

# TerranearPMC Safety Share

## Week of August 28, 2017 – A History of Safety in the Auto Industry

Today, the automobile industry has many mandatory safety features for any car sold in the United States. Some of the more notable ones include seat belts (actually belt and shoulder strap), locking doors, anti-lock brakes, padded dashboards (yep, they weren't always standard) and shatter-proof windows. The first recorded car accident was in Ohio City, Ohio in 1891. It was here that the first single-cylinder gasoline automobile hit a tree root, causing the car to careen out of control and smash into a hitching post. Injuries from this accident were minor. But it was in the UK on August 17, 1896, which marked the first automobile fatality. As the story was told, Bridget Driscoll, crossed the grounds of the Crystal Palace in London, where she was struck by an automobile belonging to the Anglo-French Motor Carriage Company that was being used to give demonstration rides.

Without a doubt, the advent of the automobile changed our country's landscape as well as creating a new economic, social, and recreational opportunities. And while this new mode of transportation placed speed and power in the hands of individuals, by the early twentieth century, a soaring rate of traffic deaths and injuries prompted major concerns. A dialogue among physicians, safety advocates, engineers, journalists, and others revealed differing opinions about the causes of accidents from this new mode of transportation. Driver behavior, automobile design, highway engineering, and traffic hazards all were blamed. Efforts to retain the benefits of personal mobility while minimizing its sometimes tragic consequences focused on specific problems from controlling driver behavior to redesigning automobiles to improving the driving environment. And as we now know, it took decades to understand, prioritize, and minimize these risk factors.

The first remedies comprised a *social response* focused on controlling and improving driver behavior. By the early 1920s, the National Safety Council compiled accident statistics, held conferences, and sponsored Safety campaigns in cities, hoping that increased public awareness would promote careful driving. Controlling driver behavior through laws, fines, signals, and drunk driving arrests were obvious ways to decrease the fatality rate.

Concurrent with controlling driver behavior was instituting engineering controls, such as the safety feature of *Triplex* shatterproof glass, and became standard equipment on the Ford Model A windshields in 1928. By the 1930s, safety glass became a usual fixture on all Ford cars. Also in 1930, a plastic surgeon named Claire Straight and a physician named C.J. Strickland proposed the use of seat belts and padded dashboards. Strickland ended up founding the Automobile Safety League of America. In 1934, General Motors (GM) performed the first barrier crash test. Two years later, a back-up brake system was invented by Hudson Terraplane.

The short-lived *American Tucker* came equipped with the world's first padded dashboard in 1947 which also included a middle headlight that rotated in direct synchronization with the steering wheel. And in 1949, the Chrysler Crown Imperial became the first automobile to be equipped with standard disc brakes.

Of course, not every safety innovation wound up having a positive impact on automobile safety. One of the earliest unsuccessful safety features was the 1907 O'Leary Fender; a sort of mesh cow-catcher that bolted to the front of a vehicle and was meant to shovel pedestrians aside. According to its



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advertisement, the fender made "serious injury by being hit with an automobile practically impossible" as it would scoop people up and out of harm's way. Obviously, this innovation didn't catch on!

In the 1930s, auto makers actively promoted new safety improvements such as all-steel bodies and hydraulic brakes while industry representatives contended that improving roads, licensing drivers, and regulating traffic was the key to preventing accidents. Auto makers now claimed that modern cars were completely safe. Unfortunately, even though such devices as seat belts, energy-absorbing steering columns, and padded dashboards had been invented, they were not installed on most vehicles.

The first turn signals didn't show up until Buick launched them in 1937. The first front seat belts didn't appear until Tucker installed them in his experimental car in 1948. Yet, these features didn't become common options until the '50s or '60s.

In the 1950s, physicians and university professors who were concerned about motorist protection introduced a *scientific response* to auto safety problems. Crash testing at universities pinpointed the causes and effects of bodily impact inside a car during a collision. These studies convinced many people that it was necessary to "package" the driver and passengers with seat belts and padded dashboards. By 1956, those features were available as options on most new cars.

It was in 1959 that the three-point seat belt (belt with shoulder harness) was first installed in Volvo cars. In 1965, consumer activist Ralph Nader (yeah, that same guy that ran as a third-party presidential candidate in 2000) published "Unsafe at any Speed," a blistering attack on the GM's Corvair compact car. That prompted Congressional investigations into the industry as a whole, culminating in the National Highway Traffic Safety Act in 1966 which even today, is the main regulating body for vehicular safety and investigations on our roads and highways.

Despite the thousands of fatalities, mandatory seat belt laws were fought rigorously by auto manufacturers. A similar bout of safety advocacy and industry resistance focused on mandatory installation of airbags, which finally was legislated in 1989. Since then, hundreds of thousands of lives have been saved through the implementation of these two relatively simple devices.

Initially, many motorists did not wear seat belts, but by the 1990s they became widely accepted. Safety campaigns emphasized the importance of buckling up, and state laws made motorist compliance mandatory. By 1998 the federal government also required air bags as standard equipment. Such technological advances made the automobile itself as the first line of defense for accident control.

Antilock brakes had been around in the European aviation and automotive industries since the 1930s. The Mercedes-Benz gave its S-Class ABS in 1978, and Lincoln became the first U.S brand to offer them in 1985.

Well, that's a very quick history of automobile safety in the US. And it appears we are not done! Today there is talk of driverless vehicles and using sophisticated sensors that are designed to override driver/operator responses should close contact with nearby objects be a likelihood. But until these features become reality, driving defensively and obeying traffic laws and not driving under the influence, still remain our key responsibilities.

**We must strive to become good ancestors.** Ralph Nader