

TTAP in Brief

One-on-One Guidance on Creating a Road Inventory

For an outsider, the Native Village of Chauthbaluk seems both small and distant. The village of 124 tribal members is located on the Kuskokwim River, about 150 miles northeast of the Bering Sea and 300 miles west of Anchorage. But despite its size and location, it maintains its small network of gravel roads in excellent condition, ensuring residents have access to the village school, store and post office building, the tribal office, and airport throughout the year. And thanks to the efforts of Vernon Peterson, the village's transportation planner, Chauthbaluk is on its way to creating a modern GIS-based road map with data on road condition as well as a comprehensive inventory of features.

"Vernon was really eager to learn more about GIS mapping and develop a system he could use to present his ideas for road improvement to the Chauthbaluk Traditional Council," says Mike Morgan, a TTAP asset and data management trainer, who met Peterson last June at a TTAP session in Bethel, about 100 miles west of Chauthbaluk. Peterson had some familiarity with Google Earth before coming to the workshop, and Morgan helped him build on that knowledge to map his road network during the program. "Vernon filled out the map with landmarks like tribal members' houses," Morgan notes.

Combining Technical Assistance with Training

Because it never really gets dark in western Alaska in June, Morgan saw an opportunity to include a road assessment once training was completed. He worked one-on-one with Peterson to create a geo-located video of the tribe's roads that could be dropped into the Google Earth map that Peterson created during the early part of the week. Their goal: create as complete a picture as time would allow of road conditions.

One of the issues documented by the video system is a byproduct of climate change. Warming is particularly pronounced in northern latitudes – it reached 90 degrees in Bethel for the first time ever this summer – and the additional heat is beginning to cause the permafrost to melt. When this happens under a road, the road slumps. Working with Morgan, Peterson recorded instances of this on video and entered the information into the GIS system so that he could highlight it in conversations with funders. At the same time, they talked about such issues as the need to cut back vegetation and the effects of the new sanitary sewer line on the roadway. "Mike was a really good source of information," Peterson says."

Peterson has already shared the video with a member of the tribal council, who told him that creating this record was a great idea. But as Morgan points out, with Peterson's help the training and technical assistance that TTAP provided could have an impact not just on Chauthbaluk but also on other native villages up and down the river. "If asked, I would like to share what I learned so that other villages can start mapping their road network," Peterson says.



Tribal Technical Assistance Program



Chauthbaluk Inventory Map



Chauthbaluk Conditions Map



Chauthbaluk Conditions Google Earth Map

Making Meetings More Productive

Whether their purpose is to meet NEPA requirements, roll out a proposed tribal transportation plan, or encourage tribal members' input on a specific road project, public meetings are an essential part of program delivery. "In virtually every case, public meetings have the potential to make a plan or projects better," says Marc Shepard, a TTAP course instructor with over 30 years' experience in transportation, project management, and project communications. "That's because people who drive your roads day in and day out can provide information that would be difficult to gather otherwise."

As it turns out, holding an effective public meeting is more easily said than done. Every transportation professional has experienced meetings undercut by poor attendance and controversy. We asked two transportation experts at the Santa Clara Pueblo – Tribal Transportation Director Suzette Shiji and Transportation Planner Mary Lou Valerio – to weigh in on how to ensure a good meeting. Here are few points that they emphasized:

- Provide ample notice. "We do our best to notify tribal members well in advance, both in our newsletter and through our bulletin board," Valerio says. "Giving people early notice and then reinforcing it is very important."
- Have the experts on hand. At a recent tribal meeting to present transportation proposals that had been fast-tracked, Shiji made sure that engineers and environmental consultants who worked on the projects were on hand to answer questions. "Just their presence at the meeting gave our projects that much more credibility," she says.
- Stay after the meeting. Not everyone is comfortable speaking in front of others. Shiji and Valerio urge transportation professionals to mingle with the tribal members after the meeting, giving them the opportunity to ask questions or make comments.
- Consider a follow-up meeting. If tribal members ask for substantial changes in a project, think about holding a follow-up meeting to review your response. "Just holding a follow-up shows that you value members' input and are committed to transparency," Shiji says. "When people feel appreciated, they are more likely to attend the next meeting."

Try an Open House

Not all public meetings have to be formal affairs. TTAP's Shepard advocates an open-house style, where tribal members can circulate around a series of exhibits on a project, watch a short video presentation, and chat with transportation staff and outside experts. Attendees can comment on the project in writing or provide input to a staff member at a comment table.

However you organize your meetings, Shepard notes, they serve the same purpose: ensuring that you take advantage of the wisdom of tribal members and create projects that best serve their needs.

Getting a Handle on Your Road Network Using GIS and GPS

"What are your priorities?" Whether it is your tribal council or a funding agency asking the question, it is up to tribal transportation professionals to make an informed case for importance of a project. Making that recommendation requires experience and judgment but it also has to be backed by a road inventory that indicates important features and road conditions. As Mike Morgan, one of TTAP's specialists in asset and data management, says, "The first step in prioritizing your projects is to know what you have. The second is to know the condition of what you have."

GIS and GPS make it much easier to enter data and to communicate it. TTAP's asset and data management program gives participants the knowledge they need to map their road network using GIS programs like Google Earth, enter important road features, and conduct a consistent and dependable maintenance condition assessment.

Throughout this process, Morgan says, it is important for transportation professionals to keep in mind what they want to accomplish. "What will you be presenting to your tribal council at the end of the day?" he asks. "That's what you want to focus on." For instance, if installing guardrails at key locations is important, it is critical to document the places where they are needed.

