
Utah Technology Transfer Center Newsletter

TA ON THE MOVE

The Direction in Transportation Progress

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

Volume 14, Number 4

Fall (October) 2001

Workforce Development: The Key to Success

When any organization, public or private, does a cost analysis of the services or products they provide, personnel costs typically register the highest on the ledger sheet. In today's market, the key to minimizing these costs resides in developing and equipping personnel to be more productive and to provide better services. Since addressing the matter of personnel development in an earlier issue of *On the Move* (Fall 1999); the demand for versatile, highly skilled, and productive workers has not diminished. If anything, the demand has increased while the available workforce pool has diminished.

The challenge of maintaining, renewing, and improving the knowledge, skills, and abilities (KSA's) of the workforce pool has also become even

more complicated. The KSA's, as well as the cultural and generational values of today's workforce pool, are becoming quite diverse. Young people (called "Generation X's") who are entering the workforce are expected to change jobs many times during their careers. This in itself presents a significant challenge to personnel development.

Workforce development through training and hands-on technical assistance is a primary mission of the Utah T² Center's Local Technical Assistance Program (LTAP). Over the past several months the Utah T² Center has continued to work closely with its local and national partners to develop comprehensive and coordinated training programs to assist in the development of personnel engaged in the transportation and public works

industry. The organizations currently involved in this cooperative workforce development effort include: American Public Works Association (APWA), Utah Department of Transportation (UDOT), Federal Highway Administration (FHWA), Utah Association of Counties (UAC), Association of General Contractors (AGC), American Association of State Highway and Transportation Officials (AASHTO), Utah Local Governments Trust (ULGT), Utah Risk Management Mutual Association (URMMA), the Utah League of Cities & Towns, National Highway Institute (NHI), and various other professional and industry trade associations. The goals of this effort are five-fold: (1) to provide current, well-developed training courses and programs; (2) to minimize duplication of efforts; (3) to leverage training resources; (4) to facilitate the use of new technologies and state-of-the-art practices; and (5) to proactively address the development needs of a diverse workforce.

As a result of these cooperative efforts, significant results are being registered. Among these are the Western Alliance of Quality Transportation Construction, UDOT's Transportation Technician Training Program, APWA's Introduction to Construction Inspection, and the Utah T² Center's Road Scholar Program.

(continued on page 4)

INSIDE THIS ISSUE

Legislative & Regulatory Update: 2003 Federal-aid Highway Reauthorization.....	2
Welcome Aboard: Brian Birch, Utah T ² Center Network Administrator/Low-Impact Street Design.....	3
MUTCD Update.....	4
What Our Partners Are Doing.....	5
FYI & Calendar of Events (October-December 2001).....	6-7
Utah T ² Center Training/New EPA Storm Water Rules.....	8
Region 8 County Road Advisor's Conference/National Tribal Roads Conference/ Focus on Engineering: Utah NTPEP Pavement Test Deck.....	9
Focus on the Field: Heavy Equipment Training Program to Take a New Approach/ Winter Maintenance Roundtables in the Works.....	10
Focus on New Tech.: Twist Riser Manhole Cover/Details from the Calendar.....	11
T ² Center Offers Free Publications for Local Utah Agencies/We've Moved!!!.....	12

Utah Technology Transfer Center

Page 1

Vol. 14, no. 4/Fall (October) 2001



About *On the Move*

On the Move is published quarterly by the Utah Transportation Technology Transfer Center at Utah State University. Subscriptions are free and are available by calling, writing or e-mailing:

Utah Technology Transfer Center

Utah State University
4111 Old Main Hill
Logan UT 84322-4111
1-800-822-8878
utaht2@cc.usu.edu

Articles may be submitted to the editor at the above address. To obtain permission to reprint any articles from *On the Move*, please call the Center.

