

MISSOURI LTAP

MISSOURI LOCAL TECHNICAL ASSISTANCE PROGRAM
LOCATED AT MISSOURI S&T

FALL 2025

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Photo by: Sam O'Keefe

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Missouri LTAP Quarterly is published by the Missouri LTAP office located on the campus of Missouri University of Science and Technology. The opinions, findings and recommendations expressed in this newsletter are not necessarily those of Missouri S&T, MoDOT or the Federal Highway Administration.

FROM THE DIRECTOR



Hello everyone!

The cool mornings tell us that fall is just around the corner, which means one of our busiest times of the year is nearly upon us. We have been working the past few weeks to finalize a fall training schedule. During 2020 and 2021, we primarily offered single agency trainings because of the University and CDC guidelines at the time. Many agencies became accustomed to an on-demand delivery model. While we plan to continue scheduling classes based on agencies' requests, we realized that some smaller cities and counties are missing out since they don't always have enough employees to fill a class. Additionally, we have a larger roster of instructors once again. We are excited to be teaming with Training USA to bring more trainers on board and new delivery methods. For the first time, we will be able to offer hands-on training for multiple agencies in the same class. In the past, we were limited in offering hands-on classes because of liability issues. However, Training USA carries their own insurance, which makes it possible for multiple agencies to operate equipment in one location. We want to ensure we are once again covering the entire state with useful and engaging training.

The 2025 NLTAPA Conference, hosted by the North Central region, was held in Kansas City on July 20-24. Kanas LTAP is located at KU in Lawrence, less than an hour from downtown KC, so they hosted the conference while my team attended and managed the registration. I was originally scheduled to end my tenure as the National LTAP/TTAP Association (NLTAPA) president. However, the president elect announced in the spring he will be retiring at the end of the year, so I agreed to serve through the 2026 winter business meeting held during TRB in Washington, DC in early January. Once again, I'm immersed in planning the NLTAPA executive committee retreat being held in Columbus, OH in early November along with the winter business meeting. I've been honored to serve NLTAPA and appreciate their trust in me to serving six more months.

Missouri LTAP will again be hosting the Missouri Asphalt Conference in Rolla on December 2-3. Watch for upcoming information and a save-the-date notice. Hosting these conferences provides MO-LTAP with increased opportunities to reach local agencies as well as consultants and contractors involved in the transportation and infrastructure maintenance professions. I will also be attending the Highway Safety and Traffic Conference in Columbia on September 16-18, the Missouri Association of County & City Transportation Officials (MACCTO) conference on October 7-8 in St. Charles, and the Missouri Association of Counties on November 22-23 at Lake of the Ozarks. I hope to see many of you at these conferences. I am excited for the local agencies we serve to experience our new instructors and training options. Please don't hesitate to contact me or other team members in the MO LTAP office.

Best wishes!

Heath A. Pickerill, Ph.D.
Director, Missouri LTAP

In this ISSUE

FALL 2025



FALL FOOTSTEPS, SAFE STREETS

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According to recent blog post by the Insurance Institute for Highway Safety, the growing use of safe-driving mobile applications could deliver a completely new data source with many unique advantages to transportation safety researchers.



CITIES TURN TO TECH TO MAKE CURB RAMPS ADA-ACCESSIBLE

As cities develop plans to transition their curb ramps to ensure compliance with Americans with Disabilities Act regulations, they are turning to technology.



ENHANCING SAFETY FOR PEDESTRIANS AND BICYCLISTS AT ROUNDABOUTS

Roundabouts have been a successful traffic safety alternative to other intersection types, decreasing potential driver conflict points and severe crashes.



NEW TRIP REPORT EXAMINES TRAFFIC FATALITY TRENDLINES

TRIP noted in its report that U.S. traffic fatalities declined in 2024 for the third straight year after surging in 2020 and 2021 as the nation grappled with the impact of the COVID-19 pandemic.



HOW SAFETY CAMERAS SLOW DOWN DRIVERS IN SCHOOL ZONES

Talking Michigan Transportation podcast, Garrett Dawe, engineer of traffic and safety for the Michigan Department of Transportation (MDOT), talks about a pilot project to study the use of safety cameras for automated enforcement in school zones.

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The Local Technical Assistance Program (LTAP) and Tribal Technical Assistance Program (TTAP) are composed of a network of 58 Centers — one in every state, Puerto Rico and regional Centers serving tribal governments. The LTAP/TTAP Centers enable local counties, parishes, townships, cities and towns to improve their roads and bridges by supplying them with a variety of training programs, an information clearinghouse, new and existing technology updates, personalized technical assistance and newsletters. Through these core services, Centers provide access to training and information that may not have otherwise been accessible. Centers are able to provide local road departments with workforce development services, resources to enhance safety and security; solutions to environmental, congestion, capacity and other issues; technical publications; and training videos and materials.



FALL FOOTSTEPS, *Safe Streets*

Summer break has come to an end, but that doesn't mean we have a break from being vigilant about roadway safety.

As roadway users, we may need to be more vigilant than ever. There will be children as young as five years old standing next to the road waiting on the school bus. Other children will be walking alongside roadways to and from school every day – sidewalks and other walkways help ensure all these students have a safe path to travel.

Walkways are one of the Federal Highway Administration's (FHWA) Proven Safety Countermeasures. Providing sidewalks has the safety benefit of reducing crashes up to 89% for pedestrians traveling along the roadway. Even though separated sidewalks are the ideal solution, funding and space can be a limitation. Safety can still be increased by defining a clear pedestrian area along the paved shoulder of a roadway. This addition makes it obvious to both the drivers and pedestrians which portion of the roadway they should use. This type of modification to accommodate pedestrians along roadways has been found to reduce crashes up to 71%. Ideally, the walking paths or sidewalks should connect to form a complete network, not leaving gaps or spaces where pedestrians are forced to determine on the fly the safest route.

Increasing sidewalks and designated walkways in your community will not only increase safety for students returning to school but will also provide benefits to the rest of the community.

Many articles have attributed physical, social, and economic benefits of more walkable communities by providing a safe space for pedestrian travel.

