

LOW-COST COOPERATIVE ROAD WEATHER MONITORING STATION

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Abstract: New concept of Cooperative Road Weather Monitoring Station is presented in the paper. Cooperative systems in Traffic & Transportation (Intelligent Transportation systems) are based on communication between vehicles and infrastructure (Roads equipment). It is well-known V2X Technology. The exchange of data between the vehicles and infrastructure is imperceptible by drivers until a potentially dangerous situation is detected, at which moment the drivers concerned will receive an alert. The sensors for temperatures of the air, road surface and road structure, wind speed and direction, humidity, intensity and the state of precipitation, visibility (and other options) are connected to the road weather monitoring station. Road weather information are analyzed and assigned to some road condition categories by the Local processing unit. Some recommendations of speed limits and other possible warnings to driver (Emergency warning system for vehicles) are sent via DSRC (Dedicated short-range communications) to vehicles on the road. Also, the speed limits and possible warnings can sent to variable message signs near the road weather monitoring station.

Key words: Road weather monitoring; Cooperative system; Dedicated short-range communications

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