

LTAP MATTERS

Montana's Answer To Technical
Education of Roads & Streets

College of Engineering
Montana State University-
Bozeman

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Winter Travel & Safety Workshops Offered by LTAP

LTAP is currently offering on-demand training in the areas of winter travel & safety. This one day course covers an assortment of topics including winter survival, hypothermia, frostbite, and survival kits.

**"It is in the darkness of
their eyes that men lose
their way. Not as they
suppose in any darkness
that shrouds their path."
-Black Elk**

A common danger facing winter travelers is being stranded in their automobiles. Statistics show that of those fatalities that occurred while stranded, 85% died of carbon monoxide poisoning while 15% died of hypothermia. Carbon monoxide is odorless, colorless, and tasteless. If a vehicle is running, carbon monoxide is

building up. Carbon monoxide then replaces the oxygen at the exchange into the lungs. Precaution needs to be taken if you remain in your vehicle while it is running for an extended period of time.

Hypothermia is another area of concern that we are confronted with during the winter months. Hypothermia is simply the lowering of core body temperature so that the body loses heat faster than it can generate it. This can happen at 45 degrees or even 50 degrees if it is windy and you have wet clothes on. There are five stages of hypothermia that are covered



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Protect Yourself From Winter Work Hazards

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When you work in the cold, your body uses 60 percent of its fuel just to keep itself warm. Because of this, you can tire more easily than you notice. As you get more tired, you're more prone to the dangers of winter weather—hypothermia, frostbite and poor awareness. Here's how to protect yourself:

Acclimate to the cold. Before you launch fully into outside work, give your body a chance to get used to the cold.

Take enough breaks. Take turns with a co-worker on being outside. As one person tries to warm up, the other is outside working.

Wear layers. The Occupational Safety and Health Administration recommends that workers wear three specific layers of clothing to stave off the cold and wet:

1. An outer layer that serves as a windbreaker, but allows for ventilation.
2. A second layer that absorbs sweat and still insulates.
3. A third layer close to the skin that is thinner and allows for ventilation.

Get extra protection for hands and head. Your mother was right to make you wear a hat in the winter. It can help retain the 40 percent of body heat that otherwise would escape from your head.

If you have to wear a hard hat, use a hard-hat liner that covers your ears, cheeks, and chin. Always wear the proper hand gloves. Make sure they're neither too small, which can further restrict blood flow to your fingers, or too large, which can get caught in machinery.

Insulate your feet. In addition to wearing warm woolen socks, use insulating muffs around your ankles and over the top of your work shoes.

Source: First Draft, January 2001

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in this course. During the first stage, the body temperature drops to 95 degrees.

During this state, shivering occurs and recognition begins. When the body temperature drops to 95-90 degrees, sluggish thinking takes over. Your body decreases circulation and you lose muscle control. In the next stage, temperature drops to 90-86 degrees. At this time, the victim becomes disoriented and most don't survive alone in the field. When core temperature drops to 86-78 degrees, muscles become rigid. The final stage of hypothermia occurs at 77 degrees. At this point, death is almost certain as you enter cardiac arrest.



When trying to help someone suffering from hypothermia there are some dangers. Re-warming the body too rapidly can cause the victim to have circulatory problems, resulting in heart failure.

Hypothermia is much easier to prevent than it is to treat. One should insulate themselves from the cold and wind. Moisture trapped near the body is the number one enemy. Drink warm fluids loaded with calories. Make sure that your body gets enough glucose, salt and potassium to produce heat.

An excellent fabric to wear in the winter is wool. Wool absorbs as much as 30% of its weight without feeling wet to the touch. Cotton only absorbs about 8%. A single gram of wool gives off 27 calories of heat when it goes from dry to wet and is also naturally flame resistant.