Making a walkable network or adding sidewalks to your community may seem like a large ask while agency funds are limited, but there are several funding opportunities available including MoDOT's Transportation Alternative Program (TAP). MoDOT has already closed the call

for TAP projects this year but periodically issues supplemental requests. If you would like to be notified when the next MoDOT call for TAP projects and of other Local Public Agency news, you can get added to the listserv by emailing CODEConsultPreq@modot.mo.gov. Several federal funding sources include opportunities for bike and pedestrian facilities, including shared use paths, sidewalks, and paved shoulders. Please reach out to me to discuss the best program to fit your needs. If something isn't currently available, I can remind you when the funding call is open and walk through the entire process. As always, I'm available (and FREE) for any training or technical assistance regarding safety on your local roadways.

Wishing you a safe and cozy autumn,

Lauren Gehner, PE (Missouri Safety Circuit Rider)
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Phone: 314.348.0308

Sources:

highways.dot.gov/safety/proven-safety-countermeasures/walkways

fhwa.dot.gov/environment/bicycle_pedestrian/funding/index.cfm



Safety Benefits:

Sidewalks

65-89%

reduction in crashes involving pedestrians walking along roadways.³

Paved Shoulders

71%

reduction in crashes involving pedestrians walking along roadways.³

IIHS: SAFE-DRIVING APPS COULD BENEFIT SAFETY RESEARCH

According to recent blog post by the Insurance Institute for Highway Safety, the growing use of safe-driving mobile applications could deliver a completely new data source with many unique advantages to transportation safety researchers.

Unlike data from more traditional sources, telematics data from safe-driving apps are collected on every motorist over the entire duration of their trips – all interlinked with time and location information to provide vital context. This means it's possible to know exactly what a driver was doing throughout a trip as well as in the moments before a crash.

In that blog post, Eric Teoh – director of statistical services for IIHS – contends that, as the pool of users grows, the broader use of anonymous telematics data could lead to a more complete understanding of cellphone distraction and speeding, more precise studies of policy and infrastructure changes, and perhaps the development of new safety interventions.

"To study drivers' everyday behavior, we rely on methods like self-reporting surveys, roadside observation studies, tube counters to measure speeds, and naturalistic studies in which participants agree to drive a car equipped with a camera and other monitoring technology," Teoh said. "But all of these sources are missing some parts of the picture."

He explained that crash reports and claims information don't always include crucial details. Many aspects of driver behavior, such as fatigue and distraction, are hard to observe or measure. Moreover, drivers just involved in a crash may not be forthcoming about behaviors like cellphone use – especially if they were violating the law.

Surveys and naturalistic studies have limitations, too, as survey participants may not report their own behaviors accurately, Teoh noted. Meanwhile, observers positioned on the side of the road can only see so much, while naturalistic driving studies sometimes rely on a small number of participating drivers.

That's where telematics data can help fill in some of those critical gaps.

"Knowing the times and locations that various driver behaviors occurred is a significant advantage of this higher-resolution information," Teoh pointed out.

"It will allow researchers to zero in on specific road segments or intersections that they've identified for study, for example," he added. "If we're interested in the impact of a specific program or infrastructure change – a new kind of pedestrian crosswalk, say – we could pull telematics data generated at that specific site and other comparison sites from both before and after the intervention."

Teoh noted that an upcoming IIHS study will use telematics data to evaluate the effect of Arizona's 2019 law that banned drivers from holding or manipulating a wireless device.

Another impending study will attempt to quantify the underreporting of cellphone use as a factor in police-reported crashes with telematics data, while a third one will investigate the relationship between cellphone use and speeding to determine if drivers are more or less likely to speed when they're manipulating their phones, he said.

Telematics data could also be "mined" to inform communities about where they should install or enhance infrastructure and implement other solutions by identifying the locations where dangerous driving is most common, Teoh pointed out.

Importantly, using telematics will make it possible to do this before a spike in crashes occurs, he stressed.

"Telematics isn't going to replace our existing tools for researching and improving safety, but it is opening new ways of looking at a host of problems — and potentially offering new solutions," Teoh emphasized.

aashtojournal.transportation.org/iihs-safe-driving-apps-could-benefit-safety-research/

Cities turn to tech TO MAKE CURB RAMPS ADA-ACCESSIBLE

LOCALITIES MUST INSTALL OR REGRADE THEIR CURB RAMPS WHEN ROADS ARE CHANGED, AND THEY ARE USING AERIAL PHOTOGRAPHY, GEOSPATIAL DATA AND AI TO HELP.

As cities develop plans to transition their curb ramps to ensure compliance with Americans with Disabilities Act regulations, they are turning to technology.

ADA requires localities to install or regrade curb ramps to meet current requirements when roads are constructed or changed, such as repaved. But some localities don't have good records on where all their curb ramps are located, how they were constructed or whether they comply.

That was the case in Douglas County, Nebraska, which includes Omaha, the state's largest city, and Lawrence, Kansas.

In Douglas County, officials are using high-resolution aerial photography and Esri's GIS technology and GeoAI, an application that fuses artificial intelligence and geospatial data, to map out more than 34,000 curb ramps.

Steve Cacioppo, senior GIS analyst at the Douglas County/Omaha NE GIS Department, used high-res images to create training samples for GeoAI.

"I basically went into our imagery and identified 753 curb ramps, and I made sure that they were all a little bit different, meaning I had the easy ones that were in new subdivisions where you had this nice contrast between the concrete and the curb ramp," Cacioppo said.

"Then I went to the older parts of the city, where you might have dirt that is washed over on them, they might have been broken. I tried to give the model a good representation of what's out there."

When he runs the tool, it places polygons around the ramps it finds. Cacioppo then checks for and corrects errors. It sometimes incorrectly marks car sunroofs, skylights on homes and inlet grates around manhole covers, for instance, he said.

Cacioppo estimated that it would take about 1,000 hours – or six months of a full-time employee's time – to identify all the curb ramps. Instead, it took the machine about 12 days.

"That wasn't using any of my time," he added. "That was just compute time."

Now, he's creating computer-based field maps that inspectors with the county's construction division can use to check every curb ramp and begin prioritizing them for upgrades.

“They can put information in there on the current ADA curb ramp – maybe the date it was installed, the date it was inspected,” Cacioppo said. “They can right there on the spot in field maps delete anything that’s not a curb ramp, and add anything in that is, so that will get cleaned up in [real] time.”

