

LTAP MATTERS

Montana's Answer To Technical
Education of Roads & Streets

Montana State University-
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April, May, June 2000

Vol. 18, No. 2

Name Our Newsletter Contest Winner

In the January, February, March 2000 Edition of the LTAP Quarterly Newsletter we published an article entitled "Name our Newsletter." This article profiled a contest to rename the LTAP newsletter, offering a LTAP Wearguard, fleece lined jacket as the prize. We are pleased to announce that Gary Allen from Petroleum County was the winner of our contest.



Photo by Ralph Corbett

Gary Allen has been an employee of Petroleum county for the last 27 years, spending the last 6 years there as the Road Foreman. He also worked for Zandstra Construction in Rapid City, South Dakota as a Finish Blade Hand in 1985-86.

Gary has a passion for hunting and fishing. One of his favorite activities is to archery hunt on the Missouri Breaks where in 1980 he shot a 6x8 bull elk. Although Gary is left-handed he shot his elk right-handed. One day he would like the opportunity to do it again, only this time left-handed!

Thank you to all those who submitted entries. We appreciate your effort.

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Montana Workzones

By Steven Jenkins

As drivers on all types of roads in Montana, from Interstates to unpaved roads, we expect roads to be reasonably safe. Cities and counties do their best to utilize limited resources to maintain these roads while disturbing traffic flow as little as possible. Unfortunately, road construction is necessary to upgrade and maintain Montana's roads. The construction zone is where inattentive drivers are caught off guard.

Traffic Safety studies have shown that motor vehicle crashes occur when we "exceed drivers expectations." If

drivers are unfamiliar with a sign or signing sequence, they may panic or simply react slower than normally expected. This may result in a motor vehicle crash or someone injured in the workzone. For this reason MDT, LTAP, and local governments have made an effort to standardize the set-up of "Workzones in Montana."

Considering the wide variety of roads, traffic volume, car speed, and construction activities; workzone set-ups vary greatly. The Manual on Uniform Traffic Control Devices (MUTCD), has been established by the Federal Highway Administration and accepted in Montana as the standard. Compliance with the

Work Zones on U.S. Highways have become increasingly dangerous, with the death rate approaching two per day.

Source: Focus, USDOT, January 2000

**LTAP Quarterly Newsletter is published by the Local Technical Assistance Program at
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manual standardizes workzones and allows drivers from anywhere in the United States to recognize signs and layouts in Montana workzones.

LTAP has made efforts in many areas to encourage cooperation between MDT, city, county, and other government agencies to make uniform workzones. Efforts include the "MDT Guidelines for Workzone Safety" and the "Flaggers Handbook" which is distributed to certified flaggers.

In another effort, MDT and LTAP have entered into a "Memorandum of Understanding" to provide flagger training for Montana. A reciprocity agreement has also been signed with the states of Idaho, Oregon, Washington and Montana to standardize flagger training and procedures. This agreement states that flagger certification cards will be accepted between states and the flagger training courses will have the following components

- Be a minimum of four hours
- Cover information from all sections of Part VI of the MUTCD
- Include the use of appropriate videos, slides or a combination of both
- Have a written test (either open or closed book) requiring 80% accuracy to pass the course, and
- Provide course reference materials to the flagger for future use
- Present the flagger with a flagging card with either the flagger's photo or a statement requiring a government issued

