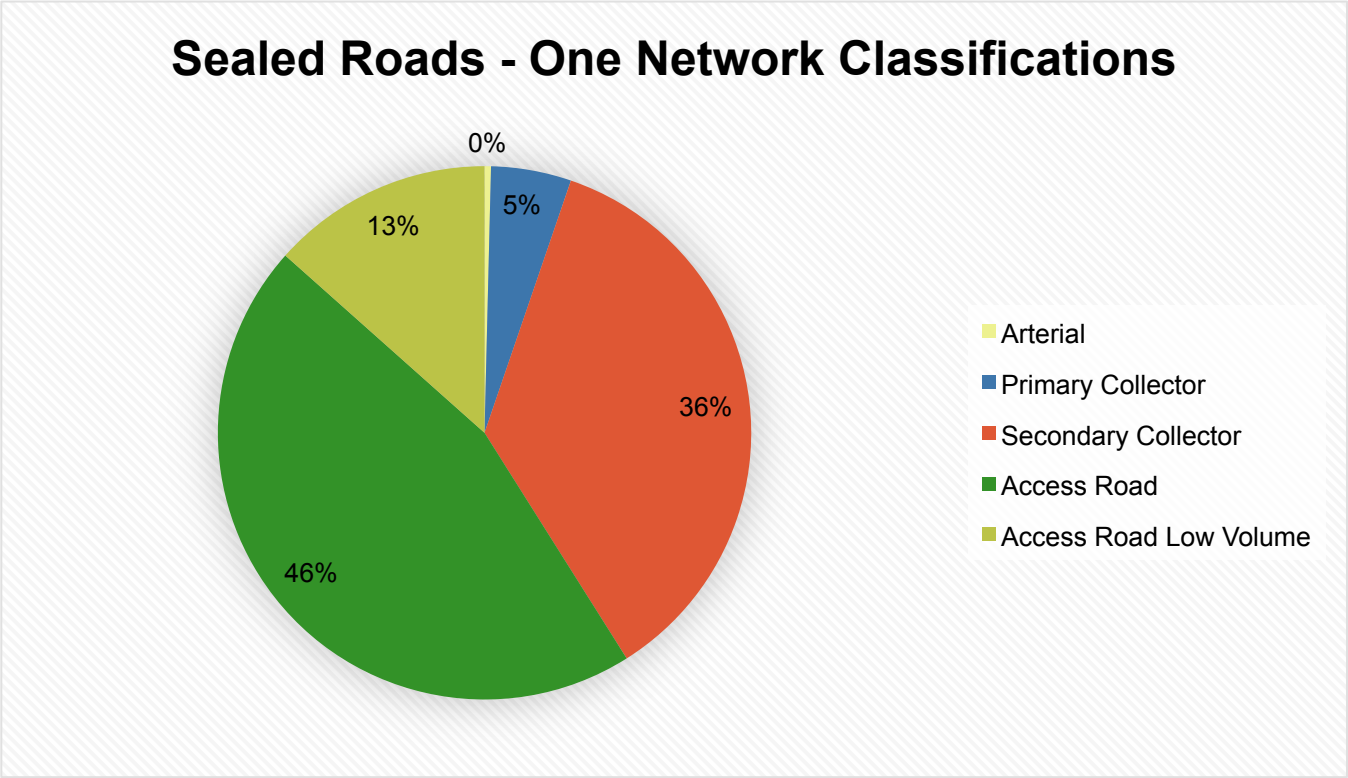
RCA Forum

Optimised Decision Making for Smaller Authorities

Our Sealed Network

- 512km of sealed roads



Status Quo

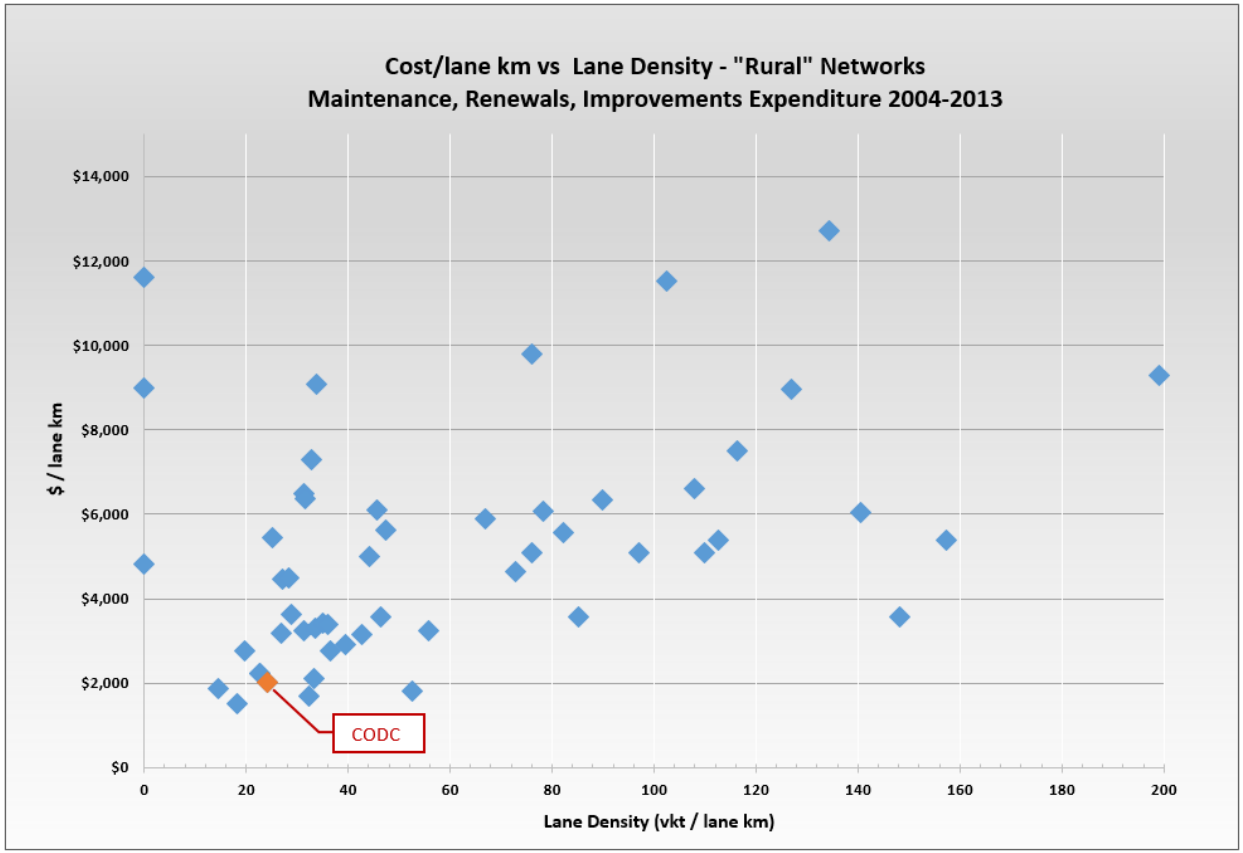
- Low volume network
- Relatively very low cost & low risk
- Good performance indicators
- No programmed rehabilitations
- Limited dairy & forestry



What Changed?

