ROAD TO ZERO

VEHICLE SAFETY PROJECTION

How can vehicle features help us?

Where safety is concerned, not all vehicles are created equal. Research shows that if every vehicle on the road was the safest model in its class, road safety would improve by 26%[1].

New vehicle technologies can help avoid crashes altogether, or reduce the severity of outcomes when a crash does occur.

- Autonomous Emergency Braking (AEB) – Alerts the driver to an imminent crash and helps apply maximum braking capacity. Will independently brake if the situation becomes critical. Cars fitted with AEB are 38% less likely to collide with the vehicle in front of them, compared to similar cars that do not have AEB[2].

  www.howsafeisyourcar.com.au/aeb/
- Electronic Stability Control (ESC) – Senses when a driver loses steering control. Applies individual brakes to help maintain stability and the ability to steer. Vehicles with ESC are involved in 32% fewer single vehicle crashes resulting in driver injury, and 59% fewer roll-over crashes resulting in driver injury[3].

  www.howsafeisyourcar.com.au/Electronic-Stability-Control/
- Intelligent Speed Assist (ISA) – When the speed limit is exceeded, the driver is alerted with audible and visual warnings. If advisory ISA were installed in all vehicles, it is estimated there would be an 18% reduction in fatality crashes[4]. Other research shows that if all vehicles were fitted with ISA that prevents speeding, the number of traffic crashes would be reduced by approximately 29%[5].
- Lane Keep Assist – Recognises when the vehicle deviates from the road lane. Warns the driver or gently steers the car back into the lane. Swedish research suggests these systems are associated with a 30% reduction in head-on and single vehicle crashes[6].
- E-Call – When a car is involved in a crash this technology makes a call to emergency services. By getting medical treatment as soon as possible, e-call could reduce road deaths by 3.6-7.3%[7].

Other safety technologies

Over time, the following emerging safety technologies will become more common.

- Adaptive Cruise Control (ACC) – Detects the distance to the vehicle ahead and helps to maintain a safe following distance by adjusting speed. Research suggests ACC is associated with a significant reduction in crashes on freeways in non-congested traffic, and that it is especially useful when installed with an accompanying ISA system[8].
- Reversing cameras and parking sensors – Can assist drivers in detecting people or objects in path of reversing vehicle. These technologies significantly improve rear visibility and the risk of a reversing crash[9].
- Blind spot warning – Uses sensors to detect road users positioned in a driver's blind spot. Provides visual warning to driver. Blind spot warning systems are estimated to be associated with a 23% reduction in lane change crashes resulting in injury[10].
- Adaptive headlights – At night, adaptive headlights help drivers to see better on bends by turning in the direction of travel so as to better illuminate the road ahead. Vehicles with this technology are associated with significantly fewer personal injury and property damage insurance claims compared to models which do not have the technology.
- Fatigue detection – Detects drowsy driving and issues driver a visual alert to take a break. Research suggests that this technology may reduce lane departures among drowsy drivers[12]. However, to be effective in reducing crashes in the long term, drivers must modify their behaviour and take a break.
- Automated vehicles – We are beginning to see vehicles that communicate to each other and roadside infrastructure. They can also detect traffic signs and make emergency calls[13].

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For more information about vehicle safety features go to:

www.ancap.com.au/understanding-safety-features

www.howsafeisyourcar.com.au/Safety-Features/

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[6] Sternlund, S., Strandroth, J., Rizzi, M., Lie, A., & Tingvall, C. (2017). The effectiveness of lane departure warning systems—A reduction in real-world passenger car injury crashes. *Traffic Injury Prevention*, 18, 225-229.

[7] Finnish research estimates indicate that across 25 European countries e-call could reduce road deaths by 3.6-7.3%. http://www.esafety-effects-database.org/applications_04.html

[8] SWOV (2010). *Advanced Cruise Control*. SWOV Fact sheet, December 2010. SWOV, Leidschendam https://www.swov.nl/en/publication/advanced-cruise-control-acc

[9] http://www.iihs.org/iihs/topics/qanda?topicName=child-safety#backover-crashes

[10] http://www.iihs.org/media/eda5760e-2f95-4346-b47d-97db02e47dee/fRS-Aw/QAs/Automation%20and%20crash%20avoidance/IIHS-real-world-CA-benefits-1017.pdf

[11] http://www.iihs.org/iihs/sr/statusreport/article/47/5/1

[12] Gaspar, J.G., Brown, T. L., Schwarz, C.W., Lee,J.D., Kang, J. & Higgins, J.S. (2017). Evaluating driver drowsiness countermeasures. *Traffic Injury Prevention*, 18, S58-S63. https://www.tandfonline.com/doi/full/10.1080/15389588.2017.1303140

[13] Finnish research estimates indicate that across 25 European countries e-call could reduce road deaths by 3.6-7.3%. http://www.esafety-effects-database.org/applications_04.html