

# Implementing Over Height Safety on Auckland Southern Motorway

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The Auckland Motorway Alliance have recently completed a project to design and implement a new Over-Height Detection and warning System at Penrose in Auckland, this new system replaces the original system dating back to the late 80's.

This project started as a standard renewal project but very early in the process the AMA identified significant opportunities to improve the systems from the perspectives of human factors engineering, improved notification function for the road user and safe access for the maintainers.

The AMA pursued the further development of the project with stakeholders and clients and delivered a significant improvement project calling on new technologies and human factors approaches previously unseen on New Zealand's Motorways.

During construction the project escalated to the top of NZTAs agenda following two serious bridge strikes in March and May 2017 which made national and international news and increased the focus on stakeholder engagement and media management.

The new system focusses on getting drivers of over height vehicles to exit the motorway on the off ramps prior to the Penrose Bridge using state of the art electronic sensing and signage reducing the risk of impact and harm to the public whereas the old system provided information to the drivers after the exit opportunity.

The project provided a complex challenge for the team involving elements of Human Factors engineering, civil construction, safety in design, electronics, SCADA, and delivered;

- Design of new safe access structures, reducing life cycle cost by reducing temporary traffic management costs
- Safety in design principles used for design and construction
- Human factors Engineers helped understand driver behavior
- "All Traffic Stop" message system to better inform motorists of an imminent strike in their immediate vicinity
- Development of event management and response approaches with Police and Traffic Operations Center staff
- Enabling enforcement of height infringements