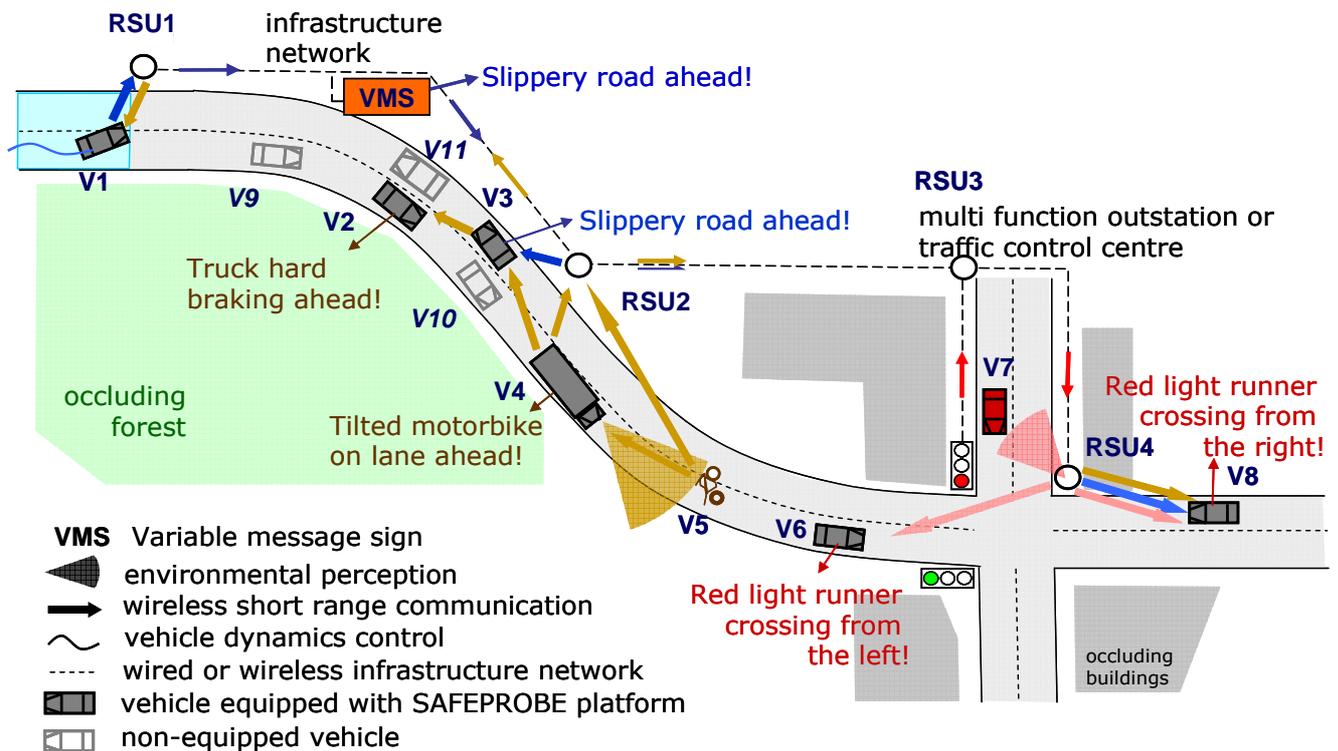


mechanisms is available at communication level or filtering may be operated at application level.



**Figure 34: Examples of Road Safety Scenarios**

A similar path is followed by the information of a tilted motorbike. The information may be directly transmitted by the motorbike (if equipped with the cooperative system) and/or by a detecting vehicle (equipped with environmental perception devices – e.g. Laserscanners, cameras). Following the brown arrows it is possible to understand that V3 is not interested in the tilted motorbike info but it participates to the network forwarding the info to V2 which is interested. V3 is operating as a router. Finally a third situation, a traffic light equipped intersection, is represented. RSU3 is operating in synergy with RSU4 and may provide information and/or intervene on the traffic lights.

To completely cover the scenarios reported in Figure 34, both the wireless and the wired network are operating. The latency should be clearly low in order that the system information is usable with efficacy.

The relevant information are above all the position, dynamic parameters of the vehicles, the status of on-board equipments/sensors (e.g. Brake, ESC, tilt, sensor).

In order to extend the scenario to other applications/services it should be considered additional lower priority information, using the same network or parallel channel which provide contents for Traffic efficiency ( e.g. traffic jam info or suggested route) and/or added value services (e.g. advertising or tourist info).

Figure 34 is a specific example of the more general connection scheme as represented in Figure 35. Vehicle and RSU contain basic elements (Router, Host, Gateway) which allow a connection to the global network.

The data flow from any element is clearly bi-directional.

For the Host computer an internal architecture including the Local Dynamic Map (LDM), a multilayered Data base containing all the relevant information provided by the on board sensors and the communication network has been developed and adopted. This LDM belongs