

LTAP MATTERS

Montana's Answers To Technical Education of Roads & Streets

College of Engineering Montana State University-Bozeman Bozeman, MT 59717-3910
1-800-541-6671

Fall 2004 October November December

Vol.22, No.4

INSIDE

2-3 Snow Rodeo (cont'd)

4 Annual Calendar

5 Calendar of
Fall Events

6-7 Snow Rodeo (cont'd)

8-9 Traffic Signs for
Wildland Fire Incidents:
Meeting National Standards

10-11 Pedestrian Safety at
Intersections

12-15 LTAP Library

PASS IT ON

After you have read this newsletter, copy what you need for your files and **pass it on** to other interested readers in your department:

Partnerships Create Winners at Snow Rodeo

by Michele Beck

What do Montana LTAP, APWA, City of Great Falls, Montana Department of Transportation, and Tractor & Equipment have in common? They all were partners at the 15th Annual Equipment Operator Training and Snow Rodeo held in Great Falls, Montana, this September.

Beginnings...

The Montana Snow Rodeo grew from an idea that Marty Basta, Operations Manager, City of Great



Debbie Kimball & Marty Basta, City of Great Falls

Falls, had after he attended the National Snow Rodeo in Colorado about 16 years ago. During the early years of the Montana Snow Rodeo, Marty found that it was quite a feat to organize and

coordinate all that he wanted it to be. With the help of Debbie Kimball, Program Specialist, City of Great Falls, they worked toward establishing contacts to assist them in the Rodeo. Basta noted that the success of the Rodeo comes from these valuable partnerships and the teamwork from all involved.

Montana LTAP's Involvement...

Montana LTAP provided Winter Survival training on the first day of the Rodeo, along with panel/participant discussion regarding road maintenance, road funding, and dealing with the public. Participants were split into two groups. During the morning, one group stayed in the classroom while the other group went outside for hands-on equipment training. T&E provided a motorgrader, backhoe, and front end loader.



T&E Motorgrader for hands-on training

... continued on page 2

**ADVISORY
COMMITTEE
MEMBERS**

Ray Barnicoat
Montana Association of Counties

Bob Burkhardt
Federal Highway
Administration

Kelly Elser
Town of Sheridan

Sam Gianfrancisco
LTAP Field Engineer

Eric Griffin
Lewis and Clark County

Alec Hansen
Montana League of
Cities & Towns

Russ Huotari
Richland County

Jack Knorr
Stillwater County

Bill Michalson
City of Helena

Jim Reardon
City of Great Falls

Donna Sheehy
U.S. Forest Service

Sue Sillick
Montana Dept of Transportation

Dan Williams
Montana Dept of Transportation

**Wool Warms
Cotton Cools**

- Wool is naturally flame resistant.
- Wool helps regulate body temperature.
- Wool's thermostatic properties protect the body from both cold and heat.
- Wool retains 40-50% of heat even when wet.
- Wool is a natural insulator.

Snow Rodeo Training (cont'd from Page 1)

Winter survival topics covered by Montana LTAP Director Steve Jenkins were carbon monoxide poisoning, hypothermia, winter clothing, and survival kits.

Eighty-five percent of winter stranded automobile fatalities were carbon monoxide poisoning. Carbon monoxide is odorless, tasteless, and colorless. When a vehicle is running, carbon monoxide builds up. As Jenkins explained, the presence of carbon dioxide in the blood stream is sensed by the hypothalamus. Circulation and respiration rates increase to compensate for lack of oxygen. The body does not sense carbon monoxide. Accumulations of carbon monoxide cause a body to suffocate. Jenkins highly recommended buying an inexpensive carbon monoxide detector for vehicles. This small detector could save a life.

An alternative source of heat when stranded, rather than keeping the vehicle running, is a one-pound coffee can with a roll of toilet paper and a bottle of 70% isopropyl alcohol. Four pints will last for 24 hours when burned intermittently.

Jenkins cautioned:

- Use ONLY 70% isopropyl alcohol (NEVER use denatured alcohol).
- Use only the one-pound coffee can and make sure the toilet paper fits snugly into the can and will not slide out.
- Make sure the vehicle windows are down two inches while using the stove. (This allows moisture to



Jack Knorr, Stillwater County, (left) discussing disadvantages of burning candles with Steve Jenkins, MT LTAP

- escape while letting oxygen in.)
- Although polypropylene is great winter clothing, it is very flammable.
 - Flames should be extinguished using a metal lid and allowed to cool.
 - Stove should never be allowed to burn for an extended period.
 - The toilet paper should be stored dry, never add alcohol until it is needed.
- On the topic of hypothermia, Jenkins



Workshop participants handling coffee can heater.

Snow Rodeo Training (cont'd from Page 2)

demonstrated the importance of gore-tex or waterproof-breathable fabrics. A workshop volunteer placed his hand in a bucket of cold water, then placed his wet hand into a gore-tex liner, and placed this hand back into the bucket, not allowing any water to get in from the top of the glove. When he removed his hand from the water about three minutes later and took the liner off, his hand had dried, even though it was submerged in the water. Jenkins pointed out the importance of minimizing heat loss by removing wet clothing immediately. (Water conducts cold 25 times faster than air!) Cover the victim with a blanket or sleeping bag and apply some type of external heat slowly. Turn on the defroster rather than blasting hot air on legs and transport the person in a horizontal position to the nearest hospital. Jenkins explained that rewarming the body too rapidly can cause the victim to have circulatory problems, resulting in heart failure.

The five stages of hypothermia were outlined by Jenkins in regards to internal body temperature dropping (Fahrenheit):

- I. 95 degrees: Shivering; Stage of recognition and self help
- II. 95-90 degrees: Sluggish thinking, body cuts circulation, loses muscle control; metabolic rate increases 5 times
- III. 90-86 degrees: Disoriented, stumbling; most don't survive alone in the field; can't pass sobriety test; shivering stops.

- IV. 86-78 degrees: Muscle rigidity; dangerous to move or stimulate heart rate
- V. 77 degrees and below: Death is almost certain; cardiac arrest.

The second portion of the workshop was panel/participants discussion on road maintenance, road materials, road equipment, and dealing with the public. The panel members were Jack Knorr, Stillwater County; Russ Albers, Chouteau County; Eric Griffin, Lewis and Clark County; Rick Johnston, Park County; Sam Gianfrancisco, LTAP Field Engineer; and moderator, Steve Jenkins, Montana LTAP. Two major points came out of the panel discussion: 1) In regards to funding, all panel members agreed that partnerships were a viable means to accomplishing the goal of building better roads. 2)



Panel members (LtoR): Steve Jenkins, Russ Albers, Jack Knorr, Eric Griffin, and Rick Johnston

When dealing with the public, even though the service has improved, their expectations go up. Be willing to listen to what they have to say, and then educate them on what the situation is with funding and priorities that have been developed by all parties.

LTAP Matters is published by the Local Technical Assistance Program at Montana State University, Bozeman, Montana.

Phone: (800) 541-6671
(406) 994-6100
FAX: (406) 994-5333

E-Mail (Internet):
MTLTAP@coe.montana.edu

Web Site:
www.coe.montana.edu/ltap

- Director
Steven Jenkins
StevenJ@coe.montana.edu
- Accounting Tech/
Conference Coordinator
Donnetta Bohrman
dborhman@coe.montana.edu
- Graphic Tech/Librarian
Michele Beck
mbeck@coe.montana.edu
- Student Assistants
Tiffany Prongua
Brian Vickery

At the Snow Rodeo on Wednesday, 23 participants were trained and certified for forklift safety by Sam Gianfrancisco, LTAP Field Engineer.

