
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 16, Number 1

Winter (January) 2003

UDOT Access Management Program: Increasing Mobility, Improving Safety & Enhancing Community

by Tim Boschert, P.E., Utah Department of Transportation

The Utah Department of Transportation (UDOT) is currently involved in the redraft of an existing State Rule for the issuing of State Highway access permits. Rule 930-6, Chapter 7: Driveways, concerns the grant of access onto State Highways. The new draft of the code clarifies the permit process, establishes access categories assigned to the State Highway system, and provides spacing standards for access points in relation to the categories.

The Department is planning to host a series of information and education meetings to inform primary users of the proposed process and standards. Information concerning meeting dates, as well as general information concerning Access Management, may be found on the UDOT Web site [www.udot.utah.gov/esd/accessmanagment.htm]. Such efforts are slated to commence in early January 2003.

“The Utah access management effort has been in development for a number of years now”, said Tim Boschert, UDOT Access Management Program Coordinator. The momentum for the concept of access management has developed slow, but steady. The Department has always practiced elements of Access Management, and with the adoption of the proposed rule changes, an identifiable comprehensive application of traffic engineering elements for the review of access permit requests is possible.

The Department has always been committed to providing its users a transportation system as safe and efficient as possible. The development and application of standards for the spacing and location of access points is vital to ensuring that the Department continues to provide a system that enhances the mobility and economic vitality of the State. The Department recognizes the many benefits associated with the application of an access management program. Paramount to such a program is the identified reduction in potential accidents.

States with active access management programs have identified the following

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About *On the Move*

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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
Field Engineer Stuart Thompson
Network Administrator Brian Birch
Newsletter Julie Duersch
Phone/Fax (435) 797-2931/797-1582
E-mail utiht2@cc.usu.edu

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

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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

Excerpt from NACE Update, December 5, 2002

U.S. Congress Creates the Department of Homeland Security

After months of debate, Congress has finally authorized creation of the Department of Homeland Security by the passage of H.R. 5005. The U.S. Senate, in one of the final acts of the 107th Congress, followed the lead of the House of Representatives to establish the department. President Bush signed the bill on November 25 at a White House ceremony during which he also nominated, Tom Ridge, as its first Secretary. At the core of the proposal is the consolidation of 22 federal agencies into a single department, with an estimated 170,000 employees. The new department would be the third largest in the Federal Government.

The department would be charged with preventing terrorist attacks within the United States, reducing the nation's vulnerability to terrorism, minimizing damage from terrorist attacks and assisting with recovery from major attacks. The department will coordinate counterterrorism and emergency response programs with state and local governments and the private sector. It would determine and distribute threat warnings to the public and could consolidate emergency communications.

The Department of Homeland Security would have four divisions: Border and Transportation Security; Emergency Preparedness and Response; Science and Technology; and Information Analysis and Infrastructure Protection. Of great importance to local governments; the department will include a provision that NACo had a major role in crafting. The Department will create an office for State and Local Government Coordination, which will coordinate with state and local officials on all matters relating to Homeland Security.

Continuing Resolution (CR) Funds Highways

With the final passage of the Fifth Continuing Resolution on November 19, highway funding for FY2003 continues to remain in limbo. The CR sets a level of \$31.6 billion for highways, the same as current year funding. Since the CR lasts only until January 11, this means that funding will be available only until then based on the pro-rata share of \$31.6 billion. To make things more confusing, the CR states that over the entire fiscal year not more than \$27.7 billion can be spent on highways.

That means there is a spending level and a cap on spending. These different numbers stem from the different spending levels in the House and Senate's Transportation Appropriations bills. The House Transportation Appropriations Subcommittee funds the highway program at \$27.7 billion and the Senate Appropriators raise the level to \$31.8 billion. This confusing situation will be resolved if the House and Senate are able to both pass and conference a Transportation Appropriations bill when Congress returns in early 2003.

Utah 2003 Legislative Session Sure to Be Difficult

With the continued state of revenue shortfall in State budgets, the 2003 Legislative session is sure to be a difficult one for legislators and the public alike. With several proposals floating around regarding how to best balance the reduced budget, citizens and local agencies will need to stay in touch with their elected representatives as effectively as possible during the session.

E-mail is perhaps the best way to contact your Representatives and Senators during the session. You can find the e-mail address at the Utah Government Web site [www.utah.gov]. So go on-line before the session begins and be prepared to share your experience and opinion with those elected to serve you!