Another important topic addressed at this workshop is that of frostbite. Frostbite is the result of frozen tissues. When frostbite first occurs, the skin will turn red. Later, it turns a pale gray or waxy white. The treatment of light frostbite is fairly simple. To treat light frostbite on the facial area, simply apply warm hands over the

area. If the hands are the area that is affected, place the uncovered hands or fingers next to your skin in your armpits or stomach. A very common area for frostbite is the feet. To treat frostbite of this area, place bare feet under clothing and next to skin.

Possibly the most useful portion of the course covers survival kits. Instruction is given on the construction of kits for your vehicle, professional or personal use.

If you are interested in learning more about winter travel and safety please contact Steve Jenkins at LTAP by

calling (800) 541-6671 or (406) 994-6100.



Before you go into hibernation mode be sure to dress properly

Cold, hard facts

Here are some of the physiological changes that happen in your body when it's exposed to the cold:

- Frostbite literally is your tissue freezing. Ice crystals form between cells and cause the affected area to turn white and cold.
- When your body's core temperature of 98.6 degrees lowers even just 3.6 degrees, you'll experience symptoms like lethargy, shivering, mental confusion and decreased motor function. When the body temperature falls below 90 degrees, humans run the risk of heart failure.

—Adapted from *Occupational Health & Safety*

2001 MACRS Annual Meeting

The 2001 Montana Association of County Road Superintendents (MACRS) Annual Meeting will be held April 3-6, 2001 in Missoula, MT. Below is a tentative agenda for this conference. Brochures will be sent out the end of January and will include a final agenda, information on accommodations as well as vendor information. If you are not currently on our mailing list and would like to receive the brochure, please contact Karyn Tietz at (800) 541-6671 or (406) 994-6100.

Tuesday – April 3

4 – 6:00 p.m. **Registration** (Lobby)
7:00 p.m. **Executive Board Meeting Dinner**
(Canyon Room)

Wednesday – April 4 – Main Session

8:00 a.m. **Registration** (Bitterroot/Blackfoot Room)
8:30 a.m. **Welcome and Introduction** (Blackfoot Room)
John Ostlund, Yellowstone County, MACRS
President
Bill Cary, Missoula County Commissioner
8:45 a.m. **MACo Issues**
Gary Feldjsted, President MACo
Ray Barnicoat, MACo
9:15 a.m. **Gas Tax Split**
Dan Larsen, Highway Commissioner, Libby
9:45 a.m. **Break** – Russell/Lewis/Clark/Bitterroot Room
10:30 a.m. **Legislation Update**
Vern Peterson, Fergus County Commissioner
11:00 a.m. **Gas Tax, Equitable Distribution**
Clyde Naylor, Utah County
12:00 noon **Lunch** (Bitterroot Room) – sponsored by
MACRS

SESSION 1 (Canyon Room)

1:00 p.m. **Gas Tax**
Zia Kazimi, MDT-Planning Division
2:00 p.m. **Break** – Russell/Lewis/Clark Room
2:30 p.m. **New Public Assistance Programs for
Counties, FEMA**
Jim Anderson, MT DES
3:00 p.m. **TSEP - Bridge Funding**
Jim Edgecomb or Nick Rich, Treasure
State Endowment

SESSION 2 (Blackfoot Room)

1:00 p.m. **Crusher Operations (maybe just 45
mins.)**
Felicity McFarren-MSHA Speaker
1:45p.m. **Break** – Russell/Lewis/Clark/Bitterroot Room
2:15 p.m. **Loader Operations**
Sam Gianfrancisco, MT LTAP
2:45 p.m. **Equipment Purchasing Panel**
Eric Griffin, Lewis & Clark County
John Ostlund, Yellowstone County
Tom Kessler, Yellowstone County

3:30 p.m. Jerry Otto, Hill County
Jack Knorr, Stillwater County
Vendor Social Hour – Russell/Lewis/Clark/
Bitterroot Room
5:30 p.m. **Adjourn**

