

Before an Independent Hearings Panel
Appointed by Waimakariri District Council

under: the Resource Management Act 1991

in the matter of: Submissions and further submissions on the Proposed
Waimakariri District Plan

and: Hearing Stream 12C & 12D: Large Lot Residential &
Ōhoka rezoning request

and: **Waimakariri District Council**

and: **Carter Group Property Limited**

(Submitter 237)

and: **Rolleston Industrial Developments Ltd (RIDL)**

(Submitter 160)

and: **Andrew McAllister**

(Submission 8)

and: **Rainer and Ursula Hack**

(Submission 201)

and: **Mark & Melissa Prosser**

(Submission 224)

and: **Crichton Developments Ltd**

(Submission 299)

Joint witness statement – transport

Dated: 10 October 2024

JOINT WITNESS STATEMENT – TRANSPORT

Introduction

- 1 This Joint Witness Statement (JWS) relates to Hearing Stream 12C (Large Lot Residential) and Stream 12D (Ōhoka) of the proposed Waimakariri District Plan review.
- 2 The conference attendees were:
 - (a) Mr Nick Fuller for Carter Group Property Limited and Rolleston Industrial Developments Limited;
 - (b) Mr Shane Binder for Waimakariri District Council;
 - (c) Mr Mark Gregory for Waimakariri District Council (Mr Gregory was only able to attend the initial conferencing sessions);
 - (d) Mr Dave Smith for Mark and Melissa Prosser;
 - (e) Mr Andy Carr for Andrew McAllister and also Rainer & Ursula Hack; and
 - (f) Mr Wayne Gallot for Crichton Developments Ltd (Mr Gallot only attended part of the first conferencing session).
- 3 A series of conferencing sessions took place¹ by a combination of face-to-face meetings and online interaction.
- 4 Mr Gregory attended the initial expert witness conferencing sessions and provided crash statistics for the safety review, as well as peer reviews of the traffic models of the State Highway 1 / Tram Road Interchange on behalf of the Council. Mr Gregory was unable to attend the remainder of the conferencing. However, he and Mr Binder have coordinated together throughout the course of conferencing (including his review and technical feedback of the traffic modelling) and Mr Binder has been asked to sign on behalf of Council for the final statement.
- 5 Ms Jennifer McSloy (Waimakariri District Council) attended the first conferencing as a facilitator, but did not attend subsequent conferencing sessions, which were unfacilitated.
- 6 This joint statement has been prepared in accordance with section 9.5 of the Environment Court Practice Note 2023. All witnesses confirm that they have read and agree to comply with the Code of Conduct for Expert Witnesses in the Environment Court Practice Note 2023.

¹ on 26 August, 30 August, 23 September, 27 September, 02 October and 10 October 2024.

- 7 This JWS sets out all matters agreed and not agreed by the relevant experts, with an outline of the reasons for disagreement provided where appropriate.

Scope of Conferencing and Sites within Woodend

- 8 The experts note the questions of the Hearings Panel in relation to transport matters:
- (a) Q3: What would the cumulative traffic effects be from all requested rezonings being approved in the Swannanoa/Mandeville/Ohoka area?
 - (b) Q4: If it is identified that there would be adverse cumulative effects, what might the triggers be for upgrades or new infrastructure to be provided, how could these be reflected in district plan provisions for each rezoning request.
- 9 Furthermore, the experts note the following clarifications from the Hearings Panel²:
- (a) It would be appropriate to consider other submissions seeking rezonings that would affect the roading network in and downstream of Swannanoa/Mandeville/Ohoka, particularly in respect of the Tram Road/State Highway One interchange.
 - (b) Only those submissions where expert transport evidence has been provided to support the submission need be considered.
- 10 The experts are aware that the RIDL development is on the list of projects recently released by the Government for inclusion in the Fast Track Approvals Bill. However, they understand that an assessment of transport effects will still be required to support any Fast Track Consent Application, should the project be retained in Schedule 2 of the Fast Track Approvals Bill when the Bill is passed. The experts anticipate that this assessment would conclude that a series of transport upgrades, as set out in the District Plan submission and discussed in this and the previous JWS (plus associated Evidence), are necessary. Therefore, the experts consider that the potential for Fast Track approval does not affect the assumptions or outputs associated with this JWS.
- 11 The experts agreed that any 'cumulative traffic effects' would include effects on road safety and on roading efficiency. The experts also agreed that in view of the relative locations of Swannanoa, Mandeville and Ohoka, these would primarily arise on the Tram Road corridor and that if this corridor was able to accommodate the additional traffic, then effects elsewhere would be negligible. The experts therefore agreed to limit their discussions to the Tram Road corridor from Two Chain Road (in the west) through

² Following the experts request for clarification dated 9 September 2024.

to the SH1 interchange (in the east), and the effects arising from traffic generated by their respective clients' sites and rezoning requests.

