iPAVe

Continuous functional and structural data at highway speeds.

The **i**ntelligent **P**avement **A**ssessment **Ve**hicle (iPAVe) utilises state-of-the-art traffic speed deflectometer technology, integrated with the Hawkeye operating system, enabling comprehensive road surface and sub-surface condition assessment.

Doppler lasers monitor the response of a pavement to the application of a rolling load, providing data that includes continuous pavement deflection profiles, from which bearing capacity indices can be derived and pavement fatigue estimated.

The high accuracy and resolution of the iPAVe enables engineers to pin-point areas where the pavement has structural deficiencies and could be subject to failure.

Along with pavement deflection, roughness, rutting, texture, geometry, and automated cracking are also measured along with several high definition cameras to collect asset and 3D pavement imagery, with the Hawkeye Platform fully synchronising all data streams.
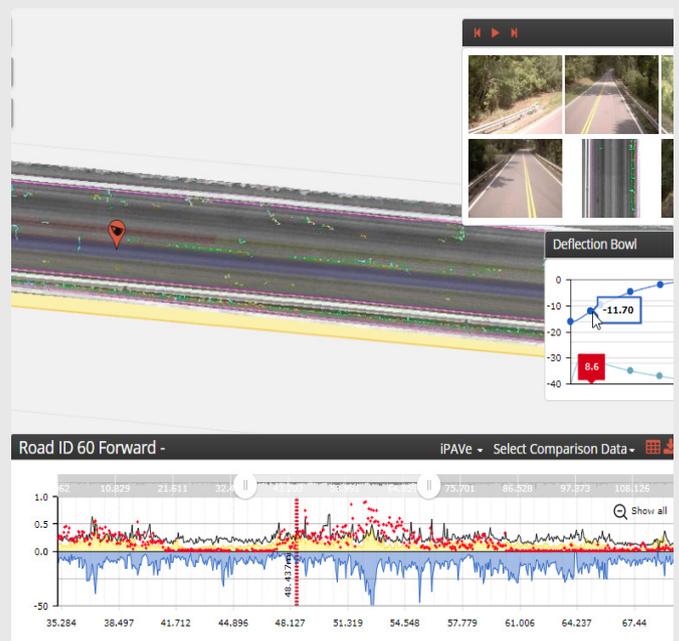
Applications

- Collects all pavement surface and structural parameters in one pass.
- Ability to operate at traffic speeds, improving production, safety and efficiency.
- High resolution detail and accuracy enables both project and network level analysis.
- Powerful tool in managing the condition, maintenance and life-cycle of road networks.

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Features

- Fully synchronised structural and surface condition and imagery measurements enable comprehensive forensic analysis of pavement failures.

- Assists in identifying the cause of the pavement failure, and what treatment is (or is not) required.

- Ability to determine the structural properties of the pavement including subgrade modulus, pavement modulus, and effective structural number.

- Interchangeable, scalable and identical Hawkeye outputs enables flexibility and optimization in network survey coverage.

- Safety is significantly increased for operator and the road user.

- The iPAVe is fitted with sensors capable of collecting:
    - Deflection Velocity.
    - Roughness (IRI), Rutting and Macrotexture (SMTD and MPD).
    - Automated Cracking and Surface Distress.
    - Road and roadside imagery.
    - Inertially corrected spatial positioning and Geometry.
    - Applied Load.
    - Ambient Air.
    - Pavement Surface Temperature.
    - Full Deflection Bowl Forward and Behind The Load.

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