

Attachment G:

Response to Transport Queries

7 July 2023

Kainga Ora - Homes and Communities
c/- Planz Consultants

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Attention: Tim Joll

By email: timj@planzconsultants.co.nz

Dear Tim,

TRANSPORT ENGINEERING RESPONSE LU23031 & SC23032 29 HAMILTON STREET, GORE

1. Further to the Council's Request for Further Information dated 13 June 2023, this letter sets out our response to the transport related matters in the order in which they were raised.

28.(1) The Integrated Transport Assessment reasons that the proposed vested road will experience lesser traffic movements, given the complex is for social housing. The proposed subdivision alters the ownership model into fee simple lots. What mechanism is proposed to maintain the complex use. If the lots are sold into private ownership the traffic generation will change.

2. As expanded on in paragraphs 4-11 below, the survey findings presented in the Transport Assessment reveal lower traffic generation rates associated with social housing. This was predicated on the wider site being managed by Kāinga Ora as residential housing. We acknowledge that if the tenure were to change then the traffic generation could also change.

3. Point 1 in the main RFI response addresses the mechanism query.

28.(2) The survey data relied upon as justification for lesser traffic movements for the site is based on a Christchurch social housing complex. Christchurch has public transport available including buses whereas Gore has no public transport apart from a limited taxi service. It is therefore likely that most if not all residents of the proposed subdivision will need to have and rely on their own vehicles. This significantly increases the traffic movements expected. Please address.

4. The surveys referred to in the Transport Assessment referred to social housing in a Christchurch context. These surveys have been utilised and acknowledged in other parts of New Zealand for the purposes of quantifying traffic generation. Unsurprisingly, the findings indicated that 'social housing' resulted in lower traffic levels. This outcome can be attributed to various factors, such as lower rates of car ownership, unconventional commuting patterns, especially those between home and work, and other socio-economic parameters.



5. It is reiterated that if the tenure were to change, then the traffic generation could also change. This is no different to other residential subsets, such as student accommodation, elderly persons units, family living, professional couples etc. – all of which has different traffic generation profiles.
6. It is also accepted that quantifying traffic generation for housing can be influenced by a number of factors including location to amenities, public transport, walkability, bedroom numbers, tenant types etc. To expand on (and compare to) the surveys provided in the Transport Assessment, we could further rely on a variety of survey data sources which are presented in **Error! Reference source not found.** below.

Table 1: Traffic Generation Survey Data

Survey	Peak Hour (trips per unit)	Daily (trips per unit)
Christchurch City Council, Social Housing Traffic Surveys (2013) [As used in the Transport Assessment]	0.28 AM (=5 for 18 units) 0.18 PM (=3 for 18 units)	3-4 (54-72 for 18 units)
NZTA Research Report 459, Trips and Parking related to land use. Dwelling (Outer Suburban)	0.9 (=16 for 18 units)	8.2 (=136 for 18 units)
Novo Group Traffic Surveys West Melton Township 2023 (202 houses)	0.59 AM (=11 for 18 units) 0.62 PM (=11 for 18 units)	5.85 (=105 for 18 units)
TRICS Database UK (19/6/23), Residential – Affordable/Local Authority Houses	0.25 AM (=5 for 18 units) 0.27 PM (=5 for 18 units)	3.4 (=61 for 18 units)

7. The surveys above provide a comprehensive range of data regarding various residential uses. For instance, Christchurch social housing units show an average of 0.18 afternoon peak hour trips per unit, while conventional outer suburban dwellings record 0.9 peak hour trips per unit. When comparing these figures to a sample of 18 residential units, the range spans from 3 to 16 trips. Additionally, the TRICS database indicates that 'affordable/local authority houses' generate 0.27 peak hour trips, while a small township in the Christchurch hinterland records 0.62 trips. In the absence of specific traffic generation data for Gore, the latter example is likely the closest approximation to an 'average' house.
8. If we were to employ a conventional residential approach for the proposed new road (consisting of 18 outer suburban dwellings in a metropolitan area), we anticipate approximately 16 vehicle movements during peak hours. It is worth noting that this figure is notably higher (3-5 times) than what was observed in the Christchurch Social Housing Surveys. However, the overall number of vehicle movements still remains low. To provide a clearer perspective, the presence of 16 vehicles during peak hours implies an average interval of approximately one vehicle every four minutes. Furthermore, the traffic generation profile for residential use typically exhibits a tidal pattern, meaning that a majority of traffic exits in the morning and enters in the evening. Consequently, most of the traffic will be flowing in the same direction.



