Country Roads & City Streets

WV Local Technical Assistance Program

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Road Rules for Roundabouts

Adapted from information in the Wisconsin Driver's Handbook and the WVDOH Website

While roundabouts have been a standard traffic engineering tool used in many other states and countries, they are fairly new to West Virginia. In fact, as of today, there are only three roundabouts in the entire state. The most recent West Virginia roundabout opened to traffic on June 26, in Morgantown, which is one of the fastest growing and largest cities in the state. It is expected that this roundabout will carry an average of 30,000 vehicles a day.

Going through any roundabout for the first time, especially during higher traffic time periods, may be a little uncomfortable at first. The following information has been compiled to help motorists, pedestrians, and bicyclists become more familiar with roundabouts and know the rules of the road.

What are the basic steps for navigating a roundabout?

1. As you approach the roundabout, look for signs and pavement markings showing which lane to be in.
2. Slow down and obey all traffic signs.
3. Yield to pedestrians and bicyclists in the crosswalk.
4. Yield to traffic on your left already in the roundabout.
5. Enter the roundabout when there is a safe gap in traffic, making a right turn. (In the United States, you should never make a left-hand turn into the roundabout!)
6. As you approach your exit, turn on your right turn signal.
7. Yield to pedestrians and bicyclists as you exit.

Photo taken by Kim Carr, WV LTAP

Morgantown, WV Roundabout

In This Issue

Country Roads & City Streets is typically published quarterly. The purpose of this newsletter is to provide information that is beneficial to decision makers, elected officials, and roadway construction, maintenance, and management personnel.

The material and opinions included in this newsletter are those of the West Virginia LTAP and do not necessarily reflect the views of the Federal Highway Administration or the West Virginia Department of Transportation. Every effort has been made to ensure the integrity and accuracy of both original and borrowed material; however, the West Virginia LTAP does not assume responsibility for any information that is found to be incorrect.

The West Virginia LTAP is part of the National Local Technical Assistance Program, which is funded by the Federal Highway Administration. West Virginia LTAP also receives funding from the West Virginia Department of Transportation.

Mission:

The mission of the WV LTAP is to foster a safe, efficient, and environmentally sound surface transportation system by improving skills and increasing knowledge of the transportation workforce and decision makers.

To help achieve this mission, training, demonstrations, personalized technical assistance, and resource materials are provided.

Who must yield when driving a roundabout?

Vehicles already in the roundabout have the right-of-way and motorists entering the roundabout must yield to them. Yield means that the approaching motorists must stop if there is traffic in the roundabout and wait for a gap or break to appear in the traffic flow before entering the roundabout.

Can semis, trucks with trailers, and other large trucks use a roundabout?

Yes, they are all able to use a roundabout. Because large vehicles need extra space when driving through a roundabout, a truck apron is built into the design. A truck apron is a paved area on the inside of the roundabout for the rear wheels of large trucks to use when turning.

What are motorists supposed to do when an emergency vehicle is approaching a roundabout?

Motorists who have not yet entered the roundabout should pull over and let the emergency vehicle pass. Motorists who have entered the roundabout should continue to their exit, then pull over and let the emergency vehicle pass after they have exited the roundabout. Motorists should always avoid stopping in the roundabout.

Should drivers change lanes in a roundabout?

Drivers should never change lanes in a roundabout. Before entering the roundabout, motorists should pay close attention to signs and pavement markings to ensure that they get into the correct lane upon entering the roundabout.

What should a motorist do if he/she has an accident in a roundabout?

If a motorist has an accident in a roundabout and the vehicle remains drivable, he/she should move the car out of the roundabout and as far off the road to the right as safely possible.

Who enters first if drivers arrive at the roundabout at the same time from all approaches?

If drivers arrive at a roundabout at the same time from all approaches, they should all be able to enter at the same time because of the staggering of the entrances. However, they all must yield to vehicles already traveling in the roundabout.

How do pedestrians and bicyclists use a roundabout?