Director Doyt Y. Bolling
Coordinator Keri Shoemaker
Field Projects Manager Dee Hadfield
Programs Engineer Stuart Thompson
Network Administrator Brian Birch
Newsletter Julie Duersch
Phone/Fax (435) 797-2931/797-1582
E-mail utah2@cc.usu.edu

Check out our Web site at...
<http://www.utaht2.usu.edu/>

USU is an equal opportunity education institution/equal opportunity employer

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

2003 Federal-aid Highway & Mass Transit Programs Reauthorization Fast Approaching excerpt from A Blueprint for 2003 Reauthorization of Federal-aid Highway and Mass Transit Programs, ARTBA

In 2003, the Congress must reauthorize funding for Federal-aid Highway and Mass Transit Programs. To help focus the debate on this key national legislation, the American Road and Transportation Builders Association (ARTBA) convened a task force of more than 100 industry experts to study how current federal transportation law is working and to suggest recommendations for the future. The task force included views from both the public and private sectors of the U.S. transportation industry and from agencies and firms that design, build and manage infrastructure for all modes of transportation. The result is a report reviewing the history of Federal-aid Highway and Mass Transit Program funding with a critique of effectiveness for the two most recent authorizations (ISTEA and TEA-21). Below are the nine areas of recommendations considered by ARTBA regarding reauthorization:

1. **Funding.** "To meet capital needs identified by state transportation departments and the U.S. DOT...the federal highway program should be funded at a minimum of \$50 billion per year [2004-2009]."
2. **Safety.** "With new funding, establish a new, \$1 billion per year federal program to upgrade the safety of high-risk, rural two-lane roads."
3. **Program Structure.** "The existing 'Surface Transportation Program' (STP)... should be renamed and restructured as the 'State and Local Bridge and Highway Program' (SLBHP)."
4. **Planning & Environmental Issues.** "Provide teeth to the TEA-21 mandate to streamline the environmental planning and approval process for highway projects and address problems created by extremist interpretation of NEPA 4(f) provisions."
5. **Project Delivery & Procurement Process.** "Congress should not mandate the use of alternate procurement methods and state and local governments should be given maximum flexibility in determining their own procurement methods."
6. **Work Force Development.** "Without new talent, meeting public demand for quality transportation improvements will be increasingly difficult...Congress should give states that utilize 'On-the-Job Training Support Services' more flexibility to expand funding for this program if it is warranted by demand and demonstrated results."
7. **Regulatory Reforms**
8. **Research.** "Ramp up federal support for highway research and technology transfer to \$1 billion per year."
9. **Amtrak & High Speed Rail**

To read a complete report, please see ARTBA's Web site at [\[www.artba.org\]](http://www.artba.org). While ARTBA has made their recommendations to Congress, don't forget that you can have input as well. Don't miss your chance to make recommendations to your congressional delegation regarding your ideas for reauthorization.

Welcome Aboard: Brian Birch, Utah T² Center Network Administrator

The Utah T² Center is pleased to announce another addition to our professional staff. After graduating from Utah State University earlier this year in business information systems, Brian Birch, has accepted the full-time position of network and Web administrator for the Center.



Brian served the Center well as a part-time student employee, and now continues his work in a full-time capacity. His work includes providing excellent network support for our office needs as well as outstanding Web administration support for the expanding services we offer on-line to local Utah agencies. Welcome aboard, Brian!

Low-Impact Street Design

*information provided by Utah Association of Conservation Districts, North Logan City,
Utah Botanical Center and Stantec Engineering*

A group of conservation minded partners have teamed up to design a better street. The Utah Association of Conservation Districts, North Logan City, the Utah Botanical Center and Stantec Engineering have developed designs for low-impact streets to better handle storm water runoff.

Low-impact streets feature reduced pavement width without concrete gutters, therefore minimizing impervious surfaces and reducing storm water runoff. On both sides of the street, naturally landscaped swales reduce the speed of storm water, filter urban-borne contaminants and allow smaller volumes of water into irrigation canal systems.

The street design has also shown other benefits such as reduced construction costs, slower traffic speeds and more attractive and livable neighborhoods. Using the new design, North Logan City and the Utah Botanical Center will build two streets to demonstrate a more environmentally friendly alternative to traditional street design. The design standards can also be applied to other Utah communities and are available at the North Logan City Web site [www.ci.north-logan.ut.us].

Key features of the low-impact design:

- Flat concrete curb holds road edge and disperses storm water runoff.
- Swale area vegetated to treat storm water runoff on-site.
- Landscape area contains low water/maintenance plants, i.e. grasses, forbs, shrubs and limited trees.
- Improved storm water quality to receive waters
- Pavement width encourages slower traffic speeds.
- Parking allowed on one side of roadway.
- Design speed for 30 mph residential streets and 40 mph collector streets.