9. Despite the existing traffic pattern, our assessment indicates that the proposed carriageway and its intersection with Hamilton Street are capable of accommodating the current level of traffic without experiencing significant congestion or capacity problems. Taking into account that the peak hour volumes on Hamilton Street represent approximately 15% of the daily volumes, we can estimate that the two-way volumes amount to around 270 vehicles per hour (vph)¹. Additionally, we have considered the 'worst case scenario' of 16 site-generated traffic movements, where all vehicles exit with a turn right onto Hamilton Street (which is the most challenging manoeuvre). In this case, the average delay per vehicle is calculated to be 1.1 seconds, which is deemed negligible. From a traffic engineering perspective, this situation falls under the classification of Level of Service A (LOS A)².
10. The proposed carriageway still meets the kerb-to-kerb requirements of the Gore District Council *Subdivision, Land Use and Development Bylaw* for a cul-de-sac road (which is designed to accommodate up to 20 units), whereas the proposed new road only serves 18 units. The District Council *Bylaw* does not differentiate between residential subsets and the proposed carriageway cross-section is considered to be sufficient for all housing purposes.
11. Furthermore, and referring back to the Council RFI that infers a high reliance on private motor vehicles, the site has been designed to include at least one car parking space for each unit. It follows that provision has been made for those tenants that might own a vehicle – noting that there is no District Plan requirement to provide any on-site parking. The Gore District Council *Subdivision, Land Use and Development Bylaw* also does not specify a minimum number of kerbside car parking spaces. The Bylaw does however provide for a cul-de-sac road design where it serves less than 20 units and this consists of a 6.0m carriageway. This carriageway is intended to provide for a 1 x 2.5m parking lane and 1 x 3.5m traffic lane. This has been provided. The carriageway also provides for at least eight further cars to park along the northern kerb of the cul-de-sac road³ and therefore caters for additional private vehicle use.

28.(3) The premise of this speaks to RFI point 1. Based on the above, please provide evidence of how the complex will remain a social housing complex in perpetuity; or, additional assessment of the reduced road width based on a residential complex.

12. See **paragraph 3** above.
13. We have already acknowledged that if the tenure were to change then the traffic generation could also change. Our revised commentary in **paragraphs 8-9** has assessed the increased traffic generation rates associated with conventional residential use.
14. As discussed in **paragraph 10** it is reiterated that the proposed carriageway still meets the kerb-to-kerb requirements of the Gore District Council *Subdivision, Land Use and Development Bylaw* for a cul-de-sac road (which is designed to accommodate up to 20

¹ Hamilton Street is estimated to carry 1,800vpd (see Table 1 of the Transport Assessment) x 15% to represent a peak hour = 270vph.

² Level of Service (LOS) is a term used to qualitatively describe the operating conditions of a roadway based on factors such as speed, travel time, manoeuvrability, delay, and safety. The level of service of a facility is designated with a letter, A to F, with A representing the **best operating conditions** and F the worst.

³ See Figure 6 of the Transport Assessment.



units), whereas the proposed new road only serves 18 units. The lack of berm space has been addressed by others and is outlined in the main RFI response.

29. The Calibre 'Pavement Plan' drawing shows the intersection with Hamilton Street has a kerb radius of 8.7m which is less than the 9.0m minimum radius required in Clause 3.3.7 in the Bylaw. A dispensation will be required. Please assess.

15. A 9.0m minimum radius has been provided. See updated plan contained in Appendix G of the main RFI response.

30. Underground electricity, telecommunications cables and water mains are located under the proposed footpath of the vested road. The bylaw requires such services to be located under the berm. A dispensation will be required. Please assess.

