

**BEFORE THE WAIMAKARIRI DISTRICT
COUNCIL HEARINGS PANEL**

IN THE MATTER of the Resource Management
Act 1991

AND

IN THE MATTER of a submission by Andrew
McAllister (submission 8)

REBUTTAL STATEMENT OF EVIDENCE OF ANDREW DAVID CARR

Date: 4 July 2024

INTRODUCTION

1. My name is Andrew (**Andy**) David Carr.
2. I am a Chartered Professional Engineer and an International Professional Engineer (New Zealand section of the register). I hold a Masters degree in Transport Engineering and Operations and also a Masters degree in Business Administration.
3. I served on the national committee of the Resource Management Law Association between 2013-14 and 2015-17, and I am a past Chair of the Canterbury branch of the organisation. I am also a Chartered Member of Engineering New Zealand (formerly the Institution of Professional Engineers New Zealand), and an Associate Member of the New Zealand Planning Institute.
4. I have more than 34 years' experience in traffic engineering, over which time I have been responsible for investigating and evaluating the traffic and transportation impacts of a wide range of land use developments, both in New Zealand and the United Kingdom.
5. I am presently a director of Carriageway Consulting Limited, a specialist traffic engineering and transport planning consultancy which I founded more than ten years ago. My role primarily involves undertaking and reviewing traffic analyses for both resource consent applications and proposed plan changes for a variety of different development types, for both local authorities and private organisations. I have previously been a Hearings Commissioner and acted in that role for Waimakariri District Council, Christchurch City Council, Ashburton District Council and Greater Wellington Regional Council.
6. Prior to forming Carriageway Consulting Limited I was employed by traffic engineering consultancies where I had senior roles in developing the business, undertaking technical work and supervising project teams primarily within the South Island.
7. My experience includes providing transportation assessments for proposed residential subdivisions and private plan change requests. Relevant experience includes providing technical inputs to, and presenting evidence for, the following plan changes, which range from 50 to 2,000 residential lots:

- a. Within Waimakariri District: Transportation Assessments and advice for Plan Changes 11&12 (Ruby Views), 17 (Ohoka), 22 (McHughs Road), and 23 (Fernside)
 - b. Within Selwyn District: Transportation Assessments and advice for Plan Changes 24 (Silverstream), 34 (Southbridge), 36 (Conifer Grove), 41 (Shands and Trents Road), 60 (Kirwee), 61 (Darfield), 62 (Leeston), 64 and 70 (Faringdon) and 77 (West Melton).
 - c. Within Christchurch City: Plan Changes 30 (Prestons) and 68 (Halswell)
 - d. Within Queenstown Lakes District: Transportation Assessments and advice for Plan Changes 4 (North Three Parks), 18 (Mount Cardrona), 25 (Kingston), 39 (Arrowtown South), 41 (Shotover Country), 45 (Northlake), and 53 (Northlake).
 - e. Central Otago: Plan Changes 12 (Wooing Tree), 13 (River Terrace), and 14 (Ripponvale)
8. I have also provided Transportation Assessments for numerous large and small scale residential subdivision applications, as well as for submitters seeking residential land rezonings through the review processes of the Waimakariri, Selwyn, Queenstown Lakes and Central Otago District Plans.
 9. As a result of my experience I consider that I am fully familiar with the transportation characteristics of the type of activities that could establish if the submission is accepted and the site is rezoned as sought.
 10. I confirm that have prepared this evidence in accordance with the Code of Conduct for Expert Witnesses contained in Part 9 of the Environment Court Practice Note 2023. The issues addressed in this statement of evidence are within my area of expertise except where I state that I am relying on the evidence or advice of another person. The data, information, facts and assumptions I have considered in forming my opinions are set out in the part of the evidence in which I express my opinions. I have not omitted to consider material facts known to me that might alter or detract from the opinions I have expressed.

