

under: the Resource Management Act 1991

in the matter of: Direct referral of applications for resource consents and notices of requirement to alter designations, for activities associated with the State Highway 1 / State Highway 29 Intersection Upgrade Project

between: **Waka Kotahi NZ Transport Agency**
Requiring Authority / Applicant

and: **Waikato Regional Council**
Consent Authority

and: **Matamata-Piako District Council**
Territorial Authority

and: **South Waikato District Council**
Territorial Authority

and: **Thistlehurst Dairy Limited**
Section 274 Party

and: **John Hansen**
Section 274 Party

Statement of Rebuttal Evidence of **Tony Innes** (Alternatives) for Waka Kotahi NZ Transport Agency

Dated: 25 August 2022

Reference: Paula Brosnahan (paula.brosnahan@chapmantripp.com)
Hadleigh Pedler (hadleigh.pedler@chapmantripp.com)

STATEMENT OF REBUTTAL EVIDENCE OF TONY INNES FOR WAKA KOTAHI NZ TRANSPORT AGENCY

INTRODUCTION

- 1 My full name is Tony Brett Innes.
- 2 I have the qualifications and experience set out at paragraphs 2 to 5 of my statement of evidence in chief (*EIC*) dated 6 July 2022. I repeat confirmation given in my *EIC* regarding the Code of Conduct for Expert Evidence.
- 3 My rebuttal evidence is given in support of Waka Kotahi NZ Transport Agency's (*Waka Kotahi*) notices of requirement and applications for resource consents (*the Application*), for the construction, operation and maintenance of the State Highway 1 / State Highway 29 Intersection Upgrade Project (*the Project*).
- 4 As stated in my *EIC*, I was engaged by Waka Kotahi to review the alternatives assessment process for the Project. I have considerable experience in running alternatives processes and I am also a transport planner and transportation engineer. While I am not providing transport engineering advice in this process I have brought this technical experience background to the review of the alternatives assessment.
- 5 In this statement, I respond to the evidence of Mr Serjeant and Mr Edwards on behalf of Thistlehurst Dairy Limited (*TDL*). I also confirm that I consider there is nothing in the evidence of Mr Parsonson or Mr Gray on behalf of Waikato Regional Council, Matamata-Piako District Council and South Waikato District Council (*the Councils*) in relation to the alternatives assessment that needs to be responded to. I also respond to the statements submitted to the Court by Mr Hansen.

GENERAL ADEQUACY OF ALTERNATIVES ASSESSMENT

- 6 Mr Serjeant questions¹ the adequacy of the alternatives analysis and in particular the breadth of the options considered.
- 7 My interpretation of Mr Serjeant's concerns is that he considers the alternatives assessment has been based (in part) on the work undertaken as part of the broader C2P project and also that insufficient options have been considered if the Project is considered in isolation.
- 8 In my experience, the assessment of alternatives is a process of an ever decreasing focus and it is therefore entirely appropriate that options are considered as part of earlier investigations and then

¹ Evidence of David Serjeant, dated 5 August 2022, Executive Summary and paragraph 86.

discarded (or identified as preferred), or else we would have a situation where there is a never ending number and range of options that need to be considered.

- 9 It is my understanding that previous work, including the SH1 Cambridge to Piarere Long Term Improvements Detailed Business Case² (the *C2P DBC*) identified a roundabout as the preferred form of intersection where C2P is to intersect with SH29. The C2P DBC had considered alternatives, including different intersection forms, in the process of coming to this conclusion. I consider it is acceptable that these discarded options were not considered further as part of this Project.
- 10 It is also my understanding that the Project team, when tasked with delivering the Project as a standalone project, adopted the recommended roundabout solution as the starting point for options development. Given the Waka Kotahi objectives for the work, and the effects of the already discounted options (as identified in previous studies), there was comfort that the previous assessments undertaken were appropriate and that only roundabout options should be considered in more detail. In my view this is a pragmatic and sensible approach.
- 11 In undertaking my review of the alternatives process for the Project I was comfortable with the approach undertaken. I consider relying on the conclusions of the earlier work (that a dual lane roundabout was the appropriate solution in this location) to be appropriate, given my experience of transport projects and the objectives of the Project.
- 12 I therefore consider that the focus on dual lane roundabout options, particularly locations (or specific sites), in the alternatives assessment required by section 171(1)(b) is appropriate in this instance.

SPECIFIC ALTERNATIVES PROPOSED BY OTHERS

General

- 13 Mr Hansen considers a grade separated solution should be implemented at the SH1/29 intersection, and in his evidence, Mr Edwards suggests a number of alternatives that he considers possible, and that he believes were not considered in the alternatives process, including:

13.1 Partial grade separated interchange;

13.2 One lane roundabout; and

² SH1: Cambridge to Piarere (C2P) Long Term Improvements - Detailed Business Case, Waka Kotahi New Zealand Transport Agency, May 2021.

13.3 Seagull intersection.

14 The following sections discuss these alternatives.

Grade separated (full and partial) interchange

15 In his submission and his statement, Mr Hansen outlines that a grade separated solution should be the solution for the Project.

