Directory Updates Requested

The Indiana LTAP 2008 Directory of Indiana State, County, City and Town Officials Responsible for Street Work is now being updated. By now, you may have received a report of the contact information LTAP has in its database. We ask that you take a few moments to verify and/or update this information for our records. If you are unable to verify contacts, please forward our request to someone within your agency who can.

In order to include your agency’s new officials in our directory, your response is needed by February 1, 2008. All officials listed will receive a copy of the directory after it is released.

Over 8500 copies of this popular resource were distributed last year. With your agency’s cooperation, LTAP can continue to provide the most updated information to our community.

The 2008 directory will be available at the 94th Annual Road School March 25-27, 2008. You can visit our booth to pick up your copy in person!

Listed below are a few tips that will help insure that we interpret your changes correctly.

Helpful Hints

- Please try to fill in all the information (fields) on the form.
- Should there be a change in the name of the official please do not white out the previous information. Instead type or write the new person’s name either above or below the incorrect data. This allows us to know who to remove from the database.
- Many individuals prefer to conduct their business from home. Please check with your officials for their preference. Only one address and phone will be listed in our directory and it will not specify that it is “home” contact information. So please list “home office” numbers as “home” numbers.
- Please double check the accuracy of the email and web addresses listed (i.e. periods, upper or lower case in the name, etc.).
- Please check for accuracy of the area codes listed.
- There may be officials in your particular agency who work with Roads and/or Bridges that are not currently listed in the directory. If there is someone you feel should have their information included in the directory, please enter their information on the back of your form.
- Should there be personnel openings that occur throughout the year in your agency we would be happy to include an advertisement for the job opening in our quarterly newsletter. This is a service to you free of charge.
- Has a town in your county been incorporated (or unincorporated) this past year? We want to add them to our directory. We are not notified from the state when this change occurs.
Indiana LTAP

Training Calendar 2007 - 2008

APWA Click, Listen & Learn
Trenchless Technology
January 10
LTAP Center
West Lafayette, IN

2008 County Bridge Conference
January 30-31

APWA Click, Listen & Learn
TARGET #2: DURING the Disaster
January 31
University Plaza Hotel
(formerly University Inn)
West Lafayette, IN

ATSSA Web Training
Sign Retroreflectivity-
New National Standards
February 12
LTAP Center
West Lafayette, IN

APWA Click, Listen & Learn
Water: A Precious Resource
February 21
LTAP Center
West Lafayette, IN

2008 Stormwater
Drainage Conference
February 28
University Plaza Hotel
(formerly University Inn)
West Lafayette, IN

2008 Purdue Road School
March 25-27
Stewart Center/Memorial Union
Purdue University
West Lafayette, IN
“DEAD END” and “NO OUTLET” signs: What’s the difference?
by Collin Koranda and Lisa Harris, Kansas LTAP

Some residents like living on a “dead end” street, but don’t like how it sounds. They’d rather live on a street that has “no outlet.” Can these two signs be used interchangeably? The answer is sometimes yes, sometimes no. This article will tell you which sign to use where.

The Manual on Uniform Traffic Control Devices (MUTCD) Millennium edition, defines the use of dead end and no outlet signs. The MUTCD codes for the signs are W14-1 and W 14-2 respectively.

DEFINITION OF “DEAD END”
According to the MUTCD, the dead end sign “may be used at the entrance of a single road or street that terminates in a dead end or cul-de-sac.” A dead end refers to an entrance way where there are no options for turning onto another street or system within a network. The sign is placed on the street that dead-ends.

DEFINITION OF “NO OUTLET”
On the other hand, a no outlet sign “may be used at the entrance to a road or road network from which there is no other exit.” Once you turn into the network, there can be a series of other turns onto roads. However, the way you came in is the only way to exit out of the network. Oftentimes, an entranceway into a subdivision is the only option for entering and exiting the area. But once inside the subdivision, there can be a system of streets interconnecting with each other.

So… the answer to the question about whether these signs are interchangeable is this: A “no outlet” sign can be used instead of a “dead end” sign, but not the other way around. If you have a road network with no outlet, you must use a “no outlet” sign.

Source: http://mutcd.fhwa.dot.gov/pdfs/millennium/06.14.01/2cndi.pdf

SIGN PLACEMENT

The MUTCD has established the standard that when either a “dead end” or “no outlet” sign is used, “the sign shall be posted at the entry point or at a sufficient advance distance to permit the road user to avoid the dead end or no outlet condition by turning off, if possible, at the nearest intersecting street.: “Shall” in the MUTCD language indicates that the instructions are a requirement that must be followed. In other words, you should place the sign on the dead end or no outlet street as close as possible to its intersection with the through-street, so a driver will readily see the sign when they are considering entering the road.

