

A quarterly publication for local governments responsible for roads, bridges and public transportation

## ROUNDBABOUTS IMPROVE SAFETY ON RURAL ROADWAYS

By Hilary N. Isebrands, PE, PhD Safety Engineer, Federal Highway Administration



Roundabout on Brookwood Avenue at Alexander Street, Hillsboro.

Modern roundabouts are being described as one of the innovative intersection designs that significantly reduces fatal and injury crashes. This article takes a closer look at the safety benefits of modern roundabouts in rural areas with high speed approaches.

In 2009, 41 percent of all fatal motor vehicle crashes in the United States occurred on two-lane rural roads. Six percent of all these fatal crashes occurred at unsignalized intersections on rural two-lane roads ([National Highway Traffic Safety Administration](#),

[Fatality Analysis Reporting System](#)). The difference in the speeds of vehicles at a rural intersection is often a major factor in the severity of rural intersection crashes (i.e., driver runs through a stop sign or traffic signal or misjudges the gap and pulls out in front of a vehicle traveling 55 mph on the through route).

As transportation agencies seek countermeasures to improve safety at rural intersections, roundabouts can be a “game

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## Oregon's Technology Transfer (T2) Center

The center is jointly sponsored by the Federal Highway Administration (FHWA), the counties and cities of Oregon, and the Oregon Department of Transportation (ODOT). FHWA funds are provided through the Local Technical Assistance Program (LTAP).

The purpose of the Oregon T2 Center is to help local transportation agencies obtain information and training on transportation technology relating to roads, bridges, and public transportation. To accomplish this purpose, we:

- provide low-cost seminars, training classes and workshops
- publish a quarterly newsletter
- provide a "Circuit Rider" service, taking video programs and informational materials to local agencies
- provide a lending library service of audio/visual programs on a variety of transportation topics
- Provide copies of technical bulletins or reports upon request
- respond to telephone and mail inquiries relating to transportation technology or make a referral to a specialist



## FROM THE DIRECTOR

This Spring, three **Roads Scholar** classes were presented at the 2015 Street Maintenance and Collection Systems school in Bend: Level 1, *RS-9 Maintenance Mathematics* and *RS-10 Introduction to Survey and Grade Checking*, and Level 2, *RS-16 Emergency Preparedness and Response*. RS-9 and RS-10 were also presented together with *RS-1 Basics of a Good Road* and *RS-2 Drainage: Key to Roads that Last* in Klamath Falls, LaGrande, Ontario, Bend, and Hood River during April and May.

During the first half of 2015, 14 program participants completed their Level 1 **Roads Scholar** requirements. Those successful individuals are:

- Steve Sterle (City of Beaverton)
- Tony McFarlin (City of Klamath Falls)
- Lynn Johnson (City of Sherwood)
- Remi Febus (City of Grants Pass)
- Joshua Ellis (City of Hillsboro)
- Brian Parret (City of Hillsboro)
- Joseph Taylor (City of Hillsboro)
- Kenneth Combs (City of Bend)
- Harold (Jim) Hall (City of Bend)
- Joe Newton (City of Bend)
- Josh Oliver (City of Bend)
- Skip Stenkamp (City of Bend)
- Scott Smith (City of Prineville)
- Juan Sanchez (City of Eugene)

Our congratulations go out to these individuals on their accomplishments, which demonstrate a significant commitment to self-improvement and personal development. We also extend our appreciation to the counties and cities of Oregon and the Oregon DOT for participation in and support of the Oregon **Roads Scholar** program. If you are one of these individuals, your certificate was mailed to your supervisor in July.

With the addition of these 14 recent graduates, 387 program participants have now completed the **Roads Scholar** Level 1 certificate requirements since the program began in the Fall of 2001.

We will continue to offer more **Roads Scholar** Level 1 classes at several locations this Fall. We will be offering four classes over a two-day period to see how it works for agencies. Please let us know if this is helpful for your agency and employees. If your agency is interested in hosting RS-1, RS-2, RS-3, and RS-4 this Fall, please let us know, as we are currently working on the Fall class schedule.

RS-1 and RS-2, will also be held at the 2015 *Street Maintenance and Collection Systems* Fall School October 6<sup>th</sup> through 8<sup>th</sup> in Seaside. Additionally, the Level 2 class *RS-17 Bridge Inspection, Maintenance, and Repair* will debut at the Fall School.

Look for *RS-8 Environmental BMPs* at the OACES 22<sup>nd</sup> Annual *Technical Training School and Equipment Operator Skills Demonstration* September 16<sup>th</sup> in Albany.

To become a host for **Roads Scholar** classes or if you just have questions, please contact Linda Milligan at the T2 Center by calling (503) 986-2855 or emailing [T2Center@odot.state.or.us](mailto:T2Center@odot.state.or.us).

  
Oregon T2 Center Director

# CIRCUIT RIDER CORNER

By Bob Rath

Heat-related illnesses can be deadly. Every year, dozens of workers die and thousands more become ill due to working in the heat. About one-third of heat-related worker deaths occur in the construction industry, but outdoor workers in every field — including transportation — are susceptible to the dangers of heat.

