

Impacts of ride-hailing on crashes differ from city to city

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Ride-hailing services reduce drunk-driving crashes in some cities, reports a new study from researchers at the Perelman School of Medicine at the University of Pennsylvania this month in the *American Journal of Epidemiology*. The research is the first to look at the specific effects of ride-hailing, or "ride-sharing," within specific cities, rather than averaging data across multiple cities.

Motor vehicle crashes are the leading cause of death for people aged 13 to 25. In 2015, 35,092 people of all ages were killed, and 2.4 million were injured in an estimated 6.3 million police-reported crashes in the United States. Approximately one third of motor vehicle fatalities are alcohol-involved, and crashes involving alcohol are associated with more serious injuries and more fatalities than those that don't involve drinking.

The increase in use of so called ride-sharing services - which allow prospective passengers to use a cell phone app to connect with owner-operator drivers - fuels debate over whether they can be a safer method of travel. While Uber, which is available in 274 cities in North America, reports that more than two billion rides have been arranged globally through the smartphone application since it started in 2010, and alleges that its services reduce drunk driving, independent studies are mixed on how ride-hailing influences crash numbers.

Three previous studies investigated the average effects of ride-hailing services on crashes, providing clues about the possible overall impact of the technology, which allows riders who've been drinking to summon a

lift home from the palm of their hand. However, local residents use roadways very differently from [city](#) to city - for example, due to the availability of public transportation - and ride-hailing sharing may affect crashes differently between locations.

The Penn team delved into whether ride-hailing sharing affected [crash](#) rates within individual cities by studying State Department of Transportation data from Las Vegas, Portland, Ore., Reno, Nev., and San Antonio - American cities in which Uber, the nation's largest ridesharing company, launched, ceased, then resumed operations. The group looked at the total number of crashes per week as well as rates of alcohol-involved crashes that occurred from January 1, 2013 up to February 23, 2016 in Reno, Nev., until October 6, 2015 in Portland, Ore., until June 30, 2016 in San Antonio, and until February 23, 2016 in Las Vegas.

Results were mixed. Crashes involving alcohol decreased as Uber resumed services in Portland, Ore., and San Antonio, but not Reno, Nev. The researchers found no evidence that Uber's resumption resulted in fewer total injury crashes or fewer serious crashes.

"Ridesharing is clearly very popular in many U.S. cities," said the study's lead author, Christopher Morrison, PhD, a postdoctoral fellow in Biostatistics, Epidemiology and Informatics. "This research suggests the technology is likely to affect crashes, particularly alcohol-involved crashes, differently from city to city."

The authors suggest different effects may be due to characteristics of the cities themselves.

"The observed variability may be due to the different conditions within these cities," said senior author Douglas J Wiebe, PhD, an associate professor of epidemiology in Biostatistics, Epidemiology and

Informatics. "For example, in a denser urban center with congested traffic and limited parking a person may be more likely to use a ridesharing service to get around."

The team studied the influence of Uber, but did not look at the influence of Lyft or other providers.

More information: Christopher N. Morrison et al, Ridesharing and Motor Vehicle Crashes in Four U.S. Cities: An Interrupted Time Series Analysis, *American Journal of Epidemiology* (2017). [DOI: 10.1093/aje/kwx233](https://doi.org/10.1093/aje/kwx233)

Provided by Perelman School of Medicine at the University of Pennsylvania

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