WAIMAKARIRI DISTRICT COUNCIL

MEMO

FILE NO AND TRIM NO:	DDS-06-10-02-05-03, DDS14-08, DDS-05-05 - 230822128743
DATE:	21 August 2023
MEMO TO:	Andrew Maclennan, Consultant Planner Matt Bacon, Development Planning Manager
FROM:	Shane Binder, Senior Transportation Engineer
SUBJECT:	Expert transport advice on TRAN chapter

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 2.5 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 from the Pennsylvania State University and a Master of Science degrees in Civil Engineering from the University of Colorado, both with specialisation 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. I am also a member of the Transportation Group and am on the steering committee of the Safety Practitioners Sub-group of Engineering New Zealand. I have more than 20 years' experience in traffic engineering and road safety, both in New Zealand and abroad.

TRAN-O1

3. I recommend inclusion of the term "micro-mobility" into Objective TRAN-01 to reflect its increasing role in replacing short close-to-home journeys and first/last kilometre connectivity for public transport (i.e., the journey from home or work to existing public transport stops). This mode is relatively new to the transport network and Council (as well as most RCAs) is still working out how best to accommodate it within the network.
4. However, micro-mobility does contribute towards reducing dependency on private motor vehicles (TRAN-O1(5)), as has been noted by Council's public e-scooter vendor, Flamingo, who has found that almost 70% of trips taken on their scooters were reported by users to replace vehicle use (reference 5 April 2022 report to Council on a Commercial Share Scooter Trial by Vanessa Thompson).

5. I support the following amendment in red:

TRAN-O1	**A safe, resilient, efficient, integrated and sustainable transport system** An integrated transport system, including those parts of the transport system that form part of critical infrastructure, strategic infrastructure, regionally significant infrastructure, and strategic transport networks, that: 1. is safe, resilient, efficient and sustainable for all transport modes; 2. is responsive to future needs and changing technology; 3. enables economic development, including for freight; 4. supports healthy and liveable communities; 5. reduces dependency on ~~private~~ single-occupant motor vehicles, including through prioritising public transport, ~~and~~ active transport, and micromobility; and 6. enables the economic, social, cultural and environmental well-being of people and communities.

TRAN-O3

6. I support ECan's submission (316.30) seeking to establish a hierarchical order to prioritise avoiding or mitigating effects over remedying. In a discussion across Utilities & Roading staff, I was unable to identify any matters that would be ruled out by such a hierarchy.

TRAN-2

7. I recommend retaining the requirement for a Full ITA for Restricted Discretionary activities. In particular, I note that high traffic generators are considered RDIS activities per TRAN-R20, and I consider it critical that high traffic generating activities evaluate at least some of the matters included in a Full ITA in TRAN-MD11.
8. I further note that the scope of any ITA will be discussed with Council staff (as per the Advisory Notes in TRAN-R20) and can be adjusted to suit the specific activity in question.
9. I support the following amendment in red:

Table TRAN-2: ITA Requirement

Activity status under all other applicable rules	Type of ITA required
Permitted	Basic
Controlled	Basic
Restricted discretionary	Full ~~Basic~~
Discretionary	Full
Non complying	Full

TRAN-S3

10. I recommend against limiting notification for new vehicle crossings that are RDIS activities to the relevant Road Controlling Authority. At a high level, it is not clear to me how to justify explicitly precluding further notification in this regard. But more specifically, there could be circumstances where an RDIS new vehicle crossing should have broader notification.

11. Examples from the recent past include new vehicle crossings onto shared private accessways, new vehicle crossings and private driveways along unformed legal roads with multiple adjacent sections (which effectively become licensed encroachments on "paper roads"), and joint driveways along residential boundaries.

12. I support the following amendment in red:

TRAN-S3	Design standards for new vehicle crossings	
All Zones	Refer to Table TRAN-6 below. ~~**Notification**~~ ~~An application for a restricted discretionary activity under this rule is precluded from being publicly notified, but may be limited notified only to the relevant road controlling authority where the consent authority considers this is required, absent its written approval.~~	**Activity status when compliance not achieved: RDIS** **Matters of discretion are restricted to:** • TRAN-MD2 - Maximum number of vehicle crossings • TRAN-MD3 - Minimum separation distance between vehicle crossings • TRAN-MD4 - Minimum separation distance for vehicle crossings from road intersections and pedestrian crossing facility • TRAN-MD5 - Vehicle crossing design • TRAN-MD7 - Sight distance from vehicle crossings • TRAN-MD8 - Visibility at vehicle crossings • TRAN-MD17 - Queuing space

TRAN-R6, TABLE TRAN-7, TRAN-MD6

13. TRAN-R6 requires 6 or more sites in a Residential or Rural Zone be served by an accessway "designed to the standard of a new road," whereas Table TRAN-7 provides standards for new accessways in those zones that are far too narrow to provide the functionality of a new road.

