

BETTER ROADS SAFER ROADS

SAFE STREETS AND ROADS FOR ALL



UTA

Division for Enterprise Development

— TxLTAP —

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This is a first-of-its-kind program, made possible by President Biden’s Bipartisan Infrastructure Law.

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NEW PROTECT FORMULA PROGRAM, \$7.3 BILLION FROM BIPARTISAN INFRASTRUCTURE LAW TO HELP COMMUNITIES BUILD RESILIENT INFRASTRUCTURE

In an ongoing effort to combat the effects of climate change and address the growing costs of extreme weather events negatively impacting communities, the U.S. Department of Transportation’s (USDOT) Federal Highway Administration (FHWA) recently announced new guidance and \$7.3 billion in formula funding to help states and communities better prepare for and respond to extreme weather events like wildfires, flooding, and extreme heat. This is a first-of-its-kind program, made possible by President Biden’s Bipartisan Infrastructure Law.

“In every part of the country, climate change is impacting roads, bridges, and rail lines that Americans rely on--endangering homes, lives and livelihoods in the process,” said U.S. Transportation Secretary Pete Buttigieg. “Using funds from the Bipartisan Infrastructure Law, we’re launching this unprecedented effort to help communities protect their transportation infrastructure from extreme weather and improve routes that first responders and firefighters need during disasters.”

The new Promoting Resilient Operations for Transformative, Efficient, and Cost-Saving Transportation (PROTECT) Formula Program funding is available to states over five years to make transportation infrastructure more resilient to future weather events and other natural disasters by focusing on resilience planning, making resilience improvements to existing transportation assets and evacuation routes, and addressing at-risk highway infrastructure. In general, eligible projects include highway and transit projects, bicycle and pedestrian facilities, and port facilities including those that help improve evacuations or disaster relief. States are encouraged to work with regional and local partner organizations to prioritize transportation and emergency response improvements, as well as address vulnerabilities.

“We see the effects of climate change and extreme weather play out across the country every week, with extreme temperatures and rainfall and resulting flooding and wildfires that damage and

in some cases destroy roads, bridges and other transportation infrastructure,” said Acting Federal Highway Administrator Stephanie Pollack. “The PROTECT Formula Program will help make transportation infrastructure more resilient to current and future weather events and at the same time make communities safer during these events.”

Eligible resilience improvements can involve adapting existing transportation infrastructure or new construction to keep communities safe by bolstering infrastructure’s ability to withstand extreme weather events and other physical hazards that are becoming more common and intense. Eligible project choices may include the use of natural or green infrastructure to buffer future storm surges and provide flood protection, as well as aquatic ecosystem restoration. PROTECT projects can also help improve the resilience of transportation networks that serve traditionally underserved and underrepresented communities, particularly during natural disasters and evacuations.

For more information about the new PROTECT Formula Program and guidance released on July 29th, please see [FHWA’s website](#) and [fact sheet](#). The five-year funding table for total estimated PROTECT state-by-state funding for Fiscal Years 2022-2026 is available [here](#). The Bipartisan Infrastructure Law established both the PROTECT Formula and Discretionary Grant Programs. A Notice of Funding Opportunity for the PROTECT Discretionary Grant Program will be released later this year.



MOBILITY, TECHNOLOGY AND SAFETY: THE NEXT 20 YEARS A NEW REPORT BY THE NATIONAL SAFETY COUNCIL

Addressing the current and ongoing national crisis on U.S. roads, the report's executive summary offers 10 key conclusions for the next 20 years.

The National Safety Council (NSC) released the executive summary of its new research report, [Mobility, Technology and Safety: The](#)

[Next 20 Years](#). Released on July 26 and funded by Allstate, the full report, explores the evolution of mobility and the implications of past actions on the future of safe mobility.

The United States is facing a national crisis. Roadway fatalities are at a 16-year high, with preliminary NSC data showing more than 46,000 people died on U.S. roads in 2021. NSC estimated that 462 more may die in preventable crashes over the past Independence Day Weekend alone. Vulnerable road users, those who are walking, biking or are otherwise outside a vehicle, are dying at faster rates. Communities of color and low-income communities also experience higher rates of fatalities and are over-represented in these data. To reverse these deadly trends, NSC seeks to leverage research, knowledge and passion for this topic to find new solutions and turn the tide on traffic violence.

"Over the previous 20 years, waves of new technologies have disrupted urban transportation, from car share and ride hail to e-scooters and bike share"

Recognizing these needs, and with funding from Allstate, NSC commissioned this new report in 2021 from lead author David

Zipper, a Visiting Fellow at the Harvard Kennedy School with a background in both technology and local government, and the author of more than 75 articles about cities, transportation and technology. This report examines the history of mobility safety and how it can help identify trends that will define mobility over the next two decades.

There will be dramatic changes on city streets and sidewalks in the coming decades. The executive summary of this report offers 10 key conclusions for the next 20 years:

1. Motor vehicles will remain the top source of street deaths.
2. Widespread Advanced Driver Assistance Systems should be expected – but not autonomous vehicles.
3. Climate change will fundamentally alter urban transportation.
4. Denser neighborhoods will experience faster change in urban transportation technology.
5. Parcel delivery is poised for disruption.
6. Urban vehicles should be regulated by size and speed (rather than form factor) to encourage safety as well as innovation.
7. Street rules should not be made to promote or enable a particular technology.
8. Cities should be able to manage their streets and sidewalks.
9. Revisions to infrastructure and policy will be essential to enhance safety even in the best case of technological improvement.
10. Protection of Vulnerable Road Users will support equity goals.

"Recent history indicates the potential value of such forward-looking analysis. Over the previous 20 years, waves of new technologies have disrupted urban transportation, from car share and ride hail to e-scooters and bike share," said Mark Chung, Executive Vice President of Roadway Practice at NSC. "Public officials, and many advocacy groups, were caught off guard by this unprecedented rate of technological change, and they were often unsure how to respond to the safety concerns that emerged. Preparing in advance for the next generation of transformative technology and taking time to reflect on our current environment can save lives."



Source: National Safety Council report, [Mobility, Technology and Safety: The Next 20 Years](#)

"Allstate has been committed to making U.S. roadways safer for

years, going all the way back to advocating for seat belt legislation in the 1960's. As personal transportation evolves, so do our products, services and advocacy," said Eric Brandt, Executive Vice President and Chief Claims Officer at Allstate. "By sponsoring this report, we're once again imagining the future of mobility and assessing its safety implications so that we can best advocate for a safer transportation system."



