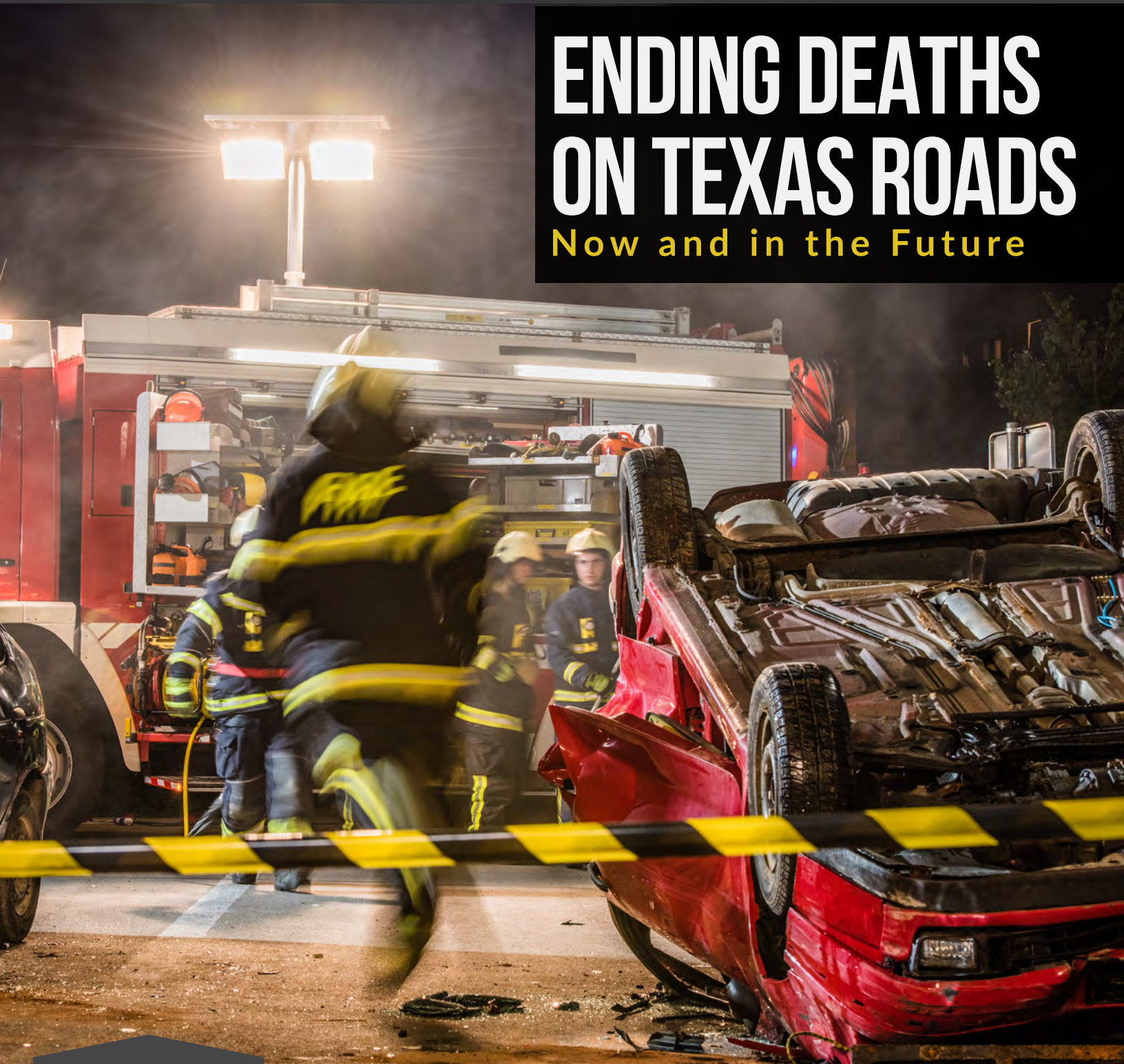


BETTER ROADS SAFER ROADS

ENDING DEATHS
ON TEXAS ROADS
Now and in the Future



BETTER ROADS SAFER ROADS

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- TxLTAP -

03

HUMAN FACTORS GUIDELINES FOR TRANSPORTATION MANAGEMENT CENTERS

Transportation management centers (TMCs) traditionally have served as the real-time interface between motorists and transportation agencies.

04

OLDER DRIVERS AND THE RURAL ENVIRONMENT

Meeting the transportation needs of older adults in rural areas is a multifaceted challenge-growing population numbers, geography, and infrastructure are all to be considered.

05

HOW WALKABLE IS YOUR COMMUNITY

Walkability Checklist

09

TXDOT EMBRACES GOAL TO END DEATHS ON TEXAS ROADS BY 2050

How many deaths are acceptable each year on Texas roads? That's a question TxDOT is addressing through a new ambitious goal.

10

TRAINING TIPS TO AVOID RUNOVER AND BACKOVER COLLISIONS

How can you avoid a collision in your work area?

11

ZERO DEATHS DIRECTIVE APPLAUDED BY EXPERTS AT 2019 TEXAS TRAFFIC SAFETY CONFERENCE

On May 30, in a bold move to end traffic deaths, the Texas Transportation Commission directed the Texas Department of Transportation (TxDOT) to cut traffic fatalities in half by 2035 and end them entirely by 2050.

12

AAA: VEHICLE ESCAPE TOOLS ARE A LIFESAVER – IN THE RIGHT SITUATION

New research from AAA reveals that most vehicle escape tools, intended to quickly aid passengers trapped in a car following a crash, will break tempered side windows, but none were able to penetrate laminated glass.

