



LTAP MATTERS

Montana's Answers To Technical Education of Roads & Streets

Montana Local Technical Assistance Program 1-800-541-6671

College of Engineering

Montana State University

Bozeman, MT 59717-3910

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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:

Stormwater Management BMP's Fall Topic for County Roads

By Michele Beck, Montana LTAP

In October 2006, the MACRS (Montana Association of County Road Supervisors) fall training for county road departments focused on stormwater management and erosion.

In cooperation with Montana Department of Transportation's District Erosion Control Engineers, Montana LTAP provided five training locations throughout the state.

Training

The intended outcome of this training was to better prepare counties to prevent erosion and insure revegetation. Montana LTAP Director Steve Jenkins said, "Whether the project is

completed with federal funds through MDT or a county project, Best Management Practices (BMP's) prevent erosion and sedimentation of live streams, lakes and wetlands."

Continued on Page 2...



Photos by Tim White, Road Foreman, District #3, Lincoln County Just east of Eureka, Montana Sinclair Creek Road, June 15, 2006, after 7 inches of rain in less than 24 hours

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Montana Dept of Transportation

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

STORMWATER BMP'S - MACRS TRAINING

"I just wanted to let you know that the MACRS training is worthwhile. I have worked with a couple counties, Powder River and Rosebud, on some current permit items. They seemed to feel comfortable calling me and we are getting things handled and resolved. So thank you for hosting these training events and giving me an opportunity to be part of the education process."

Stacy Aguirre, Environmental Engineer, Glendive District, November 21, 2006

Butte-Silver Bow County Resolves Opencut Mining Act Violations

This news release was sent to Montana LTAP by Stacy Aguirre, MDT Erosion Control Engineer - Glendive District, for distribution.

HELENA--The Montana Department of Environmental Quality (DEQ) recently settled its enforcement action, including an \$800 penalty, against Butte-Silver Bow County for violations of the Opencut Mining Act.

The County operates a number of gravel pits at various sites under Opencut Reclamation permits issued by the DEQ. The permits require the County to comply with specific operating, reclamation and reporting requirements. One of the requirements is that the County must file an annual progress report on its mining activities for each of its gravel pits.

On March 1, 2006, the Department cited the County for failing to submit annual progress reports for calendar years 2003 and 2004 for the Bert Mooney Airport Authority and Spangler Ranch Pits. The County has since returned to compliance with the Act by submitting their delinquent progress reports and paying the penalty.

Persons who have questions about opencut mining operations may contact DEQ's Industrial and Energy Minerals Bureau at (406) 444-4964 or can visit DEQ's web site at www.deq.mt.gov.

December 26, 2006
Franklin Gessaman
DEQ Enforcement Division
(406) 444-3390
fgessaman@mt.gov

Stormwater BMP's (Cont'd from Page 1)

Those who attended have already seen the training being implemented. Russ Huotari, Richland Public Works Director, informed the LTAP office that shortly after his crew attended this workshop, they applied the BMP's when heading out to work on a project by selecting the appropriate materials.

Each of the MDT Districts have a liaison to work with counties as projects are transferred. The county has the responsibility to preserve the erosion control and revegetate to seventy percent.

The following MDT Environmental Engineer liaisons presented on the process and Best Management Practices:

- Dave Hill - Butte District: 751-2024
- Jake Goettle (Helena District) for Dan Ham - Missoula District: 494-9612
- Stacy Hill - Great Falls District: 454-5896
- Stacy Aguirre - Glendive District: 345-8209
- Ray Studebaker - Billings District: 657-0273

Clyde Bennett of Roscoe Steel instructed participants on the use of the newest development on erosion control. He talked of application and maintenance of each product.

Steve Jenkins gave a synopsis on drainage, culvert design and hydraulics. He emphasized current state practice is to slow currents down, prevent erosion, and look at longer lasting applications.



*Cover fill slopes, work areas, and other exposed soil areas with straw, netting, rock or other material to protect the ground and promote vegetative growth. Photo & quote from **Low-Volume Roads Engineering, BMP Field Guide** by Gordon Keller & James Sherar*

Public Works Professional Briefs Congress About Pandemic Flu

By Becky Wickstrom
Manager of Media Affairs
APWA Washington Office

City parks filled with ducks and geese, poultry farms and family flocks are potential outbreak sites for avian flu. Found chiefly in birds, the H5N1 virus, which can cause severe disease or death in humans, will require extensive preparations and precautions to avoid escalation of a pandemic. In October during a briefing for congressional staff on Capitol Hill in Washington, D.C., APWA member expert Christine Walsh, Director of Operations for the City of Beloit, Wisconsin, discussed the role of public works in preparing for a pandemic flu outbreak.

“Public works staff are first-line responders in all emergency situations, including an influenza pandemic,” said Walsh. “At the same time they respond to emergencies, they have continuous responsibility to keep our communities functioning by maintaining infrastructure, clean water, solid waste disposal and other essential day-to-day operations.”

Walsh, who was born and raised on the world’s largest fancy poultry farm and is a

past partner in Walsh Farms, encouraged lawmakers to include public works staff in the group of responders who will be first to receive vaccinations should an outbreak occur. She emphasized the need to train employees about precautionary practices and develop an extensive response plan within the community and in local regions. Walsh also encouraged

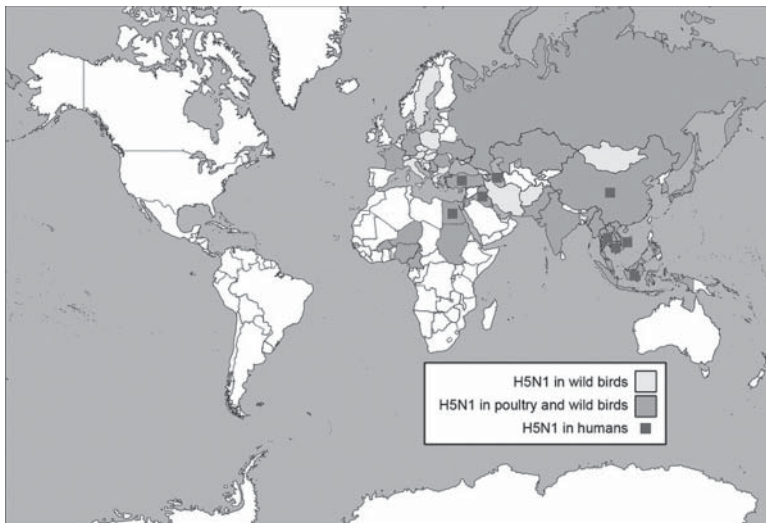
... encouraged lawmakers to include public works staff in the group of responders who will be first to receive vaccinations should an outbreak occur.

more practice exercises for public works staff with emergency responders including fire, police and medical services as well as agriculture experts.