Thursday – April 5 – Main Session

7:00 a.m. **Prayer Breakfast** (Bitterroot Room)
Charlie Couch – Minister from Missoula
8:30 a.m. **MDT Director and Governor Judy Martz**
9:30 a.m. **Break** – Russell/Lewis/Clark/Bitterroot Room
10:00 a.m. **MUTCD**
Lloyd Rue, FHWA
11:00 a.m. **How to Prepare a Road and Bridge
Budget**
Harold Blattie, Stillwater County
12:00 noon **Lunch** (Bitterroot Room) – sponsored by
MACRS

SESSION 1 (Canyon Room)

1:00 p.m. **Contract Administration**
Ken Haag, Haag Consulting
2:00 p.m. **Break** – Russell/Lewis/Clark/Bitterroot Room
2:30 p.m. **Secondary Road Program (Maintenance
Issues)**
John Blacker, MDT
Gary Larson, MDT – Secondary Road Program
Reconstruction
3:15 p.m. **Adjourn both Sessions and Combine
into 1 Group**

SESSION 2 (Blackfoot Room)

1:00 p.m. **Vegetation Control**
Wayne Pearson, Stillwater County
Wayne Buck, Rosebud County
Tom Neilson, Fergus County
2:00 p.m. **Break** – Russell/Lewis/Clark/Bitterroot Room
2:30 p.m. **Recycled Asphalt Pavement Batch Plant
– Pugmill, Additives**
Jack Knorr, Stillwater County
John Ostlund, Yellowstone County
Don Bohne, Missoula County
3:15 p.m. **Adjourn both Sessions and Combine into
1 Group**
3:30 p.m. **Wildfires**
Linda Williams, Chouteau County
Donna Shehea, USFS Representative
4:30 p.m. **Adjourn**
6:00 p.m. **Social Hour** (Bitterroot/Blackfoot Room) –
sponsored by MACRS
7:00 p.m. **Banquet and Vendor Award Presentations**
(Bitterroot/Blackfoot Room)
Entertainment – Bits n' Pieces

Friday – April 6

8:00 a.m. **MACRS Business Meeting** (Canyon Room):
Election of Officers
Vendor/Contractor/Consultant Discussions
12:00 noon **Adjourn**

Develop the Critical Skill of Listening

In this competitive environment, the ability to listen well is a crucial edge. It's one of those "soft skills" that employers look for and clients crave. But it takes consistent practice to achieve the goal of listening: understanding. Whether it's in a meeting with clients or with your boss, here's how you can be a better listener:

Prepare to listen. It takes a concerted effort to focus on someone else completely. That's why preparation is crucial. Clear your calendar, hold your calls, forget your e-mail. Shift your focus to the meeting by writing down wherever you stopped on any other matter.

Write down your goals. What do you want to accomplish by listening? Once you write down your goals and study them, set the list aside physically and mentally. This prevents you from focusing too much on your goals and can help you concentrate on listening.

List your point of view and any prejudices you may have of the person with whom you're meeting. Half the battle of listening is being able to put aside our own point of view enough to really hear another person's point of view. Write down your viewpoints and prejudices, and again, put them physically and mentally aside.

Let people know the meeting is important to you. How? Tell them you've cleared your plate, and ask if there's anything they need to take care of before you begin. This signals that you're prepared to listen and subtly demands equal consideration from the other person.

Provide visual signs that you're listening. Nod, maintain eye contact and ask short questions to clarify any points. Mind your body language.

Do not interrupt. Interruptions cause individuals to lose their train of thought. The consequences can be misunderstanding and frustration—

which are never goals that you're trying to achieve.

Summarize. After the person is finished speaking, repeat what you think is the essence of their points, using their own words. Then provide an explanation in your own terms. This ensures that you really have understood the other person and allows the other person to clarify any misunderstanding.

