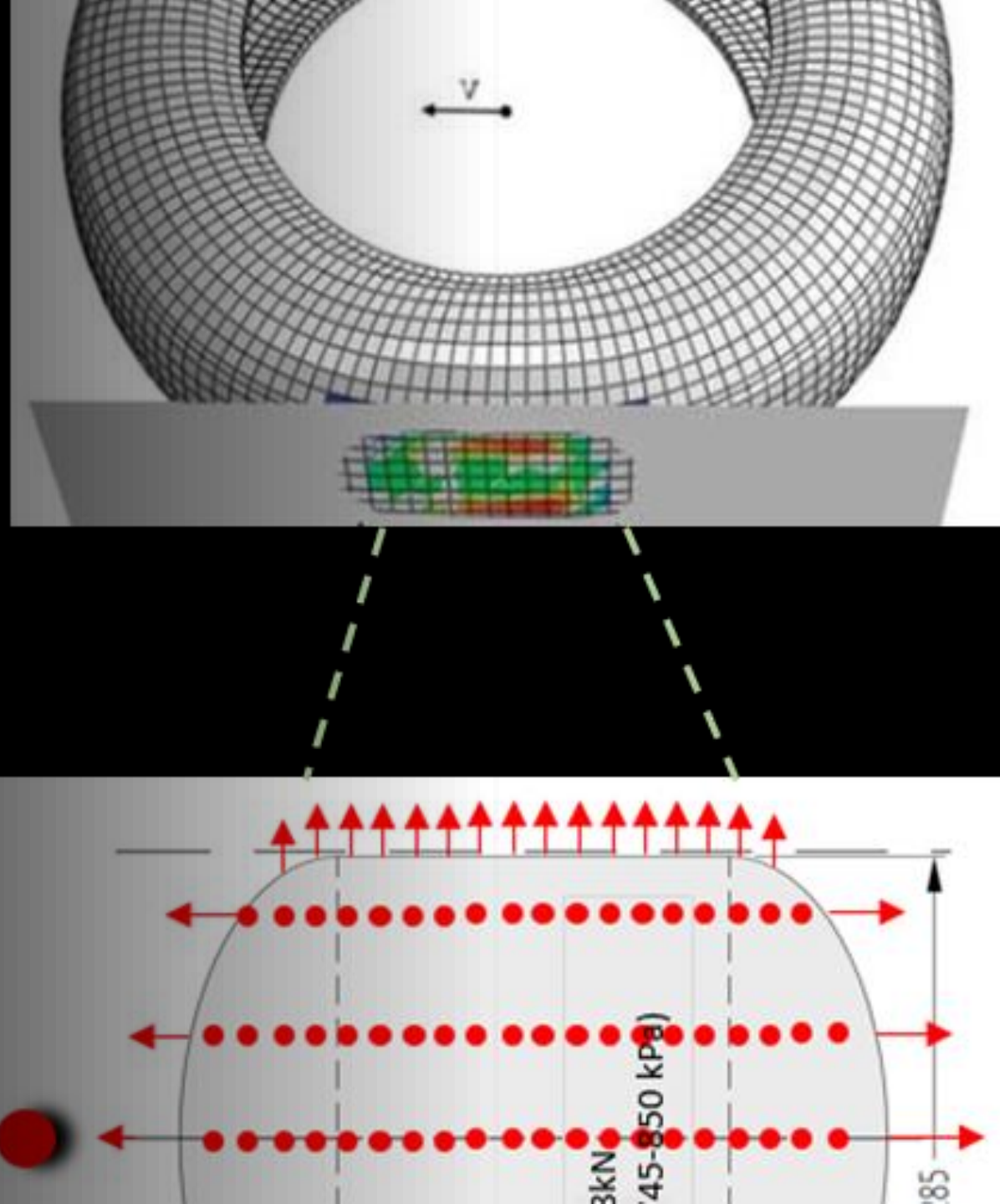
Multi Speed Deflectometer