SCOPE OF EVIDENCE

11. I was asked by the Submitter, Mr McAllister, to prepare a Transportation Assessment evaluating the transport-related effects of his submission to rezone land at 1275, 1379, 1401 and 1401 Tram Road, Swannanoa, as Large Lot Residential Zone (**LLRZ**). My Transportation Assessment was attached to the Statement of Evidence of Mr Ivan Thompson, consultant planner appointed by Mr McAllister. I have not previously provided a Statement of Evidence.
12. In practice, the 'site' comprises two separate areas.
13. Towards the west, 1379, 1401 and 1419 Tram Road are located on the southwestern quadrant of the Tram Road / Two Chain Road intersection, and have been identified in the notified proposed District Plan as Rural Lifestyle Zone but with a Large Lot Residential Zone Overlay. The site is 15ha in size and under the LLRZ sought by Mr McAllister I was advised that this site would be able to accommodate up to 27 residences, rather than 3 residences under the Rural Lifestyle Zone. I note that the Outline Development Plan sets out that 28 residences could be developed but this difference of one lot is not material to the analysis. This part of the site is referred to as Block A in the Council reports.
14. Towards the east, 1275 Tram Road is 21ha in size and lies to the east of the Tram Road / Two Chain Road intersection. Under the notified proposed District Plan this was proposed to be zoned as Rural Lifestyle Zone (which would permit up to 4 residences at a density of one residence per 4ha). Under the LLRZ sought by Mr McAllister I was advised that this site would be able to accommodate up to 37 residences. This part of the site is referred to as Block B in the Council reports.
15. In brief, my assessment shows that the traffic generated by the development of the site can be accommodated on the adjacent roading network without capacity or efficiency issues arising. In practice, the traffic flows on the adjacent roading network are very low at present, and development of the site generates comparatively little traffic, meaning that even the busiest intersection will operate with low queues and delays, and a good level of service.
16. I have been asked to review and provide expert opinion on the transportation-related aspects of the s 42A report prepared by Mr Mark Buckley, Principal Policy Planner at

Waimakariri District Council, relating to the Submitter's site. I have also been asked to review the responses to the Hearing Panel's questions produced by Mr Buckley.

17. In his s 42A report, Mr Buckley in turn relies on the Statement of Evidence of Mr Mark Gregory, Council's consultant transport planner. Consequently I firstly address Mr Gregory's comments as they inform Mr Buckley's views.

RESPONSE TO MR GREGORY

18. I have considered the two parts of the site separately, as this is also how Mr Gregory addresses them.

Block A

19. For Block A, Mr Gregory considers that he is able to support the rezoning request, but subject to conditions.
20. Mr Gregory discusses road safety matters in his paragraph 44, noting a difference in the description of the records in my reporting where I noted that no injury crashes had occurred, and the 'Route Assessment' previously carried out on Tram Road for the Council which showed two injury crashes had occurred.
21. One difference in this is that the latter covered the period 2014 to 2020, and my reporting covered the period 2018 to 2023. Consequently I have repeated the search and extended it to cover the period 2014 to 2017 inclusive. Within the search area, I confirm that there were two injury crashes with both occurring at the Tram Road / Two Chain Road intersection. Both occurred in 2016:
 - a. One crash involved a northbound driver on Two Chain Road that failed to stop and was struck by a westbound vehicle on Tram Road. This crash resulted in minor injuries.
 - b. One crash occurred when a driver turned right out of Two Chain Road (south), and collided with a vehicle that had stopped when travelling from Two Chain Road (north) to Two Chain Road (south). The crash reports note that both vehicles had stopped and then both moved off at the same time.
22. I am unable to comment on the detail of the Route Assessment report since it does not appear to be online and is not attached to Mr Gregory's evidence. I therefore cannot

comment on the analysis, but the recommended treatment that Mr Gregory describes of a Rural Interactive Advanced Warning Sign would, at first glance, seem one possible appropriate approach. In essence, this is a scheme that flashes up a reduced speed limit for vehicles on Tram Road when it detects a vehicle waiting to exit Two Chain Road. There are several examples within the wider region and it is not novel or unusual technology.

