



LTAP MATTERS

Montana's Answers To Technical Education of Roads & Streets

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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:

Sign Vandalism

Costly & Dangerous

By Michele Beck, MT LTAP

"With our county dollars limited, we were having a serious problem with sign vandalism," explained Jack Knorr, Stillwater County Road Superintendent. He decided to take a proactive stance and take this information to the schools in hopes that he could reach an audience that might be able to slow down sign vandalism on the county roads. They targeted grades 7 through 12 and had the schools send a summary of the presentation out in the form of a newsletter to parents.

Steve Bue, Stillwater County Road & Bridge; Jim Trees, Emergency Vehicles; and Dan Ames, Stillwater County Sheriff Department; presented a program on vandalism of road signs to the first of five schools in their county. They outlined costs, the purpose of road name signs, penalties and fines, and liability. After viewing the ATSSA's video, *Danger Signs*, a question-and-answer period followed.

Sign Costs

Students learned that Stillwater County budgeted approximately \$17,000 on materials and \$20,000 on labor and equipment for signs. Steve Bue asked, "Where does the county money come from?" After discovering that the taxpayers provided the money, Bue pointed out that taxpayers were their parents. The budget was broken down to explain that ten percent of the budget covered installation of new signs and fifteen percent covered the replacement of signs and/or posts that had faded or deteriorated due to

age. Seventy-five percent of the budget, or \$27,750, had to be used to replace signs and/or posts due to sign vandalism.



A sample of sign costs, labor, & equipment:

36" Stop Signs =	\$130
36" Curve Signs =	\$125
School Signs =	\$225
Delineator Posts =	\$85
Reflector Cones =	\$24.60
Road Name Signs	
Single	\$120
Double	\$160
Triple	\$195

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Montana Dept of Transportation

Dan Williams
Montana Dept of Transportation

Sign Vandalism (Cont'd from Page 1)

Purpose of Road Name Signs

In an emergency, the ambulance or fire truck need

to know where and how to get to their designated location. It was pointed out to the audience that if signs are missing or have been defaced, it could possibly mean the difference between life or death. If emergency personnel are called out on an emergency, they need to arrive at their location in a timely manner. Another factor explained to the students was that signs help people traveling find a specific location.



sible for removing, defacing or destroying road signs or markers are subject to these lawsuits, prison, other fines, and penalties.

The program concluded with a request from the students to report vandalism or signs missing by calling the Stillwater County Road and Bridge Office or calling the Sheriff's Department. Students are community members that can make the difference in saving a life or preventing an accident.

Signs Returned

According to Jack Knorr, Stillwater County Road Superintendent, a week after the presentation, several missing signs were returned anonymously to the local road shop. To



keep the impact of sign vandalism awareness in the forefront, Stillwater County Road and Bridge Department will do a follow-up presentation later in the school year.

Thank you to Stillwater County for providing the information for this article.

Penalties & Fines

Students were informed that defacing, removal, and vandalism of road signs may result in severe fines or penalties. Possible fines could amount to \$285 and greater. There could be two points towards loss of their driver license and also the possibility of 60 days in jail. It was further explained that shooting a firearm from a roadway is a criminal offense and the fines and penalties differ.

Liability

The subject of liability was further emphasized by watching ATSSA's movie, *Danger Signs*, where several young people were charged for removing a stop sign and there was a subsequent accident and death. Accidents causing property damage and personal injury develop into lawsuits that could run into millions of dollars. It was explained that the person or persons respon-



2005 NACE Conference Report

The National Association of County Engineers annual national meeting, held in North Dakota this spring, is similar in format to the annual MACRS Conference and is primarily attended by County Engineers. It took me awhile to grasp why the organization is focused on the title of County Engineers and not Supervisors. The answer was quite simple after hearing some of the presentations and visiting in the hallways; it is funding. Montana is one of only a few states where the Department of Transportation retains virtual control of spending for secondary highways and other important local roads. The other states promote getting the funding to county administration for planning, design, and construction oversight.

The training sessions were a combination of general sessions and more specific meat-and-potatoes topics split into three tracks to appeal to all audiences: technical, transportation, and management. Each session that Tom Romo (Roosevelt County), David Ohnstad (Ravalli County) and myself attended was very informative. Topics of interest were Rural County GIS, Landslide Stabilization, Flame Straightening, and Asset Management.

The conference was more than training, it was a learning experience. I think the three of us that attended left with ideas on how we can continue to make our conference better, new contacts in other states, and possible concepts on how we may increase our county revenue.

*Russ Huotari, Director
Richland County Public Works*



Goodbye from Donnetta

As many of you already know, I am moving to sunny Arizona this fall and my last day of work with LTAP is May 27. I thank all of you for making my stay with this organization a wonderful experience. I will miss the friendship we have shared, planning your workshops and conferences, and just being able to help you whenever possible. I wish all of you the very best and hope to be able to keep in touch.

To the LTAP staff, I couldn't have been more fortunate than to be able to work with such a great group of people. Steve, Michele, Sam, Tiffany, and Brian, thank you! I will miss you.

At this time I would like to introduce you to my replacement, Lois Evans, who joined LTAP early May. She worked for MSU Conference Services

and is going to be very helpful in planning the workshops and conferences.

A Montana native from Liberty County, Lois moved to Bozeman seven years ago with husband, Larry, and son, Nate. She is looking forward to working with all of you. Please give her a big welcome!

