BEFORE THE HEARING PANEL

IN THE MATTER of the Resource Management Act 1991

AND

IN THE MATTER of Proposed Plan Change 37 - Nukuhau (private) by AN Rajasingham LPT Trustees No 124 Limited anors to the Taupo District Council to rezone c.78ha of land in the Nukuhau area from Rural Environment to a mix of General Residential and Mixed Density Residential with a Neighbourhood Shopping Centre overlay.

SUMMARY STATEMENT OF EVIDENCE OF ROBERT CLIVE SWEARS (TRAFFIC)

Dated 5 November 2021

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1 Introduction

1 This document is a summary of my statement of evidence (my Statement) dated 20 October 2021.

2 I confirm my qualifications and experience as described in my Statement. I also confirm that since completing my Statement, I have not become aware of any issues associated with the Project that have affected the conclusions I described in my Statement.

3 My intention had been to conduct a site visit prior to the hearing in order to refamiliarise myself with the Site and the road network in the vicinity of the Site. However, due to Covid travel restrictions, I was unable to conduct the site visit. Notwithstanding that, I do not consider that not visiting the Site will have had any impact on the conclusions I described in my Statement.

2 Code of Conduct

4 I confirm that I am familiar with the Code of Conduct for Expert Witnesses in the current Environment Court Practice Note (2014). I also confirm that I have complied with the Code in the preparation of my Statement and of this summary.

3 Summary of Evidence

5 The traffic modelling results described by Ms Cui in her statement and in her summary indicate significant increases in travel time as a result of development of existing residential zoned land on the northern side of the Waikato River. This includes development with and without the Project. However, I consider that if the extent of development to the north of the Bridge is reduced to lower levels of residential development (such as those described by Mr Heath), the effects on the transport network will be less than indicated in the modelling described in my Statement.

6 Trip generation associated with the Project will increase travel times if that traffic is added to future trip generation that might also occur. However, if the Project proceeds and offsets residential development that might otherwise occur within existing residential zoned land, the Project presents the opportunity for a reduction in motor vehicle trip generation through some trips being transferred to active modes

(walking and cycling). In my opinion, this is the fundamental component of the Site that means the Project is less likely to result in adverse transport engineering effects than might otherwise occur.

4 Modelling and Road User Behaviour

4.1 Accuracy of WRTM

7 I consider that the use of the WRTM, to identify traffic volumes to be used for modelling purposes for the Project, is generally appropriate and there is no better tool available. However, outputs from the WRTM will not necessarily match reality.

8 The modelling results presented by Ms Cui are based on the best information presently available, however, I do not expect traffic growth and land use development to proceed in exactly the manner described in the model. Therefore, I consider that modelling results should be regarded as a reasonable indicator of relativity between options, but they do not provide a perfect prediction of the future.

4.2 Levels of Service and Peak Spreading

9 As traffic volumes and delay increase, road user behaviour may change in order to avoid the delays. For example, a road user may change the time at which they commence their journey, or they may select a different mode of travel.

10 By changing travel times and extending the peak period, road users can flatten and spread the peak, which means the delay per road user can be reduced.

11 Figures 2 and 3 of my Statement illustrate peak spreading on the Auckland motorway by comparing a 2000 flow profile with the 2019 flow profile. Regardless of the Project, I expect there will be peak spreading associated with travel across the Bridge, which may result in a reduction in the peak hour traffic volumes identified from the WRTM and modelled by Ms Cui.

12 The other behaviour change that may occur, which is different to peak spreading but results in a similar outcome, is that road users may choose to complete journeys by a travel mode that involves less delay than that associated with private motor vehicle use.

13 As noted by Mr Heath in his statement (paragraph 18), "People will consider the private cost of congestion when deciding on where they purchase a site or dwelling […]". While Mr Heath has linked congestion related property purchasing decisions to a choice between north and south of the Bridge, it needs to be recognised that the road network to the south of the Bridge is not congestion free. Emphasising that I do not have expertise in property economics, the private cost of congestion could also be reduced by adopting the viable active modes of transport for travel to and from the Site, rather than relying on motor vehicle transport.

