

# BETTER ROADS SAFER ROADS



**HELPING TO CREATE  
SAFER ROADS FOR  
DRIVERS, MOTORCYCLISTS,  
AND PEDESTRIANS**

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## 14 ENGAGING THE PUBLIC WITH DIGITAL TECHNOLOGY

The Virtual Public Involvement (VPI) initiative, launched in 2018 by the FHWA Every Day Counts-5 Program, seeks to engage the public more effectively by supplementing face-to-face information sharing and gathering with the introduction of new technologies.

## 15 USING SAFETY CONTINGENCY FUNDING TO ADDRESS UNFORESEEN SAFETY NEEDS DURING CONSTRUCTION IN TEXAS

Change orders are a mechanism used to address unforeseen conditions that arise during construction.

## 17 SAVE THE DATE: RURAL ROAD SAFETY AWARENESS WEEK

The National Center for Rural Road Safety is proud to announce the inaugural Rural Road Safety Awareness Week (RRSAW), which will take place September 28 - October 2, 2020.

## 18 TXLTAP EVENT & WORKSHOP SCHEDULE

Register for free TxLTAP workshops and events occurring in 2020.



# CRASHES TAKE TOLL ON TEXAS MOTORCYCLISTS

On average, one motorcyclist dies every day on Texas roads, and transportation officials are urging Texans to exercise caution and limit distractions while on the road, as traffic increases during the summer months.

The Texas Department of Transportation's annual "Share the Road: Look Twice for Motorcycles" campaign, which began in July, aims to alert drivers to the risks that motorcyclists face and suggests safety precautions motorists can take to protect motorcyclists and themselves. The campaign reminds drivers that motorcycles are small and can be hard to see. In 2019, 412 motorcyclists were killed in Texas, and more than 1,800 were seriously injured.

"The six-month period from May through October is the deadliest for motorcycle riders and accounted for 61 percent of motorcycle fatalities in Texas last year," said TxDOT Executive Director James Bass. "That's why we are urging drivers to Look Twice for Motorcycles—there's a life riding on it."

Safety experts say that crashes between motorcyclists and drivers often occur when drivers make left turns in front of an oncoming motorcyclist, misjudging the distance and speed of the motorcycle. Last year, 30 percent of Texas motorcycle fatalities occurred in an intersection or were intersection related.

TxDOT wants drivers to follow these safety tips to prevent vehicle/motorcycle crashes:

- **Take extra care when making a left turn.** It's easy to misjudge the speed and proximity of an oncoming motorcycle. It's safest to let the motorcycle pass to avoid turning in front of the rider.
- **Pay special attention at intersections.** Close to one-third of motorcycle fatalities happen at roadway intersections.

- **Give driving your full attention.** Even a momentary distraction, such as answering a phone call or changing the radio station, can have deadly consequences.
- **Look twice when changing lanes.** Check mirrors, check blind spots and always use turn signals.
- **Give motorcyclists room when passing them.** Move over to the passing lane and don't crowd the motorcyclist's full lane.
- **Stay back.** If you are behind a motorcycle, always maintain a safe following distance. When a motorcyclist downshifts instead of applying the brake to slow down, it can catch drivers off guard since there are no brake lights to signal that they are reducing their speed.
- **Slow down.** As always, please obey the posted speed limit.

The highest numbers of fatal motorcycle crashes last year occurred in Houston, San Antonio, Dallas, Fort Worth, Austin, El Paso, Corpus Christi, Lubbock and Odessa.

The "Share the Road: Look Twice for Motorcycles" campaign is a key component of [#EndTheStreakTX](#), a broader social media and word-of-mouth effort that encourages drivers to make safer choices while behind the wheel, like wearing a seat belt, driving the speed limit, never texting and driving, and never driving under the influence of alcohol or other drugs. Nov. 7, 2000 was the last deathless day on Texas roadways. #EndTheStreakTX asks all Texans to commit to driving safely to help end the streak of daily deaths on Texas roadways.

For media inquiries, contact TxDOT Media Relations at [MediaRelations@txDOT.gov](mailto:MediaRelations@txDOT.gov) or (512) 463-8700.



# MORE SAFETY FOCUS NEEDED AS PEDESTRIAN FATALITIES SURGE

**GHSA JOINS U.S. DOT, CALLS FOR COLLABORATION TO BETTER PROTECT PEDESTRIANS**

With the latest highway safety data showing the highest number of pedestrian fatalities since 1990, Chuck DeWeese, Chair of the Governors Highway Safety Association, joined other safety stakeholders on July 8th for a virtual panel discussion about how governments, law enforcement and safety advocates must collaborate to counter this disturbing trend. “Taking Action on Pedestrian Safety – Part 1: Introduction and Safe System Approach,” was the first of three webinars on pedestrian safety hosted by the U.S. Department of Transportation.

“State Highway Safety Offices are implementing a wide range of programs to address the dangerous driving behaviors – speeding, distraction and impairment – that continue to threaten pedestrians in cities and communities across the country,” said GHSA Executive Director Jonathan Adkins. “GHSA appreciates U.S. DOT’s multi-modal approach as these pedestrian safety efforts must be done in concert with infrastructure improvements and other proven countermeasures to protect all road users.”

Earlier this year, GHSA released “Pedestrian Traffic Fatalities by State: 2019 Preliminary Data,” which reported that pedestrian fatalities nationwide continue to climb, despite declines in motor vehicle occupant deaths. The report outlines the leading contributing factors driving this trend and describes best practices for state policy and programs, which DeWeese discussed during the webinar on July 8th.

Chuck DeWeese is Assistant Commissioner for the New York Governor’s Traffic Safety Committee, a position he has held since 2007. He was elected Chair of GHSA in June of 2020, after serving as Vice Chair since September 2019 and Chair of GHSA’s Federal Relations Committee.

