

**Before Independent Hearing Commissioners
In Ngāruawāhia**

Under the Resource Management Act 1991

In the matter of submissions and further by NZ Transport Agency (Waka Kotahi) (submitter 742, further submitter 1202) on the Proposed Waikato District Plan

**Summary Statement of Evidence of Michael Wood for Waka Kotahi –
Planning and Corporate**

15 October 2020

1 Qualifications and experience

1.1 My full name is Michael Blain Wood. I confirm I have the qualifications and experience described in my evidence in chief (EIC) dated 29 September 2020. I also confirm that in preparing this summary statement I have complied with the Code of Conduct for Expert Witnesses in the current Environment Court Practice Note (2014).

2 Summary of evidence in relation to the management of noise and vibration effects

2.1 The functions of Waka Kotahi are set out in s95(1) of the Land Transport Management Act 2003 (LTMA) and include requirements to:

- a Contribute to an effective, efficient, and safe land transport system in the public interest;¹ and
- b Manage the state highway system, including planning, funding, design, supervision, construction, and maintenance and operations, in accordance with the LTMA and the Government Roadway Powers Act 1989.²

2.2 The LTMA requires that in meeting its statutory objectives and undertaking its functions, Waka Kotahi “must exhibit a sense of social and environmental responsibility”.³ Waka Kotahi takes those social and environmental responsibilities seriously. Transport noise can cause a range of impacts on people and communities including annoyance and interference with daytime activities such as work, study and domestic living.⁴ Other effects include potential sleep disturbance and long-term health impacts such as increased stress and hypertension.⁵

2.3 In the notified PWDP, Council addresses the effects of road traffic noise and vibration through the use of “no build” setbacks from the state highway network. The setbacks are 35 metres (except in the Residential Zone where the set back is 25 metres) from the designated boundary of the Waikato Expressway and 15 metres from the boundary of a national route (which incorporates all other state highways). Buildings containing sensitive land use activities within these buffer distances are listed as Discretionary Activities.

¹ Section 95(1)(a), LTMA.

² Section 95(1)(c), LTMA.

³ Section 96(1)(a), LTMA.

⁴ See Annexure B (s32), section 21, reference to WHO Guidelines for Community Noise.

⁵ See Annexure B (s32), section 21.

- 2.4 Waka Kotahi requests that the current “no build” setbacks in the PWDP are deleted and replaced with the new set of rules. The rule set proposed by Waka Kotahi was attached to my EIC. These rules reflect Waka Kotahi’s *Guide to the management of effects on noise sensitive land uses near to the state highway network (2015)*.⁶ This guide describes how Waka Kotahi, working together with local authorities and landowners/developers, manages reverse sensitivity effects from noise and vibration sensitive activities.

The s42A report

- 2.5 I have read the revised s42A report (dated 13 October 2020). There are three outstanding matters, which I comment on below:
- a The author does not agree that the noise sensitive activity rules should apply to the Business Zone, for the reason that the Business Zone already has adequate acoustic insulation provisions. I remain of the view in my EIC, that the current rules are not adequate to address road traffic noise and vibration for reasons such as ambiguity around the internal design sound level, and the lack of ventilation requirements (relying on the evidence of Dr Chiles).
 - b The author does not agree with the Outdoor Noise rule as proposed in my EIC. I remain of the view that the Outdoor Noise rule as drafted should be included in Appendix I – Acoustic Insulation.
 - c The author does not agree that Objective 6.16 or Policy 6.1.7 should specifically reference “existing and planned” infrastructure. I remain of the view in my EIC that it would be beneficial to include “existing and planned” so as to be consistent with the Waikato Regional Policy Statement (see Annexure 1).

Issues raised in Kāinga Ora’s rebuttal evidence

- 2.6 I have reviewed the rebuttal evidence of Mr Stickney on behalf of Kāinga Ora dated 6 October 2020 and comment on the matters raised below.
- a The use of acoustic barriers in an existing urban environment: Mr Stickney notes that the noise barrier rule provides an optional means of compliance⁷ but raises questions as to whether such a method is workable in an existing environment context.⁸ The key point is that acoustic barriers are a useful

⁶ <https://www.nzta.govt.nz/assets/resources/effects-on-noise-sensitive-land/effects-on-noise-sensitive-land-use.pdf>

⁷ This rule does not strictly require a noise wall. Another option can be the use of earth bunding which can be created from fill created during the earthworking phase for a subdivision.

⁸ Mr Stickney’s rebuttal, paragraph 3.3.

means of compliance in many circumstances, particularly in greenfield environments. I note that large portions of land adjacent to the state highway in the Waikato District are current undeveloped. The Waikato context is very different compared to Auckland where there is very little undeveloped land remaining next to the state highway (except on the periphery of the urban area).

