Vehicle manufacturers have always been innovators, constantly experimenting with new technology and new ways to keep us safe in the event of an accident. Recent advances, using sophisticated collision avoidance systems which have quickly become commonplace in new vehicles can help us avoid accidents altogether. While these systems often utilize innovative technologies and components, which contribute to substantially safer driving, these same components also have an impact on collision repair costs and underwriting.

While Original Equipment Manufacturers (OEMs) have been experimenting with collision avoidance systems since the late 1950s, significant advances did not occur until the mid-1990s when Hughes Research Labs produced the first commercially viable systems. This led to the technology appearing in earnest between 2004–2012 as OEMs introduced the technology into their higher-end luxury models during product re-designs and refreshes.
Modern collision avoidance systems consist of radar, laser (LIDAR), and camera-based systems. These systems provide not only collision avoidance capabilities by automatically applying the brakes, they also provide adaptive cruise control and park assist capabilities.

Specific components for these systems include park assist sensors, front impact sensors, vehicle...
radar/speed sensing systems, surround cameras, laser systems (LIDAR) and more. As avoidance systems become more prolific and components more readily available, they are increasingly being added not only to luxury cars, but also to many of the latest mass-market vehicles, across multiple price points and styles. This means that collision avoidance systems, and the parts and labor needed to repair them, are present throughout the entire repair industry.

“Modern collision avoidance systems consist of radar, laser (LIDAR), and camera-based systems.”
Collision Avoidance, Park Assist, and Adaptive Cruise Control Components.

Small devices, high costs

**Typical Park Assist Sensor**
Average Cost: $170—$199
Up to 6 per front bumper
Up to 4 per rear bumper

**Front View Camera**
Average Cost: $500—$900
1 per front grill area
1 in rear bumper area

**Front Wave Radar Sensor**
Average Cost: $600—$900
1 per front grill
or bumper area
In reviewing the average cost for several common collision avoidance components, these highly sophisticated gadgets are by no means an inexpensive replacement if damaged. Unfortunately, these components are most commonly found in the areas most prone to collision impacts—the front and rear bumper areas of vehicles. Within Mitchell’s Industry Trends Report, “Growth in Special Materials and Its Impact on Estimating” from Winter, 2017 it was shown that there is an average increase in vehicle repair costs of approximately $458 for vehicles with specialty materials vs. those without. In this article, we’ll examine how collision avoidance, park assist, and adaptive cruise control systems affects the cost of repair for vehicles outfitted with these systems—virtually all new vehicles.