DUAL PEDESTRIAN CLEARANCE SYSTEM (DPCS) AT TRAFFIC SIGNALS

Update on Development

This poster provides updated information on the development of a dual pedestrian clearance system for pedestrians at traffic signals that was first presented to the IPENZ Transportation conference in 2013 (Cook 2013)

What is the Dual Pedestrian Clearance System (DPCS)

- The DPCS allows for two pedestrian clearance (red man flashing) times to be deployed. One time for mobility impaired pedestrians, one time for other pedestrians.

How does it work?

- By the push of the button. A 3 sec push provides mobility impaired pedestrians with a longer clearance time and audible tactile tones. A normal push provides other pedestrians with a reduced clearance time without the audible tactile tones.

Why provide this?

- In some instances the clearance time is still operating after all pedestrians have completed crossing. This contributes to unnecessary delays to those vehicles waiting for the next signal phase . The audible tactiles operate 24 hours a day, only when needed. This reduces noise pollution and the annoyance felt by retailers and residents in close proximity. It also saves on energy costs.

How are the two pedestrian times set?

- The longer time for mobility impaired pedestrians will be based on a walking speed of 1.2m/sec. The shorter time for remaining pedestrians will be based on a walking speed of 1.5/sec. Local conditions may require a variation to these times.

What benefits / costs are estimated?

Facility	Annual Benefit	Cost	B/C Ratio
Existing mid block crossing	$80,000	$3000	150
Existing Intersection	$150,000	$6500	170
New Installation	$120,000	$4000	200

Table 1 - Estimated Benefits for DPCS

What are the types of benefits expected?

- Travel time, fuel and accident cost savings.
- Electricity and carbon emission savings

How were the benefits estimated?

- S-Paramics modeled 36 intersection and midblock crossing scenarios using different roadwidth, traffic and pedestrian volumes.

How do mobility impaired pedestrians know that the "DPCS" system is operating?

- Instruction signage is placed above the call unit. Braille signage is currently under development.

Figure 1: Call unit instruction signage.

Figure 2: Standard Red Man Image

Figure 3: Photo showing four beige DPCS driver units in a controller unit.

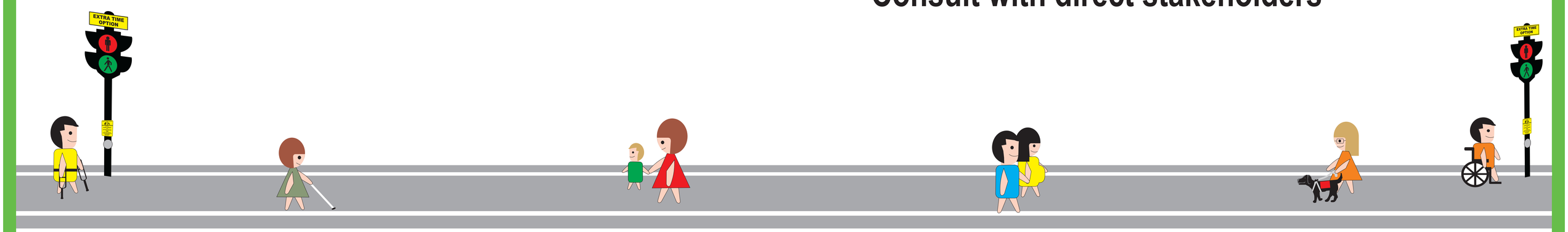
Figure 4: Pedestrians on signalised crosswalk

Are the Dual Pedestrian Clearance Systems installed anywhere?

- Prototypes are being trialled in Timaru and Invercargill.

Next Steps:

- Carry out further installations
- Review and verify benefits and cost estimates
- Consult with direct stakeholders



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