
Utah Technology Transfer Center Newsletter

T² ON THE MOVE

The Direction in Transportation Progress

Brought to you by Utah's LTAP (Local Technical Assistance Program)

Volume 15, Number 4

Fall (October) 2002

Are Your Traffic Control Devices Doing Their Job Both Day and Night?

by Doyt Y. Bolling, P.E., Director

The traffic control devices of signs, signals, and pavement markings are the primary elements that keep our streets and roads flowing properly and safely. As such they must do their job during the day and night, as well as in adverse weather and traffic conditions.

In the United States, almost half of all traffic fatalities occurs during the dark hours of evening, night, and early morning. However, only a fourth of all travel takes place during those same hours! Problems with signing and pavement markings are a significant factor

in traffic congestion and lead to frequent accidents resulting in major injuries and often death.

Major emphasis is being placed on improving highway safety by AASHTO, FHWA, and all state DOT's. This emphasis has led to the recent revision of the Manual on Traffic Control Devices (MUTCD), the implementation of new and improved traffic control devices, and proposed retroreflectivity standards for both signs and pavement markings. The Utah T² Center is focusing on making this information and these new technologies

readily available to local agencies through workshops, training courses, and technical assistance. The following outlines each of these focus areas briefly and the proposed means of delivery.

Several briefings and presentations have been made regarding the revisions and additions to the new MUTCD. The next step is to offer training courses covering each Part of the MUTCD. Courses have already been conducted on Part 1-General, Part 5-Traffic Control Devices for Low Volume Roads, and Part 6-Temporary Traffic Control.

During the next seven months these courses will be offered again along with courses dealing with the applications of Part 2-Signs, Part 3-Markings, Part 7-Traffic Control for School Areas, Part 8-Traffic Controls for Highway-Rail Grade Crossings, and Part 9-Traffic Controls for Bicycle Facilities. The T² Center will be offering these courses in Utah and will include dates, times and places for these workshops in future newsletters and on-line at [www.utaht2.usu.edu].

A variety of new and improved pavement markings, and traffic control devices have been developed and are

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Utah Technology Transfer Center

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About *On the Move*

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About the *Utah T² Center*

The Transportation Technology Transfer Program is an integral part of a nationwide Local Technical Assistance Program (LTAP) financed by the Federal Highway Administration, state departments of transportation and local transportation agencies. The Center bridges the gap between research and practice by translating the latest state-of-the-art technology in transportation into implementable products and information for the special use of local transportation agencies and personnel.

For more information about the LTAP program or items in this newsletter, please call us at 1-800-822-8878.



Legislative & Regulatory Update

Status of Rulemaking for Minimum Retroreflectivity Guidelines

The Federal Highway Administration (FHWA) has for years worked to develop minimum levels of retroreflectivity for traffic signs and pavement markings that would enhance mobility and increase safety for the driving public. As there have been significant changes in vehicle types, headlights, sign sheeting technology, and the aging driver population, previous research study values, which were based on study parameters for 1985 vehicles and the sign sheeting materials available at the time, have been reconsidered and updated. The Texas Transportation Institute (TTI) is completing its research for FHWA to develop revised minimum retroreflective values for nighttime visibility of signs that will address the current vehicle type, headlights, sign technology, and the aging driver.

The FHWA has also been working with the transportation community to identify and develop options for implementing the minimum levels. Four national workshops on nighttime sign visibility, which shared information on the latest research and current thinking of FHWA on the subject, were recently completed. Participants included representatives from state and local agencies, industry, and LTAP Centers. The primary goal of the workshops was to solicit recommendations from the participants on the future Manual on Uniform Traffic Control Devices (MUTCD) language and to gauge attendees' thoughts on acceptable nighttime sign evaluation methods. Draft rulemaking will begin based on the input received from those workshops. It is anticipated that the rulemaking will be available for comment in 2003, after further coordination with the American Association of State and Highway Traffic Officials (AASHTO) Retroreflectivity Task Force.

A research summary report on minimum retroreflectivity levels for pavement markings is also under development. Upon completion, this report will be distributed to the AASHTO Retroreflectivity Task Force for review and recommendations for minimum requirements. It is anticipated that draft rulemaking will begin upon receipt of the task force's recommendations.

Significant Issues From Industry and State/Local Public Agencies

1. Some public agencies believe minimum retroreflectivity levels will increase their cost for installation and maintenance of signing and pavement markings. This perception seems to originate with those that believe a new standard will require a measurement of all signs. That is not in FHWA's plans. FHWA believes a process can be implemented that would allow alternative methods of evaluating nighttime sign visibility
2. Some public agencies believe the inclusion of minimum retroreflectivity values in the MUTCD will increase the potential for tort liability. The MUTCD is a standard and, therefore, any text in the MUTCD should be considered as such. Therefore, FHWA believes a standard without actual numerical values can be

placed in the MUTCD to meet the current legislative requirement, and the numerical retroreflectivity values could be placed in a referenced document.

3. Industry has expressed concerns about the validity of 1993 FHWA research that developed possible values to use for minimums. FHWA addressed those concerns with the research now being completed by TTI that considers newer vehicles, headlights, sheeting types, and the older driver.