14

ROADRESOURCE.ORG, INDUSTRY-LEADING SITE FOR PAVEMENT PRESERVATION, RECYCLING, AND NETWORK MANAGEMENT NOW AVAILABLE

While the demand for cost-effective network management solutions rises, many roadway managers still struggle to find the tools and nuanced expertise needed to successfully apply budgets toward the “right treatment, on the right road, at the right time.”

16

FLEXIBLE FINANCING FOR SMALL COMMUNITIES

Decreasing resources and increasing demands require Federal and State transportation agencies to explore innovative financing tools for infrastructure projects.

18

BRINGING ATTENTION TO THE RURAL ROADWAY DEPARTURE CHALLENGE

The Every Day Counts round 5 (EDC-5) Focus on Reducing Rural Roadway Departures (FoRRRwd) team at the Federal Highway Administration has been working to spread the word about the new effort to reduce rural roadway departure crashes, which account for approximately one-third of roadway fatalities across the Nation.

19

TXLTAP EVENT & WORKSHOP SCHEDULE

Register for free TxLTAP workshops and events occurring in 2019.

The Local Technical Assistance Program (LTAP) is a nationwide effort financed by the Federal Highway Administration and individual state departments of transportation. Its purpose is to translate into understandable terms the best available technology for roadways, bridges, bicycle and pedestrian facilities, and public transportation for city and county roadway and transportation personnel. The TxLTAP, operated by the University of Texas at Arlington, is sponsored by the Texas Department of Transportation (TxDOT) and the Federal Highway Administration. This newsletter is designed to keep you informed about new publications, techniques, and training opportunities that may be helpful to you and your community.



HUMAN FACTORS GUIDELINES FOR TRANSPORTATION MANAGEMENT CENTERS

Transportation management centers (TMCs) traditionally have served as the real-time interface between motorists and transportation agencies. Rapid changes in TMCs demonstrate the need for guidance that is current, clear, practical, relevant, and easy to use. Human factors guidelines tailored to TMCs are necessary to help TMC staff appropriately consider human factors, develop accurate internal guidelines, avoid false assumptions regarding operators/drivers, and correctly apply human factors guidelines from other domains. This report presents a set of human factors guidelines to be used by organizations interested in developing, evaluating, or modifying their TMCs.

This report is divided into five chapters. The first chapter describes an operator's strengths, limitations, and biases when interfacing with technology. Chapter 2 describes how operators interact with automated systems. Chapter 3 provides an overview

of TMC infrastructure, physical layout, and organizational structure and workflow, and discusses how the locations of TMC elements (onsite or offsite) affect performance. Chapter 4 describes the systems and tools used within a TMC. Chapter 5 includes information about communications with the public, colleagues, and other agencies, and addresses content and delivery mechanisms for messages along with recommendations for facilitating communication across organizations.

This report is geared toward practitioners and organizations interested in developing, evaluating, or modifying their TMCs. The document is available to download at www.fhwa.dot.gov/publications/research/safety/16060/index.cfm.



OLDER DRIVERS AND THE RURAL ENVIRONMENT

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Meeting the transportation needs of older adults in rural areas is a multifaceted challenge—growing population numbers, geography, and infrastructure are all to be considered. As the United States is projected to experience a doubling in the over 65 population in the next few decades, equitable access to transportation services is a necessity that must be addressed. With this in mind, a mix of technological and structural solutions can be applied to address service gaps and secure the transportation needs of older adults.

Rural areas present the biggest challenge to the mobility of older adults due to characteristics such as long travel distances or travel through complex geography to access basic services. Supermarkets, banks, and other vital services are frequently not in close proximity; most importantly, health services like hospitals can be difficult to get to without the help of family members. These factors lead some older adults to delay medical appointments and preventive care. Access to hospitals is on average nine miles farther for people living in rural areas vs. urban ones. Consequently, rural older drivers generally have a greater crash risk due to more vehicle miles traveled. We also know that emergency medical services have longer travel times to patients and service providers, and thus increased roadway safety vulnerability.

As a result of rural geography, infrastructure needs are also vastly different. Transit options found in urban areas generally do not exist in rural locations, limiting the options older adults have in leaving their homes. Furthermore, rural areas also have smaller tax bases with which to fund services, making public transit services harder to come by. Private transportation providers in rural areas also face difficulties in delivering cost effective accessible transportation options due to limited funding, limited trip purposes, and the high cost of long distance transportation. As a result, older rural populations have an overreliance on cars, with one study finding that 34% of older drivers would not make

their typical trips if they lost access to their vehicles. A further 70% said they would need to rely more on friends and family to make necessary trips if they lost their vehicle; unfortunately, in many rural areas friends and family lived further away making this option difficult for many.

Reality for many older adults is that they must give up driving. Driving cessation can have a huge cost on quality of life and personal health. In rural areas, losing access to your car can increase your social isolation, reducing your participation in social activities. Driving cessation has also been shown to increase depressive symptoms, and a reduction in visits to the hospital. There is a profound health impact that could be an unintended consequence of isolation.

As a result of these geographic and structural issues facing older rural drivers, innovative solutions are required. New technologies, while perhaps not created with the targeted needs of older drivers in mind, can undoubtedly be adapted to help serve this vulnerable population. Technologies such as ride-sharing apps - when expanded to rural areas - can provide seniors with additional, cost-efficient options to make important trips. Automated vehicles have the potential to also help liberate older drivers from relying on friends and family, allowing them transportation independence to make trips on their own schedule. Expanded drone services can allow goods like food and medicine to be delivered directly to one's door, rather than requiring a lengthy trip. Technology can be a key player in reducing service gaps in areas where it has been historically difficult to implement.

As there is no one overarching challenge, there too cannot be any one solution. Instead, a variety of technological and structural measures will be required to ensure equitable access to transportation.

