[3] During the period of 1967-2011, there were only 5 years where the fatality rate increased. However, from 2012 to 2016, the fatality rate increased in 3 out of 5 years – 2 of which were 2015 and 2016

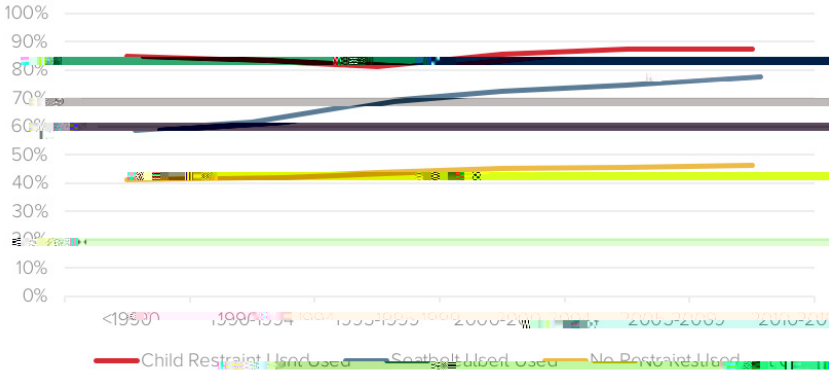
Figure 1
Annual Motor Vehicle Fatalities & Fatality Rates (1966-2016)

behind the wheel: checking their smartphones.[5] However, it is very difficult to prove this definitively based solely on information from the Fatality Analysis Reporting System (FARS), a database that tracks every fatal automotive accident in the United States. The FARS database relies on information collected by authorities at the scenes of accidents, but there are numerous issues at play, which result in the true rate of cell phone-related distractions being severely underreported.

The dangers of distracted driving have been known for years. Research from the University of Utah in 2006 indicated that talking on a cell phone increases the risk of an accident to a level similar to that of driving while intoxicated.[6] While di□erent studies may show varying degrees of risk, the consistent

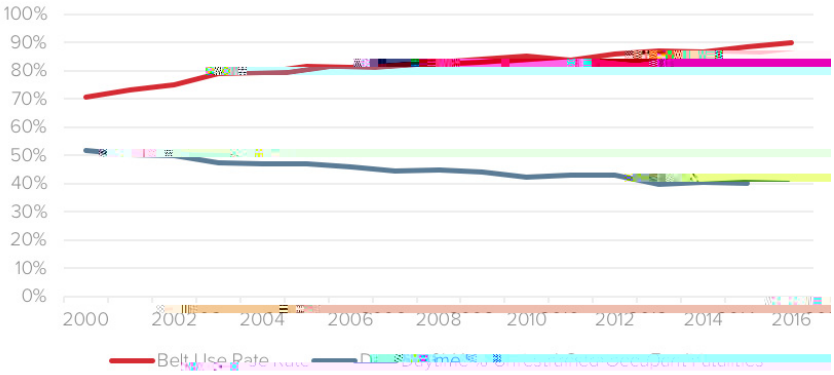
level across all model years for unrestrained passengers. Not only has the effectiveness of seatbelts increased, the actual seatbelt use rate has risen from 70% in 2000 to 90% in 2016[1] (Figure 4).

Figure 3
Fatal Crash Survival Rates by Model Year and Restraint Use



Source: FARS

Figure 4
Seatbelt Use Rate

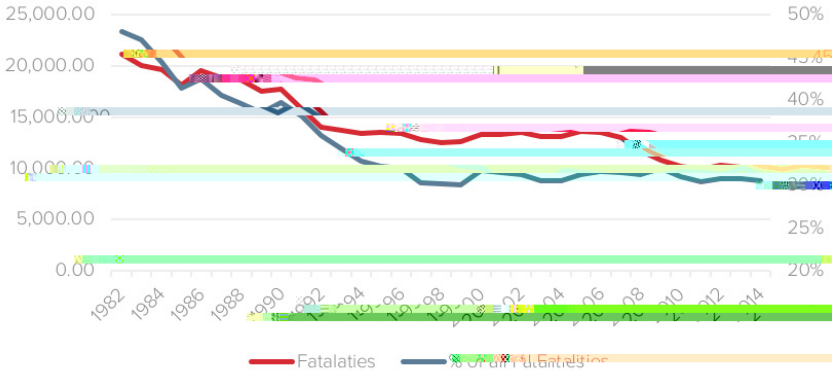


Source: FARS

Drunk Driving

Drunk driving fatalities have dropped substantially over the past 30 years, both in raw numbers and as a percent of all fatalities. The statistics for the following graph (Figure 5) were taken from the Mothers Against Drunk Driving (MADD) website, which shows the decrease in the number of drunk driver-involved fatalities since 1982. Rates have remained relatively flat since 2011.[2]

