

Study identifies risk factors for standard motorist injuries, deaths

May 7 2021, by Kala McCain



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When a person involved in a motor vehicle crash is brought to an emergency department, the details surrounding their injuries are

documented from the perspective of treatment. Details of how the injury occurred usually are not.

In looking at [injury](#) and death data related to [vehicle](#) crashes or auto-pedestrian incidents, an interprofessional team of researchers found that those involving stranded motorists—a [crash](#) involving a stopped or stalled vehicle on a roadway or shoulder—were not uniquely identified.

"In an effort to fill this gap, data fields to identify additional circumstantial information were added into existing databases at a medical examiner's office and two Level I trauma centers in the Houston metroplex," said Stacy A. Drake, associate professor in forensic nursing at Texas A&M University College of Nursing. "In Harris County alone, incidents involving stranded motorists result in approximately two pedestrian freeway deaths per month, and roughly two individuals sustain injuries requiring Level 1 trauma care. Understanding the factors associated with these deaths helps support proactive, evidence-based initiatives in preventing freeway pedestrian deaths and serious injuries which ultimately will reduce emergency trauma visits and save lives."

Over a five-year period, the partnering medical examiner's office and trauma centers collected injury-related information noting whether the victim was a stranded motorist at the time of impact. Drake and her research team analyzed the data to determine the [risk factors](#) associated with the injury patterns.

"Of 219 instances reported, more than 77 percent of victims were outside a vehicle at the time of injury," Drake said. "And nearly 25 percent of pedestrian victims sustained spinal injuries, with 46 out of 54 succumbing to those injuries."

The findings were published in the April 2021 issue of the *Journal of Forensic Nursing*, the official journal of the International Association of

Forensic Nurses published in partnership with Wolters Kluwer Health/Lippincott, Williams & Wilkins.

These serious injuries and fatalities are often a direct result of secondary crashes where pedestrians remain on the freeway, outside a vehicle, and trust those passing by will not cross the solid white line. As a forensic nurse specializing in death investigation, Drake was recently selected to serve on Houston TranStar's "It's Only a White Line" Leadership Council. The study's findings provide evidence-based guidance in supporting the campaign's initiative to reduce fatalities related to stalled or stopped vehicles on the area highways.

Drake works alongside fellow regional experts in understanding and preventing roadway tragedies caused largely by secondary—and avoidable—crashes.

There are more than five million registered vehicles just in Houston TranStar's service area alone.

"We see approximately 1,200 crashes monthly on our freeways and somewhere in the neighborhood of 7,000 vehicle stalls," said Dinah Massie, executive director of Houston TranStar. "Every minute a traveler is stopped on a freeway, the risk of being seriously injured or killed in a secondary crash increases dramatically."

More information: Stacy A. Drake et al. Fatal and Nonfatal Injury Patterns of Stranded Motorists, *Journal of Forensic Nursing* (2021).
[DOI: 10.1097/JFN.0000000000000329](https://doi.org/10.1097/JFN.0000000000000329)

Provided by Texas A&M University

Citation: Study identifies risk factors for standard motorist injuries, deaths (2021, May 7)
retrieved 26 April 2024 from

<https://techxplore.com/news/2021-05-factors-standard-motorist-injuries-deaths.html>

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