Contact Adrian Nicholas at 202-580-7934 or [anicholas@ghsa.org](mailto:anicholas@ghsa.org) for more information on GHSA’s activities.

# ANNOUNCING THE 3RD NATIONAL SUMMIT ON RURAL ROAD SAFETY **VIRTUAL SUMMIT**



The National Center for Rural Road Safety is excited to announce that registration is now open for the 3rd National Summit on Rural Road Safety. This virtual summit, taking place from September 29-October 1, 2020, is designed to help you identify strategies and resources for use on the Rural Road to Zero.

Although we are going virtual due to COVID-19 concerns, this 3rd summit will continue its mission as an action-oriented event with interactive sessions, carrying forward the conversations from the previous [Moving Rural America](#) and [Bridging the Gap](#) Summits. In addition to doing our part to slow the spread of the virus, going virtual will allow us to invite speakers that may not have had the time or resources to travel to an in-person meeting. We also hope that the low registration cost of \$40 will allow many of you to join us!

Attendees will be offered many opportunities to engage with high-quality, objective, and knowledgeable speakers and sessions; make new connections; ask questions of experts, and come away with a diverse set of action items to help their region's Rural Road to Zero initiative.

The 3rd Summit will feature:

- A full day of new trainings (Sept. 29th) for the new [Road Safety Champion Program](#)
- Results-oriented safety strategies for rural areas
- Action plans for growing positive safety culture in rural communities
- Resources for applying the Safe System Approach to rural areas
- A poster session centered around "How to Make Rural Roads Safe for Everyone"
- A celebration of Rural Road Safety Awareness Week
- Virtual networking opportunities
- A Virtual Vendor show

Join this conversation online September 29 - October 1, 2020. We need your perspective and expertise to successfully implement the Rural Road to Zero Initiative and eliminate all fatalities on rural roadways. **Registration is open until September 21, 2020.**

**3rd National Summit on RURAL Road Safety**

 **RURAL ROAD TO  
ZERO**

**VIRTUAL SUMMIT**

**9.29 - 10.1.2020**

**86.3M PEOPLE LIVE  
IN RURAL AMERICA** | *let's keep  
them safe*



# WET RETROREFLECTIVE PAVEMENT MARKINGS CAN HELP PREVENT CRASHES

by Elizabeth Dunlap

*“Wet nighttime conditions present a dangerous, complicated time for driving”*

Numerous studies show that rainy nighttime conditions pose a considerable danger to motorists.

In fact, 49% of fatal traffic crashes occur at night, even though we only do around 25% of our driving during nighttime hours (1). Adding rain to the mix can increase crashes by as much as 57% (2).

“Wet nighttime conditions present a dangerous, complicated time for driving,” said Adam Pike, Principal Investigator for

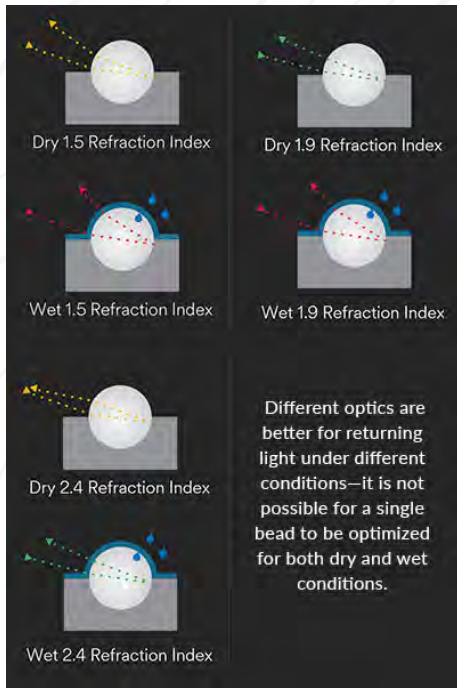
the Texas A&M Transportation Institute (TTI).

There are a number of factors that make it challenging to drive in wet nighttime conditions. One study suggests that, at night, drivers can only see about 5% of what they see in the daylight (3). A vehicle traveling at 60 mph needs about 200 ft to stop, and standard low-beam headlights only reach 160 to 250 ft in front of a vehicle, making it difficult for drivers to see objects in the road in time to react. Rain further impedes visibility by reducing the clarity of windshields and increasing glare from the headlights of oncoming vehicles. On top of all this, water on the road tends to reduce traction and create slippery conditions.

The biggest challenge for drivers in wet

nighttime conditions may be seeing the pavement markings that provide lane guidance and are essential for safe driving. In wet nighttime conditions, standard pavement markings can become nearly invisible. “Most anybody with a driver’s license has driven at night through a rainstorm and has likely lost track of the pavement markings. That’s a pretty unnerving situation to end up in,” said Ethan Peterson, Pavement Marking and Crashworthy Engineer at the Minnesota DOT (MnDOT).

To understand why this happens, let’s explore the science behind what makes pavement markings visible in the first place.



## THE SCIENCE BEHIND PAVEMENT MARKINGS

Road planners have recognized the importance of clear, consistent lane guidance for a long time. To increase the visibility of pavement markings and improve road safety, engineers in the industry have worked to advance pavement marking technology over the years, from simple painted white lines to the highly visible retroreflective pavement markings we often see on roads today.

Standard retroreflective pavement markings contain spherical glass beads (optics) embedded in a pigmented binder (usually yellow or white) to improve nighttime visibility. Here is how they work:

- Light from a vehicle’s headlights hits the pavement marking.
- The optics bend the light in a predictable, controlled direction.
- The light reflects off the pigment on the backside of the optic.
- The optics bend the reflected light again to return a cone of light to the driver.