That’s a far cry from the spreadsheets the county used to use to track curb ramps in the 1990s, said Todd Spark, maintenance superintendent at the Omaha Public Works Department. Now, every ramp is an asset in GIS and has an inspection report attached to show when the ramp was built, who built it and if it complies with the ADA.

“I was actually very surprised how many ramps were out there we weren’t aware of,” Spark said. “It was actually shocking compared to what our inventory showed.”

As the county creates a formal ADA compliance transition plan for curb ramps, the tool will be useful across city divisions that handle curb repair and replacement: the asphalt resurfacing program, which builds 800 to 1,200 ramps a year, often in older neighborhoods that aren’t compliant, and the sidewalk division, which responds to resident requests, he added.

Lawrence, on the other hand, has been working on such a plan for several years. Officials there aim to transition almost 6,600 curb ramps within the next 20 years. That’s based on a study of the city that they did using LiDAR and GIS technology from Esri to model sidewalks to understand areas with high pedestrian demand, low-income neighborhoods and those with zero-vehicle households.

The LiDAR, attached to slow-moving vehicles, captured details to let the GIS team analyze slope and dimensions. With the data, the team created a dashboard that displays information such as curb slope, vegetation obstructions and other factors for all curbs.

“One of the things that we came away with is that about 70% of our sidewalks and about 70% of our curb ramps needed to be addressed either through repair or reconstruction,” said Evan Korynta, the city’s ADA compliance administrator. “It helped us prioritize what areas in town we need to be in first.”

They use a rating system of one through 10, with 10 being the highest priority.

“We look at these Level 9 and Level 10 priority areas, then what we can do is look at the annual funding that we have available each year and pick out an area or a couple blocks that we think we can get done with the money that we have,” he said.

Next, inspectors can go to those areas and note hazards, repair needs, square footage and more.

Previously, “we did more of a complaint-based [response], and it was really spot repair or trip hazards,” Korynta said. “We really wanted to take more of a corridor approach, where we’re actually doing block end to block end so we can actually look at multiple properties all along the stretch and figure out what they need.”

City officials worked closely with the public to ensure support for the transition plan. For instance, they made the map publicly available to help with storytelling about how the curb ramp revamp will help residents overall.

Currently, only static shots are available, but “part of our asset management work is...getting a dashboard that then is public and live back posted up,” said Jessica Mortinger, transportation planning manager at the Lawrence-Douglas County Metropolitan Planning Organization.

“Our hope and dream, I think, in the whole story is really continuing to tell the story about the work that we’ve done in the significant capital investment to show that it’s paying off in our community,” she added.

route-fifty.com/digital-government/2025/08/cities-turn-tech-make-curb-ramps-ada-accessible/407054/



ENHANCING SAFETY FOR PEDESTRIANS AND BICYCLISTS AT ROUNDAOBOUTS

COMPARED TO TRADITIONAL INTERSECTIONS, ROUNDAOBOUTS HAVE BEEN PROVEN TO DECREASE SERIOUS CRASHES.

However, because drivers yield rather than stop upon entering roundabouts and at crosswalks, public concerns about pedestrian and bicyclist safety remain. Research and field evaluations into driver yielding and speed behaviors generated insights to guide local transportation agencies and MnDOT to further enhance pedestrian safety at roundabouts.

Roundabouts have been a successful traffic safety alternative to other intersection types, decreasing potential driver conflict points and severe crashes. To keep traffic flowing, drivers yield rather than stop when entering the roundabout, which has raised questions about the safety of pedestrians and bicyclists. Even if crosswalks are present, the absence of stop signs or traffic lights poses unique challenges for nonmotorized road users.

While previous MnDOT research showed a 70% decrease in fatal and serious crashes for pedestrians and bicyclists, pedestrian impressions of roundabouts are mixed

and some safety concerns remain. MnDOT and local transportation agencies sought to better understand driver behavior toward pedestrians and bicyclists to design and manage safe roundabouts for all road users.

WHAT DID WE DO?

To evaluate factors that impact driver behavior at roundabouts when pedestrians and bicyclists are present, researchers worked with the project's Technical Advisory Panel to choose Minnesota roundabout locations for observing pedestrian and bicyclist crossings. The selected sites included a mix of multi- and single-lane roundabouts in both urban and suburban contexts. Other factors included varied traffic volumes, speed limits and the presence of traffic control technologies such as rectangular rapid flashing beacons (RRFBs).

"This work highlighted the need to be very discerning when considering multiple-lane roundabouts as rates of driver yielding to pedestrians were slightly lower than at single-lane roundabouts. Overall, compared to other intersection types, roundabouts are still very safe for all road users," said Mark Wagner, assistant state traffic safety engineer, MnDOT Office of Traffic Engineering.



Researchers staged 100 crossings at each of 16 roundabouts over two summers during good weather and off-peak times. Half of the staged crossings involved pedestrians and half involved bicyclists. Half of the crossings were observed at the roundabout entries and half at the exits. Three roundabouts had RRFBs, and multiple geometric variables were recorded at each site. Naturalistic crossings were also included, for a total of more than 2,800 observed vehicle–pedestrian interactions.

In addition to collecting video data on vehicles and crossing locations, lane positions and whether an RRFB was present and activated, researchers observed two main variables: driver yielding behavior toward a pedestrian or bicyclist attempting to cross, and driver speed changes (measured by handheld lidar) both in the presence and absence of pedestrians or bicyclists.

WHAT DID WE LEARN?

A statistical analysis of the collected data showed that overall, 80% of drivers yielded for pedestrians and bicyclists crossing at roundabout entries while only 40%

yielded at the roundabout exits. The significantly lower yielding rate at exits was likely due to drivers not realizing that they should be yielding, accelerating as they left the roundabout, hesitating to impede circulating traffic and the lack of storage for queued vehicles at crosswalks on exit sides.

Several additional variables were associated with higher yielding rates:

- Smaller, single-lane roundabouts where driver speeds may be slower, and drivers do not have to consider other drivers in adjacent, same-direction lanes.
- More conspicuous pedestrians and bicyclists, such as crossings off a median island, walking rather than riding a bicycle across and improved pedestrian visibility for drivers turning right.
- The presence of RRFBs, whether or not they were activated, which may be due to their being installed in locations where drivers are accustomed to high pedestrian use.