Other Events

Washington State University Conferences and Professional Programs department is offering Road Builders' Clinics at the following events:

-Road and Street Maintenance Supervisors' Conference in Spokane Valley, WA on October 5-7, 2004 and in Bellevue, WA, on December 8-10, 2004.

-Road Builders' Clinic in Coeur d'Alene, ID on March 1-3, 2005. For any of the above, call 1-800-942-4978 or get on line at <http://capps.wsu.edu>

National Tribal Transportation Conference; October 26-28, 2004, Scottsdale, AZ. For more information, call Tribal Technical Assistance Program, Ft. Collins, CO at 1-800-262-7623 or go to <http://ttap.colostate.edu>

2004 International Symposium on Asphalt Emulsion Technology, Washington, DC, October 28-31, 2004. Contact Asphalt Emulsion Manufacturers Association at 410-267-0023 or go online at www.aema.org.

2005 National Reservation Economic Summit and American Indian Business Trade Fair, February 7-10, 2005, Las Vegas, Nevada. Go to www.ncaied.org or email at events@ncaied.org.

NACE 2005 Conference - right next door - Bismarck, North Dakota, April 17-21, 2005. Go to www.countyengineers.org or call 202-393-5041 for more info.

Annual Calendar 2004

January 2004	February 2004	March 2004																																																																																																																																					
<table border="1"> <thead> <tr> <th>S</th> <th>M</th> <th>T</th> <th>W</th> <th>Th</th> <th>F</th> <th>S</th> </tr> </thead> <tbody> <tr> <td></td> <td></td> <td></td> <td></td> <td>1</td> <td>2</td> <td>3</td> </tr> <tr> <td>4</td> <td>5</td> <td>6</td> <td>7</td> <td>8</td> <td>9</td> <td>10</td> </tr> <tr> <td>11</td> <td>12</td> <td>13</td> <td>14</td> <td>15</td> <td>16</td> <td>17</td> </tr> <tr> <td>18</td> <td>19</td> <td>20</td> <td>21</td> <td>22</td> <td>23</td> <td>24</td> </tr> <tr> <td>25</td> <td>26</td> <td>27</td> <td>28</td> <td>29</td> <td>30</td> <td>31</td> </tr> </tbody> </table> <p>12, 13, 14: Loss Control Conference, Lewistown, MT 29: Train the Trainer, MDT, Helena</p>	S	M	T	W	Th	F	S					1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	<table border="1"> <thead> <tr> <th>S</th> <th>M</th> <th>T</th> <th>W</th> <th>Th</th> <th>F</th> <th>S</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>2</td> <td>3</td> <td>4</td> <td>5</td> <td>6</td> <td>7</td> </tr> <tr> <td>8</td> <td>9</td> <td>10</td> <td>11</td> <td>12</td> <td>13</td> <td>14</td> </tr> <tr> <td>15</td> <td>16</td> <td>17</td> <td>18</td> <td>19</td> <td>20</td> <td>21</td> </tr> <tr> <td>22</td> <td>23</td> <td>24</td> <td>25</td> <td>26</td> <td>27</td> <td>28</td> </tr> <tr> <td>29</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table> <p>City Training: Winter Maintenance & Trenching Safety: 10-Missoula; 11-Helena; 12-GreatFalls; 13-Billings 18,19: Training on Request: Winter Travel-Survival, Winter Maintenance, Leadership</p>	S	M	T	W	Th	F	S	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29							<table border="1"> <thead> <tr> <th>S</th> <th>M</th> <th>T</th> <th>W</th> <th>Th</th> <th>F</th> <th>S</th> </tr> </thead> <tbody> <tr> <td></td> <td>1</td> <td>2</td> <td>3</td> <td>4</td> <td>5</td> <td>6</td> </tr> <tr> <td>7</td> <td>8</td> <td>9</td> <td>10</td> <td>11</td> <td>12</td> <td>13</td> </tr> <tr> <td>14</td> <td>15</td> <td>16</td> <td>17</td> <td>18</td> <td>19</td> <td>20</td> </tr> <tr> <td>21</td> <td>22</td> <td>23</td> <td>24</td> <td>25</td> <td>26</td> <td>27</td> </tr> <tr> <td>28</td> <td>29</td> <td>30</td> <td>31</td> <td></td> <td></td> <td></td> </tr> </tbody> </table> <p>8-11: MDT Work Zone Training 23-26: MDT: Work Zone Training 29-4/2: USFS Work Zone Training 30-4/1: APWA Spring Conf., Cheyenne, WY</p>	S	M	T	W	Th	F	S		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31										
S	M	T	W	Th	F	S																																																																																																																																	
				1	2	3																																																																																																																																	
4	5	6	7	8	9	10																																																																																																																																	
11	12	13	14	15	16	17																																																																																																																																	
18	19	20	21	22	23	24																																																																																																																																	
25	26	27	28	29	30	31																																																																																																																																	
S	M	T	W	Th	F	S																																																																																																																																	
1	2	3	4	5	6	7																																																																																																																																	
8	9	10	11	12	13	14																																																																																																																																	
15	16	17	18	19	20	21																																																																																																																																	
22	23	24	25	26	27	28																																																																																																																																	
29																																																																																																																																							
S	M	T	W	Th	F	S																																																																																																																																	
	1	2	3	4	5	6																																																																																																																																	
7	8	9	10	11	12	13																																																																																																																																	
14	15	16	17	18	19	20																																																																																																																																	
21	22	23	24	25	26	27																																																																																																																																	
28	29	30	31																																																																																																																																				
<table border="1"> <thead> <tr> <th>S</th> <th>M</th> <th>T</th> <th>W</th> <th>Th</th> <th>F</th> <th>S</th> </tr> </thead> <tbody> <tr> <td></td> <td></td> <td></td> <td></td> <td>1</td> <td>2</td> <td>3</td> </tr> <tr> <td>4</td> <td>5</td> <td>6</td> <td>7</td> <td>8</td> <td>9</td> <td>10</td> </tr> <tr> <td>11</td> <td>12</td> <td>13</td> <td>14</td> <td>15</td> <td>16</td> <td>17</td> </tr> <tr> <td>18</td> <td>19</td> <td>20</td> <td>21</td> <td>22</td> <td>23</td> <td>24</td> </tr> <tr> <td>25</td> <td>26</td> <td>27</td> <td>28</td> <td>29</td> <td>30</td> <td></td> </tr> </tbody> </table> <p>1-2: USFS Work Zone Training 6-7: Dillon-Gravel Roads Workshop 12-15: MACRS Annual Conference, Bozeman, MT</p>	S	M	T	W	Th	F	S					1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30		<table border="1"> <thead> <tr> <th>S</th> <th>M</th> <th>T</th> <th>W</th> <th>Th</th> <th>F</th> <th>S</th> </tr> </thead> <tbody> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>1</td> </tr> <tr> <td>2</td> <td>3</td> <td>4</td> <td>5</td> <td>6</td> <td>7</td> <td>8</td> </tr> <tr> <td>9</td> <td>10</td> <td>11</td> <td>12</td> <td>13</td> <td>14</td> <td>15</td> </tr> <tr> <td>16</td> <td>17</td> <td>18</td> <td>19</td> <td>20</td> <td>21</td> <td>22</td> </tr> <tr> <td>23</td> <td>24</td> <td>25</td> <td>26</td> <td>27</td> <td>28</td> <td>29</td> </tr> <tr> <td>30</td> <td>31</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table> <p>4-5: Libby-Gravel Roads Workshop 18-19: Lewistown-GravelRds Wrkshp 19-20: Columbus-Gravel Rds Wrkshp -Training on Request: Gravel Roads, Loader, Forklift, Mowing</p>	S	M	T	W	Th	F	S							1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31						<table border="1"> <thead> <tr> <th>S</th> <th>M</th> <th>T</th> <th>W</th> <th>Th</th> <th>F</th> <th>S</th> </tr> </thead> <tbody> <tr> <td></td> <td></td> <td>1</td> <td>2</td> <td>3</td> <td>4</td> <td>5</td> </tr> <tr> <td>6</td> <td>7</td> <td>8</td> <td>9</td> <td>10</td> <td>11</td> <td>12</td> </tr> <tr> <td>13</td> <td>14</td> <td>15</td> <td>16</td> <td>17</td> <td>18</td> <td>19</td> </tr> <tr> <td>20</td> <td>21</td> <td>22</td> <td>23</td> <td>24</td> <td>25</td> <td>26</td> </tr> <tr> <td>27</td> <td>28</td> <td>29</td> <td>30</td> <td></td> <td></td> <td></td> </tr> </tbody> </table> <p>9: NW Snowfighters Conference, Spokane, WA Training on Request: *Work Zone Training *Gravel Roads &</p>	S	M	T	W	Th	F	S			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30			
S	M	T	W	Th	F	S																																																																																																																																	
				1	2	3																																																																																																																																	
4	5	6	7	8	9	10																																																																																																																																	
11	12	13	14	15	16	17																																																																																																																																	
18	19	20	21	22	23	24																																																																																																																																	
25	26	27	28	29	30																																																																																																																																		
S	M	T	W	Th	F	S																																																																																																																																	
						1																																																																																																																																	
2	3	4	5	6	7	8																																																																																																																																	
9	10	11	12	13	14	15																																																																																																																																	
16	17	18	19	20	21	22																																																																																																																																	
23	24	25	26	27	28	29																																																																																																																																	
30	31																																																																																																																																						
S	M	T	W	Th	F	S																																																																																																																																	
		1	2	3	4	5																																																																																																																																	