The amount of light that is reflected back to the driver depends on a few different factors, including the refractive index (RI) of the optics and the air surrounding the optics. Most standard retroreflective pavement markings contain optics with

a 1.5 RI. This is sufficient in normal, dry nighttime conditions. However, water has a higher RI than air. As a result, light hitting a wet pavement marking tends to reflect back in a much broader, weaker cone, meaning that much less light returns from a vehicle’s headlights to the driver’s eyes—significantly reducing the visibility of the pavement marking.

## THE SAFETY BENEFITS OF WET RETROREFLECTIVE PAVEMENT MARKINGS

As road planners, traffic safety experts, and transportation agencies became increasingly aware that a disproportionate number of crashes occur in rainy nighttime conditions, they sought to understand why. They quickly identified the visibility of pavement markings in these conditions as a primary factor.

Based on this insight, manufacturers, engineers, researchers, and safety experts collaborated to develop pavement markings that deliver high visibility in most conditions—day or night, rain or shine. The latest in pavement marking technology—wet retroreflective pavement markings—are made with ultra high-visibility 2.4 RI retroreflective optics. These high-performance optics reflect a narrower, more concentrated cone of

**49% of fatal traffic crashes occur at night, even though we only do around 25% of our driving during nighttime hours**

light to counteract the effects of water and deliver brighter retroreflection in wet conditions. When combined with 1.5 RI – 1.9 RI retroreflective optics, this results in high visibility in most conditions.

Wet retroreflective pavement markings are an important piece of infrastructure for building safer roads, and studies over the last few years confirm the significant safety benefits of this technology. One study, conducted by the U.S. Federal Highway Administration (FHWA) in

2015, evaluated the before-and-after effects of wet retroreflective pavement markings in Minnesota, North Carolina, and Wisconsin, and found statistically significant crash reductions on freeways and multilane roads (4). The Texas A&M Transportation Institute (TTI) is also very interested in the safety benefits of wet retroreflective technology. In a 2019 study, TTI determined that wet retroreflective pavement markings reduced wet nighttime crashes by 30% and wet nighttime fatalities by 50% in TxDOT’s Atlanta District.

In another TTI study, sponsored by MnDOT and Minnesota Local Road Research Board in 2019, the institute performed a comprehensive literature review, human factors study, and retroreflected light measurements to help establish initial and maintained wet retroreflective pavement marking performance levels.

“The focus of this project was to determine what people need for minimum pavement marking visibility in wet night conditions. This specific objective hadn’t been fully addressed in past research,” said Pike. “We know that wet nighttime driving is less safe for a variety of reasons. On top of that, when pavement markings get wet, they’re typically less visible than in dry conditions. If we can establish minimum maintained wet reflective values, we can enhance the visibility of pavement markings and make them easier for drivers to track. Hopefully, with better lane guidance in these conditions, maintaining lane position will be improved, and abrupt maneuvers and run-off-road crashes reduced.”

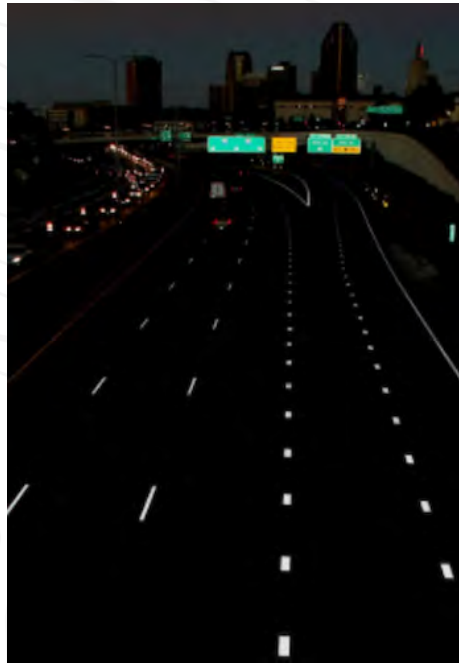
In the literature review, TTI found research demonstrating that wet retroreflective pavement markings can reduce fatal and injurious crashes in wet nighttime conditions as much as 60%. Based on their findings in the human factors study, the researchers recommend installing wet retroreflective pavement markings with a minimum initial continuous wet retroreflectivity of 200 mcd/m<sup>2</sup>/lux (based on a desired four-year service life) and minimum maintained wet retroreflectivity of 50 mcd/m<sup>2</sup>/lux (5) in situations calling for wet retroreflective pavement markings.

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*If we can establish minimum maintained wet reflective values, we can enhance the visibility of pavement markings and make them easier for drivers to track.*

## HIGHLY VISIBLE LANE GUIDANCE, WHEN DRIVERS NEED IT MOST

As we have discussed, driving in the rain at night is challenging. Visibility is low, distractions are high, and road conditions are less than ideal. In these situations, drivers need clear, consistent lane guidance to help them navigate the road.



Pike is hopeful that the FHWA and state transportation agencies can use their research to inform pavement marking standards and specifications going forward. “We found the minimum visibility requirements that people need to see pavement markings in wet nighttime conditions. We also suggested a minimum initial retroreflectivity value. This can help states monitor initial pavement marking installs to make sure they’re getting what they’re paying for with established performance levels. It also provides states with a maintenance metric to consider for replacing pavement markings.”

Peterson believes that highly visible wet retroreflective pavement markings improve driver comfort, which is an added benefit. “With wet retroreflective pavement markings, drivers can see changing roadway circumstances such as curves, intersections, and turn lanes. Then drivers can feel more comfortable about not drifting out of their lane or even off the road.”

Establishing minimum wet retroreflectivity

levels for pavement markings can help us build safer roads by providing drivers with highly visible lane guidance in situations when they need it most. This, in turn, can help reduce crashes, save lives, and bring families home safely. “Our goal is to provide pavement marking visibility 365 days a year,” said Peterson. “In Minnesota, that means addressing tough conditions. Ensuring that drivers can see pavement markings in wet conditions is one of the hardest things to do, but we’re striving to get there.”