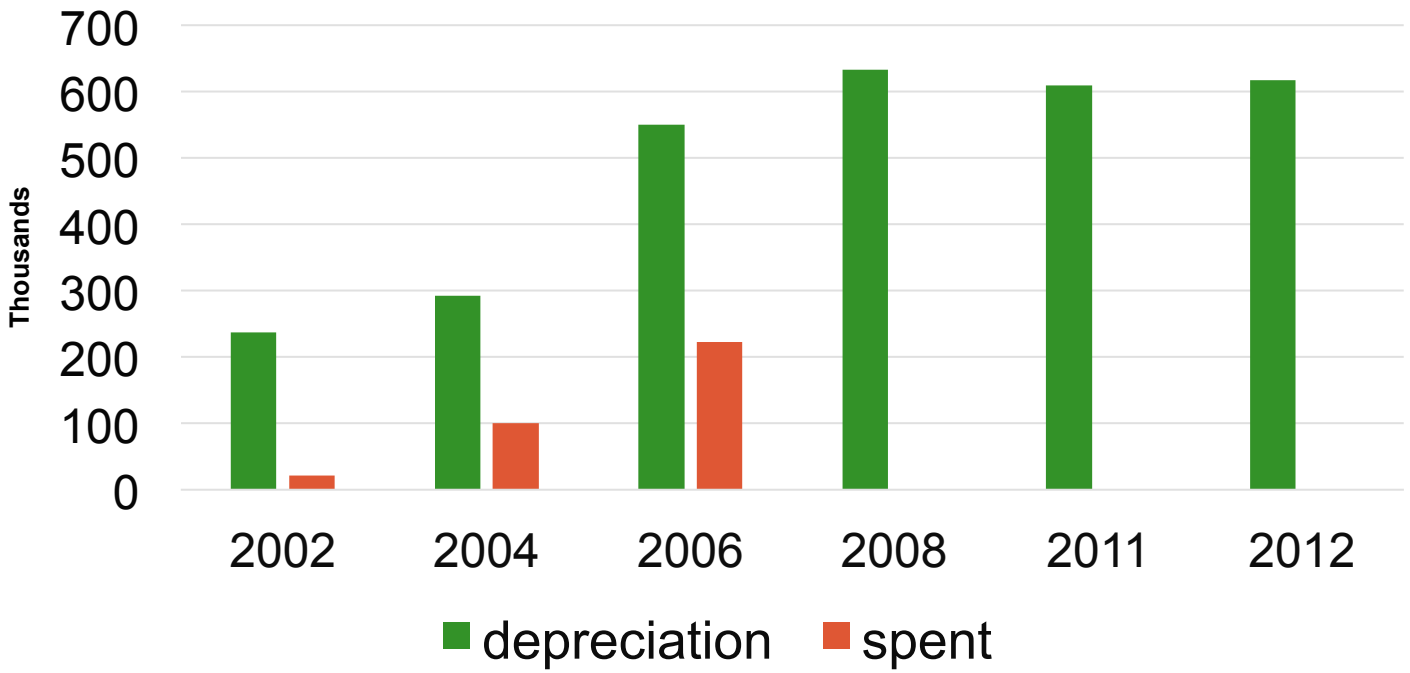
- Pre 2006 – Annual planning
- 2006 - 10 year planning reviewed every 3 years
- 2015 – 30 year plan reviewed every 3 years

Cost Effectiveness



The Pavement Issue

Only 1.8km reconstructed in the past 18 years !



Drivers For Change

- Can’t program 30 years from visual inspections
- Uncertainty on pavement life – 80 years?
- Possible looming rehab bow wave?
- High pavement depreciation costs

Support from IDS

- Advice on data collection, focus of effort
- Managed request for expressions of interest for modelling
- Shortlisted for Council consideration

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NZ ROADS • NZ WATER
BUREAU SERVICE

Data Prep

- Confirmed age data from archives
- Focused traffic counts on sealed roads
- Recent condition rating and roughness surveys
- RAMM asset data clean up,
  - treatment lengths, missing seal sections & pavements