With summer temperatures already here, it is very important to be prepared for working outdoors. In fact, in some parts of Oregon, June 2015 had the highest average temperatures on record.

Whenever there is excessive heat, outdoor workers are at an increased risk for heat related illness and death. Workers can prepare for working outdoors in excessive heat by following a few simple steps.

## Heat-related Illness: Know the Signs

It's important to know the signs of heat-related illness—acting quickly can prevent more serious medical conditions and may even save lives.

- **Heat Stroke** is the most serious heat-related illness and requires immediate medical attention. Symptoms include: confusion, fainting, seizures, very high body temperature and hot, dry skin or profuse sweating. **CALL 911** if a coworker shows signs of heat stroke.
- **Heat Exhaustion** is also a serious illness. Symptoms include: headache, nausea, dizziness, weakness, thirst and heavy sweating. **Heat fatigue**, and **heat rash** are less serious, but they are still signs of too much heat exposure.

If you or a coworker has symptoms of heat-related illness, **tell your supervisor right away**. If you can, move the person to a shaded area, loosen his/her clothing, give him/her water (a little at a time), and cool him/her down with ice packs or cool water.

## To Prevent Heat Illness: Water, Rest, Shade

- Drink water every 15 minutes, even if you are not thirsty.
- Rest in the shade to cool down.

- Wear a hat and light-colored clothing.
- Learn the signs of heat illness and what to do in an emergency.
- Keep an eye on fellow workers.
- Acclimate – "easy does it" on your first days of work; be sure to get used to the heat and allow yourself to build up a tolerance. Not being used to the heat is a big problem. Many of the people who died from heat stress were either new to working in the heat or returning from a break. If a worker has not worked in hot weather for a week or more, their body needs time to adjust.

## Resources

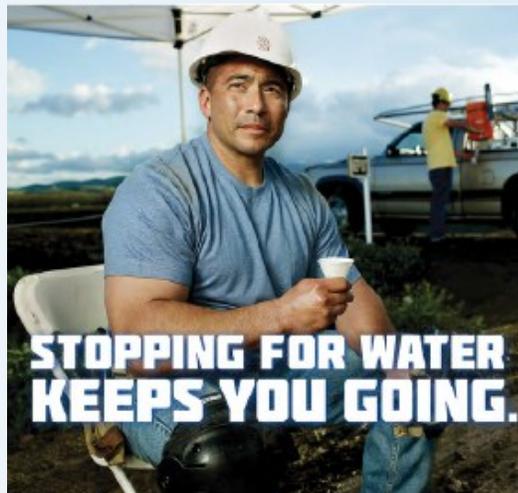
More resources are available on the U.S. Department of Labor, Occupational Safety and Health Administration's (OSHA) website in English and Spanish: [www.osha.gov/heat](http://www.osha.gov/heat)



There is even an app to download to your phone to calculate the heat index and provide recommendations based on your risk level. OSHA worked with the National Weather Service to develop this smartphone heat safety app that allows users to calculate risk levels at a worksite and learn the protective measures needed to prevent heat illness. Almost 200,000 people have downloaded the app so far. A new version of the app for Apple devices was released this spring with full screen color alerts, improved navigation, and accessibility options. This improved version lets you know instantly if you are in a high risk zone due to heat and humidity -- and precautions that need to be taken to prevent heat-related illness.

The app is available through the OSHA website or through Google Play or the Apple Store. On the OSHA website you can also find fact sheets, training manuals, community posters, and more, available in English and Spanish.

Article adapted from information made available by OSHA at [www.osha.gov/heat](http://www.osha.gov/heat)



## ROUNDBABOUTS

(Continued from page 1)

changing” intersection design that reduces the potential for injury crashes, provides overall intersection efficiency, and allows flexibility in the intersection layout.

By design, roundabouts command a change in driver behavior with slower speeds for all traffic - whether in an urban or suburban environment with posted speeds of 35 mph or on a rural two-lane highway with a posted speed of 55 mph. Regardless of the location and speed limit, the average driver navigates

Rural roundabouts significantly reduced total crashes by 62 to 67 percent and injury crashes by 85 to 88 percent at 19 rural roundabouts.

roundabouts between 15 and 25 mph.

Roundabouts also reduce the number of conflict points at an intersection (from 32 down to eight at a traditional four-legged intersection on a two lane road) and change the types of crashes that occur, reducing the number of right angle crashes significantly.

New research has expanded the safety data available for rural roundabouts with high speed approaches (*Isebrands 2011, Isebrands 2013*). Rural roundabouts significantly reduced total crashes by 62 to 67 percent and injury crashes by 85 to 88 percent at 19 rural roundabouts. In 2008, an average of 5 years after construction of the roundabouts, no fatal crashes had been reported at these intersections, whereas 11 fatal crashes were reported during a similar time period when the intersections were two-way stop controlled. Moreover, the number of angle crashes, which tend to have a higher likelihood of causing injuries at high speeds, decreased by 83 percent.