6	7	8	9	10	11	12																																																																																																																																	
13	14	15	16	17	18	19																																																																																																																																	
20	21	22	23	24	25	26																																																																																																																																	
27	28	29	30																																																																																																																																				
<table border="1"> <thead> <tr> <th>S</th> <th>M</th> <th>T</th> <th>W</th> <th>Th</th> <th>F</th> <th>S</th> </tr> </thead> <tbody> <tr> <td></td> <td></td> <td></td> <td></td> <td>1</td> <td>2</td> <td>3</td> </tr> <tr> <td>4</td> <td>5</td> <td>6</td> <td>7</td> <td>8</td> <td>9</td> <td>10</td> </tr> <tr> <td>11</td> <td>12</td> <td>13</td> <td>14</td> <td>15</td> <td>16</td> <td>17</td> </tr> <tr> <td>18</td> <td>19</td> <td>20</td> <td>21</td> <td>22</td> <td>23</td> <td>24</td> </tr> <tr> <td>25</td> <td>26</td> <td>27</td> <td>28</td> <td>29</td> <td>30</td> <td>31</td> </tr> </tbody> </table> <p>WorkZone Flagging: 21-Helena; 23-Polson; 24-Townsend 22: Full Depth Recycling(Asphalt), Missoula, MT: 8:30-11:30 am 31: Nat'l LTAP Conf., New Mexico Training on Request</p>	S	M	T	W	Th	F	S					1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	<table border="1"> <thead> <tr> <th>S</th> <th>M</th> <th>T</th> <th>W</th> <th>Th</th> <th>F</th> <th>S</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>2</td> <td>3</td> <td>4</td> <td>5</td> <td>6</td> <td>7</td> </tr> <tr> <td>8</td> <td>9</td> <td>10</td> <td>11</td> <td>12</td> <td>13</td> <td>14</td> </tr> <tr> <td>15</td> <td>16</td> <td>17</td> <td>18</td> <td>19</td> <td>20</td> <td>21</td> </tr> <tr> <td>22</td> <td>23</td> <td>24</td> <td>25</td> <td>26</td> <td>27</td> <td>28</td> </tr> <tr> <td>29</td> <td>30</td> <td>31</td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table> <p>1-4: Nat'l LTAP Conf., New Mexico Training on Request</p>	S	M	T	W	Th	F	S	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31					<table border="1"> <thead> <tr> <th>S</th> <th>M</th> <th>T</th> <th>W</th> <th>Th</th> <th>F</th> <th>S</th> </tr> </thead> <tbody> <tr> <td></td> <td></td> <td></td> <td>1</td> <td>2</td> <td>3</td> <td>4</td> </tr> <tr> <td>5</td> <td>6</td> <td>7</td> <td>8</td> <td>9</td> <td>10</td> <td>11</td> </tr> <tr> <td>12</td> <td>13</td> <td>14</td> <td>15</td> <td>16</td> <td>17</td> <td>18</td> </tr> <tr> <td>19</td> <td>20</td> <td>21</td> <td>22</td> <td>23</td> <td>24</td> <td>25</td> </tr> <tr> <td>26</td> <td>27</td> <td>28</td> <td>29</td> <td>30</td> <td></td> <td></td> </tr> </tbody> </table> <p>8-9: 15th Annual Equipment Training & Snow Rodeo, Great Falls, MT 24: APWA Conf., W.Yellowstone, MT MACRS: 28-Great Falls; 29-Billings; 30-Glendive September 28 & 29: Nat'l Snow & Ice Conference(APWA Snow Rodeo), Greeley, CO</p>	S	M	T	W	Th	F	S				1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30									
S	M	T	W	Th	F	S																																																																																																																																	
				1	2	3																																																																																																																																	
4	5	6	7	8	9	10																																																																																																																																	
11	12	13	14	15	16	17																																																																																																																																	
18	19	20	21	22	23	24																																																																																																																																	
25	26	27	28	29	30	31																																																																																																																																	
S	M	T	W	Th	F	S																																																																																																																																	
1	2	3	4	5	6	7																																																																																																																																	
8	9	10	11	12	13	14																																																																																																																																	
15	16	17	18	19	20	21																																																																																																																																	
22	23	24	25	26	27	28																																																																																																																																	
29	30	31																																																																																																																																					
S	M	T	W	Th	F	S																																																																																																																																	
			1	2	3	4																																																																																																																																	
5	6	7	8	9	10	11																																																																																																																																	
12	13	14	15	16	17	18																																																																																																																																	
19	20	21	22	23	24	25																																																																																																																																	
26	27	28	29	30																																																																																																																																			
<table border="1"> <thead> <tr> <th>S</th> <th>M</th> <th>T</th> <th>W</th> <th>Th</th> <th>F</th> <th>S</th> </tr> </thead> <tbody> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td>1</td> <td>2</td> </tr> <tr> <td>3</td> <td>4</td> <td>5</td> <td>6</td> <td>7</td> <td>8</td> <td>9</td> </tr> <tr> <td>10</td> <td>11</td> <td>12</td> <td>13</td> <td>14</td> <td>15</td> <td>16</td> </tr> <tr> <td>17</td> <td>18</td> <td>19</td> <td>20</td> <td>21</td> <td>22</td> <td>23</td> </tr> <tr> <td>24</td> <td>25</td> <td>26</td> <td>27</td> <td>28</td> <td>29</td> <td>30</td> </tr> <tr> <td>31</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table> <p>MACRS: 5-Butte; 7-Missoula 6-8: League of Cities & Towns, Kalispell, MT 21: Winter Training: Park County 22: Safety Training, Carbon County Training on Request: Spill Prevention, Containment, & Countermeasures</p>	S	M	T	W	Th	F	S						1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31							<table border="1"> <thead> <tr> <th>S</th> <th>M</th> <th>T</th> <th>W</th> <th>Th</th> <th>F</th> <th>S</th> </tr> </thead> <tbody> <tr> <td></td> <td>1</td> <td>2</td> <td>3</td> <td>4</td> <td>5</td> <td>6</td> </tr> <tr> <td>7</td> <td>8</td> <td>9</td> <td>10</td> <td>11</td> <td>12</td> <td>13</td> </tr> <tr> <td>14</td> <td>15</td> <td>16</td> <td>17</td> <td>18</td> <td>19</td> <td>20</td> </tr> <tr> <td>21</td> <td>22</td> <td>23</td> <td>24</td> <td>25</td> <td>26</td> <td>27</td> </tr> <tr> <td>28</td> <td>29</td> <td>30</td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table> <p>8-9: MACRS Planning Meeting, Lewistown, MT Training on Request: Winter Maintenance & Winter Survival</p>	S	M	T	W	Th	F	S		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30					<table border="1"> <thead> <tr> <th>S</th> <th>M</th> <th>T</th> <th>W</th> <th>Th</th> <th>F</th> <th>S</th> </tr> </thead> <tbody> <tr> <td></td> <td></td> <td></td> <td></td> <td>1</td> <td>2</td> <td>3</td> </tr> <tr> <td>4</td> <td>5</td> <td>6</td> <td>7</td> <td>8</td> <td>9</td> <td>10</td> </tr> <tr> <td>11</td> <td>12</td> <td>13</td> <td>14</td> <td>15</td> <td>16</td> <td>17</td> </tr> <tr> <td>18</td> <td>19</td> <td>20</td> <td>21</td> <td>22</td> <td>23</td> <td>24</td> </tr> <tr> <td>25</td> <td>26</td> <td>27</td> <td>28</td> <td>29</td> <td>30</td> <td>31</td> </tr> </tbody> </table> <p>Training on Request *Winter Travel-Survival *Winter Maintenance *Leadership</p>	S	M	T	W	Th	F	S					1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
S	M	T	W	Th	F	S																																																																																																																																	
					1	2																																																																																																																																	
3	4	5	6	7	8	9																																																																																																																																	
10	11	12	13	14	15	16																																																																																																																																	
17	18	19	20	21	22	23																																																																																																																																	
24	25	26	27	28	29	30																																																																																																																																	
31																																																																																																																																							
S	M	T	W	Th	F	S																																																																																																																																	
	1	2	3	4	5	6																																																																																																																																	
7	8	9	10	11	12	13																																																																																																																																	
14	15	16	17	18	19	20																																																																																																																																	
21	22	23	24	25	26	27																																																																																																																																	
28	29	30																																																																																																																																					
S	M	T	W	Th	F	S																																																																																																																																	
				1	2	3																																																																																																																																	
4	5	6	7	8	9	10																																																																																																																																	
11	12	13	14	15	16	17																																																																																																																																	
18	19	20	21	22	23	24																																																																																																																																	
25	26	27	28	29	30	31																																																																																																																																	