We commend our elected officials for their hard work and effort on behalf of the entire State! THANKS!

Hats Off! To Outgoing T² Advisory Board Members

It is with deepest gratitude that we extend our thanks to the outgoing members of the T² Advisory Board:

Larry Bulloch, City of St. George
Shawn Guzman, Utah Association of Counties

We have enjoyed the opportunity to work with these individuals and have appreciated their input as we have met to assess the technology transfer needs of local Utah agencies, and determined the most effective ways of meeting those needs. We wish them well in their future pursuits.

Welcome to New Members of the T² Advisory Board

We are excited to extend a warm welcome to the new members of our Advisory Board:

Trace Robinson, P.E., West Valley City
J. Raymond Johnson, P.E., Tooele County
Mark Brady, Utah Association of Counties

We look forward to working with these individuals in addressing the technology transfer needs of local Utah agencies!

Advisory Board

Joe Anderson
Utah Local Governments Trust

Loren R. Anderson
Civil & Envir. Engineering
Utah State University

Denton Beecher
Box Elder County

Ken Berg
Utah Department of Transportation

Mark Brady
Utah Association of Counties

Kenneth H. Bullock
Utah League of Cities & Towns

J. Raymond Johnson
Tooele County

Paul Mooney
FHWA, Utah Division

Clyde Naylor
Utah County

Trace Robinson, P.E.
West Valley City

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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benefits through the application of various access management practices.

Benefits cited are:

- reduction in traffic conflicts and accidents,
- reduced traffic congestion,
- preservation of traffic capacity and level of service,
- improved economic benefits to businesses and service agencies, and
- potential reductions in air pollution from vehicle exhausts.

Update of the existing code will enable the Department to provide a unified and streamlined permit process for access requests. The revision is based on a national movement of access management programs in fellow state transportation departments.

The benefits and experiences registered among other state and local transportation departments show access management to be a very important issue that can save lives and increase the efficiency of surface transportation systems.

The Utah T² Center will be working with UDOT to advertise and encourage participation in these proposed briefings and training opportunities.

At the proposed briefings, and on-line, opportunity will be provided for open dialogue and comments from all entities affected by the access management proposals.

We will share the dates and locations of UDOT regional briefings on the Utah T² Center Web site as soon as they are scheduled. In addition, we will send a special bulletin to all potentially interested parties (and a T² Center e-mail alert) regarding the UDOT access management training.

Culvert Management System CD Now Available

A Culvert Management System (CMS) is available from the Utah T² Center, Local Technical Assistance Program (LTAP) Clearinghouse or by contacting NACE headquarters. The CMS was developed by the Federal Highway Administration (FHWA) under the Local Technical Assistance Program (LTAP). The CMS includes five primary modules that enable the user to record/update information on inventory, condition, work needs, work funding and scheduling. A text version of the CMS User Manual and a CD containing the Manual and program installation software are being distributed to Federal, State and local agencies with responsibility for construction and maintenance of drainage structures.

Copies of the CD and printed copies of the Users Manual, both designated Report No. FHWA-LT-02-001, are available from: USDOT/FHWA R&T Report Center 9701 Philadelphia Court, Unit Q Lanham, MD 20706 301-577-0818. You can also call the Utah T² Center at 1-800-822-8878.

Questions may be directed to Al Alonzi at the FHWA Office of Professional Development, (703) 235-0552, or e-mail at [al.alonzi@fhwa.dot.gov].

Maintenance of Signs & Sign Supports CD Now Available

A nonlinear PowerPoint CD presentation on Maintenance of Signs and Sign Supports is now available from the Utah T² Center and Local Technical Assistance Program (LTAP) Clearinghouse. The presentation was developed by the Federal Highway Administration (FHWA) under the LTAP, under contract with the Pennsylvania Local Technical Assistance Program.

The reference document for this presentation is a handbook prepared by the FHWA Office of Safety, entitled "Maintenance of Signs and Sign Supports for Local Roads and Streets: A Guide for Street and Highway Maintenance Personnel." The Guide is not currently available. The FHWA Office of Professional Development is working with the Office of Safety on plans to reprint the Guide as an LTAP publication. The transportation community will be notified when it is available.