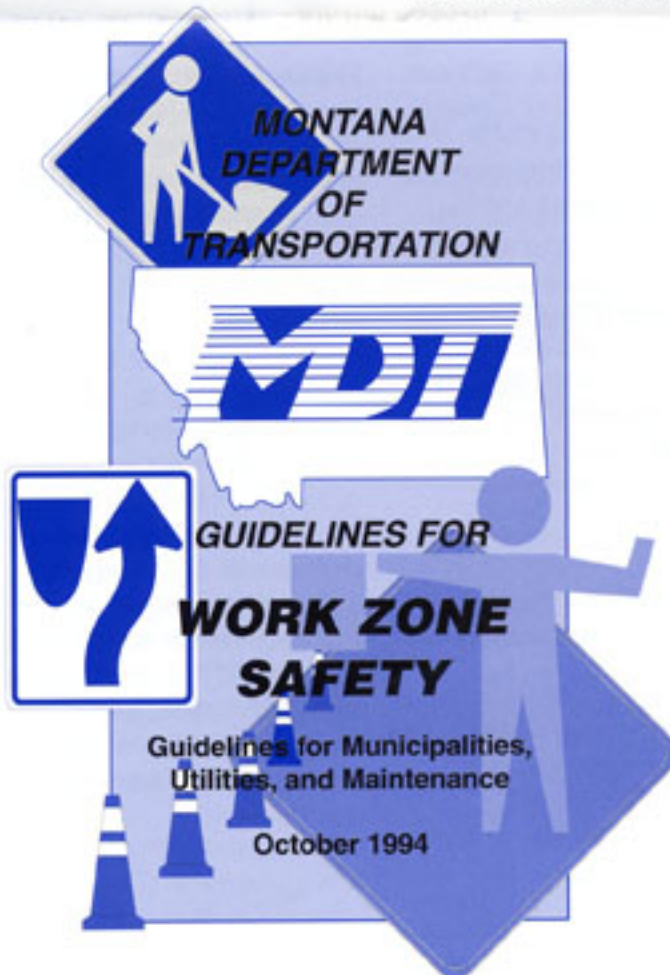
photo ID for validation

- Have a maximum three (3) year flagging card expiration date from the date of issuance
- The entity with oversight of the training course must maintain a database of all flaggers trained by providers, which can be made available to the states listed in this agreement

Quote from the ATSSA Flash, Nov. 12, 1999:
 "A nationwide search by the American Public Works Association's 'Construction Practices Subcommittee of the Utility and Public Right-of-Way Committee' found the Wisconsin Work Zone Safety Guidelines for Construction, Maintenance, and Utility Operations, as well as manuals produced by ATSSA and the **Montana Department of Transportation** 'heads and shoulders' above all others analyzed."

In Montana, a course has been designed by LTAP and has been used for several years. Improvements and updates will include sections

from the MUTCD on workzones. A flagging pocket guide, designed by LTAP, is given to each participant.



The Montana LTAP will provide ATSSA training for the year 2000. Upon request from Local Governments and the Contractor Association, Traffic Control Technician and Traffic Control Supervisor courses will be offered in various locations. The latter course is recognized by the Montana Department of Transportation, as acceptable fulfillment of requirements to become a Flagging Instructor in the State of Montana. IMSA courses will not be provided this year by Montana LTAP.

The courses listed on page 6 are provided this year to assist with training needs and certification. Please call Montana LTAP at (800) 541-6671 or (406) 994-6100 if you have questions on workshop availability or for details about training.

MUTCD

The Millennium Edition

By Linda L. Brown, Transportation Specialist
FHWA Office of Transportation Operations

The Federal Highway Administration's Office of Transportation Operations is in the process of rewriting the Manual on Uniform Traffic Control Devices (MUTCD). This manual contains the standards and guidance for the design and use of signs, pavement markings, traffic signals, and other traffic control devices.

MUTCD has not been substantially rewritten in more than 20 years. Innovative technologies, roadway developments, new applications for traffic control devices, and complicated technical text have made it necessary to reexamine the information in the current (1988) edition of MUTCD. A major effort to rewrite and reformat this manual has been underway since 1995 to incorporate technological advances in the application of traffic control devices and to make the manual more user-friendly by improving the overall organization and by using clearer language.

All changes to MUTCD must be made through the federal rulemaking process, which permits all interested persons to comment on the proposed changes. The Federal Highway Administration (FHWA) published Federal Register notices of the proposed amendments for the following parts of MUTCD:

- Part 1: General Provisions
- Part 2: Signs.
- Part 3: Markings.
- Part 4: Signals.
- Part 7: Traffic Control in School Areas.
- Part 8: Traffic Control at Highway-Rail Grade Crossings.
- Part 9: Traffic Control for Bicycle Facilities.
- Part 10: Traffic Control for Light-Rail Transit (new).

FHWA plans to publish notices of proposed amendments for the remaining parts of MUTCD by March 2000. These parts consist of a new Part 5: Traffic Control for Low-Volume Rural Roads and Part 6: Traffic Control for Work Zones. FHWA plans also to publish a notice of proposed update information for Parts 1, 3, 4, and 8. Public comments for all parts of MUTCD must be received by June 2000. At which time, FHWA will

review and summarize the comments and will prepare a "Final Rule" position that will be published in the Federal Register in December 2000.



FHWA realizes the critical role of public awareness and education when introducing new or revised products to its customers and partners. New policies and applied technologies will have a strong impact on our citizens and industries for many years.

FHWA is working to expand its traditional network to include others, such as motor vehicle departments, drivers' education classes, law enforcement personnel, travel and tourist agencies, community civic leaders, and emergency response providers.

In an effort to create more public awareness of MUTCD, FHWA is publishing the "Millennium MUTCD" in several formats: traditional hard copy, CD-ROM, and Internet. The Federal Register home page (<http://www.nara.gov/fedreg>) and at the MUTCS home page (<http://www/fhwa.dot.gov/operations/mutcd>). FHWA is in the process of expanding its Web site to include electronic briefing presentations that provide an overview of the proposed MUTCD changes and a database management program that can be used to research historical and background information on various MUTCD requests for changes, experimentation, and interpretations. Other features will be added in the future to make the MUTCD Web site a one-stop shop for information concerning traffic control devices.

