



Low-Cost Treatments for Horizontal Curve Safety

by Nicholas R. Jones, P.E., Director

with excerpts from "Low-Cost Treatment for Horizontal Curve Safety" published by FHWA

http://safety.fhwa.dot.gov/roadway_dept/horcurves/fhwasa07002/

At the Utah LTAP Center, we have a manual entitled *Low-Cost Treatment for Horizontal Curve Safety*, published by FHWA, available for any entity on request, to place in your individual reference library. This manual has many ideas and helps to prevent fatalities and serious crashes on horizontal curves. This article includes many excerpts from the manual which give local governments several tools to increase safety on horizontal curves in their transportation system.

“The Guide reports that nearly 25 percent of people who die each year on the Nation’s roadways are killed in vehicle crashes at curves.

About 75 percent of all fatal crashes occur in rural areas, and more than 70 percent are on two-lane secondary highways, many of which are local roads. Furthermore, the average crash rate for horizontal curves is about three times that of other highway segments. And, 76 percent of the curve-related fatal crashes involve single vehicles leaving the roadway and striking trees, utility poles, rocks, or other fixed objects or overturning. Another 11 percent are head-on crashes, the result of one vehicle drifting into the opposing lane when a driver tries to cut the curve or redirect the vehicle after having run onto the shoulder.”

Here are some of the low cost treatments to consider if you have problematic curves in your jurisdiction.



Centerline for No Passing on horizontal curve.

A **marked centerline** helps drivers keep their vehicles on the correct side of the road and delineates the roadway alignment.



Centerline and edge line for two-lane road.

The **edge line** helps keep drivers from drifting onto the shoulder and

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roadside area. It is much more visible during inclement weather.

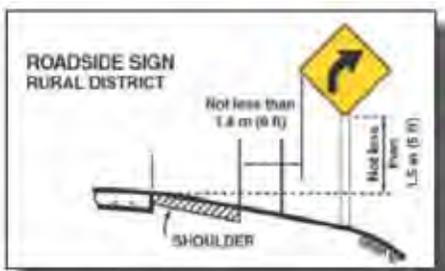


The MUTCD prescribes Horizontal Alignment Signs for advanced warning of a single curve section.



Combination Horizontal Alignment / Advisory Speed Signs.

New MUTCD [signing for curves](#) in the recently released Utah 2009 MUTCD help drivers recognize hazards in time to react.



Offset and height placement for signs on rural roads.

Proper [sign placement and height](#) is important for the driver to be visible and react in time.



One direction Large Arrow Sign placed within curve.

[Arrow signs](#) are very visible and provide advance notice to drivers.

[Chevrons](#) are very visible and warn drivers of curve dangers giving another layer of notice when drivers aren't paying close attention (see page 3, top left).

[Reflectors](#) increase the visibility of guardrail during night-time hours (see page 3, second top left).



Post delineators installed on a ramp.

During night-time hours [safety edge delineators](#) are visible when often road markings are not visible.



Simply adding a reflective tape to a pole or tree that cannot be removed may prevent a crash.

[Mark large obstacles](#) in the clear zone especially any around horizontal curves (see previous photo).

[Rumble strips](#) warn a distracted driver of dangerous lane departures especially around curves (see page 3, middle).



Technique for measuring height and depth of drop-offs.

Vertical edge drop offs over 3 inches can cause a vehicle to lose control if the wheel drops off the pavement. Edge slopes of steeper than a 3:1 edge is considered non recoverable. A [safety edge construction demonstration](#) will be available this year at Road School in St. George.

[Widening shoulder around curves](#) can reduce the percentage of crashes significantly (see page 3, second from bottom left and bottom left).



Before installation of Chevrons.



After installation of Chevrons.

The installation of Chevrons provides guidance for the approaching curve.



Application of skid-resistant pavement surface in curve.

Maintaining the appropriate amount of pavement friction is critical for safe driving. In locations where drivers may brake excessively—for example, when going around curves, down hills or steep grades, or when approaching an intersection—the road surface can become prematurely polished, reducing the pavement friction and allowing vehicles to skid when the drivers brake.