Goodbye to all. You will never be forgotten. Thank you,

*Donnetta Bohrman
LTAP Conference Coordinator*



(L to R) Donnetta Bohrman & Lois Evans

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Blending Aggregates

When there is a proper blend of different size aggregates on a road surface, it produces a surface that can be used in all types of weather. With materials usually available locally, an aggregate surface is most economical for roads carrying low volumes of traffic.

To create this wearing surface, different sized aggregates are mixed together and spread across the road base. One inch aggregates should be the largest size used. These blended, different-sized, crushed aggregates will lock and pack together to make a strong, tight surface.

A very important part of the mixture is called "fine material" or "fines." This part of the mixture fills in the small spaces between larger pieces and when water is added, acts like a binder to hold the aggregate together.

Gravel Roads, Part II, Back to the Basics, Montana LTAP 2000

The Need for Plasticity in Mix

By Steve Jenkins, Montana LTAP Director

Test Those Gravels

Recently while working with the Butte-Silver Bow Road Department, there was discussion with the road crew on the need to determine if their road mix had the right proportions of correctly-sized materials in their road mix.

Performing an on-site sieve test indicates what happens if the percentage of coarse materials exceeds the smallest sized material.

The following chart, modified for Montana, from *Gravel Roads, Maintenance and Design Manual*, November 2000, South Dakota LTAP, covered the necessary limits presented to this Gravel Roads class:



Sam Gianfrancisco, LTAP Engineer, & Butte Silver-Bow County Crew

Value of Testing

Two major problems in surface gravel are washboarding and dust. There are numerous causes but the primary one is poor gradation of gravel. Referring to the chart, good surface gravel should have topsized stone no larger than one inch. The chart also indicates that there should be a good percentage of true fines meaning material that passes a #200 sieve. Ideally the percent of these fines should be 4 to 15 percent.

A liquid limit and plastic limit test should be done to determine if the gravel has a good "binding" characteristic. A plasticity index of 4 - 12% would help gravel stay in place. Surface gravel that lacks plasticity will constantly loosen under traffic and will require more blading maintenance as well as being prone to washboarding.

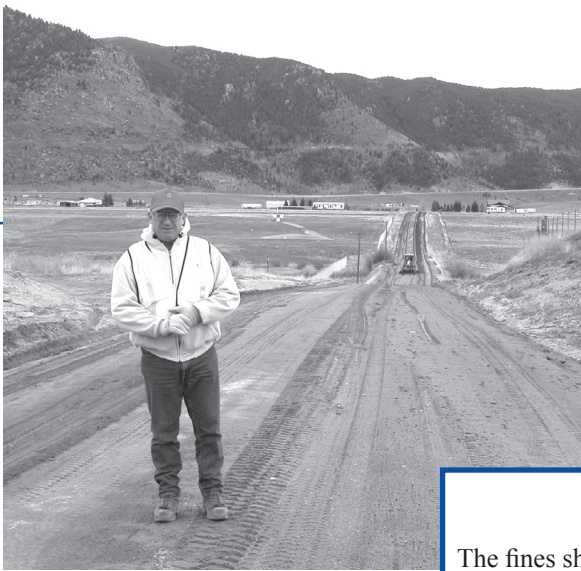
Continued on Page 5

Requirement Sieve	Aggregate Base Course Percent Passing	Gravel Surfacing Percent Passing
1"	100	100
3/4"	80-100	80-90
1/2"	68-91	65-85
No. 4	46-70	50-78
No. 8	---	25-50
No. 40	13-35	13-35
No. 200	3-12	4-15
Plasticity Index	0-6	4-12

One size does not fit all because different uses require different types of material. The chart can help to determine if it's suitable for a specific purpose. Testing prior to use solves many problems that can show up later. It is valuable to become more knowledgeable about materials and testing.



Steve Jenkins, LTAP Director, & Butte-Silver Bow Crew



*Jim McCarthy, Road Foreman,
Butte-Silver Bow*



Butte-Silver Bow Sieve Testing

The fines should be tested for cohesion. Atterberg Limits test determines the Plastic Limit and the Liquid Limit. A Plasticity Index between 4 - 12% will help a road surface to have a good binding characteristic. Too much of these natural clays added to the road surface during wet months will cause a slippery surface and rutting, but it will greatly reduce dust problems later in the summer months. Surface gravel that lacks plasticity will also loosen under traffic and require more frequent blading to avoid washboarding.

During the sieve test done at Butte-Silver Bow, it was determined that more crushed aggregate and some binder should be blended into existing material on the road surface. The sieve analysis below is from a source of gravel high in natural clays and angular rock.

