

Using a 3D system for measuring pavement macro-texture

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Assessing the surface characteristics of a pavement can help a road agency to manage its road network from both a performance and safety perspective. One such parameter is macro-texture, which is a property that can affect skid resistance and also plays an important role in dispersing water in the wheelpaths and reducing the potential for hydro-planing.

Automated 3D data collection systems, which have primarily been used for the detection of cracking and other defects, as well as transverse profile measurement, are now also being used to measure other pavement condition parameters such as roughness at highway speeds. Recent developments have shown that these systems can also be used to measure pavement macro-texture by applying specific analysis techniques. This has the advantage of using a single system for measuring multiple pavement characteristics and removing the need for point laser systems.

A validation exercise was undertaken by ARRB to assess how well the outputs from the 3D system matched traditional macro-texture measurements, in particular MPD, over a series of test sites. This presentation presents the results of the validation and provides additional information into how this 3D technology is able to measure pavement macro-texture.