Copies of the CD are being distributed to the LTAP and Tribal Technical Assistance Program (TTAP) Centers by the LTAP Clearinghouse. You can call the Utah T² Center at 1-800-822-8878. Additional copies of the CD are available from the LTAP Clearinghouse (see information above). Questions may be directed to the FHWA Office of Professional Development, (703) 235-0552, or e-mail Al Alonzi at [al.alonzi@fhwa.dot.gov].

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].

**Local Officials Day at the Legislature
January 20, 2003 (State Capitol)**

**Midyear Conference
April 9-11, 2003 (St. George)**

**City Streets & County Roads School
April 23-25, 2003**

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 [uacnet.pegasus.ultraservers.net].

**Newly Elected Officials Workshop
January 15, 2003 (Salt Lake City)**

Jump start your career in public office at UAC's Newly Elected Officials Workshop. This event is designed to help newly elected officials transition into their position. Topics will include: (1) How can UAC help you; (2) What roll does NACo play; (3) What are the rolls and responsibilities in the court house; (4) What are the key aspects of property tax administration; (5) What does the public think about county officials, etc.

The all-day (8 am to 5 pm) workshop also includes specific training related to positions and responsibilities. Instructors include county officials and UAC staff.

Cost is \$60 per person and includes, instruction, materials, lunch and other food. Not only will the workshop be held at the Salt Lake Plaza, but the Hotel is offering the State rate at \$68/night. Just call them at 800-366-3684 and mention the "UAC Block." Registration Deadline: January 8, 2003. For more information, call UAC at (801) 265-1331. You can also register on-line.

**County Officials Day at the Legislature
February 7, 2003 (State Capitol)**

**UAC Management Conference
April 16-18, 2003 (Price)**

APWA, Utah Chapter

For more information on APWA activities, contact Trace Robinson with West Valley City; by phone at (801) 963-3204 or by e-mail at [trobinson@ci.westvalley.ut.us]. Please note that monthly luncheons are typically held the fourth Thursday of 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).

For additional information about APWA, Utah Chapter activities visit their Web site [apwautah.org].

**Monthly Luncheon
January 23, 2003**
Speaker/Topic: to be determined

**Monthly Luncheon
February 28, 2003**
Speaker/Topic: to be determined

**Monthly Luncheon
March 28, 2003**
Speaker/Topic: to be determined

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]. Please note that the monthly luncheons are held the third Tuesday of each month starting at 12 noon at Shanghai Gardens (7200 South 300 West, Salt Lake City, Utah) unless otherwise indicated.

**Monthly Luncheon
January 21, 2003**
Topic to be determined.

**Monthly Luncheon
February 18, 2003**
Topic to be determined.

**Monthly Luncheon
March 18, 2003**
Topic to be determined.

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.

**Citizen Planner Workshop
January 30-31, 2003 (Cedar City)
March 7-8, 2003 (Moab)**

This two-day workshop runs from 8 am-4 pm each day. Cost is \$25/person for Trust members; \$50/person for non-Trust members. Advanced registration and payment is required. The training includes manuals, supplies, continental breakfast

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Utah Asphalt Pavement Conference March 5, 2003

Be sure to mark your calendars now for the 28th annual Utah Asphalt Conference, March 5, 2003. **The cost to register is \$75 per person before February 15th and \$90 if received after February 15th.**

The conference will be broken into general sessions and four breakout tracks. General session topics include a welcome from UDOT Executive Director, John Njord, and a transportation security and legislative and funding outlook.

Breakout tracks will focus on "back to basics" construction, maintenance, design and materials with an emphasis on state and local road issues.

Speakers for the conference will come from state DOTs, FHWA and industry. The conference is an excellent opportunity

for participants to meet with experts in the field of asphalt pavements, and to share their own experience with their colleagues.

Vendors sponsorships are available. For more information, or to register, please call Keri at the Utah T² Center by calling 1-800-822-8878. You can also complete the registration form (on this page) and fax it to (435) 797-1582.

The conference will be held at the Salt Lake Airport Hilton (5151 Wiley Post Way). A block of rooms is being for conference participants. Just call 1-800-999-3936 and mention you're with the "Utah Asphalt Conference" to get the special room rate of \$68/night plus tax (free parking). More information about the conference will be on-line at our Web site: [www.utaht2.usu.edu].

