

Laying low to send a signal: Pursuing a trial of low-level cycle signals

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Wellington City Council

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TRANSPORT PLANNING AND DESIGN

Outline

Who's involved?

What is a low-level cycle signal?

The case for low-level cycle signals

Anticipated trial methodology

Additional research outside of TCD trial req's





Who's involved?

WCC as lead RCA, plus AT and PNCC

- Other RCAs that want to be involved should say so now!

ViaStrada will develop the application, lead the trial etc

- RCAs will provide input for their sites – plans, publicity, local assistance etc

Low-level cycle signals (LLCS)

- Smaller than standard – 100 mm diameter aspects
- Near-side
- Cyclist eye-level
- Visible from cycle limit line



The case for low-level cycle signals – 1



Cyclists don't see much of the primary signal

- Cyclists spend more time at the limit line
- Can't see primary signal when waiting under it

Farside cycle signals can be hard to distinguish

- More detailed than roundels or arrows

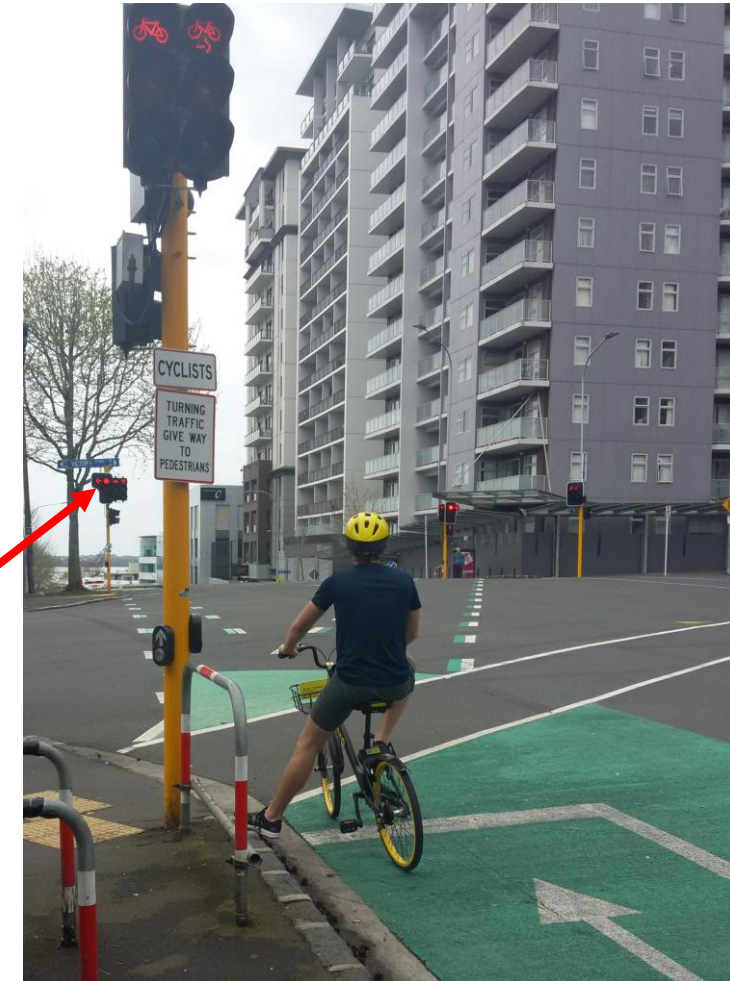
The case for low-level cycle signals – 2