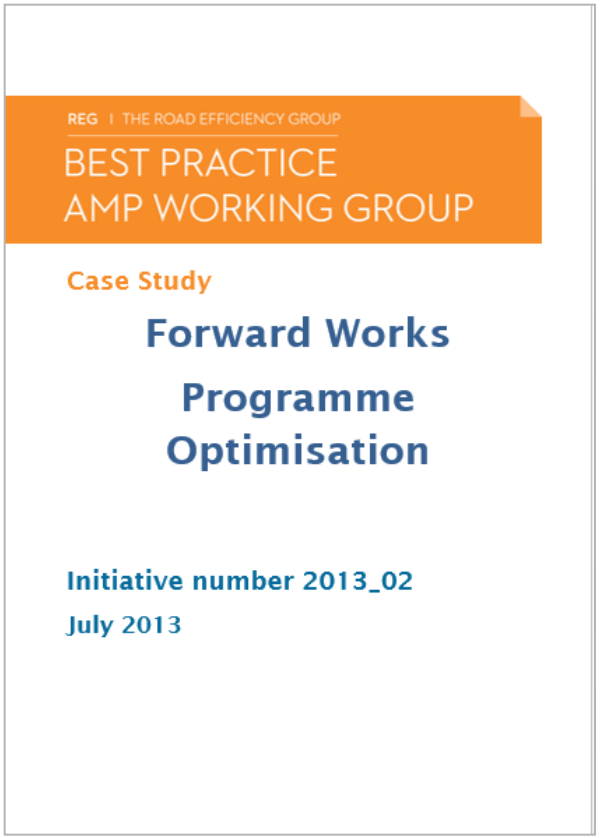


Extra Data

- 2 high speed data surveys 3 years apart
- FWD testing on 30% sample for pavement strength

Centreline Length	FWD Test Spacing based on Field Calculation of Residual Life	
	Life > 15 Years	Life > 15 Years
0 m - 200 m	5 Tests (3 in IRP lane, 2 in DRP lane)	
200 m - 500 m	50 m intervals in each lane	
500 m - 2 km	10 tests in IRP lane only	10 tests in each lane
2 km - 5 km	200 m intervals in IRP lane only	200 m intervals in each lane
> 5 km	200 m intervals in each lane, or 400 m intervals if geologically uniform terrain	

Modelling Questions



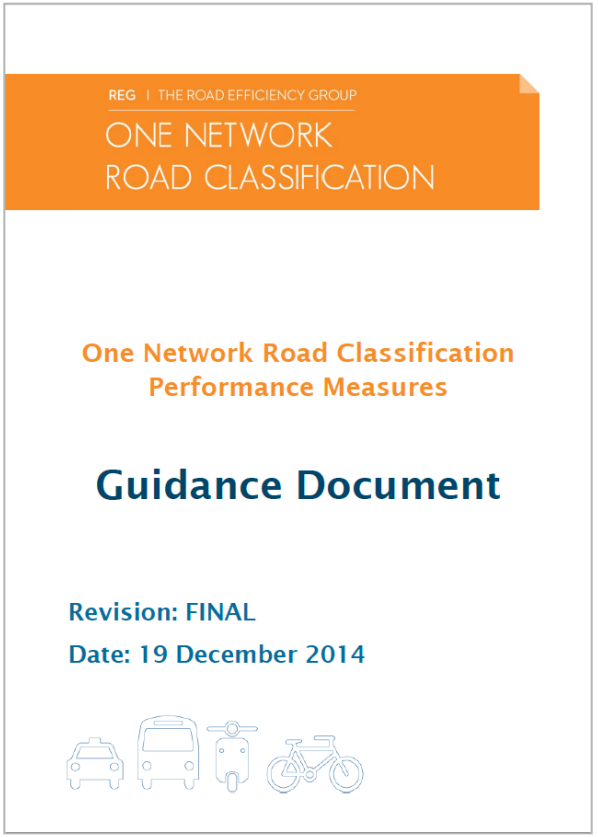
NOT what will the network look like if keep spending what we currently spend?

OR how much do we need to spend to keep the network in its current condition?