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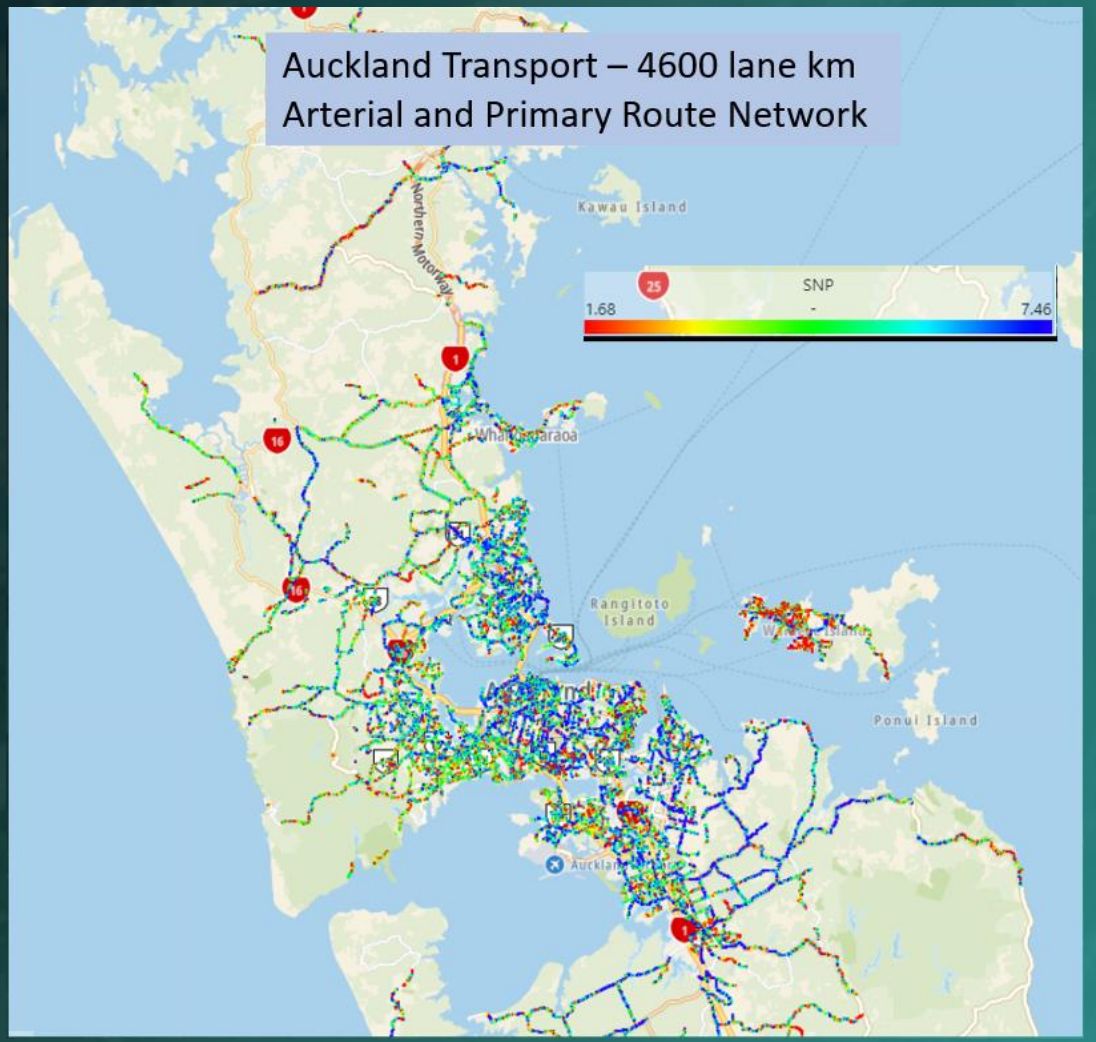