23. However Mr Gregory appears to be describing an existing road safety deficiency and an existing remedial action. Further, of the two injury crashes, one would not have been affected at all by the proposed remedial scheme because it involved two vehicles that were both exiting Two Chain Road and no vehicle on Tram Road was involved.
24. Finally, I note that Mr Gregory describes the improvement schemes on Tram Road set out in the Council's Long Term Plan as "*to better support development growth*". He appears to be saying that the Council is making provision for growth in development and proactively seeking to ensure that associated traffic increases are accommodated (an approach which I would support). The submission, if accepted, would facilitate such growth.
25. As shown on Figures 6 and 7 of the Transportation Assessment, the rezoning of the site would increase peak hour traffic passing through the Tram Road / Two Chain Road intersection by 34 vehicles, compared to the 470 vehicles that currently pass through the intersection (an increase of just 7%). Expressed another way, the rezoning would increase the amount of turning traffic at the intersection (which could possibly turn into the path of another vehicle) by 12%. In either case, the proportional change is low and therefore introduces a correspondingly low change to the crash risk.
26. A process of applying a simple ratio to the figures provides an illustration of this. In the past ten years there have been two injury crashes recorded at the intersection, which equates to 0.2 injury crashes per year. Adopting the most onerous figure above, a 12% increase in this would result in 0.224 injury crashes occurring per year. This equates to one additional injury crash every 42 years. In my view this is not a significant change.
27. In his paragraph 46, Mr Gregory notes that the 'concept' Outline Development Plan (ODP) indicates some sections gaining direct access from Tram Road. I assume that he is referring to the concept subdivision plan that was provided as part of the submitter's evidence. I understand however that this was only provided to the Council as an indication of one possible way in which the site could be developed, and as a means of

ensuring that all technical considerations were fully thought through. The ODP itself does not show any pattern of lots nor how lot access could be achieved. In fact, in paragraph 8.2.3.5 of the Transportation Assessment I noted that *“the ODPs show that all lots could be accessed from the proposed internal roads, and that there is no requirement for any direct vehicle crossings onto either Tram Road or Two Chain Road”* (and similarly also stated in paragraph 5.3 of the Transportation Assessment).

28. The District Plan sets out specific Rules for direct accesses onto the roading network. For a road subject to a 100km/h speed limit (both Tram Road and Two Chain Road), vehicle crossings are required to be located, table TRAN-17 requires that any driveway onto Tram Road is to be located at least 200m from the nearest intersection. Any access onto Two Chain Road must be located at least 60m from the nearest intersection.
29. Given the site frontage onto Tram Road, this provision essentially means that there is no complying location for a driveway onto that road. It would be possible to form driveways in complying locations onto Two Chain Road, but locations would be limited by the need to be at least 60m from Winter Road. However these separation distances were proposed by the Council as being appropriate, and they presumably took matters such as road safety into account.
30. On this basis I consider that the transportation provisions of the District Plan provide an appropriate mechanism to control the location of driveways (once this matter is addressed through an application for subdivision in future). I do not consider that there is any need to limit driveway locations specifically for this site.
31. To that end, I have not discussed Mr Gregory's paragraphs 47 to 50, in which he further sets out why direct lot access from Tram Road is not desirable – rather, this is a matter that is already adequately controlled by the District Plan Rules, where no direct lot access is permitted as of right and a consent would need to be sought (and granted). It would be possible to reinforce this through an amendment to the ODP narrative but in my view this would be superfluous.
32. In paragraph 51, Mr Gregory (rightly) notes that an intersection onto Tram Road is shown on the ODP approximately 340m west of Two Chain Road. He does not support this distance, noting that the District Plan stipulates a separation distance between intersections of 800m for a road subject to a 100km/h speed limit.

33. This matter was discussed in detail Section 8.2.4 of the Transportation Assessment. To summarise this part of the report:
- a. There is no discussion in the District Plan as to why this scale of separation is in place. It appears to have been carried forward from the operative District Plan, which itself was notified in 1998. Almost every major design guide has undergone at least one revision over the past 26 years, and so the parameters that underlie this distance may no longer be current. Vehicle characteristics are also markedly different.
 - b. The Austroads Guide to Road Design Part 4 (*Intersections and Crossings – General*) sets out that intersections should be “*desirably*” separated by at least five seconds of travel time at the design speed, as this provides sufficient time for drivers to process information related to traffic, the road layout, and traffic signs. At a design speed of 110km/h (the speed limit plus 10%), this suggests that a separation of 150m is appropriate.
 - c. Standard NZS4404:2010 (*Land Development and Subdivision Infrastructure*) sets out a separation of 150m for intersections where Collector Roads join other Collector Roads or Arterial Roads. However no separation is given for roads that are lower in the roading hierarchy (as would be the case for the road that serves the site).
34. I also consider that it is relevant to consider that under the Austroads Guide, the distance needed for an unalert driver approaching an intersection, to see a vehicle ahead moving out from a side road and stopping before they collide with them, is 300m. This is considerably lower than the 800m separation preferred by Mr Gregory.
35. Finally I note that the flat and straight alignment of Tram Road means that any drivers have ample forward sight distance to see any vehicle ahead of them and to adjust their driving behaviour well in advance of any potential conflict.
36. As Mr Gregory has simply relied on the District Plan, there is no technical discussion presented as to why in this instance he is unable to support a reduction in the separation distance, other than a generic comment in respect of road safety. However as I note above, I am unable to identify a material adverse road safety effect arising from the lesser distance.