Pedestrians cross roundabouts at designated crosswalks. Even though pedestrians have the right-of-way, they must always use caution and make sure that vehicles are stopping before entering the crosswalk. Bicyclists can either ride through the roundabout following the rules of the road like other vehicles or they can walk their bikes across using designated crosswalks with other pedestrians.

Are roundabouts more dangerous than signalized intersections?

Roundabouts are safer and more efficient than standard intersections. The design of the roundabout promotes safety, because all vehicles are traveling in the same counterclockwise direction at low speeds and vehicle paths do not cross at right angles. According to crash statistics, roundabouts reduce fatal crashes by about 90 percent, injury crashes by about 75 percent, and overall crashes by about 35 percent when compared to other types of intersections.

Is a roundabout the same thing as a traffic circle?

No, a roundabout is not the same thing as a traffic circle. In a roundabout, vehicles travel at low speeds and vehicles already in the roundabout have the right-of-way, unlike traffic circles. The design and operation of roundabouts makes them much safer for traffic flow than traffic circles. For more information on the differences between traffic circles and roundabouts and some common misconceptions, please visit: wvltap.wvu.edu/TrafficMythsRoundabouts.pdf.

Article Sources: www.dot.wisconsin.gov/drivers/drivers/apply/handbook.htm
www.youtube.com/watch?feature=player_embedded&v=d-UufYhT7gU

Jumping Into the Social Media Pool

Ashley Collins, WV LTAP

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Social media sites first gained popularity among private users, but over time, local, county, and state government agencies have also jumped into the social media pool.

Social media is defined as a form of electronic communication through which users create online communities to share information, ideas, personal messages, and other content. Two of the most commonly used social media are Facebook and Twitter. This article discusses some key advantages, disadvantages, and general things to be aware of if your agency chooses to adopt social media, specifically focusing on Facebook and Twitter.

Advantages

Establishing a social media site in the workplace is an easy, efficient, and quick way to communicate with others outside of your agency. Adopting social media into your agency or municipality could enhance communication between you and your audience. According to CNN Money, in October 2012 Facebook gained more than one billion users. In December 2012, the American Public Works Association reported that nearly 500,000 users are joining the Twitter world each day.

A large advantage is that signing up to create a Facebook page or Twitter account is free, so it is a communication tool that can help stretch your communication dollars. Another advantage is timeliness. You can post or tweet information concerning announcements, events, meetings, policies, transportation accidents and reroutes, weather conditions, disaster relief procedures, etc., in a timely manner, from anywhere you have access to the internet, using a variety of electronic devices (smart phone, laptop, desktop computer, etc).

Unlike a traditional webpage, users don't have to go searching for information; they can receive updates and important notices on the go through their mobile devices. Users can provide their thoughts, ask questions, or post additional information back to you by posting a comment on your Facebook wall or tweeting at your Twitter account.

Because social media can target a large number of people, it is useful for reaching out to new members. New members simply click "Like" on your agency or municipality's Facebook page or click "Follow" on your Twitter account. Allowing who likes or follows your social media page can be approved by whoever is monitoring your social media site(s). You can approve new members before they can post or see your page under your account's privacy settings. Approved members can re-post Facebook posts by your agency to their page or retweet your tweets to their Twitter page.

Disadvantages

A disadvantage with adopting a social media site for your agency is the potential for followers, or even employees, posting or tweeting negative comments on

your page, or posting inappropriate images. Additionally, some social media users have hundreds or even thousands of connections called "Friends" on Facebook or "Followers" on Twitter. Seeing your posts on a friend's newsfeed on Facebook can get lost or overlooked due to other's posts. (A Facebook newsfeed is the center column of your home page that is constantly updating new posts from all of one's Facebook friends.) On a Twitter home page, too many updated tweets can lead to the same issue; tweets overlooked due to sheer volume. Another possible disadvantage is getting people to access your page. Many companies, both private and government, limit access to social media sites from work computers.

