



KCA
KANSAS CONTRACTORS
ASSOCIATION

February 5, 2025
Proponent Testimony on HB 2121
House Transportation Committee

Chairman Francis and Members of the Committee,

Thank you for the opportunity to appear before you on behalf of the Kansas Contractors Association (KCA). The KCA represents more than 220 companies working in Kansas' heavy construction industry. Collectively, these companies create and sustain thousands of good-paying, private sector jobs across our state.

The KCA applauds the efforts of the Kansas Legislature over the last several years to reduce highway transfers, complete commitments made under T-Works and continue investment in the IKE transportation plan with stable, consistent funding for the Kansas Department of Transportation.

New registration rates for electric/hybrid motorcycles, vehicles & trucks

HB 2121 establishes the following new rates:

1. Electric motorcycles of \$30.00
2. Electric vehicles - \$175.00, increase from \$100.00
3. Hybrid vehicles - \$100.00, increase from \$50.00
4. Hybrid truck - \$125.00
5. Electric truck - \$200.00

The Kansas Contractors Association agrees with the new rates proposed in the bill.

System needs are increasing/University of Nebraska EV study

As you have heard from KDOT presentations, with record inflation over the last several years, maintenance and preservation needs of the system is now over \$600 million annually. This doesn't include the investment needed each year to modernize the system. The needs of the transportation system are far greater than the resources available to fund them.

The University of Nebraska did a recent study on the impact of electric vehicles on highway infrastructure. Their initial research shows that EVs require more costly safety upgrades to our infrastructure than standard vehicles require. For your reference, I have attached a news story about the research to my testimony.

Fairness issue

Maintaining transportation infrastructure is expensive. Kansas has always valued motor fuels tax and registration fees to fund transportation infrastructure because it is dedicated funding for the system. The reality is, there are more and more fuel-efficient vehicles on the market today than in 2019 when the electric and hybrid registration fees were established. To maintain our infrastructure, all vehicles utilizing the system need to pay a fair share of the cost. The KCA believes this is a step in the right direction to spread the costs of the system across all drivers who utilize the state's roads and bridges.

Other states

KCA is a member of the American Road & Transportation Builders Association. ARTBA collects EV fee data from all states. I have attached their most recent chart on the EV fees from the 39 states who have some form of electric/hybrid registration fees. Kansas' current electric/hybrid rates are low compared to other states. The recommended increases in HB 2121 would place Kansas on par with other states.

Again, I thank you for allowing me the opportunity to appear before you today. We appreciate your favorable consideration of HB 2121.

A handwritten signature in black ink, appearing to read "Michael White". The signature is stylized with a large, sweeping "M" and a trailing flourish.

Michael White, Executive Director
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Nebraska (<https://www.unl.edu/>) · University Communication (<https://ucomm.unl.edu/>) · Nebraska Today (/) · Nebraska tests suggest U.S. highways are not ready for widespread EV use

July 29, 2024

Nebraska tests suggest U.S. highways are not ready for widespread EV use

By Leslie Reed | University Communication and Marketing (</author/leslie-reed-university-communication-and-marketing/>)



Craig Chandler | University Communication and Marketing

A Rivian R1T electric pickup crashes against a lane barrier during a July 1 crash test at the Midwest Roadside Safety Facility.

New results from a crash test using an electric 2022 Rivian R1T pickup truck raise more questions whether significant upgrades are needed to prepare the nation's highways for rapidly increasing numbers of electric vehicles.

The July 1 test was the fourth electric vehicle crash test conducted by the Midwest Roadside Safety Facility at the University of Nebraska-Lincoln since September 2023. The tests aim to determine whether commonly used highway guardrails and traffic barriers can reduce the risk of injury and death when an electric vehicle leaves the road.

More than 19,000 people died in crashes where their vehicle left the roadway in 2023, according to early estimates from the National Highway Traffic Safety Administration. About half of all traffic fatalities occur in such crashes. Guardrails, median barriers and similar infrastructure items are designed to reduce the number and severity of such crashes by preventing vehicles from crossing medians and entering oncoming lanes of traffic, careening off bridges or pitching into ravines or down slopes.



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Donahoo, testing and maintenance technician, connects equipment inside the f a Rivian R1T pickup before a crash test in October 2023. At 60 mph, the 7,000-pound electric vehicle tore through a commonly used guardrail system with reduction in speed.

All four tests have raised concerns whether current highway safety features — which are designed and tested for vehicles with internal combustion engines — will be sufficient as electric vehicles become more widely adopted.