Visit the MnDOT Pavement Markings - [Wet Retroreflectivity Standards Study](#) for more information.

Reprinted from [Traffic and Transit](#).

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# CONSIDERATIONS FOR DEVELOPING A LOCAL SAFETY POLICY OR PROGRAM

by Karen Scurry and Rosemarie Anderson, FHWA Office of Safety



More States are partnering with local agencies to address local road safety, which is critical to achieving our vision of zero fatalities on the nation's roads. We can get to zero fatalities, one community at a time, through partnership with strategic stakeholders.

To help achieve this vision, the FHWA developed the [Framework for Local Safety Policies and Programs](#), a guide States can use to establish a framework for developing or updating their local road safety programs or policies. The guide includes examples of policies and programs that can be adapted from other States to improve local road safety. The guide also provides considerations and examples in each the following areas: program administration, project identification and selection, local safety program and project funding, project delivery, and outreach and technical support.



Areas for guide considerations and examples. (Source: FHWA)

Successful local road safety programs and policies require strong leadership support from State partners. State departments of transportation (DOT) are in a position to provide relevant

guidance, training, and technical assistance to local agencies to ensure they are developing and delivering the best projects to save lives and prevent serious injuries on local roads. The Framework for Local Road Safety Programs and Policies demonstrates opportunities to update your local safety policies or programs. If you are just getting started, the guide outlines various approaches to consider as you develop your local road safety policies or programs. The guide also presents an array of approaches States have taken to incorporate local road safety in an overall State safety program. A single approach will not fit all situations, so find an approach that might work best in your State, discuss it among State and local partners, and adapt it to best meet your needs. Local agencies must also be willing to put in the work to identify local safety champions; coordinate with relevant safety stakeholders; and plan, develop, and implement local safety programs and projects.

We encourage you to review the framework for local road safety programs and policies and consider implementing the appropriate approaches that will improve safety on your local roads. Together, we can achieve our vision of zero fatalities on our nation's roads—one community at a time.

For additional information about local road safety programs or policies, contact Karen Scurry, Highway Safety Improvement Program (HSIP) program manager, at (202) 897-7168, [Karen.scurry@dot.gov](mailto:Karen.scurry@dot.gov), or Rosemarie Anderson, local and rural roads program manager, at (202) 366-5007, [Rosemarie.anderson@dot.gov](mailto:Rosemarie.anderson@dot.gov).

Article reprinted from the Federal Highway Administration's Summer 2020 issue of Safety Compass.

# RECALL

## CONSUMER ADVISORY: WARNING TO HARBOR FREIGHT JACK STAND USERS

Harbor Freight Tools is recalling more than 1.7 million Pittsburgh Automotive 3 Ton and 6 Ton Heavy Duty Steel Jack Stands. The jack stands may collapse under load, which can increase the risk of injury to people near or under a lifted vehicle.

Owners of these jack stands are asked to immediately discontinue use due to safety concerns. Injuries have been reported due to this issue. Affected customers will receive full refunds upon request.

There are two separate recalls for the jack stands. NHTSA recall 20E016 involves an estimated 454,000 units that were produced

from June 13, 2013, to November 22, 2019. NHTSA recall 20E027 involves an estimated 1,254,000 units that were produced from December 1, 2012, to March 31, 2020.

Jiaying Golden Roc Tools Company, the original manufacturer, determined that the jack stands' defect was due to the aging of production tooling. Included in this recall are 3 Ton jack stands with item numbers 61196 and 56371, and 6 Ton jack stands with item number 61197.

The 61196 and 61197 jack stands can be identified by checking the item number found on the yellow part of the label on the base of each jack stand.

The 56371 jack stands can be identified by checking the item number found on the label on the top of each jack stand.

If consumers have any questions about this recall, please call the NHTSA Vehicle Safety Hotline at 888-327-4236 for assistance.



# EARLY ESTIMATES OF 2019 MOTOR VEHICLE TRAFFIC DATA SHOW REDUCED FATALITIES FOR THIRD CONSECUTIVE YEAR

The U.S. Department of Transportation's National Highway Traffic Safety Administration recently released preliminary estimates for the Fatality Analysis Reporting System (FARS) 2019 data on highway crashes showing a continued decline in traffic fatalities. The nation saw a decline in traffic deaths during 2018 and 2017, and these newest estimates suggest a continuing decline in traffic-related deaths.

"Safety is our top priority so this report that traffic fatalities appear to have decreased again for the third year is great news," said U.S. Transportation Secretary Elaine L. Chao.

Fatalities decreased in most major traffic safety categories:

- Drivers (down 3%)
- Passengers (down 4%)
- Motorcyclists (down 1%)
- Pedestrians (down 2%)
- Pedalcyclists (down 3%)

## [VIEW THE 2019 EARLY ESTIMATES](#)

A statistical projection of traffic fatalities for 2019 shows that an estimated 36,120 people died in motor vehicle traffic crashes. This represents an estimated decrease of about 440 (down 1.2%) from the reported 36,560 fatalities in 2018, even though Vehicle Miles Traveled (VMT) increased by 0.9%. As a result, the fatality rate for 2019 was 1.10 fatalities per 100 million VMT, down from 1.13 fatalities per 100 million VMT in 2018. If these estimates are reflected in the final data, the fatality rate per 100 million VMT would be the second lowest since NHTSA started recording fatal crash data.

This new data also shows that nine out of 10 NHTSA regions are estimated to have decreases in traffic-related fatalities in 2019.

"Providing effective behavioral safety programs is one of NHTSA's top safety missions," said NHTSA Deputy Administrator James Owens. "And we know that without the unyielding efforts from our determined and passionate safety partners at the state and local levels, we could never achieve the projected drop in traffic-related fatalities that have been announced today."