- b The meaning of the term “notional boundary”:⁹ The PWDP defines the “notional boundary” as follows:

“Means a line measured 20 metres, and parallel to any side of a residential unit or a building occupied by a sensitive land use, or the site boundary where this is closer to the residential unit or sensitive land use.”

I consider this definition appropriate in the context of the rules proposed.

- c The meaning of the term “alteration”: Mr Stickney queries whether this term refers only to external alterations.¹⁰ I have reconsidered this issue and agree that greater clarity is required. I consider that the proposed rules should be amended as set out in **Annexure A** of this statement to make it clearer that alterations should relate to the development of an additional new habitable room for a sensitive land use. This change would require a consequential amendment to the PWDP to make it clear what is captured in the definition of a habitable room. A definition similar to the Hamilton City Council District Plan should be included in the PWDP as follows -

Habitable room: Means any room that is part of a building used for any noise sensitive activity, apart from those rooms used solely for the purposes of an entrance, passageway, toilet, bathroom, laundry, garage or storeroom.

- d A 3m high noise wall could create adverse amenity effects for the affected property and neighbours and may require additional resource consents:¹¹ As noted above, the ability to use an acoustic barrier to achieve compliance with the noise rules is a useful tool in some circumstances, particularly for greenfield developments. I consider that the ability for a new development to be designed so that it setback sufficiently from a noise wall (if that is the identified mitigation) to avoid the loss of sunlight and outdoor amenity is more achievable in the Waikato District due to the largely greenfield nature of the lots. While a resource consent may be required for the installation of a

⁹ Mr Stickey's rebuttal, paragraph 3.4(a).

¹⁰ Mr Stickey's rebuttal, paragraph 3.4(b).

¹¹ Mr Stickey's rebuttal, paragraph 3.4(c).

new structure on the boundary, I do not consider it an unreasonable requirement given the potential health effects for sensitive land uses.

- e The proposed rules do not consider how activities and structures are arranged on site:¹² In my view, the rules provide sufficient flexibility to provide alternative means of compliance depending on the circumstances and site layout.
- f Access across the state highway may be required to construct a noise wall; and the maintenance costs are not clear:¹³ Waka Kotahi has a process for entering into agreements with developers who are constructing noise walls on the boundary of the state highway and which set out the arrangements for obtaining access and the cost of on-going maintenance. These are matters which do not need to be addressed in the PWDP.
- g Reference is made to the National Policy Statement on Urban Development (NPS-UD2020) and the extent to which the proposed rules would detract from the NPS-UD 2020; in particular Objective 3: Broadly this objective seeks to enable more urban development in areas where certain criteria can be met (e.g. the area is well serviced by existing or planned public transport). In my view, and as stated in my EIC (paragraph 5.25), the rules do not seek to exclude development, they provide applicants with a number of compliance pathways to meet the permitted standards. I would also note that any consideration of Objective 3 would need to be assessed against the outcomes sought in Objective 1 (NPS-UD2020) which Mr Stickney has also emphasised. This objective notes the need for “urban environments [to] enable all people and communities to provide for their... health and safety, now and into the future”. I consider that the proposed rules assist in meeting Objective 1 because they seek to protect sensitive activities from the harmful health effects of road noise and vibration.

2.7 In addition, Mr Stickney raises concerns about the robustness of the s32 analysis attached to my evidence.¹⁴ I remain of the view that the s32 analysis is considerably more comprehensive than the s32 analyses generally carried out for district plan reviews. While the s32 analysis does not specifically address alterations, in my view this is reasonable given the different variables that may arise in relation to any alteration proposal.

¹² Mr Stickey's rebuttal, paragraph 3.5(c).

¹³ Mr Stickey's rebuttal, paragraphs 3.5(c) and (d).

¹⁴ Mr Stickey's rebuttal, paragraphs 3.6 to 3.7.

2.8 In my opinion the s32 analysis takes a reasonable approach to estimating the costs associated with the proposed rules based on the information that was available. As Mr Chiles notes in paragraph 4.5 of his summary statement, it is not practicable to provide costings for every situation in the manner suggested, particularly in the case of alterations. However, the Acoustic Engineering Services report illustrates a representative range of costs. The s32 document demonstrates that Waka Kotahi has undertaken a process to assess all reasonable alternatives to managing the adverse effects of road traffic noise and vibration from state highways on sensitive land uses. The s32 document concludes that the proposed approach is the most appropriate means of addressing this resource management issue.