5 Walking and Cycling

14 Transport modelling does not typically provide us with a robust means to identify the impact of active modes (walking, cycling, and personal mobility devices (PMDs) such as scooters); therefore, transport modelling is typically motor vehicle focused.

15 The distances from the Site are such that (on average) children are unlikely to walk to school and adults are unlikely to walk to work. However, the Site is well within reach of numerous locations around the Taupo central business district (CBD) and beyond when compared with the average cycle to work journey distance (5.1 km).

16 Road users presented with the option of congested travel by private motor vehicle or free-flowing travel by active modes, may choose to travel by active modes if the journey distance is practicable (and other factors such as route attractiveness are achieved).

17 Therefore, in order to encourage active mode use for travel to and from the Site, it may be appropriate for some of the development contributions associated with the Project to be directed towards improvements to the walking and cycling network between the Site and Taupo CBD.

6 Key Constraints Including Implications of Second Crossing of Waikato River

18 Notwithstanding that a second river crossing will increase the capacity for vehicle movements across the River, it needs to be kept in mind that the existing bridge is not necessarily the primary constraint

for traffic flows across the River. As noted in the evidence of Ms Cui, the intersections on either side of the Bridge control the rate at which traffic can reach the Bridge.

7 Joint Witness Statement and Response to matters in the Taupo District Council Section 42A Report

19 Based on the JWS (paragraph 2.2(j)), I understand that Mr Smith considers PC37 should not proceed until such time as there is a second bridge crossing the Waikato River to provide relatively direct access to the Taupo town centre from areas of residential development on the northern side of the River.

20 My opinion is that if residential development on the PC37 site replaces some of the residential development at other locations on the northern side of the Bridge, and the resultant total traffic volume at any given point on the transport network is the same for both cases, then the effects of PC37 on the transport network will be no worse than neutral.

21 If the extent of development on the northern side of the River is less than has been assumed for the 2030 modelling, then the 2030 travel times described in the JWS will be overstated and present a conservative perspective. For example, if development is reduced to the extent indicated by Mr Heath in his statement, I expect there will be significant reductions in delay at the intersections and on the Bridge. While delay will not be eliminated, the effects of Project traffic will be less than described in my Statement.

8 Response to matters raised by submitters in relation to transport engineering

8.1 Structure Planning and Configuration of the Site

22 I consider the Project presents benefits from a transport engineering perspective because the Site is closer to established trip attractors and generators than other parcels of land on the northern side of the Bridge. Therefore, from a whole of transport network perspective, I consider the Project provides the opportunity for some residential related journey lengths to be minimised (when compared with those other parcels of land) and for active mode use to be maximised.

8.2 The Bridge and Second River Crossing

23 I consider that if there is to be any development to the north of the River, it should be development that promotes active modes and the use of public transport. The further any given development area is from the Taupo CBD as a trip attractor / generator, the less likely active modes will be adopted by road users.

24 As demonstrated by Ms Cui, the Project is not the primary factor that results in low levels of service on the Bridge and at nearby intersections. Motor vehicle trip generation associated with the Project will exacerbate queuing and delay. However, because of its proximity to the CBD, the Site presents an opportunity for reducing motor vehicle trip generation. The reduction is not solely attributable to mode shift from motor vehicles to active modes; as noted by Mr Smith (paragraphs 4.16 and 4.20 of s42A statement), the commercial development on the Site is likely to reduce the volume of motor vehicle traffic beyond the boundaries of the Nukuhau area.

25 An additional bridge will reduce queuing and delay associated with the constraint presented by Control Gates Bridge. Therefore, from the perspective of the Project, I consider it would be beneficial for the second crossing to be constructed.

8.3 Intersection Form

26 There is not a perfect solution that provides a safe and efficient intersection form which accommodates all road users. However, taken as a whole, I consider that the signalised intersection form proposed for the Wairakei Drive / Poihipi Road / Huka Falls Road intersection will be suitable to accommodate the traffic it is intended to serve. Notwithstanding that, irrespective of the intersection form to be constructed, I consider it important the intersection design is subject to the various stages of road safety audit.