For additional information, please visit the FHWA retroreflectivity web site at [safety.fhwa.dot.gov/programs/retroref.htm] or contact one of the following by e-mail: Peter Hatzi [peter.hatzi@fhwa.dot.gov], Kenneth Opiela [kenneth.opiela@fhwa.dot.gov], or Greg Shertz [greg.schertz@fhwa.dot.gov].

Hats Off! To the Planning Committee for the Combined APWA/ASCE/UCEA Fall Conference

held on August 21-22, 2002 in West Valley City!

Participants in the combined APWA, ASCE, UCEA Fall Conference were given a treat by listening to the encouraging stories of Special Forces Sergeant First Class Mr. Layne Morris and Dale Hull, M.D. Sergeant Morris is an Afghan War Veteran and was wounded in action. Dr. Hull was paralyzed, but with perseverance was able to serve as a torch bearer for the 2002 Winter Olympic torch relay! Both speakers were a motivation to all who listened! Thanks to the planning committee for arranging these and other great speakers, and for taking the time to put together such a great conference!

Welcome Aboard! To New T² Center Staff Members

With the expansion of services provided by the Utah T² Center, and the need to replace student staff because of graduations, we want to welcome aboard two new staff members!

Matthew Turnbow is a senior, majoring in environmental studies and GIS. He joins the team of technical assistant serving local agencies. He and his wife, Kim, are the proud parents of two daughters. When not attending school, spending time with his family and working, he enjoys fly fishing.

Megan Bates is a senior, majoring in technical writing with the College of Humanities, Arts & Social Sciences. She will be serving as the technical writer and review editor for the many reports we prepare for the special projects provided by the T² Center. When she's not in class or working she likes to play the saxophone and flute.

Welcome to the terrific staff of T² student technicians and office staff!

Advisory Board

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Utah Local Governments Trust

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Engineering
Utah State University

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Utah Department of
Transportation

Jon Ruiz
Ogden City

Dean Steele
Utah Risk Management Mutual
Association

The T² Center Advisory Board meets twice annually (and as needed) to make recommendations and evaluate the effectiveness of the program.

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ready to be implemented. The Utah T² Center is conducting a Pavement Marking Test Deck Study for AASHTO. This study involves the placement and evaluation of 94 different pavement marking products covering 29 different brands of waterborne paints, 22 thermoplastics, 14 preformed thermoplastics, nine (9) epoxy paints, four (4) hot applied tapes, seven (7) durable tapes, six (6) temporary tapes, and three (3) other pavement marking materials.

All these products were placed on a section of Interstate 84 near Morgan, Utah, and were applied to both concrete and asphalt pavements surfaces. Evaluations of the performance of these pavement marking products with respect to durability, reflectivity, discernability, color, and removability is being made periodically. The results of these evaluations may be accessed through the study Web site [www.ntpep.usu.edu].

Other new developments include the addition of the color of fluorescent coral for "incident management" signing, a new diagrammatic warning sign showing lane reduction, and a proposed requirement for ANSI Class III high visibility clothing to be used for flaggers. The new MUTCD explains in Section 1A.10 Interpretations, Experimentations, and Changes the process to follow regarding such factors.

The FHWA will not be printing any new manuals but will provide downloadable information of MUTCD changes, interpretations, and new developments via the MUTCD Web site [mutcd.fhwa.dot.gov].

During the past two years much emphasis has been placed on improving the retroreflectivity of signs and pavement markings. This has resulted in two major efforts.

First, FHWA has just completed the conduct of four workshops addressing nighttime visibility of signs and the development of minimum retroreflectivity requirements for signs. One of the key

recommendations resulting from these workshops is the need to conduct periodic nighttime visual inspections of signs since there are many other factors that affect night time visibility. Retroreflectivity measurements alone do not assure that signs are clearly visible and discernible at night. Further detail and information on these workshops and the proposed rule making is given on pages 2 and 13 of this newsletter.

Also, a major field evaluation of the retroreflectivity of pavement markings has

been initiated by FHWA and nine western state DOT's. This evaluation effort employs vehicle mounted retroreflectivity measurement equipment (Lazer-Lux) that is capable of measuring pavement marking retroreflectivity at highway speeds. This evaluation effort should enable development of service life curves for the various pavement marking materials under a variety of conditions. Further information on this effort can be obtained from Ken Berg of UDOT by e-mail [kenberg@utah.gov].

Latest Federal Data Reveals Record Number of Deaths in Roadway Work Zones

One thousand seventy nine (1,079) people were killed in work zones in 2001, according to data released to the American Traffic Safety Services Association (ATSSA) by NHTSA. In comparison, calendar year 2000 revealed 1,026 work zone fatalities, and at that time, that figure was reported as an all-time high.

Since 1999, ATSSA has been leading a nationwide campaign to bring work zone safety issues to the attention of the motoring public through a variety of public awareness campaigns, such as National Work Zone Awareness Week and a travelling National Work Zone Memorial that honors those killed in roadway work zones.

