

## WAIMAKARIRI DISTRICT COUNCIL

### TECHNICAL MEMO

**FILE NO AND TRIM NO:** 240129012370 / DDS-06-10-02-05-03 & DDS-14-08

**DATE:** 31 January 2024

**MEMO TO:** Andrew Maclennan, Consultant Planner  
Matt Bacon, Development Planning Manager

**FROM:** Shane Binder, Senior Transportation Engineer

**SUBJECT:** Development of road width standards in Proposed District Plan

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### INTRODUCTION

1. My name is Shane Isaac Binder, and I am the Senior Transportation Engineer for Waimakariri District Council, a position I have held for the last three years. In this role I manage the District's transport planning, strategy, and engineering functions, including road safety, traffic modelling, parking, and public transport elements.
2. My qualifications include a Bachelor of Science degree in Civil Engineering from the Pennsylvania State University (USA), and a Master of Science degree in Civil Engineering from the University of Colorado (USA), both with specialisations in transport. I am a Chartered Professional Engineer (CPEng), a Professional Engineer (Colorado and Washington State, USA), and a Road Safety Professional (Level 1) certified by the Institute of Transportation Engineers.
3. I am a Chartered Member of Engineering New Zealand. I am also a member of the Transportation Group of Engineering New Zealand and am on the steering committee of the Safety Practitioners Sub-group. I have more than 21 years' experience in traffic engineering and road safety, both in New Zealand and abroad.

### BACKGROUND ON ROAD WIDTH STANDARDS

4. This memo responds to paragraph 4.(a)(ii) of Minute 16 from the Hearing Panel which states:

*We have carefully considered what is the best way forward for all participants in this process in terms of natural justice and fair process. Having done so, we hereby direct pursuant to s41C of the RMA:*

- a. *By no later than 4pm 2 February 2024, the Council reporting officer shall provide:*

- i. *Any evidence and information to either support the provisions in TRAN-S1 and Tables TRAN-3 and TRAN-4, or alternative provisions within the scope of submissions, including a technical evaluation by Council's Senior Transportation Engineer, Mr Binder*
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ii. A section 32 evaluation of the above provisions as notified, and/or a s32AA evaluation of any alternative provisions that might be recommended.

5. This memo documents the process by which road width standards were proposed, refined, and eventually published in the notified proposed Waimakariri District Plan (PDP). It also includes a memo drafted after the notification of the PDP on carriageway widths that supports the provisions included within the PDP.
6. Stantec submitted a *Technical Review* (March 2019) as part of their operative District Plan review. This *Technical Review* was based on WDC operative transport standards as well as those from neighbouring jurisdictions (including Ashburton, Christchurch, Dunedin, Hamilton, Queenstown, and Selwyn) and nationwide best practices. The review also included recommended standards for adoption in the PDP. These recommended standards, including road design standards, were accepted as the baseline for what was eventually the notified PDP.
7. Stantec's initial recommended road design standards are shown below:

Table 2-3: Proposed Urban Road Design Standards

Element	Design AADT				
	<150	150 -500	500 -1,000	1,000-3,000	>3,000
	Cul-de-sac	Local	Collector	Arterial	Strategic
Road reserve width (m)	16.0	16.0	20.0	20.0	20.0
Traffic lanes (m)	2 x 3.0	2 x 4.0	2 X 3.5	2 x 3.5	2 x 3.5
Design Speed	30km/h	30km/h	40km/h	50km/h	50km/h
Parking	On-street	On-street	Lane / bay	Lane / bay	
Parking lane / bay width (m)			2.5	2.5	
Parking space supply rate	0.5 / HH	0.5 / HH	0.5 / HH	0.5 / HH	
Cycle Lanes	None	None	None	2 x 1.8	2 x 2.0

Table 2-4: Proposed Rural Road Design Standards

Element	Design AADT				
	<150	150 -500	500 -1,000	1,000-3,000	>3,000
	Cul-de-sac	Local	Collector	Arterial	Strategic
Road reserve width (m)	20.0	20.0	20.0	20.0	20.0
Traffic lanes (m)	1 x 3.5	2 x 3.3	2 X 3.5	2 x 3.5	2 x 3.5
Total Shoulder (m)	2.5	1.5	1.5	2.0	2.5
Minimum sealed shoulder (m)	0.0	0.5	0.5	1.5	2.0
Total carriageway (m)	8.5	9.6	10.0	11.0	12.0

8. The design standards tables in the notified PDP are included below for reference:

**Table TRAN-3: Design standards for new roads where the posted speed limit is 50km/hr or less**

Design element	Low Volume Local Road	Local Road	Collector Road	Arterial Road	Strategic Road
Typical design AADT	<150	<1,500			
Maximum length (m)	150				
Maximum number of residential units served	20	200			
Road reserve width (m) <sup>2</sup>	16.0	18.0	23.0	24.0	25.0
Footpath (m)	2 x 1.8	2 x 1.8	1 x 1.8 (one side)	1 x 2.0 (one side)	1 x 2.0 (one side)
Shared use path (m) <sup>3</sup>			1 x 2.5 (one side)	1 x 2.5 (one side)	1 x 2.5 (one side)
Parking (m) <sup>4</sup>	2.5 (within carriageway, one side only)	2.0 (within carriageway, each side)	Indented parking bays (outside carriageway, each side)	Indented parking bays (outside carriageway, each side)	Indented parking bays (outside carriageway, each side)
Cycle lane (m) <sup>1</sup>			2 x 1.8	2 x 1.8	2 x 1.8
Traffic lane (m)	4.0 minimum	4.0 minimum	2 x 3.3	2 x 3.5	2 x 3.5
Median (m)				2.0	2.0
Minimum carriageway width (m)	6.5	8.0	10.2	12.6	12.6

1. Where cycle lanes are required these shall be permanently marked.

2. The balance of the road reserve not occupied by the carriageway, indented parking bays, footpaths and shared use path, may be used for landscaping and installation of services. Services should not be installed under footpaths or shared use path.

3. Consultation should be undertaken with the District Council to confirm the location of a shared use path.

4. Parking design standards are shown in TRAN-S7, Table TRAN-10.

**Table TRAN-4: Design standards for new roads where the posted speed limit is 60km/hr or above**

Design element	Low Volume Local Road	Local Road	Collector Road	Arterial Road	Strategic Road
Typical design AADT	<150	<1,500			
Maximum length (m)	150				
Maximum number of residential units served	20	150			
Road reserve width (m)	20.0	20.0	23.0	24.0	25.0
Shared use path (m) (one side) <sup>1</sup>			2.5	2.5	2.5
Traffic lane (m)	1 x 3.5	2 x 3.3	2 x 3.5	2 x 3.5	2 x 3.5
Total shoulder width (m)	2 x 1.5	2 x 1.5	2 x 1.5	2 x 2.0	2 x 2.5
Minimum sealed shoulder width (m)	2 x 0.75	2 x 1.0	2 x 1.0	2 x 1.5	2 x 2.5
Minimum carriageway width (m)	6.5	9.6	10.0	11.0	12.0

1. Consultation should be undertaken with the District Council to confirm the location of a shared use path.

## **OVERVIEW OF CHANGES**

9. The changes to proposed new road design standards from those recommended in the March 2019 Stantec report to those in the PDP notified in September 2021, were designed and revised in collaboration with traffic consultants Stantec and Council staff, taking into account current transport design standards, as well as other district plans, and have been reviewed by the Council's civil engineers.
10. Road reserves were generally widened to provide more space for underground services, landscaping, footpaths, cycling facilities, on-street parking, and vehicle movements, including for service and emergency vehicles.
11. Council staff's main concern was the width of "Urban" Local and Collector Roads ("Urban" roads are roads where the posted speed limit is 50km/hr or less). "Urban" Local Road reserves were increased in width from 16m to 18m and "Urban" Collector Road reserves were increased in width from 20m to 23m. "Urban" Arterial Road reserves were also increased in width, from 20m to 24m.
12. "Rural" Collector and Arterial Road ("Rural" roads are roads where the posted speed limit is 60km/hr or more) reserves were increased in width, from 20m in both cases, to 23m and 24m, respectively.
13. More detailed specifications were also provided for footpaths, cycle lanes, shared use paths, and minimum sealed shoulder widths.
14. On "Urban" roads, provisions for on-street parking were tailored to the type of road.
15. Key changes are discussed in more detail below.

## **REVIEW OF RECOMMENDED ROAD DESIGN STANDARDS**

16. After Stantec submitted their 2019 *Technical Review*, Council staff engaged in internal discussion of the proposed standards, through several iterations of feedback over the following two years. Changes to the proposed standards were generally based on staff experience in the consenting process through the operative District Plan, as well as the outcomes experienced on the transport network as the result of these consents.
17. Internal discussion and review included staff from Greenspace, Roding, Project Delivery, and Development Engineering, as well as presentations to Councillors. Feedback was also incorporated from emergency responders (St Johns and Fire & Emergency New Zealand) and Waka Kotahi NZ Transport Agency. Finally, Chris Rossiter from Stantec, one of the authors of the original *Technical Review*, was also consulted on all changes and was involved in designing changes to the provisions initially recommended to address issues raised during Council's review of Stantec's recommendations.
18. I note that my predecessor in my role, Bill Rice, was the Senior Transportation Engineer when the original *Technical Review* was submitted by Stantec in 2019. I became

engaged in the internal review when I started as Council's Senior Transportation Engineer in February 2021.

19. Please refer to the emails and documentation attached in Appendix A to this memo covering the period between 28 September 2020 and 30 July 2021. These contain further details of the discussions between Council staff and Stantec transportation engineers, chiefly Chris Rossiter, supporting the notified version of the Tables TRAN-3 and TRAN-4.

### **CHANGES TO ROAD WIDTH STANDARDS**

20. In this memo, I will summarise the following sets of changes between the Stantec-proposed road design standards and the notified standards:
  - a. Change categorisation of standards from land use to posted speed limit
  - b. Refine design expectations on a Low-Volume Local Road
  - c. Improve definition of walking and cycling facilities across all road types
  - d. Adjust travel lane and minimum carriageway widths
  - e. Define requirements for medians
  - f. Adjust minimum carriageway width
  - g. Adjust road reserve widths

### **CATEGORISATION OF STANDARDS**

21. The *Technical Review* included separate road design standards for "urban" and "rural" environments. The notified version of Table TRAN-3 and TRAN-4 redesigned the tables based on a "posted speed limit of 50km/hr or less" and "posted speed limit of 60km/hr or above." This change was due in part to the lack of a consistent definition of the original terms as well as the relative simplicity of easily identifying the posted speed limit on any existing road. I support this change because I understand that it is easier to approach by members of the public. I also consider it more appropriate to link cross-section elements to the posted speed limit on the related road.

### **LOW-VOLUME LOCAL ROAD DESIGN EXPECTATIONS**

22. The *Technical Review* included a specific column for the "Cul-de-sac" road type. The notified version of Tables TRAN-3 and TRAN-4 replaced "Cul-de-sac" with "Low volume Local Road." While the lack of through traffic on a no-exit cul-de-sac can result in low volumes, I consider that the geometric features of the road are more dependent on the volume itself. As there can be other circumstances which result in long-term low traffic volumes, I support this change to tie the road type to a traffic volume limit.
23. Along with the changed Local Road types, the accompanying design annual average daily traffic (AADT) were also reviewed for appropriateness. Stantec's originally proposed design AADT for Local Roads of 500 vehicles per day or less did not align with actual volumes found on many of the District's local roads.

24. Further, I note Waka Kotahi's *One Network Road Classification* scheme suggests that Access Roads (their equivalent to most of our Local Roads) would see a typical AADT under 1,000 and the newer Waka Kotahi *One Network Framework* suggests that roads with a "minor" movement significance (defined as "local movement by people making short trips to connector roads") could see up to 4,000 vehicles per day. With this context, Chris Rossiter (Stantec) and I proposed a design AADT for Local Roads of up to 1,500 vehicles per day, bringing design expectations in line with national guidance.

## **WALKING AND CYCLING FACILITIES**

25. The *Technical Review* did not include a specific requirement for the creation of footpaths, and required cycle lanes on Arterial and Strategic Roads. The notified version of Tables TRAN-3 and TRAN-4 includes a specific requirement for the construction of "Footpaths," "Shared use paths," and "Cycle lanes." Internal feedback based on consented development and user feedback suggested that the initial standards did not provide sufficient detail around walking and cycling facilities. This was also influenced by changing best practices<sup>1</sup> in cycling design, where on-street painted cycle lanes (which are the standard in the operative district plan) are not considered appropriate for all-ages, all-abilities cyclists.

26. I note the Waka Kotahi *Pedestrian Design Guidance* calls out 1.8m as the minimum width of a through route on a footpath on local streets in residential areas and further, that any reduction below this is "only acceptable in existing constrained conditions and where it is not possible to reallocate road space. Further, the Austroads *Guide to Road Design Part 6A Paths for Walking and Cycling* calls out 1.8m as the minimum width for wheelchairs to pass (as could be expected on any public footpath). The suggested standards from Stantec had 1.8m footpaths (or greater) along all facilities except for Low-Volume Local Streets. I support extending this footpath width to all roads to have consistent application of best practices on all facilities, noting further that as the aged population of the District is projected to continue to increase at a significant rate, accommodation of wheelchairs and mobility scooters is an important function to consider.

27. I also note that, in my experience, many developments propose a kerb-adjacent footpath (i.e., no berm in between), which results in the wings of vehicle crossings occupying a portion of the width of the immediately adjacent footpath, as well as rubbish and recycling bins on a once-a-week basis. Requiring a 1.8m minimum width on Low-Volume Local Roads (as well as all other higher classification roads) helps to mitigate this reduction in usable width.

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<sup>1</sup> Waka Kotahi *Cycle Network Guidance*, Planning a cycling network, Cycle route components between intersections, <https://www.nzta.govt.nz/walking-cycling-and-public-transport/cycling/cycling-standards-and-guidance/cycling-network-guidance/cycle-network-and-route-planning-guide/principles/cycle-route-components-between-intersections/>, last accessed 26 January 2024

28. I understand from an email from Chris Rossiter (Stantec)<sup>2</sup> that rural Local Road shoulder widths (at 2.5m) came from the Austroads *Guide to Road Design Part 3 Geometric Design* but that he considered this to result in a very wide carriageway. At the same time, I note that rural Local and Collector Roads make up the majority of local access for anyone wishing to walk or cycle on the network, and generally do not have separated facilities for these road users. Thus, I support changes to the high-speed (formerly rural) shoulder width standards to reduce the overly-wide Local Road carriageway but to also provide a nominal sealed shoulder width for cycling and walking off of the through lane. I consider that these changes will better accommodate all road users but should also not encourage inappropriately high speeds.
29. I note the Austroads *Guide to Road Design Part 6A Paths for Walking and Cycling* calls out 2.5m as the minimum width of a “regional path” (also called out as part of a principal bicycle network) and the desirable minimum width of a “local access path” (the *Guide* notes that any reduction of this width would only be appropriate if user volumes are not expected to grow). As the District connects and expands its walking and cycling network, I consider it appropriate that this width be applied as the general minimum width for shared use paths, as I understand it is the minimum width for pedestrians and cyclists to safely pass in opposing directions.
30. I support these overall additions and clarifications as I consider that in the whole, they give clearer direction as to the desired minimum facilities required across all road types to safely accommodate people who walk or cycle. I note advisory notes 1 and 3 below the two tables recommend consultation with Council staff on the provision of site-specific facilities, given that this level of design is often best customised to the specific facility and how it fits in with the overall transport network (e.g., whether a particular road is included in the adopted Walking & Cycling Network).

### **TRAFFIC LANE AND MINIMUM CARRIAGEWAY WIDTHS**

31. Traffic lane and shoulder widths were adjusted for Low-Volume and Local Roads based on the need to, at a minimum, provide clear width for service and emergency vehicle access. At the same time, I consider it necessary that these road design elements balance reduced width to encourage low speeds with extra width for on-street parking, particularly given the removal of minimum off-street parking requirements in the National Policy Statement on Urban Development (NPS-UD). I note that numerous service requests have been generated in recent developments in the district around conflicts between parking, access, and through traffic on limited carriageway space, suggesting that implementation of operative standards was not achieving an effective balance.

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<sup>2</sup> See email from Chris Rossiter, “RE: WDC District Plan Review – Transport – Proposed Road Design Standards,” sent 21 May 2021 2:24pm

32. I understand from Waka Kotahi RTS-15 *Guideline for urban-rural speed thresholds* that a high-speed Low Volume Local Road minimum carriageway width of 6.5m allows two heavy vehicles to pass one another while staying within their lanes. At the same time, I also note that the concept of “mutual yielding,” where the carriageway does not provide consistent width for two lanes of traffic (e.g., where on-street parking may take up some space) has a demonstrated effect at lowering speeds.
33. Noting the above discussion on balancing road usage and emphasis on encouraging proper road speeds, urban Collector Road lane widths were reduced from the proposed 3.5m width to 3.3m. I understand from an email from Chris Rossiter (Stantec)<sup>3</sup> that this had been raised as a proposal in the past. I support this lane width reduction as a means to achieving the lower operating speeds expected on urban roads. I further note that the Austroads *Guide to Road Design Part 3 Geometric Design* suggests lane widths of 3.0-3.4m as appropriate for low-speed roads, defined as under 70 km/h. With a design speed of 50 km/h on urban Collector Roads, I consider a lane width of 3.3m as appropriate.
34. Following the notification of the PDP, I undertook site observation across the district to understand emergency vehicle access requirements and typical parking placement within low-speed residential cross-sections; I refer to the attached memo dated 29 March 2022 within Appendix B to this memo. Conclusions from my observation supported a minimum trafficable width of 4.0m on low-speed local roads. I also noted a correlation between density of development and the likelihood of on-street parking occurring on both sides of a residential street. As a result, I recommended a minimum of 6.5m sealed carriageway with parking on one side for Low-Volume Local Roads (with a maximum of 20 dwellings anticipated) and a minimum of 8.0m sealed carriageway with parking permitted on both sides for Local Roads. These conclusions further support the design standards included within notified version of Table TRAN-3.

