

Road Roughness - Dataset Overview

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Introduction

This article provides a brief introduction and overview of the **Road Roughness** dataset. It covers high-level details on the data collection process and where the data is stored in ASSET & WORK MANAGEMENT (AWM) database system (formally known as RAMM). There are links to relevant reference documents containing detailed discussions on this dataset's collection, use and analysis.

What is Road Roughness data?

Roughness primarily refers to undulations and unevenness in the surface of a road that can affect a road user's journey with regard to ride quality, comfort, safety and accessibility. The measurement of roughness is typically expressed in the form of the NAASRA Roughness Index (NAASRA) and/or the International Roughness Index (IRI), which are indices *"based on passenger car type response and are intended to reflect the roughness as observed by the occupants of ordinary passenger cars"*.

The Data Collection Contractor (DCC) shall use a smartphone app, bump integrator, roughometer, profilometer or similar, to measure the longitudinal roughness profile of paved roads. The accuracy of the roughness measurements shall be < 0.25 mm.

Readings shall be corrected in order to eliminate the effects of the vehicle suspension movements. Factors that may influence IRI shall be recorded during the survey and the data corrected accordingly. These include, but are not limited to, traffic congestion, pavement construction activities, change in pavement type and having to travel off the carriageway.

The Consultant is responsible for undertaking the survey in a manner that ensures that all survey products submitted are of high quality, accurate, complete and fit for the purpose required.

Specified deliverables, including the survey products from each Work Package, are to be submitted to DoW as electronic files. Unless agreed otherwise, the files shall be in the latest current versions of Word, Excel, JPEG or MP4 as appropriate for each type of data. Geospatial (mapped) data is to be submitted as shapefiles or other agreed formats compatible with QGIS software. Reports are to be submitted as PDF files, including all attachments and the original files (Word, Excel etc.) from which any attachments were created.

Roughness data is to be checked and validated by the Consultant and submitted as either CSV or Excel files formatted for uploading by AMB directly into DoWH's AWM database system.

What fields need to be included in the supplied data?

This excerpt is from the PNG DoWH AWM data dictionary showing the fields to be included in the data supplied. For more information refer to the full data dictionary document for a detailed data specification.



Where is the data stored in AWM?

The roughness data is stored in the **Roughness Reading** (roughness) table.

Asset and Inventory Data



Roughness Reading The Roughness Reading table contains Roughness survey data from NAASRA respo...

The Roughness Reading table in RAMM.

A survey header is also created to group together readings from the same survey. The survey header is created in the **Roughness survey header**(rough_hdr) table. Currently, this is only accessible in the classic RAMM Manager application.

References and Additional Reading

Links to further support documents, manuals, publications and other content are included in the table below.

Reference Name / Description
GHD MAX.amp Data Quality Management Plan (link TBC)
¹ Road Profile Characterisation (TNZ Research Report 29)
Terms of Reference; Consultancy Services to Collect Visual Road Condition Data
PNG RAMM Data Dictionary
