

## Safety in Winter Maintenance

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Snow and ice can create hazardous winter driving conditions for all road users. Technology is enabling smarter decisions in road maintenance and operations ensuring effective treatment of the road surface when and where it is required. Technology is also enabling real-time road user condition information so that drivers are better informed and aware of winter hazards.

There are a number of tools in the decision-making toolbox to assist with delivering timely, safe and cost effective winter services. Fulton Hogan have added a further tool to the collection: vehicle mounted road surface temperature sensors.

The sensors measure both air and road surface temperature and display it on a smart phone in the vehicle's cab. At the same time, photographs of road condition are automatically taken and, along with the temperature data, sent back to the office in real time and made visible on a web map. A number of these sensors have been used across the South Island through the 2016 winter. This presentation outlines the benefits of this system which include:

- Making continuous real-time data available to staff in the cab, enabling more informed decisions about grit or CMA application, particularly during fringe periods of the season
- Identifying high risk areas of the network where continual low temperatures may be a problem or surface temperatures may be too low for CMA to be effective.
- Creating a robust record of temperature to help improve future road surface temperature forecasting
- Streaming live road condition information, including photographs, to office-based managers so timelier and better informed decisions can be made about road notifications and condition updates.

Case studies from the trials will outline how the system works and highlight the difference it has made to improving road safety in winter conditions.