Fatalities in crashes involving at least one large truck are projected to increase slightly by 1%. The FARS data do not distinguish whether trucks are privately owned or not. FARS counts or estimates any large truck (gross vehicle weight rating > 10,000 lbs.) on a public highway involved in crashes, including large pickup trucks.

*This new data shows that nine out of 10 NHTSA regions are estimated to have decreases in traffic-related fatalities in 2019.*

Last year, the Department established an intermodal truck and bus working group that focuses on increasing safety and reducing truck and bus-related crashes.

NHTSA has accelerated its efforts to continue the decline of traffic fatalities. In February, NHTSA released [\\$562 million in grants](#) for highway safety programs to the Offices of Highway Safety in all 50 states, the District of Columbia, U.S. territories, and the U.S. Department of the Interior's Bureau of Indian Affairs. The grants were issued to help state and local law enforcement agencies enhance their traffic safety efforts to combat risky driving behaviors.

The fatality counts for 2018 and 2019 and the ensuing percentage change from 2018 to 2019 will be further revised as the final file for 2018 and the annual reporting file for 2019 become available later this year. These estimates may be further refined when the projections for the first quarter of 2020 are released in late spring of 2020.

For more information contact NHTSA Media at [NHTSAmmedia@dot.gov](mailto:NHTSAmmedia@dot.gov) or 202-366-9550.



# USING HIGH-TECH DEMOLITION TO INCREASE PRODUCTIVITY AND SAFETY IN BRIDGE WORK

by Mike Martin

Every day in the United States, 188 million vehicles pass over a structurally deficient bridge. Each year, hundreds of injuries and even deaths occur from decaying infrastructure. It's a major problem — and one that's been well-documented by the American Society of Civil Engineers.

Out of 614,387 U.S. bridges, almost 40 percent are 50 years or older and 9.1 percent are structurally deficient. A recent estimate lists the U.S.' backlog of bridge rehabilitation needs at \$123 billion.

When infrastructure funding comes through, contractors need to be ready with the fastest, most productive options to take on the heavy, urgent workload.

More and more are turning to remote-controlled demolition and hydrodemolition machines as solutions. After experiencing worker shortages, increasing workers' compensation claims and growing insurance premiums, the higher cost of the equipment starts to take a backseat. Remote-controlled machines provide more safety, productivity and efficiency for removing concrete around rebar than handheld tools, mini excavators and backhoes. And, that adds up to a fast ROI.

## IMPROVED PRODUCTIVITY

Traditional bridge deck work involves a lot of workers with handheld pneumatic tools breaking through concrete to expose

the rebar below. A major limitation of handheld tools is the operators. A person can't apply nearly as much force into the tool or do so as consistently as a remote-controlled demolition machine can. Although machines don't fatigue, operators do — and they do so incredibly faster when powering a jackhammer as opposed to operating a control box fastened around their waist.

Remote-controlled demolition machines come in varying configurations and weights so that the most productive option can be matched to each job. In addition, contractors can choose between electric- and diesel-powered models.

Remote-controlled demolition robots cut the number of necessary laborers and speed up the concrete removal process. In certain cases, a remote-controlled unit equipped with a breaker attachment and controlled by an operator and one spotter can break up 2 square feet of bridge deck concrete in 15 minutes. The same area in the same amount of time would require three workers with handheld tools. Productivity is increased as a result, reducing labor costs by about 33 percent while accomplishing the task in less time.

Innovative remote-controlled hydrodemolition robots are an emerging method offering similar benefits to the more established remote-controlled demolition machines. Some hydrodemolition models can remove as much as 800 square feet of bridge deck at

a depth of 4 inches per hour, a fraction of the time it would take a crew of workers with jackhammers to accomplish the same thing.

The result of either type of equipment is hours, if not days, of savings over the course of a job. That adds up to potential bonuses for early completion as well as improved chances at more contracts.



### **DAMAGE-FREE REBAR**

When it comes to bridge or road repair and rehabilitation the need for precision and minimal microfracturing are major considerations. Handheld tools combined with operator error simply don't make the cut. Similarly, an excavator paired with demolition tools lacks the precision to effectively accomplish the task without damaging rebar. In this instance, hydrodemolition robots shine.

The technology virtually eliminates the possibility of unintended damage during bridge repair or rehabilitation. Typically, jets of water at pressures of about 20,000 psi are directed at the surface of the bridge deck, quickly removing layers of concrete but leaving rebar unscathed and clean. There's no need to spend extra time carefully avoiding rebar because the high-pressure water — though devastating to concrete — doesn't damage the metal bars. This maintains bridge safety and saves time and money replacing and repairing damaged rebar — a process that can delay a project by days and cost tens of thousands of dollars in repair. The method also doesn't cause vibrations, eliminating the possibility of microfracturing that could threaten bridge stability.

In some applications limited in scope, remote-controlled demolition machines' offer the ability to perform precise "dental" work on bridge decks. Because the force of the breaker is matched to the robot and can be adjusted based on the conditions, the possibility of damaging the underlying rebar during concrete removal is drastically reduced.

### **LESS MANUAL LABOR, MORE SAFETY**

Even the most productive tool needs an operator. As the workforce ages, contractors are having difficulty recruiting younger workers pivotal to helping meet the infrastructure demands to come. Remote-controlled robots can help attract millennials by appealing to their fondness for technology and innovation. As a result, they

are often fast-learners with the equipment.

Improved safety from the high-tech equipment also helps recruit new workers and retain existing employees. Remote-controlled demolition and hydrodemolition robots allow laborers to monitor their work a safe distance from flying debris and edges that pose a falling risk. The elimination of the need to stand next to a ledge also means contractors can minimize setting up fall protection systems. In addition, where large equipment such as excavators require multiple lane closures, demolition robots typically only require one lane closure, minimizing traffic impact.

