

LTAP **MATTERS**

Montana's Answers To Technical Education of Roads & Streets
Vol. 26, No. 1

Winter 2008



From the Director



A quick review of this fall training indicates to me that Montana LTAP has partnered with vital entities to increase transportation safety awareness in our Montana communities. In early October, I was training at the League of Cities and Towns conference in Bozeman with sign vandalism, along with other trainers who provided information about Phase II Standardized Reporting for Storm Water, a panel of professionals regarding street maintenance, and was fortunate to have the FHWA reps from Helena come down and present on becoming ADA Compliant and information regarding the CTEP Project.

My personal favorite was the opportunity in having Dr. Ken Kamler assist in the safety film I have been creating, *The Will to Survive*. His vast knowledge of the human body surviving in extreme conditions was a big asset to this film. Dr. Kamler was very generous with his time by presenting to the MSU community one evening his amazing slide show describing these personal adventures of survival.

LTAP has been very fortunate in having one of Missoula County road employees giving of his time to help me out with a newly developed program on the "Finer Points of a Gravel Road." Joe Miller's experience helps other operators gain the knowledge to design and grade a county road.

Between winter survival workshops for counties and several work zone technician courses, the rest of the fall proved to be busy with planning.

We are now getting ready for our spring training, having scheduled flaggers certification workshops, work zone tech and traffic control supervisor workshop, MACRS conference, and two workforce development weeks. Although my calendar is just about filled, know that I'm just a phone call away if you need any assistance, *Steve Jenkins*

LTAP Matters is published by the Local Technical Assistance Program at Montana State University, Bozeman, Montana. Montana LTAP is housed under the Department of Civil Engineering, College of Engineering.

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On our website, we list upcoming training courses, registration forms, library information, our contact information, newsletters, various links, and MACRS information. Please go to:
www.coe.montana.edu/ltap

The Local Technical Assistance Program/Tribal Technical Assistance Program (LTAP/TTAP) is a nationwide network of 58 centers - one in every state, seven serving Native American tribal governments and one in Puerto Rico. The LTAP/TTAP Mission is to foster a safe, efficient, and environmentally sound surface transportation system by improving skills and increasing knowledge of the transportation workforce and decision makers.



U.S. Department
of Transportation
**Federal Highway
Administration**



Surviving the Extremes

Last October, Steve Jenkins, Director, Montana LTAP, invited Dr. Ken Kamler to participate in Jenkins' film, *The Will To Survive*, presently under development. One evening, while in Bozeman, Dr. Ken Kamler shared his stories of human survival with a large audience at Montana State University campus. Dr. Kamler's recently published book, *Surviving the Extremes, What Happens to the Body and Mind at the Limits of Human Endurance*, was the topic for the night's presentation.



Dr. Kamler specializes as a microsurgeon at the Hand Treatment Center in New Hyde Park, New York. He also happens to be the vice president of the Explorers Club. When faced with extreme outdoor conditions, how does the human body survive? This is the type of question

Dr. Kamler formulated to the Explorers Club. Consequently he was assigned to collect and organize the information to create a data base of extreme environment medical practices.

For his first example, he found himself paddling up the Amazon in a dugout canoe as the "camp doctor" for a research team. As the team made their way to a high mountain lake, they came across an incident where a small boy had a severe cut on his hand. With the first aid materials available, Dr. Kamler attended the injury, trying to give care instructions to the boy's sister, with hand motions and emphasis on visual cues.

Dr. Kamler was impressed that the young lad did not cry nor did he seem in shock. The team proceeded upriver.

A week later, coming back down river, Dr. Kamler stopped in the village to check on the boy. He had the bandage off and was repairing a thatched roof, seemingly in good health.

During his presentation, Dr. Kamler showed various video clips from Oprah's television interviews with people who were shot and their response. Kamler, who was in the clip, provided the explanation of why they were able to stop the thought process of being shot and how the brain coordinated the next actions of seeking help. Another portion of his slides included a NASA deep sea session. During his stay, he was able to assist when one of the researchers cut his thumb.