APWA Congressional Briefings are one part of an awareness campaign to provide congressional staff with information about the role and needs of public works and infrastructure in local communities. APWA member experts brief staff members about issues ranging from transportation funding to emergency preparedness and clean water.

Becky Wickstrom can be reached at (202) 218-6736 or bwickstrom@apwa.net.

Permission was granted to reprint this article which originally appeared in the APWA Reporter, December 2006 Issue.



Center for Disease Control: <http://www.pandemicflu.gov/>

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

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Highway Teams from 11 States Earn National Awards

National Partnership for Highway Quality (NPHQ) announced the winners of its 2006 Making a Difference Awards November 14, 2006. Montana won a bronze in NPHQ’s Partnering category for restoring, in record time, the Beartooth Highway; a scenic route that begins at the northeast entrance of Yellowstone Park and links the tourism communities of Cooke City and Red Lodge, Montana.

MDT and contractors Kiewitt Western, JTL Group, and HKM Engineering, along with the extensive cooperation of the resource agencies, were able to complete the \$16 million plus project in less than five months. Using a traditional contracting process without this level of partnering, a similar project would have taken three years to complete. The team of agencies took risks and set a new standard for emergency quality road repair. More info: http://www.nphq.org/awards_2006mad-mt.cfm

From NPHQ Website
Awards & Success Stories

Second Annual Public Works Awareness Event - A Success!

Photos and Article By Michele Beck, Montana LTAP

The Gallatin Valley Mall in Bozeman, Montana, was a happening place with the Second Annual Public Works Awareness event being held on October 14, 2006.

“This safety and educational program has proven to be invaluable to the public and our road crew. We set up several scenarios for the public to participate in and thereby the public gets a better understanding of what our road employees are up against during the winter months,” said Steve Kurk, City of Bozeman.



Steve Kurk, City of Bozeman

One set-up had a snowplow truck with two regular-sized pick-ups behind it. The two pick-ups could not be seen from the rearview mirrors from the snowplow cab. This is why the sign on the back of the snowplow states “Stay Back 50 Feet.” There was also a motorgrader set up in a similar fashion where the

car parked directly behind the grader could not be seen in the grader’s rearview mirrors.

The City of Bozeman’s mission statement is “To enhance the quality of life through excellence in public service.”

“As the public becomes more aware of how our different departments operate, the more effective we can be in providing services by keeping our lines of communication open,” commented Kurk. *Continued on Page 5 . . .*




Public Works (Cont'd from Page 4)



Lois Evans, Montana LTAP, assisting her son, Nate, and grandson, Carl



This event was sponsored by the City of Bozeman Public Works Department, Gallatin County Road & Bridge Department, and partially sponsored by local State Farm Insurance agents. Kurk mentioned that the Bozeman Fire Department brought one of their fire engines and answered questions from the public. Kurk was grateful for everyone's cooperation and help in setting up the equipment and providing information for the public. 



Build a Crashworthy Work Zone Sign Stand

By Lloyd H. Rue
 Design-Safety-Traffic Engineer
 Federal Highway Administration
 Helena, Montana

Where there are cars, there will be collisions. When there are collisions, people will get hurt.

How do we lessen the chances of injuries when there are collisions with sign stands in our work zones?

We make sign stands 'crashworthy.' Once upon a time, work zone devices were not held to a crashworthy standard. Crashworthy work zone devices now, and for the last decade, follow an industry standard.

Making a crashworthy device can be complicated. The ultimate proof for a crashworthy device is testing at highway speeds with test vehicles. One test criteria examines whether there is an intrusion into the occupant compartment. A gaping hole in the windshield, for example, would cause the test to fail.

Numerous types of crashworthy sign stands can be purchased from suppliers. Often these sign stand designs are patented. Patented or proprietary devices usually are more costly than those fabricated in a local shop.