## **MEDIANS**

35. The initial *Technical Report* did not include provisions for median design. During the course of review, a major new development came through Council including roads proposed with central medians, which prompted discussion of inclusion with the design standards. I support this minimum width as I understand from Waka Kotahi RTS-04 *Guidelines for flush medians* this is the minimum effective width to remove turning traffic from through traffic, and from Austroads *Guide to Road Design Part 3 Geometric Design* this is the minimum width to shelter signal pedestals and streetlight columns. Narrower median widths can be used in specific circumstances that can be worked out through a resource consent process

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<sup>3</sup> See email from Chris Rossiter, “RE: WDC District Plan Review – Transport – Proposed Road Design Standards,” sent 21 May 2021 8:13am



36. I note this standard is not a requirement for Arterial or Strategic Roads to have medians but merely provides a minimum width if a median, flush or raised, is included in a cross section.

### **ROAD RESERVE WIDTH**

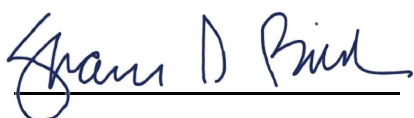
37. The *Technical Review* included road widths of between 16–20m. The notified version of Tables TRAN-3 and TRAN-4 includes road widths of between 16–25m.

38. Chris Rossiter (Stantec)<sup>4</sup> advised that the road reserve widths in Stantec’s March 2019 *Technical Report* were aligned to those in the operative WDC District Plan. In late October 2020 (noting this was prior to my employment at Council), Council staff provided feedback to Chris that development based on the operative road reserve width standards on Collector Roads and higher had resulted in insufficient width for cycle lanes, footpaths, street trees, and services. I refer to a memo from Chris, dated 14 October 2020 (included within Appendix A to this memo), proposing new road reserve widths for Collector, Arterial, and Strategic Roads, which were ultimately adopted into the standards.

39. These new road reserve widths accommodate the addition of shared-use paths and other cross-section changes noted above as well as the other functions of a road corridor. These functions include underground services (with appropriate long-term maintenance considered, which precludes burying them under carriageways, footpaths, or street trees), street trees and landscaping, and carriageway features that minimise conflicts between modes or between travelling, entering, and parking vehicles.

40. In my professional opinion as a transport engineer, I support the revised road reserve widths because I consider that they permit all road users to safely enter, travel on, and exit the roading network, while still accounting for its long-term maintenance. I note I am also relying on advice from other experts in drainage, utilities, and greenery to help inform this conclusion.

Date: 31 January 2024



Shane Binder

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<sup>4</sup> See email from Chris Rossiter, “RE: WDC District Plan Review – Transport – Proposed Road Design Standards,” sent 19 May 2021 12:14pm

**Appendix A – Email chains between Council staff and Stantec supporting amendments to Tables TRAN-3 and TRAN-4**



## Neil Sheerin

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**From:** Neil Sheerin  
**Sent:** Wednesday, 30 September 2020 8:49 AM  
**To:** Kelly LaValley  
**Cc:** Joanne McBride  
**Subject:** FW: DP Review - Roading

Hi Kelly

Please see below a possible suggested solution from Stantec for adjusting road widths to accommodate servicing etc. Could be a topic for discussion when we meet, which could be next Wed morning otherwise sometime the following week – will touch base on that later. Depending on timing Stantec may have to do this via phone.

Regards

**Neil Sheerin** | Senior Policy Planner

Development Planning Unit

Phone: 0800 965 468 (0800 WMK GOV)

DDI:8706



waimakariri.govt.nz

Unite  
against  
COVID-19



**From:** Rossiter, Chris <chris.rossiter@stantec.com>  
**Sent:** Tuesday, 29 September 2020 2:40 PM  
**To:** Neil Sheerin <neil.sheerin@wmk.govt.nz>  
**Subject:** RE: DP Review - Roding

**[THIS EMAIL IS FROM AN EXTERNAL SOURCE] DO NOT CLICK links or attachments unless you recognise the sender email address and know the content is safe.**

Hi Neil

We had not looked at the detailed road cross-sections before and would not normally include space for shared paths within a minimum requirement. The following table shows one way of adjusting the minimum requirements for the road reserve width that I think will go some way to addressing the concerns of your engineer .

Attribute	Cul-de-sac	Local	Collector	Arterial
Service Strip	1.2	1.2	1.4	1.4
Footpath	1.8	1.8	1.8	1.8
Berm/tree/parking	2	2	2.5	2.5
Cycle lane			1.8	1.8
Traffic lane	3	4	3.5	3.5
Median	0	0	0	2
Traffic lane	3	4	3.5	3.5
Cycle lane	0	0	1.8	1.8
Berm/tree/parking	2	2	2.5	2.5
Footpath	1.8	1.8	1.8	1.8
Service Strip	1.2	1.2	1.4	1.4
Total	16	18	22	24

Regards  
Chris

**From:** Neil Sheerin <[neil.sheerin@wmk.govt.nz](mailto:neil.sheerin@wmk.govt.nz)>  
**Sent:** Tuesday, 29 September 2020 1:16 p.m.  
**To:** Rossiter, Chris <[chris.rossiter@stantec.com](mailto:chris.rossiter@stantec.com)>  
**Subject:** FW: DP Review - Roding

Hi Chris

Further to our discussion on the phone just now, please see the emails below which outline the Council engineering concern. I will touch base with you early next week regarding the meeting requested by the engineers.

Regards

**Neil Sheerin** | Senior Policy Planner

Development Planning Unit

Phone: 0800 965 468 (0800 WMK GOV)

DDI:8706

External DDI: 03 266 9166



**From:** Neil Sheerin

**Sent:** Monday, 28 September 2020 11:04 AM

**To:** Kelly LaValley <[kelly.lavalley@wmk.govt.nz](mailto:kelly.lavalley@wmk.govt.nz)>

**Cc:** Trevor Ellis <[trevor.ellis@wmk.govt.nz](mailto:trevor.ellis@wmk.govt.nz)>; Joanne McBride <[joanne.mcbride@wmk.govt.nz](mailto:joanne.mcbride@wmk.govt.nz)>

**Subject:** RE: DP Review - Rooding

Hi Kelly

Below are the proposed footpath requirements. For new activities or the creation of new roads in Residential zones or Commercial zones, new footpaths (where none currently exist) shall be provided in the road reserve/road corridor in accordance with the requirements below, and are based on Stantec's recommendations in their report dated March 2019. Once again, they are mostly the same as the ones in the version of the draft Transport chapter circulated to TAG for review and comment in July 2019, except for the addition of references to Special purpose zones, and where 1.5m wide footpaths were previously proposed these have been increased to 1.8m wide.

<b>Table 10: New footpath requirements</b>		
<b>Local Activity</b>	<b>Number of Footpaths</b>	<b>Footpath Width</b>
Residential zones Special purpose (Kainga Nohoanga) zone Special purpose (Pines Beach and Kairaki Regeneration) zone		
< 20 dwellings	1	1.8m
20 - 200 dwellings	2	1.8m
> 200 dwellings	2	1.8m
Town Centre zones	2	2.5m
Other Commercial zones All other Special purpose zones	2	1.8m

Following the TAG meeting referenced above and below, transport design questions raised at TAG were passed on to Stantec for comment, and I forwarded their responses to you. The subject of road widths was raised, but not in the context of the adequacy of the road width standards, but revolved around the purpose of the Design AADT figures, and who decides for a proposed development what type of road is to be provided.

Regards

**Neil Sheerin | Senior Policy Planner**

Development Planning Unit

Phone: 0800 965 468 (0800 WMK GOV)

DDI:8706

Unite  
against  
COVID-19



**From:** Kelly LaValley <[kelly.lavalley@wmk.govt.nz](mailto:kelly.lavalley@wmk.govt.nz)>  
**Sent:** Monday, 28 September 2020 10:02 AM  
**To:** Neil Sheerin <[neil.sheerin@wmk.govt.nz](mailto:neil.sheerin@wmk.govt.nz)>  
**Cc:** Trevor Ellis <[trevor.ellis@wmk.govt.nz](mailto:trevor.ellis@wmk.govt.nz)>; Joanne McBride <[joanne.mcbride@wmk.govt.nz](mailto:joanne.mcbride@wmk.govt.nz)>  
**Subject:** RE: DP Review - Roading

Hi Neil,

Thank you for that. For local roads, what is the requirement for footpaths (width and number)?

In Table 1, the collector roads (and arterial roads potentially) are the ones where we start to have problems with the minimum width. I am pretty sure I raised this back in the TAG as well. With 11.4m of the legal width taken up by traffic lanes (6.4m) and parking (5m – assuming 2 parking lanes but this is not clear in Table 1), the remaining 8.6m is not enough for cycle lanes, footpaths, street trees and services.

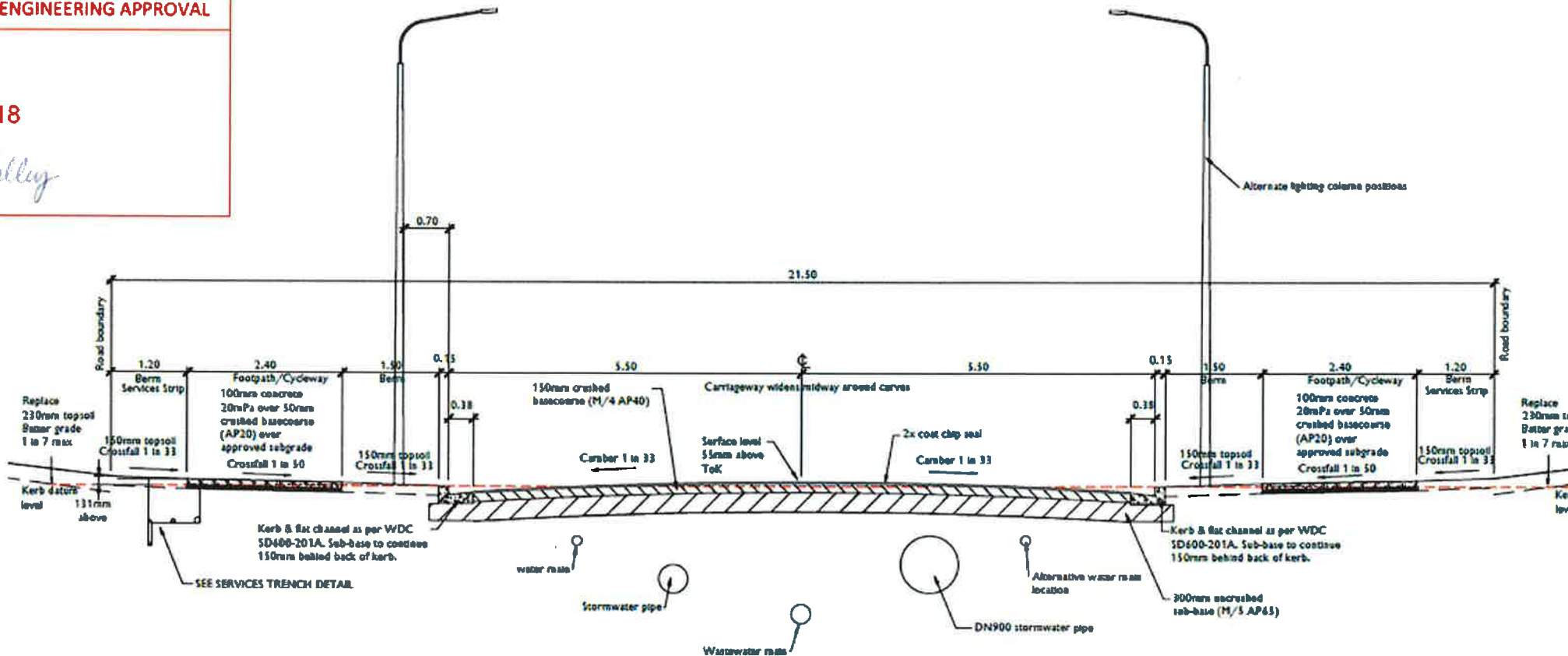
Did the Stantec report include a cross section of the typical layout for a collector road to ensure that there is sufficient space for features outside of the carriageway?

From the work done on Townsend Road, the minimum legal width required is 21.5m for an urban collector road and this is with a shared path, 2x3.3m traffic lanes, and 2x2.2m parking lanes. If an on-road cycleway were required plus a 1.5m footpath, the legal width would have had to be greater yet to accommodate street trees and services. A cross section is below for your reference. Note street trees are required to be located within the 1.5m berm closest to the carriageway. We even had to compromise with this design as there are services beneath the footpath, which is not a desired outcome.

CIVIL ENGINEERING APPROVAL

018

Valley



TYPICAL CROSS SECTION THROUGH TOWNSEND ROAD

Scale 1:50 (A1) 1:100 (A3)

Cheers,  
Kelly

**Kelly LaValley** | Project Delivery Manager, CPEng, CMEngNZ

Project Delivery Unit

Phone: 0800 965 468 (0800 WMK GOV)

Mobile: 021 748 571





**From:** Neil Sheerin <[neil.sheerin@wmk.govt.nz](mailto:neil.sheerin@wmk.govt.nz)>  
**Sent:** Monday, 28 September 2020 9:35 AM  
**To:** Kelly LaValley <[kelly.lavalley@wmk.govt.nz](mailto:kelly.lavalley@wmk.govt.nz)>  
**Cc:** Trevor Ellis <[trevor.ellis@wmk.govt.nz](mailto:trevor.ellis@wmk.govt.nz)>  
**Subject:** RE: DP Review - Roading

Hi Kelly

Below are the proposed design standards for new roads. These are as recommended by traffic engineers Stantec in their report dated March 2019. They are the same as the ones in the version of the draft Transport chapter circulated to TAG for review and comment in July 2019, except for the addition of cycle lanes on collector roads where the posted speed limit is 60km/hr or less. The tables have been re-formatted slightly differently in e-Plan but the content is the same as below.

Table 1: Design standards for new roads where the posted speed limit is 60km/hr or less					
Design Element	Design AADT				
	<150	150 -500	500 -1,000	1,000-3,000	>3,000
	Cul-de-sac (1)	Local	Collector	Arterial	Strategic
Road reserve width (m)	16.0	16.0	20.0	20.0	20.0
Traffic lanes (m)	2 x 3.0	2 x 4.0	2 X 3.2	2 x 3.5	2 x 3.5

<b>Table 1: Design standards for new roads where the posted speed limit is 60km/hr or less</b>					
Design Element	Design AADT				
	<150	150 -500	500 -1,000	1,000-3,000	>3,000
	Cul-de-sac (1)	Local	Collector	Arterial	Strategic
Design Speed	30km/h	30km/h	40km/h	50km/h	50km/h
Parking	On-street	On-street	Lane / bay	Lane / bay	
Parking lane / bay width (m)			2.5	2.5	
On-street parking space supply rate (per household (HH))	0.5 / HH	0.5 / HH	0.5 / HH	0.5 / HH	
Cycle lanes (m) (2)	None	None	2 x 1.8	2 x 1.8	2 x 2.0

(1) For urban design and traffic design reasons the maximum length for a cul-de-sac is 150m

(2) Where cycle lanes are required these shall be permanently marked

<b>Table 2: Design standards for new roads where the posted speed limit is 70km/hr or above</b>					
Design Element	Design AADT				
	< 150	150 - 500	500 - 1,000	1,000 - 3,000	> 3,000
	Cul-de-sac (1)	Local	Collector	Arterial	Strategic
Road reserve width (m)	20.0	20.0	20.0	20.0	20.0
Traffic lanes (m)	1 x 3.5	2 x 3.3	2 X 3.5	2 x 3.5	2 x 3.5
Total Shoulder (m)	2.5	1.5	1.5	2.0	2.5
Minimum sealed shoulder (m) (2)	0.0	0.5	0.5	1.5	2.0
Total carriageway (m)	8.5	9.6	10.0	11.0	12.0

1. For urban design and traffic design reasons the maximum length for a cul-de-sac is 150m

2. The minimum sealed shoulder width shall be used to cater for cycling in lieu of marked cycle lanes

Regards

**Neil Sheerin | Senior Policy Planner**

Development Planning Unit

Phone: 0800 965 468 (0800 WMK GOV)

DDI:8706



**From:** Kelly LaValley <[kelly.lavalley@wmk.govt.nz](mailto:kelly.lavalley@wmk.govt.nz)>

**Sent:** Monday, 28 September 2020 8:56 AM

**To:** Neil Sheerin <[neil.sheerin@wmk.govt.nz](mailto:neil.sheerin@wmk.govt.nz)>

**Subject:** DP Review - Roading

Hi Neil,

Would you be able to give me an update on where things have gotten to regarding minimum road widths as part of the DP review?