Some dates & locations subject to change. Call Donnetta Bohrman, LTAP, 1-800-541-6671 or 406-994-6100 to confirm.

Calendar of Fall Events 2004

APWA Rocky Mountain Chapter Conference

West Yellowstone, MT **September 24, 2004**
Contact: Roger Sicz @ 406-538-8015

Montana Association of Counties Annual Conference

Missoula, MT **September 26-29, 2004**
MACo's New Phone Numbers:
406-444-4360-Main Office or 406-444-4370-Insurance Office

MACRS District Meetings

- **Great Falls** **Tuesday -September 28**
LaQuinta, 600 River Drive South
406-716-2600
 - **Billings** **Wednesday -September 29**
Billings Convention Center, 1223 Mullaney Lane
406-248-7151
 - **Glendive** **Thursday -September 30**
Best Western, 223 N. Merrill
888-4-536-3483
 - **Butte** **Tuesday - October 5**
Best Western Butte Plaza Inn, 2900 Harrison
406-728-3100
 - **Missoula** **Thursday - October 7**
Ruby's Inn, 4825 N Reserve
406-721-0990
- Contact Donnetta Bohrman, LTAP Conference Coordinator, 1-800-541-6671, regarding registrations or inquiries

The League of Cities & Towns 23rd Annual Conference

Kalispell, MT **October 6 - 8, 2004**
Outlaw Hotel
Contact: 406-442-8768 League of Cities & Towns

MACRS Planning Meeting

Lewistown, MT **November 8-9, 2004**
Contact Donnetta Bohrman, LTAP Conference Coordinator, 1-800-541-6671, regarding registrations or inquiries

Construction of Quality Hot Mix Asphalt Pavements

Presented by The Asphalt Institute
Helena, MT **November 15, 2004**
Red Lion Colonial Hotel, 2301 Colonial Dr., 406-443-2100 or 800-733-5466
Contact The Asphalt Institute, 859-288-4964 or www.asphaltinstitute.org

Winter Events 2005

- **Loss Control Conference, 2005 (MACo and Montana LTAP)**
 - ▶ January 17-19, 2005
 - ▶ Lewistown, Montana
- **March 29-April 1, 2005 MACRS 25th Annual Conference**
 - ▶ Billings, Montana
 - ▶ Holiday Inn Grand
 - ▶ Registration brochures will be coming out in late January, 2005

The Construction of Quality Hot Mix Asphalt Pavements workshop being offered November 15, 2004, in Helena, MT, has been designed for engineers, inspectors, technicians, and contractor personnel responsible for quality control of paving materials, mix design procedures, the inspection and operations of asphalt plants, and paving operations. Participation should include personnel from federal, state, county, and local agencies, airport authorities, paving contractors, consulting engineers, and testing laboratories. The workshop is geared for the technician level and as a basic refresher course for the practicing engineer.

Snow Rodeo (cont'd from Page 3)

Snow Rodeo Competition involved three areas of expertise: equipment obstacle courses; equipment diagnostics; and written exam.

The equipment courses included backhoe expertise using a soup ladle to extract floating balls out of a water tank and placed into a small tub. This event was timed and points were gained depending on what color of ball and the number of balls placed.

The snowplow ran a timed course, weaving through tightly placed barrels and backing through them, along with narrow obstacles and moving the blade through expert turns.

The motorgrader went through a U-shaped course, tipping small blocks off stands, and the annual challenge of rolling the bowling ball into the hole.



The front end loader, a timed event, tested the skill of bucket coordination and turning capabilities of this valuable piece of equipment.

The Supervisor/Foreman meeting toured the Streetscape project; areas for de-icing; and areas where the Spray Injection Patching equipment was used.

