IN THE MATTER OF the Resource Management Act 1991

AND

IN THE MATTER OF a resource consent application by Sanderson Group Limited to the Waikato District Council to develop land at 56 and 70 Tamahere Drive, and 82 and 92 Tamahere Drive, for retirement village (Tamahere Country Club southern and eastern extensions)

STATEMENT OF EVIDENCE OF MARK JOHN APELDOORN

Introduction

1. My name is Mark John Apeldoorn. I am a Transport Planner and Partner at Boffa Miskell Limited, a national firm of consulting planners, ecologists and landscape architects. I hold a Bachelor's degree with honours in Civil Engineering, a postgraduate Certificate of Proficiency in Transportation Planning and a postgraduate Diploma in Business Management, all from the University of Auckland.

2. I am a Chartered Professional Engineer (CPEng) New Zealand, a Fellow of Engineers New Zealand (FEngNZ), and an International Professional Engineer (IntPE).

3. I have 33 years' experience as a practising traffic and transportation engineer. I commenced with Boffa Miskell in July 2023. Prior to that I held the position of Practice Leader: Transport Advisory, at Stantec NZ, for a period of about five years. Prior to that I was a Director and Principal Transport Engineer with

Traffic Design Group, where I spent the previous 23 years. I have also worked as a local authority engineer (about eight years in total). As a consultant, I have been engaged by local authorities and private interests to advise on traffic engineering, transport planning, roading and development issues covering safety, management and planning matters of many kinds.

4. I have advised Sanderson Group on the traffic and transport aspects of its retirement village development programme for the past 20 years. I led preparation of the Integrated Transportation Assessment (ITA) for this Application, whilst employed by Stantec NZ. I also led the transportation assessment undertakings for all of the earlier stages of development at this Tamahere site. I confirm that the analyses and conclusions of that report remain valid and appropriate.

Code of Conduct for Expert Witnesses

5. I confirm that I have read the Environment Court's Code of Conduct for Expert Witnesses, as contained in section 9 of the Environment Court's Practice Note 2023, and I agree to comply with it.

6. The data, information, facts and assumptions that I have considered in forming my opinions are set out in my evidence that follows. The reasons for the opinions I express are also set out in the evidence that follows.

7. I confirm that the matters addressed in this brief of evidence are within my area of expertise, with the exception of where I confirm that I am relying on the evidence of another person. I have not omitted to consider material facts known to me that might alter or detract from my opinions expressed in this brief of evidence. I have specified where my opinion is based on limited or partial information and I have identified any assumptions I have made in forming my opinions.

Scope of evidence

8. My evidence focuses on the transport matters raised in the submissions, which are:
   (a) the potential for queuing at the village gates;
   (b) clarification of expected traffic volume changes;
   (c) the design of the access points on Tamahere Drive;
   (d) public transport accessibility; and
   (e) walking and cycling access to the local Tamahere shopping centre.

9. I also respond to the Council Officer's s42A report; including the matters described in the Gray Matter review and addendum reports; and the draft conditions.

10. I confirm that in addition to the site visits I made during preparation of the ITA in 2023, I visited the site and surrounds on 14 March 2024.

Executive summary

11. I have reviewed and assessed the submissions, s42A reporting, technical review and addendum reports on transport matters. The key conclusions from my assessments are summarised as follows:
   (a) vehicle queuing at the gated access points on Tamahere Drive are safely and appropriately provided for and will readily accommodate the current and proposed (Eastern and Southern) development traffic demands;
   (b) the generated traffic demands due to the proposed additions will be well within the carrying capacity (11% to 17%) of the adjoining Tamahere Drive, the recently upgraded Tamahere interchange and adjoining transport network;
   (c) the current design and form of access points on Tamahere Drive are aligned with the warrant requirements of the Austroads design

guidelines and will remain aligned in supporting the additional traffic demands generated by both the Eastern and Southern areas;

(d) public transport services are within readily accessible walking and cycling distances and times, they are suitably frequent and provide access to a wide range of services and needs for residents;

(e) the Tamahere shopping centre is readily accessible, being within a 13 to 15-minute walk or a 3 to 5-minute cycle of the site. This is strongly aligned with Future Proof outcomes for 30-minute communities;

