

Traffic control devices manual

Part 4 – Traffic control devices for general use – for intersections

FEEDBACK FORM

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This submission is made on behalf of the Transportation Group NZ (TG). The National Committee members have compiled this submission and sought feedback from other interested TG members.

Transportation Group NZ is a Technical Interest Group of Engineering New Zealand with approximately 1,200 members in total (approximately half being engineers). Membership is made up of transportation, traffic engineering, and planning professionals working in central government, local government, academia and the private sector.

This submission has been developed initially by a National Committee member with input from other interested people, and then feedback sought on that draft from the wider membership. As much as possible we have focused on areas where our members have some expertise in the matters being discussed, rather than being general opinions. In presenting our final view, we acknowledge that there may be a few dissenting views to some of the matters presented.

Please ensure you include the relevant reference details that relate to your comment. See example below.

CLAUSE	PAGE	FIGURE	TABLE	EXAMPLE COMMENT
4.6.5	110	n/a	n/a	Example: The signs shown in the photos and in Table 4-5 look eminently suitable for stopping bays. They appear to be in the same format as slow vehicle bay signs, which drivers are familiar with.

CLAUSE	PAGE	FIGURE	TABLE	YOUR COMMENT
General comment	4			We support the provision of the final TCD Part 4 in HTML website format; the equivalent conversion of TCD Part 5 has made it quite easy to use. In both cases this approach will make it easier to update small sections as required, and to link to/from other relevant online guidelines (e.g. PNG, CNG). However, one suggestion we would have is to retain some form of numbering of the relevant sections and sub-sections in the headings, which will make it even easier to refer people to the relevant reference even without a specific (often long-winded) URL.
General comment				There are a number of blank pages throughout this draft document that should be removed. Also some captions are not connected on the same page to their relevant table/figure.
General Comment				Throughout the Manual (and also Part 5), signs are referred to by a “Sign Code” as per Schedule 1 of the TCD Rule. However the Waka Kotahi Traffic Sign Specifications also use a “Code” (generally superseding the old MoTSaM ones) to uniquely identify each sign, and this may be preferred by many designers and sign suppliers when searching for a particular sign. We recommend that these codes are also listed in these Manuals for completeness; otherwise it begs the question of why they are even listed in the Sign Specifications at all.
General comment				A number of sections throughout the document refer to various section numbers within TCD Manual Part 5 (between intersections). However, the latest version of Part 5 is only provided as an HTML site without any numbering. As mentioned above, even if these are converted to hyperlinks in the final version, retaining section numbers in both parts would be very useful.
General comment				There are a number of places in the Manual where a particular layout figure is referred to that is a long way from the relevant text, e.g. often placed right at the end of a section. E.g. Section 4.4 on staggered intersections (p.39–41) refers to figures found on pp.55–58. This makes it difficult for the reader to relate the text information with the relevant graphical information.
General comment				We have a general concern that many figures in the draft Manual demonstrate outdated or “business as usual” treatments, rather than best practice for safe systems or supporting active modes. It is probably naïve to assume that a novice designer will know to combine a base layout plan in this Manual with the necessary additional elements to achieve this. We suggest that additional text and graphical prompts should be included by default in most plans, e.g. pedestrian crossing points should be shown, kerb corner radii should be tight, controlled pedestrian crossing points and intersection approaches should utilise raised safety platforms, intersections should feature cycling provision of some form (shoulders, lanes/paths, ASLs, ASBs, hook turn boxes, etc).