Snow Rodeo (cont'd from Page 6)

Winners of the 2004 Snow Rodeo Competition

Snow Plow Division

- 1st: Kevin O'Brien, City of Missoula, Street Division
- 2nd: Larry Chapman, Lewis & Clark County
- 3rd: Doug Nisbet, Lewis & Clark County
- 1st Timer: Carl Gibson, City of Helena, Street Division

Front End Loader Division

- 1st: Robin Miland, Missoula County Public Works
- 2nd: Jim Jochinsen, Missoula County Public Works
- 3rd: Joe Miller, Missoula County Public Works
- 1st Timer: Jim Jochinsen, Missoula County Public Works

Backhoe Division

- 1st: Robin Miland, Missoula County Public Works
- 2nd: Joe Miller, Missoula County Public Works
- 3rd: Kent Smith, Lewis & Clark County
- 1st Timer: Carl Gibson, City of Helena Street Division

Motorgrader Division

- 1st: Doug Nisbet, Lewis & Clark County
- 2nd: Robin Miland, Missoula County Public Works
- 3rd: Dave Harrison, Missoula County Public Works
- 1st Timer: Jim Jochinsen, Missoula County Public Works

All-Around 2004 Snow Rodeo Champion:

Robin Miland, Missoula County Public Works



Standing, LtoR: Joe Miller, Dave Harrison, Jim Jochinsen, Robin Miland, Doug Nisbet, Kent Smith
Kneeling (Lto R): Cory, Robin Miland's son and Larry Chapman.



Those behind the scenes covering the written exams and posting scores were Dee Strending (above), Scott Karaffa and DoRee Russell (below), all from City of Great Falls Public Works.



Many thanks to all the "winners" who made this event a success. Once again proving that partnerships do create winners!

Survival Kit Options

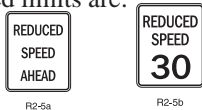
- Water
- Flashlight
- Wool Sweater
- Hatchet
- Compass
- Parachute Cord-550
- Bullion Cubes
- Aspirin
- Down Jacket
- Signal Mirror
- Fish Hook
- Extra Socks
- Garbage Sack
- Scarf
- Fixed Blade Knife
- Leatherman Tool
- Steel Cup
- Beef Jerky
- Survival Candy
- Gortex Jacket
- Emergency Blanket
- First Aid Kit
- Sapphire light
- Wool Cap
- Strobe Light
- Whistle
- Cell Phone
- GPS
- Preferred Fire Method

Quick Take: 2003 MUTCD

by Lloyd Rue, Design, Safety, Traffic Engineer, FHWA, Helena, MT 406-449-5302 x232 or lloyd.rue@fhwa.dot.gov

On November 20, 2003, the Federal Highway Administration (FHWA) published a new version of the *Manual on Uniform Traffic Control Devices*. The new version replaces the millennium edition released in December of 2000. This “quick take” reviews a few changes caused by the release of the 2003 edition of the MUTCD.

Here’s one change to consider when signing for speed zones. The advance signs shown in the millennium edition for notifying road users of changes in speed limits are:



These signs no longer appear in the 2003 edition! You’ll now find the replacement signs in the warning sign series:



You’ll note that the sign W3-5 resembles the advance warning sign used for STOP controlled intersections:



Does that mean all of the old R2-5a and R2-5b signs will need to be replaced? Eventually, yes. With the introduction of the new W3 signs, the compliance period is 15 years or by December 22, 2018. That means as existing signs wear out, replace the R2 signs with the W3 signs. If new signs are going to be installed on a roadway, use the W3 signs.

There’s a new sign color! Fluorescent pink is used as a...

...cont’d on Page 9, blue column

Traffic Signs for Wildland Fires Incidents: Meeting National Standards

Permission was granted to reprint the following article from Donna Sheehy, Northern Region traffic management engineer; and Charles Showers, program leader, Missoula Technology and Development Center, USDA Forest Service

In the past, signs for USDA Forest Service wildland fire incidents were created from whatever supplies were readily available, including cardboard, paper plates, glow sticks, and flagging. Each fire season since 2000, the Northern Region Traffic Safety Teams have procured commercially produced signs that meet the standards required for highway temporary traffic control zones.

seen some of the most extreme wildland fire behavior in recent history. Numerous traffic and congestion problems, especially in the wildland-urban interface, pose a major threat to the safety of fire personnel and motorists.

Their lives depend on being able to recognize the traffic hazards associated with incident activities and passing safely through areas affected by the incident. These areas,



Standard signs help motorists and incident personnel recognize incident activities so they can slow down and pass safely through the area. Lessons learned by the Northern Region during the past 3 years regarding signing and other traffic control devices for incident management have national implications. Several projects are underway that will provide national standards and program direction for temporary traffic control for all incidents, including wildland fires.

The USDA Forest Service is responsible for fire management and suppression activities on 192 million acres of National Forest System lands. The last several years have

known as Temporary Traffic Control (TTC) zones, are created by using temporary traffic control devices, flaggers, uniformed law enforcement officers, or other authorized personnel to notify motorists of the zones.

Some of the TTC zones created during incident management activities include:

- Locations where large volumes of incident-related traffic enter and exit highways at intersections that otherwise would have little or no traffic
- Areas where suppression operations are conducted on or adjacent to roads open to traffic

Traffic Signs for Wildland Fires Incidents: Meeting National Standards (cont'd from Page 8)

- Facilities for incident personnel, such as the incident base, spike camps, helispots, fueling sites, and dropoff locations
- Stretches of road where smoke from wildland fires impairs visibility
- Road and area closures in and around incidents

More than 40,000 people are injured and more than 1,000 are killed each year by motor vehicle crashes in TTC zones. These zones are among the most dangerous areas on roads. Traffic-related accidents account for a disproportionate share of incident injuries and fatalities.

According to national studies, TTC zone crashes tend to be more severe than other crashes. Federal statistics indicate that more than 80 percent of those killed in TTC zone crashes are drivers or passengers, not road workers. These statistics also show that rear-end crashes are by far the most common type of fatal accident in TTC zones. Too many motorists fail to reduce their speed enough to drive safely through TTC zones.

Proper use of standard signs and other appropriate temporary traffic control devices can help mitigate the risk of accidents by providing for the reasonably safe and efficient movement of traffic through or around TTC zones.

Requirements of the Manual on Uniform Traffic Control Devices

By law, traffic signing for incident operations must comply with Part VI of the Manual on Uniform Traffic Control Devices (MUTCD). All 50 States have adopted the MUTCD for public roads under their jurisdiction. Federal law (23 CFR 655.603) requires all Federal agencies to follow the

MUTCD for all roads open to public travel. USDA Forest Service policies in the Forest Service manual (FSM 7103.3, 7731.15 and 7730.04 [9]) require adhering to the MUTCD for all warning and regulatory signs on all National Forest System roads, regardless of their maintenance level. Guide signs on maintenance level 3, 4, and 5 roads (all maintained for passenger cars) must conform to the MUTCD. Guide signs on maintenance level 1 (closed to highway vehicles) and level 2 roads (maintained for high-clearance vehicles) may deviate from the MUTCD.



Quick Take: 2003 MUTCD

(cont'd from page 8)

... background color for incident management signs. A traffic incident is defined in the 2003 MUTCD as “an emergency road user occurrence, a natural disaster, or other unplanned event that affects or impedes the normal flow of traffic.” In lay terms, equate an ‘emergency road user occurrence’ to an accident or major disruption to a highway caused by an accident, a mudslide or bridge closure. A key term in the definition is ‘unplanned’.