In horizontal curve locations where crashes have occurred or are likely to occur, these corrective actions should be added to the toolbox of those that design, construct, or maintain roads in your communities.

There are many ways to help improve horizontal curve safety! To find out more, you can download the complete manual in PDF format on-line at:

http://safety.fhwa.dot.gov/roadway_dept/horcurves/fhwasa07002/

We also have hard copies of the guide available by contacting our office by e-mail [utahltap@usu.edu] or by phone at 1-800-822-8878 .



Installation of reflectors on W-beam guardrail.



Illustrations of rumble strip for centerline (left), shoulder (middle), and across roadway (right).



Widening on inside of curve.



Widening on the outside of the curve.

Crash Reductions Related to Shoulder Widening.

Shoulder Widening per Side, (ft)	Reduction in Related Crash Types (%)	
	Paved	Unpaved
2	16	13
4	29	25
6	40	35
8	49	43



Are YOU Ready?

If not... May we recommend a New Year's resolution? **BE READY!**

<http://beready.utah.gov/beready/index.html>

We've been faced with many disasters during the past year the United States. Whether it was Hurricane Sandy's devastating and lasting effect on the Eastern Seaboard, or the tragedy of the school shooting in Connecticut, or our own summer of fires, we have been forcefully reminded of the importance of being ready, as families, as businesses, as schools and as communities.

So, are YOU ready? What does ready mean? Where do we start to get ready? Can I "be ready" on a limited budget? Who helps their community "be ready?"

So many questions! But, there are answers and there is one place to go to find them and that is...

beready.utah.gov

So, what will you find there? Suggestions and resources on how to be ready for families, for businesses, for schools and for communities!

One resource for communities is the *Public Officials Guide to Disasters*. In it we find "35 Action Steps to Reduce Your Risk" before disaster strikes (broken into six categories):

Getting organized

1. Participate in monthly emergency management meetings.



On the Move

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Community Downloads

- The Public Officials Guide to Disasters
- Plan Before the Emergency
- A 12 Point Program for Individual, Family & Community Preparedness
- FEMA's Guide for All-Hazard Emergency Operations Planning--State and Local Guide (SLG)

2. Schedule presentations for elected and senior management officials.
 3. Appoint representatives of other organizations to create a Local Emergency Planning Committee.
 4. Hold local National Incident Management System (NIMS) workshops.
 5. Assign an individual to be your Emergency Management Coordinator to work with the County Emergency Planning Manager.
 6. Provide line item budgets for emergency management activities.
 7. Conduct/participate in community-wide planning and exercises.
 8. Conduct/participate in area-wide (multi-jurisdictional) planning.
 9. Conduct facility/plant planning.
 10. Conduct hazards analysis/capability assessment.
 11. Involve media, volunteer, and other private resources.
 12. Annually evaluate and upgrade emergency management plans.
 13. Designate a lead agency for each type of disaster.
 14. Become National Incident Management System (NIMS) compliant
- [Training \(note the important overlap from Planning\)](#)
15. Conduct/participate in community-wide training.
 16. Conduct/participate in area-wide (multi-jurisdictional) training.
 17. Conduct facility/plant training.
 18. Involve media, volunteers, and other private resources in training.
 19. Conduct frequent table-top exercises every six months.
 20. Conduct all agency, area-wide exercises at least annually.
 21. Conduct Incident Command System (ICS) training.
- [Preparedness](#)
22. Develop a warning system for all segments of the population.
 23. Improve mutual aid programs.

24. Give customized "Checklist" to all elected/senior management officials.
25. Review legal responsibilities and authorities.
26. Develop off-the-shelf emergency policies and procedures (pre-designated authorities, curfew, rationing, and other emergency powers).

Capability Development

27. Improve prevention/mitigation measures for all type of disasters.
28. Develop detailed hazard-specific plans.
29. Develop/maintain disaster resource lists.
30. Review liability/risk exposure.

Public Information

31. Conduct presentation on NIMS for elected/senior management officials.
32. Hold one-on-one meetings with elected/senior management officials.
33. Conduct public/employee education in evacuation/disaster response.
34. Improve relations with media, volunteer, and private sector.
35. Conduct seasonal public education campaigns on specific hazards.

