Michigan Tech TTAP Welcomes New Manager

Cheryl Cloud has joined Michigan Tech TTAP as the new Manager. She brings an impressive combination of experience, education, and personal interest that promises to help TTAP grow and improve.

Cheryl is a Tribal Member of the Bad River Band of Lake Superior Chippewa Indians of Wisconsin (Odanah, WI), and has worked for the BIA and her Tribe for over 15 years. While with the BIA, Cheryl worked in Ashland and Minneapolis as a transportation planner. This previous work experience has exposed her to the hottest topics in Tribal transportation, having already dealt with P.L. 93-638 Construction Contracting, Indian Reservation Road (IRR) Inventory, Transportation Contract Management, Transportation Planning, and the Negotiated Rulemaking Committee process. Her experience on the inside of the BIA is sure to help the tribes and BIA in our region work well together.

Cheryl told us how she plans to advance TTAP’s plan, “I want to work proactively at TTAP, linking tribes to the resources, training, and information they want and need, while making those connections as local, economical and beneficial as possible. If we improve communication on an inter-governmental and multi-organizational level, then we can concentrate on problem solving, resource sharing and idea exchange as partners. The goal is to have more streamlined coordination between all the vested shareholders to develop and expand tribal expertise in the transportation field. Through both workforce and workplace development, we can achieve professional, credible, transferable skills and expertise, as well as establish a place to take and utilize that. Along with the workforce and workplace development, we will seek out and sometimes even create the technological tools to make our life’s work in transportation simpler and easier.”

When she’s not breaking new ground for TTAP, Cheryl enjoys spending time with her family, creative writing, playing guitar, and travel. It’s a good thing she likes to travel, because we know that all of you would like to see her out in Indian Country! Please join us in welcoming our newest team member to the TTAP community by giving her a call at 888-230-0688.

Safety Corner

According to the FHWA, 70% of fatal crashes occur on rural roads. Nearly 100% of reservation roads are rural. This means that the most dangerous roads are those in YOUR jurisdiction.

40% of rural road crashes are due to vehicles leaving the road. Many of these crashes can be prevented with better signing, marking, and roadside maintenance. A rural county in California reduced crashes 42% through better signing. Check out how you can learn from their experiences on page 4.
Editor's Corner

Welcome to the new full-color Pathways. We hope you like it. With our new format comes some changes to the layout and content as well. Some of the content you’ll find in familiar places, like the Safety column on page one, library items on page three, and upcoming events on page eight. New content includes regular contributions from the BIA and an extended calendar on page seven. You may also notice the new table of contents on the left side of page one, and smaller items of interest on the left and right sides of each page.

Something else new that you might notice is a change to our staff. We welcome Cheryl Cloud, who comes to us from Ashland, WI. Cheryl is the new TTAP Manager and, if you haven’t heard from her yet, you can certainly expect to soon.

Recently, someone asked me if it was possible to contribute something for publication in Pathways. Of COURSE you can make contributions, and we are more than happy to write something based on your idea if you don’t think you are up to the task. On this page you will now see the deadline for contributions made after that date will appear in Volume 12, No. 1 (Spring). You may contribute information for publication on www ttap.mtu.edu at any time.

The deadline for contributing suggestions, corrections, or information for publication in the next Pathways, Volume 11, No. 4 (Winter), is March 15, 2005. Any contributions made after that date will appear in Volume 12, No. 1 (Spring). You may contribute information for publication on www ttap.mtu.edu at any time.
New in the TTAP Library

TAP and LTAP centers nationwide have cooperated with the Salt Institute for many years to develop and distribute snow and ice control training materials to local transportation agencies. There are many publications from the Salt Institute in the Michigan Tech TTAP library, and you can receive them free-of-charge just by asking. You can also review and download many of the Salt Institute’s publications at the Salt Institute Web site <http://www.saltinstitute.org/34.html#wi>. The following materials are available from Michigan Tech TTAP and on the Salt Institute Web site.

**Highway Salt and Our Environment**

New in 2004. Details effects of deicing salt, if over used, on plants, trees and grasses, and water supplies. Also discusses auto corrosion, damage to pavement and bridges and the problems created by other deicers and abrasives. 28 pages.