Also consider worker strain from handheld pneumatic tools, such as rivet busters, that can result in more workers' comp claims and cause insurance premiums to skyrocket. The equipment's heavy vibrations can lead to injuries such as carpal tunnel syndrome, nerve damage and hand-arm vibration syndrome. Remote equipment eliminates that risk and prevents fatigue-related mistakes and injuries common after long periods of time operating handheld tools. The machines' safety benefits mean some companies receive insurance discounts when adding such equipment to their fleets because the provider sees how safety on the jobsite has improved.



### **ADVANCED SOLUTIONS**

Until infrastructure funding is passed, the number of bridges in dire need of repair will continue to skyrocket. However, funding will eventually need to be addressed and these structures repaired before liabilities escalate. Contractors that prepare, plan and incorporate technology solutions into their business will be able to successfully, efficiently and profitably address these needs.

Mike Martin is vice president of operations for Brokk in Monroe, Washington. He is an industry veteran with 29 years of experience helping Brokk owners build their businesses with remote-controlled demolition.

Reprinted from American City and County Magazine, [www.americancityandcounty.com](http://www.americancityandcounty.com).



## BAD BEHAVIOR: DRIVERS KNOW IT'S WRONG, BUT MANY DO IT ANYWAY

by Andrew Gross

The AAA Foundation for Traffic Safety's latest research finds drivers who have been in at least one crash in the past two years are significantly more likely to engage in risky behaviors like speeding or texting, even when they think the police may catch them. After three months of staying at home, AAA urges drivers to keep everyone safe on the roads and warns motorists against falling back into dangerous driving habits.

### Additional Resources

- [Report](#)
- [Fact Sheet](#)

"The frequency of drivers in the United States engaging in improper behavior is too high. While drivers acknowledge that certain activities behind the wheel – like texting, are dangerous, some do them anyway," said Dr. David Yang, Executive Director of the AAA Foundation for Traffic Safety. "We need to be aware of the serious consequences of engaging in these types of dangerous driving behavior and change course."

The Foundation's annual Traffic Safety Culture Index (TSCI), which highlights the gap between drivers' attitudes and their reported behaviors, found that drivers perceive distracted, aggressive and impaired driving as dangerous. Yet many of them admit to engaging in at least one of these exact behaviors in the 30 days before the survey. The numbers were even higher for those involved in a recent crash:

- 50% of those involved in a recent crash admit to **talking on a hand-held device while driving** in the past month vs.

42% not involved in a crash

- 43% of those involved in a recent crash admit to **texting while driving** in the past month vs. 27% not involved in a crash
- 39% of those involved in a recent crash admit to **running a red light** in the past month vs. 30% not involved in a crash

This data shows that people are not altering their behavior even when it has resulted in a crash. Of all dangerous driving tasks, drivers dubbed these two **extremely or very dangerous**:

- Driving when so tired, it was hard to keep your eyes open (96%)
- Driving while typing or sending a text message or an email (96%)

Yet these same drivers text when behind the wheel, even believing there is a risk of getting caught by police for reading (43.7%) or typing (42.7%) a text message.

It's not all bad news. When compared with 2018 findings, drivers reported they are engaging in some dangerous behaviors less frequently. Drivers who said talking on a hand-held cell phone saw the most significant decrease, down from 52.1% to 43.2%, while drowsy driving and texting both fell by 3 percentage points.

"If you point to the dangerous driving behaviors of others that you sometimes do yourself, then you are the problem," said Jake Nelson, AAA's director of traffic safety advocacy and research. "I'm encouraged to see a slight shift toward safer driving behaviors, but we have more work to do. Stay focused on driving. This is a must."

AAA recommends these safety tips to keep in mind.

- **Out of sight, out of mind.** Stow your smartphone away, turn it to airplane mode, or activate call/text blocking features like Apple's Do Not Disturb.
- **Slow down.** Drivers tend to overestimate time saved by speeding. You'd have to travel 100 miles to save roughly 5 minutes, moving at 75 mph instead of 70 mph. Speed kills and isn't worth the cost.
- **Stay alert.** Stop driving if you become sleepy because you could fall asleep at any time. Fatigue impacts reaction time, judgment, and vision, causing people who are very tired to behave in similar ways to those who are drunk.
- **Only drive sober.** If you consume marijuana, alcohol, or use potentially impairing prescription medications, then don't drive. And if you're going to drive, then don't consume these substances. If you are taking prescription medications, visit [Roadwise Rx](#) to learn if they can impair driving.
- **And always wear your seat belt.**

The annual TSCI identifies attitudes and behaviors related to traffic safety. The survey data are from a sample of 2,714 licensed drivers ages 16 or older who reported driving in the 30 days before the survey, which was administered between Sept. 6 and Oct. 8, 2019. The AAA Foundation issued its first TSCI in 2008, and the latest report is online: [AAAFoundation.org](#)

# TXDOT ANNOUNCES THE 2020 HIGHWAY SAFETY IMPROVEMENT PROGRAM CALL FOR PROJECTS



The Texas Department of Transportation (TxDOT) updated the 2020 Highway Safety Improvements Program (HSIP) Call for Projects for FY 2022 - FY 2024, with an October 1, 2020 submittal deadline for applications due to District Offices. The TxDOT HSIP is designed for highway safety projects that eliminate or reduce the number and severity of traffic crashes. It is limited to improvements that address the crash types identified in the Texas Strategic Highway Safety Plan (SHSP). Funds are provided for construction and operational improvements both on and off the state highway system. Funding is available statewide for this program and focuses primarily on improving safety and reducing severe crashes. Local governments are encouraged to work closely with their area or district offices to submit applications by the submittal deadline. The 2020 Highway Safety Improvement Program Call for Projects closes on October 30, 2020.