Advisory Board

Joe Anderson

Utah Local Governments Trust

Loren R. Anderson

Civil & Environmental Engineering
Utah State University

Denton Beecher

Box Elder County

Kenneth H. Bullock

Utah League of Cities & Towns

Larry Bulloch

City of St. George

William J. Grenney

Utah Transportation Center

Shawn Guzman

Utah Association of Counties

Paul Mooney

FHWA, Utah Division

Clyde Naylor

Utah County

Ken Berg

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.

(continued from page 1)

In addition, a variety of technical roundtables, state-of-the practice forums, conferences and workshops are being organized in cooperation with professional and trade associations. The National Highway Institute is also developing modular training courses that can be easily adapted to meet local agency needs.

As the winter training season approaches, we encourage each local agency to make a special effort to assess their current personnel assets and to determine what their current and future training and personnel needs will be. The following steps are suggested for making this assessment:

- Analyze current and future job requirements with regard to KSA's.
- Inventory current staff KSA's and compare with current and future job requirements.
- Identify gaps in staff KSA's and potential staff turnover/retirements.
- Evaluate new technologies and work methods to improve productivity.
- Develop a list of training needs and areas of needed personnel development.
- Establish a 3-5 year staffing plan to address current and future work program requirements.
- Set-up training and personnel development programs to meet work program requirements.

The Utah T² Center and our partners stand ready to assist local, state and Federal agencies--and the transportation industry as a whole--in meeting the staffing and workforce needs of the 21st Century. A standing program offered by the Utah T² Center is the ROAD SCHOLAR program. This training and development program offers a variety of training opportunities for different job levels: equipment operators, technical staff, and supervisors and administrators. A summary listing of the Road Scholar course offerings follows:

Operator Level

- Liability & Risk Management for Equipment Operators
- Work Zone Traffic Control (includes flagging)
- Drug Abuse & Alcohol Misuse for CDL Drivers
- Equipment Maintenance & Operation (motor-grader, backhoe & front-end loader equipment)
- The Basics of a Good Road
- Winter Maintenance Operations
- Unsurfaced/Gravel Road Maintenance
- Chip Seal Operations
- Roadway/Roadside Safety Operations
- Roadside Maintenance
- Vehicle Inspection Procedures
- Coaching the Maintenance Vehicle Operator

Technical Level

- Hot-mix Asphalt Construction
- Roadway Drainage
- Pavement Design for Local Agencies
- Sign Warrants & Traffic Operations
- Signal Systems/Intersection Design
- Surface Rehabilitation Treatments
- Concrete Pavement Maintenance & Rehabilitation
- Road Materials (selection, design and specifications)
- Geotextile Applications in Transportation
- GPS/GIS Applications
- Construction Specifications/Procedures
- Liability & Risk Management Plans
- Work Zone Traffic Control Plans
- Road Safety Audits

Supervisor Level

- Liability & Risk Management for Administrators & Supervisors
- Work Zone Traffic Control for Supervisors
- Drug Abuse & Alcohol Misuse for CDL Supervisors

- Management Systems (includes road surface, sign, maintenance and equipment management)
- Managing People
- Access Management
- Geographic Information Systems
- Contract Administration
- Asset Management

We also endeavor to keep the transportation and public works community in Utah informed of all appropriate training or development opportunities by posting the course offerings of our partners through our quarterly newsletter, Web site, or special announcements. In this capacity, we attempt to serve as a clearing/ coordinating house for training, personnel development and new technology relating to the transportation and public works industry. If your analysis of personnel assets indicates there are areas of training and development that are not currently offered, the Utah T² Center would be pleased to take the necessary steps to make such training/development opportunities available.

For more information on the courses currently scheduled, see our calendar (pages 6-7) in this newsletter, or check out our calendar on-line. You will also want to check out "what our partners are doing" (page 5) for opportunities to tap into their offerings.

If you have a request and need to schedule a workshop or have a specific training or personnel development need, please call Keri at 1-800-822-8878!

MUTCD Update

Parts of the MUTCD are finally available! We have copies of parts 1, 5, and 6 available for \$13 from our office. We are still waiting for the entire MUTCD to be ready. When it becomes available, we will carry a limited quantity for local Utah agencies to purchase and will list additional sources in upcoming newsletters.

What Our Partners Are Doing

You Need to Know

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].

