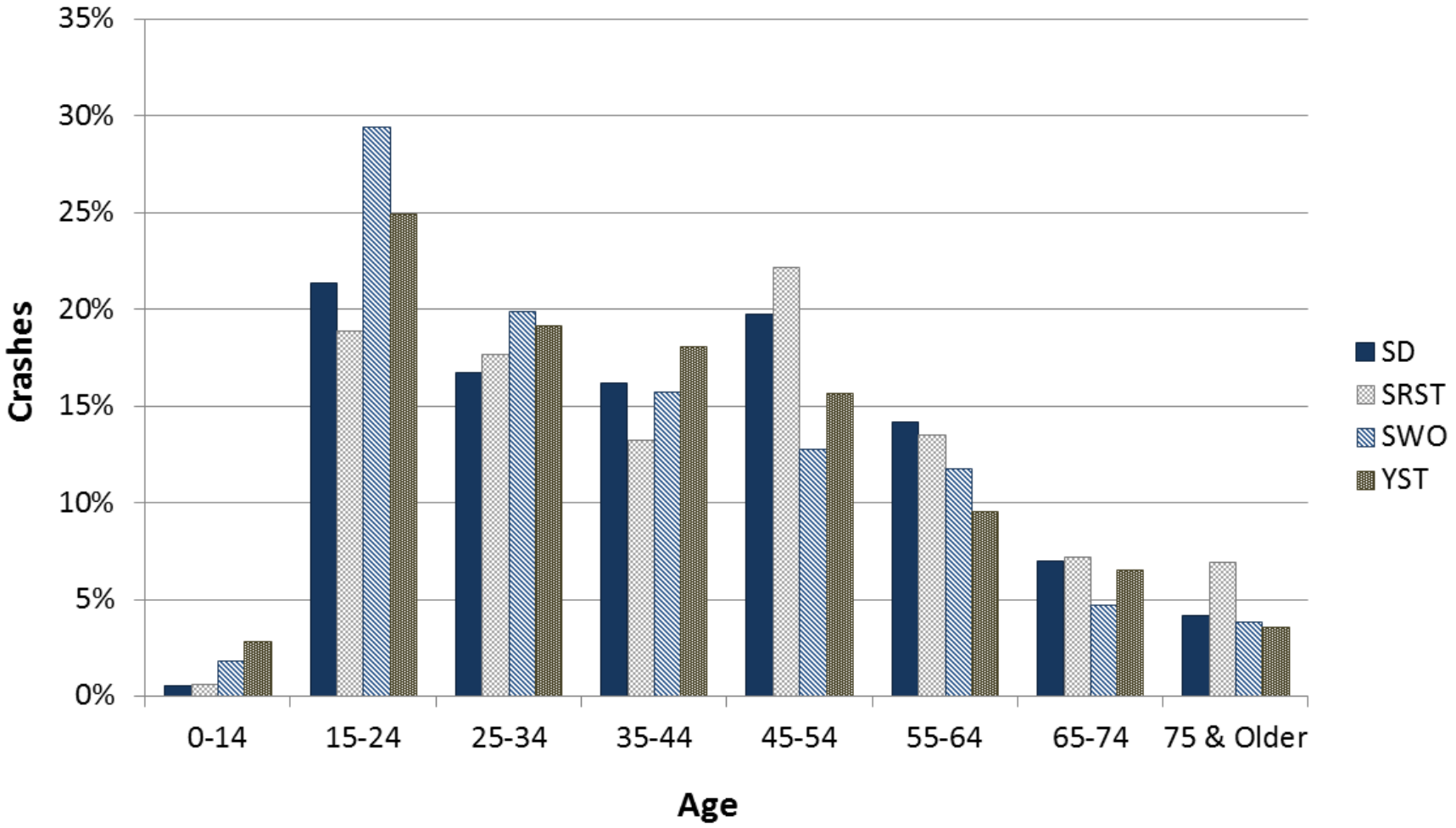
FHE Location

SD Crash Comparisons



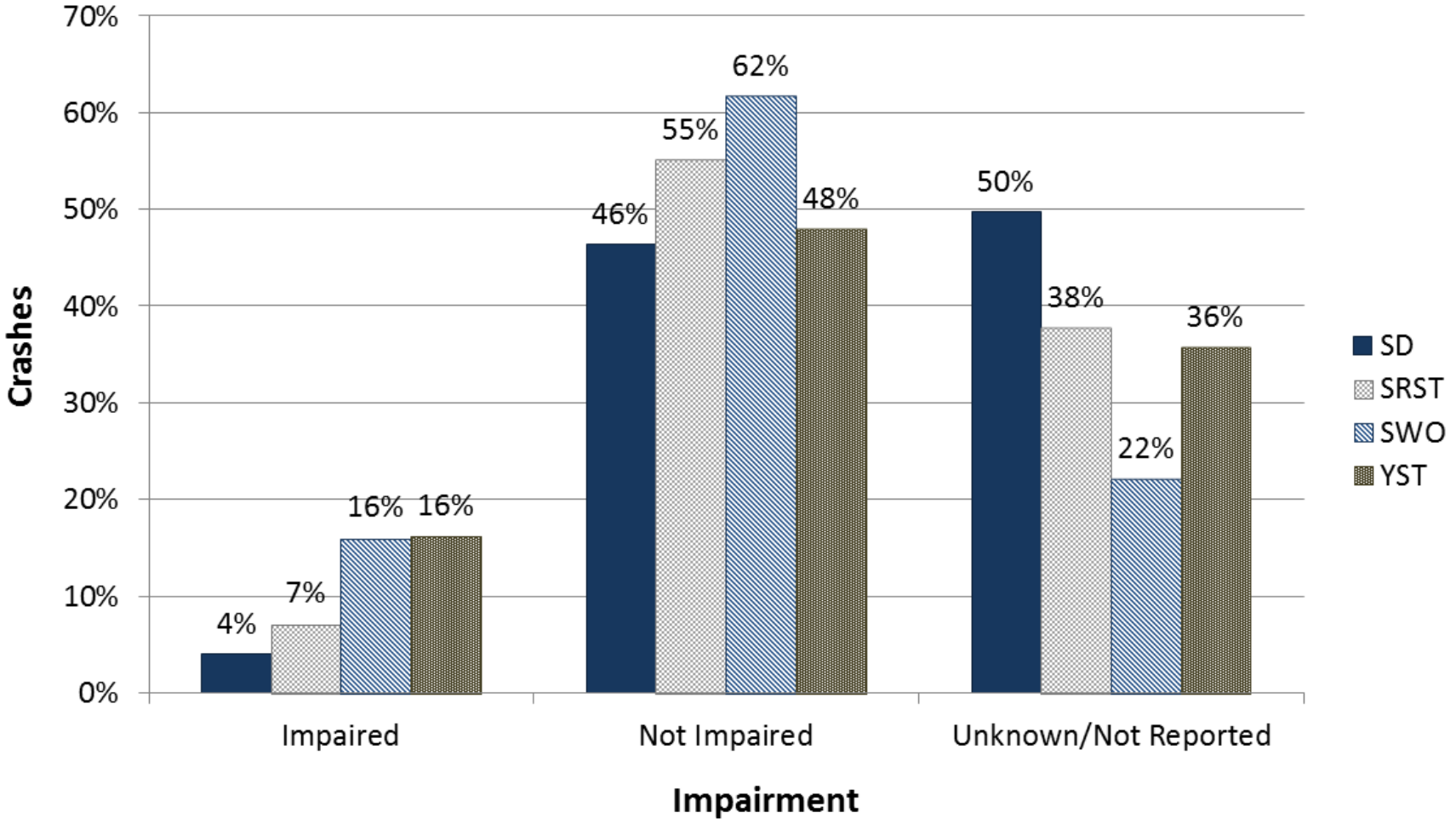
Driver Gender

SD Crash Comparisons



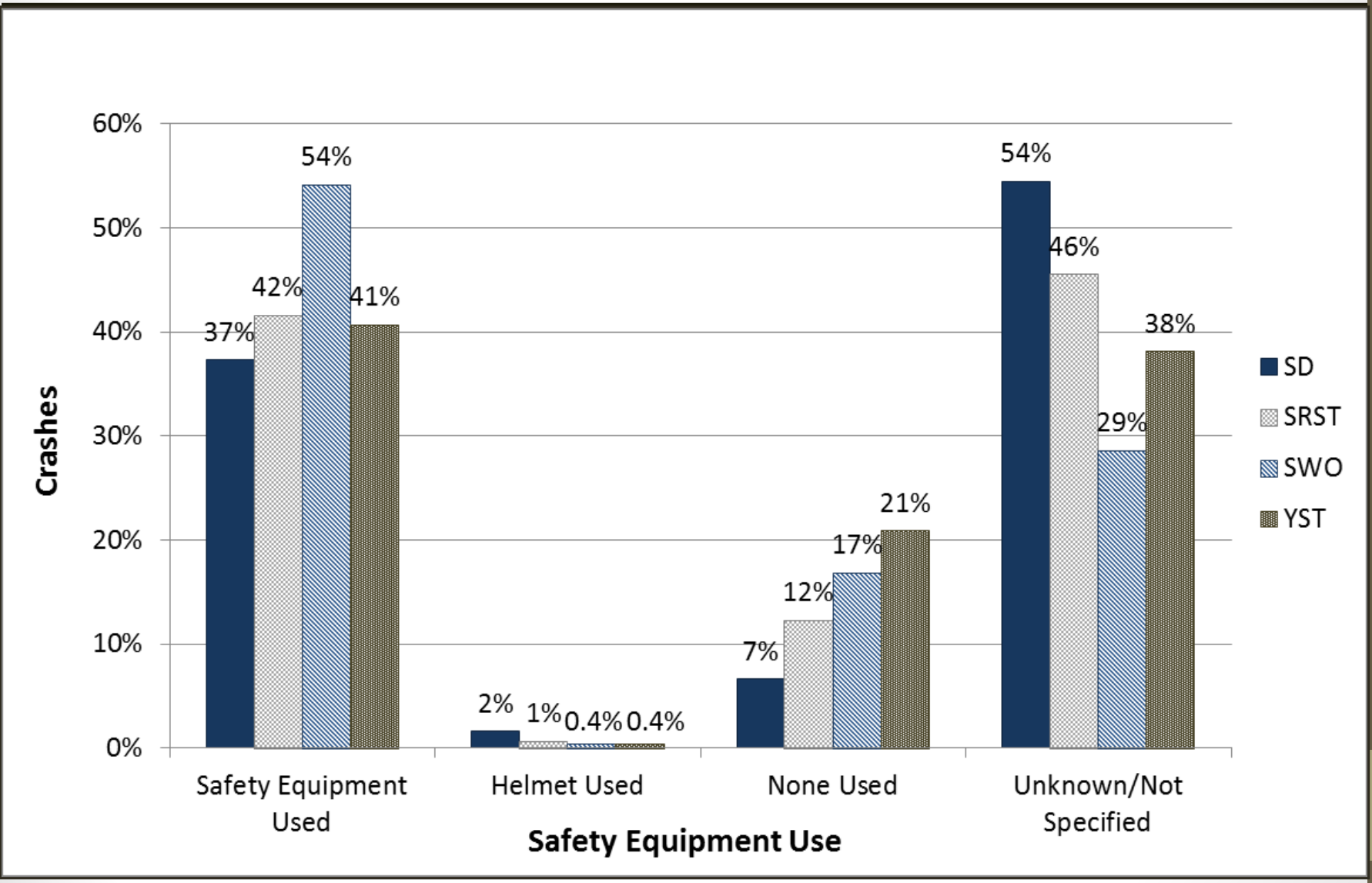
Driver Age

SD Crash Comparisons



Driver Impairment

SD Crash Comparisons



Safety Equipment Use

SD Crash Comparisons

Summary

Factor	SRST	SWO	YST	SD
Fatal Crashes	6%	3%	2%	1%
Animal	44%	22%	37%	52%
Collisions	21%	29%	18%	22%
Older Drivers (45-54)	22%	13%	16%	20%
Younger Drivers (15-24)	19%	29%	25%	21%
Impaired Driver	7%	16%	16%	4%
Safety Equipment Used	42%	54%	41%	37%

Nationwide Implementation

- WYLTAP facilitate
- Collaboration with TTAP Centers
- Advertise Methodology on TTAP Websites
- Prepare Brochure
- Present at Tribal Meetings

Livability

- New Concept
- Key Elements
  - Transportation
  - Community (Culture)
  - Quality of life
- The priorities of the communities define the livability of that community

Conclusions

- Roadway safety needs vary among Tribes
- Methodology flexible to meet needs of individual Tribes
- System-wide improvements where crash data is lacking
- Strategic plan tool for Tribes to address safety goals
- Livability closely tied to roadway safety

Conclusions

- Tribal leadership recognizes need for safety improvements
- Restrained by resources
- Collaboration and communication critical
- Individual Tribal needs vary

Tribal Roadway Safety Improvement Program In North and South Dakota

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Appendix L