—Adapted from the *American Salesman*

LTAP is currently offering a workshop on leadership. To learn more about it or to request an on-site workshop please contact Steve Jenkins at (800) 541-6671 or (406) 994-6100

2001 Calendar of Events

Work Zone Flagging and Traffic Control

March 6, Missoula, MT
 March 7, Kalispell, MT
 March 8, Great Falls, MT
 March 9, Lewistown, MT
 March 12, Havre, MT
 March 13, Wolf Point, MT
 March 14, Glendive, MT
 March 15, Miles City, MT
 March 16, Billings, MT

US Forest Service Training
 (Topics to be discussed include Gravel Roads, Incident Management, Work Zone Traffic Control, Winter Safety, Leadership, and Risk Management.)

March 19-23, Missoula, MT

MUTCD VideoConference

March 20

MACRS Annual Conference

April 3-6, Missoula, MT

Winter Safety

On Request

Leadership for New Commissioners

On Request

Work Zone Traffic Control

On Request

New Videotapes and Publications

Videotapes

EO129 Cat H-Series Motor Grader Government Applications – This tape demonstrates motor grader uses and techniques in the following areas: ditch building and cleaning, back sloping, shoulder grading, roadway maintenance, and spreading borrow.

EO130 Cat H-Series Motor Grader Contractor Applications – This videotape covers typical operations that contractors take on and offers you ways to increase your productivity, lower your costs, and increase satisfaction in the results. Several operations are featured in this tape including: maintaining haul roads, placing fill, finishing back slopes, cutting sidewalk and curb grade, and finish grading.

EO131 Advanced Motor Grader Operating Techniques – This tape is designed to help the experienced motor grader operator to be more efficient. The tape discusses: general road maintenance, ditching techniques, and re-shaping deteriorated roads.

EO132 Medium Wheel Loader Operator Orientation and Training – This tape shows how the operator can get the most out of the loader. It helps them optimize loader performance to get more done.

EO133 Track Type Tractor Operator Tips – This video is designed to help train operators on correct operating techniques for track type tractors. It includes information on safety, the walk-around inspection, the operator's compartment and start-up, dozing, ripping, pushing scrapers and shutting the machine down.

EO134 Backhoe Loader Operating Tips – This videotape covers the recommended operating tips for the Caterpillar Backhoe Loaders. The tape details the following topics: Safety, walk-a-round, loader controls and start-up, loader operating techniques, backhoe controls, backhoe operating techniques and shutting the machine down.

EO135 544E/624E/644E Operation and Maintenance Overview – This tape discusses the features and specification of all three models. Also included are steps for basic maintenance, specific time use maintenance and operation instructions.

EO136 John Deere 444E Operation and Maintenance Overview – This video covers specifications and features of the 444E as well as daily and as needed maintenance, time use maintenance and operating instructions.

EO137 544G, 624G, and 644G 4WD Loader Operational Overview – This tape provides a review of operational guidelines and primary service points for the three models listed. Also included are important features, specifications, starting and operating.

EO138 710D Operation and Maintenance Overview – This tape provides a review of operational guidelines and primary service points for the 710D model. Also included are important features, specifications, starting and operating.

EO139 John Deere D-Series Backhoe Loader Safety, Maintenance and Operation – This video is safety focused with topics including everyday maintenance and operation of the D-Series backhoe loader. It is provided as a supplement to the owner's manual and includes a section on pre-start walk-about and daily service, controls and safety systems, and safety tips.

EO140 Deere 300 H-Series 4WD Loader Safety, Maintenance and Operation – This video is safety focused with topics including everyday maintenance and operation for the 300 H-series 4WD Loader. It is provided as a supplement to the owner's manual and includes a section on pre-start walk-about and daily service, controls and safety systems, and safety tips.

EO141 John Deere 690E-LC Excavator Safety, Maintenance and Operation – This video is safety focused with topics including everyday maintenance and operation for the 690E-LC excavator. It is provided as a supplement to the owner's manual and includes a section on pre start walkabout and daily service, controls and safety systems, and safety tips.