Walkability Checklist

How walkable is your community?

Take a walk with a child and decide for yourselves.

Everyone benefits from walking. These benefits include: improved fitness, cleaner air, reduced risks of certain health problems, and a greater sense of community. But walking needs to be safe and easy. Take a walk with your child and use this checklist to decide if your neighborhood is a friendly place to walk. Take heart if you find problems, there are ways you can make things better.

Getting started:

First, you'll need to pick a place to walk, like the route to school, a friend's house or just somewhere fun to go.

The second step involves the checklist. Read over the checklist before you go, and as you walk, note the locations of things you would like to change. At the end of your walk, give each question a rating. Then add up the numbers to see how you rated your walk overall.

After you've rated your walk and identified any problem areas, the next step is to figure out what you can do to improve your community's score. You'll find both immediate answers and long-term solutions under "Improving Your Community's Score..." on the third page.



Partnership for a
Walkable America



Pedestrian and Bicycle Information Center



U.S. Department
of Transportation



Take a walk and use this checklist to rate your neighborhood's walkability.

How walkable is your community?

Location of walk _____

Rating Scale:



1. Did you have room to walk?

- ☐ Yes ☐ Some problems:
- ☐ Sidewalks or paths started and stopped
 - ☐ Sidewalks were broken or cracked
 - ☐ Sidewalks were blocked with poles, signs, shrubbery, dumpsters, etc.
 - ☐ No sidewalks, paths, or shoulders
 - ☐ Too much traffic
 - ☐ Something else _____
- Locations of problems: _____

Rating: (circle one) _____
1 2 3 4 5 6

2. Was it easy to cross streets?

- ☐ Yes ☐ Some problems:
- ☐ Road was too wide
 - ☐ Traffic signals made us wait too long or did not give us enough time to cross
 - ☐ Needed striped crosswalks or traffic signals
 - ☐ Parked cars blocked our view of traffic
 - ☐ Trees or plants blocked our view of traffic
 - ☐ Needed curb ramps or ramps needed repair
 - ☐ Something else _____
- Locations of problems: _____

Rating: (circle one) _____
1 2 3 4 5 6

3. Did drivers behave well?

- ☐ Yes ☐ Some problems: Drivers...
- ☐ Backed out of driveways without looking
 - ☐ Did not yield to people crossing the street
 - ☐ Turned into people crossing the street
 - ☐ Drove too fast
 - ☐ Sped up to make it through traffic lights or drove through traffic lights?
 - ☐ Something else _____
- Locations of problems: _____

Rating: (circle one) _____
1 2 3 4 5 6

4. Was it easy to follow safety rules?

Could you and your child...

- ☐ Yes ☐ No Cross at crosswalks or where you could see and be seen by drivers?
- ☐ Yes ☐ No Stop and look left, right and then left again before crossing streets?
- ☐ Yes ☐ No Walk on sidewalks or shoulders facing traffic where there were no sidewalks?
- ☐ Yes ☐ No Cross with the light?
- Locations of problems: _____

Rating: (circle one) _____
1 2 3 4 5 6

5. Was your walk pleasant?

- ☐ Yes ☐ Some unpleasant things:
- ☐ Needed more grass, flowers, or trees
 - ☐ Scary dogs
 - ☐ Scary people
 - ☐ Not well lighted
 - ☐ Dirty, lots of litter or trash
 - ☐ Dirty air due to automobile exhaust
 - ☐ Something else _____
- Locations of problems: _____

Rating: (circle one) _____
1 2 3 4 5 6

How does your neighborhood stack up? Add up your ratings and decide.

- | | | |
|----------|--------------|---|
| 1. _____ | 26-30 | Celebrate! You have a great neighborhood for walking. |
| 2. _____ | 21-25 | Celebrate a little. Your neighborhood is pretty good. |
| 3. _____ | 16-20 | Okay, but it needs work. |
| 4. _____ | 11-15 | It needs lots of work. You deserve better than that. |
| 5. _____ | 5-10 | It's a disaster for walking! |

Total _____

Now that you've identified the problems,
go to the next page to find out how to fix them.

Now that you know the problems,
you can find the answers.

Improving your community's score...



1. Did you have room to walk?

Sidewalks or paths started and stopped
Sidewalks broken or cracked
Sidewalks blocked
No sidewalks, paths or shoulders
Too much traffic

What you and your child can do immediately

- pick another route for now
- tell local traffic engineering or public works department about specific problems and provide a copy of the checklist

What you and your community can do with more time

- speak up at board meetings
- write or petition city for walkways and gather neighborhood signatures
- make media aware of problem
- work with a local transportation engineer to develop a plan for a safe walking route

2. Was it easy to cross streets?

Road too wide
Traffic signals made us wait too long or did not give us enough time to cross
Crosswalks/traffic signals needed
View of traffic blocked by parked cars, trees, or plants
Needed curb ramps or ramps needed repair

- pick another route for now
- share problems and checklist with local traffic engineering or public works department
- trim your trees or bushes that block the street and ask your neighbors to do the same
- leave nice notes on problem cars asking owners not to park there

- push for crosswalks/signals/ parking changes/curb ramps at city meetings
- report to traffic engineer where parked cars are safety hazards
- report illegally parked cars to the police
- request that the public works department trim trees or plants
- make media aware of problem

3. Did drivers behave well?

Backed without looking
Did not yield
Turned into walkers
Drove too fast
Sped up to make traffic lights or drove through red lights

- pick another route for now
- set an example: slow down and be considerate of others
- encourage your neighbors to do the same
- report unsafe driving to the police

- petition for more enforcement
- request protected turns
- ask city planners and traffic engineers for traffic calming ideas
- ask schools about getting crossing guards at key locations
- organize a neighborhood speed watch program

