

BEFORE THE KĀPITI COAST DISTRICT COUNCIL

IN THE MATTER

of the Resource Management Act 1991

AND

IN THE MATTER

of the Kāpiti Coast Proposed District Plan, Chapter
6: Working Environment

STATEMENT OF EVIDENCE

Evidence of: TIM KELLY, Director Tim Kelly Transportation Planning Ltd

Subject Area: Transportation Issues, Chapter 6

On Behalf of: Kāpiti Coast Airport Holdings Ltd

Date: 2 September 2016

INTRODUCTION

- 1 My name is Tim Kelly. I am a director of my own traffic engineering and transportation planning practice.
- 2 I have worked in the traffic engineering and transportation planning field since 1983. I hold a Bachelor of Arts degree in Geography, and a Master of Science degree in Traffic Engineering and Transportation Planning, both from the University of Sheffield in the United Kingdom.
- 3 I am a full Member of the Chartered Institute of Logistics and Transport, and the IPENZ Transportation Group (a Technical Interest Group of IPENZ).
- 4 My career to date has been spent in the consultancy sector of transportation, in both the United Kingdom and New Zealand. During my career, I have provided policy advice regarding traffic and transportation matters, and undertaken assessments for a wide variety of development proposals across New Zealand.
- 5 This experience includes traffic assessments and the provision of evidence in support of Plan Change 73 (PC73) in 2007 and the following appeal to the Environment Court in May

2009. Subsequent to this I have been retained by Kāpiti Coast Airport Holdings Ltd (KCAHL) to advise on traffic engineering and modelling matters as they relate to the airport development area. In addition, I have worked on transportation assessments in the wider Kāpiti area and throughout New Zealand.

- 6 I can confirm that I am very familiar with the geographic area of relevance to this evidence.

CODE OF CONDUCT STATEMENT

- 7 While this is not an Environment Court hearing, I nonetheless confirm that I have read the Code of Conduct for Expert Witnesses issued as part of the Environment Court Practice Notes. I agree to comply with the Code and am satisfied that the matters which I address in my evidence are within my field of expertise. I am not aware of any material facts that I have omitted which might alter or detract from the opinions I express in my evidence. I understand that I have an overriding duty to assist the hearing in an impartial manner and that I am not an advocate for the party which has engaged me.

KEY ISSUES

- 8 Contrary to the impression given by the s42A report and supporting documents, I consider that agreement does exist on a number of issues. In particular:

- the principle of using development thresholds to provide appropriate opportunities to review the potential traffic effects of development;
- the need to ensure that infrastructure improvements are in place to pre-empt the effects of development; and
- the need to minimise the costs to both the developer and the Kāpiti Coast District Council (KCDC) associated with the preparation and review of transportation assessments.

- 9 This allows the core areas of disagreement to be identified, namely:

- a) the requirement for Integrated Transport Assessments (ITAs) to be undertaken at two points (on the basis of cumulative Gross Floor Areas (GFA)) within the wider Controlled activity status for development within the Airport Mixed Use Precinct (AMUP); and

- b) the introduction of an additional “layer” of compliance by means of a trigger for Restricted Discretionary activity status for individual activities within the AMUP which may generate more than 200 vehicle movements per day.
- 10 In my view, both of these requirements are unnecessary from the perspective of controlling potential effects upon the operation of the road network. Furthermore, they run contrary to the principle established during the PC73 process of striking a fair balance between ensuring the efficiency of the road network and the provision of a reasonable degree of certainty to facilitate longer term planning and investment within the Airport development.
- 11 In my view, the key issue is then whether this proposed level of control is warranted.

BACKGROUND – PLAN CHANGE 73 TO PROPOSED DISTRICT PLAN

- 12 In order to provide context for the consideration of this issue, I believe it is helpful to provide a summary of the manner in which the traffic assessments for PC73 (and hence the operative plan) were undertaken and the subsequent changes which have occurred.
- 13 As I have indicated, I was closely involved in the assessments undertaken for PC73. At the outset, it was recognised that a collaborative approach between the Airport, KCDC and (the then) Transit NZ offered the most efficient means of reaching an agreed position on the scale and control of traffic effects.
- 14 This involved the use of a single modelling framework for which the parameters and outputs were agreed. This model was the subject of an independent peer review process. The resulting set of development thresholds carefully balanced improvements to the road network with levels of development to ensure that the efficiency of the network would not be compromised.
- 15 The development thresholds were originally identified in terms of a maximum number of vehicle trip movements generated by Airport development in the assessed weekday evening peak period (which was agreed to represent a “worst-case” in terms of potential effects).
- 16 At the time, KCDC officers considered that monitoring of cumulative GFAs would be easier to administer than monitoring of generated traffic activity. For this reason, a “back-calculation” was undertaken to determine the GFA thresholds which equated to the

identified maximum generated vehicle movements. This was based upon the most likely mix of development types and is summarised by **Table 1**.

