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BETTER ROADS SAFER ROADS

EVERY DAY COUNTS

WHEN CREATING SAFER ROADS

TxLTAP

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SAFER ROADS

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UTA Division for Enterprise Development
TxLTAP

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.

EDC-7's NIGHTTIME VISIBILITY FOR SAFETY

by Tori Brinkly, P.E., FHWA Resource Center Safety & Design Team

Intersection lighting. (Source: FHWA)

High-visibility crosswalk. (Source: FHWA)

The nighttime fatality rate is three times the daytime rate, and 76 percent of pedestrian fatalities occur at night. Enhancing visibility between drivers and other road users will save many lives on our roads.

Many countermeasures and methods exist to improve motorist and non-motorist visibility. Some areas and conditions are more prone to nighttime fatal crashes, specifically at intersections, for pedestrians and bicyclists, and for roadway departure crashes.

The application of cost-effective and proven lighting and traffic control device countermeasures with known safety benefits can help reduce fatalities for all road users.

FHWA has used a focused approach to safety for many years, based on findings that almost 90 percent of the traffic fatalities in the United States happen in three main areas:

- Intersections
- Pedestrians and bicyclists
- Roadway departures

Enhancing visibility in these three areas can address a large part of the nighttime safety problem. The improvements being pursued will range from lighting training and design to traffic control devices for vulnerable users to ensuring these devices can be seen and are effective for all road users.

Available tools include Proven Safety Countermeasures and products, such as those championed by FHWA's Safe Transportation for Every Pedestrian and Focus on Reducing Rural Roadway Departures initiatives, as well as updated and new tools for lighting design and application of traffic control devices. While many agencies are already using some of these countermeasures, added benefits could be realized through wider implementation… the ultimate goal of EDC.

For more information, contact Tori Brinkly at tori.brinkly@dot.gov, Joseph Cheung at joseph.cheung@dot.gov, or George Merritt at george.merritt@dot.gov. Stay up-to-date on the EDC-7 initiative Nighttime Visibility for Safety and subscribe to Nighttime Visibility for Safety e-News to receive updates on webinars, case studies, videos and more!

FHWA ANNOUNCES LATEST ROUND OF INNOVATIONS UNDER EVERY DAY COUNTS PROGRAM TO ACCELERATE INNOVATION IN TRANSPORTATION INDUSTRY

The U.S. Department of Transportation's Federal Highway Administration (FHWA) recently announced the latest round of transportation innovations through the Every Day Counts (EDC) Program (EDC-7). EDC is a successful state-based program that helps identify and rapidly deploy proven, yet underutilized, innovations that facilitate greater efficiency in project delivery at the state, local and Tribal levels, saving time, money, and other resources to ensure our infrastructure is built better, faster, smarter, and more equitably. As part of the White House's Action Plan for Accelerating Infrastructure, the Department of Transportation recently committed to expanding the EDC model to more modes of transportation. This year's innovations are being promoted by FHWA and the Federal Transit Administration (FTA) and will improve project delivery across highway, rail, and transit agencies at the state and local level.

"Americans get the best value out of innovations in transportation when they are broadly shared among communities so that good ideas spread across the country," said U.S. Transportation Secretary Pete Buttigieg. "With today's announcement, these innovations will be more rapidly deployed to save lives, protect taxpayer dollars, reduce carbon emissions, and ensure more families, workers, and businesses benefit from the Biden-Harris Administration's generational investments in our nation's infrastructure."

"For over 10 years the Federal Highway Administration's Every Day Counts program has rapidly deployed proven technologies and processes that can be implemented at the national scale," said Acting Federal Highway Administrator Stephanie Pollack. "We are pleased to announce this latest round of EDC innovations to build on the program's success with a focus toward advancing key priorities under the Bipartisan Infrastructure Law."

EDC-7 innovations will improve safety for all road users, build a sustainable infrastructure for the future and grow an inclusive workforce. Notably, some of the EDC-7 innovations were chosen with multimodal state transportation agencies in mind and are of interest to transit and rail agencies.

"Many of the innovations announced today as part of this forward-thinking program will help make the nation's transit systems safer, greener, and more equitable," said Federal Transit Administrator Nuria Fernandez. "We look forward to promoting the findings from these initiatives — from reducing greenhouse gas emissions to leveling the playing field for small businesses to compete for design-build contracts — throughout the transit industry."

EDC ROUND 7 INNOVATIONS

NIGHTTIME VISIBILITY FOR SAFETY: The nighttime crash fatality rate is three times the daytime rate. Enhancing visibility along corridors, intersections, and pedestrian crossings can help reduce fatalities. This initiative promotes traffic control devices and properly designed lighting to improve safety for all users, including pedestrians, cyclists, and people who use public transportation and passenger rail services.

NEXT-GENERATION TRAFFIC INCIDENT MANAGEMENT: Technology for Saving Lives: Over six million crashes a year in the U.S. put responders and other vulnerable road users at risk.

Every Day Counts
Innovation for a Nation on the Move

A State-based model that identifies and deploys proven, yet underutilized innovations — saving time, money and resources that can be used to deliver more projects.

Next-Generation Traffic Incident Management programs promote emerging technologies such as emergency vehicle lighting and queue warning solutions. These and other tools can advance safety and operations to help keep crash responders safe and mitigate traffic impacts after a crash.

INTEGRATING GREENHOUSE GAS ASSESSMENT AND REDUCTION TARGETS IN TRANSPORTATION PLANNING: Transportation is the largest emitter of greenhouse gases in the U.S. This initiative provides resources to help agencies, regardless of transportation mode, quantify greenhouse gases, and set goals to decrease motor vehicle, construction, and life-cycle emissions through planning and project development.

ENHANCING PERFORMANCE WITH INTERNALLY CURED CONCRETE (EPIC): Cracking in concrete is a limiting factor in achieving long-term concrete performance. Internal curing mitigates shrinkage cracking and has the potential to substantially extend the service life of concrete bridge decks, benefitting travel by motor vehicle and public transit, as well as enhancing the performance of pavements and repairs.

