

# Cycle counting programme in Hamilton

## Why count cyclists?

### Policy Level

- Providing **transport choices** is an objective of the Access Hamilton Strategy:

*Investment in transport corridors looks across and beyond the city to protect and enable flexibility in travel options*

### Network / project level

- Network element **prioritisation**
- Project **economic evaluation**
- Inform **design** briefs



Access Hamilton Strategy

## Methods of monitoring cycling levels

### All methods

- National surveys
  - Census, Household Travel Survey
- Local surveys
  - School hands-up, bike shed counts
  - School travel surveys
  - Intercept surveys
- Traffic counts
  - Cordon
  - Screenline
  - **Sample of network sites**

### Counting methods

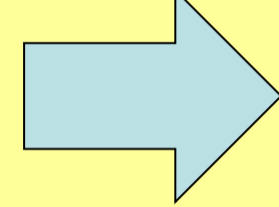
- Manual counts obtain:
  - Cyclist types
  - Turning volumes
  - Calibration data
- Automatic counts:
  - Larger samples
  - More economic
  - Permanent or short-term



## Programme development

### 1 Determine number of sites

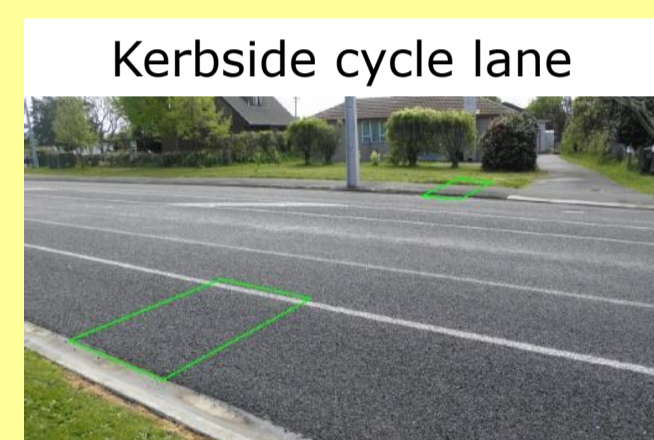
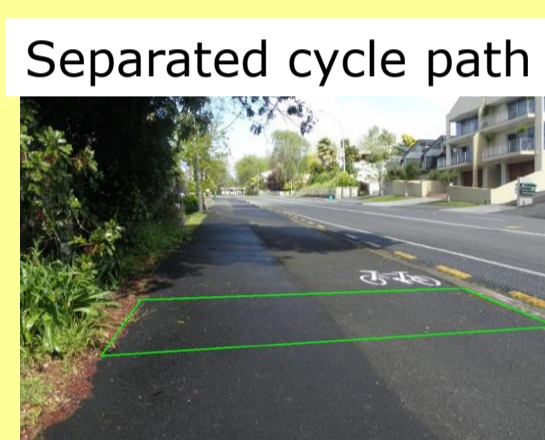
- Population basis
- Network coverage basis
- Ensure a representative sample



12 sites chosen

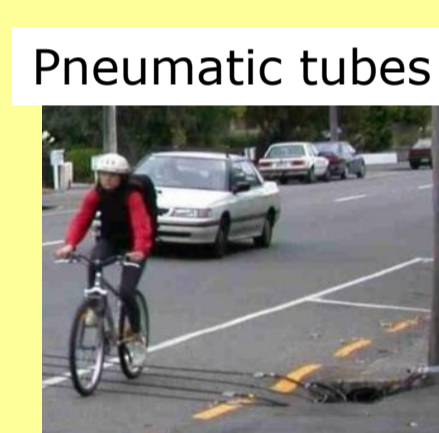
### 2 Consider strategic site criteria

- Mix of geographic areas and features
- Mix of facility types
- Mix of cyclist types and trip purposes