October 10-12 (Springdale)--Utah Water Planning Conference. This event is being co-sponsored with the Department of Environmental Quality. Registration is less than \$100 for the entire event. Call the League for more information.

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].

October 10-12 (Moab)--Statewide Association of Public Attorneys.

November 14-16 (St. George)--Utah Association of Counties Annual Meeting. This meeting is for all elected county officials. The registration deadline is rapidly approaching, so please go to their Web site to register as soon as possible. You won't want to miss this important training event.

APWA, Utah Chapter

For more information on APWA activities, call Bob Davis with DMJM at (801) 484-9884 extension 5075.

October 25--Monthly Luncheon
December 13--Monthly Luncheon

There will be no monthly luncheon held in November. The October and December luncheons will be held at the West Valley Family Fitness Center (5415 West 3100 South, West Valley City) beginning at 12 noon.

ITE, Utah Chapter

For information on ITE activities, please call Don Adams with Sear-Brown at (801) 323-0887 extension 201.

October 16--Monthly Luncheon
November 20--Monthly Luncheon
All monthly luncheons will be held at the Shanghai Restaurant (7200 South 300 West, Salt Lake City) at 12 noon.

December (TBD)--Christmas Party
The date and location for the Christmas Party is still being determined, but ITE chapter members will be contacted with the final details when they become available.

Utah Local Governments Insurance Trust

For information on these and other Trust activities, please call Craig Bott at 1-800-748-4440 extension 310. (Please leave a message if Craig is not available.) You can also e-mail Craig at [cbott@ulgt.org]. Also, check out their Web site at [www.ulgt.org].

October 19-20 (Brigham City)--Certified Citizen Planner Training. This training will cover the following topics: introduction to community planning; the planning commission; the board of adjustment; the general plan; assuring due process in public meetings; land use regulations; subdivisions; and legal perils, pitfalls and unforeseen consequences. Training will begin at 8 am on both days. Cost for this training is \$25/person for

Trust members, \$50/person for non-members.

November 14 (North Ogden)--Select Regional Training. This training will cover the following topics: reducing sewer back-up liability; training for appeals board members; liability claims management; understanding and using your medical benefits; and discipline and termination of employees. There is no cost for this training.

November 15 (Santaquin)--Select Regional Training. *See list of topics above.* There is no cost for this training.

November 16-17 (Price)--Certified Citizen Planner Training. This training will cover the following topics: introduction to community planning; the planning commission; the board of adjustment; the general plan; assuring due process in public meetings; land use regulations; subdivisions; and legal perils, pitfalls and unforeseen consequences. Training will begin at 8 am on both days. Cost for this training is \$25/person for Trust members, \$50/person for non-members.

November 25 (Roosevelt)--Select Regional Training. *See list of topics above (November 14).* There is no cost for this training.

November 29 (Gunnison)--Select Regional Training. *See list of topics above (November 14).* There is no cost for this training.

December 5 (Moab)--Select Regional Training. *See list of topics above (November 14).* There is no cost for this training.

December 12 (Springdale)--Select Regional Training. *See list of topics*

(continued on page 8)

FYI: For Your Information

**Rocky Mountain Asphalt
User-Producers Group
Annual Meeting**
October 16-18, 2001
Albuquerque, New Mexico

Plan now to attend this important meeting at the Crowne Plaza Center in Albuquerque, New Mexico! This is an important meeting for those involved in the manufacture or use of asphalt mixes in roadway construction. For room reservations, contact the hotel directly by calling (505) 821-3333. To register for the meeting, please contact Judy Gaines (303) 471-6286 with the Rocky Mountain Asphalt User-Producer Group.

**Updates on these and other
calendar items are available
at the Utah LTAP/T² Web site
[www.utaht2.usu.edu]**

**2001 UDOT Engineering
Conference**
November 14-16, 2001
Sandy, Utah

The 2001 Engineer's Conference will be held Wednesday, November 14 thru Friday, November 16, 2001, at the South Towne Exposition Center (9575 South State Street, Sandy, Utah). This year's chairman is Robert Dowell. He can be reached at (435) 893-4760 or by e-mail at [rdowell@dot.state.ut.us].

The registration deadline for the conference is October 1, 2001. This year all Conference registration will be done on-line at [www.dot.state.ut.us/esd/Conference/]. You can see the complete agenda, as well as make break-out session choices at the Web site now! Don't miss this important training opportunity!