Source: National Safety Council report, [Mobility, Technology and Safety: The Next 20 Years](#)

The executive summary was unveiled at an event at the National Press Club on June 29th. Featured speakers included Congresswoman Eleanor Holmes Norton, Chair of the Subcommittee on Highways and Transit, representatives from NSC, David Zipper, author of the report, and partners including Director Kristina Swallow of the Nevada Department of Transportation and Michael Kelley of BikeWalkKC. View a recording of the event [here](#).

As we prepare for what the future of technology might bring, we must address mobility's surge in roadway deaths. Congress took a crucial step toward reducing roadway deaths with the passage of the Bipartisan Infrastructure Law, which boosted safety-oriented, community-focused spending through novel initiatives like Safe Streets and Roads for All. The Department of Transportation has also made critical progress, including issuing the groundbreaking National Roadway Safety Strategy, which for the first time committed the federal government to a goal of zero roadway deaths. The National Safety Council executive summary creates a fuller picture of safe mobility to augment these policies and calls on Congress and DOT to do more to realize the report recommendations.

The report, *Mobility, Technology and Safety: The Next 20 Years*, is intended to supplement and add momentum to these ongoing federal efforts, providing much needed solutions for communities grappling with real safety problems. Read the executive summary and learn more about NSC efforts to reduce traffic fatalities at [nsc.org/futuremobility](#).

The Bipartisan Infrastructure Law (BIL) established the new Safe Streets and Roads for All (SS4A) discretionary program that will provide \$5-6 billion in grants over the next 5 years. This funding supports regional, local, and Tribal initiatives through grants to prevent roadway deaths and serious injuries. The development and establishment of a Comprehensive Safety Action Plan is a key component of this program.

The Notice of Funding Opportunity (NOFO) for Safe Streets and Roads for All grants was released on May 16, 2022 (information on the NOFO is posted on [SS4A web page](#)). Interested parties may visit the page and learn how to apply for SS4A grants. The application submittal deadline is September 15, 2022 at 4:00 p.m. CDT.

- Metropolitan planning organizations;
- Counties, cities, towns, other special districts that are subdivisions of a State, and transit agencies;
- Federally recognized Tribal governments; and
- Multi-jurisdictional groups comprised of the above entities.

- Develop or update a Comprehensive Safety Action Plan.
- Conduct planning, design, and development activities in support of an Action Plan.
- Carry out projects and strategies identified in an Action Plan.

Additionally, [the Systemic Safety Project Selection Tool](#) presents a process for incorporating systemic safety planning into traditional safety management processes. The tool provides a step-by-step process for conducting systemic safety analysis including when to select spot safety improvements versus systemic safety improvements and a mechanism to quantify the benefits of safety improvements.

Crash Trees can be used as part of the systemic analysis to identify focus crash types and facilities. FHWA has developed a [Crash Tree Maker](#) that automates the process and makes it easier to try different combinations. A [tutorial video](#) for the Crash Tree Maker is also available.

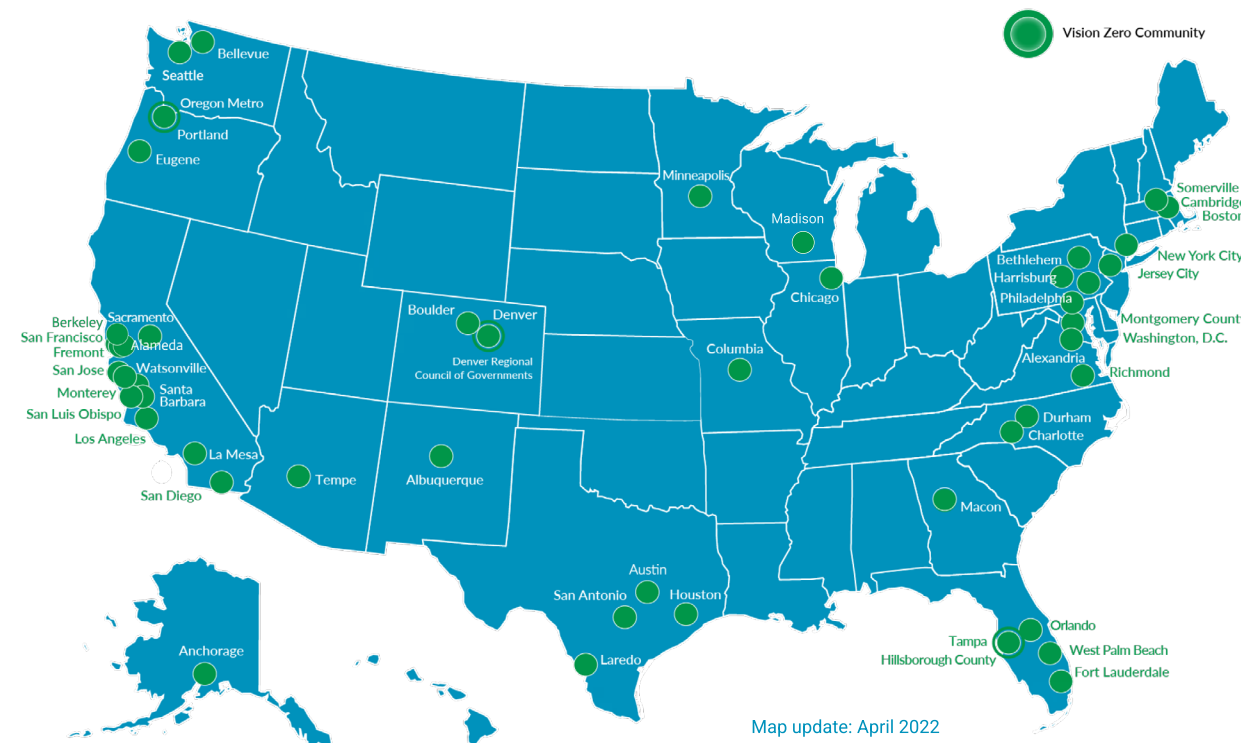
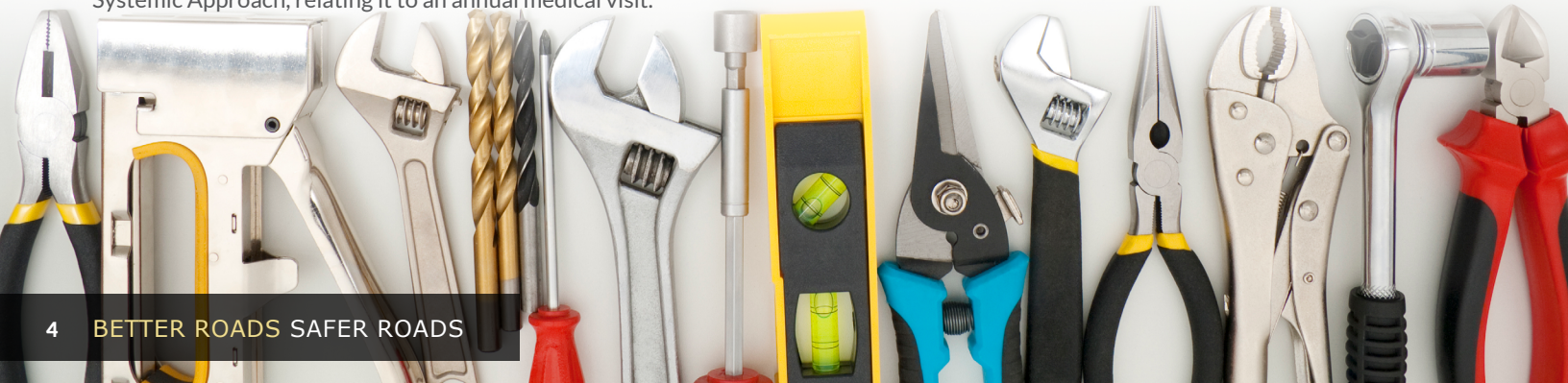
Finally, the [Crash Data Summary Template](#) is a spreadsheet that State, Tribal, local, and other agencies can use to detect overrepresentation to inform their highway safety programs.

