LTAP MATTERS

Montana's Answer To Technical Education of Roads & Streets

Montana State University-Bozeman
Bozeman, MT 59717-3910
(800) 541-6671

Montana Local Technical Assistance Program

11th Annual Equipment Operator Training

Training

Backhoe and Excavator

Steve Green, Tractor and Equipment Company, provided safety tips that are essential for conscientious operation. Most importantly, the operator "needs to be ____ ___ of people and features within the reach of the backhoe. Other workers should stay clear of the boom reach. Steve also did "walk around" training to show the operators where visibility problems can arise. Start-up and cool down procedures were covered to give operators a clear concept of proper machine operation. Maintenance checks and wear points were also demonstrated.

Loader

Steve Jenkins, LTAP, covered loader stability, articulation, stockpiling, tire pressure and spin, lifting capacity and operator techniques. The MDT loader course was also outlined. Emphasis was placed on safety, proper start-up and shut-down, capacities, loading cycles and working with truck drivers. A handout for proper hand signals was given to all the operators in attendance.

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Snow Plow

Sam Gianfrancisco, LTAP, discussed the elements of snow plow training. He stressed defensive driving and how planning far enough in advance to avoid accidents is essential when operating large equipment on icy roads. The critical areas of snow plowing are:

- Super Elevation,
- Curves,
- Bridges,
- Intersections, and
- Railroad Crossings.

Motorgrader

After Steve Green provided basic training for beginning operators, he emphasized the use of the motorgrader for snow removal. The blade, the plow, and the wing can all be used for effective snow control. The training tape he provided will soon be available in the LTAP library. Steve also provided excellent walk-around training on the motorgrader.

All of the training including classroom, walk-around, hands-on operations, and the barbecue, were held at the Great Falls Fair Grounds. Country music was provided by Grant Stebbins at the barbecue. The afternoon provided opportunities to exchange ideas, operate equipment and socialize.

MDT provided the snowplow while Tractor and Equipment (Caterpillar) provided all the other equipment for the training. The

ADVISORY COMMITTEE MEMBERS

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LTAP

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Montana Department of Transportation

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Montana Department of Transportation

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Stillwater County

new Skid Steer was also available for practice. Fred Ravino of Tractor and Equipment Company worked with Marty Basta, City of Great Falls, to set up a training course to help participants sharpen their skills and train for the competition.

Competition

Each of the equipment courses was changed slightly and made more difficult from last year's competition. Very few competitors maneuvered the motorgrader through the course without knocking over the wrong block and even fewer put the bowling ball in the center of the golf green. No one completed the Backhoe course without at least one mistake during the allotted time. First year competitor, Wayne Bengston, from MDT stated, "that it was fun, but stressful for those who took it seriously."

Overall, Marty Basta, who has been involved in hosting the workshop since its beginning, felt that "holding all activities at the fairgrounds allowed more time for training," and that "the competition was the best ever with the most difficult courses." Bill Gibbs of Tractor and Equipment Company, who attended for the first time, commented "there is more to operating equipment than the public can imagine." "People who grumble about road construction need to come and observe this training." He also felt that watching the equipment was very entertaining.

Wayne Waarvick of Valley County, thought the "safety aspects of the training were very important."

Sam Gianfrancisco stated, "there is so much here for operators to

benefit from that I wish more counties would take advantage of it."

Last year's winner, Doug Nisbet, repeated last year's performance and was the overall winner. He was presented with a LTAP jacket. Other winners were as follows.