A “dead end” plaque (W14-1P) and a “no outlet” plaque (W 14-2P) may, according to the MUTCD, “be used in combination with Street Name (D3) signs at intersections instead of or in addition to the W 14-1 or W 14-2 signs.” The standard for using the plaques is defined as being used “where traffic can proceed straight through the intersection to the dead end or no outlet street.”
Call for Nominations

To recognize and showcase quality achievement for transportation projects; the Indiana Partnership for Transportation Quality will present Quality Awards at the 94th Annual Purdue Road School, March 25, 2008

IPTQ Achievement Awards

AWARD CATEGORIES
(Nominations will be received for projects in the following categories)

- Major New / Reconstruction - Rural
- Major New / Reconstruction - Urban
- Pavement - Rural
- Pavement - Urban
- Bridges - Rural
- Bridges - Urban
- Special Projects > $2,000,000
- Special Projects < $2,000,000

Application and Evaluation Information can be obtained at:
http://www.fhwa.dot.gov/indiv/index.htm

Questions?
Contact: Dan Keefer, Quality Coordinator
Federal Highway Administration
(317) 226-7478
daniel.keefer@fhwa.dot.gov

Applications must be received by January 31, 2008
The Road To Safety
Part IV: A Summary and Programmatic Improvements

Rick O. Drumm, P.E., Federal Highway Administration - Indiana Division
Laurie D. Johnson, P.E., DLZ Indiana LLC

Introduction

This is the fourth and final article in a series that should give local agency officials some ideas of how to improve safety on their roadways. So far we have developed an identification process that takes us through the steps and ends with a number of our Locations of Safety Interest being improved in terms of safety. Sites are made safer. The word that can be used for making our roads safer is - good.

In this article, we will review the steps that we have discussed up to this point. Then, we will focus on what can be termed programmatic improvements. These types of improvements could prove very helpful for improving safety - reducing crashes, preventing injuries, and saving lives – all extremely critical aspects of our jobs.

Review of Safety Approach for High Crash Locations

As for a review of the process we have discussed, the steps can be summarized as follows:

- **Know your safety numbers** – Determine the number of fatalities, injuries and crashes on roads of your jurisdiction for the past few years. Post them in your office.

- **Gather crash data** – Get numbers, locations and types of crashes on roads in your jurisdiction.

- **Analyze crash data** – Decide how to analyze crash data. One can focus on fatalities and injuries, all crashes, or some other types or combinations of crashes. One can look purely at numbers, or rates, or a statistical variation of crashes from what is expected. Also, accept input from other sources – police, EMS responders, maintenance personnel, the public, politicians.

- **Develop list of Safety Locations of Interest** – From your analysis, make a list of Locations of Safety Interest. This list should be some of the locations that are at the less safe end of your analysis results. You may have three, five, ten, or twenty locations – depending on resources and extent of the problem.

- **Focus information gathering on focus locations** – Collect information on the locations such as traffic volume. Gather the crash reports on these locations and read them thoroughly. Develop a collision diagram and determine any trends in crashes.

- **Conduct field visits to determine countermeasures** – Go out to each location. Spend time observing all the conditions, sight lines, signs, safety hardware, pavement markings, and pavement condition – pretty much everything. From the collision diagram, field observations, and other data, decide on what countermeasure(s) would be effective to reduce crashes and make the location safer.

- **Develop projects and do them** – fairly self-explanatory. Git-R-Done!

By following this process, you will be able to improve the safety at a number of sites in your jurisdiction, focusing on locations with the highest safety need.

Programmatic Improvements

Another effective approach to safety is using programmatic improvements. Whereas the process we described in the last few articles, and summarized above, focuses on finding what would be considered High Crash Locations (HCL), alternately, using safety countermeasures in a programmatic way can be extremely useful as well. In fact, many agencies around the country are focusing more on programmatic improvements and relying less on improving High Crash Locations in order to improve safety on their roads.
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**County Bridge Conference**  
University Plaza Hotel  
West Lafayette
* Also at the conference

# March

**Don't forget, LTAP offers on-site training! Call to schedule sessions for work zone traffic control safety, defensive driving for dump truck drivers and chain saw safety!**

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**94th Annual Purdue Road School**  
Stewart Union, West Lafayette
March 26 - Road Scholar Core Course #11 Plan Reading  
March 26 - Road Scholar Core Course #12 Estimating Cost & Quantity

