PLANNING AND DESIGN FOR CYCLING

The Retro Look

With the recent release of the *NZ Supplement to Austroads Part 14 (Bicycles)*, we now have consistent guidance on what cycling facilities to provide in New Zealand.

One thing lacking is handy guidance on the minimum road widths required to achieve various traffic lane configurations. A lot of cycle provision work consists of "retro-fitting" cycle facilities onto existing roads. This requires some understanding of what can reasonably be accommodated within various road widths.

The table below enables designers to quickly identify what configurations are practically feasible in their particular situation. Note that these are **not** "desirable minimum" widths; it is expected that greater widths would be used when providing for cyclists on new roads or when kerb replacement is proposed.

Suggested Minimum Road Carriageway Width Table

Minimum Carriageway Width Required for...		No Parking		Parking on One Side		Parking on Both Sides	
		50 km/h	*70 km/h*	50 km/h	*70 km/h*	50 km/h	*70 km/h*
Two-lane carriageway	with wide kerbside lanes	8.0m	*8.4m*	10.3m	*10.7m*	12.6m	*13.0m*
	with cycle lanes	8.4m	*9.6m*	10.9m	*12.2m*	13.4m	*14.8m*
	with flush median & cycle lanes	10.9m	*12.1m*	13.4m	*14.7m*	15.9m	*17.3m*
Four-lane carriageway	with wide kerbside lanes	14.0m	*14.8m*	16.3m	*17.1m*	18.6m	*19.4m*
	with cycle lanes	14.4m	*16.0m*	16.9m	*18.6m*	19.4m	*21.2m*
	with flush median & cycle lanes	16.9m	*18.5m*	19.4m	*21.1m*	21.9m	*23.7m*

The assumptions used for the above calculations are based on these minimum values from the *NZ Supplement* and elsewhere:

	(50 km/h)	*(70 km/h)*
▪ Basic traffic lanes:	3.0m	3.2m
▪ Wide kerbside lanes:	4.0m	4.2m
▪ Basic cycle lanes:	1.2m	1.6m
▪ One side of parking + cycle lane	3.7m	4.2m
▪ Flush median: (could use narrower sometimes)	2.5m	2.5m

These values assume a flat kerb in good condition, so that all widths can be measured from the kerb face. Also, lane marking widths have not been separately allowed for; they are assumed to straddle the lanes in question. For arterial routes where a significant proportion of heavy vehicles are present, basic traffic lane and flush median widths could be slightly widened. Ideally, parking lane widths should be 2.0m (or less); additional buffer space should be added to the cycle lane or wide kerbside lane width.

When using the above table, the signposted speed limit should be used unless operating speeds are known to be significantly higher. You can interpolate/extrapolate for other road speeds.

There are a number of caveats to the above values, and you should pay close attention to the notes that accompany the relevant parts (Section 4.4) in the *NZ Supplement*. But the above table provides a handy starting guide to see what can be reasonably retro-fitted to existing roads to help cyclists.

Remember that there are other tricks available to find space for cyclists (e.g. "road diets"), so refer to Section 4.3.2 in *Austroads Part 14* and the previous *ChainLinks* design article on this topic (Jan-Mar '03).

Some Relevant Reading

- Transit NZ, 2004. *NZ Supplement to the Austroads Guide to Traffic Engineering Practice Part 14: Bicycles* (draft Oct '04) should be your first port of call for cycle design standards in NZ. Web: ***http://www.transit.govt.nz/technical_information/view_manual.jsp?content_type=manual&=edit&primary_key=43&action=edit***
- Austroads, 1999. *Guide to Traffic Engineering Practice, Part 14: Bicycles*, is the key document that the *NZ Supplement* refers to and should also be on your bookshelf.
- G.Koorey, 2003. "Space – The Final Frontier", *ChainLinks Jan-Mar '03*, summarises some of the techniques available to find a bit more space on the road. Web: ***http://www.can.org.nz/technical/***

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