37. Ultimately, Mr Gregory states that he is able to support the rezoning request for Block A subject to four caveats:

a. Avoidance of any direct access to Tram Road

- As I set out above the District Plan Rules already limits the location of direct accesses, and the site frontage does not allow any complying location. I consider that there can be reliance on those Rules to control this matter.

b. Provision for future east-west road connections

- This topic is not discussed at all in the substantive part of Mr Gregory's report and so it is unclear in which location(s) he seeks east-west connections.
- While it may be possible to provide an east-west link from the proposed road through the site, the Council's online map of rezoning requests to the District Plan review does not show that any submissions have been made to rezone the land to the west of Block A. An east-west connection would therefore be superfluous in my view.
- Nevertheless it is not ruled out by the ODP and can be considered further when subdivision consents are sought.

c. Inclusion of a connected internal road network, minimising use of private laneways

- The internal road network on the ODP shows a primary route between Tram Road and Two Chain Road. No laneway (private or otherwise) is shown on the ODP, rather, access could be achieved through minor roads.
- In my view this comment has been made based on the indicative subdivision plan, which as noted above was intended to be illustrative only, and has no formal status at the present time.
- I consider that the specific subdivision layout is a matter for consideration when subdivision consents are sought rather than at a 'higher-level' rezoning.

d. Future proof an active travel connection towards Swannanoa.

- Again, this is a topic that is not discussed at all in the substantive part of Mr Gregory's report.
- Block A has frontages onto two roads, both of which have a legal width of 20m. This is ample to accommodate an active travel link. I also note

that there is already an active travel link in place on the southern side of Tram Road, running between Swannanoa School and a connection through to Peacock Place approximately 350m east of Block A.

- I agree the ODP narrative could be updated in this regard to make it clear that such a link is anticipated. The narrative presently states that “*A footpath built in accordance with the Engineering Code of Practice will be provided along the Tram Road frontage*”. I consider that this could be revised to read “*The existing shared walking and cycling route along Tram Road will be extended to the site from its current western termination at the link to Peacock Place*” (although see my comments below regarding a further revision)

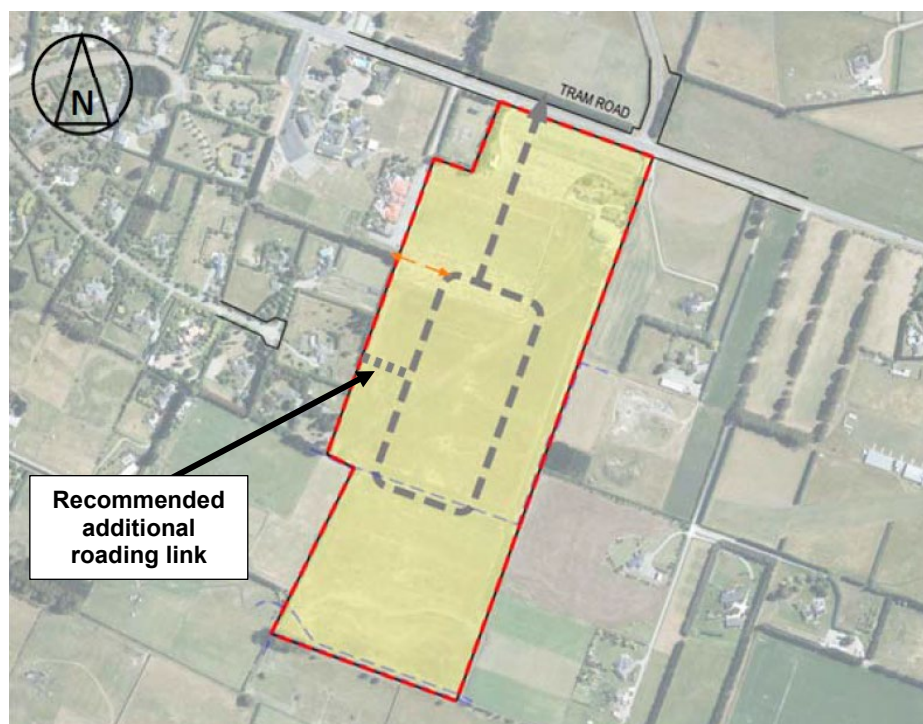
38. I consider that these four points act as an appropriate summary of my responses to Mr Gregory’s assessment of Block A.

