



Are We There Yet?

Fall 2004

Volume 15, Number 3

South Carolina Transportation Technology Transfer Service

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Special Safety Issue

By Sandi Priddy, T³S Program Manager

According to the Google search engine on the Internet, there are 59,800,000 websites referencing the word safety. Evidently there are millions of people that take safety seriously. Are you one of them?

Since one of the primary goals of T³S is to make people more aware of safety, each issue of *Are We There Yet?* contains a "Safety Zone" section. To stress even more our goal of safety awareness, we have dedicated this issue entirely to safety topics.

One of the things you can do in your agency is help to promote "Put the Brakes

on Fatalities Day," referenced in the article on page six. Get involved! You may be the one responsible for saving someone's life simply by organizing an event or contacting your local media to promote the event. Let's make sure that South Carolinians do their part in continuing to reduce the nation's fatality rate by making our roadways safer.

If you apply just one suggestion from one of these articles, you will make the world a safer place. Be the one that makes a difference! ♡

DOT Announces Historic Low Highway Fatality Rate in 2003

The fatality rate on the nation's highways in 2003 was the lowest since record keeping began 29 years ago, the U.S. Transportation Secretary Norman Y. Mineta announced today. The number of crash-related injuries also dropped to a historic low in 2003.

"America's roads and highways are safer than ever," said Secretary Mineta. "The decreasing number of traffic fatalities and record low death rate on our roads show that we are headed down the right road—one that leads to a safer America."

Secretary Mineta pointed to efforts by the U.S. Department of Transportation's National Highway Traffic Safety

Administration (NHTSA) that contributed to the reduction in the fatal accident rate, including campaigns to encourage safety belt use and discourage impaired driving, work with state legislatures to pass tougher safety belt and drunk driving laws, and rulemaking efforts to improve vehicle safety standards.

A total of 42,643 people died, and 2.89 million were injured in 2003. The fatality rate per 100 million vehicle miles traveled (VMT) was 1.48 in 2003, down from 1.51 in 2002. It was the first time the rate has dropped below 1.5. In 2002, 43,005 were killed and 2.93 million were injured.

(cont. on page 3)

The LTAP Center for South Carolina



New Guide to Improve Signalized Intersections

Article reprinted with permission from Department of Transportation—Federal Highway Administration, Research and Technology Reporter, [June, 2004].

In 2002, 21 percent of crashes and 24 percent of all fatalities and injury collisions occurred at signalized intersections. To help prevent these crashes, traffic engineers need to plan and design intersections to meet the needs of various users, including motorists, pedestrians, and bicyclists. They also must take into account geometric and traffic signal design, roadway infrastructure, and project costs. If engineers do not consider all of these factors, the intersections they design may increase traffic congestion and compromise public safety.

Because signalized intersections play an important role in improving traffic movement and safety at intersections, the Federal Highway Administration (FHWA) has produced a comprehensive guide titled Signalized Intersections: Informational Guide (FHWA-HRT-04-091). Developed for traffic engineers and other professionals responsible for planning and designing intersections, the guide provides methods for evaluating the safety and operation of signalized intersections and tools to remedy deficiencies. The guide will help practitioners make insightful assessments of intersections and understand the tradeoffs involved in potential improvement measures.

The guide takes a holistic approach to addressing signalized intersections and considers both the overall safety of the intersection and the operational implications of particular treatments for all system users, including motorists, pedestrians, bicyclists, and transit riders. The publication includes examples of novel treatments and best practices used by jurisdictions across the United States. These treatments include low-cost measures, such as improvements to signal timing and signs, and high-cost steps, such as intersection reconstruction or grade separation. Although some treatments apply only to high-volume intersections, most information in the guide applies to signalized intersections of all volume levels.

The guide is organized into three sections—fundamentals, project process and analysis methods, and

treatments. The first section introduces the fundamentals of intersection design, including road-user needs, geometric design, traffic design, and illumination. The second section describes processes for designing or redesigning an intersection and methods for analyzing the safety and operation of an intersection. The final section covers five types of treatments for signalized intersections, including systemwide treatments—which apply to all roadway segments influenced by a particular signalized intersection—and individual movement treatments that affect only those vehicles traveling through or turning at a signalized intersection. The final section also includes a chapter on alternative or non-conventional intersection treatments.