(f) the transport submissions do not give rise to any transport matters of substance. Council's independent technical review report conclusions are consistent with my conclusions on these matters;

(g) Ms Carmine's s42A report provides a reasonable summary of the transport matters set out in the Stantec ITA and of the technical reviews she has obtained. There is an apparent doubling error in her assessment of generated traffic demands which I address at my paragraph 48. The consequence of this is that the proposals are aligned with the TRPT – R4 Rule, contrary to her conclusion;

(h) Ms Carmine's assessments of transport matters in relation to the RPS Change 1 are, in my opinion, significantly understated. I set out my quantified basis for this conclusion at my paragraph 48(f);

(i) I consider the transport related draft conditions provided for the Eastern extension are appropriate in the context of both the Eastern and Southern extension applications and I note these include the recommendations made in the technical review reports; and

(j) on the basis of my assessments, I have concluded the transport matters are less than minor and can be considered as passing the "gateway" test S104D of the Resource Management Act (RMA) on effects grounds.

12. My overall conclusion is that, subject to the Draft Conditions applying to both the Eastern and Southern extensions, the transport effects will be less than minor in relation to the applications individually and cumulatively.

Queuing at the Village Gate (#1: M and D Smith)

13. The submission notes a concern about queuing space outside of the village gate and specifically when it is closed overnight. The Applicant has confirmed that the gates are open between 8am and 7pm. There is no reason for any queuing to occur on either side of the gate (for inbound or outbound drivers) during the hours that the gate is open. There is some potential for queueing outside these hours, from 7pm to 8am, which I now describe.

14. Table 5 of the ITA[1] describes expected peak hour trip generation at each access point. The busiest is the main/central access with an expected post-development volume of 50 vehicle movements per hour (**vph**). This is a two-way total (including an approximately even number of inbound and outbound vehicles) and is expected to occur during the middle of the day.

15. To assess trip generation during the off-peak period 7pm to 8am I sourced a 24-hour traffic count from another retirement village site[2] to establish a basis for an expected traffic demand profile outside of the peak traffic flow periods. Figure 1 shows the 24 hour arrival, departure and total profiles calibrated with the expected level of peak hour activity (50vph) at the central gate (main access). Peak hour traffic demands at the northern (care access) and the recently constructed (and now active) southern access were established in the ITA[3] as being 31 and 32 vehicle movements at peak respectively, i.e. at a level about two-thirds that identified at the central gate.

[1] ITA, Section 8.1, Table 5, page 23.
[2] The data is commercially confidential. The profile only has been adopted and applied to the traffic demands previously established and reported for the Tamahere Country Club site.
[3] Stantec Integrated Transportation Assessment (ITA), June 2023, section 8.1, Table 5.