The final portion of his presentation focused on his travels to Mount Everest, under the sponsorship of National Geographic. The extreme conditions endured by climbers in these high altitudes once again provided him with a multitude of research information on how the body works to survive.

He concluded by quoting from his book, "Pain can and will break through to the conscious level if behavior needs to be altered to improve the odds of survival. If the incoming data is way outside the body's safe range, the thalamus will automatically split the input, diverting one signal to the motor cortex for an instantaneous protective response while sending a second signal to the frontal lobe to produce a more modulated but slower response. Culture, upbringing, and environmental conditions will wire the frontal lobe in a unique pattern that determines an individual's response to extreme stress."

ADVISORY COMMITTEE MEMBERS

The Advisory Board meets annually to make recommendations and evaluate the effectiveness of the Montana LTAP program.

Debbie Arkell City of Bozeman	Thomas Danenhowe MMIA	Eric Griffin Lewis and Clark County	Russ Huotari Richland County	Jim Rearden City of Great Falls
Bob Burkhardt Federal Highway Administration	Kelly Elser Town of Sheridan	Alec Hansen Montana League of Cities & Towns	Jack Knorr Sweetgrass County	Sue Sillick Montana Dept of Transportation
		Fred Hansen MACo	Lynn Miller Montana Dept of Transportation	

Sign Retroreflectivity Requirements Have Been Added to the MUTCD

One of the Federal Highway Administration's (FHWA's) primary missions is to improve safety on the nation's roadways. More than 42,000 people have been killed on American roads during each of the past eight years. While only one-quarter of all travel occurs at night, about half of the traffic fatalities occur during nighttime hours. To address this disparity, the FHWA has adopted new traffic sign



retroreflectivity requirements that are included as Revision 2 of the 2003 MUTCD.

To comply with the new requirements, public agencies will have until January 2012 to implement and then continue to use an assessment or management method that is designed to maintain traffic sign retroreflectivity at or above the minimum levels specified. Public agencies will have until January 2015 to replace any regulatory, warning, or post-mounted guide (except street name) signs and until January 2018 to replace any street name signs and overhead guide signs that are identified by the assessment or management method as failing to meet the minimum retroreflectivity levels. Provided that an assessment or management method is being used, an agency would be in compliance with the requirements of the new provisions even if there are some individual signs that do not meet the minimum retroreflectivity levels at a particular point in time. Instead of using one or more of the five assessment or management methods described above, agencies are also permitted to develop and use other methods based on engineering studies.

Because of the seven to 10-year compliance period that has been adopted for replacing signs that have insufficient retroreflectivity, highway departments will be able to implement improved sign inspection and management procedures and subsequently replace the signs in a time frame that is consistent with the typical sign replacement cycle. Cost increases from upgrading materials and/or processes might be offset by the long-term savings that result from the longer life of the higher performance sheeting products.

For additional information on this rulemaking and sign retroreflectivity, please visit the FHWA retroreflectivity web site: www.fhwa.dot.gov/retro.

This information was provided from:

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Backs Get Some Slack from Mini Paver

Permission granted to reprint this article from Center for Transportation Studies, University of Minnesota

Pieced together by a city employee in his home garage, a prototype paver could do away with the backbreaking practice of repairing street cracks by hand. City of Cottage Grove project backers estimate that the mini paver, when mounted on a skid-steer loader, can lay twice the pavement as the old method in a day. More importantly, they say, such an innovation will reduce the strain on workers, cutting labor and workers' compensation costs while making repairs that hold streets together longer.

Cracks in asphalt roads first appear along the curb line (when water seeps between the curb and asphalt) and centerline seams. Hand patching prevent

further degradation of the road surface, but is time-consuming and labor intensive.