Business Downloads

- H1N1 Flu Resources for Businesses
- 12 Point Program for Business Continuity Planning
- Business Continuity Planning Guidebook
- 52 Week Be Ready Utah Preparedness Goal - 1 goal each week
- Business Actions to Reduce Disaster Losses
- Business Pandemic Influenza Planning Checklist
- Business Security Assessment Tool
- Property Protection Checklist
- Security Vulnerability Self-Assessment
- Risk Analysis Self-Assessment
- Threat Identification Checklist
- Business Insurance Coverage Worksheet
- Cyber Security Controls Checklist

School Downloads

- Planning Guide for Utah Schools
- Practical Information on Crisis Planning Brochure
- School Emergency Supplies/Go Kits
- Family Communication Plan
- Complete Crisis Planning Guide for Schools and Communities
- Be Ready Utah School Emergency Checklist
- Utah Code-School Emergency Plans

Family Downloads

- Guide to Personal & Family Preparedness
- Emergency Plan
- 72 Hour Kit Checklist
- Car Survival Kit
- Kids Activity Book
- Disaster Preparedness for Seniors
- Preparing for Pandemic
- A 12-Point Program for Individual, Family & Community Preparedness
- FEMA's In-Depth Guide to Citizen Preparedness

35 steps seems like a lot, but if each step is taken in turn, our communities will be better able to handle anything that comes our way. No, it won't be a hurricane like Sandy, but it could be an earthquake, a severe winter storm, flooding, or even high winds that hit with little or no warning.

Getting your citizens involved will not only encourage them in their personal preparations for the unexpected, but it will also help provide the necessary support to your community in times of need. Be Ready Utah recommends organizing a "citizens corp."

After all, citizens are the ultimate stakeholders and must be an integral component of community preparedness. "Citizen Corps asks everyone to embrace the personal responsibility to be prepared, to get training in first aid and emergency skills, and to volunteer to support local emergency response, disaster relief, and community safety." Citizen participation through



year-round volunteer service leads to enhanced levels of community readiness for disaster response and recovery.

Citizens must have:

- A clear understanding of national and community preparedness.
- Regular outreach education and communication regarding national and community preparedness.
- Effective alerts, warnings, and crisis communication.
- Opportunities to be involved in prevention, protection/preparedness, response, and recovery.

These goals can be achieved through:

1. Planning and Evaluation—tools are available to help know just what to plan for, how to prepare and carry out your plan and how to evaluate the effectiveness of your community preparedness plans.
2. Public Education and Emergency Communication—Educating citizens and being prepared to communicate information and instructions in the event of a disaster are critical. Citizen volunteers can help.
3. Training—You've got to train volunteers if you want the community plan to succeed in time of emergency.
4. Exercises—This is where you find out if your plans and train-

ing are really getting you ready for whatever comes and allows you the opportunity to adjust plans and training for more effective response in a real emergency situation.

For more information on establishing or joining a local Citizen Corps Council, you can visit any of the following:

www.citizencorps.gov
www.citizencorps.utah.gov
www.BeReadyUtah.org

5. Volunteer Programs and Activities to Support Emergency Responders—There are many volunteer response teams already in place. It is critical that they receive support and be factored into a complete community preparedness plan. Some of those volunteers are part of Community Emergency Response Teams (CERT), Volunteers in Police Service, Fire Corps, Medical Reserve Corps, Neighborhood Watch, etc.
6. Surge Capacity Roles and Responsibilities—When disaster strikes, it will be very intense for the first few hours and days. Be prepared by using volunteer groups already in place (i.e. CERT, Medical Reserve Corp).
7. Providing Proper Equipment to Citizen Volunteers—Make sure citizen volunteers are prepared to care for their families (i.e. making 72-hour kits available through community outreach programs), so they know their families are okay in the event of a disaster and can use their skills and abilities to help others in the community. Also make sure

that your volunteer teams have the proper equipment.