ENVIRONMENTAL PRODUCT DECLARATIONS (EPDS) FOR SUSTAINABLE PROJECT DELIVERY: Construction materials such as concrete and asphalt have environmental impacts during their life cycle, whether the transportation facility supports passenger vehicles, transit vehicles, or railroad cars. EPDs document those impacts. This tool helps States support procurement decisions and quantify embodied carbon reductions using life cycle assessments for sustainable pavements.

RETHINKING DISADVANTAGED BUSINESS ENTERPRISE (DBE) IN DESIGN-BUILD: Many design-build contracts do not adequately provide opportunities for disadvantaged businesses. New practices are available to support the effective integration of program requirements to help small, disadvantaged businesses compete for design-build contracts for highway and transit projects.

STRATEGIC WORKFORCE DEVELOPMENT: The demand for highway workers is growing under the new investment of the Bipartisan Infrastructure Law, and emerging technologies require new skills. This innovation is being implemented by 32 states, with six of those states having institutionalized Strategic Workforce Development as the way to promote career opportunities in transportation. A continued focus on taking this nationwide will help stakeholders across the country improve their ability to identify, train, and place highway construction workers. Innovative approaches will be informed by the U.S. Department of Transportation's Memorandum of Understanding with the U.S. Department of Labor to foster a diverse and skilled workforce to support infrastructure projects. The focus will expand to rural and Tribal communities to increase career opportunities.

"Americans get the best value out of innovations in transportation when they are broadly shared among communities so that good ideas spread across the country,"

Every two years since 2011 FHWA has worked with State transportation departments, local governments, Tribes, private industry, and other stakeholders to identify a new set of innovations to champion that merit accelerated deployment. The first six rounds of EDC have yielded several innovative project delivery technologies, including prefabricated bridge systems, design-build contracting, project bundling, e-construction (paperless contracting), safety initiatives and more.

The program's success is based largely on FHWA's close collaboration with states and local partners through a process whereby states select innovations they want to pursue, then establish performance goals for the level of implementation and adoption they want to reach over the upcoming two-year cycle. Once the selection and performance goals are finalized, they then begin to implement the innovations with the support and assistance of diverse technical deployment teams established for each innovation, including federal, state, and local experts.

Accelerated Innovation Demonstration and State Transportation Innovation Council Incentive programs administered by FHWA complement EDC by providing additional funding and resources to help the surface transportation community accelerate the adoption and standardization of innovative technologies in their programs.

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PREVIOUS INNOVATIONS THAT HAVE BEEN IDENTIFIED AND RAPIDLY DEPLOYED IN EDC-1 THROUGH EDC-6 INCLUDE:

ACCELERATED BRIDGE CONSTRUCTION: A suite of technologies, including innovative planning and construction methods, and designs and materials, that allow for accelerated construction of bridges, significantly reducing traffic delays and road closures and often reducing project costs. Since October 2010, transportation agencies have designed or constructed more than 2,500 replacement bridges using these technologies.

ROAD DIETS: Innovative roadway reconfigurations that can help improve safety for motorists and non-motorists on mixed-use streets by reducing vehicle speeds, calming traffic, and freeing space for alternative modes of travel such as biking and transit. A classic Road Diet typically involves converting an existing four-lane, undivided roadway segment to a three-lane segment consisting of two through lanes and a center, two-way left-turn lane. Road diets can reduce collisions, increase mobility and access, and improve a community's quality of life.

SAFE TRANSPORTATION FOR EVERY PEDESTRIAN (STEP): The application of cost-effective countermeasures with known safety benefits such as refuge islands at pedestrian crossings and rectangular rapid flashing beacons that can help reduce pedestrian fatalities at both uncontrolled and signalized crossing locations. With pedestrian fatalities a continued concern nationwide, this innovation is helping communities improve pedestrian safety and making crosswalks and pedestrians more visible to drivers.

For more information on FHWA's Every Day Counts program, please visit fhwa.dot.gov/innovation/everydaycounts.

Every Day Counts
Innovation for a Nation on the Move

Safety Benefits:

RRFBs can reduce crashes up to:

47%

for pedestrian crashes.[4]

RRFBs can increase motorist yielding rates up to:

98%

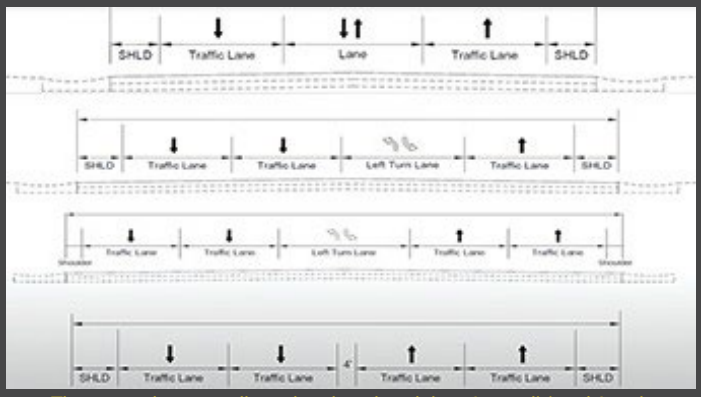
(varies by speed limit, number of lanes, crossing distance, and time of day).[3]

RRFBs used at a trail crossing.
Source: LJB

Benefits of rectangular rapid flashing beacons. (Source: FHWA)

EVALUATING ROAD TYPES IMPROVES SAFETY, MOBILITY IN RURAL AREAS

Rural roadways often have a high number of crashes, especially severe crashes. To help decrease that number, researchers have focused safety and mobility studies on rural areas that experience increased truck traffic and road usage during certain economic booms — like oil booms.



The research team collected and analyzed data for traditional four-lane undivided sites and compared their safety and operational performances with other alternative cross-sectional designs.

The Texas Department of Transportation (TxDOT) Odessa District experienced an oil boom over the last decade and increased truck traffic, along with a rise in crashes. A district engineer at the time, John Speed, now a Texas A&M Transportation Institute (TTI) research engineer, identified the issue and worked with TTI to develop a problem statement. TTI conducted the project Examine Trade-Offs between Center Separation, Shoulder Width Allotment for Roadway Width (TxDOT Project 0-7035) to improve safety in rural areas in Texas.