Development Threshold (m², GFA)¹	Generated Vehicle Trips (vehicle movements/hour, weekday PM peak)
43,050	670
62,500	1,130
102,900	1,600

Table 1: Modelled Traffic Volumes Associated with Development Thresholds

- 17 It should be noted that this approach was considered to be conservative, primarily because this assumes that the vehicle trips associated with the components of the Airport development will be additional to existing vehicular activity. In reality, a significant proportion of these vehicle movements will replace, rather than be in addition to, existing vehicle trips.
- 18 For example, the PlaceMakers outlet currently under construction within the AMUP will replace the existing branch located on the opposite side of Kāpiti Road. Although most of the vehicle movements will simply divert with little net effect upon Kāpiti Road further to the east, the modelling effectively assumes the operation of PlaceMakers outlets on both sides of Kāpiti Road.
- 19 At a wider level, the expansion of commercial/retail offers and employment within Kāpiti as a result of development in the Airport area is likely to result in a net reduced requirement for Kāpiti residents to travel outside the district, with consequent benefits for the transportation network.
- 20 Such changes in travel patterns and demands associated with each component of the development will differ, but are complex and beyond the ability of the modelling to simulate. With such effects known to exist but difficult to quantify, the modelling adopted the conservative approach with an expectation that the calculated development thresholds would then include a significant “safety margin”.
- 21 The development trigger for Restricted Discretionary activity status (102,900m² GFA) represented the point at which the original Stages 2, 3A and 3B of the Airport

¹ These GFAs relate to the Airport Mixed Use Precinct only and are in addition to 56,800m² of development in the Airport Core.

development would be complete. Development up to this point had Controlled activity status. While there was no indication of specific road network problems, it was agreed that the uncertainty associated with development further in the future warranted a review of traffic conditions.

- 22 Overall, this achieved an acceptable balance between providing the roading authorities with assurances regarding the efficiency of the network and providing the Airport with a sufficient degree of certainty to enable forward planning and investment.
- 23 In August 2009, the Government announced the Kāpiti Expressway proposal (Expressway), replacing the Western Link Road (WLR) to which the development thresholds had been linked. Most significantly, this meant that the points of connection to the local road network were to be of a higher standard, but fewer in number. At Kāpiti Road, the previous proposal for an at-grade intersection was to be replaced by a grade-separated design, with a change in the distribution of vehicle movements as a result of the elimination of a number of intersections with local roads.
- 24 In addition, the Global Financial Crisis (GFC) impacted upon development uptake at both the national and local levels.
- 25 With the notification of the Proposed Kāpiti Coast District Plan (PDP) in late 2012, I was engaged by KCAHL to review the initial provisions in early 2013. My comments at this time contributed to the submission lodged by KCAHL in March 2013.
- 26 A lengthy period then ensued before a process of dialogue commenced with KCDC officers and their consultants regarding the content of the submission, with a meeting in August 2015.
- 27 In December 2015, the NZ Transport Agency (NZTA) wrote a letter to KCAHL regarding its submission on the PDP. This expressed concern at the desire to remove development thresholds and the potential implications this might have for the operation of the Expressway, specifically the Kāpiti Road interchange. The NZTA indicated that it had commissioned modelling to assess the effects of Airport development upon the Expressway.
- 28 In March 2016, a meeting took place between KCDC, the NZTA and KCAHL which agreed a need for updated traffic modelling to assess the effects of development in the Airport

area. Subsequent liaison resulted in agreement on the relevant parameters for the modelling which was to be undertaken by consultants Beca and reported during June 2016.

29 KCAHL considered this to be the most practical way forward, avoiding a situation in which the results of multiple models would be presented in evidence. For this reason, KCAHL has not commissioned its own modelling assessments.

30 Unfortunately, this initially promising collaborative approach has foundered, with KCDC instead relying on its own analysis to support its position and the NZTA utilising the available Beca modelling.

31 Minute 14 from the Hearing Panel (dated 22 August 2016) has subsequently directed that the modelling on which the NZTA position was based be disregarded, on the basis that this is incomplete and has not informed the KCDC position regarding the PDP provisions. KCDC then held a briefing on 23 August 2016 to explain its position.

32 An issue raised at this briefing related to the differing manner in which triggers for traffic assessments were being proposed for the town centre (based on the number of vehicle movements per day) and for the Airport development (based on GFAs).