4. Could you follow safety rules?

Cross at crosswalks or where you could see and be seen
Stop and look left, right, left before crossing
Walk on sidewalks or shoulders facing traffic
Cross with the light

- educate yourself and your child about safe walking
- organize parents in your neighborhood to walk children to school

- encourage schools to teach walking safely
- help schools start safe walking programs
- encourage corporate support for flex schedules so parents can walk children to school

5. Was your walk pleasant?

Needs grass, flowers, trees
Scary dogs
Scary people
Not well lit
Dirty, litter
Lots of traffic



- point out areas to avoid to your child; agree on safe routes
- ask neighbors to keep dogs leashed or fenced
- report scary dogs to the animal control department
- report scary people to the police
- report lighting needs to the police or appropriate public works department
- take a walk with a trash bag
- plant trees, flowers in your yard
- select alternative route with less traffic

- request increased police enforcement
- start a crime watch program in your neighborhood
- organize a community clean-up day
- sponsor a neighborhood beautification or tree-planting day
- begin an adopt-a-street program
- initiate support to provide routes with less traffic to schools in your community (reduced traffic during am and pm school commute times)

A Quick Health Check

Could not go as far or as fast as we wanted
Were tired, short of breath or had sore feet or muscles
Was the sun really hot?
Was it hot and hazy?

- start with short walks and work up to 30 minutes of walking most days
- invite a friend or child along
- walk along shaded routes where possible
- use sunscreen of SPF 15 or higher, wear a hat and sunglasses
- try not to walk during the hottest time of day

- get media to do a story about the health benefits of walking
- call parks and recreation department about community walks
- encourage corporate support for employee walking programs
- plant shade trees along routes
- have a sun safety seminar for kids
- have kids learn about unhealthy ozone days and the Air Quality Index (AQI)





TXDOT EMBRACES GOAL TO END DEATHS ON TEXAS ROADS BY 2050

How many deaths are acceptable each year on Texas roads? That's a question TxDOT is addressing through a new ambitious goal, which ultimately states that the answer to the [question](#) is zero.

Every day for nearly 19 years at least one person has died on Texas roadways. Now TxDOT aims to reach a goal to end all fatalities on Texas roads by 2050. The Texas Transportation Commission approved the goal in its May meeting. The commission also set a goal of cutting fatal crashes in half by 2035, which would reduce annual fatalities to about 1,800.

"While we are committed to invest in the best engineering practices to make our roads safe, we also need drivers and passengers to act more responsibly and help us end the streak of daily deaths on our roads to reach our goal of zero deaths," said Texas Transportation Commissioner Laura Ryan.

Ten people are killed every day on average on roads in Texas. Texans can play a major role in ending fatal crashes with a few simple driving habits: wearing seatbelts, driving the speed limit, not texting or being distracted, and never driving under the influence of alcohol or drugs.

Matthew Scordelis' 17-year-old daughter Alexia was killed in a crash in Williamson County on February 21, 2019. His words illustrate that every loss forever changes families.

"Every day I drive by the spot where my daughter died in a crash just a few blocks from home. Our family, her friends, the neighborhood and her school have all deeply felt her loss. We owe it to her and the countless other families in grief to stop these needless deaths," Matthew Scordelis said.

TxDOT already focuses on safety with engineering, education and enforcement efforts. However, this goal builds on an increased emphasis on safety in project prioritization, selection and design as well as continuing [driver safety awareness programs](#) and working to implement the Strategic Highway Safety Plan.

"When it comes to safety, it is important for us to establish a clear vision of where we want to be," Commissioner Ryan said. "For TxDOT, that vision should be a transportation system that is free from fatal crashes."

November 7, 2000, was the last deathless day on Texas roadways. Since then, at least one person has died on Texas roadways every single day. [#EndTheStreakTX](#) encourages Texans to drive safely to help end the streak of daily deaths on our roadways.

For media inquiries contact TxDOT Media Relations at MediaRelations@txdot.gov or (512) 463-8700.

Avoiding Collisions (Runovers & Backovers)

Safety & Health Checklist for the Roadway Construction Industry

How are most roadway construction workers killed?

Over 40% — nearly half — of the fatalities for roadway construction workers occur when workers are run over or struck by moving vehicles, trucks or equipment. Over half of the fatalities are caused by construction vehicles and equipment in the work area.



How can you avoid a "collision" in your work area?

- ❑ **Be seen.** Make sure you wear high visibility clothing, including a vest and hard hat.



- ❑ **Communicate.** If you are working near construction vehicles and equipment, make sure the operator/ driver knows where you are located. DO NOT assume he/she can see you.



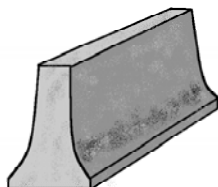
- ❑ **Stay back.** Do not approach moving equipment. Communicate with the driver using a radio, hand signals, etc. Only approach the vehicle once the operator has stopped operations.

- ❑ **Plan.** Set up a plan or procedure — some call it an "internal traffic control plan" — to separate workers from the paths of vehicles and equipment. Make sure vehicles know where workers are located and workers know where equipment is operating.

- ❑ **Look out for other workers.** Use a whistle, air-horn, or other device to warn fellow workers when they are in danger.



- ❑ **Positive Separation.** Separate workers from traffic using "positive separation," such as barriers, road closures, shadow vehicles, and



buffer space. Remember, this separation is important for BOTH roadway traffic and construction vehicles.

- ❑ **Be alert.** Don't become complacent with your work environment. Stay alert at all times and in all places. Stop, look, and listen for possible hazards.

Flaggers and directing traffic

Each year about 20 flaggers are killed and many more are injured. Flaggers must be especially vigilant to protect against collisions.