Since the guide is intended to serve as an informational reference rather than as a standard or policy, traffic engineers and others may use the publication as a complement to other traditional resources, such as the Manual on Uniform Traffic Control Devices, the Highway Capacity Manual, and the American Association of State Highway and Transportation Officials' A Policy on Geometric Design of Highways and Streets. FHWA will make the informational guide available in fall 2004. To obtain a copy, visit www.tfhrc.gov/safety/intersect.htm, send a message to report.center@fhwa.dot.gov, send a fax to 301-577-1421, or call 301-577-0818. FHWA also has published a TechBrief that describes the guide in more detail. The Agency will distribute the TechBrief to all division offices and the Resource Center offices. ♣

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100th Anniversary of the New York Subway

The first subway train in New York City rolled out on October 27, 1904, with Mayor George McClellan at the controls, stopping at 28 stations along 9.1 miles of underground track in Manhattan. The Interborough Rapid Transit system soon added extensions to the Bronx, Brooklyn, and Queens. In 1915, the Brooklyn Transit Co. opened a subway between Brooklyn and Manhattan and, in 1932, the Independent city-owned Rapid Transit Railroad launched the Eighth Avenue Line. Today, the three systems operate under the Metropolitan Transit Authority. They cover four boroughs, 722 miles, 26 lines, and 468 stations - - and carry 4.5 million people a day. The longest subway line, the Eighth Ave. Express, extends 32 miles; the deepest station is 180 feet below ground in Queens; and the highest is 88 feet above street level in Brooklyn. ♣



(cont. from page 1)

“We at NHTSA are proud of the progress we’ve made and the success of the priorities we’ve established during this Administration,” said NHTSA administrator Jeffrey Runge, M.D. “But much of the credit goes to the committed professionals in the states and communities who implement the programs, and to safety professionals in the automotive industry who offer safer vehicles.”

Alcohol-related fatalities also dropped significantly in 2003, the first such decline since 1999, as more states adopted laws that allowed them to prosecute drivers at .08 blood alcohol content (BAC) and above. 2004 marks the first year that all 50 states, the District of Columbia and Puerto Rico were able to prosecute drivers at .08 BAC.

In 2003, VMT increased to 2.88 trillion, up from 2.86 trillion in 2002, according to the DOT’s Federal Highway Administration.

NHTSA’s Fatality Analysis Reporting System (FARS) also shows that between 2002 and 2003:

- ▶ Motorcyclist fatalities increased from 3,270 to 3,661, a 12 percent rise.
- ▶ Rollover deaths among passenger vehicle occupants declined 3.3 percent from 10,729 to 10,376. Sport utility vehicle (SUV) rollover fatalities increased 6.8 percent from 2,471 to 2,639, even as SUV registrations increased 11 percent. Rollovers declined in passenger cars (7.5 percent; 4,794 to 4,433) and pickup trucks (6.8 percent; 2,755 to 2,569).
- ▶ Twenty-seven states had decreases in the total number of fatalities. The highest percentage decreases were in Colorado (-15 percent); Vermont (-12 percent); Connecticut (-10 percent); Ohio (-10 percent); Oklahoma (-10 percent); and West Virginia (-10 percent). The highest percentage increases were in the District of Columbia (+43 percent); Rhode Island (+24 percent) and Oregon (+17 percent).
- ▶ Passenger vehicle occupant fatalities dropped to 31,904—the largest decrease since 1992. Declining fatalities in passenger cars are consistent with increases in safety belt use and more crashworthy vehicles.
- ▶ Pedestrian deaths declined 2.1 percent from 4,851 in 2002 to 4,749.
- ▶ Passenger vehicle fatality rates per 100,000 registered vehicles declined for all passenger vehicle types except vans.
- ▶ Fatalities in large truck crashes increased slightly from 4,939 to 4,986.
- ▶ In 2003, there was a decline in the number of unbelted fatalities, reflecting an increase in safety belt use. Still, 56 percent of those killed in passenger vehicles were not wearing safety belts. This underscores the need for states to adopt primary safety belt laws. NHTSA earlier estimated that highway crashes cost society \$230.6 billion a year, about \$820 per person.

NHTSA annually collects crash statistics from 50 states and the District of Columbia to produce the annual report on traffic fatality trends. Summaries of the 2003 report are available on the NHTSA web site at: www-nrd.nhtsa.dot.gov/pdf/nrd-30/NCSA/PPT/2003AARRelease.pdf. ♣

Where the @?*!! Did They Come From?

A Simple Way to Prevent Blindzone Accidents

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Most of us learned about blindzones in a driver education class, and to look over our shoulders before changing lanes. Your first real encounter with a blindzone was probably when you tried to change lanes and got a horn blast in your ear. The adrenaline instantly kicked in as you reversed your maneuver. Your heart jumped to your throat, and you suddenly felt hot as you realized you had just made a dangerous mistake. You asked yourself, “What happened? Why didn’t I see that car? Did I forget to look?”