*Click, Listen & Learn  
“Trenchless Technology”  
LTAP Center  
West Lafayette

*Click, Listen & Learn  
“TARGET #3  
After the Disaster”  
LTAP Center  
West Lafayette
# TRAINING CALENDAR 2008

## FEBRUARY

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"Sign Retroreflectivity - New National Standards"  
LTAP Center West Lafayette  
Click, Listen & Learn  
"Water: A Precious Resource"  
LTAP Center West Lafayette  
REGISTRATION DEADLINE FOR STORMWATER CONFERENCE  
STORMWATER DRAINAGE CONFERENCE  
UNIVERSITY PLAZA HOTEL, WEST LAFAYETTE  
CLICK, LISTEN & LEARN  
"INNOVATIVE FUNDING"  
LTAP CENTER WEST LAFAYETTE |
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**JOIN US AT THE LTAP CENTER OR HOST A CLICK, LISTEN & LEARN INTERACTIVE, INTERNET EDUCATIONAL PROGRAM PRESENTED BY APWA! CALL US FOR DETAILS!**

## APRIL

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**VISIT US AT ROAD SCHOOL TO PICK UP YOUR 2008 DIRECTORY AND LEARN MORE ABOUT OUR SUMMER SCHEDULE!**

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ONLINE VISIT OUR WEBSITE:  www.purdue.edu/INLTAP
Programmatic improvements can be considered as the use of any countermeasure, typically very low cost ones, and implementing that countermeasure at a relatively large number of locations. So where an HCL approach will identify and improve 5 or 10 locations in one year, programmatic improvements can be implemented in 30, 50, or 100 locations. The approach and scale of the projects are quite different. HCL projects may cost multiple thousands of dollars, often with multiple countermeasures being implemented at the same time at one location. A programmatic improvement approach takes a relatively inexpensive countermeasure and implements it at a large number of locations. The concept is to take a well-proven countermeasure and apply it to locations based on crashes and/or condition, to improve safety with a focus on raising the safety level over the entire road network.

The best way to explain programmatic improvements is to give a number of examples. Here are a few ideas to illustrate what is meant by programmatic safety improvements.

**Rumble strips or rumble stripes** – Shoulder rumble strips are obviously intended to signalize the driver when they reach the outside edge of the pavement. They can be utilized if the shoulder is more than a couple of feet wide. In areas with a narrow shoulder, rumble stripes are a good alternate. In addition to providing the auditory warning, the painted stripe through the corrugations enhances the visibility of the painted edge line at night. Consider using rumble stripes or strips on roads with a history of run-off-road crashes or possibly on all two-lane roads that meet a minimum set of criteria for traffic volume, roadway width or speed limit. Since approximately 60% of all highway fatalities are caused by roadway departures, countermeasures designed to keep a vehicle in its assigned traveled lane can have dramatic results.

**Use of specific warning signs** – Begin a program to add curve warning signs and/or chevrons on all curves with a certain degree of curvature and/or traffic volume considering your experience with crashes. Signing such curves can provide up to 20% crash reduction. Take the next step and drive each curve using a slope meter to determine the maximum safe speed and add the appropriate advisory speed plaque to the curve warning sign.
Advance signing for Right-of-Way Controls – Place “Stop Ahead” signs at all intersections with a set minimum traffic volume and/or a history of stop-sign running crashes. The additional warning sign is used to call attention to the approaching stop condition. The advanced stop ahead sign is particularly useful on local jurisdiction roadways where the right-of-way is narrow and distractions such as brush, or parked vehicles restrict the ability to see the approaching sign. This type of programmatic improvement has been shown to provide between 30-40% crash reduction.

Clearing sight obstructions at intersections – Begin a program to clear brush, trees, and other items that block the sight distance at intersections. The crash analysis you performed could indicate a specific area with crash history, which may be an ideal starting point. At the intersections, cut back the vegetation to meet the intersection sight distance triangles. You may also consider establishing minimum clear corner sight distance policies or ordinances in developing areas to enable you to remove obstructions as they are placed. An ordinance to restrict parking near intersections is another means to ensure adequate sight distance. It is important to consider seasonal growth when implementing a clearing program to ensure that enough brush is removed.

Additional street identification signs – Add signs to communicate better with the driver. Such signs could include larger or additional street signs for added visibility. On heavily traveled roadways, placing supplemental cross-street identification signs in advance of the approach is especially useful for the older or out-of-town driver.

