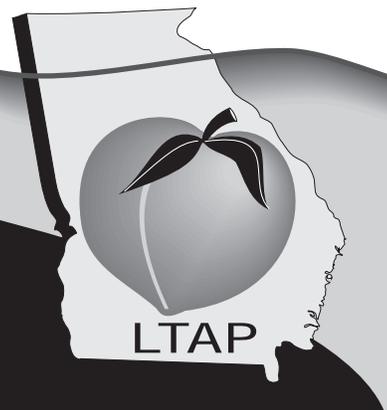


GEORGIA ROADS



Better Roads Through Cooperation

A newsletter of Georgia's Local Technical Assistance Program

Vol. 16, No. 4 Spring 07

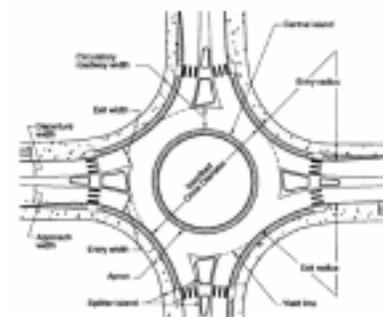
Route To:

Roundabouts

Intersection safety is a serious problem in the United States. Addressing this problem is one of the Federal Highway Administration's (FHWA) top priorities.

In 2004, more than 2.7 million intersection-related crashes occurred, accounting for more than 45 percent of all crashes in the United States. That same year, intersection fatalities were 9,117 or 21 percent of all traffic fatalities.

In addition, approximately 45 percent of all injury crashes, or nearly 900,000 crashes, occurred at intersections. Each year, side-impact crashes, which occur mostly at intersections, cause more than one-third of all vehicle occupant deaths.



Why are there so many intersection crashes? An intersection is a planned point of conflict in the roadway system. With different crossing and entering movements by both drivers and pedestrians, an intersection is one of the most complex traffic situations that motorists encounter. Add the element of speeding motorists who disregard traffic controls, and the dangers are compounded.

Who is most likely to be affected? Situations involving complex speed-distance judgments under time constraints, as found at intersections, can be problematic for many drivers and pedestrians, especially senior drivers and pedestrians. Approximately half of fatal crashes involving drivers 80 or older take place at intersections.

Solution: Roundabouts are a proven safety solution that prevent and reduce the severity of intersection crashes.

Over the past 25 years, U.S. intersection designs and traffic engineering measures have improved, but the annual number of intersection fatalities has not changed significantly. To reduce crashes and improve intersection safety, FHWA recommends the use of roundabouts, where appropriate. Roundabouts must be designed to meet the needs of all road users—drivers, pedestrians, pedestrians with disabilities, and bicyclists. Proper site selection and pedestrian channelization are essential to making roundabouts accessible to all users.

What is a roundabout and how does its design improve intersection

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The Local Technical Assistance Program (LTAP) is a nationwide effort financed jointly by the Federal Highway Administration and individual state departments of transportation and/or universities. Its purpose is to disseminate the latest state-of-the-art technologies in the areas of roads, highways and bridges to municipal and county highway and transportation personnel.

The Georgia LTAP is supported by FHWA and the Georgia Department of Transportation. The Georgia Roads Newsletter is one of the LTAP activities. The opinions, findings or recommendations expressed in this newsletter are those of the Georgia LTAP Center and do not necessarily reflect the views of the FHWA nor the Georgia Department of Transportation.

The Georgia Roads Newsletter is distributed free of charge to counties, cities, towns and others with transportation responsibilities.

Editor's Notes

I hope everything is going well with everyone. 2006 was a busy year with changes and challenges in the LTAP program. In 2006 we had 173 training sessions with 5,572 attendees. A variety of topics were covered such as Safety (*Chainsaw Safety, Trimmer/Brushcutter, Zero Turn Mower and Workzone Traffic Control*), Maintenance (*Welding, Small Engine and Tractor/Mower Operator*), Construction (*Introduction to Highway Construction, Pavement Recycling, Asphalt Pavement Maintenance and Soil Cement*), as well as Design Courses (*Road Safety Audits and Roundabouts*).

Look for a repeat of many of these courses in 2007 as well as new ones such as Low Cost Safety, Intersection Safety, Surveying, Gravel Road Maintenance, Drainage and many others.

We also have two new employees who can come to your location to provide training upon request. Take a look at page 5 for more information on this.