How to Control Your Page

Facebook and Twitter accounts provide several options for managing and controlling your page through various privacy settings. If your agency decides to establish a Facebook account you can choose who can post on your page and allow who sees these posts. On Facebook you can control who sees your posts by using the audience selector tool. You can also control who sees posts when they are posted by other people under the "who can see what others post on your timeline" setting. Both of these are found under timeline privacy. If your agency adopts a Twitter account you can click on "protect my tweets" beside "tweet privacy" under your account settings. The Twitter options to protect your tweets are the public tweets and protected tweets settings. If you choose the public tweets setting anyone can see them regardless if they have a Twitter account. If you choose the protected tweets setting your tweets can be viewed by Twitter followers you approved.

Questions to Ask Before Implementing Social Media

Social media is a great communication tool when properly used as part of an overall public relations/marketing and customer service strategy. There are, however, several items to consider to see if social media is a good fit for your agency. Some questions to ask are:

Should your agency establish the use of social media? Think about your target audience. Are they using social media? How often do they use it? Do they access it on their smart phones, or work and/or home computer?

Does your agency have a social media policy? Before you begin using social media, make sure your agency has a written policy outlining your rules and processes.

Who will be responsible? Setting up a social media page may be easy, but with no strategies and goals in place your page may not be successful. Also, do not give the responsibility of monitoring your agency or municipality's social media page to every employee; this could get messy. When adopting a social media page give the responsibility to one or two people who have good communication skills and are aware of your audience. Let them control posts, tweets, and responding to outside members.

How much time will you invest in your social media page? Remember, you should post new events, announcements, pictures, videos, etc. and spend the time reviewing and reposting to comments and questions from your followers.

How are you going to respond to negative feedback from followers and maybe even employees? While any agency would rather get positive recognition and feedback, negative feedback is sometimes even more valuable. How will negative feedback be addressed? Privately or through an open message? Will the message be deleted? Will you ignore it? Does the message pertain to a safety issue? In which case, you definitely don't want to ignore it and want to make sure the appropriate person(s) and department(s) are made aware of the issue and it is appropriately addressed. Remember that one of the benefits of social media is the two-way communication it provides.

Getting the Scoop on Pig Poop –
Its Potential Role as a Binder in Pavements

Kim Carr, WV LTAP

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Recently a *Better Roads* article titled, "*Pig Manure is Being Used as an Asphalt Binder,"* grabbed the attention of the WV LTAP staff. Let's face it, how could you not read an article after a title like this. Of course we had to delve into this topic even further, and what we discovered is fascinating.

An assistant professor of civil engineering from North Carolina A&T State University, Dr. Elham Fini, has been conducting research focusing on converting swine manure into a bio-adhesive that could be used as an asphalt binder, along with other binder applications, such as for carpeting, soil stabilization, crack sealing, and roofing. This swine manure bio-adhesive, which is considered a cost-effective green technology, could provide an alternative for petroleum based adhesives. According to the *Better Roads* article, whereas a petroleum-based binder costs about $2.00 per gallon, the swine waste binder would cost around 50 cents per gallon, a considerable savings.

The name of this product is PiGrid, pronounced like hybrid, and in addition to the cost-savings benefit of using swine waste as a binder, it could help solve a growing waste disposal problem. According to information found on the Bioadhesive Alliance Inc. website, commercial hog farming accounts for roughly 107 million tons (total weight) a year in swine manure. So, this durable, low-cost product would help facilitate swine manure management while at the same time adding products beneficial to the construction industry.

Per the Bioadhesive Alliance Inc. website, another benefit of this product is that it can be used as a full or partial replacement for petroleum-based asphalt binder to reduce mixing and compaction temperatures and enhance mixture workability during plant production and pavement placement. The researchers also claim that PiGrid can help reduce greenhouse emissions, which are a concern with hot-mix asphalt production.

