Miles driven in the U.S. has long been a key indicator used by our industry to project the likely number of vehicles involved in accidents each year. With COVID-19 there appears to be significant change in how, when and where people are driving that may require our industry to re-assess what this metric is telling us.
The U.S. DOT FHWA’s “Traffic Volume Trends” posted a -12.3 percent decline in U.S. vehicle miles of travel in August 2020. This was a larger decline than posted in July 2020 and suggests that recovery in miles driven may be slowing. Assuming weekly reports from FHWA OHPI that estimate vehicle miles traveled (VMT) for interstate highway for passenger vehicles and trucks reflect similar gains in miles driven overall, we are estimating growth in miles driven will continue again but remain below prior year levels through Q4 2020.

So, what do we know about the how, when and where people are driving today? For starters, we know fewer people are commuting to work. Our CCC Trends article for October explored the changes in U.S. demographics resulting from COVID-19, such as the number of people that are still working remote versus in an office setting. Stanford Economist Nicholas Bloom estimated in June 2020 that 42 percent of the U.S. labor force was working from home full-time during the shelter-at-home lockdowns, while another 33 percent were not working, and the remaining 26 percent (mostly essential workers) were working on business premises. And while some companies have begun bringing their employees back to the office, companies such as Google, GM and Ford have pushed that date out further to the middle of 2021 for many of their employees.

With more than 50 percent of people no longer commuting to work, or not working at all, the roads that have traditionally been congested during morning and evening commutes are much less congested. At the same time, with many schools doing full or partial remote learning, traffic congestion related to school drop-off and pickup is also substantially lower. According to data from Burbio.com, an organization monitoring public school districts representing over 35,000 schools, as of early September 2020, 62 percent of U.S. K-12 public school students were being taught virtually, while 37 percent are attending in-person all or only several days per week, and the remaining 1 percent were still finalizing plans.

Burbio’s K-12 School Opening Tracker, September 2, 2020
So, with fewer people driving to work or driving to school, what is behind the increase in miles driven? One reason, a sharp acceleration in ecommerce growth in 2020, which reached a level previously not expected until 2022. U.S. ecommerce sales jumped 32.4 percent in 2020, accounting for 14.4 percent of all U.S. retail spending (with gas and auto sales excluded ecommerce penetration was 20.6 percent).

### U.S. Retail Ecommerce Sales, 2018-2024 billions, % change, and % of total retail sales

Source: ecommerce.com

Demand for delivery of all this additional online shopping, particularly last mile, resulted in a less substantial drop in interstate truck miles driven during the lockdowns and a sharper recovery versus passenger vehicles.

### U.S. DOT OHPI Weekly Traffic Volume Report

Vehicle Miles Traveled by All Vehicles on Interstate Highways - Percent Change Same Week CY 2020 vs CY 2019

Source: USDOT OHPI
Already by mid-October, FedEx and UPS have informed some of their largest shippers that most of their capacity is already spoken for, anticipating the industry will be over capacity during the upcoming holiday season.³

**Estimated package delivery capacity and demand, change from previous year**

Despite concerns that consumer spending may decline in Q4 2020 without an additional government stimulus, carriers like FedEx, UPS and USPS were already operating near maximum capacity as online shopping surged during COVID-19.¹⁰

Analysis of the impact of personal mobility trends during COVID-19 have been produced by numerous organizations such as INRIX, Google, the Federal Reserve Bank of Dallas, and Apple. Anonymized data collected from connected cars and mobile devices largely supports these analyses. For example, the Dallas Fed developed a ‘Mobility and Engagement Index’ that looks at seven variables collected from a geospatial firm tracking mobile devices including what percent of devices leave home in a day; how long they leave home versus remain at home; and distance traveled from home and time spent at locations far from home.¹¹ Apple for example describes the data for their Mobility Trends Report as “…data [is] generated by counting the number of requests made to Apple Maps for directions in select countries/regions, sub-regions, and cities.”¹² Data from each of these organizations shows sharp decline in mobility in April with strong recovery through the summer, and relatively moderate further improvement in recent months.

The Apple Mobility Trends data in particular underscores the change in how and where people are traveling now versus pre-COVID-19. Specifically, the Apple data is based on mobile users asking for directions walking, driving, or via transit. Most individuals do not regularly request directions for their commute to work, so this might suggest people are traveling to new places they might not have traveled to before. Travel requests via Transit remained down nearly 50 percent as of mid-October, while Driving and Walking Requests were up nearly 20 percent. This would suggest that people are venturing out of home, but potentially going to places they might not normally go. The comparison of driving requests for a number of major metro areas illustrates the range in activity that still exists across different parts of the U.S. during this pandemic.
This change in how and where people are traveling is underscored when looking at the Google COVID-19 Community Mobility Report which shows how visits to places such as retail & recreation, grocery & pharmacy, parks, transit stations, workplaces, and residential are changing. As of mid-October, visits to parks and residential were up nearly 10 percent, while visits to transit stations and workplaces were down 30-plus percent.