The analysis of driver speeds revealed faster speeds at larger roundabouts and where no pedestrians or bicyclists were visible. Drivers generally started braking more rapidly within 450 feet of a crosswalk but accelerated as they exited the roundabouts.

WHAT'S NEXT?

Local agencies and MnDOT will continue efforts to ensure and enhance safety for all road users at roundabouts. A current MnDOT project to better understand the traffic calming impacts of roundabouts on vehicle speeds compared to other intersection types is already underway.

Several additional issues highlighted in this project could be further explored, such as evaluating a variety of pedestrian signage at roundabouts and speed calming measures for roundabout exit lanes. Also, because most of the observed pedestrian crossings in this research were staged, future observations of naturalistic crossings could support the objective evaluation that the impacts of pedestrian behaviors have on crossing at roundabouts.

mntransportationresearch.org/2025/07/23/enhancing-safety-for-pedestrians-and-bicyclists-at-roundabouts/

Introduction

Traffic crashes continue as a significant worldwide problem which kills millions of people every year while creating extensive community strain. These traffic accidents produce effects that surpass the loss of human lives and injuries, creating economic and healthcare system strain and urban transportation issues. Road traffic crashes create substantial economic strain because they require healthcare expenses and property damage compensation while reducing workforce productivity, thus making traffic safety essential for governments and urban planners. The psychological strain experienced by accident victims, together with social effects on families and communities, demonstrates why strong crash prevention strategies need immediate implementation.

Predicting traffic crashes represents a powerful solution for reducing road accidents because it enables organizations to deploy preventive measures ahead of time. Accurate prediction of traffic crashes reduces fatalities while enabling better traffic management and improved infrastructure development. Statistical models and rule-based approaches demonstrate limitations when processing big-scale, real-time crash data.

The models struggle to capture complex traffic dynamics because they use simplified assumptions and restricted feature interactions. As presented, the authors conducted a study of roundabout crash severity in Jordan by evaluating multiple contributing elements, including weather conditions, lighting conditions, vehicle characteristics, road geometry, and driver demographics. The research team uses rule-based classifiers and RF models to discover important risk elements affecting crash severity and property damage-only incidents. The research uses evidence-based findings to help policymakers enhance roundabout traffic safety programs. The authors studied fatal crash risks between highways, collector roads, and local roads in Thailand by applying DT, RF, XGBoost, and GB ML models. The research analyzes crash

severity factors to create targeted safety measures that will benefit different road environments by addressing speeding alongside alcohol use and lighting conditions. The research examines Indian expressway crash severity by studying 2747 recorded incidents from three major expressways. The research utilizes Multinomial Logit (MNL) and DT and RF models to identify critical factors that affect crash severity between fatal, severe, minor, and property damage only—PDO incidents. The goal aims to improve traffic safety by implementing enhanced speed enforcement alongside better road infrastructure design and improved lane discipline.

ML has proven itself as an advanced predictive tool for traffic crashes through its ability to process extensive datasets and complex patterns and execute real-time analysis. Analyzing traffic conditions alongside driver behavior, environmental factors, and accident-prone areas shows better results through ML models. The authors studied various ANN models with activation functions and optimizers to enhance prediction accuracy. This led them to select the ADAM optimizer and SOFTMAX activation function as the optimal pairing. The Apriori algorithm serves to uncover important factors that contribute to fatal crashes. The ML-based method allows predictive crash analysis, leading to specific road safety measures. The authors in5 utilized Decision Trees and RF classifiers to analyze and predict road traffic accidents based on present traffic accident data. The study aims to solve the homogeneity issue that affects road safety surveys and accident analysis through accident data. The study implements elements from weather to lighting conditions to accident severity patterns across time to evaluate data mining approaches for enhancing prediction accuracy. Implementing ML-driven crash prediction faces multiple unresolved issues that restrict their complete potential utilization. The main obstacle in crash prediction arises from limited access to inconsistent traffic accident data, which is also challenging to obtain. The large number of dimensions in crash datasets requires advanced memory capacity and processing speed for real-time implementation to be feasible. The quality of real-time

AI-BASED PREDICTION OF TRAFFIC CRASH SEVERITY FOR IMPROVING ROAD SAFETY AND TRANSPORTATION EFFICIENCY

accident data suffers because incomplete or missing records cause information reduction and deteriorating model precision. The imbalance of data in crash datasets⁶ creates prediction bias because accident-related features rarely appear in the dataset, which trains models primarily on non-severe crashes, making them less effective at detecting severe or fatal crashes. The unbalanced distribution of classes in the data affects models to become more reactive to common crash types while underperforming when detecting important yet infrequent accident scenarios. The use of inconsistent data formats that include “NA” or “null” and empty strings creates misinterpretations that deteriorate model performance. The examination of crash types, together with severity levels, functions as an essential method to forecast and minimize fatal accidents. The classification of crashes into three severity levels by ML models enables the identification of dangerous areas and key accident patterns.

Developing early-warning systems and targeted road safety measures becomes possible by analyzing impact force, vehicle speed, weather conditions, and driver behavior.

Predictive models that integrate crash severity analysis enable traffic management authorities to make better decisions through safety intervention deployment, speed limit adjustments, and road infrastructure enhancement for fatal accident reduction.

To address these challenges, this study aims to analyze recent advancements in ML-based crash prediction, evaluate the effectiveness of feature selection techniques, and propose optimized modeling approaches for improving data quality, computational efficiency, and real-time crash prediction accuracy. By tackling issues related to low data availability, high dimensionality, and data inconsistency, this research contributes to developing more reliable and scalable traffic crash prediction models, paving the way for safer and more efficient transportation

systems. The contribution of the paper is presented as follows:

- Developing an enhanced Triple Merge Dataset by integrating multiple traffic datasets, resulting in large-scale dataset traffic records.W
- Provide a comprehensive analysis of recent crash severity prediction methods.
- Applying advanced feature engineering, including temporal, environmental, and location-based attributes, to improve predictive performance.
- Applying baseline experiments with recent ML classification models.
- Implementing K-Means and HDBSCAN clustering to segment crash locations and enhance classification performance.
- Applying oversampling techniques (RandomOverSampler, SMOTE, Borderline SMOTE, and ADASYN) to address class imbalance and improve classification fairness.
- Utilizing CFS with RFE to optimize feature selection.