Soil: Sample - LTAP (BSB Landfill)
Date: 6/16/2005

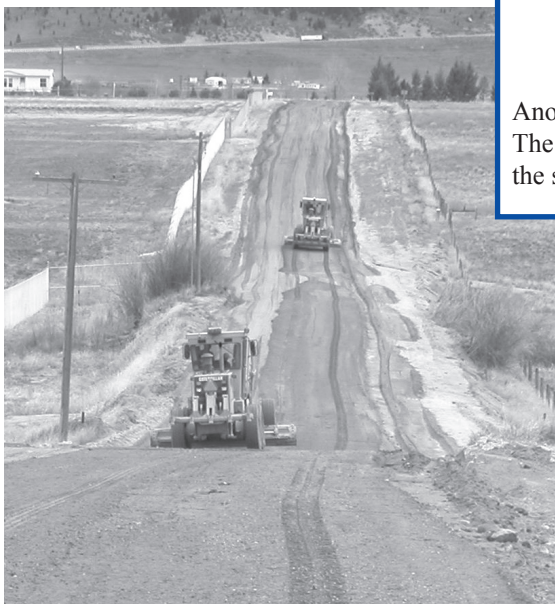
Sieve No.	Total Percent Passing (%)
3/4	100.00
1/2	92.11
4	65.49
8	42.75
40	17.85
100	13.21
200	11.24
pan	7.89

Liquid Limit	37%
Plastic Limit	25%
Plasticity Index	12%

Another blend of crushed stone used as a pavement mix was added to the road surface. The surface was then compacted with a rubber-tire roller. Hopefully the road will last the season with little maintenance.

Base Gravel

Because good base material needs a good percentage of larger stone for strength to carry the loads, at least 6-inch to 3-inch aggregate base is recommended. The stone needs a good percentage of fracture to help get aggregate interlock. The mix should also have an overall gradation. A good blend requires sand-sized particles and some fines along with the stone to get good density. A highly plastic base material will draw moisture from the water table and cause a soft base. Because this type of base would hold moisture, it would lose its strength, especially during the spring thaw season. Keep in mind the need for free-draining material in the road base.



Sixth International Bridge Engineering Conference: July 17-20, 2005, Boston, MA: Sponsored by FHWA and TRB, the conference will focus on all aspects of bridge engineering, including planning, design, construction, maintenance, repair, and security.
Contact: Ian Friedland at FHWA, 202-493-3023 (e-mail: ian.friedland@fhwa.dot.gov). Information is available online at www.trb.org/conferences/ibec.

Eighth International Conference on Concrete Pavements, August 14-18, 2005, Colorado Springs, CO: Information on new technologies related to the design, construction, and rehabilitation of various types of concrete pavements will be featured at the conference. The event is sponsored by the International Society for Concrete Pavements. Cosponsors include FHWA, the American Concrete Pavement Association, and the Colorado Department of Transportation. Contact: Dan Zollinger at Texas A&M University, 979-845-9918 (e-mail: d-zollinger@tamu.edu) or Sam Tyson at FHWA, 202-366-1326 (fax: 202-493-2070; e-mail: sam.tyson@fhwa.dot.gov). Information can be found online at www.concretepavements.org (select "Calendar").

2005 APWA International Public Works Congress and Exposition, Minneapolis Convention Center, Minneapolis, MN, September 10-14, 2005: The Emerging Public Works Leaders Forum is a program designed specifically for first time attendees with less than five years experience in public works or in a supervisory position. Contact: Ann Daniels, Director of Technical Services, by e-mail: adaniels@apwa.net or by phone at 816-595-5223.

Annual Calendar 2005

<p>January 2005</p> <table border="1"> <tr><td>S</td><td>M</td><td>T</td><td>W</td><td>Th</td><td>F</td><td>S</td></tr> <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> </table> <p>17-19: Loss Control Conference, Lewistown, MT 25: Full Depth Recycling, Billings, MT 27: Full Depth Recycling, Great Falls, 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 2005</p> <table border="1"> <tr><td>S</td><td>M</td><td>T</td><td>W</td><td>Th</td><td>F</td><td>S</td></tr> <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></td><td></td><td></td><td></td><td></td></tr> </table> <p>16: Train the Trainer, Helena, MT 17: Work Zone Level I, Helena, MT 24: Work Zone Level I, Great Falls</p> <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						<p>March 2005</p> <table border="1"> <tr><td>S</td><td>M</td><td>T</td><td>W</td><td>Th</td><td>F</td><td>S</td></tr> <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>31</td><td></td><td></td></tr> </table> <p>7-11: MDT Work Zone Training 15: Work Zone Training, Wolf Point 22: Work Zone Training, Miles City 21-25: USFS Work Zone Training 29-4/1: MACRS Conference, Billings 29: Work Zone Training, Glendive & Billings</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 Fall Events 2005

16th Annual APWA Equipment Training & Snow Rodeo

Great Falls, MT **September 7 & 8, 2005**

Contact Lois Evans, LTAP Conference Coordinator, 1-800-541-6671, regarding inquiries (Brochure will be sent in July and information will be listed in July, on this website: www.coe.montana.edu/ltap go to "training")

Montana Association of Counties Annual Conference

Billings, MT **September 25-28, 2005**

Holiday Inn
MACo's New Phone Numbers:
406-444-4360-Main Office or 406-444-4370-Insurance Office

MACRS District Meetings - Work Force Development

Forklift - Mower - Loader - Backhoe

Leadership - Creating Synergistic Work Teams

- Great Falls **Monday -September 26**
- Missoula **Wednesday -September 28**
- Butte **Thursday - September 29**
- Glendive **Tuesday - October 4**
- Billings **Wednesday - October 5**

Contact Lois Evans, LTAP Conference Coordinator, 1-800-541-6671, regarding registrations or inquiries (Brochure will be sent out in August and information will be listed on this website: www.coe.montana.edu/ltap)

League of Cities & Towns 74th Annual Conference

Helena, MT **September 27-29, 2005**

West Coast Colonial Hotel
Contact: 406-442-8768 League of Cities & Towns

MACRS Planning Meeting

November, 2004

Contact Lois Evans, LTAP Conference Coordinator, 1-800-541-6671, regarding this planning meeting. Meeting location & dates to be determined.

