



# COVID-19

## The Effect on Motor Insurance

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# Contents

<b>Introduction</b>	<b>3</b>
<b>Executive Summary</b>	<b>4</b>
<b>Movement Restrictions</b>	<b>5</b>
<b>Methodology</b>	<b>5</b>
<b>Changes in miles driven</b>	<b>6</b>
<b>Causes of the reduced exposure</b>	<b>7</b>
<b>Likely effect on the Insurance Industry</b>	<b>9</b>

## Introduction

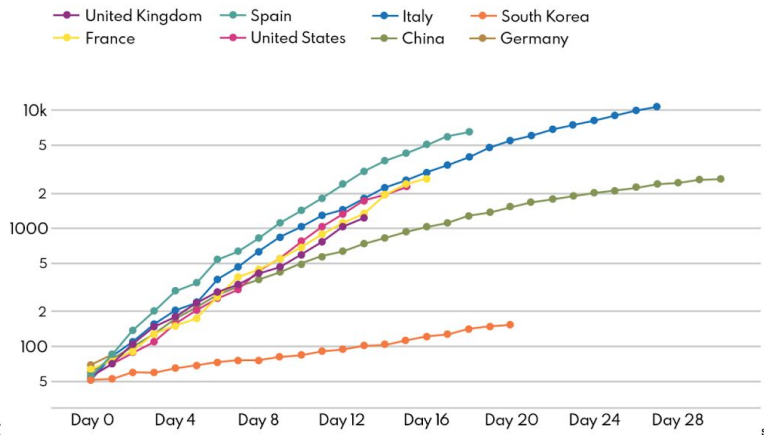
In this document we present an overview of the impact of COVID-19 across the world in terms of the levels of mobility of customers monitored by the Floop Platform and compare this to other metrics. We then review the impact of this on motor insurance.

The novel SARS-CoV-2 coronavirus emerged in the city of Wuhan, China, in November 2019 and has since caused a large-scale COVID-19 epidemic and spread to more than 196 other countries causing over 40,000 deaths to date (as at 31 March).

## Global comparison of deaths

### Global deaths comparison.

Countries are aligned by stage of the outbreak. Day 0 equals the first day 50 deaths were reported. (Confidence: deaths are reasonably accurate, but international reporting lags are unclear, so may not be comparing exactly like for like).



Source: Public Health England, Worldometer. Reporting of UK deaths may lag by up to several days. Logarithmic scale – see international tab for linear scale.

Coronavirus causes symptoms including a persistent dry cough, fever and shortness of breath. It is highly infectious and many countries have now implemented severe lock-downs impacting the movement of people.

This paper investigates whether these restrictions are actually reducing people's driving (both mileage and behaviors) and the knock on effect on Auto Insurance risk.

## Executive Summary

There is evidence that since the COVID-19 outbreak there has been a reduction in miles driven that could lead to a reduced risk level for Auto Insurance of up to 85%. However, this reduction varies significantly by country and as of 28th March was:

<b>Country / Region</b>	<b>Overall Risk Reduction vs pre Lockdown</b>
South Africa	85%
Iberia	79%
UK	73%
Germany	59%
United States	53%

These differences in reduction will be due in part to the phased implementation of transport restrictions and in part due to the community understanding of these restrictions.

The reduced exposure is driven mainly by reduced active users rather than trips per user, miles per trip or user driving behaviour.

## Movement Restrictions

Lockdowns in various countries happened as follows:

China	Lockdown in Hubei province begins 23 January with death toll at 17
Italy	Lockdown begins 9 March with death toll at 463
Spain	Lockdown begins 15 March with death toll at 288
France	Lockdown announced on evening of 16 March with death toll at 148
USA	Limited lockdown on 23 March with death toll at 325
UK	Lockdown begins 24 March with death toll at 355
South Africa	Lockdown begins on 27 March (police enforced)

## Methodology

Summarised data from multiple clients has been aggregated to allow daily analysis of:

- Active Users - those who have completed a driven trip on a day
- Trips
- Mileage