2.9 As noted above, I have attached a copy of the proposed rule set as **Annexure A** of this summary statement. This updated version does not change the substance of the rules as proposed in my EIC but makes the following changes:

- a It clearly shows the changes requested by Waka Kotahi marked up against the s42A report recommended provisions (the changes proposed by the s42A report have been accepted so that Waka Kotahi's requested amendments are clearer);
- b A clear definition of "alteration," that relates specifically to the establishment of a new habitable room for a sensitive land use; and
- c The inclusion of a new definition of "habitable room" as follows:

Habitable room: Means any room that is part of a building used for any noise sensitive activity, apart from those rooms used solely for the purposes of an entrance, passageway, toilet, bathroom, laundry, garage or storeroom.

3 Trip generation thresholds and ITAs

3.1 Waka Kotahi proposes an approach to trip generation thresholds based on what the "Equivalent Car Movement" (**ECM**) is, and the type of road (i.e. arterial, collector or local road) which the development uses for access. Where an activity does not comply with the relevant ECM, it will be a restricted discretionary activity, and will require either a "simple ITA" or "broad ITA" depending again on ECMs. The requirements for simple and broad ITAs are included in advice notes.

3.2 The new ITA proposed rule allows for a simple weighted comparison to be undertaken, depending on the magnitude and nature of the trip generation associated with any land-use activity, through the use of setting appropriate ECM

limits for new land use activities. As mentioned by Mr Swears in his summary, this approach is preferred to the trip generation rules in the notified version of the proposed plan, which does not adequately allow for the effects associated with heavy vehicles.

- 3.3 Waka Kotahi, as an operator of the state highway network, strongly supports the inclusion of ITAs within district plans like the PWDP because:
- a ITAs enable Waka Kotahi and Council to consider the proposed impact of a development on the transport system and the effectiveness of any mitigation measures that are proposed to address adverse impacts and/or opportunities to achieve wider transport outcomes such as road safety and mode shift, consistent with Council¹⁵ and Government priorities;¹⁶
 - b ITAs cover a range of initiatives to mitigate effects by influencing behaviour change including opportunities for walking, cycling, new technology, parking or an alternative land use approach if considered necessary (this could be in cases where the operating performance of the network is poor).

The s42A report

- 3.4 The s42A writer recommended rejecting Waka Kotahi's submission, for reason that an ITA is only a suitable requirement for a more comprehensive review for a larger development.¹⁷ This position appears to be unchanged in the revised s42 report. In my experience of reviewing ITAs, I accept that they are generally produced for larger scale proposals. However, I consider that there is real value in having an ITA requirement within a plan, based on an approach which considers both the traffic generation (a threshold) and the location of the activity relative to the roading function (or hierarchy). As explained by Mr Swears in his EIC (on which I rely), even smaller scale proposals can generate traffic at levels that can cause adverse transport effects if they are reliant on a higher volume road like a regional arterial or state highway to service their development.¹⁸
- 3.5 I consider it appropriate that the PWDP specifies when an ITA is required, by way of a new rule as proposed in my EIC. In order to address issues raised in rebuttal evidence (further explained below), I have refined and updated the rule, and provide a refined version in **Annexure B** of this summary statement.

¹⁵ For example, the PWDP supports mode shift outcomes as can be seen under objective 6.5.1 and policy 6.5.2 (a) (iv).

¹⁶ Examples of Government priorities includes *Road to Zero: NZ's road safety strategy 2020-2030* and *NZTA's Keeping Cities Moving Strategy (2019)*.

¹⁷ S42A report - paragraph 318-319

¹⁸ Statement of Evidence of Mr Swears, paragraph 5.10 and 5.11.

- 3.6 The new rule is based on a combination of the Thames-Coromandel and Waipa District Plan provisions and the New Zealand Transport Agency's guidance for ITAs (NZTA Research Report No. 422, 2010). I consider that this rule provides an appropriate way to ensure that sufficient information is provided to the Council in relation to the transportation effects of new developments.
- 3.7 From an integrated land transport perspective, I also consider that this rule would assist with ensuring that land use and its impacts on the roading hierarchy (and vice versa) are considered more fully in land use applications, in line with Policy 6.5.3 and Method 6.3.1 of the PWDP.