To learn more about the systemic approach to reducing rural roadway departures, please contact Cate Satterfield, FHWA Office of Safety at Cathy.Satterfield@dot.gov, or Dick Albin, FHWA Resource Center at Dick.Albin@dot.gov.

The [Systemic Approach](#) to safety identifies locations based on high-risk roadway features that are correlated to particular crash types, rather than crash frequency. Rather than waiting for a tragedy to happen, the Systemic Approach tries to proactively improve locations based on risk.

The Federal Highway Administration (FHWA) has developed a number of tools and resources to help practitioners implement a Systemic Approach. These include [a video](#), which explains the Systemic Approach, relating it to an annual medical visit.

Roadway departure crash locations on rural roads are random and change from year to year. Agencies that rely solely on crash history are unlikely to find locations where more than one crash occurs, which makes it difficult to prioritize locations for improvement.



The U.S. is investing serious money directly into Vision Zero efforts at the community level. Whether you are staff at a public agency, a community-based advocate, or anyone who cares about stemming the crisis of 115+ preventable traffic deaths each day, the Vision Zero Network urges you to review the [U.S. Department of Transportation's \(USDOT\) informative website](#) about SS4A for key information.

The Vision Zero Network has compiled a list of [top takeaways & tips](#) on how to best leverage this funding opportunity for meaningful, lasting Vision Zero progress.

[Register for Grants.gov.](#) This can take time, so do it ASAP.

- See USDOT's informative [SS4A website](#) for critical details & examples for strong proposals.
- Consider partnerships to strengthen applications and long-term collaboration.
- Use this opportunity to build internal buy-in and momentum for meaningful, lasting systems changes (= more than a one-off grant application).
 - Example (internal): Train agency staff on [Safe System approach, equity priorities, speed management techniques](#);
 - Example (external): Develop and share strong messaging to educate key influencers (elected officials, policymakers, media) and general public on urgency and proven strategies to advance Vision Zero.

- The process can be as important as the product to build buy-in & momentum for systems change.
- Deepen work to prioritize equity and manage speeds for safety, especially for people walking and biking.

- Include funding for valuable, non-traditional partners, including public health staff and nonprofit / community-based groups.
- Set shared goals, specific actions, owners of actions & timelines.
- Plan for regular updates and evaluations to share with the public.
- Reminder: Demonstration, or pilot, projects can be included in both Action Plan and Supplemental Planning grants.

- Reminder: USDOT encourages Implementation Grant applications to include Supplemental Plan activities to update or improve upon existing plans (e.g. citywide speed management planning, racial and health equity prioritization, street lighting plans).
- These must be safety-oriented projects (not road widenings or adding auto capacity).
- Prioritize safety improvements in Historically Disadvantaged Communities and Tribal lands.
- Include funding to collect data and measure impacts of projects.
- Support meaningful community engagement efforts, including funds to empower and build capacity amongst community-based leaders, organizations.
- Go BIG and BOLD with your proposals! SS4A grants should fund meaningful, lasting systems change.

The Vision Zero Network is a collaborative campaign helping communities reach their goals of Vision Zero — eliminating all traffic fatalities and severe injuries — while increasing safe, healthy, equitable mobility for all. As a nonprofit project, the Vision Zero Network is committed to defining, building momentum, and advancing Vision Zero in communities across the U.S. For more resources and information on the Vision Zero Network, visit visionzeronetwork.org.



EQUITABLE ENFORCEMENT IS PROVEN TO SPUR POSITIVE BEHAVIOR CHANGE, MAKING U.S. ROADS SAFER

A new [research study](#) recently released by the National Highway Traffic Safety Administration (NHTSA) confirms that high visibility enforcement (HVE) of traffic safety laws has a positive and measurable impact on roadway safety by reducing dangerous driving behaviors that put road users at risk.

The synthesis of existing research examined data across 80 studies on the relationship between HVE efforts and safety outcomes, with a focus on the dangerous driving behaviors that are some of the greatest behavioral contributors to crash fatalities: not buckling up; speeding; and drunk, distracted and aggressive driving. The results indicate that initiatives involving equitable enforcement and public outreach can reduce these risky behaviors, which makes roads safer for everyone using them.

Specifically, the data showed that seat belt use rates increase an average of 3.5 percentage points when an HVE campaign is utilized. One additional checkpoint per 100,000 people per week increased the belt use rate by 0.76 percentage points, according to the analysis. Even relatively small increases in the belt use rate can translate to hundreds of lives saved. The federal “Click It or Ticket” seat belt enforcement program has proven incredibly successful, with U.S. belt use rates rising from only 58% in 1994 to more than 90% in 2020. But alarmingly, after years of steady progress, that rate fell slightly in 2020 during the first year of the COVID-19 pandemic when many police departments reduced traffic enforcement.