All Around Champion

Doug Nisbet, Lewis and Clark County
Rod Wegner, City of Missoula
Tim Miller, Yellowstone County
Clay Moore, Yellowstone County
Troy Delaney, MDT-Lewistown

Motorgrader

Troy Delaney, MDT-Lewistown
Tim Miller, Yellowstone County
Clay Moore, Yellowstone County
Wayne Waarvik, Valley County

Backhoe

Steve Stanfield, City of Great Falls
Bob Moats, Yellowstone County
Bruce Klapmeier, MDT-Missoula

Snowplow

Steve Kurk, City of Bozeman
Clay Moore, Yellowstone County
Rod Wagner, City of Missoula

Loader

Troy Delaney, MDT-Lewistown
Jeff Blomgren, City of Great Falls
Doug Nisbet, Lewis and Clark County

You Show Us - Montana Winner

Wayne Silvan, Chouteau County

Problem Statement

What is one of the main problems in the spring on the shoulder of a gravel or dirt road? It is the ledge caused by the weeds and grass growing on the shoulders. This ledge prevents the motorgrader operator from

cutting the shoulders to the ditch throughout the whole summer and into the fall and winter. This problem was one of our main concerns in the past years.

On a hill, shoulders left by narrowing up the roadway because of weeds and grass would keep the water from running off into the ditch as it is supposed to, which caused considerable washing of the roadway. Material migrates to the shoulders due to tire movement and dust, and should be reclaimed to re-work into the road surface. These fines can improve the gradation of the road.

Discussion of Solution

One solution was to cut the shoulder in the early spring or late fall and then windrow it onto the road surface and beat it around with the moldboard until you were beat senseless. Sometimes it worked, but it was very time consuming and usually was cause for a good chewing from the public who

looked at it as though you were trying to get ready for the Daytona 500 grader races.

Well, that was enough for us to look for a better way to get rid of the grass, but still retain all or most of our gravel. Then one day watching a harrow work in the field I noticed how good of a job it was doing chewing up the grass and distributing the dirt fairly evenly, so in came the heavy harrow era.

These harrows are designed to vibrate the tines back and forth at about 12-15 MPH, thus breaking up the grass and dirt clods. We still have to travel a fairly good speed, but there are few complaints with the blade in the air and with a windrow in the center or on the side of the road.

The motorgrader doesn't have to run over the grass coming out from under the blade as before so the wear and tear on the machine and operator is much less. It sometimes takes two or three passes to get rid of the mess depending on moisture and type of grass and soil mixed.

At times the windrow is placed on one side or the other and if smooth enough we pack it and the public will run on it and not complain.

It also has other uses such as seeding grass and chewing up dry weeds before seeding grass.

Labor, Equipment & Materials

Next year we are going to try the use of mag-chloride on the shoulders after we work them to control the grass growth. We tried some this summer with a fair amount of success. It took approximately two to three

days to complete the first harrow. The main factory frame is made of 2x4x1/4" rectangle and the frame we installed is 2x4x1/4" the uprights are 3 feet tall and the cable for the support is 5/8" solid core.

Cost

The initial cost of the harrow was $925.00 and to replace each tine is $21.45 and $536.00 for a full set. If used right the tines will last for many miles. We try to run ours at about 1 to 2" above the surface of the road.

We have used it two years and are getting close to replacing the first set of tines. The first setup took

about three days to make and the cost is dependent on
the price of metal and labor.

Savings/Benefits

We have found that it saves on time when we edge our roads instead of going over a windrow five or six times. Depending on the size of the windrow it can usually be done in half the time with less wear and tear on the machine and the operator. Therefore, it saves the gravel that we bring up from the shoulder. We also use it in conjunction with our diskedger.

We encourage all counties to attend the Region 8 meeting in Rapid City, SD to see other state's entries.

Did You Know............................

- The U.S. interstate highway system requires that 1 mile in every 5 must be straight. These sections can be used as airstrips in a time of war or other emergencies.

- In San Salvador, drunk drivers can be punished by death before a firing squad.

- In 1900, there were 8,000 cars in the United States; by 1919, there were 6 million cars in the U.S.

- Bill Gates formed a company to sell a computerized traffic counting system to cities, which made $20,000 its first year. Business dropped sharply when customers learned Gates was only 14 years old.