**Salt Storage Handbook**


**Salt Storage Summary**

A 3-page summary of the very popular deicing material handling and storage handbook.

**The Snowfighter’s Handbook**


**Salt Versus Abrasives**

Brochure outlining comparative advantages of straight salt over abrasives.

**Calibration Chart**

Card for use in calibrating spreaders. One side for recording calibration figures, other side explains calibration steps. The 5” x 7” card is sized for convenient use in the cab of maintenance equipment.

**Comparative Cost Analysis of Salt and Abrasives**

A useful form for snow and ice control agencies to compare the total cost of salt vs. an abrasive salt mix.

**Salt and Highway Deicing**

An e-newsletter about highway uses of salt, published quarterly. Free subscription.

**Deicing Salt Facts**

4-page multi-colored fact sheet covering common questions asked about deicing salt, including storage, environmental protection, corrosion, safety benefits, and potholes.

**Snowfighters**

A comprehensive training video for use by snowfighters, whose job it is to keep traffic safely moving when snow and ice make that job very difficult. Explains basics of snow removal; equipment preparation and maintenance; salt application rates, salt vs. abrasives; snow & ice and fuel consumption; history and uses of salt; etc. in a very informative, interesting manner. Updated July 1999.

**Marquette I & II Fact Sheet**

Cost Effective Wintertime Mobility and Safety: We Deserve It, We Can Afford It. These fact sheets examine research that looked at the relationship between wintertime cashes and deicing.

**Winter Maintenance Training Materials**

A set of two CDs containing five snowfighter training programs in MS PowerPoint, four PDF format and MS Word format handout documents, PLUS the Institute’s Snowfighters Handbook, Salt Storage Handbook, Snowball Snowfighter PowerPoint training presentation, Highway Salt and Our Environment and other valuable winter maintenance materials. The CDs collect all these materials for convenience, which, except for the “Operations” PowerPoint training program, are also available for free download on the Salt Institute’s Snowfighting Training web pages <http://www.saltinstitute.org/34.html#wi>.

All of these materials are available free from TTAP or the Salt Institute’s Web Site <http://www.saltinstitute.org/34.html#wi>.
Mendocino County Roadway Safety Assessment Highlights:

- Mendocino County, CA reduced road crashes 42%.
- The total cost to review and implement the recommended changes from 1987 through 1995 was just $79,300!
- 188 Participants representing 19 tribes, 42 states, and Puerto Rico attended the Safety Showcase to learn from Mendocino’s experience.

Sixty percent of traffic deaths nationwide occur on rural roads, and the death rate on rural roads is over twice the urban traffic fatality rate. These statistics are startling, especially when you realize that nearly 100% of roads under tribal jurisdiction are rural. So how do we improve the safety of rural roads? Mendocino County transportation officials decided to address this question.

The reasons for such high crash rates on rural roads are the same as on urban roads and highways: human factors, roadway environment factors, and vehicle factors, in that order. Human factors include actions such as speeding, drunk driving, inattention, and lack of seatbelt use. Roadway environment factors include roadway design, roadway & weather conditions, and roadside hazards. Vehicle factors include problems with vehicle design or performance. One factor that doesn’t contribute to crash rates, but does increase the fatality rate on rural roads, is the time between crash and medical attention for victims (obviously, the further you are from medical care when you need it, the worse off you’ll be).

The number one and number two factors leading to crashes, human behavior and roadway design, are exacerbated in rural areas by the fact that the number of miles each maintenance and enforcement dollar must cover is much greater than for urban or highway roads. FHWA reports that over 70 percent of single-vehicle run-off-the-road fatalities occur on rural roadways and that about 90 percent of these were on two-lane rural roads. Similarly, crashes involving vehicles crossing the centerline and either sideswiping or striking the front end of oncoming vehicles are a major problem in rural areas, accounting for about 20 percent of all fatal crashes on rural two-lane roads.

Of course nearly all of these fatalities could be avoided if drivers would slow down and remain completely focused on the task at hand, and maintenance personnel can help them do just that. Even if a driver is impaired, the roadway design can help keep drivers between the lines and out of the ambulance. Making every road to the specifications of an Interstate would make rural roads safer, but that is a little impractical, so a good place to start is by improving roadway signing and marking.