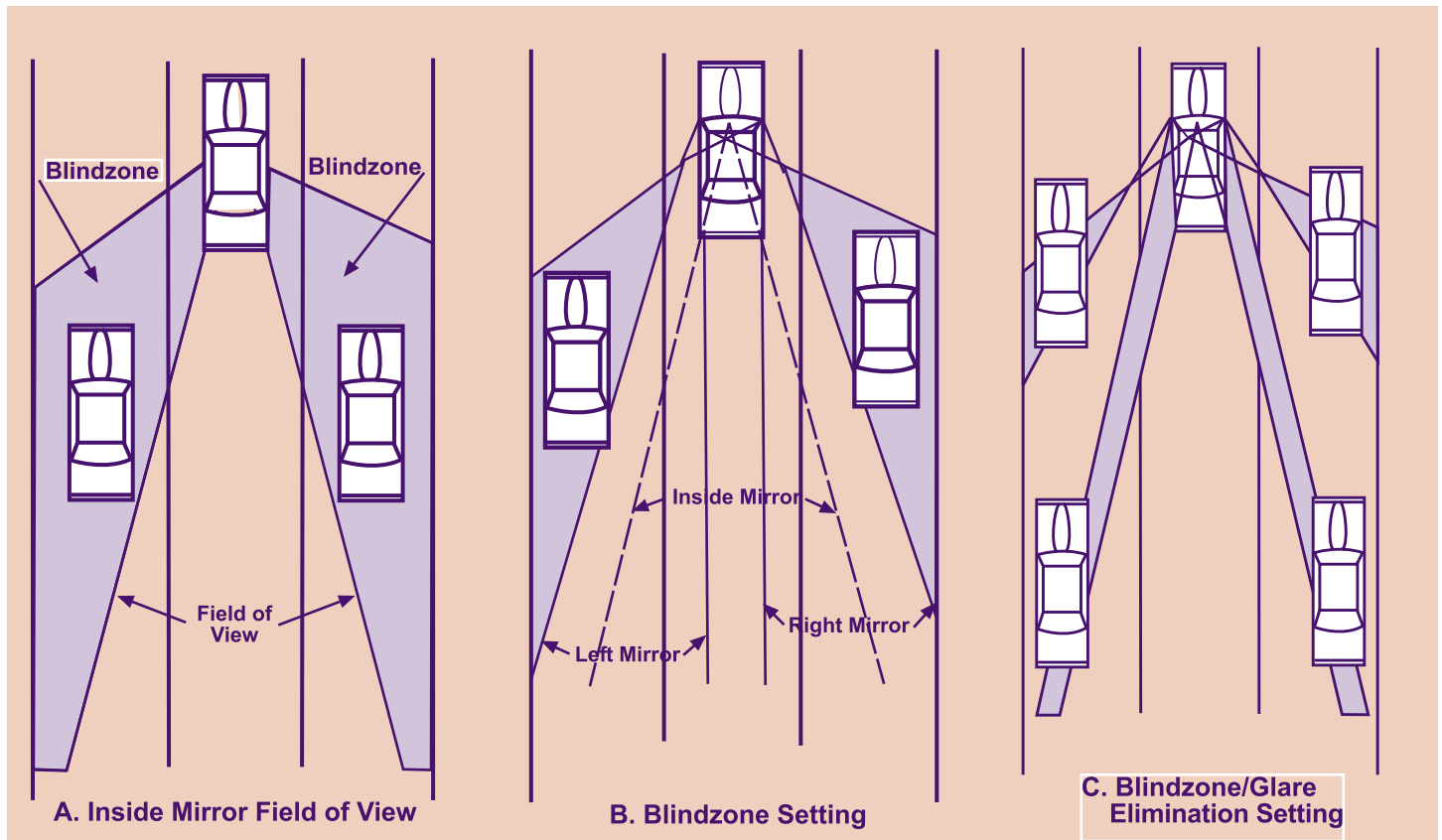
Lots of people make that mistake every year, and sometimes it results in more than just a horn blast. The National Highway Traffic Safety Administration (NHTSA) has studied a category of accidents they call Lane Change/Merge (LCM) crashes. They estimate there are 630,000 LCM crashes with 225 fatalities annually. A NHTSA study found that about 60 percent of drivers involved in LCM crashes did not see the other vehicle, and about 30 percent of drivers misjudged the position or speed of the other vehicle.