33 A subsequent email from KCDC (dated 29 August 2016) stated that:

“The Chapter 11 standards also apply to the Airport Zone permitted activity rules for retail and commercial activities within the Airport Mixed Use Precinct, in addition to the GFA thresholds in the controlled activity standards for new buildings. Therefore if an activity identified as a permitted activity in the Airport Mixed Use Precinct under Rule 6G.1.9 cannot meet the 200 VPD standard in Standard 11P.1.13 (Chapter 11), it will be assessed as an Restricted Discretionary Activity under Rule 11E.3.2 and will require a transport assessment.”²

34 Taken together, these proposed changes represent a significant move away from the balanced position agreed under PC73, with much more onerous assessment requirements placed upon the Airport development.

35 Critical decisions regarding the PDP provisions are reliant upon the findings and

² Email from Sherilyn Hinton KCDC, 29 August 2016.

recommendations of the KCDC traffic analysis. For this reason, it is in my view appropriate to review this analysis and the manner of its interpretation.

KCDC POSITION & SUPPORTING ASSESSMENTS

36 Rules 6G.1 – 6G.5 of the PDP define Rules and Standards applicable to the Airport Zone. Those of most relevance to the key issue I described above can be summarised as:

- the key threshold between Controlled and Restricted Activity status is retained at 102,900m² GFA in the AMUP;
- for development up to 102,900m² GFA in the AMUP, Council retains control over [15] the expected traffic generation from the Airport Zone and [16] the effects on the transportation network and State Highway 1 (SH1) within the District, and the timing of any improvement works on the transport network and SH1;
- prior to the commencement of any development that exceeds a cumulative 43,050m² GFA, an Integrated Transport Assessment (ITA) must be carried out which considers the impact of the cumulative development of the area on the safety and efficiency of the transport network (seven specific matters to be addressed are identified); and
- the same applies for development which exceeds a cumulative 62,500m² GFA.

37 Justification for the KCDC position is provided by a memo which forms Appendix 10 to the Chapter 6 s42A report. Annex 1 to the Appendix provides the results of the traffic analysis.

38 This analysis post-dates the notification of the PDP in 2012. Hence, its purpose has not been to inform the formulation of the PDP provisions, but rather to justify the position adopted by KCDC.

39 KCDC has intentionally decoupled the Airport development thresholds from infrastructure provision.³ This appears to be at least partly due to a lack of timing and resources to undertake the associated analysis.⁴

40 The KCDC analysis is based around the use of a SATURN model to establish traffic demands which are passed to a SIDRA network model for an assessment of intersection

³ Proposed District Plan – Chapter 6. S42A Report, Appendix 10, paragraph 2.3.

⁴ Proposed District Plan – Chapter 6. S42A Report, Appendix 10, paragraph 2.5.

conditions. This is a coarser level of modelling when compared to the intended approach using the VISSUM micro-simulation model through the work done by Beca on behalf of the NZTA.

- 41 KCDC has taken the view that such coarser modelling is acceptable for the strategic level assessments associated with the PDP process. Normally, I might agree. But in this case, the complexity of Kāpiti Road between the existing SH1 intersection and a point west of the Airport (with numerous linked sets of traffic signals) may be beyond the ability of the SATURN / SIDRA approach to model reliably.
- 42 The three pages of Annex 1 to Appendix 10 were initially the only documentation available regarding the analysis. An email from KCDC on 26 August 2016⁵ supplied some further detail of the results and an exchange of correspondence with Mr Wignall (the consultant for KCDC) on 31 August 2016 provided some clarification on a technical issue.
- 43 Nonetheless, with results only supplied in a highly summarised format and with assumptions not explicitly stated, it is difficult to have confidence that the analysis is soundly based and fit for the purpose of confirming the need for specific development thresholds.
- 44 It can be expected that as intersection delays rise on Kāpiti Road, some drivers will use alternative routes, resulting in a redistribution of traffic. The use of the SATURN / SIDRA approach relies upon SIDRA calculating intersection delays in more detail. If these differ from those in the SATURN model, then a feedback loop should provide for a recalculation of the assignment. Without this, delay conditions on Kāpiti Road are likely to be overstated.
- 45 The description at A1.4 of Annex 1 suggests that the 43,050m² GFA threshold has been tested without the Expressway, but that the 62,500m² GFA threshold test assumes the Expressway is open. If this is correct, and with development currently less than 25,000m² GFA and the Expressway expected to open within a year, the 43,050m² GFA test is unrealistic.
- 46 By combining the effects of development at 62,500m² GFA and the opening of the Expressway in a single test, the component effects of each are unclear. I would expect

⁵ Email from Neil Trotter KCDC, 26 August 2016.

tests to be structured and reported which isolate the separate effects of the Expressway and development.