This research also included an approach speed data analysis on 10 rural roundabout approaches and 3 rural stop controlled approaches. Average approach speeds 100 ft from the roundabout yield line were 2.5 mph lower than average approach speeds 100 ft from the stop bar at two-way stop-controlled intersections, indicating that drivers are able to take the cues from the advanced signing and approach geometry to adjust their speeds before entering the intersection.



A few states began constructing rural roundabouts with high-speed approaches over a decade ago. Consistent and convincing safety experience at these early rural roundabouts have paved the way for other State DOTs and local governments to consider roundabouts on rural two-lane, high speed roadways. It is estimated that nearly 50 rural roundabouts with high-speed approaches are in operation today across 15 states. And as that number increases, we expect fatal and injury crashes at those intersections to move towards zero.

### Meet Roundabout's Little Brother, the Calming Circle



**Neighborhood traffic calming circles** are much smaller than modern roundabouts and often replace stop signs at four-way intersections. They are typically used in residential neighborhoods to slow traffic speeds and reduce accidents, but are typically not designed to accommodate larger vehicles. Many drivers often turn left in front of the circles rather than turning around them.

## MYTH: ROUNDABOUTS AND TRAFFIC CIRCLES ARE THE SAME

Many people mistakenly use the terms roundabout and traffic circle synonymously. While both direct traffic in a circular pattern, they are not the same.

Traffic circles were introduced to the United States from Europe in the early 1900s. They were **designed for vehicles to travel through them at relatively high speeds (30 to 50 mph), and many were designed for entering cars to have the right-of-way.**

The Arc de Triomphe in Paris and Dupont Circle in Washington, D.C., are two examples of older-style traffic circles. Drivers enter a traffic circle in a straight line and do not have to yield to traffic already in the circle. Traffic circles typically become congested if many vehicles enter at the same time. As traffic volumes increased, they became unsafe, as the congestion and high speeds led to many crashes.

The first modern roundabout in the United States was constructed in the 1990s. Roundabouts are intersections in which traffic travels in one direction around a circular island, much like a traffic



Traffic 10-abreast traverses the *Place de l'Étoile*. This **traffic circle** surrounds the *Arc de Triomphe* at the intersection of ten two-way and two one-way streets. It has no lane markings.

circle, but they have many distinct characteristics. Motorists in roundabouts travel at lower speeds (15 to 25 mph), and **the traffic inside the roundabout has the right-of-way.** Motorists attempting to enter the roundabout must yield to circulating traffic.

Many citizens have negative opinions of roundabouts and are opposed to constructing them in their communities. These opinions may, in part, be due to the common misconception that traffic circles and roundabouts are the same. Additionally, inexperience with them, safety concerns, and a lack of information often lead to resistance.

Studies have found that roundabouts are often a safer alternative to signed and

signalized intersections. Since automobiles are traveling at low speeds, crashes that do occur are generally less severe. All vehicles are traveling in the same direction, which eliminates the likelihood of head-on and T-bone collisions. Besides the safety benefits, roundabouts often move traffic more efficiently. When designed properly, vehicles are much less likely to stop, and delays are reduced.

Generally, citizens' perceptions of roundabouts improve after driving through them a few times. Drivers tend to recognize the shortened drive time and increased safety. Often, it just takes personal experience to overcome negative opinions.

Reprinted with permission from the Washington State LTAP newsletter, *Country Roads & City Streets*, Vol. 28, No. 1



Columbus Circle in New York City. Unlike a modern roundabout, the circle is quite large and pedestrians have access to the center island. Access is controlled by traffic lights.

# HIGH FRICTION SURFACE TREATMENT REDUCES CRASHES IN CRITICAL LOCATIONS

From the FHWA Every Day Counts Website Accelerating Innovation



A spreader drops aggregate onto epoxy during an application of High Friction Surface Treatment in Utah. Photo courtesy Utah Department of Transportation.

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.

Drivers may also be speeding or distracted, contributing to high crash rates in critical locations.

Wet road surfaces can also reduce pavement friction and cause skidding or hydroplaning.

Critical locations make up a just small percentage of U.S. highways. In 2008 for example, horizontal curves made up only 5 percent of our nation’s highway

miles, yet more than 25 percent of fatal crashes occurred on horizontal curves.

High friction surface (HFS) treatment is an emerging technology that dramatically and immediately reduces crashes and the related injuries and fatalities.

With friction demands at these critical locations far exceeding conventional pavement friction, high-quality aggregate is applied to help motorists maintain better control in both dry and wet conditions.

While the initial costs are higher than conventional pavement, the long-lasting durability of HFS treatment and limited use make the product a low-cost option over its life cycle. HFS treatments may also be used to identify specific areas, such as bus or bike lanes, or may be used

on surfaces that tend to ice, such as bridges or pedestrian walkways.

Several high friction surface treatment products are available now and other more cost-effective products are being developed. The HFS products use aggregates that are both polish- and wear-resistant and develop channels to prevent water buildup on wet surfaces. The bonding materials such as Epoxy and other available blends are designed to set quickly. HFS treatments can be applied by machine at a similar speed to other paving surface treatments, or applied with hand tools, but the road surface must be durable with few to no cracks or crumbling.

