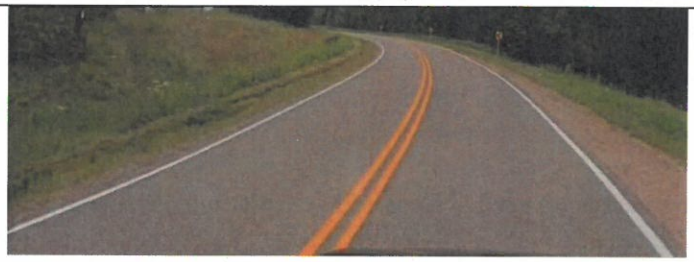
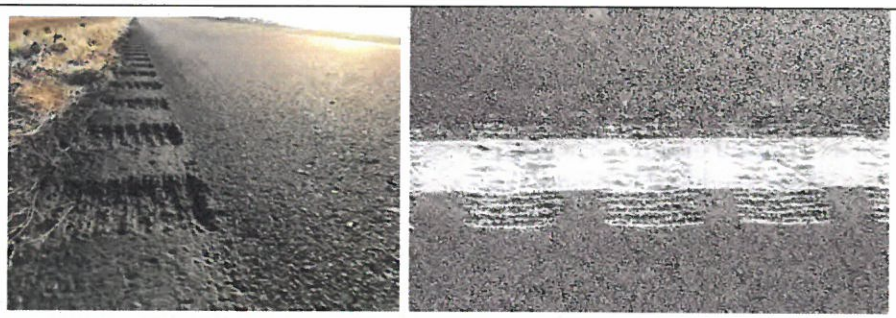
Systemic Roadway Departure Countermeasures

The Tribal Transportation Program Safety Fund provides grants for infrastructure to address roadway departure and other safety needs. Transportation safety plans and safety data improvements are also eligible. More info: https://highways.dot.gov/federal-lands/programs-tribal/safety/funds
The items eligible for the Systemic Roadway Departure Countermeasures Category are shown below.

Horizontal alignment warning signs from Table 2C-5 of the Manual on Uniform Traffic Control Devices (MUTCD);	
Delineators (MUTCD Chapter 3F);	
Center line and edge line markings (no maintenance, first installation or upgraded material / line width);	
Edge line rumble strips or rumble stripes; Center line rumble strips or rumble stripes;	
Mitigation of roadside hazards to establish or widen clear zones including clearing and grubbing, removal of fixed objects, and replacement with crashworthy devices (but excluding roadside slope flattening.)	

Other Roadway Departure Countermeasures

In addition to the items eligible for the systemic roadway departure countermeasures category, other strategies can be effective in reducing rural roadway departure crashes. These items are eligible for the Tribal Transportation Program Safety Fund but must be submitted to the Infrastructure Improvements category.

FHWA encourages an incremental and systemic approach to addressing roadway departure starting with low cost safety countermeasures at higher risk locations. The countermeasures that are eligible for the systemic roadway departure countermeasures category of the TTPSF are considered to be low-cost. If crashes continue to be experienced then additional treatments such as those listed below may be appropriate and are eligible for the TTPSF infrastructure improvements category.

Shoulder Widening - Providing shoulders along a roadway gives errant drivers the opportunity to safely return to the roadway. In addition to roadway departure, shoulders can have added benefits for pedestrian and bicycle activity and traffic law enforcement. Widening shoulders may not be feasible along an entire road corridor but providing wider shoulders at least on the inside and outside of horizontal curves benefits safety.

Slope Flattening - The ideal roadside, from a vehicle stability standpoint, would be flat and clear of hazards. The AASHTO Roadside Design Guide considers foreslopes that are 1V:4H or flatter to be traversable and recoverable, meaning that the driver could bring the vehicle under control and even stop on these slopes. Slopes that are between 1V:3H and 1V:4H are considered traversable but non-recoverable, meaning in most cases the driver will not be able to recover until reaching a flatter slope. Slopes steeper than 1V:3H are considered critical slopes, meaning the vehicle could become unstable on these slopes to the point that the risk of the vehicle overturning is increased. Depending on the height of the slope, a barrier might be considered for critical slopes. While it may not be practical to flatten all slopes along a corridor, flattening the slopes on the outside of curves may provide a significant benefit.

Safety Edge - A paving technique used system-wide to improve pavement durability and reduce crashes by shaping and consolidating the pavement edge into a 30-degree wedge. Safety edge is usually installed as part of paving projects, not as a separate project.

High Friction Surface Treatment - High-quality, wear-resistant aggregate applied to a road surface using epoxy binder to increase available friction. This countermeasure is most effective for addressing wet-weather crashes where pavements are polished at critical locations such as curves. More information is available at https://safety.fhwa.dot.gov/roadway_dept/pavement_friction/high_friction/.

Reconstruction - In some cases reconstruction may ultimately be needed to address roadway geometry at a high crash location. Sharp curves on high speed facilities, vertical and horizontal curve combinations, and reversed super-elevation are some of the situations that may ultimately require reconstruction if other strategies have been tried and significant crashes continue to be experienced.

Other Safety Projects

The Tribal Transportation Program Safety Fund is not limited to addressing roadway departure.

Intersection safety improvements, pedestrian and bicycle pathways, traffic calming, and other targeted safety improvements identified in a Tribe's transportation safety plan are also eligible. More information can be found at www.TribalSafety.org/Funding