Summer Events 2005

Training on Request:

Summer Survival
Work Zone Safety
Gravel Roads

Contact Steve Jenkins, Montana LTAP Director, 406-994-6100 or 1-800-541-6671

National LTAP Conference
- Iowa, July 23-27, 2005

Green Highway Forum: Safety, Mobility, and Sustainability: Scheduled to meet for September 26-29, 2005, in College Park, Maryland. Sponsored by FHWA, American Association of State Highway and Transportation Officials, and the U.S. Environmental Protection Agency. This event is designed for transportation and environmental professionals involved in the planning, design, construction, maintenance, and regulation of transportation projects. The forum will showcase innovative projects and initiatives from around the country that combine the goals of safe and efficient transportation systems with ecosystem protection and community preservation. Contact: Jason Harrington, FHWA, 202-366-1576 (e-mail: jason.harrington.fhwa.dot.gov) or visit www.wetlandworkgroup.org/Green-Highways/Green%Highways.htm. For registration: Frank Reilly at the Wetlands and Watersheds Work Group, 877-586-3912 (e-mail: ExecutiveDirector@WetlandsWorkGroup.org).



MACRS Spring Conference 2005

By Michele Beck, MT LTAP



Busy Registration Table

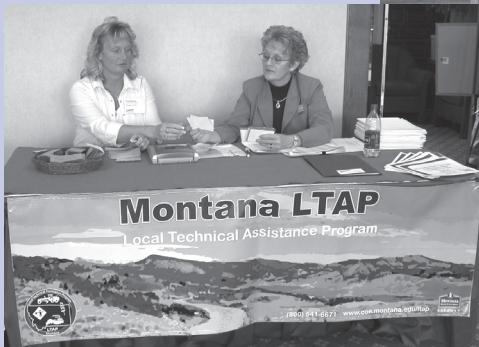
The Montana Association of County Road Supervisors held their 25th conference in Billings, Montana this spring. Once again all 56 counties had joined MACRS, making it the second year in a row Montana counties showed their unity. Over 40 vendors were available for the county road supervisors, transportation employees, and commissioners.

Senator Conrad Burns addressed the main session with first outlining how funding gets appropriated in Congress. He explained the top three programs that get first draw from the budget are medicare, medicaid, and social security.



Senator Conrad Burns (on left) with Jack Knorr, Stillwater County

Eric Iverson from Rep. Rehberg's Office



Tina Abreu (on left), Stillwater County, assisting Donnetta Bohrman, LTAP Conference Coordinator

Conference Highlights

On March 30, 2005, opening ceremony began with the Marine Corp League, Eugene Sara Detachment 418 presenting the colors led by Oscar Thompson, Yellowstone County Road and Bridge Department, on bagpipes. Kristy Ostlund had everyone join in as she sang the National Anthem. John Ostlund, Yellowstone County Commissioner, gave the welcome. Eric Iverson, Rep. Denny Rehberg's right-hand-man, informed the audience that the highway bill had passed in the House and was on the way to the Senate.

From there, allotments go into the different committees and eventually monies are put in to the various transportation bills. He is very aware that the 1935 road law does not fit into building and maintaining roads in 2005. There are new materials such as composites that are replacing steel. Optical improvement for traffic lights is being researched where they can adjust brightness. Burns mentioned that the new "roads" are happening in telecommunication field. He concluded with the fact that we cannot outbuild Americans' love for the auto. Therefore, we will continue to build safer roads for changing times and infrastructure.

Jack Knorr, Stillwater County Road Department, asked the crowd, "Where are your needs?" He further explained the necessity of using the road inventory tool, PASER, and how they assessed the conditions of their roads and how much funding it was going to take to bring the roads up to standards. Training of employees to meet today's requests was the other major issue Knorr believed counties needed to make a priority.

Following the Senator was Harold Blattie, MACo Assistant Director, who brought everyone uptodate on legislative issues that pertained to transportation and county issues. His in-depth knowledge was greatly appreciated by the audience.

Continued on Page 9

MACRS (Cont'd from Page 8)



After lunch, Mark Willmarth, City of Great Falls Training and Development Director, presented, "My Emotions Got in the Way!" He offered several solutions for interpersonal communication problems one may encounter on the job. Split sessions followed with Steve Jenkins, Montana LTAP Director, presenting SPCC workshop and the other session offered by Stillwater County regarding Right-of-Way Encroachment.



Commissioners' Round Table Panel

application, to be sure the road can be re-worked later after a rain. It was noted that in some counties, residents paid for dust palliative materials and the county put it down, helping with initial costs.

The Commissioners/Supervisor Round Table Panel dealt with numerous issues and questions that the audience brought to the table. Jamie Doggett, Meagher County; Mark Rehein, Richland County; Ted Coffman, Madison County; Jim O'Hara, Chouteau County; Kathy Bessette, Hill County; and Bill Kennedy, Yellowstone County, provided interesting solutions to problems that were encountered in various Montana counties.