Motorists may notice rougher riding surfaces in treated areas; however, they also will experience greater pavement friction resulting in better control of their vehicles. Friction improvement projects have been well received by the public and elected officials, because the results are measurable, the costs are relatively low, and the products produce negligible environmental impacts.



# HIGH FRICTION SURFACE TREATMENT DEMO HOSTS WANTED

Are you planning a high-friction surface treatment project? We'd like to know!

In July of last year, the Washington State LTAP (similar to the Oregon T2 Center) hosted a demonstration that featured a hand application of high-friction surface treatment by Thurston County crews.

The event was intended as a way for local agencies to meet with the vendor and see the application process first-hand. Representatives of local agencies, industry, the Washington State Department of Transportation, FHWA and the Western Federal Lands Highway Division attended.

Some Oregon local agencies have expressed interest in participating in a similar demonstration. To coordinate this demo, we need a local agency that is planning an HFST installation and willing to participate. To get involved, call us at (503) 986-2855.

**Mixing, spreading, and sanding.** Thurston County, Washington crews (right) mix the adhesive, spread the polymer adhesive, and sand the surface with bauxite aggregate during a demonstration of the entire application process. The demonstration was attended by neighboring agencies wanting to learn about the process, as well State and Federal representatives, and vendors. *Photos courtesy Washington LTAP.*



## HFST Resources

Available from: <http://www.fhwa.dot.gov/everydaycounts/edctwo/2012/friction.cfm>

- [EDC High Friction Surface Treatments Fact Sheet: 21st Century Solutions](#)
- [EDC High Friction Surface Treatments Fact Sheet: Case Study: California](#)
- [EDC High Friction Surface Treatments Fact Sheet: Case Study: Kentucky](#)
- [EDC High Friction Surface Treatments Fact Sheet: Case Study: West Virginia](#)
- [EDC High Friction Surface Treatments Brochure](#)
- [Frequently Asked Questions about High Friction Surface Treatments](#)

# THERE'S AN APP FOR THAT!

## Work Zone Safety Application

American Traffic Safety Services Association has recently released the new Work Zone Safety app, developed under the Federal Highway Administration (FHWA) Work Zone Safety Grant. This FREE app can help you:

- Quickly determine both minimum device spacing and minimum number of devices needed for merging, shifting, shoulder, or flagger operations.
- Calculate the number of devices you need.
- Customize your results to incorporate local standards.
- Learn about and apply best practices for stationary lane closures and short duration operations.
- Set up temporary traffic control areas.

Available free from Google Play and iTunes.



## Pavement Preservation Checklists

Pavement preservation just became more efficient. The 14 checklists help guide State and local highway maintenance and inspection staff in the proper use of pavement preservation processes. Users can find checklists on topics ranging from using thin hot-mix asphalt overlays to performing full-depth repair of concrete pavements to applying crack seals to pavements.

Available free for Android or BlackBerry (and coming soon to iTunes). Search for FHWA.



## Oregon CDL Test Preparation

The most comprehensive Oregon Commercial Driver's License (CDL) practice test app is now available for Android. Previously only available for iPhone, this app features over 650 questions to help you prepare for the CDL knowledge and endorsement tests. The first topic, Air Brakes, is free. To access all practice questions, an in-app purchase is available. Features:

- More than 550 essential practice questions for the CDL knowledge and endorsement tests
- Preview answers to all practice questions
- Bookmark questions for later study
- Study mode has immediate answer checking and explanations
- Questions are not repeated until a topic is complete
- Practice tests are saved automatically and can be reviewed at any time



# TECHNICAL RESOURCES

## Innovation Webinar Series (FHWA and National Highway Institute)

<http://www.fhwa.dot.gov/hfl/innovations/webinars.cfm>

Each 90-minute web conference focuses on a different innovation and includes a panel of speakers from throughout the highway community who are recognized experts in the particular innovation. Users of these innovations are brought together to share their experiences and the lessons they learned and then answer questions from the participants.

Sample topics include:

- GIS Tools for Linking Transportation and Natural Resource Planning
- Alternative Contracting Methods
- Towing and Recovery Service Partnership
- Fully Precast Bridge Bents for Use in Seismic Regions
- FRP Composite Bridge Decking
- Road Safety Audit: Focus on Implementation
- “Time is Money:” Construction Project & Program Management using Scheduling Software (Primavera)

## Model ADA Transition Plans Interactive Guide

<http://lrrb.org/resources/applications>

Many agencies do not have transition plans, resulting in civil lawsuits. This interactive guide, developed by the Minnesota Local Road Research Board, contains model transition plans, process guidelines, and current ADA laws to help local agencies fulfill the requirement to develop a transition plan to identify physical obstacles that limit accessibility and identify and schedule necessary improvements.

## Local and Rural Road Safety Briefing Sheets

[http://safety.fhwa.dot.gov/local\\_rural](http://safety.fhwa.dot.gov/local_rural)

Do you have a high-crash intersection that you need to improve? Or maybe you’re trying to figure out your options for funding a local safety improvement?