We are finding it increasingly difficult to manage all of the elements required within the road reserve on new roads. In particular:

- Adequate space for street trees
- Footpaths and/or shared paths
- Services within the berm, which are not to be located beneath the footpath

This is when accounting for adequate traffic and parking lanes and requirements of the ECoP.

We are finding that the existing minimums are not sufficient. By the time we get to detailed design stage, where the above are looked at in detail, it is too late to increase the road width forcing us to make compromises with ECoP requirements.

Cheers,  
Kelly

**Kelly LaValley** | Project Delivery Manager, CPEng, CMEngNZ

Project Delivery Unit

Phone: 0800 965 468 (0800 WMK GOV)

Mobile: 021 748 571



## Neil Sheerin

---

**From:** Rossiter, Chris <chris.rossiter@stantec.com>  
**Sent:** Friday, 16 October 2020 8:41 AM  
**To:** Trevor Ellis; Neil Sheerin; Kelly LaValley  
**Cc:** Joanne McBride; Heike Downie  
**Subject:** RE: Rd Widths  
**Attachments:** mem\_road\_reserve\_widths\_201014.pdf

[THIS EMAIL IS FROM AN EXTERNAL SOURCE] DO NOT CLICK links or attachments unless you recognise the sender email address

Hi

I have attached a short note that sets out indicative road cross-sections as a basis for setting road reserve minima. The cross-section elements have been tweaked a little from my earlier email to Neil and have been set to give rounded numbers for the widths. This is not essential but makes it easy to distinguish road types. I have added an extra road cross-section for the Collectors.

Regards  
Chris

**Chris Rossiter**

Direct: 03 926 2206



---

**From:** Trevor Ellis <trevor.ellis@wmk.govt.nz>  
**Sent:** Monday, 12 October 2020 10:14 a.m.  
**To:** Rossiter, Chris <chris.rossiter@stantec.com>; Neil Sheerin <neil.sheerin@wmk.govt.nz>; Kelly LaValley <kelly.lavalley@wmk.govt.nz>  
**Cc:** Joanne McBride <joanne.mcbride@wmk.govt.nz>; Heike Downie <heike.downie@wmk.govt.nz>  
**Subject:** Rd Widths

Hi all,

Actions as I heard them:

1. Need 2 collector rd standards (1 to include shared paths), plus changes to Table 1
2. Kelly & Joanne to discuss shared path network and will this might apply
3. Chris to prepare short addendum to original reports
4. Kelly to organise cross sections in house (these sit in the ECOP), Chris to review
5. Chris to prepare fee proposal

Sound correct?

Heike, copied you in as this may have implications for the structure plan areas ....

Cheers

**Trevor Ellis | Development Planning Manager**

Development Planning Unit

Phone: 0800 965 468 (0800 WMK GOV)

Mobile: 021435019



---

To: Neil Sheering  
Waimakariri District Council

From: Chris Rossiter  
Christchurch NZ Office

Date: October 14, 2020

---

**Reference: Proposed District Plan – Transport Chapter**

Table 1 shows the proposed road design standards in the Stantec report dated April 2019. The proposed road reserve widths were identified as absolute minimum values to accommodate the road cross-section elements that had been identified at that time.

**Table 1: Proposed Urban Road Design Standards**

Element	Design AADT				
	<150	150 -500	500 -1,000	1,000-3,000	>3,000
	Cul-de-sac	Local	Collector	Arterial	Strategic
Road reserve width (m)	16.0	16.0	20.0	20.0	20.0
Traffic lanes (m)	2 x 3.0	2 x 4.0	2 X 3.5	2 x 3.5	2 x 3.5
Design Speed	30km/h	30km/h	40km/h	50km/h	50km/h
Parking	On-street	On-street	Lane / bay	Lane / bay	
Parking lane / bay width (m)			2.5	2.5	
Parking space supply rate	0.5 / HH	0.5 / HH	0.5 / HH	0.5 / HH	
Cycle Lanes	None	None	None	2 x 1.8	2 x 2.0

Council has raised concerns with the proposed road reserve widths because roads constructed to these standards would require that services are located under footpaths. Their preference is that the road reserve widths should be sufficient to allow services to be located clear of footpaths and provide berm widths that are suitable for street trees. It was also noted that the proposed widths would not provide sufficient space for shared paths.

Table 2 shows indicative road cross-sections and element widths to address the concerns raised by Council. This will require that the road reserve widths are increased compared with the earlier recommendations.

No change is proposed for cul-de-sacs. These will be low-speed environments and on-street parking is expected to occur within the carriageway.

The recommended minimum road reserve width has been widened for Local Roads to include a service strip on each side of the road. These roads have a wider carriageway that allows for on-street parking. In an industrial zone where there is likely to be a higher volume of heavy vehicle movements, the berm width is sufficient to allow parking bays, albeit narrow, to be formed within the minimum width.

The recommended minimum road reserve width for the Collector Roads has been increased to allow for a service strip, parking bays on each side of the road and cycle lanes. Two road cross-section options have

**Reference: Proposed District Plan – Transport Chapter**

been included; one with a 1.8m footpath and one with a 2.5m wide shared path. This reflects the understanding that shared paths will be sought on some Collector Roads. The proposed widths allow for an on-road cycle lane to be formed regardless of the style of off-road facility that is provided.

The recommended widths for Arterial and Strategic Roads have also been increased to allow for wider paths and a central median. The cross-section shown for a Strategic Road is based on an off-road, shared path being provided for pedestrians and cyclists.

**Table 2: Indicative Road Cross-sections**

Attribute	Cul-de-sac	Local	Collector	Collector (Shared)	Arterial	Strategic
Service Strip	1.2	1.2	1.2	1.2	1.2	1.5
Footpath	1.8	1.8	1.8	2.5	2.0	2.5
Berm/tree/parking	2.0	2.0	2.7	2.5	2.5	4.0
Cycle lane			1.8	1.8	1.8	
Traffic lane	3.0	4.0	3.5	3.5	3.5	3.5
Median					2.0	2.0
Traffic lane	3.0	4.0	3.5	3.5	3.5	3.5
Cycle lane	0	0	1.8	1.8	1.8	
Berm/tree/parking	2.0	2.0	2.7	2.5	2.5	4.0
Footpath	1.8	1.8	1.8	2.5	2.0	2.5
Service Strip	1.2	1.2	1.2	1.2	1.2	1.5
<b>Total</b>	<b>16.0</b>	<b>18.0</b>	<b>22.0</b>	<b>23.0</b>	<b>24.0</b>	<b>25.0</b>

It is suggested that figures are provided with the table to provide guidance to developers on Council's expectations for new roads.

**Chris Rossiter** BSc (Hons), BA (Hons) CPEngNZ  
Principal Transportation Engineer

Phone: 03 926 2206  
chris.rossiter@stantec.com

Attachment: Attachment

c. C.C.



## Neil Sheerin

---

**From:** Rossiter, Chris <chris.rossiter@stantec.com>  
**Sent:** Friday, 16 October 2020 10:14 AM  
**To:** Neil Sheerin  
**Cc:** Joanne McBride; Heike Downie; Trevor Ellis; Kelly LaValley  
**Subject:** RE: Rd Widths

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Hi Neil

The standard we have described is for new roads. It would have sufficient width for on-road lanes because of the wide berms. Changes to existing roads will be dependent upon the Council's wider cycle network strategy as that would determine where and the type of facility that is required.

Regards  
Chris

**Chris Rossiter**

Direct: 03 926 2206



---

**From:** Neil Sheerin <neil.sheerin@wmk.govt.nz>  
**Sent:** Friday, 16 October 2020 9:51 a.m.  
**To:** Rossiter, Chris <chris.rossiter@stantec.com>  
**Cc:** Joanne McBride <joanne.mcbride@wmk.govt.nz>; Heike Downie <heike.downie@wmk.govt.nz>; Trevor Ellis <trevor.ellis@wmk.govt.nz>; Kelly LaValley <kelly.lavalley@wmk.govt.nz>  
**Subject:** RE: Rd Widths

In urban areas I agree strategic roads are likely to have wide sealed shoulders that may negate the need for a demarcated on road cycle lane. However in the rural areas you refer to, the off-roads paths you refer to tend not to exist and there is only the road, and often there is just the white line and edge of seal with no sealed shoulder, meaning there is no where for a cyclist to get out of the way of traffic, making a demarcated on road cycle lane more necessary.

**Neil Sheerin | Senior Policy Planner**

Development Planning Unit  
Phone: 0800 965 468 (0800 WMK GOV)

DDI:8706



---

**From:** Rossiter, Chris <chris.rossiter@stantec.com>  
**Sent:** Friday, 16 October 2020 9:32 AM  
**To:** Neil Sheerin <neil.sheerin@wmk.govt.nz>  
**Cc:** Joanne McBride <joanne.mcbride@wmk.govt.nz>; Heike Downie <heike.downie@wmk.govt.nz>; Trevor Ellis

<[trevor.ellis@wmk.govt.nz](mailto:trevor.ellis@wmk.govt.nz)>; Kelly LaValley <[kelly.lavalley@wmk.govt.nz](mailto:kelly.lavalley@wmk.govt.nz)>

**Subject:** RE: Rd Widths

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Hi Neil

Within urban areas, we have two groups of cyclists to cater for. The on-road facilities are for confident and experienced riders, typically commuters and sports recreational riders. The off-road shared path is aimed at younger, less-confident riders.

On strategic roads, we have previously noted that cyclists would normally use the wide shoulders that would form part of the sealed carriageway. From a safety perspective, it is better to provide an off-road facility though especially in rural areas with high vehicle speeds.

Regards  
Chris

**Chris Rossiter**

Direct: 03 926 2206



---

**From:** Neil Sheerin <[neil.sheerin@wmk.govt.nz](mailto:neil.sheerin@wmk.govt.nz)>

**Sent:** Friday, 16 October 2020 9:10 a.m.

**To:** Rossiter, Chris <[chris.rossiter@stantec.com](mailto:chris.rossiter@stantec.com)>

**Cc:** Joanne McBride <[joanne.mcbride@wmk.govt.nz](mailto:joanne.mcbride@wmk.govt.nz)>; Heike Downie <[heike.downie@wmk.govt.nz](mailto:heike.downie@wmk.govt.nz)>; Trevor Ellis <[trevor.ellis@wmk.govt.nz](mailto:trevor.ellis@wmk.govt.nz)>; Kelly LaValley <[kelly.lavalley@wmk.govt.nz](mailto:kelly.lavalley@wmk.govt.nz)>

**Subject:** RE: Rd Widths

Thanks Chris.

Where allowance is made for shared off-road paths, why is allowance also made for on-road cycle lanes? I can see developers arguing why provide both and why not just provide one or the other.

I also note that on strategic roads, which are often highways, you provide allowance only for a shared off-road path and no allowance for on-road cycle lanes. I don't see any difference between a strategic and an arterial road and I would suggest the busier the road the greater the need for the option of being able to use either an on-road or off-road cycle lane depending on the cyclist age, experience, confidence and competence. In your original table on-road cycle lanes were specified for strategic roads but have not been carried forward.

**Neil Sheerin | Senior Policy Planner**

Development Planning Unit  
Phone: 0800 965 468 (0800 WMK GOV)

DDI:8706

External DDI: 03 266 9166



---

**From:** Rossiter, Chris <[chris.rossiter@stantec.com](mailto:chris.rossiter@stantec.com)>  
**Sent:** Friday, 16 October 2020 8:41 AM  
**To:** Trevor Ellis <[trevor.ellis@wmk.govt.nz](mailto:trevor.ellis@wmk.govt.nz)>; Neil Sheerin <[neil.sheerin@wmk.govt.nz](mailto:neil.sheerin@wmk.govt.nz)>; Kelly LaValley <[kelly.lavalley@wmk.govt.nz](mailto:kelly.lavalley@wmk.govt.nz)>  
**Cc:** Joanne McBride <[joanne.mcbride@wmk.govt.nz](mailto:joanne.mcbride@wmk.govt.nz)>; Heike Downie <[heike.downie@wmk.govt.nz](mailto:heike.downie@wmk.govt.nz)>  
**Subject:** RE: Rd Widths

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Hi

I have attached a short note that sets out indicative road cross-sections as a basis for setting road reserve minima. The cross-section elements have been tweaked a little from my earlier email to Neil and have been set to give rounded numbers for the widths. This is not essential but makes it easy to distinguish road types. I have added an extra road cross-section for the Collectors.

Regards  
Chris

**Chris Rossiter**

Direct: 03 926 2206



---

**From:** Trevor Ellis <[trevor.ellis@wmk.govt.nz](mailto:trevor.ellis@wmk.govt.nz)>  
**Sent:** Monday, 12 October 2020 10:14 a.m.  
**To:** Rossiter, Chris <[chris.rossiter@stantec.com](mailto:chris.rossiter@stantec.com)>; Neil Sheerin <[neil.sheerin@wmk.govt.nz](mailto:neil.sheerin@wmk.govt.nz)>; Kelly LaValley <[kelly.lavalley@wmk.govt.nz](mailto:kelly.lavalley@wmk.govt.nz)>  
**Cc:** Joanne McBride <[joanne.mcbride@wmk.govt.nz](mailto:joanne.mcbride@wmk.govt.nz)>; Heike Downie <[heike.downie@wmk.govt.nz](mailto:heike.downie@wmk.govt.nz)>  
**Subject:** Rd Widths

Hi all,

Actions as I heard them:

1. Need 2 collector rd standards (1 to include shared paths), plus changes to Table 1
2. Kelly & Joanne to discuss shared path network and will this might apply
3. Chris to prepare short addendum to original reports
4. Kelly to organise cross sections in house (these sit in the ECOP), Chris to review
5. Chris to prepare fee proposal

Sound correct?

Heike, copied you in as this may have implications for the structure plan areas ....

Cheers

**Trevor Ellis | Development Planning Manager**  
Development Planning Unit  
Phone: 0800 965 468 (0800 WMK GOV)  
Mobile: 021435019



## Neil Sheerin

---

**From:** Neil Sheerin  
**Sent:** Monday, 17 May 2021 11:45 AM  
**To:** Rossiter, Chris  
**Subject:** RE: Rd Widths  
**Attachments:** Proposed New Road Design Standards.pdf

Thanks Chris.

Not sure if you are aware, but Bill Rice left last year, and the Council's new roading engineer is Shane Binder. Shane has reviewed your proposed road designs and there are a number of areas where he has suggested amendments. Attached is a copy of your proposed road designs (labelled c/o Stantec) and a copy of the same tables (labelled c/o Shane Binder) with his suggested amendments highlighted. It would be appreciated if you could comment on whether you agree with what he is suggesting. Shane is aware I am running this past you.

For my part, I do not support his suggestions to change cul-de-sacs to local road (low volume), or to change a local road (low volume) from 2 x 3.0m lanes to 1 x 4.0m lane, or to reduce the widths of the local road lanes from 3.5m to 3.3m (originally you had proposed these as 4m).

Shane argues that a cul-de-sac is really a local road (low volume) because of the traffic volume. My view is that the traffic volume is low because a cul-de-sac is not a through route. Subdivisions in this District seem to have a lot of cul-de-sacs because I guess it allows more room for house lots, so I think cul-de-sac should be retained. The major concern is that every developer will consider their internal roads as local road (low volume) because having one lane instead of two could save a lot of land, but the net result will be narrower roads. The Councillors have expressed a very strong preference for wider rather than narrower roads, because there are subdivisions with a lot of relatively narrow roads in the District and, when combined with on-street parking, make it very difficult to gain access especially for service and emergency vehicles. Same concern goes to reducing lane widths for local roads.

Please let me know what you think.

Regards

**Neil Sheerin** | Senior Policy Planner  
Development Planning Unit  
Phone: 0800 965 468 (0800 WMK GOV)

DDI:8706



---

**From:** Rossiter, Chris <chris.rossiter@stantec.com>  
**Sent:** Monday, 17 May 2021 11:13 AM  
**To:** Neil Sheerin <neil.sheerin@wmk.govt.nz>  
**Subject:** RE: Rd Widths

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Hi Neil

The table was there to provide a guide on minimum reserve width requirements and indicative cross-sections. There is no reason why a shared path could not be provided on an Arterial road if that was consistent with the cycle network. It will fit within the road reserve as the berm or service strip could be reduced or potentially the on-road cycle lanes removed.

Regards  
Chris

**Chris Rossiter**

Direct: 03 926 2206



---

**From:** Neil Sheerin <[neil.sheerin@wmk.govt.nz](mailto:neil.sheerin@wmk.govt.nz)>  
**Sent:** Monday, 17 May 2021 11:07 a.m.  
**To:** Rossiter, Chris <[chris.rossiter@stantec.com](mailto:chris.rossiter@stantec.com)>  
**Subject:** RE: Rd Widths

Thanks Chris. I guess then some might ask, why do collector roads and strategic roads have a shared use path but not arterials?

