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Assessment of Bicycle Lane Separators

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TRANSPORT PLANNING AND DESIGN

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Research team & client

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Client: VicRoads

Background

- Wide separators have been trialled and researched in Victoria
  - Effective in keeping motorists out of cycle lane
  - Make cyclists feel safer
- Wide separators take up 0.7 m of road cross section
  - What if there isn't that much width to spare?

Research brief

- Trial narrow separators
- Quantify safety and effectiveness
  - Safe for cyclists and pedestrians
  - Effective by keeping motorists out of bicycle lanes and making cyclists ‘feel good’ / safe

Method

1. Review literature
2. Develop method
   - Identify suitable product & site selection
3. Obtain approvals
4. Fieldwork / surveys
5. Data analysis
6. Report on findings

Identify suitable product

- Considered two products
- Chose Riley Kerbs
- Combine with flexible bollard if required

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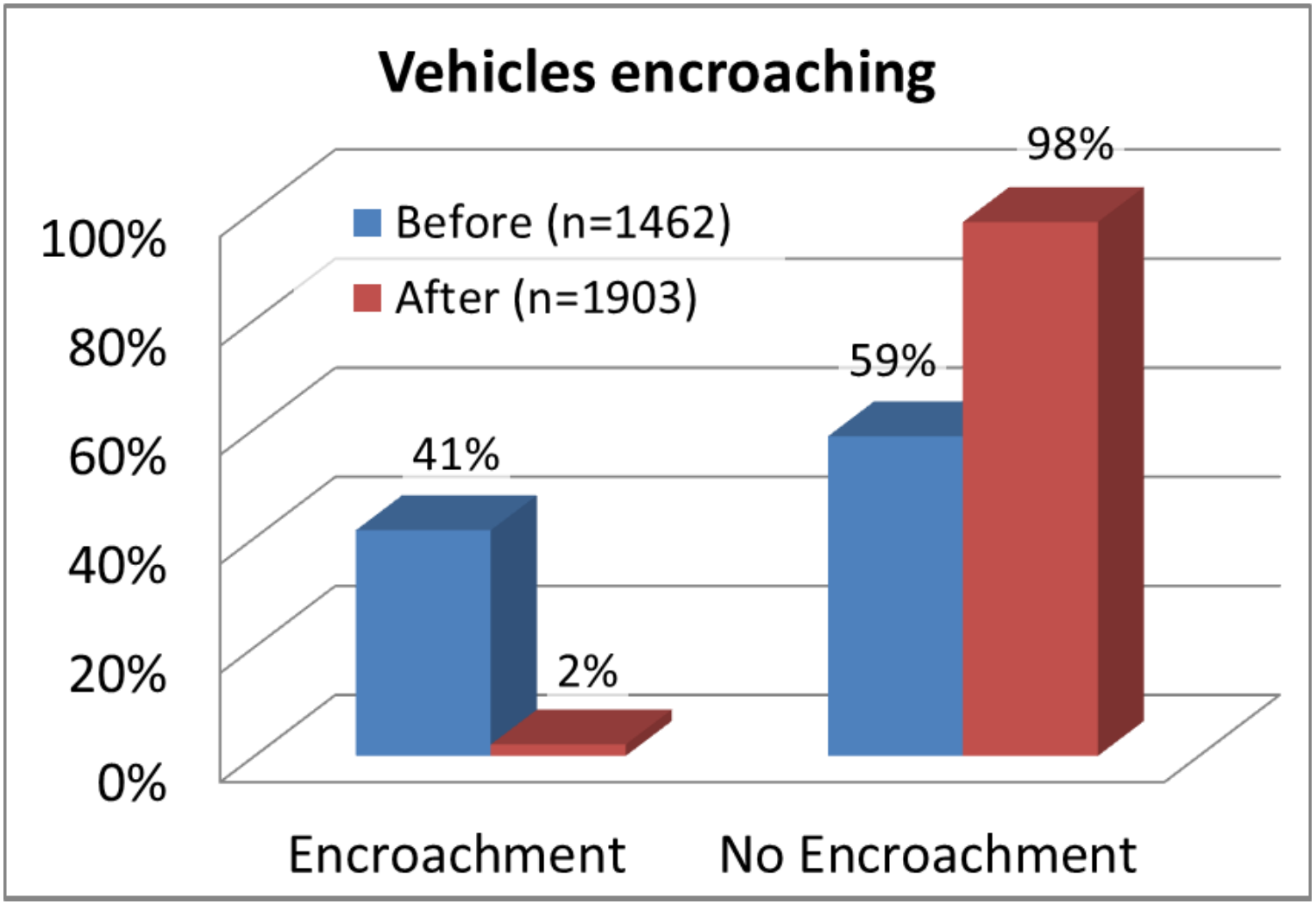
Site selection

