

Assessment Of The Effectiveness Of Narrow Separators On Cycle Lanes



Dr Glen Koorey
University of Canterbury

Co-Authors



Axel Wilke
ViaStrada

Lead researcher



Judith Aussendorf
Univ. of Canterbury

Postgrad trpt student

Client: VicRoads

Local Support: Chch City Council

The Problem

- Motorist encroachment of Cycle Lanes
 - Safety concerns by existing/would-be cyclists



Previous Work

- Wide separators have been trialled and researched in Victoria, Aust
 - 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?



Product Investigated

- "Riley Kerb" Separators



- Combine with flexible Bollard if required



Sites Selected (in Christchurch)

- Site 1 – Kotare Street

- Inside of curve
- 12,000 veh/day



- Site 2 – Strickland Street

- Approach cycle lane at signals
- Inside shared through/left lane
- 8,000 veh/day



Survey Method

- Video Monitoring of Road User Behaviour
 - Chch CC Camera Van
- Determine level of Motorist Encroachment



- Before/After Installation

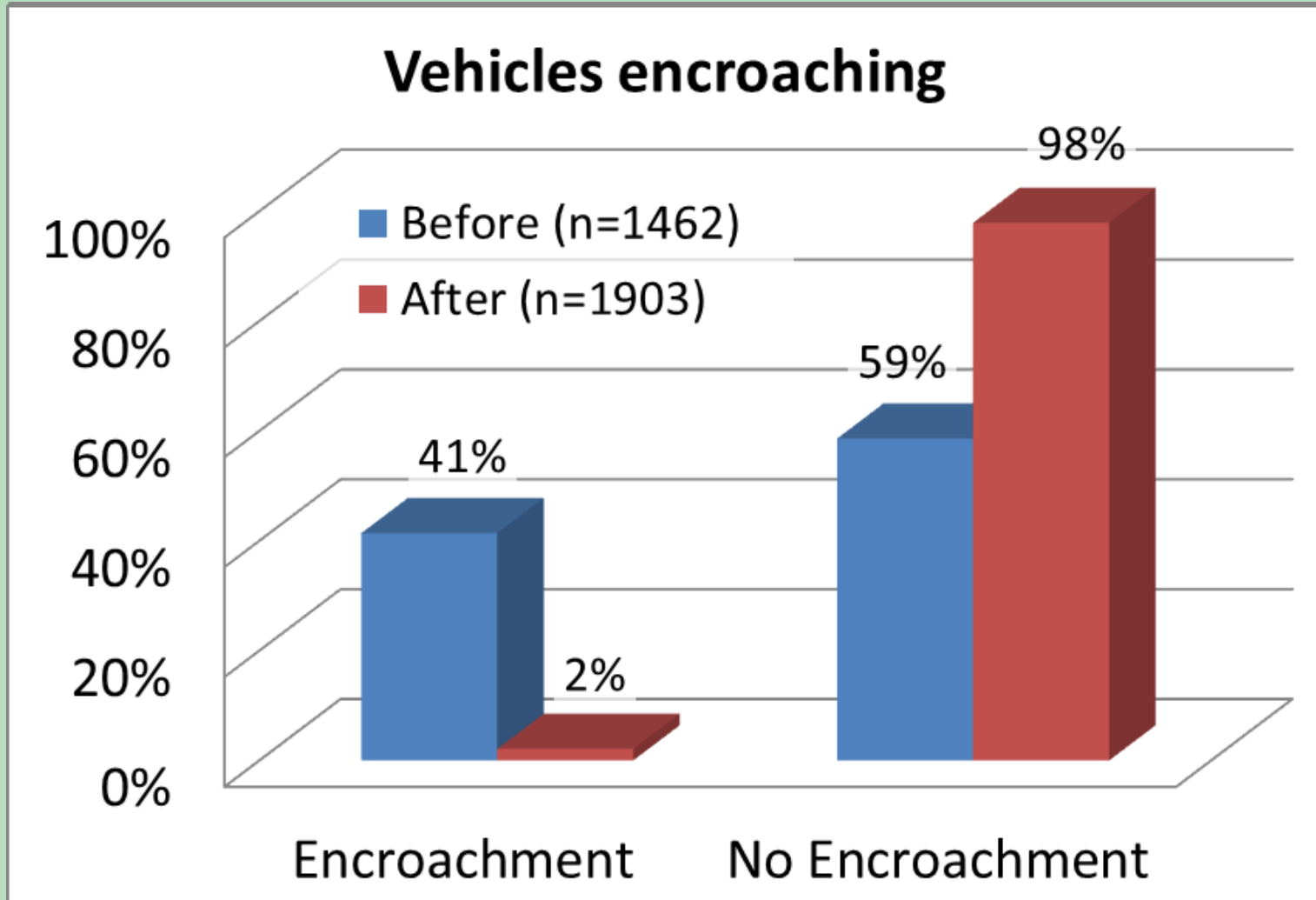
Kotare Street

- Installed 9 Riley Kerbs
 - On Cycle Lane line
 - 1.4 m at narrowest point
- Report of a near-crash
 - Retrofitted 1 Flexible Bollard prior to "After" survey