"These latest figures are extremely high and are totally unacceptable. Unfortunately we believe in reality, the situation is even worse," said Kathi Holst, president of ATSSA. Holst believes the number might be higher as accidents that occur in roadway work zones are not always recorded as being work zone related.

"For example, there is no across-the-board uniformity within police reports," Holst said. "Often times there isn't a block to check on the report that indicates 'work

zone,' so many are reported simply as roadway accidents."

But better data collection is only part of the solution to better recognize the problem. The majority of those killed in work zones are motorists, not the workers themselves. This is usually caused by excessive speed, fatigue and in-vehicle distractions.

"Slowing down to posted speeds is the immediate first step," said Holst, "however, drivers should expect the unexpected in work zones."

The breakdown of the figure 1,079 included 641–Drivers, 281–Passengers in Vehicles and 139–Pedestrians.

ATSSA recommends driver's disengage from activities such as the use of cellular phones or onboard navigation systems while driving. Work zones not only have workers present, but also heavy equipment and vehicles that ordinarily are not in the roadway.

For more information, visit ATSSA on the Web at [www.atssa.com].

What Our Partners Are Doing

More Training Opportunities for YOU!!!

Our thanks to these important partners for sharing this information and working with us in our efforts to serve the local agencies of Utah.

Utah League of Cities & Towns

If you desire more information on League activities, or to register for a League sponsored event, please call the Utah League of Cities & Towns directly at (801) 328-1601 or 1-800-852-8528 or go to their Web site [www.ulct.org].

CDBG "How to Apply" Workshop October 1, 2002 (2-4 PM)

Six-County Association of Governments is sponsoring this workshop. Please contact them at (435) 896-9222 for more information.

National League of Cities Congress of Cities & Expo December 3-7, 2002 Salt Lake City, Utah

Utah Association of Counties

For more information on UAC activities, or to register for a UAC sponsored event, please call them directly at (801) 265-1331 or go to their Web site [www.uacnet.org].

Annual Convention November 13-15, 2002 St. George Dixie Center

APWA, Utah Chapter

For more information on APWA activities, call Bob Davis with DMJM at (801) 486-4454. Please note that monthly luncheons are held each month at the West Valley Family Fitness Center from 12 noon till 2 pm (the board meets from 10:30-11:30 am prior to the luncheons).

Monthly Luncheon October 24, 2002

Speaker/Topic: Gary Hansen, Blue Stakes.

Monthly Luncheon November 21, 2002

Speaker/Topic: Roger Brady, Use of Shoring and Risks of Excavation.

Chapter Appreciation Luncheon December 5, 2002

2003 chapter officers will be installed!

ITE, Utah Chapter

For information on ITE activities, please call Jason Davis with UDOT Program Development at (801) 965-4190 or by e-mail at [jasondavis@utah.gov].

October Monthly Luncheon October 15, 2002 at 12 noon Shanghai Gardens (7200 S 300 W) Topic to be determined.

November Monthly Luncheon November 19, 2002 at 12 noon Shanghai Gardens (7200 S 300 W) Topic to be determined.

December Christmas Party December 17, 2002 at 12 noon (tentative) Fiddler's Elbow Topic: Christmas cheer.

Utah Local Governments Insurance Trust

For information on these and other Trust activities, please call Craig Bott at 1-800-748-4440. You can also e-mail Craig at [cbott@ulgt.org]. Also, check out their Web site at [www.ulgt.org].

The following dates for regional training allow the Trust to coordinate their overall provision of services around the

state. If you have training needs, please contact the Trust and they can help you set up what you need during the assigned dates for your region.

Region 1 Training

October 27-November 2 & December 8-14, 2002

Region 2 Training

November 3-9 & December 15-21, 2002

Region 3 Training

September 29-October 5, November 10-16 & December 22-28, 2002

Region 4 Training

October 6-12, November 17-23 & December 29, 2002-January 3, 2003

Region 5 Training

October 13-19 & November 24-30, 2002

Region 6 Training

October 20-26 & December 1-7, 2002

Utah Risk Management Mutual Association

For information or to register for these and other URMMA training activities, please call Joanne Glantz at (801) 225-6692 extension 18. You can also check out their Web site at [www.urmma.org].

Risk Management Retreat October 1-3, 2002 (Daniels Summit Lodge)

Plan now to attend the 2002 Risk Management Retreat! The retreat is broken into three separate tracks. The cost for day 1 and day 2 is \$25/day for members and \$75/day for non-members. There is a dinner on day 2 with a cost of \$15/person. Day 3 is a half-day workshop and the cost is \$20 for members and \$50 for non-members.

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FYI: For Your Information

Click, Listen & Learn (CLL) Workshops Available

Click, Listen & Learn (CLL) is a workshop training program brought to you by the American Public Works Association (APWA) and cosponsored by the Local Technical Assistance Program (LTAP).

These workshops are conducted over the Internet as well as by phone so that interested individuals can participate from across the nation. The visual portion of the program is transmitted over the Internet and the audio portion is transmitted over the phone lines. This format makes it easy for any agency to put on a *Click, Listen & Learn* workshop. All that is needed is a meeting room with Internet access and a telephone system with a speakerphone. Workshops are two hours in length and normally run from 9:00 a.m. to 11:00 a.m. MST.