The patches make roads bumpy and visually unappealing, don't usually last through the freeze/thaw cycle, and don't uniformly seal the joints.

City worker Jay Johnson designed and built a \$2,000 prototype at his home on his own time, for which he was recognized by the city council. The mini paver is essentially a small-scale version of a regular paver. It has two screed plates that can be adjusted manually during paving operations: a flat plate and one with a 3/8-inch crown for paving centerlines.

With a 1,100-pound capacity, the paver can lay a 2-foot-wide swath for 105 feet on one load. Depending on the application, the paver can be mounted on the center or right side of a skid

steer, keeping the operator out of traffic during curb-side operations.

In the summer of 2006, Cottage Grove used the mini paver to lay four miles of skin patching along the curb line. Since then, they've been measuring how well the pavement has held up to traffic and weather and will determine whether residents notice a difference in the driving surface.

Cottage Grove will also test overlay application along curbs, centerline paving, and gravel shoulders. Durability and cost evaluations of the new device will conclude this summer, but the city expects to see fewer injuries, cost savings, neater patches, and longer-lasting roads.

—Jim Hammerand, Minnesota LTAP, University of Minnesota

LTAP 2008 Annual Training Calendar

CONEXPO-CON/AGG

March 11-15, 2008

Las Vegas, NV

www.conexpoconagg.com

Road Builders' Clinic Coeur d'Alene Resort Coeur d'Alene, Idaho March 4-6, 2008 with the Asphalt Pavement Preconference Workshop

The Road Builders' Clinic is a two-and-a-half day continuing education program covering technical and managerial topics for engineers and road superintendents who are responsible for design, construction, operation, and maintenance of roads, and for acquisition and operation of equipment necessary to perform the above. Sessions include formal presentations and audience discussions. Learn innovative solutions from qualified experts for:

- Accelerated Construction
- Policy and Programs for Local Agencies
- Environmental/Stormwater
 - Local Agency Projects
 - Green Themes
- Case Studies and Lessons Learned

A variety of commercial displays of equipment and materials will also be available. Website: <http://capps.wsu.edu/conferences/rbc/>

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Some dates and locations are subject to change. Call Genevieve Albert, LTAP, 1-800-541-6671 to confirm.

Calendar of Events 2008

Montana LTAP Workshops:

Work Zone Technician Course **February 5, 2008**
Helena, MT

Traffic Control Supervisor Course **February 6 & 7, 2008**
Helena, MT

These two courses are being held at the Wingate Inn, Helena, MT. There will be two sessions of the Work Zone Technician, one at 8am-noon and one from 1pm -5pm. Cost: \$35 per participant

The TCS Course is a two-day course and requires 2000 hours of verifiable work zone experience, two letters of reference verifying experience, and current flagger card sent to the LTAP office before course time. Bring your MUTCD notebook to this class also. Cost is \$100 per participant and includes two lunches, one Traffic Control Supervisor Manual, Guidelines for Temporary Traffic Control Handbook, and Montana Flagger's Handbook.

Contact Genevieve Albert, LTAP Conference Coordinator, 1-800-541-6671, regarding registrations or inquiries. Brochures are available on-line for either class at: www.coe.montana.edu/ltap, go to the training page and scroll down to the information regarding this course, click on "Brochure" to print your registration form. Fill it in and mail it with payment to Montana LTAP, PO Box 173910, Bozeman, MT 59717. Pre-registration is required.

Montana LTAP Workshops:

Flagging Course **February 25, 2008** **Missoula, MT**

Flagging Course **February 27, 2008** **Kalispell, MT**

Flagging Course **March 4, 2008** **Billings, MT**

This flagging course is for those interested in becoming certified to flag. The cost is \$35 per person. Contact Genevieve Albert, LTAP Conference Coordinator, 1-800-541-6671, regarding registrations or inquiries. Brochures are available on-line for this class at: www.coe.montana.edu/ltap, go to the training page and scroll down to the information regarding this course, click on "Brochure" to print your registration form. Fill it in and mail it with payment to Montana LTAP, PO Box 173910, Bozeman, MT 59717. Pre-registration is required.