16. This has been addressed separately by the Project Engineers and the response is contained in the main RFI response.

31. Detail the separation distance from the vehicle access directly onto Hamilton Street and the development access. In accordance with Table 3.3c in the Bylaw, these require a minimum separation distance of 19m from the property boundary closest to cul-de-sac road. A dispensation will be required. Please assess.

17. The vehicle crossing on Hamilton Street serving Unit 24 is located approximately 14.5m south of the proposed cul-de-sac road.
18. Gore District Council *Subdivision, Land Use and Development Bylaw* (3.3.18) refers to minimum access spacing requirements set out in Tables 3.4A-C (noting that Table 3.4C appears to have been incorrectly labelled as Table 4.3C). This refers to Standard Drawing R14, however this drawing has been omitted from the Bylaw. Either way, the Table is based on guidance from the Transit New Zealand (now Waka Kotahi NZ Transport Agency) *Planning Policy Manual* which specifies a separation distance measured from the centreline of the proposed road to the centreline of the proposed access⁴. Given that the proposed access is separated by a distance of 14.5m, a dispensation is required for the 4.5m shortfall.
19. The separation distance is identified in **Figure 1** below.

⁴ See *Planning Policy Manual* Diagram B (page 212) which specifies a K distance measured from the centre line of the side road to the centre of the accessway.

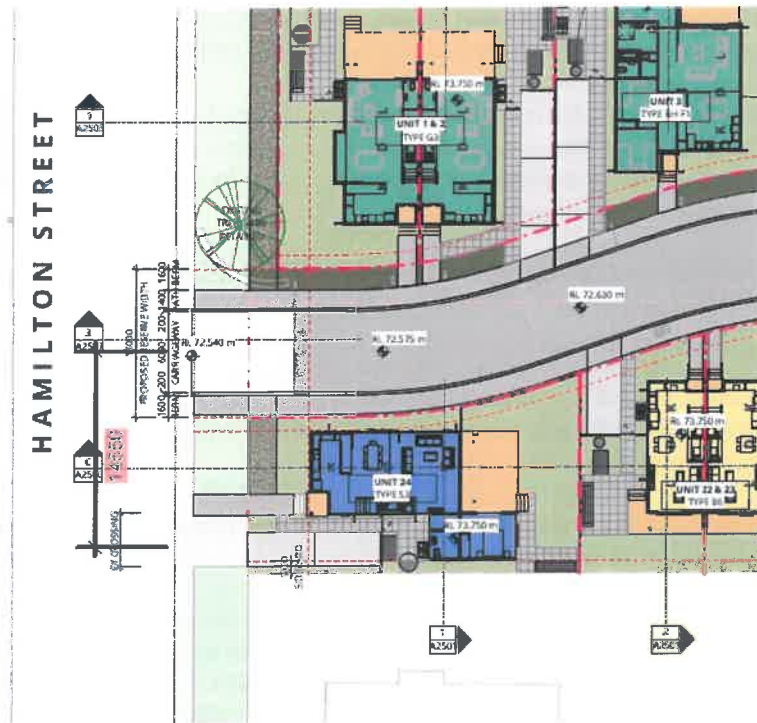


Figure 1: Unit 24 Access Separation

20. In this situation, the combination of the volumes from the proposed cul-de-sac road and Unit 24 are low – such that conflict between two simultaneous turning manoeuvres from both locations are unlikely. Hamilton Street is also wide, flat and straight such that sight distance will not be impeded. Accordingly, safety is unlikely to be compromised as a result of the proposed location.

32. The section of right of way from the application site to Oxford street will require repair and a reseal; the established evergreen hedge which overhangs the western edge of the ROW reduces its effective width, will need to be trimmed; and the vehicle crossing at Oxford St will need to be upgraded in accordance with drawing R03 in the Bylaw. Demonstrate the easements documents enable such works.

21. This has been addressed in the main RFI response.

Yours sincerely,

Novo Group Limited

Rhys Chesterman

Director + Traffic Engineer/Planner

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092050 RFI

Attachment H:

Updated Paving Plan