Mendocino County, California DOT personnel decided to apply their limited dollars to improved signing and marking, and the results speak for themselves: Crashes on Mendocino County roads were reduced by 42%. Good signing warns drivers to maintain appropriate speeds for given road conditions, which helps reduce the dangers of rural road design problems and modifies driver behavior.
**The Safety Review Process**

Mendocino County DOT undertook a systematic approach to improving rural road safety by conducting Road System Traffic Safety Reviews. DOT personnel took several steps to identify and alleviate crash-prone sections of their road network. Their traffic safety review process points out where and when crashes take place, and how the crashes might be reduced.

County officials collected crash reports from law enforcement officials. Road maintenance workers travelled local roads to visually inspect crash locations, attempting to reveal details left out of crash reports. Regular sign surveys under all lighting and weather conditions helped identify missing, damaged, and weathered signs as well as problems with sign installations.

The county first addressed curve and turn signing and the consistent use of signs for similar situations (standardization). The Manual of Uniform Traffic Control Devices (MUTCD) combined with the use of measuring instruments helped reduce the problems caused by “intuitive” signing. Using a ball bank indicator and hand level, county workers took the guesswork out of determining the appropriate speed for a given curve or turn.

Next, the county looked at delineation, object markers, and other warning signs (blind drives, intersections, etc.). Using Road System Traffic Safety Review (TSRs), county engineer Stephen Ford looked for features that could contribute to, or exacerbate, a crash. In some cases, objects or designs might be altered, in others, markers could warn drivers of unavoidable design problems. The annual TSRs help make the safety improvements systematic, stretching limited resources and changing “seat of the pants” engineering to a long term, scientific safety improvement strategy.

**Step One: Manage the Task**

The TSR process includes several steps. The first step is to break up the safety improvements into manageable tasks. One way to do this is by breaking up a large geographic area into smaller zones of concentration. These zones may be divided by geography, administrative boundaries, or by road classification. This first step is an ideal point to bring a Geographic Information System (GIS) into the process. GIS will help identify the roads in each zone of improvement and help systematize and document problems and improvements. Other tasks for this first step might include a review of how locations are identified in the jurisdiction, for example by mile marker or geographic coordinates. Again, a Geographic Information System is a great tool to help tie locations to information collected in later stages.

**Step Two: Data Collection and Processing**

To understand where trouble areas are, a transportation agency needs to collect data on maintenance, crashes, and design features. Even if crash reports are not available to you, you could review maintenance records to find trouble spots. If you need to replace a guardrail several times a year, then that should tell you that drivers are having a hard time keeping between the lines at that location. Are the guardrails being hit at night? Maybe a sign needs to warn of unexpected bends in the road. Does all damage occur during the winter? Maybe plow trucks and sanders need to concentrate on that curve.

Tribal Representatives from the Michigan Tech TTAP area who attended the Mendocino County Safety Showcase:

- Monty Campbell
  Seneca Nation of Indians Planning Department
- Frank Connors Jr
  Bad River Tribe Roads Department
- Mathew Dorsey
  Seneca Nation of Indians Planning Department
- Larry Fedderson
  Ho-Chunk Nation BIA Roads
- Marie Kuykendall
  Lac Court Oreilles Band of Lake Superior Chippewa
- Pete Nemec
  Bad River Tribe Roads Department
- Ron Nye
  Bad River Tribe Roads Department
- Dan Shepard
  Little River Band of Ottawa Indians
- Ted Walczak
  Ho-Chunk Nation BIA Roads
Step Three: Analysis

Look at crash reports and identify common features of those reports. Does every crash report identify speed as a factor? Do all crashes happen on Friday night after last call near a local watering hole? Go to the location and try to imitate the typical traffic speed at different times of the day (SLOWLY at first!) and/or observe traffic at different times to see how drivers react to a problem area. These analyses may make it frighteningly obvious why one guardrail is such a car magnet.

Once you have identified potential problems, use engineering tools to determine what might be wrong. Check your ball bank indicator to see if posted speeds are too high. Perform a retroreflectivity test to see if signs are misaligned or faded. See if nighttime illumination is adequate at an intersection. The fieldwork should be documented and categorized to be sure that you cover every mile of every road at least once.

