



FAST TRACK APPROVALS Act 2024 (FTAA 2024) TECHNICAL ADVICE

Carter Group Ohoka Substantive Application
[FTAA-2606-1253]

File No	RC255196 / 260804223728
Date	9 October 2026
Memo To	Kate Barry-Piceno, Ōhoka Residential Subdivision Expert Panel Chair
From	Shane Binder, WDC Senior Transportation Engineer
Subject	Transport effects of the proposed development (Part 1)

1. EXECUTIVE SUMMARY

- 1.1 The purpose of this memorandum is to provide comment to the Expert Panel on the broader transport safety, operations, and maintenance effects of the proposed Ōhoka Fast Track Substantive Application, by Carter Group. It should be read alongside a second transport assessment prepared by Beca.
- 1.2 My assessment of the proposal raises the following concerns:
 - 1.2.1 It is not likely to provide a well-connected urban environment due to its distance from existing towns, services, public transport, and active transport networks, resulting in a strong dependence on private motor vehicles.
 - 1.2.2 It relies on future transport infrastructure and funding arrangements that are not currently committed, funded, or supported by the existing and anticipated fiscal environment.
 - 1.2.3 The proposed large-lot peri-urban development proposed at the southern end is likely to create poorer long-term transport outcomes, including increased maintenance costs, safety concerns, operational inefficiencies, and service delivery issues compared with more compact urban development.
 - 1.2.4 The receiving transport network is not infrastructure-ready for development of this scale, with existing safety and operational deficiencies identified across key routes, intersections, and the SH1 motorway interchange.
 - 1.2.5 Necessary transport upgrades are estimated to cost approximately \$35-52 million, while currently identified ratepayer funding accounts for only about \$3.3 million. There is almost no confidence that central Government or Council funding will be available to deliver the required improvements.
- 1.3 Overall, the proposal is considered fundamentally flawed from a transport perspective. If approved, all major transport mitigation and upgrade works should be funded and delivered by the applicant to avoid significant costs and risks being transferred to existing and future Waimakariri ratepayers.

2. INTRODUCTION

Purpose of the Memorandum

- 2.1 The purpose of this memorandum is to provide comment to the Expert Panel on the broader transport safety, operations, and maintenance effects of the proposed Ōhoka Fast Track Substantive Application, by Carter Group (the **Applicant**). It is the first of a two-part assessment of transport effects and should be read alongside the second memorandum from Beca that follows this one.

Documents Reviewed

- 2.2 In undertaking this memorandum, I have reviewed the following Substantive Application documents:
- Appendix 15 – Integrated Transport Assessment, prepared for Carter Group Ltd by Novo Group (May 2026)
 - Appendix 27 – Civil Engineering Plans, prepared by Inovo (June 2026)
 - Appendix 15(a) – Transport Response to Initial Council Feedback, prepared by Novo Group (8 September 2026)
 - Appendix 26 – Updated Scheme Plans, prepared by Inovo (10 September 2026)

Key areas discussed in this memorandum

- 2.3 This memorandum covers the following matters:
- Level of connectivity to a well-functioning urban environment
 - Existing and future regulatory environment
 - Transport outcomes from lower-density peri-urban large-lot development
 - Infrastructure readiness of the receiving transport network
 - Ability to implement necessary mitigations and upgrades
- 2.4 The Expert Panel requested comment on specific matters in Appendix 4 of Minute 1 (14 September 2026). I note this memorandum includes comments on the following matters:
- *Strategic urban form: The relationship of the proposal with the planned settlement pattern under the Canterbury Regional Policy Statement, Greater Christchurch Spatial Plan and district planning framework; and any effects of accommodating substantial urban growth at Ōhoka rather than in identified growth areas.*
 - *Transport: Whether the transport assessment adequately accounts for the full development, including the retirement village, local centre and projected increases to local school rolls; the effects on the local and State highway networks.*
- 2.5 This memorandum is half of a two-part transport assessment, and should be considered in conjunction with the Beca memorandum “Transport Effects of the Proposed Development (Part 2),” (Joe Phillips and Hayden Trumper, 8 October 2026). These two assessments can be summarised as follows:
- 2.5.1 Part 1: My assessment considers broader national, regional, and local transport policy and strategy matters, as well as whether the receiving transport environment is infrastructure-ready.

- 2.5.2 Part 2: The Beca assessment (the **Beca Memo**) considers whether the proposed development has been satisfactorily assessed and whether appropriate transport mitigation, including conditions, is provided in relation to the internal and external transport receiving environment.

3. QUALIFICATIONS

- 3.1 My name is Shane Binder. I am employed as the Senior Transportation Engineer for Waimakariri District Council (the **Council**).
- 3.2 I hold the qualifications of Bachelor of Science in Civil Engineering from the Pennsylvania State University (USA), and a Master of Science in Civil Engineering from the University of Colorado (USA), both with specialisations in transport.
- 3.3 I have more than 24 years' experience as a professional transportation engineer and road safety specialist. I have had the position of Waimakariri District Council Senior Transportation Engineer since February 2021. In this role I lead a team overseeing the Council's transport planning, strategy, and engineering functions, including road safety, traffic modelling, parking, and public transport elements.
- 3.4 I am a Chartered Professional Engineer (CPEng), and my practice field is "transportation engineering." I am also a Professional Engineer (Colorado and Washington State, USA) and a Road Safety Professional (Level 1) certified by the Institute of Transportation Engineers.
- 3.5 I am familiar with the Ohoka area due to my responsibilities at Council. I also have substantive background on the proposal as I have provided transport evidence to the Council and panel commissioners and participated in expert witness conferencing for the previous two land use applications at this site (Private Plan Change 31 in 2021-23 and Stream 12D of the Proposed District Plan hearings in 2023-25).

4. CODE OF CONDUCT

- 4.1 I confirm that I have read and agree to comply with the Code of Conduct for Expert Witnesses contained in the Environment Court Practice Note 2023. This technical review has been prepared in accordance with that Code. In particular, unless I state otherwise, the opinions I express are within my area of expertise, and I have not omitted to consider material facts that might alter or detract from the opinions that I express.

5. KEY ISSUES

Primary issues

- 5.1 Based on my assessment of the Substantive Application, I consider the following primary issues arise with this application:
- 5.1.1 The proposed application will not result in a well-functioning connected urban environment due to its location far from existing urbanised areas and services. This intervening distance is likely to result in motor vehicle travel remaining the only available viable mode for most trips.

- 5.1.2 The application has been developed relying on proposed future works and regulatory changes; it should be based on the existing environment and regulatory context.
- 5.1.3 The lower-density large-lot peri-urban development proposed for the southern site extents will lead to poor outcomes in terms of increased maintenance, safety, level of service, parking, and waste management operations.
- 5.1.4 While the receiving area has recently seen and is expected to accommodate further small-scale growth in peri-urban large-lot development, it is not infrastructure-ready for development of this magnitude.
- 5.1.5 The application does not contribute sufficient funding to pay for all required operational and safety improvements (e.g., proposing development contributions funding only a portion of works, relying on uncommitted or non-existent co-funding from Council and Government), resulting in a substantive new cost to be borne by ratepayers.

Location outside a well-functioning connected urban environment

- 5.2 The National Policy Statement on Urban Development notes in Policy 1 that urban environments should have “good accessibility for all people...including by way of public or active transport” and in Part 3 that unanticipated development should be “well-connected along transport corridors.”¹
- 5.3 The location of the application is in a semi-rural area which has no public transport service and extremely limited active transport connections. The Ōhoka area has not been prioritised for future transport investments due to the following factors:
 - 5.3.1 Dense urbanised development has not been anticipated in long-term planning;
 - 5.3.2 The distance to existing urbanised areas is sufficiently long to make active and public transport non-competitive; and
 - 5.3.3 The cost to deliver and maintain necessary infrastructure upgrades is high relative to other more-urbanised parts of the District.
- 5.4 I understand that recent regional (Greater Christchurch Spatial Plan, 2024) and local (Waimakariri District Plan, 2025) planning documents have planned for future development that encourages greater intensification and higher densities around centres and public transport routes². The proposed location, relatively distant from the Waimakariri portion of the Spatial Plan transport network and urban centres, is shown on the next page in Figure 1³.

¹ Part 2 Subpart 2.2 and Part 3 Subpart 2 Section 3.8(2)(b)

² Greater Christchurch Spatial Plan (2024), section 4.3

³ Greater Christchurch Spatial Plan (2024), Part 3 – Connecting people and places

Map 15: Transport network

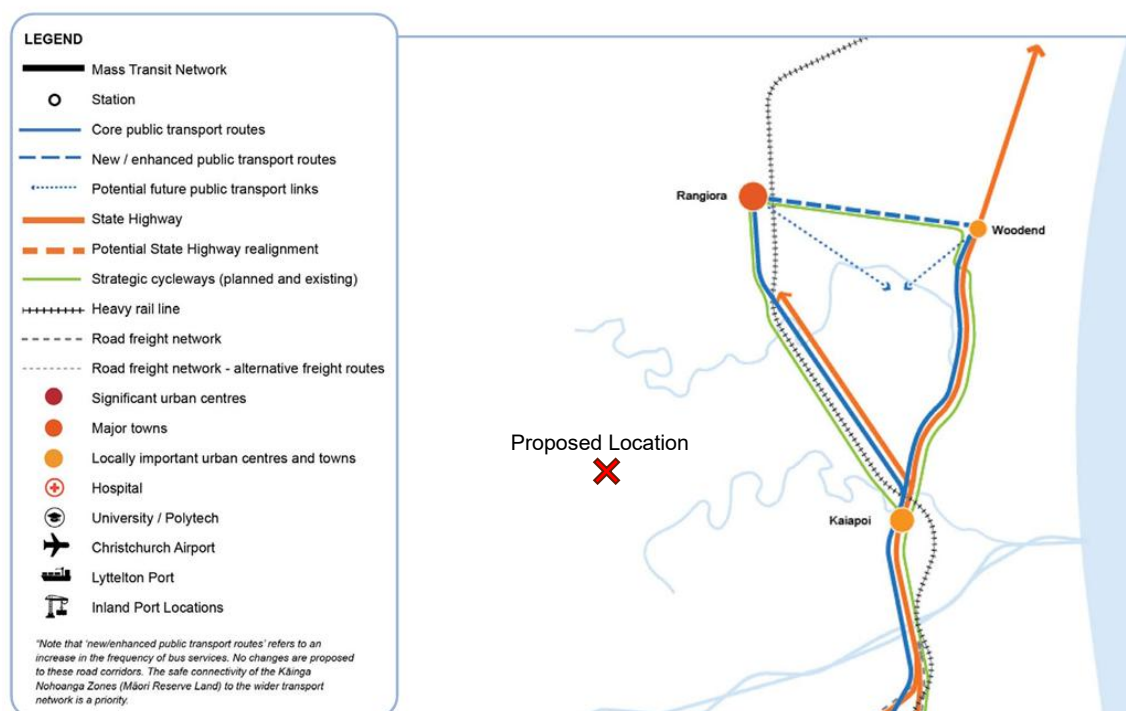


Figure 1: Greater Christchurch Spatial Plan (Map 15 Transport Network)

5.5 I consider the considerable distance between the site and most common day-to-day activities results in it failing to be “well-connected.” This distance to the site is far in excess of the average trip lengths that people will reasonably take for walking, cycling, or public transport trips, as shown in the table below, based on NZTA Household Travel Survey (HTS) data⁴:

	Walking	Cycling	Public Transport
NZTA HTS average trip length	0.6 km	2.5 km	7.6 km
Distance to Kaiapoi town centre (9 km)	1500 %	360 %	118 %
Distance to Rangiora town centre (10 km)	1667 %	400 %	132 %
Distance to Christchurch CBD (27 km)	4500 %	1800 %	355 %

5.6 Due to the lack of these connections as well as the long distances to jobs, secondary and tertiary education, and “day-to-day” destinations, I consider it highly likely that the vast majority of trips generated by the application will be by private motor vehicle. This will not result in a well-functioning urban environment with good accessibility for all people and support of reductions in greenhouse gas emissions.

5.7 The Substantive Application Integrated Transport Assessment (the **Novo ITA**) based⁵ its trip generation on the new township that has been developed at West Melton in Selwyn District over the past two decades. I agree with this assumption as West Melton would appear to have a comparable size and form as this proposal and is situated in a similar location (in respect to distance from main centres and “day-to-day” destinations).

⁴ Ministry of Transport (2024) *New Zealand Household Travel Survey 2021-2023*

⁵ Substantive Application Integrated Transport Assessment (May 2026), para 81

5.8 Given this, it would appear likely that the proposed developments will result in outcomes similar to those seen at West Melton. In particular, the 2023 Census⁶ noted that West Melton residents chiefly travel by private motor vehicle with only a total of 1.6% residents walking, cycling, or bussing to work in 2023. By comparison, the walking/cycling/bussing total was 2.6% in peri-urban Mandeville, and 5.2% in urban Silverstream, in nearby Kaiapoi.

5.9 I note that, even if “day-to-day” destinations were within viable distances to walk, cycle, or bus to, there are almost no existing safe facilities for the future residents of this development to use for those modes. I will discuss this further in the next section.

5.10 To be clear, I consider a development fails to be “well-connected” or have “good accessibility” if the only realistically viable way its residents connect to, and access Greater Christchurch is via private motor vehicle.

Available and Proposed Walking and Cycling Network

5.11 As per the Novo ITA⁷, the development proposes to construct nominal additional external walking and cycling connections. These connections are shown in Figure 2 in red relative to the existing walking and cycling network in the eastern part of the District. The Ōhoka area only includes a narrow gritted path to Ōhoka School and no connections with the rest of the District.