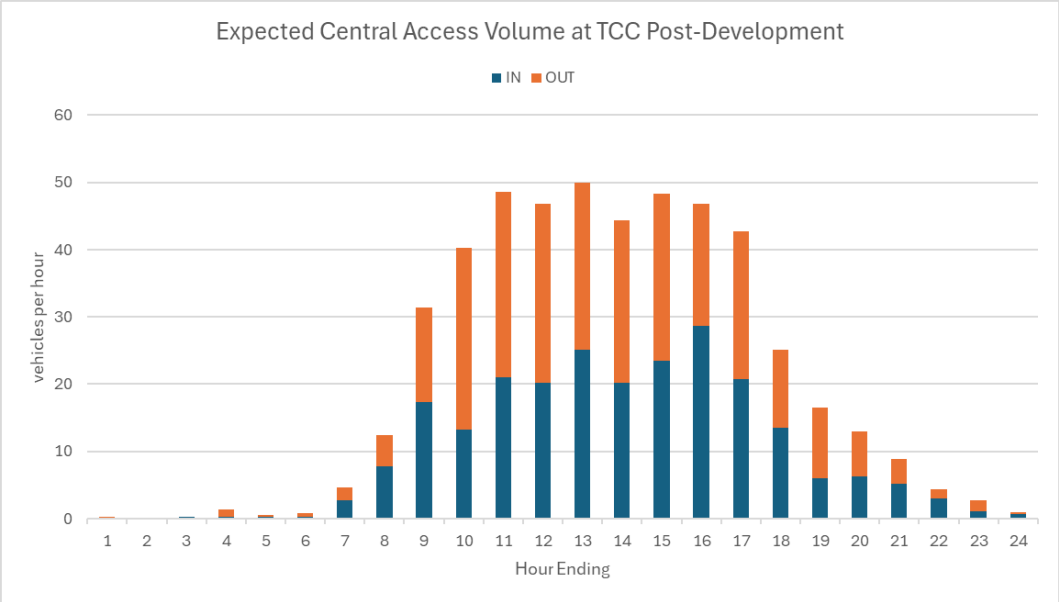

Figure 1 – Expected 24-Hour Traffic Pattern

16. This graph shows that during the period 7pm to 8am the number of inbound movements at the central gate ranges from 0 to 6 vph.

17. The central gate is shown below as Photograph 1. The gate is recessed into the site such that approximately 10m is available between the gate and the closest edge of the shared path (Te Awa Cycleway). Approximately 16m is available between the gate and the closest edge of a traffic lane. This means that one vehicle can queue clear of the shared path and two can queue clear of the moving traffic lane (but over the path).

Photo 1 – Tamahere Country Club Central Gate

18. The Applicant advises that the gate can be opened by a remote control (issued to residents), by entering a code in the keypad, or by calling a phone number. It takes approximately 28 seconds to activate and open the gate.

19. Using a first principles queue analysis methodology with randomly distributed arrivals over the hour, the probability of more than one vehicle being at the gate is 0.2% during the busiest hour of the off-peak period (7pm - 8pm). Put another way, 99.8% of the time the entry queue will not exceed one vehicle.

20. I have also undertaken a sensitivity test with the gate assumed to take twice as long (56 seconds) to open and there being twice as many entering drivers (12 vph). With these parameters, there is a 3.5% chance of there being more than one vehicle at the gate. Put the other way, 96.5% of the time the entry queue will not exceed one vehicle in terms of this sensitivity scenario.

21. The above analyses confirm that the level of overnight activity at the village is low, with at most one vehicle arriving every ten minutes or so on average during the busiest hour. Statistically, the probability of there being more than one vehicle waiting at the gate is minimal. A single vehicle queued is wholly accommodated clear of the adjacent shared path. Sensitivity analysis demonstrates the conclusion is robust, even where demands and process

times are significantly increased. For this reason, I conclude the operation of the gate is readily able to accommodate the total traffic demand expected. Any queued vehicle effect on Tamahere Drive is nil to negligible in my assessment.

Traffic Volume Changes (#1: M and D Smith)

22. The submission raises a concern that the proposed development will increase vehicle movements by a factor of 50-100. I am not sure how this factor has been derived but provide clarification on the expected increases as follows.

23. Table 3 of the ITA[4] describes that the proposed expansion (being the Southern and Eastern combined) is expected to increase the total daily generation of the village from 717 vehicles per day (vpd) to 896 vpd, a change of 179 vpd (two-way total). This is an increase of 22% in the daily volume generated by the village. Traffic demands at the site have until recently, been consolidated on the central gate, however the applicant has advised the southern gate is now operational. This will result in a more distributed movement of vehicles to and from Tamahere Drive compared with traffic demands that may have been observed recently and have been the basis of assessment in the ITA[5].

24. The existing daily traffic volume on Tamahere Drive (Table 1 of the ITA[6]) is 1,543 vpd. Of the new 179 vpd, 94%[7] (or 168 vpd) are expected to move to and from the north on Tamahere Drive. This represents a change of 11% in the daily volume on this part of Tamahere Drive.

25. The practical and functional carrying capacity of Tamahere Drive adjacent to the site is in the order of 10,000 to 15,000 vpd. With the proposed addition, Tamahere Drive is expected to operate in the range 11% to 17% of its practical

[4] ITA, Section 7.1, Table 3, page 21.
[5] Stantec Integrated Transportation Assessment (ITA), June 2023, section 8.1, Table 5.
[6] ITA. Section 4.1, Table 1, page 13.
[7] ITA, Section 7.2, page 22.

carrying capacity. I therefore conclude the post-development traffic volume on Tamahere Drive will remain well within its practical carrying capacity.

