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Recent TxDOT Video Summary Reports

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Research and Technology Implementation Division

Item 1. Development and Evaluation of Roadside Safety Systems for Motorcyclists 9-1531

TEXAS A&M TRANSPORTATION INSTITUTE (TTI)

TTI 9-1531 VSR | 2026

"Roadside systems are generally designed for the safety of cars and trucks. This creates an issue for motorcycles; when involved in accidents with barriers, fatality rates are higher than with other vehicles. The United States doesn't have national standards for the systems, leading states to develop their own solutions. Research from the Texas Department and Transportation and the Texas A&M Transportation Institute looked at ways to reduce the risk for motorcycle travelers involved in accidents. This information can be shared with other states to help develop new devices and best practices, making barriers safer for motorcyclists."--from publisher

This video is available for free online (running time: 00:03:08):

<https://youtu.be/IybinMxQoZg>

More information about this publication available in the [TxDOT Research Library Catalog](#).

Item 2. Texas Local Technical Assistance Program (TxLTAP) 5-7097-24

TEXAS A&M TRANSPORTATION INSTITUTE (TTI)

UTA 7097-24 VSR | 2026

"The Local Technical Assistance Program (LTAP) is a nationwide effort financed by the Federal Highway Administration and individual state departments of transportation. TxLTAP is focused on delivering quality training and technical assistance to local city and county road agencies in Texas to enhance the performance of transportation workers, ensuring they conduct their duties in a safe, efficient, environmentally sound and cost-effective manner. This program allows city and county agencies to maximize benefits of their own fiscal and staffing resources through training geared specifically to local government circumstances, customized technical assistance, advice provided at events, and a library of resources."--from publisher

This video is available for free online (running time: 00:03:41):

<https://youtu.be/U12reUGaxXc>

More information about this publication available in the [TxDOT Research Library Catalog](#).

Research and Technology Implementation Division

Item 3. Determine Service and Ultimate Behavior for Bent to Column Joints in TxDOT Substructures 0-7113

TEXAS A&M TRANSPORTATION INSTITUTE (TTI)

TTI 7113 VSR | 2025

"The Bridge Design Manual requires consideration of various extreme events such as flooding, severe scouring, and damage due to collisions. Typically, column-to-cap connections are designed as simple supports. To provide improved detailing techniques to the standard column-to-cap connection, a University of Texas-Center for Transportation Research team investigated the performance of bent cap connections with traditional and improved details. The project provided practical, easily implementable design recommendations for column-bent connections through a thorough literature review, computational analysis, improved detailing and retrofitting methods, as well as large-scale structural experiments to investigate the performance of various details. The new design guidelines allow designers to account for extreme events."--from publisher

This video is available for free online (running time: 00:02:58):

<https://youtu.be/FGmuYrgpUx0>

More information available in the [TxDOT Research Library Catalog](#).

Item 4. Investigate Live Load Distribution and Stability of Prestressed Concrete Girders During Construction 0-7115

TEXAS A&M TRANSPORTATION INSTITUTE (TTI)

CTR 7115 VSR | 2026

"Bridges are being constructed at longer lengths than in the past. The Texas Department of Transportation and the Center for Transportation Research studied the stability of long-span prestressed concrete girders during construction. Results were compiled to look at how loads would be distributed over a finished bridge, while examining how the location of diaphragms impact stability."--from publisher

This video is available for free online (running time: 00:03:41):

<https://youtu.be/1TtMJlZtwA>

More information available in the [TxDOT Research Library Catalog](#).

Item 5. Investigate the Strength of Struts Crossing Cold Joints 0-7117

TEXAS A&M TRANSPORTATION INSTITUTE (TTI)

CTR 7117 VSR | 2026

"Cold joints are areas that form during construction, where newer laid concrete aligns with older or already established concrete. The design of these joints is not explicitly cover by American Association of State Highway and Transportation Officials (AASHTO) LRFD Bridge Design Specifications or by the TxDOT Bridge Design Manual. Working with researchers at the Center for Transportation Research, TxDOT looks to study struts crossing cold joints to develop guidelines and recommendations for designers, to more effectively gauge cold joints."--from publisher

This video is available for free online (running time 00:03:06):

<https://youtu.be/gVGv7B0RZa4>

More information available in the TxDOT Research Library Catalog.