More information on the TxDOT Highway Safety Improvement Program guidelines is available at <http://www.txdot.gov/inside-txdot/forms-publications/publications/highway-safety.html>.

## ENGAGING THE PUBLIC WITH DIGITAL TECHNOLOGY

The Virtual Public Involvement (VPI) initiative, launched in 2018 by the FHWA Every Day Counts-5 Program, seeks to engage the public more effectively by supplementing face-to-face information sharing and gathering with the introduction of new technologies. Using VPI tools, which can include mobile applications, videos, virtual town halls, and mapping programs, enhances and broadens the reach of two-way communication efforts by making participation more convenient, affordable, and enjoyable. Engaging more people earlier in the transportation decision-making process can help State DOTs, Metropolitan Planning Organizations, and local public agencies reduce project delays, enhance transparency, and lower staff time and costs-per-person engaged. The tools and strategies promoted by VPI are applicable to both the development of transportation planning products and project development, particularly during environmental review.

The initiative groups VPI tools and strategies into [eight categories](#). The FHWA VPI team and the Volpe Center have developed a VPI website that houses key information and resources, including fact sheets, best practice case study videos, and recordings of VPI-related webinars. The VPI team offers [technical assistance](#) opportunities, which includes peer-exchange workshops, conference presentations, and direct peer-to-peer assistance.

For more information on the initiative, please visit [www.fhwa.dot.gov/planning/public\\_involvement/vpi/](http://www.fhwa.dot.gov/planning/public_involvement/vpi/) or contact Scott Allen with the Office of Planning - Stewardship and Oversight Team at [scott.allen@dot.gov](mailto:scott.allen@dot.gov).

# USING SAFETY CONTINGENCY FUNDING TO ADDRESS UNFORESEEN SAFETY NEEDS DURING CONSTRUCTION IN TEXAS

## THE CHALLENGE

Change orders are a mechanism used to address unforeseen conditions that arise during construction. Unfortunately, when unexpected traffic safety concerns are identified during the project, the time required for processing and approving a change order may impede efforts to address the safety problems quickly and efficiently.

## A SOLUTION - CREATING A SAFETY CONTINGENCY FUNDING MECHANISM WITHIN THE CONTRACT

To address these challenges, the Texas Department of Transportation (TxDOT) Construction Division has instructed project engineers to incorporate a "Safety Allowance" force account line item (approximately 2–5 percent of the total project estimate is suggested) into their project estimates, with the following considerations:

- The individual Districts decide the amount to include for each project;
- Smaller projects may be higher than 5 percent and larger projects may be lower than 2 percent as deemed necessary; and
- This force account item is not mandatory, but if not used, the District will need to be able to provide a reason for not including it in the estimate.

*"It is critical to act quickly where we see opportunities to enhance safety for drivers and for TxDOT and contractor employees.*

Contractually, the funds are handled through a General Note supplementing the standard specification for Barricades, Signs, and Traffic Handling (Item 502):

*The Contractor Force Account "Safety Contingency" that has been established for this project is intended to be utilized for work zone*



Figure 1. Flexibility in addressing unforeseen conditions in work zones is often needed to improve safety. (Source: Texas A&M Transportation Institute)

enhancements, to improve the effectiveness of the Traffic Control Plan, that could not be foreseen in the project planning and design stage. These enhancements will be mutually agreed upon by the Engineer and the Contractor's responsible person based on weekly or more frequent traffic management reviews of the project. The Engineer may choose to use existing bid items if they do not slow the implementation of the enhancement.

## USE OF THE SAFETY CONTINGENCY FUNDS

Beginning in 2013, utilization of the safety contingency funds has grown each year as project engineers and contractors have become more comfortable with their availability. In fiscal year 2019, the Department used over \$17 million in safety contingency funds on over 500 projects statewide.

## AMOUNT PAID UNDER SAFETY CONTINGENCY LINE ITEM

The funds have been used for a wide range of traditional and innovative safety countermeasures, including:

- Repair of potholes, in the existing travel lanes, created by increased heavy construction vehicle traffic hauling materials to and from the workspace;
- Deployment of additional portable changeable message





Figure 2. Safety contingency funds have been used for many countermeasures, such as for work zone intelligent transportation systems. (Source: Texas A&M Transportation Institute)

- signs to provide advance warning about queues greater than estimated during temporary traffic control design;
- Hiring off-duty police officers to assist with traffic control at signals where high volumes of truck traffic are using the roadway; and
- Implementation of work zone intelligent transportation system (ITS) technology to warn drivers when construction vehicles are exiting the workspace and merging into the traffic stream.

"It is critical to act quickly where we see opportunities to enhance safety for drivers and for TxDOT and contractor employees. Establishing a safety allowance force account line item on our projects allows us to do that."  
 – Gina E. Gallegos, P.E., Director, TxDOT Construction Division

For more information, visit <https://ops.fhwa.dot.gov/publications/fhwahop20009/index.htm> or contact Jawad Paracha at [Jawad.Paracha@dot.gov](mailto:Jawad.Paracha@dot.gov) or Gina E. Gallegos, P.E. at [Gina.Gallegos@txdot.gov](mailto:Gina.Gallegos@txdot.gov).

The safety contingency funds are also effective as a temporary way to keep project activities moving while waiting for execution of other safety-related change orders. In one instance, a decision was made to change the final pavement markings from profile markings to thermoplastic markings. To avoid delay in project progress that would increase the number of days of work zone exposure, the safety contingency fund was used to complete the marking work until the change order was executed and the funding pay items could be corrected.

Unforeseen needs often arise during the construction phase of a project. These needs may result in expensive and time-intensive change orders. By developing a safety contingency line item as part of the project estimate phase, TxDOT can address and mitigate numerous challenges during active operations. As a result, the State has seen a significant positive impact in its ability to address infrastructure and roadside safety concerns in and around its work zones.

