Managing Future Demands

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Smart Phone Technology
“Unsealed Road Deterioration Modelling”
Modelling Objectives

- Accurately determine the point of allowable deterioration
- Determine problem sites on a road
- Programme Optimisation – lowest long term cost for the asset
- Carry out surveys with ease
- Finding a cheap, credible device for every day use.
Smart Phone Technology – Roadroid App

- What is Roadroid?
- How does it work?
- Why use it?
- Stumbling blocks at the beginning
- How do we know the data is credible?
Calibration with High Speed Data (HSD)

Calibration Site - Roadroid with High Speed Data Survey

- Roadroid with High Speed Data Survey
  - eIRI ave. eIRI 1.66
  - NZTA IRI HSD ave. IRI 1.96
Waikerikeri Valley Road – Deterioration Trial

- High complaint site – impacting journey comfort
- Local
- ONRC – Access Road
- Combination of new and old surfaces

Trial Method
- Grade the road
- Monitor 2 times per week
- Track and plot results – Determine rate of deterioration
Deterioration Model Results

Waikerikeri Valley Road Pavement Deterioration Survey

Cattle stop

- 7th Aug - 1 day after grade ave eRI 3.7
- 14th Aug week 2 after grade, ave eRI 2.64
- 15th Sept 7 wk after grading, ave eRI 4.78
Deterioration Model Results

Waikerikeri Valley Road Pavement Deterioration Survey

- Cattle stop
- Corner
- Uphill acceleration
- Corner

Route Position

- 7th Aug - 1 day after grade ave eRl 3.7
- 14th Aug week 2 after grade, ave eRl 2.64
- 15th Sept wk after grading, ave eRl 4.78
Deterioration Model Results

Waikerikeri Valley Road Pavement Deterioration Survey

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7th Aug - 1 day after grade ave eRI 3.7
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ONRC Max NAASRA 180
ONRC Ave NAASRA 150
Challenges

- Can’t use the data solely
- Maintaining Speed/Driving lines
- Stumbling blocks at the beginning
- Rural activities interfering with monitoring
Where to from here

- Grading – Programme Optimisation
- Benefit Cost Analysis for treatments
- Footpath roughness – Internal affairs
- ONRC measures
Conclusion

- It's a tool
- Cost effective
- Strengthened Asset Management Practises
- ONRC Measures
Questions

Thank you