- Site 1 – Kotare Street
  - Inside of curve
  - 12,000 veh/day
- Site 2 – Strickland Street
  - Approach cycle lane at signals; inside of shared through and left lane
  - 8,000 veh/day

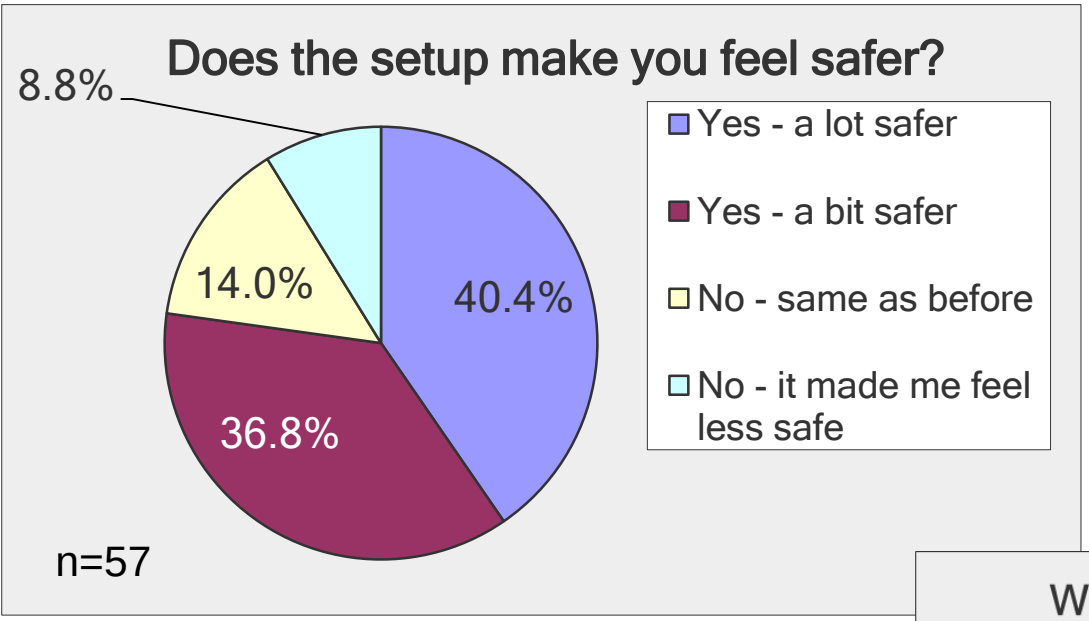
Kotare Street

- Installed 9 Riley Kerbs
  - on bicycle lane line
  - 1.4 m at narrowest point
- Report of near-crash
  - Retrofitted 1 flexible bollard
  - Concluded that this should always be done when cycle lane narrow / cycle speeds high