Figure 5
Drunk Driving Fatalities



Source: FARS

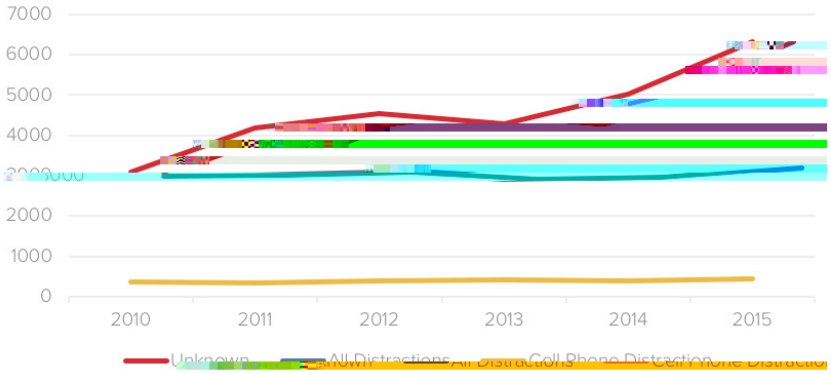
One possible reason for the relatively stagnant rates of drunk driving fatalities could be related to the increase in cell phone distractions. Clearly, a drunk driver who is also distracted by a cell phone is going to be that much more dangerous on the road. However, once alcohol involvement is identified in an accident, police are unlikely to conduct any further investigation to determine if distracted driving was also a cause.

Driver Distraction

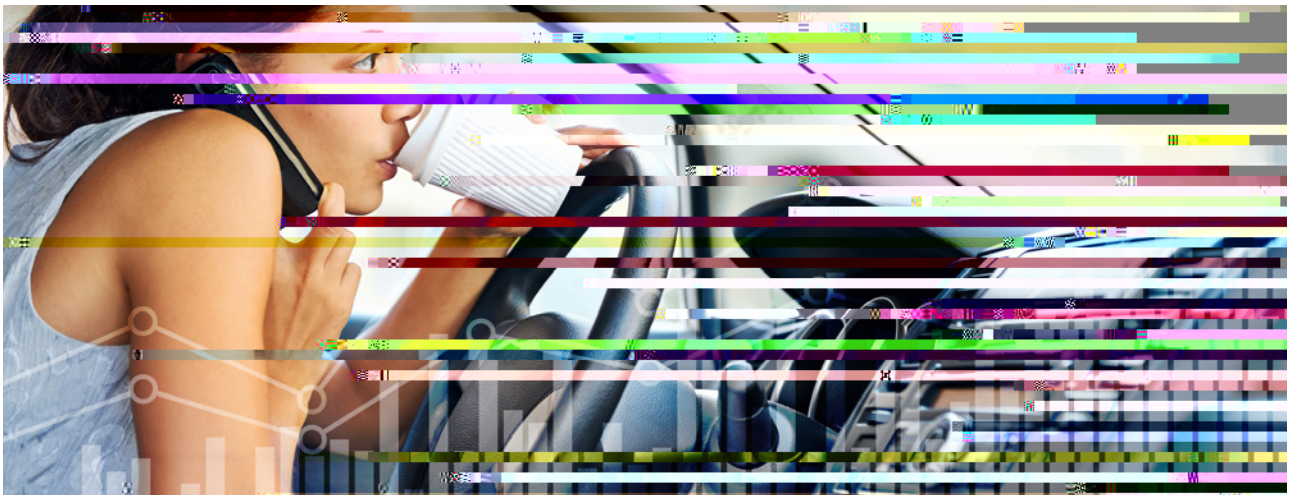
Given the information above, it is clear that increases in vehicle safety, increased seatbelt use and reduced drunk driving rates have all put downward pressure on the automotive fatality rate per VMT. However, if the overall fatality rate is going up despite these major factors pushing it down, what factors are causing it to increase?