Block B

39. For Block B, Mr Gregory highlights road safety matters, referencing his paragraphs 43-45 with regard to Block A. These are the paragraphs referring to the prevailing crash record on Tram Road, the Route Assessment previously carried out, and the Council-led road safety initiatives on the road “*to better support development growth*”. I address these above and have not repeated my comments here.
40. Mr Gregory rightly notes in paragraph 56 that the part of Tram Road at Block B is subject to a School Speed Zone, with a lowered speed limit in place at the start and end of the school day.
41. In the context of the speed limit on Tram Road, Mr Gregory feels that Block B could result in a lower speed limit being necessary but that at present, the current School Speed Zone is appropriate. A speed limit review is a matter that ultimately rests with the local authority (as Mr Gregory notes in a different section of his report) but in my view there is already a strong case that the speed limit on Tram Road through Swannanoa should be permanently reduced from 100km/h to 80km/h. Even allowing for this to be between east of Tupelo Place to west of Two Chain Road, it would increase journey time by just 10 seconds, insufficient to materially “*undermine the role of Tram Road as a rural arterial road*” (Gregory paragraph 47).

42. For clarity however, while I would support a reduction in the speed limit, my analysis does not rely on this for any sort of mitigation. It is also not my experience that the construction of one new intersection to serve (any) site is typically insufficient to result in a lowering of the speed limit over a wider section of road unless the road is already very close to that point and the intersection is the 'straw that breaks the camel's back'. While I agree that there needs to be a careful consideration of the situation where future speed limit reductions are relied on for mitigation, this is not what is proposed here.
43. Mr Gregory rightly notes that any new intersection to serve the site would be required to be appropriate for the prevailing speed limit (his paragraph 61). He notes that the extent of design requirements might exceed the road frontage, and while this might be the case, I note that the 20m legal width of Tram Road is ample to accommodate a suitable intersection design. Only a relatively small amount of land is required within the site to accommodate an appropriate intersection design, and this is easily available.
44. Finally, Mr Gregory notes that the 'concept' ODP does not allow for future connections to neighbouring sites. Again, I assume that he is referring to the concept subdivision plan that was provided as part of the submitter's evidence (and which does not have any formal status as I noted above). I confirm that the ODP roading layout is designed as a loop, with no specific connections shown to the eastern, southern or western boundaries. However this is due to no submissions having been made to rezone land to the east, south or west, and land to the west either already having been developed with a lot pattern that generally precludes any transportation connection from being made (in the case of 62, 64 and 68 Winter Road) or being occupied by the school.
45. With regard to the school though, the ODP does show an east-west walking and cycling connection through the site.
46. Mr Gregory has concerns that "*should neighbouring sites develop similar ODPs...*" but the lack of submissions regarding rezoning and the existing development patterns appear to preclude such an outcome at this time.
47. However I note that the Council has proposed that land to the west of the site is rezoned as LLRZ, which would then permit subdivision to 5,000sqm lots. Winter Road presently terminates in a cul-de-sac and there is only one lot (64 Winter Road) which separates the road from the ODP area. I have therefore given some consideration as to whether Winter Road could theoretically be extended eastwards, through the existing lot (and requiring the demolition of a house) to connect to the roading within Block B.

48. 64 Winter Road is presently 1.27ha in size. Extending the 20m wide legal width of Winter Road for a distance of 115m though the site would require around 2,300sqm, meaning that it would be possible to retain two 5,200sqm lots, which exceed the minimum sizes under the LLRZ.
49. With that in mind, in order to protect future connectivity as sought by Mr Gregory, I recommend that the ODP is amended to show a secondary road link extending from the 'loop' within the site, to the western ODP boundary and aligning with the existing end of Winter Road, to allow for a possible future roading link. I stress that this could not be formed immediately (as the land required to extend Winter Road lies outside the site), and in my view it is not required at all (as Block B is only expected to have 37 lots which can easily be served with only one point of access). However it responds to Mr Gregory's request for 'future proofing' connectivity in this direction.