MACRS Annual Spring Conference

March 31 - April 3, 2008 **Helena, MT**

Contact Genevieve Albert, LTAP Conference Coordinator, 1-800-541-6671, regarding registrations or inquiries. Brochures are available on-line for this conference at: www.coe.montana.edu/ltap, go to the training page and scroll down to the information regarding registration, click on "Brochure" to print your registration form (note: 8.5 x 14 paper required). Fill it in and mail it with payment to Montana LTAP, PO Box 173910, Bozeman, MT 59717. Pre-registration is required.

**NACE
2008**

**The End of the Trail
Portland, Oregon**

April 20-24, 2008

www.countyengineers.org

**What's Happening
This Spring**

**MACRS Workforce
Development Week:**

**April 14-18, 2008
Helena, MT**

**April 28-May 2, 2008
Glasgow, MT**

**Brochures will be
available in February
regarding the various
classes LTAP will be
teaching:**

*Gravel Roads
Forklift Certification
Loader Safety
Safety Engineering
Leadership
Summer Survival
Safety Road Reviews*

City of Bozeman - Public Works Awareness Event

The following information was provided by Michele Depinski, City of Bozeman.

In an effort to show the citizens of Bozeman how the Public Works Department enhances their quality of life, the City of Bozeman held its third annual Public Works Awareness Event at the Gallatin Valley Mall this last October. This safety and educational program is held to educate the community of the responsibilities of the various divisions of the Public Works Department and also provide safety education when in or around work areas.

Their goal is to keep the lines of communication between the City departments and the community a positive and rewarding experience. At this event, Public Works employees explained their daily routines as well as their special projects,

what each department does, why they do it, and what materials and equipment are needed to get the job done.

Heavy equipment is brought on site for people to view and because the kids enjoy sitting in the equipment, some pieces are set up for that purpose. Service workers were present to show how the equipment operates and what it is used for, as well as to answer any questions presented to them. This year they had a snow plow blade on hand for kids to paint. Four years ago they offered the schools an opportunity to paint the blades and three of them were painted. It went over great with the public.



Michele Depinski, City of Bozeman



Steve Kirk, City of Bozeman





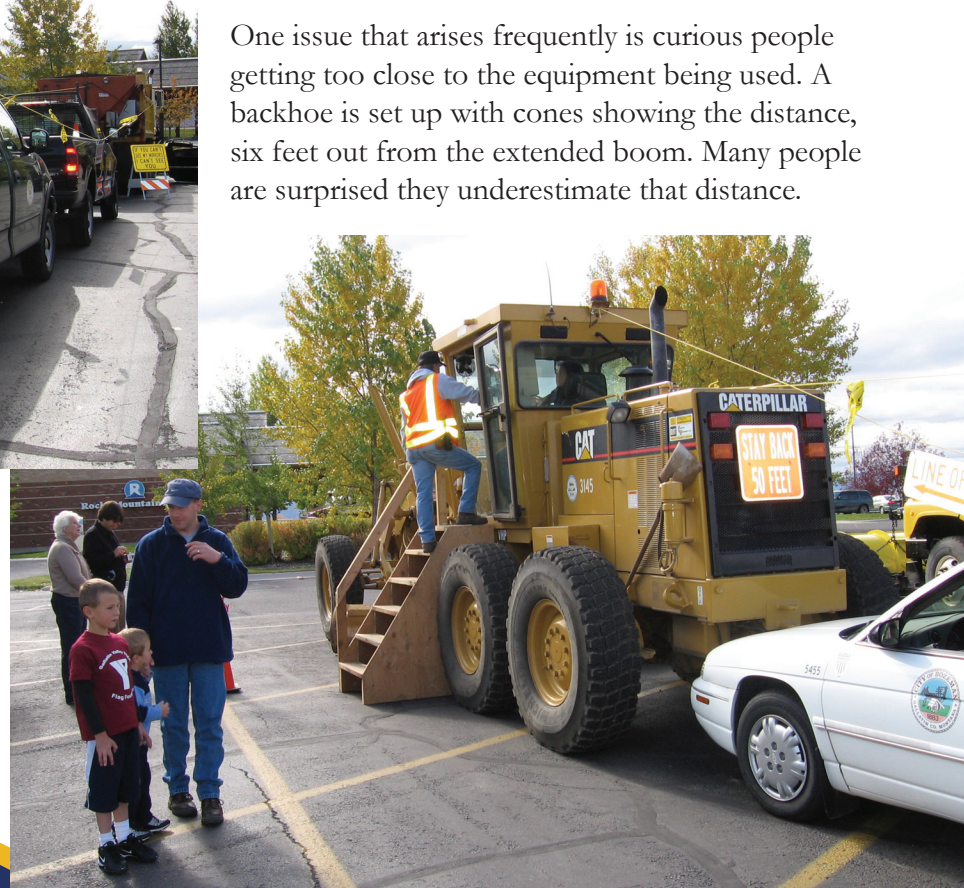
Work area scenarios were set up. One was a snow plow with two full-sized pickups parked behind it. This shows just how far back people should stay in order of the snow plow driver to see them through the side mirrors. Safety awareness is a large part of the Public Works departments daily activity. Not only do the service workers need to be safe but they also need to make sure the general public is safe also.