- ❑ **Get trained.** Don't accept an assignment to be a flagger unless you have been properly trained. You must know where to stand, how to dress, and how to properly communicate with motorists.

- ❑ **Wear high visibility clothing.** Know what type of clothing you should wear depending on the speed of traffic, the time of day, and the complexity of your surroundings.

- ❑ **Stay focused.** Keep your eyes on oncoming traffic. Make sure your signals are clear and do not conflict with other traffic control signals.



- ❑ **Plan an escape.** Plan a route so you can move quickly to safety if a motorist does not appear to heed your signals.

- ❑ **Warn fellow workers.** Make sure you have a way to quickly warn other workers when vehicles do not respond to your signals.

- ❑ **Respect motorists.** Be courteous. Do not respond to abusive drivers. Notify law enforcement if necessary.



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ZERO DEATHS DIRECTIVE APPLAUDED BY EXPERTS AT 2019 TEXAS TRAFFIC SAFETY CONFERENCE

On May 30, in a bold move to end traffic deaths, the Texas Transportation Commission directed the Texas Department of Transportation (TxDOT) to cut traffic fatalities in half by 2035 and end them entirely by 2050. These goals are a natural outcome of the current TxDOT [#EndTheStreakTX](#) campaign, which “encourages Texans to drive safely to help end the streak of daily deaths on our roadways.”

“We all know about the causes of traffic fatalities,” said Michael Chacon, director of TxDOT’s Traffic Safety Division, in response to the commission’s announcement. “Developing strategies to achieve this goal will take all of us working together.”

“I view the action by the commission as a turning point in the history of traffic safety in Texas”

Working together is one of the primary goals of the annual Traffic Safety Conference which, coincidentally, was under way when the commission issued its directive. Some 350 transportation safety professionals gathered this year in San Antonio May 29–31 to discuss the causes of (and strategies to prevent) traffic crashes. Hosted by the Texas A&M Transportation Institute (TTI), the conference is supported by TxDOT.

“I view the action by the commission as a turning point in the history of traffic safety in Texas,” Robert Wunderlich, director of TTI’s Center for Transportation Safety, told attendees.

Pedestrian Deaths on the Rise

Tragically, traffic safety trends are currently heading in the wrong direction. For example, pedestrian deaths in Texas jumped from 357 in 2010 to more than 600 last year. To highlight this problem, attendees were given a reflective vest to wear should they have a nighttime vehicle emergency. During the opening session, the attendees were shown a video demonstrating how much more visible pedestrians are to drivers when wearing a reflective vest ([View the video](#)). A walking tour highlighted numerous downtown San Antonio pedestrian safety improvements, with guides noting improvements implemented by the city.

“In Austin, pedestrians make up about 30 percent of our fatalities each year. Last year that was over 40 percent of our total fatalities,” Pedestrian Coordinator Joel Meyer of the Austin Transportation Department reported during a panel discussion.

“Business as usual is not working,” echoed Active Transportation Program Manager Kevin Kokes of the North Central Texas Council of Governments. “The number [of pedestrian fatalities] keeps going up. Why are we accepting so many crashes and fatalities? What can we do across the region and state to make this more of an urgent matter?”

Distracted Driving: What’s the Cure?

Austin Police Detective Pat Oborski described how his department uses transit buses to observe unsuspecting drivers who are texting while driving. Austin’s strict texting ban took center stage during one conference breakout session. Violators are subject to a \$500 fine if caught holding any electronic device while operating a vehicle or bicycle. Despite such efforts, Oborski says, “We still have a very big problem.”

“Distraction is a significant safety concern. Over 3,000 lives were lost in 2017 in the United States,” noted TTI Senior Research Scientist Mike Manser. “In Texas, about 19 percent of motor vehicle crashes involve some level of distraction.”

Impairment, Self-Driving Cars, and the Promise of Safer Roadways

“We continue to lose 10,000 lives a year as a result of alcohol impairment,” reported David Harkey, president of the Insurance Institute for Highway Safety, during his luncheon address. He also noted the increase in crashes resulting from more states voting to legalize marijuana. “We’ve shown there’s about a 5 percent increase in crashes associated with that.”

Impairment of human drivers certainly contributes to crashes, but the ubiquitous presence of driverless cars helping to solve that problem isn’t happening anytime soon, TTI Agency Director Greg Winfree noted during his opening session speech.

“Automated travel holds considerable promise for saving lives,” Winfree told attendees. “But we are 20 or 30 years away from widespread use of these new technologies. While we’re preparing for this new transportation future, we need to enhance the safety and behavioral strategies we already have today.”

Referring to the commission’s directive, Wunderlich closed the conference by urging audience members to wake up every day thinking about ways to cut traffic deaths in their hometowns. “Maybe we won’t get to zero, but I’ll tell you what, we darn sure ought to try,” Wunderlich stated emphatically. “I know this is the group that will help do that.”

AAA: VEHICLE ESCAPE TOOLS ARE A LIFESAVER — IN THE RIGHT SITUATION

“Drivers should pick a tool they feel comfortable with and find easy to use, but most importantly they should store it somewhere that is secure and within reach following a collision,”



New research from AAA reveals that most vehicle escape tools, intended to quickly aid passengers trapped in a car following a crash, will break tempered side windows, but none were able to penetrate laminated glass. Motorists may not realize it, but an increasing number of new cars – in fact, 1 in 3 2018 vehicle models – have laminated side windows, a nearly unbreakable glass meant to lessen the chance of occupant ejection during a collision. AAA urges drivers to know what type of side window glass is installed on their vehicle, keep a secure and easily accessible escape tool in their car and have a backup plan in case an escape tool cannot be used or doesn't work.

