Ehmanns D, Spannheimer H (2004). Roadmap. Deliverable D2D of ADASE (Advanced Driver Assistance Systems in Europe) European IST project. http://www.esafetysupport.org/download/working_groups/Implementation_Road_Maps/Related_documents/ADASE2Roadmap.pdf [accessed 18.04.2013]

The roadmap shows the future research activities of Advanced Driver Assistance Systems in Europe. It bases on discussions between the experts of the ADASE 2 project partners and results of the ADASE2 thematic workshops and concertation meetings. This process leads to a matrix, which shows the research projects and the interdependencies between system functionality and complexities concerning different aspects. The derived matrix reveals the complexities of the technological, societal and legal aspects related to the various systems. The contribution to the guessed safety enhancement is mentioned. Thus, technological gaps and future research needs can be identified in the given overview.

Laugier Ch, Sekhavat S,Large F, Hermosillo J, Shiller Z (2001). Some steps towards autonomous cars. Proceedings of the 4th IFAC Symposium on Intelligent Autonomous Vehicles, Sapporo Japan IFAC Symposium on Intelligent Autonomous Vehicles. http://www.ariel.ac.il/sites/shiller/papers/iav-01.pdf [accessed 02.04.2013]

Developing new Intelligent Transportation Systems which take into consideration the social-economical, environmental, and safety factors of the modern human society, is one of the grand challenges of the 21th century. This paper presents the motion autonomy capabilities which have been developed for future cars in the scope of the French “Praxitele” and “Automated Road” projects. These new capabilities relies onto effective solutions that we have developed for contributing to solve three main problems: autonomous maneuvering for a car-like vehicle using the concept of Sensor-Based Maneuver, planning and controling the motions of a double-steered vehicle (the CyCab) using the concept of Differential Flatness, and obstacle avoidance in a dynamic environment using the concept of Non-Linear Velocity Obstacle. Experimental results obtained with real vehicles are also presented and discussed.

Le L, Festag A, Baldessari R, Zhang W (2009). V2X Communication and Intersection Safety: Smart Systems for Safety, Sustainability, and Comfort. In Meyer G, Valldorf J, Gessner W (Eds), Advanced Microsystems for Automotive Applications 2009, VDI-Buch 2009, 97-107.

Vehicle-to-vehicle and vehicle-to-infrastructure communication (V2X communication) has great potential to increase road and passenger safety, and has been considered an important part of future Intelligent Transportation Systems (ITS). Several R&D projects around the world have been investigating various aspects of V2X communication. Some of these projects focus on specific issues of V2X communication for intersection safety (communication-based intersection safety) because intersections are the most complex driving environments where injury and fatal accidents occur frequently. In this paper, we discuss the technical details of V2X communication and discuss how it can be used to improve intersection safety.

Marsden G, Lyons G, Beecroft M, Chatterjee K (2002). Transport Visions - Vehicles and Infrastructure. Fourth Report of the Transport Visions Network, Transportation Research Group, University of Southampton, UK. http://www.trg.soton.ac.uk/TVNetwork/TVN/reports/report4.pdf [accessed 02.04.2013]

This report details the Network's views regarding the future of vehicles and infrastructure in the UK. A brief review of historic trends precedes a discussion of transport modes in widespread use today and the potential role of new modes. The importance of infrastructure and its financing is presented before the role of Government is discussed. The discussion sets the scene for six future visions of vehicles and infrastructure. Each vision stems from a different standpoint concerning societal values and portrays a variety of perspectives from future citizens on the transport system developments that could emerge.

Milanés V, Alonso L, Villagrá J, Godoy J, de Pedro T, Oria JP (2012). Traffic jam driving with NMV avoidance. Mechanical Systems and Signal Processing 31, 332-344

In recent years, the development of advanced driver assistance systems (ADAS) – mainly based on lidar and cameras – has considerably improved the safety of driving in urban environments. These systems provide warning signals for the driver in the case that any unexpected traffic circumstance is detected. The next step is to develop systems capable not only of warning the driver but also of taking over control of the car to avoid a potential collision. In the present communication, a system capable of autonomously avoiding collisions in traffic jam situations is presented. First, a perception system was developed for urban situations—in which not only vehicles have to be considered, but also pedestrians and other non-motor-vehicles (NMV). It comprises a differential global positioning system (DGPS) and wireless communication for vehicle detection, and an ultrasound sensor for NMV detection. Then, the vehicle's actuators – brake and throttle pedals – were modified to permit autonomous control. Finally, a fuzzy logic controller was implemented capable of analyzing the information provided by the perception system and of sending control commands to the vehicle's actuators so as to avoid accidents. The feasibility of the integrated system was tested by mounting it in a commercial vehicle, with the results being encouraging.

Roessler B, Fuerstenberg K (2009). Cooperative Intersection Safety – The EU project INTERSAFE-2. In Meyer G, Valldorf J, Gessner W (Eds), Advanced Microsystems for Automotive Applications 2009, VDI-Buch 2009, 77-86.

Today most so called 'black spots' have been eliminated from the road networks. However, intersections can still be regarded as black spots. Depending on the region and country, from 30% to 60% of all injury accidents and up to one third of the fatalities occur at intersections. This is due mainly to the fact that accident scenarios at intersections are among the most complex ones, since different categories of road user interact in these limited areas with crossing trajectories.

Shladover SE (2012a). Recent International Activity in Cooperative Vehicle - Highway Automation Systems. Report No. FHWA-HRT-12-033 of the Office of Corporate Research, Technology, and Innovation Management, Federal Highway Administration, USA. http://www.fhwa.dot.gov/advancedresearch/pubs/12033/12033.pdf [accessed 03.04.2013]

This report summarizes the current state of the art in cooperative vehicle–highway automation systems in Europe and Asia based on a series of meetings, demonstrations, and site visits, combined with the results of literature review. This review covers systems that provide drivers with a range of automation capabilities, from driver assistance to fully automated driving, with an emphasis on cooperative systems that involve active exchanges of information between the vehicles and the roadside and among separate vehicles. The trends in development and deployment of these systems are examined by country, and the similarities and differences relative to the U.S. situation are noted, leading toward recommendations for future U.S. action.

von Arnim A, Arief B, Fusée A (2008). Cooperative Road Sign and Traffic Light Using Near Infrared Identification and Zigbee Smartdust Technologies. Technical Report Series No. CS-TR-1082, Computing Science, Newcastle University. http://eprint.ncl.ac.uk/fulltext.aspx?url=161041%2f0A0EF11F-AFA8-4D30-84A2-2E054E07707C.pdf&pub_id=161041&ts=635113655591926587 [accessed 02.07.2013]

Vehicle-to-vehicle (V2V) and vehicle-to-infrastructure (V2I as well as I2V) applications are developing very fast. They rely on telecommunication and localization technologies to detect, identify and geo-localize the sources of information, be them vehicles, roadside objects, or pedestrians. This paper presents an original approach on how two different technologies (a near infrared identification sensor and a Zigbee smartdust sensor) can work together in order to create an improved system. After an introduction of these two sensors, two concrete applications will be presented: a road sign detection application and a cooperative traffic light application. These applications show how the coupling of the two sensors enables robust detection and how they complement each other to add dynamic information to road-side objects.