REGISTRATION FORM 28th Annual Utah Asphalt Pavement Conference March 5, 2002

Name(s): _____

Agency: _____

Address: _____

City: _____

State: _____ Zip: _____

Phone: _____

Fax: _____

E-mail(s): _____

Payment (please check one):

PO (# _____)

Check Enclosed

Credit Card (Visa/MC/Discover)

Card # _____

Expiration Date _____

Signature _____

*Please make PO/check payable to the
Utah T² Center*

January 2003

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
			1 	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16 CLL MUTCD	17	18
..... Transportation Research Board Annual Meeting (Washington DC)						
19	20 	21	22	23 City Engineer's Conference (St. George)	24	25
26	27	28	29	30	31	

February 2003

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
						1
2	3	4	5	6	7	8
9	10 ATSSA Flagging (Ogden)	11	12 ATSSA TCT (Ogden)	13	14	15
16	17 	18 ATSSA Workshop Series			22
23	24 ATSSA Flagging (SLC)	25	26 Sign Mgmt/ MUTCD (SLC)	27 Sign Mgmt/ MUTCD (Vernal)	28	

Updates on these and other calendar items are available at the Utah LTAP/T² Web site [www.utaht2.usu.edu]; or call the Utah T² Center at 1-800-822-8878.

March 2003

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
						1
2	3	4	5 Asphalt Pav. Conf (SLC)	6 Fund. of Quality Concrete (Logan)	7 Concrete Conference (Logan)	8
9	10 Sign Mgmt MUTCD (Ogden)	11	12 Sign Mgmt MUTCD (Logan)	13 CLL Right of Way (St. George)	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30	31 ATSSA Workshop Series (SLC) Heavy Equipment Operation (Tooele)	
			ATSSA TCT (Logan)	ATSSA TCT (Vernal)		

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and lunch. Contact Marilyn Beesley to register (801) 936-6400 ext. 1302.

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 ext. 18. You can also check out their Web site at [www.urmma.org].

Blue Stakes of Utah

Blue Stakes of Utah will once again be holding Contractor Awareness Meetings in January 2003 at the following locations on the dates and times indicated. If you are interested in attending, please contact the Blue Stakes Notification Center at 1-800-662-7836 and request a registration form. Each meeting will be held from 7:30-9:30 am.

- January 17, 2003 (St. George)
- January 21, 2003 (Ogden)
- January 22, 2003 (Provo)
- January 23, 2003 (Salt Lake City)
- January 24, 2003 (Salt Lake City)

The agenda for the meetings will include a breakfast; an overview of the Blue Stakes association; information on what is required when requesting a locate request; a special presentation by the Common Ground Alliance (CGA); and a damage prevention education video. Representatives from some of the larger member utility companies as well as representatives from the Blue Stakes Association will also be present and available following the meetings to answer questions.

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.

Making School Zones Safe in Phoenix, Arizona

The city of Phoenix, Arizona is concerned about pedestrian and bicyclist safety. Because of this, the city has developed a school safety program to ensure the safest possible conditions for school age pedestrians and bicyclists. Through a program involving Safest Route to School Walking Plans and School Crossing Safety Audits, the city helps local elementary and middle schools identify deficiencies and problem areas that pose a safety risk to school age children using pedestrian facilities.

Safest Route to School Walking Plan

Determining the Safest Route to School Walking Plan is a cooperative effort between the school principal, a Phoenix School Safety Specialist, and parent volunteers. The purpose of a safest route to school walking plan is to define safest walking routes from every home/apartment within the walking attendance boundary, and use this information to:

- Select optimal crossing locations,
- Determine guard placement,
- Identify deficiencies,
- Educate students/parents, and
- Encourage more walking to school.

The plan should identify deficiencies such as missing sidewalks, pot holes or broken sidewalks, visibility obstructions, blocked sidewalks, difficult crossings, crosswalk or sign problems, and any other unsafe conditions.

School Crossing Safety Audits

After the important crossing locations have been determined through the Safest Route to School Walking Plan, a School Crossing Safety Audit is performed on each of these crossings. Again, this is a joint effort between school officials, crossing guards, and city school safety special-

ists. The purpose of the School Crossing Safety Audit is to:

- Inventory key school crossings,
- Observe Traffic conditions,
- Observe crossing guards,
- Identify improvements, and
- Encourage more walking to school.