“This study reinforces the need for equitable traffic enforcement focused on the most dangerous driving behaviors,” said Governors Highway Safety Association (GHSA) Executive Director Jonathan Adkins. “Over the past two years, traffic enforcement has declined in many parts of the country while traffic deaths surged.”

The study also found that enforcement is effective at reducing other dangerous behaviors that are leading contributors to roadway fatalities. HVE campaigns focused on distracted driving, alcohol-impaired driving and speeding led to a reduction in hand-held phone use, lower rates of drunk driving crashes and citations, and decreased speeds in work zones, respectively. Each of those behaviors are incredibly dangerous and put everyone on the road at risk.

“Enforcement alone will not solve the traffic safety crisis,” said Adkins. “We cannot simply enforce, build, design or educate our way out of this problem. The Safe System necessitates a comprehensive approach for achieving our collective goal of zero traffic deaths, including equitable enforcement that focuses on risky driver choices that endanger all road users.”

The full research study is available [here](#). The study was conducted by the National Cooperative Research and Evaluation Program (NCREP), a federal research program managed by NHTSA and GHSA with the objective of helping State Highway Safety Offices enhance their programs. The program was renamed the Behavioral Traffic Safety Cooperative Research Project (BTSCRP) in Federal Fiscal Year 2018, although the goal remains the same. More information about NCREP and BTSCRP is available on the [GHSA website](#).



TXDOT SEEKS PUBLIC INPUT ON STATE’S 10-YEAR TRANSPORTATION PLAN



TxDOT recently sought public input on the draft 2023 [Unified Transportation Program \(UTP\)](#), the state’s 10-year transportation plan. The UTP guides the development of projects around Texas to improve safety, address congestion and connectivity, and preserve roadways for Texas drivers. In addition to highway projects, the UTP addresses public transportation, maritime, aviation, rail, freight and international trade, and bicycle and pedestrian connectivity.

“The Unified Transportation Program is TxDOT’s road map to developing projects across the state,” said Executive Director Marc Williams. “It is important to work with our transportation partners and hear from the public to guide transportation improvements that address congestion and enhance safety across our state.”

The public comment period for the draft 2023 UTP began Friday, July 8, 2022, and ended Monday, Aug. 8, 2022. Various methods to comment were posted to the [UTP Public Involvement webpage](#). The presentations and recordings for the previous public meeting and hearing will be available for viewing on the UTP Public Involvement webpage.

TxDOT works with its transportation partners to identify projects to be included in the UTP. Public comments and feedback are also very important in developing the plan. Available in English and Spanish, the UTP Fact Sheet can be found on the same [TxDOT.gov](#) webpage and provides an overview of the program. The Texas Transportation Commission approves the UTP in accordance with Texas state law every August during the commission meeting and publishes the approved UTP on [TxDOT.gov](#).



TXDOT UPDATES LOAD POSTING REQUIREMENTS FOR BRIDGES

The Texas Department of Transportation inventories and performs safety inspections of all bridges on public roads. Inspections are performed in accordance with the National Bridge Inspection Standards as required by the Federal Highway Administration (FHWA) and, as part of these inspections, load ratings are performed to determine the safe load carrying capacity of a bridge.

If a bridge is determined to be unable to safely carry any of a number of legal truck loads (not requiring a permit) as allowed by the Transportation Code, it is required to have a weight restriction. “Safely” carrying a load, such as an 18-wheeler, dump truck, etc., means that the bridge has sufficient structural capacity beyond its “breaking point.”

If a bridge has been built with lighter members than required, or if deterioration has reduced the strength of the originally adequate members, a load posting may be necessary. Load posting does two things. First and foremost, it protects people and property by ensuring that the loads approved to cross the bridge can be safely carried. Secondly, it protects the bridge itself by keeping the loads down to a point that the bridge will not suffer damage from trucks that are too heavy.

In Texas, load posting, or weight restrictions, have many variations to allow as many truck types as possible, while disallowing only those that exceed the safe capacity. Depending on the configuration of the bridge (span lengths, etc.), a bridge might only require a single axle restriction, a tandem axle restriction, a gross weight restriction, or some combination of these. Signs might restrict a certain type of vehicle with a certain gross weight but allow a different type of vehicle that is heavier, but has its load spread out over a greater length. The document located [here](#) helps explain Load Posting in Texas.

Timely installation of and consistent enforcement of these weight restrictions ensures our facilities remain safe for everyone. When safety is a concern, bridge owners (TxDOT for state owned structures and local governments for locally owned bridges) are responsible for taking immediate action to restrict loads or close structures.

A recent update to the Code of Federal Regulations (CFR 650.313 Inspection Procedures) codifies that “postings be made as soon as possible but not later than 30 days after a load rating determines a need for such posting”. TxDOT partners with local governments on load postings and strives to deliver load posting signs to local governments as soon as possible to maximize the time available to local governments to install these signs on their bridges. TxDOT requests that local governments install signs as soon as possible to ensure compliance with Federal requirements. Failure to comply with the Federal Bridge Inspection requirements could result in funding impacts.

For more information, please contact Steven J. Austin, PE, Field Operations Section Director at Steven.Austin@txdot.gov.



Photo 1 – The capacity of a bridge posted for 12,500 lbs was exceeded under loading from a truck with gross vehicle weight of 54,000 lbs in 1996.

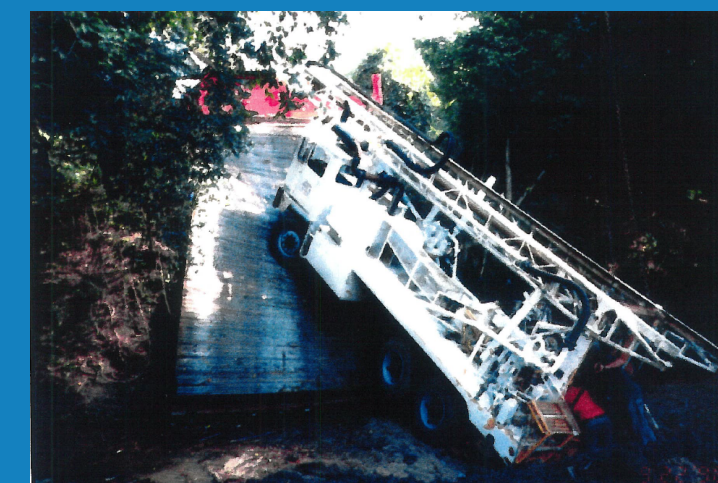
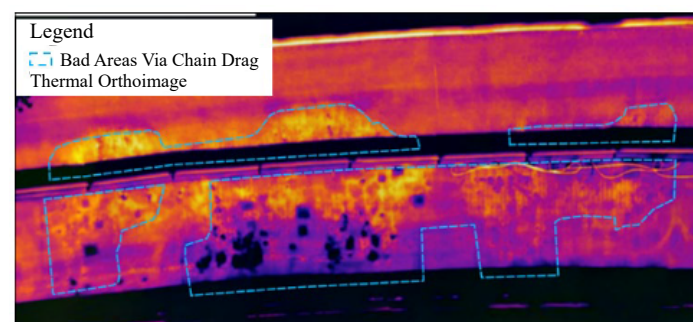


Photo 2 – The capacity of a bridge posted for 16,000 lbs was exceeded and resulted in collapse of this bridge in 1999.

