

# Deadly auto crashes more likely during pandemic lockdown

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Credit: CC0 Public Domain

With fewer people on the road during the early days of the pandemic, more drivers were speeding and driving recklessly, resulting in more crashes being deadly, a new study found.

Researchers at The Ohio State University conducted a detailed analysis of [traffic](#) in Franklin County, Ohio, which includes Columbus, from Feb. 1 to May 8, 2020—the period right before and after COVID-19 stay-at-home orders were instituted by the state governor.

While the total number of collisions declined after the lockdown, the proportion of those crashes that were incapacitating or fatal more than doubled, results showed.

"More of the crashes that did occur were severe, not just because of less congestion, but also because of drivers who were speeding, and driving under the influence of alcohol or drugs," said Jonathan Stiles, lead author of the study and a postdoctoral researcher in geography at Ohio State.

Pandemic driving also led to far fewer rear-end collisions and more single-vehicle crashes, findings revealed.

The study was published this week in the journal *Transportation Research Record* and will appear in a special issue on COVID-19.

The results reveal a disturbing fact about urban road design, said study co-author Harvey Miller, a professor of geography at Ohio State.

"This is more evidence that our streets are designed for [speed](#), not safety," said Miller, who is also director of Ohio State's Center for Urban and Regional Analysis.

"What is keeping crashes from being more severe during normal times is higher volumes of traffic, and once traffic goes away, people speed and crashes have more serious consequences."

The researchers collected crash and traffic volume data for Franklin County from the Ohio Department of Public Safety.

They used information from INRIX, a private transportation data company, showing real-time speeds on various segments of major roads and highways in the county.

In addition to the real-time speeds, INRIX calculates a reference speed for each road segment, which is the average speed for that segment when there is no major traffic. It is normally close to the speed limit.

Stay-at-home policies were instituted in Ohio on March 15 and continued through the end of the study on May 8.

Traffic volumes declined by more than 60% while the stay-at-home order was in effect, the study showed. Vehicle crashes changed in type, time of day and severity when compared to both the period right before the lockdown, as well as the same 55-day period in 2019.

The good news is that crashes were much less frequent in Franklin County under the stay-at-home period, averaging only 24.4 per day compared to 75.8 in the prior year.

Collisions were also less prevalent during the morning and afternoon rush hours, compared to the same period in 2019.

Rear-end collisions accounted for only 19% of crashes during the lockdown, compared to 35.5% a year earlier, while the proportion of single-vehicle crashes nearly doubled, from 12.9% to 25.3%

"Rear-end collisions tend to occur when you have a lot of traffic on the roads and that's one thing we didn't have during this COVID-19 period," Stiles said.

"But there was a lot more speed. Single-vehicle crashes are something you would be more likely to see when a driver is traveling at high speed

and loses control."

Crashes in which the reporting officer cited speeding as a factor nearly doubled under the stay-at-home orders compared to the previous year. In an earlier study, some of the same researchers found that speeding by drivers more than tripled in Columbus when comparing 2020 to pre-pandemic 2019.

In addition, more crashes during the lockdown were linked by police to alcohol and drug use.

And more speeding and drug and alcohol use meant more serious crashes. Results showed 3.3% of collisions during the lockdown period were incapacitating or fatal, compared to 1.5% the previous year.

"The odds of a serious [crash](#) were still relatively low, but those chances increased significantly with less traffic and higher speeds on the roads," said study co-author Armita Kar, a doctoral student in geography at Ohio State.

The results have implications for safety and equity, the researchers said.

One issue is that essential workers, who are often low-income and minorities, were the ones most likely to be on the [road](#).

"These essential workers had to get to their jobs, so they are the ones who were exposed to the risk of more dangerous collisions," Miller said.

"Of course, sometimes the collisions were their own fault, but not always."

There's also the question of what do with roads if traffic volumes decline permanently because of more people working from home—or in the

event of another emergency that keeps most people from driving.

"If there's less traffic, many of our roads may be wider than they have to be, which encourages speeding," Stiles said. "There's a safety tradeoff."

Cities should consider implementing proven strategies for slowing traffic, including having fewer lanes in metro areas, according to the researchers.

"We need to redesign streets and roads with safety in mind and not just speed," Miller said.

**More information:** Jonathan Stiles et al, Lower Volumes, Higher Speeds: Changes to Crash Type, Timing, and Severity on Urban Roads from COVID-19 Stay-at-Home Policies, *Transportation Research Record: Journal of the Transportation Research Board* (2021). [DOI: 10.1177/03611981211044454](https://doi.org/10.1177/03611981211044454)

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