CLIENT NOTE R2K-07

RUT CORRECTION

Austroads and Main Roads Western Australia both define a rut as a vertical deformation of a pavement surface formed by the wheels of vehicles. In rural Western Australia this is caused mainly by post construction consolidation of one or more layers of the pavement as follows:

- Insufficient compaction of the base-course material (crushed rock, crushed limestone or natural gravel) during the construction phase.
- Deformation of the sub-grade due to insufficient pavement depth.

In many cases the design axle loading for the pavement has increased significantly since the road was built or the available road construction materials were of a lesser quality than would have been preferred.

The two major concerns with road rutting are:

- The rut fills with water which both increases the rate of pavement failure and increases the risk of hydro-planning.
- The rut tends to pull a vehicle towards the rut path when it is steered across the rut.

If the rut is left untreated it will eventually lead to total pavement failure and costly reconstruction. To alleviate this potential outcome Roads2000 has been conducting rut repairs for its rural clients by correcting the rut with an asphalt material in preparation for resealing. The process generally utilises a 7mm 50blow dense grade asphalt to fill the rut. The material is laid by a paving machine which ensures that the longitudinal grade remains smooth. It is then recommended that the surface is left for up to 12 months to ensure that the surface has fully oxidised. This ensures that that there will be no “bleeding” when the new seal is sprayed and covered.

Allen Hicks from the Shire of Wagin has utilised this methodology for the past six years and advises that: “the rut correction has extended the life of our pavements and has reduced the need for more expensive reconstruction”.

References:

1. Austroads Glossary of Terms (2010)
2. Main Roads WA: Test Method WA 313.2 – 2012.
3. Pavement Evaluation – Flexible Pavement Distress University of Washington (2005)