I look forward to working with everyone this year. Thanks for your interest and support.

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Safety Spotlight: Douglas County

A new feature for the LTAP newsletter is the "Spotlight". In this, we introduce certain individuals and their public works agency in the local community. This editions "spotlight" is Keary Lord, the Assistant Director for the Douglas County Department of Transportation (DCDOT).

Douglas County used to be a rural county, but it has rapidly turned suburban. Approximately four years ago, the county dissolved their old public works department and used those resources to create a Department of Transportation. Instead of just merely maintaining existing public works infrastructure, they now are focused on the transportation system and the challenges that result from rapid growth.

To accomplish this, they have:

1. Created a "County Safety Action Plan" as a take off from the Georgia Department of Transportation's Safety Action Plan Program (SAP). They refer to this plan whenever they are given opportunities to obtain funding. For example, this plan is currently being referred to while the county considers a new potential special purpose tax and as DCDOT goes for budget requests each year.
2. Began identifying high crash locations and addressing those locations with low cost safety improvements such as:
 - (a) Dual "Stop" Signs
 - (b) Dual "Stop Ahead" Signs
 - (c) Rumble Strips
 - (d) Chevrons on curves
 - (e) "Curve Ahead" signs with advisory speed plates
 - (f) "Hill Blocks View" signs
 - (g) "Intersection Ahead" signs with street name blades



(h) "Cross Traffic Does Not Stop" signs

Douglas County is also measuring curves to determine what their safe speeds should be. Curves are a major concern in Douglas County - many county roads are former wagon trails that were paved. Consequently, the county has many run off the road (ROR) crashes. However, Douglas County has seen a significant reduction in ROR crashes since they have begun highlighting the curves. They have reduced both day and nighttime ROR crashes.

Douglas County is currently performing a curve safety action plan with assistance from GDOT through the SAP program throughout the county at various curve locations to ultimately provide drivers with a clear picture of the sharpness of a curve prior to entry, warn drivers of a potentially hazardous situation, and influence drivers to reduce their speeds prior to entering the curve. The study phase of this project requires the consultant to develop crash reduction factors (CRF) for specific treatments to determine the costs and benefits of potential alternatives. The consultant will also prioritize projects for implementation based on budget and measured CRFs.

While ROR is their major problem, Mr. Lord also said they have implemented numerous safety improvements through GDOT's SAP program and also low cost safety improvements that were presented at the Intersection Safety Workshop and additional safety workshops hosted by LTAP held previously.

These improvements have been made at both signalized and unsignalized intersections.

Mr. Lord said that having CRFs has made it easier for him to get resources for safety. Having CRF data allows him to effectively communicate the benefits of treatments that cost relatively little.

This CRF knowledge allows him to describe proposed projects in safety terms, such as "systematic safety improvements" instead of "signage upgrades". It also allows the County to prioritize safety improvement projects. Describing these upgrade projects in terms of safety causes those projects to get an entirely different look.

Before joining Douglas County, Mr. Lord worked as a traffic engineering consultant where he had a whole set of different duties and was focused more on traffic analysis and traffic engineering design for new construction related projects. □

L T A P

Resources

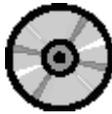
Videos:

- 1) Highway Safety & Trees... The Delicate Balance
- 2) Electrical Safety, Beware the Bite'



DVDs

- 1) "Bucket Trucks, Extending Your Safety"
- 2) "Municipal Stormwater Pollution Prevention, Storm Watch"
- 3) "Good Practices: Incorporating Safety into Resurfacing and Restoration Projects"



Compact Discs:

- 1) "Guidelines for the Selection of W-Beam Barrier Terminals"
- 2) "Pedestrian/Bicycle Safety" Resource Set
- 3) "Highway Safety & Trees... The Delicate Balance"



Publications:

- 1) *Recycling Hot-Mix Asphalt Pavements*
- 2) *NCHRP Synthesis 321, Roadway Safety Tools for Local Agencies*
- 3) *Traffic Signal Preemption for Emergency Vehicles, A Cross-Cutting Study*
- 4) *Signalized Intersections: Informational Guide*
- 5) *Low-Cost Treatment for Horizontal Curve Safety* - Pub. # FHWA-SA-07-002
- 6) *Guidelines for Using Prime and Tack Coats* - Pub. # FHWA-CFL/TD-05-002
- 7) *Context Sensitive Roadway Surfacing Selection Guide* - Pub. # FHWA-CFL/TD-05-004

cont from. page 1

safety? A roundabout is a one-way, circular intersection in which traffic flows around a center island. Roundabouts are designed to meet the needs of all road users—drivers, pedestrians, pedestrians with disabilities, and bicyclists. A roundabout eliminates some of the conflicting traffic, such as left turns, which cause crashes at traditional intersections. Because roundabout traffic enters or exits only through right turns, the occurrence of severe crashes is substantially reduced. Small angle collisions that may occur as a result of a right-hand turn are typically less severe than other types of collisions.