### 3 Counter types, durations and methods

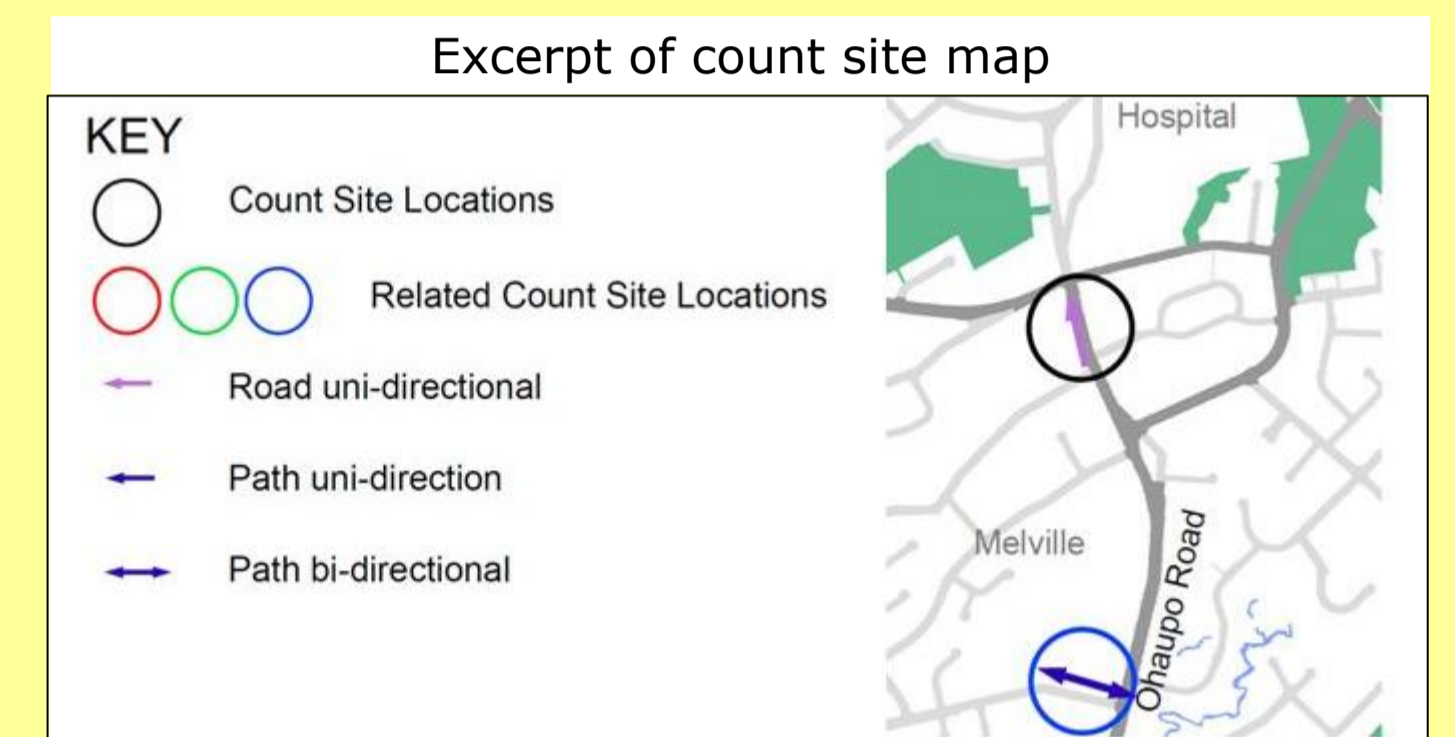
- Sensor type – in or above ground, capabilities
- Logger type – input channels, data link
- Site factors – pavement, traffic composition



Method	Counter	Duration
Permanent	Automatic counter (in ground)	Year-long
Short-term	Automatic counter (in or above ground)	2 weeks minimum
Manual	Manual counter	Peak periods