**1st Annual Local Concrete
Roads Seminar**
December 6, 2001
Little America Hotel
Salt Lake City, Utah

The Utah Chapter, American Concrete Pavement Association (ACPA) along with the Utah Technology Transfer Center is proud to sponsor the 1st Annual Local Roads Seminar, December 6, 2001 at Little America in Salt Lake City. This one-day seminar is a must for pavement designers and specifiers. Topics to be included are: concrete pavement rehabilitation, cool communities, ABCs of PCCP design, hot and cold weather concreting, and others! For details call 1-866-647-5935 or visit the Utah T² Center Web site [www.utaht2.usu.edu]. Registration information will be sent in a future mailing!

Remove this section and post to keep up with training opportunities & events!

October 2001

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
	1	2 Pipe Install. & Inspect./ Field Demo. (SLC)	3	4 Storm Water Workshop (SLC)	5	6
7	8	9	10	11	12	13
14	15 Heavy Equip. (St. George)	16 Prev. Maintenance (Ogden)	17 & Safety Oper. (Tooele)	18	19	20
21	22 Tech. of Heavy Equip. Operation	23 Equip. Operation	24 WZTC & Flagging (Vernal) (Tooele--Desert Peaks Complex)	25 MUTCD Parts 1 & 5 (Vernal)	26	27
28	29 Tech. of Heavy Equip. Operation	30 ADS Stormwater Conf. (SLC)	31 Equip. Operation (St. George)			

November 2001

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
				1 Coaching Maintenance & Veh. Oper/WZTC (Monticello)	2 Coaching the Van Driver (Monticello)	3
4	5	6 Winter Maintenance Roundtables (Park City)	7 (Price)	8 (Woods Cross)	9	10
11	12 WZTC & Flagger Training (Cedar City)	13 Winter Maintenance Roundtable (Cedar City)	14 Utah Engineer's Conference	15 Utah Assoc. of Counties Annual Mtg (St. George)	16 (Sandy)	17
18	19	20	21	22	23	24
25	26	27 WZTC & Flagger Training (Richfield)	28 MUTCD Parts 1 & 5 (Richfield)	29 WZTC & Flagger/MUTCD Pts 1 & 5 (Price)	30	

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

December 2001

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
30	31					1
2	3	4 Highway Rail Grade Crossing Wrkshp (SLC)	5	6 Local Concrete Roads Seminar (SLC)	7	8
9	10	11	12 Introduction to Construction Inspection (Salt Lake City, UDOT Region 2)	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
Closed for Christmas Holiday						

(continued from page 5)

above (November 14). There is no cost for this training.

December 14-15 (Trust Office)--Certified Citizen Planner Training. This training will cover the following topics: introduction to community planning; the planning commission; the board of adjustment; the general plan; assuring due process in public meetings; land use regulations; subdivisions; and legal perils, pitfalls and unforeseen consequences. Training will begin at 8 am on both days. Cost for this training is \$25/person for Trust members, \$50/person for non-members.

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].

October 12 (Cedar City)--Personnel Law for Supervisors. This full-day seminar will begin at 9 am. Cost is \$20 for URMMA members, \$50 for non-members.

October 18 (Orem)--Due Process & Takings. This evening seminar will begin at 6:30 pm. Cost is \$5 for URMMA members, \$10 for non-members.

October 23 (Centerville)--Due Process & Takings. This evening seminar will begin at 6:30 pm. Cost is \$5 for URMMA members, \$10 for non-members.

October 25 (Orem)--OSHA Training. This full-day seminar will begin at 9 am. Cost is \$10 for URMMA members, \$20 for non-members.

November TBD (Riverdale)--Mock Trail for Law Enforcement. This half-day seminar will begin at 9 am.

November TBD (South Jordan)--Erosion Control. This full-day seminar will begin at 9 am.

December 4 (tentative)--Land Use. This evening seminar will begin at 6:30 pm. Cost is \$5 for URMMA members, \$10 for non-members.

Utah Operation Lifesaver

For information on Utah Operation Lifesaver activities, or to get involved with this worthwhile effort, please contact Bret Barney at (801) 489-8041.

October 14-17 (Tucson, Arizona)--Region 7 Operation Lifesaver Workshop. Hotel reservations for this conference will need to be made by participants directly.