FHWA has just released 15 briefing sheets on a wide array of rural road safety-related topics. Each sheet provides ideas and helpful information that address safety on subjects like unpaved roads, bicycle and pedestrians, local road safety plans, and more.

## Federal-Aid Essentials for Local Public Agencies

<http://www.fhwa.dot.gov/federal-aidessentials/>

It’s Federal-aid, simplified. An online video library launched by the Federal Highway Administration (FHWA) offers local transportation and public works agencies an extensive directory of resources for navigating the Federal-aid Highway Program and understanding its policies and procedures.

Available 24 hours a day and specifically designed for local agencies, most videos are four to seven minutes long, offering a concise explanation in plain language and with illustrated examples.

Additional resources and companion materials are available at the same site. Visitors can choose areas of interest and sign up for email alerts when new material becomes available.

## Proven Safety Countermeasures Publications

<http://safety.fhwa.dot.gov/provencountermeasures/>

The FHWA has announced two new publications that support their Proven Safety Countermeasures campaign. The new resources support the intersections countermeasures: *Backplates with Retroreflective Borders* and *Corridor Access Management*.

These documents describe the effectiveness of each countermeasure, outline the respective “state of the practice,” and highlight experiences from agencies across the United States. A shorter, companion executive summary for each topic is also available to help promote the benefits of these important safety elements to non-technical audiences and stakeholders.

## Roadway Safety Data Toolbox

<http://projects.vhb.com/fhwatoolbox/toolbox-home.aspx>

The FHWA has developed a web-based Toolbox that acts as a clearinghouse for roadway safety data and analysis tools. The Toolbox is a centralized source of information about the available safety data and analysis tools.

It’s designed to be useful to all technical roadway safety stakeholders in both public and private sectors, including those involved in planning and design as well as individuals responsible for operation and maintenance.

# KNOW BEFORE YOU MOW: SUMMER MOWING SAFETY

By Amy I. Terry, Marketing, Outreach and Publications Manager, Kentucky T2 Center

Summer is definitely here, and in some parts of our state, mowing operations are still continuing. Workers performing mowing operations face serious safety issues, and employers need to make sure that workers are trained properly and that mowing is performed safely.

Riding mowers and tractors are often designed by the manufacturer to be equipped with a **rollover protection structure (ROPS)**. These ROPS are certified to meet maximum rollover impact and should have a certification label attached to the roll bar stating that it meets SAE/ASAE/OSHA standards. Do not modify a factory installed ROPS.

If the mower does not have a ROPS, look for unused bolt holes or brackets near the seat or frame to see if the mower should be equipped with a ROPS. In many cases, retrofit kits are available.

Mowers with a ROPS should also be equipped with a seat belt. The use of ROPS and a seat belt is estimated to be 99% effective in preventing death or serious injury in the event of a rollover.

It is necessary to inspect and service a ROPS and seat belt periodically to check for rust, cracks or other signs of wear. These could cause a failure of the ROPS during a rollover. In addition, if a mower or tractor with a ROPS does overturn, the ROPS should be replaced. ROPS are only designed and certified to withstand a single rollover.

Employees should be familiar with the condition of the terrain on which they will be mowing. Do not operate mowers on slopes that exceed the angle limits specified by the manufacturer. Look for a label on the mower with this information. Avoid mowing on slopes with an angle of over 15 degrees if there is no other information available.

Employers are responsible for providing training to workers before they begin mowing. Topics should include a review of all safety devices to ensure that ROPS, guards, seat belts, and shields are securely in place and properly used. A review should also be done of stability and rollover hazards associated with



**Mowing operations are serious business.** Luckily, the combined use of a rollover protection structure (ROPS) and a seatbelt are 99% effective in preventing death or serious injury in the event of a rollover.

If a tractor or mower does turn over, replace the ROPS. They are only designed to withstand a single rollover.

operating mowers on surfaces, terrain, or areas that could pose a risk.

These locations would include loading ramps, wet surfaces, slopes, and areas near drop-offs, retaining walls, embankments, streams, bodies of water, culverts and excavations.

In addition to rollover safety, employees should also be trained on overall mower safety. This would include:

- Proper use of personal protective equipment, including: hearing and head protection, safety glasses, work boots, etc.
- Always start the mower from the driver's seat. Never start the machine while standing beside it.

## SELLWOOD SLIP SLIDES AWAY

Engineers in Portland had to get creative when they needed to move the Sellwood Bridge to make room for a new one to be built. The structure's unique design required the bridge to be moved in one whole, 1,100-foot piece.

They built tracks, covered them with Teflon pads, and poured liquid soap on them. Four 150-ton hydraulic jacks lifted the 3,400-ton bridge and placed it on the soapy tracks to slide it into place.