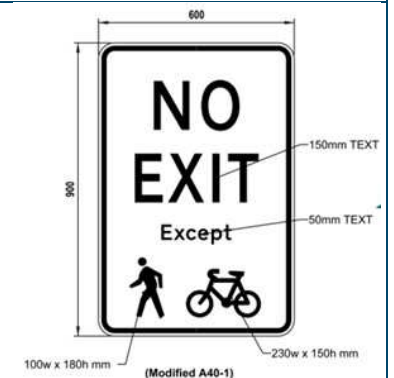
CLAUSE	PAGE	FIGURE	TABLE	YOUR COMMENT
2.1.2	16	2-2		The true definition of a Y intersection (and as indicated by the equivalent yellow diamond sign) is that NONE of the legs line up – the figure shown here is just a non-perpendicular T-intersection.
2.1.6	17	2-6		Some street names are listed in the text but none are shown in the figure
3.3.1	20		3-4	Now that a “top of the T” give way rule exists for uncontrolled intersections, should we still be using these signs? E.g. would the use of W11-4 signs (Table 4-9) make more sense?
3.3.1	21		3-4	It is probably worth stating that these W11-5.1 “Y-intersection” signs should be used sparingly, given their safety issues, and other treatment measures employed instead
4.1.2	25			The description for when a STOP control should be used is quite wordy with various numbers and not easy to interpret – suggest providing a table that summarises the key calculated values for different 85% ^{ile} speeds
4.2.1	26-27	4-1	4-1	The length dimension in the Figure does not align with the dimensions given in the Table; using the dimensions in the Table would also require another calculation to determine the proportionate thickness of the top line (shown as “600mm min” in the Figure for a 2.5m triangle)
4.2.5	29			We agree with the note for industry feedback regarding side road tapers.
4.3.1	32		4-7	A number of supplementary signs regarding cyclists and pedestrians are quite wordy, which will make it hard for some users to comprehend them quickly – why can’t these be simplified to use pedestrian / cyclist symbols?
4.3.4	37-38		4-13	There may be locations (e.g. due to backdrop) where a W20-1.2 chevron is still more conspicuous than W20-1.4
4.4.1	40			Towards the end of item (a), around “Figure 4-19”, there is some garbled text
4.6	42	4-6		This figure needs a bit more cropping and zooming; there are more than two intersections shown.
4.6.1 & 4.6.2	42-43		4-14 & 4-15	We agree with the dimensions for and the underlying thinking of the priority intersection centre/lane lines being different through intersections than the standard lines.
4.6.2	43			Under the reference to use of raised pavement markers should be a note warning of their potential hazard to motorcyclists and cyclists

CLAUSE	PAGE	FIGURE	TABLE	YOUR COMMENT
4.10	45			<p>Note that the “Pedestrian Planning and Design Guide” will soon be superseded by the Pedestrian Network Guide (PNG) – please link accordingly to it.</p> <p>In the matters to be considered, this section should also recommend the use of raised platforms where possible, especially on minor roads, and refer to the relevant Manual sections for further guidance.</p> <p>The Manual notes “Drivers who stop for pedestrians may block the intersection”; however, equally it is possible that drivers who stop for the intersection may block pedestrians.</p> <p>In noting that “The entire length of the pedestrian crossing must be visible to approaching drivers” it is worth clarifying that, for a ped crossing split by an island, only the relevant crossing (and adjacent kerbs) need to be visible.</p>
4.11.1	45			<p><i>“Cycle lanes should not be marked to the left of the general traffic lane up to the limit line on a controlled approach to an intersection where there is the potential for left turning traffic and straight through cyclists to come into conflict. Consideration should be given to taking cyclists onto an off-road path or to terminating the cycle lane no less than 30 m in advance of the limit line.”</i></p> <p>There is <u>always</u> the potential for conflict in this situation, and there are also a variety of measures, including coloured surfacing, separators, speed management, and signal phasing. To suggest that we go back to old design guidance to discontinue cycle lanes at intersections is not helpful.</p>
4.11.2	46			<p>There is some potential confusion in the use of the terms “cycle lanes” and “cycle paths” – when it comes to the provision of separated/protected on-road cycleways (as are commonly built these days), some people refer to these as “cycle lanes” while others consider them “cycle paths”, both of which are quite different entities again. Please be consistent with the terminology used in the Cycling Network Guidance (CNG), which refers to these as “separated cycleways”.</p>
4.11.2	46	4–9		<p>The latest guidance for cycle lane markings uses striped blocks of green across side roads rather than a continuous block. We note also that the only figure of a path at a side road shows it giving way to the road, when it is possible to provide a treatment that gives the path priority instead.</p>
4.11.3	46–47	4–10		<p>The use of “shared path begins/ends” signs at each side road along a pathway is unnecessary sign clutter that serves no useful purpose for users already along the route. Consider the use of shared path markings only at these locations; the TCD Rule allows for substitution of regulatory path signs with the equivalent markings instead.</p>
4.11.5	48			<p>Just noting that the driveway visibility sight triangle requirements currently being developed by Waka Kotahi (and likely to replace RTS–6) are not yet covered here.</p>