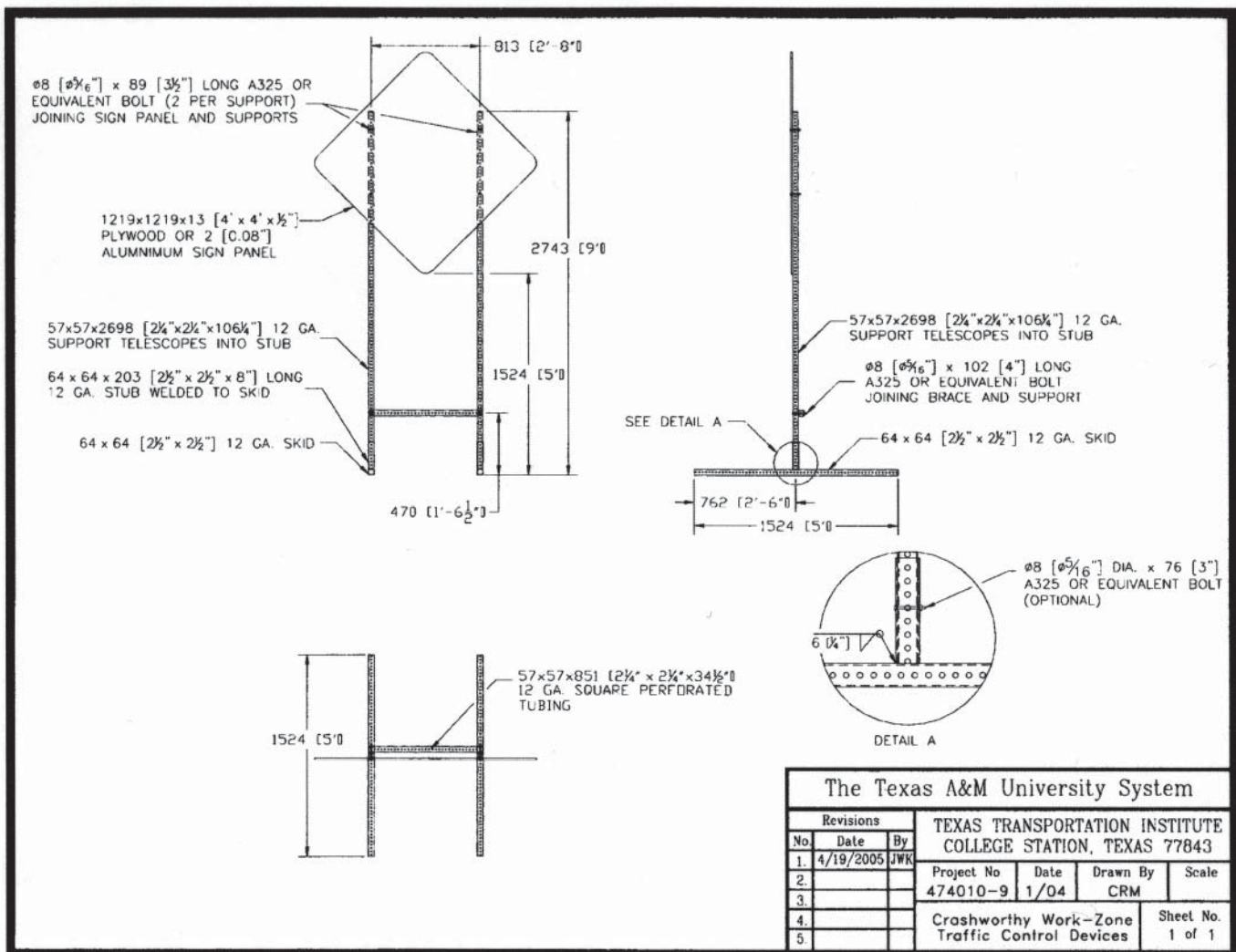



Figure 9.8. Details of the strong dual-upright sign support system with sign panel mounted at a height of 1.5 m (5 ft).

Build Stand (Cont'd from Page 6)

There is a crashworthy, non-patented sign-stand design that uses commonly available materials – thanks to some recent research. The sign-stand design (among other devices tested) is outlined in a research report from the National Cooperative Highway Research Program, Report 553: Crashworthy Work-Zone Traffic Control Devices. (Available also in PDF form at: http://onlinepubs.trb.org/onlinepubs/nchrp/nchrp_rpt_553.pdf) And, the Federal Highway Administration issued an acceptance letter on the device (September 8, 2006, WZ-240).

The diagrams on pages 6 and 7 show the basic dimensions and components for the design. One figure shows dimensions for a 5-foot mounting height, while the other figure shows dimensions for a 7-foot mounting height. Either plywood or aluminum sign substrates may be use.

If you need new sign stands for your county or city crews, here is a non-patented design that you can use. 

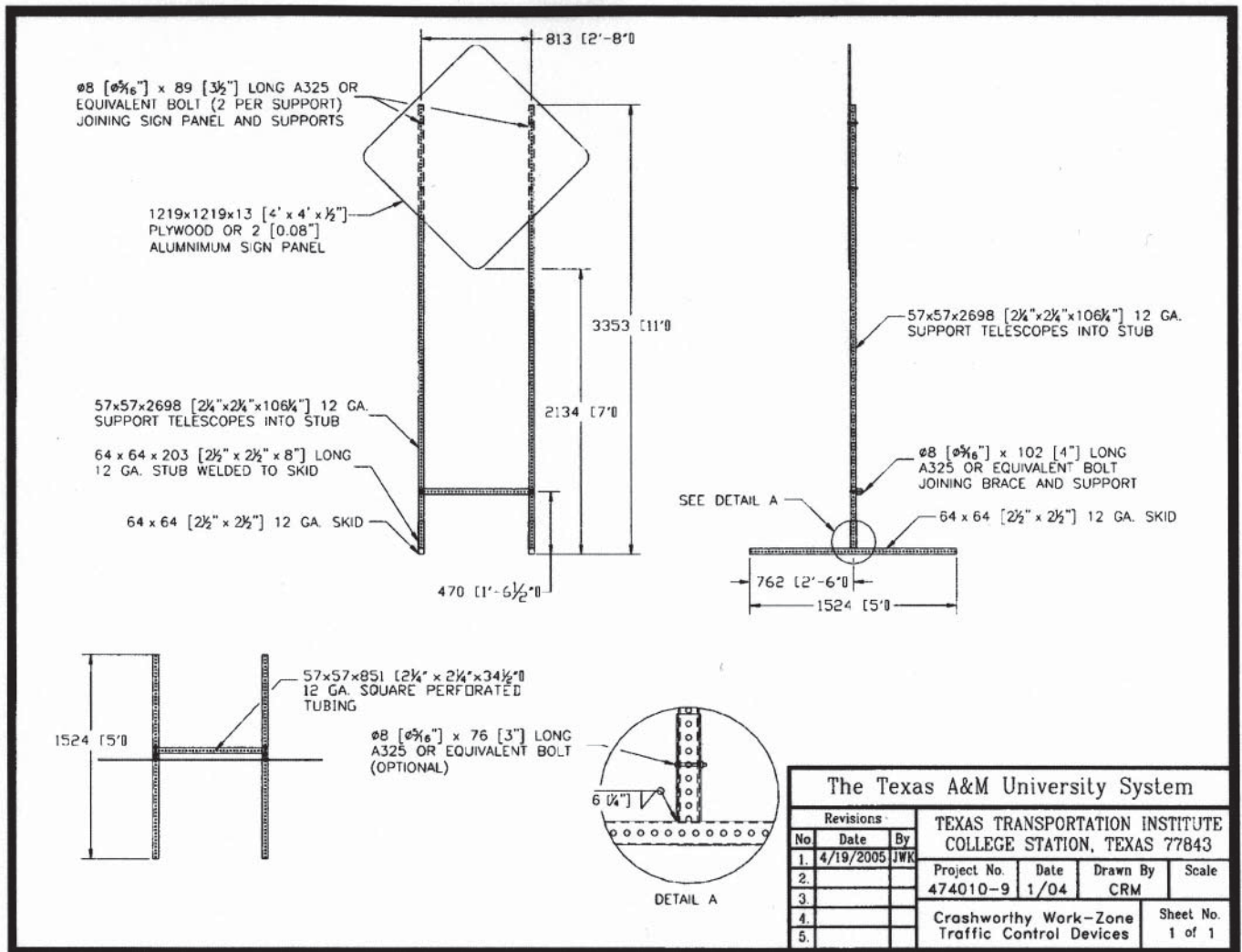


Figure 9.9. Details of the strong dual-upright sign support system with sign panel mounted at a height of 2.1 m (7 ft).