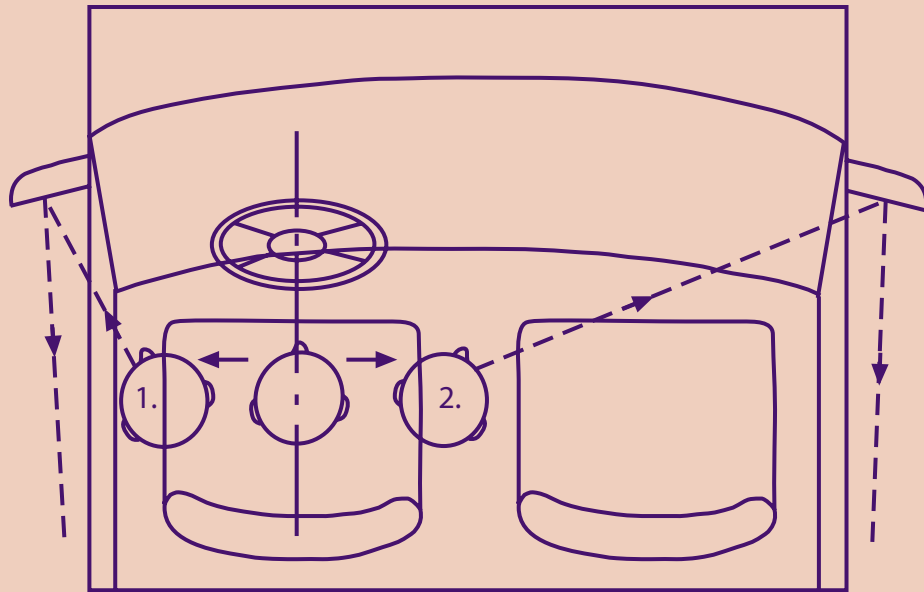
All LCM crashes cannot be blamed on the blindzones, but blindzones are extremely important. They are not well

understood by the average driver, yet they are involved in every LCM maneuver.

To understand why the blindzones are important, let’s see how they are created. Most passenger cars are equipped with one inside mirror and two outside mirrors. The inside mirror provides the driver with the widest field of view and by far the most information about traffic to the rear. For this reason, drivers should consider the inside mirror their primary mirror. Drawing A is a scale drawing showing the inside mirror’s field of view when it is centered on the road. The shaded regions are blindzones in which a vehicle cannot be seen in either the inside mirror or the driver’s peripheral vision. To change lanes, you must turn and look into the blindzones to see if a vehicle is there.

Drawing B adds to Drawing A the fields of view of the two outside mirrors. These outside mirrors have been set so that the sides of the car are just visible. The field of view of an outside mirror is about half that of the inside mirror. Note that the outside mirrors have reduced the size of the blindzones, but have added relatively little to the field of view seen in the inside mirror. Blindzones capable of hiding a vehicle still exist. With this setting of the outside mirrors, it is still necessary to turn and look into the blindzones when changing lanes. This setting is called the “Blindzone Setting”.





D. Setting the Mirrors

These two simple steps will eliminate blindzones:

1. Sit in the driver's seat and rest your head against the driver's side window; adjust the mirror until you can barely see the left side of your vehicle.
2. Sit in the center of the front seat directly behind the rearview mirror mount and adjust the mirror until you can barely see the right side of the vehicle.

Drawing C shows how easily the blindzones can be eliminated. The two outside mirrors are simply rotated outward to look into the Drawing B blindzones instead of looking along the sides of the car. There are now four mini blindzones, but none is large enough to hide a vehicle. With this new setting, it is no longer necessary to turn and look into the blindzones. All that is required is a glance at the outside mirror to see if a car is there.

The new mirror setting has five major advantages.

First, turning to look into the blindzones, which can be uncomfortable and annoying, is no longer necessary.

Second, only a brief glance at the mirror is required to view the blindzone, as opposed to the longer time required when turning your head. At highway speeds, turning takes your eyes off the road for about 100 feet.

Third, glancing at the mirror leaves the forward scene in your peripheral view, while turning your head completely eliminates the forward view.

Fourth, the blindzones can be easily included in your visual scanning.

Fifth, at night, glare from the outside mirrors is virtually eliminated. The reason for this is that a following car's headlamps are not visible until the car moves into the blindzone, and at that point, the high intensity portion of the headlamp's beam does not hit the mirror.

This setting of the mirrors is called the "Blindzone/Glare Elimination Setting", or "BGE Setting".

The BGE Setting requires turning the field of view of each outside mirror outward by about 15 degrees from the

Blindzone Setting. For the driver's side mirror, this can be done by placing your head against the side window as shown in Drawing D and then setting the mirror to just see the side of the car. Do the same with the passenger's side mirror, but position your head at the middle of the car. You should next check to see that the blindzones are truly eliminated. From the normal driving position, watch a car as it passes you. It should appear in the outside mirror before it leaves the inside mirror, and it should appear in your peripheral vision before leaving the outside mirror. This is your proof that the blindzones have been eliminated and that your mirrors are correctly set.

When changing lanes with the BGE Setting, you must first look in the inside mirror for vehicles approaching from the rear, then glance at the outside mirror to see if a vehicle is in the blindzone. A good rule to follow when changing lanes is that if you can see the entire front of a vehicle in the inside mirror, and that vehicle is not gaining on you, it is safe to change lanes provided there is no vehicle in the blindzone. This is similar to the rule used when passing, which says, wait until you see the front of the car you just passed before changing lanes.

The Blindzone Setting and BGE Setting are both useful. For most driving situations the BGE Setting is best. Occasionally, the Blindzone Setting is required. This will be true when the rear window is blocked by cargo, or if you are in heavy stop and go traffic and a car on your bumper blocks your rear view to adjacent lanes.

