New Volvo pedestrian detection system brakes for you

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The Volvo S60 sedan.

(PhysOrg.com) -- Swedish vehicle manufacturer Volvo's goal is that by 2020 nobody should be killed or seriously injured in a new Volvo and their cars should not seriously injure or kill other road users or pedestrians. To help achieve this aim the company has developed a detection system for cars that can detect pedestrians, predict when they might move in front of the vehicle and automatically apply the brakes if the driver does not.

The Collision Warning with Full Auto Brake and Pedestrian Detection system fitted in the 2011 model S60 was first announced early last year. It uses a computer fed by information from a wide-angle radar system

that detects objects and monitors their speed and distance from the car, and from a camera fitted near the rear view mirror. Using this information the computer identifies the objects and determines if they are on a collision path.

If a collision is imminent the car gives the driver an audible and visual warning and brakes hard if the driver does not react quickly enough. At speeds under 35 km/h a collision is prevented, while at higher speeds it may not be possible to avoid a collision but the impact and subsequent injuries are reduced.

The system has been successfully tested with a dummy, but is not completely foolproof because in one trial the dummy was hit even when the car was traveling below 35 km/h. This could have been because crowds gathered on either side of the track confused the system, which worked perfectly when the crowds moved back.

Other computer systems in the Volvo S60 include an alarm triggered by random or uncontrolled weaving of the car to wake the tired or distracted driver and warning lights on the outside mirrors to warn drivers of vehicles they cannot see. Another system monitors lane dividers and warns the driver if they cross the dividers without first using a turning indicator. The headlamps are also under computer control and move to follow the curve of the road.

Volvo's pedestrian detection system is not the first, since Mercedes-Benz and BMW have already introduced pedestrian detection in night vision displays, but Volvo is the first system to couple a detection system with automatic braking.

More information: Volvo website