Interconnection and Preemption of Highway Traffic Signals with Highway-Rail Grade Crossing signals Seminar

February 13-14, 2007

Hampton Inn, Helena, MT

MDT is providing this interconnection and preemption course to take an in-depth look into the operational requirements necessary to successfully interconnect and preempt a highway traffic signal with adjacent highway-rail grade crossing warning devices. It includes history, background and review of basic traffic signal sequencing and timing as well as railroad train detection circuits and timing parameters. The seminar then goes into industry definitions and standardized terminology relating to interconnection and preemption followed by MUTCD requirements. Progressing through development of preemption requirements at a "typical" intersection and how to develop the proper timing values. Also, various "how" and "how not to" videos are shown and special situations such as turning moves and presignals are discussed.

Who Should Attend: A good class mix of participants generally enhances the training course. Traffic engineers involved in signal design, traffic signal technicians and maintenance personnel, railroad signal maintainers and supervisors and managers will all benefit from this course.

Contact: Kris Christensen - 406-444-7286 or email: krchristensen@mt.gov
Course Cost: \$120 (2 lunches & materials)
Maximum Attendees: 35 people
Deadline to Register: January 29, 2007
Hampton Inn, 3000 Hwy 12 East, Helena, MT 59601 (room reservations: 406-443-5800)

ATSSA's 37th Annual Convention & Traffic Expo
January 26-30, 2007
San Antonio, Texas
www.atssa.com
or
Call 1-800-272-8722

National Work Zone Awareness Week 2007
April 2-6, 2007
Contact: jimbo@atssa.com

ITE's 2007 Technical Conference & Exhibit
March 25-28, 2007
San Diego, CA
http://www.ite.org/Conference/

NACE 2007
NACE 2007 Annual Meeting and Management & Technical Conference
Milwaukee, Wisconsin
April 22-26, 2007
www.countyengineers.org

Annual Calendar 2007

<p>January 2007</p> <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>16-18: MACO - Loss Control Conference, Billings, MT 19: Ray Barnicoat's Retirement Party - Helena, 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	31				<p>February 2007</p> <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></td><td></td><td></td></tr> </tbody> </table> <p>20-23: LTAP Safety Congress Helena, MT 20: Safety Design 21-22: Traffic Control Supervisor 23: Train the Trainer</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				<p>March 2007</p> <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>26-29: MACRS Spring Conference Kalispell, 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	31							
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Some dates & locations subject to change. Call Lois Evans, LTAP, 1-800-541-6671 or 406-994-6100 to confirm.

Calendar of Events 2007

Montana Association of Counties: Loss Control Conference

Billings, MT **January 16 - 18, 2007**
MACo's Phone Numbers:
406-444-4360-Main Office or 406-444-4370-Insurance Office

Montana Department of Transportation: Interconnection and Preemption of Highway Traffic Signals with Highway-Rail Grade Crossing Signals Seminar 8 am - 5 pm (Each Day)

Helena, MT **February 13 - 14, 2007**
Hampton Inn, 3000 Hwy 12 East, Room Reservations: 406-443-5800
Register: Kris Christensen 406-444-7286 or email krchristensen@mt.gov
Cost: \$120 includes 2 lunches and materials, January 29 deadline for registering

Montana LTAP's 6th Annual Safety Congress

Helena, MT **February 20-23, 2007**
Contact Lois Evans, LTAP Conference Coordinator, 1-800-541-6671, regarding registrations or inquiries. Brochures will be mailed in January.

MACRS Annual Spring Conference

Kalispell, MT **March 26-29, 2007**
Red Lion Inn, 20 North Main Street, Kalispell, MT 59901
Contact Lois Evans, LTAP Conference Coordinator, 1-800-541-6671, regarding registrations or inquiries. Brochures will be mailed in January.

MACRS Workforce Spring Training Week

- **Glendive** **April 9-13, 2007**
- **Butte** **April 30 - May 4, 2007**
- **Kalispell** **May 7 - 11, 2007**

Training Week:

Monday:	8am - 4 pm	Gravel Road Training
Tuesday:	8am- Noon	Gravel Road Training
	1pm - 4 pm	Loader & Forklift Training
Wednesday:	8am - 4 pm	Safety Engineering
Thursday:	8 am - Noon	Leadership
	1 pm - 4 pm	Summer Survival
Friday:	8am - 4 pm	Permanent & Temporary Signing

Contact Lois Evans, LTAP Conference Coordinator, 1-800-541-6671, regarding registrations or inquiries. Brochures will be mailed in February.

Upcoming Events

May 22, 2007
Montana LTAP
Offering Flagger Certification
Through MSU Ed Net

Director Steve Jenkins will be teaching a flagger certification course on May 22, Tuesday, via satellite at MSU to various receiving stations throughout Montana. Montana Job Service offices will be notified in the spring where these sites will be located. Brochures will be mailed in April.