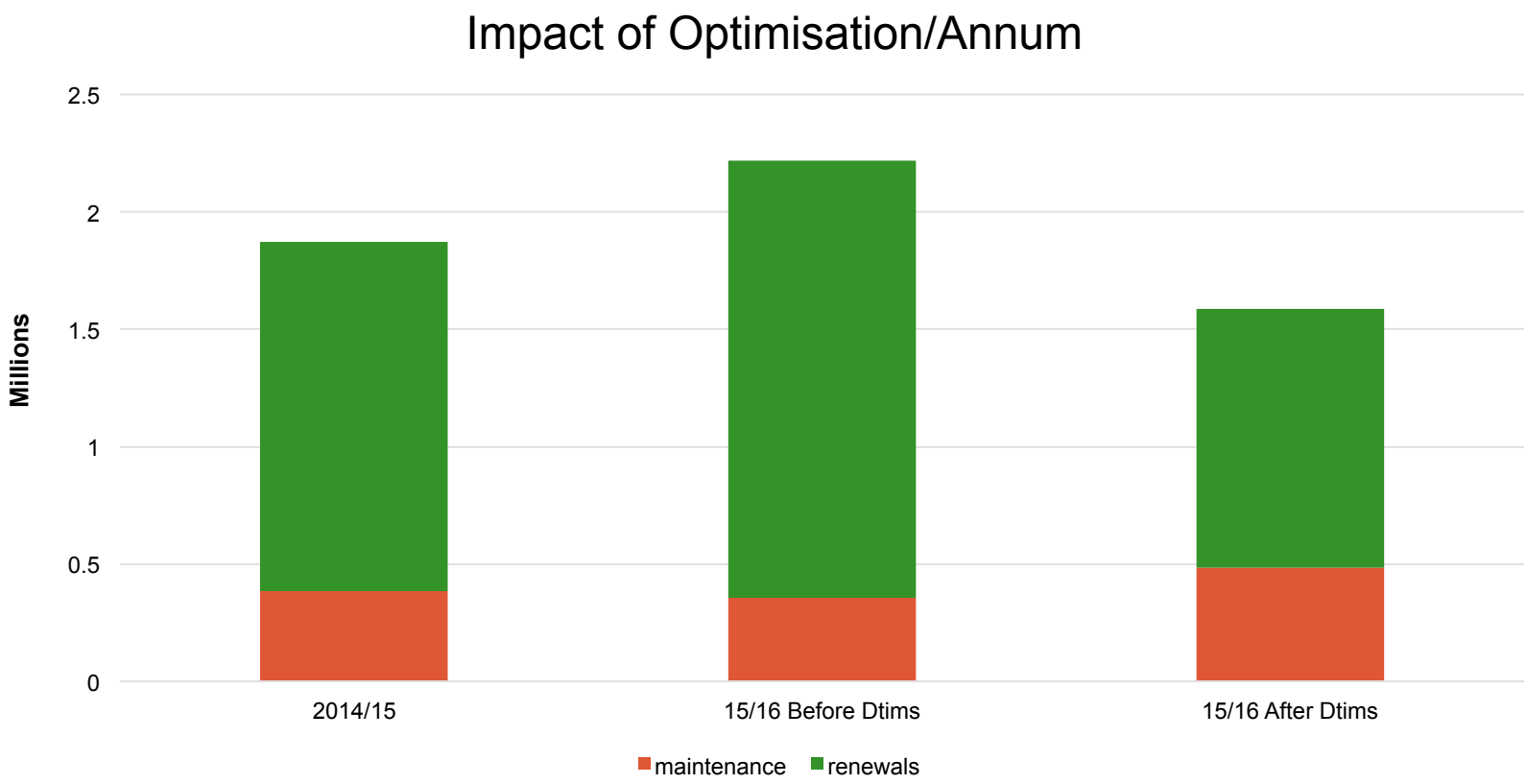
Modelling Questions

- What is the minimum investment level required before the network condition becomes unstable ?

- What is the minimum we need to spend to meet the proposed ONRC levels of service?