In its latest study, AAA examined a selection of vehicle escape tools available to consumers to determine their effectiveness in breaking tempered and laminated vehicle side windows. Of the six tools selected (three spring-loaded and three hammer style), AAA researchers found that only four were able to shatter the tempered glass and **none** were able to break the laminated glass, which stayed intact even after being cracked. During multiple rounds of testing, it was also discovered that the spring-loaded tools were more effective in breaking tempered windows than the hammer-style.

“To improve safety, more vehicles are being equipped with laminated side windows – but a majority also have at least one window made of tempered glass,” said John Nielsen, managing director of Automotive Engineering and Repair for AAA. “Our research found that generally vehicle escape tools can be effective in an emergency, but only if drivers know what type of side windows they have, otherwise they could waste precious seconds trying to break glass that will not shatter.”

Drivers can determine the type of glass installed on their vehicle by first checking for a label located in the bottom corner of the side window, which should clearly indicate whether the glass is tempered or laminated. If this information is not included or there is no label at all, AAA advises contacting the vehicle manufacturer. It is also important to note that some vehicles are outfitted with different glass at varying locations in the car (i.e. tempered glass on rear side windows versus laminated on front side windows). The increased use of laminated glass is in response to federal safety standards aimed at reducing occupant ejections in high speed collisions. In 2017, there were an estimated 21,400 people who were partially or fully ejected during a crash, resulting in 11,200 injuries and 5,053 deaths. While these types of crashes are more prevalent, there are instances where vehicles may catch fire or become partially or fully submerged in water, forcing drivers and their passengers to exit the vehicle through a side window. In situations like this, vehicle escape tools can assist ahead of emergency responders arriving.

Vehicle escape tools come in many varieties, but AAA suggests avoiding tools with extra features such as lights or chargers since these functions do not improve the performance of the tool itself. Drivers should also remember that in the event their vehicle is submerged, a hammer-style escape tool (as opposed to a spring-loaded-style) will be ineffective underwater.

“Drivers should pick a tool they feel comfortable with and find easy to use, but most importantly they should store it somewhere that is secure and within reach following a collision,” added Nielsen.

Being prepared in an emergency can greatly improve the chances of survival, especially if drivers and their passengers have become trapped in the vehicle. AAA strongly recommends drivers do the following:

Prepare ahead of time:

- Memorize the type of glass the vehicle windows are made of – tempered or laminated. If the car has at least one tempered window, this will be the best point of exit in an emergency. Also, remember – standard escape tools will not break laminated glass.
- Keep an escape tool in the car that the driver is comfortable using, has previously tested and is easy to access following a collision. To make sure a vehicle escape tool is working properly, test it ahead of time on a softer surface such as a piece of soft wood. The tool works if the tip impacts the surface, leaving a small indent in the material.
- Plan an exit strategy in advance and communicate it to everyone in the car. This will help avoid confusion in an emergency, which could increase the time it takes to exit the vehicle. Also, have a backup plan in case an escape tool cannot be used or doesn't work.

If trapped in a vehicle, remember there is a **S-U-R-E** way out:

- **Stay** calm. While time is of the essence – work cautiously to ensure everyone safely exits the vehicle.
- **Unbuckle** seat belts and check to see that everyone is ready to leave the car when it's time.
- **Roll** down or break a window – remember if the car is sinking in water, once the window is open the water will rush into the car at a faster rate. If the window will not open and the car has tempered glass, use an escape tool to break a side window to escape. Drivers should also remember that:
 - If a window will not open or cannot be broken because it is laminated, everyone should move to the back of the vehicle or wherever an air pocket is located. Stay with it until all of the air has left the vehicle. Once this happens, the pressure should equalize, allowing occupants to open a door and escape.
 - If the vehicle is submerged, a hammer-style escape tool (as opposed to a spring-loaded-style) could be much harder to swing underwater.
- **Exit** the vehicle quickly and move everyone to safety.
- Call 911 – while this is typically the first step in an emergency, if a vehicle has hit the water or is on fire, it is best to try to escape first.

For more information on this research, please contact Ellen Edmonds at EEdmonds@national.aaa.com or 407-444-8011.



ROADRESOURCE.ORG, INDUSTRY-LEADING SITE FOR PAVEMENT PRESERVATION, RECYCLING, AND NETWORK MANAGEMENT NOW AVAILABLE

While the demand for cost-effective network management solutions rises, many roadway managers still struggle to find the tools and nuanced expertise needed to successfully apply budgets toward the “right treatment, on the right road, at the right time.”

Recognizing a need to help agencies at the state, county, and local level to make the right choices for their road networks and be the best possible stewards of their roads and of taxpayer dollars, the Pavement Preservation and Recycling Alliance (PPRA), comprised of leaders at industry associations and NACE corporate partners Asphalt Emulsion Manufacturers Association (AEMA), International Slurry Surfacing Association (ISSA), and Asphalt Recycling & Reclaiming Association (ARRA), have developed a new, comprehensive tool – [RoadResource.org](https://www.roadresource.org). This

digital hub offers more than 500 pages of accurate information about pavement preservation, recycling, and optimized network management.

“This new resource puts technical information alongside useful tools and research to make learning easier for agencies,” said AEMA president Mark Ishee. “We’ve eliminated many of the hurdles that road managers have had to deal with in the past.”

[RoadResource.org](https://www.roadresource.org) compiles relevant information with a standardized technical menu on 18 pavement preservation, recycling, and emulsion treatments, alongside useful network comparison calculators. The site allows users to learn and explore freely; applying concepts and strategies to their own pavements



New tools, calculators, technical information, and advice aim to help county engineers and roadway managers make the most of their maintenance budgets.

and networks and giving users a chance to see first-hand how progressive network approaches can impact taxpayers, pavement conditions, and the bottom line.