HELPING WITH BRIDGE INSPECTION: UNMANNED AIRCRAFT SYSTEMS (UAS)

Unmanned aircraft systems (UAS) can supplement standard inspection methods and equipment and be a valuable addition to the bridge inspection toolbox to obtain stand-alone, high-quality visual inspection data. Compared to traditional access methods, such as the under-bridge inspection truck (UBIT), UASs can reduce cost, improve inspector safety, and enable examination of areas that are difficult to access when successfully employed by a qualified and proficient pilot in conjunction with a qualified bridge inspector.

More and more bridge owners are employing UAS and exploring new ways to integrate UAS within established guidelines. The FHWA is moving forward in collaboration with those in the field to find efficiencies in inspection methods, reduce the cost of conducting inspections, enhance the comprehensiveness and quality of collected data, and improve the safety of inspection teams by using UAS. FHWA conducted a research study to identify types of sensors used in UASs; quantity and quality level of data



Example of an infrared image of possible bridge-deck delamination. Source: © ARE Corp.

needed to perform satisfactory inspection using UASs; best practice guidelines for efficient and reliable use of the sensors; and guidance on how the collected data should be assessed, presented, and stored to provide reliable and actionable information to owners to support data-driven decisions. This research study also identified the minimum requirements of sensors to provide comparable information as other visual inspection techniques.

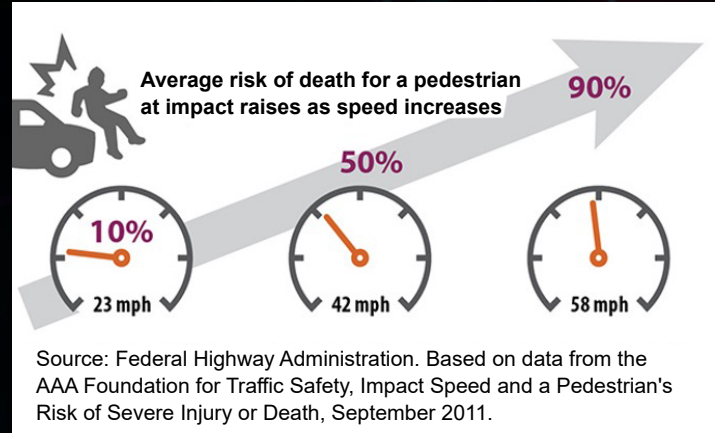
If you would like to learn more about the FHWA Turner-Fairbank Highway Research Center’s research study about UAS helping with bridge inspections, [the report is available on-line](#) or please contact Dr. Hoda Azari, NDE Research Program Manager at hoda.azari@dot.gov.

SPEED MANAGEMENT IS KEY TO ROAD SAFETY

by Guan Xu, Abdul Zineddin, Randolph Atkins, and Sarah Abel

Much progress has been made in transportation safety over the last several decades. Despite the large increase in traffic volume, the fatality rate decreased from 5.5 fatalities per 100 million vehicle miles traveled (VMT) in 1966 to 1.11 fatalities in 2019. Despite this success, reducing traffic speeds and speeding-related crashes and fatalities continue to pose some complex challenges. Early estimates show that fatality rates and speeding-related fatalities increased in 2020 during the COVID-19 public health emergency, compared to 2019, although 2020 was anomalous.

Studies clearly show that higher speeds result in greater impact at the time of a crash, which leads to more severe injuries and fatalities. This is especially concerning for more vulnerable road users, such as motorcyclists, bicyclists, and pedestrians. Per vehicle miles traveled in 2019, motorcyclist fatalities occurred nearly 29 times more frequently than passenger car occupant fatalities, and 33 percent of motorcycle riders involved in fatal crashes in 2019 were speeding. Pedestrians made up 17 percent of traffic fatalities in 2019 with 6,205 fatalities. Bicyclists accounted for approximately 2 percent of fatalities in 2019 with 846 bicyclist fatalities.



THE GREATER THE SPEED OF A VEHICLE AT THE TIME OF A CRASH, THE HIGHER THE RISK OF DEATH FOR A PEDESTRIAN STRUCK.

Because higher speeds increase fatalities, new approaches in speed management, such as the Safe System Approach, are needed to reduce roadway fatalities and increase the safety of all road users. Underscoring the importance of this issue, the National Transportation Safety Board (NTSB) has identified both "implement a comprehensive strategy to eliminate speeding-related crashes" and "protect vulnerable road users through a Safe

System Approach" as part of its [2021–2022 Most Wanted List of Transportation Safety Improvements](#).

SPEEDING AS A SAFETY PROBLEM

The National Highway Traffic Safety Administration (NHTSA) defines a crash as speeding-related if any driver involved in the crash is charged with a speeding-related offense or if a police officer indicates racing, driving too fast for conditions, or exceeding the posted speed limit was a contributing factor in a crash. The most recent data from NHTSA's Fatality Analysis Reporting System (FARS) found that, in 2019, there were 9,478 speeding-related fatalities, 26 percent of total traffic fatalities for the year. For speeding-related fatalities where functional class was reported, 86 percent occurred on non-interstate roadways. Drivers in speeding-related fatal crashes were more likely to have previous convictions for speeding and/or alcohol-impaired (BAC .08 g/dL or higher) driving, previous crashes, and license suspensions or revocations compared to non-speeding drivers in fatal crashes.

SPEED FEEDBACK SIGNS LIKE THIS ONE CAN ENCOURAGE



© Portland State University

DRIVERS TO FOLLOW POSTED SPEED LIMITS AND ADVISORY WARNINGS.

