

Urban traffic related VACS – Intersection support systems

System	Description	Sources of info
Cooperative Traffic Light System (CTLS)	Aims at efficient traffic control, support for individual drivers in hazardous traffic situations and linking of road users by radio	http://www.siemens.com/press/en/presspicture/?press=/en/presspicture/2012/infrastructure-cities/mobility-logistics/soicmol201209/soicmol201209-01.htm [accessed 02.07.2013]
Intersection Assistant (IA)	Aims at preventing accidents at intersections by providing drivers with warnings about potential hazards, including stop sign and red light violation, turning accidents, crossing-path accidents, rear-end collision, collision with pedestrians etc.; some systems also recommend the right speed for a green traffic light wave or when approaching a red traffic light	Ehmans and Spannheimer, 2004; von Arnim et al, 2008; Le et al, 2009; Roessler and Fuerstenberg, 2009; http://www.volkswagenag.com/content/vwcorp/content/en/innovation/driver_assistance/intersection_assistant.html [accessed 02.07.2013]
Left Turn Assistant (LTA)	Assists drivers in making turning manoeuvres at intersections considering oncoming traffic, pedestrians, and other obstacles	Le et al, 2009; http://www.volkswagenag.com/content/vwcorp/content/en/innovation/driver_assistance/intersection_assistant.html [accessed 02.07.2013]
Stop Sign Assist (SSA)	Using sensors installed at intersections, helps drivers in deciding when they can proceed onto or across a high-speed road after stopping at a rural road stop sign	Le et al, 2009
Traffic Signal Adaptation (TSA)	Detects dangerous situations when vehicles violate red lights and can potentially collide with other vehicles; and triggers a red light in all directions to protect drivers from an imminent danger; when vehicles detect dangerous situations, they can also send warning messages to the infrastructure to trigger an all-red traffic signal stage and prevent a chain reaction of accidents	Le et al, 2009
Violation Warning System (VWS)	Allows the infrastructure to send status information of the traffic lights to approaching vehicles, and provides warnings to the drivers when the estimated risk that their vehicle will violate a traffic light is sufficiently high	Le et al, 2009