Issues raised in Ports of Auckland's rebuttal evidence

- 3.8 I have reviewed the rebuttal evidence of Mr Arbuthnot on behalf of Ports of Auckland dated 6 October 2020.
- 3.9 In response to Mr Arbuthnot's concerns that the rule attached to my EIC is unclear, as mentioned above, attached to my evidence as **Annexure B** is an updated rule, which I consider clarifies the concerns outlined by Mr Arbuthnot as follows:
- a The rule is redrafted in a form to fit the format for permitted, and restricted discretionary activities in the PWDP;
 - b The notes explain how the ECM and trip generation rates are calculated; and
 - c The notes refer the reader to the information requirements for "simple" and "broad" ITAs which are to be included in an appendix.
- 3.10 I have reconsidered the rule in light of Mr Arbuthnot's concerns that the rule will significantly lower the maximum permitted traffic generation from the Horotiu Industrial Precinct, settled by the Environment Court. I agree with Mr Arbuthnot, and consider that the Horotiu Industrial Precinct could be exempt from this rule and the agreed rules should apply. Similarly Waka Kotahi would not oppose other zones listed in rule 14.12.1.4 P4 where those rules are the result of similar Environment Court proceedings or other special circumstances.
- 3.11 The existing s32 process already contains an analysis of the objectives and policies in the PWDP¹⁹ relating to traffic effects from new development and the notified trip generation rule. The s32 analysis considers both the option of no trip

¹⁹ Table 1, 5.5.2 Policy, Rule and Method Evaluation and objective 6.4.1

generation rule and the notified version. The report notes that the benefits of the trip generation rule are that it would provide for small to medium development in terms of traffic generation. This will enable residential and those smaller businesses to establish without the need for traffic management plans and resource consents. In terms of costs, the s32 analysis notes that a trip generation rule could limit the size of commercial operations due to trip generation limits.

- 3.12 I consider that similar costs²⁰ and benefits apply to the rules proposed by Waka Kotahi. In my view Waka Kotahi's rules provide the correct balance between ensuring that small scale development that results in no adverse effects can proceed without the need for unnecessary resource consents and ensuring that development that accesses roads higher in the road hierarchy and/or is of a scale that may generate adverse traffic effects is appropriately assessed.
- 3.13 Mr Arbuthnot has raised concerns that no evidence has been provided by Waka Kotahi as to why the existing rule framework under the Proposed Plan for assessing traffic effects from a development is deficient, or why such a level of prescription is required for assessing traffic effects. As outlined by Mr Swears in his EIC, the rules in the Proposed Plan do not go far enough to prevent adverse traffic effects, in particular cumulative effects where a relatively small increase in traffic volume from a new land use may result in a significant adverse effect if the underlying traffic volumes have been gradually increased from other land uses.

Michael Blain Wood

15 October 2020

²⁰ The main exception being that the Waka Kotahi rule does not specify an upper limit threshold for those activities which could be considered high trip generating activities (eg. supermarkets, fast food outlets).

Annexure A – revised noise/vibration provisions

- Amend Objective 6.16 as follows (amendment in red):

Existing and planned infrastructure ~~infrastructure (including the National Grid)~~ is protected from reverse sensitivity effects...

- Amend Policy 6.1.7 as follows (amendment in red):

*Avoid reverse sensitivity effects **on existing and planned infrastructure** from subdivision, use and development...*

- Amend Building setback rule P2 in Residential, Rural, Country Living, Village Zones as follows (amendment in red):

*Any new building or alteration to an existing building, **where the alteration will create a habitable room**, for a sensitive land use at any point within 100 metres from the edge of a state highway carriageway or legal boundary of a rail corridor must comply with section 7 of Appendix I – Acoustic Insulation.*

- Amend Building setback rule RDI in Residential, Rural, Country Living, Village Zones as follows (amendment in red):

*Any new building or alteration to an existing building, **where the alteration will create a habitable room**, for a sensitive land use at any point within 100 metres from the edge of a state highway carriageway or legal boundary of a rail corridor that does not comply with the condition of Rule [relevant rule] P2...*

- Add new rules in the Business Zone in line with the Building setback rules for Residential, Rural, Country Living, Village Zones as follows:

Business Zone [17.3.4.X] Building setback – sensitive land use

P1	<p>(a) Any new <u>building</u> or alteration to an existing <u>building</u> for a <u>sensitive land use</u> must be set back a minimum of:</p> <p>(ii) 15m from the <u>boundary</u> of a national route or regional arterial;</p>
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	<p>(iv) 300m from the edge of oxidation ponds that are part of a municipal wastewater treatment facility on another <u>site</u>; and</p> <p>(v) 30m from a municipal wastewater treatment facility where the treatment process is fully enclosed.</p>
P2	<p>(a) Any new building or alteration to an existing building, where the alteration will create a habitable room, for a sensitive land use at any point within 100 metres from the edge of a state highway carriageway or legal boundary of a rail corridor must comply with section 7 of Appendix I – Acoustic Insulation.</p>
RDI	<p>Any new building or alteration to an existing building, where the alteration will create a habitable room, for a sensitive land use at any point within 100 metres from the edge of a state highway carriageway or legal boundary of a rail corridor that does not comply with the condition of Rule [relevant rule] P2:</p> <p>Matters of discretion:</p> <p>Discretion is restricted to:</p> <p>(a) Location of the building;</p> <p>(b) the effects of any non-compliance with the standards in section 7 of Appendix I;</p> <p>(c) Topographical, ground conditions or building design features that will minimise vibration effects;</p> <p>(d) the outcome of any consultation with NZTA or KiwiRail</p>
DI	<p>Any building for a sensitive land use that does not comply with rule [relevant rule] P1.</p>

- Amend Appendix I: Acoustic Insulation, I. Indoor noise as follows:

Any new building or alteration to an existing building, where the alteration will create a habitable room, that contains an activity sensitive to noise...

- Amend Appendix I: Acoustic Insulation, 3. Indoor vibration as follows:

Any new buildings or alterations to existing buildings, where the alteration will create a habitable room, containing an activity sensitive to noise...

- Alter Appendix I: Acoustic Insulation, 1. Indoor noise (b) as follows (minor error, change in red):

(b) is at least 50 metres from any state highway carriageway or railway network and is designed so that a noise barrier completely blocks line-of-sight from all parts of doors and windows to the road surface and to all points 3.8 metres above ~~the road carriageway or~~ railway tracks; or

- Add new Outdoor Noise rule in Appendix I: Acoustic Insulation as follows:

Outdoor Noise

Any new building, or alteration to an existing building where the alteration will create a habitable room, where:

- external road noise is less than 57dBL_{AEQ} (24h) at all points 1.5 metres above ground level within the proposed notional boundary; or*
- there is a noise barrier at least 3 metres high which blocks the line-of-sight to the road surface from all points 1.5 metres above ground level within the proposed notional boundary.*

- Add new definition to Chapter 13 – Definitions:

Habitable room: Means any room that is part of a building used for any noise sensitive activity, apart from those rooms used solely for the purposes of an entrance, passageway, toilet, bathroom, laundry, garage or storeroom.

Annexure B - Revised new traffic rule

Replace the existing rule P4 with the following –

14.12.1 Permitted activities

P4 Any activity which complies with the following traffic generation conditions:

- a. Up to 50 ECM per day where the activity gains access from an arterial road*
- b. Up 100 ECM per day where the activity gains access from a collector road*
- c. Up 250 ECM per day where the activity gains access from a local road*
- d. In the Horotiu Industrial Precinct, any activity that does not exceed 15.4 trips/ha gross land area/peak hour.*

Notes:

- 1. Equivalent car movements (ECM) – 1 car movement is equivalent to 1 car movement/1 truck movement is equivalent to 3 car movements/1 truck and trailer movement is equivalent to 5 car movements.*
- 2. Table 14.12.5.13 provides indicative traffic generation rates for various activities.*

14.12.2 Restricted discretionary activities

RD1: Traffic generation that does not comply with rule 14.12.1.P4. The following information shall be provided with an application for resource consent:

- Activities generating 51-100 ECM per day gaining access from an arterial or regional arterial (including state highways) – simple ITA*
- Activities generating 101 to 250 ECM per day gaining access from a collector or arterial road – simple ITA*
- Activities generating 101 to 250 ECM per day gaining access from a regional arterial (including state highways) – broad ITA*
- All activities generating more than 250 ECM per day - broad ITA*

Notes:

- 1. Equivalent car movements (ECM)*
 - 1 car movement is equivalent to 1 car movement*
 - 1 truck movement is equivalent to 3 car movements*
 - 1 truck and trailer movement (including all multi-unit heavy vehicles) is equivalent to 5 car movements.*
- 2. Table 14.12.5.13 provides indicative traffic generation rates for various activities.*
- 3. Appendices X and X contain the checklists for information to be provided in simple and broad ITAs [refer to checklists contained in Mr Wood's EIC]*

Discretion is restricted to:

- (a) The trip characteristics of the proposed activity on the site, which includes the volume and types of vehicles associated with trips to and from the site;*
- (b) Road safety for transport all modes including private motor vehicles, public transport, cycling, and walking;*
- (c) Road network efficiency, particularly at peak traffic times;*
- (d) Mitigation such as the following, to address adverse effects, such as:*
 - Travel planning;*
 - Providing alternatives to private vehicle trips, including accessibility to public transport;*

- *Staging development; and*
- *Contributing to improvements to the road network.*