Lighting – Install lighting at any intersection or roadway segment that meets certain minimum criteria. You may select intersections of higher classifications of roadway, or curves on arterial roadways in a pro-active effort, or you may select locations purely based on nighttime crash history. Lighting is proven to be a very effective countermeasure, reducing nighttime crashes at intersections by approximately 50%.

Improving sign retro-reflectivity – As described throughout this series, the ability of a driver to see roadway signage is critical to ensuring roadway safety. Therefore it is imperative that signage be visible at night, especially in difficult road conditions. A programmatic sign program that ensures proper sign size and retro-reflectivity has been shown to provide up to 38% crash reduction. As we age, our ability to see at night drastically declines to the point that a 60-year old requires approximately 8 times more illumination than a 20-year old. Drive your roadways at night and see if sign retro-reflectivity is a problem in your jurisdiction.
Right-of-Way clearing – As discussed in detail in Part III of our series, developing a program to clear your right-of-way of trees and other obstructions will go a long way to improving the safety of the roads in your jurisdiction. Wholesale clearing of the right-of-way is a daunting task, but start small by concentrating in one area or along certain classifications of roadways.

These are just a few examples of possible types of programmatic improvements. Remember it is not necessary to implement a countermeasure at every single place it could fit. The idea is to use the countermeasure at numerous locations with a crash history or locations that meet your prescribed criteria (i.e., traffic volume, roadway characteristic, etc.) or both. Choose the locations for that programmatic countermeasure only and improve the safety of your roads by focusing on that type of crash. Some programmatic improvements will affect one type of crash – lighting for nighttime, clearing brush for sight distance, specific warning signs such as chevrons for curves – while others may affect a number of types of crashes – county-wide sign improvements, advance signing, etc.

Conclusion

Implementing safety projects is important. Document the crash data before and after the projects are complete. The crash reduction results can help you pick future programmatic safety projects and also inspire partners to join you in efforts to make roadways safer. Remember – Safety is a good thing!
Job Listings

RESEARCH ENGINEER
Indiana LTAP, West Lafayette, IN

The Indiana LTAP is currently seeking to add a Research Engineer to its staff of professionals. Research Engineer duties include developing, promoting, and conducting technology transfer programs to provide training and implementation of the best practices for the operation of local roads and streets in Indiana. This will include the development of training materials and coordination with town, city, county, state, and federal officials, and University staff to enable these programs to be effectively presented throughout the state. Research efforts will relate to these technology transfer activities. The Research Engineer also makes decisions regarding the identification, demonstration, and education necessary to persuade local officials to adopt new or more efficient procedures.

The successful candidate will have an M.S. in Civil Engineering and 5 years experience; or a B.S. in Civil Engineering and 10 years experience; he or she must also be a licensed professional engineer. Prior experience in engineering, planning, and/or education is desirable.

The Research Engineer is required to have strong oral and written communication skills along with knowledge of word processing, database development and management, spreadsheets, email, and the internet. An understanding of Indiana local government, knowledge and experience in state and local highway planning, design, operations, and maintenance is highly desirable.

Visit www.purdue.edu/hr/employment for job listing and “how to apply”.

PROJECT ENGINEER
Hamilton County Surveyor

Project Engineer would be responsible for designing and coordinating drainage construction and reconstruction projects. Baccalaureate Degree in civil engineering, or related field and a minimum of four years of relevant experience is required, in addition to Indiana Professional Engineering license.

Applications are available online at www.co.hamilton.in.us or in the HR Department.

Please forward applications to: Sheena Randall, Human Resources Director, One Hamilton County Square, Suite 307, Noblesville, IN 46060.

DON’T FORGET
The following equipment is available for loan from the LTAP Center
- Traffic Counters
- Laser speed and distance measurement instruments
- Sign retroreflectometer
- Radar speed display signs
- Digital camera
- Cones and barricades for emergency use only

To request equipment call the LTAP Center at (765) 494-2164

Advertise a job listing or equipment sales for free in
THE POTHOLE GAZETTE

Send your information to lwc@purdue.edu
or fax to (765) 496-1176

You can also advertise on our website
www.purdue.edu/INLTAP

click on “Classifieds”
click on “Post a Listing”
submit your information
your listing will be reviewed and posted promptly
HAPPY HOLIDAYS & MERRY CHRISTMAS

FROM THE LTAP FAMILY TO YOURS,

HAVE A HEALTHY, HAPPY AND SAFE HOLIDAY SEASON!

INDIANA LTAP
Vision Technology 1
1435 Win Hentschel Blvd., Suite B100
West Lafayette, In 47906-4150