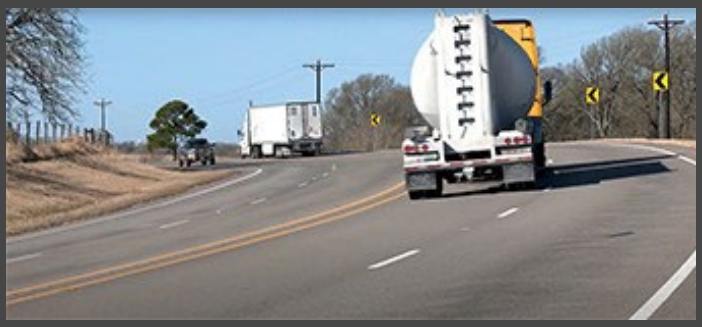
TTI Research Engineer Srinivas Geedipally notes, "It's proven that four-lane undivided roads in rural areas have a poor safety performance."

TTI examined several cross sections for two-lane undivided and multi-lane undivided roadways. The purpose was to separate vehicles going in opposite directions so they would not hit each other in the middle of the road. Keeping them farther apart might prevent crashes from truck drivers on an undivided roadway knocking off side mirrors or swerving to avoid side mirror debris in their direct path on the road.

TTI analyzed cross sections on Texas roadways, including four-lane undivided roads with a centerline stripe.

Researchers evaluated the cross sections of different roadways across Texas — from four-lane, undivided roads with only a centerline stripe in the middle to keep opposite-direction traffic in their lanes, to two-lane roads built as Super 2s for the added benefit of a passing lane for vehicles driving at faster speeds. The research team assessed the safety performance of these roadway types and the efficiency of each type to accommodate traffic volume, speed and flow.

The TTI team produced guidelines and recommendations for what roadway type or feature has the potential to improve safety and mobility in different locations. TTI's recommendations can serve as a methodology for how to develop and expand roadways in rural regions across the state.



The TxDOT Odessa District noticed an increase in traffic on SH 349 and SH 158, which led TTI to perform a safety and mobility study.

If the volume of traffic increases in a rural area, this project's results can inform decisions about what types of roadways could alleviate issues with the rise in traffic and provide a safer environment for road users. Those decisions could involve reducing the shoulders on a rural roadway, decreasing the number of lanes for a road section, or adding a 4-foot median buffer in the middle.

"This study can help you develop location-specific tools to reduce risks at hot spots where crashes continue to occur," says Speed. "That's the part that we think is so exciting about all this — it's not something that's just for the Permian Basin. It's something that can be used in any rural setting with unusual traffic movements or roadway configurations."

For more information, please contact Srinivas Geedipally at srinivas-g@tti.tamu.edu.

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TRAFFIC INCIDENT MANAGEMENT AS A SAFETY INITIATIVE

For decades, transportation agencies have leveraged coordinated, multidisciplinary efforts to detect and respond to traffic incidents with a goal to clear roadways faster. As a by-product of clearing roadway incidents faster, traffic incident management (TIM) seeks to reduce secondary crashes and the exposure of incident responders. The operations focus always has safety at its heart—as do all aspects of engineering—but safety has increasingly become the focus for TIM.

TIM is embodied in the objectives of the National Roadway Safety Strategy (NRSS), and specifically in the actions of responders and care of individuals after a crash occurs. Improving responder and motorist safety through TIM training and TIM technology deployment are key actions of the NRSS and are actions that are tracked by the NRSS dashboard.

TIM TRAINING

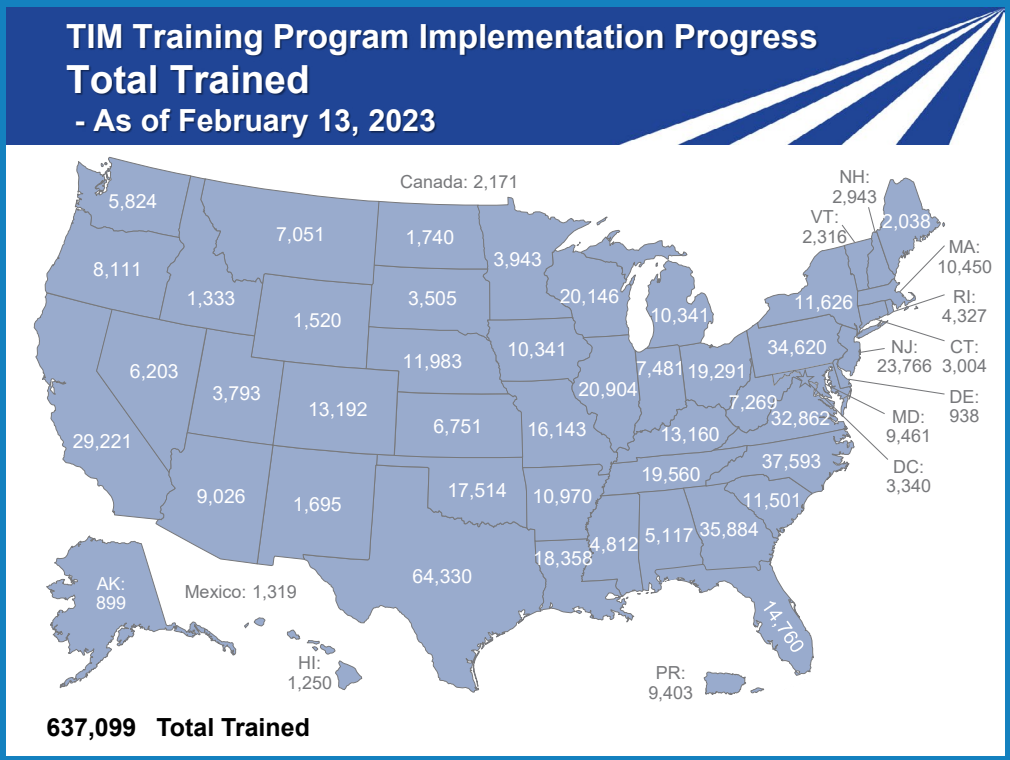
Advancing incident safety begins with safer people. The National TIM Responder Training Program has trained more than 600,000 traffic incident responders, such as police, fire, emergency medical services, transportation, and towing organizations. Through those efforts, the people responsible for managing incidents are operating on a common footing with proven and standardized approaches designed to make them and others safer.