- 12 With that in mind, Mr Gallot raised the matter of the Crichton Developments Ltd submission, which relates to land at 145 – 167 Gladstone Road in Woodend. That rezoning was estimated to generate modest traffic volumes within Woodend, and very low peak traffic volumes outside of Woodend (11 vph³ to/from the south and 5 vph to/from the west) that might interact with traffic associated with other traffic associated with rezoning requests within the Mandeville / Ōhoka / Swannanoa area.
- 13 The experts also understand that the NZ Transport Agency (NZTA) have started with land acquisition processes to advance the planned Woodend Bypass, and Chrichton Development Group Ltd have offered that (should a Large Lot Residential zone be approved) residential development / occupation at 145-167 Gladstone Road would be limited to a maximum of 4 dwellings (the same as could occur under the Rural Lifestyle zone of the notified Proposed District Plan) until such time as the Bypass was constructed and became operational.
- 14 Given the above, the experts agreed that the requested rezoning for 145-167 Gladstone Road will not have any impact in terms of cumulative transport effects associated with the submissions / rezoning requests within the Mandeville / Ōhoka / Swannanoa area.
- 15 On this basis, and with agreement between all the experts, Mr Gallot then left the expert witness conference.
- 16 Mr Carr requested that the Hack's submission for Large Lot Residential Zoning on part of their site at 110 Parsonage Road, also within Woodend and expected to generate even less traffic than the Crichton Development Limited site, was also addressed in a similar manner. However, Mr Binder and Mr Gregory considered that this was better addressed separately, and agreed to participate in expert witness conferencing solely in respect of that site. Consequently the Hack's submission is not considered further in this Joint Witness Statement.

Sites Accounted for in Cumulative Effects

- 17 **Table 1** sets out the rezoning sites that are agreed by the experts as appropriate for inclusion in these assessments and are consistent with the directive from the Panel in that regard.
- 18 The experts are also aware of potential additional commercial development at Mandeville, which could occur under the existing (and proposed) zoning. However, this was considered to only serve

³ vph = vehicles per hour.

a local catchment as it is *Local Centre Zone* and therefore an assessment of wider area effects was not considered necessary.

Table 1: Sites for Cumulative Effects Assessment⁴

Site Location, Origin of Submission, and Details	Tram Rd Safety	SH1 Tram Rd Interchange Capacity
Swannanoa LLRZ (Council) - 14 additional dwellings	Yes	Yes
Ōhoka Res LLRZ (Council) - 24 additional dwellings	Yes	Yes
Mandeville Res LLRZ (Council) - 95 additional dwellings	Yes	Yes
Ashworths Road (Prosser) - 115 dwellings	Yes	Yes
1305 & 1379 Tram Road (McAllister) - 64 dwellings	Yes	Yes
531 Mill Rd (RIDL) - 892 dwellings	Yes	Yes
Main North Rd, Kaiapoi (Mike Greer) - 200 dwellings	No	Yes
Neeves Rd, Kaiapoi (Domett) - 4.9Ha Industrial	No	Yes

- 19 For clarity, Rows 1, 2 and 3 refer to the Council's proposed rezoning of existing areas of larger-lot residential land uses (Residential 4A and 4B) to 'Large Lot Residential Zone'.
- 20 It was considered that traffic generated by the Mike Greer and Domett developments would distribute negligible traffic on the Tram Road corridor west of the SH1 / Tram Road Interchange. As such, these sites are included in the SH1 / Tram Road interchange efficiency assessment, but excluded from the safety assessment.
- 21 There are currently no triggers requiring transport infrastructure upgrades for the above sites, with the exception of the RIDL development. Mr Fuller noted that there had been separate expert witness conferencing relating to the RIDL site and transport-related infrastructure provisions proposed that require the following upgrades prior to subdivision of that site as set out in Appendix A of the Planning Joint Witness Statement for Stream 12D (dated 30 August 2024):

⁴ The number of additional dwellings associated with the Council's proposed Large Lot Residential Zone (LLRZ) was taken from the Wastewater Modelling assessment dated 15 November 2021.