*Concluded that this should always be done when
cycle lane narrow / cycle speeds high*

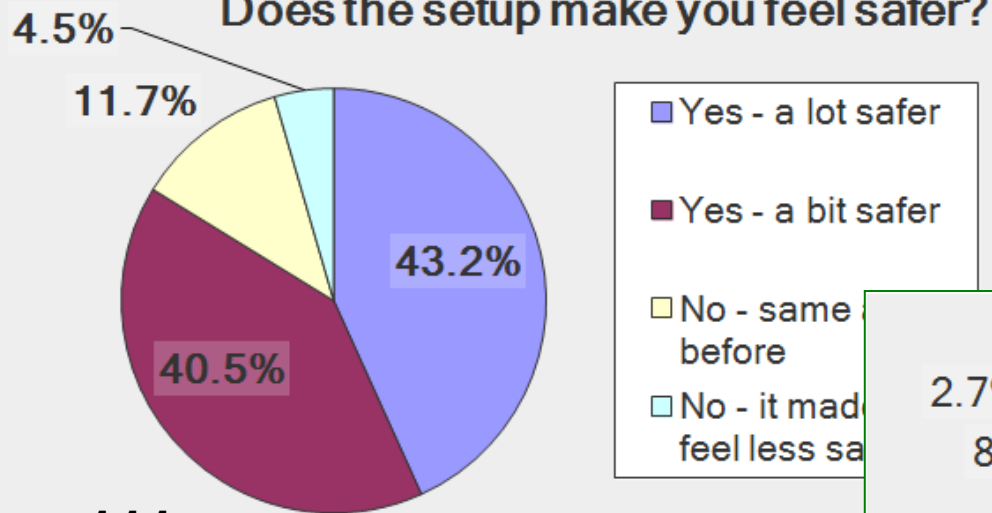
Kotare Street – Driver Behaviour



Kotare Street – Cyclist Perception

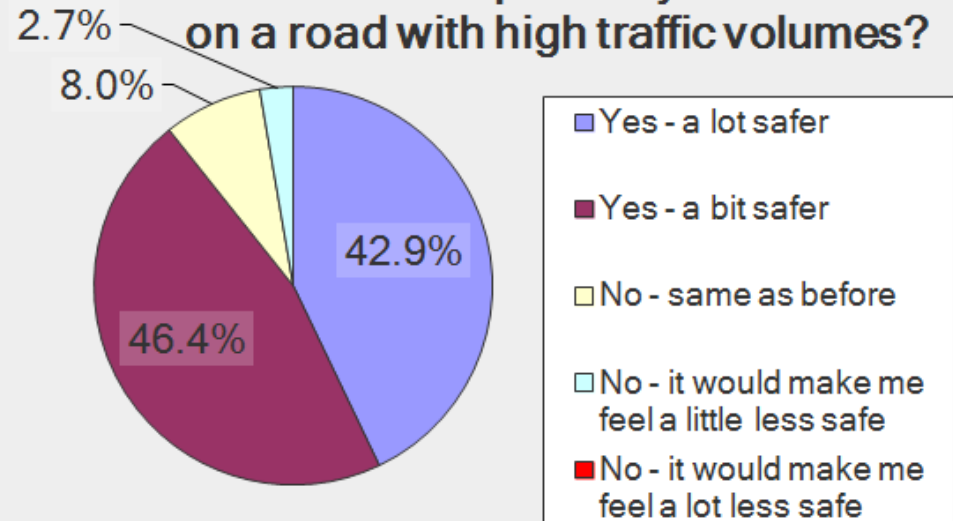
- 37% said bike lane too narrow

Does the setup make you feel safer?



n=111

Would the setup make you feel safer on a road with high traffic volumes?



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."