Upcoming CLL Workshops

- October 29: Chemicals & Abrasives for Winter Road Maintenance
- November 20: Wastewater Security Training with Water Environment Federation (WEF)
- December 5: Risk Management & Tort Liability
- January 16: MUTCD

You can make arrangements directly with APWA on-line at [www.apwa.net/education/cll]. Or contact Dee Hadfield, Utah T² Center Field Project Manager at 1-800-822-8878 or by e-mail at [dhadfiel@cc.usu.edu].

Looking Ahead: A Heads-Up on Upcoming Events

The Transportation Research Board will be holding their annual meetings in

Washington, DC January 12-16, 2003. For more information on this event, please contact TRB directly.

The Utah T² Center will be holding a Railroad Safety Workshop in Provo on January 23, 2003.

We will also be holding a Sign Management Workshop in Ogden on January 28, 2003.

T² Center workshop dates are subject to change, and we also anticipate additional offerings after the first of the year. For questions, or to request a workshop, please call us at 1-800-822-8878.

Updates on these and other calendar items are available at the Utah LTAP/T² Web site

[www.utaht2.usu.edu]

October 2002

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
		1	2	3	4	5
6	7	8 CMPO Air Quality Workshop (Logan)	9	10	11	12
13	14	15	16 Regional County Engineers Conference (Laughlin, Nevada)	17	18	19
	 ATSSA Series (Logan)				
20	21	22	23 County Road Advisor's Conference (Rapid City, South Dakota)	24	25	26
27	28	29 Click, Listen & Learn (CLL)*	30	31		

Utah Technology Transfer (T²) Center

Utah's LTAP (Local Technical Assistance Program)



Training Needs Assessment

Fall 2002

Please complete the following needs assessment. Then:

1. Remove from the newsletter,
2. Fold in half,
3. Tape closed (**DO NOT STAPLE**),
4. Mail (postage is paid) to the Utah T² Center.

This will allow us to use your responses in our periodic needs assessment.

Your timely cooperation is greatly appreciated!
We are here to serve you, and this tool will help us serve you better.

THANK YOU!!!

Utah T² Center Needs Assessment

Fall 2002

Please indicate with an 'x' next to your position in your city, town or county:

- | | | |
|--|---|--|
| <input type="checkbox"/> City/Town Manager/Administrator | <input type="checkbox"/> City/Town Engineer | <input type="checkbox"/> Public Works Director |
| <input type="checkbox"/> City/Town Street Supervisor | <input type="checkbox"/> County Road Superintendent | <input type="checkbox"/> County Commissioner |
| <input type="checkbox"/> County Engineer | <input type="checkbox"/> Elected Official _____ | <input type="checkbox"/> Other _____ |

Please indicate with a circle around the appropriate number the relative importance of workshops on the topics listed below. The numbers are for you to indicate your opinion of how important (or not important) the particular workshop is. A rating of "7" indicates that you find this workshop "very important," with a rating of "1" indicating that you find this workshop "not important."

<u>Title/Description</u>	7	6	5	4	3	2	1
Basics of a Good Road.....	7	6	5	4	3	2	1
· Basic Concepts of road design and construction							
Drainage, Drainage, Drainage.....	7	6	5	4	3	2	1
· Importance of roadway drainage							
· Drainage structure installation and maintenance							
All about Asphalt	7	6	5	4	3	2	1
· The materials that make up asphalt							
· Procedures for laying asphalt							
ATSSA Flagger Certification	7	6	5	4	3	2	1
· The do's and don'ts of proper flagging							
· MUTCD part 6 is covered as it pertains to a flag person's duties							
ATSSA Traffic Control Technician	7	6	5	4	3	2	1
· Setting up safe work zones							
· Practical knowledge, techniques, and instruction on the installation and maintenance of traffic control devices to enable them to apply practical concepts							
ATSSA Traffic Control Supervisor	7	6	5	4	3	2	1
· Supervision of a safe work zone							
· The TCS certification program provides supervisory personnel with the opportunity to be certified as a Traffic Control Supervisor							
Tort Liability/Risk Management.....	7	6	5	4	3	2	1
· Tort liability laws, issues, and prevention							
· "72 hour notice" law							
· Practical considerations and preventative measures							
Marketing PW Departments & Projects.....	7	6	5	4	3	2	1
· Selling your plans and budgets to bosses and others							
· Improving your public image							
Media Relations for Local Agencies.....	7	6	5	4	3	2	1
· Giving the media stories before the town becomes the story							
· Handling media queries							
Delegation and Time Management	7	6	5	4	3	2	1
· What to delegate and to whom							
· Other time management techniques							
Other Supervision/Personal Development..	7	6	5	4	3	2	1
Suggestion_____							
Drain Management Systems	7	6	5	4	3	2	1
· Culvert and catch basin inventory and conditions							
· Collecting the data							
· Using drain management systems software							
Sign Inventory Management System	7	6	5	4	3	2	1
· Traffic sign inventory and conditions							
· Collecting the data							
· Using software package							
Pavement Markings	7	6	5	4	3	2	1
· Functions and Limitations, Standard Applications, Colors, General Principles - Longitudinal Pavement Markings, Widths and Patterns of Longitudinal Lines, Longitudinal Lines, Transverse Markings							
Road Surface Mgmt System (RSMS).....	7	6	5	4	3	2	1
· Inventory and condition data collection							
· Multiple year plans and budgets							
· Using RSMS software							
Advanced RSMS.....	7	6	5	4	3	2	1
· Analysis and multi-year planning with RSMS software							
· RSMS and GASB 34							
Surface Treatments.....	7	6	5	4	3	2	1
· Hot and cold mix asphalt properties and uses							
· Chip and sand seal applications							
Crack Sealing Project Planning	7	6	5	4	3	2	1
· Planning a crack seal project							
· Preparing cost estimates							
· Applying crack sealing material							
Reconstruction Project Planning.....	7	6	5	4	3	2	1
· Planning road construction projects							
· Identifying problems / determining solutions							
· Work and material lists							
Geotextile Applications.....	7	6	5	4	3	2	1
· Geotextile applications in drainage and roads							
· Fabrics in pavement overlay							