“Historically, there has not been any testing of electric vehicles with roadside barriers — what works, how the vehicles behave and how the barrier systems interact with the vehicle,” said Cody Stolle, lead investigator for electric vehicle crash tests for the Midwest Roadside Safety Facility.

One of only three public highway safety research laboratories in the U.S., the Nebraska facility was the first to begin testing electric vehicles against guardrails. Only one EV test against guardrails has been conducted outside Nebraska.



EV sales have grown steadily in the U.S. since 2020, hitting 1.6 million in 2023, a 60% increase from the previous year. To meet recently imposed limits on tailpipe emissions, the Environmental Protection Agency estimates that by 2032 more than half of new cars sold each year will have to be electric. Because of their large battery packs, EVs tend to be significantly heavier with lower centers of gravity than their internal combustion engine counterparts. That increases the available kinetic energy that must be managed, forces experienced during the crash and the way vehicles deflect from barriers.

During a roundtable discussion of the issue earlier this month at the University of Nebraska–Lincoln, government transportation officials questioned whether the U.S. can identify needed changes, update its standards and improve its highway infrastructure in time to meet the challenges created by EVs.

“This is all in the midst of aging infrastructure, in which each state is trying to keep up and figure out how they invest in infrastructure improvements just based on what they currently know — and not keeping up with what’s in the future,” said Jennifer Homendy, chair of the National Transportation Safety Board. “I just feel like it’s going to be a catch-up on everything and we’re going to be investigating what happens after the tragedy occurs.”

U.S. Sen. Deb Fischer invited Homendy to attend the event held at Kiewit Hall, UNL's newly opened center for undergraduate engineering education. She applauded the Nebraska researchers for investigating the significant challenges the country faces to prepare its roadways for heavy EV usage.

"There's huge ramifications across the board," Fischer said. "It's very important that we take it seriously and continue to try to find solutions."

Fischer previously pointed to UNL's leading-edge research on electric vehicles and roadside safety infrastructure during a hearing of the Senate Commerce, Science and Transportation Committee, of which she is a member.

During the July 1 crash test, held in conjunction with the roundtable event, the 7,000-pound pickup truck, traveling at 62 mph, crashed into a 16-segment portable concrete barrier of the type commonly used as freeway median barriers or to shield highway construction workers from ongoing traffic. Except for substituting the Rivian for the 5,000-pound Dodge Quadcab truck typically prescribed, the exercise complied with all requirements specified in the Manual for Assessing Safety Hardware, the American Association of Highway and Transportation Officials guidebook for crash testing highway safety features. The Rivian struck the barrier at a 25-degree angle.

The purpose of the test, according to Ronald Faller, director of the Midwest Roadside Safety Facility, was to "investigate the ability of the portable concrete barrier system, commonly used in highway construction zones, to safely contain and redirect the heavier EV with controlled lateral barrier displacements." Non-instrumented crash dummies were placed in the cab to assess risk to occupants.

After analyzing data, the Nebraska engineers concluded that the Rivian passed the test based on standardized criteria for occupant risk and vehicle containment. The vehicle was contained and redirected by the 32-inch-high barrier, while the occupant compartment remained intact. Acceleration forces and estimated speed were within acceptable limits for the dummies inside the compartment, Stolle said.



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A Rivian R1T electric pickup spins out after striking a barrier in a July 1 crash test. The green paint on the torn-away wheel s used to mark where it struck the barrier. The pickup crashed into a concrete barrier but did not go through it.



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Research sponsored by the U.S. Army Engineer Research and Development Center, University of Nebraska-Lincoln's Midwest Roadside Safety Facility is investigating safety questions raised by the burgeoning number of electric vehicles on the state's roadways.

"The occupants likely would have survived and been OK," he said.

However, the barrier suffered catastrophic damage, sending chunks of concrete flying and rupturing numerous steel reinforcing bars. Several segments – each weighing about 5,000 pounds – were pushed back more than 10 feet. That's 50% higher than the typical displacement distance, Stolle said.

"Anybody on the back side of that barrier could have been pushed off the side of a bridge," Stolle said. "It's not safe for workers and work zones and not very practical for departments of transportation."

Three previous crash tests conducted by the Midwest Roadside Safety Facility also produced concerning results whether commonly used highway safety infrastructure is adequate for EVs.