The audit procedure begins with scheduling an appointment with all members of the auditing team. Next, key crossings are identified, preferably through a Safest Route to School Walking Plan. Student crossing counts are then conducted at each crossing, followed by the audit evaluation. To facilitate the audit evaluation, the city of Phoenix has developed a safety audit form. This form allows the auditor to record information such as:

- Lanes of traffic being crossed,
- Traffic speed,
- Unusual traffic or student conditions,
- Location of crossing with regards to signals, STOP signs, and 15 mph school zones,
- Crossing guard equipment/training,
- Traffic control at crossing,
- Visibility obstructions, and
- Information about the student waiting area such as the surface, size, and stand back lines.

The next step in the audit procedure involves the School Safety Specialist obtaining vehicle and pedestrian collision records for the past 12 months. When this information is collected, each crossing is rated by a point system and improvements are recommended and implemented. Follow-up reviews are then conducted to ensure that improvements are implemented correctly.

Through the School Safety Program, the city of Phoenix has developed a system to inventory, assess, and maintain the condition of their school pedestrian facilities and ensure the safety of school age pedestrians and bicyclists.

You Can Help Keep Salt & Sanding Deicing Costs to a Minimum!

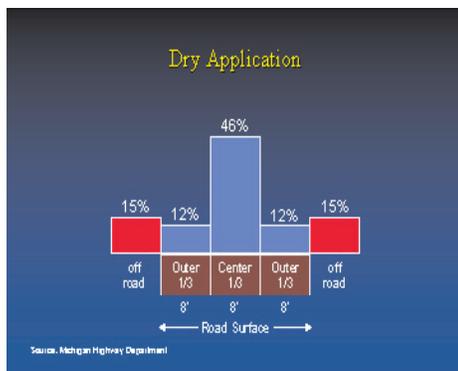
by N. Dee Hadfield, Project Manager

As we start into the winter season the matter of funding for snow and ice removal always come to the front. *Is the funding source large enough to purchase the materials that are needed to maintain the service level the citizens expect you to provide? Is the funding source large enough to provide the types of salt and sanding deicing material that will work in the temperatures, snow conditions, and time frame to meet the expectation the citizen's demand?*

The Michigan Department of Transportation did some studies on pre-wetting dry salt and sand deicing materials that may extent your Salt and Sanding funding by up to 25% plus.

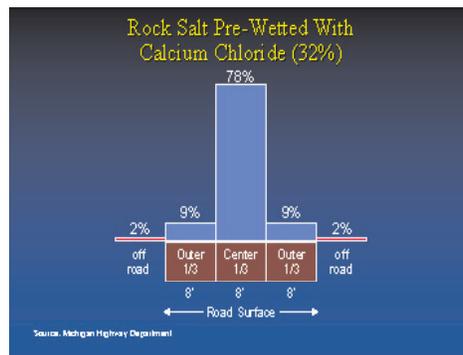
The Michigan study was conducted on a new section of roadway, with a new piece of equipment that had just been calibrated to meet Michigan DOT maintenance standards. The same driver was used for both tests on the same day with the same weather conditions. Everything was a close to the same as possible.

The following graphs show the results of the study. Graph No. 1 shows the results where a dry application of salt and sand deicing materials was applied. There was a loss of 30% of material due to materials being spread off the roadway.



Graph No. 2 shows the results under the same conditions except the salt and sand deicing materials were pre-wetted.

Only a four (4%) percent loss of the pre-wetted salt and sand resulted from material being spread off the roadway. This shows a 26% saving in salt and sand deicing material just by pre-wetting the dry material.



Further study of the test sections with traffic shows even more significant results. Graph No. 3 shows that the dry application had an additional loss of 40% of material with only five vehicles at 38 mph and

15% more loss with the next 100 vehicles. This graph further shows the net loss of material to be a total of 85% of the dry salt and sand deicing material that was applied ending up off the road way.

	Dry Salt	Moistened Salt
5 Vehicles at 38 mph	30%	93%
100 Vehicles at 38 mph	15%	80%

Graph No. 3 also shows that only 20% of the pre-wet material ended up being thrown off the roadway under the same traffic conditions.

Although it is true that typically you will not be applying salt and sand to a dry roadway, the benefits of applying pre-wetted materials has the potential of saving costs, as well as, providing much better deicing results and safer roadways.

Driver Vision Obscured by Trees, Crops, Weeds, etc.

During a four year period (1997-2000) there were 860 crashes Statewide that were related to obscured vision by trees, crops, weeds and other vegetation.

