

Protecting Motorists and Road Workers against Wrong Way Drivers

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The majority of the Auckland Motorway Alliance (AMA) network is a multi-lane, median divided, high speed motorway. In this environment wrong-way drivers pose a significant risk to themselves, other motorists and road workers as incidents generally result in high severity injuries.

Due to historic incidents on the AMA network a review of international research was undertaken. However there did not appear to be a complete safe system solution available to prevent drivers from entering a network in the wrong direction, despite this being recognised as a significant issue in many overseas jurisdictions. This is most likely because there isn't a simple, or even single complex solution, that caters for dealing with the different types and behaviours of wrong way drivers.

There are three general groups of motorist that can be categorised as wrong way drivers:

- Unintentional - for whatever reason the driver has been momentarily distracted or confused; or
1. Impaired - a driver with alcohol, drugs (including prescription), age or medical impairment; or
 2. Deliberate - typically in an attempt to evade enforcement officers.

Taking each of the above into consideration makes this project challenging in terms of finding a solution to provide for a full safe system; as a solution that is ideal for one user group, is often ineffective for another. The AMA has therefore developed and implemented systems from a first principles basis to initially try and prevent drivers making an error, but failing this, to alert them to their error so that they can take corrective action. Should this fail then automated responses are initiated and alerts are received at the Traffic Operations Centre, the Police are activated, automated messages are displayed to warn oncoming drivers and road work sites receive alerts to give workers the opportunity to take evasive action. Other tools are also being investigated to enable the disabling of a wrong way vehicle whose driver does not take corrective action.