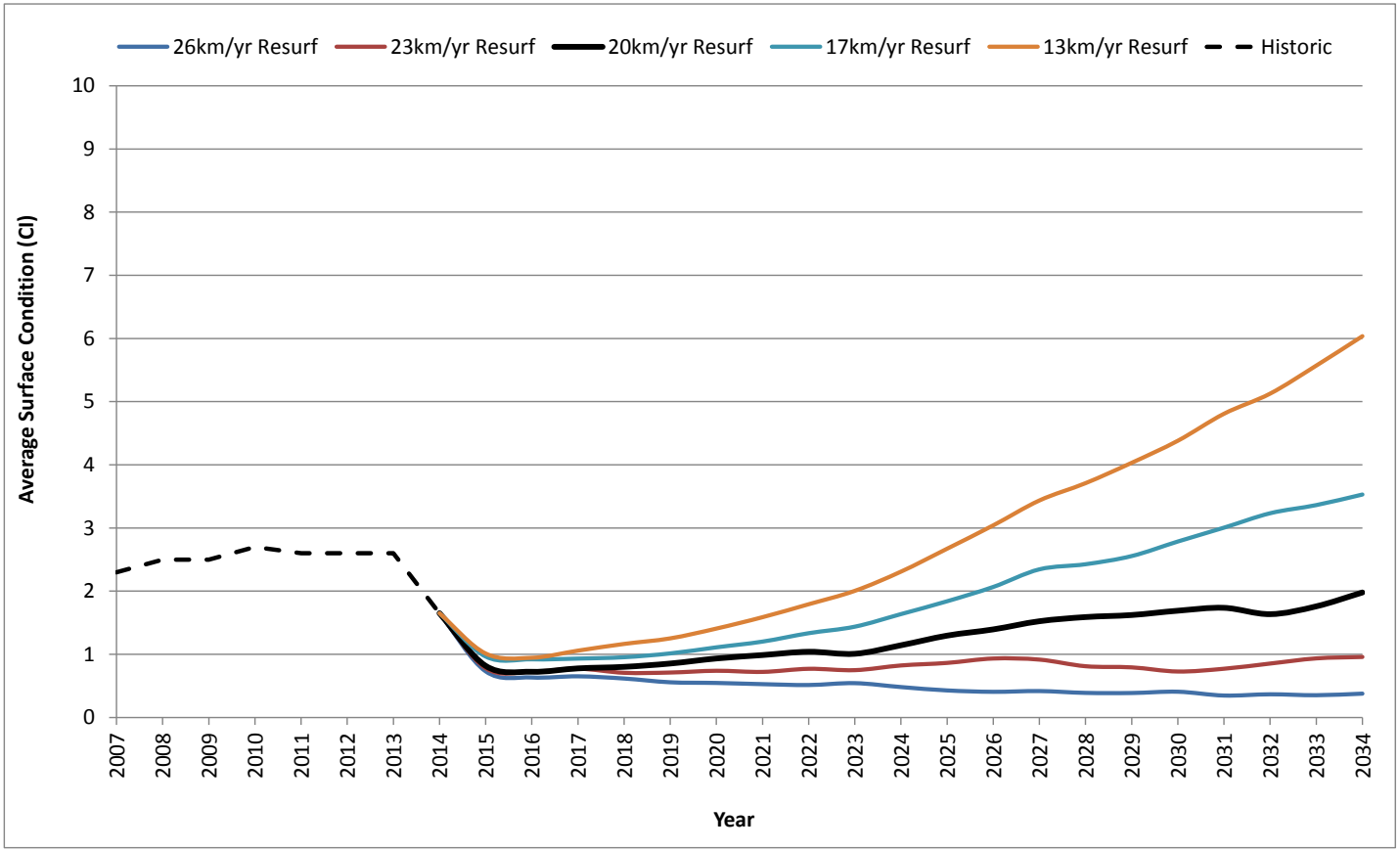
Financial Outcome



Field Validation

- Inspected every site on the 5 year program
- 2 experienced staff
- Some adjustments around timing
- Surprised at level of agreement on location

Change in Condition



Program Impacts

- Roughness will increase but still within ONRC guidelines
- Deterioration in condition is driver, not roughness
- Some urban rehabs from year 6
- Still no rural rehabs on the horizon
- Increased maintenance required

Political Support

- Support for reducing the current standards
- High public satisfaction (96 %)
- dTims outputs validated on site
- Risk managed, review in 3 years

FWD Testing

- FWD modelling has been well worth the cost !!
- 25 years left in all rural pavements except one Low Volume Access road

Going Forward

- 3 yearly Dtims modelling
- 3 year specialist surveys
- Annual inspections
- Monitor pavement and surface condition to validate model
- Fine tuning of pavement life from test data

Questions