16 Grade separation was considered in the C2P DBC, and a roundabout was ultimately preferred. This preference was based on the rationale outlined in the C2P DBC report as summarised in the evidence of Mr Edwards (para 151). These conclusions made sense to me when undertaking my review.

17 As outlined by Ms Harrison in her rebuttal evidence paragraph 35, the safety benefits of a grade-separated interchange would at best be slightly better than those of a roundabout.

18 The costs of constructing a grade separated interchange would certainly be greater, in fact the "SH1/29 Piarere Junction Scheme Investigation Report" dated 30 January 2014 considered a grade separate solution at this location, and noted a cost differential of more than 250%.³ I also note that the "SH1 Cambridge to Piarere – Detailed Business Case Options Report" (Executive Summary page 1-4) indicates an incremental benefit cost ratio of the additional expenditure for a grade separated interchange (over a roundabout) of 0.6, indicating a poor economic return.

19 I also note that the area of land and potential environmental effects of a grade separated option (as indicated by the option plans⁴ in the 2014 investigations) would be greater than a roundabout option.

20 I therefore consider it appropriate that this option was not considered in any detail as part of the alternatives assessment for this project, given the previous studies and the Project objectives.

21 Mr Edwards (paragraph 153) also considers a partial grade separated option (of the right turn from SH29 to SH1) as another viable option. This alternative is a sub option of the grade separation discussed above and I'm comfortable that it was not considered given the conclusions of full grade separated option assessments undertaken and the Project objectives.

A one lane roundabout

22 In my opinion, it is appropriate for an RMA alternatives process for a transport project to be based on a transport analysis. In this case, the alternatives process for the Project is based on the transport analysis undertaken and outlined in Ms Harrison's EIC. This analysis shows that safety improvements are required at the intersection,

³ Table 11 of the SH1/29 Piarere Junction Scheme Investigation Report.

⁴ Appendix A of the SH1/29 Piarere Junction Scheme Investigation Report.

and because a two-lane roundabout is required within a reasonable timeframe, two-lanes should be implemented now. The two-lanes also requires grade separation for active mode users to ensure an appropriate level of safety for these vulnerable users.

23 Ms Harrison's analysis in her rebuttal evidence paragraph 37.1 again confirms that a one lane roundabout would reach capacity as early as 2032, based on expected growth.

24 Given this, I consider that not assessing a one-lane roundabout option in detail is appropriate. I also consider that the other elements of the two roundabout options outlined in Mr Edwards' evidence (figures 2-5), such as location, have been considered sufficiently in the alternatives assessment.

Seagull

25 In para 148 of his evidence, Mr Edwards suggests that a properly designed seagull intersection would be a worthy option in the medium term.

26 I understand that options that provide 'a lesser' safety outcome to a roundabout were not considered given the previous work and the importance of Objective 1 of the Project, and that the proposed 'Seagull' option falls into this category.

27 Ms Harrison confirms in here rebuttal evidence paragraph 33 that a "Seagull" intersection would not deliver an appropriate safety enhancement.

28 Given the Project objective related to safety, and the evidence of Ms Harrison I consider not assessing a "Seagull" intersection as part of the alternatives assessment to be appropriate.

SAFETY

29 In paragraph 225 of his evidence, Mr Edwards considers the evaluation of alternatives was inappropriate based on his assertion that the safety risk at the intersection was much lower than that calculated by Ms Harrison. As outlined in Ms Harrison's rebuttal evidence paragraph 27, Mr Edwards' analysis of the intersection's safety risk is incorrect. Instead, the safety risk is as agreed at the Expert Transport Conferencing⁵ and outlined in Ms Harrison's rebuttal evidence.

ASSESSMENT CRITERIA

30 Mr Serjeant, in para 79 and 80 of his evidence, questions the suitability of the farming operations assessment and the consideration of 'productivity'. In regard to this I note that the

⁵ Joint Witness Statement – Traffic, 16 August 2022, Issue 1.

alternatives assessment relied upon the expertise of the farm assessment, which considered a wide range of criteria, including:

- (i) Loss of land area.
- (ii) Soil types.
- (iii) Loss of milk production.
- (iv) Impact on land suitable for crops, hay, silage.
- (v) Impact on tracks, races, paddock configuration, fencing and water system.
- (vi) Impact on farm management.
- (vii) Impact on stock policies.
- (viii) Impact on farm infrastructure, sheds, yards.
- (ix) Consider existing labour or existing management contacts, and any impact on these.

- 31 These criteria appear to consider elements of productivity, and, given the farming expert developed these criteria for his assessment, I rely on his expertise that the assessment of the farm operations is appropriately robust and appropriate for the alternatives assessment to rely upon.
- 32 I also note that the farm assessment concluded that the Project would have a higher impact, from a farming perspective, on the operation of the two farms on the eastern side of SH29, in comparison to the impact on Rockridge Farms on the western side of SH29.

CONCLUSION

- 33 I remain of the view that the assessment of alternatives is appropriate for the Project.

Tony Innes
25 August 2022