TTAP in Brief

TTAP Online Learning: A Free Resource to Extend Your Transportation Knowledge

- Sharpen your understanding of critical transportation topics!
- Commit just 6–8 hours over 4 weeks!
- Learn at your pace!
- Advance your career development!
- Improve safety and performance on tribal roads!
- Earn 6 contact learning hours!

TTAP online learning modules are a terrific resource to complement or extend classroom learning. Check out our 4-week instructor-led online classes.

Asset and Data Management
- Foundations for Using GIS
- Introduction to Asset and Data Management
- Introduction to GPS

Maintenance and Operations
- Gravel Road Maintenance and Design
- Erosion and Sediment Control
- Pipe Installation and Maintenance

Planning and Procurement
- Contract Specification Writing
- Developing Your TIP
- Procurement 101
- Project Prioritization
- Single Audit

Motor Vehicle Injury Prevention
- Basic Child Passenger Safety Awareness
- Car Seat Checkpoints and Child Passenger Safety Distribution Programs

Project Delivery
- Introduction to Construction Inspection
- Emergency Relief Projects
- Getting Your Project Started
- Utility Coordination

Safety
- Crash Data Analysis
- Improving Safety at Intersections
- Low Cost Safety Improvements
- Road Safety Assessments

Need the information more quickly? TTAP also offers 2-hour online learning modules. Find out more about online learning and register at ttap-center.org/online-training-schedule/

TTAP Technical Assistance: A Customized Resource to Build the Skills of Your Transportation Workforce

The TTAP team of subject matter experts (SMEs) is a wonderful tribal resource, providing customized support to help build the technical knowledge and capabilities of tribal workforces. Serving as technical mentors, SMEs help with specific tribal questions. They provide guidance and resources for transportation workers to expand their skills and increase their capabilities to resolve future issues in-house.

Some technical assistance requests arise during classroom training when class materials prompt students to think actively about problems in their communities that can be resolved with guidance from an expert mentor. Technical assistance is also generated through direct outreach, incoming inquiries and post-class follow-up.

Contact 833-484-9944 or info.ttap@virginia.edu to consult with a TTAP expert.

Tribal Transportation Safety Training: How Half Your Workday Can Save Someone’s Life

The Federal Highway Administration and state departments of transportation continually emphasize safety on our roads and highways. Over the past 30 years, transportation safety funding, programs and staffing have increased — and highway fatalities have decreased dramatically. According to the National Highway Safety Administration (NHTSA), fatalities on our nation’s roads have dropped by nearly 25 percent since 1987.

Safety statistics on tribal roads tell a different story. The fatality rate for Native Americans is almost two and a half times the national average, according to NHTSA.

How can you improve these numbers?
Transportation safety training is one answer. Recently, tribes have become more autonomous and have access to more safety funding. The problem is many tribes still have small transportation staffs, whose members have to wear several “hats.” As a result, there is often no one available to take on the responsibility of creating a tribal transportation safety program.

However, tribal leadership and everyone who works in transportation should have some transportation safety-related training. TTAP offers a wide range of classes — each takes half a day and includes a list of free downloadable reference documents. By taking the class, you also can establish relationships with TTAP safety subject matter experts, who are available to answer technical questions and provide technical assistance with just an email or phone call. Read more about TTAP Safety classes on page 3.
Look Left - Look Right - Making Intersections Safer

We’ve all pulled up to an intersection, looked left, looked right, and had something blocking our view. This makes it difficult to pull out safely. Highway agencies strive to correct this by removing or prohibiting items blocking our view. Despite this high crash intersections continue to be a concern listed in many Tribal Safety Plans.

Sight Triangles

One of the ways to reduce the number of intersection crashes is for highway agencies to make sure intersections have adequate sight distance. Drivers need a clear line of sight as they approach an intersection and along the crossroad early enough to avoid a collision. This is called a sight triangle. Anything that blocks the sight triangle (signs, vegetation, crops, parking, etc.) needs to be removed.

How do we calculate the sight triangle desired? For guidance, let’s look at the FHWA’s booklet titled, ‘Vegetation Control for Safety’ that includes two types of sight triangles - an approach sight triangle and a departure sight triangle.

Approach Sight Triangles

The approach sight triangle is for an intersection without any traffic controls. For this type of intersection, a driver needs to be able to see potentially conflicting vehicles in time to slow down or stop if needed.

To determine the approach sight triangle needed for an uncontrolled intersection, you must calculate the length of legs A and B (shown in the figure below). These distances are based on vehicle speeds for each road and are shown in Chart 1.