Access Design (#1: M and D Smith)

26. The submission raises a concern that a right turn slip lane is required on Tamahere Drive and that there is no street lighting outside the village.

27. The Austroads Guide to Traffic Management Part 6 (AGTM06), which is widely used in New Zealand, contains warrants for when auxiliary turning lanes are required on a major road (in this case Tamahere Drive) at an access or intersection. The warrants consider the speed environment, the volume of traffic on the major road and the volume of turning movements at the access.

28. Based on the expected traffic generation and distribution described in the ITA[8], and the passing volume on Tamahere Drive (estimated as 15% of the daily volume), the warrant for a right turn lane is not met at any of the access points. This remains the case under a sensitivity test, with both the village volume and the road volume increased by 50%. Both of these cases are shown on my **Figure 1** as follows:

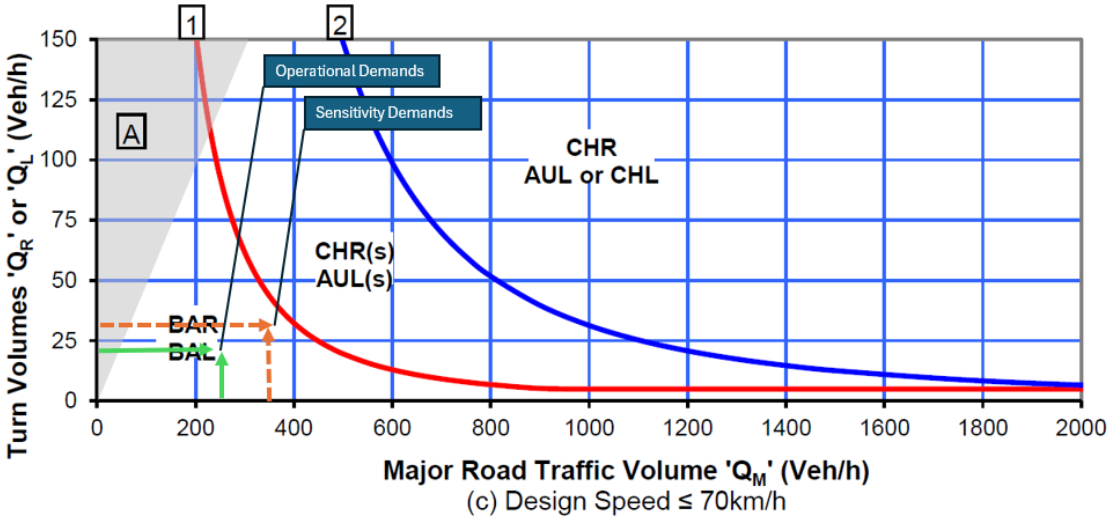

Figure 1: Austroads (ATGM) Turning Warrant Assessment

[8] Stantec ITA, Sections 7.1 and 7.2.

29. Section 8.1 of the ITA describes that the central and southern accesses have both been recommended to be formed in accordance with the Regional Infrastructure Technical Specification (**RITS**) high volume rural driveway layout, shown as Figure 20 of the ITA.

30. This treatment includes localised seal widening on both sides of the Tamahere Drive carriageway. It provides for left turners to slow and turn on the widened and sealed shoulder adjacent to the northbound lane, and for southbound drivers to be able to manoeuvre around a right turning vehicle using the shoulder if required. In my assessment, this treatment remains appropriate and is consistent with council standards.

31. Additionally, I note that Section 5 of the ITA presents a summary of the reported road safety history in the area. I extended this search to cover the period since the ITA was prepared (2018 to 2024 to date). It remains the case that there have been no crashes reported that involve access points to the village.

