Mikko Malmivuo, Kirsi Pajunen: Tehostetun kelinseurantajärjestelmän kokeilu – Tieliikenteen telematiikan E18-kokeilualue. The experiment of enhanced weather monitoring system - Road traffic telematics experimental area on the E18. Helsinki 1998. Finnish National Road Administration. 64 p. + apps. 59 p. ISBN 951-726-491-7. ISSN 0788-3722. TIEL .

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ABSTRACT

The aim of this study was to examine how the activities in road maintenance and traffic control centres changed after the implementation of the enhanced road weather monitoring system. The analysis concentrated to four sectors: the effects of the enhanced system to the road maintenance attendants and to the traffic control, friction measurements in the experimental area and the automatic control of variable speed limit and information signs.

According to the interviews, the attitudes of road maintenance centre attendants have been changed in the last two winters; the attitudes in the latter winter were much more positive. The surveillance of the activities made by road maintenance center attendants indicated, that the attendants paid only limited attention to the road weather station data, especially in those circumstances when the snow rain area moved closer. The attendants would have liked to watch the weather cameras more, but malfunctioning and slow updating of pictures limited their usage.

The traffic control center attendants looking after the automatic control of variable signs intervened the automatic control almost every day. Occasionally, the attendants tried to harmonise the different speed limits of different speed limit areas in order to have same speed limit in nearby areas. This kind of action deviates from the principles of enhanced weather monitoring as the original idea was to take into account local circumstances when changing speed limits.

There was found no major variations in friction level between the weather stations in measurements carried out in the experimental area.

Taking into account the existing technical level of road weather stations, much benefit of the enhanced road weather station network can not be found for the road maintenance center attendants, but the network was useful for the automatic control of variable signs. Especially, in the circumstances when a rain area moved closer, the use of multiple rain and road condition sensors seemed to increase the reliability of road condition assessment. On the other hand, the study was not able to prove, whether the reliability was increasing due to the greater number of road weather stations or solely due to the increased number of sensors.

When the road weather stations will improve technically, it is assumed that, especially in those circumstances when the roads are going to be icy, the attendants will use also the enhanced network much more efficiently than nowadays.