8. Volunteer and Donations Management—We live in a country of caring and concerned citizens, donations will come when disaster strike, whether it's shared equipment from a neighboring community, or help from around the globe. Are you prepared to receive it?
9. Evacuation and/or Sheltering in Place—Make sure your citizens are aware of how to take care of themselves in-place in the event of disaster. Community awareness campaigns can help.

So where to begin? What can you do to get started in helping your citizens, businesses, schools and the entire community be ready? Share your resources! Here are a few ideas:

- Consider adding a prominent link to beready.utah.gov to your city or county website.
- Ask the local library to focus on emergency preparedness throughout the year, and host emergency preparedness discussions or presentation.
- Ask schools to sponsor an "emergency preparedness literacy night" to share their emergency plans with their students and families, and provide support for those events.
- Highlight emergency preparedness in your periodic safety training sessions.
- Support, and take part in community preparedness fairs and events.

These are just a few things you can do to BE READY!



First Recipients of Road Scholar Certificates Receive Formal Recognition

October 25, 2012—Naples, Utah. During the Naples City Council Meeting, the first recipients of the Road Scholar Certificate (Level 1) were recognized. Utah LTAP Center Director, Nick Jones, was on hand to present Ryan Cook and Jim Harper with their formal certificates.

Both men have been steadily working towards the goal of achieving Level 1 and, having achieved that goal, will now continue to work towards Level 2. Congratulations to Ryan and Jim!



Photo: Ryan Cook (left) and Jim Harper (right) receive their formal certificates for achieving Road Scholar Level 1 status from LTAP Center Director, Nick Jones (middle) during the October 25, 2012 Naples City Council Meeting.

Paula Atha Retires from LTAP, Becky Winstead Joins LTAP Team

After several years of dedicated service, our Staff Assistant, Paula Atha, retired in December 2012. She will miss the chance to talk to you, but is excited to spend more time with her grandbabies!

With Paula's departure, you will now be greeted by another friendly voice when you call the Utah LTAP Center. That voice belongs to our part-time Staff Assistant, Becky Winstead.

Becky is originally from upstate NY. She received her bachelor's degree in Equine Science in 2004

and began her work at Utah State in 2006 in the equine program, lecturing and doing community outreach in the extension program. Becky then pursued her Masters degree in secondary and post secondary adult education. She was awarded that degree in 2010 from USU. She and her husband, Chris Winstead, have a two year old daughter (seen here in their favorite team colors).

Becky's role with the Center, like Paula's, includes helping to organize and schedule workshops throughout the state and, of course, she is the one to greet you when



you call with questions! Welcome Becky!

On the Move

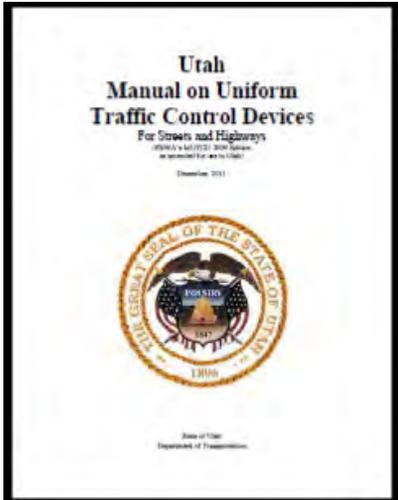
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I've Got a Question

a chance for local agency personnel to ask questions and get answers from our Director and other experts



Question: Utah MUTCD status

What is the status of the Utah MUTCD and when will it be available?

Answer: It's available now on-line!

The Utah Department of Transportation has finalized the Utah

MUTCD which is now at their website [www.udot.utah.gov] and can be downloaded to your computer as a PDF document.

The Utah Sign Manual and the Traffic Control for School Zones for Utah are also available in downloadable versions.

To submit your question to be answered, please e-mail our Director, Nick Jones at nick.jones@usu.edu.

Introducing Our New UDOT Local Government Programs Manager: Daniel Page

With the change in assignment for Matthew Swapp (he will now head the UDOT Aeronautics Division), we are pleased to welcome a new Local Government Programs Manager to the job! His name is Daniel Page and when asked, he said, "I am very excited about the opportunity to work with the Counties and Cities. I have large shoes to fill..."

