

Motorway traffic related VACS – Headway control systems

System	Description	Sources of info
Adaptive Cruise Control (ACC)	Automatically adjusts speeds to preserve a desired time or space gap from the preceding vehicle; operates at high speed levels	Zwaneveld and van Arem, 1997; Fancher et al, 1998; Swaroop and Rajagopal, 1998; Bose and Ioannou, 1999, 2001, 2003; VanderWerf et al, 2001, 2002; Li and Shrivastava, 2002; Davis, 2004, 2006, 2007; Zhang and Ioannou, 2004; Bishop, 2005; Ioannou and Zhang, 2005; General Motors Corporation, 2005; University of Michigan and General Motors Corporation, 2005a, 2005b; Rajamani et al, 2005; Visser, 2005; Jiang and Wu, 2006; Rajamani, 2006; Yi and Horowitz, 2006; Alkim et al, 2007; Ioannou et al, 2007; Kesting et al, 2007a, 2007b, 2008, 2010; Viti et al, 2008; Yuan et al, 2009; Pueboobpaphan and van Arem, 2010; Xiao and Gao, 2010; Kessler et al, 2012; Tapani, 2012; Benmimoun et al, 2012, 2013; http://www.eurofoot-ip.eu/en/intelligent_vehicle_systems/acc/ [accessed 11.03.2013]
Cooperative Adaptive Cruise Control (CACC)	Automatically adjusts speeds to preserve a desired time or space gap from the preceding vehicle	VanderWerf et al, 2002, 2001, 2007; Maihöfer et al, 2004; Bishop, 2005; Visser, 2005; Popescu-Zeletin et al, 2010; Shladover et al, 2010, 2011; Arnaout and Bowling, 2011, 2013
Cooperative Following and Merging (CFM)	Automatically adjusts speeds to preserve a desired time or space gap from the preceding vehicle and assists lane changing manoeuvres by creating and maintaining an appropriate gap in the target lane	Tampère et al, 1999
Full Speed Range Adaptive Cruise Control (FSRA)	Automatically adjusts speeds to preserve a desired time or space gap from the preceding vehicle; operates at all speed levels	Minderhoud, 1999; Ehmanns and Spannheimer, 2004; Bishop, 2005; Alkim et al, 2007; Viti et al, 2008; Hoeger et al, 2011; Shladover, 2012a; iMobility Forum, 2013
Highway Pilot (HP)	Automatically adjusts speeds to preserve a desired time or space gap from the preceding vehicle; operates at the speed range 0-130 km/h	iMobility Forum, 2013; Hoeger et al, 2011
Integrated Full-Speed Range Speed Assistant (IRSA)	Supports speed maintenance within fixed or dynamic limits and adjusts them to preserve a desired time or space gap from the preceding vehicle; ranges from purely advisory to completely mandatory types	Wilmink et al, 2006; van Arem et al, 2007
Low Speed ACC (LSACC)	Automatically adjusts speeds to preserve a desired time or space gap from the preceding vehicle; operates at low speed levels	Minderhoud, 1999; Benz et al, 2003; SINTEF et al, 2004; Bishop, 2005; van Driel, 2007; van Driel and van Arem, 2008, 2010