The National TIM Responder Training Program is delivered in classroom and online formats, as well as in an instructor-led virtual approach that has boosted the number of trainers around the country. Most important, feedback from students overwhelmingly reinforces the value of the training for advancing responder safety.

TIM TECHNOLOGY

Technology presents one of the biggest opportunities to advance TIM. Through the Federal Highway Administration's (FHWA) Every Day Counts (EDC) Program, state and local agencies have been embracing next-generation TIM technologies that improve safety by warning approaching road users, improving responder situational awareness, and improving responder efficiency.

Communicating appropriate driving maneuvers (i.e. reduce speed, move over a lane) with drivers approaching traffic incident scenes is a principal way that TIM can advance safety. Smart emergency lighting systems intelligently manage the color, pattern, intensity, and flash rate of emergency vehicle lights to communicate with



approaching motorists more effectively. Similarly, new temporary traffic control devices can warn and direct drivers with lights and sequential flash patterns. Response vehicle-mounted message and arrow boards capable of displaying directional information and caution messages are complimentary to these technologies.

A host of technologies improve the exchange of information among road users and the roadway environment. Information can be delivered to in-vehicle systems or smart devices that are used by occupants, such as:

- Warnings for drivers who are approaching response vehicles stopped on the roadside potentially provide drivers enough time to comply with "Move Over" laws and avoid collision.
- Responder alerts can originate from a transportation agency's advanced transportation management system, connected vehicle technology, or third-party providers—all of which leverage connections with mapping and navigation systems.

A queue or backup of traffic often accompanies roadway incidents. Queues can be very dangerous areas for secondary crashes, particularly rear-end type crashes. Responders are taught to be mindful of queues and to protect the scene as well as provide advanced warning to motorists. Detection and warning alerts help mitigate the dangers that drivers experience when approaching incident scenes. Strategically placed queue warning vehicles, detection of queue messages using crowdsourced traffic data and traveler information systems, and delivery of warnings to drivers using applications and in-vehicle alerts are some of the motorist-alert technology strategies used to communicate with drivers.

Automated debris removal system. (Source: Enforcement Engineering, Inc.)

Situational awareness among TIM responders helps them work safer at incident scenes. Positioning a response vehicle between the incident scene and approaching traffic is referred to as a protective block. It is a critical TIM element, even when the protective block is on the roadway shoulder. Making incident scenes "harder" involves intrusion-alert technology, truck-mounted attenuators (TMA), autonomous protective vehicles, and similar treatments. A separate transportation agency truck or surplus fire apparatus vehicle outfitted with a TMA can provide an effective barrier that protects downstream responders.

Video-sharing technologies allow cameras mounted on service patrol vehicles to stream images from incident scenes to transportation management centers (TMCs), as well as allow responders to view TMC images. Sharing video enhances the ability of responders and TMC operators to evaluate incidents, plan their responses, and identify the need for additional resources.

Time is a critical element in terms of safety because it is equated to exposure for responders and everyone involved. The quicker roadways can be cleared, the safer everyone can be. Unmanned aerial systems (UAS), sometimes called unmanned aircraft systems, are small aircraft remotely piloted to capture video and photographs. When used with traffic incidents, UAS are an effective tool for law enforcement to expedite measurement and mapping of serious crash scenes. They also help with incident verification, response routing, queue detection, secondary crash detection, and detour route monitoring.

Roadway debris removal is a hazardous part of responder actions, particularly for safety service patrols and roadway maintenance crews who typically pick up debris by hand. Manual removal makes operators vulnerable pedestrians, while automated debris removal systems attached to response vehicles enable removal while driving over the debris. Like UAS, automated debris removal systems help make responders more efficient at incident scenes.

The FHWA Office of Operations, FHWA Office of Safety, and various sections of the National Highway Traffic Safety Administration (NHTSA) have been collaborating to solve the safety conundrum at traffic incident scenes. Current work is assessing responder-struck-by data, examining secondary crash data, and determining how drivers move over when approaching roadside events. New efforts to improve traffic crash data are designed to promote the collection of secondary crashes and responder-struck-by incidents, both of which are now in the Model Minimum Uniform Crash Criteria.

TIM is an important part of the NRSS. Effective TIM can improve not only the care of individuals after a crash occurs, but also the safety of responders and motorists. TIM training and TIM technology deployment are key to filling this important safety objective.

For more information contact James Austrich at james.austrich@dot.gov, Paul Jodoin at paul.jodoin@dot.gov, or Joseph Tebo at joseph.tebo@dot.gov.

WILL TECHNOLOGY SOLVE ALL OUR ROAD SAFETY CHALLENGES?

by Norah Ocel, P.E., PMP, and Karen Timpone, FHWA Office of Safety

Generally, road safety engineers are trained to focus on four things:

- Analyzing crash data
- Reviewing crash causal factors
- Using predictive methods to compute the expected number of crashes
- Identifying safety countermeasures, such as FHWA Office of Safety Proven Safety Countermeasures, that have good crash modification factors after implementation

The Safe System Approach, as embraced by the NRSS, has revealed a need to look not only at how the five Safe System Approach elements (Safer Roads, Safer Vehicles, Safer Road Users, Safer Speeds, and Post-Crash Care) collectively interact, but also how technology can play a role in improving road safety.

Safe system approach diagram. (Source: FHWA)

With agencies experiencing rising infrastructure costs, communities are looking at innovative technology solutions to improve safety. Connected vehicle, automated vehicle, and infrastructure technologies will be the trend of the future. As communities start to change their street design approach by implementing Complete Streets, making technology part of the conversation becomes more important than ever.

Technology is not only being researched, developed, tested, and piloted to potentially save thousands of lives, but it is also being permanently deployed in many places. Technology needs to be a part of the roadway safety conversation. Where road safety infrastructure and behavioral countermeasures fall short, technology could bridge the gap. For example, there is ongoing in-vehicle technology research that will help when road users decide to drive while intoxicated. This technology has the potential to dramatically help reduce fatalities on our roadways by up to 30 percent.