APWA Public Fleet Management Workshop

February 7-9, 2007
Doubletree Club Hotel San Diego
San Diego, CA
Info: www.apwa.net/Education
or
Call: 1-800-848-APWA

**World of Asphalt 2007
Show and Conference
March 19-22, 2007
Atlanta, Georgia
www.worldofasphalt.com**

**2007 APWA North American
Snow Conference
"The Show for Snow!"
April 22-25, 2007
RiverCentre
St. Paul, MN
apwa.net/snow**

**National Conference on
Pavement Management
Norfolk, Virginia
May 6-9, 2007**
Contact Stephen Maher, http://www.trb.org/news/blurb_detail.asp?id=6751

**9th International Conference
on Low-Volume Roads
June 24-27, 2007
Austin, Texas**
Info: <http://www.trb.org/conferences/91yr/>

Roosevelt County Job Opening
for Road Foreman
Salary: \$18-20/hour
(depending on experience)
Open Until Filled
Applications and Revised Job
Description Available at Northeast
Montana Job Service, Workforce Center,
Wolf Point, Montana
Phone: 406-653-1720
FAX: 406-653-1196
Jobline: 406-653-1194

"Safety Ray" Retires

(excerpt from MACo Newsletter
January 2007)

...Ray Barnicoat found himself a home with the Montana Association of Counties. He began his career on October 5, 1987 as the MACo Risk Manager. It was a new position with the goal to reduce the frequency and severity of loss due to employee injury or loss due to the injury to others or property damage. Ray kept busy during his 20-year stint, establishing safety programs and forming partnerships with other agencies.

After 20 years at MACo, Safety Ray is saying goodbye. So what will he miss most? "In a word, everything," he says. "Not many people get the opportunity to become associated with the people that I have.

Retirement Party for Ray Barnicoat
Fox Ridge Restaurant/Golf Course
Helena, MT
Friday, January 19, 2007
More info: www.maco.cog.mt.us

Guard Rails on Bridges

Go to: <http://www.fhwa.dot.gov/bridge/bridgerail/index.cfm>

Although this site does not deal with the length design issue, it does have pictures, cost information, standard plans, and specific agency contact information.

Control of Cracking in Concrete: State of the Art

TRB's Transportation Research circular E-C107: Control of Cracking in Concrete: State of the Art explores causes of cracking, testing, and ways of minimizing strains and stresses that can cause cracking in transportation structures such as bridge structures, pavements, and footings. http://www.trb.org/news/blurb_detail.asp?id=6876

(From NACE News November 2006)

From MACRS President Tim White

Having had some major snow storms recently, my focus has been on clearing and sanding those county roads. Before winter takes over completely, I want to take this time to invite you to the 27th Annual MACRS Conference being held in Kalispell, March 26-29, 2007, at the Red Lion Inn.

At a November planning meeting, MACRS district officers brought back your requests for topics, including GASB34, road policies, gravel roads, road law, and weed mowing. After discussing the possibilities, it was decided to kick off the conference with a Road Law pre-conference on Monday. Speakers during the general sessions will be covering topics such as leadership, gravel road management, CDL drug certification and drug policies, wildfire management, county road standards and policies, and emphasis on additional road mill funding.



As I look over our tentative schedule of presentations, this conference will be of great interest to all county road personnel. As stated by one of the MACRS board members, "We will be addressing how to get counties more money and also how to possibly keep them out of a law suit." The county commissioners will

be getting the best bang for their training buck by sending their road personnel to this conference and attending themselves.

Montana LTAP will be sending out registration flyers in January. Let them know if you didn't get one and they'll be happy to get you on their mailing list.

Time to get back to the roads. Look forward to seeing you at the conference,

*Tim White, MACRS President
Lincoln County Road Department*

He'll Be Missed

IN MEMORIAM
TIM BROOKS

Roscoe Steel Representative

The members of the Montana Association of County Road Supervisors, the staff of the Local Technical Assistance Program, and those who had the privilege of knowing Tim Brooks mourned his passing on December 2, 2006.

Tim was truly a "NICE GUY". In a world of stress and pressure from all sides, seeing Tim at your shop always brought a smile to your face. Within the huge state of Montana, I don't think that there was another person

who knew and dealt with more county crews than Tim. He knew and cared for all of us in this business.

Tim's willingness to contribute his knowledge and time to MACRS certainly helped to make us the organization that we are today.

Tim's battle with lung cancer was short lived. And eventually, the sickness overtook him. His personality and smile will live on in our memories for many years to come. We will all miss him. I'm sure that he is talking to St. Peter about installing a large culvert as we speak.

*Jack Knorr
Sweet Grass County*

Latest E-mail News from NACo

I gather news information from various sources. With e-mail newsletter service becoming a "quick read," I just signed up for National Association of Counties' (NACo) latest e-mail update service on its website, www.naco.org. They will send e-mail updates whenever new information is posted on its website. This information will help me stay on top of the latest national news and information regarding county issues.

I just clicked on the **Personalized E-mail Update: eSubscribe** icon on NACo's homepage, gave them my e-mail address and filled out a news information form. Easy to do and our readers may be interested in subscribing also.

Bring on the news!

*Michele Beck
Montana LTAP*

Woodard Avenue Project Wins

MDT Receives Best Project Award

November 20, 2006

By Charity Watt Levis, MDT

(Permission was granted to reprint this article)

The American Association of State Highway and Transportation

Officials (AASHTO), center for environmental excellence, recently presented the Montana Department of Transportation with an award for the 2006 Best Practices in Context Sensitive Solutions competition.

MDT was nominated early this fall and was presented with the Best Project - Small Urban or Rural during the annual AASHTO meeting in Portland, Oregon, October 27-30. The award recognized the Woodard Avenue reconstruction project in Absarokee.



Before Project Photo - Absarokee, Montana

Context Sensitive Solutions is a collaborative, interdisciplinary approach that involves all stakeholders to develop a transportation facility that fits its physical setting and preserves scenic, aesthetic, historic and environmental resources, while maintaining safety and mobility. CSS is an approach that considers the total context within which a transportation improvement project will exist. CSS principles include the employment of early, continuous and meaningful involvement of the public and all stakeholders throughout the project development process.

The Small Urban/Rural award is based on collaborative efforts made to plan, design, construct, operate and maintain a major project in an urban area comprised of a population fewer than 250,000 inhabitants that reflect the CSS principles.

The project, dubbed the small town makeover by the Billings Gazette, revamped the main street and ultimately the community of Absarokee. Construction for the project began in March 2004 after years of planning.