Continued on Page 10



MACRS Lunch

Thursday, March 31, participants listened to Sam Gianfrancisco, Montana LTAP Field Engineer, and Steve Jenkins, Montana LTAP Director, cover a recent study completed in Stillwater County and Carbon County regarding dust control. Depth of penetration is the key when using a dust palliative. Several audience members noted it took a three-year time period before the benefits were fully reaped from their dust control applications. Because the dust palliative is a residual product, it becomes more effective with each year after application. Sam cautioned operators, that when buying an



Steve Jenkins, Montana LTAP Director, & Sam Gianfrancisco, in Main Session



Steve Jenkins



Sam Gianfrancisco & Tom Romo

Jim Lynch, new Montana Department of Transportation Director, was introduced by MACRS President Tom Romo. Originally from the Flathead Valley, he worked as a private contractor for almost 20 years in Washington. He has been involved in the transportation field for over 30 years, operating equipment and spending time in management. He liked the MDT motto of "Serving You With Pride" and asked the audience to let him know what they need. Lynch is also very familiar with the Reauthorization Bill and noted that originally the Bill was for defense interstate allocation.

Break-out Sessions

Participants enjoyed the selection of four different afternoon sessions: Setting Speed Zones on County Roads; AASHTO Roadside Design Guide by FHWA Safety Traffic Design Engineer Lloyd Rue; Plan Reading, Project Administration with Bryon Stahly; Ron Kemp offered METH Awareness.

Evening Banquet



Larry Ross,
Cowboy Poet

Once again, Larry Ross, Cowboy Poet, recited several of his poems for the audience while dinner was served. President Tom Romo and his cabinet dispersed door prizes that were provided from vendors and county road departments. Steve Jenkins, Montana LTAP Director, presented 13 Roads Scholar Level I Certificates and jackets

to those who had completed the requirements. Donnetta Bohrman, Montana LTAP Conference Coordinator, was honored with a retirement gift from the counties. The evening was capped off with dance music by the Don Cooper Band.

Spouses' Program

Twenty-two joined in the fun and started out the Spouses' Program by touring the Western Heritage Museum that covered the history of Billings and information about Lewis & Clark. After lunch they visited Granny's Attic and Depot Antique Mall. The second day was filled with lunch and shopping. They all appreciated Kim Peterson, Yellowstone County Road and Bridge Department, for being such a special hostess.

New 2005-06 MACRS Officers

The following MACRS members were elected into the following positions:

Russ Albers, President

Chouteau County, District #2

Tim White, 1st Vice President

Lincoln County, District #3

Jim McCarthy, 2nd Vice President

Butte-Silver Bow County

Jerry Forman, Secretary/Treasurer

Custer County

MACRS District Reps:

1. Charley Johnson, Flathead County
2. Jim McCarthy, Butte-Silver Bow
3. Tom Fairbanks, Blaine County
4. Wayne Waarvik, Valley County
5. Dennis Pitts, Carbon County



Jerry Backlund, Custer County, receiving Roads Scholars' Award Jacket from Steve Jenkins, Montana LTAP Director



MACRS President's Message

MACRS 2005-2006 President Russ Albers, Chouteau County District 2, enjoyed the celebration of the 25th year of MACRS gathering and sharing information. His major goal is how to better serve the traveling public.

By raising the safety awareness levels for all employees involved in the transportation field, Russ commented it can only develop a better work force to provide safer roads for the public.

Albers saw that bringing together all 56 Montana counties created an ideal situation of sharing new technology and solutions with road supervisors, commissioners, transportation employees, and vendors. Because of the vast distances of travel in the state, this conference is a win-win for everyone to exchange information.

Be it gravel road development and maintenance, bridge issues, signage problems and solutions, equipment questions, or METH lab information, the training acquired will be taken back to each county and shared with those that were unable to attend the conference.



Russ Albers, Chouteau County, District #2

"I look forward to working with all the new officers and district representatives, and any others that may have questions or solutions to share. Please contact me," Russ said. He can be reached at 406-622-5123, or e-mail at: river2@mcn.net.

Intertraffic North America
Baltimore, Maryland
September 27-29, 2005

For the first time ever in the United States, purchasers of products, services, and technology used in the transportation infrastructure, traffic management, and parking industries will have the opportunity to see 'what's what and who's who' in the industry.

Since 1972, the biennial Intertraffic trade fair in Amsterdam (25,000 delegates, 700 exhibitors) has been a benchmark of excellence in bringing together supply and demand for the traffic industry. In addition to Europe, Intertraffic trade fairs are now held in Latin America, Eurasia and Asia. Intertraffic's success and growth is based on a focus on developments in the traffic industry market as well as the concept of a broad exhibition platform and strong partner alliances.

Intertraffic North America is organized jointly with ARTBA, the premier US industry trade association, whose mission is to advocate strong federal investment in the nation's transportation infrastructure. With approximately 5,000 members, ARTBA represent the traffic and transportation construction industry. Over 1,000 member firms are located within approximately 500 miles of Baltimore.

More information at this website:
www.northamerica.intertraffic.com



Past & Present MACRS Officers: (LtoR)
Tim White, Russ Albers, Charley Johnson, Jerry Forman, Jim McCarthy, Wayne Waarvik, Shawn Norick, Bob Moats

Ticks Making Early Appearance This Year, Health Officials Warn

"Ticks are usually active from late March until July, when dryness and heat finally force them to take cover on the ground," said Todd Damrow, epidemiologist with the Montana Department of Public Health and Human Services. "But this year, they're out earlier than usual. The diseases they carry are sure to follow."