Danny originally started with UDOT back in 1996 as a Construction Survey Technician while attending Salt Lake Community College. From there his interest grew in the area of Civil Engineering and he was persuaded by his co-

workers to pursue Civil Engineering as a career.

While continuing to work at UDOT, he pursued a Bachelor's degree in Civil Engineering from the University of Utah, and graduated in 2002.



sign, Bridge Operations, Materials, Project Management, and now as the Local Government Programs Manager.

That work has also led to blessings in his personal life! He met his wonderful wife of 12 years, Michelle, at UDOT! When they met, he was going to school and she provided him with much needed help on an assignment. They have one child—a 110 lb Alaskan Malamute that thinks he is human!

Danny loves to spend his time outdoors, golfing, mountain biking, playing basketball, or any time spent with his family. He looks forward to getting to know and working with all of the great people at the Counties and Cities.

If you have any local government questions, please don't hesitate to contact Danny by phone at (801) 633-6225 or by e-mail at dpage@utah.gov.



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He has worked a total of 16 years for UDOT in many fascinating areas such as Structures, De-

Winter/Spring LTAP Center Training

2013	Course Title	Cost	RS*	Location
Jan. 28 AM	Integrated Roadside Vegetation Management	\$50 - \$	E	Riverton
Jan. 28 PM	Tree Trimming & Tree Care	\$50 - \$	E	Riverton
Jan. 29	Survey & Grade Staking	\$50	E	Sandy
Feb. 6	Street Lighting Layout, Construction, and Inspection	\$50	E	SLC
Feb. 21 PM	Retroreflectivity for Signs	\$50	E	SLC
Feb. 25	ATSSA Flagger Training	\$45●	1	Vernal
Feb. 26	ATSSA Traffic Control Technician Workshop	\$125/150●●	E	Vernal
Feb. 27	Registered Stormwater Inspector***	***	2	SLC
Feb. 27-28	ATSSA Traffic Control Supervisor Workshop	\$265/290●●●	E	Vernal
Feb. 27-28	OSHA 10 Hr Training	No Fee	1	SLC
Feb. 28	Registered SWPPP Reviewer***	***	E	SLC
Mar. 1	Public Way Sidewalks & Access Ramps-How to Build Them	\$85	E	Vernal
Mar. 5	Communication Skills for Supervisors 1	\$50	2	SLC
Mar. 11	ATSSA Flagger Training	\$45●	1	SLC
Mar. 12	ATSSA Traffic Control Technician Workshop	\$125/150●●	E	SLC
Mar. 12	ATSSA Traffic Control Technician Workshop	\$125/150●●	E	Price
Mar. 13-14	ATSSA Traffic Control Supervisor Workshop	\$265/290●●●	E	SLC
Mar. 13-14	ATSSA Traffic Control Supervisor Workshop	\$265/290●●●	E	Price
Mar. 25	Heavy Equipment Safety Training**	\$85	1	St. George
Mar. 26-27	Techniques of Heavy Equipment Operation (Hands-On)	\$275	E	St. George
Mar. 28-29	Techniques of Heavy Equipment Operation (Hands-On)	\$275	E	St. George
Apr. 1	Heavy Equipment Safety Training**	\$85	1	Tooele
Apr. 2-3	Techniques of Heavy Equipment Operation (Hands-On)	\$275	E	Tooele
Apr. 4-5	Techniques of Heavy Equipment Operation (Hands-On)	\$275	E	Tooele
Apr. 18	Communication Skills for Supervisors 1	\$50	2	SLC
Apr. 23	Public Way Sidewalks & Access Ramps-How to Build Them	\$85	E	St. George Rd School
Apr. 24 AM	Retroreflectivity for Signs	\$50	E	St. George Rd School
Apr. 24	ATSSA Flagger Certification	\$25●●●●	1	St. George Rd School
Apr. 24 PM	Safety Edge Open House	No Fee	E	St. George Rd School
Apr. 25	ATSSA Traffic Control Technician Training	\$125/150●●	E	St. George Rd School
Apr. 25	Truck Roadeo	No Fee	n/a	St. George Rd School
May 13-14	Gravel Road Academy		E	Cedar City area
May 15-16	Gravel Road Academy		E	Richfield area
TBD	New Utah MUTCD Signs Training	\$50	E	SLC
Fall 2013	Construction Inspector Training			