NHTSA's nationally representative survey of traffic speeds across the United States conducted in 2015 revealed that 70 percent of free-flow vehicles on limited access roads exceeded the posted speed limit, with 59 percent of vehicles on major arterials and 60 percent of vehicles on minor arterials and collector roads also exceeding the posted speed limit. The 85th percentile speeds were significantly higher in 2015 on major arterials and minor arterials

and collector roads as compared to the previous national survey in 2009. The full survey is available at <https://rosap.nhtl.bts.gov/view/dot/35961>.

The COVID-19 public health emergency made excessive speeding behaviors more evident. Traffic speeds across the country increased during this same period compared to historical levels, especially on urban interstates, with many reports of drivers traveling at extremely high speeds in excess of 100 miles (160 kilometers) per hour. In 2020, while VMT decreased 13.2 percent, the fatality rate increased to 1.37 fatalities per 100 million VMT, up from 1.11 in 2019, with a projected 7.2 percent increase in fatalities and an 11 percent increase in speeding-related fatalities. The evidence indicates that a combination of less congested roads and a higher percentage of riskier drivers contributed to this increase.

Many factors contribute to drivers' choice of speeding, but drivers' beliefs and attitudes play an important role in their driving behavior and the cultural acceptance related to speeding. For instance, NHTSA's naturalistic driving study, "Motivations for Speeding," showed that driver motivations, attitudes, and beliefs are "highly significant predictors" of which drivers speed and how much they speed. Several studies identified speed-contributing attitudes such as being impatient with other drivers, wanting to get where they are going as fast as possible, enjoying driving fast, and believing that driving fast was not dangerous for skilled drivers.

SAFE SPEEDS IS ONE OF THE FIVE ELEMENTS OF THE SAFE SYSTEM APPROACH. APPLYING SAFE SPEEDS REDUCES IMPACT FORCES, INCREASES VISIBILITY AND DECREASES STOPPING DISTANCE.

SAFE SYSTEM ELEMENTS

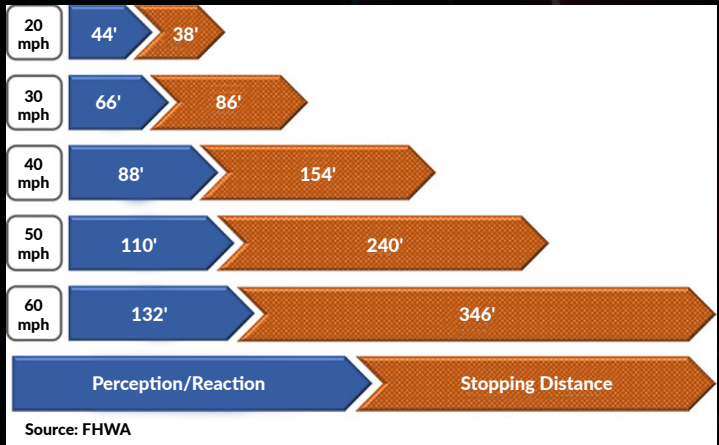
Safe Road Users <p>The Safe System approach addresses the safety of all road users, including those who walk, bike, drive, ride transit, and travel by other modes.</p>	Safe Vehicles <p>Vehicles are designed and regulated to minimize the occurrence and severity of collisions using safety measures that incorporate the latest technology.</p>	Safe Speeds <p>Humans are unlikely to survive high-speed crashes. Reducing speeds can accommodate human injury tolerances in three ways: reducing impact forces, providing additional time for drivers to stop, and improving visibility.</p>	Safe Roads <p>Designing to accommodate human mistakes and injury tolerances can greatly reduce the severity of crashes that do occur. Examples include physically separating people traveling at different speeds, providing dedicated times for different users to move through a space, and alerting users to hazards and other road users.</p>	Post-Crash Care <p>When a person is injured in a collision, they rely on emergency first responders to quickly locate them, stabilize their injury, and transport them to medical facilities. Post-crash care also includes forensic analysis at the crash site, traffic incident management, and other activities.</p>

Source: FHWA

Transportation professionals have realized that creating a positive traffic safety culture is critical to addressing speeding as a safety problem. All five elements of the Safe System Approach can be applied to addressing speeding; however, the safe speeds and safe roads elements are of particular importance when creating a successful speed management program and advancing speed management for safety.

THE IMPORTANCE OF SPEED MANAGEMENT

When drivers are traveling at higher speeds, they require more time to react once they see changes in the road environment ahead. Once they engage the brakes, the distance required to stop the vehicle is directly related to the speed of the vehicle at the time of braking and the vehicle's weight; higher speeds and heavier vehicles simply take longer to stop, so consequently these factors result in the increased probability of crashes. Speed also impacts the severity of a crash. The force involved in a crash is directly related to the speed at the time of a crash: "The energy release is proportional to the square of the impact speed," according to the Transportation Research Board's *Special Report 254: Managing Speed – Review of Current Practice for Setting and Enforcing Speed Limits*. These factors show how effective speed management using the Safe System Approach, defined as kinetic energy management, can contribute to reducing speeding-related serious injuries and fatalities.



THIS GRAPH SHOWS DISTANCE TRAVELED FOR PERCEPTION/REACTION AND STOPPING BY SPEED. ONCE A DRIVER BEGINS REACTING, THE VEHICLE TRAVELS A GREATER DISTANCE DURING AN EVASIVE MANEUVER, THE DRIVER HAS A REDUCED ABILITY TO STEER AROUND OBJECTS IN THE ROADWAY, THERE IS AN INCREASED RISK THAT “AN EVASIVE STEERING MANEUVER WILL RESULT IN LOSS OF CONTROL,” AND MORE STOPPING DISTANCE IS REQUIRED.

Speed management is an approach that focuses on achieving safe mobility by setting appropriate speed limits, reducing speeding, and reducing and/or mitigating the impact of speeding-related crashes. The goal of the U.S. Department of Transportation (USDOT) speed management program is to improve public health and safety by reducing speeding-related fatalities and injuries

and achieve improved safety experience for all road users. The following key speed management strategies and activities for achieving the USDOT speed management program goal were identified by the USDOT intermodal Speed Management Team that consists of NHTSA, FHWA, and the Federal Motor Carrier Safety Administration:

- Developing and implementing jurisdiction-wide speed management programs and plans.
- Outlining how to set safe, consistent, and enforceable speed limits based on the presence of all road users and context and not just drivers’ operating speeds.
- Applying proven safety countermeasures to help achieve safe speeds for the safety of all roadway users.
- Improving crash data report forms with targeted reporting of speeding-related crashes that provides consistency and focuses on identifying contributing factors.
- Deploying enforcement through transparent high-visibility activities, educational programs, and awareness campaigns rather than a strictly enforcement focus.
- Considering equity in speed management decision making.