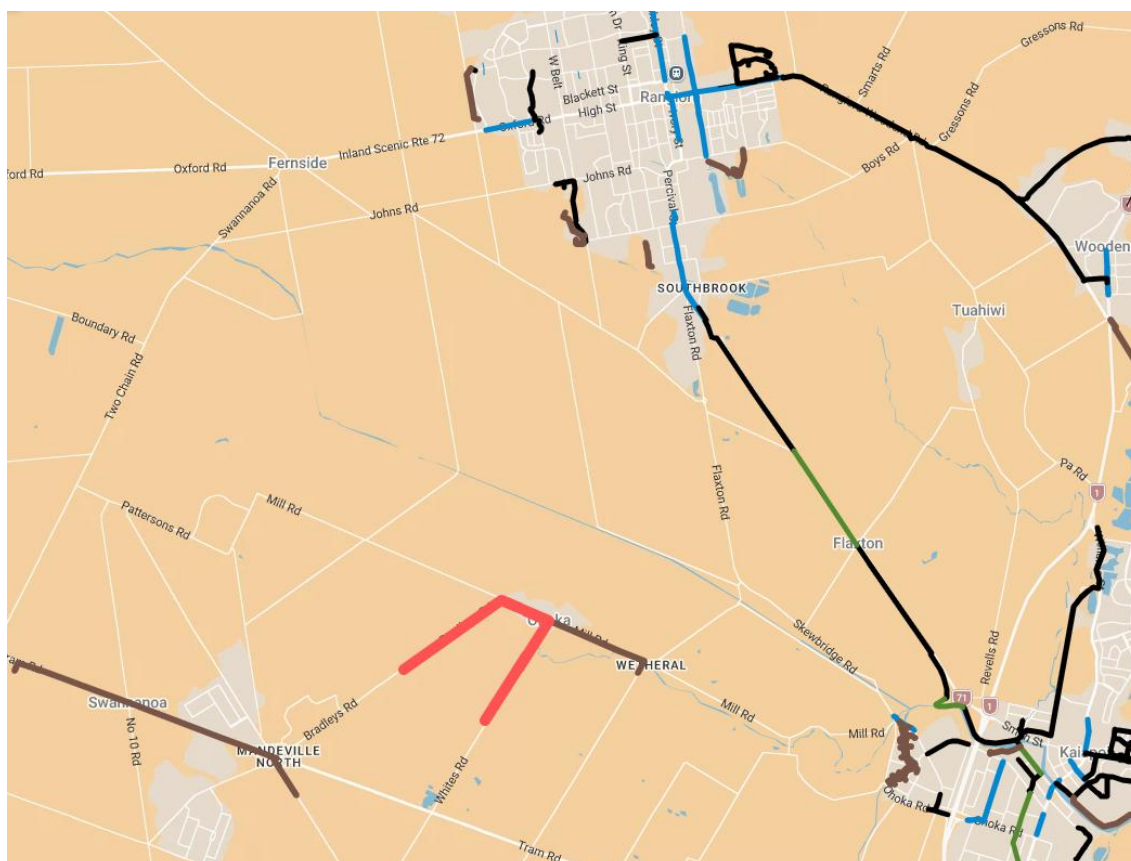


Figure 2: Existing Walking & Cycling Infrastructure (with new proposals in red)

⁶ Stats NZ, Commuter Waka data, last visited on 7 October 2026

⁷ Substantive Application Integrated Transport Assessment (May 2026), para 75

- 5.12 The Novo ITA also makes reference⁸ to the Walking & Cycling Network Plan⁹, which was adopted by Council in 2022. The Plan identifies a limited number of future connections in the Mandeville area and links with the rest of the District but did not prioritise implementation.
- 5.13 No further connections from the Plan are programmed, budgeted, or anticipated within the reasonably foreseeable future. All identified investment has been dedicated to the main links between the District's three towns, prioritised where the highest demand is expected. It is highly unlikely that remote rural areas like Ohoka could become a priority for non-motorised infrastructure investment during the reasonably foreseeable future.
- 5.14 Should future Government funding priorities change to include more non-motorised transport investment in the reasonably foreseeable future, this will also be required for the prioritised network improvements within the urban and expected development areas.
- 5.15 As all walking / cycling network improvements have already been prioritised for urbanised areas previously targeted for planned growth, connections required to leave the isolated Ohoka area are unfunded. Such future connections cited¹⁰ in the Novo ITA include safe walking / cycling links to Mandeville (2 km), Kaiapoi (9 km), and Rangiora (10.5 km).
- 5.16 I thus consider it a requirement for any new development of the scale and intensity proposed to construct these connections so that it would not be isolated from the rest of the transport network.

Existing environment and regulatory context

- 5.17 The Novo ITA makes reference¹¹ to the "Waimakariri Speed Management Plan" as the basis for potential speed limit reductions in the development area.
- 5.18 Council developed a draft speed management plan; however, it was never endorsed by Council and is therefore not a formal document. Further, feedback on our last proposal for speed management in 2023 did not support the changes assumed to underlie this application.
- 5.19 As such, the development area has a current speed limit of 100 km/h (reduced to 60 km/h on Mill Road within Ohoka village), as shown on the next page in Figure 3. Given recent history with speed management, it is not appropriate to assume any reduction of existing speed limits on adjacent roads and the assessment of traffic safety effects and need for infrastructure upgrades needs to reflect this.

⁸ Substantive Application Integrated Transport Assessment (May 2026), para 50-51, 74

⁹ WDC Walking & Cycling Network Plan (2022), available at https://www.waimakariri.govt.nz/_data/assets/pdf_file/0023/158432/Walking-and-Cycling-Network-Plan-Recommended-Network-Plan.pdf

¹⁰ Substantive Application Integrated Transport Assessment (May 2026), para 169, 172, 173

¹¹ Substantive Application Integrated Transport Assessment (May 2026), para 76 and 178 (Table 20)

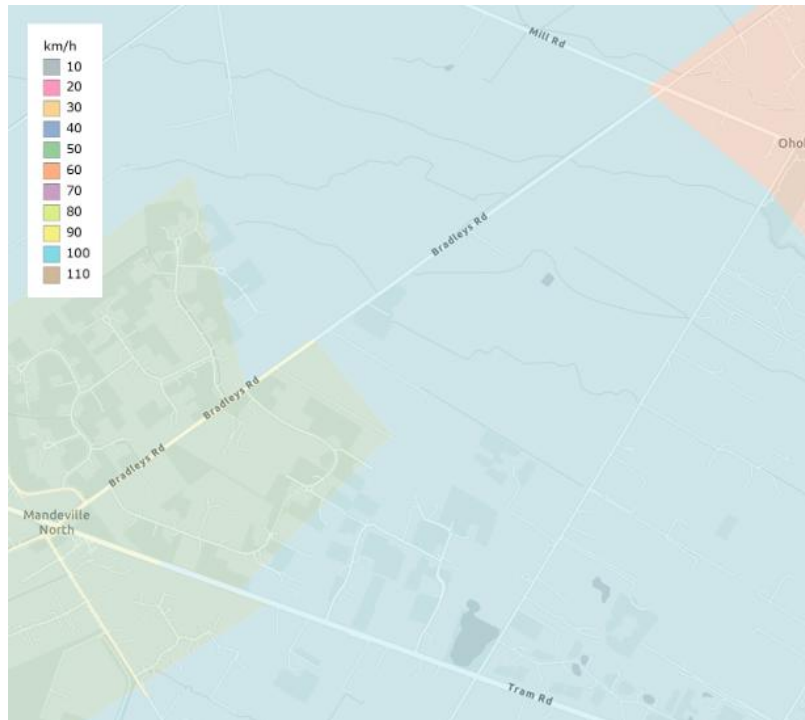


Figure 3: Existing Speed Limits (reference: National Speed Limit Register)

- 5.20 Any changes to speed limits would need to go through a speed review process as required by the Land Transport Rule (Setting of Speed Limits) 2024, which is completely independent from this application. As such I consider it necessary that this application should be designed for the current speed environment.

Poor outcomes from large-lot peri-urban development

- 5.21 I consider that the density and section size in the southern portion of the proposed development is likely to result in a “peri-urban” road environment, which occupies a space between a rural high-speed environment and an urban low-speed environment. This portion of the site’s roads will have a higher frequency of residential driveways (when compared with the surrounding rural land), but lower-scale development set back from the road.
- 5.22 This style of development combined with a lack of on-road parking, street trees and furniture, results in limited “side friction” (when compared with an urban environment) on the road. “Side friction” is an important factor noted in the Highway Capacity Manual for reducing speeds on urban roads and I would consider that the lack of “side friction” will likely lead to increased speeds on the “peri-urban” roads proposed for the development.
- 5.23 Similar peri-urban roads in other parts of the District, including Hallfield, Oxford, and Sefton, have seen increased long-term maintenance issues due to the use of swales and berms in place of kerb and channel used in urban development. The Council has been required to retrofit quadrant kerbing, footpaths, and street lighting at additional cost to ratepayers, to address these maintenance and operational issues following ongoing maintenance concerns and service requests from the adjacent residents. I have not noted any elements of the proposed “bespoke” design that would appear to prevent these issues from occurring in the proposed development.

- 5.24 I have been advised by our Solid Waste Asset Manager that this peri-urban style of development does not provide appropriate locations for waste bins to await collection, a problem which has had health and safety implications in other locations.
- 5.25 My experience with the road environment and resident-based service requests that arise in this style of development leads me to conclude that they are likely to lead to poorer safety, level of service, and amenity outcomes for the residents and higher resulting costs for Council to respond to resident requests and upgrade infrastructure.
- 5.26 Given the poor outcomes that I have seen in large-lot peri-urban residential land use, I do not support its inclusion in the proposed development.

Receiving area is not infrastructure-ready

- 5.27 I consider that the receiving area is not presently infrastructure-ready because the transport network was built to convey traffic from rural agricultural and residential (chiefly private motor vehicle) use and has not been upgraded to safely accommodate the wide variety of travel modes from high-density urban residential development.
- 5.28 I agree with the Novo ITA that the receiving transport network already has safety deficiencies. With the exception lower Tram Road and the SH1 motorway, most of the receiving transport network has not substantively changed since it was originally laid out in the 19th century, other than sealing. The narrow rural carriageways and unprotected roadsides do not meet present level-of-service standards for all users and are not likely to be substantively improved given limited future funding.
- 5.29 While Council routinely considers traffic operations and safety deficiencies across the roading network, we have targeted our limited infrastructure upgrade funding to areas with anticipated future growth that don't require as much new/upgraded infrastructure.
- 5.30 I understand that while new traffic generated by this proposed development could result in a "strong incentive" for Council to fund these improvements, the quantity of safety improvements across the District left out of the Long-Term Plan is already substantial. In other words, Council is already struggling to fund known safety deficiencies from available funding without adding new ones.
- 5.31 I consider it inappropriate to route a substantial amount of new traffic from the proposed development along existing corridors and through intersections that are likely to experience higher road safety risk without such improvements. I also note that Waka Kotahi approval and funding would be required for any improvements at the Tram Road / SH1 motorway overbridge / interchange, and I am unaware of any evidence from the submitter that this has been consulted upon or provided.

Funding shortfall and effects on ratepayers

- 5.32 I am not an expert in formulating or applying development contributions to fund new infrastructure. However, I am familiar with the general process as well as having substantial input on the development of transport infrastructure lists in the Long Term Plan that are partially funded by development contributions.

5.33 The Novo ITA¹² relies on intentions signalled in the most recently approved (2024-34) Long Term Plan for future infrastructure in the Ōhoka area, including a roundabout at the Tram Road / Bradleys Road / McHughs Road intersection and a series of safety upgrades along the Tram Road corridor.

5.34 I have summarised all substantive safety and operational upgrades proposed on the receiving transport network within the Novo ITA or the 2024-34 Long Term Plan below in Table 1. I have included cost estimates for the upgrades either from the Long Term Plan or other relevant New Zealand-based sources.