- * Road Scholar Level - 1, 2 or E (Elective)
- ** Prerequisite for Techniques of Heavy Equipment Operation (Hands-on) workshop
- *** Registration details listed under Stormwater Inspection on LTAP website
 - 2009 MUTCD Part 1,5,6 is available for class. Cost of manual = \$20 extra (for total fee of \$65/person)
 - Cost per person: State & Local = \$125. Out of State or Private sector personnel = \$150.
 - Cost per person: State & Local = \$265. Out of State or Private sector personnel = \$290.
 - Road School special rate
 - \$ There is a combined fee of \$90 if you register for both the Integrated Roadside Vegetation Management and the Tree Trimming & Tree Care workshops.

Full course descriptions and on-line registration can be found at our website: www.utahltap.org or by calling: 1-800-822-8878. Please check our website for additional training dates and opportunities that are added as they become available. You can also request a specific workshop in your area by calling 1-800-822-8878 or e-mail us at utahltap@usu.edu.

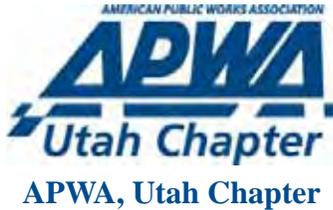




Partner Happenings

What You Should Know...

(Partners are listed alphabetically.)



The Utah Chapter of APWA celebrates its 60th Anniversary in 2013! The mission of APWA is to provide a method for education, leadership, professional progress, and industry enrichment. Registrations, RSVPs and resources can be found at the APWA website at <http://utah.apwa.net>.

- Chapter meetings will be held on the 4th Thursday of each month (with the exception of holiday months and Chapter conferences) at The Gathering Place in West Jordan at Gardner Village (1100 West 7800 South) or Ruby River in Provo. Contact Dennis Pay [dpay@southsaltlakecity.com] for more information.
- The Southern Utah Branch meetings are held the 1st Tuesday of each month at the Holiday Inn in St. George. Contact Catherine Hasfurther [cathy.hasfurther@sgcity.org] for more information.
- The Central Utah Branch meetings are held the 1st Wednesday of each month (tentative) at locations to be determined. Contact Richard Nielsen [Richardjn.ucpw@utah.gov] or Shane Jones [SJones@provo.utah.gov] for more information.

- Utah Stormwater Advisory Committee (USWAC) meetings are held the 2nd Wednesday of each month. For more information, contact Steve Burgon [SBurgon@slco.org].

APWA 2013 Annual Kick-off Meeting

January 24, 2013 at 11:30

The Gathering Place

Members are invited to contact a member of the Board to suggest a presenter, specialty training, or demonstration!

Registered Stormwater Inspector (RSI) Training

February 27, 2013, 8:30 am-4:30 pm
Salt Lake County Government Center, Council Chambers North Building (2100 South State Street N3100, Salt Lake City)

Cost: \$115 (includes printed manual and certificate)

Registration deadline is February 10, 2013. Register through the website listed above.

Registered SWPPP Reviewer (RSR) Training

February 28, 2013, 8:30 am-4:30 pm
Salt Lake County Government Center, Council Chambers North Building (2100 South State Street N3100, Salt Lake City)

Cost: \$205/person (includes printed manual and certification)

Registration deadline is February 10, 2013. Register through the website listed above.

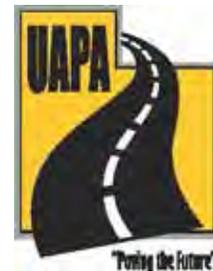
Conference and Storm Water Expo—October 1-2, 2013 (tentative).

Details and registration for all APWA programs will be posted online at <http://utah.apwa.net>. Pre-registration is required to attend each event and registration fees may apply. If you have any questions, please call Angela Richey at (801) 209-1051.