FHWA's Turner-Fairbank Highway Research Center has developed an entire research program around intelligent transportation system (ITS) technologies that supports safety, efficiency, and communication networks. These networks include connectivity-based vehicle-to-pedestrian systems, pedestrian wayfinding and navigation guidance, and bike and shared-street signage.

An example of technology that has been piloted is the Connected Vehicle Pilot Deployment Program. The program deployed applications using data captured from multiple sources (e.g., vehicles, mobile devices, and infrastructure) across all elements of the surface transportation system (i.e., transit, freeway, arterial, parking facilities, and tollways) to support improved system performance and enhanced performance-based management.

SAFER ROAD USERS

The City of Marysville, Ohio, has a smart mobility corridor where intelligent infrastructure has been enabled to improve safety for vulnerable road users with global positioning system coordinates and thermo cameras to track pedestrians. ITS monitors and analyzes camera metadata and broadcasts personal safety messages to connected vehicles and generates basic safety

messages for nonconnected vehicles that can be used on dynamic message signs.

SAFER VEHICLES

There are many advanced driver assistance systems (e.g., pedestrian detection/avoidance, lane departure warning/correction, traffic sign recognition, automatic emergency braking, and blind spot detection) that help drivers with maneuvering intersection movement, left turning, and merging. Additionally, some cellular phones can identify when a vehicle has crashed based on the deceleration of the vehicle.

POST-CRASH CARE

The ability to clear incidents quickly while providing safety to on-scene responders and travelers is one measure of the success of a TIM program. The successful on-scene activities are supported by interagency communications and technology when adequate warning is provided to motorists approaching the incident queue (advanced traveler information systems) and positive traffic control is provided at all incident scenes on a 24–7 basis (advanced traffic management systems).

SAFER SPEEDS

Many agencies already use reduced speed zones, work zone warnings, dynamic speed harmonization, and curve speed warning systems. Agencies can also make more use of speed safety cameras (SSCs) to supplement more traditional methods of enforcement, engineering measures, and education to alter the social norms of speeding. SSCs use speed measurement devices to detect speeding and capture photographic or video evidence of vehicles that violate a set speed threshold. SSCs can be deployed in many forms, including:Fixed units: a single stationary camera targeting one location

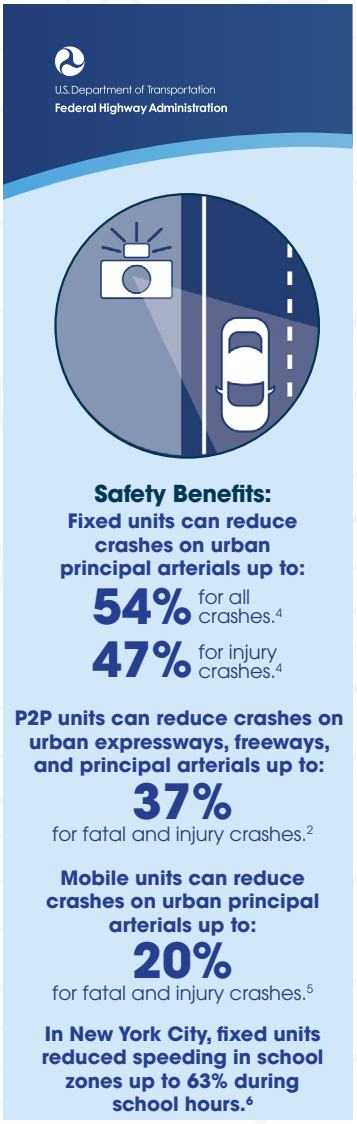
- Point-to-point units: multiple cameras to capture average speed over a certain distance
- Mobile units: a portable camera, generally in a vehicle or trailer

SAFER ROADS

In 2021 the City of Bellevue, Washington, began applying traffic conflict analysis to its high injury network (HIN) corridors. Traffic conflict analysis leverages cloud computing, artificial intelligence (AI), and video analytics to offer predictive insight into when, where, and why crashes are most likely to occur. Integrating conflict analytics into road safety assessments, the traffic conflict analysis then identifies and prioritizes projects.

Technology should be part of the safety conversation among road safety engineers when it comes to safety, infrastructure, roadway departure, intersection safety, speed management, and pedestrian and bicyclist safety improvements. Joint review and implementation of infrastructure countermeasures and technology deployments need to happen simultaneously in many cases, as they can complement each other. Technology has a positive impact on road safety and enhances mobility for all. Vehicle-to-everything technology is important at intersections and key locations where there are safety concerns, such as curves and grade crossings, evacuation routes, and special event areas.

Smart Community Resource Center webpage. (Source: FHWA)



Proven Safety Countermeasures. (Source: FHWA)

Looking for more technology resources and information? Visit the Smart Community Resource Center, which was designed to connect States, Tribal governments, and local communities with resources that can be used to develop ITS and smart community transportation programs.

So, is technology going to solve all our road safety challenges? We know there is no single solution but deploying safety technologies will be critical to our success in reaching zero fatalities and serious injuries more rapidly. There is no time to spare!

For more information, please contact Norah Ocel at norah.ocel@dot.gov.

GOVERNORS HIGHWAY SAFETY ASSOCIATION STUDY FINDS THAT RURAL ROADS ARE DISPROPORTIONATELY DEADLY

Rural roads are beautiful, but they're hiding a deadly secret – nearly half of all fatal crashes occur on them, even though only 19% of the U.S. population lives in rural areas. A new report from the Governors Highway Safety Association (GHSA), funded by State Farm®, explores the extent of the rural road safety problem and dives into the data to determine who dies in these crashes and what risky driving behaviors are key contributors. This new resource also offers nearly three dozen recommendations for State Highway Safety Offices (SHSOs) and their partners to help make rural roads safer.