When driving with the BGE Setting, most drivers initially feel a sense of confusion with the outside mirrors. You are not sure where they are pointed; you miss not seeing the

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Put the Brakes on Fatalities Day®

October 10, 2004

Put the Brakes on Fatalities Day® founded by the National Society of Professional Engineers
1420 King Street, Alexandria, VA 22314
www.nspe.org

What is a life worth?

Every twelve minutes a person dies on our roads; 42,815 people died in 2002. Our goal is to reduce the death toll on our roadways.

You Can “Put the Brakes on Fatalities!”

The emphasis this year is “Slow Down, Buckle Up, & Drive Sober”

There are three primary components to highway safety:

1. Driver behavior, (see list below).
2. Vehicle equipment, design and maintenance.
3. Roadway design, signage and road improvements.

Reducing our nation’s unacceptable highway death toll will require continued improvements to all three areas.

Your support and participation in this program on October 10th, and throughout the year, will help SAVE LIVES.

Safe Driving Behaviors

- ▶ Be Physically Sound & Mentally Sharp.
- ▶ Always Buckle Up.
- ▶ Pay Complete Attention on Driving.
- ▶ Follow Posted Signs & Striping.
- ▶ Maintain Safe Speed for Conditions.
- ▶ Maintain Safe Following Distance.
- ▶ Maintain Clear Sight Picture.
- ▶ Be a Courteous and Conscientious Driver.

Be a Defensive Driver

“Drive as if Your Life Depends on It”

Did you know 116 of our fellow citizens, almost all of whom are someone’s friend, family and most beloved become a statistic each day? They are dying in tragic, and what are most often preventable crashes on our nation’s roadways.

Put the Brakes on Fatalities Day® was initiated by the National Society of Professional Engineers and joined by many partners who are working to lower this statistic. Our efforts to reduce fatalities address the need for improvements to our roadways, our vehicles and basic driver behavior. You too can become involved to promote the reduction of fatalities by utilizing information at www.brakesonfatalities.org/. Please mark October 10, 2004 on your calendar “Put the

Brakes on Fatalities Day®.” Tell your co-workers, family members and friends to do the same.

We hope you will join us in making a special commitment to reducing fatalities and become involved by changing your driving habits and encouraging others to do the same. We must change our driving habits as evidenced by statistics that say in 2003, a total of 42,643 lost their lives in traffic fatalities.

You can participate!

Reducing fatalities requires everyone’s participation. Please visit www.brakesonfatalities.org/ to create a program in your state or organization and become involved. With your involvement, we can make a difference by reducing fatalities on American roadways. Please share what your organization is planning for 2004

by sending an article for our listing of state activities

to pbfd@nspe.org.

Good luck and please keep us informed of your success!



FHWA Offers Pedestrian Safety Guidelines for Intersections

Article reprinted with permission from Department of Transportation—Federal Highway Administration, *Research and Technology Reporter*, [June, 2004].

Of the 4,808 pedestrians killed in 2002 in roadway-related crashes, more than 1,000 died as a result of crashes at intersections. A variety of conditions at intersections can create hazards for pedestrians. The timing of signals may be too brief to permit safe crossings for children, the elderly, and the disabled. Reconstruction projects—including widening streets and adding lanes—improve vehicular efficiency but also can reduce pedestrian safety by increasing the distance that people must walk to cross an intersection. Inadequate lighting, a common problem at rural and suburban intersections, can make it difficult for motorists to see pedestrians. Crash data show that vehicular collisions with pedestrians occur more often with turning vehicles than with straight-through traffic, and left-turning vehicles are involved more often than right-turning traffic.

To improve safety, the Federal Highway Administration's (FHWA) Office of Safety created a comprehensive public awareness campaign targeting both motorists and pedestrians. FHWA designed the campaign to educate pedestrians on how to minimize safety risks and to remind drivers that pedestrians—who also are legitimate road users—should be expected on or near most roadways. The campaign includes a planning guide, a video, public service announcements, posters, brochures, and news releases that States and communities can customize for their use.

More than 150 communities have obtained the campaign planning guide and materials. In addition, FHWA is conducting a study to evaluate the effectiveness of the materials in campaigns underway in Oceanside, CA; Washington, DC; and Missoula, MT. The agency expects the results of the study to be available in October 2004. Campaign information and materials are available at safety.fhwa.dot.gov/pedcampaign/index.htm.

Reducing the number and severity of pedestrian collisions requires coordination among public authorities, law enforcement personnel, and transportation engineers. FHWA offers the following guidelines to State and local highway agencies for improving pedestrian safety at intersections:

- ▶ Increase visibility. Half of all pedestrian fatalities occur between 6 p.m. and midnight. Add or improve roadway lighting and encourage pedestrians to wear reflective clothing.
- ▶ Adjust signals. Consider adding a pedestrian-only phase in the traffic signal cycle. Ensure that the pedestrian signal is visible and that any pushbuttons used by pedestrians to activate the signal are accessible. When appropriate, supplement signals

with audible messages for visually impaired persons.