**Neil Sheerin | Senior Policy Planner**

Development Planning Unit  
Phone: 0800 965 468 (0800 WMK GOV)

DDI:8706



---

**From:** Rossiter, Chris <[chris.rossiter@stantec.com](mailto:chris.rossiter@stantec.com)>  
**Sent:** Monday, 17 May 2021 10:03 AM  
**To:** Neil Sheerin <[neil.sheerin@wmk.govt.nz](mailto:neil.sheerin@wmk.govt.nz)>  
**Subject:** RE: TRIM CM: RE: Rd Widths

**[THIS EMAIL IS FROM AN EXTERNAL SOURCE] DO NOT CLICK links or attachments unless you recognise the sender en**

Hi Neil

From memory, I think that this was just a widened footpath – it is not wide enough to be a shared path. There is a case for swapping the dimensions of the footpath and cycle lane as the arterial roads are likely to be higher speed which would warrant wider cycle lanes.

Regards  
Chris

**Chris Rossiter**

Direct: 03 926 2206





**From:** Neil Sheerin <[neil.sheerin@wmk.govt.nz](mailto:neil.sheerin@wmk.govt.nz)>  
**Sent:** Monday, 17 May 2021 9:10 a.m.  
**To:** Rossiter, Chris <[chris.rossiter@stantec.com](mailto:chris.rossiter@stantec.com)>  
**Subject:** FW: TRIM CM: RE: Rd Widths

Hi Chris

I refer to your email below and attached revised urban road widths.

I have a question regarding shared off-road paths.

I note you refer to the wider 2.5m paths recommended for strategic roads as being shared off-road paths for pedestrians and cyclists (although the table is not headed to reflect this), as per collector roads with shared 2.5m paths. However I note the arterial roads have 2m paths, which is wider than paths for cul-de-sacs, local roads or collector roads (without shared paths), but not as wide as the 2.5m paths for strategic roads. Are the 2m paths for arterials intended to be shared paths for pedestrians and cyclists, or just wide footpaths?

Regards

**Neil Sheerin** | Senior Policy Planner  
Development Planning Unit  
Phone: 0800 965 468 (0800 WMK GOV)

DDI:8706

External DDI: 03 266 9166



**From:** Rossiter, Chris <[chris.rossiter@stantec.com](mailto:chris.rossiter@stantec.com)>  
**Sent:** Friday, 16 October 2020 8:41 AM  
**To:** Trevor Ellis <[trevor.ellis@wmk.govt.nz](mailto:trevor.ellis@wmk.govt.nz)>; Neil Sheerin <[neil.sheerin@wmk.govt.nz](mailto:neil.sheerin@wmk.govt.nz)>; Kelly LaValley <[kelly.lavalley@wmk.govt.nz](mailto:kelly.lavalley@wmk.govt.nz)>  
**Cc:** Joanne McBride <[joanne.mcbride@wmk.govt.nz](mailto:joanne.mcbride@wmk.govt.nz)>; Heike Downie <[heike.downie@wmk.govt.nz](mailto:heike.downie@wmk.govt.nz)>  
**Subject:** TRIM CM: RE: Rd Widths

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Hi

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Regards  
Chris

**Chris Rossiter**

Direct: 03 926 2206



**Current Draft Proposed New Road Design Standards (c/o Stantec)**

**Table TRAN-2: Design standards for new sealed roads where the posted speed limit is 60km/hr or less**

<b>Design element</b>						
<b>Road type</b>	<b>Cul-de-sac <sup>1</sup></b>	<b>Local Road</b>	<b>Collector Road</b>	<b>Collector Road (Shared Path)</b>	<b>Arterial Road</b>	<b>Strategic Road</b>
Typical design AADT	< 150	150-500	500-1,000	500-1,000	1,000-3,000	>3,000
Design speed	30 km/h	30 km/h	40 km/h	40 km/h	50 km/h	50 km/h
Road reserve width (m)	16.0	17.0	22.0	23.0	24.0	25.0
Service strip (m)	1.2	1.2	1.2	1.2	1.2	1.5
Footpath (m)	1.8	1.8	1.8	2.5	1.8	2.5
Berm/tree/parking (m)	2.0	2.0	2.7	2.5	2.5	4.0
Cycle lane <sup>2</sup> (m)			1.8	1.8	2.0	
Traffic lane (m)	3.0	3.5	3.5	3.5	3.5	3.5
Median (m)					2.0	2.0
Traffic lane (m)	3.0	3.5	3.5	3.5	3.5	3.5
Cycle lane <sup>2</sup> (m)			1.8	1.8	2.0	
Berm/tree/parking (m)	2.0	2.0	2.7	2.5	2.5	4.0
Footpath (m)	1.8	1.8	1.8	2.5	1.8	2.5
Service strip (m)	1.2	1.2	1.2	1.2	1.2	1.5
On-street parking space supply rate (per household)	0.5	0.5	0.5	0.5	0.5	

1. For urban design and traffic design reasons the maximum length for a cul-de-sac is 150m.

2. Where cycle lanes are required these shall be permanently marked.

**Table TRAN-3: Design standards for new sealed roads where the posted speed limit is 70km/hr or above**

<b>Design element</b>					
<b>Road type</b>	<b>Cul-de-sac <sup>1</sup></b>	<b>Local Road</b>	<b>Collector Road</b>	<b>Arterial Road</b>	<b>Strategic Road</b>
Typical design AADT	< 150	150-500	500-1,000	1,000-3,000	>3,000
Road reserve width (m)	20.0	20.0	20.0	20.0	20.0
Traffic lanes (m)	1 x 3.5	2 x 3.3	2 x 3.5	2 x 3.5	2 x 3.5
Total width each shoulder (m)	2.5	1.5	1.5	2.0	2.5
Minimum seal width <sup>2</sup> each shoulder (m)	0.0	0.5	0.5	1.5	2.0
Total carriageway (m)	8.5	9.6	10.0	11.0	12.0

1. For urban design and traffic design reasons the maximum length for a cul-de-sac is 150m.

2. The minimum sealed shoulder width shall be used to cater for cycling in lieu of marked cycle lanes.



**WDC Rooding Proposed REVISED New Road Design Standards (c/o Shane Binder)**

**Table TRAN-2: Design standards for new sealed roads where the posted speed limit is 60km/hr or less**

Design element						
Road type	Cul-de-sac <sup>1</sup> Local Road (Low Volume)	Local Road	Collector Road	Collector Road (with Shared Use Path)	Arterial Road	Strategic Road (with Shared Use Path)
Typical design AADT	< 150	150-500	500-1,000	500-1,000	1,000-3,000	>3,000
Design speed	30 km/h	30 km/h	40 km/h	40 km/h	50 km/h	50 km/h
Road reserve width (m)	16.0	17.0	22.0	23.0	24.0	25.0
Service strip (m)	1.2	1.2	1.2	1.2	1.2	1.5
Footpath (m)	1.8	1.8	1.8	2.5	1.8	2.5
Shared Use Path (m) (one side of road)				2.5		2.5
Berm/tree/parking (m)	2.0	2.0	2.7	2.5	2.5	4.0
Cycle lane <sup>2</sup> (m)			1.8	1.8	2.0	
Traffic lane (m)	3.0 1 x 4.0	3.5 3.3	3.5	3.5	3.5	3.5
Median (m)					2.0	2.0
Traffic lane (m)	3.0	3.5 3.3	3.5	3.5	3.5	3.5
Cycle lane <sup>2</sup> (m)			1.8	1.8	2.0	
Berm/tree/parking (m)	2.0	2.0	2.7	2.5	2.5	4.0
Footpath (m)	1.8	1.8	1.8	2.5 1.8	1.8	2.5 1.8
Service strip (m)	1.2	1.2	1.2	1.2	1.2	1.5
Minimum carriageway width (m)	6.0	8.0				
On-street parking space supply rate (per household)	0.5	0.5	0.5	0.5	0.5	

1. For urban design and traffic design reasons The maximum length for a cul-de-sac is 150m.

2. Where cycle lanes are required these shall be permanently marked.

**Table TRAN-3: Design standards for new sealed roads where the posted speed limit is 70km/hr or above**

Design element					
Road type	Cul-de-sac <sup>1</sup> Local Road (Low Volume)	Local Road	Collector Road	Arterial Road	Strategic Road
Typical design AADT	< 150	150-500	500-1,000	1,000-3,000	>3,000
Road reserve width (m)	20.0	20.0	20.0	20.0	20.0
Traffic lanes (m)	1 x 3.5	2 x 3.3	2 x 3.5	2 x 3.5	2 x 3.5
Total width each shoulder (m)	2.5	1.5	1.5	2.0	2.5
Minimum seal width <sup>2</sup> each shoulder (m)	0.0 0.5-1.0	0.5	0.5	1.5	2.0
Total Minimum carriageway width (m)	8.5	9.6	10.0	11.0	12.0

1. For urban design and traffic design reasons The maximum length for a cul-de-sac is 150m.

2. The minimum sealed shoulder width shall be used to cater for cycling in lieu of marked cycle lanes.

## Neil Sheerin

---

**From:** Rossiter, Chris <chris.rossiter@stantec.com>  
**Sent:** Monday, 17 May 2021 1:40 PM  
**To:** Neil Sheerin  
**Subject:** RE: Rd Widths

**[THIS EMAIL IS FROM AN EXTERNAL SOURCE] DO NOT CLICK links or attachments unless you recognise the sender email address**

Hi Neil

I am happy to replace the label for column 1 from cul-de-sac to low volume road as this is a more generic term. The footnote regarding maximum length is still applicable.

I disagree with reducing the low volume roads to 4m wide. This is inconsistent with NZS4404 for local roads with 6-200 properties. 4m would only be appropriate on private ROWs with less than 6 properties and would require passing bays to be provided at 50m intervals. While NZS4404 recommends carriageway widths of 5.5-5.7, we recommended 6m to address concerns with emergency vehicle access when vehicles are parked on the road. This size is consistent with the minimum widths that are now accepted by CCC and SDC. In Queenstown, the Engineering Code of Practice requires that 'No-stopping' lines are marked on one side of any roads of this size.

Our aim with the local road category was to have a carriageway cross-section that was visually different from the low-volume (cul-de-sac) category. The 6.6m width proposed by Shane would not achieve this. It would still require no-stopping on one side of the road to ensure emergency vehicle access. My current preference would be a carriageway width of 8m (noting that our cross-section was based on 7m for consistency with the higher order roads) but with kerb extensions at intersections to reduce widths to 6m – this is an Engineering Code of Practice issue rather than District Plan issue and is just one measure that will contribute to the lower speed environment. The reason for 8m is that it would allow parking on both sides of the road and still allow for 4m wide emergency vehicle access between them. NZS4404 suggests widths in the range 7.2-7.5m to allow this but provides less space between the parked vehicles. I consider that the difference between the roads could be based on the parking provision, i.e. one side only on low volume roads and both sides on local roads. On the higher volume local roads / collector road, we had anticipated that parking would be provided in indented bays so that the movement lanes remained unobstructed.

Since the design speed for the local roads is 30km/h, a matter for consideration is what methods are acceptable to Council to achieve the desired speed. This is probably a Code of Practice issue as that could list acceptable mitigation methods. Horizontal deflection will often be better in residential zones as it requires vehicles to give way and does not generate noise in the same way that raised deflection would. However, raised intersections can be a good control.

Shared Use Paths – I note that Shane is proposing that these are only required on one side of the road. My preference is to have them on both sides of the road as this provides greater flexibility and potentially reduces the need for a cyclist to cross the road. Ultimately it will depend upon the road location and how the paths link to the wider cycle network. It may be better to cover this off with a footnote to indicate WDC preference, e.g. single shared path is permissible subject to approval from Council and alignment with cycle network.

I trust this helps but would be happy to discuss as necessary

Regards  
Chris

**Chris Rossiter**

Direct: 03 926 2206



**From:** Neil Sheerin <neil.sheerin@wmk.govt.nz>  
**Sent:** Monday, 17 May 2021 11:45 a.m.  
**To:** Rossiter, Chris <chris.rossiter@stantec.com>  
**Subject:** RE: Rd Widths

Thanks Chris.

Not sure if you are aware, but Bill Rice left last year, and the Council's new roading engineer is Shane Binder. Shane has reviewed your proposed road designs and there are a number of areas where he has suggested amendments. Attached is a copy of your proposed road designs (labelled c/o Stantec) and a copy of the same tables (labelled c/o Shane Binder) with his suggested amendments highlighted. It would be appreciated if you could comment on whether you agree with what he is suggesting. Shane is aware I am running this past you.

For my part, I do not support his suggestions to change cul-de-sacs to local road (low volume), or to change a local road (low volume) from 2 x 3.0m lanes to 1 x 4.0m lane, or to reduce the widths of the local road lanes from 3.5m to 3.3m (originally you had proposed these as 4m).

Shane argues that a cul-de-sac is really a local road (low volume) because of the traffic volume. My view is that the traffic volume is low because a cul-de-sac is not a through route. Subdivisions in this District seem to have a lot of cul-de-sacs because I guess it allows more room for house lots, so I think cul-de-sac should be retained. The major concern is that every developer will consider their internal roads as local road (low volume) because having one lane instead of two could save a lot of land, but the net result will be narrower roads. The Councillors have expressed a very strong preference for wider rather than narrower roads, because there are subdivisions with a lot of relatively narrow roads in the District and, when combined with on-street parking, make it very difficult to gain access especially for service and emergency vehicles. Same concern goes to reducing lane widths for local roads.

Please let me know what you think.

Regards

**Neil Sheerin | Senior Policy Planner**

Development Planning Unit  
Phone: 0800 965 468 (0800 WMK GOV)

DDI:8706



waimakariri.govt.nz

---

**From:** Rossiter, Chris <[chris.rossiter@stantec.com](mailto:chris.rossiter@stantec.com)>  
**Sent:** Monday, 17 May 2021 11:13 AM  
**To:** Neil Sheerin <[neil.sheerin@wmk.govt.nz](mailto:neil.sheerin@wmk.govt.nz)>  
**Subject:** RE: Rd Widths

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Hi Neil

The table was there to provide a guide on minimum reserve width requirements and indicative cross-sections. There is no reason why a shared path could not be provided on an Arterial road if that was consistent with the cycle network. It will fit within the road reserve as the berm or service strip could be reduced or potentially the on-road cycle lanes removed.

Regards  
Chris

**Chris Rossiter**

Direct: 03 926 2206



---

**From:** Neil Sheerin <[neil.sheerin@wmk.govt.nz](mailto:neil.sheerin@wmk.govt.nz)>  
**Sent:** Monday, 17 May 2021 11:07 a.m.  
**To:** Rossiter, Chris <[chris.rossiter@stantec.com](mailto:chris.rossiter@stantec.com)>  
**Subject:** RE: Rd Widths

Thanks Chris. I guess then some might ask, why do collector roads and strategic roads have a shared use path but not arterials?

**Neil Sheerin | Senior Policy Planner**

Development Planning Unit  
Phone: 0800 965 468 (0800 WMK GOV)

DDI:8706



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**From:** Rossiter, Chris <[chris.rossiter@stantec.com](mailto:chris.rossiter@stantec.com)>  
**Sent:** Monday, 17 May 2021 10:03 AM  
**To:** Neil Sheerin <[neil.sheerin@wmk.govt.nz](mailto:neil.sheerin@wmk.govt.nz)>  
**Subject:** RE: TRIM CM: RE: Rd Widths

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Hi Neil

From memory, I think that this was just a widened footpath – it is not wide enough to be a shared path. There is a case for swapping the dimensions of the footpath and cycle lane as the arterial roads are likely to be higher speed which would warrant wider cycle lanes.

Regards  
Chris

**Chris Rossiter**

Direct: 03 926 2206



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**From:** Neil Sheerin <[neil.sheerin@wmk.govt.nz](mailto:neil.sheerin@wmk.govt.nz)>  
**Sent:** Monday, 17 May 2021 9:10 a.m.  
**To:** Rossiter, Chris <[chris.rossiter@stantec.com](mailto:chris.rossiter@stantec.com)>  
**Subject:** FW: TRIM CM: RE: Rd Widths



Hi Chris

I refer to your email below and attached revised urban road widths.

I have a question regarding shared off-road paths.

I note you refer to the wider 2.5m paths recommended for strategic roads as being shared off-road paths for pedestrians and cyclists (although the table is not headed to reflect this), as per collector roads with shared 2.5m paths. However I note the arterial roads have 2m paths, which is wider than paths for cul-de-sacs, local roads or collector roads (without shared paths), but not as wide as the 2.5m paths for strategic roads. Are the 2m paths for arterials intended to be shared paths for pedestrians and cyclists, or just wide footpaths?

Regards

**Neil Sheerin | Senior Policy Planner**

Development Planning Unit  
Phone: 0800 965 468 (0800 WMK GOV)

DDI:8706

External DDI: 03 266 9166



**From:** Rossiter, Chris <[chris.rossiter@stantec.com](mailto:chris.rossiter@stantec.com)>

**Sent:** Friday, 16 October 2020 8:41 AM

**To:** Trevor Ellis <[trevor.ellis@wmk.govt.nz](mailto:trevor.ellis@wmk.govt.nz)>; Neil Sheerin <[neil.sheerin@wmk.govt.nz](mailto:neil.sheerin@wmk.govt.nz)>; Kelly LaValley <[kelly.lavalley@wmk.govt.nz](mailto:kelly.lavalley@wmk.govt.nz)>

**Cc:** Joanne McBride <[joanne.mcbride@wmk.govt.nz](mailto:joanne.mcbride@wmk.govt.nz)>; Heike Downie <[heike.downie@wmk.govt.nz](mailto:heike.downie@wmk.govt.nz)>

**Subject:** TRIM CM: RE: Rd Widths

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Hi

I have attached a short note that sets out indicative road cross-sections as a basis for setting road reserve minima. The cross-section elements have been tweaked a little from my earlier email to Neil and have been set to give rounded numbers for the widths. This is not essential but makes it easy to distinguish road types. I have added an extra road cross-section for the Collectors.