One issue that arises frequently is curious people getting too close to the equipment being used. A backhoe is set up with cones showing the distance, six feet out from the extended boom. Many people are surprised they underestimate that distance.



Safety awareness is a large part of the Public Works departments daily activity. Not only do the service workers need to be safe but they also need to make sure the general public is safe also. ●



Biological Control of a Thorny Pest

Canada thistle invades roadside plantings of native prairie vegetation. Canada thistle (*Cirsium arvense*) is a common invasive plant species that is classified as a noxious weed by many states where it occurs. Because it outcompetes many native prairie species for light and nutrients, controlling Canada thistle is a priority for many agencies. The species is common in roadside ditches, where it thwarts the efforts of transportation agencies to establish native prairie vegetation.



Researchers at the University of Minnesota's Department of Agronomy and Plant Genetics suggests new possibilities for controlling this thorny pest.

Professor Donald Wyse and graduate student Kari Eichstaedt examined how a common phytopathogenic bacterium, *Pseudomonas syringae*, infects Canada thistle under different conditions. Their findings could lead to new management practices that discourage the growth of Canada thistle. The research was supported by the Minnesota Department of Transportation.

*Speak when you are angry and
you will give the best speech you will ever regret.*
— Ambrose Bierce 1842-1914?

Eichstaedt conducted field experiments to determine what factors favor bacterial infection of the thistles, and whether native grasses could create conditions that favored such infections. The researchers concluded that dense stands of perennial grasses were detrimental to Canada thistle infestations, and should be included in roadside vegetation establishment projects or wetland restorations. Biological Control of Canada Thistle in Wetland Prairie Restoration (Mn/DOT 2007-38) is available from the CTS Web site: <http://www.cts.umn.edu/Publications/ResearchReports/reportdetail.html?id=1504>

*Permission was granted from the Center for Transportation Studies to reprint the above article from:
November 2007 - Vol. 5, No. 10
University of Minnesota
Center for Transportation Studies
Research E-News
Transportation and the Environment
<http://www.cts.umn.edu/Publications/ResearchE-News/2007/10/index.html#BiologicalControl>*

Check out the Winter Safety Driving Article in the *Montana Magazine*, January/February 2008

The article titled "Ready for the Road," has a great photo of Steve Jenkins (p.65), along with many of his safe winter driving tips. A big thanks to Joe Kolman, author, and the *Montana Magazine* for providing this important safety information to the public.