In October 2023, a 2022 Rivian R1T truck tore through a 31-inch-high guardrail system made of 12-gauge corrugated steel. In a separate test in September 2023, a 2018 Tesla Model 3 lifted a similar barrier and passed below it. In March 2024, although a 62-inch-tall, high-performance concrete barrier safely contained a 2018 Tesla Model 3 sedan, the vehicle accelerations were higher than federal standards for roadside hardware. After colliding with the barrier, the back end of the car swung and hit the barrier more than 50% harder than similar gasoline vehicles. The test was analyzed by Tesla engineers, who determined that the side curtain airbags, which were disabled during the test, likely would have significantly reduced the risk of injury to occupants compared to the as-tested condition.

The Nebraska engineers are working closely with state Departments of Transportation, leading highway safety research organizations and highway safety equipment manufacturers to draw attention to the issue. They also are trying to build partnerships with EV manufacturers.

"When I present our research at conferences, one of the questions I often get is 'Are electric vehicles unsafe?'" said Bob Bielenberg, a research engineer with the Midwest Roadside Safety Facility. "I don't think that's really a fair perspective."

Electric vehicles fare well in the government's New Car Assessment Program and the crash worthy ratings from the Insurance Institute for Highway Safety, which examine how the cars perform in collisions with other vehicles. The Midwest Roadside Safety Facility tests, however, evaluate how safety devices perform when a car unintentionally leaves its traffic lane for reasons like driver distraction or sleepiness, mechanical problems or medical problems, often referred to as "errant" crashes.

"When you look at their IIHS testing, many EVs are very safe," Bielenberg said. "Our research is an aspect of safety that the auto industry might not be super cognizant of. They know guardrails are out there, but they don't necessarily understand how their vehicles interact with them. Making them aware is the first step, in my mind."



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Jennifer Homendy, National Transportation Safety Board chair (right), listens as crash test results are explained by Bob Bielenberg, research engineer with the Midwest Roadside Safety Facility (left), on July 1.

STATE ELECTRIC VEHICLE FEES, JANUARY 2025

	ELECTRIC VEHICLE (EV) FEE	HYBRID VEHICLE FEE	FREQUENCY FEE IS CHARGED	YEAR EV FEE PASSED
Alabama	\$203	\$103**	Annual	2019
Arkansas	\$200	\$50* or \$100**	Annual	2019
California	\$175 (Indexed)		Annual	2017
Colorado	\$57.19		Annual	2013
Georgia	\$219.84 / \$329.86 (Indexed)		Annual	2015
Hawaii	\$50		Annual	2019
Idaho	\$140	\$75**	Annual	2015
Illinois	\$100		Annual	2019
Iowa	\$130	\$65**	Annual	2019
Indiana	\$230 (Indexed)	\$77* (Indexed)	Annual	2017
Kansas	\$100	\$50*	Annual	2019
Kentucky	\$126	\$126**	Annual	2022
Louisiana	\$110	\$60*	Annual	2022
Maryland	\$125	\$100**	Annual (paid every two years)	2024
Michigan	\$155 / \$255 (Indexed)	\$57** / \$127** (Indexed)	Annual	2015
Minnesota	\$75		Annual	2017
Mississippi	\$150 (Indexed)	\$75* (Indexed)	Annual	2018
Missouri	\$75 - \$1,000	\$37.50** - \$500**	Annual	1998
Montana	\$130 - \$1,100	\$70** - \$700**	Annual	2023
Nebraska	\$150	\$75*	Annual	2011
New Hampshire	\$100	\$50**	Annual	2023
New Jersey	\$260		Annual	2024
North Carolina	\$180 (Indexed)	\$90**	Annual	2013
North Dakota	\$120	\$50**	Annual	2019
Ohio	\$200	\$100* or \$150**	Annual	2019
Oklahoma	\$110 - \$2,250	\$82** - 1,687**	Annual	2021
Oregon	\$115		Annual	2017
Pennsylvania	\$200	\$50**	Annual	2024
South Carolina	\$60	\$30*	Biennial	2017
South Dakota	\$50		Annual	2021
Tennessee	\$200	\$100*	Annual	2017/2023
Texas	\$200		Annual	2023
Utah	\$130.25 or RUC (Indexed)	\$21.75* or 56.50**	Annual	2018
Vermont	\$89	\$44.5**	Annual	2024
Virginia	85% of gas tax equivalent	85% of gas tax equivalent	Annual	2020/2014
Washington	\$150	\$75*	Annual	2012
West Virginia	\$200	\$100*	Annual	2017
Wisconsin	\$175	\$75*	Annual	2017/2023
Wyoming	\$200		Annual	2015/2019

Annotations:

/ Scale indicates fees differentiated by passenger/commercial vehicle.

- Scale indicates fees differentiated by vehicle weight.

* Non-Plug-In Hybrids

** Plug-in Hybrids

39 States Have an Electric Vehicle Registration Fee