Regards  
Chris

**Chris Rossiter**

Direct: 03 926 2206



## Neil Sheerin

---

**From:** Neil Sheerin  
**Sent:** Tuesday, 18 May 2021 4:32 PM  
**To:** Rossiter, Chris; Shane Binder  
**Subject:** WDC District Plan Review - Transport - Proposed Road Design Standards  
**Attachments:** Proposed New Road Design Standards v2.docx

Thanks for your time today.

Notwithstanding your re-work Shane, attached are the revisions I took from our discussions today for your comment.

**Neil Sheerin** | Senior Policy Planner

Development Planning Unit

Phone: 0800 965 468 (0800 WMK GOV)

DDI:8706



Design element						
Road type	Low Volume Local Road <sup>1</sup>	Local Road	Collector Road	Collector Road (with shared use path)	Arterial Road	Strategic Road
Typical design AADT	< 150	150-500	500-1,000	500-1,000	1,000-3,000	>3,000
Typical number of sites serviced	< 20	20-200				
Design speed	30 km/h	30 km/h	40 km/h	40 km/h	50 km/h	50 km/h
Road reserve width (m)	16.0	17.0	22.0	23.0	24.0	26.0
Service strip (m)	1.2	1.2	1.2	1.2	1.2	1.5
Footpath (m)	1.8	1.8	1.8		1.8	
Shared use path (m) (one side of road)				2.5		2.5
Berm/tree/parking (m)	2.0	2.0	2.7	2.5	2.5	4.0
Cycle lane <sup>2</sup> (m)			1.8	1.8	2.0	
Traffic lane (m)	3.0	3.5	3.5	3.5	3.5	3.5
Median (m)					2.0	2.0
Traffic lane (m)	3.0	3.5	3.5	3.5	3.5	3.5
Cycle lane <sup>2</sup> (m)			1.8	1.8	2.0	2.0
Berm/tree/parking (m)	2.0	2.0	2.7	2.5	2.5	4.0
Footpath (m)	1.8	1.8	1.8	1.8	1.8	1.8
Service strip (m)	1.2	1.2	1.2	1.2	1.2	1.2
On-street parking space supply rate (per household)	0.5	0.5	0.5	0.5	0.5	

1. The maximum length for a cul-de-sac is 150m.

2. Where cycle lanes are required these shall be permanently marked.

Design element					
Road type	Low Volume Local Road <sup>1</sup>	Local Road	Collector Road	Arterial Road	Strategic Road
Typical design AADT	< 150	150-500	500-1,000	1,000-3,000	>3,000
Typical number of sites serviced	< 20	20-200			
Road reserve width (m)	20.0	20.0	20.0	20.0	20.0
Traffic lanes (m)	1 x 3.5	2 x 3.3	2 x 3.5	2 x 3.5	2 x 3.5
Total width each shoulder (m)	2.5	1.5	1.5	2.0	2.5
Minimum seal width <sup>2</sup> each shoulder (m)	0.5-1.0	1.0	1.0	1.5	2.0
Minimum carriageway width (m)	8.5	9.6	10.0	11.0	12.0

1. The maximum length for a cul-de-sac is 150m.

2. The minimum sealed shoulder width shall be used to cater for cycling in lieu of marked cycle lanes.

## Neil Sheerin

---

**From:** Shane Binder  
**Sent:** Tuesday, 18 May 2021 5:08 PM  
**To:** Neil Sheerin; Rossiter, Chris  
**Subject:** RE: WDC District Plan Review - Transport - Proposed Road Design Standards  
**Attachments:** District Plan Table TRAN-2 revisions SIB.xlsx

See attached for the proposed table with yellow highlighted revisions. I will follow up internally on cross-sections.

Shane

### Shane Binder | [Transportation Engineer](#)

[Roading](#)

Phone: 0800 965 468 (0800 WMK GOV)

Mobile: 027 241 3243



[waimakariri.govt.nz](http://waimakariri.govt.nz)

---

**From:** Neil Sheerin <[neil.sheerin@wmk.govt.nz](mailto:neil.sheerin@wmk.govt.nz)>  
**Sent:** Tuesday, 18 May 2021 4:32 PM  
**To:** Rossiter, Chris <[chris.rossiter@stantec.com](mailto:chris.rossiter@stantec.com)>; Shane Binder <[shane.binder@wmk.govt.nz](mailto:shane.binder@wmk.govt.nz)>  
**Subject:** WDC District Plan Review - Transport - Proposed Road Design Standards

Thanks for your time today.

Notwithstanding your re-work Shane, attached are the revisions I took from our discussions today for your comment.

### Neil Sheerin | [Senior Policy Planner](#)

[Development Planning Unit](#)

Phone: 0800 965 468 (0800 WMK GOV)

DDI:8706



[waimakariri.govt.nz](http://waimakariri.govt.nz)



	Low Volume	Local Road	Collector Road	Collector Road (Shared-Use Path)	Arterial Road	Strategic Road	
Typical Design AADT	<150	150-500	501-1,000	501-1,000	1,001-3,000	>3,000	
Target Operating Speed	20	30	40	40	50	50	
Road Reserve Width	16.0	18.0	22.0	23.0	24.0	25.0	
Service Strip	1.2	1.2	1.2	1.2	1.2	1.5	
Footpath/Shared-Use Path	1.8	1.8	1.8	2.5	2.0	2.5	
Berm/Trees	2.0	2.0	2.7	2.7	2.5	4.0	
Parking	6.0	8.0	2.7	2.7	2.5	4.0	
Cycle Lane			1.8	1.8	1.8		
Travel Lane			3.5	3.5	3.5	3.5	
Median						2.0	2.0
Travel Lane			3.5	3.5	3.5	3.5	3.5
Cycle Lane			1.8	1.8	1.8	1.8	
Parking			2.7	3.0	2.5	4.0	
Berm/Trees	2.0	2.0					
Footpath	1.8	1.8	1.8	1.8	2.0	2.5	
Service Strip	1.2	1.2	1.2	1.2	1.2	1.5	
On-Street Parking Supply (per household)	0.5	0.5	0.5	0.5	0.5		

**Notes:**

Cells in yellow have been revised

Remove Minimum Carriageway Width row with these modifications

Add notes for Low Volume specifying maximum length of 150m and typically serving maximum of 20 dwelling units

Revise "Cul-de-sac" label on table TRAN-3 to match first column in TRAN-2

Add reference to on-street parking design standards in Table TRAN-9

## Neil Sheerin

---

**From:** Rossiter, Chris <chris.rossiter@stantec.com>  
**Sent:** Wednesday, 19 May 2021 8:36 AM  
**To:** Shane Binder; Neil Sheerin  
**Subject:** RE: WDC District Plan Review - Transport - Proposed Road Design Standards  
**Attachments:** District Plan Table TRAN-2 revisions SIB CR.xlsx

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Hi Shane

After some thinking overnight, I consider that provision for a shared path on the arterial network would make sense so I have marked some amendments to achieve this. I have also included an indicative cross-section for a rural arterial road again with an off-road path. This differs from the urban one in that it has wide shoulders as we would not normally form a kerbed road in rural areas. The carriageway cross-section reflects the one that we had proposed for the western corridor route to create an 80km/h environment, that is with narrower lanes and a wide centre line treatment.

Regards  
Chris

**Chris Rossiter**

Direct: 03 926 2206



---

**From:** Shane Binder <shane.binder@wmk.govt.nz>  
**Sent:** Tuesday, 18 May 2021 5:08 p.m.  
**To:** Neil Sheerin <neil.sheerin@wmk.govt.nz>; Rossiter, Chris <chris.rossiter@stantec.com>  
**Subject:** RE: WDC District Plan Review - Transport - Proposed Road Design Standards

See attached for the proposed table with yellow highlighted revisions. I will follow up internally on cross-sections.

Shane

**Shane Binder | Transportation Engineer**

**Roading**

**Phone: 0800 965 468 (0800 WMK GOV)**

**Mobile: 027 241 3243**



---

**From:** Neil Sheerin <neil.sheerin@wmk.govt.nz>  
**Sent:** Tuesday, 18 May 2021 4:32 PM  
**To:** Rossiter, Chris <chris.rossiter@stantec.com>; Shane Binder <shane.binder@wmk.govt.nz>  
**Subject:** WDC District Plan Review - Transport - Proposed Road Design Standards

Thanks for your time today.

Notwithstanding your re-work Shane, attached are the revisions I took from our discussions today for your comment.

**Neil Sheerin | Senior Policy Planner**  
Development Planning Unit  
Phone: 0800 965 468 (0800 WMK GOV)

DDI:8706



	Low Volume	Local Road	Collector Road	Collector Road (Shared-Use Path)	Arterial Road	Strategic Road	Strategic Road (Rural)
Typical Design AADT	<150	150-500	501-1,000	501-1,000	1,001-3,000	>3,000	>3,000
Target Operating Speed	20	30	40	40	50	50	80
Road Reserve Width	16.0	18.0	22.0	23.0	24.0	25.0	25.0
Service Strip	1.2	1.2	1.2	1.2	1.2	1.5	1.5
Footpath/Shared-Use Path	1.8	1.8	1.8	2.5	2.5	2.5	2.5
Berm/Trees	2.0	2.0	2.7	2.7	2.5	4.0	3.5
Parking	6.0	8.0	1.8	1.8	1.8		1.5
Cycle Lane / Shoulder			3.5	3.5	3.5	3.5	3.2
Travel Lane					2.0	2.0	0.6
Median			3.5	3.5	3.5	3.5	3.2
Travel Lane			1.8	1.8	1.8		1.5
Cycle Lane / Shoulder			2.7	3.0	2.2	4.0	3.5
Parking			2.0	2.0			
Berm/Trees	1.8	1.8	1.8	1.8	1.8	2.5	2.5
Footpath	1.2	1.2	1.2	1.2	1.2	1.5	1.5
Service Strip	0.5	0.5	0.5	0.5	0.5		
On-Street Parking Supply (per household)							

Notes:

Cells in yellow have been revised

Remove Minimum Carriageway Width row with these modifications

Add notes for Low Volume specifying maximum length of 150m and typically serving maximum of 20 dwelling units

Revise "Cul-de-sac" label on table TRAN-3 to match first column in TRAN-2

Add reference to on-street parking design standards in Table TRAN-9

## Neil Sheerin

---

**From:** Rossiter, Chris <chris.rossiter@stantec.com>  
**Sent:** Wednesday, 19 May 2021 12:14 PM  
**To:** Neil Sheerin  
**Cc:** Shane Binder  
**Subject:** RE: WDC District Plan Review - Transport - Proposed Road Design Standards

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Hi Neil

The cross-sections for the higher speed roads do not provide adequate space for footpaths / cycle routes as the widths were aligned to the existing Council standards. The carriageways are effectively 11-12m wide on the Arterial and Strategic roads and assume that drainage is into the adjacent berms which are 4-5m wide. Allocating 2.5m of this to a shared path leaves little space for services such as power poles or drainage. Without getting into too much design detail, it would be desirable to widen the reserve requirements so that they align with the urban road cross-sections. One option would be to increase the reserve width requirements as follows:

Collector Road	22m
Arterial Road	24m
Strategic Road	25m

In practice, we don't anticipate any new roads of this form being constructed in the district so this is more about signalling an intent.

Chris

**Chris Rossiter**

Direct: 03 926 2206



---

**From:** Neil Sheerin <neil.sheerin@wmk.govt.nz>  
**Sent:** Wednesday, 19 May 2021 11:56 a.m.  
**To:** Rossiter, Chris <chris.rossiter@stantec.com>  
**Cc:** Shane Binder <shane.binder@wmk.govt.nz>  
**Subject:** RE: WDC District Plan Review - Transport - Proposed Road Design Standards

Chris –

The proposed revisions in the Excel table you and Shane have circulated predominantly contain design standards for roads where the posted speed limit is 60km/hr or less, which relates to the first of the tables I sent late yesterday. However your column for "strategic road (rural)" has a target operating speed of 80km/hr, so this should apply to the second table I circulated yesterday which contains design standards for roads where the posted speed limit is 70km/hr or more. However in the second table the road reserve is 20m but in the Excel table it is 25m. So how would you reconcile the differences?

**Neil Sheerin** | Senior Policy Planner  
Development Planning Unit  
Phone: 0800 965 468 (0800 WMK GOV)

DDI:8706

External DDI: 03 266 9166

---

**From:** Rossiter, Chris <[chris.rossiter@stantec.com](mailto:chris.rossiter@stantec.com)>  
**Sent:** Wednesday, 19 May 2021 10:10 AM  
**To:** Neil Sheerin <[neil.sheerin@wmk.govt.nz](mailto:neil.sheerin@wmk.govt.nz)>  
**Cc:** Shane Binder <[shane.binder@wmk.govt.nz](mailto:shane.binder@wmk.govt.nz)>  
**Subject:** RE: TRIM CM: RE: WDC District Plan Review - Transport - Proposed Road Design Standards

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Hi Neil

I was trying to be consistent with Shane's change which only had one shared path on the Collector roads. This does mean that the road centre line does not align with the reserve centre line. We could make some adjustments to the various width assignments to get the carriageway centred in the reserve.

Regards  
Chris

**Chris Rossiter**

Direct: 03 926 2206



---

**From:** Neil Sheerin <[neil.sheerin@wmk.govt.nz](mailto:neil.sheerin@wmk.govt.nz)>  
**Sent:** Wednesday, 19 May 2021 10:02 a.m.  
**To:** Rossiter, Chris <[chris.rossiter@stantec.com](mailto:chris.rossiter@stantec.com)>  
**Cc:** Shane Binder <[shane.binder@wmk.govt.nz](mailto:shane.binder@wmk.govt.nz)>  
**Subject:** RE: TRIM CM: RE: WDC District Plan Review - Transport - Proposed Road Design Standards

Thanks Chris.

I notice that the berm/trees/parking strip on one side of arterial roads is narrower than the other – is there a particular reason or is it just to fit it in?

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**Neil Sheerin | Senior Policy Planner**  
Development Planning Unit  
Phone: 0800 965 468 (0800 WMK GOV)

DDI:8706



**From:** Rossiter, Chris <[chris.rossiter@stantec.com](mailto:chris.rossiter@stantec.com)>  
**Sent:** Wednesday, 19 May 2021 9:03 AM  
**To:** Neil Sheerin <[neil.sheerin@wmk.govt.nz](mailto:neil.sheerin@wmk.govt.nz)>; Shane Binder <[shane.binder@wmk.govt.nz](mailto:shane.binder@wmk.govt.nz)>  
**Subject:** TRIM CM: RE: WDC District Plan Review - Transport - Proposed Road Design Standards

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Direct: 03 926 2206



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Development Planning Unit  
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DDI:8706



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**Subject:** RE: WDC District Plan Review - Transport - Proposed Road Design Standards

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Regards  
Chris

**Chris Rossiter**

Direct: 03 926 2206



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**Sent:** Tuesday, 18 May 2021 5:08 p.m.  
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**Subject:** RE: WDC District Plan Review - Transport - Proposed Road Design Standards

See attached for the proposed table with yellow highlighted revisions. I will follow up internally on cross-sections.  
Shane

**Shane Binder | Transportation Engineer**

Roading

Phone: 0800 965 468 (0800 WMK GOV)

Mobile: 027 241 3243



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**From:** Neil Sheerin <[neil.sheerin@wmk.govt.nz](mailto:neil.sheerin@wmk.govt.nz)>  
**Sent:** Tuesday, 18 May 2021 4:32 PM  
**To:** Rossiter, Chris <[chris.rossiter@stantec.com](mailto:chris.rossiter@stantec.com)>; Shane Binder <[shane.binder@wmk.govt.nz](mailto:shane.binder@wmk.govt.nz)>  
**Subject:** WDC District Plan Review - Transport - Proposed Road Design Standards

Thanks for your time today.

Notwithstanding your re-work Shane, attached are the revisions I took from our discussions today for your comment.

**Neil Sheerin | Senior Policy Planner**

Development Planning Unit

Phone: 0800 965 468 (0800 WMK GOV)

DDI:8706





Subject: RE: WDC District Plan Review - Transport - Proposed Road Design Standards  
Date: 20/05/2021 7:03 AM  
From: "Rossiter, Chris" <chris.rossiter@stantec.com>  
To: "Shane Binder" <shane.binder@wmk.govt.nz>

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I think that represents a good approach as it does not tie Council into a specific cross-section when off-road paths are being provided. The wording of any associated rule will be challenging unless you incorporate the cycle network map into the plan.

