

IN-VEHICLE TECHNOLOGIES

The availability of in-vehicle technologies that might help drivers avoid a deer-vehicle crash (DVC) has grown in recent years. The design details of these technologies vary, but the documentation reviewed indicates that most appear to combine sensing devices and displays. Their primary objective is to show the driver where an animal is located (i.e., enhance their vision), typically at night, far enough away to avoid a DVC. Some concerns do exist about the effect and usefulness of these devices as they are currently designed. There is the potential for false or multiple indications that could impact their effectiveness (e.g., much like false alarms from radar detectors). In addition, with the introduction of any new technologies that interface with the driver of a vehicle there are always concerns about driver compliancy, information overload, and/or distraction.

Literature Summary

Two in-vehicle “vision” systems have been deployed and others are being developed. Documented studies that evaluate the DVC reduction effectiveness of these specific devices and/or their interaction with the driver were not found. However, these technologies are new and limited in their use, and it is unlikely that a properly designed DVC reduction study have even been possible. It is expected that the viability of offering these technologies in vehicles (i.e., whether they would appeal to the consumer) has been studied by the manufacturers. For example, Honeywell™ and Raytheon Commercial Infrared™ have partnered to develop and market Bendix XVision™ (1). This infrared system is designed specifically for trucks and buses to improve driver night visibility (1). The Cadillac Night Vision™ system also uses infrared technologies to increase the night vision of drivers that have purchased the technology option (2). The cost of this option in a new Cadillac DeVille™ is currently about \$2,250 (2).

Conclusions

No published studies were found that evaluated the usefulness or DVC reduction capabilities of these technologies. However, as previously mentioned, the application of these technologies in the general vehicle population is very recent and the ability to do this type of large-scale study probably has not been possible. The results from a DVC

reduction evaluation of these technologies as they are used by a range of drivers would be of interest. Their potential to reduce the number of DVCs (if properly used) does exist. Currently, the cost of in-vehicle vision systems is high, but it may decrease if demand and competition increases.

References

1. Transportation News: Infrared Night Vision System Lets Drivers See and Avoid Danger. http://www.honeywell.com/en/trans/announcement_details.jsp?rowID=2&docID31&catID=10. Accessed March 2002.
2. Cadillac.com - Models - DeVille - Safety & Security. <http://www.cadillac.com/cadillacjsp/models/deville/nightvision.html#more>. Accessed March 2002.