The report, *America's Rural Roads: Beautiful and Deadly*, comes as traffic fatalities are soaring nationwide. Rural roads have been especially lethal in recent years. Between 2016 and 2020, the five most recent years of data, 85,002 people have died in crashes on rural roads. In 2020, the risk of dying in a crash was 62% higher on a rural road compared to an urban road for the same trip length. While rural road deaths fell for several years before the pandemic, they increased in 2020, mirroring what happened across the country. Deaths on all types of rural roads – interstate, arterial and collector/local – increased further in 2021, according to preliminary National Highway Traffic Safety Administration (NHTSA) data.

The high rate of crashes on rural roads is caused by several factors, including lack of safety resources, simpler roadway infrastructure, poor emergency medical services and to a significant extent, risky driver behaviors. The biggest culprits are not wearing a seat belt, impaired driving, speeding and distraction.

"Roads are the backbone of rural America, connecting far-flung communities and families. While cities and urban areas have alternatives to driving, that's not the case for people in rural areas," said GHSA Executive Director Jonathan Adkins. "Unfortunately, the dangerous and deadly driving behaviors that have increased during the pandemic have taken an oversized toll on rural residents. Making rural roads safer is essential for achieving the national goal of zero fatalities."

To prevent these crashes and save lives, states, tribes and their partners must understand the unique challenges associated with rural roads – long distances, limited resources, cultural differences and more. The report offers a comprehensive look at the rural road issue through an in-depth analysis of federal data; input from an expert panel representing government, academic and nonprofit organizations; findings of a survey of SHSOs; and peer-reviewed and other relevant literature. The report was produced by Toxcel, a Virginia-based research consulting firm.

RURAL ROAD SAFETY TRENDS, 2016-2020

The analysis of Fatality Analysis Reporting System (FARS) data conducted for this report uncovered several details about fatalities in rural road crashes and what risky driving behaviors are key factors:

- **Everyone is at risk on rural roads.** However, men are involved much more than women (more than two to one), mirroring their overinvolvement in crashes of all types. During the five-year period, 59,793 men died in rural road crashes compared to 25,151 women.
- **The youngest drivers are at particular risk on rural roads.** Although fatalities on rural roads involving 14-15-year-old drivers had declined between 2016 and 2019, they spiked in 2020, with rural fatalities for these young teen drivers jumping by 57%, mirroring the national uptick in roadway deaths in the first year of the pandemic.
- **The risk to young drivers does not dissipate when they turn 18 years old.** Instead, they continue to crash and die on rural roads well into their twenties – and at exceptionally high rates, the highest of any age group. Fatality rates then decline with age until the mid-forties when they climb again. Adults ages 65 and older make up 19% of the rural population but accounted for 21% of rural road deaths. This will only increase with the graying of the rural population.
- **A lack of seat belt use is a hallmark of fatalities on rural roads.** More than half (58%) of U.S. motor vehicle occupants killed in rural road crashes during the five-year period were unrestrained. By comparison, in 2020, 51% of all road fatalities were unbelted.
- **Speeding is a safety problem on all types of roads, but especially in rural areas**, where it was a factor in 27% of deaths. Nearly half (46%) of fatalities in crashes that involved speeding occurred on rural roads. Additionally, states with high maximum speed limits tend to have higher per capita rates of fatalities on rural roads than states with lower maximum speed limits.
- **Alcohol and drug use are also key factors**, as 43% of alcohol-related motor vehicle fatalities occurred on a rural road. Drug-impaired drivers killed 2,644 people on rural roads in 2020, but that figure is likely an undercount, as nearly twice as many crash deaths (5,335) have no information about potential drug involvement.
- **Of all fatalities that involved distraction, 46% occurred on rural roads** – far more than the population would predict. At least 7,699 people died on rural roads in crashes involving driver distraction over the five-year period, although data are limited because distraction can be difficult for law enforcement or crash scene investigators to ascertain.

U.S. TRAFFIC DEATHS REMAIN UNACCEPTABLY HIGH DESPITE MINOR DECREASE

The National Highway Traffic Safety Administration (NHTSA) recently released a preliminary estimate finding that 31,785 people died in traffic crashes in the first nine months of 2022, 65 fewer deaths than the same period the year before.

A reduction in roadway fatalities is welcome, but the 0.2% decline announced by NHTSA follows an unprecedented two-year surge in roadway deaths and dangerous driving. Coupled with that is a continued rise in bicyclist and pedestrian deaths, underscoring the urgent need to ensure that road users not in vehicles enjoy the same protections as drivers and their passengers.

This news is a small step forward for safer roads. Nationwide crash fatalities rose 7.2% in 2020 despite a historic drop in driving and jumped another 10.5% in 2021. This giant backward slide is due in part to a spike in unsafe motorist behaviors that included speeding, impaired and distracted driving, and lack of seat belt use.

We cannot afford to inch our way to zero traffic deaths. We must act now – and quickly – to prevent crashes and save lives. Adoption and implementation of the Safe System approach outlined in the U.S. Department of Transportation's National Roadway Safety Strategy offers a proven roadmap for making meaningful gains in reducing traffic crashes, injuries and deaths. The approach calls for combining all effective countermeasures – equitable traffic enforcement, infrastructure that slows down drivers and protects non-motorized road users, community engagement campaigns developed with local input, vehicle technology that protects people both inside and outside the vehicle, and investments in post-crash care – to create a multi-layered traffic safety net that keeps everyone safe.

NHTSA also released an analysis of roadway fatalities for the first six months of 2022. Early Estimates of Motor Vehicle Traffic Fatalities and Fatality Rate by Sub-Categories Through June 2022 shows a mixture of increases and decreases across various contributing factors. Rural road deaths increased 5% in the first half of 2022, according to the estimate. Last year, GHSA released a report funded by State Farm® showing that rural roads are disproportionately deadly per mile driven and offering suggestions to make these roads safer. The NHTSA analysis also found that unbuckled passenger vehicle occupant fatalities in the first six months of 2022 fell 7% compared to the same period the year before.

NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION ISSUES URGENT WARNING ON TAKATA AIR BAGS AFTER ANOTHER FATALITY

The National Highway Traffic Safety Administration has confirmed another Takata rupture fatality, bringing the total of number of Takata fatalities confirmed in 2022 to five. It is imperative that ALL vehicle owners check now for open Takata recalls, and get the repair done as soon as possible if their vehicle is under recall.