Chris

**Chris Rossiter**

Direct: 03 926 2206



---

**From:** Shane Binder <shane.binder@wmk.govt.nz>  
**Sent:** Wednesday, 19 May 2021 11:09 p.m.  
**To:** Rossiter, Chris <chris.rossiter@stantec.com>  
**Subject:** Re: WDC District Plan Review - Transport - Proposed Road Design Standards

I may be under-thinking this but I wonder if we are over-thinking off-road paths. At present, we have identified a future cycling network on selected roads, which is to say that not all collectors or arterials will have shared-use paths, only those identified in the plan. As the District Plan table sets out a minimum cross-section, what would the implications be of removing all references to shared-use paths and just noting that the Rooding reserve would have to be widened where an off-road facility has been identified for future construction? This variable condition would be similar to other site-specific conditions such as drainage, which are also not specified in the District Plan. Thoughts?  
Shane

**Shane Binder | Transportation Engineer**  
**Rooding**  
**Phone: 0800 965 468 (0800 WMK GOV)**  
**Mobile: 027 241 3242**

---

**From:** Rossiter, Chris <chris.rossiter@stantec.com>  
**Sent:** Wednesday, May 19, 2021 12:14:07 PM  
**To:** Neil Sheerin <neil.sheerin@wmk.govt.nz>  
**Cc:** Shane Binder <shane.binder@wmk.govt.nz>  
**Subject:** RE: WDC District Plan Review - Transport - Proposed Road Design Standards

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Hi Neil

The cross-sections for the higher speed roads do not provide adequate space for footpaths / cycle routes as the widths were aligned to the existing Council standards. The carriageways are effectively 11-12m wide on the Arterial and Strategic roads and assume that drainage is into the adjacent berms which are 4-5m wide. Allocating 2.5m of this to a shared path leaves little space for services such as power poles or drainage. Without getting into too much design detail, it would be desirable to widen the reserve requirements so that they align with the urban road cross-sections. One option would be to increase the reserve width requirements as follows:

Collector Road	22m
Arterial Road	24m
Strategic Road	25m

In practice, we don't anticipate any new roads of this form being constructed in the district so this is more about signalling an intent.

Chris

**Chris Rossiter**

Direct: 03 926 2206



---

**From:** Neil Sheerin <neil.sheerin@wmk.govt.nz>  
**Sent:** Wednesday, 19 May 2021 11:56 a.m.  
**To:** Rossiter, Chris <chris.rossiter@stantec.com>  
**Cc:** Shane Binder <shane.binder@wmk.govt.nz>  
**Subject:** RE: WDC District Plan Review - Transport - Proposed Road Design Standards

Chris –

The proposed revisions in the Excel table you and Shane have circulated predominantly contain design standards for roads where the posted speed limit is 60km/hr or less, which relates to the first of the tables I sent late yesterday. However your column for "strategic road (rural)" has a target operating speed of 80km/hr, so this should apply to the second table I circulated yesterday which contains design standards for roads where the posted speed limit is 70km/hr or more. However in the second table the road reserve is 20m but in the Excel table it is 25m. So how would you reconcile the differences?

**Neil Sheerin | Senior Policy Planner**

Development Planning Unit  
Phone: 0800 965 468 (0800 WMK GOV)

DDI: 8706  
External DDI: 03 266 9166

**From:** Rossiter, Chris <[chris.rossiter@stantec.com](mailto:chris.rossiter@stantec.com)>  
**Sent:** Wednesday, 19 May 2021 10:10 AM  
**To:** Neil Sheerin <[neil.sheerin@wmk.govt.nz](mailto:neil.sheerin@wmk.govt.nz)>  
**Cc:** Shane Binder <[shane.binder@wmk.govt.nz](mailto:shane.binder@wmk.govt.nz)>  
**Subject:** RE: TRIM CM: RE: WDC District Plan Review - Transport - Proposed Road Design Standards

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Hi Neil

I was trying to be consistent with Shane's change which only had one shared path on the Collector roads. This does mean that the road centre line does not align with the reserve centre line. We could make some adjustments to the various width assignments to get the carriageway centred in the reserve.

Regards  
Chris

**Chris Rossiter**

Direct: 03 926 2206



**From:** Neil Sheerin <[neil.sheerin@wmk.govt.nz](mailto:neil.sheerin@wmk.govt.nz)>  
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Thanks Chris.

I notice that the berm/trees/parking strip on one side of arterial roads is narrower than the other – is there a particular reason or is it just to fit it in?

I also notice there is no cycle provision on one side of strategic roads – again, is there a particular reason or is it just to fit it in?

**Neil Sheerin | Senior Policy Planner**

Development Planning Unit  
Phone: 0800 965 468 (0800 WMK GOV)

DDI: #706

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Development Planning Unit  
Phone: 0800 965 468 (0800 WMK GOV)

DDI:8706



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**Shane Binder** | Transportation Engineer

Roading  
Phone: 0800 965 468 (0800 WMK GOV)  
Mobile: 027 241 3243



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Thanks for your time today.

Notwithstanding your re-work Shane, attached are the revisions I took from our discussions today for your comment.

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Phone: 0800 965 468 (0800 WMK GOV)

DDI:8706



Subject: RE: WDC District Plan Review - Transport - Proposed Road Design Standards  
Date: 21/05/2021 7:27 AM  
From: "Rossiter, Chris" <chris.rossiter@stantec.com>  
To: "Shane Binder" <shane.binder@wmk.govt.nz>

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Hi Shane

I have attached an updated version of the spreadsheet with my proposed changes and some explanation. There is some further simplification and some corrections. I am happy to talk through these once you have had a look. I have no commitments out of the office this morning.

Regards  
Chris

**Chris Rossiter**

Direct: 03 926 2206



---

From: Shane Binder <shane.binder@wmk.govt.nz>  
Sent: Thursday, 20 May 2021 10:02 p.m.  
To: Rossiter, Chris <chris.rossiter@stantec.com>  
Subject: RE: WDC District Plan Review - Transport - Proposed Road Design Standards

I have attached two tables, the first a modification of the existing format attempting to remove the rigidity of the cycle facilities, and the second providing more flexible use of the carriageway. Take a look and let me know if this matches what you were picturing or if I missed anything.

Regards,  
Shane

**Shane Binder** | Transportation Engineer

Roading  
Phone: 0800 965 468 (0800 WMK GOV)  
Mobile: 027 241 3243



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**Neil Sheerin** | Senior Policy Planner

Development Planning Unit  
Phone: 0800 965 488 (0800 WMK GOV)

DDI:8706



	Low Volume Road (1)	Local Road	Collector Road	Arterial Road	Strategic Road
Typical Design AADT	<150	150-500	501-1,000	1,001-3,000	>3,000
Target Operating Speed	20	30	40	50	50
Road Reserve Width (m)	16.0	18.0	23.0	24.0	25.0
Footpath/Shared-Use Path (m)	1.8	1.8	1.8 - 2.5 (3)	2.0 - 2.5 (3)	2.5
Minimum carriageway width (m)	6.0	8.0	10.5	12.5	12.5
Parking (m) (2)	(1x) 2.0 On-street	(2x) 2.0 On-street	(2x) 2.0 Indented Parking Bays	(2x) 2.0 Indented Parking Bays	(2x) 2.0 Indented Parking Bays
Cycle Lane (m) (4)			(2x) 1.8	(2x) 1.8	(2x) 1.8
Traffic Lane (m)	(1x) 4.0	(2x) 3.0	(2x) 3.5	(2x) 3.5	(2x) 3.5
Median (m)			2.0	2.0	2.0
On-Street Parking Supply (per household)	0.5	0.5	0.5	0.5	

Explanatory Notes:

1. A Low Volume Road has a maximum length of 150m and serves a maximum of 20 dwelling units
2. On-street parking follows design standards in Table TRAN-9
3. ~~Reserve widths allow for construction of 2.5m shared-use path at the direction of Council~~ Construction of footpath or shared-use path at the direction of Council
4. All new collectors, arterials, and **strategic road shall include cycle lanes or shared-use path at the direction of Council.**

	Low Volume Road (1)	Local Road	Collector Road	Arterial Road	Strategic Road
Typical Design AADT	<150	150-500	501-1,000	1,001-3,000	>3,000
Target Operating Speed	40	60	80	80	100
Road Reserve Width	16.0	18.0	23.0	24.0	25.0
Traffic Lanes (m)	1 x 3.5	2 x 3.3	2 x 3.5	2 x 3.5	2 x 3.5
Footpath/Shared-Use Path (m) (2)			1.8 - 2.5	1.8 - 2.5	1.8 - 2.5
Shoulder width (m)	(2x) 2.5	(2x) 1.5	(2x) 1.5	(2x) 2.0	(2x) 2.5
Sealed shoulder width (m)	(2x) 0.5 - 1.0	(2x) 1.0	(2x) 1.0	(2x) 1.5	(2x) 2.5
Minimum carriageway width (m)	8.5	9.6	10.0	11.0	12.0

Explanatory Notes:

1. A Low Volume Road has a maximum length of 150m and serves a maximum of 20 dwelling units
2. Construction of footpath or shared-use path at the direction of Council

	Low Volume Road (1)	Local Road	Collector Road	Arterial Road	Strategic Road
	<150	150-500	501-1,000	1,001-3,000	>3,000
	20	30	40	50	50
	16.0	18.0	23.0	24.0	25.0
	1.8	1.8	1.8 / 2.5 (3)	1.8 / 2.5 (3)	2.5
	6.0	8.0	10.0	12.6	12.6
On-street	On-street	Indented Parking Bays	Indented Parking Bays	Indented Parking Bays	Indented Parking Bays
			(2x) 1.8	(2x) 1.8	(2x) 1.8
			(2x) 3.2	(2x) 3.5	(2x) 3.5
				2.0	2.0
0.5	0.5	0.5	0.5	0.5	

Propose "/" to indicate either/ or option rather than a range  
Corrected to reflect widths below

Just specify type of parking provision required

Change to lane width for lower speed environment

I don't think that you need the (2x) on these entries



Subject: RE: WDC District Plan Review - Transport - Proposed Road Design Standards  
Date: 21/05/2021 2:24 PM  
From: "Rossiter, Chris" <chris.rossiter@stantec.com>  
To: "Shane Binder" <shane.binder@wmk.govt.nz>

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Hi Shane

I thought the street tree requirement was an existing one within the plan and had been transferred to the new plan. I could not find a specific requirement for trees other than off-street in the plan which is no surprise as the plan is focused on everything outside the transport zone / road corridors. Clause 8.12.2 of the Engineering Code of Practice seems to come closest to addressing the berm width requirements.

The wide shoulder on the rural roads comes from the Austroads Guide To Road Design Part 3, Table 4.4. However, I do agree that this does result in a very wide carriageway. I think that the critical requirement here is the provision of sufficient space for two vehicles to pass using the shoulders on each side. As this is a rural environment, I would recommend a minimum carriageway width of 6.5m as that allows two large vehicles to pass with 0.5m clearance between them and with both staying within the carriageway. On this basis, we could reduce the shoulder requirement to 1.5m each side, unsealed.

I am happy with the 20 dwelling / 150vpd threshold for the low volume roads. At that level, the peak hourly volume will be less than 20vph or one movement every three minutes. The frequency of two vehicles crossing each other will be low and the wide shoulders allow for crossing on a rural road. In an urban environment, driveways will ensure that that are sections of road with 6m wide passing space available along the road.

Regards  
Chris

**Chris Rossiter**  
Direct: 03 926 2206



---

**From:** Shane Binder <shane.binder@wmk.govt.nz>  
**Sent:** Friday, 21 May 2021 1:38 p.m.  
**To:** Rossiter, Chris <chris.rossiter@stantec.com>  
**Subject:** RE: WDC District Plan Review - Transport - Proposed Road Design Standards

Chris-

I have spoken with Joanne McBride (Roading Manager) and Kelly LaValley (Development Manager) to get their feedback on the proposed roading tables, and they are generally supportive. There are a couple questions that came out of it that you might have insight on:

- Where do we have requirements for provision of street trees? Kelly is concerned that with removal of the "berm/trees" row, we lose the ability to force developers to add in street trees
- Where did 2.5m wide shoulders on low-volume rural roads come from? Joanne is concerned with this extra wide dimension, understanding that it includes sealed and unsealed components.
- Is 20 dwelling units/150 veh/day too high a maximum traffic flow to accommodate on the narrow geometry we are allowing for the Low Volume Roads?

Do you have any background on the above?  
Thanks,  
Shane

**Shane Binder | Transportation Engineer**  
Roading  
Phone: 0800 965 468 (0800 WMK GOV)  
Mobile: 027 241 3243



---

**From:** Shane Binder  
**Sent:** Friday, 21 May 2021 11:56 AM  
**To:** Rossiter, Chris <chris.rossiter@stantec.com>  
**Subject:** RE: WDC District Plan Review - Transport - Proposed Road Design Standards

Just to complete the loop, attached is the table we were just reviewing. I will let you know if further changes develop in my internal conversations (and you will be included in the emails with Neil).

Cheers,  
Shane

**Shane Binder | Transportation Engineer**  
Roading  
Phone: 0800 965 468 (0800 WMK GOV)  
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---

**From:** Rossiter, Chris <chris.rossiter@stantec.com>  
**Sent:** Friday, 21 May 2021 8:13 AM  
**To:** Shane Binder <shane.binder@wmk.govt.nz>  
**Subject:** RE: WDC District Plan Review - Transport - Proposed Road Design Standards

[THIS EMAIL IS FROM AN EXTERNAL SOURCE] DO NOT CLICK links or attachments unless you recognise the sender email address and know the content is safe.



Hi Shane

See below

Chris

**Chris Rossiter**

Direct: 03 926 2206



---

**From:** Shane Binder <[shane.binder@wmk.govt.nz](mailto:shane.binder@wmk.govt.nz)>  
**Sent:** Friday, 21 May 2021 7:59 a.m.  
**To:** Rossiter, Chris <[chris.rossiter@stantec.com](mailto:chris.rossiter@stantec.com)>  
**Subject:** RE: WDC District Plan Review - Transport - Proposed Road Design Standards

Thanks Chris. In general, I agree with most of the changes. I have a couple comments for further discussion:

- Have you previously discussed the 3.2m traffic lanes on collectors with Neil? I think it is a good idea (would push to 3.3m but now I'm truly splitting hairs) but am unsure how Neil and the Councillors will react. [We have raised this before – 3.2m is consistent with CCC roads](#)
- I changed the shoulder labels on the rural/high speed table to remove "each shoulder" for simplification, hence the addition of (2x) in the individual cells. Given this, do you still think the (2x) is unnecessary? [I think that it will be more confusing for lay reader](#)
- Our definition of "carriageway" makes no distinction between sealed and formed width – which would the "standard" definition cover? I ended up adjusting the minimum carriageway width on the rural/high speed table to reflect the sealed width and every cell dropped substantially. Is this correct? [In the Austroads standards, carriageway includes the shoulders](#)
- Thoughts on the targeted operating speeds in the rural/high speed table? I suppose we have a bit of an issue in that the Low-Volume and Local Roads should be at 60 (disregard the typo at 40 for Low-Volume) but the table is for 70 and up – seems like that would be a relatively intuitive adjustment to table titles. [I would have preferred the tables to be labelled Urban and Rural. Neil has always been keen to have a speed differentiator, hence the 70km/h. I would prefer the low volume road to be 60km/h. Given that most rural roads are classified as local roads, it will be challenging to have them as 60km/h roads – 80km/h represents a sensible compromise](#)

I think once we have a table you fully support, then we can discuss with Neil (and I can bring in Kelly LaValley and Joanne McBride just to wrap up some of the internal stakeholders). I think your comfort with the table and supporting it at an eventual hearing will go a good distance with Neil. I am joining your colleague Andrew Metherell at the Ravenswood hearing today so will be in-and-out but can follow up later.

Shane

**Shane Binder** | [Transportation Engineer](#)

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---

**From:** Rossiter, Chris <[chris.rossiter@stantec.com](mailto:chris.rossiter@stantec.com)>  
**Sent:** Friday, 21 May 2021 7:27 AM  
**To:** Shane Binder <[shane.binder@wmk.govt.nz](mailto:shane.binder@wmk.govt.nz)>  
**Subject:** RE: WDC District Plan Review - Transport - Proposed Road Design Standards

**[THIS EMAIL IS FROM AN EXTERNAL SOURCE] DO NOT CLICK links or attachments unless you recognise the sender email address and know the content is safe.**

Hi Shane

I have attached an updated version of the spreadsheet with my proposed changes and some explanation. There is some further simplification and some corrections. I am happy to talk through these once you have had a look. I have no commitments out of the office this morning.

Regards  
Chris

**Chris Rossiter**

Direct: 03 926 2206



---

**From:** Shane Binder <[shane.binder@wmk.govt.nz](mailto:shane.binder@wmk.govt.nz)>  
**Sent:** Thursday, 20 May 2021 10:02 p.m.  
**To:** Rossiter, Chris <[chris.rossiter@stantec.com](mailto:chris.rossiter@stantec.com)>  
**Subject:** RE: WDC District Plan Review - Transport - Proposed Road Design Standards

I have attached two tables, the first a modification of the existing format attempting to remove the rigidity of the cycle facilities, and the second providing more flexible use of the carriageway. Take a look and let me know if this matches what you were picturing or if I missed anything.