Of these 221 occurred on State highways and 639 were on city and county roads. For further information on the number of crashed in your county, due to obscured vision, and the measure proposed to address this issue, contact the Utah T² Center at 1-800-822-8878.

Modern Roundabouts in Utah

by Bill Baranowski, P.E.

Over 40 modern roundabouts have been constructed in Utah since 1995. A roundabout is a circular intersection similar to the traffic circle used previously in this country. The major differences between a traffic circle and a roundabout are:

- **Yield at Entry:** At roundabouts the entering traffic yields the right-of-way to the circulating traffic. This yield-at-entry rule keeps traffic from locking-up and allows free flow movement.
- **Deflection:** The entry and center island of a roundabout deflects entering traffic to slow traffic and reinforce the yielding process.
- **Flare:** The entry to a roundabout often flares out from one or two lanes to two or three lanes at the yield line to provide increased capacity.

Why Use a Roundabout?

1. **Safety.** Roundabouts have been shown to reduce fatal and injury accidents as much as 75% in the USA and Australia and 86% in Great Britain. The reduction in accidents is attributed to slower speeds and reduced number of conflict points.
2. **Low Maintenance.** Eliminates maintenance costs associated with traffic signals which amount to approximately \$3,500 per year per intersection. In addition, electricity costs are reduced with savings of approximately \$1,500 per year per intersection.
3. **Reduced Delay.** By yielding at the entry rather than stopping and waiting for a green light, delay is significantly reduced.
4. **Capacity.** Intersections with a high number of left turns are better

handled by a roundabout than a multi-phased traffic signal.

5. **Aesthetics.** A reduction in delay corresponds to a decrease in fuel consumption and air pollution. In addition, the central island provides an opportunity to provide landscaping.

Where Do Roundabouts Make Sense?

Roundabouts can be beneficial in certain conditions and locations. They can provide better safety at sites with high rates of T-bone, head-on, left/through and U-turn accidents. In general, they may be desirable at locations where all-way stop control currently exists; at signalized locations with low or medium traffic volumes; and at entries into urban and suburban areas.

Roundabouts may also be desirable in rural and suburban areas where they do not affect the progression of network-controlled signalization or signalization of adjacent intersections and at the termini of unsignalized and signalized diamond interchanges.

Roundabout Checklist

Roundabouts are an effective way to regulate typical uncontrolled 4-way intersections. Depending on the location



and characteristics of the intersection, a roundabout can help to reduce the number and severity of motor vehicle collisions and reduce vehicle delay while adding a tasteful look to urban or rural streets. By following this simple checklist, you can decide if a roundabout is right for your intersection.

Criteria for Evaluating a Roundabout

- Capacity Analysis
- Cost/Benefit Analysis
- Truck Traffic
- Bicycle and Pedestrian Traffic
- Right-of-Way Consideration
- Parking and Bus Stop Requirements
- Compatibility with Adjacent Intersections
- Safety Aspects
- Traffic Growth
- Speed of Traffic
- Installation and Maintenance Costs

Basic Roundabout Design Issues

- How many lanes and what diameter circle will we need?
- Do we have enough right-of-way?
- What type of flares, deflectors and islands will we need?

Community and Approval Issues

- Who needs to be educated about roundabouts?
- Will there be confusion with traffic circles and traffic calming?
- Where is the closest roundabout we can use as an example?
- Can we get photographs, videos and traffic data on a similar roundabout?
- Who will oppose a roundabout at this location?
- Who will “champion” the roundabout?

How To Drive a Roundabout

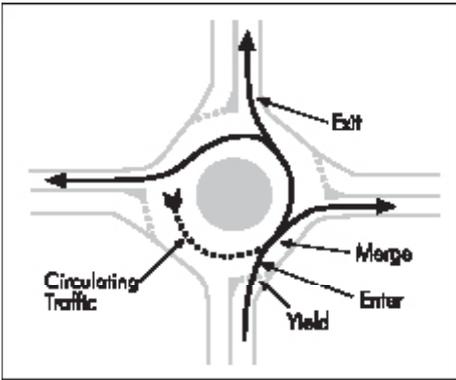
As you approach a roundabout there will be a YIELD sign and dashed yield limit line. Slow down, watch for pedestrians and bicyclists, and be prepared to stop if necessary. When you enter, yield to

circulating traffic on the left, but do not stop if it is clear.