50. At the end of his assessment, Mr Gregory does not provide a clear statement as to whether he is able to support the rezoning request, nor any specific conditions. However his paragraph 12.5 sets out that he does not support the submission for two reasons.
51. His first reason is that there is reliance on "*direct access to Tram Road*", which is "*unlike Block A*". I struggle to reconcile this statement with the ODP. Block A shows a proposed new intersection onto Tram Road and no direct lot access is shown. This is no different

to the proposal for Block B – a proposed new intersection onto Tram Road with no direct lot access shown. As I note above, the legal width of Tram Road is 20m, which is ample to accommodate a suitable intersection layout that meets current guides and standards.

52. His second reason is that the “*concept ODP*” demonstrates no future network connectivity. As I noted above, the concept subdivision plan has not formal status. However, I am of the view that future connectivity is allowed for through my recommended revision for an additional road link within the site, set out above.

RESPONSE TO MR BUCKLEY

53. The traffic matters relating to Block A are raised in Mr Buckley’s paragraph 199. He raises three matters.
54. The first is that site access should be gained via Two Chain Road and not Tram Road. On my reading, Mr Gregory’s concerns appear to be largely related to direct property access being gained via Tram Road (and I discuss this previously in this evidence) but I also acknowledge that he has reservations regarding the separation of the proposed new intersection from the Tram Road / Two Chain Road intersection. I address this above, but in summary I would be keen to understand Mr Gregory’s underlying technical rationale before commenting further.
55. The second matter is that the “*estimated additional 28 dwellings would by themselves result in a significant impact on the Tram Road/State Highway 1 interchange*”. This appears to be solely a concern of Mr Buckley, as it is not mentioned at all by the Council’s transport expert, Mr Gregory.
56. As a general rule, the further that a site lies from a particular section of road or highway, the less the influence of the site on that section of road/highway. This is because as distance increases, there are two effects that occur:
- a. Drivers have an increased choice of different routes to take for their journey. This means that not all journeys will be made using the same section of road/highway and trips will be spread onto different routes (so-called geographic distribution).
 - b. Different drivers travel at different speeds, meaning that even if drivers use the same route, they will arrive at any given point at slightly different times (so-called temporal distribution).

57. A analogy sometimes used by traffic engineers to illustrate this is the act of throwing a rock into a pond. The ripples that are closest to the point of entry are typically high and close together. Ripples that are further away from the point of entry are lower and further apart. If the rock represents the traffic generation of a site, then as distance increases, the volume of traffic generated at any given point is less (a lower ripple) and vehicles (ripples) are spaced further apart.
58. In the case of this site, it is located more than 13km from the intersection of concern to Mr Buckley (and by way of context, 13km is the same distance between the Council offices and the Waimakariri Bridge of State Highway 1). The site itself would generate a maximum of 28 vehicle movements in the peak hours (an average rate of 1 additional vehicle movement every 2 minutes at the busiest times). Taking into account this low volume and the distance to the Tram Road / State Highway 1 intersection, I consider that the traffic-related effects of the site at the intersection would be imperceptible.
59. Finally, Mr Buckley states that no provision has been made for public transport or active transport modes. With regard to active travel, I have suggested a revision to the ODP narrative to clarify this in response to Mr Gregory's concern. With regard to public transport, this again appears to be Mr Buckley's opinion, as it is not mentioned by Mr Gregory.
60. Current public transport networks in the district are extremely limited and the ability of any developer to influence public transport is constrained because running scheduled public transport services is the remit of the relevant local authorities. It is also relevant to note that this matter is somewhat of a 'chicken and egg' scenario. Public transport is only financially viable where there are larger centres of population. If existing centres of population are constrained from increasing, then public transport is unlikely to ever be viable. Conversely allowing existing centres of population to expand means that there are more people living there, and thus more potential passengers, and thus a greater potential for the council to introduce a public transport service in future.
61. In my experience, it is extremely rare that a public transport service is introduced without sufficient passengers to use it. It is more common that centres of population increase, and then services are introduced at a future time.
62. The traffic matters relating to Block B are raised in Mr Buckley's paragraph 207 and he again raises three matters. I have addressed two of these (the "*significant impact*" at the

Tram Road/State Highway 1 interchange and the lack of public transport or active transport modes) above. However I also note that there is no mention that Council has already identified a high priority for a cycleway along Tram Road within its Walking and Cycling Strategy to link Mandeville with Swannanoa School. In that regard, a gravelled pathway is already in place adjacent to the site, running west to the school (and the link to Peacock Place noted previously) and east for more than 800m to No 10 Road.

