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SUMMARY

The aim of the road weather service is to help drivers to prepare for the delays and difficult driving conditions caused by the weather, specifically on days when conditions are most dangerous. The time period of the forecasts was 24 hours but it was given at least four times a day.

In the winter season 2002–2003 the service was produced as a result of co-operation of three levels of organisations, private maintenance contractors, traffic management centres (TMC) and Finnish Meteorological Institute (FMI). There were 8 TMCs of which two had a 24-hour service. Other TMCs were closed during the weekends and night-hours. TMC operators collected maintenance contractors' weather forecasts, combined them for each province and if necessary, changed them, and gave their 6-hour forecast to FMI, where the official national road weather forecast was compiled.

The studied issues were: a) How was the weather on the most accident-prone days and what kind of weather warnings had been given for those days? b) Did the forecasts given by different organisations differ? Where were there regional differences inside organisations? c) How well did the weather forecasting process work?

The service sets three levels for conditions on roads: normal, poor, and hazardous. During the winter season 2002–2003 the service classified the road weather as normal 71 % of the time, as poor 27 % of the time, and hazardous 2 % of the time. Peak days for traffic accidents were predicted well. For those days, except one (December 23 with high traffic volumes), the road weather had been classified as poor or hazardous for at least part of the day.

The current service process is complicated and according to the interviews, also partly unknown for the operators. To be able to increase the quality of the service, the whole process, including all the tools and databases should be clarified to the operators in every organisation. Some differences between TMCs were found concerning how often they changed the forecasts of the maintenance contractors.

This study concentrated on the road weather forecast of the most accident-prone days and showed that it had been able to warn about the poor weather. However, in the future methods should be developed to study the effects of the road weather service on road user behaviour.