MDT, working with consultant HKM Engineering, faced a variety of issues some of which were identifying historical buildings, maintaining parking and creating a gutter/storm drain system, which hadn't previously existed. This project needed to be completed without impacting economic development for local businesses.

Absarokee, a rural town of approximately 2,756 residents, isn't incorporated therefore has no city government. To insure community involvement MDT held many public meetings with local businesses and individual community members in order to expedite the project and make sure needs and requests were met.

The majority of construction was completed in September 2004, but it wasn't until April 2005 that final project was completed due to some last minute changes to the period lighting system on the project.

Woodard Avenue was the first of three rural projects completed from Absarokee to Columbus, Montana. The total cost of the project was \$4,698,356.

For more information: Charity Watt Levis, (406) 444-7205



Completed Project Photos Absarokee, Montana



A sincere thank you to John A. Shoff, PE, HKM Engineering, Billings, Montana, who provided all photos on this page.

Montana LTAP Lending Library

Publications

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.

For information or checkout procedures, call Lois Evans 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 total library publications, software, and videos lists at this web site: www.coe.montana.edu/ltap. You can also keep track of upcoming workshops, our newsletter, and "What's New" items that change periodically.

Manuals Available on EPA Website:
Environmentally Sensitive

Maintenance on

Dirt and Gravel Roads

Website: <http://www.epa.gov/owow/nps/sensitive/sensitive.html>

Local Roads

Maintenance Workers' Manual

Website: http://www.ctre.iastate.edu/pubs/maint_worker

"If a man empties his purse into his head, no man can take it away from him. An investment in knowledge always pays the best interest."

Benjamin Franklin

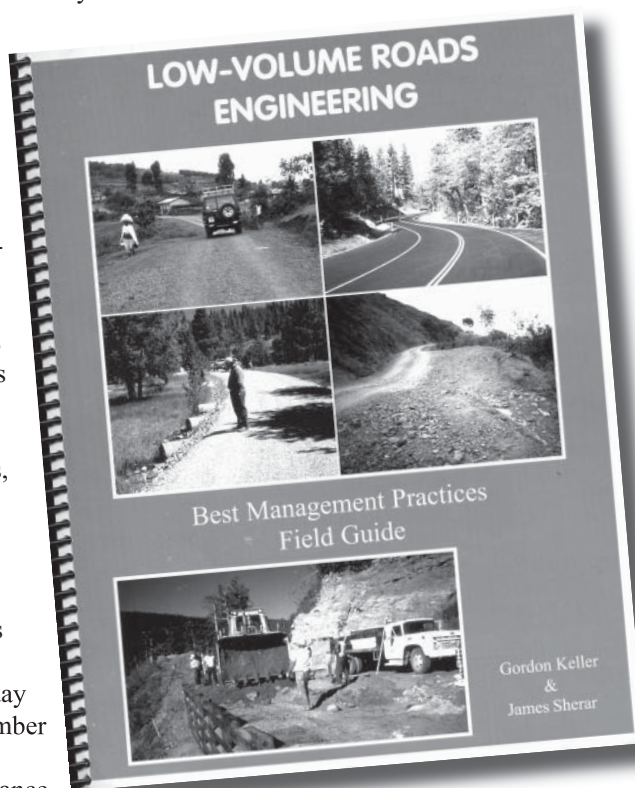
p-2 Seismic Retrofitting Manual for Highway Structures: Part 1-Bridges (FHWA January 2006):

Part 1 of this report focuses on highway bridges and is a replacement for the FHWA publication Seismic Retrofitting Manual for Highway Bridges, published in 1995 as report FHWA-RD-94-052. Revisions have been made to include current advances in earthquake engineering, field experience with retrofitting highway bridges, and the performance of bridges in recent earthquakes. It is the result of several years of research with contributions from a multidisciplinary team of researchers and practitioners. (656 pages)

p-3 Seismic Retrofitting Manual for Highway Structures: Part 2 – Retaining Structures, Slopes, Tunnels, Culverts, and Roadways (FHWA January 2006): Part 2 of this report includes new procedures for determining the seismic vulnerability of other important highway system structures, namely, retaining, structures, slopes, tunnels, culverts, and roadways. (370 pages)

p-321 Improving Pavements With Long-Term Pavement Performance: Products for Today and Tomorrow (FHWA September 2006): In 1998, the FHWA Long-Term Pavement Performance Program and the Highway Division Pavements committee of the American Society of Civil Engineers initiated a program to organize an international contest on the use of LTPP data. The competition was designed to promote the use of LTPP data and involve the future pavement engineers in university in the analysis of data from the LTPP data base. The program has been in operation for 5 years with four contests completed. The papers contained in this document are the result of the 2003-2004 contest. (160 pages)

p-631 Low-Volume Roads Engineering – BMP Field Guide by Gordon Keller & James Sherar (USFS July 2003): This guide is intended to provide an overview of the key planning, location, design, construction, and maintenance aspects of roads that can cause adverse environmental impacts and to list key ways to prevent those impacts. Best Management Practices are general techniques or design practices that, when applied and adapted to fit site specific conditions, will prevent or reduce pollution and maintain water quality. (156 pages) (In CD format also: SW0631 MT LTAP library)



p-0655 Impact of Alternative Storm Water Management Approaches on Highway Infrastructure: Guide for Selection of Best Management Practices – Volume 1 (Minnesota DOT & LRRB 2005): The study presented in this report had a goal of evaluating storm water BMPs that are located adjacent to roadway infrastructures. The primary objective was to assess the potential adverse impact of storm water BMPs on the function and long-term operational cost of roadways. (60 pages – report format)

Montana LTAP Lending Library

Publications (Cont'd)

p-0854 Safety Effects of Marked versus Unmarked Crosswalks at Uncontrolled Locations (FHWA September 2005): The purpose of this study was to determine whether marked crosswalks at uncontrolled locations are safer than unmarked crosswalks under various traffic and roadway conditions. Another objective was to provide recommendations on how to provide safer crossings for pedestrians. (112 pages)

p-0932A Traffic Analysis Toolbox Volume I: Traffic Analysis Tools Primer (FHWA June 2004): This primer provides an overview of traffic analysis tools in the transportation analysis process. There are three volumes to this report. (34 pages)