While several previous studies have individually applied data balancing techniques, clustering algorithms, or feature selection to crash prediction, this study introduces a comprehensive, multi-stage AI-driven framework that unifies these techniques into a cohesive pipeline applied to a large-scale, triple-merged dataset. This dataset combines human-related, crash-specific, and vehicle-specific features—an integration not commonly addressed together in the literature. Additionally, the study evaluated the impact of clustering (K-Means, HDBSCAN) and oversampling methods (RandomOverSampler, SMOTE, Borderline-SMOTE, ADASYN) in tandem with advanced feature generation and hybrid feature selection using CFS with RFE. To their knowledge, this is among the few studies that offer an end-to-end performance comparison across all these dimensions using over 2 million records, yielding highly accurate and generalizable results for real-world crash severity prediction.

For the full story: [nature.com/articles/s41598-025-10970-7](https://www.nature.com/articles/s41598-025-10970-7)



NEW TRIP REPORT EXAMINES TRAFFIC FATALITY TRENDLINES

NATIONAL TRANSPORTATION RESEARCH NONPROFIT TRIP HAS ISSUED A REPORT THAT EXAMINES U.S. TRAFFIC FATALITY TRENDLINES OVER THE LAST FEW YEARS.

TRIP noted in its report that U.S. traffic fatalities declined in 2024 for the third straight year after surging in 2020 and 2021 as the nation grappled with the impact of the COVID-19 pandemic.

However, traffic fatalities in 2024 remained significantly higher compared to a decade ago; up 20 percent in 2024 compared to 2014's figures.

"While it is good news that the number of traffic fatalities is trending downward in recent years, the sharp increase in traffic fatalities over the past decade must be addressed," said Dave Kearby, TRIP's executive director, in a statement.

"Making a commitment to eliminating fatal and serious injuries on the nation's roadways will require robust investment and coordinated activities by transportation and safety-related agencies in providing the needed layers of protection for the nation's motorists, pedestrians, and bicyclists – including safe road users, safe roads, safe vehicles, safe speeds and high-quality post-crash care," he added.

TRIP's new report – Addressing America's Traffic Safety Crisis: Examining the Causes of Increasing U.S. Traffic Fatalities and Identifying Solutions to Improve Traffic

Safety – documents trends in traffic fatalities from 2014 to 2024 at the national and state levels and examines causes for the increase in traffic fatalities. It also prescribes a broad and comprehensive approach to reducing U.S. traffic fatalities now and in the future.

The report's Appendix includes the number of fatalities and the fatality rate per 100 million vehicle miles travelled or VMT every state and the District of Columbia for 2014 and 2019-2024.

In 2011 U.S. traffic fatalities dropped to 32,749, the lowest level since 1949 when there were 30,246 traffic fatalities. However, by 2018, U.S. traffic fatalities had increased to 36,835. Beginning in March 2020, when initial restrictions due to the COVID-19 pandemic were implemented, the number and rate of traffic fatalities began to increase, even as the rate of vehicle travel decreased dramatically.

The significant increase in traffic fatalities since the onset of the pandemic appears largely related to increased risks being taken by drivers, TRIP said. In an October 2021 report, the National Highway Traffic Safety Administration found that “after the declaration of the public health emergency in March 2020, driving patterns and behaviors in the United States changed significantly. Of the drivers who remained on the roads, some engaged in riskier behavior, including speeding, failure to wear seat belts, and driving under the influence of alcohol or drugs.”

[Editor's note: A study issued by the Insurance Institute for Highway Safety in early July also discerned some of the same factors driving that spike in traffic crashes and fatalities.]

Based on National Highway Traffic Safety Administration crash cost methodology unveiled in 2023, TRIP estimates that fatal and serious traffic crashes in 2024 caused a total of \$1.83 trillion in the value of societal harm, which includes \$455 billion in economic costs and \$1.38 trillion in quality-of-life costs.

NHTSA data also found that the number of people killed in speeding-related traffic crashes climbed 16 percent from 2019 to 2024 – representing 28 percent of U.S. traffic fatalities in 2024. From 2019 to 2023, the number of fatalities in distraction-affected traffic crashes increased by five percent, from 3,119 to 3,275.

Additionally, from 2019 to 2023, crashes in U.S. highway work zones resulted in 4,470 fatalities – an increase of 6 percent from 845 in 2019 to 898 in 2023. TRIP noted the Appendix of its new report includes the number of work zone fatalities in each state and nationwide from 2019 to 2023.

Jim Tymon, executive director of the American Association of State Highway and Transportation Officials, noted that state departments of transportation remain committed to maintaining the ongoing U.S. decline in traffic crashes and fatalities.

“State DOTs across the country are encouraged to see progress in driving down roadway fatalities, but we still have so far to go,” he said. “While safety has always been the top priority for state DOTs, AASHTO members continue to look for ways to make impactful changes.”

Tymon noted that state DOTs are focusing on “centering safety” as part of this effort – ensuring safety is at the center of every action they take.

“As we look to the next federal surface transportation reauthorization, we see an opportunity to make robust investments in our transportation networks and build on the successes we have seen the last few years in reducing the number of roadway fatalities,” he pointed out.

TRIP noted that increasing investment in roadway safety improvements is likely to pay off in the form of reduced fatal and serious traffic crashes.

The nonprofit said the U.S. has a \$146 billion backlog in needed roadway safety improvements, according to a 2017 report from the AAA Foundation for Traffic Safety.

That report found implementing cost-effective and needed roadway safety improvements on U.S. roadways would save approximately 63,700 lives and reduce the number of serious injuries due to traffic crashes by approximately 350,000 over a 20-year period.

aashtojournal.transportation.org/new-trip-report-examines-traffic-fatality-trendlines/

MID-AMERICAN DOTs TAKE TOP HONORS IN NATIONAL TRANSPORTATION CONTEST

Minneapolis, MN — Eleven state department of transportation projects from Illinois, Kansas, Michigan, Minnesota, Missouri, Ohio and Wisconsin won regional honors in the 2025 America's Transportation Awards competition.

From preparing for the 2024 solar eclipse to crafting vulnerable road user safety assessment tools, these projects provide long-term benefits to the communities they support.