Regards,  
Shane

**Shane Binder** | [Transportation Engineer](#)

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**From:** Rossiter, Chris <[chris.rossiter@stantec.com](mailto:chris.rossiter@stantec.com)>  
**Sent:** Wednesday, 19 May 2021 8:36 AM  
**To:** Shane Binder <[shane.binder@wmk.govt.nz](mailto:shane.binder@wmk.govt.nz)>; Neil Sheerin <[neil.sheerin@wmk.govt.nz](mailto:neil.sheerin@wmk.govt.nz)>  
**Subject:** RE: WDC District Plan Review - Transport - Proposed Road Design Standards

[THIS EMAIL IS FROM AN EXTERNAL SOURCE] DO NOT CLICK links or attachments unless you recognise the sender email address and know the content is safe.

Hi Shane

After some thinking overnight, I consider that provision for a shared path on the arterial network would make sense so I have marked some amendments to achieve this. I have also included an indicative cross-section for a rural arterial road again with an off-road path. This differs from the urban one in that it has wide shoulders as we would not normally form a kerbed road in rural areas. The carriageway cross-section reflects the one that we had proposed for the western corridor route to create an 80km/h environment, that is with narrower lanes and a wide centre line treatment.

Regards  
Chris

**Chris Rossiter**

Direct: 03 926 2206



**From:** Shane Binder <[shane.binder@wmk.govt.nz](mailto:shane.binder@wmk.govt.nz)>  
**Sent:** Tuesday, 18 May 2021 5:08 p.m.  
**To:** Neil Sheerin <[neil.sheerin@wmk.govt.nz](mailto:neil.sheerin@wmk.govt.nz)>; Rossiter, Chris <[chris.rossiter@stantec.com](mailto:chris.rossiter@stantec.com)>  
**Subject:** RE: WDC District Plan Review - Transport - Proposed Road Design Standards

See attached for the proposed table with yellow highlighted revisions. I will follow up internally on cross-sections.  
Shane

**Shane Binder** | Transportation Engineer

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**From:** Neil Sheerin <[neil.sheerin@wmk.govt.nz](mailto:neil.sheerin@wmk.govt.nz)>  
**Sent:** Tuesday, 18 May 2021 4:32 PM  
**To:** Rossiter, Chris <[chris.rossiter@stantec.com](mailto:chris.rossiter@stantec.com)>; Shane Binder <[shane.binder@wmk.govt.nz](mailto:shane.binder@wmk.govt.nz)>  
**Subject:** WDC District Plan Review - Transport - Proposed Road Design Standards

Thanks for your time today.

Notwithstanding your re-work Shane, attached are the revisions I took from our discussions today for your comment.

**Neil Sheerin** | Senior Policy Planner

Development Planning Unit  
Phone: 0800 965 468 (0800 WMK GOV)

DDI: 8706



## Neil Sheerin

---

**From:** Shane Binder  
**Sent:** Thursday, 27 May 2021 2:03 PM  
**To:** Neil Sheerin  
**Subject:** District Plan Table TRAN-2 revisions SIB.xlsx  
**Attachments:** District Plan Table TRAN-2 revisions SIB.xlsx

Reference worksheet "New Table Format"

<b>Table TRAN-2: Design for posted speed limit of 50 km/hr or less</b>	Low Volume Road (1)	Local Road	Collector Road	Arterial Road	Strategic Road
Typical Design AADT	<150	150-500	501-1,000	1,001-3,000	>3,000
Road Reserve Width (m)	16.0	18.0	23.0	24.0	25.0
Footpath (m)	(2x) 1.8	(2x) 1.8	(1x) 1.8	(1x) 2.0	(1x) 2.0
Shared-Use Path (m)			(1x) 2.5	(1x) 2.5	(1x) 2.5
Minimum street tree density per 20m frontage	1	1	1	1	1
Minimum Carriageway Width (m)	6.5	8.0	10.2	12.6	12.6
Parking (m)	2.5m (inside carriageway, one side only)	2.0m (inside carriageway)	Indented Parking Bays (outside carriageway)	Indented Parking Bays (outside carriageway)	Indented Parking Bays (outside carriageway)
Cycle Lane (m)			(2x) 1.8	(2x) 1.8	(2x) 1.8
Traffic Lane (m)	Min. 4.0m	Min 4.0m	(2x) 3.3	(2x) 3.5	(2x) 3.5
Median (m)				2.0	2.0

**Explanatory Notes:**

- 1 Low Volume Roads have a maximum length of 150m and serve a maximum of 20 dwelling units
- 2 New collectors, arterials, and strategic road shall include cycle lanes or shared-use path

Advice Note: Parking dimensions can be found in Table TRAN-9

Advice Note: Consult with Council staff on requirements for footpaths, shared use path, and/or cycle lanes

<b>Table TRAN-3: Design for posted speed limit of 60 km/hr or more</b>	Low Volume Road (1)	Local Road	Collector Road	Arterial Road	Strategic Road
Typical Design AADT	<150	150-500	501-1,000	1,001-3,000	>3,000
Road Reserve Width (m)	20.0	20.0	23.0	24.0	25.0
Footpath/Shared-Use Path (m)			2.5	2.5	2.5
Minimum Carriageway Width (m)	6.5	9.6	10.0	11.0	12.0
Traffic Lane (m)	(1x) 3.5	(2x) 3.3	(2x) 3.5	(2x) 3.5	(2x) 3.5
Total Shoulder Width (m)	(2x) 1.5	(2x) 1.5	(2x) 1.5	(2x) 2.0	(2x) 2.5
Sealed Shoulder Width (m)	(2x) 0.75	(2x) 1.0	(2x) 1.0	(2x) 1.5	(2x) 2.5

**Explanatory Notes:**

- 1 Low Volume Roads have a maximum length of 150m and serve a maximum of 20 dwelling units

Modify District Plan definition of "carriageway" to be either kerb-to-kerb or total trafficable width where kerbs not present

## Neil Sheerin

---

**From:** Neil Sheerin  
**Sent:** Monday, 19 July 2021 8:54 AM  
**To:** Shane Binder  
**Subject:** RE: Proposed District Plan, transport section, standard table TRAN-3

Thanks Shane. Let me know if you do want to put in a revised standard for wider sealed shoulders on rural roads, I would be very happy to incorporate.

### Neil Sheerin | Senior Policy Planner

Development Planning Unit  
Phone: 0800 965 468 (0800 WMK GOV)

DDI:8706



---

**From:** Shane Binder <shane.binder@wmk.govt.nz>  
**Sent:** Wednesday, 14 July 2021 5:05 PM  
**To:** Neil Sheerin <neil.sheerin@wmk.govt.nz>  
**Subject:** RE: Proposed District Plan, transport section, standard table TRAN-3

I have discussed this further with Don Young and he agrees with my approach. Our expectation for standards is that a rural cycling shoulder should be minimum 1.5m in width, so the local and collector standards are not sufficient (as we've discussed). However, since we do not need every local or collector road to have a 1.5m shoulder, we agree you should delete the note and keep a discussion of any location-specific cycling facilities separate from the District Plan. In practice, this will be similar to what already occurs for urban shared-use paths: developers are required to put in one 1.5m footpath per the operative District Plan, we approach them and note their frontage has been identified for a 2.5m shared-use facility, and typically they construct the full width with Council paying for the additional width. This should result in a good location-specific process going forward.

Note that we do not as a matter of practice put in rumble strips in cycling shoulders. Whether this actually always works out on the ground is a matter of debate, but they should not be there!  
And the term for on-road cycle lanes that have some form of vertical separation (kerbing, parking, delineators, really fancy planters) from traffic is separated cycle lanes – see this [NZTA webpage](#) for more details and pretty pictures. These are definitely a higher grade of facility than just a standard 1.5-1.8m wide cycle lane separated by striping – we are classifying cycle lanes as Grade III and separated cycle lanes as Grade II (where Grade I is the highest amenity).

Shane

### Shane Binder | Transportation Engineer

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**From:** Neil Sheerin <[neil.sheerin@wmk.govt.nz](mailto:neil.sheerin@wmk.govt.nz)>  
**Sent:** Wednesday, 14 July 2021 8:59 AM  
**To:** Shane Binder <[shane.binder@wmk.govt.nz](mailto:shane.binder@wmk.govt.nz)>  
**Subject:** RE: Proposed District Plan, transport section, standard table TRAN-3

Hi Shane

I can delete the note if you would like.

I road cycle a lot. I consider a flaw in 'rural' roads is that there is often no sealed shoulder – there is a white line and the edge of the seal and that's it, there is nowhere for a cyclist to get further away from following traffic. It's a miracle in NZ that not more cyclists are killed by motorists passing cyclists too close. So I am pleased there will at least be a minimum sealed shoulder width requirement – provided there are no rumble strips as these remove the ability for a road cyclist to ride on the shoulders. In this context, when you come back into town, it is surprising how much relief and perceived security you get from a dedicated marked on road cycle lane.

Another thing – regarding cycle lanes that are separated from both pedestrians and motor vehicles by kerbs either side, is there a technical traffic engineering name for those? Or are they another type of 'marked' cycle lane?

**Neil Sheerin | Senior Policy Planner**  
Development Planning Unit  
Phone: 0800 965 468 (0800 WMK GOV)

DDI:8706



**From:** Shane Binder <[shane.binder@wmk.govt.nz](mailto:shane.binder@wmk.govt.nz)>  
**Sent:** Tuesday, 13 July 2021 4:32 PM  
**To:** Neil Sheerin <[neil.sheerin@wmk.govt.nz](mailto:neil.sheerin@wmk.govt.nz)>  
**Cc:** Kieran Straw <[kieran.straw@wmk.govt.nz](mailto:kieran.straw@wmk.govt.nz)>  
**Subject:** Proposed District Plan, transport section, standard table TRAN-3

Neil:

I just saw the note below added to the high-speed (i.e., rural) road standards in the proposed District Plan:

Minimum sealed shoulder width (m) <sup>1</sup>	2 x 0.75	2 x 1.0	2 x 1.0	
Minimum carriageway width (m)	6.5	9.6	10.0	

<sup>1</sup> The minimum sealed shoulder width shall be used to cater for cycling in lieu of marked cycle lanes.

Note 1 is not fully correct – while it will cover the 1.5m or greater shoulders called out on arterial and strategic roads, the 1.0m sealed shoulders on local and collector roads will not be a sufficient replacement for cycle lanes when those roads have been identified for a Grade III cycle facility. I think we would want selective widening to 1.5m sealed shoulders when a road has been identified on the cycle network plan. What happens if we just remove the note and do not address a standard to high speed cycle lane marking?

Shane

**Shane Binder | Transportation Engineer**

Roading

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## Neil Sheerin

---

**From:** Neil Sheerin  
**Sent:** Monday, 19 July 2021 8:57 AM  
**To:** Shane Binder  
**Cc:** Rossiter, Chris  
**Subject:** RE: Proposed District Plan - Tables TRAN-2/3 road standards AADT limits

Thanks Shane. I will make these changes.

**Neil Sheerin** | Senior Policy Planner

Development Planning Unit  
Phone: 0800 965 468 (0800 WMK GOV)

DDI:8706



**From:** Shane Binder <shane.binder@wmk.govt.nz>  
**Sent:** Thursday, 15 July 2021 11:26 AM  
**To:** Neil Sheerin <neil.sheerin@wmk.govt.nz>  
**Cc:** Rossiter, Chris <chris.rossiter@stantec.com>  
**Subject:** RE: Proposed District Plan - Tables TRAN-2/3 road standards AADT limits

Neil-  
I think we're arrived at the following modifications to the aforementioned tables (Chris, please chime in if you want any other edits):

Road type	Low Volume Local Road	Local Road	Collector Road	Arterial Road	Strategic Road
Typical design AADT	<150	< 1,500	<del>500-1,000</del>	<del>1,000-3,000</del>	<del>&gt;3,000</del>
Maximum length (m)	150				
Maximum number of residential units served	20	200			
Road reserve width (m) <sup>2</sup>	16.0	18.0	23.0	24.0	25.0
Footpath (m)	2 x 1.8	2 x 1.8	1 x 1.8 (one side)	1 x 2.0 (one side)	1 x 2.0 (one side)
Shared use path (m) <sup>3</sup>			1 x 2.5 (one side)	1 x 2.5 (one side)	1 x 2.5 (one side)
Parking (m) <sup>4</sup>	2.5 (within <i>carriageway</i> , one side only)	2.0 (within <i>carriageway</i> , each side)	Indented parking bays (outside <i>carriageway</i> , each side)	Indented parking bays (outside <i>carriageway</i> , each side)	Indented parking bays (outside <i>carriageway</i> , each side)
Cycle lane (m) <sup>1</sup>			2 x 1.8	2 x 1.8	2 x 1.8
Traffic lane (m)	4.0 minimum	4.0 minimum	2 x 3.3	2 x 3.5	2 x 3.5
Median (m)				2.0	2.0
Minimum <i>carriageway</i> width (m)	6.5	8.0	10.2	12.6	12.6
<p>1. Where cycle lanes are required these shall be permanently marked.</p> <p>2. The balance of the <i>road reserve</i> not occupied by the <i>carriageway</i>, indented parking bays, footpaths and shared use paths, may be used for landscaping and installation of services. Services should not be installed under footpaths or shared use paths.</p> <p>3. Consultation should be undertaken with the <i>District Council</i> to confirm location of shared use paths.</p> <p>4. Parking design standards are shown in Transport standard TRAN-S7, Table TRAN-9.</p>					

Table TRAN-3: Design standards for new roads where the posted speed limit is 60km/hr or above

Design element					
Road type	Low Volume Local Road	Local Road	Collector Road	Arterial Road	Strategic Road
Typical design AADT	<150	< 1,500	<del>500-1,000</del>	<del>1,000-3,000</del>	<del>&gt;3,000</del>
Maximum length (m)	150				
Maximum number of residential units served	20	150			

Our thinking is that the collectors, arterials, and strategic roads are better defined by their placement within the hierarchy and the ODP maps rather than defining specific volumes – if you really wanted to have something in the AADT row, we could consider a note for these to the effect of “as directed by Council.” Let me know your thoughts.

Cheers,  
Shane

**Shane Binder** | Transportation Engineer

Roading  
Phone: 0800 965 468 (0800 WMK GOV)  
Mobile: 027 241 3243



**From:** Shane Binder

**Sent:** Thursday, 15 July 2021 10:05 AM

**To:** Rossiter, Chris <[chris.rossiter@stantec.com](mailto:chris.rossiter@stantec.com)>

**Cc:** Neil Sheerin <[neil.sheerin@wmk.govt.nz](mailto:neil.sheerin@wmk.govt.nz)>

**Subject:** Proposed District Plan - Tables TRAN-2/3 road standards AADT limits

Chris-

I have been passing out screenshots of the proposed roading standards in tables TRAN-2 (low-speed) and TRAN-3 (high-speed) in several meetings lately as guidance for what may be expected in future development. From this I received an internal WDC comment that our "typical AADTs" seemed a bit on the low side, which I think is a valid point. The lowest category, Low Volume, feels right at <150 vpd. However, I wonder if we need to adjust some of the other expected AADT thresholds.

I reference Table 3.2 in NZS4404, the [ONRC functional classification table](#), and the Movement table in the [ONF classification guidance](#) as starting points suggesting we may want to evaluate where the lower speed thresholds (and potentially higher speed as well) sit. I was struggling to find similar typical ADTs in our neighbouring Districts but did find a [very old reference](#) to Christchurch thresholds in 2001. If you think they are appropriate for the District, then I certainly don't think they are *wrong*; they just feel a little out-of-line with some other guidance documents. I note any changes in AADT may need to be compared against the geometric guidance in AGRD Pt 3.

Regards,

Shane

**Shane Binder** | Transportation Engineer

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Phone: 0800 965 468 (0800 WMK GOV)  
Mobile: 027 241 3243



**WAIMAKARIRI DISTRICT COUNCIL**

**MEMO**

**FILE NO AND TRIM NO:** DDS-06-10-02-05-03 / 210506072468

**DATE:** 30 July 2021

**MEMO TO:** District Planning and Regulation Committee

**FROM:** Development Planning Unit, prepared by Neil Sheerin

**SUBJECT:** WAIMAKARIRI DISTRICT PLAN REVIEW – PROPOSED NEW ROAD DESIGN STANDARDS – FOR INFORMATION ONLY

---

At a District Plan Review briefing to the DPRC on 5 May 2021, a commitment was made to circulate a copy of the proposed new road design standards to the Committee. These are attached for information in the two tables below.

In summary, the proposed new road design standards have been designed in collaboration with traffic consultants Stantec and the Council's roading engineer, Shane Binder, taking into account current transport design standards, as well as other district plans, and have been reviewed by the Council's civil engineers.

Compared to the operative District Plan, road reserves have generally been widened to provide more space for services, landscaping, footpaths, cycling, on-street parking, and vehicle movement including for service and emergency vehicles.

The engineers' main concern was the width of 'urban' local and collector roads. ('Urban' roads are roads where the posted speed limit is 50km/hr or less). 'Urban' local road reserves have been increased in width from 16m to 18m, and 'urban' collector road reserves have increased in width from 20m to 23m. 'Urban' arterial road reserves have also increased in width, from 20m to 24m.

'Rural' collector road and arterial road reserves have also increased in width, from 20m in both cases, to 23m and 24m respectively. ('Rural' roads are roads where the posted speed limit is 60km/hr or more.)

There are also more detailed specifications for footpaths, cycle lanes, shared use paths and minimum sealed shoulder widths.

On 'urban' roads, provisions for on-street parking are tailored to the type of road.