Need More Information?

For our continuously 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.

New EPA Storm Water Rules

information provided by Utah Association of Conservation Districts, North Logan City and Utah State University Extension

New EPA Phase II storm water rules require storm water plans for an additional 56 counties and cities in Cache, Weber, Davis, Salt Lake and Utah counties. These EPA rules require that affected municipalities apply for a storm water permit by December 8, 2002. Local plans and ordinances will need to be in place to address storm water runoff by March 8, 2003.

Who is affected? All municipalities with separate storm sewer systems within the urban areas of Logan, Ogden, Provo-Orem and Salt Lake City. Other municipalities that contribute substantial pollutants to their rivers and lakes may also need to obtain a permit.

Utah T² Center Training

The Utah T² Center will conduct a variety of training around the state this quarter, including:

- work zone traffic control and flagging
- highway rail grade crossing
- coaching the maintenance and vehicle operator
- coaching the van driver
- MUTCD parts 1 and 5--low volume roads
- heavy equipment preventive maintenance
- techniques of heavy equipment operation
- introduction to construction inspection (\$200)

The exact dates and city locations are listed on page 6-7. For training cost, location address or to register, please call Keri at 1-800-822-8878.

What are the six (6) minimum control measures? (1) public education and outreach, (2) public involvement and participation, (3) illicit discharge detection and elimination, (4) construction site runoff, (5) new development and redevelopment, and (6) pollution prevention and good housekeeping for municipal operations.

For more information, contact: Nancy Mesner, Utah State University Extension, at (435) 797-2465.

A state sponsored "Storm Water Best Management Practices for Municipal Programs" workshop will be held October 4, 2001. Contact Stantec Consulting, Inc. at (801) 261-0090 for more information.

Region 8 County Road Advisor's Conference October 17-18, 2001 Rapid City, South Dakota

You won't want to miss the Region 8 County Road Advisor's Conference this year. The registration deadline is rapidly approaching, so make your plans now to attend. To register, contact Bob Meister, Local Road's Coordinator with Minnehaha County, South Dakota. He can be reached at (605) 367-4316.

In a change from previous years, the North Dakota LTAP Center (Utah's LTAP counterpart in that state) will be hosting the meeting. Topics to be covered include: county experience with road safety audits; gravel roads manual; railroad/highway grade crossing safety; wood bridges; dust control; discussion and roundtable with local road coordinators, etc. This is an important opportunity for local roads personnel to share their experience, perspective, and effective ideas with their colleagues in other western states. Don't miss it!

National Tribal Road Conference October 30-November 1, 2001 Albuquerque, New Mexico

This conference is intended to provide a concentrated training opportunity to persons involved with developing, advising, or managing tribal road systems. With tracks for elected officials, transportation planning, engineering, and safety there is something for everyone.

Cost for the conference is \$250/person and covers all workshop materials, breaks, lunches and an evening banquet. To register, contact the TTAP at Colorado State University, Room 315 Rockwell Hall, Fort Collins CO 80523-1276.

Focus on Engineering

Utah NTPEP Pavement Test Deck by Stuart Thompson, Programs Engineer, Utah T² Center

Each year the American Association of State Highway and Transportation Officials (AASHTO) sponsors field and laboratory tests to evaluate the performance of pavement marking materials. These evaluations serve as the standard for the National Transportation Product Evaluation (NTPEP) program for AASHTO member states.

Over a two-year period, four sites are selected for the field evaluations. One site is located in the northeast for a cold-humid climate, the southeast for a hot-humid climate, and the northwest for a cold-dry climate and the southwest for a hot-dry climate. Materials are placed at two of the sites on an alternating annual basis.

Utah was chosen as the site for field evaluations in 2001 for the cold-dry climate. Each site is required to have two decks, one located on a concrete roadway, and one located on a bituminous roadway.

The Utah test deck site was selected by personnel from the Utah DOT and the Utah T² Center in consultation with representatives from the pavement marking materials industry. The Utah test decks are located on the eastbound lane of Interstate 84 just west of Morgan, Utah. The concrete pavement test deck is east of the bridge at mile marker 102.25 and the bituminous pavement test deck is located west of the same bridge.

The concrete pavement has a tined surface. This roadway section of I-84 has an ADT of approximately 5,000 vehicles per day and generally consists of rolling terrain. There is no significant horizontal curvature and vertical grades are not excessive.

