

SAFESPOT INTEGRATED PROJECT - IST-4-026963-IP**DELIVERABLE****SP5 – COSSIB– Cooperative Safety Systems Infrastructure Based**

Application Scenarios and System Requirements

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EXECUTIVE SUMMARY

The CoSSIB sub-project (SP5) of the Integrated Project SAFESPOT aims to specify and develop a set of co-operative system applications based on infrastructure and vehicle-based sensing with the support of roadside equipment for communicating safety-related messages.

This deliverable presents the applications which are going to be developed by the CoSSIB partners. The applications are described and the relations between the single applications are depicted. Furthermore a list of derived requirements is presented based on the description of the applications and on the outcome of the deliverables D5.2.1 “Definition of use case and user requirements” and D5.2.2 “Common Architecture and Communication”. The deliverable ends up with a conclusion and outlook to the forthcoming actions within the specification phase.

In detail elaborated are the following applications:

- **Speed Alert**

This application provides recommended speed to drivers on the basis of a real-time evaluation of parameters such as: the weather status, road surface conditions, topology of the road, traffic flow speed and any events like road works, traffic jam, and deviations.

- **Road Departure Prevention**

The objective of this application is to prevent the driver from going off road, giving him a preventive warning. The application computes an accurate safe trajectory and its tolerance boundaries, according to road geometry, vehicle dynamics and driver load. If the vehicle does not remain within the safe trajectory limits, a warning is given to the driver.,

- **Safety Margin for Assistance and Emergency Vehicles**

The objective of this application is to protect assistance vehicles that signal an event on a road and every vehicle, person, road worker, staff involved into this event by a transmission of a safety information towards the vehicles being in approach.

- **Co-operative Intersection Collision Prevention System**

This application calculates and predicts the trajectories of the road users in vicinity of urban intersections. Based on these trajectories safety-critical situations will be identified and a warning decision will be drawn.

- **Hazard and Incident Warning**

The aim of this application is to warn the drivers in case of a dangerous event on the road. The selected events are the most relevant in terms of safety e.g. accidents, presence of unexpected obstacles on the road, presence of a vehicle driving in the wrong direction, dangerous overtaking and also weather events like snow, rain or fog. In many case, the warning will be associated with a speed recommendation given by the application “Speed alert”.