"The America's Transportation Awards shine a spotlight on the vital projects state DOTs deliver for their communities to enhance safety, expand mobility for users, deliver a better quality of life for residents and visitors, and keep our economy moving," said AASHTO Executive Director Jim Tymon. "The America's Transportation Awards competition continues to show us that state DOTs are able to transform communities in a variety of ways. And as Congress works toward a new federal surface transportation bill, lawmakers need to only look at the tangible benefits that states deliver to their customers through examples like these winners to see why robust federal funding to states is so important."

Selected from 21 projects submitted by eight states in the Mid-America Association of State Highway and Transportation Officials (MAASTO) region, these entries are part of 113 nominations from 35 state DOTs in this year's overall competition. Sponsored by the American Association of State Highway and Transportation Officials (AASHTO), the America's Transportation Awards highlights transportation projects that deliver meaningful community benefits. Projects are judged in four categories—Quality of Life/Community Development, Operations Excellence, Best Use of Technology & Innovation, and Safety—demonstrating transportation's vital role for drivers, cyclists, pedestrians, rail users, and transit riders alike.

This year, AASHTO also asked nominees about the impact of the Infrastructure Investment and Jobs Act (IIJA) on their projects to showcase the importance of federal investment in the nation's transportation systems. Many of the MAASTO regional nominees were directly impacted by this historic law, highlighting the vital role the next federal surface transportation law will play in continuing the progress in making communities safer and providing mobility and access for all.

All nominated projects first compete at the regional level against projects of their own size: "Small" (projects costing up to \$10 million), "Medium" (projects costing between \$10 million and \$100 million), and "Large" (projects

costing more than \$100 million). This year's winning MAASTO projects are:

- Michigan Department of Transportation's M-89 Roundabout (Quality of Life/Community Development, Small Project)
- Kansas Department of Transportation's De Soto Local Road Improvements Project (Quality of Life/Community Development, Medium Project)
- **Missouri Department of Transportation's Buck O' Neil Bridge Design-Build Project (Quality of Life/Community Development, Large Project)**
- Illinois Department of Transportation's Eclipsing Expectations – Managing the 2024 Solar Eclipse (Operations Excellence, Small Project)
- Ohio Department of Transportation's Norwood Lateral Rehabilitation (Operations Excellence, Medium Project)
- **Missouri Department of Transportation's Focus on Bridges (Operations Excellence, Large Project)**
- Wisconsin Department of Transportation's State Trunk Highway 54 Compact Roundabouts and Resurfacing (Best Use of Technology & Innovation, Small Project)
- Minnesota Department of Transportation's Integrated Field Tools for Seamless Digital Inspection (Tie—Best Use of Technology & Innovation, Medium Project)
- **Missouri Department of Transportation's US Route 160 Intersection (Tie—Best Use of Technology & Innovation, Medium Project)**
- Kansas Department of Transportation's Safer Roads Ahead with the Kansas VRUSA Tool (Safety, Small Project)
- Illinois Department of Transportation's Connecting Springfield – Jefferson and Madison Street Underpasses (Safety, Medium Project)

Now that the regional competitions are over, the top three scoring projects in each region will advance to the Top 12. Those projects will be revealed in early September. Those standout projects will then compete for two national honors in the 2025 America's Transportation Awards.

The Grand Prize will be chosen by an independent panel of judges, while the People's Choice Award will be decided through online public voting. AASHTO will reveal both winners at its annual meeting in November 2025 in Salt Lake City. Each winning project will receive \$10,000 to donate to a scholarship fund or charitable cause of their choice.

Visit americastransportationawards.org/ to learn more about this year's MAASTO nominees.

transportation.org/pressreleases/mid-american-dots-take-top-honors-in-national-transportation-contest/



HOW SAFETY CAMERAS SLOW DOWN DRIVERS IN SCHOOL ZONES

The Talking Michigan Transportation podcast features conversations with transportation experts inside and outside MDOT and will touch on anything and everything related to mobility, including rail, transit and the development of connected and automated vehicles.

In this edition of Talking Michigan Transportation podcast, Garrett Dawe, engineer of traffic and safety for the Michigan Department of Transportation (MDOT), talks about a pilot project to study the use of safety cameras for automated enforcement in school zones.

An appropriation in the Fiscal Year 2025 state budget called for MDOT to conduct a pilot project on automated speed enforcement in school zones. Dawe explains that his team has been studying proposals and will make an announcement soon of a vendor to conduct the pilot.

According to the Insurance Institute of Highway Safety (IIHS) and the National Conference of State Legislatures

(NCSL), at least 12 states (Arkansas, Colorado, Georgia, Illinois, Maryland, Missouri, New York, Rhode Island, Tennessee, Utah, Virginia and Washington) conduct school-zone automated speed enforcement. In Georgia and Rhode Island, school zones are the only locations where automated speed enforcement is allowed in the state.

According to National Highway Traffic Safety Administration (NHTSA) statistics, between 2011 and 2020, 218 school-age children (ages 18 and younger) died in school transportation-related crashes; 44 were occupants of school transportation vehicles, 83 were occupants of other vehicles, 85 were pedestrians, five were bicyclists and one was an "other" nonoccupant.

For the full transcript go to:

buzzsprout.com/1374205/episodes/17559113-how-safety-cameras-slow-down-drivers-in-school-zones

ROADWAY DEATHS TRENDING DOWN FOR THIRD CONSECUTIVE YEAR

WORK REMAINS THIS FALL AND WINTER TO MAINTAIN MOMENTUM

JEFFERSON CITY – As another school year kicks off in Missouri, traffic fatalities in the state are down - so far - for the third consecutive year. Preliminary data shows from Jan. 1-Aug. 24, 2025, 577 people were killed in Missouri traffic crashes, down from 589 during the same period last year. While the 2% decrease is encouraging, it's too early to know if progress will hold, especially as Missourians transition to fall traffic patterns.

"Gains on this front are incredibly encouraging, but we have a long way to go to achieve our ultimate goal, especially as the second half of the year typically presents its own challenges," said State Highway Safety and Traffic Engineer Jon Nelson. "Road construction, school-related activities, shorter days, holiday travel, and inclement weather: Now is not the time to ease up or become complacent."