32. On the matter of there being no street light, I concur there is no street lighting present. Section 8.10 *Anticipated Environmental Results* of the Operative District Plan describes in relation to operation of the land transport network that "*Amenity not unduly impacted by roads, including street lights*.[9]" General practice for councils in rural road environments is discretionary in terms of the provision of street lighting at intersections and there is no requirement in the Operative District Plan to light access driveways. Doing so has the risk of misleading drivers and elevating the status of a driveway to that of a road.

33. The Proposed District Plan, Rule TRPT-R5 defines the Activity-specific standards with respect to lighting by way of reference to the AS/NZS 1158 Lighting Standard for Roads and Public Spaces, 2005. I have reviewed this

[9] Operative Waikato District Plan, S8: Land Transport Network, 8.10.1(i).

document. At S3.5.1 Application it describes that lighting at intersections "*may*" be warranted and that "*where deemed necessary..*" it shall be provided at certain levels. Determination is at the discretion of the Road Controlling Authority, it applies to intersections and there is no guidance or requirement pertaining to private accessways.

34. I have also reviewed the Regional Infrastructure Technical Specification (RITS). At S3.3.20.3 Scope it describes that "*Road lighting shall be provided on all urban roads (walkways/cycleways) and service lanes that are, or will be under the control of the Council.*" Tamahere Drive is in a rural environment and therefore not subject to these requirements.

35. Notwithstanding these assessments, onsite night-time observations indicate the location of the points of access to the village are readily distinguishable due to the presence of gateway entrance lighting, as is shown on my Photos 2 and 3. On this basis I conclude that street lighting is not required and would not be appropriate at the access locations.