Erosion Control/Sediment BMP7	6	5	4	3	2	1	Project Management7	6	5	4	3	2	1
· Green Book best management practices							· Determining all project costs						
· Local road repair applications							· Scheduling contractors and crews						
GIS and Mapping7	6	5	4	3	2	1	· Inspection and contract administration						
· GIS principles and key decisions							Trenching, Electricity.....7	6	5	4	3	2	1
· How to use GIS maps							& Other Safety Issues						
ICS for Public Works7	6	5	4	3	2	1	· Safety policies and practices						
· Two-day workshop for managers/department heads							Cost Estimates and Budget Prep.....7	6	5	4	3	2	1
· Incident action plans							· Preparing cost estimates for various repairs						
· Response and stabilization							· Preparing budgets that get approved						
· How public works fits into ICS							Traffic Calming Pros & Cons.....7	6	5	4	3	2	1
Storm Mgmt/Hazardous Materials.....7	6	5	4	3	2	1	· Principles of traffic calming						
· One day workshop for foreman and crews							· When traffic calming works and when it doesn't						
· Emergency response preparation and policies							Roundabout Design.....7	6	5	4	3	2	1
· Model emergency response plans							· Practice exercises for traffic analysis						
· Public works response to hazardous material spills							· Roundabout design principles and exercises						
Winter Operations7	6	5	4	3	2	1	Evaluating Intersection Improvements7	6	5	4	3	2	1
· Snow Operation policies							· Process for evaluating the operational effectiveness of						
· Improved Operations							various intersection improvements						
· Spreader calibration							AASHTO Roadside Design Guide7	6	5	4	3	2	1
Gravel Road Maintenance.....7	6	5	4	3	2	1	· An overview of the 2001 AASHTO, "Roadside Design						
· Drainage, blading and geotextiles for gravel roads							Guide." Emphasis is on the relationship to current highway						
MUTCD - Signs.....7	6	5	4	3	2	1	agency policies and practices.						
· Proper traffic sign types and placement							Safety Management Systems7	6	5	4	3	2	1
Use of Critical Path Method (CPM)7	6	5	4	3	2	1	for Local Agencies						
for Estimating, Scheduling and Timely Completion							· Prevent and reduce the number and severity of roadway						
· Availability of effective construction and maintenance							collisions, transportation-related injuries, and property						
planning and scheduling tools							damage.						
· Accelerate construction and minimize impact on the							· What a Safety Management System is, how it works, what						
traveling public							it's composed of, and what it can do for your local agency's						
Bridge Repair Projects7	6	5	4	3	2	1	safety program.						
· Plan and accomplish bridge repair projects							Utility Cuts and Culvert Replacement7	6	5	4	3	2	1
· Using NHDOT bridge inspection reports							· Impacts on roads from utility cuts						
NPDES II Regulations7	6	5	4	3	2	1	· Best practices for utility cut repair						
for Municipal Garages							· Best practices for culvert installation and replacement						
· After rules are published, what they mean							Heavy Equipment.....7	6	5	4	3	2	1
· Completing applications							· Equipment safety						
NPDES II Regulations7	6	5	4	3	2	1	· Personal Protective Equipment						
& Permits for MS4s							· Jobsite safety						
· After rules are published, what they mean							· Equipment Operator responsibilities						
· Completing applications							· Walk around inspection						
NPDES II Employee Training7	6	5	4	3	2	1	· Equipment Nomenclature						
· Fulfilling employee technical training requirements							· Preventative maintenance						
Specifications, Bids & Contracts7	6	5	4	3	2	1	Emergency Incidents.....7	6	5	4	3	2	1
· Preparing plans, specifications, and contracts							· Site commands						
· Developing and administering bid items							· EOC command						
· Change orders							· Emergency Communications						
							· Personnel deployment						
							· Equipment deployment						

November 2002

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
					1	2
3	4	5 ELECTION DAY! ATSSA Series (Cedar City)	6 Construction Inspection Training (Salt Lake City)	7	8 Heavy Equipment Operation (Moab) Day 1: Classroom, Day 2-3 & 4-5: Hands-on	9
10	11	12	13	14 RR Safety Workshop (SLC)	15	16
17	18	19	20 CLL* UDOT Engineers Conference (SLC)	21	22	23
24	25 (Richfield)	26 Safety Workshops (Moab)	27 (Woods Cross)	28	29	30

For more information about any of these activities, please call the Utah T² Center at 1-800-822-8878.