EO142 Lockout/Tagout of Construction Equipment – This tape focuses on controlling hazardous energy for the service and repair of construction equipment. Main topics include sources, methods and lockout/tagout procedures. Also included are OSHA guidelines for program formulations that are specific instructions, training and periodic audits.

RM721 Cat H-Series Motor Grader Snow Removal Applications – This tape covers typical snow plowing operations and offers you ways to maximize your grader's production potential, and provide well maintained roads at lower overall costs. Operations featured in this tape are: ground level winging, tapered bank, benching, reversible plow, and the v-plow.

Publications

p-363 Flexibility in Highway Design – This Guide is about designing highways that incorporate community values and are safe, efficient, effective mechanisms for the movement of people and goods. It is written for highway engineers and project managers who want to learn more about the flexibility available to them when designing roads and illustrates successful approaches used in other highway projects. It can also be used by citizens who want to gain a better understanding of the highway design process.

p-617 Roadside Use of Native Plants – This book opens with short essays on principles of ecological restoration and management. It is followed with a state by state listing of native plants, scientific and common names, a color map and resources to find more information on noxious species as well as local experts.

p-766 Snow Removal and Ice Control Technology – TRB Conference Proceeding 16 – This publication contains selected papers presented at the Fourth International symposium in Reno, Nevada sponsored by TRB, NDOT, AASHTO, World Road Association-PIARC, and FHWA. The conference was held on August 1-16, 1996.

p-780 Roundabouts: An Informational Guide – This publication contains information for both public and private organizations regarding introductory material through design detail as well as applications of roundabout intersections. Topics include definition, what distinguishes roundabouts, public acceptance and legal issues, identifying sites, estimating capacity and delays, design principles, illumination and landscaping.

p-926 Effective Countermeasures to Reduce Accidents in Work Zones – This report summarizes a national review of work zone countermeasures. A panel of experts was convened and discussed six principal countermeasures for implementation. They were: work zone speed limits, police presence, speed limit enforcement, public education, sign credibility, and temporary pavement markings in work zones.

p-927 Work Zone Operations: Best Practices Guidebook - This guidebook is the first release of a resource designed to give state and local transportation agencies, construction contractors, transportation planners, trainers and others with interest in work zone operations access to information and points of contact about current best practices for achieving work zone mobility and safety. The guidebook includes three forms to make the guidebook more useful. They include a registration form, a best practices submission form and a best practices review and comment form.

p-928 Meeting the Customer's Needs for Mobility and Safety During Construction and Maintenance Operations – This review focused on the Federal Highway Administration's (FHWA) leadership role in providing mobility and safety during construction and maintenance operations, the principles and approaches presented in the report are equally applicable to all transportation agencies.

Software

SW132 Work Zone Operations: Best Practices Guidebook – This software is designed to give state and local transportation agencies, construction contractors, transportation planners, trainers, and others access to information and points of contact about current best practices for achieving work zone mobility and safety. Topics include policy and procedure, public relations, educational and outreach, prediction modeling and impact analysis, methods and practices, traveler information, feedback and more.

LTAP Welcomes New Conference Planner

The Montana Local Technical Assistance Program would like to thank Jaime Jackson for her dedicated service to the program. Jaime left her position at MSU on November 7. Please welcome Karyn Tietz, our new Conference Coordinator/Accounting Technician. Karyn can be reached at (406) 994-6100, or by e-mail at ktietz@coe.montana.edu

Request for Videotapes & Publications

The publications and videotapes listed in LTAP MATTERS are available free or for a nominal charge upon request. Publications and Software marked *Lending Library may be borrowed for several weeks, but must be returned to LTAP. Anyone may borrow up to three videotapes at a time rent-free for two weeks.

You may order any of the advertised tapes by calling toll-free (800) 541-6671. Contact Karen Tietz if you have any questions or concerns.



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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/articles to:

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