- ▶ Reduce traffic hazards. Restripe crosswalks and stop lines to make them more visible, and provide additional signs where necessary. In addition, use different pavement coloring to delineate pedestrian areas. Install barriers such as fences or shrubs to discourage pedestrians from crossing at unsafe locations, and provide refuge islands on medians so that they can cross one direction of traffic at a time.
- ▶ Improve crosswalks. Embed flashing lights in the pavement and install flashing "Pedestrian Crossing" signs that alert oncoming traffic to pedestrians in the crosswalk.
- ▶ Enforce laws. Focus on reducing speeding through intersections, and enforce motorist compliance with pedestrian safety laws and pedestrian compliance with signals and appropriate crossing locations. ▼

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sides of the car; and you do not know how to interpret what you see. Don't give up. The confusion will go away, especially if you do a few simple things.

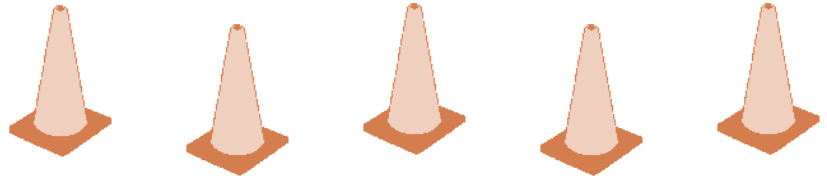
First, understand that the inside mirror is truly your primary mirror. **THE INSIDE MIRROR SHOWS YOU EVERYTHING EXCEPT THE BLIND ZONES.** Study Drawing C, and accept this fact.

Second, do not look at the outside mirrors except to see if a vehicle is in the blind zone. **THE OUTSIDE MIRRORS SHOW YOU ONLY THE BLIND ZONES.**

Third, if you are in doubt about the position of the driver's side mirror, move your head to the side window and check to see that the side of the car is just visible. For the passenger's side mirror, move your head to the middle. ▼

*It will take time to overcome your previous habits and accept the new way, but it will happen. Perseverance will reward you with a new dimension in driving which will enhance your safety and comfort. **George Platzer***

Safety Zone



Rumble Strips Down Centerlines of Two-Lane Roads Reduce Head-On and Sideswipe Crashes

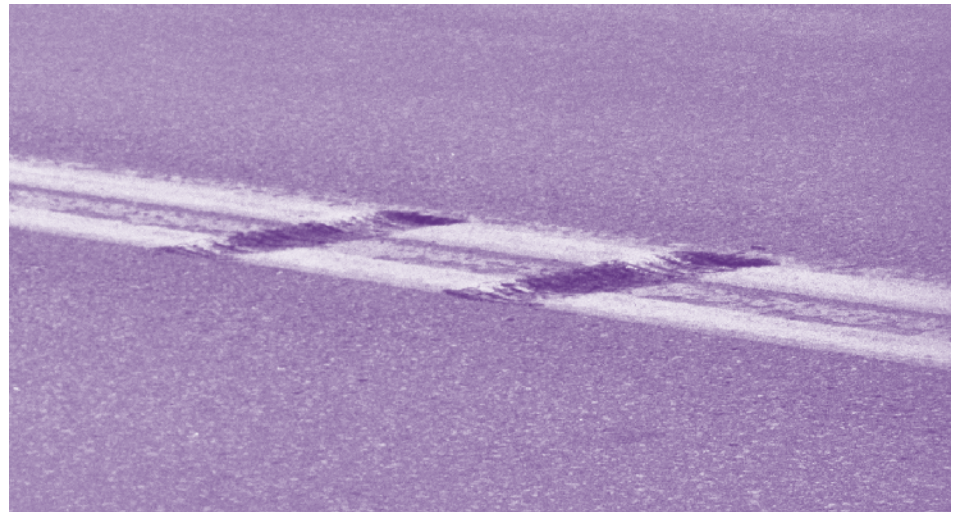
From Insurance Institute for Highway Safety

Rumble strips down centerlines of two-lane roads reduce head-on and sideswipe crashes. Rumble strips have been widely used along the sides of highways to help prevent drivers from drifting off the road. A new Insurance Institute for Highway Safety study finds that installing the same strips along the centerlines of undivided, rural two-lane roads can reduce head-on and opposing-direction sideswipes by about 20 percent.

A disproportionate number of fatal crashes occur on rural roads, and most such crashes occur on two-lane roads. A major problem on these roads involves vehicles crossing the centerlines and striking opposing traffic. Crashes like these account for about 20 percent of all fatal crashes on rural two-lane roads. Approximately 4,500 deaths occur annually in such collisions.