No.	Location	Upgrade	Source	Estimated Cost		LTP Local Share Funding (Rates)
				Low	High	
1	Tram Rd / Bradleys Rd / McHughs Rd	Roundabout	Novo ITA, LTP	\$ 1,300,000	\$ 2,000,000	\$ 490,000
2	Tram Rd / Whites Rd	Roundabout	Novo ITA, LTP	\$ 1,500,000	\$ 2,000,000	\$ 367,500
3	Flaxton Rd / Threlkelds Rd	Roundabout	Novo ITA	\$ 2,000,000	\$ 6,000,000	\$ -
4	Mill Rd / Threlkelds Rd	Realignment	Novo ITA	\$ 1,558,000	\$ 2,000,000	\$ -
5	Tram Rd / SH1 Motorway	Bridge widening / replacement, Traffic signals	Novo ITA	\$ 10,000,000	\$ 20,000,000	\$ -
6	Tram Rd (Bradleys to Jacksons)	Widening	Novo ITA	\$ 2,323,944		\$ 569,366
7	Bradleys Rd (Mill to Tram)	Widening	Novo ITA	\$ 1,675,000		\$ -
8	Whites Rd (Mill to Tram)	Widening	Novo ITA	\$ 1,400,000		\$ -
9	Mill Rd (Bradleys to Threlkelds)	Widening	Novo ITA	\$ 1,050,000		\$ -
10	Threlkelds Rd	Widening	Novo ITA	\$ 700,000		\$ -
11	Bradleys Rd to Mandeville	Cycle Facility	Novo ITA	\$ 500,000		\$ -
12	Mill Rd / Butchers Rd to Kaiapoi	Cycle Facility	Novo ITA	\$ 1,660,000		\$ -
13	Bradleys Rd / Easterbrook Rd / Townsend Rd to Rangiora	Cycle Facility	Novo ITA	\$ 1,080,000		\$ -
14	Tram Rd / S. Eyre Rd / Giles Rd	Roundabout	LTP	\$ 2,200,000		\$ 539,000
15	Tram Rd / Island Rd / Griegs Rd	Roundabout	LTP	\$ 1,500,000		\$ 367,500
16	Tram Rd / Heywards Rd	Turning Bay(s)	LTP	\$ 700,000	\$ 1,000,000	\$ 171,500
17	Tram Rd / Raddens Rd	Turning Bay(s)	LTP	\$ 370,000	\$ 1,000,000	\$ -
18	Tram Rd / Burgesses Rd	Turning Bay(s)	LTP	\$ 570,000	\$ 1,000,000	\$ -
19	Tram Rd (South Eyre to SH1)	Widening	LTP	\$ 1,515,000		\$ 371,175
20	Tram Rd Safety - RRPMS, EMPs, ATP	Delineation	LTP	\$ 1,813,158		\$ 444,224
Total				\$ 35,415,102	\$ 52,417,102	\$ 3,320,265

Table 1: Proposed Ōhoka Area and Tram Road Transport Investment

5.35 I note a couple changes in the table from the conclusions of the Novo ITA. My concerns on the Tram Road / SH1 Motorway deficiencies and mitigations are discussed in depth below in para 6.2 to 6.6. I disagree with the Novo ITA traffic operations findings¹³ for the Whites Road / Tram Road intersection that a Level of Service E is acceptable; I note that the 2021 Canterbury Regional Land Transport

¹² Substantive Application Integrated Transport Assessment (May 2026), para 16 and 42

¹³ Substantive Application Integrated Transport Assessment (May 2026), para 140-141

Plan¹⁴ set LOS C as the desired minimum level of service on the regional strategic road network and LOS C or D is most commonly used as a threshold for acceptable operations by road controlling authorities in New Zealand and abroad, due in part to the increase in vehicle interactions and unstable flow as volumes approach LOS E. Thus, I do not consider LOS E to be an acceptable level of service and expect that it would create material impacts to the road network users. This is also discussed in the Beca Memo¹⁵.

- 5.36 Finally, I disagree with the Novo ITA conclusion¹⁶ in regard to the existing safety deficiencies along Bradleys, Mill, Whites, and Threlkelds Roads, that *“minor safety works... limited to minor works such as improved line-marking, signage and warning of roadside hazards...are considered to sufficiently mitigate the adverse effects of the proposed development.”*¹⁷ As noted in the Novo ITA, these roads have limited to no sealed shoulders and substantial unprotected roadside hazards (e.g., power poles, culvert headwalls) close to the edge of seal. I consider that the “minor” works proposed above will not in any way mitigate the increased exposure to crashes from increased traffic volumes generated by the application.
- 5.37 As such, I have included the level of upgrades in Table 1 that I consider necessary to address the effects generated by and experienced by new traffic from the proposed development.
- 5.38 As can be seen in Table 1, the total for upgrades on the receiving transport network is estimated to cost between \$35 and \$52 million dollars. Of this total, the approved 2024-34 Long Term Plan provided approximately \$3.3 million from rates, or 6-9% of the total.
- 5.39 Projects included in the 2024-34 Long Term Plan¹⁸ were based on the assumption that historic funding patterns would continue to be utilised, being a 51% co-funding contribution from Government (through the National Land Transport Plan, the **NLTP**), 24.5% contribution from development, and 24.5% local funding from ratepayers. This also presumed future general rates rises around 4-5.3% annually¹⁹.
- 5.40 These funding assumptions have proven to no longer be valid based on actual NLTP co-funding received since adoption of the 2024-34 Long Term Plan as well as intentions signalled by Government for future funding.
- 5.41 The Council 2024-27 bid to the NLTP is the mechanism to apply for central Government co-funding for improvement projects. The Council NLTP bid totalled approximately \$18 million. For this request, Council received \$700,000 in funding. The recent Ministerial Statement on Land Transport Investment²⁰ suggests this funding regime minimising investment in new infrastructure is likely to continue given the “constrained fiscal environment.”

¹⁴ Canterbury Regional Council (July 2021) Canterbury Regional Land Transport Plan, p. 81

¹⁵ Joe Phillips & Hayden Trumper, “Transport Effects of the Proposed Development – Part 2,” (8 October 2026), para 5.31

¹⁶ Substantive Application Integrated Transport Assessment (May 2026), para 167

¹⁷ Substantive Application Integrated Transport Assessment (May 2026), para 167

¹⁸ 2024-2034 WDC Long Term Plan, available at <https://www.waimakariri.govt.nz/council/documents-bylaws-plans/long-term-plan>

¹⁹ 2024-2034 WDC Long Term Plan, p. 124

²⁰ MCERT Ministerial Statement on land transport investment, 13 August 2026

- 5.42 On the local funding side, Government introduced the Local Government (Rates Capping) Amendment Bill²¹ in August 2026. The present form of this bill, if passed, would limit future rates rises to a range of 2-4%, including roading infrastructure funding. Should this change be enacted into law, the local funding levels assumed in the 2024-34 Long Term Plan are likely also have to be reduced.
- 5.43 Given the trends observed over the past three years, I consider it highly unlikely that the projects included in the 2024-34 Long Term Plan will receive any funds and are likely to be deferred beyond the reasonably foreseeable future. Further, the historical funding structure consisting of a mixture of Government, local ratepayer, and development contributions funding does not appear to be a sustainable source for any substantive future infrastructure investment.
- 5.44 I understand that Government has recently suggested that development contributions policies can be modified to customise funding for infrastructure related to Fast Track development applications. However, given the highly compact and resource-intensive nature of the Fast Track process, I consider it would not be possible to implement changes in a timeframe which would be able to be applied for this application.
- 5.45 I consider that there needs to be reasonable confidence the infrastructure improvements will be funded for delivery and maintenance in the future in order to meet a threshold of "well-serviced."
- 5.46 The quantum of infrastructure safety and operational upgrades identified in the Novo ITA and Council Long Term Plan is so much greater than the available local (i.e., ratepayer) funding that I have no confidence that present arrangements can fund the necessary upgrades.
- 5.47 The overall cost, driven by the location far from existing urban transport networks, is also so great as to compare poorly against the broader benefits of this proposal. However, should it be approved, I consider it necessary that this overall upgrade cost be borne by the Applicant in the course of their development.

Comments on plans and conditions

- 5.48 I provided feedback to the Applicant at our first consultation meeting on 20th August 2026 on specific concerns relating to the subdivision plans. Many of these comments were discussed in the 8 September Novo Group transport response.
- 5.49 The Beca Memo goes into more detail on the comments, the response, and outstanding concerns.

6. INFORMATION GAPS / CLARIFICATION REQUIRED

Crash prediction models

- 6.1 The Novo ITA made several references to crash prediction models developed for intersections. No details were provided for these models and their scope, so I am unable to comment on whether they were appropriately constructed for the receiving transport network.

²¹ Legislation available at <https://www.legislation.govt.nz/bill/government/2026/340/en/latest/>, last viewed 7 October 2026

Tram Road / SH1 Motorway interchange traffic models

- 6.2 The Novo ITA included an assessment of traffic operations at the Tram Road / SH1 motorway interchange, carried out by Flow Transportation Specialists²². Flow built a new traffic model to use for this assessment, and some nominal details on its construction and validation were included in the assessment. The assessment concluded that simple phasing changes at the two traffic signals at the interchange were sufficient to mitigate the increased traffic from the development.
- 6.3 In the WDC Proposed District Plan Stream 12C/D Transport Joint Witness Statement²³, a separate traffic model was constructed and reviewed by five separate transport engineering experts (including the Applicant's transport engineer, Mr Fuller) to assess traffic operations at the same interchange. It concluded that *"inclusion of the [Ōhoka Fast Track] development leads the Interchange to be over-capacity, with the Tram Road eastbound approach to the SH1 off-ramp being at Level of Service F and therefore requiring an upgrade."*
- 6.4 Both traffic models at the interchange were developed by reputable transport engineers, but these models are at best more or less precise guesses as to future traffic behaviour. Fundamentally there is a risk that the traffic signal phasing changes proposed by Flow will either cause unexpected problems or not be accepted by the New Zealand Transport Agency, who operate the traffic signals.
- 6.5 I consider there is a reasonable risk that the Stream 12C/D traffic model may be a better representation of future traffic behaviour, in which case the interchange operates at an unacceptable level of service due to traffic generated by the proposed development. In this instance, the costs to mitigate the traffic operations effects become substantial, potentially requiring a widening or replacement of the Tram Road overbridge and traffic signal modifications on both sides.
- 6.6 This risk could be addressed through a substantive comparison between the two models (which would require more information than that provided in Appendix 11), and by sensitivity testing the model with changed inputs to understand how much spare capacity exists in the modelled network.

Cycle network conflict minimisation / safety optimisation

- 6.7 A plan showing the broader non-motorised network has not been provided (and thus the extent and connectivity of cycling paths can only be assumed). However, it appears that the cycling network and adjacent parcels have not been coordinated to minimise conflict points or the risk of vehicle-cyclist crashes throughout the development. Examples include Lots 65-68, 98-100, 228-232, and 312-313 which could be reorientated to avoid crossings of the adjacent shared path.

Effects on primary route to Rangiora

- 6.8 The Novo ITA has not evaluated the Ashworths Road / Plaskett Road route that leads from Ōhoka to central Rangiora. Residents from the proposed development would likely use this route to access the educational, shopping, and medical services in the District's largest centre. The route includes a one-lane bridge and several high risk intersections and roadway segments.

²² Substantive Application Integrated Transport Assessment (May 2026), Appendix 11

²³ WDC Proposed District Plan Stream 12C/D Joint Witness Statement (Cumulative Transport Effects), 10 October 2024, para 34

Matters not addressed in integrated transport assessment

6.9 As noted in Appendix 14 of the Novo ITA, the WDC PODP Rule TRAN-R20 requires a Full integrated transport assessment. The matters to be addressed in the Novo ITA are included in TRAN-MD11. While the provided integrated transport assessment covers some matters, many are not discussed, including the following:

- (a)(v) *Design and layout:*
 - *The extent to which the design and layout of the proposed activity maximises opportunities, to the extent practicable, for travel other than by private vehicle, including providing safe and convenient access for travel by such modes.*
 - *The extent to which the design of the development will encourage public transport use.*
 - *The extent to which the design of the proposed development will encourage walking and cycling to nearby destinations.*
- (a)(vii) *Accessibility of the location:*
 - *The extent to which the proposed activity has demonstrated the accessibility of the site by a range of transport modes, and the extent to which the activity's location will minimise or reduce travel to and from the activity by private vehicles and encourage public and active transport use.*
 - *The safety, distance and suitability of pedestrian routes to the nearest bus stop.*
- (b)(i) *Network effects:*
 - *The extent to which the design and layout of the proposed development maximises opportunities, to the extent considered reasonably practicable, for travel other than by private car.*

7. AREAS OF AGREEMENT

7.1 While the Beca Memo goes into a more detailed review of the Substantive Application's assessment of existing conditions, I agree at a high level with the Novo ITA that there are existing and future deficiencies at:

- Tram Road & Bradleys Road & McHughs Road (traffic safety deficiency)
- Tram Road & Whites Road (traffic safety deficiency and future traffic operations deficiency)
- Flaxton Road & Threlkelds Road (traffic safety deficiency and future traffic operations deficiency)
- Mill Road & Ōhoka Road (traffic operations deficiency)
- Tram Road & SH1 Motorway (traffic operations deficiency)
- Tram Road corridor (multiple midblock traffic safety deficiencies)
- Bradleys Road, Whites Road, Mill Road (between Bradleys and Threlkelds Roads), and Threlkelds Road (multiple midblock traffic safety deficiencies)

- 7.2 I fully support the Novo ITA²⁴ conclusions that pedestrian and cycle provision *“reduce[s] the need to drive to meet day-to-day retail needs, not only for future residents, but also the existing residents in Ōhoka.”* I also agree that existing, planned, and proposed pedestrian and cycle provision in relation to the proposed development will enable safer travel for pedestrians and cyclists.
- 7.3 While minor design changes are still required, I agree that the proposal provides a connected internal roading network suitable for vehicular, pedestrian, and cycling traffic to internal destinations.
- 7.4 I agree with the Novo ITA’s use of West Melton as a likely and reasonable surrogate for the Ōhoka area if this development is approved.

8. RECOMMENDATIONS / CONDITIONS

- 8.1 While I do not support this proposal at a high level, if this application were to be approved, I recommend that conditions be set requiring construction of the following infrastructure improvements:
- 8.1.1 A roundabout at the Flaxton Road / Threlkelds Road intersection with associated changes in priority at the Mill Road / Threlkelds Road intersection;
 - 8.1.2 A roundabout at the Whites Road / Tram Road intersection;
 - 8.1.3 A roundabout at the Bradleys Road / McHughs Road / Tram Road intersection;
 - 8.1.4 Improvements at the Tram Road / State Highway 1 interchange to increase the capacity for right turning traffic onto the southbound on-ramp;
 - 8.1.5 A cycleway between the development and the Mandeville shops;
 - 8.1.6 A cycleway between the development and Kaiapoi (e.g., existing cycling infrastructure at the Ohoka Road / Island Road intersection);
 - 8.1.7 A cycleway between the development and Rangiora (e.g., existing cycling infrastructure on Townsend Road at the South Brook culvert);
 - 8.1.8 Shoulder and centreline widening of Tram Road between Bradleys Road and the SH1 Motorway interchange;
 - 8.1.9 Shoulder widening of Bradleys Road between Mill and Tram Roads;
 - 8.1.10 Shoulder widening of Whites Road between Mill and Tram Roads;
 - 8.1.11 Shoulder widening of Mill Road between Bradleys and Threlkelds Roads; and
 - 8.1.12 Shoulder widening of Threlkelds Road for its entire length.
- 8.2 Note that the improvements listed in 8.2 are estimated to cost between \$35 and 52 million. As these projects are unlikely to be funded by Government and Council, their funding and delivery should be undertaken by the Applicant.
- 8.3 All streets within the development should be constructed to an urban standard (e.g., per WDC District Plan Table TRAN-3 and WDC standard drawings including 600-245), including kerb & channel, on-street parking, street lighting, footpaths (and cycling facilities as applicable), and street trees.