Read more and watch a time lapse video of the 19-hour process at [www.sellwoodbridge.org/?p=bridge-move-and-detour-bridge](http://www.sellwoodbridge.org/?p=bridge-move-and-detour-bridge)

## Technology Transfer Center Steering Committee

The Technology Transfer Center Steering Committee members listed below help guide and direct the policies and activities of the Oregon Technology Transfer (T2) Center. You are invited to contact any of them to comment, make suggestions, or ask questions about any aspect of the T2 Program.

### **Bruce Hildebrandt, Chair**

Street Supervisor  
City of Salem  
[bhildebrandt@cityofsalem.net](mailto:bhildebrandt@cityofsalem.net)

### **Evelyn Pech, Vice Chair**

Operations Supervisor  
Marion County  
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### **Gerald Russell**

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### **Emily Ackland**

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### **Garry Black**

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### **Vacant**

Tribal Member

### **Vacant**

City Committee Member

## T2 STEERING COMMITTEE OPENINGS

The T2 Center is seeking two representatives from the Oregon community to fill two openings on our steering committee. One vacancy is for a municipal representative and one is for a tribal representative.

The Oregon T2 Center steering committee is an important component of the T2 Center's operations. The steering committee is not a governing board, but rather members provide advice, guidance, and expertise on Local Technical Assistance Program (LTAP) related functions.

Oregon T2 Center steering committee members represent local, state, federal, and tribal agencies that are served by the Oregon T2 Center. The members serve as a link to various stakeholders and are crucial in helping the T2 Center achieve its mission.

### Benefits of Steering Committee Membership

There are many benefits to being a steering committee member, including:

- Opportunity to meet and interact with local, state, and federal public works leaders from across Oregon.
- Ability to make suggestions and provide direct feedback regarding the training, technical assistance, and services provided by the Oregon T2 Center.
- Platform for local challenges to be brought and discussed with an experienced and knowledgeable group.

### Expectations

Steering committee members are asked to attend two meetings per year, generally held in Salem. Meetings typically are no more than two hours in length.

Members are asked to be open and to honestly communicate their thoughts on issues brought to the committee. Members are also asked to be proactive in bringing concerns or areas of need to the attention of T2 staff. Members assume the role of advocates for the T2 Center and provide input on ways the needs of both the T2 Center and the communities and agencies served by the program can be met. From time to time, steering committee members may be asked for their input by email between meetings.

### Criteria

- Must be from a municipality or tribal agency.
- Must be able to commit to a two-year term.
- Must be able to travel to Salem twice per year to attend meetings.
- Must have an interest in, and knowledge of, public works topics.

### To Apply

If you are interested in applying and meet the criteria above, contact Rebekah Jacobson at [Rebekah.a.jacobson@odot.state.or.us](mailto:Rebekah.a.jacobson@odot.state.or.us) or (503)-986-2854.

## WHAT'S WRONG WITH THIS PICTURE?

There are seven problems with this work zone. Can you find them?



See page 15 for the answers.

## RIGHT OF WAY CONFERENCE RETURNS TO THE NORTHWEST

Contributed by Cole Grisham, ODOT Local Public Agency Coordinator, Statewide Programs Unit



After several years of dormancy, the NW Regional Right of Way Conference is back up and running!

Local and state transportation professionals are invited to attend the upcoming NW Regional Right of Way Conference and the IRWA Chapter 3 Education Symposium to be held in Vancouver, Washington on October 26th through 30th.

The **NW Regional Right of Way Conference** is intended to increase communication between Right of Way professionals (both governmental and private sector) and to provide a regional education outlet. It will be run from mid-day on October 26th through mid-day on October 28th. Immediately following this

conference is the **Chapter 3 Annual ROW Symposium** from October 28th through the October 30th at the same location.

The 2015 theme for the Right of Way Conference is Past, Present, and Future. The conference includes three concurrent training tracks, each with six individual classroom presentations, as well as six joint presentations.

The symposium that follows will include 19 different learning opportunities with the availability of continuing education credits for participants.

For more information or to register, visit:

- Conference (October 26-28): <http://nwregionalrw.com/>
- Symposium (October 28-30): <http://www.irwchapter3.com/course.cfm?id=98>