Can be hard to fit in all the signals



The case for low-level cycle signals – 3

Grouping cycle signals + general traffic signals
can result in confusion



The case for low-level cycle signals – 4



Cycleways around a bend

- Doesn't make sense to look to the farside if turning left



The case for low-level cycle signals – 5

Standard primary lantern might point towards a residential property



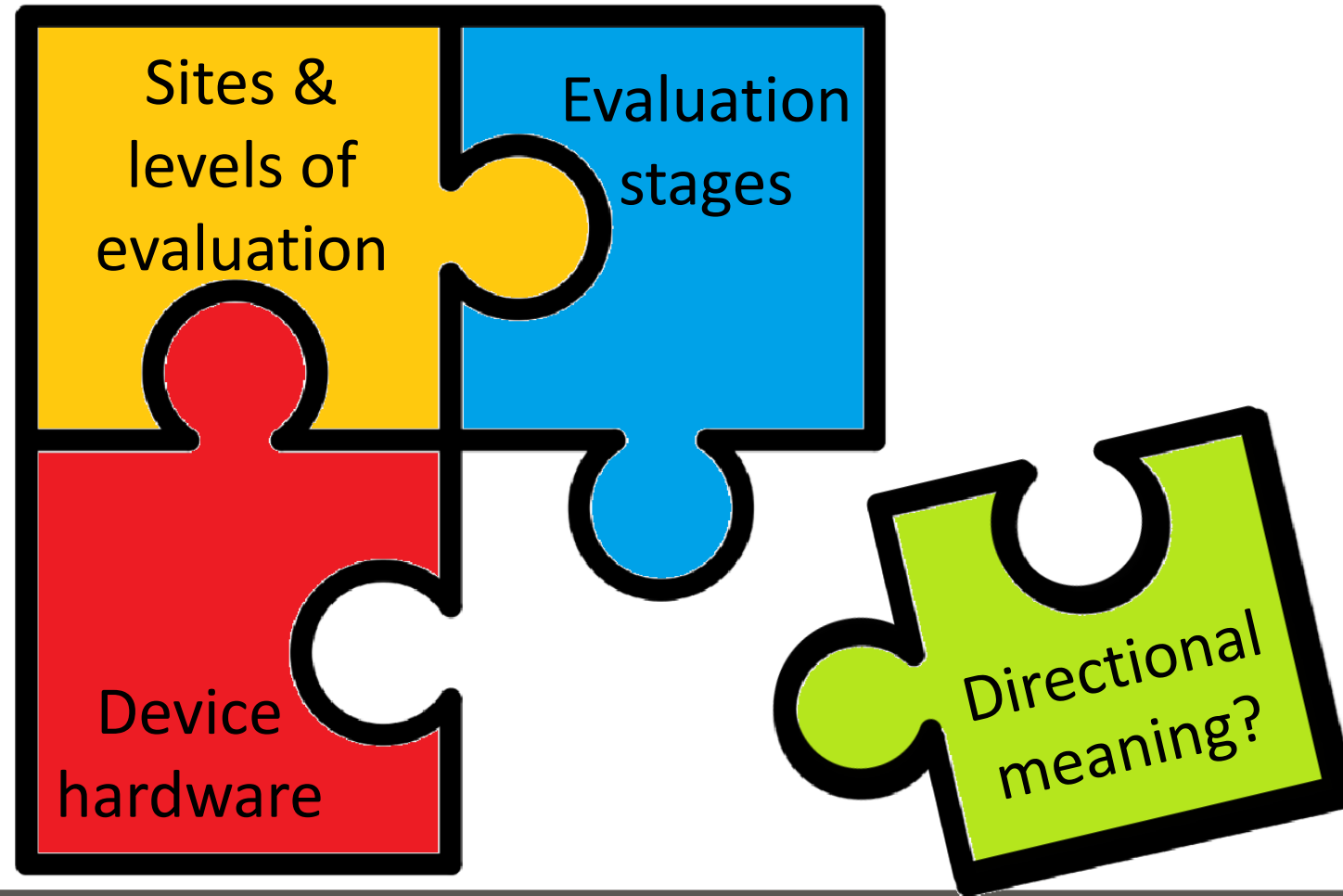
The case for low-level cycle signals – 6

Drivers making false starts when the cycle green leads

- Drivers react to *change*
- Ties in with difficulty in distinguishing farside cycle signals

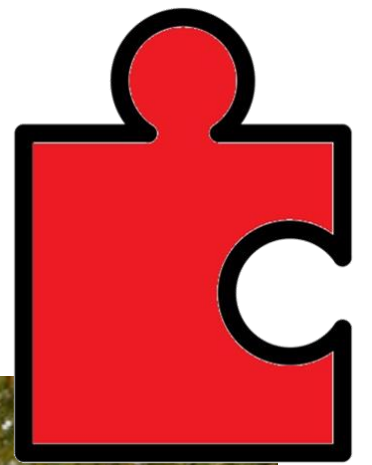


Trial application (work in progress)

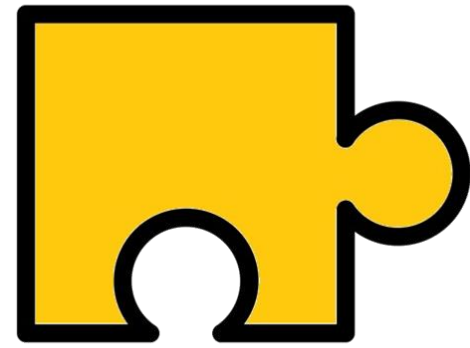


Trial application – device hardware

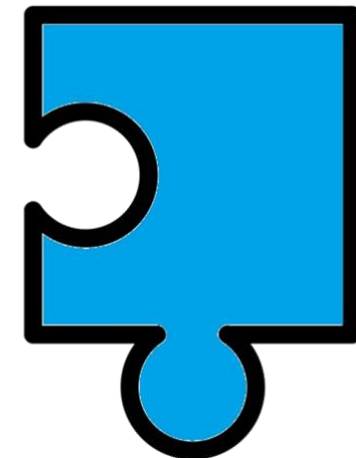
Source existing products already used elsewhere