63. Mr Buckley notes that the main concern at the site is that access will be off Tram Road which creates significant safety concerns in view of the current speed environment and proximity to the Swannanoa School. I set out above that in my view, the current roading environment of Tram Road in this location already justifies a lower speed limit, and that this would have a negligible effect on the efficiency of Tram Road. Even without any speed reduction, there is sufficient width within Tram Road to accommodate a layout that meets current guides/standards, and I also note that priority intersections on Tram Road are not uncommon, with Tupelo Place to the east and Two Chain Road to the west.
64. I have reviewed Mr Buckley's responses to the questions asked by the Hearing Panel. There are only two matters of relevance in my view, both of which pertain to his response to paragraphs 192-201, where he sets out that he does not consider that Block A is a connected and consolidated form of development nor that it enables active transport connections with the LLRZ area to the east, due to the presence of an arterial road and collector road.
65. I set out above that I consider that the ODP narrative should be revised to make it clear that the existing shared walking and cycling route along Tram Road will be extended to the site from its current end near Peacock Place. I consider that this addresses Mr Buckley's concern regarding active travel.
66. In respect of separation of the site from the LLZR to the immediate east, I highlight that it is not uncommon for Collector Roads to run through urban areas. This issue is not the status of the road in my (transportation) experience, but the degree of severance that the traffic volume on the road creates. If the matter was simply one of the presence of a Collector Road, then no urban areas could be considered to be connected/consolidated as every urban area has at least one Collector Road within it.
67. In this case, my surveys (Figure 3 of the Transportation Assessment) showed that at the busiest times, Two Chain Road carries at most 115 vehicles (two-way), equivalent to

one vehicle movement every 31 seconds. I have assessed this using the Austroads Pedestrian Crossing Facility Selection Tool which shows a pedestrian Level of Service C (mid-range in the scale of A to F). This would be improved to Level of Service B (“very good”) if the existing median island on Two Chain Road was to be adapted to allow for a formal pedestrian crossing.

68. In view of this, I recommend a further revision to the ODP narrative, such that it not only reads “*The existing shared walking and cycling route along Tram Road will be extended to the site from its current western termination at the link to Peacock Place*” but also “*and will include a suitable pedestrian crossing facility at Two Chain Road*”. I consider that this will address the matter of active transport connections to the LLRZ area to the east.
69. Mr Buckley also seeks confirmation of pedestrian and cycleways (Part 2(g) of Policy SUB-P6), where he notes that “*the ODP... shows a preliminary road and nothing else*”. While I agree that this is the case, the rationale for this was that the light traffic flows generated by just 27 residences within the site would mean that pedestrians and cyclists could share the movement lanes with motorised vehicles without adverse road safety issues arising. In other words, there was no need to specifically show walking and cycling routes within the site.

CONCLUSIONS

70. Having read the reports of Mr Buckley and Mr Gregory, I have recommended two changes. For Block A:
- a. The ODP narrative could be updated to make it clear that an active travel link is proposed. The narrative presently states that “*A footpath built in accordance with the Engineering Code of Practice will be provided along the Tram Road frontage*”. I consider that this could be revised to read “*The existing shared walking and cycling route along Tram Road will be extended to the site from its current western termination at the link to Peacock Place and will include a suitable pedestrian crossing facility at Two Chain Road*”.
71. For Block B:
- a. In view of Mr Gregory’s commentary regarding future-proofing linkages to adjacent sites, I consider that a secondary road link could be added between the

'loop' road within the site to the western ODP boundary, and aligning with the existing end of Winter Road. This will allow for a future roading link to be formed as Mr Gregory seeks through the extension to Winters Road. I note though that in my view the road extension is not justified at the current time.

72. Overall, I remain able to support the submission from a transportation perspective, and consider that there are no traffic and transportation reasons why the zoning sought is inappropriate in this location.

Andy Carr

4 July 2024