²⁴ Substantive Application Integrated Transport Assessment (May 2026), para 168

- 8.4 All sections fronting to footpaths or shared paths with intervening service strips / berms narrower than 2.5m shall have fencing height / visibility restrictions to enable appropriate visibility splays in line with PODP rule TRAN-R6

9. OVERALL POSITION / CONCLUSIONS

- 9.1 I consider that this application is fatally flawed from a transport perspective because locating a development of this scale and this distance from established urbanised areas with their established transport infrastructure is likely to result in substantial environmental, economic, and traffic safety effects.
- 9.2 Regardless of any short-term benefits to the housing market, I consider that the proposal will result in long-term safety and transport-related financial impacts on both existing and future residents, should it be approved.
- 9.3 If my understanding of the history of development at West Melton is any guide, this proposal could be the “toe in the door” that leads to further urban development around Ōhoka and I consider that these would also likely result in the same safety, economic, and environmental effects on the transport system, due to the location.
- 9.4 However, if the development were to be approved, I have listed a number of road safety and operational improvements which are, in my view, necessary to accommodate the level of traffic generated by this large scale new urban development.
- 9.5 As there is almost no funding available or likely to be made available in the readily foreseeable future from Council or Government for these improvements, I consider that all improvements should be funded and delivered by the Applicant as part of their development, in the spirit of “development paying for development” rather than being a substantial additional burden to existing Waimakariri District ratepayers.



**FAST TRACK APPROVALS Act 2024 (FTAA 2024)
TECHNICAL ADVICE**

Carter Group Ōhoka Substantive Application
[FTAA-2606-1253]

File No	RC255196
Date	8 October 2026 [Final_v4_issued]
Memo To	Kate Barry-Piceno, Ōhoka Residential Subdivision Expert Panel Chair
From	Joe Phillips and Hayden Trumper, Beca Limited
Subject	Transport Effects of the Proposed Development – Part 2

1. EXECUTIVE SUMMARY

- 1.1 We do not consider the proposed development is well-located to benefit from existing or likely future active mode and public transport infrastructure and services. On this basis, there will be a high level of traffic demand by future residents. Given the location and lack of existing adequate transport infrastructure in the receiving environment, it is our opinion that the proposed development has substantial adverse transport effects on the rural road network surrounding Ōhoka and connecting with the state highway network.
- 1.2 With some exceptions, we are in agreement with the potential substantial adverse transport effects that are predicted to eventuate with the proposed development, as identified in the Novo ITA. However, we have identified additional improvements and changes to the responsibility for transport improvements to provide certainty they will be delivered, where necessary and at the right time.
- 1.3 To address the substantial adverse transport effects, the following additional or amended subdivision (or resource consent) conditions are required:
- A new condition for a shared path on Mill Road and Jackson Road to provide safe pedestrian and cycle access to the Ōhoka School.
 - A new condition for safety improvements on Whites Road, Mill Road, Threlkelds Road and Tram Road to manage the safe operation of these roads with increased traffic demand.
 - A new condition for safety improvements at the Whites Road / Tram Road intersection to manage the safe operation of this intersection with increased turning movements.

- A new condition for the early implementation of the realignment of the Mill Road / Threlkelds Road intersection to manage adverse effects on the efficient and safe operation of the Mill Road / Skewbridge Road / Ōhoka Road intersection.
 - Amendment to the proposed Subdivision Conditions 5 to 7 for the upgrade of the Threlkelds Road / Flaxton Road / Skewbridge Road intersection to simplify the timing of the proposed improvements.
- 1.4 The combination of the previous queuing issues at the Interchange, previously reported traffic modelling and the absence of queue length information leaves significant uncertainty in terms of the potential scale and impact of the traffic effects at the Interchange, which needs to be addressed prior to approving consent. This is a particular concern, given we understand that the Applicant has not discussed the identified signal phasing mitigation with the NZ Transport Agency (NZTA) to confirm that, as the road controlling authority, the NZTA agrees with the proposed solution. This provides a significant risk in terms of the outcomes and practical implementation of this mitigation, given the predicted effects without the proposed mitigation identified in the Novo ITA. We therefore recommend that further comment is also sought from NZTA on this matter, as the road controlling authority.
- 1.5 In relation to the commercial centre and the polo grounds, we consider it inappropriate that these activities are not to be properly assessed in Novo ITA and proposed to be assessed only at a later stage. We consider assessment is necessary at this time to properly understand the effects and appropriate consent conditions. In particular, the proposed scale and the traffic generation of the commercial centre is likely to account for a large proportion of traffic from the overall development.
- 1.6 We consider that the proposed internal layout introduces unacceptable crossroad intersections, as well as a close right-left staggered T-intersection, that do not comply with the WDC Code of Practice. We consider that these issues will not be adequately addressed by conditions of consent, as they will require a redesign of the internal road network layout that affects subdivision plans. Instead, we consider that revised Scheme Plans need to be prepared to address this matter prior to consent approval.

2. INTRODUCTION

Purpose and Context of the Memorandum

- 2.1 The purpose of this memorandum (memo) is to undertake an assessment of behalf of Waimakariri District Council (WDC) of the potential transport effects of the proposed Ōhoka Substantive Application, by Carter Group (the Applicant). The memorandum considers potential adverse effects on the safe, efficient and effective operation of the transport network and any associated transport mitigation measures necessary to address the adverse effects.
- 2.2 This memorandum should be read alongside the transport memorandum prepared by Shane Binder of WDC, given the inter-related transport matters addressed. The respective scope of the memoranda are:

- Transport Effects of the Proposed Development – Part 1 – prepared by Shane Binder – Generally addresses the broader national, regional and local transport policy and strategy matters, as well as whether the receiving transport environment is infrastructure-ready.
- Transport Effects of the Proposed Development – Part 2 – this memorandum – Generally addresses in more detail the adequacy of the Applicant's Integrated Transport Assessment report. It considers whether the proposed development has been satisfactorily assessed and whether appropriate transport mitigation, including conditions, is provided in relation to the internal and external transport receiving environment.

Documents reviewed

2.3 The following documents have been reviewed in the preparation of this memo:

- RC255196 FTAA-2606-1253, Appendix 15 – Integrated Transport Assessment, prepared for Carter Group by Novo Group Ltd (Novo), dated May 2026.
- RC255196 FTAA-2606-1253, Appendix 43 – Proposed District Council Consent Conditions.
- RC255196 FTAA-2606-1253, Appendix 27 – Civil Engineering Plans, prepared for Carter Group by Inovo, dated June 2026.
- FTAA-2606-1253, Memorandum for Counsel for Carter Group, prepared by Anderson Lloyd, dated 10 September 2026.
- Ōhoka Fast Track Application, Appendix 15(a) – Transport Response to Initial Council Feedback, prepared by Novo, dated 8 September 2026.
- Ōhoka Fast Track Application, Appendix 26 – Updated Scheme Plans, prepared by Inovo, dated 10 September 2026.
- Ōhoka Fast Track Application, Appendix 26 – Updated Typical Road Cross-sections, prepared by Inovo, dated 10 September 2026.
- Transport-related evidence and joint witness statements including from WDC and the Carter Group in relation to submissions and further submissions on the Proposed Waimakariri District Plan. This included Hearing Streams 12C and 12D, Large Lot Residential and Ōhoka rezoning request.
- Transport-related evidence and joint witness statements prepared by WDC and the Rolleston Industrial Developments Limited in relation to Proposed private plan change (RCP31) to the Operative Waimakariri District Plan.

Key areas discussed in this memo

2.4 We have considered the following areas in this memo in relation to the safe operation of the internal and external transport network (the receiving environment):

- Existing transport and land use environment context, particularly the existing rural road receiving environment
- Trip generation and distribution, including whether the traffic generation associated with the full development has been adequately considered

- Impacts on the operational performance and safety of roads impacted by the proposed development traffic
- Impacts and facilities for active mode users, including demand for access to the Ōhoka School
- Internal road layout and site access design, including compliance with the Waimakariri District Plan¹
- Whether appropriate transport mitigation measures and mechanisms have been identified and whether the proposed staging coordinates development with infrastructure delivery.

3. QUALIFICATIONS

Joe Phillips

- 3.1 Joe Phillips has over 25 years of experience providing transport planning, assessment, and expert advisory services for complex land development, rezoning, and infrastructure projects throughout New Zealand. He is a member of Engineering New Zealand and the Transport Planning Society New Zealand.
- 3.2 Joe has extensive expertise leading Integrated Transport Assessments, transport peer reviews, access strategies, and transport master planning for large-scale residential growth areas, private plan changes, fast track applications, and resource consent processes. His experience includes acting as technical lead and expert advisor for developments such as the Bledisloe North and Fergusson Wharves Fast Track application, and the Drury South industrial development, in Auckland. He has also provided transport peer review advice to Auckland Transport on the Milldale/Wainui residential development, Smales Farm Plan Change, and residential re-zoning proposed in Patumahoe and Pukekohe, in Auckland.
- 3.3 Joe has regularly provided expert evidence and strategic transport advice to local authorities and developers, working closely with applicants, councils, Auckland Transport, and NZ Transport Agency.

Hayden Trumper

- 3.4 Hayden Trumper is a Senior Associate Transportation Engineer with a Bachelor of Engineering (Hons) and Master of Engineering in Transport, and is a Chartered Professional Engineer. He has extensive experience undertaking Integrated Transport Assessments, transport peer reviews, and resource consent assessments for residential, commercial and community developments throughout New Zealand. His work includes transport assessments for large urban growth and land development projects, including residential developments for Kāinga Ora, Lincoln Domain Extension, school designations, and numerous developments requiring assessment of transport effects, network capacity, active mode provision, access design, and mitigation measures through the resource consenting process.
- 3.5 Hayden is also an experienced road safety engineer, having served as Southern Region Safety Engineer for the NZ Transport Agency Safe Roads programme and is a Lead Safety Auditor for Safe System Audits undertaken for the NZ Transport Agency (NZTA) / Council-led transport improvement projects. His experience includes applying Safe System principles to high-risk rural roads and intersections,

¹ Partially Operative Waimakariri District Plan (Appeals Version).

undertaking safety assessments, developing mitigation measures, assessing active mode safety, and providing road safety input to business cases and infrastructure projects throughout New Zealand. Most applicable to this development, Hayden was the lead Safety Engineer for the State Highway 1 – Tram Road to Saltwater Creek and State Highway 71 – State Highway 1 to Rangiora Safety Improvement Single Stage Business Case Projects

- 3.6 This experience is directly relevant to the transport safety matters considered in this review, including the assessment of rural road safety risks, intersection upgrades, active mode facilities, and Safe System outcomes associated with the proposed development.

4. CODE OF CONDUCT

- 4.1 We confirm that we have read and agree to comply with the Code of Conduct for Expert Witnesses contained in the Environment Court Practice Note 2023. This technical review has been prepared in accordance with that Code. In particular, unless we state otherwise, the opinions we express are within our areas of expertise, and we have not omitted to consider material facts that might alter or detract from the opinions that we express.

5. KEY ISSUES

Primary Issues

- 5.1 We have identified the following primary transport issues, which we discuss in more detail below:

- Suitability of the Receiving Environment – Prior to Development
- Proposed Development Traffic Distribution
- Impact on the Classification and Capacity of Surrounding Transport Network
- Impacts on the Safety of the Surrounding Transport Network
- Provision for and Impacts on Active Modes
- Methods to Address Adverse Effects
- Internal Road Layout and Site Access Design Compliance

Suitability of the Receiving Environment – Prior to Development

- 5.2 We consider that the proposed development is not well-located to benefit from existing or likely future active mode and public transport infrastructure and services. While the Novo ITA identifies there is the potential for the cycling network and bus services to be extended to Ōhoka in the future based on the scale of proposed development, we consider that this is unlikely to be the case. A substantial level of infrastructure investment would be necessary to extend cycling facilities and bus services around 6 to 7km from the urban fringes of both Kaiapoi and Rangiora to the development to deliver facilities that would be safe and attractive. It is considered that transport infrastructure will in the first instance be prioritised to support development in and around existing urban areas, given the funding constraints, which are discussed in Mr Binder's memorandum.