The team is currently updating the USDOT Speed Enforcement Camera Systems Operational Guidelines. The updated guide is expected to be renamed Speed Safety Camera Program Planning and Operations Guide and will emphasize that speed cameras are an effective countermeasure to improve safety by managing traffic speeds.

Noteworthy safety programs recognize safe speeds as a key factor to achieving a goal of zero traffic deaths and serious injuries. All zero-death programs reference the Safe System Approach for achieving safe speeds, and the need to create a positive traffic safety culture and improve driver behavior as a part of effective speed management.

The safe speeds element of the Safe System Approach can be reached through a comprehensive speed management program. There are challenges and opportunities when considering speed management in relation to the Safe System Approach. These include how to define safe speeds consistently across all contexts, how to effectively set safe speed limits that do not rely solely on driver operating speeds, how to achieve a target speed using roadway geometry effectively, and how to incorporate the concepts of kinetic energy forces and speed harmonization in existing speed management guidance. To address the challenges, a joint effort by FHWA and the Institute of Transportation Engineers (ITE) is currently developing additional resources as speed management practices shift toward applying the Safe System Approach.

FHWA: WORKING TOWARD BETTER UNDERSTANDING AND MANAGING OF SPEED

Speeding and speed management are cross-cutting and complex challenges involving the interaction of many factors, including effective roadway design, posted speed limits, political climate, road user behavior, enforcement strategies, and judicial decisions. Collaboration is the key to combat speeding as a safety problem. National agencies and organizations, such as FHWA, NHTSA, and ITE, provide resources and technical assistance on safety through speed management.

FHWA has been focusing on setting appropriate, consistent, and enforceable speed limits and providing technical assistance to State and local agencies on implementing effective infrastructure and engineering speed management countermeasures to encourage drivers to obey speed limits. Through its Proven Safety Countermeasure Initiatives Program, FHWA is promoting, with technical support, the implementation of several proven speed management countermeasures including variable speed limit system, speed safety camera, and setting appropriate speed limits for all road users. Recently, FHWA began a new program to explore concepts and techniques to integrate the Safe System Approach with speed management.

SAFE SPEEDS, ONE OF THE FIVE ELEMENTS OF THE SAFE SYSTEM APPROACH, ARE CRITICAL FOR ALL ROAD USERS.

Speed management is receiving increased attention from State and local agencies, especially those that have adopted Vision Zero goals and are beginning to implement the Safe System Approach. Forty-four States have included speeding or speed management in their Strategic Highway Safety Plans. A comprehensive speed management program is crucial to ensure that agencies can work collaboratively to address safe speeds in a holistic approach. Speed management program plans set objectives, identify gaps and needs, lay out strategies and planned activities, and incorporate state-

of-practices for successfully implementing speed management programs. FHWA has been providing direct technical assistance and has helped some agencies successfully develop and implement speed management program plans. Some of the recently developed program plans include recommendations and strategies to help advance a positive traffic safety culture and application of the Safe System Approach.

In recent years, FHWA has endeavored to update existing, and create new, speed management resources for practitioners and provide technical assistance for speed management. This includes the recently published report, Noteworthy Speed Management Practices (FHWA-SA-20-047, https://safety.fhwa.dot.gov/speedmgt/ref_mats/fhwasa20047/fhwasa20047.pdf), which includes examples of successful implementations of speed management countermeasures by public agencies on:

- Developing and implementing a city-wide Strategic Speed Management Program with comprehensive speed management activities, established key indicators, target achievement metrics, and an integrated effort including enforcement;
- Setting safe, consistent, and enforceable speed limits for all roadway users for rural and urban environments;
- Applying engineering and alternate enforcement countermeasures, such as self-enforcing roadway and speed safety cameras, to achieve the set posted speed limits for the safety of all roadway users;
- Improving crash data forms with targeted reporting of speeding-related crashes that provide consistency and focus on addressing crashes by identifying contributing factors; and
- Implementing enforcement through transparency and using an “educational” initiative rather than a strict enforcement detail.

In addition, FHWA has also increased education and training for more transportation professionals on USLIMITS2, a web-based tool for setting safe speed limits. With the support of the National Cooperative Highway Research Program (NCHRP), FHWA is in the process of developing the next generation of the tool, USLIMITS3, which will incorporate state-of-the-practice research and methods, such as the Safe System Approach, for setting safe speed limits for all road users.

For more resources on speed management, visit <https://safety.fhwa.dot.gov/speedmgt>. For information on NHTSA and ITE speed management activities, read the full article [here](#).

Article excerpt reprinted from the Federal Highway Administration's Winter 2022 issue of Public Roads.

MATCHING NEEDS WITH EXPERTISE TO SOLVE LOCAL ROAD SAFETY CONCERNS



MATCH Program logo. (Source: FHWA)



Arnold Road and Schaffer Road in College Station, Texas. (Source: Google Maps)

Local and Tribal agencies often face unique and location-specific safety challenges on their roads regarding issues such as roadway departure, intersection safety, speed management, and pedestrian and bicyclist safety. Since its launch in March 2021, the Federal Highway Administration's (FHWA) **Mentoring, Assistance, Training, and Communication Help (MATCH)** Program has connected several local agencies with expert peers who have assisted with safety issues on their roadways. The MATCH program provides free, broad-based technical assistance to local and tribal agencies facing roadway safety challenges. The program connects agencies requesting assistance (mentees) with volunteer mentors who have specific expertise to help successfully address the identified challenges. The MATCH Program leverages the solutions that mentors have already identified and successfully implemented to address similar problems on the mentees' roadways, enabling more agencies to benefit from these successes and eliminating the need to "reinvent the wheel."

COLLEGE STATION, TEXAS: 90-DEGREE CURVE CRASHES

In October 2021, the College Station Public Works Department requested assistance from the MATCH Program to address crashes occurring on a collector road where two roads intersect at a

90-degree curve with residential homes on either side (see aerial photo). The MATCH Program matched College Station with mentor James Nall, P.E., based on his experience with similar challenges. Mr. Nall is a traffic and safety engineer who previously served as the Traffic Division Director for Mesa County, CO.