For the new study, researchers examined crash data for more than 200 miles of two-lane roads in seven states where experimental rumble strips were installed along the centerlines. The strips, like those used for years along roadway shoulders, consist of either raised or grooved patterns installed perpendicular to the direction of travel. The strips produce audible and tactile warnings when drivers stray from travel lanes.

Crashes at sites treated with centerline rumble strips were



reduced by an estimated 14 percent overall, the researchers found. Injury crashes were reduced by about 15 percent. Head-on and opposing direction sideswipe crashes, the main targets of this preventive measure, decreased by an estimated 21 percent, and injury crashes of the same type decreased by about 25 percent.

“Until now there have been only limited studies of the use of rumble strips on centerlines,” says Richard Retting, Institute senior transportation engineer and an author of the new study. “State officials have attempted to evaluate their effects. A number of small before-and-after comparisons have shown reductions in crash rates, but this new study is the first largescale scientific investigation of the effects of centerline rumble strips. The results should encourage highway departments to use this approach more widely on rural two-lane roads.”

Researchers analyzed crash data for periods before and after the installation of centerline rumble strips in California, Colorado, Delaware, Maryland, Minnesota, Oregon, and Washington. In addition to collecting data along 210 miles of treated sites in these states, the researchers included several hundred miles of comparison sites that hadn't been treated to control for overall crash trends.

Rumble strips represent a relatively low-cost but highly effective way of reducing crashes caused by vehicles crossing centerlines, Retting concludes. ▾

For a copy of “Crash reduction following installation of centerline rumble strips on rural two-lane roads” by B.N. Persaud et al., write: Publications, Insurance Institute for Highway Safety, 1005 North Glebe Road, Arlington, VA 22201, or email publications@ihs.org.

Rollover Can Be Reduced with Safe Driving

More than a third of vehicle occupant deaths are due to single-vehicle rollovers, according to a recent study by the Insurance Institute for Highway Safety.

The popularity of sport utility vehicles plays a role. Because they are designed for off-road driving, they have a higher center of gravity. Drivers can lose control more easily when they make a sudden turn. They are also a little top heavy. But when it comes to safety, the largest factor is the person sitting behind the wheel.

These are some of the factors that cause drivers to lose control of an SUV:

1. Speeding. Observe the speed limit and slow down when the weather is bad or the road is crowded.
2. Overreacting. Sudden turns are often caused by drivers who are not paying attention. They fail to use directional signals and fail to see someone in their blind spot. They yank the steering wheel, overcorrect, and lose control.
3. Taking curves faster than the posted speed limit, not allowing for weather conditions.
4. Continuing to drive when the driver is sleepy, overtired, or exhausted. Such drivers fail to see trouble coming or may drive onto the shoulder, then overcorrect causing them to lose control.



Surviving a rollover

Ejection is the main cause of death in a rollover. A person wearing a seat belt is 50 percent more likely to survive such a crash.

If you are wearing a seat belt, you may find yourself hanging upside down inside the car. Stop to think before you do anything. Put your arm out to catch yourself before releasing the belt so you don't fall.

Always free yourself before undoing a child's safety seat. Be prepared to catch the child. ♡



Ten Tips for Driving Safely in Work Zones

1. Expect the unexpected.
2. Slow down.
3. Don't tailgate.
4. Keep a safe distance between you and the car ahead of you.
5. Pay attention to the signs.
6. Obey road crew flaggers.
7. Stay alert and minimize distractions.
8. Keep up with traffic flow.
9. Schedule enough time to drive safely and check radio, TV and Web sites for traffic information.
10. Be patient and stay calm. ♡

Red-Light Cameras and You?

Written by Kari Seppanen. Reprinted with permission of Minnesota LTAP, University of Minnesota.

In a rush? Tempted to beat the light, even when you know it will turn red before you enter the intersection? You may be forced to think again once you receive your first traffic ticket in the mail days later. Red-light cameras: innovative solution to the high number of red-light-running (RLR) crashes, injuries, and deaths in the United States, or invasion of privacy? As more states begin adopting automated RLR programs, debate is growing over this new form of traffic enforcement. Critics' major concern is that red-light cameras violate legal rights, including due process and equal protection, the right to present a defense, and the right to privacy.

Red-light cameras are posted in public places, where we cannot reasonably expect our actions to be private, but some systems take pictures of not only license plates, but also of the driver's face. Could this be considered a violation of privacy? Some privacy advocates caution that these systems could be the foundation for a surveillance society. Former U.S. Rep. Bob Barr declared in 2001, "At traffic intersections in cities large and small, Americans are being watched, their movements recorded, their persons and surroundings photographed, and their actions documented by the government." In addition, some private companies, such as Lockheed Martin, help police run the systems. Critics say that private companies should not have access to this personal information.