CLAUSE	PAGE	FIGURE	TABLE	YOUR COMMENT
4.13.5	60	4-22		The no stopping line in this figure is marked as “(optional)”. There is a long discussion in the CNG about kerbside cycle lanes and no stopping lines, which includes the following quote: “broken yellow lines need to be installed in kerbside cycle lanes if the objective is to keep these lanes free from illegal parking.” In the spirit of this, it would be more appropriate to use the wording “(recommended)” on these drawings. https://www.nzta.govt.nz/walking-cycling-and-public-transport/cycling/cycling-standards-and-guidance/cycling-network-guidance/designing-a-cycle-facility/between-intersections/cycle-lanes/
4.13.5	60-61	4-22, 4-23		As noted in 4.11.2, the latest guidance for cycle lane markings uses striped blocks of green across side roads rather than a continuous block.
5.3	63			“ <i>The Waka Kotahi Cycle Network Guidance and Pedestrian Network Guidance should also be referred to when considering how cyclists are to be accommodated at roundabouts</i> ” – presumably this is meant to also refer to how to accommodate pedestrians? It is notable too that very few of the typical roundabout layout plans even indicate a hint of any pedestrian crossing facilities – without needing to provide detailed specifics, the mere presence of a treatment like a splitter island cut-through on a plan would ensure it is at least thought about.
5.4.5	64			Although the use of sharrows are mentioned for low-volume/speed roundabouts, it would be helpful to actually show some on some of the layout plans in Part 4 (with a suitable reference to where they should use them) to remind designers to consider them e.g. Figure 5-2(a).
5.5	70			Note that the “Pedestrian Planning and Design Guide” will soon be superseded by the Pedestrian Network Guide (PNG) – please link accordingly to it. This section needs to also refer to section 13.5 of this document where you already have a better example of what to do for peds at roundabouts. We suggest a better less victim-blaming term than “ <i>poor gap selection by pedestrians</i> ” – e.g. “ <i>...can make it difficult for people to find safe gaps</i> ”
5.5.1	70			The Manual notes “Drivers who stop for pedestrians may block the intersection”; however, equally it is possible that drivers who stop for the intersection may block pedestrians.
5.6.2	72			As mentioned previously, suggest a better less victim-blaming term than “ <i>poor gap selection by users</i> ” – e.g. “ <i>...can make it difficult for people to find safe gaps</i> ”

CLAUSE	PAGE	FIGURE	TABLE	YOUR COMMENT
5.11	74–80	5–4 to 5–10		We suggest that each roundabout diagram should have a note " <i>refer to separate guidance xyz for how to provide for walking and cycling as part of this layout</i> ". And as well as just referring the reader to look at the CNG/PNG or the relevant bits of TCD Part 5, you could also illustrate as a prompt some of the salient concepts in some of the diagrams, e.g. show some ped crossing points/platforms in Figure 5–4
6 and 6.2	81			Please update the weblinks to the traffic signal National Specification – it should be http://snug.org.nz/specifications/
6.4.8	85			<p><i>"The outside crosswalk line must be inset at least 600 mm from the projected edge of the kerb of the intersection, shown in Figure 6-16 and Figure 6-17."</i> It is probably clearer to refer to this as the "inside" line (i.e. inside of the intersection), and should show dimensions on the actual figures.</p> <p><i>"The limit line for vehicles should be no closer than 1 m to the nearest crosswalk line"</i> This is one of the great inconsistencies, as we only do that at T and cross intersections. At signalised slip lanes, the setback is to be 6 m (at least according to Austroads guidance, which we tend to follow; should this setback be part of this manual?), and at zebra crossings, the setback is to be 5 m (as stated in section 4.10 and the TCD Rule). Why do we have such large setbacks for zebra crossings and signalised slip lanes, when it is OK to have virtually no setback from other crosswalks?</p>
6.7	90			As noted earlier, the terminology "cycle path" and "cycle lane" are commonly used but there may be some confusion when it comes to an on-road "separated (protected) cycleway" – some will think this is a "cycle lane" while some will think this is a "cycle path", when technically it's neither. Please clarify. Note that the "NZ Cycle Network Design Guide Online Framework" is an outdated name for this; it's called the Cycling Network Guidance (CNG).
6.7.1	91	6–8		There is not great cycle lane continuity shown here across the left turn lane...
6.7.1	94	6–11		We would suggest marking sharrows in the lefthand lanes, as per current best practice
6.7.3	96	6–12		This figure is problematic for several reasons. What exactly is the purpose of the hook turn box in the upper left corner? Why are there ASBs in front of straight-only traffic lanes? Please fully review this figure.
6.7.3(c)	99		6–4	A minimum area of 3 sq.m is indicated. However, a lot of boxes on the ground (and shown in these plans) appear to be 1.5 x 1.5m = 2.25 sq.m. Why not say that one side has to be at least 2m (i.e. 2x1.5) and show them like that in the diagrams?