Ticks are parasites that feed by latching onto an animal or human host, imbedding their mouthparts into the host's skin, and sucking its blood. This method of feeding makes ticks perfect disease transmitters. They are responsible for at least nine known diseases in humans in the United States and at least four in Montana, including Rocky Mountain Spotted Fever, Colorado Tick Fever, Tularemia, and Q Fever, Damrow said. So far there is no record of a Montana tick spreading Lyme disease.

Damrow said people should be on the lookout for ticks in town as well as when they're hiking, fishing, or camping in the mountains, forests, or sagebrush plains.

"We're continuing to see more tick bites within city limits, presumably because more deer are moving into urban areas and bringing their parasites with them," he said.

Ticks can be as small as the size of the period at the end of this sentence to the size of a pea. They are shaped like pumpkin seeds and are brown to reddish-brown in color. They do not fly or jump but crawl slowly up vegetation and wait for their human and animal victims to brush against them.

Damrow recommended taking the following precautions against ticks: wear clothing that covers the body, such as long-sleeved shirts tucked into pants; spray insect repellent on clothing; examine yourself and your children regularly for ticks. (*cont'd Page 13*)

Mosquito Trappers Gear Up For Another West Nile Season



Permission granted to reprint article from Montana State University News Service; written by Evelyn Boswell

Greg Johnson and his team of trappers have captured 370,000 mosquitoes in the past two years, and they're not about to quit now.

West Nile Virus is still a threat to Montana even though the number of cases dropped from 2003 to 2004, said the Montana State University entomologist. If conditions are right, West Nile will make itself known.

"We will see West Nile Virus again in Montana," Johnson said. "We will probably have an outbreak that we will have to deal with."

Johnson is heading a statewide study to better understand how West Nile Virus is spreading in Montana. The study began in 2003 and identified 15 to 20 species of mosquitoes. One of those -- *Culex tarsalis* -- is the primary carrier of West Nile in Montana.

Johnson's team trapped mosquitoes at 65 sites last summer, covering about 75 percent of the state's counties. This year, Johnson plans to set out at least as many traps as last summer. He also hopes to place caged chickens along the Yellowstone and Milk rivers to serve as an early warning system. Chickens are widely used in various surveillance programs because infection shows up in chickens several weeks before it appears in humans and horses.

Johnson said he is still looking for West Nile Virus to cross into western Montana, but he has several projects planned for northeast Montana. West Nile infected about 30 pelicans at Medicine Lake last year and killed more than 1,000 in 2003. The virus infected 24 people at Plentywood and 12 at Culbertson in 2003.

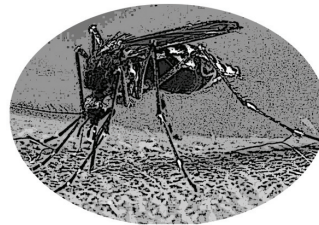


"It doesn't sound like much, but you look at the number of people in those counties and the per capita infection

rate is pretty high," Johnson said.

The Medicine Lake National Wildlife Refuge lies between Plentywood and Culbertson. With 10,000 adult pelicans and 4,000 to 5,000 nests, its colony of American white pelicans is the fifth largest in North America.

Montana's first two documented cases of West Nile in humans occurred in 2002. In 2003, West Nile killed four Montanans and 70 horses, another 228 people and 123 horses became sick. In 2004, no one died in the state, but six Montanans were infected. Forty-eight cases were reported in animals and birds.



"When all these factors come together and align, that's when the virus spills out and it becomes an outbreak or an epidemic," Johnson said.

Hot spots have been along the Mile River in northern Montana and the Yellowstone river drainage, according to Johnson's study. Mosquitoes near the Missouri River around Great Falls were carrying the virus too. Although some people may point fingers at the Medicine Lake refuge, Johnson advised against it. He said the virus-carrying mosquitoes have shown up all over the state.

His experiments involving chickens will proceed if he gets permission from the proper agencies and finds someone who can care for the chickens every day, Johnson said. He'd like to place five to seven flocks at strategic spots around eastern Montana. Each flock would have about five chickens. They'd be housed in a chainlink dog kennel inside a chicken coop. The kennel would have a roof.

"If the virus is around, mosquitoes will feed on the chickens," Johnson said.

Any chickens that test positive for West Nile virus would be replaced with a healthy chicken, Johnson said. The infected chicken would go to Johnson's lab for testing.

Continued on Page 13

West Nile (Cont'd from page 12)



One of several projects planned for the Medicine Lake area requires the capture of mosquitoes within 12 to 18 hours after they've bitten an animal or person and before they've digested the blood. Finding the mosquitoes will be difficult, but they will provide valuable information, Johnson said. Undigested blood could provide a link between the mosquito and an animal infected with West Nile Virus.

Mike Rabenberg, acting manager of the Medicine Lake National Wildlife Refuge, said he plans to monitor the refuge's pelican colony this summer. As soon as workers notice any sick birds, the birds will be euthanized and sent to the National Wildlife Health Lab in Madison, Wisconsin for analysis.

"Hopefully, we won't get a repeat (of previous numbers attributed to West Nile)," Rabenberg said.

Johnson said West Nile might seem to be a simple system involving mosquitoes and a virus, but it's more complicated than that. Mosquitoes carry the virus, but the virus needs a host. In Montana, the host has been birds. The virus also needs susceptible victims like horses and humans. The virus requires high temperatures at the right time in the life cycle of a mosquito.