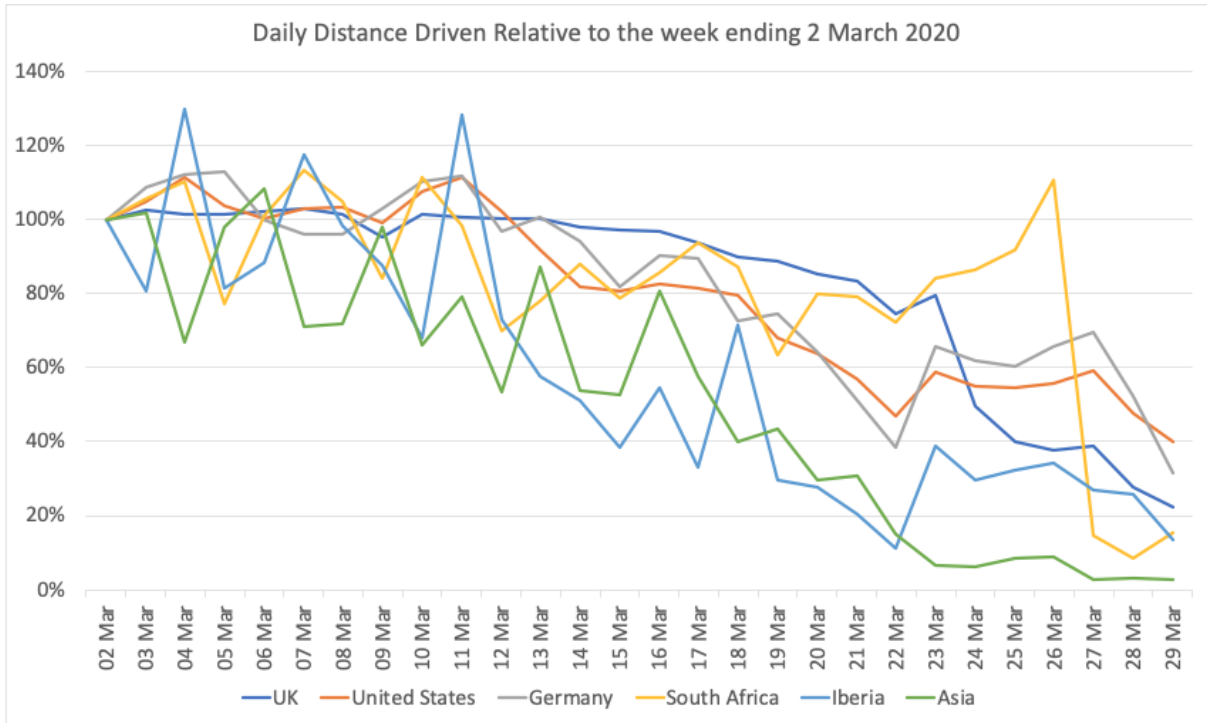
All split by territorial region.

To allow for normal weekly seasonality (weekdays having a very different profile to weekends) all results have been presented as relative to the same day of the week in the last week of February (the week ending 2 March).

Data extraction was started on Monday 30th March so all results are up to and including 28th March to allow for immaturity of the last day in the data. This now includes data for a number of days after the lockdowns in the United States, South Africa and UK.

## Changes in miles driven

The chart below shows the relative total miles recorded across the Floop Clients split by territorial region. Everything is expressed as a percentage of the same weekday in the last week of February.



From this chart it is clear that Iberia (mainly data from Portugal) started to reduce before the other countries (a week before the official lockdown) and despite bouncing back up a bit it is below 20% of usual mileage. It is noteworthy that the mileage had already reduced by over 50% even before the lockdown was announced.

The United States and Germany have both reduced albeit slowly and are currently showing around 40% of normal volumes.

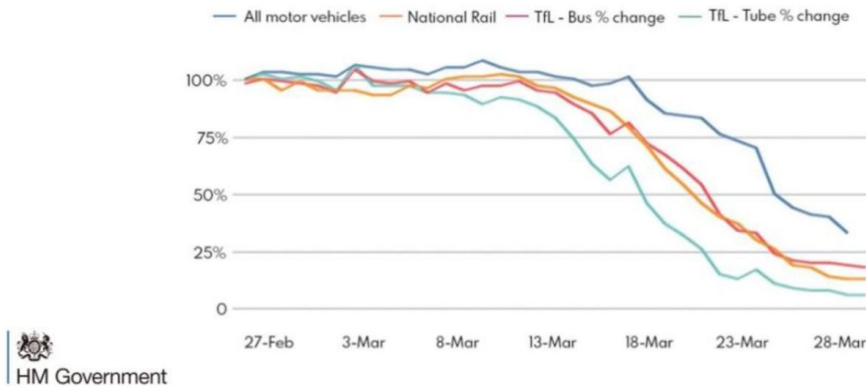
Perhaps the largest changes though were for the UK and South Africa.