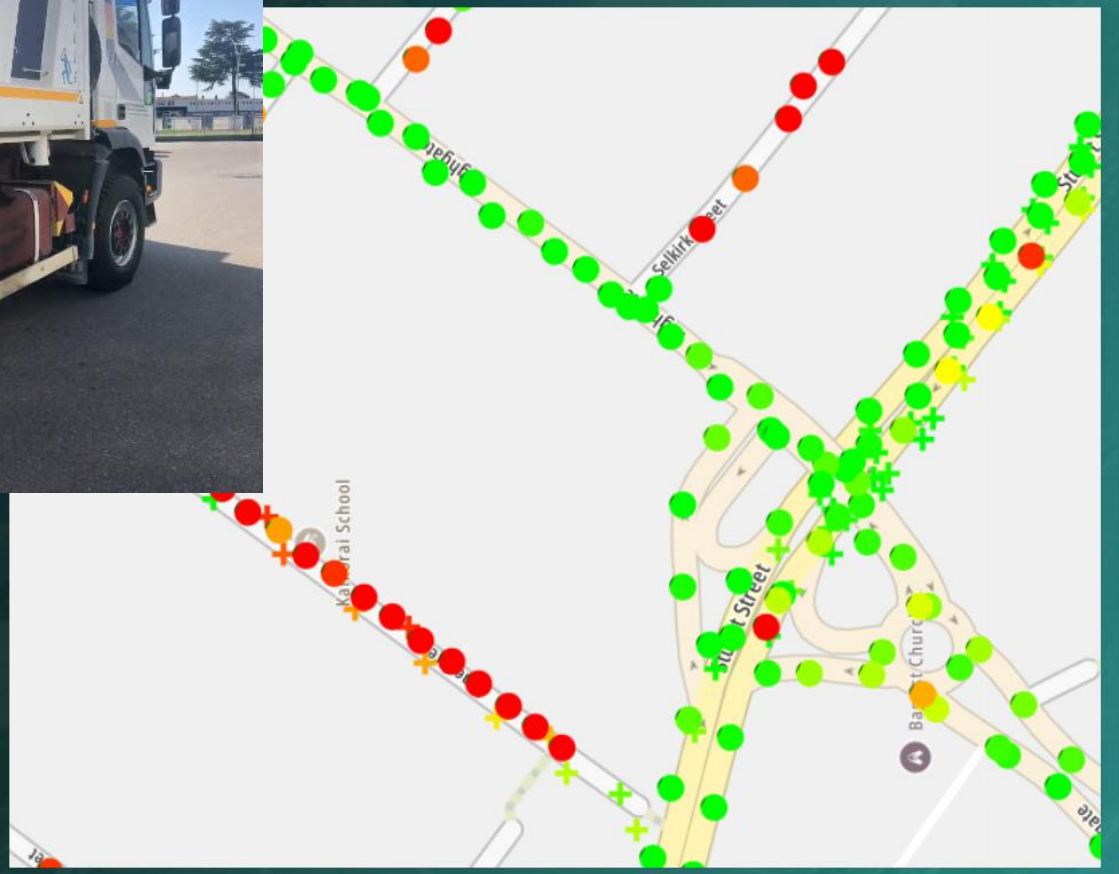
Multi Speed Deflectometer