Over one-million dollars for the research and technology development of this product has been provided by the National Science Foundation, National Academy of Science, and NC A&T State University. According to the article in *Better Roads*, PiGrid is expected to be available in the United States in the next 12 to 18 months. It will be interesting to keep an eye on this technology and see what the results and impacts are in both the agriculture and asphalt industry.

Article Sources:

BioAdhesive Alliance Inc: https://gust.com/c/bioadhesive_alliance_inc
Better Roads: http://www.betterroads.com/pig-manure-is-being-used-as-an-asphalt-binder/

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Innovative Idea: Sign Repair Stand

Article adapted from the 2012 LTAP/TTAP Build a Better Mousetrap National Entry Booklet

Across the country, the roadway agencies that LTAP and TTAP Centers serve are filled with innovative and resourceful workers, many who find new and better ways to accomplish everyday tasks. This has led many Centers to develop contests called, "Build a Better Mousetrap" or "Show Us." The purpose of these competitions is to collect and disseminate real world examples of best practices, tips from the field, and assist in the transfer of technology. Each year at the National LTAP Association (NLTAPA) meeting, LTAP and TTAP Centers are given the opportunity to submit examples from their state competitions into the NLTAPA competition.

The following innovative solution, Sign Repair Stand, was submitted by the Cherry Hills Village Public Works Street Department, located in Colorado, and was one of the entries in the 2012 Build a Better Mousetrap National Competition, hosted by the National LTAP Association. The WV LTAP staff thought many of you would find this solution useful. If you would like to know more about this piece of equipment, please contact Kim at the WV LTAP and she will put you in touch with the street superintendent from Cherry Hills Village.

Problem Statement

Two of the Street Departments many tasks include maintaining the City's signs (street name, speed limit, stop, etc.) and low-to-the-ground right-of-way tree trimming around signage and other structures. Unfortunately, the City does not have a vehicle (bucket truck) specifically designed for these duties. As a result, someone would stand in the back of a pickup or climb a ladder to do these low-to-the- ground maintenance repairs. We felt climbing a ladder represented a risk factor, especially on uneven rights-of-way, during all forms of weather conditions. We further felt that climbing in and out of a pickup bed, reaching out over the edge of the bed, and just standing in a wet or snow covered pickup bed while doing repairs was too great of a risk for staff members to continue doing. A new truck, mounted with the appropriate attachments and safety protection, was not a feasible option. We needed a low budget solution that was both practical and safe.

Solution

The Street Department is fortunate to have a crew leader that is very knowledgeable in the area of steel fabrication. When faced with the task of building a sign repair stand, it was desired to find a low cost solution that would fit in the bed of a pickup, be easily installed or removed by two men, and provide the safety measures needed for personnel doing repairs. The crew leader, Josh English, talked with other crew members and quickly came up with the design.

Labor/Materials Cost

Total Cost of Sign Repair Stand: $380.00

Savings: Benefits to the Community

Having knowledgeable manpower, all power tools needed, and budgeted time, the City feels it saved somewhere in the neighborhood of $2,000 on this project. Professional welding fees alone could have exceeded these costs. Of far more importance to the City than savings is the tremendous increase in safety for its street department personnel. With a tailgate ladder to enter and exit the bed of the truck, no one has to climb over a tailgate. The sign stand has a railing at just below waist level, allowing a worker to reach beyond the edge of the truck. The grip strut decking allows for sure footing while inside the stand and on the step while entering and leaving the stand. There is a safety chain to close off the entrance to the stand to eliminate accidentally falling backwards out of the stand. The stand is bolted to the truck body to prevent it from moving when in use. The stand also elevates the worker an additional two feet from the pickup bed floor, allowing an expanded work area without having to do dangerous reaching for signage or tree limbs.

WV LTAP Welcomes Two New Advisory Board Members

The WV LTAP Advisory Board members are a critical component of our program. Recently, two new members, Chris Knox and Dale Hill joined the Board. The WV LTAP staff is excited to have these two individuals join the board and we appreciate their time and dedication to WV LTAP.