- (a) a roundabout at the Flaxton Road / Threlkelds Road intersection with associated changes in priority at the Mill Road / Threlkelds Road intersection,
 - (b) a roundabout at the Whites Road / Tram Road intersection,
 - (c) a roundabout at the Bradleys Road / Tram Road intersection,
 - (d) improvements at the Tram Road / State Highway 1 interchange, to increase the capacity for right turning traffic onto the southbound on-ramp, and
 - (e) road widening of Tram Road between Bradleys Road and Jacksons Road.
- 22 The experts understand that if those measures are not in place, the proposal requires a Resource Consent to be granted with transport matters being a matter of discretion for this.
- 23 Within this conferencing, the experts did not discuss the adequacy of the above rules to address the effects of the RIDL submission. Mr Binder notes that the road efficiency and safety measures proposed within Stream 12D have not been fully evaluated for their adequacy.

Traffic Growth

- 24 The experts agreed that traffic growth arises from two sources – new development, which means that more people are travelling, and existing development where people choose to travel more or on different roads. The experts agreed that the vast majority of traffic growth arises from new development, such as created by the sites set out in **Table 1**.
- 25 The experts collaborated on determining the traffic generation and distribution for the site set out in **Table 1**. This was undertaken for the peak hours and for daily traffic volumes. This was drawn from the information presented in evidence, other than for the Council's proposed rezoning of land which was generated by the experts (as no traffic-related evidence had previously been presented)
- 26 Each of the sites adds traffic onto different parts of the roading network. Broadly though, and for comparison, the following average increases in daily traffic were predicted on Tram Road (when compared to the current day volumes):
- (a) The Council LLRZ – 5.5%;
 - (b) Prosser site - 4.9%;
 - (c) McAllister site - 2.7%;
 - (d) RIDL site - 28.4%; and
 - (e) Cumulatively – 41.5%.

- 27 For clarity the experts reiterate that the Mike Greer and Domett sites are located to the east of the Tram Road Interchange and any increase in traffic from these sites on the Tram Road corridor to the west of the interchange would be minimal. As such these sites have not been considered further beyond impacts on the interchange efficiency.

State Highway 1 / Tram Road Interchange Efficiency

- 28 Although Mr Fuller and Mr Smith had both developed intersection capacity models to assess the effects of their clients' sites at the State Highway 1 / Tram Road Interchange, it was agreed to use Mr Smith's model as the basis for assessing the cumulative traffic effects of developments at this location.
- 29 Mr Gregory reviewed the operation of the chosen traffic model and suggested changes of further detail, which were addressed to the satisfaction of the experts. This process (along with recent queue length information collected by Mr Binder and Mr Smith) identified issues with the existing traffic signal phasing at the interchange, which currently leads to poor operation during the 7-8am morning peak (AM) period.
- 30 Mr Smith suggested changes to the traffic signal timing and phasing, which were trialled at the interchange and were observed to alleviate the observed congestion in the morning peak. Discussions with Christchurch City Council staff in Real Time Operations (RTO) (who operate these signals) have indicated that these changes to address poor operation in the AM have been successful. RTO has advised these improvements to signal operation are set to function Monday to Friday 7 to 9am and will be monitored to confirm their on-going effectiveness.
- 31 The peer review of the modelling also highlighted that the High Occupancy Vehicle lane that has a free left turn to the southbound on-ramp is being used by a high proportion of single occupant cars. Council advised there is an intention to install an enforcement camera, which will discourage single occupant vehicle drivers from using this lane (i.e. these drivers will receive a fine), although it was understood by the experts that the appropriate legislation is not in place to enable this. Nevertheless, the model was updated to reallocate single occupant vehicles through the traffic signals at the on-ramp, providing a robust assessment relative to the current operation.
- 32 This version of the model (along with the above traffic signal changes) is agreed by the experts as being an appropriate basis to understand the cumulative effects of the proposed rezonings, and therefore has been used as the baseline for assessing the operation of the Interchange. Only the AM peak period has been assessed, as the experts agreed this is the critical period for the Interchange operation and for this reason modelling was not considered necessary for other time periods.

- 33 Two future scenarios were assessed, as follows:
- (a) Scenario 1 – All sites from Table 1 included, except the RIDL development (the RIDL site was excluded because it already has provisions proposed for improvements of this State Highway 1 / Tram Road intersection); and
 - (b) Scenario 2 – All sites from Table 1 included, including the RIDL development.
- 34 The experts agree that the results of the above tests show:
- (a) The Scenario 1 test leads to small (3 to 7 seconds increase in delay and subsequent travel time through the Interchange) and acceptable changes in delays and travel times (when compared to the baseline operation), with these being considered within the capacity of the State Highway 1 / Tram Road Interchange.
 - (b) The Scenario 2 results indicate that the inclusion of the RIDL 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. However as set out in paragraph 21(d), this scenario could not occur as a Permitted Activity due to the proposed controls put in place through agreed provisions for this submitter's (RIDL's) site.