NHTSA has confirmed that one person died in a recent crash in a 2010 Chrysler 300 where the Takata driver's side air bag inflator ruptured. This brings the total of Takata fatalities to 24, and the third confirmed this year in a Fiat Chrysler sedan.

In November, Fiat Chrysler Automobiles issued a "Do Not Drive" warning for roughly 276,000 model year 2005-2010 Dodge Magnums, Chargers and Challengers, as well as Model Year 2005-2010 Chrysler 300s. The warning, at the time, came after two people died in separate crashes involving 2010 Dodge Chargers where the Takata driver's side air bags exploded.

"Don't let yourself or someone you love be at risk of dying or being seriously injured because of a defective, recalled Takata air bag. These repairs are absolutely free and could save your life," said NHTSA Acting Administrator Ann Carlson. "Air bag ruptures have also cost people their eyesight and left them with disfiguring facial injuries. The older a defective air bag inflator gets, the more dangerous it becomes. So please, get your air bag replaced now for your sake, and for the sake of those who love you."

NHTSA is urging ALL vehicle owners to immediately check to see if their vehicle has an open Takata air bag recall. If it does, owners need to contact their dealership to schedule a **FREE repair as soon as possible and follow any warnings from the vehicle manufacturer.**

Even minor crashes can result in exploding Takata air bags that can kill or produce life-altering, gruesome injuries. Older model year vehicles put their occupants at higher risk, as the age of the air bag is one of the contributing factors.

Vehicle owners who prefer talking to the manufacturer directly can call the Fiat Chrysler Automobiles Takata Call Center at 833-585-0144 or go to their website.

For Takata information for specific vehicle manufacturers, please click here. For more information from NHTSA on the Takata air bag safety recall, please click here.

If you think your vehicle may have a safety defect that isn't part of a current recall, contact NHTSA. Contact NHTSA online or by calling the agency's Vehicle Safety Hotline at 888-327-4236, Monday through Friday, 8 a.m. to 8 p.m. Eastern time. For more information, visit NHTSA.gov/Recalls.

Photo by Dietmar Janssen

HOW TO CHECK FOR RECALLS

- Use NHTSA's Recalls Lookup Tool to check your Vehicle Identification Number (VIN) for any open safety recalls, including the urgent Takata recall.
- Download the SaferCar app and let it check automatically for you.
- If your vehicle does have a safety recall, call your automaker's local dealer to schedule the free recall repair.
- Sign up at NHTSA.gov/Alerts to be notified by email if your vehicle is affected by a future recall.


You play a role in work zone safety.
WORK WITH US
2023 National Work Zone Awareness Week

OBSERVING 2023 NATIONAL WORK ZONE AWARENESS WEEK

In 2021, traffic crashes in the state's work zones claimed the lives of 244 people, a 33% increase over 2020. But what many people fail to realize is the vast majority of people killed in work zone crashes are motorists and their passengers.

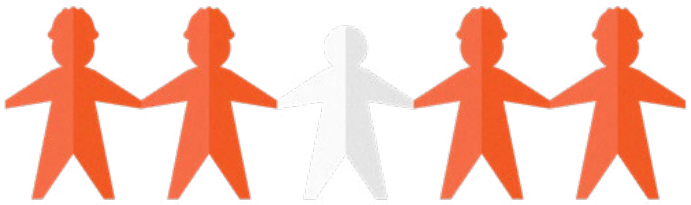
In its 24th year, National Work Zone Awareness Week (NWZAW) is a national public awareness campaign that spreads the message that we are all responsible for work zone safety. The annual spring campaign is held at the start of construction season and encourages safe driving through highway work zones. The key message is for drivers to use extra caution in work zones. This year's NWZAW is April 17-21, 2023 and the theme is "You play a role in work zone safety. Work with us".

Everyone plays a role in work zone safety. NWZAW highlights the deadly dangers of inattention at highway work areas. Make plans now for the 2023 week-long commemoration including:

- **Monday, April 17 - Work Zone Safety Training Day:** Emphasizes the importance of laying the groundwork for safety through training of personnel. Employers are encouraged to pause during the workday for safety demonstrations, discussions about safety policies and other prevention steps.
- **Tuesday, April 18 - National Kickoff Event:** NWZAW 2023 kickoff event will be hosted by the Missouri Department of Transportation (MoDOT) at a location to be determined. More information will be posted at nwzaw.org/participate as it becomes available.
- **Wednesday, April 19 - Go Orange Day:** All roadway safety professionals are encouraged to wear orange as a visual reminder to others of work zones and to proudly show support for work zone safety. Show your support on social media by posting your orange pics and use the hashtags #NWZAW and #Orange4Safety.
- **Thursday, April 20 - Social Media Storm:** Organizations, companies, institutions and individuals are asked to share messages and use hashtags #NWZAW and #WorkZoneSafety throughout social media between 8 a.m. and 3 p.m. CT. Draft your own post or use one of these samples:
  - If we slow down, we can save lives. Together we can achieve zero deaths on our roads and in our work zones! #NWZAW #Orange4Safety
  - Work zones are a sign to slow down. #NWZAW #WorkZoneSafety
  - You can be a part of the work zone safety solution – Slow down. #NWZAW #WorkZoneSafety
- **Friday, April 21 - Moment of Silence:** The Moment of Silence remembers the people whose lives were lost in a work zone incident.

If you're interested in hosting a local event for National Work Zone Awareness Week, then you're in luck. The NWZAW Event Planning Guide is a comprehensive guide for all individuals and organizations planning to host NWZAW events in their community. The guide includes event setup guides, sample invitations, examples of opening and closing remarks, a sample schedule for the kickoff event and more.

To learn more about NWZAW, visit NWZAW.org.



TEXAS SIDEWALKS, BIKE LANES TO RECEIVE FUNDING

TXDOT ASKING FOR PROJECT PROPOSALS ON HOW TO USE THE FUNDS

As Texas strives to reduce the rising number of pedestrian and bicyclist fatalities, TxDOT is making available around $250 million for its 2023 Transportation Alternatives Call for Projects.