**Table TRAN-2: Design standards for new roads where the posted speed limit is 50km/hr or less**

<b>Design element</b>					
<b>Road type</b>	<b>Low Volume Local Road</b>	<b>Local Road</b>	<b>Collector Road</b>	<b>Arterial Road</b>	<b>Strategic Road</b>
Typical design AADT	<150	<1,500			
Maximum length (m)	150				
Maximum number of residential units served	20	200			
Road reserve width (m) <sup>2</sup>	16.0	18.0	23.0	24.0	25.0
Footpath (m)	2 x 1.8	2 x 1.8	1 x 1.8 (one side)	1 x 2.0 (one side)	1 x 2.0 (one side)
Shared use path (m) <sup>3</sup>			1 x 2.5 (one side)	1 x 2.5 (one side)	1 x 2.5 (one side)
Parking (m) <sup>4</sup>	2.5 (within carriageway, one side only)	2.0 (within carriageway, each side)	Indented parking bays (outside carriageway, each side)	Indented parking bays (outside carriageway, each side)	Indented parking bays (outside carriageway, each side)
Cycle lane (m) <sup>1</sup>			2 x 1.8	2 x 1.8	2 x 1.8
Traffic lane (m)	4.0 minimum	4.0 minimum	2 x 3.3	2 x 3.5	2 x 3.5
Median (m)				2.0	2.0
Minimum carriageway width (m)	6.5	8.0	10.2	12.6	12.6
<p>1. Where cycle lanes are required these shall be permanently marked.</p> <p>2. The balance of the road reserve not occupied by the carriageway, indented parking bays, footpaths and shared use paths, may be used for landscaping and installation of services. Services should not be installed under footpaths or shared use paths.</p> <p>3. Consultation should be undertaken with the District Council to confirm the location of a shared use path.</p> <p>4. Parking design standards are shown in Transport standard TRAN-S7, Table TRAN-10.</p>					

**Table TRAN-3: Design standards for new roads where the posted speed limit is 60km/hr or above**

<b>Design element</b>					
<b>Road type</b>	<b>Low Volume Local Road</b>	<b>Local Road</b>	<b>Collector Road</b>	<b>Arterial Road</b>	<b>Strategic Road</b>
Typical design AADT	<150	<1,500			
Maximum length (m)	150				
Maximum number of residential units served	20	150			
Road reserve width (m)	20.0	20.0	23.0	24.0	25.0
Shared use path (m) (one side) <sup>1</sup>			2.5	2.5	2.5
Traffic lane (m)	1 x 3.5	2 x 3.3	2 x 3.5	2 x 3.5	2 x 3.5
Total shoulder width (m)	2 x 1.5	2 x 1.5	2 x 1.5	2 x 2.0	2 x 2.5
Minimum sealed shoulder width (m)	2 x 0.75	2 x 1.0	2 x 1.0	2 x 1.5	2 x 2.5
Minimum carriageway width (m)	6.5	9.6	10.0	11.0	12.0
<p>1. Consultation should be undertaken with the District Council to confirm the location of a shared use path.</p>					

**Appendix B – Residential local road carriageway width standards backup memo**



## WAIMAKARIRI DISTRICT COUNCIL

### MEMO

**FILE NO AND TRIM NO:** RDG-28 / 220120006512

**DATE:** 29 March 2022

**MEMO TO:** Joanne McBride, Roading & Transport Manager  
Kelly LaValley, Project Delivery Manager  
Gerard Cleary, Utilities & Roading Manager  
Wendy Harris, Resource Consents Team Leader

**FROM:** Shane Binder, Transport Engineer

**SUBJECT:** Residential local road carriageway width standards backup

---

Due to a number of concerns raised recently around operations of residential local roads with carriageway widths less than those mandated in the District Plan, changes have been proposed to the carriageway requirements and guidance contained within the WDC District Plan and Engineering Code of Practice. This memo summarises the background behind the proposed standards and comments on considerations that should be taken into account when evaluating proposed variances to the minimum widths.

#### 1. Propose carriageway standards

The proposed District Plan (as of December 2021) calls out the following urban road standards:

**Table TRAN-3: Design standards for new roads where the posted speed limit is 50km/hr or less**

Design element					
Road type	Low Volume Local Road	Local Road	Collector Road	Arterial Road	Strategic Road
Typical design AADT	<150	<1,500			
Maximum length (m)	>150				
Maximum number of residential units served	20	200			
Road reserve width (m) <sup>2</sup>	16.0	18.0	23.0	24.0	25.0
Footpath (m)	2 x 1.8	2 x 1.8	1 x 1.8 (one side)	1 x 2.0 (one side)	1 x 2.0 (one side)
Shared use path (m) <sup>3</sup>			1 x 2.5 (one side)	1 x 2.5 (one side)	1 x 2.5 (one side)
Parking (m) <sup>4</sup>	2.5 (within carriageway, one side only)	2.0 (within carriageway, each side)	Indented parking bays (outside carriageway, each side)	Indented parking bays (outside carriageway, each side)	Indented parking bays (outside carriageway, each side)
Cycle lane (m) <sup>1</sup>			2 x 1.8	2 x 1.8	2 x 1.8
Traffic lane (m)	4.0 minimum	4.0 minimum	2 x 3.3	2 x 3.5	2 x 3.5
Median (m)				2.0	2.0
Minimum carriageway width (m)	6.5	8.0	10.2	12.6	12.6



The WDC Engineering Code of Practice is also presently under revision and gives the following supplemental guidance notes for urban local roads (as of January 2022):

- The minimum trafficable width is based on the minimum manoeuvring space for both FENZ fire response and Council rubbish collection vehicles.
- Any proposal to reduce Local Road carriageway width below the minimum...must demonstrate low on-street parking demand or adequate off-street parking supply.

These revised standards were developed based on feedback from Council staff, residents, and road users on how local roads built to existing standards and guidance are being utilised at present. In particular, in neighbourhoods where higher-density development leads to higher levels of on-street parking demand, feedback was solicited on use of the roading space for travel and parking.

## 2. Design vehicles

For urban residential local roads, the “absolute minimum” design vehicles are a FENZ fire engine and a Council rubbish collection truck.

FENZ has a “type 2” fire engine (at Rangiora and Woodend stations, this is a Iveco Eurocargo fire tender) to respond to fire emergencies, along with tanker trucks for larger fires. The type 2 engine is the most common first responder and also has the widest footprint so serves as the design basis for carriageway standards. The type 2 engine has an auto-body width of 2.5m, as noted in the FENZ *Designers Guide to Firefighting Operations* (F5-02 GD, December 2021); however, the width increases to 3.0m when accounting for wing mirrors.

Council’s rubbish collection vendor, Waste Management, uses a low-entry collection vehicle (LEV) for small laneways in the District, i.e., local roads that have narrow carriageways. The current rubbish LEV has an auto-body width of 2.5m, but a total width of 3.0m when accounting for wing mirrors.

## 3. Lateral clearance

There have been limited international studies that look at the impacts of parking and lateral clearance on vehicle speeds. Research from the University of Michigan ([Green et al, “Desired Clearance around a Vehicle While Parking or Performing Low Speed Maneuvers,” Univ. of Michigan Transp. Res. Inst. October 2004](#)) on the minimum lateral clearance from a vertical obstruction preferred by low-speed manoeuvring drivers found an average desired clearance of 480mm on the driver side and 520mm on the passenger side, noting the study took place in a right-side-driving context. And a 2011 study at Monash University ([Edquist et al, “The effects of on-street parking and road environment visual complexity on travel speed and reaction time,” Accident Analysis and Prevention, March 2012](#)) did not address specific minimum lateral clearance but demonstrated that parking on urban streets leads to a demonstrable reduction in vehicle speeds and an increase in mental workload for drivers.

As far as other New Zealand design standards are concerned, the Waka Kotahi *Traffic Control Devices Manual Part 1* calls out a minimum clearance to signs of 500mm (reference Table 7.3). The minimum shy line offsets for work site barrier in Waka Kotahi’s *Code of Practice for Temporary Traffic Management* is 1.0m (reference C18.3.3). Austroads *Guide to Road Design Part 6 Roadside Design Safety and Barriers* references shy line offset values for various speeds, including a minimum 1.1m shy line offset for a design speed of 50 km/h (reference Table 6.4). It is noted the latter two clearances can be used with higher speeds than desirable on a low-speed urban residential street, so the *TCD Manual* clearance of 500mm is considered more appropriate. This lower clearance also aligns with the requirements within FENZ F5-02 GD for carriageways to have a minimum width of 4.0m. **Thus, a total “absolute minimum” trafficable width for low-speed urban streets is 4.0m.**

As emergency response is a time-sensitive action, FENZ operational guidelines allow for emergency responders to travel up to 25 km/h over a posted speed limit, so long as they are able to drive to conditions (e.g., weather, adjacent traffic, other obstructions and uses on the street). As noted above, any lateral clearance less than 500mm is likely to reduce response speed for a FENZ engine. The FENZ F5-02 GD guide allows for narrowing lateral clearance to 250mm at an isolated location (e.g., a site entrance), resulting in a trafficable width of 3.5m.

#### **4. On-street parking occupancy and parking discipline**

On the evening of Monday 17<sup>th</sup> January, surveys were undertaken in several established Waimakariri residential neighbourhoods of on-street parking occupancy and the lateral space taken up by parked vehicles (i.e., parking discipline). These surveys sought to quantify how on-street parking users react to narrower carriageway widths on a “normal” evening. Five residential streets were surveyed in three neighbourhoods, all with fully-built out residential lots ranging in size from 300 – 500m<sup>2</sup> and carriageway widths ranging from 7.0 – 7.4m:

- Pakohe Street (Pegasus):
  - 7.35m carriageway
  - 2.1m average parking discipline
  - 3 vehicles parked on kerb or berm
  - 3 points where vehicles were parked adjacent or in very close proximity on opposite sides
- Bishop Street (Beach Grove):
  - 7.15m carriageway
  - 2.0m average parking discipline
  - 2 vehicles parked on kerb or berm
  - 1 point where vehicles were parked adjacent or in very close proximity on opposite sides
- Waiotahi Road (Beach Grove):
  - 7.00m carriageway
  - 2.1m average parking discipline
  - 1 point where vehicles were parked adjacent or in very close proximity on opposite sides
- Johnson Street (Beach Grove):
  - 7.05m carriageway
  - 2.1m average parking discipline
  - 1 vehicle parked on kerb or berm
  - 1 point where vehicles were parked adjacent or in very close proximity on opposite sides
- Peak Crescent (Silverstream):
  - 7.05m carriageway
  - 2.0m average parking discipline
  - 1 point where vehicles were parked adjacent or in very close proximity on opposite sides

Specific instances of parking discipline are pictured on the following page. The overall average parking discipline across twenty-five vehicles was 2.1m; there were several vehicles that measured the maximum 2.4m width from kerb face to far wing mirror. Based on the observed parking discipline, the resulting trafficable width at locations where vehicles were parked in close proximity opposite one another ranged from 2.75 – 3.35m.

All of the streets had less than 30% parking occupancy, so the points where vehicles were parked in close proximity on opposite sides of the streets was not forced by limited supply. The number of vehicles parked partially or fully on the kerb, berm, or footpath suggests that, in some instances, the narrow carriageway had influenced parking placement to avoid possible side-swipe issues.



Pakohe St (Pegasus) – 3.35m trafficable width



Pakohe St (Pegasus) – 3.15m trafficable width



Bishop St (Beach Grove) – 2.9m trafficable width



Johnson St (Beach Grove) – 2.75m trafficable width

Previous site surveys of parking discipline on 7.2m wide urban streets within Stage 1 of the Ravenswood neighbourhood were undertaken by Council in July 2021 (see TRIM document 210721119076). Four locations were noted in an evening survey of three established residential streets (Minerva Crescent, Godley Place, John Raven Lane), with vehicles parked opposite one another, with an average trafficable width of 2.7m between. A daytime survey of streets with ongoing construction noted far less trafficable width between builders' vehicles.

Limited survey of other locations in the Ravenswood and Pegasus subdivisions suggests that streets with average section sizes greater than 450-500m<sup>2</sup> have a lower likelihood of vehicles parked opposite one another and the resulting carriageway width constraint. Note that on-footpath and berm parking behaviour was not included in these surveys, and additional observation is recommended.

Based on parking behaviour observed in the field, it is considered that well-established residential neighbourhoods with sections smaller than 450m<sup>2</sup> see a relatively frequent occurrence of vehicles parked in close proximity opposite one another regardless of carriageway width. As a result, the District Plan and ECoP are proposing the following minimum carriageway widths and parking requirements in order to accommodate expected parking demand and behaviour:

- Low-Volume Local Road (< 150m length, ≤ 20 dwellings, ≤ 50 km/h posted speed) – **6.5m carriageway, parking one side**
- Local Road (≤ 50 km/h posted speed) – **8.0m carriageway, parking both sides**

Narrowing the carriageway any further could be considered where justified by lower parking demand or other appropriate circumstances on a case-by-case basis.

## 5. Risks and impacts from carriageway widths less than standard

Combined with the required vehicle and lateral clearance widths noted above, there are several risks and impacts that could arise when residential streets are constructed with carriageway widths less than the standards outlined above. These are summarised below.

- *Risk of delay to emergency responders:* trafficable widths less than required for an emergency vehicle to traverse could result in the vehicle having to reverse up the street and manoeuvre to find an alternate route, which substantially impacts response time
- *Risk of property damage – private vehicles, side-swipe:* narrow trafficable widths increase the likelihood of damage to parked vehicles from larger vehicles attempting to navigate the narrow carriageway
- *Risk of property damage – Council kerbs, berms, and footpaths:* parking on the kerb, berm, or footpath has already increased where residents have concerns about the potential for side-swipe damage to their vehicles (see previous bullet point), which causes damage to these Council assets as well as increase costs for enforcement
- *Impacts to pedestrians with footpaths constrained by illegal carparking:* vehicles parked partially or fully on the footpaths, as noted above in site survey photos, impede the ability for pedestrians to travel, with greater impacts to those who are mobility- or vision-impaired and parents with children in prams

As a related note, recent road safety audits have brought up similar concerns on recent residential development:

- **Ravenswood Stage 1 Post Construction RSA**
  - GHD lead: Tim Cronin
  - The SAT noted that in some streets that are advanced in regards to their adjacent development, on-street parking discipline is poor with vehicles parked on the footpath. The main risk is associated with mobility impaired users and accessibility afforded to them when the footpath is obstructed by parked vehicles. This may force some users onto the street in order to get by, placing them at greater risk of conflict with passing vehicles, who in turn may not be expecting these users on the road. Drivers parking their vehicles may consider the road too narrow to park without disrupting the flow on traffic on the street.
  - Frequency: Occasional, Severity: Unlikely
  - Recommendations: Consider education and enforcement to encourage good parking behaviours throughout the sub-division. Consider if no stopping restriction is needed at critical points.
- **Ravenswood Stage 2 Detailed RSA**
  - Abley team: Bridget Carden, Carl O'Neil
  - The development does not propose any no-stopping lines on roads with the Local Road (primary) and Local Road (secondary) cross sections. When the carriageway width is 9m or less, parking on both sides is likely to impede vehicle flows. This can lead to drivers straddling the kerb (as shown below) when parking their vehicles, to provide sufficient space for through vehicles. This significantly reduces the effective width of the footpath and some users such as wheelchair or pedestrians with prams may be forced to walk down the carriageway putting them in conflict with moving vehicles. Due to the low speed environment on these streets, the risk of death or serious injury is considered unlikely.
  - Frequency: Occasional, Severity: Unlikely
  - Recommendation: It is recommended that no-stopping lines are installed on one-side of the road for all roads with a carriageway width of 9m or less.
- **Ravenswood Stage 3 Detailed RSA and**
- **Ravenswood Stage 4 Preliminary RSA**
  - Abley lead: Penny Gray
  - The carriageway width for all local (secondary) roads is 7.2m. If parking was to occur on both sides of the road the effective width of the lane would be reduced to approximately 3.2m which creates a one-way traffic flow. This can lead to drivers straddling the kerb when parking their vehicle to maximise the carriageway width. If this occurs on the footpath side then this significantly reduces

the effective width of the footpath. It may also cause some vehicle to queue into intersections as drivers wait to give way to the opposing traffic.

- Frequency: Occasional, Severity: Unlikely
- Recommendation: It is recommended that no stopping lines are provided on one-side (preferably the side without a pedestrian facility) for all local (secondary) roads, with consideration of the agreed strategy with Council regarding on-street parking that was established following the Stage 2 RSA.

## **6. Recommendation**

In conclusion, it is recommended that the District Plan and ECoP proposing the following minimum carriageway widths and parking requirements in order to accommodate expected parking demand and behaviour:

- Low-Volume Local Road (< 150m length, ≤ 20 dwellings, ≤ 50 km/h posted speed) – **6.5m carriageway, parking one side**
- Local Road (≤ 50 km/h posted speed) – **8.0m carriageway, parking both sides**

At the absolute minimum, a **4.0m trafficable width** shall be maintained for traffic safety reasons. Narrowing the carriageway any further than the above widths could be considered on a case-by-case basis where lower parking demand, lower building density (i.e., greater than 450m<sup>2</sup>) or other appropriate circumstances can justify fewer on-street obstructions.