## CALENDAR OF EVENTS AND TRAINING

<b>ODOT</b>		<a href="http://www.oregon.gov/ODOT/CS/Training/pages/index.aspx">http://www.oregon.gov/ODOT/CS/Training/pages/index.aspx</a>
<i>Date</i>	<i>Title</i>	<i>Location</i>
Sept. 29-30	Pavement Marking Design—Layout and Detailing	Salem
Oct. 14-15	Temporary Traffic Control Plans Design Workshop	Salem
<b>Oregon State University (OSU)</b>		<a href="http://cce.oregonstate.edu/node/216">http://cce.oregonstate.edu/node/216</a>
Oct 13	ADA Design & Regulation for Bikes & Peds (\$150)	Portland
Nov. 5-6	Traffic Signal Timing (tbd)	Corvallis
<b>AOC/LOC Oregon Local Leadership Institute</b>		<a href="http://www.orcities.org/Training/tabid/1026/Default.aspx">http://www.orcities.org/Training/tabid/1026/Default.aspx</a>
Aug. 18	Sexual Harassment & Discrimination in the Government Workplace	Garibaldi
<b>American Public Works Association (APWA)</b>		<a href="http://oregon.apwa.net/PageDetails/4269">http://oregon.apwa.net/PageDetails/4269</a>
Oct. 6-8	Fall Street Maintenance and Collections Systems Short School	Seaside
Oct. 27-30	Public Works Leadership	Cannon Beach
Dec. 8-11	Public Works Essentials	Wilsonville
<b>Miscellaneous Training</b>		
Aug. 4-25	Tribal Planning Basics <a href="http://www.ewu.edu/nwttap/training/tribal-planning-basics">http://www.ewu.edu/nwttap/training/tribal-planning-basics</a>	Online
Aug. 19	ROW: Basic Acquisition Policies <a href="http://www.wsdot.wa.gov/LocalPrograms/Training/LTAP.htm">http://www.wsdot.wa.gov/LocalPrograms/Training/LTAP.htm</a>	Kent, WA
Aug. 26	ROW: Basic Acquisition Policies <a href="http://www.wsdot.wa.gov/LocalPrograms/Training/LTAP.htm">http://www.wsdot.wa.gov/LocalPrograms/Training/LTAP.htm</a>	Olympia, WA
Sept. 15-17	OACES Skills Demo and Safety Conference <a href="http://skillsdemo.org">http://skillsdemo.org</a>	Albany
Oct. 5-6 & 7-8	Utility Coordination for Highway Projects (\$450) ODOT <a href="https://ilearn.oregon.gov/Default.aspx">https://ilearn.oregon.gov/Default.aspx</a>	Salem
Oct. 28	Documenting NEPA Categorical Exclusions <a href="http://www.wsdot.wa.gov/LocalPrograms/Training/LTAP.htm">http://www.wsdot.wa.gov/LocalPrograms/Training/LTAP.htm</a>	Kennewick, WA
Oct. 29	Documenting NEPA Categorical Exclusions <a href="http://www.wsdot.wa.gov/LocalPrograms/Training/LTAP.htm">http://www.wsdot.wa.gov/LocalPrograms/Training/LTAP.htm</a>	Moses Lake, WA
<b>Oregon T2 Center</b>		<a href="http://www.oregon.gov/ODOT/TD/TP_T2/">http://www.oregon.gov/ODOT/TD/TP_T2/</a>
A full list of training classes offered by the T2 Center is available on-line at the above website. To schedule any of the "Circuit Rider" classes, please contact us at (503) 986-2855.		



## EDUCATE BEFORE YOU RECREATE

On July 1st, Oregon’s recreational marijuana laws went into effect. That means adults aged 21 and older can legally possess and use recreational marijuana in their homes or in private places.

Some key aspects of the law include...

- You can possess and use recreational marijuana if you are 21 and older. If you are younger, it’s illegal.
- You can use recreational marijuana at home or on private property. Public use is illegal.
- You can possess up to 8 ounces of usable marijuana in your home and up to 1 ounce outside the home.
- Driving under the influence of marijuana remains illegal. Please be responsible.
- You can grow up to 4 plants per residence, out of public view.
- You can share or give away recreational marijuana. You can’t sell it or buy it until licensed retail shops open.
- You can’t take marijuana in or out of the state. That includes Washington.
- You can make edible products at home or receive them as gifts, and can only use them in private places.

It’s important that all Oregonians know what’s legal and what’s not. Please take a look at [www.whatslegaloregon.com](http://www.whatslegaloregon.com) for resources and a video, and consider sharing the information with others.

Some aspects of the law are still being determined. To stay up to date, sign up for the e-newsletter through [www.whatslegaloregon.com](http://www.whatslegaloregon.com) or connect via Facebook, Twitter and Instagram.

## Public Agency Aspects of Measure 91

*Excerpted from an email by George Naughton, Oregon State DAS Director, to State employees*

Measure 91 prohibits any use of marijuana in a “public place,” defined as “a place to which the general public has access and includes, but is not limited to, hallways, lobbies, and other parts of apartment houses and hotels not constituting rooms or apartments designed for actual residence, and highways, streets, schools, places of amusement, park, playgrounds, and premises used in connection with public passenger transportation.”

If your state agency has property in a county or city that chooses to “opt out” of either the medical or recreational systems, please know that opt out **only** applies to marijuana-related business and does not affect the ability of individuals to grow their own marijuana or use marijuana in counties or cities covered by a local opt out.

The penalty for use of marijuana in public is a Class B violation — essentially a traffic ticket. Possession of large amounts of marijuana and delivery of marijuana for consideration (except for retail stores when they begin sales) remain crimes. It is never okay for minors to possess or use marijuana, and crimes involving children are of greatest concern.

Ultimately, the decision on whether or not to engage law enforcement will come down to a judgment call by the employee dealing with the issue, balancing both the appropriate use of law enforcement resources with the need to ensure public safety on public grounds. If you are within a city or county that has separate agreements with local law enforcement, you are encouraged to have a dialogue with them directly.