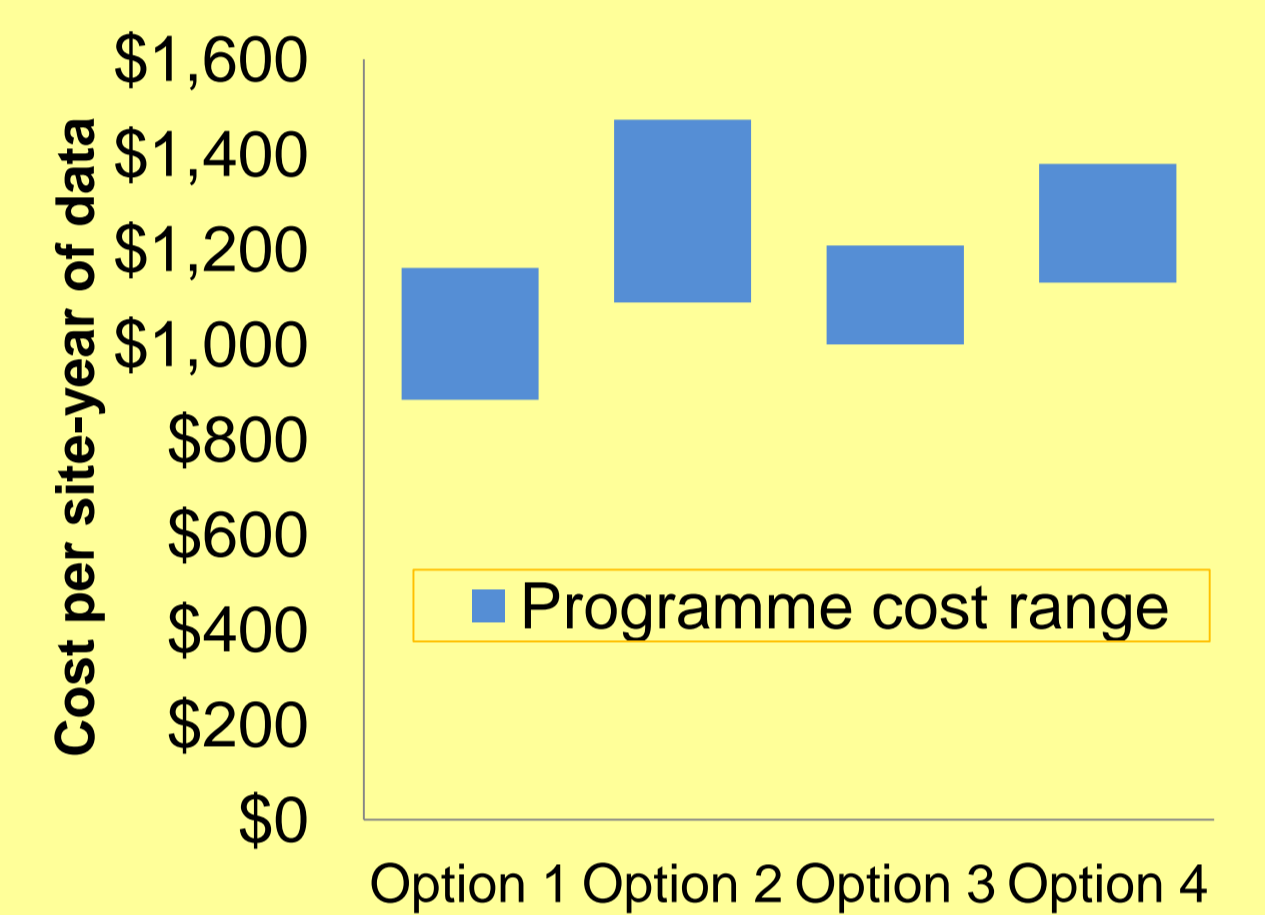
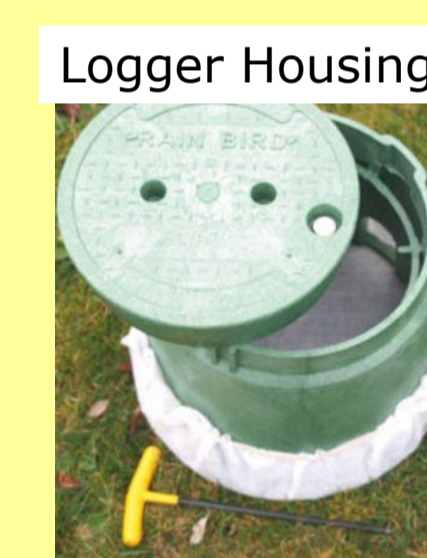
### 4 Site selection

- Permanent on-road and off-road sites chosen
- Short term count sites chosen
- Other sites retained for future consideration



### 5 Programme costs

- Equipment capital cost
- Site furniture cost
- Installation cost
- Maintenance costs
- Data collection costs