When all these factors come together and align, that's when the virus spills out and it becomes an outbreak or an epidemic," Johnson said.

What Happens If I Get Infected?

Most people who get infected with West Nile virus do not have any symptoms. Some people develop a mild illness called West Nile Fever. This mild illness gets better on its own. No treatment is needed. A small number of people (less than 1 out of 100) who get infected with West Nile Virus develop severe disease, called West Nile Encephalitis or West Nile Meningitis (inflammation of the brain or the area around the brain). This severe disease usually requires hospitalization. In some cases, especially among older persons, it can result in death. Symptoms of severe illness include headache, high fever, stiff neck, mental confusion, muscle weakness, tremors (shaking), convulsions, coma, and paralysis. See your doctor if you develop these symptoms. There is no specific treatment for the West Nile virus infection.

Ticks...(cont'd from p. 12)

If you find a tick embedded in your skin, Damrow said, it's best to use tweezers to remove it.

"Grasp the tick near the point of attachment and pull upward firmly, but don't jerk or twist," he advised. If tweezers aren't available, use your fingers, but protect them with plastic gloves or at least tissue paper since tick fluids may be infective. Apply antiseptic and a bandage to the site and finish by washing your hands with soap and water.

For more information about tick-borne diseases, contact your local health department or visit the web site of the U.S. Centers for Disease Control and Prevention at www.cdc.gov/ncidod/diseases/list_tickborne.htm.

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From the Center for Disease Control...

West Nile Virus Is A Risk You Can Do Something About With a Few Simple Steps:

Cover Up! Wearing long sleeve shirts, long pants, and socks sprayed with repellent while outdoors can further help prevent mosquito bites. Avoid Mosquitoes! Many mosquitoes bite between dusk and dawn. Limit time outdoors during these hours, or be especially sure to use repellents and protective clothing.

Spray! Spray insect repellent containing DEET (Look for N, N-diethyl-m-toluamide) on exposed skin when you go outdoors. Spray clothing with repellents containing DEET or permethrin. Products with a higher percentage of DEET (up to 50%) give longer protection. Don't spray repellent on skin under clothing. Don't use permethrin on skin.

Use Repellent Carefully! Repellents containing DEET are very safe for adults and children when used according to directions. Don't put repellent on kids' hands because it may get in their mouth or eyes.

Mosquito-Proof Your Home

Screens: Keep mosquitoes outside by fixing or installing window and door screens.

Drain Standing Water: Don't give mosquitoes a place to breed. A small amount of standing water can be enough for a mosquito to lay her eggs. Look around every week for possible mosquito breeding places.

Empty water from buckets, cans, pool covers, flower pots and other items. Throw away or cover up stored tires and other items that aren't being used. Clean pet water bowls weekly. Check if rain gutters are clogged. If you store water outside or have a well, make sure it's covered up. Encourage your neighbors to do the same.

Help Your Community!

Dead birds help health departments track West Nile Virus.
More info at: www.cdc.gov/ncidod/dvbid/westnile

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, Montana LTAP: 1-800-541-6671

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

At our web site: www.coe.montana.edu/ltap

...you will find the total library publications, software, and videos lists. Also at this web site you can keep track of upcoming workshops, our newsletter, and "What's New" items that change periodically.

"I know of no more encouraging fact than the unquestionable ability of man to elevate his life by his conscious endeavor."

Henry David Thoreau

Montana LTAP Lending Library

Publications

p-418 Estimating Cumulative Traffic Loads, Volume II (FHWA 2005)

In 1998, FHWA sponsored a two-phase study to develop traffic load estimates for Long-term Pavement Performance (LTPP) sites. This report describes the results of the Phase 2 study. The Phase 1 study resulted in the development of methodology for estimating axle load spectra for all years the LTPP sites were in service. Phase 2 used this methodology to estimate axle loads for all LYPP sites that had acceptable site-specific axle weight data. In total, traffic load estimates were made for 558 LTPP traffic sites. This report will be of interest to engineers involved in pavement management, design, maintenance, and rehabilitation and in traffic data collection and analysis. (FHWA 2005) (152 pages)

p-834 Signalized Intersections: Informational Guide (FHWA 2004)

This guide provides a single, comprehensive document with methods for evaluating the safety and operations of signalized intersections and tools to remedy deficiencies. The treatments in this guide range from low-cost measures such as improvements to signal timing and signage, to high-cost measures such as intersection reconstruction or grade separation. Although the guide focuses primarily on high-volume signalized intersections, many treatments are applicable for lower volume intersections as well. (369 pages)

p-1040 Portable Changeable Message Sign Handbook (FHWA 2005)

This 5"x4" pocket handbook presents basic guidelines for the use of portable changeable message signs. It illustrates the principles of proper PCMS use but notes that it is not intended to be a standard which can be found in the MUTCD at <http://mutcd.fhwa.dot.gov/>. If interested in looking at on-line, go to www.tfhrc.gov/pavement/ltp/reports/03066/index.htm (FHWA 2005) (25 pages)

p-2638 Sunshine to Dollars (Steven E. Harris 2003)

This 22-page booklet covers fast, easy, visual solar heating, cooling, cooking, and experiments. (2003)

Videos

SL115 Workshop on How the Law Affects Maintenance Work: Steve Garrison, Montana Department of Transportation