- The MSD is a high-speed structural screening tool
- Surveying anytime of the year, in critical winter spring periods, when pavement is in the weakest condition
- Enabling the pavement engineer to focus on project level
- Better utilization of FWD and other valuable resources
- Providing engineers and politician with a rapid overview of network
- Forward Works Programs can be developed on both structural, visual and functional data
- Allowing for proactive rather than reactive maintenance



Multi Speed Deflectometer

- Calibrated to the FWD
- Easily mounted and dismounted on a standard truck.
- Shorter truck can be used (2 axle) for testing roundabouts, corners, or narrow urban roads with tight turning.
- Testing at traffic speeds
  - Reducing traffic disruption
  - Improving safety
- Data collected in both wheel paths at 1m interval. Network surveys binned at 20m intervals
- Operates in wet or dry, rough or smooth, asphalt, chip sealed, metalled and construction sites on subgrade, subbase, base course and finish layers
- Surveying anytime of the year -
- including critical winter spring periods



Structural Number (SNP) FWD (+) MSD (●)

Red = Low Orange=Medium Green = High

MSD Survey

Survey:

- Measurement every 1m
- Averaging the results to 10 m or 20 m intervals

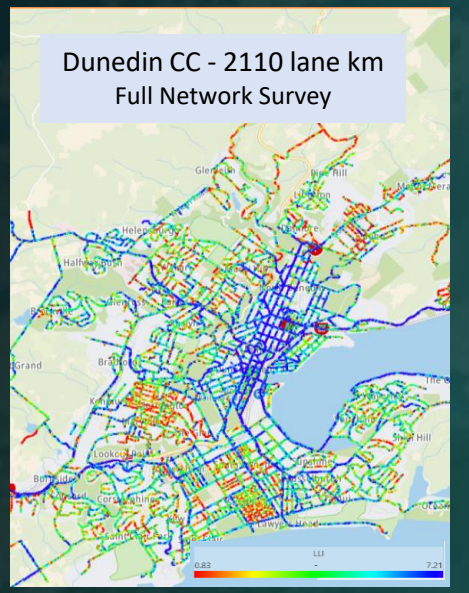
Structural Indices:

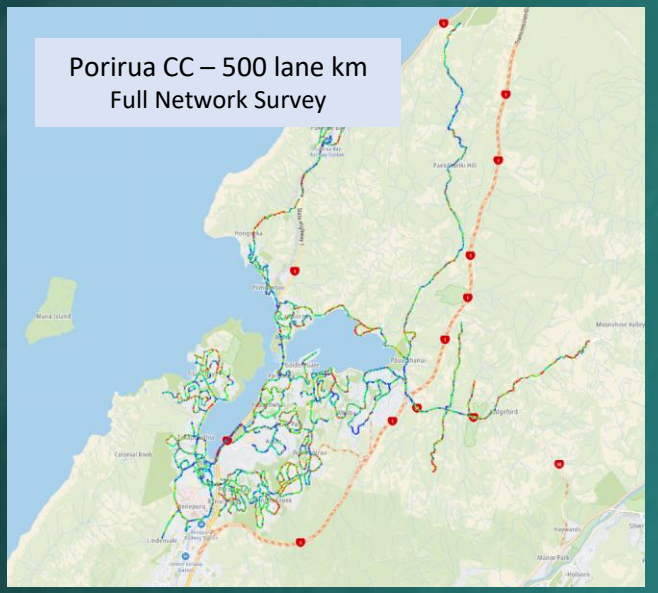
- SNP – Structural Number
- BLI - Base Layer Index (related to Curvature Function D0 - D200, Surface Curvature Index (SCI) or D0-D300).
- LLI – Lower Layer Index (related to D0 Central Deflection and Structural Number)
- Remaining MESA – remaining life in millions of standard axles

Export

- PaveState, XLS
- RAMM

Over 20,000 lane km surveyed in NZ





MSD - Site construction surveying

Disaster Management

Major weather event (e.g. Flooding)

- MSD Kit is dispatched via air courier.

HDMIV - database formation

- Road Information, linear referencing data e.g. road name, road ID, chainage, direction. traffic, road category, surface material, rehab data.
  FWD calibration data, if available.

Mobilisation in country

- Train local personnel
- Local truck
- Collect data

Analysis

- Data uploaded to Cloud, analysed
- CSV, HDMIV, PaveState, Etc.

Output

- Identify overall network condition
- Restrict loading on load sensitive pavements to preserve pavements
- Identify structural treatment lengths to identify areas of project level investigation

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What is the Multi Speed Deflectometer?

The MSD kit

MSD Electronics

DWP - Data Collection Box

Axel Connection Box (ACB)

Surface Sensor Box (SSB)

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