Step Four: Remediation and Review

Once you think that you’ve identified problems, try to fix them. Use the data from your field reviews to identify necessary sign, marking, or maintenance tasks. Assign them to field crews and then review the results. You’ll need to go back to some of the field work in step three to be sure that changes are having the desired effect. Document everything so that future events can be linked to past activities. Over time, you’ll see results, and hopefully those results are a reduction in the crash data at the problem areas!

If you want more information about Mendocino County’s experiences, contact us for a copy of the workshop notebook, or contact Mendocino County Engineer Stephen Ford directly at 707-463-4363.

References


MichiganTech TTAP Family Portrait

Put faces to those voices on the phone! Here you can see some new faces, some well known, and some just altered by facial hair. We finally got John Lovato (heavy equipment trainer) out of the field and into the office for our annual photo, and Cheryl Cloud (TTAP manager) makes her second appearance in one issue of Pathways.

Others pictured are Bernie Alkire, TTAP director; Troy Sherma, student employee; John Velat, technical editor/writer; and Patt Wisniewski, administrative assistant. You can reach all of our staff at one e-mail address, ttap@mtu.edu, or by phone at 888-230-0688.
B.I.A. News & Information

This is a new regular column in Pathways, contributed by local, regional, and federal BIA representatives. We hope that this column will help connect tribes, TTAP, and the BIA to each other and improve cooperation and communication between us. Questions and comments regarding this column can be directed to Michigan Tech TTAP, or to the contributing BIA office representative shown for each contribution.

BIA Mission Statement

To provide safe and adequate transportation and public road access to, and within, the Indian reservations, Indian lands and communities for Native Americans, visitors, recreationists, resource users and others, while contributing to economic development, self-determination and employment of Native Americans.

Midwest Region News

IRR Procedural Changes

As a result of the new IRR Regulations (25 CFR 170, effective 11/13/04), the BIA must solicit and document, in writing, the specific use (via project identification) of IRR funds, along with the mode of program delivery of IRR services, for each Tribe within their region. Letters were sent to Tribes on December 9, 2004, asking Tribes to specifically identify their IRR construction projects and which delivery mechanism (self-governance, direct service, self-determination) they will utilize to spend their annual IRR allocation. Tribal responses are due back to BIA within 30 days of said notice.

IRR Steering Committee

A Federal Register Notice dated January 13, 2005 called for nominations of individuals to serve on the IRR Steering Committee. This committee will monitor the implementation of the new IRR regulations and make recommendations to the BIA when issues arise. Nominations are due by February 28, 2005.

Upcoming Events

Tribal/BIA/State Transportation Meetings

March 29-31, 2005 Tribal Host in Michigan

April 12-14, 2005 Tribal Host, Lac du Flambeau, Wisconsin

April 26-28, 2005 Tribal Host in Minnesota

Point of contact for BIA Midwest Region News

Todd Kennedy, Regional Roads Engineer, phone 612-713-4400 ext. 1173

Looking for more information from the BIA?


“This publication highlights the U.S. Department of the Interior’s activities and accomplishments in the American Indian and Native Alaskan communities during the past four years.” The publication covers the BIA’s activities in the areas of Indian Education Programs; Fiduciary Trust Programs; Economic Development and Tribal Services; and Law Enforcement and Security Programs.
Upcoming Events

February 28, 2005
The IRR final rules amending 25 CFR 170 include establishing a Committee to provide input and recommendations to the Bureau of Indian Affairs (BIA) and the Federal Highway Administration (FHWA) in developing IRR Program policies and procedures and to coordinate with and obtain input from tribes, BIA, and FHWA. The Secretary will accept only nominations for tribal representatives and alternates officially selected by tribes in each of the 12 BIA regions. Nominations must be received no later than February 28, 2005. See “Federal Register / Vol. 70, No. 9 / Thursday, January 13, 2005 / Notices” or contact MTU TTAP for a copy.

March 2-3, 2005
NPDES Storm Water Regulations & Erosion Control Workshop
Sac & Fox Tribe of Iowa, Tama, IA

March 16-18, 2005
Negotiation Skills and Right-of-Way Acquisition Techniques in Tribal Transportation
Oneida Nation of Wisconsin, Green Bay, WI