BLM Approves Four Weed Killers

BLM approves four weed killers for use on public lands. Four new herbicides have been added to the Bureau of Land Management's arsenal for fighting noxious and invasive plants on public lands, according to a new vegetation management decision from the U.S. Department of Interior. The additions are diquat, diflufenzopyr (in formulation with dicamba and known as Overdrive), fluridone, and imazapic. For more information about the decision, visit the BLM site at www.blm.gov/wo/st/en/prog/more/veg_eis.html. Copies also are available at BLM Field Offices or by mail directly from the BLM upon request at (202) 452-5125 or via fax at (202) 452-5124.

From AASHTO Journal, November 30, 2007

Welcome Genevieve Albert!

In November, Montana LTAP hired Genevieve Albert as their new Administrative Associate/Conference Coordinator.

She previously worked on the MSU campus in Graduate Studies while obtaining her Bachelor's in Accounting.

Born and raised in Montana, Genevieve understands the transportation situations throughout the state. She looks forward to meeting everyone at the MACRS spring convention in Helena this coming March 31-April 3.

Please give her a call at 1-800-541-6671. She'll be happy to help you with LTAP information.



Montana LTAP Library

Welcome to the LTAP Lending Library where publications, videos, and software may be borrowed for two weeks and then returned to the Library. Up to three videotapes may be checked out from the LTAP Lending Library rent-free for two weeks. Some publications are free or for a nominal charge upon request.

Information or checkout procedures, call Genevieve Albert or Michele Beck, LTAP, 1-800-541-6671.

If you have computer access, please e-mail us at mtltap@coe.montana.edu.

You will find the latest lists for the library publications, software, DVD's, and videos at our web site: www.coe.montana.edu/ltap. You can also keep track of upcoming workshops, past and present newsletters, and "What's New" items that change periodically.

Other web sites that may be of interest to you when looking for transportation information:

Federal Highway Administration
<http://www.fhwa.dot.gov/>

National Highway Traffic Safety Administration:
<http://www.nhtsa.gov/>

Institute of Transportation Engineers
<http://www.ite.org/>

U.S. Department of Transportation
<http://www.dot.gov/>

Transportation Research Board
<http://www.trb.org/>

National Work Zone Safety Information Clearinghouse
<http://wzsafety.tamu.edu/>

American Traffic Safety Services Association
<http://www.atssa.com/>

National Association of County Engineers
<http://www.countyengineers.org/>

Montana Department of Transportation
<http://www.mdt.mt.gov/>



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Editorial Contributions Welcome

LTAP welcomes contributions to *LTAP MATTERS*. Those wishing to submit relevant material to be published in the next newsletter can submit their ideas and articles to:

Michele Beck
Local Technical Assistance Program
Faculty Court Unit 22
PO Box 173910
Montana State University-Bozeman
Bozeman, M 59717-3910

(800) 541-6671 or (406) 994-6100
Fax: (406) 994-5333
email: mbeck@coe.montana.edu

The Local Technical Assistance Program Newsletter, *LTAP MATTERS*, is published quarterly. Funding for this program is provided by the Federal Highway Administration through the Montana Department of Transportation, Montana State University and a portion of Montana's gas tax revenues.

This newsletter is designed to keep you informed about new publications, techniques, and new training opportunities that may be helpful to you and your community.

Present and past issues are available at www.coe.montana.edu/ltap or by calling 1-800-541-6671.

Approximately 1200 copies of this public document were published at an estimated cost of \$1.37 per copy for a total cost of \$2,100 which includes \$1,700 for printing and \$400 for distribution.

LTAP attempts to provide accommodations for any known disability that may interfere with a person participating in any service, program or activity. Alternative accessible formats of this document will be provided upon request.

Please send us any comments or concerns you may have regarding this newsletter with your name and address in order that we may respond in a timely manner.