A roundabout will have ONE-WAY signs mounted in the center island. They help guide traffic and indicate that you must drive to the right of the center island.

Upon passing the street prior to your exit, turn on your right turn signal and watch for pedestrians and bicyclists as you exit.

Left turns are completed by traveling around the central island. (See below.)



**Roundabout Workshop
Spring 2003
Cost: \$250**

We are sponsoring a Roundabout Workshop that provides an introduction to roundabout design including site visits to observe recent designs.

We will introduce the basic principles of roundabout evaluation including:

- Compatibility with adjacent Intersections
- Safety aspects
- Traffic growth
- Speed of traffic
- Right-of-way considerations
- Parking and bus stop requirements
- Truck traffic
- Bicycle and pedestrian traffic

You will learn the basic principles of roundabout geometric design including:

- Horizontal and vertical geometry
- Fastest vehicle path

- Signing and striping
- Lighting
- Construction staging
- Cyclist and pedestrian facilities
- Landscaping, and drainage



We will also review the evolution--from concept through construction-- of two local roundabouts recently con-

structed in Salt Lake County including single-lane and multi-lane design. Participants may review actual construction drawings and bid packages. Sample cost estimates will be available. You are encouraged to bring your designs for review.

You will receive a CD ROM copy of the latest roundabout design guides: Roundabouts: An Informational Guide, by FHWA; and Roundabout Design Guidelines by Leif Ourston.

Bill Baranowski, P.E. introduced modern roundabouts to Utah in 1993. He has designed over 25 roundabouts constructed since 1992. Many of his roundabout designs may be seen on the Web site [www.RoundaboutsUSA.com]. There are currently over 40 modern roundabouts in Utah on both City and State roads.

Click, Listen & Learn (CLL) Workshops Save Money & Time for Local Agencies

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).

The program is designed to save local agencies money and time by making arrangements to participate directly with APWA. You simply go on-line at [www.apwa.net/education/ctl] and follow the directions available at the click of your mouse!

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

- January 16: MUTCD--Deadlines You Don't Want to Miss!
- February 12: Water--A Lifesaving Commodity
- March 13: Understanding the Value of Your Right-of-Way
- April 9: Selection of Consultants

Adjustable Manhole Covers Showcase

City of Logan, UT—April 29, 2003

Imagine the labor saving potential and positive public relations effects of an adjustable manhole cover! With Utah's T² Center/Local Technical Assistance Program (LTAP) as cosponsor, the City of Logan's Public Works Water/Waste team, you will share their experiences with this unique product.

Participants will learn how this product was developed and subsequently approved for use by the city's management team. You will experience:

- how simply they install
- how easily they adjust to match exact grade and crown, and
- how simply they adjust to match the heights of future overlays.

All FHWA and AASHTO specification aspects plus actual City of Logan cost benefit information will be shared. Participants will visit in-use sites to evaluate various grade installation applications and will observe a complete,

real-time, start-to-finish field installation. Don't let your decision making team miss this Showcase.

Registration is \$29 and includes all handouts, site visit transportation and lunch. Accommodations have been arranged in Logan at the Best Western-Weston for \$60 per night plus tax and the Comfort Inn for \$54 per night plus tax.

You can visit the Showcase Website [www.pdshowcase.org] for details and to register. If you have questions or would like to register by phone, contact Ms. Chris Ritch in the National Showcase Program office in Florida, (352) 392-2371 ext. 223, or Keri at the Utah T²/LTAP Center (435) 797-2931.

Agenda

8-9 AM
9-9:15 AM

On-site Registration
Introductions &
Welcome

9:15-10:15 AM

Project Background
& Presentations by
Agency & Industry
Representatives

10:15-10:30 AM

Break

10:30-11:30 AM

Presentations
Continue

11:30 AM-12 PM

Open Discussion

12-1 PM

Lunch

1-3 PM

Guided Field
Site Visits & Live
Demonstration

3-3:55 PM

Return to Meeting
Room for Open
Discussion

3:55-4 PM

Evaluations

4 PM

Wrap-up & Adjourn

Neither the LTAP nor participating public entities, present a Showcase as an endorsement, implied or otherwise, for a particular product, service, technology or vendor.

**Utah State
UNIVERSITY**



U.S. Department of Transportation
Federal Highway Administration



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

Return Service Requested