Finally, analysis of vehicle appraisals for collision and liability appraisals by primary point of impact by quarter in CY2020 versus the same quarter in CY2019 further supports the premise that driving during COVID-19 is different. The following chart looks at the share of overall appraisal volume by loss category and impact point and shows the biggest shift was a drop in rear impacts for both collision and liability losses and a drop in collision front impacts in Q2 through Q4. These categories in CY2019 accounted for 12 percent, 14 percent, and 17 percent of combined collision and liability volume respectively, and are typical of accidents related to higher levels of congestion.

Change in CCC National Industry Overall Vehicle Appraisal Volume Share Collision & Liability Losses by Primary Point of Impact

Source: CCC Information Services Inc.
In summary, with the majority of individuals in most parts of the U.S. still working at home, not working at all, or learning remotely, historic traffic patterns have changed.

According to data from NHTSA’s Traffic Safety Facts 2019, over 20 percent of All Crashes and of Property-Damage-Only Crashes occur on weekdays between 3 p.m. to 6 p.m.; 13+ percent occur between noon and 3 p.m.; and 12+ percent occur on weekdays between 6 a.m. to 9 a.m.

**Historically Most Accidents Occur During Evening Rush Hour**

Source: NHTSA Traffic Safety Facts 2019

<table>
<thead>
<tr>
<th>Time Period</th>
<th>Percent of All Crashes by Day and Time of Day</th>
</tr>
</thead>
<tbody>
<tr>
<td>Weekdays 3pm - 6pm</td>
<td>20.4%</td>
</tr>
<tr>
<td>Weekdays 12pm - 3pm</td>
<td>13.4%</td>
</tr>
<tr>
<td>Weekdays 6am - 9am</td>
<td>12.4%</td>
</tr>
<tr>
<td>Weekdays 6pm - 9pm</td>
<td>11.0%</td>
</tr>
<tr>
<td>Weekdays 9am - 12pm</td>
<td>10.3%</td>
</tr>
<tr>
<td>Weekdays 9pm - 12am</td>
<td>5.5%</td>
</tr>
<tr>
<td>Sat-Sun 12pm - 3pm</td>
<td>4.5%</td>
</tr>
<tr>
<td>Sat-Sun 3pm - 6pm</td>
<td>4.3%</td>
</tr>
<tr>
<td>Sat-Sun 6pm - 9pm</td>
<td>3.5%</td>
</tr>
<tr>
<td>Sat-Sun 9am - 12pm</td>
<td>3.0%</td>
</tr>
<tr>
<td>Sat-Sun 9pm - 12am</td>
<td>2.5%</td>
</tr>
<tr>
<td>Weekdays 3am - 6am</td>
<td>2.3%</td>
</tr>
<tr>
<td>Weekdays 12am - 3am</td>
<td>2.2%</td>
</tr>
<tr>
<td>Sat-Sun 12am - 3am</td>
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</tr>
<tr>
<td>Sat-Sun 6am - 9am</td>
<td>1.5%</td>
</tr>
<tr>
<td>Sat-Sun 3am - 6am</td>
<td>1.2%</td>
</tr>
</tbody>
</table>

Assuming rush hour and school drop off / pickup occur most between 6 a.m. to 9 a.m and 3 p.m. to 6 p.m., perhaps it should not come as a surprise that vehicle claim counts are still down over 20 percent.

How much of this change is permanent certainly remains to be seen but seems likely to remain in place minimally through the remainder of this year.

Additionally, there is early evidence that COVID-19 has highlighted the benefits of things like working from home, saving time historically spent commuting each day. In their Deloitte Global Millennial Study 2020, more than 60 percent of Millennials and Gen Z’s indicated that when the crisis is over, they would like the option to work remotely more frequently, with 56 percent of those surveyed indicating they would choose to live outside of major cities if given the opportunity to work from home.15

With more companies looking to harness the potential to provide additional benefits to their employees and to potentially reduce needed office space, remote work to some degree is likely here to stay. Not surprisingly, Gartner listed ‘Anywhere Operations’ as one of the top strategic technologies for CY 2021 - “…the IT operating model that supports customers everywhere and enables employees everywhere.”16 In many ways we are experiencing an extension of the digital transformation of how customers engage with customers, but now in the form of how employees engage with their employer and customers.

While it’s difficult to know whether changes to how, when and where people are traveling daily will be long-standing, understanding them and observing them moving forward will continue to be important to our ability to forecast changes to auto claim frequency and loss costs in the future.
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[7] Ibid.
[10] Ibid.

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