- 5.3 By way of example, the Novo ITA references the West Melton development. While substantive development has occurred in this community, the community has no cycle facilities connecting with Rolleston, which is located a similar distance from West Melton as Ōhoka is from Kaiapoi and Rangiora. Moreover, while being a similar scale to the proposed Ōhoka development, West Melton is currently served by limited (peak period only) bus services, which while well used, do not provide the opportunity for substantial mode shift. On this basis, like West Melton, it is considered that future Ōhoka residents will not be well-connected to the transport network and will have high reliance on the private car travel. It is acknowledged that the traffic generation used in the Novo ITA reflects this context, leading to the proposed development having substantial transport effects on the rural road network within and surrounding Ōhoka.
- 5.4 Within the Novo ITA, the Applicant provided a review of the existing transport environment in terms of the roads that have the potential for adverse effects on their safe operation from the proposed development. To inform our assessment, it is important to understand the current road classification of the relevant road corridors in the surrounding transport network (Figure 1), as follows:

- Whites Road – Local Road
- Bradleys Road – Collector Road
- Mill Road – Collector Road
- Threlkelds Road – Collector Road
- Flaxton Road/Skewbridge Road – Arterial Road
- Tram Road – Arterial Road

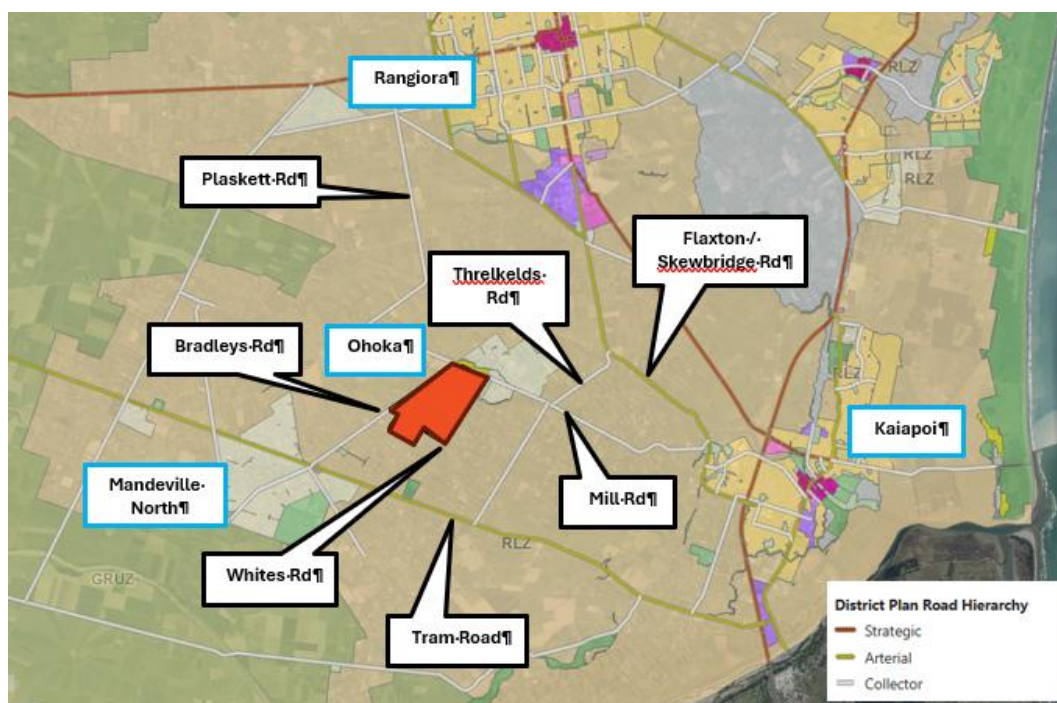


Figure 1: Existing road network hierarchy²

² https://waimakariri.isoplan.co.nz/draft/property/20484/0/255?_t=property.

5.5 We note that a potentially important rural road corridor, using Ashworth Road and Plaskett Road has not been identified in the Novo ITA. This provides an alternative route to the western and northern parts of Rangiora. We understand that WDC has identified these roads for improvements, particularly due to the one-lane bridge at the southern end of Plaskett Road. We have therefore identified in section 6, that this is an information gap in the Novo ITA, which should be addressed.

5.6 The Novo ITA has identified the following existing concerns with the safety and / or operational performance of the following intersections in the surrounding transport network:

- Tram Road / Bradleys Road / McHughs Road intersection – High Risk Intersection
- Tram Road / Whites Road intersection – High Risk Intersection
- Flaxton Road / Threlkelds Road intersection – High Risk Intersection and Approaching Capacity
- Mill Road / Ōhoka Road intersection – Approaching Capacity
- Tram Road Interchange – Approaching Capacity

5.7 In addition to the information in the Novo ITA, we have reviewed the NZTA MegaMaps,³ (Figure 2 below), which identifies the current safety performance of the surrounding road corridors.



Figure 2: NZTA MegaMaps – Collective Risk

³ <https://spatial.nzta.govt.nz/apps/megamaps/>.

- 5.8 This identifies the Tram Road corridor has a Medium-High and High Collective Risk between Whites Road and the Tram Road Interchange. There is also a Medium-High Collective Risk at the Tram Road / Bradleys Road / McHughs Road intersection. According to the NZTA Rural Roads Guide, these parts of the Tram Road corridor are therefore High Risk. The NZTA MegaMaps (Figure 2) notes the Skewbridge Road corridor is currently a Medium Collective Risk corridor, which indicates that this corridor may become High Risk should traffic notably increase. While the Ashworth Road / Plaskett Road corridor is currently a Low-Medium Collective Risk, this could change should traffic notably increase.
- 5.9 In addition to the proposed development, there is other identified development growth in Ōhoka and the surrounding areas, which is relevant to the transport environment within which the proposed development is considered. These are part or additional to planned urban growth in the main centres of Rangiora and Kaiapoi. These development areas are illustrated in Figure 3 below. The developments have been identified in the Novo ITA,⁴ as well as through previous transport workstream conferencing for the WDC District Plan.⁵ In addition to the proposed development, these other developments may result in approximately 400 residential dwellings in the surrounding area, which impact the baseline traffic volumes in the immediate receiving environment. In relation to the Tram Road interchange, the development on Main North Road (south of Kaiapoi) is relevant to the traffic impacts. Compared to the other growth in the immediate vicinity, the proposed development at Ōhoka of 850 residential dwellings and 250 retirement dwellings is substantial.

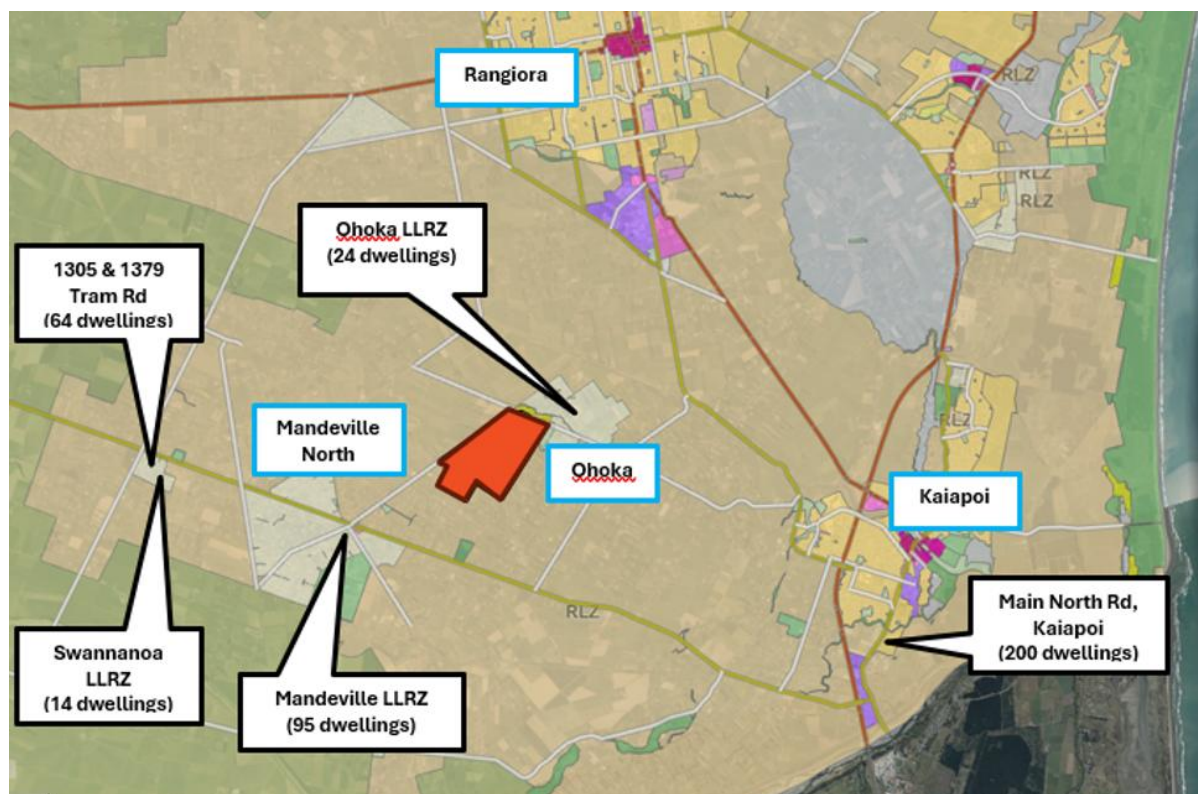


Figure 3: Identified Development Growth in Surrounding Area

⁴ Novo ITA, paragraph 159 and figure 36.

⁵ Joint Witness Statement for the Proposed District Plan Stream 12C & D Transport Conferencing.

- 5.10 The Applicant's assessment identifies that the surrounding road network already contains a number of locations with existing safety and capacity constraints. This is consistent with the NZTA MegaMaps information, which identifies sections of the Tram Road corridor and associated intersections as being High Risk. In combination other planned, consented or proposed developments have the potential to further impact this baseline receiving environment, prior to considering the impacts of the proposed development. This is not fully considered in the Applicant's assessment.
- 5.11 We therefore consider that there are current 'baseline' safety and capacity issues, which the Applicant has recognised, that are already impacted by future growth in the surrounding area. We therefore consider that the existing transport environment will be highly sensitive from a transport safety, and in some instances a traffic capacity context, in terms of the predicted substantial increases in traffic demand associated with the proposed development.

Proposed Development Traffic Distribution

- 5.12 The Novo ITA states that the trip distribution of the proposed development around the road network is based on the trip distribution from the Christchurch Traffic Model (CTM). The CTM is a strategic model and is less well-refined at a local level, i.e. local trips immediately in or immediately adjacent to Ōhoka. However, we consider it is appropriate for determining the broader traffic distribution to the nearby main centres (such as Kaiapoi and Rangiora) and Christchurch.
- 5.13 While appropriate for broader distribution, this results potential under estimation of trips to nearby Ōhoka School via Mill Road. These trips are likely to be localised and limited to lower volume parts of the network, so from an operational performance perspective the overall impact of these traffic changes are expected to be low, particularly as some of these will be part of commuter trips using Mill Road.
- 5.14 The Novo ITA assigns all development trips using Mill Road to the Mill Road-Threlkelds Road-Skewbridge Road corridor, due to the realignment of the proposed Mill Road / Threlkelds intersection. However, the ITA does not reassign any of the existing Mill Road traffic to the Mill Road-Threlkelds Road-Skewbridge Road corridor with the revised priority. This potentially underestimates the traffic demand on Threlkelds Road with the proposed development, but may be balanced by some proposed development choosing to route via the Mill Road-Ōhoka Road corridor. We consider this potential for additional traffic demand on Threlkelds Road should be considered in informing the timing of the upgrades along this corridor.
- 5.15 Furthermore, as noted by the ITA, the existing performance of the Tram Road interchange is approaching capacity, so relatively small changes in traffic volumes due to the proposed development can notably increase travel times through the interchange. The traffic modelling of the Tram Road Interchange and associated effects are discussed further below. The potential for increased travel times at the Tram Road Interchange may result in traffic re-routing to use the Mill Road-Threlkelds Road-Skewbridge Road corridor to access State Highway 1. This further reinforces the need to consider transport upgrades on the Threlkelds Road-Skewbridge Road corridor.

- 5.16 As we have discussed further in section 6, the Novo ITA has an information gap in relation to not considering potential traffic demand and therefore potential adverse traffic effects on the Ashworth Road-Plaskett Road corridor.

Impact on the Classification and Capacity of Surrounding Transport Network

- 5.17 Based on the traffic generation and distribution identified in the Novo ITA, the traffic volumes on the key road corridors are expected to change, as set out in Table 1 below, with associated changes in the classification / functional requirements.
- 5.18 As shown in in Table 1 below, the identified changes in traffic demand and road classification indicate the proposed development will have a substantial change on the environment of the surrounding rural corridors, particularly Whites Road, Mill Road, Threlkelds Road and Tram Road.

Table 1: Road Corridor Traffic Volume and Classification Changes – With Proposed Development

Road Corridor	Existing Traffic Volume (veh/day)	Future Traffic Volume (veh/day)	Change (veh/day)	Classification Change
Whites Road	852	~2,890	239% increase	Local to Collector ^a
Bradleys Road	1,328	~2,710	104% increase	Remains Collector ^a
Mill Rd (east of Whites Rd)	1,612	~4,010	149% increase	Collector to Arterial ^b
Threlkelds Road	1,738	4,140	138% increase	Collector to Arterial ^b
Tram Rd (east of Whites Rd)	7,790	10,490	35% increase	Arterial to Regional ^b
Flaxton Rd/ Skewbridge Rd	11,203	12,880	15% increase	Remains Regional ^b

a – Indicative road classification traffic volumes provided in Waimakariri District Plan – Table TRAN-4

b – Indicative road classification traffic volumes provided in NZTA One Network Framework, based on the One Network Road Classification⁶

- 5.19 The Waimakariri District Plan (Table TRAN-4) (Figure 4 below) provides a minimum expectation for the design of new roads depending on the road classification, for roads with speeds of 60kph or above, which includes the roads surrounding the proposed development.

⁶ One Network Framework, Detailed Design Document, Table 3 (v1.1, Sept 2025).

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

Design element	Low Volume	Local Road	Collector Road	Arterial Road	Strategic Road
Road type	Local Road				
Typical design AADT	<150	<1,500			
Maximum length (m)	150				
Maximum number of residential units served	20	150			
Road corridor width (m)	20.0	20.0	23.0	24.0	30.0
Shared use path (m) (one side) ¹			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 0.5	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.