December 2002

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
1	2	3	4 RR Safety Workshop (Ogden)	5 CLL*	6	7
8	9	10	11	12	13	14
15	16	17 Sign Mgmt (Logan) Soil Cement Workshop (SLC)	18 ACPA Local Roads Seminar (SLC)	19	20	21
22	23	24	25	26	27	28
29	30	31				

(continued from page 5)

Day 1 (October 1) is [law enforcement and public safety day](#). Topics include: diversity, report writing, constitutional law, dealing with citizens with mental health issues, claims--what agencies need to know, and sexual harassment.

Day 2 (October 2) is [supervisor's day](#). Topics include: sexual harassment, diversity, "Claims 101," "Are You a Leader?," performance appraisals, sick leave and FMLA or corrective action and discipline.

Day 3 (October 3) is a half-day general [hiring/personnel law](#) workshop.

Police Defensive Driver's Training October 8, 2002 (Richfield)

This 8-hour training is offered in conjunction with POST and the Utah Association of Counties. Cost is \$15 for URMMA and UAC members, \$30 for non-members.

Roundtable on Law Enforcement November 6, 2002 from 10-11:30 AM (Centerville) OR from 2:30-4 PM (Springville)

Cost is \$5 for members, \$15 for non-members.

Ethics

November 14, 2002 (Cedar City)

This two-part training includes an afternoon session for city employees and an evening session for elected and appointed officials. The cost per session is \$15 for members, \$30 for non-members.

OSHA Training

November 2002 (West Jordan)

Call for more information.

Need More Information?

For our updated workshop and training calendar, please go on-line [www.utaht2.usu.edu]. To request a workshop, please call us at 1-800-822-8878.

Spotlight on Our Partners

Blue Stakes of Utah

by W. Gary Hansen, Executive Director



As more and more utility lines are installed and located underground, all underground facility owners/operators should be aware of Utah law governing buried utilities - Chapter 8a of Title 54 of the Utah Code, "Damage to Underground Facilities Act."

This Act provides the legal basis for the creation of an association to function as the communications link between excavators and underground facility operators in communicating underground excavation activities in the state of Utah. The association was established in 1974 and is known as Blue Stakes.

The Act is designed to minimize utility service interruptions, avoid personal injury and avoid damage to property and equipment by individuals and companies who are involved in excavation activities.

Even though membership and participation in Blue Stakes is voluntary, the Act specifies that if an operator of underground facilities does not belong to or participate in Blue Stakes, the operator is liable for damages incurred by an excavator who has complied with the Act as well as any civil penalties associated with the Act.

The Act also specifies that before excavating, an excavator shall notify each operator with underground facilities in the area of proposed excavation. The Act further clarifies that if there is

an association created, notice to that association constitutes notice to each operator.

The service Blue Stakes provides for contractors and homeowners is free of charge. Blue Stakes is governed by a Board of Trustees comprised of individuals from various utility classifications representing member utilities, the Intermountain Utility Contractors Association (IUCA) and Associated General Contractors Association (AGC) representing contractors, and the Utah Transportation Technology Transfer (T²) Center representing engineers. Member utility companies provide funding for the association. Blue Stakes actively supports the national "Dig Safely" campaign and encourages all contractors and homeowners to:

Call Before You Dig

- Call 2 working days before excavation begins

Wait the Required Amount of Time

- Give utility owners allowed time to mark underground facilities

Respect the Marks

- Respect & protect marks throughout the duration of the excavation

Dig With Care

- Hand dig with care within the 24 inch safety zone while exposing underground utilities

Additional information regarding membership in Blue Stakes can be obtained by contacting W. Gary Hansen, Executive Director, at (801) 538-5700 or e-mail [garyh@bluestakes.org].

Focus on Current Issues:

The Importance of Retroreflectivity

by Greg Schertz, Safety Engineer, Federal Highway Administration

In the United States, almost one-half of all traffic fatalities occurs during the dark hours of evening, night, and early morning. However, only a quarter of all travel takes place during those same hours--a startling and grave statistic.

There are a number of reasons for this disparity, such as intoxicated and fatigued drivers. It is also known that drivers receive much less guidance information at night than during the day. For example, during daylight hours, drivers have a number of visual cues, such as signs, pavement markings, roadside vegetation, guardrails, and textured shoulders, making driving relatively simple. This bounty of visual cues allows drivers to focus less on their proper position on the roadway.

At night, however, this changes drastically. On a dark and unlit road, nearly all cues disappear except those that are retroreflective (signs and markings). Those few remaining cues become critical to driving, and should they become so worn that they are no longer visible, the chance to miss the information becomes greater, resulting in a greater chance of driver error, and subsequently, a potential crash.