Treasure State Endowment

By Jim Edgcomb

Does your county have multiple bridges that need to be replaced or rehabilitated now, but only one is scheduled for MDT funding in the next few years?

The Montana Department of Commerce (MDOC) Treasure State Endowment Program (TSEP) may be your answer to solving this problem. TSEP is a state-funded program that provides grants to help finance bridge projects.

While most of the projects that have been funded by the program since it started in 1993 have been water and sewer projects, an increasing number of counties are learning that TSEP is good alternative source of funding for bridge projects. Cities, towns, and counties, as well as county or multi-county water, sewer, or solid waste districts can apply for TSEP funds. Applicants can request up to \$500,000. There is a dollar for dollar matching funds requirement. However, matching funds can be local funds and even grants provided by other funding sources including funds from MDT.

MDOC only accepts applications for TSEP funding every two

years, since TSEP projects must be approved

by the Legislature. TSEP applications are evaluated and ranked by Commerce staff based upon seven statutory priorities. In order to rank higher than other applicants and be more competitive, projects need to resolve serious health and safety threats and applicants should have a serious financial need.

In general, applicants should be currently levying for bridges, and/or have committed to a levy for bridges in the next budget year, an amount equal to or greater than .04% of the county's median household income

(MHI), in order to prove that they have a financial need and should be recommended for a grant. However, the Commerce staff will take into account in the financial analysis any changes in the county's ability to levy taxes and the county's use of non-property tax revenues to fund bridge projects.

MDOC encourages local officials, staff and engineers to consider whether TSEP funds could help finance

one or more of their bridge projects. Approximately \$12 million will be available for TSEP grant awards through the 2001 Legislature. Based upon previous funding competitions, MDOC should be able to fund approximately 30 projects. However, the deadline for applying for TSEP funding is May 5, 2000, so you need to

get busy now. Prospective applicants should contact the TSEP staff as soon as possible to discuss their project and the application requirements.

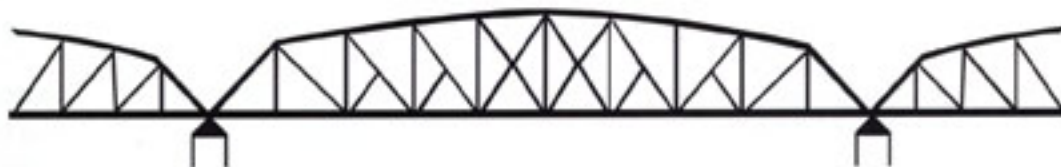
MDOC staff can provide prospective applicants with a copy of the "TSEP Application Guidelines", which provides information about applying to the program and the requirements for completing a preliminary engineering report. The application form is in a

separate publication entitled "The Uniform Application Supplement for Montana

Public Facility Projects." Both of these publications can be obtained from MDOC.

For more information about the Treasure State Endowment Program call the TSEP staff at (406) 444-2400.

Cities, towns, and counties, as well as county or multi-county water, sewer or solid waste districts can apply for TSEP funds.



2000 Calendar of Events

Gravel Roads Part II, Back to the Basics	April 11-12, Fort Benton, MT April 13-14, Great Falls, MT April 25-26, Glasgow, MT May 3-4, Columbus, MT May 9-10, Forsyth, MT June 8-9, Ennis, MT June 22-23, Helena, MT
ATSSA Training	May 16-18, Billings, MT May 23-25, Missoula, MT
Safety Management	June 15, Great Falls, MT July 13, Missoula, MT August 10, Billings, MT
Leadership/Crew Supervision	On Request August-September
11th Annual Equipment Operator Training Workshop	September 6-8, Great Falls, MT
Montana Association of County Officials (MACo)	September 24-27, Havre, MT
Montana League of Cities and Towns Annual Conference	October 4-6, Missoula, MT
FHWA Region 8 County Road Advisor's Conference	October 25-26, Rapid City, SD
APWA Satellite Teleconferences	To Be Announced

Correction

In the October, November, December 1999 edition of the LTAP Quarterly Newsletter, we published incorrect regulations regarding safety belt use while operating a motorgrader. The operator is NOT personally liable if they are standing in any type of enclosed machinery. MSHA regulations hold the operator of the mine/gravel pit personally liable up to \$1000. The supervisor of the equipment operator can also be held liable if he/she is aware that there is no safety belt in use. However, disciplinary action can be taken against the operator of the motorgrader if there is refusal to wear their safety belt.