Not all circular intersections are roundabouts. Many existing traffic circles or rotaries operate under different traffic rules and have experienced operational and safety problems.

The three safety design features of a roundabout are yield control of entering traffic; channelized approaches that deflect traffic into the proper one-way, counterclockwise flow; and geometric curvature of the circular road and angles of entry to slow the speed of vehicles. These three features are critical to the success of a roundabout because they effectively decrease driving speed to typically 48 kilometers (30 miles) per hour or less.

Successful Applications: There are increasing numbers of examples of roundabouts demonstrating success in reducing crashes. A 2000 study by the Insurance Institute for Highway Safety and several other organizations evaluated 24 intersections in California, Colorado, Florida, Kansas, Maine, Maryland, South Carolina, and Vermont before and after construction of roundabouts. The study revealed a 39-percent decrease in crashes, a 76-percent decrease in injury crashes, and a 90-percent reduction in crashes involving fatal or incapacitating injuries.

A December 2002 study of 15 single-lane roundabouts in Maryland showed a 60-percent decrease in total crash rates, an 82-percent reduction in injury crash rates, a 100-percent decrease in the fatal crash rate, and a 27-percent reduction in property-damage-only (PDO) crash rates. In addition, a soon-to-be-published study by the National Cooperative Highway Research Program found that the installation of roundabouts led to a 35-percent reduction in total crashes and a 76-percent reduction in crashes causing injuries or fatalities. These are but a few examples of the safety benefits of roundabouts. There also are operational benefits from roundabouts, such as less delay and increased traffic capacity.

GaDOT Resources

Please visit www.dot.state.ga.us/topps/ss/chengr/4a-2.htm for the state DOT's policy on roundabouts

Additional Resources

FHWA has published a comprehensive guide called *Roundabouts: An Informational Guide* (FHWA-RD-00-067). To order a copy of the guide, send a request to report.center@fhwa.dot.gov or visit www.tfhrc.gov/safety/00068.htm. □

LTAPs New “Tailgate” Trainers

The Georgia Department of Transportation has a new program to share with local agencies.

Two new employees have been hired to provide training/technical assistance upon request at your location.

Some of the types of training that can be offered is Pavement Patching, Pavement Evaluation, Workzone Traffic Control, Low Cost Safety Improvements and others.

The new employees are James W. Markham and Wayne Swinford.

James W. Markham is a retired State of Georgia DOT employee. He has worked in Construction and Maintenance throughout his time with the Department and has experience in all aspects of asphalt paving, asphalt plants, pavement evaluation (PACES), signs and many other aspects on public works.

Wayne Swinford is also a retired State of Georgia DOT employee. He has worked in Construction and Maintenance throughout his career with experience in construction, bridge maintenance, permits and concrete construction.

Both these individuals will be available to help local agencies with questions and concerns with public works. They will be an invaluable asset to LTAP.

They have presently participated in several classes this year. They also have helped several agencies with training in pavement patching and pavement evaluation. They will also be available to teach Workzone Traffic Control, Low-Cost Safety Improvements and Intersection Safety upon request.

Be sure to welcome these two new employees to the Local Technical Assistance Program when you see them this year. □

Upcoming Events



The 11th Annual Southeast Local Roads Conference is scheduled for May 13-15 at the Perdido Beach Resort in Orange Beach Alabama.

The registration fee is \$150.00. You can register online at www.engce.auburn.edu/ □

Make plans to attend the 2007 GMA annual convention at the Savannah International Trade and Convention Center, June 23-26. Register online at www.gmanet.com □ □



Make your plans now to attend the 2007 APWA Annual Meeting July 11-15 at the Sea Palms Resort! Register online at www.georgia.apwa.net □

Building Foundations of Highly Effective Teams

By Beverly Fontenot

A workshop, based on Steven Covey's best selling business book, *The 7 Habits of Highly Effective People*, is now being offered. The workshop is designed to provide participants with the skills and training to recognize leadership characteristics, and apply success principles to business. During this two-day workshop you'll learn how to develop stronger, more satisfying relationships based on trust, communicate more effectively with others, become a more influential leader, improve overall workforce productivity and improve working relationships across functions, teams and departments.

