Increased safety and decreased attention

Technology, Cars

Increased Safety and Decreased Attention Advanced Driver Assistance Systems are sweeping the automotive industry. Although they can help drivers avoid potential accidents, they are continually making drivers less concentrated on the road and more reliant on man-made machines to help them drive. There are a number of reasons why in recent years electronic driving aids have been developed and implemented at an ever-increasing rate. The first and foremost reason is safety (i. e. an unacceptable number of accidents), but economic principles (“ time is money", among others) are also a compelling factor. Of course, in a culture that is gearing itself more and more toward instant gratification and every-day pampering, bringing comfort to the driver population is obviously a good sales argument, and should not be underestimated as a major influence. Advanced Driver Assistance Systems (commonly known as ADAS) can be traced all the way back to 1955 when the first cruise control system was installed on a Chevrolet. The system was revolutionary, letting drivers rest their leg and have the car control the acceleration. This paved the way for more automated automobile systems to be brought to market for years to come. Today, an amazing display of technology can be seen not only on your new iPhone, but also in your vehicle. This is why the market for ADAS has been growing dramatically in accordance with the 21st century technology boom. Many systems, such as radar-based cruise controls, were once only offered on high-end luxury vehicles, such as Lexus and Mercedes-Benz, but have now found their way into compact “ value" cars. Almost every automaker has their own form of a pre-braking system that helps drivers avoid an impending collision, running the market gamut from Acura to Volkswagen.

Honda recently introduced their version of LaneWatch, which alerts the driver if a car is in their blind spot. The number of these systems has increased dramatically in the past five years due to trends in the automotive industry, economic factors, and the fact that these systems have decreased the amount of accidents since their introduction. The main reason why ADAS are so popular is because they give drivers a heightened sense of safety. When in the driver's seat, one only has a limited view of what is surrounding them; some systems give a whole realm of views to the driver, including blind spot and rear cameras that operate whenever the car is in motion. This allows the driver to have a much better view of the road, as well as a sharper sense of security. Systems such as City Safety, pioneered by Volvo - which automatically brakes the car for the driver if they fail to see an object or vehicle in front of them - help drivers avoid many potential accidents. In a case where road visibility is hindered or stop-and-go traffic leads to high driver stress levels, an ADAS system such as City Safety can increase the safety (and even potentially save the life) of the driver, other drivers, and pedestrians in a situation where driver input is not always perfect. A total of 3, 466 teenagers ages 13-19 died in motor vehicle accidents in 2009, according to the Insurance Institute for Highway Safety (IIHS 1). Although most new drivers complete extensive training in the classroom and on the road, many are still not prepared for real-world driving situations. A system such as City Safety could prevent an accident when a teenage driver hasn't yet learned the concept of the three-second rule that helps avoid tailgating. Teenage driving fatalities have decreased by 15% since 2008 (RMIAA 1). If systems such as these are mandated in all motor vehicles, then it follows

that the percentage rate of teenage driving fatalities (and all accidents and fatalities in general) will likely continue to go down. the duck ma Teenagers are not the only drivers who can benefit substantially from automotive assistance systems. The elderly and the disabled are other categories of drivers that may also require more than average assistance with vehicle operation. The elderly (or anyone) who have hampered vision could benefit from a Night Vision system, seen on many Lexus SUVs. Such systems allow drivers to see an additional 100 yards in front of the vehicle at night for increased visibility during nighttime driving. Many disabled drivers could benefit from AllAroundView cameras, which have been introduced by Infiniti to aide with parallel parking and to avoid fender benders. All of the ADAS mentioned are leading the way to a fully computerized road system, which, although it sounds lazy and unrealistic, could almost completely eliminate driving fatalities and accidents in the future. For all of their benefits, ADAS is not without its share of critics. Some experts argue that any gains in terms of security may be reduced or canceled out by the fact that the systems may affect drivers' behavior. This is why there is an argument that we must evaluate the real-world effects of ADAS, and not just look at the benefits “ on paper". Firstly, when a driver is given information about potential hazards, whether it be on a screen or on the windshield in their view, it diverts their attention away from the road. In the three seconds it takes for the driver to look away from the road, something else could happen, and the driver may not have enough time to react. Secondly, once a driver has so many systems in front of them that driving becomes less autonomous, they start to adapt to the new driving experience, and may become desensitized to the fact that

they have less control of the car. Having machines do our work for us has been present for ages, but if drivers should turn lazy or become distracted, many problems will ensue. Until our cars are fully independent, drivers must remember to remain alert, concentrated and engaged with the vehicle while on the road. When a driver gets acquainted with the fact that they have so many systems working on their behalf to prevent an accident, it could lead to a false sense of security, which may promote riskier driving behaviors, and a level of distracted driving unfit for the road. Additionally, ADAS are not always foolproof. “ It was suggested that system reliability levels of 70% to 75% are usual" (Pohlmann 1). Because of the obvious fact that no system can be free of mistakes and failures, a driver cannot always rely on the system to defend them. For example, when the City Safety ADAS was recently demonstrated to a group of automotive journalists the system failed to engage. In this case, the 2012 S60 model smashed into a concrete wall, right in front of the journalists! A driver who isn’t fully aware of how their system operates could also mistakenly turn a system off or not know what a system is telling them in a situation. Another important factor for consideration is that as these systems gain popularity, the blame in an accident could actually be shifted from the driver to the car itself. These systems are not a substitute for full driver interaction, but some drivers could potentially sue an automaker for lack of explanation about various ADAS when the car was purchased. This could lead to an increase in frivolous lawsuits, and could have an unexpected impact on insurance rates. The potential for ADAS to be widely accepted and integrated into the automotive market is now greater than ever. By saving lives and adding an extra realm

of security and safety never before seen by a driver is both revolutionary and evolutionary in respect to technology, as we know it. No matter how advanced the system, however, every driver still needs to take into his or her hands the great responsibility of getting behind the wheel of a one ton moving object. Works Cited Teen Driving Statistics. Rocky Mountain Insurance Information Association, n. d. Web. 12 Sept. 2012. . Pohlmann, Ken. Advanced Driver Assistance Systems Take Control in the Car. Edmunds, n. d. Web. 13 Sept. 2012. .