

## Towards Safer Sprayed Sealing Operations:

Sprayed bituminous seals provide safe, durable and cost effective surfaces to a high proportion of roads in both Australia and New Zealand.

However, they are inherently dangerous to place with a combination of hot bitumen being sprayed under pressure and with loose aggregate chips being spread to the road surface – all under live traffic conditions. This paper discusses the chip spreading operation, the traditional equipment that is generally used, and some of the dangers in this operation with the main concern being the spreading of the chips using reversing trucks operating with elevated bodies.

Alternative equipment has been used on occasions to try and address the issues associated with reversing trucks, the complexity of the alternatives combined with their cost has seen their implementation stall in favour of persisting with the simple reversing truck. This has ensured that the combination of reversing trucks people on the ground continues - creating a high risk environment.

In recent times there have been significant innovations in equipment used in sprayed seal operations (in particular from Europe), including a wide range of synchronised chip sealers that combine the spraying of bitumen and the spreading of chips in the one forward moving operation, and forward moving chip spreaders that do not require the truck body to be elevated (or elevated to a considerably lower height). These innovations have provided the opportunity to remove a significant safety risk in sprayed seal operations reversing trucks and represents potentially one of the most significant changes in sprayed seal operations for many decades.

As always, when trying to introduce major changes in equipment there are significant costs to industry. These include the purchasing of new plant, potential impacts on productivity etc, all of which deter contractors adopting the technologies as they can be at a disadvantage while trying to compete at the tender box with other companies that may not have invested in new equipment.

To address this concern, the Victorian State Road Agency, VicRoads, in collaboration with the Australian Asphalt Pavement Association (AAPA) have proposed a phased introduction of the equipment that compensates contractors for additional initial costs whilst also proposing an incentive payment for early adopters of the technology. The push for implementation of the safer sealing operations is also further strengthened by the mandating of use of forward moving chip spreaders in all VicRoads works by 2022 hence further providing incentive to implement the initiative.

This approach represents a significant departure from normal practices where plant innovation is left at the discretion of contractors and may set a template for the introduction of major changes in technology in the future. At the end of this process it is expected that we will have significantly improved safety on sprayed seal work sites, while introducing quality improvements, and achieved this in a fully collaborative way.

Sounds too good to be true – but it can be done if we really put our minds to it!