

Planning & Design For Cyclists

ALL THE RIGHT SIGNALS

Last time we looked at some of the treatments used to make turning right easier for cyclists. This time we're going to focus specifically on traffic signals. The fact that traffic in each direction of a signalised intersection stops for a certain time can be particularly useful when trying to provide for cyclists. Here are some ideas:

- Advanced stop boxes (ASBs) can provide storage space in front of motorists, for cyclists wishing to move over and turn right. In this way, cyclists can approach an intersection to the left of through traffic, and then shift across while waiting for the lights to change. The only difficulty is when the lights are already green, in which case cyclists are on their own again. Note, in the picture below, that the ASB is in front of a combined straight-through/right-turn lane. This ASB minimises the problem of having right-turning cyclists to the left of straight-through traffic, but where possible you should avoid combined lanes like this.



- If the turning demand is strong, provide an additional cycle lane for right-turners. The adjacent figure shows an example of one, approaching some traffic signals (a coloured surface would help make it stand out more). Note how the central median island has been cut out and re-kerbed to provide enough space for everything - don't be told there isn't enough room!



- One way to keep cyclists on the left-hand side instead is to provide "head start" cycle signals that allow cyclists to turn right before the main traffic starts. The figures below show such an operation. Cyclists wishing to turn right push the button on the pole and then wait for the green cycle signal, while everyone else is still stopped. Note that this can only be provided where there is spare intersection capacity (i.e. time available to fit this phase in).



*Sign says "RIGHT TURN
PRESS BUTTON"*



- A variation on the turn-from-left approach is the "hook turn". This allows less confident cyclists to make a right-turn in two stages while staying on the left side. First they cross straight over the intersection to wait in a special area (see adjacent picture). Then when the lights change, they can go across with the side road traffic. In New Zealand this technique was first trialled on Memorial Ave in Christchurch (see *ChainLinks* Aug-Oct '02 for more details).



In some locations you may need to provide a combination of the solutions suggested above (and in the previous Planning/Design article), to cater for both experienced and less-confident cyclists.

Some Relevant Reading

- Austroads 1999, *Guide to Traffic Engineering Practice, Part 14: Bicycles*, Section 5.4 (Signalised Intersections).
- Christchurch City Council 2001, *Marking of Advanced Cycle Lanes and Advanced Stop Boxes At Signalised Intersections*, provides some useful research on the effectiveness of some treatments. Web: <<http://www.ccc.govt.nz/Recreation/Cycling/TechnicalResearch/>>
- CROW, 1993. *Sign up for the Bike: Design Manual for a cycle-friendly infrastructure*, Section 6.3.4, discusses design options for "junctions with traffic lights".
- VicRoads 2001, *"Head Start" Storage Areas at Intersections* (Cycle Note No. 5), provides more detail on cycle storage box layouts.
Web: <<http://www.vicroads.vic.gov.au/vrpdf/trum/tr1999058.pdf>> (82kB)

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