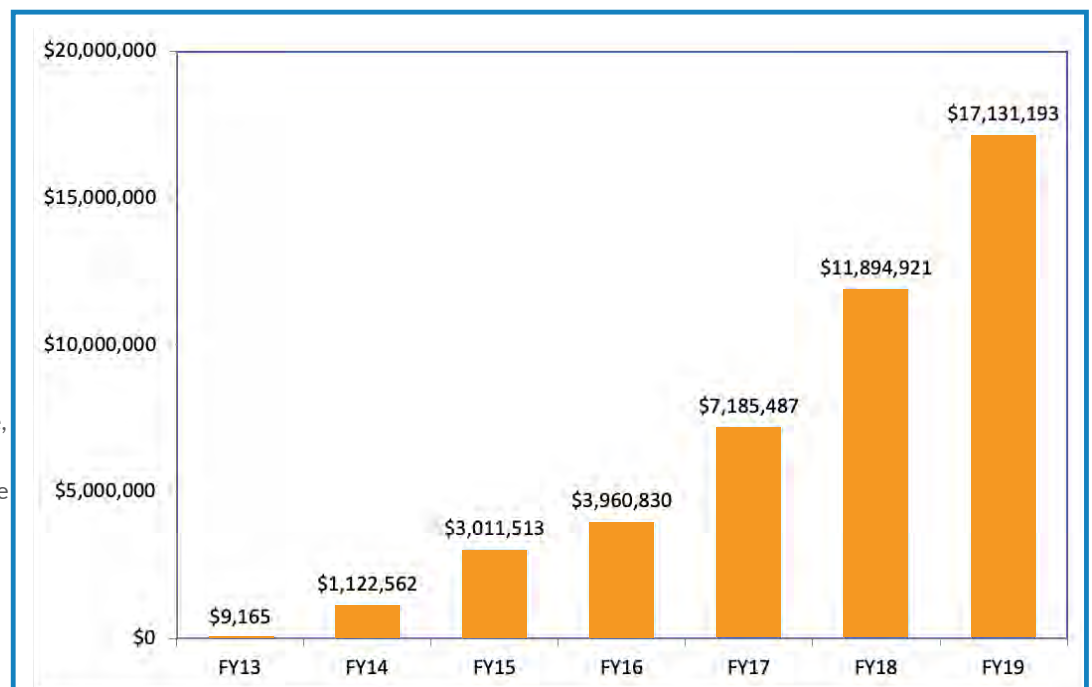


Figure 3. Annual Expenditures Using Safety Contingency Force Account Pay Item (Source: TxDOT)

# SAVE THE DATE: RURAL ROAD SAFETY AWARENESS WEEK

The National Center for Rural Road Safety is proud to announce the inaugural [Rural Road Safety Awareness Week \(RRSAW\)](#), which will take place September 28 - October 2, 2020.

In the U.S., 70% of roads are rural while only 19% of the population is (NHTSA 2020). This means there are more than nine times as many lane miles per 100,000 residents in rural areas (NHTSA 2020). Shockingly, the risk of fatality or serious injury is twice as high on rural roads compared to urban roads. Rural roads are important and so are the lives of everyone who uses them. With this in mind, it is crucial to dedicate a week to promoting rural road safety to the public, community leaders, and potential partners by telling the "rural story." We plan to shine a light on rural needs, challenges, and solutions, especially those that help us make progress on the Rural Road to Zero fatalities and serious injuries. [Will you help us kick off this new outreach event dedicated to improving safety on rural roads?](#)

RRSAW will be a social media driven campaign, so high levels of social media interaction will be the key to success for RRSAW. We encourage you to use your own social media platforms to extend the reach of RRSAW's stories and messages:

- First, please friend us on Facebook ([@ruralroadsafety](#)) and follow us on LinkedIn ([@national-center-for-rural-road-safety](#)) if you don't already, so you will see our daily posts during the week of RRSAW.
- Next, please share or repost our messages (or create original ones that highlight your own agency). We will be using hashtags [#RuralRoadSafety](#) and [#RRSAW2020](#) for our posts and encourage you to use the same ones. (Consistent hashtags make it easier to find and track all of the activity that takes place.)

The Rural Safety Center has created daily themes for the week and will release targeted materials for each one:

- Monday, September 28th: Defining Rural
- Tuesday, September 29th: Rural Safety Champions
- Wednesday, September 30th: Rural Road Modes
- Thursday, October 1st: Proven Rural Safety Countermeasures
- Friday, October 2nd: Rural Safety Culture

Through these topics, everyone will have a chance to share their experiences, answer fact-check questions, and learn about the topic of the day. Use our generic hashtags [#RRSAW2020](#) and [#RuralRoadSafety](#) AND the specific hashtag of the day to make sure you are included in the nation-wide conversation.

The Rural Safety Center will be releasing a RRSAW Toolkit complete with social media messages and graphics about a month before RRSAW on our webpage. Please feel free to share this with your colleagues and contact the Rural Safety Center with any questions you might have about the campaign.

We are looking forward to your participation and to proclaiming the final week in September Rural Road Safety Awareness Week in all 50 states. To learn more about RRSAW, visit [ruralsafetycenter.org/news-events/rural-road-safety-awareness-week](https://ruralsafetycenter.org/news-events/rural-road-safety-awareness-week).



For more information on upcoming events and workshops, visit [txltap.org](http://txltap.org)

Call the TxLTAP office at 817-272-9678 or email us at [txltap@uta.edu](mailto: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 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](mailto:txltap@uta.edu). We're ready to help!



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TxLTAP serves all local government roadway agencies by providing no charge training, technical assistance and resource access.

## ORGANIZATIONAL EXCELLENCE

Striving for  
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## INFRASTRUCTURE MANAGEMENT

Building Smart & Using  
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