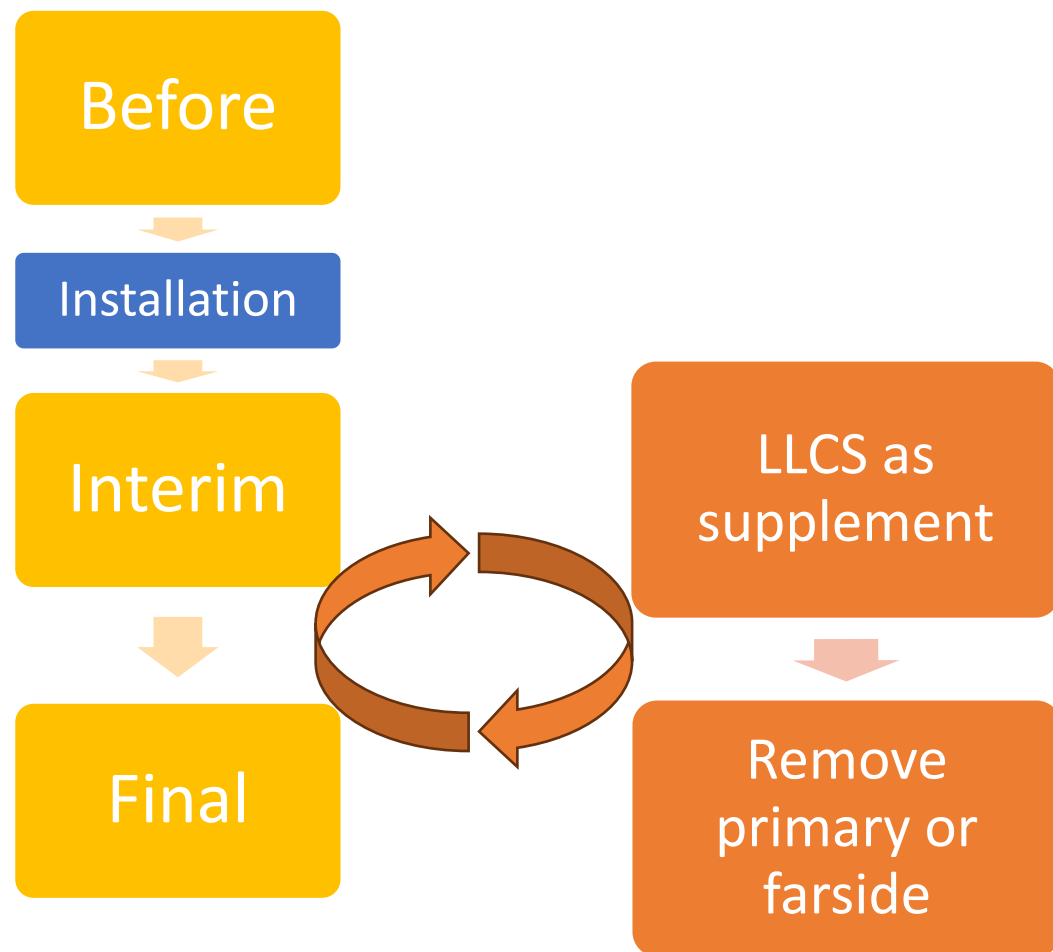
Trial methodology – sites & evaluation



	Main sites	Secondary sites
Evaluation methods	<ul style="list-style-type: none">• Behaviour• Perception	<ul style="list-style-type: none">• Perception• Passive monitoring



Trial methodology – evaluation stages

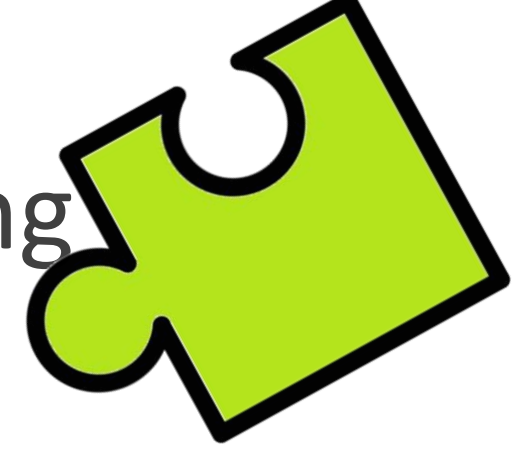


TCD Rule 6.2(1A):

For each approach [...] the RCA must install:

- (a) [...] a limit line [...]
- (b) a traffic signal [...] visible to road users **approaching** the area controlled [...]
- (c) [...] at least one [...] traffic signal [...] visible to road users **stopped**

Trial methodology – directional meaning



- Directional cycle signals trialled, not yet approved
- Ineffective to incorporate arrow into small signals?
- Will consider on a site-by-site basis
 - Likely that LLCs can only be supplementary at directional cycle signals sites



LEFT ARROW



STRAIGHT AHEAD
ARROW



RIGHT ARROW



BEAR LEFT
ARROW



BEAR RIGHT
ARROW

Additional research outside TCD scope

- Maintenance & life-cycle costs
 - Compare different LED options (multiple vs single light source, different products)
 - Costs of various arrangements (LLCS, primary, farside)
 - Product that is strong enough to withstand vandalism
- Impact on streetscape / urban design
- Assessment for vision-impaired users
 - Include Blind & Low-Vision NZ in development and surveys





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