FHWA has published a notice of an amendment to the 2003 MUTCD on sign retroreflectivity. Maintaining nighttime sign retroreflectivity has been a subject of discussion for many years. Signs need to be seen at night to be effective. With the advent of devices that can measure the retroreflectivity of a given sign, some have believed that a minimum retroreflectivity value should be established. This minimum value would be the trigger point to replace faded signs. However, there are consequences to establishing a minimum value. Namely, measuring the retroreflectivity of all of the signs on the nation’s highways is no simple task. The proposed sign retroreflectivity amendment addresses these issues. Read the notice and consider what may change due to the amendment. The amendment is in draft form. Comments on the proposed amendment are being requested until October 28, 2004. After the comment period closes, comments will be analyzed and a final version of the amendment prepared. View at <http://mutcd.fhwa.dot.gov/HTML/2003r1/html-index r2.htm>.

Nighttime Visibility Tips from the FHWA

Pedestrians need to wear reflective materials that outline the human form and carry a flashlight. If your winter clothing is dark, add something light-colored or bright like a scarf or reflective pin. Studies show that pedestrians walking in dark colored clothing at night are first seen approximately 55 feet away--giving the driver traveling at 60 MPH less than one second reaction time. A driver traveling at 60 MPH needs over 260 feet to stop safely!

Pedestrian Safety at Intersections

Permission was granted to reprint the following article from Tamara Redmon, FHWA Pedestrian and Bicycle Safety Program Manager

Pedestrian safety at intersections is a big problem.

In 2002 (the most recent year for which complete crash data is available), 4,808 pedestrians were killed in roadway related crashes. Of those, 1,058 fatalities (22 percent) occurred at intersections.

Hazardous intersection types for pedestrian crossings include high-volume, high-speed and multi-lane intersections with complex signal phasing or without any traffic control at all. Pedestrians are at risk even at simple STOP sign or YIELD sign intersections because of the common disregard of traffic control devices by motorists. Traffic improvements that

installations have increased the distances that one must walk to cross at an intersection.

In addition, intersection signal timings may be too short to permit safe intersection crossings. Traffic engineers may use a walking speed that is too fast for many pedestrians (i.e., the elderly, disabled, and children) in determining the necessary time for pedestrians to cross the street. Pedestrians have not been accorded equal status with vehicles at intersections. Roadways have been designed and constructed primarily to accommodate vehicular traffic rather than pedestrians.



Crash data consistently show that collisions with pedestrians occur far more often with turning vehicles than with straight-through traffic. Left turning vehicles are more often involved in pedestrian crashes than right-turning vehicles, partly because drivers are looking for an opportunity to turn rather

than focusing on crossing pedestrians. Right turn on red contributes to pedestrian crashes because it creates reduced pedestrian opportunities to cross intersections without having to confront turning vehicles.

include widening streets, adding lanes and using traffic engineering solutions that increase vehicular efficiency can decrease pedestrian safety. Many intersection reconstruction projects and traffic control

Pedestrian Safety at Intersections

(cont'd from Page 10)

Another problem with intersections is drivers not seeing the pedestrians. Pedestrian visibility to drivers is much poorer during hours of darkness, especially in areas where there is poor lighting on the road. This is a common short-coming of rural and suburban intersections. In fact, half of all pedestrian fatalities occur between 6 PM and midnight (a 6-hour window).

How Can We Reduce Pedestrian Fatalities and Injuries at Intersections?

Although the problem is complex, there are many ways to improve pedestrian safety at intersections:

Increase Visibility: Pedestrians need to be more visible during evening and nighttime hours. Adding/improving roadway lighting is one way to do this. Another is to encourage pedestrians to wear reflective clothing and accessories.

Adjust signals: Reassess the adequacy of pedestrian-signal timings; consider pedestrian-only phasing in a traffic signal cycle; and ensure that the pedestrian signal is visible and that any push-buttons are accessible. Signals may be supplemented with audible messages for visually impaired persons.

Identify and decrease road and traffic hazards: Repair/re-stripe crosswalks and stop lines; improve lighting; provide additional signage where necessary; install barriers such as fences, shrubs, or uncomfortable

median surfaces to discourage pedestrians from crossing at unsafe locations; provide a wide refuge island on a median.

Make cross walk improvements

such as: A ladder pattern that is more visible to motorists; crosswalks with flashing lights embedded in the roadway pavement; and flashing “Pedestrian Crossing” signs that alert oncoming traffic to pedestrians in the crosswalk.

Coordination among engineers, educators and enforcement personnel.

Improved pedestrian safety at intersections requires coordination among public authorities, professional engineers, media, education experts and vehicle designers to reduce both the number and severity of pedestrian collisions. Pedestrian safety cannot be improved by traffic engineering alone.

Focus enforcement on: motorist compliance with pedestrian safety laws; pedestrian compliance with pedestrian signals and appropriate crossing locations; and reducing speeding through intersections.

Education. Develop a sustained, comprehensive public awareness campaign that reaches both motorists and pedestrians. The FHWA’s Safety Office has developed such a campaign that comes with ready-to-use materials and is partially focused on intersections. The Campaign can be viewed at: <http://safety.fhwa.dot.gov/pedcampaign/index.htm>.

Put The Brakes on Fatalities Day -October 10, 2004-

How Much is a LIFE Worth? Help “Put The Brakes on Fatalities” and SAVE LIVES! Please Practice & Promote SAFE Driving Behaviors:

- ✓ Be Physically Sound & Mentally Sharp
- ✓ Always Buckle Up
- ✓ Pay Complete Attention on Driving
- ✓ Follow Posted Signs & Striping
- ✓ Maintain Safe Speed for Conditions
- ✓ Maintain Safe Following Distance
- ✓ Maintain Clear Sight Picture
- ✓ Be a Courteous & Conscientious Driver
- ✓ Be a Defensive Driver
- ✓ Drive as if your Life depends on it!

Check the web site at www.brakesonfatalities.org for added activities...and put the brakes on fatalities!

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 borrowed from the LTAP Lending Library rent-free for two weeks. Some publications are free or for a nominal charge upon request.

Call Donnetta Bohrman or Michele Beck, LTAP
1-800-541-6671
for information or checkout procedures.

Note that our website at www.coe.montana.edu/ltap has been updated and includes the total library publications, software, and videos. At this website you can also keep track of upcoming workshops, our newsletter, and "News Flash" items that change every month.

*Always do right.
This will gratify some
people, and astonish
the rest.*

-Mark Twain

Montana LTAP Lending Library

Publications

p-71: *Guidelines for Ultrasonic Inspection of Hanger Pins (FHWA 2004)*

A failed hanger pin initiated the tragic collapse of one span of the Mianus River Bridge in Greenwich, CT on June 28, 1983, resulting in the deaths of three motorists. Following the collapse, there was an immediate increase of interest in the inspection and condition evaluation of bridge hanger pins. Ultrasonic inspection has become the primary method of performing detailed inspection of in-service hanger pins. This document describes the fundamentals of ultrasonic testing and general inspection requirements that can be used by State transportation agencies or by others performing ultrasonic hanger pin inspection. (99 pages)

p-72: *A Critical Literature Review of High-Performance Corrosion Reinforcements in Concrete Bridge Applications (FHWA 2004):* This investigation was initiated to evaluate the corrosion resistance of various categories of high-performance reinforcement, including new products that are becoming available, in bridge structures that are exposed to chlorides. This interim report presents the results of a critical literature review of corrosion issues and behavior for high-performance reinforcements as applicable to bridges and a precursor to the experimental program. (48 pages)

p-216: *Superior Materials, Advanced Test Methods, and Specifications in Europe (FHWA 2004):* FHWA and AASHTO this study, under the International Technology Scanning Program, visited four European nations and discussed their unique approaches to introducing, approving, and specifying processes for new materials and manufactured products employed in highway construction. The visits proved helpful in meeting the overall objectives of the scan, which will benefit the highway industry in the United States by identifying how processes for introducing new and innovative materials and products might be improved.

