Sustainability of road roughness measurements in countries with low income economies

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Abstract
A research project was carried out to establish a sustainable procedure for road roughness measurement applicable in developing countries. Out of many devices in use today, a vehicle mounted bump integrator (VMBI) was selected for the reasons that: a) the equipment is available in most developing countries and it has been in use for sometime; b) the rate and accuracy of measurement is adequate; and c) it is easy to use. However, it was found that it is very difficult, time consuming and hence not sustainable to use a bump integrator for very rough unpaved roads. Consequently, a procedure which relates travel tim e (at comfortable travel speed) and road surface roughness was established. The results show that, if this procedure is properly followed, the roughness obtained are in a very close agreement with those obtained from using the bump integrator.

Keywords:
Sustainability,
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