Retroreflectivity is the property of a material that returns light to the source. In the case of roadways at night, the retroreflective materials may be traffic signs and pavement markings and the source is usually the headlights of a vehicle. Because a driver's eyes are close to a vehicle's headlights, some of the light returned from retroreflective materials reaches the driver's eyes. The amount of light from an object reaching the driver's eyes will have a great impact on how bright that object appears to the driver. Therefore, retroreflective materials that are efficient in returning light to a driver's

eyes may appear brighter to the driver than those that are not.

Unfortunately, the retroreflective characteristics of traffic control devices gradually deteriorate over time. As a result, it is important to replace traffic control devices prior to the time when they no longer meet the needs of the nighttime driver. The major question is not whether the devices should be replaced, but when. How do we know when the device no longer meets the needs of the driver?

To address the issue of retroreflective deterioration, the national Manual On Uniform Traffic Control Devices (MUTCD 2000) states, "Regulatory, warning, and guide signs shall be retroreflective or illuminated to show the

Establishing a process to evaluate your jurisdiction's signs and markings for nighttime visibility, and maintaining those devices appropriately, can be a great service to the public and possibly assist your agency in court cases involving visibility of traffic control devices.

same shape and similar color by both day and night..." and "Markings that must be visible at night shall be retroreflective unless ambient illumination assures that the markings are adequately visible." These standards have remained essentially unchanged for 45 years. The MUTCD 2000 also states "To assure adequate maintenance, a schedule for inspecting

(both day and night), cleaning, and replacing signs should be established."

Although retroreflectometers are an excellent tool for evaluating the efficiency of retroreflective materials, they are not the only resource available to judge the nighttime visibility of traffic control devices. Nighttime visual inspections of signs and markings can be one of the best methods/tools. Establishing a process to evaluate your jurisdiction's signs and markings for nighttime visibility, and maintaining those devices appropriately, can be a great service to the public and possibly assist your agency in court cases involving visibility of traffic control devices.

The FHWA is currently developing guidance for public agencies to determine the appropriate level of retroreflectivity required by nighttime drivers. Although new retroreflective standards and guidance are not currently in place, all indications are that they will be developed in the near future. Based on the current requirements in the MUTCD, and the knowledge that updated guidelines will be produced, some agencies have initiated nighttime inspection processes to evaluate the visibility of traffic control devices. A systematic process to replace worn out devices can then be implemented to ensure that limited budgets are used efficiently to meet the needs of the nighttime driver.

For additional information, please visit the FHWA retroreflectivity web site at [safety.fhwa.dot.gov/programs/retroref.htm] or contact Greg Shertz [greg.schertz@fhwa.dot.gov].

UDOT Engineer's Conference Returns to South Towne Exposition Center November 20-22, 2002

Registration is now underway for the annual UDOT Engineer's Conference. You can most easily register on-line at [www.dot.utah.gov]. But, if that option is not available to you, please contact Joyanna Peterson at (801) 965-4110.

The cost for non-UDOT registrants is \$200 if registered and paid for before November 4, 2002. After that date a \$50 late fee will be charged.

Conference participants are on their own to make hotel arrangements. A list of

hotels being utilized for the conference is available at the conference Web site (listed above).

So, make your plans now and register to attend this important annual event! You don't want to miss it!

2nd Annual Local Roads Seminar "When in Doubt, Built it Stout"

December 18, 2002 at the Little America Hotel in Salt Lake City, Utah

Plan now to attend the 2nd annual Local Roads Seminar, being sponsored by the Utah Chapter of the American Concrete Paving Association and the Utah Technology Transfer (T²) Center.

Topics to be discussed include: subgrade preparation, fundamentals of quality PCCP, flagship projects, urban elements, PCCP rehabilitation and context sensitive solutions, to name a few. The

cost to register is \$60 and includes lunch. (The cost is \$50/person for companies, or divisions, that send 10 or more employees.)

You are also invited to attend a special half-day soil cement presentation on December 17, 2002 at the Little American Hotel. This special workshop is sponsored by the Rocky Mountain Concrete Promotion Council, Utah

Chapter and the Utah Technology Transfer (T²) Center. This presentation will cover CTB, RCC and recycling of flexible pavements. Wayne Adaksa, PCA, will be our presenter. The cost for this half-day event is \$35.

To register, complete the form below and fax or mail to Mitzi McIntyre with ACPA, Utah Chapter. Or you can register on-line at [www.utaht2.usu.edu/].

2nd Annual Local Roads Seminar & Soil Cement Workshop Registration Form

Name: _____

Company: _____

Address: _____

City/State/Zip: _____

Phone: _____ Fax: _____

E-mail: _____

Method of payment (please check one):

- Check enclosed
 Bill me (please provide billing address below, if different from above)

Please register me for the following seminars or workshops!

— Soil Cement Half-Day Workshop
(December 17, 2002) **\$35/person**

— 2nd Annual Local Roads
Seminar (December 18, 2002)
\$60/person*

**You will be billed the discount rate
of \$50/person for this seminar if you
send in 10 or more registrations from
your company or division.*

MAIL OR FAX REGISTRATION TO: Mitzi
McIntyre, P.E., Utah ACPA, 1036 Lincoln Lane,
Park City, Utah 84098, FAX (435) 647-5972.