Mr. Nall requested data about the curve and the crashes from the public works department. The speed limit at this section of the road is 30 mph, and there are sidewalks on both side of the road. The average daily traffic is 1,151 vehicles per day. There were four crashes at the curve between 2011 and 2021, with three of those crashes being westbound vehicles. All crashes occurred at night or during dark conditions. In some of these crashes, the vehicle ended up in the yard of the home adjacent to the curve.

In 2020, the College Station Public Works Department installed advisory speed limit signs, chevrons, and a double yellow line to warn motorists of the upcoming curve. However, even with these countermeasures, a crash occurred at the location in 2021. After receiving and reviewing this information, the mentor and mentee met virtually to discuss in further detail the issues experienced and potential countermeasures to resolve the issues.

MATCH ASSISTANCE: IDENTIFYING ADDITIONAL COUNTERMEASURES

A visual trap occurs when the road curves, but visual cues such as breaks in the tree line or the continuation of power poles, or in this case the pedestrian path, leads a driver to think the road continues straight.

Mr. Nall suggested that while speed and darkness were contributing risk factors, they were not the primary risk factors resulting in the crashes. Instead, the roadway alignment seemed to be the primary factor. As one is approaching the curve on Arnold Road before it turns into Schaffer Road, it appears that the roadway alignment is straight. This is what traffic engineers refer to as a visual trap. In this case, when viewing the pedestrian path that continues straight where the road curves (see images below) some drivers could mistakenly assume the road is going straight. As such, some drivers on the approach may be surprised by the 90-degree curve. This is compounded at night because there are very few visual cues to alert the driver of the coming curve. In addition, the chevrons that inform drivers of the change in alignment are not clearly visible. The

chevrons can be seen at the curve, but it may be too late for drivers to slow down and adjust to the alignment as they enter the curve.

Based on the information gathered and discussions with the agency's traffic engineer, Mr. Nall recommended the following countermeasures as a priority:

- Increase the size of the chevrons to either 30 by 30 inches or 36 by 36 inches
- Add an advisory plaque to reinforce the advisory speed



View down Arnold Road toward the curve. (Source: Google Earth)



View at the curve. (Source: Google Earth)

OTHER COUNTERMEASURES RECOMMENDED INCLUDE

- Install speed reduction markings. Placing transverse markings is a way to reduce speed by progressively reducing the spacing of the lines to give motorists the impression that their speeds are increasing.
- Install a solar-powered flashing LED turn sign. This is an effective solution to warn drivers in advance of the curve.
- Install flashing LED chevrons. This is also an effective solution to warn drivers in advance of the curve
- Place advanced transverse rumble strips prior to the curve.
- Install a series of LED-enhanced solar-powered signs with a controller to detect and flash a series of chevron signs. This system not only warns the driver of the curve but also guides that driver through the upcoming horizontal curves.

The College Station Public Works Department was proactive in addressing the crashes at the curve but realized that additional

assistance was needed to identify other countermeasures that had successfully worked in similar locations. By pairing the Public Works Department with an engineer who had previously worked for a local agency and had faced similar issues, the MATCH Program helped College Station benefit from a peer's expertise rather than having to continue with trial and error to identify a solution to this safety issue.

PARTICIPATING IN MATCH

The MATCH program can assist with your local or Tribal roadway safety challenges. All local and Tribal agencies are eligible to apply for this FREE technical assistance from a mentor through the MATCH program. For assistance, prospective mentee agencies must fill out and submit a [short online application](#). Response is quick and, depending on the issue, technical assistance may be provided immediately. Requests must be directly submitted by a public official. When necessary, FHWA may coordinate with the mentee's respective State DOT or FHWA division office to support the mentoring request. Upon approval for the program, the applicant will be matched with a mentor.

You can also participate in the MATCH Program as a mentor. Public agency transportation safety professionals who have specific expertise related to local and/or Tribal road safety may serve as mentors. Mentors must be actively employed by or retired from a public transportation agency with a minimum of 5 years of continuous transportation safety experience. Mentors' schedules will be accommodated; however, they will be asked to make a commitment to assist the mentees. Both mentors and mentees will be required to produce a short report once the activity is completed in an effort to document and share noteworthy practices.

Learn more about the [MATCH program](#) or contact Rosemarie Anderson at rosemarie.anderson@dot.gov.

Reprinted from the Federal Highway Administration's Summer 2022 issue of Safety Compass.



TXDOT APPROVES NEARLY \$150 M FOR STATEWIDE TRANSIT

On a sweltering summer day in south Texas, Linda Duran rode in air-conditioning on her way home from seeing her husband at the nursing home. She was taking a public transit service she uses every day to also get to work and the grocery store, and now TxDOT is investing nearly \$150 million to help people like Duran across the state.

On July 12, the Texas Transportation Commission awarded more than \$68 million in federal and state funds to transit providers across the state. Combined with an award granted in June, TxDOT is distributing more than \$146 million in funding, a 65% increase compared to funds approved in the summer of 2021. This increase is partly due to additional federal funds from the Infrastructure Investment and Jobs Act.

The money will help make Duran's daily rides more comfortable and easier to access. Across the state the funds will make transit safer and more reliable, ensuring Texans have access to jobs, schools, healthcare and other important destinations and services.

"This funding is critical to ensuring everyone in Texas, especially in rural areas, has access to where they need to go safely and reliably," TxDOT Transportation Commissioner Alvin New said. "Many people across the state rely on these services for basic life needs

because they have no other option. We're excited to help fund these agencies as they continue to help the people of Texas."

Transit agencies can use this funding to cover maintenance costs, buy new buses, build new facilities and expand their services to pick up more people. Here are some specific examples:

- Concho Valley Transit District in San Angelo will build a bus storage and in-house maintenance facility.
- Rural Economic Assistance League (REAL), which serves nine counties in the Coastal Bend area of South Texas, will build a multimodal transit facility after doubling its service area over the past several years.
- Texoma Area Paratransit System, Inc. (TAPS), which serves six counties near the Oklahoma border, is bringing administration and transportation functions from leased space to a new facility.
- Brazos Transit District, which serves seven counties in the Brazos Valley, will expand its service and add fuel vehicles on site.

These state and federal funds support rural and urban transit services in over 90% of the state's land area, serving more than a third of the state's population. The services these agencies provide vary but can include both pick up at designated locations and taking customers to and from their homes

For more information, visit txltap.org

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

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.

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.

EQUIPMENT LENDING LIBRARY

Equipment, such as traffic counters, a portable radar speed sign, handheld retroreflector, 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.

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.

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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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