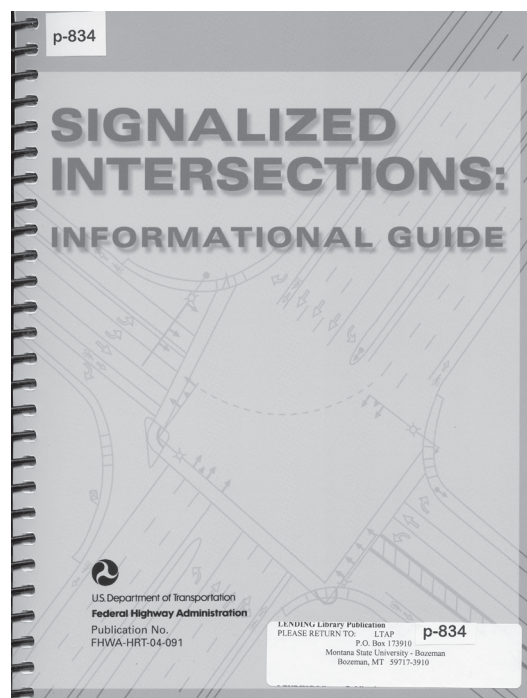
Mr. Garrison outlines, for the transportation audience, legal aspects of work zone areas and what legal ramifications come to light after accidents occur. There are some question-and-answer sections from the audience in this workshop. 120 minutes

ST132 Life in the Closed Lane, Parts 1 & 2 (ATSSA) 2003

Describes safety precautions to take when in the work zone area. 36 minutes

ST133 In The Zone, Driving Safely in Work Zones (ATSSA) 2000

Todd Bodine, NASCAR driver, explains safe driving in work zones. 8 minutes



Lending Library (cont'd from Page 14)

Software

SW315 Virtual Superpave Laboratory

This CD is a learning tool for training engineering students, practicing engineers, and technicians in the laboratory regarding procedures and data analysis of Hot Mix Asphalt (HMA) testing. This interactive CD will increase the expertise of agency, consultant, and contractor personnel responsible for making decisions concerning HMA mix design, quality control, and acceptance. Users will learn about the theoretical concepts behind the tests and will be able to conduct hands-on manipulation of the data. VSL provides a basic level of understanding of Superpave for all who specify, design, and build asphalt pavements. (National Asphalt Pavement Association 2005)

SW610 Endangered Species Act – Build Smart

This two-disk program was developed by the Coordinated Federal Lands Highway Technology Implementation Program and is a product of the Department of Civil Engineering and Instruction and Research Services at Portland State University. Disk 1 covers the introduction to the ESA and reviews independent duties of an agency's responsibilities. Disk 2 explains constructing to ESA, two case histories, and additional resources for inspectors. (CFLAHTIP 2004)

Endangered Species Act Build Smart



U.S. Department of Transportation Federal Highway Administration

SW760 Anti-Icing and Road Weather Information System

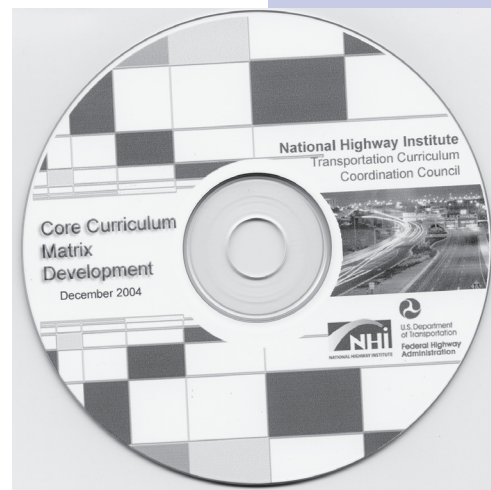
This program was developed to assist the transportation community to understand and use the information that is provided from a Road Weather Information System, using this information to determine which of the tools (anti-icing, de-icing, plowing) to use to provide the best approach to winter maintenance. This program contains seven modules with the final module being a scenario room where the student can take the information that has been learned to solve true winter problems. (AASHTO 2005)

SW780 Common Sense Solutions to Intersection Safety Problems

This guide illustrates many soil bioengineering techniques being used by various agencies and private industry to stabilize streambanks. It is essential that one have a firm grasp of the functions of the watershed and its riparian ecosystem before executing any of the soil bioengineering techniques presented in this guide. Look at the big picture and find the cause. Treat the cause, not the symptom.

SW2320 Core Curriculum Matrix Development

Contains the work competencies for four levels (Level I – IV) of achievement for five disciplines of highway engineering technicians (Materials Competency, Maintenance Competency, Employment Development, Construction, Safety/Work Zone). Also contains a comprehensive library of technician training references, such as what training is offered and where to get the training. Developed by Transportation Curriculum Coordination Council: FHWA, AASHTO, State DOT's, AGC, ACPA, ARTBA, NAPA, NPHQ (National Highway Institute 2005)



Transportation Organizations Web Sites To Visit

American Association of State Highway and Transportation Officials (AASHTO): <http://www.transportation.org/>

American Public Works Association (APWA): <http://www.apwa.net>

American Road and Transportation Builders Association (ARTBA): <http://www.artba.org/>

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

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

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

National LTAP Association (NL-TAP): <http://www.ltap.org>

“Things which matter most must never be at the mercy of things which matter least.”

Goethe



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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.

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, Faculty Court Unit 22, 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:

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