p-222: *A Guide for Achieving Flexibility in Highway Design (AASHTO 2004):*

This Guide encourages highway designers to expand their consideration in applying the Green Book criteria. It shows that having a process that is open, includes good public involvement, and fosters creative thinking is an essential part of achieving good design. The term CSS, context-sensitive solutions, refers to an approach or process as much as it does to an actual design or solution.

p-314: *Full Depth Recycling Workshop, July 2004 (Portland Cement Associates):*

This file contains the handouts from the one-day workshop on full depth recycling pavement with concrete held in Missoula, MT: booklet on Soil-Cement Inspector's Manual; leaflets on Construction, Soil-Cement Recycling, and Soil-Cement Information; booklet on Building Better Outcomes With Concrete; Soil-Cement Construction Handbook; CD – The Right Choice for Rebuilding Roads.

p-426: *Incremental Costs and Performance Benefits of Various Features (FHWA April 2004):*

This report presents a methodology for quickly assessing the relative costs and benefits of incorporating various design features in PCC pavements. That methodology has been incorporated into an analytical software tool that can be used by pavement design engineers who are interested in investigating the cost versus performance trade-offs associated with the selection of different features during the PCC pavement process. (203 pages)

p-505: *The Nature of Roadsides and the Tools to Work With It (FHWA 2003):*

This 32-page guide covers our responsibilities to manage roadside vegetation; using native plants, ten best management practices that work; ten research reviews you can apply, and other useful information.

p-510: *Vegetation Control for Safety; A Guide for Street and Highway Maintenance Personnel (FHWA 1990):* This 38-page guide covers the basic necessities

Lending Library (cont'd from Page 12)

when mowing such as line of sight clearance, private property owner agreement, trees in clear zones, personal safety equipment to be worn and operating mowing equipment procedures. Although a 1990 version, helpful information is included in this manual. Be sure to check the 2003 MUTCD tables on speeds and stopping distances, they have changed since 1990! This is also available on line at: <http://www.fhwa.dot.gov/tfhr/safety/pubs/90003/intro.htm>

p-628: *Scenic Byways, A Design Guide for Roadside Improvements (USDA Forest Service, July 2003):*

The purpose of this design guide is to assist the planners, designers, and managers of scenic byways. It shows examples of improvements, outlines the planning process, and describes design principles. Although this book is focused on scenic byways that cross Federal lands, these principles may be applied to any byway throughout America. (106 pages)

p-804: *An Examination of Fault, Unsafe Driving Acts, and Total Harm in Car-Truck Collisions, HSIS (FHWA 2003):*

This 8-page summary report aims to improve knowledge about the high-risk behaviors of truck and passenger vehicle (car) drivers. The Federal Motor Carrier Safety Administration has set a goal to reduce truck-involved fatal crashes by 41 percent by 2008. Meeting this goal will require improving truck safety and enhancing truck and car drivers' behavior and performance.

p-859: *Signalized Intersection Safety in Europe (FHWA December 2003):*

The objective of this study was to identify safety practices and evaluate their applicability to the United States. The scanning team studied four countries. Through meetings with representatives from each country, site visits, and field observations, the team identified programs and strategies that could work in the United States and

potential barriers to their success. This report presents the scan team's observations, findings, and recommendations. (105 pages)

p-1035: *Sign Installation Guide (USDA Forest Service July 2003):*

This 18-page guide contains information needed to install traffic control signs on National Forest System Roads in accordance with the Manual of Uniform Traffic Control Devices (MUTCD) and EM-7100-15, Sign and Poster Guidelines for the Forest Service. It provides a quick visual reference to field personnel placing and maintaining the most often used signs and markers. It does not include every type of sign or marker used, but should give contractors, cooperators, volunteers and Forest Service personnel a clear picture of how signs should be installed.



p-2307: *The Tiny Warrior: A Path to Personal Discovery and Achievement:*

Inside all of us, there is a tiny warrior—not the destructive image we've seen on TV and in movies but a positive force that goes to battle every day to get us through challenges in our careers, in our lives, and within ourselves.

(Andrews McMeel Publishing—2003)

Ten Reasons to Join NACE Today

1. **Advocacy:** Representing county engineers and professional road managers nationally.

2. **Networking with Professional Road Managers:** Learning from each other, unique solutions to mutual problems.

3. **Conferences:** Delivering best practices and the latest technology at national and regional meetings.

4. **Technical Assistance and Training:** Exploring the best way to deploy technologies and information.

5. **NACE News and E-News:** Communicating vital information, ideas, and available resources.

6. **NACE Website and Publications:** Providing tools to optimize your resources.

7. **Research/Information:** Supplying specific answers to specific questions.

8. **National Partnerships:** Working with others to promote better communication within the industry.

9. **Access to National Leaders:** Making connection in Washington.

10. **Professionalism:** Promoting public responsibility in service to our citizens.

Call: 202-393-5041 or

E-mail: nace@naco.org

Website:

www.countyengineers.org

...Continued on Page 14

Safety Tips for Bicycles

from USDOT/Federal Motor Carrier Safety Administration

Bicycles are the most vulnerable of all vehicles on the road. As a bicyclist riding in traffic or on the side walk, you should take extra precautions to protect yourself. Vehicles on the road, especially large trucks and buses, may not see you on your bike. Crossing the street or making a turn can be dangerous in traffic if others do not see you or your signals. The tips below can help keep you riding safely.

• Wear Your Helmet

Before you get on your bike, put on a helmet. It is the best thing you can do to be safe. Your helmet is your life.

• Bikers Beware

Always be aware of the traffic around you. Trucks and buses make wide right turns. Never sneak in between a truck or bus and the curb or you could get crushed.

• Check Your Brakes

Always check your brakes so that you are prepared to stop. Also remember that a truck requires more space to stop than you do on your bike. You may have to get out of the way to save your own life.

• Ride with Traffic

Avoiding a crash is the safest way to ride. Ride on the right side, with the flow of traffic.

• Beware of the No-Zone

Beware of riding too closely to a large truck. Large trucks have blind spots in the front, back and on the sides.

For more info:
www.sharetheroadsafely.org

Lending Library (cont'd from Page 13)

Publications

p-3020: *Technical Publications Catalog, October 1998-September 2003 (FHWA)*: This 58-page catalog lists over 300 publications generated from FHWA Turner-Fairbank Highway

Research Center. It provides brief product abstracts and location information for technical reports, TechBriefs, application notes, product briefs, fact sheets, and CD-ROMs related to research, development, and technology in subject areas of environment, human factors, operations, pavements, safety, and structures. Most publications listed can be accessed online at www.tfhr.gov/techpubcat/index.htm or a copy ordered from the source listed.

p-3200: *Humboldt Catalog, Testing Equipment for asphalt, Concrete & Soil*: Their Catalog #7 lists over 2,000 items for use in materials testing labs and on the jobsite.

p-3527: *Intelligent Transportation Systems in Work Zones, A Case Study in Albuquerque, NM (USDOT January 2004)*: This case study reflects information gathered in interviews with key personnel on the Big I construction project in Albuquerque, New Mexico, as well as information and photos obtained during a site visit. (14 pages)

Software

SW-160: *Walk 'n' Roll Packer/Roller*: A budget-saving tool for better roads with less road maintenance.