Chris Knox, Charleston, WV City Engineer

As the City Engineer of Charleston, what are your main responsibilities?

I perform in-house design and construction administration on numerous municipal projects and [I] am frequently involved in the development and maintenance of the City's infrastructure: subdivisions, retaining walls, storm sewers, sidewalks and many other enhancements.

The Engineering office manages and maintains 15 city-owned bridges, including the majestic and historic South Side Bridge. In addition, I oversee a paving program responsible for over 300 miles of roadway surface throughout the City of Charleston. Typically, annual paving expenses exceed $1M and account for 20 to 30 miles of roadway resurfacing each year.

Why did you decide to accept the invitation to join the WV LTAP Advisory Board?

I decided to join the WV LTAP [Advisory Board] for two reasons; I am interested in how other municipal and state agencies deal with issues or dilemmas that the City of Charleston sometimes encounters and I am also attentive to the needs of smaller, less staffed or funded municipalities and would like to share the struggles and consequent solutions that we, the City of Charleston, have established.

What skills and knowledge can you bring to benefit the advisory board?

I have held the position of City Engineer for the City of Charleston for nearly 11 years. I believe that over the last 11 years I have both conquered and, on occasion, failed at many of the same issues that most municipal infrastructure managers encounter daily. I would like to think that these experiences contain valuable "do's" and "don'ts" that could be shared with similar agencies.

What are some of your hobbies or interests outside of work?

I love to dabble in the contractor/construction world, on a much smaller scale of course. Over the last ten years I have been in the "Extreme Home Makeover" business. Unlike Ty Pennington, it takes me months to rehabilitate a house in lieu of a one-hour episode.

Dale Hill, Executive Director, Builders Supply Association of WV

As the Executive Director at the Builders Supply Association of WV, what are your main responsibilities?

The education and promotion of cement related building materials in the State plays a major role, however, we are still a "building supply association" which encompasses programs dealing with all building materials and construction practices.

When and how did you first become familiar with the WV LTAP Center?

In 2008 while visiting with the Northeast Cement Shippers Association

What do you anticipate from this experience on the board?

To date my experience has been very enlightening. The board being comprised by many different levels and interest in the State's road system brings a great deal of experience and dedication to the roads programs. I feel as well as being able to assist with future programs, I will receive the gift of learning from others through their individual ideology.

With your past and current experiences, what skills and knowledge can you bring to benefit the advisory board?

[I can bring] an understanding of construction practices and needs in our State. During the past two years, we have become more involved with the roads systems in the towns and municipalities and [I]have a better understanding of the challenges being faced daily while struggling to maintain and replace the road systems outside the Department of Highways.

What are some of your hobbies or interests outside of work?

I am an avid boater and spend much of my time with my children on a lake in East Tennessee. During the colder months, much of my "free time" is spent with my children, antiquing, and woodworking.

Annual Snow and Ice Control Workshop – September 24

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Even though we are currently in the midst of a hot, humid, and rainy summer, the WV LTAP staff has been thinking ahead to cooler temperatures, snowfall, and the pending preparations that roadway agencies will need to make for the winter season. One way the WV LTAP helps roadway agencies prepare for the upcoming winter is by hosting the annual Snow and Ice Control Workshop.

This year's event is scheduled for Tuesday, September 24, 2013 and is being held in Bridgeport, WV at the Bridgeport Conference Center. The registration fee to attend is $50 per person, payable by check or credit card. This fee covers a continental breakfast, morning and afternoon break, lunch, and conference materials.

This workshop is geared to both state and local roadway agencies and we encourage anyone that has a role in winter maintenance operations — snowplow driver, supervisor, mechanic, mayor, city council person, etc— to attend this event. The workshop is a combination of classroom discussions and demonstrations.

More information on this event and other upcoming training opportunities will be available on the WV LTAP website at wvltap.wvu.edu, the WV LTAP Facebook page, and through direct mail in the coming weeks.

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- Managers
- City Engineers
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