DESIGNING FOR CYCLISTS

This is the first of what will hopefully be an ongoing series of articles on the design of cycling facilities. All feedback please to Glen Koorey (koorey@paradise.net.nz).

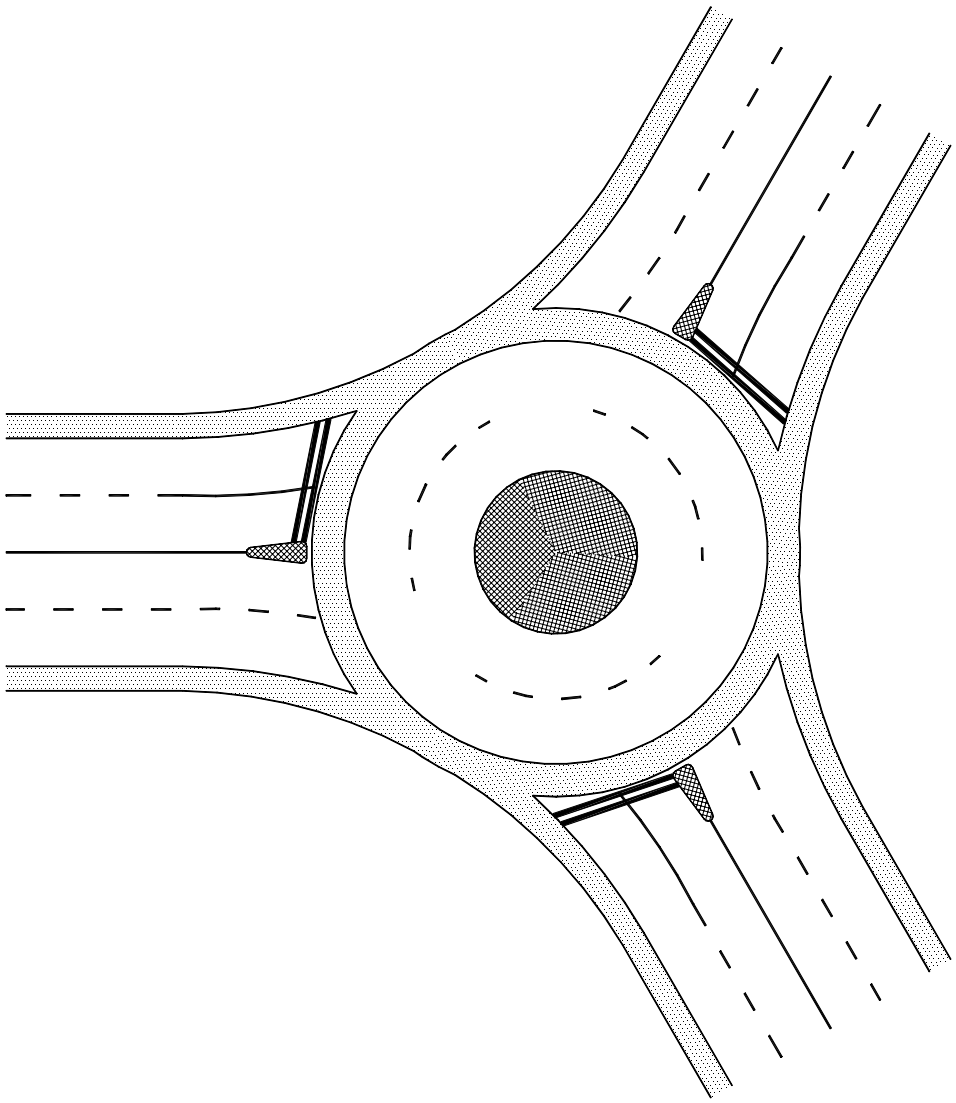
Magic Roundabouts and Magic Carpets

It's a problem that's vexed engineers for many years now: how to build a roundabout that cyclists like. Particularly when the roads in question are multi-lane. We're not going to solve the problem right here, but we'll start to toss around a few ideas that have been looked at.

Irrespective of any special facilities, a roundabout is much better for cyclists if you **slow traffic down**. Ways to do this include:

- Narrow down the approach lanes (perhaps allow for cyclists to avoid this pinch point?)
- Provide for large deflections through the roundabout, requiring small radius paths (provide a mountable apron if need be for trucks)
- Cut down on large approach sight distances that may cause motorists not to notice cyclists closer to the intersection and speed through.
- Why not provide speed humps on approaches?

A design that's been tried in the past overseas, and is sometimes advocated here, is to provide a concentric cycle lane around the roundabout on the road edge, i.e.



(invariably annotated with lots of little cycle logos as well)

This is designed to provide a clearly defined route for cyclists to travel around to their exit, separate from motorists. By colouring it, the lane stands out for motorists, (in theory) raising their awareness of cyclists

around. And ideally, the rule is that vehicles crossing this circulating lane should give way to those travelling on it.

There's just one small snag: motorists have an annoying tendency to not always accept that they should give way, especially when exiting the roundabout. And until LTSA changes the current cycle lane rules in New Zealand, legally they don't have to here (anything less than 2.5m is not a legal lane). The so-called "magic carpet" effect of a cycle lane may also encourage cyclists to think they were automatically safe on this route and not take due care. You may also need little kerb islands to prevent left-turning motorists from cutting corners.

So while the approach appears promising, the reality is usually not all rosy. Interestingly, when such a layout was first trialled overseas, cyclists felt that their trip was much better, despite the fact that the crash record did not improve. One possible way to reinforce the presence of the cycle lane would be to raise it like a pedestrian threshold. That way, at least traffic would slow down to go over it, hopefully minimising the likelihood or severity of any crashes.

Cycle lanes on the approach legs and in front of the entry lanes can still be a valuable way of assisting cyclists, particularly in conjunction with surface colouring and lots of logos. But marking them across exiting lanes should be avoided and cyclists wishing to carry on around will have to check first for exiting traffic or, better yet, ride with the traffic.

Even in the Netherlands, where cyclists have the legal right of way in a roundabout, the ongoing crash problems with circulating cycle lanes caused them to consider other options. Standard practice for major roundabouts there now is to provide separate off-road cycle tracks. We'll look at these in another article.

Suggested Local Reading

- Austroads, 1999. *Guide to Traffic Engineering Practice, Part 14: Bicycles*, Section 5.5.2 (Roundabouts)
- Wilke & Koorey, 2001. How safe are roundabouts for cyclists? *TranSafe*, Issue 5, April 2001.
- Clark & Appleton, 2000. *The Ins and Outs of Roundabouts*, Transfund New Zealand.

(there are also a number of good European guides such as the CROW and Sustrans manuals)