Character is a collection of habits, and habits have a powerful role in our lives. The workshop examines 7 powerful, yet simple sets of rules for life. For many people, attending this workshop has increased their productivity and changed their life.

The seven habits consist of:

- **Habit 1: Be Pro-active - Principles of Personal Vision**
- **Habit 2: Begin with the End in Mind - Principles of Personal Leadership**
- **Habit 3: Put First Things First - Principles of Personal Leadership**
- **Habit 4: Think Win/Win - Principles of Interpersonal Leadership**
- **Habit 5: Seek First to Understand, Then to Be Understood - Principles of Empathic Communication**
- **Habit 6: Synergive - Principles of Creative Cooperation**
- **Habit 7: Sharpen the Saw - Principle of Balanced Self-Renewal**

This course has been offered to management in the State Department of Transportation and will be offered in Macon during the month of May this year to local agencies.

Take a look at the Calendar of Events on the next page for the dates of this course and be on the lookout for this course in other locations as well later this year. If interested, contact Beverly Fontenot at 404.463.7886 for more information.

There will be a \$75.00 registration fee for this program. Upon completion of the course, 12 Professional Development Hours (pdh) will be granted. □

**Call LTAP at 1.800.573.6445
for information**

Calendar of Events

Event	Sponsor/Contact	Date	Locations
Traffic Engineering	LTAP/Beverly Fontenot 404.463.7886	May 1-2	Atlanta
Asphalt Maintenance	LTAP/Beverly Fontenot 404.463.7886	May 3	Macon
Chain Saw Safety	LTAP/Dennis S. Rice 404.656.4664	May 7 May 9 May 10	Camden County Thomas County Gwinnett County
“Hands On” Chain Saw Safety	LTAP/Dennis S. Rice 404.656.4664	May 8	Camden County
Southeast Local Roads Conference	LTAP/Dennis S. Rice 404.656.4664	May 13-15	Orange Beach AL
7 Habits	LTAP/Beverly Fontenot	May 15-16 August 14-15 October 16-17	Macon Georgia TBD TBD
Tractor/Mower Operator	LTAP/Beverly Fontenot 404.463.7886	June 12 June 14	Forest Park Macon
GMA Annual Convention	LTAP/Dennis S. Rice 404.656.4664	June 23-26	Savannah
APWA Georgia Chapter Annual Meeting	LTAP/Dennis S. Rice 404.656.4664	July 11-15	Sea Island



FAX Back Sheet

Do you wish to continue receiving Georgia Roads? (Please check the appropriate box)

- Yes!
 Yes, but update my name and address as shown below.
 Yes, and add the following name and address to your mailing list (include a sheet for additional names)
 No. Remove my name and address from your mailing list (provide your name and address below)

Signature: _____

Name: _____

Local Government Name: _____

Address: _____

City, State, Zip: _____

About the content of Georgia Roads. . .

I find the writing to be (check one below):

- too technical
 not technical enough
 at the technical level I want

I rate the appearance to be (check one below):

- visually appealing
 not clear enough
 visually appealing and clearly defined

Rank the following subject areas from 1-6 in order of importance (1 being the most important) to you:

- | | |
|---|---|
| <input type="checkbox"/> research | <input type="checkbox"/> APWA membership news |
| <input type="checkbox"/> technology and engineering | <input type="checkbox"/> maintenance tips |
| <input type="checkbox"/> innovative ideas | <input type="checkbox"/> questions and opinions |

I feel this newsletter (check all that apply):

- keeps readers up-to-date on innovation, technology and maintenance
 provides me with useful information of local interest
 provides me with information useful in my job

What can LTAP do to better meet your needs as a reader? _____

Please Fax completed survey to 404.463.3564



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Georgia Roads

is a technical newsletter about local roads published by the Georgia Department of Transportation Local Technical Assistance Program. It is written for Georgia's municipal and county employees who are responsible for planning and managing rural roads. All of your comments, questions, and suggestions are welcome. Please call us toll free at 1.800.573.6445.