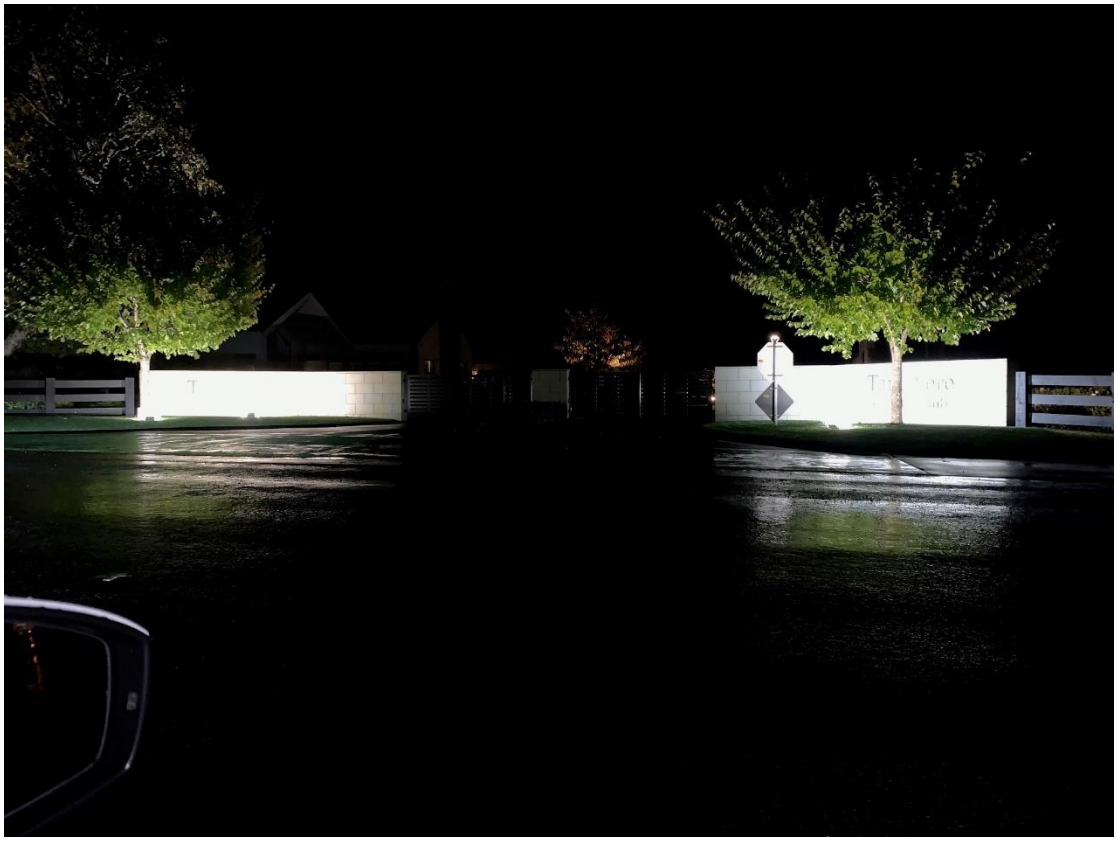

Photo 2: Night-time View of Central Gate from opposing side of Tamahere Dr

Photo 3: Night-time View of Entrance to the Tamahere Country Club Central Gate

Public Transport Accessibility (#1: M and D Smith)

36. The submission notes a concern that catching a bus to and from Tamahere requires residents to cross the off ramp and on ramp at the Tamahere interchange, and to negotiate the Airport Road tunnel.

37. There is no requirement within the District Plan for the application to provide access to/from the public bus service. Notwithstanding this, the current Busit bus service (supporting the whole of the Tamahere community) includes both the Route 20 – Cambridge service which uses the interchange ramp stop locations and the Route 28 Tamahere/Matangi service which has a stop at the Tamahere Village, both of which are accessible (within a 13 to 15 minute walk or about 3 to 5 minutes by bike) of the site. Recent installation of the Airport Road underpass provides for safe and accessible walking and cycling movement across Airport Road and with both of the bus servicing options.

This level of accessibility is aligned with the Future Proof Growth Strategy 2022 30-minute communities outcomes, *"…where people can meet most of their needs within a 30-minute walk, cycle or public transport trip*."[10] I address this later in my evidence.

38. Waka Kotahi has recently completed significant safety improvement works to the interchange ramp stop locations including a raised table and signalised crossing of the northbound on-ramp, a shared path link through the interchange and a narrowed, well-defined ramp crossing close to the roundabout give way line at the southbound ramp terminus.

39. On this basis I have concluded the site is accessible in terms of the Busit services and recent safety works have significantly enhanced the safety of accessibility to these for both the proposal as well as the whole of the Tamahere community.

Walking and Cycling Access to Tamahere Shopping Centre (#1: M and D Smith)

40. The submission notes a concern that village residents are dependent on private transport and that based on an unscientific survey, less than 10% walk or cycle to the shopping centre.

41. As noted above in relation to using public transport, it is reasonable to expect that some residents in a retirement community will not have the capacity to walk or cycle to the shops.

42. It does not necessarily follow that they will then drive themselves to the shops in a car. There are other options, including van trips offered by the village and delivery services offered by supermarkets, for example. Cycle trips have also increased markedly at retirement village developments, including at the subject site, with the advent of e-cycles. There is a regular cycle group

[10] Future Proof Growth Strategy 2022, Overview to Growth Management, page 36.

established within the retirement village community at the Tamahere site and this is well accommodated by way of the Te Awa River Ride path crossing the site and linking through the underpass across Airport Road.

43. The shopping centre is approximately 900m from the main village gate. Walking or cycling will be an option for some residents, some of the time. Some residents may drive to the shops, and these movements have been accounted for in the trip generation estimates and the assessment of effects.

44. The applied trip rates are well established and the representative rates for the Tamahere Country Club are inclusive of travel demands expected to/from the Tamahere shopping centre. Whilst the retirement village is located on a shared path network and near a shopping centre, no reductions were made to the vehicle trip rates that have been assessed to account for this. Therefore, the submitters' concern that walking and cycling may not be very common does not change the conclusions of the ITA.

Officer's report

45. I have read and considered the relevant Traffic and Transportation matters described in the S42A report prepared by Ms Carmine. I consider it reasonably and appropriately summarises the ITA report under the headings "*Transportation and Roading network*" and "*Parking*" at pdf document pages 24 and 25.

46. At S3.1 Traffic, Ms Carmine describes an independent technical expert review report[11] that has been commissioned from Gray Matter. The summary describes general agreement between the expert reports and that the review report suggests a *"…small number of additional minor recommendations…*[12]" to be included as conditions. At S3.3 of the S42A report, Mr Templeton, on

[11] S42A report, Appendix E.
[12] S42A report, s3.1: Traffic, para 2.