CLAUSE	PAGE	FIGURE	TABLE	YOUR COMMENT
6.7.3(c)	101	6-15		<p>The hook turn boxes in these diagrams don't look like they are 3 sq.m.</p> <p>This hook turn box placement in (b) seems to be trying to avoid being in line with both the E-W and N-S cycle lanes, which fails to understand how they work – it's perfectly fine (and indeed recommended) to be in line with the N-S cycle lane because that's where the riders are turning towards.</p> <p>It would also be useful to consider showing hook turn boxes for separated cycleways, including two-way boxes as per Quarrymans Trail in Christchurch</p>
6.8	103	6-16		<p>Do we really consider it best practice to have ASBs across all lanes, including the middle one? It serves no practical purpose</p>
8.1	108			<p>Notwithstanding that some cycle path crossings may occur at or near intersections, we feel that this section would be better located in TCD Manual Part 5, with just a brief reference to this in Part 4.</p>
8.2	109		8-1	<p>As noted previously, a number of supplementary signs regarding cyclists and pedestrians are quite wordy, which will make it hard for some users to comprehend them quickly. It is interesting that sign A43-7 features a cycle symbol – why can't others also use pedestrian / cyclist symbols?</p>
8.4	111-112	8-3		<p>Please remove drawing (b); that is not a “staggered crossing”. People may look at the drawing and its title and may conclude this is the layout to choose if one wanted to operate the two sides of the crossing independently from one another. This would be a dangerous combination to operate with two separate crossing phases but little to discourage someone from continuing straight through.</p>
8.4	113-114	8-4 & 8-5		<p>Apart from achieving compliance with the Road User Rule, there isn't any good reason why Advanced Stop Lines should not also be used at a mid-block crossing ahead of the traffic limit line. ASLs provide a safety benefit. Why leave them out of the guidance?</p>
11	122		11-1	<p>We note that there is some interest in ratifying a modified A40-1 “NO EXIT except pedestrians and cyclists” sign, as has already been applied in Christchurch.</p>



CLAUSE	PAGE	FIGURE	TABLE	YOUR COMMENT
12.1	124	12-1(b)		These designs are problematic, as it is not at all clear where someone cycling through this intersection (south to north) might position themselves safely. At the very least, a continuous shoulder should be shown and some form of continuity guidance for cyclists.
12.2	125			The wording here seems to imply that traffic islands themselves are not also “traffic control devices”. We would have thought that technically they are, and thus need some guidance here (or in Part 5).
13	126-132			There are some excellent Safe System treatments illustrated in this section. The challenge will be to ensure that practitioners pick up on these if they are only referring to other parts of the Manual. We suggest illustrating some indicative vertical features on other layout plans and referring the reader to further details in this section.
13.5	130	13-3		Is it worth recommending a minimum gap between zebra stripes and ramp top? Also there are no limit lines on the roundabout side of the departure lanes approaching the zebra crossings – Clause 8.2(11) (b) of the TCD Rule would imply that those limits lines are needed.
14.1	133			Again, the “NZ Cycle Design Guidance Framework” is an outdated name for the Cycling Network Guidance (CNG).
14.5	138			We suggest providing an example diagram of a cycle crossing facility
14.6	140	14-3		This still appears to be quite a long gap across the cycle lane and one that can be crossed at high speeds; consider redesigning this layout.
14.7	141	14-4		This appears to be the same diagram as Figure 12-1(b). As such, it has the same problems of cyclist continuity.
14.7	143-144	14-5,14-6		Similar issues of cyclist continuity through these slip lanes are evident. This includes no minimum hatched shoulder space indicated between the slip lane islands and the adjacent traffic lanes, leading to a potential pinch point for someone cycling here.
15.1.4	147	15-1		Why would the stripes on the third figure be angled a different way? This makes no sense.
15.2	149	15-2		It is unclear why so much of the cycle lanes need to be marked in green, other than a short approach and departure at the signalised intersection – otherwise it seems unnecessary (and more expensive). Likewise, a cycle lane line is usually not continued through a signalised intersection. A typical layout should always show an ASL (as there may be a driveway or parking bay just beyond the limit lines).

CLAUSE	PAGE	FIGURE	TABLE	YOUR COMMENT
17	157–158	17-1		<p>It is appreciated that some discussion is given about provision for pedestrians and cyclists at seagull intersections. However, no practical examples of how either provision might be achieved is shown in any layout plan.</p> <p>Although the title of Figure 17-1 indicates the plan is showing “signal control”, the side road shows a give way control and appropriate signalised intersection markings are not shown.</p>
18.1	159–160		18-2	The table rows for R3-2 and R7-11.1 appear to have been merged, making it difficult to read.
20.1	167	20-1		<p>Why is this figure, with a straight arrow in the left-hand lane, even an option? General traffic cannot use this lane to continue straight through, so it should simply have an exemption sign to allow special vehs to go straight. Contrast with the layout for Figure 20-2, which is a more preferable approach.</p> <p>While it is possible that a layout like 20-1 could exist with a part-time bus lane, that would be unusual, given that such bus lanes typically operate during peak times and providing higher private vehicle capacity would not be likely to be needed during the off-peak times.</p>

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