## Answers to

# WHAT'S WRONG WITH THIS PICTURE?

From page 12

1. This flagger has located her flagger station right at the end of a passing lane, where some drivers will have likely been accelerating to pass slower-moving vehicles. While passing, drivers may be more focused on passing than on watching for work zone signs and flaggers, particularly in this case, as the outside lane hasn't been closed.
  2. The message board on the flagger's truck is a good idea; however, because it's located so close to the flagger station, it can also be a safety distraction. Additionally, it not only creates a visibility problem for outer lane vehicles, it is also an obstruction. It encroaches on the outside lane of the passing lane section.
  3. Perhaps that is why the flagger has chosen to stand in the middle of the two lanes to release traffic, rather than on the shoulder, which is a much safer location and the one usually recommended when releasing traffic. Drivers can see a flagger on the shoulder just as well as on the road.
  4. In this situation, there needs to be some transition cone and/or device tapers to assist with traffic channelization.
  5. Of even more concern, though, is the lack of lane closed/transition signs as traffic approaches the flagger station, where the flagger is directing traffic into a *single* lane from multi-lanes. This is an unsafe, high risk practice, which should never be allowed.
  6. It is recommended that the flagger paddle be held in the right hand, with the left hand or arm (the one closest to approaching vehicles) used for signaling.
  7. The paddle should be held out in front of the flagger (towards the centerline) for better visibility — not in line with the body.
- On the positive side, the paddle handle provides sufficient height so that the flagger has unobstructed vision as she looks in the direction of the paddle. This also makes it easier and more comfortable for the flagger to hold the paddle out and away from her body at all times.

## “TRIBAL PLANNING BASICS” WEBINAR

Contributed by Rowena Yeahquo, NW Tribal Technical Assistance Program, Eastern Washington University

The practice of American Indian tribal planning is based on three foundations:

- The principle of tribal sovereignty including inherent sovereignty, understood through a combination of the evolution of tribal legislation and tribal court cases that create the power to plan
- The application of comprehensive planning processes to the unique setting of individual tribal specific governments
- The evolution and implementation of tribal planning by tribal governments in recent times—the practice of tribal planning.

These three components of tribal planning — including tribal transportation planning — will be the focus of a Tribal Planning Basics class comprised of four 1.5 hour lectures. These will focus on tribal sovereignty, tribal court cases, the tribal comprehensive plan, and the current practice of tribal

planning by tribal governments through recognition of best practices.

The lecture series is divided into four recorded lectures:

- Tribal Sovereignty, Tribal Planning and Federal Indian Law (two parts)
- The Laws and Legal eras of Federal Indian Policy
- Tribal Planning reflecting Court Cases and Federal Indian Law
- Comprehensive Planning Process and the Tribal Comprehensive Plan

The program begins on August 4th at 10:00 with an introductory webinar. Participants may then access the recorded lectures, readings, and discussion groups at their own pace through August 25th.

Course fee is \$100. To register or for further information, contact NW TTAP at <http://www.ewu.edu/nwttap/training/tribal-planning-basics>

**Oregon Roads** is a quarterly publication of the Oregon Technology Transfer (T2) Center, furnishing information on transportation technology to local agencies. It is distributed free of charge to cities, counties, tribal governments, road districts, and others having transportation responsibilities.

The opinions, findings or recommendations expressed in this newsletter are those of the authors and do not necessarily reflect the views of the Oregon Department of Transportation or Federal Highway Administration.

We do not endorse products or manufacturers. Where names of either appear, it is only to lend clarity or completeness to the article. Space limitations and other considerations prohibit us from providing an advertising service to our readership.

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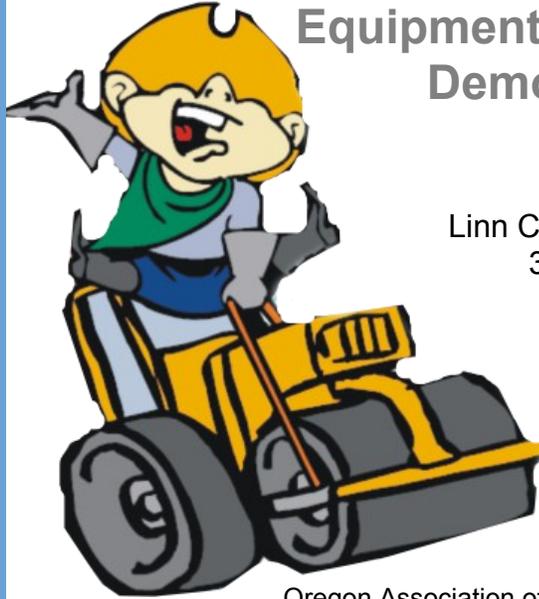
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*Twenty-second Annual*

## Technical Training School and Equipment Operator Skills Demonstration



Linn County Fair and Expo Center  
3700 Knox Butte Road  
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September 15—17, 2015  
<http://skillsdemo.org>

Oregon Association of County Engineers and Surveyors



Street Maintenance and  
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FALL SCHOOL  
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*Seaside Civic and Convention Center  
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