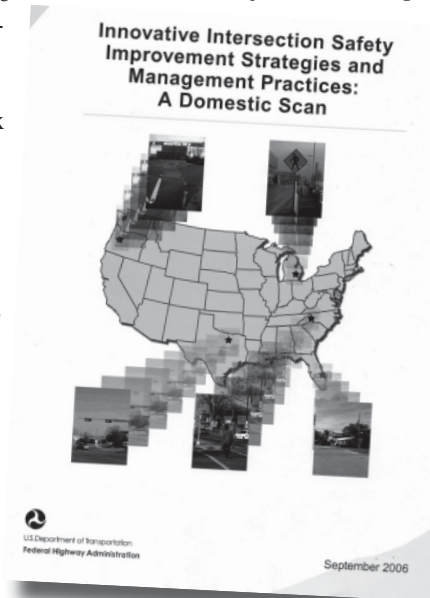
p-0932B Traffic Analysis Toolbox Volume II: Decision Support Methodology for Selecting Traffic Analysis tools (FHWA June 2004): The purpose of this Volume II is to provide an overview of the role of traffic analysis tools in transportation analyses and to present a detailed methodology for selecting the appropriate tool for the job at hand. The report describes the selection process including selection criteria and worksheets that can be used in applying the selection process. (108 pages)

p-0932C Traffic Analysis Toolbox Volume III: Guidelines for Applying Traffic Microsimulation Modeling Software (FHWA June 2004): This Volume III provides a recommended process for using traffic simulation software in transportation analyses. The guidelines provide the reader with a seven-step process that begins with project scope and ends with the final project report.

p-0933 Work Zone Training Law Enforcement Course: Safe and Effective use of Law Enforcement Personnel in Work Zones (FHWA August 2006): This reference notebook contains an instructor's manual (136 pages), participant's manual (46 pages) and training modules (hard copies). These training materials will provide officers with useful, easy to understand information to help them manage and

safely operate within work zones. Contact for this manual is John Balsler, FHWA, Office of Safety, at 202-366-9212, john.balsler@fhwa.dot.gov

p-0947 Traffic signal Preemption for Emergency Vehicles, A Cross-cutting Study; Putting the "First" in "First Response" (FHWA January 2006): The purpose of this study is to increase awareness among stakeholders—including police, fire, rescue and emergency medical services (EMS)—about the benefits and costs of emergency vehicle preemption. This study reports information gathered during a review of publications and site visits to three jurisdictions operating emergency vehicle preemption systems. (46 pages)



p-0955 Innovative Intersection Safety Improvement Strategies and Management Practices: A Domestic Scan (FHWA September 2006): The purpose of this document is to serve as an information and technology transfer tool on intersection safety practices used by State, regional and local transportation officials for the benefit of motorists, pedestrians and bicyclists. (81 pages)

p-1050 Safer Sign Supports: Are Yours Breakaway Yet? (FHWA 2006): This brochure covers the MUTCD Section 2A-19 regarding ground-mounted sign supports in the clear zone and the deadline of January 2013 for replacement. There is also additional resources listed for more information on this topic. (brochure)

p-2372 Improving Transit Equity; Streamlining Operations – Technologies that Benefit the Transportation Disadvantaged (FHWA 2006): This brochure reviews how several Federal agencies came together in 2004 to create the United We Ride program. It also outlines a variety of technologies that can help address safety and security for both passengers and transit providers. (brochure)

p-2373 Better Public Transportation Options for Everyone: Technologies to Improve Accessibility and Service of Public Transportation (FHWA 2006): This brochure highlights the benefits of ITS technologies to transit passengers and shows that technologies that benefit human services transportation improve operations for all passengers. (brochure)

p-2374 Transportation Planning and Asset Management (FHWA 2006): This brochure outlines TAM, getting started, how to apply transportation asset management and benefits. (brochure)

p-2384 ITS Applications for Coordinating and Improving Human Services Transportation: A Cross-Cutting Study: Improving Service for the Transportation Disadvantaged (FHWA August 2006): This report highlights technologies that improve accessibility for the transportation disadvantaged. A special emphasis is placed on those technologies that improve coordination of agencies, services, functions, or modes because coordination can result in greater efficiency and service delivery improvements. (74 pages)

Highway Safety and Trees The Delicate Balance

FHWA has a new DVD titled "Highway Safety and Trees - The Delicate Balance." It is designed to educate the public on the real hazards caused by trees located adjacent to the roadway, and on the variety of options available to reduce this toll. It stresses the importance of communication between highway agencies and the public, and the involvement of Context Sensitive Design/ Solutions in developing highway projects that fully and objectively consider safety as well as other community concerns. In short, it is intended to help gain public acceptance of highway projects that include reducing tree crashes as an element of the project goals. (Video Number SS104 and DVD Number 1040 in the LTAP Library)

Updated Pedestrian and Bicycle Crash Analysis (PBCAT) Tool

PBCAT version 2.0 is a software application designed to assist state and local pedestrian and bicycle coordinators, planners, and engineers in addressing pedestrian and bicyclist crash problems. PBCAT accomplishes this goal by enabling users to develop a database of details associated with crashes between motor vehicles and pedestrians or bicyclists. One of these details is crash type, which describes the pre-crash actions of the involved parties. After developing a database of crash information, PBCAT users can analyze the data, produce reports, and select countermeasures to address the problems identified by the software.