Road Safety Effects of the Submissions

- 35 The experts collaborated to develop a crash prediction model based on published NZTA equations. All experts agreed this was a suitable approach to understand the road safety effects of the submissions⁵. The NZTA equations are calibrated to reflect road safety performance of similar types of roads, averaged across the country.
- 36 For clarity, the experts note that their road safety model was of mid-block crashes (i.e. the road corridor between intersections) and did not include intersections. However, the experts anticipate that the intersection crashes would follow the same pattern and do not need to be modelled separately.
- 37 Mr Gregory provided details of historic crashes along the Tram Road corridor, which is a Rural Connector road. The experts agreed to adopt these for the purposes of calibrating the model in their assessment.
- 38 The NZTA crash prediction model when applied to Tram Road predicts almost exactly the same number of injury crashes as has been observed on Tram Road (to within a margin of 1.5%). The

⁵ The Mike Greer and Domett sites are not included in this assessment, as it was agreed they would add negligible traffic to the Tram Road corridor west of the SH1 Interchange.

experts therefore agreed that because of this high level of agreement, the model is appropriate to use for estimating likely changes in crashes that may arise due to additional traffic from the proposed rezoning sites.

- 39 The experts note that the model's forecast number of injury crashes aligns with the observed crashes. The experts therefore agree that the model is fit for purpose.
- 40 In a national context, Tram Road aligns with typical mid-block road safety performance expected for this type of road. That is, it is not particularly worse or better in safety terms than any other Rural Connector road in New Zealand. Mr Binder noted that, in the context of development through the District Plan, Tram Road is considered one of the highest-risk roads in the District and its crash rate is the highest for any other comparable rural Arterial or Strategic Road in the District.
- 41 The experts were made aware of the Council's Tram Road Safety Study⁶ (TRSS) previously carried out. This assumed overall traffic growth of 30% on Tram Road over the next ten years.
- 42 Mr Binder notes that the TRSS was an engineering study to set out a programme of safety upgrades for the Tram Road corridor and a nominal growth rate based on previous history was used to future proof the study. The TRSS did not make any development or land use planning forecasting or assumptions. Therefore, Mr Binder considers that the 30% growth assumed in the TRSS did not establish an appropriate threshold for Council approved 'acceptable' growth or related consequences.
- 43 As set out at paragraph 244, the experts agreed that the vast majority of traffic growth occurs from new development, which is accounted for with the proposed rezonings. On that basis, the experts agreed that the traffic from the requested rezonings is not additive to this 30%, but comprises part of it.
- 44 When inputting the current traffic flows, plus 30% traffic growth assumed by the Council's TRSS, the model forecasts a 30% increase in injury crashes unless there is some form of road safety intervention. This equates to one additional mid-block injury crash on Tram Road approximately every nine months (one every 0.73 years).
- 45 The experts consider that the level of traffic growth arising from the Council LLRZ, Prosser and McAllister sites lie well within the anticipated traffic growth allowed for by the study. However, a simple assessment of adding traffic from the Council, Prosser and McAllister sites (to the current traffic volumes with no growth) into the model shows that these sites taken together would only result in

⁶ *Tram Road Safety Improvements – Scheme Route Assessment and Prioritisation Plan* dated August 2020.

a 12% increase in injury crashes. This equates to one additional mid-block injury crash every 1.8 years.

- 46 The RIDL site by itself (and without any roading improvement schemes - see comments at paragraph 21) would generate a 29% increase in injury crashes, equating to one additional mid-block injury crash every 9 months. However, with the Tram Road widening noted at paragraph 21 in place, the model forecasts the RIDL traffic will result in a 16% increase in injury crashes (rather than 29%), equating to one additional mid-block injury crash every 1.4 years.
- 47 Cumulatively (and accounting for the Tram Road widening associated with the RIDL site), the traffic from the proposed sites results in one additional mid-block injury crash every 0.83 years (one every ten months), compared to the one every nine months set out in paragraph 44 associated with the Council's TRSS.
- 48 Mr Binder reiterates his view that the 30% growth assumed in the TRSS did not establish an appropriate threshold for Council approved 'acceptable' growth or related consequences.
- 49 The experts are aware that any development is required to pay Development Contributions (DCs). Mr Binder advised that DCs can only be used to fund (or part-fund) schemes set out in the Council's Long Term Plan, but also that there are several safety-related schemes on Tram Road that are included in the Long Term Plan. On this basis there is a mechanism in place for developers to contribute towards some safety improvements along the Tram Road corridor. The experts also note that roading upgrades could be undertaken by a developer as part of a Development Agreement, Resource Consent Conditions or on their own, but would still require Council approval.