Figure 4: Waimakariri District Plan (Table TRAN-4) – Design standards for roads (>60kph)

- 5.20 While we recognise that this is for new roads, and some existing roads may not meet these design standards, we consider it is informative of the appropriate road standard and dimensional requirements to satisfactorily provide for the effects of increased traffic demand on surrounding roads. Most notably, as the road classification increases, the carriageway width increases, to provide for the safe operation with increased traffic demand and potential for conflict. In higher speed road environments, a wider carriageway increases the likelihood the driver has time to take corrective action to avoid fatal and serious crashes. We would therefore recommend additional widening of the road shoulders would be required on Whites Road, Mill Road, and Threlkelds Road, as well as Tram Road, to meet the above design standard. These upgrades are not proposed by the Applicant, which is likely to result in substantial adverse effects on safe operation of these roads.
- 5.21 The ITA identifies that the existing layouts of the Mill Road / Ōhoka Road, Threlkelds Rd / Skewbridge Rd, and at Tram Rd Interchange will be over capacity, when the development is fully developed without improvements.
- 5.22 Intersection capacity improvements have been identified by the Applicant to address these issues. This includes a realignment of Mill Road / Threlkelds Road intersection to encourage traffic away from the Mill Road / Ōhoka Road intersection to use a roundabout upgrade at the Threlkelds Road / Skewbridge Road intersection. These identified improvements are considered sufficient to address capacity concerns at these intersections. As we have discussed later, the improvements will also address safety at these intersections, but we have concerns with the timing of the proposed realignment of Mill Road / Threlkelds Road intersection.
- 5.23 There are historical issues related to vehicles queuing on the Tram Road off-ramp, which presents a potential capacity and associated safety risk for the state highway mainline traffic. The current phasing provides an early 'cut off' for the off-ramp, to allow the overbridge to clear and minimise the risk of vehicles queuing on the bridge and blocking right turning traffic from the off-ramp. The ITA suggests that the capacity constraints present at the Tram Road interchange (and with the proposed development) can be addressed by removing the clear-out phase for the overbridge. This can increase the risk of vehicles on the off-ramp queuing back into the high speed motorway. It is noted that the proposed phasing changes, notably increase the delay on the Tram Road west approach that is utilised by development traffic accessing SH1.

5.24 The traffic modelling, undertaken by Flow Transportation Specialists (Flow), has been validated on the basis of comparing observed queue lengths at the interchange with the existing modelled scenario. The Flow report includes differences between the existing observed and modelled queues, but does not include the actual queues or modelled queuing for the assessed scenarios. This does not allow us to understand and confirm the extent of queues that are predicted and the associated impact of those queues. i.e. the extent of queuing on the northbound off ramp may impact motorway traffic or extent to the east and west of the interchange on Tram Road. Given the historic issues at the interchange, we therefore remain concerned that the proposed mitigation would not be effective, particularly as we understand that this has not been agreed with the NZTA.

5.25 As we discussed earlier, an implication of the above is that with increased queuing and delay for eastbound traffic approaching the Tram Road Interchange, there would be re-routing of trips to the Mill Road-Threlkelds Road-Skewbridge Road route to access SH1. This increases the need to consider upgrades to that route to manage the effects of the proposed development.

Impacts on the Safety of the Surrounding Transport Network

5.26 The Novo ITA⁷ provides a summary of identified improvements to mitigate the adverse impacts of the proposed development on the safety of the surrounding road network.

5.27 The proposed roundabout at the Threlkelds Road / Flaxton Road is a Primary Safe System Intervention (SSI),⁸ with this improvement offering the highest improvement in safety and alignment with Safe System Principles. As such, this improvement is considered suitable to address the adverse effects of the proposed development at this intersection.

5.28 The realignment of the Mill Road / Threlkelds Road intersection is required to encourage traffic to utilise the Threlkelds Road / Flaxton Road intersection to manage the capacity at the Mill Road / Ōhoka Road, this has the added benefit of encouraging Mill Road traffic to use a safer intersection at Threlkelds Road / Flaxton Road with the proposed roundabout upgrade in place. We therefore consider both the realignment of the Mill Road / Threlkelds Road intersection and the Threlkelds Road / Flaxton Road roundabout upgrade to be appropriate in terms of addressing adverse safety effects of the proposed development on this corridor.

5.29 The Novo ITA identifies the implementation of Rural Intersection Active Warning System (RIAWS) as an appropriate upgrade at the Whites Road / Tram Road intersection. The NZTA SSI Toolkit notes:

“Intersection speed zones⁹ can be considered an appropriate interim safety solution where a longer-term Safe System transformational project is planned or being considered.”

⁷ Novo ITA, Table 20.

⁸ NZTA Standard Safety Intervention Toolkit, September 2021.

⁹ Also known as RIAWS.

- 5.30 We therefore consider that this intervention could only be considered an interim solution with a longer-term solution necessary that provides a higher improvement in safety and alignment with Safe System Principles. The NZTA High Risk Intersection Guide suggests overuse of RIAWS can reduce the effectiveness of all RIAWS within an area or corridor, as drivers will be 'over exposed' and therefore less compliant. We understand WDC is already consulting on implementation of two Intersection Safety Zones (ISZ) on Tram Road, which means the effectiveness of the RIAWS at Whites Road is likely to be limited, even as an interim solution. WDC has also identified there is uncertainty with the implementation of RIAWS due to the consultation process for associated speed limit changes. This supports the need for a solution at this intersection that would be appropriate as a long-term solution.
- 5.31 While recognise that some of the traffic growth on the corridor relates to other growth areas, the proposed development is directly and almost entirely the cause for a substantial increase in turning movements at the Whites Road / Tram Road intersection. With the proposed development resulting in a threefold increase in daily traffic on Whites Road, from 852 to 2,890 vehicles per day. As such, we consider that Whites Road requires a longer-term solution, such as upgrading the intersection to a roundabout.
- 5.32 We understand that WDC has a longer-term plan for the Tram Road corridor, based on the previous corridor safety study, which is intended to address the impact of the wider identified growth on this corridor. As set out in Mr Binder's memorandum, there are current funding constraints in delivering projects identified through the study in the current Long Term Plan (LTP), which are expected to continue into the following LTP period/s.
- 5.33 As discussed in the Novo ITA,¹⁰ the proposed development will result in around a 30% increase in traffic on Tram Road, which is the same increase in demand assumed in the corridor within previous corridor safety study. The proposed development therefore takes all of this potential growth, noting that none of the safety projects that were identified in that study are funded by WDC. We therefore consider it appropriate that the proposed development provides for both the longer-term improvements to the Whites Road intersection, as well as safety improvements in the form of carriageway widening to the south along Tram Road.
- 5.34 The Novo ITA identifies that improvements to Bradleys Road, Whites Road, Mill Road (between Bradleys Road and Threlkelds Road) and Threlkelds Road would be limited to minor works, such as improved line-marking, signage and warning of roadside hazards, plus speed limit reductions on Whites Road and Bradleys Road. On Bradleys Road and Whites Road, the improvements are identified for the site frontage only. WDC has identified there is uncertainty associated speed limit changes due to the consultation process. Therefore, implementation of improvements and access intersections along these roads will need to consider the current speed environment, if speed limit changes cannot be implemented.

¹⁰ Novo ITA, paragraphs 165 to 166.

- 5.35 As we have discussed in paragraphs 5.17 to 5.25, there are notable increases in traffic volumes expected on some of these roads that would result in substantive changes in classification and typical design characteristics of these road corridors. To address these changes, we consider that in addition to the above measures identified in the Novo ITA, additional safety improvements in the form of shoulder widening are considered to be required.

Provision for and Impacts on Active Modes

- 5.36 The Novo ITA recognises the need to provide facilities to enable walking and cycling access to the Ōhoka School. The provision of active mode facilities in the form of shared paths, provide off-road cycling facilities that encourage an alternative mode use to reduce traffic impact on surrounding road network. Additionally, they should be complemented by formal crossing points across intersecting roads that can provide safer road crossing facilities for pedestrians and cyclists.
- 5.37 The Waimakariri District Plan (Table TRAN-4, refer to Figure 4) identifies that 2.5m shared paths are an appropriate treatment on rural roads with speeds at 60kph or above, which is consistent with the Applicant's proposed approach to these facilities.¹¹ It is also noted that the Austroads Guide to Road Design recommends a desirable minimum width of 2.5m for local access shared paths. While there can be some safety concerns on shared paths with high pedestrian volumes, it is considered that they would provide an appropriate facility in this area.
- 5.38 It is noted that cycling or walking to school is likely to be a key mode for school travel, given that the majority of residents may not be eligible for free school bus services. The Ministry of Education website states pupils (in Years 1 to 8) are not eligible for free travel if they live within 3.2km of the school.¹² As can be seen in Figure 5 below, the majority of the development area is within 3.2km of the school, so there is likely to be preference to use free private car travel, if free buses are not available.
- 5.39 The Novo ITA only proposes that shared path improvements be provided by the Applicant along their frontage, together with pedestrian crossings to / from the Ōhoka Domain. This results in a network that does not connect to key local destinations, particularly the Ōhoka School, limiting the effect on reducing local traffic movements. The Novo ITA states that local active mode connections, including to the school, as well as further afield will be provided by WDC.
- 5.40 In our view, this not only reduces the transport integration of the proposed development with the immediately surrounding activities, but results in safety issues if children have to use the existing inadequate paths or cycle on the roads, which will have substantially increased traffic volumes. As we have stated previously, the proposed development is not well-located to benefit from existing or likely future active mode and public transport infrastructure and services connecting with Kaiapoi and Rangiora.

¹¹ Proposed Subdivision Condition 67.d states shared use path widths will be 2.5m.

¹² <https://www.education.govt.nz/parents-and-caregivers/schools-year-0-13/available-assistance/school-transport-assistance>.



Figure 5: Ōhoka School – 3.2km Travel Distance

Methods to Address Adverse Effects

5.41 The Novo ITA has identified the following improvements are required, but does not propose to deliver them, instead relying on WDC to provide these improvements:

- Shared path upgrades on Mill Road from Whites Road to Ōhoka School
- Minor safety works to Bradleys, Whites, Mill and Threlkelds Roads
- Tram Road / Bradleys Road / McHughs Road roundabout
- Tram Road / Whites Road intersection safety improvements
- Flaxton Road / Threlkelds Road roundabout, plus changes to the Mill Road / Threlkelds Road intersection.

5.42 There is some uncertainty in terms of how the Applicant proposes to address the effects at the Flaxton Road / Threlkelds Road intersection, as proposed Subdivision Conditions¹³ include conditions for the Applicant to provide this upgrade,¹⁴ which is not consistent the mechanism identified in the Novo ITA. We assume that the proposed Subdivision Conditions are the Applicant's proposed method for delivering this upgrade.

5.43 As set out in Mr Binder's memorandum for WDC, there is high degree of uncertainty that development contributions and the associated LTP processes will provide an appropriate method to ensure the delivery of the projects identified by the Applicant in the Novo ITA with none of these projects currently funded.

¹³ Proposed Subdivision Conditions 5 to 7.

¹⁴ The conditions also allow for the consent holder to enter into a developer agreement with WDC.

- 5.44 We therefore consider that there is a high degree of uncertainty that the necessary upgrades to the surrounding transport to provide for the safe and efficient operation of the network will be delivered. This is particularly critical for the upgrades that are required immediately or earlier in the implementation stages of the proposed development.
- 5.45 We therefore consider that the delivery of the necessary upgrades by the Applicant, provided for by consent conditions, will give the necessary certainty that these upgrades will be provided, when necessary, to manage the identified adverse transport effects.
- 5.46 We acknowledge that some of the necessary upgrades occur on corridors where other future developments and planned growth contribute to the need for improvements. In addition to the developments in Figure 3, there is planned residential growth within the Oxford township and Rangiora that will contribute to future traffic growth on Tram Road and Flaxton Road. Along Tram Road, the proposed development substantively contributes to future traffic demand, such that we consider that the Applicant should provide for improvements to both the Whites Road intersection and along this corridor.
- 5.47 Where the proposed development is primarily the cause and beneficiary of upgrades, we consider that the proposed development should be responsible for addressing those adverse effects. This would include:
- Shared path upgrades on Mill Road from Whites Road to Ōhoka School
 - Safety upgrade works to Bradleys, Whites, Mill and Threlkelds Roads
 - Tram Road / Whites Road intersection safety improvements
 - Tram Road corridor
 - Flaxton Road / Threlkelds Road roundabout, plus changes to the Mill Road / Threlkelds Road intersection.

Internal Road Layout and Site Access Design Compliance

- 5.48 There are a number of intersections within Stages 2, 4 and Stage 6 where urban streets meet at very acute angles. These intersections tend to have increased traffic safety effects from poor sight lines, over-the shoulder observation as well as requiring substantially longer crossing distances for pedestrians. They also result in awkwardly large intersection areas with increased driver confusion and maintenance costs.
- 5.49 There are several local and collector road intersections proposed in Stages 1-2, and 6-9 that include four-way crossroads. These intersections do not comply with the WDC Engineering Code of Practice and can lead to traffic safety effects for conflicting side road turns, failure-to-give-way, avenue effect, and risks to crossing pedestrians and cyclists.