Utah T² Center Offers ATSSA Flagger & Work Zone Traffic Control Certification Courses in Utah

by G. Stuart Thompson, Field Engineer

During the next quarter the Utah T² Center will be offering the American Traffic Safety Services Association (ATSSA) flag person and work zone traffic control certification courses. These courses will be conducted in various locations across the state as shown on the calendar of events in this newsletter (pages 6 and 11).

There are three courses associated with this series and they are listed as Flagger, Traffic Control Technician (TCT), and Traffic Control Supervisor (TCS). All courses are recognized by the Utah Department of Transportation in fulfilling their requirements for various levels of traffic control training.

The Flagger training is recommended for all roadway workers, contractors, and supervisors. This is a basic course that prepares each worker to handle the responsibilities associated with highway flagger responsibilities as outlined in Part 6 of the Manual on Traffic Control Devices (MUTCD).

In the course each worker will be required to take a short exam and demonstrate their understanding of the rules governing a Flagger through a mock up of a traffic control situation. Each worker will receive Part 6 of the MUTCD, the ATSSA Flagger handbook, and a pocket Traffic Control Manual developed by Utah T² Center and the Utah Chapter of the American Public Works Association (APWA) for field use.

The Traffic Control Technician (TCT) course is offered as an introduction to the basic principles of temporary work zone traffic control; this one-day training course is designed to instruct the participant in the underlying principles of temporary

traffic control as set forth in the Manual on Uniform Traffic Control Devices (MUTCD).

ATSSA-qualified Utah T² Center instructors provide the student with the practical knowledge, techniques, and instruction on the installation and maintenance of traffic control devices to enable them to apply practical concepts. The Utah T² Center is recommending this course for all workers which may be required to handle Temporary Traffic Control Devices and is accepted by UDOT as a Traffic Control Seminar.

Workers are required to complete a written examination and will receive a certificate of completion.

The Traffic Control Supervisor Course (TCS) is a two-day advanced training course geared to the specific job related duties of the supervisor. The course has been updated and improved to meet the needs of today's work zone Traffic Control Supervisor. It has been the industry standard for nearly 20 years.

Critical life saving knowledge is passed on by experienced instructors who combine multimedia and group activities to solve real problems. Upon completion of the two day course and passing a written examination, participants are mailed a certificate of completion.

The TCS certification program provides supervisory personnel with the opportunity to be certified as a Traffic Control Supervisor.

Requirements to become a certified Traffic Control Supervisor:

- Must pass Traffic Control Technician (TCT) course.
- Must pass Traffic Control Supervisor (TCS) course and apply for certification.
- Have 4000 hours (or two years) of work zone experience.
- Provide at least one reference to verify work experience.
- Attend 4 hour ATSSA Flagger training (or equivalent) within 6 months of TCS certification.

Utah T² Center is recommending that at least one employee from each city, town or county complete the TCS training and certification.

For more information on the cost for this training and how to register, please contact G. Stuart Thompson, Utah T² Center Field Engineer by calling 1-800-822-8878. Or you can reach him by e-mail at [stuart@cc.usu.edu].

American Traffic Safety Services Association (ATSSA) flagger and work zone traffic control certification courses are recognized by the Utah Department of Transportation (UDOT) in fulfilling their requirements for various levels of traffic control training.

NCAT Hot Mix Asphalt Construction Course Comes to Colorado December 10-12, 2002

Do you want to know more about asphalt pavement construction? Now is your chance! The National Center for Asphalt Technology (NCAT) will be conducting a seminar on asphalt pavement construction December 10-12, 2002 at the Sheraton DTC Hotel (7007 South Clinton) in Englewood, Colorado. This event is hosted by the Colorado Asphalt Paving Association (CAPA) and the Rocky Mountain Asphalt Education Center (RMAEC).

This is an educational seminar that will cover HMA mix design, production and construction, and specifications (including end-result and warranty).

Instructors for the course will be:

- Douglas Hansen, NCAT

- Tom Skinner, Blaw Knox/Ingersoll Rand
- Rodger Young, CAPA
- Chuck Deahl, Compaction America

The cost for the course is \$400 for CAPA members and \$450 for non-members. Each participant will receive the Asphalt Pavement Handbook, the IR/Blaw Knox Paving Manual and Superpave 2001, Compaction Methods and Technology by Chuck Deahl as well as the NCAT workbook containing the slide presentations from each instructor.

You are encouraged to register early since spaces for the course are limited. To register you can send your name, company, address, phone, and e-mail address, along with your check made

payable to the *Rocky Mountain Asphalt Education Center* to:

**Rocky Mountain Asphalt
Education Center
6880 South Yosemite Court, Suite 110
Englewood, Colorado 80112**

Or call (303) 741-6148 with any questions you might have. Fees must be paid in advance unless other arrangements have been made.

The course will run from 8 am to 5 pm each day.

Participants will need to make their own hotel reservations, by calling the Sheraton DTC Hotel directly at (303) 799-6200.

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Utah State University
4111 Old Main Hill
Logan UT 84322-4111

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