The sections are fully exposed to the sun during the daylight hours and have

been open to traffic for at least three (3) years.

Thirteen companies applied 95 products on the Utah test deck. Pavement marking materials included:

- Temporary Tapes,
- Durable Tapes,
- Epoxies,
- Paints, and
- Thermoplastics

The test deck was open to industrial participants for product application from July 9, 2001, through July 27, 2001. All materials, durable and temporary, were applied in accordance with NTPEP standards.



Industry crews lay test strips for Utah's NTPEP study on I-84 (Summer 2001)

Products will be evaluated for durability, reflectivity and standardization of color. Evaluation results will be made available to interested parties to aid in pavement marking procurement decisions. For further information visit our Web site at [www.utaht2.usu.edu] and click on the research projects link.

Focus on the Field

Heavy Equipment Training Program to Take a New Approach

by N. Dee Hadfield, Field Projects Manager, Utah T² Center

Hello everyone this is the new guy on the staff at the Utah T² Center! In trying to meet your needs in the field, the staff of the heavy equipment training program plans to try a different approach to the Heavy Equipment Training course this year. We hope that this will allow us, as trainers, to get more one-on-one time with each of the operators that come to the course for training.

The way we plan to do this is to have an introductory course that would be held in locations across the state. This course would cover all of the classroom materials, including: OSHA, trenching, equipment, job site safety, basic equipment maintenance, and equipment pre-shift and post-shift (walk around) inspections.

The walk-around inspections are designed to cover the major types of equipment used by local agencies and focuses on the basic areas and elements of equipment inspection and how to prevent equipment damage.

We will also be adding a section on grade stake reading and basic grade

instructor(s) can spend one-on-one time with each operator.

We hope this change will provide each operator the opportunity to develop his operating skills and abilities to the maximum extent. We also feel this will make the best use of the time spent in the field training.

There will be a techniques of equipment operation course set up for each piece of equipment. We plan to offer training for the following types of equipment:

- Backhoe I and II
- Loader I and II
- Grader I, II, III (Grader III will include gravel road maintenance and flexible pavements)
- Compaction equipment (roller, plate, hoppers, etc.)
- Sweepers
- Vacuum Trucks
- Staking and Grade Control
- Coaching the Maintenance Vehicle Operator
- Coaching the Van Driver

operation training.

The Utah T² Center will be starting roundtable discussion where local agencies can have their maintenance personnel and equipment operators meet

Winter Maintenance Roundtables Provide Local Agencies with a Chance to Share Ideas with Other Local Agencies Just in Time for the Winter Rush!

together to demonstrate and explain to other local agency personnel about their winter maintenance policies and practices.

We will have these discussions in five (5) or six (6) locations within the state, during the first week in November. These roundtables will consist of presentations where each local agency has about thirty (30) minutes to present their program and answer questions.

The optimal number of local agencies to participate is between five (5) and six (6) so that each agency will have sufficient time to share their experience and expertise with the other agencies involved.

At the end of the individual presentations, time will be allotted for further discussion on the ideas generated.

So far we have found interest in the following locations: Logan, Tooele, Woods Cross, and Park City. If you are interested in having your local agency participate in one of these roundtable discussions, please contact me (Dee Hadfield) or Keri at the office by calling 1-800-822-8878. Check out the calendar (pages 6-7) for specific dates.

Winter Maintenance Roundtables in the Works

control. We feel that an operator must understand the basics of construction staking and grade control to do a good job operating equipment. This would be a one time course with refresher training done on an as-needed basis.

After completing the introductory course, operators will be eligible to take the "techniques of equipment operation" course. The number of people attending this training will be limited so that the

It is important to note that while we have a great deal of flexibility in where we offer the introductory course, our "techniques of equipment operation" course will be limited to sites in Tooele, Ogden, and St. George, Utah for the time being.

Please contact the T² Center (1-800-822-8878) for more information on the times and locations of this equipment

Focus on New Technology

Twist Riser Manhole Cover

by Doyt Y. Bolling, Director, Utah T² Center

Providing and maintaining a smooth and safe riding surface on roads and streets is a major challenge for local and state highway agencies, especially when the road or street is the principal corridor for utilities. Particularly problematic are the utility manholes that are made in the road surface to provide access to the utilities.