New Videotapes and Publications

Publications

p-7* Design and Construction of the Pochuck Quagmire Bridge – A Suspension Timber Bridge – Provides design and construction guidelines for a timber pedestrian suspension bridge located on the Appalachian Trail in Vernon County New Jersey. Presents basic engineering design criteria and construction tips as well as material, machinery and people power costs and needs.

p-63* Modern Computational Environment for Seismic Analysis of Highway Bridges – This report describes the architecture, design and implementation of ALADDIN, a new high-level scripting language and tool kit for interactive matrix and finite element analysis of structures. The capabilities of ALADDIN are demonstrated by performing linear static and dynamic analysis for simple structural systems and highway bridges, the principal application area for this research. ALADDIN can evaluate selected design rules from the AASHTO bridge design code.

p-220* Use of Design/Build and Warranties in Highway Construction

– Presents information on requiring warranties on roadway construction. Outlines several models of state short-term pavement warranty projects, citing successful programs in Wisconsin and Michigan Departments of Transportation.

p-355* Evaluation Findings of the MX 30 Pavement Marking Retroreflectometer - Presents the results of a detailed evaluation of the MX 30 pavement marking retroreflectometer.

p-356* Evaluation Findings of the Mirolux Plus 30 Pavement Marking Retroreflectometer - Presents the results of a detailed evaluation for the Mirolux Plus 30 (MP-30) hand held pavement marking 30-meter retroreflectometer manufactured by Mirolux Products, Inc.

New Videotapes and Publications

p-357* Evaluation Findings of the Laserlux Mobile Pavement Marking Retroreflectorometer - Presents the results of a detailed evaluation for the Laserlux mobile marking retroreflectorometer.

p-358* Evaluation Findings of the LTL 2000 Pavement Marking Retroreflectorometer - Presents the results of a detailed evaluation for the LTL 2000 hand held pavement marking retroreflectorometer manufactured by Delta Light & Optics and distributed by Flint Trading, Inc.

p-359* Evaluation Findings of the Ecodyn Mobile Pavement Marking Retroreflectorometer - Presents the results of a detailed evaluation, one of six pavement marking 30-meter retroreflectorometers that were evaluated.

p-360* Evaluation Findings of the FRT01 Pavement Marking Retroreflectorometer - Describes the evaluation of the FRT01 handheld pavement marking retroreflectorometer manufactured by Mechatronic.

p-901* Traffic Calming: State of the Practice - Covers what traffic calming is, its history, engineering and aesthetics, impacts, legal authority and liability, project selection procedures and public involvement. Focuses on the activities and experiences of 20 U.S. communities involved in traffic calming.

p-2564* Highway Statistics 1998 - This is an annual report containing analyzed statistical data on motor fuel; motor vehicles; driver licensing; highway-user taxation; State highway finance; highway mileage; Federal aid for highways; highway finance data for municipalities; counties; townships; and other units of local government, select tables/charts from the 1995 Nationwide Personal Transportation Survey; and international data.

p-2565* Extrapolation of Pile Capacity From Non-Failed Load Tests - This report presents the procedures, anticipated accuracy, and a recommended method of analysis allowing the prediction of the ultimate bearing capacity of a driven pile from proof tests.

p-2566* Rest Area Forum: Summary of Proceedings - This is a summary of the proceedings of the Rest Area Forum in Atlanta, GA. Topics include provision of safe, adequate parking for commercial drivers and their vehicles. Alternate parking sites, ability to meet parking needs and locations of public rest areas were also covered.

Software

SW-124* Geosynthetics: Use in Streets and Highways - Provides a general overview of the design, selection, and installation of geosynthetics. Shows step-by-step procedures for the cost effective use of geosynthetics in drainage and erosion control systems, roadways, reinforcement, and in containment applications. (System requirements include Window 95)

SW-125* RC Flagman Priority Technology Evaluation Report, November 1999 - To use this report disk you must have a web browser that is able to view movies (Mpeg format) and the Adobe Acrobat reader (link provided).

SW-126* Systems Planning Interactive Library and User's Handbook for the Development of the Florida Interstate Highway System - Includes PDF files of documents, overheads, slide presentations and course materials on access management, public involvement in access management, transportation and land use relationships, site impact, level of service, mobility management, and traffic design.

Videotapes

SS122 Danger Signs - Discusses sign vandalism and provides testimony for three fatalities in Florida due to sign vandalism.

ST130 One Step From Death - Focuses on the safety of a construction workzone. Shows different situations in which the worker should be responsible for his/her own safety.

Request for Videotapes & Publications

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

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



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Approximately 2,200 copies of this public document were published at an estimated cost of \$.593 per copy, for a total cost of \$1,305 which includes \$905 for printing and \$400 for distribution.

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

The Local Technical Assistance Program Newsletter 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, new 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, 416 Cobleigh Hall, PO Box 173910 Montana State University-Bozeman, Bozeman, MT 59717-3910, or call 1-800-541-6671.

Contributions Welcome

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

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