

Unsealed roads grading maintenance process



Council's 900 kilometres of unsealed road network is maintained using an unsealed roads Maintenance Management System (MMS).

The MMS was introduced across the whole region following the amalgamation of Mackay, Sarina and Mirani councils in 2008, to provide a consistent approach towards managing the requests and expectations of our unsealed road users.

In summary, the MMS involves a system of regular inspections of the unsealed roads to assess the condition with maintenance being undertaken when the condition meets or exceeds the assigned

intervention level, which is a condition-based intervention level system. In this way, all roads are maintained such that there are consistent outcomes across the whole region.

The MMS process is summarised as follows:

- Classification of the roads into a 'road service class' based on characteristics such as traffic volumes and the type of road and its function. The different road service classes have different condition deterioration rates associated with the type and volumes of traffic carried. There are six classes, from arterial to service track.

- The roads are inspected on a regular basis to assess their service level condition in terms of surface condition, pavement condition and safety.
- The condition is assessed using a Roads Asset Condition Assessment System (RACAS) device, which incorporate a roughness meter to record defects and their severity. RACAS device captures high resolution images every 10 to 15 metres, GPS location and roughness data.
- A condition report is generated with a calculated condition score and a listing of high priority (safety) defects

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- High priority defects are attended to in a short timeframe by using temporary signage or undertaking isolated repairs
- Maintenance grading works are programmed when the surface condition intervention level is met or exceeded. The current intervention level is a condition score of 15.
- A future condition score is predicted at three months and six months' time using a deterioration model for the different road classes.
- Maintenance grading works are also undertaken if the surface condition is predicted to deteriorate to meet the intervention level before the next grading activities are likely to be undertaken in the area. In this way, the best value for the limited maintenance dollar is achieved by minimising establishment/mobilisation costs.

Maintenance grading techniques are continually being reviewed and refined with the aim of achieving best practice.

The pavement condition is maintained by incorporating gravel during the grading process and through gravel re-sheeting works when there is minimal or no gravel



running surface remaining.

Council has 16 working gravel quarries in the region which focus on producing quality gravels, as close as practical to the job site, to minimise cartage costs and the damage/deterioration caused by carting on the road network. Gravel from commercial quarries is also used when suitable maintenance gravel is available closer to the job site.

Maintenance gravel materials are produced by a combination of blasting, crushing and screening as necessary to produce gravels of optimum quality rather than just using excavated materials. The processed gravels provide a more stable running surface,

increasing the time between grading (reduced grading frequency) and reducing the gravel loss over time due to wear.

Random audits of the grading process are undertaken to measure the maintenance grading effectiveness and to check conformance with the specified requirements.

**For more
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