Defining clear sight triangle at intersections

For example, Figure 1 shows a sight triangle for an uncontrolled intersection where the east-west route has a speed of 55 mph and the north-south route has a speed of 45 mph. Leg A would be equal to 285 feet. Leg B would be equal to 220 feet.

Chart 1. Required length of leg for no traffic control

<table>
<thead>
<tr>
<th>Speed Limit (MPH)</th>
<th>Length of Leg (Feet)</th>
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<tr>
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<td>60</td>
<td>325</td>
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<td>65</td>
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</tr>
</tbody>
</table>


Figure 1. Uncontrolled Intersection

55 mph east-west road, 45 mph north-south road

The sight line is viewed from a height of 3.5 feet from the pavement. This is the average height of a driver’s eye. Anything blocking this line of sight should be removed if possible.

Departure Sight Triangles

The second type of sight triangle is a departure sight triangle. In Figure 2, the motorist has stopped on the minor leg. Before they depart the intersection, they look left and right for traffic on the major road. When they depart the intersection, they may turn left, left or go straight through the intersection. The sight distance desired to turn left is the longest and in a simplified approach may be used to establish the sight triangle for both legs of the minor road. The sight triangle should be measured from a point about 15 feet back from the edge of the travel way for the major road. This location approximates the position of the average driver’s eye from the major road. Leg A of the sight triangle is taken from Chart 2.

Figure 2. Stop Control on Minor Street

55 mph major (east-west)

This is sighted along a line 3.5 feet above the pavement height.

If you have approaches on steep grades, skewed approaches, the major road with more than two lanes, or a high percentage of trucks, then contact the Tribal Technical Assistance Program or a Traffic Engineer for assistance. Contact information for TTAP can be found at www.ttap-center.org

For both approach and departure sight triangles, anything blocking the sight line should be removed if possible. We are most concerned with items within a range of 3.5 feet to 7.6 feet above the roadway. This considers the average height of a driver in a passenger vehicle and a large truck.

For additional information on intersection safety, check out our workshops and online courses at www.ttap-center.org.


Tribal Transportation Strategic Safety Plan, www.tribalsafety.org
Key personnel from the Tribal Transportation Program, FHWA, NHTSA, TTAP, and other agencies and organizations were available to discuss their programs and to answer questions.

The Federal Highway Administration, in collaboration with the National Highway Traffic Safety Administration, hosted the National Tribal Symposium to Advance Transportation May 14-16 in San Diego. The symposium opened with a blessing given by Elder Randy Edmonds of the Kiowa-Caddo Tribe and presentation of the colors by the American Indians Warriors Association. Invited plenary speakers included Vince Mammano, division administrator of the FHWA California Division; Tony Furst, chief innovation officer at FHWA; and Jamie Pfister, NHTSA associate administrator.

The plenary continued with updates from Federal Lands Highway associate administrator Tim Hess; Erin Kenley, director of the Office of Tribal Transportation Program; and Sheldon Kipp Sr., program manager at the Bureau of Indian Affairs.

Following the plenary session, attendees chose from among concurrent educational sessions organized into four tracks:

**Track 1**
- Law and History of 202 (a)(9) and Implementing 202 (a)(9)
- How to Compete for Transportation BUILD Grants
- Roadway Maintenance Planning
- Drone Wisdom: Our UAS Story at Cherokee Nation Businesses

**Track 2**
- Milestones in Traffic Safety
- Working with State Highway Safety Offices
- Marketing Strategies to Enhance Message Outreach
- Developing Statistical Data for Child Passenger Safety Program Evaluation
- State Efforts to Improve Child Passenger Safety Efforts in Tribal Communities
- Tribal Law Enforcement Impaired Driving Training Initiative

**Track 3**
- Tribal Transit Program Planning Sessions
- Effective Pipe Rehabilitation Practices
- Unmanned Aerial Systems (EDC-5)
- Transit Funding and Alternatives to Transit Grant Funding
- Tribal Success Stories: CTGR TERO-MOU with the Oregon ODOT and Hamilton Cemetery Access Board Road Project

**Track 4**
- Emergency Relief
- Business Case for Construction Manager/General Contractor (CM/GC).

"Several breaks allowed attendees to visit a wide array of vendors, including engineering consulting firms that provided information highlighting their services along with several creative marketing tools," said Walt Catlett, TTAP director of education and outreach and one of the symposium presenters.