Strickland Street

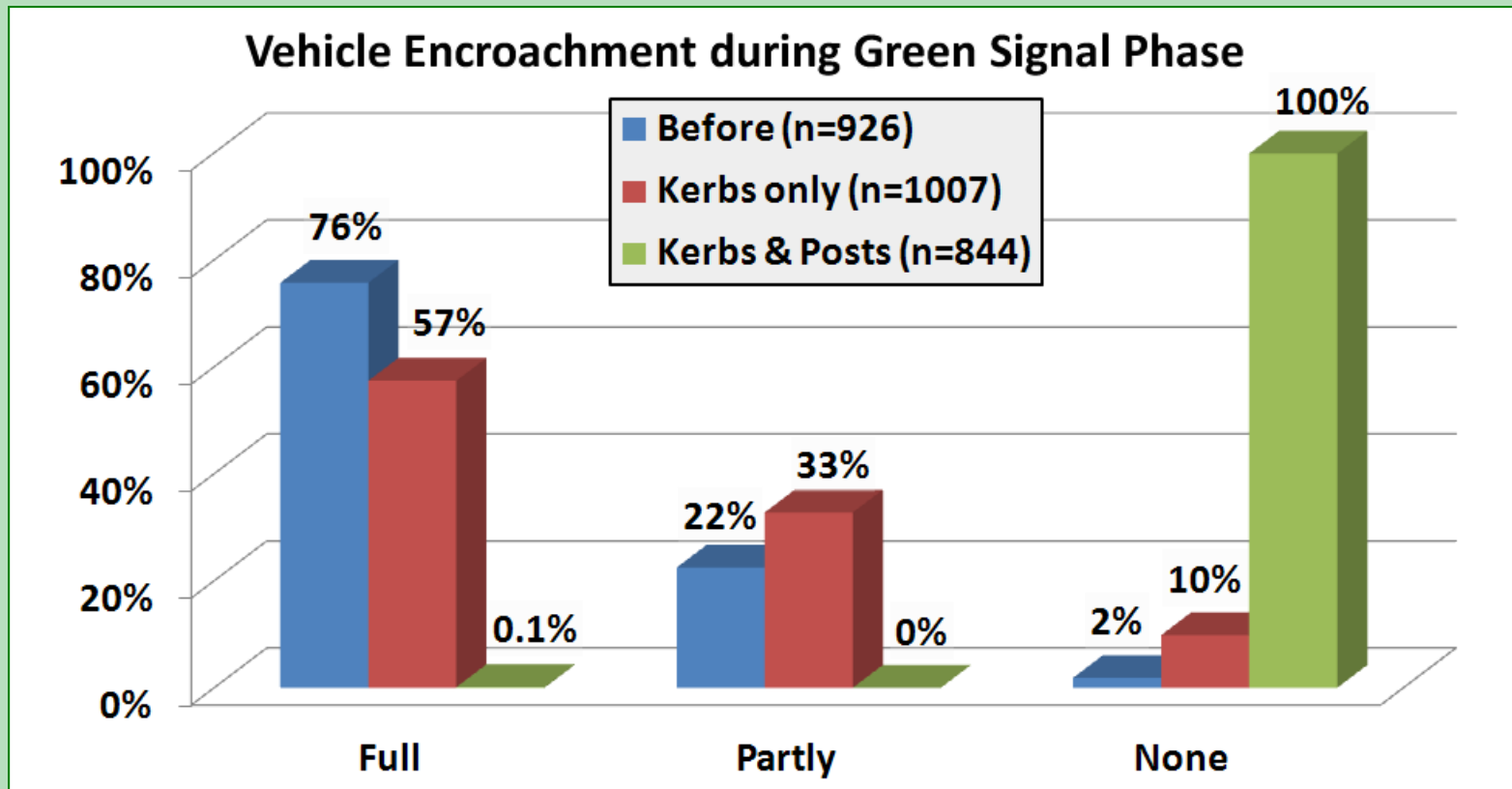
- 1st driver survey (Before)
 - Installed 6 Riley Kerbs at approach to inters'n
 - On Cycle Lane line
 - 1.8 m wide Cycle Lane



- 2nd driver survey (Kerbs only)
 - Effectiveness was insufficient, so 3 flexible bollards retrofitted
- 3rd driver survey (Kerbs and Posts)