In the UK we saw a 30% drop on the day of the lockdown and have now dropped to nearly 20% of usual volumes. In South Africa though the lockdown was much more tightly enforced and volumes dropped by 90% overnight.

Our data is corroborated by (although slightly more extreme than) the UK Government’s report on general transport use (which includes freight) and our Clients’ private car mileage reduction is very similar to the reduction shown in Bus usage.

## Transport use change

**Transport use in Great Britain has decreased since the imposition of social distancing rules.**  
 The percentage change in the use of all motor vehicles, National Rail, the London Underground (TfL), and bus travel (TfL).

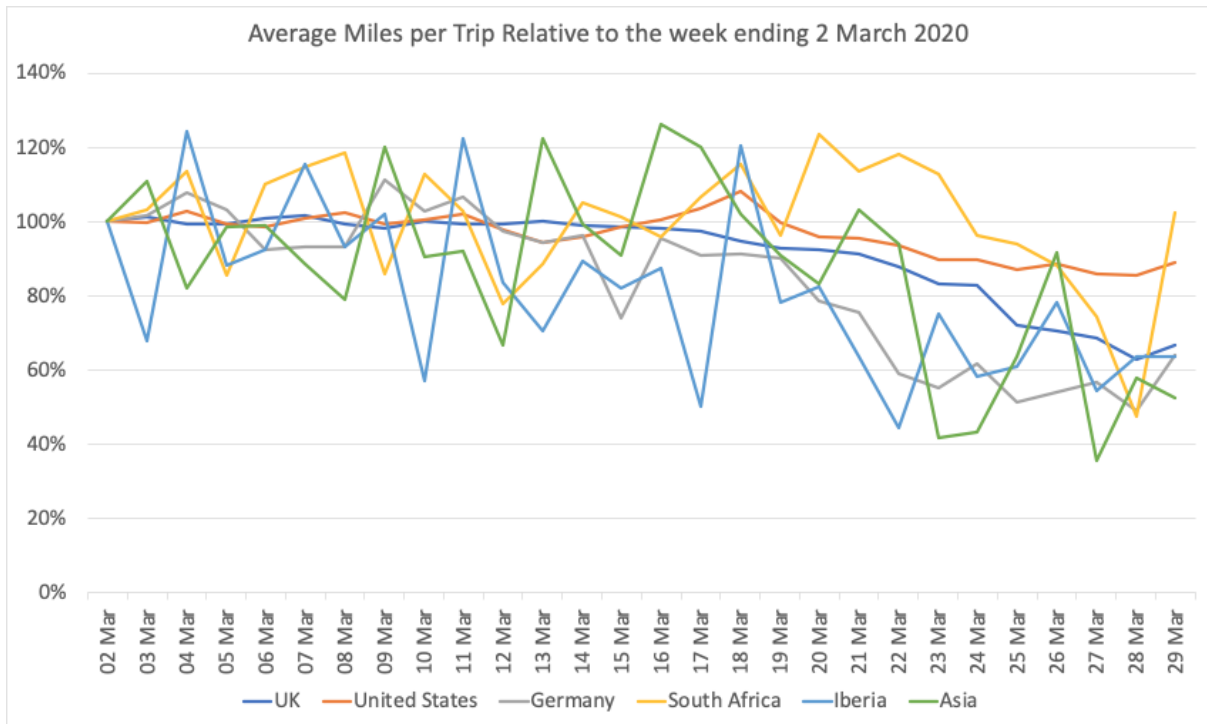


## Causes of the reduced exposure

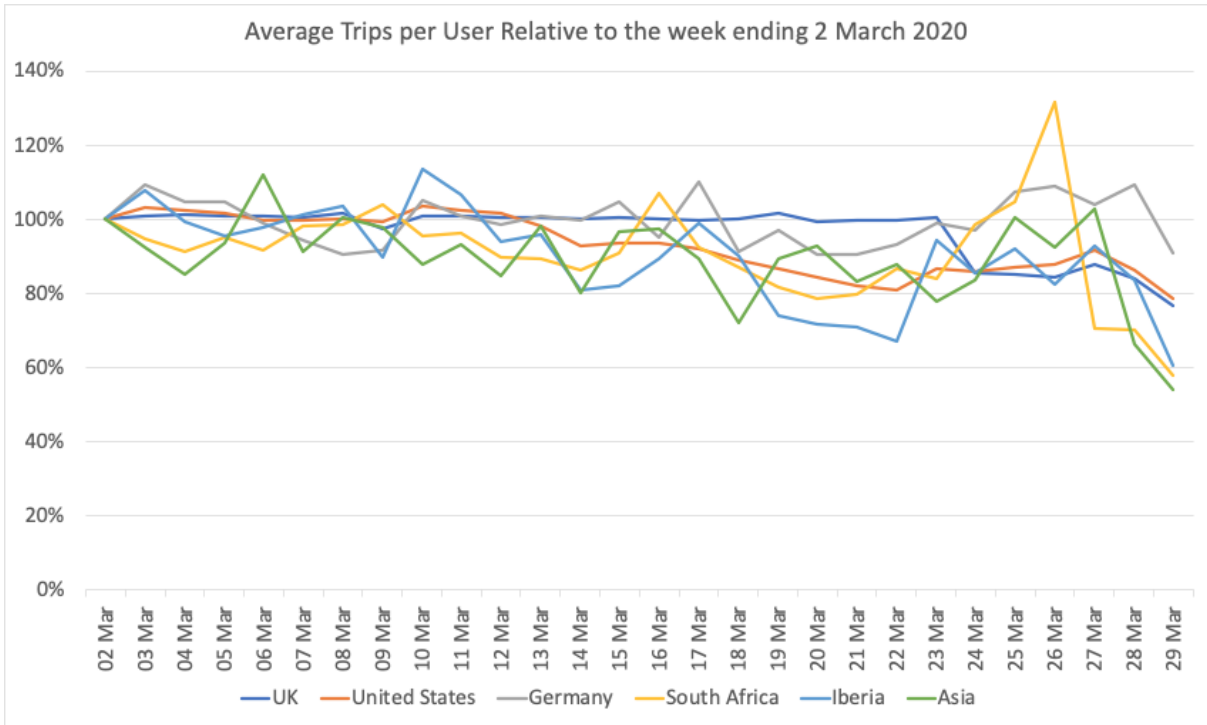
The reduced mileage could be caused by one of a number of factors:

- Reduced miles per trip
- Reduced number of trips per user
- Reduced number of users driving

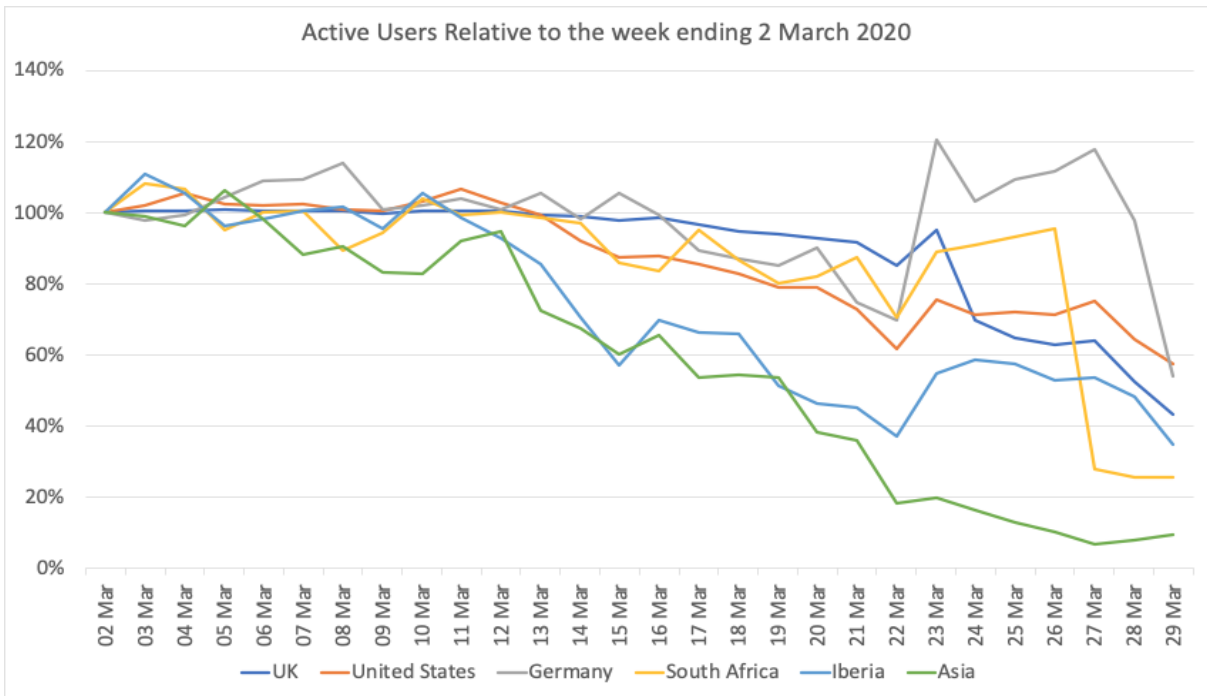
Each of these is charted and commented on below