### 6 Implementation options

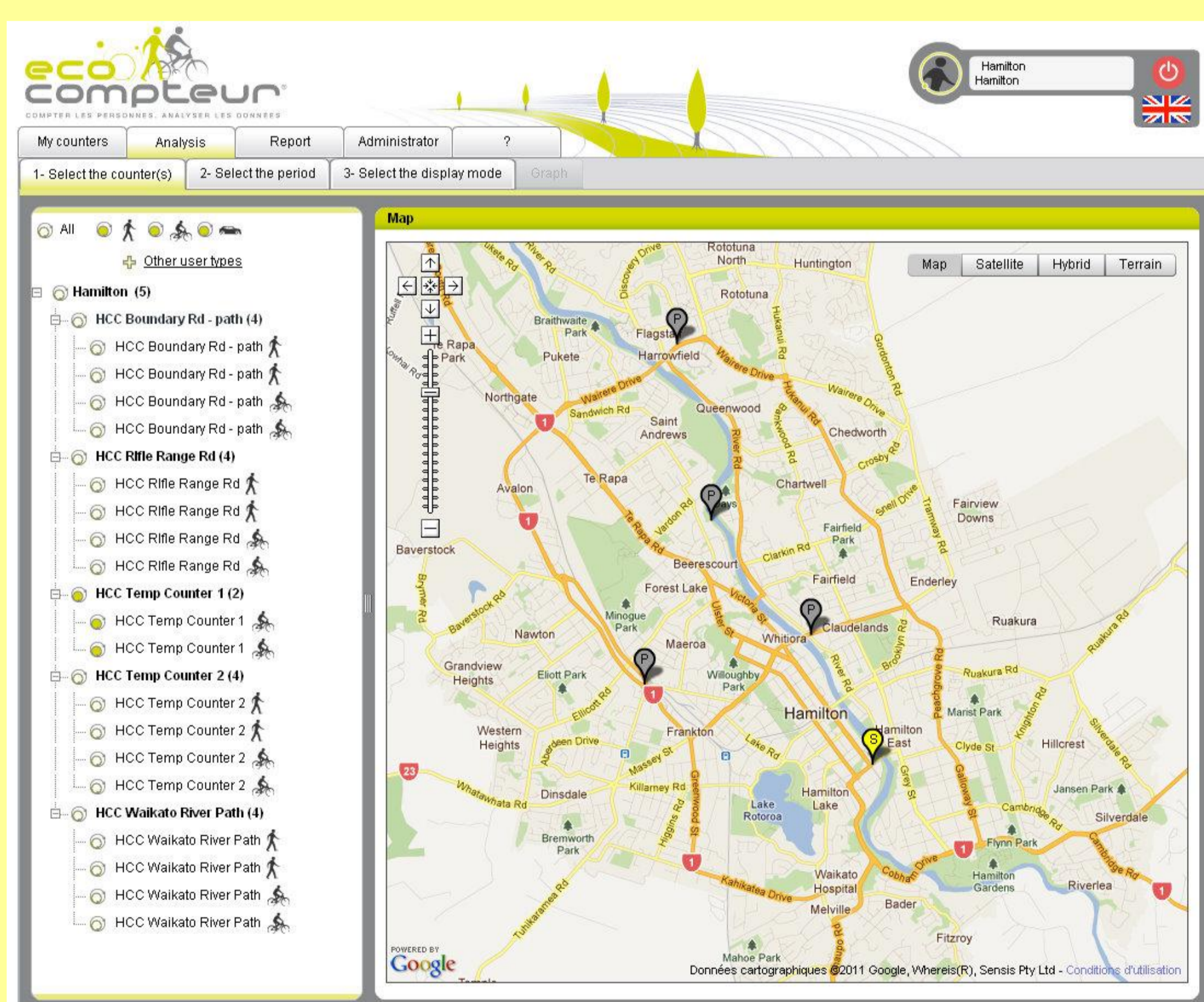
- All sites vs phased rollout
- Full vs partial programme sizes

Implementation timeframe	Programme size	
	Full (12 sites)	Partial (6 sites)
Immediate (1 year)	Option 1	Option 3
Staged (3 year)	Option 2	Option 4