The website draws upon years of experience to provide best practices, set appropriate expectations, and provide recommendations to agencies' frequently asked questions such as, "which treatment is best for my road?" In addition to compiling helpful technical information, the site also organizes relevant research summaries, and success stories from different regions across North America to better translate research into practice and success.

"We wanted to give users the benefit of sitting down with experts

in the industry. It's as if we're driving the roads with you, pointing out what we see and what we know to be helpful. The website goes beyond technical info and linking to specs -- it actually makes it easy to explore possible pavement solutions" said Scott Bergkamp, ISSA representative and a primary contributor to the site.

PPRA leadership plans to roll out additional communication initiatives, including newsletters to agencies, educational webinars, and informative printed and digital materials to serve as an educational and functional hub for roadway managers across North America. To learn more about the new website, visit and explore RoadResource.org.

FLEXIBLE FINANCING FOR SMALL COMMUNITIES

by Peter Mancauskas – FHWA Center for Innovative Finance Support



Decreasing resources and increasing demands require Federal and State transportation agencies to explore innovative financing tools for infrastructure projects. State infrastructure banks (SIBs) are one such tool. Compared to relying entirely on grant-based financing, SIBs can offer accelerated project delivery, provide lower borrowing costs, and facilitate completion of financial plans.

“A federally funded SIB, much like a private bank, can offer a range of loans and credit enhancement products to public and private sponsors of highway, transit, or rail projects,” says Mark Sullivan, director of the Federal Highway Administration's Center for Innovative Finance Support. As transportation agencies repay loans or other forms of credit assistance to the SIB, the bank's initial capital is replenished to support a new cycle of projects.

Initially established by the National Highway System Designation Act of 1995, Federal SIBs are now active in 29 States. They have provided more than 950 loans for a total of more than \$3.1 billion to fund transportation projects throughout the country. In addition, several States have established separate SIBs with State funds.

FHWA is looking to expand lending through the SIB program, especially in smaller communities where it can be more difficult to secure the required funding for transportation projects. This has become more important now than in the past, as gas tax revenues have not kept pace with the demands on the transportation system.

of the project costs. Missouri also uses SIB loans to accelerate payments of the State's share of project costs that may be programmed in future years. In these loan agreements, local entities are responsible only for interest payments, while the State makes the principal payments.

“A federally funded SIB, much like a private bank, can offer a range of loans and credit enhancement products to public and private sponsors of highway, transit, or rail projects”

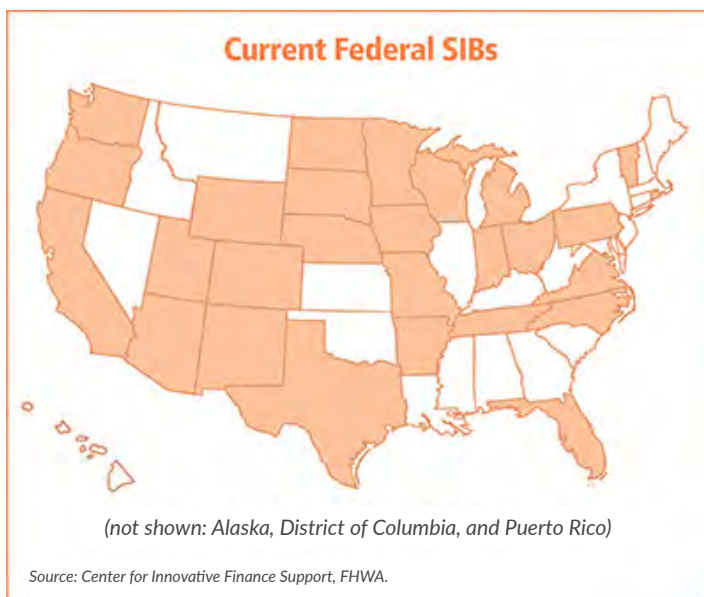
In Texas, the most common SIB loans are local governments borrowing for utility relocations on roadway projects. This type of loan provides valuable assistance, financing the costs that cities and towns are solely responsible for and enabling municipal projects to move forward sooner than they could with traditional funding options.

Looking Ahead

FHWA's Center for Innovative Finance Support recently conducted a series of roundtables and an informal survey with its partners to determine what additional assistance the SIB program could provide. Many participants responded that the program could benefit from marketing assistance, specifically to local and rural borrowers.

As a result of the feedback, the center is developing marketing and training tools for a lending opportunity that rural and smaller communities can benefit from called Local Innovative Match Assistance (LIMA). With this funding initiative, local sponsors of Federal-aid projects can directly finance their non-Federal share through the SIB program where available. LIMA provides them with access to at- or below-market-rate loans and eliminates the burden on rural and small communities of having to secure the funds necessary for a required local match for federally funded projects.

For more information, contact Peter Mancauskas at Peter.Mancauskas@dot.gov.



The Advantage of Flexibility

By offering low interest rates and negotiable repayment terms, an SIB provides a low-cost option for capital funds to a wide range of project sponsors.

For example, Missouri has sponsored two innovative methods to use its SIB. Through the Missouri Department of Transportation's Cost Share Program, which builds partnerships with local entities to pool efforts and resources to deliver State highway and bridge projects, local governments use SIB loans to fund their share

BRINGING ATTENTION TO THE RURAL ROADWAY DEPARTURE CHALLENGE

by Cate Satterfield – FHWA Office of Safety

The mission is to reduce the potential for serious and fatal roadway departure crashes on all public rural roads by increasing the systemic deployment of proven countermeasures.