Hearing Panel Question 3: What would the cumulative traffic effects be from all requested rezonings being approved in the Swannanoa/Mandeville/Ōhoka area?

- 50 In respect of the efficient operation of the Tram Road corridor, the experts agreed that:
- (a) The increases in traffic volumes due to the Council LLRZ, Prosser and McAllister sites are modest and can be accommodated without improvements to Tram Road.
 - (b) The modelling of the State Highway 1 / Tram Road Interchange shows that it can accommodate the cumulative effects of all the assessed developments except for the RIDL development, subject to on-going alterations to the traffic signal phasing.
 - (c) The traffic increases from the RIDL site are more substantial, but the site cannot be developed as of right without improvement measures on the Tram Road corridor, including at the State Highway 1 / Tram Road Interchange, or a

specific traffic assessment being carried out (and Resource Consents being granted) showing that the effects are acceptable without any improvement scheme.

- 51 In respect of road safety on the Tram Road corridor, the experts agreed that:
- (a) The level of increase in traffic arising from the Council's LLRZ zoning, Prosser and McAllister sites is anticipated within the underlying growth assumption in the Council's TRSS.
 - (b) When including the increase in traffic arising from the RIDL site, the expected number of injury crashes due to full development of all three submitter sites plus the Council LLRZ rezoning (and allowing for the additional improvement measures required of RIDL) is lower than that associated with the underlying growth assumption in the Council's TRSS.
- 52 Mr Binder reiterates that the background traffic growth assumed in the TRSS was an engineering input and did not consider its origin or related consequences, including an increase in the expected injury crash rate.

Hearing Panel Question 4: If it is identified that there would be adverse cumulative effects, what might the triggers be for upgrades or new infrastructure to be provided, how could these be reflected in district plan provisions for each rezoning request.

- 53 All experts agree that in relation to operational efficiency effects:
- (a) The cumulative effects of the increase in traffic from the Council LLRZ, Prosser and McAllister sites are acceptable and therefore specific transportation rules **are not** required to mitigate any roading efficiency effects arising from development these sites.
 - (b) The cumulative effects of the increase in traffic from all rezoning sites (including the RIDL site) are not acceptable. Specific transportation rules **are** required to mitigate roading efficiency effects arising from development of the RIDL site. However, measures are already proposed through the Joint Witness Statement for Stream 12D and no further provisions are required through Stream 12C.
- 54 Mr Carr, Mr Smith and Mr Fuller agree that in relation to road safety effects:
- (a) The cumulative effects of the increase in traffic from the Council LLRZ, Prosser and McAllister sites are acceptable and therefore specific transportation rules **are not** required to mitigate any road safety effects arising from development these sites.

- (b) The cumulative effects of the increase in traffic from all rezoning sites (including the RIDL site) are greater, with no further safety improvement works to the Tram Road corridor. Specific transportation rules **are** required to mitigate road safety effects arising from development of the RIDL site. However, these measures are already proposed through the Joint Witness Statement for Stream 12D and no further provisions are required through Stream 12C.

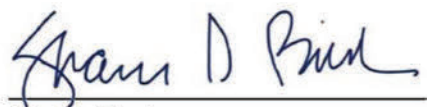
55 Mr Binder dissents with regard to road safety effects and says:

- (a) As the JWS has quantified increases in adverse cumulative road safety effects as set out in paragraphs 44 to 47, he does not consider it appropriate to provide a quantitative trigger below which these safety effects are "acceptable" and do not require mitigation (i.e., he does not consider it appropriate to define one additional crash every 1.8 years as "acceptable" but one additional crash every 9 months as "requiring mitigation").
- (b) Council has already identified existing safety deficiencies and proposed road safety mitigations for them in the 2020 TRSS; but only one-third of the proposed mitigation from TRSS have been included in the Long Term Plan at present. Accordingly, Mr Binder considers that the TRSS should be reassessed in light of these development proposals (i.e. the submissions set out in Table 1 and the Council's proposed rezonings) and specific rules be developed to require the undertaking of any resulting mitigation in this portion of Tram Road before further development is considered. Alternatively, he considers that specific rules be proposed that require any outstanding safety improvements from TRSS in this portion of Tram Road be undertaken prior to further development.

Dated: 10 October 2024



Nick Fuller



Shane Binder



Andy Carr



Dave Smith



Wayne Gallot (In relation to paragraphs 1 to 15 only).