A look at the distracted driving statistics from FARS tells only a part of the story. In what is a very surprising statistic, the level of distracted driving-related fatalities remained relatively flat from 2010 to 2015. Within the distracted category, only 442 accidents were identified as involving a cell phone-related distraction in 2015, up from 366 in 2010. However, the number of fatal accidents where distraction involvement was reported as unknown more than doubled from 2010 to 2015 (Figure 6).

Figure 6
Distraction-Related Fatal Crashes



Source: FARS



A few disturbing trends in traffic fatalities from 2010 to 2015 can be seen in the following bar chart (Figure 7), which shows the percentage increases in fatalities over that period.

Why is it that since 2010 the number of unknown distraction cases has gone up more than 100%, the number of cyclist fatalities has gone up more than

A minimum of

26%

of all crashes involve some form of cell phone use

According to a consumer survey by Deloitte in 2016, Americans alone collectively check their phones more than 9 billion times per day.[10] The average person checks 47 times per day, and 18 to 24-year-olds check 82 times per day. Another study, from the online research company dScout, found that users on average engage in 76 phone sessions a day, averaging 2,617 taps/swipes/clicks a day, and heavy users engage in over 130 sessions a day and average 5,427 daily touches.[11] A 2015 survey from AT&T found that 70% of people engage in smartphone activities while driving.[5] Additionally, 62% of drivers keep their smartphones within easy reach while driving – in their hands, laps, cup holders, or on the passenger sea.5 (c)96003 Tc.5 (r)en-GB18.7 (hg(s k)14 (a(ve)-6/Gn)-s)-7.6 (,)7 (c)03h (g)-2.1 (2a)(,)7 (

Research has shown that bans on cell phone use have done little to actually curb accident rates.[12] A speeder can be caught with radar, a drunk driver can be identified with a breathalyzer test, but a cell phone violation relies

Conclusion

Despite all of the headway made in vehicle safety, drunk driving prevention and seatbelt use rates, the fatality rate on U.S. roads has increased in back-to-back years. While the FARS data does not show an increase in distracted driving-related fatalities, it is difficult to ignore all of the evidence to the contrary. Research suggests that cell phone-related distractions are severely underreported. Several studies have shown dramatically increased probabilities of being in an accident while using a smartphone, and 70% of drivers admit to using their smartphones while they drive. It is clear that driver distraction from smartphones is causing a reversal in vehicle fatality rates per VMT despite so many other factors that are continuing to reduce the rate.

Several regulations have been put in place to ban a certain extent of cell phone use while driving. However, these efforts have not shown any effectiveness in reducing crash rates stemming from distracted driving. Enforcing cell phone restrictions is difficult, and current punishments are not severe enough to truly deter the behavior. Absent a complete cultural shift in the attitude toward smartphone dependency, it is going to be very difficult to

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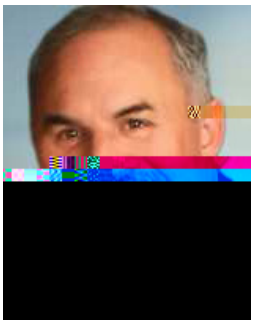

Scott Rushing, FSA, has over 20 years industry experience and is the Head of Global Research at RGA Reinsurance Company. His current responsibilities include oversight of the biometric research, emerging research and actuarial research functions of RGA's Global Research and Data Analytics department of RGA. Scott's previous roles include leading RGA's Predictive Analytics team, Head of U.S. Experience Analytics, and reinsurance pricing and product development roles. He is a frequent presenter at industry conferences and has published research on numerous topics such as credit, prescription histories, motor vehicle records, seasonal impacts on mortality, and post-level term mortality and lapse experience. Scott earned his bachelor's degree in Actuarial Science from Drake University and his master's degree in Statistics from the University of Missouri. He is a Fellow of the Society of Actuaries (FSA) and a Member of the American Academy of Actuaries (MAAA).

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