The Every Day Counts round 5 (EDC-5) Focus on Reducing Rural Roadway Departures (FoRRRwd) team at the Federal Highway Administration has been working to spread the word about the new effort to reduce rural roadway departure crashes, which account for approximately one-third of roadway fatalities across the Nation. The mission is to reduce the potential for serious and fatal roadway departure crashes on all public rural roads by increasing the systemic deployment of proven countermeasures. With "all public roads" being the focus, the team is refining its processes and honing its messages to reach more State, local, Federal and Tribal practitioners and encourage the systemic approach to these crashes.

Advancing Implementation

Programmatically, the team is advancing progress through its implementation plan, which was finalized in February. The plan outlines a marketing strategy to help the States and other agencies meet the goals for their initiatives based on the current implementation stage and advancement goals of each State as reported to FHWA.

The FoRRRwd initiative identifies five implementation stages for participating States, and each agency must establish its own goals for advancement. Each stage of progression reflects increasing capability with regard to applying the systemic approach when selecting and installing RdW countermeasures as well as progress in developing guidance, policies, and processes to advance the use of rural RdW countermeasures.

1. Not implementing – State and local agencies are not implementing a systemic approach to rural RdW that encompasses all rural roadways regardless of description.
2. Development – State and local agencies are collecting guidance and best practices on systemic analysis, building

support with partners and stakeholders, and developing an implementation process to improve rural roadway safety regardless of ownership.

3. Demonstration – State, local, Federal, and Tribal agencies are piloting systemic analysis for deploying RdW countermeasures on rural roadways regardless of jurisdiction.
4. Assessment – State, local, Federal, and Tribal agencies are assessing the process for systemic application of RdW countermeasures and are developing guidance, policies, and processes to advance rural RdW countermeasures.
5. Institutionalized – State, local, Federal, and Tribal agencies have adopted systemic analysis for deploying RdW countermeasures on rural roads as a standard practice and use them regularly on all public roads. Guidance, policies, and processes are established and in place to advance rural RdW countermeasures.

Of the 32 States with advancement goals, 5 have ambitiously opted to strive to advance 2 or more steps forward during the current EDC-5 round.

As the FoRRRwd team advances, the following plans are in the works, including:

- Producing a video.
- Developing training.
- Holding peer exchanges.
- Offering technical assistance for:
 - Conducting analysis.
 - Drafting local road safety plans.
 - Designing and installing countermeasures.

For more information, visit the Reducing Rural Roadway Departures website or, to get involved, please contact Cate Satterfield at cathy.satterfield@dot.gov or Dick Albin at dick.albin@dot.gov.

For more information on upcoming events and workshops, visit txltap.org

Call the TxLTAP office at 817-272-9678 or email us at txltap@uta.edu to schedule an event or workshop near you.

GRAVEL ROADS ACADEMY

Improve upon current knowledge related to gravel road maintenance best practices. Learn how to get more mileage out of your gravel roads budget with the latest tools, techniques, and know-how from road maintenance experts.

HEAVY EQUIPMENT RODEO

Heavy equipment operators will be given a chance to learn and practice new skills while stressing safety and excellence. Operators will use maintainers, backhoes, dump trucks, loaders, and more to steer through a series of exercises designed to test their abilities.

HEAVY EQUIPMENT FOR WILDFIRES

Heavy Equipment Operators are sometimes called out to assist fire fighters in wildland fire situations. Learn methods of attacking a fire, techniques of diminishing a fire with a dozer and grader, and dangerous situations to avoid.

SNOW AND ICE TECHNIQUES

Snow and ice control is a complex process. This workshop will cover personal and operational safety, plowing techniques, salt and abrasive application, and decision making based on the forecast and actual in storm conditions.



TXLTAP EVENTS & WORKSHOPS

TAKE ADVANTAGE OF

TECHNICAL ASSISTANCE

TXLTAP IS FORTUNATE TO HAVE SOME OF THE MOST EXPERIENCED AND KNOWLEDGEABLE TRANSPORTATION PROFESSIONALS ON STAFF.

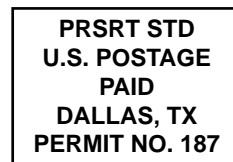
This staff includes former maintenance managers, heavy equipment operators, road crew chiefs, civil and transportation engineers, inspectors, and the public works directors who all worked on the state's road system and in a nutshell "have been there, done that." Now Texas' local roadway agencies can directly benefit from their street smarts.

While training and information sharing at conferences or through a newsletter can do a lot of good, TxLTAP recognizes sometimes there is just nothing like rolling up your sleeves, experiencing the problem first hand and then offering a meaningful solution. That's why in addition to hosting classes and publishing Better Roads, Safer Roads, our program offers local roadway agencies an opportunity to consult directly with a TxLTAP subject matter expert to specifically address your organization's unique issue. And like all resources TxLTAP offers, there is no charge to receive our help or expertise.

Do you need information on a proper method for repairing your lingering road problem? Would it help if someone came out to watch your road crew perform a repair and offer suggestions on how to save time and money in the future? Could you use the help of a traffic engineer who could assess a problematic intersection? Would it be a benefit to you if a subject matter expert came to ride the roads and developed a training presentation specific to your needs?

Take advantage of our technical assistance service!

Call 817-272-9678 or email us at txltap@uta.edu. We're ready to help!



- TxLTAP -



SAFETY

Making Roads Safer
for Workers & Drivers

ORGANIZATIONAL EXCELLENCE

Striving for
Overall Quality



WORKFORCE DEVELOPMENT

Training that
Makes an Impact



INFRASTRUCTURE MANAGEMENT

Building Smart & Using
Resources Effectively



TRAINING. TECHNICAL ASSISTANCE. RESOURCES.

TxLTAP serves all
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