## Programme implementation and management

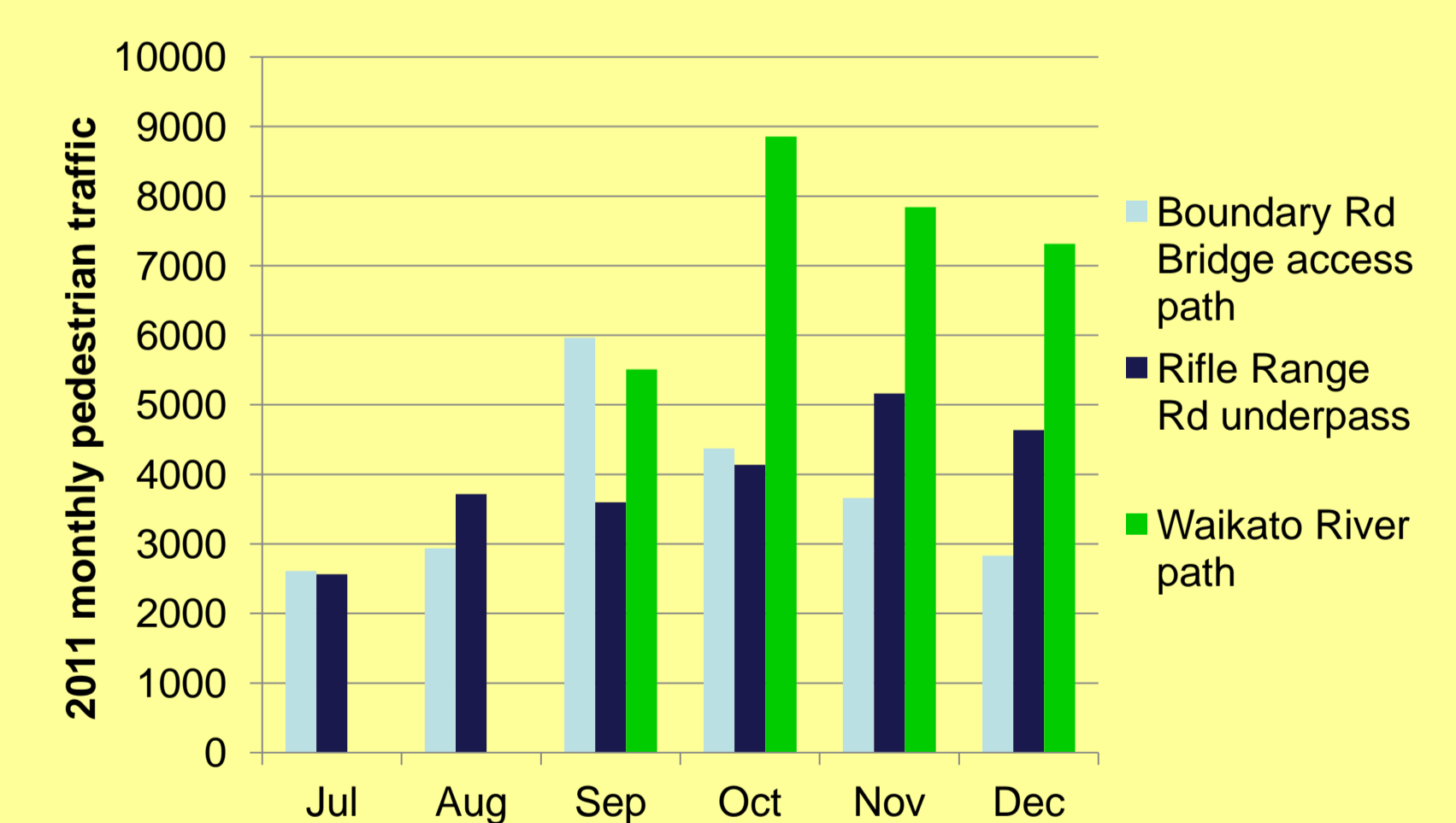
### 7 Data management

- Data-loggers are telemetry-enabled
- Data uploaded every night
- Data management via web interface
- Data analysis through reports from the database
- Most useful for longer time-series reporting



### 8 Initial results

- Three permanent count sites with combined cycle/pedestrian loggers
- All sites carry more pedestrians than cyclists
- Usage increases during summer



### 9 Next steps

- Calibrate sites with manual counts
- Undertake statistical analysis to determine count durations
- Determine Hamilton-specific scaling factors for short term counts
- Develop scaling factors for pedestrian counts

Equation for scaling cycle counts (Cycle Network and Route Planning Guide, unpublished 2009 amendment)

$$AADT_{cyc} = Count \times \frac{100\%}{\sum H} \times \frac{100\%}{D} \times \frac{W}{7} \times \frac{100\%}{R}$$

## Conclusions

### Method

- Step by step, iterative approach
- Used in Christchurch, New Plymouth
- Once set up, very cost effective
- Applicable to any transport network

### Opportunities

- Develop locally specific scaling factors
- Develop scaling factors for ped counts
- Improve national datasets
- Establish guidelines for minimum short term count durations

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