Most of us can identify with hitting a dip in the road where a manhole cover has sunk and had our car bottom out on its shocks. This is a problem in most cities around the State of Utah and for that matter in the rest of the country. A new adjustable manhole cover developed by Precision Cover Systems, Inc. provides a handy solution to the problem. This new manhole cover has been installed in Orem, Pleasant Grove, Lehi, and on the campus of Utah State University. It is currently being evaluated for ease of use, serviceability, and cost.

The "Twist Riser Manhole" as it is called is designed in such a way that it can be rotated to match the exact grade and crown of the road. The manhole fits neatly onto the concrete manhole cone providing full support for the entire assembly. This new manhole can also allow for easy height adjustments up to 2.75 inches. The adjustment is made in 0.25 inch increments. This means that roadways can then be overlaid before any additional hardware is required.

The "Twist Riser Manhole" is estimated to save municipalities anywhere from \$150.00 to \$500.00 per installation when personnel, equipment and materials costs are considered.

As shown in the following photographs, the assembly can be installed very easily in just a few minutes.

Prior to paving, the grade is set by rotating the bottom assembly to match the grade and cross slope of the base layer of the street or road.



The initial manhole cover assembly base is installed.

Then the top riser assembly is set to match the height of the planned surface of the pavement. The paving crew can then pave directly over the manhole cover assembly, rake the excess asphalt off the cover, and then compact the asphalt to proper grade.



Excess asphalt is removed; the surface around the cover is compacted.

If minor adjustments are needed the manhole lid can be removed, the riser repositioned to the correct height and then replace the lid. The result is a manhole

cover that provides a smooth riding surface.



Final result: a level driving surface!

Lawrence G. Burton, Water Reclamation Manager for the City of Orem, Utah is impressed with the product, "This new system eliminates problems by giving the user unlimited variations in height and slope to the finished surface of the manhole without disturbing any surrounding road surface."

Details from the Calendar

Pipe Installation & Inspection Field Demonstration (October 4, 2001). For more information, contact Randy Wahlen with the American Concrete Pipe Association at (801) 942-7554.

ADS Storm Water Conference (October 30, 2001 from 8-10 am). This conference is for anyone involved in engineering, architecture, construction, development, city, county or municipal administration and construction/ environmental law. To register, contact Travis Wolfe at 1-800-733-8523, ext. 241.

T² Center Offers Free Publications **We've Moved!!!** for Local Utah Agencies

We have recently received a limited quantity of publications we are able to distribute to local Utah agencies free of charge. These important publications have been prepared for us by the U.S. Department of Transportation, Office of Asset Management. Here are the titles available and a description of each.

Primer: GASB 34 (Utah T² Center publication number 6000) serves as a way for the Office of Asset Management to answer many of the questions posed with the adoption of GASB 34 reporting requirements. Topics include: an introduction of GASB, infrastructure requirements, reporting infrastructure cost of use, implementation, asset management and GASB 34, etc.

Asset Management Primer (Utah T² Center publication number 5999) is the first in a series of documents prepared by the U.S. DOT to introduce and explain asset management principles. Topics include: what is asset management, why asset management, current paradigm for decision-making (what do we have), current practice (how is it working), improving the process (what do we need), strategies for implementation (how do we get there), etc.

To order these publications, please call Keri at 1-800-822-8878 or by e-mail at utaht2@cc.usu.edu. Don't wait to add these to your office reference library!

At the end of August our offices at Utah State University moved from the Utah Water Research Lab (our home for the last 4 years) to the EC and SER buildings on the main part of campus (near our former home in Civil and Environmental Engineering).

This means a change in mailing address for any correspondence, but doesn't change our e-mail or web information. Our new mailing address is:

**Utah Technology Transfer Center
Utah State University
4111 Old Main Hill
Logan, UT 84322-4111**

If you need directions or a visitor parking pass to come by our on-campus location (EC 325), please call us at 1-800-822-8878.

**Utah State
UNIVERSITY**



U.S. Department of Transportation
Federal Highway Administration



NON-PROFIT ORGANIZATION
U.S. POSTAGE PAID
LOGAN, UTAH
PERMIT#1



Utah Technology Transfer (T²) Center
Utah State University
4111 Old Main Hill
Logan UT 84322-4111

Address Service Requested