Item 6. Develop Methodologies for Reducing Costs in Full Depth Reclamation (FDR) Construction 0-7143

TEXAS A&M TRANSPORTATION INSTITUTE (TTI)

TTI 7143 VSR | 2025

"The use of foamed or emulsified asphalt is growing in Texas. This process, known as full depth reclamation (FDR), has proven beneficial where the road needs to be opened quickly due to heavy traffic. The FDR mixture usually includes a cement additive; however, it may not be needed if performance requirements are not impacted. This adjustment has the benefit of lower construction costs and assisting crews to keep working during supply shortages. The Texas A&M Transportation Institute and the Texas Department of Transportation researched the durability and strength of FDR mixes based on their additive use. The research looks to produce recommendations on how mix designs can be adjusted and help determine when an additive is needed in a road project."--from publisher

This video is available for free online (running time 00:03:26):

<https://youtu.be/qXIhyODjQLs>

More information available in the [TxDOT Research Library Catalog](#).

Research and Technology Implementation Division

Item 7. Develop Design Details for CRCP Whitetopping at Intersections, 0-7148

TEXAS A&M TRANSPORTATION INSTITUTE (TTI)

TECHMRT 7148 VSR | 2026

"Roads in Texas face persistent maintenance challenges. They are being impacted by the large and growing amount of traffic from trucks and vehicles. Over time, traffic forces among other factors lead to pavement deformations and distresses particularly at intersections due to stop-and-go movement. These changes impact the road's quality and durability and can lead to premature failure. Consequently, this can mean performing frequent maintenance, using resources and funds that could be allocated elsewhere with a longer term and cost-effective approach. This is a challenge for the Texas Department of Transportation; improving how we maintain roads with strategies and designs that uphold quality and ensure safety over the long term while balancing costs and other resources. Working with researchers from the Texas Tech Center for Multidisciplinary Research in Transportation, TxDOT developed a data-driven framework for designing Continuously Reinforced Concrete Pavement (CRCP) whitetopping and unbonded overlays at intersections and main lanes as an effective road rehabilitation strategy."--from publisher

This video is available for free online (running time: 00:03:32):

<https://youtu.be/-gnV5xC47m4>

More information available in the [TxDOT Research Library Catalog](#).

Item 8. Develop Guidelines for the Use of Unmanned Aerial Systems (UASs) and Smartphones for Construction and Utility Inspections 0-7159

TEXAS A&M TRANSPORTATION INSTITUTE (TTI)

TTI 7159 VSR | 2026

"Smartphone cameras and unmanned aircraft systems (UASs) are being used to collect video and images used in 3D modeling at a lower cost than more traditional methods. While UAS vehicles require people to be trained to operate them on sites, smartphones can be used by almost anyone, helping collect information in remote locations. The Texas Department of Transportation and the Texas A&M Transportation Institute reviewed currently used technologies to determine their strengths and weaknesses in the field. This research is designed to determine which type of inspection should be used on various projects."--from publisher

This video is available for free online (running time: 00:03:13):

<https://youtu.be/-pT1mWMI9hc>

More information available in the [TxDOT Research Library Catalog](#).

Research and Technology Implementation Division

Item 9. Develop Best Practices for Flexible Pavement Repairs 0-7175

TEXAS A&M TRANSPORTATION INSTITUTE (TTI)

TTI 7175 VSR | 2026

"When a road needs repairs before a new surface is put in place, what is the best way to successfully accomplish this action? The Texas Department of Transportation and the Texas A&M Transportation Institute researched best practices for this performing this type of work. Current methods of repair such as patching, crack sealing, and leveling were examined, including when and where to use these methods. Researchers also looked at ways to develop an evaluation process, seeing how various methods will impact a new surface."--from publisher

This video is available for free online (running time: 00:03:20):

https://youtu.be/hA7XRuLVw_c

More information available in the [TxDOT Research Library Catalog](#).

Item 10. Develop and Updated Methodology for Calculation of Reimbursement Levels for Utility Relocations 0-7176

TEXAS A&M TRANSPORTATION INSTITUTE (TTI)

TTI 7176 VSR | 2025

"Utility relocations that involve private property areas are among the most complex situations faced by the Texas Department of Transportation, particularly when determining reimbursement eligibility. Although an eligibility ratio is commonly used, challenges arise when utilities extend across multiple properties or involve different types of property interest. To address these challenges, researchers from TxDOT and the Texas A&M Transportation Institute analyzed a sample of executed utility agreements to establish a baseline of current practices and identify variations in how eligibility ratios and reimbursement amounts are calculated and documented. The team also included a review of practices from other state departments of transportation to identify opportunities for improvement. Based on these findings, the team developed recommendations and a guidebook with refined methodologies, clearer calculation procedures, and examples to help standardize practices and improve the accuracy and efficiency of reimbursement decisions."--from publisher

This video is available for free online (running time: 00:03:06):

https://youtu.be/9C_Nx3zqsPI

More information available in the [TxDOT Research Library Catalog](#).