Land Development Engineering also "*…supports the findings in relation to Traffic Engineering*[13]". I have reviewed this report, concur with its conclusions and its recommendations as to additional minor amendments to the conditions.

47. At S6.4.7 Ms Carmine describes an additional addendum report[14] also prepared by Gray Matter in relation to submissions received. I have reviewed this report and observe that it concludes no further recommendation is warranted in relation to any of the traffic submission matters. I concur with this assessment on the bases I describe earlier in my evidence.

48. In relation to the S42A report, I make the following further assessments and observations:

    (a) At S5.1 LUC0188/24 – Eastern Table, Rule TRPT - R4, Ms Carmine implies the trip generation across the two extension areas is 358 trips per day. I note the ITA report describes the net additional trip demands attributable to the combined areas is 179 trips per day. This is the sum of all of the departure and arrival trips together. I understand that the resource consent application Assessment of Environmental Effects, and Ms Carmine have both incorrectly doubled the trip demands assessed in the ITA. The result is that the trip generation demands cumulatively for both of the eastern and southern areas fall within the 200 trips per day Rule provision[15]. Therefore, the proposal complies with the Rule and is not contrary to it as is assessed by Ms Carmine.

    (b) Similarly, at S5.1 LUC0189/24 – Southern Table, Rule TRPT – R4, Ms Carmine appears to have doubled the assessed two-way trip generation described in the ITA report. The southern area is assessed

[13] S42A report, s3.3 Land Development Engineering, para 2.
[14] S42A report, Appendix G.
[15] The Eastern area proposes 25 units which is assessed to generate 65 trips per day (two-way total), the southern area supports 44 units which is assessed to support 114 trips per day (two way total). Cumulatively the assessed traffic generation is 179 trips (two-way total).

to generate just 114 trips per day and is therefore well within the 200 trips per day allocation of the Rule.

(c) At S6.4.6 Construction and Earthworks[16], Ms Carmine concludes that conditions of consent can manage construction earthworks and construction traffic effects such that they will be less than minor. I concur with this finding, in particular having regard to the formed accessways and the low traffic demands on Tamahere Dr when compared with the practical operating capacity of the road.

(d) At S6.4.7 Transportation and Traffic Safety, Ms Carmine notes the condition recommendations of Mr Prakash (Gray Matter) and concludes the effects are less than minor. I concur with the finding and address the specifics of the conditions in my following evidence.

(e) At S6.5.3.2 Council Response[17], Ms Carmine describes her assessment of Change 1 to the Regional Policy Statement (**RPS**). She refers to one of the ways of giving effect to the Policy intent of creating well-functioning urban environments as being through minimising private car usage and creating density that can support public transport networks and multi-modal transportation in order to give effect to the reduction in greenhouse gas emissions policies. She refers to car use as being the dominant use of transportation and cites a question to Mr Prakash on car use changes between urban and rural locations for retirement villages. The Te Awa Cycleway and the new trial public bus service connecting Leamington to central Hamilton are acknowledged. Other growth considerations are also described with her conclusion being each of the proposed development areas are contrary to and therefore inconsistent with the objectives and policies of Change 1 to the RPS.

[16] S42A report, S6.4.6, pdf document pages 89 & 90.
[17] S42A report, S6.5.3.2, pdf document pages 119 to 121.

(f) I do not concur with her assessment and findings on the transport matters she describes. I consider the wrong question has been asked in terms of urban vs rural trip generation rates, and rather a greater depth of understanding would be derived from understanding how trip demands due to retirement village uses compares with other similarly located living environment demands. In regards to the transport matters she describes, I provide the following further evidential assessments:

(i) I have described at my paragraph 37, the bus services are accessible within a 13 to 15 minute walk or a 3 to 5 minute bike;

(ii) The ITA report, s2.4.5 describes three bus service routes and their frequencies. All three services are also equipped with exterior bike racks, extending the range of accessibility for users at both origin and destination of journeys;