Video Condition Assessment

Samuel Riffel, an experienced transportation planner with the Cheyenne and Arapaho Tribes, attended one of Morgan's TTAP training sessions and was particularly interested in a system Morgan introduced to create geo-tagged video of tribal roads.

One advantage of this system is precision. With a video system, professionals can examine every foot of roadway and mark just those portions in need of improvement, saving money on repairs. Another is efficiency. A vehicle-based video system reduces the time it takes to assess road condition and map features. For a jurisdiction as large as the Cheyenne and Arapaho Tribes, which includes 1,125 miles of road spread over nine counties in western Oklahoma, the advantages of a system are straightforward. But even for smaller tribes, the benefits can be substantial.

Currently, BIA is in the process of importing its RIFDS database to GIS. Riffel believes by incorporating a video system like the one Morgan described, the Cheyenne-Arapaho will be better prepared to incorporate RIFDS data when BIA unveils its new system.

He also points out another advantage of a GIS inventory system. "You can publish the data online for tribal members to examine from the comfort of their homes," Riffel says. "They could watch the video of the routes they use and give us feedback. That would increase our ability to create a transportation plan that really reflects their needs."

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

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

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 work forces. 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.

You Can Help Save Lives and Reduce Injuries

Todd Morrison, TTAP Safety Subject Matter Expert

The statistics are startling. From 2012 to 2016, there were 2,907 known Native American and Alaska Native traffic-related fatalities, according to the [National Highway Traffic Safety Administration](#). Maybe you have lost a loved one or know someone who has. The numbers can be better, however, and everyone can play a part in preventing roadway fatalities.

To figure out how to prevent these fatalities, we must study the data. Since it is known that crashes in tribal areas are under-reported, the first step is to ensure crashes are reported to the tribal transportation planner and grants manager. The more data we have, the clearer the picture. In addition, good data greatly improves your chances of obtaining grant funding to correct the safety issues that contribute to crashes in the first place.

Even with incomplete data, it is known that motor vehicle crashes are the leading cause of death from unintentional injury among Native Americans and Alaska Natives ages 1 to 44. To address the problem, a tribal transportation safety steering committee, made up of representatives from many tribal governments and federal agencies, examined data from NHTSA's Fatality Analysis Reporting System (FARS). The committee produced a report in 2017, titled [Tribal Transportation Strategic Safety Plan](#), that identified five emphasis areas of special concern.

Emphasis 1: Occupant Protection (seat belts, car seats, helmets, airbags)

In 51 percent of Native American fatalities, occupant protection was not used. In tribal areas, seat belt use has been tracked at 78 percent. The overall U.S. average usage is 90 percent. Here's the second thing that you can do: wear your seat belt, make sure everyone else in the vehicle does, and make sure to use child car seats even for short trips.



Emphasis 2: Roadway Departures

In 63 percent of Native American fatalities, the driver left the roadway resulting in a crash. One-quarter of these crashes occurred in curves. How can you reduce this? Stay on the road. Easier said than done at times, but eliminating distractions is essential. Don't text or use electronic devices while driving and pay attention to warning signs and posted speed limits.



Your roads department can provide good maintenance of gravel or unpaved roads, striping, signage, a clear roadside and gentle slopes. You should report to your local road owner any signs that are down, that have been vandalized or are no longer reflective at night. Also report drainage issues and damaged guardrail.

Emphasis 3: Impaired Driving

Forty percent of Native American fatalities involved impaired driving, compared to 36 percent of fatal crashes across the U.S. involving an impaired driver. You can help to reduce this by drinking responsibly and helping others to do so. Don't drive if you've been drinking. Offer to give someone a ride if they have been drinking and you have not. Be a good enough friend to take the keys away from a buddy who has been drinking.



Emphasis 4: Pedestrian Safety

Eleven percent of Native Americans roadway fatalities occurred when a pedestrian was struck by a vehicle. This number is 3.5 times greater than other segments of the population. The majority of these happened at night in rural areas and in 77 percent of the cases, the individual was walking along or in the road. What can you do? Walk on a sidewalk or path when one is available. If you must walk on the shoulder or in the road, face traffic. Be seen by wearing reflective or bright clothing. Never walk near the road while impaired by alcohol or drugs.



Emphasis 5: Availability of Public Safety Services

In 44 percent of the fatalities in tribal lands, the time from when emergency medical services were notified to when the victim arrived at the hospital was more than an hour. On average, this number for the U.S. is 23 percent. Road safety experts have a term for it: the "golden hour." Getting medical attention as quickly as possible after sustaining an injury greatly increases your chances of living. How can you help? Consider becoming a community volunteer and take some basic medical training. Provide your information to local EMS, and let them know you're willing to help. It's quite possible you could be first on the scene and provide lifesaving assistance.



Top 10 Ways to Reduce Roadway Fatalities

1. Report crashes to your roads department and grants manager.
2. Wear seatbelts and use car seats even for short trips.
3. Stay on the road. Don't drive distracted.
4. Don't drive if you've been drinking.
5. Never walk on roadways while impaired.
6. Wear reflective or bright clothing while walking.
7. Walk on the sidewalk or path. If you must walk on the shoulder, face traffic.
8. Take the keys away from someone who has been drinking and give them a ride.
9. Report damaged signs, guardrails, or drainage issues.
10. Take some basic medical training and become a community volunteer.



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

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Commit just 6-8 hours over 4 weeks!
Learn at your pace!

Advance your career development!
Improve safety and performance on tribal roads!
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Foundations for Using GIS
Introduction to Asset and Data Management
Introduction to GPS

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

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

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

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

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/.

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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.



U.S. Department of Transportation
Federal Highway Administration



Tribal Technical Assistance Program