- 5.50 There are a number of low radius curves present on local roads that currently do not show any curve widening provided to accommodate vehicle tracking. While this is generally consistent with a low speed urban environment and can be utilised to help reinforce lower vehicle speeds, it is currently unclear if sufficient space is available on the inside of the curve to accommodate curve widening and maintain two-way traffic flow. Similarly, if there is to effectively be a single lane operation on these curves, fences placed on the boundaries on the inside of the curve may restrict forward visibility such that two opposing vehicles cannot see each other and stop in time.
- 5.51 The intersections of Road 7-2/Road 7-8 and Road 7-2/Road 7-5 form a right-left staggered-T arrangement with 40m of separation between the intersection centrelines. This arrangement can result in safety and capacity issues as queuing right-turning traffic waiting to turn right can obstruct the adjacent intersection or can require sudden shifts for right turning vehicles to avoid queued vehicles, which increases the risk of vehicles losing control.
- 5.52 The proposed site accesses off Whites and Bradleys Road are separated by distances of 250-500m that do not comply with the WDC District Plan (TRAN-S2) for the existing 100 km/h speed environment (800m) or the proposed 80km/h speed on Bradleys Road and Whites Road. As discussed above, the non-compliance with the required intersection spacing will be exacerbated, if speed limit changes cannot be implemented due to consultation requirements. Similarly, internal roads in Stage 4 (Road 4-2), Stage 7 (Road 7-2), and Stage 8 (Road 8-3) have local street intersections in very close proximity (roughly 50 m) to their intersections with the frontage roads. This does not comply with TRAN-S2, as above, for a 50 km/h speed environment (125m). Reduced intersection separation on high-speed roads can result in insufficient time for drivers to comprehend intersection layout and react to other traffic, and drivers confusing movements undertaken for other intersections thereby selecting unsafe gaps in traffic¹⁵.
- 5.53 A plan showing the broader non-motorised network has not been provided (and thus the extent and connectivity of cycling paths can only be assumed). However, it would appear that this network and adjacent land use have not been coordinated to minimise conflict points and the risk of vehicle-cyclist crashes on the network. Examples include Lots 65-68, 174-177 and 207-209 which could be reorientated to access side roads instead of across the adjacent shared path.
- 5.54 The proposed Roundabout of Roads 9-1, 9-4 and 10-1 has an internal circulating radius of 8m with wide circulating lanes. This can result in minimal 'deflection' provided for through traffic on road 9-1 at the roundabout which can result in high approach and circulation speeds. Similarly, the non-square approaches may result in odd circulatory movements (e.g. quick left-right-left steering inputs for a left turn) or large sweeping curves that can be undertaken at higher speeds or further reduce deflection.
- 5.55 "Typical intersection detail" should not supersede WDC (and by reference, CCC) required standards, including carriageway width, kerb ramp location, tactile paver placement, no-stopping restriction length, etc.

¹⁵ https://www.waimakariri.govt.nz/_data/assets/pdf_file/0014/136121/1.-Transport-Technical-Report-Stantec-2019-DPR.PDF.

- 5.56 Several ROWs called out in ITA Table 11 do not meet the minimum legal widths in PODP TRAN-S4. ROWs with restricted width can lead to several poor traffic safety effects including opposing traffic conflicts and intervisibility risks to pedestrians and cyclists.

Cross section comments

- 5.57 The proposed collector road corridor width is 22m, which does not meet the 23m requirement in the PODP. It is noted by Novo that the proposed cross section does not provide on-road cycle lanes as required by the PODP. As a result, it is expected that cyclists will need to be directed to use the shared path at appropriate points. This will be reliant on good visibility ample cycle crossing points, on-road transitions and well-integrated connections to the external connections to provide for cyclists. It is noted in the NZTA Cycle Network Design Guidance that based on a 50km/h expected speed, cycle lanes are preferable to manage vehicle conflict.
- 5.58 We note that the additional information provided by Novo Group (dated 8 September 2026) indicated that carriageway for Type G roads are typically 6m whereas, the updated cross sections provided by Inovo (dated 10 September 2026) show the carriageway for these roads to be 6.5m. We assume that the cross sections shown in the Inovo updated plans are proposed as this will meet the PODP minimum requirements for Local Roads servicing up to 20 residential units. Previous observations of parking behaviour and emergency vehicle manoeuvring suggests that carriageway widths less than 6.5m can lead to additional conflicts between vehicles and carriageway blockages from parked vehicles.
- 5.59 There are cross sections where swales are to be located adjacent to the road carriageway (A – 22m Road With Swale on One Side, B – 22m Road With Swale on Both Sides, D- 20m Road with Swales on One Side. F – 18m Road with Swales on Both Sides). The depth and gradient of the swale side slopes are currently unknown, however, the Waimakariri Code of Practice suggests a typical gradient of 1 in 4 (25%). This gradient will not be sufficient to allow for bin placement for kerbside bin collection. Similarly, the width of the swale is likely to be too wide for the arm of the rubbish connection to extend for bin collection, particularly if parked cars are present. As a result, the swale design needs to be reassessed to allow for rubbish bin collection while prevent vehicles park on the flat area for bin collections (e.g. using castellated kerbing).

Comments on conditions

Commercial centre

- 5.60 We note that the Subdivision Condition 4 (Staging) identifies that Stage 1 of the proposed development will be the first stage and will include two commercial superlots. This condition is supported by a separate proposed Land Use Consent Condition 4 that requires these two superlots to provide activities consistent with the activity rules for the Local Centre Zone.
- 5.61 We consider that this provides confidence that the necessary commercial centre activities, which would reduce the need to travel further afield and will enable use of active modes for these activities, will be provided with or shortly after the initial residential development.

- 5.62 Policy LCZ-P1 of the Waimakariri District Plan identifies a Local Centre generally comprises 1,000m² to 4,000m² total floor space. We also note that the WDC District Plan includes a threshold rule for the Gross Floor Area (GFA) of retail activity within a Local Centre limiting this to 300m² or 1,000m² for supermarkets. There are some current exceptions to this threshold, including the activities in Mandeville (North), where the maximum GFA for all retail activities in the zone is limited to 2,700m².
- 5.63 From a transport perspective, we consider that a similar scale of total floor space would be appropriate for the proposed Ōhoka community, potentially with an exception to the standard retail GFA threshold limit (300m²) in order to provide retail activities in the commercial centre that reduce the need to travel further afield. However, we note that proposed Land Use Consent Condition 5 identifies that the Applicant proposes this limit on retail activity GFA (not the total floor space), as a maximum of 9,000m² GFA.
- 5.64 In this regard, while we accept that a commercial centre is necessary to reduce the need to travel for retail and community activities, it is considered that the proposed threshold limit of 9,000m² is higher than necessary to support the proposed scale of the Ōhoka community. By comparison, we note that the West Melton community has a similar residential population to that proposed at Ōhoka, but the West Melton commercial activities are only around 4,900m².
- 5.65 A larger commercial centre has the risk of not simply providing for the local Ōhoka community needs, but drawing customers from a wider catchment and resulting additional traffic generation on the surrounding transport network. As we have discussed from paragraph 6.9, no specific assessment of the commercial centre (or polo grounds) has been undertaken in the Novo ITA. Instead, the Novo ITA relies on later assessment through resource consents. We discuss our concerns with this approach in section 6.

External transport network conditions

- 5.66 The Applicant proposes Subdivision Conditions¹⁶ to provide for the upgrade to the Flaxton / Skewbridge / Threlkelds Rd intersection prior to the completion of 310 residential dwellings and 150 retirement dwellings, consistent with implementation threshold identified in the Novo ITA. Condition 6 provides for the alternative of the consent holder entering into a developer agreement with WDC to deliver this upgrade.
- 5.67 We agree that it is appropriate for the Applicant (or consent holder) to deliver this upgrade. We have some concern relating to the timing of the proposed upgrade, which we discuss further in section 8.
- 5.68 As we have set out in paragraph 5.47, we also consider that there are other transport infrastructure upgrades on the surrounding transport network that should be delivered by the Applicant. We consider that these upgrades should be included in consent conditions to provide the necessary certainty that they will be delivered at the right time to address the identified adverse transport effects of the proposed development.

¹⁶ Proposed Subdivision Conditions 5 to 7.

Internal road network conditions

5.69 We note that the proposed Subdivision Condition 4 (Staging) includes for each stage of development to provide “*the necessary infrastructure, services, and access required to support each stage*”, and specifies lots to be vested as roads as part of each stage to deliver that roading infrastructure. We consider that this supports enabling appropriate roading connections within the development and with the adjacent road to be delivered.

5.70 The proposed Subdivision Conditions¹⁷ also provide for all roads, footpaths and shared paths to be in accordance with the requirements set out in the Waimakariri District Council Engineering Code of Practice and be subject to approval by the Council’s Land Development Team. While the Novo ITA identifies some non-compliances with the Engineering Code of Practice, as we discuss in relation to our comments on plans below, we consider the conditions generally provide for these matters to be addressed to the satisfaction of WDC at the time of the subdivision consents.

5.71 We note that Subdivision Conditions¹⁸ regarding access provide details regarding construction access formation and vehicle crossing locations to minimise the impact on the roading and stormwater networks.

Comments on plans

Internal road layout and access

5.72 We have previously discussed some matters on the proposed plans, where there are non-compliances with the WDC Engineering Code of Practice or the District Plan rules, within paragraphs 5.48 to 5.56.

5.73 Where we consider that these matters will not be satisfactorily addressed by the proposed conditions (proposed Subdivision Conditions 66 to 67), we have identified in paragraphs 5.69 to 5.71 to additional recommended conditions to address these matters. However, it is noted the issues related to internal intersection layout noted in paragraphs 5.49 and 5.51 cannot be adequately addressed by conditions of consent as they will require a redesign of the internal road network layout to address these issues. Instead, this would require revised Scheme Plans to be prepared to address this matter prior to consent approval.

Threlkelds / Skewbridge Road intersection

5.74 We note that the Threlkelds Road approach to the upgraded intersection does not allow sufficient queuing space prior to the roundabout limit line and that the 209 Skewbridge Road access will need consultation with the landowner to realign their access.

5.75 The matters can likely be satisfactorily addressed by the Applicant through the further design phases for the roundabout upgrade, in liaison with WDC, and will likely provide a positive improvement on the current situation.

¹⁷ Proposed Subdivision Conditions 66 to 67.

¹⁸ Proposed Subdivision Conditions 72 to 75.

Mill Road / Threlkelds Road realignment

5.76 We note that the access for 361 Mill Road is potentially too close to the intersection, but this is potentially acceptable given that it only appears to be a farm gate with very low traffic movement.

5.77 Based on the indicative concept for the realignment of the intersection, this matter can likely be satisfactorily addressed by the Applicant through the further design phases for the roundabout upgrade, in liaison with WDC, and will likely provide a positive improvement on the current situation.

6. INFORMATION GAPS / CLARIFICATION REQUIRED

6.1 The information in this section is required to understand the effects of the proposal, particularly the significance of the effects. In some cases, a conclusion cannot be reached until this information is provided.

Ashworth Road-Plaskett Road Corridor

6.2 We note that a potentially important rural road corridor, using Ashworth Road and Plaskett Road has not been identified in the Novo ITA. This provides a potentially attractive alternative route to the western and northern parts of Rangiora, which avoids the Threlkelds Road / Flaxton Road intersection. We understand that WDC has identified these roads for improvements, particularly due to the one-lane bridge at the southern end of Plaskett Road.

6.3 We therefore consider that the Applicant needs to provide further information on the effects of the proposed development on this corridor, particularly the significance of the effects to understand the need for improvements to be included in conditions.

Tram Road Interchange

6.4 The Novo ITA provides assessment of the potential effects of the proposed development on the Tram Road Interchange.¹⁹ The assessment concludes that changes to the signal phasing and timing at the Interchange will mitigate adverse effects. This mitigation relies on implementation by the NZTA, including monitoring of the operational conditions at the Interchange and addressing adverse operational performance, as part of its' normal operational role.

6.5 We have concerns regarding the potential adverse effects at the Interchange, due both to the previous issues at the Interchange, the previous modelling undertaken,²⁰ and the absence of information relating to the predicted queuing at the Interchange, particularly associated with the northbound off ramp. Within traffic models, there is the potential that adverse effects associated with queue lengths can occur without this resulting in or being apparent from the average vehicle delay / level of service currently reported.

¹⁹ Novo ITA, paragraphs 159 to 164 and Appendix 11.

²⁰ As referred to in Mr Binder's memorandum (Transport Effects of the Proposed Development – Part 1).

- 6.6 We are aware that there have been previous issues with queuing back through the interchange and on the northbound off ramp. In this case, with the proposed changes to signal phasing, there is potential for queues to form on the short overbridge section between the signalised ramp intersections, which in turn could affect the length of queues on the northbound off ramp. This could lead to queues extending to the SH1 mainline, which would lead to safety issues in this high speed environment.
- 6.7 In addition, as we have noted previously, if queuing (and delay) increases for eastbound traffic from Tram Road toward the Interchange, this could result in a greater proportion of traffic using the Mill Road / Threlkelds Road corridor. Figure 7 in the Flow modelling report,²¹ identifies that there will be increased delay for this eastbound movement to the southbound on ramp (Route 1), when compared to without the development, even with the proposed signal phasing mitigation.
- 6.8 In summary, the combination of the previous queuing issues at the Interchange, previously reported traffic modelling and the absence of queue length information leaves significant uncertainty in terms of the potential scale and impact of the traffic effects at the Interchange, which needs to be addressed prior to approving consent. This is a particular concern, given we understand that the Applicant has not discussed the identified signal phasing mitigation with the NZ Transport Agency (NZTA) to confirm that, as the road controlling authority, the NZTA agrees with the proposed solution. This provides a significant risk in terms of the outcomes and practical implementation of this mitigation, given the predicted effects without the proposed mitigation identified in the Novo ITA. We therefore recommend that further comment is also sought from NZTA on this matter, as the road controlling authority.

