COVID-19 dramatically changed driving behavior nationwide. The reduction in U.S. daily trips taken and miles driven resulted in 65 percent less miles traveled in April 2020 versus January 2020.1 According to Streetlight, urban areas (metro CBSA’s) experienced a 68 percent drop in vehicle miles traveled compared with a 57 percent drop in vehicle miles traveled in non-metro areas.
This decline in traffic is even more pronounced considering more than 70 percent of annual miles driven in the U.S. are on urban road systems according to the US DOT FHWA – a number that had increased from 63.9 percent in CY 2004. In fact, New York City, San Francisco and Washington D.C. experienced a reduction of miles traveled of more than 85 percent during the COVID-19 shelter-in-place directives based on an analysis of Streetlight data.

Top 10 Metro Areas with Largest Decline in VMT During Pandemic (Jan’20 versus Apr’20)
As a result of less miles driven and less congested roadways, vehicle claims data collected by CCC on behalf of its customers reveals claims are down nationwide. And like miles traveled, the decrease is more pronounced in urban areas as compared to non-urban markets. In fact, claim counts in urban markets, including New York, DC, Seattle, and Chicago, are down 10 percentage points more than in rural markets.

And while claims and miles driven are decreasing, one thing has increased – drivers’ appetite for risk. During COVID-19, risk homeostasis is in full force.

People often maintain an equilibrium of risk. When perceived risk decreases or increases, behavior adjusts in the counter direction to maintain an equilibrium rather than accepting the new level of risk. In the case of COVID-19, rather than experiencing the safety benefits of an open road, drivers increased speed, were more distracted and braked harder.

Speeding during COVID-19 increased 27 percent. The average interstate speed in Los Angeles more than doubled from 19 MPH to 68 MPH on LA’s Interstate 405. And on Chicago’s Interstate 290, the average speed jumped from 24 MPH to 62 MPH.6

Risky and distracted driving has also increased. According to ZenDrive, hard braking is up 25 percent and phone usage is up 38 percent among drivers. This equates to a 20 percent increase in crash frequency per mile driven during COVID-19, despite an overall decline in the number of crashes.

With many vehicles now traveling at faster speeds, those that are getting in accidents are seeing greater damage, to both the vehicle and its occupants.

Delta V (ΔV), the change (the Δ) in velocity (themV) that a vehicle experiences during a collision, illustrates the impact on accident severity. Changes in Delta V occur when one of two things happen:

• Collisions occur at different average speeds or,
• The differential weights of vehicles involved in the miles traveled shift.

By analyzing different data sources, it appears both phenomena occurred during the COVID-19 period.

• **Speed increased:** In a recent article published in the New York Times, increases in average speeds on interstate highways, state highways and expressway were “unprecedented”, increasing by as much as 75 percent when compared to January and February levels. In early April 2020, Minnesota saw its rate of serious speeders (going more than 20 mph above the posted speed limit) increase to twice the usual rate.

• **Weight increased:** According to Inrix, a comparison to typical travel to travel during week 7 (Saturday, April 25 - Friday, May 1) revealed personal travel was down 36 percent and down 41 percent in Week 6. However, long-haul truck travel was down only 9.1 percent in week 7 and down 9.3 percent in week 6. Long-haul trucking relative to personal travel has increased substantially, thus increasing the relative weight of vehicle traffic during the same time period.
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Analysis of the average Delta V per damaged and claimed vehicle collected by CCC on behalf of its customers before and during the COVID-19 period illustrates the resulting changes to auto physical damage claims from pandemic driving patterns. Historical claims data reveals front impacts account for approximately 47 percent of collision losses, while rear impacts account over 50 percent of liability losses. For both front impact collision losses and rear impact liability losses with moderate to severe impact, the average Delta V has increased to all-time highs during COVID-19. Moreover, rear end liability Delta V was far more pronounced.

### Delta V Trends for Moderate to Severe Impact

![Delta V Trends Chart]

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### Non-Driveable Percent Overall Non-Comprehensive Appraisal Count by Calendar Week

![Non-Driveable Percent Chart]
The increase in Delta V as measured by CCC provides a measure for vehicle incident severity and at the same time provides an indication on the likelihood and severity of occupant injury.

Segmenting the COVID-19 vehicle claims data by their Delta V and by vehicle model year provides additional insights. Specifically, newer vehicles commonly equipped with ADAS (i.e., model year 2016 or newer) are seeing a shift in Delta V for frontal collision claims to the lowest Delta V segment when compared to the older car parc.

Newer vehicles are also seeing a shift in Delta V for rear end liability claims to higher Delta V segments when compared to the older car parc. This suggests that the ADAS in newer vehicles are indeed mitigating impact energy and subsequent vehicle damage when collisions cannot be completely avoided. The data also suggests that drivers of vehicles driving behind newer vehicles equipped with safety systems may be unable to react as quickly as the technology at work in the vehicle in front of them, more often resulting in ensuing rear end collisions with higher energy impacts for the newer vehicles.
This data is consistent with previous research conducted by CCC in its annual Crash Course publication comparing vehicle damage costs and characteristics of the same vehicle equipped with ADAS versus not equipped. ADAS such as automatic emergency braking (AEB) help reduce certain types of accidents such as front impact collision losses. Even if the accident is not prevented, ADAS systems help slow the vehicle before impact and mitigate the damage and subsequent cost of repair. In other cases, such as a rear impact collision loss (either the driver backing up into something or filing a rear-end hit to his vehicle with his own insurer), greater electronic content and more part components can also lead to higher repair costs for ADAS-equipped vehicles. So, while the changes to driving that have occurred during the COVID-19 shelter-at-home period have substantially driven up the frequency of moderate to severe Delta V accidents, the resulting vehicle damage underscores the different outcomes we can expect as more vehicles become equipped with ADAS.

None of us truly know what the new ‘normal’ will look like. The COVID-19 pandemic has forced businesses to evaluate key issues like supply-chain sourcing, telecommuting, and how they work with other business partners and consumers. Consumers have turned to technology to communicate, grocery shop, shop for a vehicle, teach our children, have a doctor checkup, and more. Technology has come to the forefront as a key enabler.

Like so many things, how people buy, own, insure, and drive their cars may change. Even vehicle crashes may change as data from vehicle claims during COVID-19 have shown, especially for those vehicles equipped with ADAS.

While predicting the numbers of road miles in the future is impossible, it is likely that the nature of driving risk forever changed.
SOURCE

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[1] https://www.brookings.edu/research/coronavirus-has-shown-us-a-world-without-traffic-can-we-sustain-it/.