14. To be specific, I would consider this functionality to potentially include, based on the surrounding context, separated pedestrian space; on-street parking supply; street trees and berm (for stormwater conveyance or soakage, urban heat island mitigation, pedestrian amenity); wider space for manoeuvring (e.g., cul-de-sac turning heads) and intervisibility with vehicle crossings; and/or street lighting. These elements cover effects on safety, amenity, operations, and resilience.

15. Some of the elements above can be provided on-site (e.g., parking) or may be less appropriate in Rural Zones (e.g., pedestrian space, street lighting, urban heat island mitigation). However, in general I consider that these elements are generally provided for in roads (regardless of whether they are public or private) and not in accessways as defined in Table TRAN-7.

16. I would recommend modifying Table TRAN-7 by deleting the row for >6 units and leaving TRAN-R6 as the governing clause for these instances. I note you may need to consider how the Special Purpose Zones are covered as I do not see them included in TRAN-R6.

17. I support the following amendments in red:

Table TRAN-7: Design standards for new vehicle accessways

Zone	Number of residential units	Number of marked parking spaces provided	Minimum legal width (m)	Minimum formed width (m)	Maximum formed width (m)	Passing bays [1]
Residential Zones, Special Purpose Zone (Kāinga Nohoanga), Special Purpose Zone (Pines Beach and Kairaki Regeneration)	1 - 3		5.5	~~3~~ 4.0	5.0	Yes (for 2 or more residential units)
	4 - 6		6.0	4.5	5.5	Yes
	~~> 6~~		~~7.0~~	~~5.5~~	~~6.0~~	
Commercial and Mixed Use Zones, all other Special Purpose Zones [2]		< 15	8.0	5.5	8.0	
		≥ 15	8.0	6.0	8.0	
Rural Zones			10.0	4.0	8.0	Yes

1. Where an accessway does not provide sufficient width for two-way vehicle movement, then in order to allow vehicles to pass, accessways in Residential Zones and Commercial and Mixed Use Zones shall provide passing bays in the form of widening of not less than 5.5m over a 15m length at not more than 50m spacing. Accessways in Rural Zones may have passing bays at up to 100m distances where visibility is available from bay to bay.
2. Access can be provided by two separate one-way crossings each with a minimum width of 3.5m.
3. Where any new vehicle accessway in Residential Zones or Rural Zones will serve six or more sites; or where vehicle movements on any new accessway will exceed 100 per day see TRAN-R6

TRAN-MD6	**Vehicle accessway design** 1. …. 12. where the accessway serves six of more sites, the extent to which the accessway will fulfill the requirements of a road.

TABLE TRAN-19

18. The Transit Planning Policy Manual Appendix 5B dates from 2007, and Table App5B/1, which the applicant is seeking to use in Table TRAN-19, is based on the Austroads *Guide to Traffic Engineering Practice Part 5*, which itself was published in 2005. The Safe Intersection Sight Distance (SISD) in this long-superseded publication has been updated in the intervening years (refer to Austroads *Guide to Road Design Part 4a*, 2023) with new values that reflect the change in vehicle fleet. Thus, I do not consider that the Planning Policy Manual Appendix 5B values are appropriate sight distances for use at vehicle crossings.
19. Austroads notes that SISD "*provides sufficient distance for a driver of a vehicle on the major road to observe a vehicle on a minor road approach moving into a collision situation (e.g. in the worst case, stalling across the traffic lanes), and to decelerate to a stop before reaching the collision point*." Intervisibility at a vehicle crossing serves two purposes – (1) for a driver exiting a vehicle crossing to have safe visibility of traffic on the main road to observe gaps, and (2) for drivers on the main road to observe traffic from the vehicle crossing in case they unexpectedly enter the roadway. The first purpose is best defined as Minimum Gap Sight Distance in AGRD04a. The second purpose depends substantially on context, in this case, the speed environment on the vehicle crossing. SISD is intended to address side road traffic from a *side road,* that is, in the worst case approaching from a wide carriageway with sufficient distance to achieve road-worthy speeds. Vehicle crossings are in almost all cases much narrower and are not at-grade (e.g., having to cross footpaths or roadside swales), so I consider that it is highly likely that traffic approaching a main road from a vehicle crossing will be at a much lower speed than traffic approaching from a side road.
20. I thus consider that the rationale in the original 2019 Transport Technical Report by Stantec to be appropriate for the sight distance instead of the NZTA Planning Policy Manual, given its reliance on the more up-to-date Austroads guidance on private access sight distance in AGRD04a, Appendix A. I do note that the technical report recommended Residential sight distance values only up to 60 km/hr, and I would support this recommendation (instead of the proposed Table TRAN-19, which has values to 100 km/hr). I understand scope for this change is provided by the Waka Kotahi NZ Transport Agency (275.20) submission seeking longer site distances.
21. I support retaining the notified version of Table TRAN-19, with the following changes in red:

Table TRAN-19: Minimum sight distances from vehicle crossings

Posted speed limit (km/hr)	Residential activity except high traffic generators (m)	Other activity (m)
30	40	
40	60	75
50	80	100

60	100	125
70	~~120~~	150
80	~~150~~	180
90	~~170~~	215
100	~~200~~	250