8.4 Walking and Cycling

27 Bike Taupo (Submitter 44) has raised concerns that "[…] there does not appear to be any consideration of the impact of the increased levels of traffic on cycle safety especially at the intersection of Norman Smith [Street] and Acacia Bay [… Road]. This is not a cycle friendly

intersection and the increased traffic load will make it less safe for cyclists."

28 I acknowledge the concerns raised by Bike Taupo regarding the configuration of the Acacia Bay Road / Norman Smith Street intersection from a cycling perspective. In my opinion, requiring cyclists to mix with motor vehicle traffic has resulted in an undesirable situation at the intersection.

29 In his statement of evidence, Mr Sapsford (for Bike Taupo) states (inter alia) "[…] the proposed development is […] within a short bike ride to the CBD. However, the reality is that the lack of safe cycling infrastructure negates any proximity benefits. […]". I agree with Mr Sapsford regarding the lack of safe cycling infrastructure in the vicinity of the Acacia Bay / Norman Smith intersection and along Norman Smith Street. However, cyclists travelling from the north western and northern portions of the Site can travel to the Wairakei Drive / Norman Smith Street intersection on relatively quiet suburban streets or off road paths (refer to the green and purple routes in Figure 5 of my Statement). Notwithstanding that, I agree it is desirable for improvements to be made to accommodate cyclists travelling from the south western portion of the Site to the town centre (the brown route in Figure 5). Therefore, it may be appropriate to defer development of the 8A17 portion of the Site, which has been defined by Mr Crawford.

9 Conclusions

30 The Project presents the potential for a reduction in the number of motor vehicle movements across the Bridge between (and including) the Norman Smith Street intersection and the Spa Road roundabout. If Project traffic is added to traffic from other permitted development north of the Bridge, the resultant delays have the potential to be significant. However, if the Plan Change is granted and trip generation by the Site replaces trip generation that could occur from other locations, the effect will be neutral. If some of the motor vehicle trips, that would otherwise be generated by the Site, can be replaced by active mode trips there would be a reduction in the overall travel

time. In my opinion this is the key transport engineering advantage of the Project compared with other development.

31 If the overall trip generation is likely to otherwise increase as a result of the Project, then the Planners may be able to identify suitable development control mechanisms to ensure that the overall trip generation is kept to a level no greater than could occur based on existing permitted development.

32 If the extent of residential development is a less than described in my Statement (which Mr Heath indicates is probable) the effects will also be less than has been described. Notwithstanding that, reduced levels of assumed development will not result in delay being eliminated.

33 If the Site was a similar distance from the Taupo town centre as existing permitted development areas, I could not endorse the Project because there are unlikely to be mitigating measures such that the Project would generate less traffic than could be generated by the existing permitted development. However, because of its proximity to the town centre, I consider that the Project has significant potential to reduce the traffic loading on the transport network through some trips being shifted from motor vehicles to active modes. I consider it reasonable to conclude that the number of shifted trips will be greater where the trip length is typical for active mode journeys (as occurs with the Site) than for those locations where the trip length is greater than typical.

34 With regard to points raised by submitters, I conclude that:

(i) I have not identified anything associated with the Project that is likely to preclude suitable intersections being designed.

(ii) While construction of a second river crossing in advance of development of the Site is likely to reduce congestion on Control Gates Bridge, the location of the Site relative to the town centre also presents the potential to reduce congestion through some motor vehicle trips being transferred to active modes.

(iii) Detailed design of transport engineering elements of the Site should be subject to road safety audit.

(iv) Congestion and delay along Norman Smith Street, Wairakei Drive and Tongariro Street are likely to increase with or without the Project. However, the Project presents an opportunity for congestion and delay to be less than it might otherwise be without the Project.

(v) Existing infrastructure for walking and cycling should be improved to accommodate additional active mode traffic generated by the Site.

5 November 2021

Robert Swears