Item 11. Use Network Level Texture to Enhance Pavement Management 0-7178

TEXAS A&M TRANSPORTATION INSTITUTE (TTI)

CTR 7178 VSR | 2025

"A Center for Transportation Research team evaluated the use of texture data currently available in the TxDOT Pavement Analyst software to assess its accuracy in predicting skid resistance of pavements statewide. The team produced a series of models to be used for predicting pavements' skid resistance numbers based on available texture data. TxDOT is now using the hardware and software components produced by the project to conduct a series of in-house studies that will refine the procedures."--from publisher

This video is available for free online (running time 00:04:28):

https://youtu.be/khHym8_6beM

More information available in the [TxDOT Research Library Catalog](#).

Item 12. Select High Risk Pedestrian Midblock Crossings and Perform Safety Evaluations for Developing Pedestrian Crossings Countermeasures 0-7180

TEXAS A&M TRANSPORTATION (TxDOT)

UTSA 7180 VSR | 2026

"An estimated three out of four pedestrian deaths in the United States occur at midblock locations. These crashes can be more severe compared to intersections because drivers are not expecting pedestrians to cross in those areas. This research from the University of Texas at San Antonio looks to assist the Texas Department of Transportation in identifying high-risk midblock crossings while developing effective and cost-efficient ways to make them safer."--from publisher

This video is available for free online (running time: 00:03:07):

<https://youtu.be/8FQAQhccRPw>

More information available in the [TxDOT Research Library Catalog](#).

Research and Technology Implementation Division

Item 13. Develop Systematic and Quantitative Approach to Assess the Probability of Extreme Weather and Resilience Risks for TxDOT Highways and Bridges 0-7191

TEXAS A&M TRANSPORTATION INSTITUTE (TTI)
TTI 7191 VSR | 2026

"Extreme weather such as heat waves or flooding can impact the life cycle of roads and bridges statewide. While these issues have been discussed, most notably in 2022's Texas Transportation Asset Management Plan (TAMP), there is currently no method to measure this type of weather's effect to infrastructure. The Texas A&M Transportation Institute and the Texas Department of Transportation looked at ways to generate a framework for managing weather risks in future TAMPs. This includes a review of historical documents, identifying the relationship between weather and infrastructure, and developing plans to improve monitoring."--from publisher

This video is available for free online (running time: 00:03:42):

<https://youtu.be/3QkcGZIUPsA>

More information available in the [TxDOT Research Library Catalog](#).

Item 14. Traffic Control Device Analysis, Testing, and Evaluation Program 0-7198

TEXAS A&M TRANSPORTATION INSTITUTE (TTI)
TTI 7198 VSR | 2026

"Residential driveway temporary signals work in synchronization with portable traffic signals to regulate traffic entering from residential driveways when a lane is closed on a two-lane, two-way road. The Texas Department of Transportation and the Texas A&M Transportation Institute evaluated various types of these devices. These researchers developed guidelines and a preferred design that can now be used across Texas and nationwide."--from publisher

This video is available for free online (running time: 00:03:05):

<https://youtu.be/U537St10sxU>

More information available in the [TxDOT Research Library Catalog](#).

Research and Technology Implementation Division

Item 15. Develop Guidance for Sustainable Traffic Signal Operation Strategies to Support All Interaction Users 0-7209

TEXAS A&M TRANSPORTATION INSTITUTE (TTI)

CTR 7209 VSR | 2026

"Recent infrastructure funding supports the concept of "complete streets," a policy designed to accommodate all types of road users; including drivers, pedestrians, cyclists, and public transportation. In the past, this concept has had issues balancing safety and efficiency with the operation of traffic signals. The Center for Transportation Research and the Texas Department of Transportation developed guidelines to help design intersections that are more effective and productive for people using these roads."--from publisher

This video is available for free online (running time: 00:02:49):

<https://youtu.be/wWqID0c9568>

More information available in the [TxDOT Research Library Catalog](#).

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c/o Center for Transportation Research
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