Commercial Centre and Polo Grounds

- 6.9 There is limited detail provided in the Novo ITA on the proposed commercial centre and polo grounds. We have previously identified our concerns with the scale and assessment of the commercial centre in paragraphs 5.60 to 5.64. The Novo ITA states that:²² *“The Polo grounds and development at the commercial centre will both likely require assessment of transport effects at the time of seeking resource consent. Further assessment of these activities and their access arrangements will be provided at that time”*. On this basis, the Novo ITA provides no specific assessment of the effects of these activities.
- 6.10 In relation to the commercial centre, the proposed subdivision and land use consent conditions enable development of up to 9,000m² of retail activities, but provide no specific limit on total floor space. Within the Local Centre zone, the following individual activities are permitted:
- office activities up to 300m²
 - health centres, and
 - supermarkets up to 1,000m².

²¹ Novo ITA, Appendix 11.

²² Novo ITA, paragraph 87.

6.11 Using typical daily traffic generation rates for these activities,²³ the following daily traffic generation is predicted for these activities:

- 78 trips for office activities
- 238 trips for a healthcare facility (with 3 professionals), and
- 1,290 trips for a supermarket.

6.12 On this basis, there is potential that permitted activities (in the Local Centre zone), which could occur in proposed commercial centre, will exceed the high traffic generation thresholds in the Waimakariri District Plan.²⁴ This requires a Basic ITA or a Full ITA. We also note that, as the Applicant's proposed conditions seek to enable up to 9,000m² of retail activities (which could be a small to medium retail centre), there is the potential that could generate around 9,000 vehicle trips per day. This is well in excess of the high traffic generation thresholds in the Waimakariri District Plan. For comparison, the Novo ITA indicates the combination of residential and retirement village would generate around 6,050 vehicle trips per day.

6.13 On this basis, we consider it inappropriate for the proposed commercial centre to be excluded from the Novo ITA and assessed only at a later stage. Its proposed scale and the associated traffic generation is likely to account for a large proportion of traffic from the overall development.

6.14 In relation to the polo grounds, we understand that the Applicant intends that this facility will provide a regional benefit, so we have assumed that this could indicate hosting regional polo events, attracting participants and visitors from a wide area. We agree this would not result in significant traffic effects on a day-to-day basis. However, regional events have the potential to generate more significant traffic demand, when these occur. Typically, for such events, we would expect that a traffic management plan would be necessary to manage the safe operation of the event on surrounding roads, including site access and parking effects. We therefore consider it inappropriate that these effects have not been assessed in the Novo ITA, as this is necessary to understand the effects and appropriate consent conditions.

7. AREAS OF AGREEMENT

7.1 On balance, we consider that the predicted total traffic generation of the proposed development residential and retirement dwellings in the Novo ITA is acceptable. As we have discussed, this is reliant on an appropriately scaled commercial centre development and good quality active mode connections to Ōhoka School.

7.2 We agree with the Novo ITA recommendations that the following transport infrastructure upgrades are required on the surrounding transport network to manage identified adverse effects of the proposed development:

- Speed limits and threshold treatments for Whites and Bradleys Roads
- Shared paths on Whites, Bradleys and Mill Road frontages
- Shared path upgrades on Mill Road from Whites Road to Ōhoka School
- Pedestrian crossings to / from the Ōhoka Domain

²³ Technical Report – District Plan Review High Traffic Generators, Waimakariri District Council, May 2019, Table 4-3. Based on NZTA Research Report 453 Trips and Parking Related to Land Use.

²⁴ Waimakariri District Plan, Table TRAN-1.

- Safety upgrade works to Bradleys, Whites, Mill and Threlkelds Roads
- Tram Road / Whites Road intersection safety improvements
- Flaxton Road / Threlkelds Road roundabout, plus changes to the Mill Road / Threlkelds Road intersection.

7.3 We agree that the traffic effects of the proposed development on the Tram / Bradleys / McHughs intersection are less of a concern in the context of other residential growth at this location.

7.4 We agree with the Applicant that an appropriately scaled commercial centre should be provided within the proposed development to reduce the need to travel further afield and encourage the use of walking and cycling for these local retail and convenience trips. Although, we have identified concerns with the proposed scale is more significant and has not been appropriately assessed.

8. RECOMMENDATIONS/CONDITIONS

8.1 For the reasons we have discussed previously, we provide the following recommendations (and changes to proposed conditions) in relation to the transport upgrades that are required to address the identified adverse transport effects of the proposed development.

Mill Road and Jackson Road – Shared path

8.2 We recommend that a new condition is added to the Subdivision Consent conditions under 'Staging' for a shared path to be implemented along Mill Road and Jacksons Road to connect the proposed development with Ōhoka School. This would enable safe access for children to walk and cycle to the school connecting with the shared paths the Applicant has proposed along the development frontage on Whites Road.

8.3 Consistent with proposed Condition 67.d, the shared use path should be 2.5m wide and designed in accordance with the WDC Code of Practice. It is recommended that the facilities be in place relatively early in the proposed development staging to encourage these active mode options. We would therefore recommend that this be prior to approximately 200 residential lots being occupied (i.e. prior to Stage 2 being fully occupied).

Whites Road, Mill Road, Threlkelds Road and Tram Road – Safety improvements

8.4 We recommend that a new condition is added to the Subdivision Consent conditions under 'Staging' to implement the improved line-marking, signage, roadside hazard warning measures and reduced speed limits, as recommended in the Novo ITA. As discussed previously, speed limit changes may be prevented by consultation requirements. As such, the upgrades will need to consider design solutions that do not rely on speed limit changes. In addition, similar upgrades along the Tram Road corridor need to be implemented. This will provide for the safe movement of people on these corridors. We recommend that, this condition also provides for shoulder widening along these roads to manage the adverse effects of the increased traffic demand on these corridors.

8.5 It is recommended that the shoulder widening should achieve shoulder widths in accordance with the Waimakariri District Plan (Table TRAN-4), based on the future classification of that road with the proposed development. The design should be subject to engineering approval by WDC. It is recommended that these safety improvements are implemented at a threshold generally consistent with the expected change in road classification for the respective roads with additional development traffic, as follows:

- Whites Road – between the development frontage and Tram Road – Prior to 300 residential lots being occupied.
- Mill Road – between the development frontage and Threlkelds Road – Prior to 500 residential lots being occupied.
- Threlkelds Road – between Mill Road and Flaxton Road – Prior to 500 residential lots being occupied.
- Tram Road – south of Whites Road – Prior to 700 residential lots being occupied.

Tram Road / Whites Road intersection – Safety improvements

8.6 We recommend that a new condition is added to the Subdivision Consent conditions under 'Staging' to implement safety improvements at the Tram Road / Whites Road intersection. This will manage the increased safety risks, specifically caused by proposed development turning movements using Whites Road intersection.

8.7 It is recommended that the improvements need to consider a longer-term upgrade to the intersection, given the substantial increase in traffic demands at the intersection and the limited benefits of the proposed RIAWS and improved signage. It is suggested that this should be implemented in combination with the safety improvements on Whites Road, prior to 300 residential lots being occupied.

Threlkelds / Mill Rd intersection

8.8 We recommend that a new condition is added to the Subdivision Consent conditions under 'Staging' to provide for the early implementation of the realignment of the Mill Road / Threlkelds Road intersection. This is on the basis that the Novo ITA²⁵ identifies that the Mill Road / Skewbridge Road / Ōhoka Road intersection is already at capacity and therefore at risk of immediate adverse efficiency and safety effects with the proposed development.

8.9 We therefore recommend that the realignment of the Mill Road / Threlkelds Road intersection occurs early in the proposed development to manage the potential for adverse effects on the safe and efficient operation of the Mill Road / Skewbridge Road / Ōhoka Road intersection. We would therefore recommend that this be prior to approximately 200 residential lots being occupied (i.e. prior to Stage 2 being fully occupied).

²⁵ Novo ITA, paragraph 35.

Flaxton / Skewbridge / Threlkelds Rd intersection

- 8.10 As we have discussed previously, we generally agree with the proposed Subdivision Conditions 5 to 7 relating to the upgrade of the Threlkelds Road / Flaxton Road / Skewbridge Road intersection.
- 8.11 However, we consider the reference to both residential dwellings and retirement dwellings in these conditions creates some ambiguity, particularly given uncertainty over the future staging sequence. We would therefore suggest that the conditions could more simply refer to 350 residential lots. This acknowledges the lower traffic generation of retirement dwellings compared to residential dwellings, particularly in weekday peak periods.

Tram Road Interchange

- 8.12 We have concerns regarding the potential adverse effects at the Interchange, due to both the previous issues at the Interchange and the absence of information relating to the predicted queuing at the Interchange, particularly associated with the northbound off ramp.
- 8.13 We are aware that there have been previous issues with queuing back through the interchange and on the northbound off ramp. In this case, with the proposed changes to signal phasing, there is potential for queues to form on the short overbridge section between the signalised ramp intersections, which in turn could affect the length of queues on the northbound off ramp. This could lead to queues extending to the SH1 mainline, which would lead to safety issues in this high speed environment.
- 8.14 The combination of the previous queuing issues at the Interchange, previously reported traffic modelling and the absence of queue length information leaves significant uncertainty in terms of the potential scale and impact of the traffic effects at the Interchange, which needs to be addressed prior to approving consent. This is a particular concern, given we understand that the Applicant has not discussed the identified signal phasing mitigation with the NZ Transport Agency (NZTA) to confirm that, as the road controlling authority, the NZTA agrees with the proposed solution. This provides a significant risk in terms of the outcomes and practical implementation of this mitigation, given the predicted effects without the proposed mitigation identified in the Novo ITA. We therefore recommend that further comment is also sought from NZTA on this matter, as the road controlling authority.

Commercial Centre and Polo Grounds

- 8.15 As we have identified above, the transport effects associated with both the commercial centre and polo grounds have not been specifically assessed within the Novo ITA.
- 8.16 In relation to the commercial centre, we consider it inappropriate for the proposed commercial centre to be excluded from the Novo ITA and assessed only at a later stage, given its proposed scale and the traffic generation of the commercial centre is likely to account for a large proportion of traffic from the overall development.

- 8.17 In relation to the polo grounds, we consider it inappropriate that these effects have not been assessed in the Novo ITA, as this is necessary to understand the effects and appropriate consent conditions.

Internal Road Layout and Access Design

- 8.18 As we have discussed previously, we generally agree with the proposed Subdivision Conditions relating to the later design and engineering approval for the internal roads and site access intersections.
- 8.19 However, we note that there are several proposed crossroad intersections and introduction of a close right-left staggered T-intersection within the proposed development, which do not comply with the WDC Code of Practice. It is noted these issues cannot be adequately addressed by conditions of consent as they will require a redesign of the internal road network layout to address these issues. Instead, this would require revised Scheme Plans to be prepared to address this matter prior to consent approval.

9. OVERALL POSITION /CONCLUSIONS

- 9.1 We do not consider the proposed development is well-located to benefit from existing or likely future active mode and public transport infrastructure and services. On this basis, there will be a high level of traffic demand by future residents. Given the location and lack of existing adequate transport infrastructure in the receiving environment, it is our opinion that the proposed development has substantial adverse transport effects on the rural road network surrounding Ōhoka and connecting with the state highway network.
- 9.2 With some exceptions, we are in agreement with the potential substantial adverse transport effects that are predicted to eventuate with the proposed development, as identified in the Novo ITA. However, we have identified additional improvements and changes to the responsibility for transport improvements to provide certainty they will be delivered, where necessary and at the right time.
- 9.3 To address the substantial adverse transport effects, the following additional or amended subdivision (or resource consent) conditions are required:
- A new condition for a shared path on Mill Road and Jackson Road to provide safe pedestrian and cycle access to the Ōhoka School.
 - A new condition for safety improvements on Whites Road, Mill Road, Threlkelds Road and Tram Road to manage the safe operation of these roads with increased traffic demand.
 - A new condition for safety improvements at the Whites Road / Tram Road intersection to manage the safe operation of this intersection with increased turning movements.
 - A new condition for the early implementation of the realignment of the Mill Road / Threlkelds Road intersection to manage adverse effects on the efficient and safe operation of the Mill Road / Skewbridge Road / Ōhoka Road intersection.
 - Amendment to the proposed Subdivision Conditions 5 to 7 for the upgrade of the Threlkelds Road / Flaxton Road / Skewbridge Road intersection to simplify the timing of the proposed improvements.

- 9.4 The combination of the previous queuing issues at the Interchange, previously reported traffic modelling and the absence of queue length information leaves significant uncertainty in terms of the potential scale and impact of the traffic effects at the Interchange, which needs to be addressed prior to approving consent. This is a particular concern, given we understand that the Applicant has not discussed the identified signal phasing mitigation with the NZ Transport Agency (NZTA) to confirm that, as the road controlling authority, the NZTA agrees with the proposed solution. This provides a significant risk in terms of the outcomes and practical implementation of this mitigation, given the predicted effects without the proposed mitigation identified in the Novo ITA. We therefore recommend that further comment is also sought from NZTA on this matter, as the road controlling authority.
- 9.5 In relation to the commercial centre and the polo grounds, we consider it inappropriate that these activities are not to be properly assessed in Novo ITA and proposed to be assessed only at a later stage. We consider assessment is necessary at this time to properly understand the effects and appropriate consent conditions. In particular, the proposed scale and the traffic generation of the commercial centre is likely to account for a large proportion of traffic from the overall development.
- 9.6 We consider that the proposed internal layout introduces unacceptable crossroad intersections, as well as a close right-left staggered T-intersection, that do not comply with the WDC Code of Practice. We consider that these issues will not be adequately addressed by conditions of consent, as they will require a redesign of the internal road network layout that affects subdivision plans. Instead, we consider that revised Scheme Plans need to be prepared to address this matter prior to consent approval.