(iii) The predominant service, the number 20 service, places central Hamilton within a 20 to 30-minute journey, The Hillcrest Warehouse complex (including a Four Square supermarket, tavern, Super Liquor, butcher, barber, café, fresh produce, BNZ bank and a range of fast food options) within a 10 minute journey, and central Cambridge within a 20 minute journey, with all the town centre and civic services it provides. These centres, together with the local Tamahere centre (which includes a bakery, restaurant, café, physiotherapy and orthopaedics clinics, medical centre, pharmacy, dental centre, and other small shops), and the Hamilton East Town centre area through which the service passes; are all located within the 30-minute communities outcomes, "*…where people can meet <u>most of their needs</u> within a 30-minute walk, cycle or public transport trip*.[18]" [emphasis added] anticipated by the Future Proof Growth Strategy 2022;

[18] Future Proof Growth Strategy 2022, Overview to Growth Management, page 36.

(iv) The density of the current development form is significantly greater than that of the wider Tamahere area and the proposals continue to support that positive local densification metric;

(v) The motor vehicle trip generation rate for retirement villages (0.3 trips per unit peak hour) is at a level just one quarter the level generated by a typical suburban dwelling (1.2 trips per dwelling peak hour)[19], an outcome positively contributing to the RPS greenhouse gas emissions reduction outcomes referred by Ms Carmine, particular where consideration is to be had for most of the community needs being accessible, across multiple location options, well within the Future Proof 30 minute community objective referred;

(vi) The walking and cycling infrastructure proposed to be established within the proposed development areas is at a level much greater than is typically accessible within other urban areas and a high standard of infrastructure is already established linking the site to centres of service;

(vii) Additionally, the Tamahere Country Club provides frequent services and bus service trips for residents to enable enhanced access to service centres. These currently include for health (services are brought to the site as requested by residents, reducing off-site trips), groceries (2 to 3 times per week, 12 persons per outing), recreation (once per month, 12 seater van), general retail outings (once per week, 12 seater van). These services are a positive contributor to the reduced trip generation for retirement villages compared with general residential activities, and a positive contributor to the RPS emissions reductions outcomes;

(viii) In my assessment and having regard for these further quantified descriptions of activities, needs accessibility, emissions reduction outcomes and multi-modal transport alternatives, I

[19] NZ Transport Agency Research Report 453: Trips and Parking Related to Land Use, Table 7.2, page 98.

conclude the transportation aspects of Ms Carmine's assessments are understated in the context of the proposed retirement village transport activity, location and accessibility characteristics.

(g) At S6.5.5.1.3 Other Chapters, Policy AINF-P35 Land transport network infrastructure, I note that Ms Carmine concludes the proposal *"…will align with this policy."* This conclusion is consistent with the conclusions described in the ITA[20] report and I concur.

(h) At S6.5.5.2 Particular Restrictions for Non-Complying Activities (Section 104D) Ms Carmine makes separate findings in relation to the policy and effects on the Eastern and Southern areas. In relation to both of these areas, it is my conclusion; and in my assessment the finding of the independent technical review together with Ms Carmine's conclusion; that the effects "gateway" test is passed in both of the Eastern and Southern areas in relation to the Traffic and Transportation matters.

Conditions

49. I have reviewed the S42A Appendix G Draft Conditions pertaining to the Eastern Extension as they relate to traffic and transport matters and also those associated with construction traffic management. I note in particular condition 15(b) which incorporates the recommendations made in the Gray Matter review report. I concur with the conditions in that they include the relevant matters and controls I would expect to see and which have also been recommended in the Stantec ITA report.

50. In the event the Commissioner(s) determines to grant consent to the Southern parcel, I consider the Draft conditions from the Eastern Extension, on traffic

[20] Stantec ITA report, S11, page 30.

and transport matters, will also be applicable and relevant in the context of that application.

Conclusion

51. On the basis of the assessments described in the Stantec ITA report, my further assessments in evidence here and the technical peer reviews by Gray Matter, I continue to conclude the traffic and transport effects, subject to the recommendations captured in the Draft Conditions, are less than minor with respect to the Eastern and the Southern Extensions, as well as cumulatively.

Mark Apeldoorn
16 April 2024