Last year, 344 people lost their lives in a Missouri traffic crash after September 1, through December 31, 2024, and there were 364 such fatalities for the same timeframe in

2023. If Missouri is to end the year with another reduction in traffic fatalities, continued gains in the final four months of the year will be crucial.

"The road to zero fatalities is no easy feat, but as we work toward that, we need everyone to step up and do their part," said Nelson. "It starts with every one of us making the simple commitment to use the transportation system in a safe manner - for ourselves, our loved ones, and others using the roads."

MoDOT is encouraging all Missourians to help keep momentum by committing to four simple actions: Buckle up, phone down, slow down, and drive sober. Drivers can plan their trip ahead of time with MoDOT's Traveler Information Map atraveler.modot.org, where they can find current work zones, closures and incidents. Missouri's strategic highway safety plan, Show-Me Zero, provides more information for how all Missourians can do their part to achieve zero traffic fatalities. The plan can be viewed at savemolives.com.

For more information, call MoDOT at 888-ASK-MODOT (275-6636) or visit modot.org.

modot.org/node/75510



5 AGENCIES SELECTED FOR THE WORK ZONE TRAINING & SIGN PACKAGES

Earlier this year, Missouri LTAP received a State Transportation Innovation Council (STIC) Grant from the Federal Highway Administration (FHWA) to provide five local agencies with Work Zone Education and Sign Package Program packages.

We sought this funding because the instructor for MO LTAP's Work Zone Safety and Flagger Training Courses heard many local agencies say they don't have the resources necessary to ensure their road projects are signed to Manual on Uniform Traffic Control Devices (MUTCD) standards. Not only will the program provide more LPAs with MUTCD compliant work zone equipment, but it will also deliver innovative workforce development training in hands-on workshops. Ultimately, this program will increase driver and worker safety throughout Missouri as well as promote workforce development within local public agencies.

Missouri LTAP received applications from 8 counties and 24 cities. Applications were reviewed on several criteria. First, we considered whether the agency already owned the items we were providing in the package. If so, how many items and in what condition were they? Second, we reviewed how many employees the agency had who worked in the roadway to ensure there would be enough employees to train and make an impact. Third, we reviewed whether an agency had previously taken training from LTAP or others, as proof they value training. Finally, we reviewed and scored the input from the agencies that detailed the issues they face in their work zones and their desire to provide a safer environment for their employees and the traveling public.

The local agencies that had successful applications and chosen are:

- Gasconade County
- Macon County
- Moniteau County
- City of Palmyra
- City of Pineville

Through the Work Zone Education and Sign Package Program, each agency will be receiving: 2-Road Work Ahead (36x36) signs, 2-One Lane Road Ahead (36x36) signs, 2-Flagger (36x36) signs, and 2-Stop/Slow Paddles with handles for flaggers. Additionally, 50 trim line channelizers will be included for each agency to help ensure the work area is clearly defined. Also, a workshop, free of charge, will be delivered covering the same instruction as the Work Zone Safety and Flagger Training Courses. The workshop will be modeled after a road safety audit to include the following components: a four-hour training held in the field and eligible for MO LTAP Scholars Program Level I credit, a multi-disciplinary team (Missouri Safety Circuit Rider, MO LTAP instructor, MoDOT personnel, FHWA traffic engineer, etc.), and a tailored class to address identified safety deficiencies in the agencies' current work zones.

With the overwhelming number of applications, Missouri LTAP has recognized the need for programs like this in Missouri and will continue to seek funding opportunities to provide more Work Zone Education and Sign Package Programs in the future. If you have any questions about this program, please feel free to reach out to Missouri LTAP's Safety Circuit Rider, Lauren Gehner, at Lauren.Gehner@gmail.com or 314-348-0308.

Please visit our website for other training courses:

MOLTAP.ORG

Level I, II and III (Super Scholar)

\$45/person

All classes 4 hours unless noted otherwise

For non-government or for-profit organizations, call 1.866.MORoads for rates

Attendance Policy

The Missouri LTAP staff would like to remind all agencies registering for classes that it is important to sign-up before the registration deadline to allow us time to plan for course materials, refreshments, etc. It is equally important that you let us know at least 48 hours before the class if some of your employees will not be attending. Please note that you will be charged for any no-shows; therefore, it is very important that you let us know at least 48 hours before. This policy was approved by our Missouri LTAP Advisory Board and ensures that we have an accurate count for class attendance. Thank you and we look forward to meeting your training needs.

Need training but don't have the budget to pay for travel expenses?

We can train your employees on location for a minimum of 20 people. You can invite other interested agencies in your area if necessary to meet the minimum. Call and discuss your training needs with our staff.

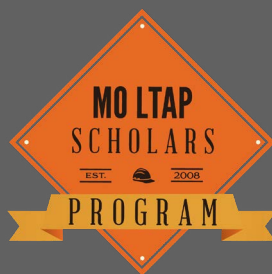
CONTACT US TO FIND OUT MORE!

**T: 866.MO ROADS
(667-6237)**

E: moltap@mst.edu

MO-LTAP SCHOLARS PROGRAM

A Training & Recognition Program



About The Program

The primary purpose of the MO-LTAP Scholars Program is to recognize skilled transportation and public works personnel in local agencies throughout Missouri. The program is intended to enhance the skills of all those involved in the maintenance, delivery, and management of local transportation and infrastructure. Training is aimed at increasing each participant's technical, maintenance, administrative, and supervisory skills depending on the program level. Electives can be selected to meet the individual's area of responsibility. Special emphasis will be given to safety in the workplace as well as in the field and in the development of a local transportation system. The program will allow participants to attain three levels of achievements: Level I, Level II, and Level III Super Scholar. Participants must complete the requirements for Level I before completing Level II.

Getting Started

Registration is available on the Missouri LTAP website (www.moltap.org). There is no registration fee for the program, but there is a fee for each class, which varies for each level. Classes are offered on an ongoing basis at various locations throughout the state. Contact Missouri LTAP for classes in your area or view the online training calendar.

Recognition

Certificates will be awarded by the Missouri LTAP Director to those individuals who successfully complete the requirements of the program during award ceremonies held at various conferences throughout the state and/or at a ceremony held at the graduate's place of employment.