The federal funding will go towards sidewalks, bike lanes, shared-use paths and other projects to enhance walking and biking transportation across the state.

"Making it safer and easier to walk and bike is an important part of our mission of 'Connecting You with Texas,'" TxDOT Transportation Commissioner Robert "Robie" Vaughn said. "I'm thrilled to see this increase in funding that'll help communities build impactful improvements for its citizens. As a jogger and cyclist myself, I know the value these enhancements can bring to help Texans get to work, run errands, and enjoy the beautiful Texas outdoors."

TxDOT will hold virtual workshops to help municipalities and organizations as they apply for this funding.

The number of pedestrians and cyclists killed on Texas roads has been rising over the past several years with pedestrian fatalities increasing by 15% and cyclist fatalities by 14% in 2021. This funding will help communities plan and build walking and biking infrastructure that could help reduce these incidents.

Some examples of projects that have been funded through TxDOT's Transportation Alternatives program in the past include:

- Shared use paths for walking and bicycling in Belton, Tornillo and Van Alstyne.
- Safe and accessible pedestrian access to transit in Abilene and Amarillo.
- Multi-use rail-to-trail along the Northeast Texas Trail in Bowie, Lamar and Red River counties.
- Sidewalks to schools and downtowns in Benjamin, Hallettsville, Presidio and Taft.
- Bicycle lanes in Bryan, Kingsville, Mathis and Tyler.

For more information about the program and to learn how to apply for the funding, click here.

Photo by photoGraph

For more information, visit TxLTAP.org

Call 817-272-2581 or email txltap@uta.edu to request training, technical assistance or equipment.

TXLTAP TRAINING & SERVICES

WORKFORCE DEVELOPMENT

Contact TxLTAP to schedule training or request assistance with developing a no-cost training program tailored to the unique needs of your organization. TxLTAP serves all Texas cities and counties, and instructors deliver training in accordance with all local safety guidelines.

EQUIPMENT LENDING LIBRARY

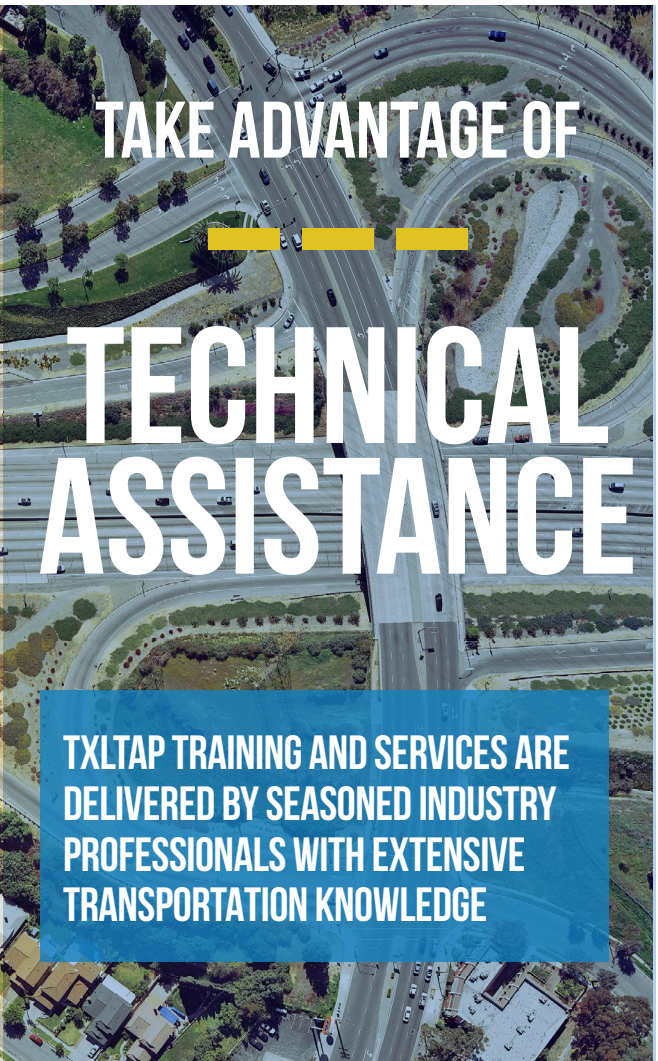
Equipment, such as traffic counters, a portable radar speed sign, handheld retrorefelctometer, digital ball bank indicator, fall protection gear, dynamic cone penetrometer and more, is available for loan at no-cost to local government agencies throughout Texas.

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 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.



TAKE ADVANTAGE OF TECHNICAL ASSISTANCE

TXLTAP TRAINING AND SERVICES ARE DELIVERED BY SEASONED INDUSTRY PROFESSIONALS WITH EXTENSIVE TRANSPORTATION KNOWLEDGE

TxLTAP instructors, subject matter experts, and staff include former maintenance managers, heavy equipment operators, road crew chiefs, civil and transportation engineers, inspectors, and public works directors who have all worked on Texas' roads and have the unique experience and knowledge to support local safety, maintenance, and innovation efforts.

In addition to delivering training classes, publishing Better Roads, Safer Roads, and providing information exchange opportunities at conferences, TxLTAP provides local roadway agencies an opportunity to consult directly with carefully selected subject matter experts to specifically address organizations' unique issues and offer meaningful solutions. Like all resources TxLTAP offers, there is no charge to receive technical assistance.

Do you need information on proper methods 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 and evaluate local roads or develop a no-cost training model specific to the needs of your workforce?

Take advantage of technical assistance services!

Call 817-272-2581 or email txltap@uta.edu to request assistance.

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TxLTAP

SAFETY:
Making Roads Safer for Workers & Drivers

WORKFORCE DEVELOPMENT:
Training that Makes an Impact

ORGANIZATIONAL EXCELLENCE:
Striving for Overall Quality

INFRASTRUCTURE MANAGEMENT: Building Smart & Using Resources Effectively

TRAINING • TECHNICAL ASSISTANCE • RESOURCES

TxLTAP serves local government roadway agencies by providing no cost training, technical assistance, equipment lending & more. Learn more at TxLTAP.org.

Request training & services today!

TxLTAP@uta.edu | 817.272.2581