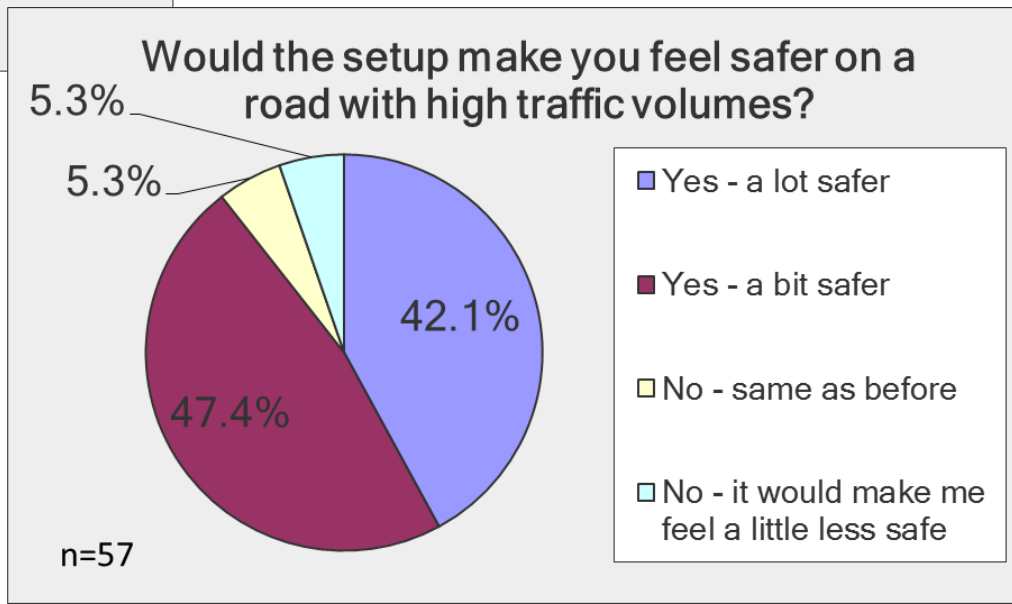
Kotare Street – driver behaviour



Kotare Street – cyclist perception



- 40% said bike lane too narrow



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Kotare Street feedback

"The post is the main thing to make the difference."

"They made me more aware of my driving, and how easy it is to cut into the cycle lane."

"Any infrastructure that makes motorists think about cyclists is good."

"This setup actually makes me feel more boxed in."

"I feel a bit safer!"

"The separators are bumpy. First time, I nearly ran into the bollard."

"I'm a downhill skier, so like to clip the post with my handlebars when I come past."

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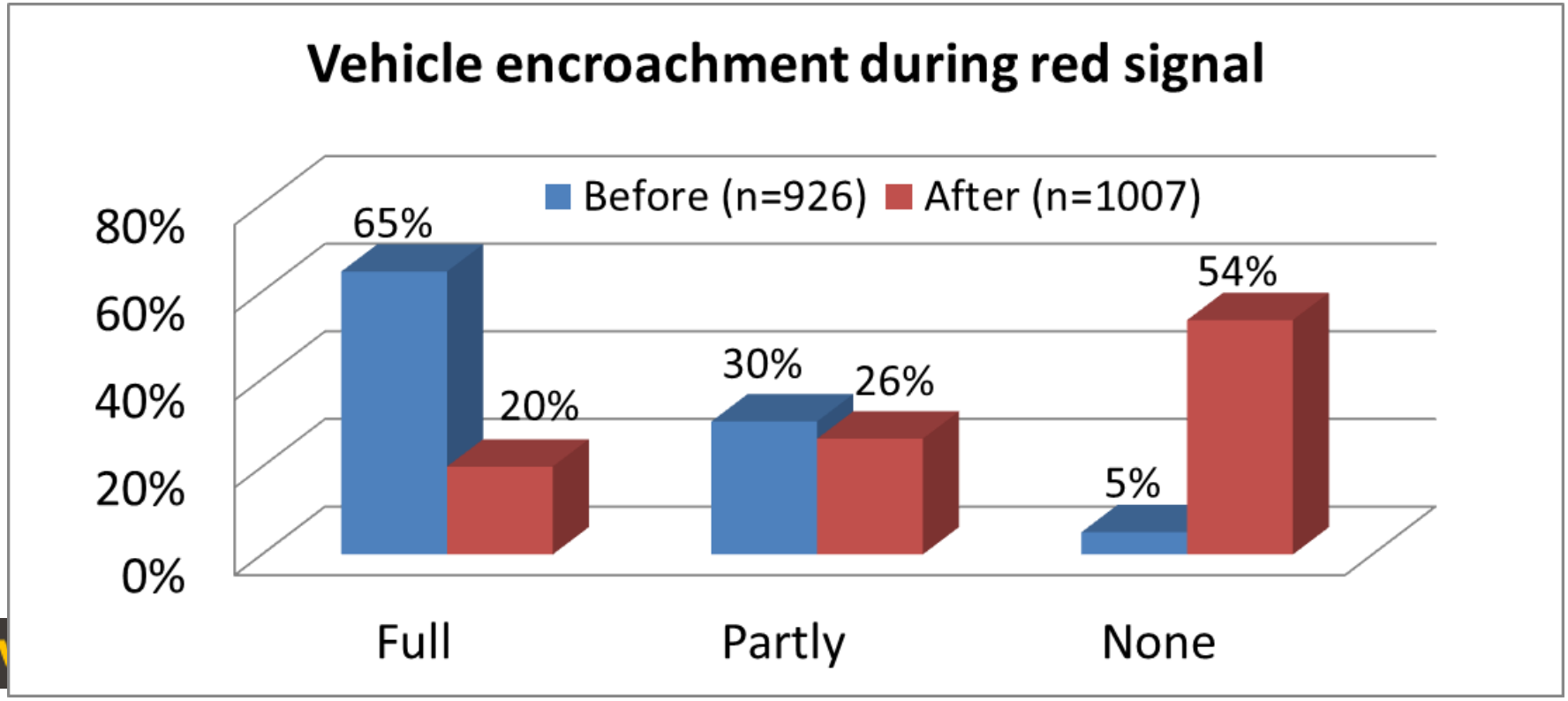
Strickland Street