There is now evidence of up to a 40% reducing length of trip in all countries except the United States where only ~ 10% trip length reduction has been noticed.



Average number of trips per user has dropped by around 20% in the UK and the United States with 40% in Iberia, Asia and South Africa, with only a 10% reduction in Germany.



The number of active users shows the largest changes, dropping by:

- 90% in Asia
- 75% in South Africa
- 60% in the UK and Iberia
- 40% in the United States

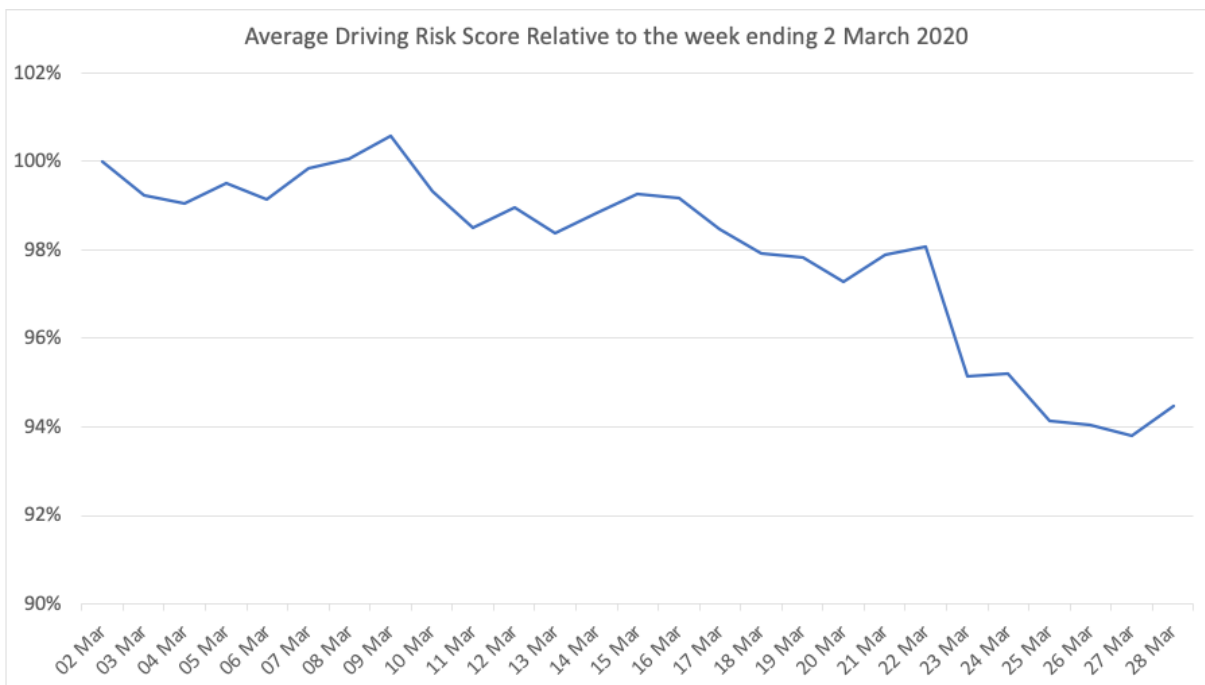


## Likely effect on the Insurance Industry

Auto claims are generally proportionate to the amount of exposure and the driving score.