LTAP TRAINING RESOURCES

FHWA Essentials for Local Public Agencies

Federal-aid Essentials for Local Public Agencies is a transportation resource designed to help local agency professionals navigate the Federal-aid Highway Program. Federal-aid Essentials is structured for busy agency staff who want further understanding of Federal-aid policies, procedures, and practices.

fhwa.dot.gov/federal-aidessentials/indexofvideos.cfm

Missouri Local Public Agency Program

The Federal Highway Administration (FHWA) and MoDOT offers a free 4-hour training class designed to meet the recently implemented requirements for a Full Time Sponsor Employee to serve the role as the Person In Responsible Charge in order to receive Federal-aid funding for Locally Administered Projects. Local public agencies and consultants will be required to have taken this basic training course.

design.modot.mo.gov/lpatraining/

APWA – Professional Development

APWA offers online, face-to-face, and on-demand programs, with educational content that fits within your time and travel constraints. The Donald C. Stone Center provides professional development opportunities for the next generation of public works leadership.

apwa.net/learn

NHI – Training Resources

National Highway Institute, NHI, is the training and education arm of the Federal Highway Administration (FHWA) with its rich history of innovation and expertise in delivering transportation training.

nhi.fhwa.dot.gov/home.aspx



National Center for Rural Road Safety

YOUR TRUSTED "SAFETY SIDEKICK" TO MAKE RURAL ROAD TRAVEL SAFER!

The National Center for Rural Road Safety opened in December 2014. Funded by the Federal Highway Administration, this Center of Excellence is focused on enhancing safety on rural roads by supporting local, state and tribal road owners and their stakeholders. Resources include education, training, tools and technical assistance.

*To learn more about the National Center for Rural Road Safety,
visit their website ruralsafetycenter.org*

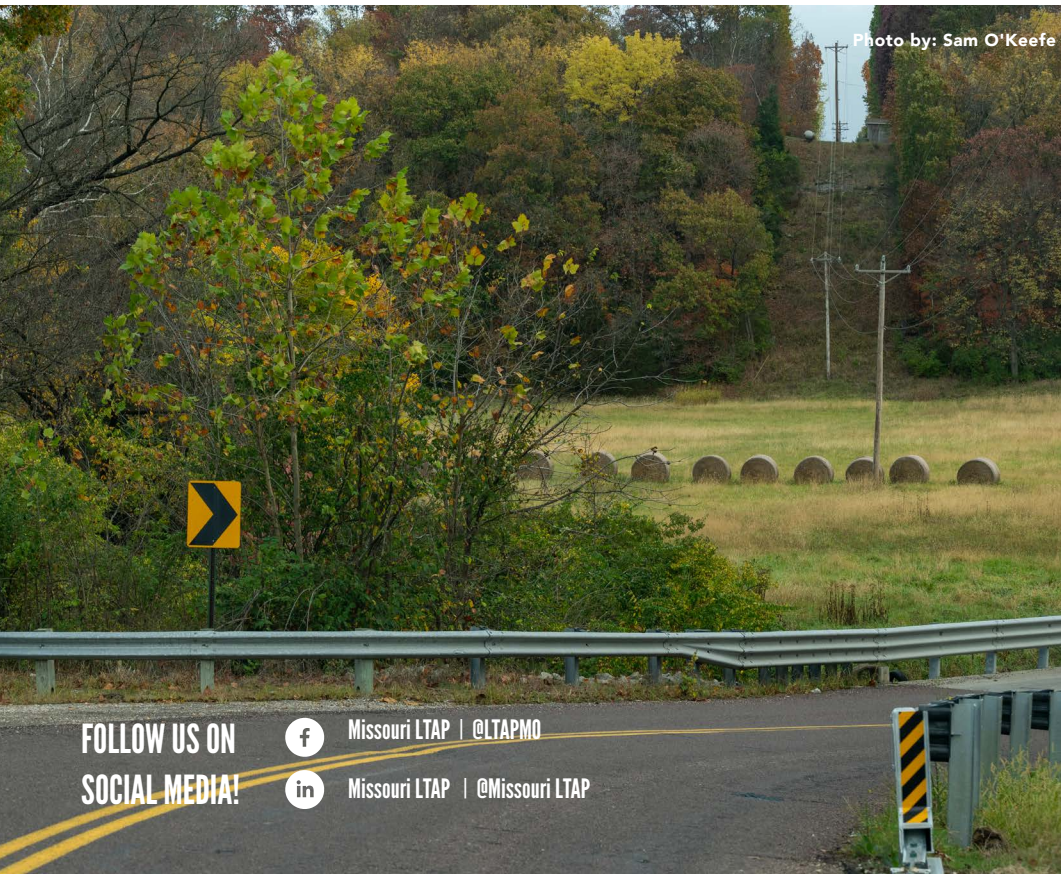


Photo by: Sam O'Keefe

FOLLOW US ON
SOCIAL MEDIA!



Missouri LTAP | @LTAPMO



Missouri LTAP | @Missouri LTAP

UPCOMING EVENTS

MISSOURI ASSOCIATION OF COUNTY & CITY TRANSPORTATION OFFICIALS (MACCTO)

ST. CHARLES, MO

October 7-8, 2025

MISSOURI ASSOCIATION OF COUNTIES LAKE OF THE OZARKS, MO

November 22-23, 2025

MISSOURI ASPHALT CONFERENCE ROLLA, MO

December 2-3, 2025

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MISSOURI STATE AGENCY FOR SURPLUS PROPERTY

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stock at MOSASP!

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888.295.7796 (Toll free | 573.751.3415)

For information about the program,
visit: oa.mo.gov/purch/surplus.html

Eligibility requirements can be found under
"Read about the Program"

REALTY FOR SALE

The Missouri Department of Transportation is responsible for managing realty assets owned by the Missouri Highways and Transportation Commission. Realty assets are periodically reviewed to determine if they are essential to current operations, or are expected to be in the near future. When realty assets are no longer essential to operations, they may be made available for sale to the public.

VISIT:
[www6.modot.mo.gov/
PropertyForSale](http://www6.modot.mo.gov/PropertyForSale)



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instructions can be viewed online:

modot.mo.gov/business/surplus

NO EQUIPMENT FOR SALE
AT THIS TIME



U.S. Department
of Transportation
**Federal Highway
Administration**