Strickland Street – Driver Behaviour

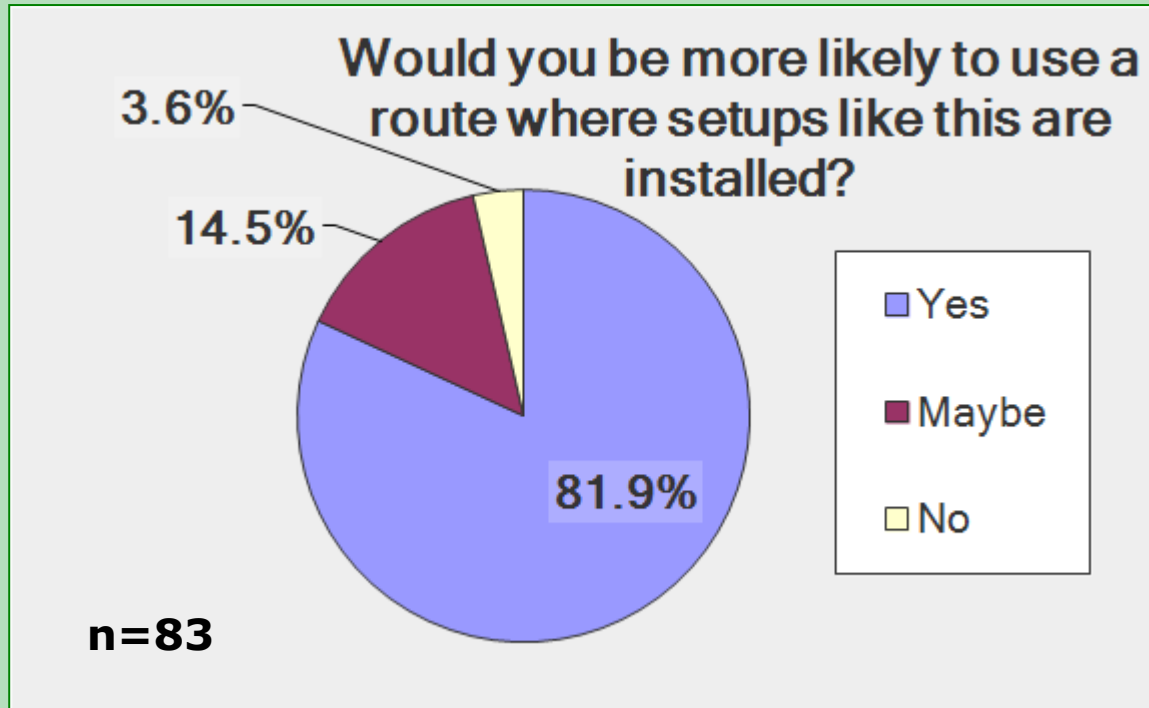
- Significant change in driver behaviour through Riley Kerbs only, but insufficient



Strickland Street – Cyclist Perception



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



Strickland Street – Project History

- Christchurch City Council previously considered widening intersection
 - Separate lane for left turners
 - Prevent "left-turn hook" of thru-cyclists
 - Rejected as too expensive (**\$250k**)
- Current setup is effective
 - Cyclists happy, possibly more so than previous proposal
 - Modification costs **<\$2k**

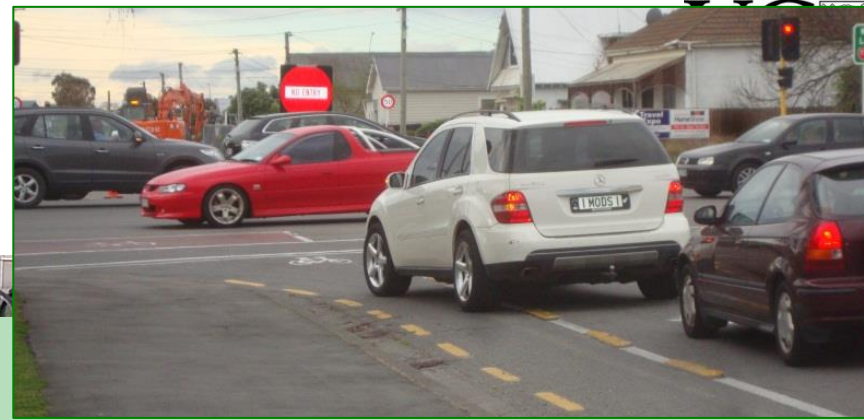
Value for money!

Learnings – Kotare St

- 9 Riley Kerbs + 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



- 6 Riley Kerbs only
 - Change in driver behaviour not sufficient
 - Mixed feedback from cyclists (>60% positive)
- Retrofit 3 Bollards
 - Drivers physically prevented from using cycle lane approaching intersection
 - Mostly positive cyclist feedback
 - Very cost-effective measure at intersections

Thank You!

Any Questions?