- 1st driver survey (before)
  - Installed 6 Riley Kerbs at holding line
    - on bicycle lane line
    - 1.8 m at wide
- 2nd driver survey (after)
  - Effectiveness was insufficient, so 3 flexible bollards retrofitted
- 3rd driver survey yet to be done

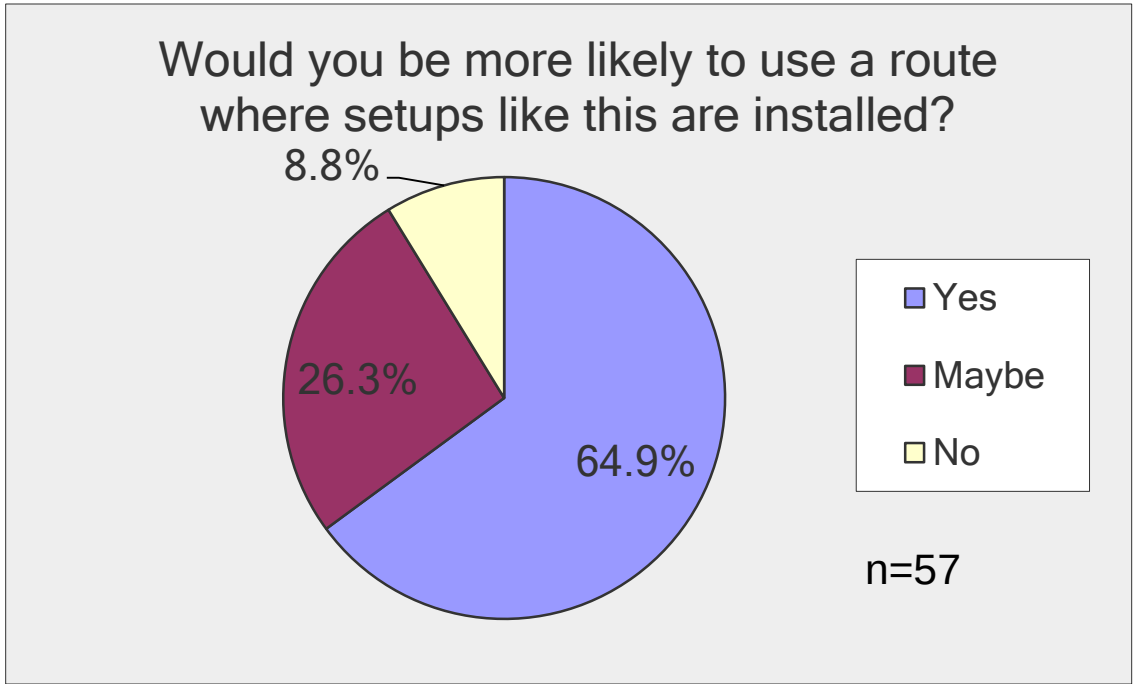
Strickland Street – driver behaviour

- Significant change in driver behaviour through Riley Kerbs only, but insufficient



Strickland Street – cyclist perception

- Comments – Riley Kerbs alone did not prevent motorists queuing in bicycle lane
- With bollards, cyclists generally satisfied



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Strickland Street project history

- Christchurch City Council previously considered widening intersection
  - Separate lane for left turners
  - Rejected as too expensive (NZ$250k)
- Current setup is effective
  - Cyclists happy, possibly more so than previous proposal
  - Modification costs <NZ$2k

Value for money!

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Learnings – Kotare St

- 9 Rileys; 1 bollard
  - Successfully stops drivers from cutting corner
  - Cycle lane should have been widened; too narrow at 1.4 m
  - Apart from comments on narrowness, cyclist perception is good
  - In midblock, bollard a necessary tool to highlight Riley Kerbs

Learnings – Strickland St

- Trial not finished yet
- 6 Rileys
  - Change in driver behaviour not sufficient
  - Mixed feedback from cyclists (leaning more pos.)
- Retrofit 3 bollards
  - Drivers physically prevented from using cycle lane
  - Mostly positive cyclist feedback
  - Very cost effective measure at intersections

Discussion & thank you

- Questions please

- Thank you for listening
- Contact phone numbers:
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