County Road Advisors Conference

Agenda

October 25, 2000

8:00 - 9:30 a.m.   Opening Session: FHWA
Representatives

10:00 - 11:30 a.m.   Our county representatives
to the Western FHWA Resource Center:
Round Table Discussion

11:30 - 1:00 p.m.   Lunch & "You Show Us" Awards
Presentation (to all state winners and one
regional winner)

1:00 - 2:30 p.m.   Unpaved Roads Session

3:00 - 4:30 p.m.   Management Systems Session

October 26, 2000

8:00 - 9:30 a.m.   Road Construction, Improvement
& Maintenance Issues: Round Table Dis-
cussion with State Secondary Engineers

10:00 - 11:30 a.m. Hot Topics with Bobby Meister,
including new MUTCD Low Volume Road
Geometric Design

11:30 - 12:00 a.m. Conclusions, Door Prizes
& Awards Ceremony

Registrations

The conference registration fee of $50 includes one
lunch, one breakfast, social hour, breaks and all
handouts. You can register at the door, but prior
registration is encouraged.

A block of rooms is being held at:

Ramkota Hotel
2211 LaCrosse Street
PO Box 1795
Rapid City, SD 57709
(605) 343-8550

NOTE: You need to make your
own hotel reservations no later
than October 2nd!

Conference Registration

County Road Advisors Conference
October 25 & 26, 2000

Registration Fee: $50

Name: _____

Title: _____

Org.: _____

Address: _____

_____

City: _____

State: _____   Zip: _____

Phone: _____

Fax: _____

Send registration form & fee to:

Bobby Meister
c/o Minnehaha County
PO Box 704
Sioux Falls, SD 57101
Phone: (605) 367-4316
Fax: (605) 367-7255

See you there!!

2000 Calendar of Events

MACRS District Meetings-Communication & Leadership of Commissioners, Road Supervisors and Crews

October 2, Missoula, MT
October 3, Great Falls, MT
October 4, Billings, MT
October 5, Miles City, MT

Montana League of Cities and Towns Annual Conference

October 11-13, Missoula, MT

Flagging and Work Zone Training

October 16, Butte, MT
October 18, Bozeman, MT

FHWA Region 8 County Road Advisor's Conference

October 25-26, Rapid City, SD

3M Customer Visit

November 1-3, Minneapolis, MN

MACRS Final Planning Meeting

November 16, Lewistown, MT

**Leadership
Winter Safety
Work Zone Flagging**

On Request, *Please contact Steve Jenkins at (800) 541-6671 to schedule your workshop*

Montana Branch Rocky Mountain Chapter APWA Fall Workshop
October 11-12, 2000
Missoula, MT

This one and one half day workshop is designed to help the Public Works Director meet some of their daily challenges. The leadership workshop is designed to enable the elected official and the Public Works Director to work together to provide the essential services to the community in the most professional way possible. The contract portion of the workshop is designed to better prepare the Public Works official to perform in the capacity of a contract administrator. Many times the individual is asked to negotiate engineering contracts, oversee the work of consultants, approve the consultants bid package, approve and recommend the construction contract and act as the Cities or Towns contract representative and inspector.

Wednesday, October 11, 2000
8:00-8:30   Registration

8:30-12:00   Leadership workshop presented by Steve Jenkins Director, LTAP, Ken Haag President, Haag Consulting

12:00-1:00   Lunch on your own

1:00-4:00   Technical tours for issues such as our bike lane/trail system; wastewater treatment upgrade to BNR; traffic signal coordination upgrade

GPS Training a Success

The Montana LTAP retained Carma Ingram from Monsen Engineering to teach classes on Global Positioning Systems (GPS) on August 22 in Missoula and August 23 in Great Falls. Both classes were well attended and participants were very pleased with the class.

To start the class Carma gave an introduction on what GPS is and how it works to collect GIS data. Later the class learned how to create a data dictionary in Pathfinder Office before going out in the field. The data dictionary is where you enter the attributes. For example, if you were collecting data on bridges, your attributes might be weight, type of structure and condition of the bridge. In the afternoon the class

participants took their GPS units out in the field and entered data into their dataloggers. When everyone had learned how to do this, they went back inside and Carma showed them how to download their data from the datalogger to a computer using the Pathfinder Office Software.

Overall the class was very informative and everyone learned something new about GPS. LTAP hopes to have Carma back again next year to do another class on GPS.

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

Contributions Welcome

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

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