SW-210: *EZ Road TempRamps*: EZ Road TempRamps are a safer, more cost-effective alternative to asphalt or cold-patch temporary ramps at milled butt joints, bridges, and end-of-day joints.

SW-320: *NCHRP - Recommended Use of Reclaimed Asphalt Pavement in the Superpave Mix Design Method (Transportation Research Board 2004)*: Research developed guidelines for incorporating reclaimed asphalt pavement

(RAP) in the Superpave system and prepare a manual that can be used by laboratory and field technicians. For more information go to: <http://www4.trb.org/trb/crp.nsf/e7bcd526f5af4a2c8525672f006245fa/efd647c149b80c3b>

SW-603: *Your Culvert Lining Solution*: Information covering new culvert lining solutions.

SW-620: *Water/Road Interaction Technology Series: Water/Road Interaction Toolkit*

SW-810: *IHSDM, Interactive Highway Safety Design Model (FHWA 2003)*: This IHSDM preview in cd-rom format, version 2.0, provides an overview of the functions and capabilities of IHSDM and features an exercise for using IHSDM. This road safety evaluation software marshals available knowledge about safety into a more useful form for highway planners and designers. The Federal Highway Administration (FHWA) has been developing IHSDM with initial focus on two-lane rural highways. 2003 release of IHSDM for two-lane rural highways is now available for testing and evaluation purposes. Prospective users include highway designers, planners and project managers, and safety and traffic engineering reviewers in State and local highway agencies and engineering consulting firms. This can also be found at: http://w16.161.62.248/ihsdm_public/index.html

SW-855: *Safety Training Resources Guide – Version 1.0*: The objective of this CD is to perform searches on safety traffic topics by selecting different search categories e.g. (Titles, Categories, Classification, State, Level of Training, Primary Source, Instructor, and Contact). (US DOT/FHWA)

SW-920: *Driver Education Work Zone Awareness Program*: This is a true story of a father and son. Too often kids are left alone because of speeding and distracted drivers in work zones. Why should kids suffer because some people continue to ignore work zone speed limits and laws. Please slow down. <http://www.dot.state.il.us> (Illinois DOT)

Lending Library (cont'd from Page 14)

SW-930: *Manual on Uniform Traffic Control Devices—2003 Edition*

This is the MUTCD manual 2003 in CD format.

SW-1010: *Comprehensive Intersection Resource Library:*

A compilation of resources about traditional signalized and unsignalized intersections, roundabouts, highway/rail grade crossings, and other nontraditional intersection designs. (US DOT/FHWA)

SW-2307: *The Warrior Within: Part I*

This powerful program will inspire you to achieve your very best each day by sharing strategies, stories, and skills that will lift you to the next level of your life. Using a framework of Native American wisdom and based on over a decade of experience, this program has been created to motivate you to get more out of life and career by showing you how to get more out of yourself. (Sound Works)

Videos

EO144: *Transport Trailer Safety: Get More Out of Your Equipment (24 minutes)*

Addresses correct loading, tie-down, transport, and unloading of different types of heavy equipment on all types of trailers including tag-alongs, detachable goose necks, beaver tail, and fixed neck lowboys. Eighteen different types of equipment are addressed. Other topics include knowing the trailer's rated capacity; correct trailer placement prior to loading; snow, wet, muddy loading and unloading situations; dangers of loading track-type equipment; and chain types and restricted use of tie-down chain. (VISTA – 1995)

PAD110: *Sober Thoughts on Drinking & Driving (14 Minutes)*

People are becoming more responsible about how they use alcohol in relation to driving. Still, there's plenty of alcohol-impaired driving left. Too many people are dying. This film focuses on a range of effective measures to reduce the problem. (Insurance Institute for Highway Safety – 1991)

SG110: *Fire Safety: Alert, Aware, Alive (16 minutes)* Fires are dangerous, unpredictable and life-threatening. This video covers the basic steps to keep fires from starting; know what types of fires that can occur in your workplace, as well as how to fight them and how to escape. [Comes with a Leader's Guide with a PDF printable powerpoint presentation (cd)] (Coastal – 2003) *Note: This is not a duplicate of Fire Safety, There's No Second Chance, SG157*

SG183: *Chemical Process Safety (15 minutes)* Involvement in a catastrophic accident can change your life, forever. Frighteningly enough, catastrophic accidents can result from one simple mistake. Mislabeling a container, incorrectly setting a dial or misunderstanding directions can have severe consequences. This video explains what a process safety program is, why it exists and how it works to protect you. (Coastal – 1994)

SG202: *Working Outdoors, Mosquitoes & Ticks (15 minutes)*

Insects can carry diseases, so it's best to avoid these creatures when possible. This isn't easy, especially if you work outdoors. This video describes the best line of defense against insects, such as mosquitoes and ticks, is a strong offense: become more aware of the bugs that live in your area and other helpful solutions. (Coastal – 2004)

SG210: *Young Drivers: The High-Risk Years (16 minutes)*

Crash rates for young beginning drivers are much higher than for older drivers. This videotape listens to 16-year-olds tell why they want their driver's licenses and what driving means to them. Parents of teenagers who died in crashes tell how the tragedies happened and how their families have been affected. The focus is on ways to reduce the crashes by limiting higher risk driving by beginning 16 year olds. Some of these include graduating licensing, parental limitations, and passenger restrictions. (Insurance Institute for Highway Safety – 2002)

SG215: *Understanding Car Crashes: It's Basic Physics (22 minutes)*

What happens to vehicles and their occupants in crashes is determined by science. Using a series of vehicle maneuvers on a test track plus filmed results of vehicle crash tests, the relationship between crash forces and inertia, momentum and impulse is explained. It also explains how speed and vehicle weight are critical elements in the outcomes of car crashes and how basic physics explains why safety belts and airbags protect people in crashes. (Insurance Institute for Highway Safety – 2000)

SS125: *Making Safer Roads (12 Minutes)*

More than one in four motor vehicle deaths on US roads don't involve a collision with another vehicle or vehicles. It involves hitting a roadside hazard like a tree, utility pole, or bridge support. Such crashes are a problem especially on secondary roads, which still are cluttered with roadside hazards while interstates have been improved. In this videotape, experts explain which hazards present the worst problems. They tell how to alleviate the hazards. These aren't problems that can be removed all at once because the solutions often are costly, but there are common-sense approaches to the hazards along the roadside. (Insurance Institute for Highway Safety – 1995)



Local Technical Assistance Program
 407 Cobleigh Hall
 PO Box 173910
 Montana State University-Bozeman
 Bozeman, MT 59717-3910



Non-Profit Org.
 U.S. Postage
 PAID
 Bozeman, MT 59715

Approximately 1630 copies of this public document were published at an estimated cost of \$1.20 per copy for a total cost of \$1,960 which includes \$1,500 for printing and \$460 for distribution.

MDT attempts to provide accommodations for any known disability that may interfere with a person participating in any service, program or activity of the Department. 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.

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.

Individuals wishing to receive future copies of the newsletter at no cost may send their request to LTAP, 407 Cobleigh Hall, PO Box 173910, Montana State University-Bozeman, Bozeman, MT 59717-3910, or call 1-800-541-6671. Past issues are available at www.coe.montana.edu/ltap.

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
 407 Cobleigh Hall
 PO Box 173910
 Montana State University-Bozeman
 Bozeman, MT 59717-3910

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