ITE, Utah Chapter

For information on ITE activities, please contact Ryan Kump by e-mail at [rkump@sandy.utah.gov]. ITE, Utah Chapter monthly luncheons are generally held on the third Tuesday of each month at 12 noon at the Chinese Gourmet Restaurant in Murray (4500 South State Street).



Utah Asphalt Pavement Association

If you desire more information on UAPA activities, or to register for a UAPA sponsored event, please call them at (801) 566-5620 or go to their website at www.utahasphalt.org.

Save the Dates: Annual Golf Tournament—May 23, 2013 (tentative) and the APWA Fall

[UAPA Lunch and Learn—FDR & CIR from a City & County Perspective](#)



On the Move

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February 21, 2013, 12-1:30 pm
at the UAPA offices (7414 South
State Street, Midvale).

The Utah Asphalt Conference

March 27-28, 2013 at the South
Towne Expo Center

UAPA Lunch and Learn—Crack Sealing 101 with Demonstration

April 18, 2012, 12-1:30 pm. We
will be on-site at another location.



UTAH ASSOCIATION OF COUNTIES
A Unifying Voice for County Government

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 website at www.uacnet.org.

County Officials Day at the Legislature

February 8, 2013, 9 am-1 pm
State Capitol, Salt Lake City, Utah
The cost is \$80 and registration can
be done on-line at the UAC website.



Utah Chapter, American Concrete Pavement Association

If you desire more information
on ACPA, Utah Chapter activities,
or to register for an ACPA-sponsored
event, please call (435) 647-5935
or check out their website at [www.
utahacpa.com](http://www.utahacpa.com).

12th Annual Concrete Pavement Workshop

January 23, 2013
Little America, SLC, UT
Registration and information is
available at the Utah ACPA website.



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 website at
www.ulct.org.

Local Officials Day at the Legislature

January 30, 2013, 7 am-1:45 pm
Salt Lake City, Utah
Register through the League website
before January 24, 2013!

Mid-Year Conference

April 10-12, 2013
Dixie Center, St. George, Utah
Registration and detailed information
will be available at the League
website.

Road School

April 23-26, 2013
Dixie Center, St. George, Utah
Registration and detailed information
will be available at the League
website.



Utah Local Governments Trust

For information on training and
other Trust activities, please call

Advisory Board

Permanent Organizational Members *listed alphabetically by organization*

Trace Robinson, P.E.
APWA

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FHWA Utah Division

Daniel Page, P.E.
UDOT Local Government Programs

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Daniel Hsiao, P.E.
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1-800-748-4440, or check the Trust website at www.utahtrust.gov.



Utah Risk Management Mutual Association

For more information or to register for URMMA training activities, please call Joanne Glantz at (801) 225-6692.

Supervisors Training

These courses are held regionally (monthly and/or quarterly) with dates to be determined.

- Annual Performance Appraisal Process (free to members-held at their city)
- Communication Skills Training (free to members, at their city)

**We're part of...
Utah State University**



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- Hazard Identification Training (free to members, open to nonmembers for a fee)



**CALL BEFORE YOU DIG.
IT'S FREE & IT'S THE LAW.**

BLUE STAKES OF UTAH
Utility Notification Center, Inc.
1-800-662-4111
www.bluestakes.org

Dig Safely Know what's below. Call before you dig.

Blue Stakes of Utah

For more information on the services and activities of Blue Stakes of Utah, please visit their website at www.bluestakes.org or contact their notification center at 1-800-662-4111. Remember, it's free and it's the law!



Utah Safety Council

For more information, scholarship applications (covering up to 50% of select courses) or to register for Utah Safety Council training activities, call (801) 478-7878 or (800) 933-5943, e-mail safety@utahsafetycouncil.org, or visit the web www.utahsafetycouncil.org. All workshops are offered at their location (1574 W 1700 S, Suite 2A, Salt Lake City) and some are even offered on-line. On-site classes are also available.

About the Utah LTAP Center

The Utah LTAP Center 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. Located at Utah State University, the Utah LTAP Center is also part of the Utah Transportation Center (UTC), a Tier II University Transportation Center of the U.S. Department of Transportation.

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