PBCAT Version 2.0 includes significant improvements in functionality and has an enhanced design that makes the software easier to use. Find out more about the new features and download PBCAT Version 2.0 at: www.walkinginfo.org/pc/pbcats.htm

Interesting Websites to Visit

Website for Montana Department of Transportation – Winter Survival Guide
http://www.mdt.mt.gov/publications/docs/brochures/winter_maint/winter_survival.pdf

Montana Bicycle Safety Study - September 2002
http://www.mdt.mt.gov/publications/docs/brochures/safety/bike_safety_study.pdf

Safety Compass Newsletter - New
<http://safety.fhwa.dot.gov/newsletter/safety-compass/index.htm>

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Publications (Cont'd)

p-2385 CVISN Electronic Credentialing for Commercial Vehicles in Washington State: Easier Licensing and Credentials Processing for the Motor Carrier Industry (FHWA September 2004):

The Federal Motor Carrier Safety Administration's (FMCSA) Commercial Vehicle Information Systems and Networks (CVISN) program brings together information systems from a variety of public and private stakeholders to support commercial vehicle operations. This case study describes benefits, successful practices and lessons learned in operations and management from the point of view of early adopting states. The benefits these states have experienced are impressive. (34 Pages)

p-2386 CVISN Safety Information Exchange for Commercial Vehicles in Connecticut, A Case Study: Increasing Inspection Efficiency Through Wireless Data Access at the Roadside (FHWA September 2004): The Federal Motor Carrier Safety Administration's (FMCSA) Commercial Vehicle Information Systems and Networks (CVISN) program brings together information systems from a variety of public and private stakeholders to support commercial vehicle operations. This case study describes benefits, successful practices and lessons learned in operations and management from the point of view of early adopting states. The benefits these states have experienced are impressive. (34 Pages)

p-3107 Asphalt Recycling & Reclaiming Association Directory 2006-2007: Lists committees, awards, and addresses of ARRA members. (catalog)

p-3125 Communications Reference Guide (FHWA May 2004): This document presents guidelines for research and development publications. (102 pages)

Videos

PAD115 Methamphetamine: A Deadly Path to Destruction: This is a very comprehensive training program on one of today's most dangerous drugs, Meth. The program provides training and education on the hazards of the drug, physical and mental problems associated with Meth use, and long and short term effects. You'll see the "Faces of Meth", how people's appearance changes over time when using meth, and "Meth Mouth", very graphic illustrations of what this toxic chemical can do to teeth and gums. (Digital-2000 2006)

SG164 Dump Truck Safety: Safety awareness program, emphasizing job site safety and procedures for anyone operating dump trucks. Reminder on daily maintenance inspections, loading/unloading procedures. (Digital-2000 2002)

SS104 Highway Safety & Trees: The Delicate Balance: The danger of immovable objects such as trees in the clear zone needs to be recognized by all agencies responsible for transportation safety. This video reviews solutions by various DOT's. (FHWA 7/11/05)

PROMO Good Highway Winter Maintenance/Risk ManagementL: The Salt Institute has provided a brief overview of ways to outline a winter maintenance program. (Salt Institute August 1998)

DVD's

DVD0166 Forklift Basics – Safe from the Start (Coastal 2006): This program provides details on the powered industrial truck, from the way it's constructed to the way it works. It will help your operators understand the factors that affect forklift balance and maneuverability.

- * Powered industrial trucks
 - * Design and controls
 - * Pre-use inspection
 - * Operator's manual
- (22 minutes)

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DVD's (Cont'd)

DVD-167 Forklift Maneuvers – All the Right Moves (Coastal 2006): This program reviews the most important forklift safety issues - from operating conditions to load manipulation. With this important information, your drivers will be equipped to operate safely and avoid accidents.

- * OSHA training requirements
- * Operating conditions, loads and stability
- * Lifting people
- * Hazardous operating conditions (26 minutes)

DVD-450 Gravel Road Maintenance: Meeting the Challenge (University of Minnesota 2006): The primary objective of this DVD is to show maintenance workers, supervisors, and engineers the right way to perform gravel road maintenance. The secondary objective is to show the public what can be done, what is being done, and why it needs to be done. The DVD was designed to be used as a training tool in conjunction with the FHWA's manual, Gravel Roads Maintenance and Design Manual. (6 presentations)

DVD-840 Emergency Action Plan – Crisis Under Control (Coastal 2000): With new threats facing our society today, an Emergency Action Plan is required not only for OSHA compliance, but also for survival. Make sure your facility has a well-thought-out plan in place by following guidelines provided in this program. It covers:

- Emergency alarm and evacuation
- Medical Services
- Cooperation with emergency services
- Employee training (16 minutes)

DVD-870 Avian Flu – What You Need to Know (Coastal 2006): The Avian Flu lacks one trait that could turn it into a pandemic: the ability to spread from human to human. But the lethal virus could become contagious any time, so companies must be prepared to protect their employees from exposure and their facilities from contamination. And, employees must be aware of methods to protect their families. This program informs viewers about the virus and offers important tips on how to avoid transmission. This program covers:

- How serious is the risk
- How is the virus transmitted
- Symptoms of infection
- How to avoid exposure
- Protecting families (14 minutes)



DVD-1040 Highway Safety and Trees: The Delicate Balance (FHWA July 2005): The danger of immovable objects such as trees in the clear zone needs to be recognized by all agencies responsible for transportation safety. This DVD reviews solutions by various DOT's. (12 minutes)

DVD-2400 Recognizing Drug and Alcohol Abuse for Managers (Coastal 2004): Do you know an alcoholic or an illegal drug addict? Chances are good that you do – chances are good that you work with one, too. This important video program will help supervisors and managers recognize alcoholism and drug abuse in the workplace and help reduce missed work days, increase productivity and protect worker health and safety. • Physical appearance • Behavior and job performance • Enabling and denial • Drug testing (20 minutes)

Software

SW0631 Low Volume Roads Engineering – BMP Field Guide (Gordon Keller & James Sherar, USFS, July 2003): This CD is the same as the publication, p-631 (158 pages), available from LTAP library. This guide is intended to provide an overview of the key planning, location, design, construction, and maintenance aspects of roads that can cause adverse environmental impacts and to list key ways to prevent those impacts.

SW0941 Basic Traffic Control for Short Duration Activities: A Modular Course (ATSSA 2002): Provides information on standards and procedures, what protective equipment is necessary and which standards apply to basic traffic control for short duration activities.

SW2360 Security and Emergency Response Planning Toolbox for Small Water and Wastewater Systems (RCAP December 2005): The RCAP Security and Emergency Response Planning Toolbox for Small Water and Wastewater Systems (the "RCAP Security Toolbox") consists of five core modules, appendices, and introductory text that relates security and emergency preparedness to best practices of system operation and management. The appendices include resources, a glossary, an emergency notification and contact list, eBulletin subscription forms, and power-point training presentations.



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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.

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

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:

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