Pavement
Management Services

➡ Primary Components

Construction Laser
Establishes the elevation reference. Mounted on Tripod and placed approximately 150 meters away from the Cart

Digital Mast
Receives the laser strike and converts to an elevation data point. Manufactured by Trimble

Notebook Computer
Collects and stores the elevation data point and plots it on the monitor

Optical Encoder
Triggers the data acquisition process and tracks the distance down the runway

Power Distribution Box
Contains data acquisition circuitry and distributes the unit's electrical power

12-Volt Batteries
Powers the unit's Computer, Encoder and Digital Mast

➡ Key Features

- Designed to Accurately and Rapidly Measure True Profile of an Airfield Pavement.
- Collects an Elevation Data Point. Every .25 Meters With Elevation. Precision of 3mm.
- Can Survey a 3,300 Meter Line of Survey in Approximately 1 Hour.

EMU

Pavement Management Services' newly acquired technology is focused to Improve Aircraft Performance and Pavement Life. To effectively evaluate a pavement's ride quality, the measured data must be consistent and be able to capture all wavelengths and grade changes.

EMU focuses on the interaction between the Pavement and the Aircraft:
- Rough Pavements Increase Pavement Loads
- Rough Pavements Increase Wear and Tear on Aircraft
- Pavement Profiles can Change with Time and Traffic

Computes aircraft and pavement dynamic loads using the measured runway profile data. Emu data allows managers to predict problems and manage airport maintenance. Emu data has the capability to conduct simulated repairs to the runway. The effectiveness of each repair is then evaluated with additional aircraft simulations. This process is useful in efficiently developing effective corrective action plans.

EMU

⊙ Contact us

hellopms@pavement.com.au
Perth: +61 (0) 8 6168 1643
Sydney: +61 (0) 2 9674 9488
Sunshine Coast: +61 (0) 7 5357 9841

⊙ Features & Benefits

- Proactively track and quantify the effects of the differential settlement in order to ensure safe aircraft operations
- Ability to conduct a pavement smoothness assessment
- Establish a baseline profile for comparison with future collections and settlement tracking
- Analysis of the collected profile with 30m and 150m straight edges for critical responses
- Correlation - test laser configurations, limit cart dynamics.

- Emu has developed a method of analysis that incorporates the best aspects of the Boeing Bump Index (BBI) with APR's aircraft simulation technology
- Emu data allows airport managers to predict problems and manage airport maintenance
- Collection Frequency - use an optical distance encoder
- Conduct an aircraft simulation using collected profile data for aircraft response modelling (737-800 and 777-200) at take off, landing and aborted take off

In addition to Emu's exclusive aircraft simulation technology, Emu will provide plots where differential settlement has occurred, and perform a range of straightedge analyses.

The deliverable will be a summary report with the results, conclusions, and recommendations for each analysis performed.
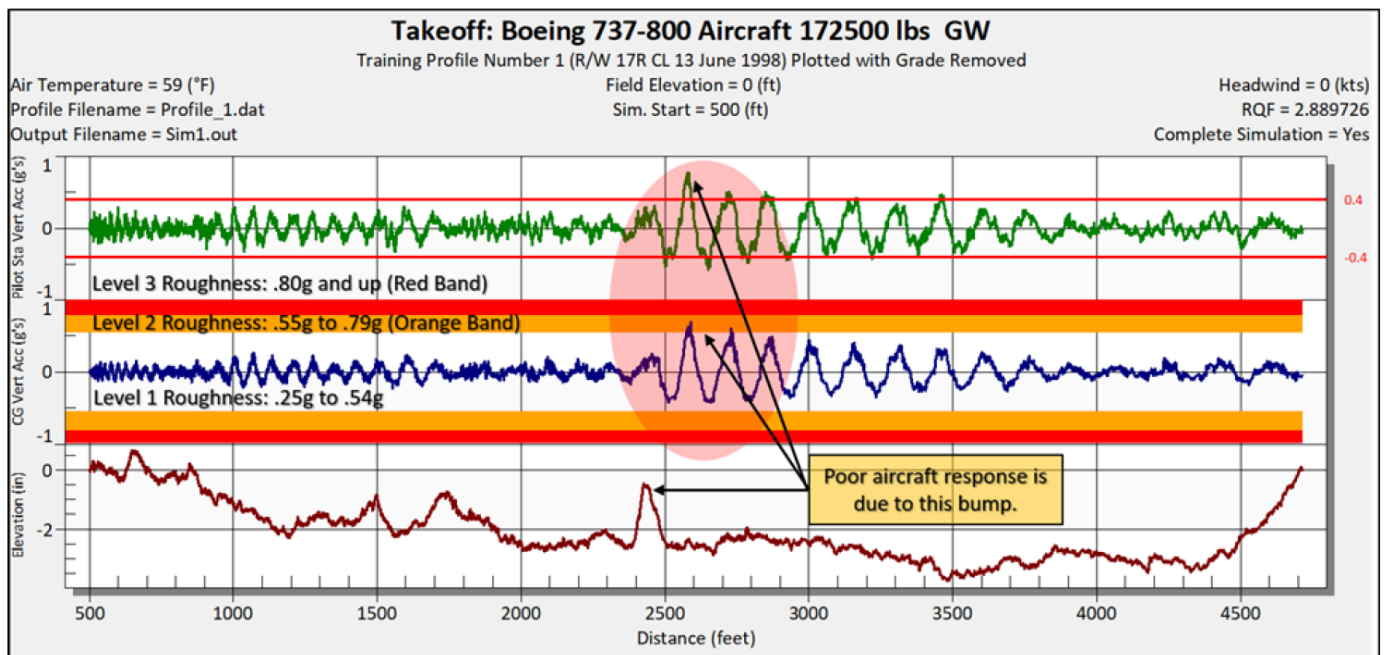

Figure.1 Emu's simulation plot that incorporates the BBI + thresholds of roughness