



Dunedin City Council

## Low-cost trial roundabouts

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# Safety Moment

Dunedin City ranks as one of the highest crash risk areas at intersections in New Zealand.







# The problem

- Needed to get serious about upgrades.
- Due to the number of intersections, time and costs a different and more innovative approach was needed.
- The capital cost of installing standard permanent intersection would be cost-prohibitive and take time
- We needed to come up with a quick wins option



## Assessment

- 12 intersections assessed by DCC
- Roundabouts being the preferred intersection treatment



# Design & Consultation

- Concept designs were developed, using only signs, markings, bollards and speed cushions.
- Public consultation was kept to a minimum, with the trials intended as forming the main part of consultation.



Roundabouts

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We are trialling small roundabouts to improve safety at a second group of intersections in Dunedin and Mosgiel. These intersections have problems with speed, traffic congestion, pedestrian safety, a confusing or unclear road layout or drivers cutting corners.



Roundabouts - 1

Roundabouts will make these intersections safer, as all drivers are required to give way to the right and traffic must slow down. This also makes it safer for pedestrians to cross near the intersection.

The style of roundabout used will depend on the size and layout of the intersection. All roundabouts will be painted on the road and may have flexible bollards around the edge. In smaller intersections, raised rubber platforms will be used so large vehicles can cross over them when they are turning. Standard roundabout give way signs and markings will be installed on each approach to the intersection.

# What was done

- 12 roundabouts installed using only road markings, flexible bollards, signs and speed cushions.
- Each roundabout was installed overnight and cost in the range of \$10,000 to \$15,000.
- The conversion took 2 months, and cost of \$155,000.
- A great way to prove and show the public/council how the improvements works.



# Feedback

- The trial sites have been in place since Jan 2019
- Plenty of public feedback – good, bad and funny.
- During the trial, there have been a few amendments following on-site observations and public feedback

I drive through it the other day and it was totally fine. They are a great idea.



2y

I drive along thorn st every day to get to work and back again to get home there are signs saying new road layout and then there are give way signs yes alot of people have and are driving over them and yes they should be raised but I do think they would be beneficial if they were raised that intersection along David and thorn st can be a nightmare at the best of times



2y

Its great now you don't get stuck there in peak hour traffic for ages. That intersection was a nightmare. It's pretty easy to see I don't understand how people dont see the signs or the road markings. 🙄 Do the lights not go in your car or something, I really don't understand how people can't see the give way signs and road markings, you're obviously not concentrating on the road if you don't see them.

2y · Edited

Waste of time really. Too many people just drive straight over them. ...

Like · Reply · 2y

Its BS the one at the shetland chapman st intersection is oversized off centre and given the gradient of the street completely impractical as a roundabout

Does it matter if it's painted? The point is it lets drivers know that standard round-a-bout rules are in effect.

I mean, we've been able to keep in our own lane by a series of painted lines for decades and no ones complained...



2y · Edited

It makes no difference what it looks like it is a simple roundabout with simple easy to follow rules that only an incompetent driver could not follow. There are give way lines on the road and that should be enough of a warning. Maybe some need to redo their driving lessons and stop blindly driving through intersections



2y

ODT! Could you please print the roundabout NZTA rules in the paper & online for all these people who don't know how to use them! It would be far more useful than finding complainers. Clearly these people got their licenses before roundabouts were in common use!



2y



Top fan

It's about how you use the circle not the size of the circle matters

2y



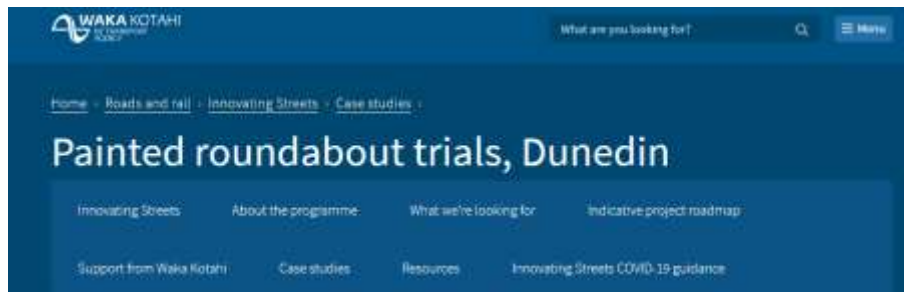


## What was learnt

- Temporary Traffic Management needed for longer
- Use speed cushions
- Consultation made easier
- Great for getting a forward works programme up and running.







## The problem

Rising traffic volumes have put strain on several low-risk residential intersections around Dunedin, as well as on many which were already a priority for upgrades. Limited visibility and acute approach angles posed further safety issues at some of these intersections. Dunedin City Council (DCC) therefore wanted to improve the safety and efficiency of these intersections, but the capital cost of installing standard permanent upgrades across all of them would be cost-prohibitive. In order to improve multiple intersections, upgrades therefore needed to be light and low-cost.

### Tags

OTAGO

## What was learned

Before and after video data collection is ongoing and will be used to monitor road user behaviour at the trial sites. DCC received a lot of feedback, both negative and positive:

- most people understand why the trials are being done
- key stakeholders and bus operators are in favour of the roundabouts
- drivers are often surprised by the new intersection layouts appearing suddenly
- social media responses show little negative sentiment but decreasing while approval or acceptance of the changes is rising.

Lessons learned include that:

- 'new road layout' signage is insufficient to alert drivers to the new layouts; additional traffic management measures would be beneficial for the first few days
- speed humps on the central islands substantially increased the visibility of the new central islands in darkness and when it was wet
- reflective flexible bollards to mark the new painted medians and intersection edges further increased the visibility of the new layout
- design sector consultants need reassurance around the development of new standard traffic control device designs.



## How the project responded

DCC installed trial roundabouts at 11 unupgraded intersections to test roundabout sizes and layouts. As well as installing a smaller layout than usually designed for permanent changes, the trial format meant small changes on-site could easily be carried out. The changes included:

- 'new road layout' signage
- painted central islands and road markings
- narrower traffic lanes
- speed humps on the central islands at half of the intersections only
- 'zip lanes' for people on bikes at the Musselburgh intersection only.

The changes were intended to improve safety by:

- slowing vehicles
- reducing pedestrian crossing lengths
- encouraging cyclists to take the lane (or use the dedicated slip lanes at Musselburgh).

By making initial changes as a trial, the changes were likely to be better received by the public, as they can be adjusted or removed if they prove not to be functioning well. Following the initial roll-out, changes included adding speed humps to the central islands of those originally without, and installing reflective flexible bollards along the intersection medians and edges.



Adjusted trial roundabout layout. Credit: Dunedin City Council.



Adjusted trial roundabout layout. Credit: Dunedin City Council.

# Support from Waka Kotahi

## Innovating Streets

[https://www.Painted roundabout trials, Dunedin | Waka Kotahi NZ Transport Agency \(nzta.govt.nz\)](https://www.Painted roundabout trials, Dunedin | Waka Kotahi NZ Transport Agency (nzta.govt.nz))







**THANK YOU FOR  
LISTENING  
AND GOOD LUCK TO  
ALL THE OTHER  
3M FINALISTS**

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