And what about a citizen's right to due process? In North Carolina, tickets from automated camera systems cannot be appealed in court, though this is not true in all states. As a Greensboro, N.C. lawyer stated, "There is the presumption that the owner of the vehicle is guilty if his or

her car is photographed by a red-light camera. A financial penalty is imposed based on an absolute presumption of guilt without any judicial review." Also, most states using RLR programs fine the owner of the vehicle, regardless of whether or not he/she was the person driving the car at the time of the violation. A Minnesota woman voiced her concern to the Star Tribune: "If I loaned my car to one of my teenagers, I would be responsible."

Former House Majority Leader Dick Armey has been a longtime critic of red-light cameras because of the potential for misuse. In 2001, Armey said that city officials in San Diego were using red-light cameras to generate revenue from fines rather than to focus on safer intersections. He asserted that cameras were installed at high-volume intersections where yellow lights were shorter than usual, which would create more tickets. This problem is worsened by the fact that contractors are usually paid per ticket issued rather than a flat rate or for actual reductions in accidents.

Still, supporters stress the benefits of red-light cameras. They've been shown to reduce red-light violations and related crashes. Studies in Oxnard, California and Fairfax, Virginia have shown a reduction in traffic light violations of about 40 percent after introducing red-light cameras. Also, these cameras are set to photograph only vehicles that enter an intersection after the light has turned red, so drivers who do not violate the law have nothing to fear. An additional benefit is that red-light cameras increase the safety of law-enforcement officers, who traditionally would have to follow a violator through a red light in order to write a citation.

In order to maximize these benefits, there is a need to find a balance between differing viewpoints. In general, the use of red-light cameras

will continue to be upheld as long as (1) they are posted openly with warning signs, (2) constitutional rights are protected by allowing for judicial review, and (3) steps are taken to guard against misuse (i.e., the organizations responsible for placing cameras and setting cycle times should not have financial interest in generating more tickets).

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Publications

- A Guide for Reducing Collisions at Signalized Intersections—TRB, Available on line at www.trb.org/publications/nchrp/nchrp_rpt_500v12.pdf*
- A Guide for Reducing Collisions Involving Pedestrians—TRB, Available online at gulliver.trb.org/publications/nchrp/nchrp_rpt_500v10.pdf*
- A Guide for Reducing Collisions Involving Utility Poles—TRB, Available online at gulliver.trb.org/publications/nchrp/nchrp_rpt_500v8.pdf*
- A Guide for Increasing Seatbelt Use—TRB. Available online at www.trb.org/publications/nchrp/nchrp_rpt_500v11.pdf*
- A Guide for Reducing Collisions Involving Heavy Trucks—TRB, Available online at www.trb.org/publications/nchrp/nchrp_rpt_500v13.pdf*
- A Guide for Reducing Collisions on Horizontal Curves—TRB, Available on line at www.trb.org/publications/nchrp/nchrp_rpt_500v7.pdf*

Videos

- Job Site Safety Series: Developing Job Site Traffic Control Plans (21 Min)—FHWA. Focuses on the pre-planning period and the questions that need to be considered. Discusses the design process and a nine-step process leading to the selection of an appropriate work zone traffic control strategy.*
- Job Site Safety Series: Installation, Inspection, and Maintenance of Work Site Traffic Control Devices (24 Min)—FHWA, Describes the guidelines used for the placement of traffic control devices and also considers different driver perspectives when locating these devices. Describes the typical installation, inspection, and maintenance of traffic control devices.*
- Job Site Safety Series: Work Zone Safety Concepts, (25 Min)—FHWA. Covers basic principles of work zone safety. Identifies a typical traffic control zone: advance warning area, the transition area, buffer space, work area, and terminator area. Also covers planning for traffic control, the function of traffic control devices, and typical applications.*
- Making Safer Roads (12 Min)—FHWA. Reducing the severity of common road accidents through identifying what aspects can be deadly and fixing them.*

The videos listed above contain good information relating to work zone safety. However, these videos pre-date the current Manual on Uniform Traffic Control Devices (MUTCD). Always check with the most recent edition of the MUTCD to verify that you comply with all of its requirements.

Other

SPEED BUMP

Dave Coverly



Are We There Yet? is published by the South Carolina Transportation Technology Transfer Service (T³S) for the benefit of county and municipal government agency personnel in South Carolina. T³S, administered by the Clemson University Civil Engineering Department, is the Local Technical Assistance Program (LTAP) center for SC. T³S is part of a nation-wide network of LTAP centers established by the Federal Highway Administration (FHWA) in cooperation with state transportation agencies. T³S is jointly funded by FHWA and the South Carolina Department of Transportation (SCDOT). The views, opinions, and recommendations contained in the newsletter do not necessarily reflect the views of the FHWA or the SCDOT.

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