However, not every mile is the same and the lockdowns have had a significant effect on the types of trips that people are doing. Since trips are limited to things like essential shopping now we are seeing a disproportionate drop in the mileage on motorways and freeways in relation to the drop on city roads so the overall risk reduction is not as clear cut as it first seems.

Additionally as we know from Telematics there is also a strong effect on risk from the behaviours that people exhibit whilst they are driving.



There is now also evidence (above) that scores are deteriorating as people are able to drive faster with and more aggressively with less traffic on the roads. This is slightly countered by people driving at safer times of day but the coronavirus does seem to have increased the likelihood for people to use their phones whilst driving which again increases the risk. The overall effect of this reduction in score will, to some extent, offset the reduced risk from driving less.

Overall, the mix of different roads and driving behaviour seems to indicate that risk per trip increases by up to 10% depending on the country and that to an extent this will reduce the perceived benefit from lower overall mileage.

The overall effect on insurance profitability will therefore depend mainly on the reduced miles driven due, in the main to the reduced number of people driving. These are currently:

<b>Country / Region</b>	<b>Change in Mileage</b>	<b>Behavioural Risk</b>	<b>Overall Risk Level vs Last week in Feb (pre lockdown)</b>
South Africa	-85%	0%	15%
Iberia	-80%	+5%	21%
UK	-75%	+10%	27%
Germany	-60%	+5%	41%
United States	-55%	+5%	47%

In the light of these significant reductions in risk it is perhaps not surprising that consumer groups in the United States are already calling for premium reductions and/or refunds as reported in the [Insurance Journal](#) online.

The directors of the Consumer Federation of America and the Center for Economic Justice last week sent a letter to state insurance commissioners asking them to direct insurance carriers to offer customers “premium offset payments.”

“The likelihood of a motor vehicle accident drops radically when the number of cars on the road drops radically,” stated J. Robert Hunter, director of insurance for the Consumer Federation. “Consumers who paid auto insurance premiums based on driving an estimated 1,000 miles a month but who are now driving 200 miles a month because they are forced to work at home or their business has closed should get relief from their auto insurers.”

Specifically, the letter asks regulators to direct auto insurers to offer premium relief to any policyholder who can demonstrate or attest that their miles driven has been impacted because of coronavirus safety measures

This is highly likely to have a significant impact on the potential for telematics since this is a great way for Consumers to be able to record their reduced mileage and we are expecting to see a strong demand from insurers wanting to release Pay As You Drive and Pay How You Drive policies or indeed just give users the ability to record their mileage to assist with claiming for a rebate.

As we move forward there may also be an increased consumer movement to demand these telematics products to assist them to ensure fairer motor insurance premiums as

well as similar products to track where they go and who they come into contact with to ensure that any future similar outbreak can be tracked, traced and only potentially infected people isolated rather than the entire population. A strategy that Singapore was able to carry out on COVID-19 extremely successfully.

Looking further to the future, the sudden drop in driving exposure and therefore claims frequency will need to be recorded sensibly in insurers systems to avoid incorrect predictions in the future based on an apparent low frequency of motor accidents in early 2020.

However, we are not without precedent for this... and oddly these events seem to have an interesting habit of occurring every decade or so... just long enough apart for most people to forget...

- In 2000, we had petrol strikes in the UK which led to a significant drop in mileage as people simply couldn't fill up
- In 2010/11, we had the financial crisis and the period when petrol prices rose from 120p per litre to over 140p leading to affordability being an issue and people reducing their driving where-ever they could
- In 2020, we have COVID-19

Clearly neither of the previous examples led to the same scale of mileage drop as we are seeing in 2020 but they do give an indication of how we can cope in terms of modelling.

All models rely on input factors to help standardise the outputs. In the case of motor insurance we are usually interested in predicting the relative risk for an individual due to their age etc. and basing the overall rate on desired profitability and expected claims inflation. It is this latter issue where the errors arise since claims inflation, both frequency and severity is generally forecast with broad brush assumptions and moving forward we will need to allow for socio-economic factors in these projections to avoid mis-forecasting 2021 claims from an artificially low 2020.

Of course - the above comments only relate to traditional players. Our Telematics Clients are a step or two ahead as they don't have to rely on the old proxy of a vehicle year for the exposure measure since we monitor the actual mileage as well as the way in which it was driven.