

What are stars made of? : The process of “star rating” the state controlled road network in Queensland

Emma Maclean and Sam Atabak

Queensland Department of Transport and Main Roads

Abstract

In 2014, the Queensland Department of Transport and Main Roads embarked upon the epic journey of coding and star rating the entire state controlled road network, a length of over 33,000km. The objective of the project was to capture and code 72 road-related attributes that would allow the Department of Transport and Main Roads to analyse the safety indicators on the network, using the AusRAP and ANRAM methodologies. It would also allow for the captured data to inform other road infrastructure business program development for the department, including asset management and maintenance.

Objective

In 2014, the Queensland Department of Transport and Main Roads embarked upon the epic journey of coding and star rating the entire state controlled road network, a length of over 33,000km. The objective of the project was to capture and code 72 road-related attributes that would allow the Department of Transport and Main Roads to analyse the safety indicators on the network, using the AusRAP and ANRAM methodologies. It would also allow for the captured data to inform other road infrastructure business program development for the department, including asset management and maintenance.

Method

The Department engaged ARRB-Qld to undertake the coding and rating exercise, principally due to ARRB being an iRAP certified star rating assessor and also having worked with them previously to rate the safety of the network using the previous NetRisk methodology. ARRB used Digital Video Road (DVR) images, which are captured annually, to code the attribute data and then used the iRAP ViDA tool to process the data and generate star ratings according to the AusRAP methodology.

Results

Since this is the longest and most diverse network worldwide to have been rated in this way, including single lane, unsealed roads through to 8-lane motorways, and including urban sections, which had previously been excluded from rating, a number of issues and challenges were encountered during the project. However, these were overcome through stronger project definition, clarification of criteria, scenario testing, and rigorous quality assurance processes. The result is a robust dataset that can be used by various business units of the Department, both now and into the future, and a set of star ratings that allow the Department to set a road safety benchmark and track progress towards the 2020 target set out in the Queensland Road Safety Strategy 2015-21 and Action Plan 2015-17.