The symposium concluded with a Tribal Technical Assistance Program listening session, moderated by Tony Furst of the FHWA. Attendees provided constructive comments about the TTAP pilot program, which is administered by the Center for Transportation Studies at the University of Virginia.

Attendees also had opportunities to meet one-on-one with personnel from FHWA, TTP and NHTSA to discuss challenges and seek guidance.

The symposium was a great success thanks to the planners, presenters and attendees. To learn more or download presentations from the 2019 National Tribal Symposium to Advance Transportation, visit the website at nationaltribalsymposium.com. Interested in attending next year’s symposium? Contact the Federal Highway Administration at clas@dot.gov or visit the website for updates about the 2020 National Tribal Symposium to Advance Transportation.

Safety Training continued

Examples of TTAP safety training topics:

- The importance of creating a tribal safety plan to improve road safety, including how to collect and analyze crash data and how to apply that knowledge.
- How road safety assessments — an inexpensive and valuable tool — improve safety at high-crash sites.
- How to identify potential hazards for pedestrians and create multi-modal safety plans to make roads safer for people.
- Low-cost solutions and tools that reduce crashes.
- How to identify potential high-crash areas and mitigate the hazards to reduce severe injuries and fatalities caused by drivers leaving the road and striking a fixed object — the most common type of crash on rural highways.
- Stop-controlled, signalized and roundabout intersections, including the causes of intersection crashes and how best to address them.
- Safety courses in TTAP’s Maintenance and Operations suite of classes, which include Guardrail Installation, Maintenance and Repair; Roadside Maintenance; Sign Maintenance and Management; Traffic Control; and Work Zone Safety.

In short, TTAP transportation safety classes offer a low-cost and effective path to identifying safety issues and implementing sensible solutions that can lead to fewer motor vehicle-related deaths on tribal roads. If it is difficult to attend the classes in person, TTAP offers online safety classes every month.

Federal funding is also available for tribes to complete transportation safety plans or for identified safety projects based on demonstrated needs.

It is not difficult to become proficient in road safety, but it can be a challenge to collect the necessary data and start to develop a safety program. Taking these courses offers a quick and easy way to begin.

For a list and descriptions of TTAP safety classes, go to [https://ttap-center.org/](https://ttap-center.org/) and click on the Classroom Training tab. If you don’t see what you’re looking for, have questions or need technical assistance, please contact us at 833-484-9944 (toll free) or [info.ttap@virginia.edu](mailto:info.ttap@virginia.edu).
Shoshone-Bannock Tribes Weather Cameras

The S-B Tribes DOT implemented a roadway cameras program to monitor weather and road conditions throughout the 820 square miles making up the Fort Hall reservation. We reached out to Richard Thompson, Tech Services Manager, to find out how the cameras are working.

How the project got started
About four years ago, internet towers were installed in locations near main arterial roads and overlook large portions of each district. We developed a plan to place cameras on at least one main route road in each district to be able to see the roadways and track inclement weather.

About the cameras
The cameras are all pan, tilt, zoom capable (PTZ) and have 25x power zoom lenses. They are infrared-capable allowing night vision. They provide 360-degree observation and zoom over several miles as well as up close viewing. Staff can maneuver the cameras in real-time from the transportation administration office, fire department, police department, public safety department, road maintenance shop, and via the transportation manager’s cell phone.

Implementation outcomes
Currently, there is at least one camera in each district. Staff evaluates roadway conditions, identifies and records brush fires, and monitors activities in outlying areas.

We often have snow storms that drop many inches of snow with blowing winds. Being able to see the main roadways in each district allows us to assess where to send our snow plows and sanders. For instance, Bannock Creek District may get just a skiff of snow with clear roads, while Lincoln Creek district may have over five inches of drifting snow. The cameras allow us to make adjustments before sending out crews where they aren’t needed.

The department provides public access to camera views with Facebook (@shobantransportation) and website links (https://shobandot.com).

“During the summer months, we assisted with a range fire where we had direct sight with one of our cameras. We assisted the fire response with hot spot direction, finding roads and trails to hot spot areas, and wind directions.”

Richard Thompson
Tech Services Manager

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Overview

The Federal Highway Administration (FHWA) Office of Innovative Program Delivery’s Center for Local Aid Support launched the Tribal Technical Assistance Program (TTAP) Center 2-year pilot project in 2018 as a transportation resource for tribal communities across the country.

The TTAP Center provides comprehensive transportation training, both in the classroom and online, as well as technical assistance to tribal communities. These activities help to build skills and expertise to ensure the safety and performance of tribal roads and the continuous professional development of tribal transportation workforces.