- 47 The results presented in the figure of paragraph A1.9 simply relate to the percentage of network junction arms at specific Levels of Service (LOS). While the additional information supplied on 26 August provides some indication of which intersection arms are included and their conditions, the results remain in a highly summarised form which precludes an understanding of how the overall results and hence conclusions have been derived.
- 48 The specific technical issue I raised with Mr Wignall related to a comparison of model outputs for two scenarios where the only difference is the assumed extent of Airport development. My concern was that the increase in demand flows appears to be significantly greater than that attributable to the airport development. The response from Mr Wignall has not provided any certainty about why this was happening.
- 49 Furthermore, the available intersection delay results for the “worst” and “average” delays indicate that results may be distorted by high delays at one location.
- 50 This leads to my primary concern in relation to this analysis. The model appears to have been run, results obtained and a conclusion drawn that this supports the intended PDP provisions. I believe that KCDC has taken a view that nothing further is required because the proposed thresholds have been de-coupled from infrastructure requirements.
- 51 But what appears to be missing is any real interrogation or understanding of the model results. For example, the model might indicate significantly reduced network speeds for a given level of development, from which KCDC has concluded that there is justification for a detailed ITA requirement. However, a closer review of the results could indicate this arises from high delays at a single intersection, for which an easy “fix” is available (which might be as simple as adjusting traffic signal settings at a key intersection).
- 52 Sensitivity testing is also required to assess the degree to which any conclusions reached may be sensitive to assumed input parameters.
- 53 The consequence is that ITA requirements are being imposed which may not be justified.
- 54 In my view, KCDC should be using the modelling as part of a proactive position to properly understand and plan for the future of the district road network. Instead, it appears to be taking a reactive position, placing the responsibility for assessments at a later date on the

Airport.

- 55 At a more general level, I would be surprised if the considerable investment in this area has resulted in a road network unable to accommodate the effects of development associated with at least 102,900m² GFA. This is because the provisions which defined the 102,900m² GFA threshold for Controlled Activity development in the AMUP have been operative for some eight years, and the process of planning and design for the Expressway (in particular, the Kāpiti Road intersection and adjoining sections of Kāpiti Road) has occurred in full knowledge of reasonably committed development intentions at the Airport.
- 56 Given these problems and the general lack of information, I would rely upon the findings of an independent peer review to provide the necessary assurances that the analysis is “fit for purpose” (in this case, to inform the PDP provisions) and accords with industry best practice. But no such independent review has been undertaken.⁶
- 57 For these reasons, I do not consider that the analysis presented provides a sufficiently credible basis to inform decision making for the PDP provisions, in particular, the requirement for additional ITAs for development at the intermediate cumulative development thresholds of 43,050m² and 62,500m².
- 58 I reiterate that there is no disagreement regarding the need for a review of road conditions at the 102,900m² GFA threshold – in my view, this is a logical point at which to review network conditions. But a requirement to review conditions at lower levels of development is likely to be superfluous in the context of the completed Expressway, supporting infrastructure and general conservatism in the traffic assessments.

RESPONSE TO S42A REPORT (& SUPPORTING DOCUMENTATION)

- 59 I have read the Chapter 6 s42A report prepared by the planning officer. In addition to the comments above, there are a number of specific points I wish to respond to in the report or the supporting documentation.
- 60 Paragraph 1752, in referencing issues raised in the KCAHL submission with regard to thresholds notes that: *“The submission however does not provide any detailed analysis or assessment to support this request”*. Similarly, paragraph 2.13 of Appendix 10 states that:

⁶ Confirmed in the minutes of the Traffic Modelling Briefing held on 23 August 2016 and provided to the Panel.

“KCAHL have not proposed any alternative thresholds for assessment and modelling purposes. Nor does KCAHL [also does] appear to have undertaken any independent assessments in support of their submission position.”

- 61 As I have described, the preference of KCAHL was for a collaborative modelling approach to be pursued with detailed results available to all parties. It has been very frustrating to be advised late in the process that this modelling was no longer available, necessitating a reliance instead upon the KCDC work, for which only highly summarised results have been made available. In my view, this is not a satisfactory basis for decision making.
- 62 Paragraph 1758 makes reference to *“escalating levels of development”* which implies a lack of control over the rate of development. As I have described, provision for up to 102,900m² GFA in the AMUP has been anticipated for several years with Controlled activity status - the Restricted Discretionary activity status beyond this could only occur if effects upon the operation of the road network are demonstrably acceptable.
- 63 Paragraph 1759, in reference to the views of Mr Wignall, suggests that the alternative approach to thresholds would be for every resource consent to require an in-depth transport assessment, which would be wasteful and costly in terms of developer and KCDC resources. While I can agree that ITAs should only be undertaken for logical phases for development, in my view the first logical phase is at the existing Controlled activity threshold.
- 64 Paragraph A2.4 and A2.19 of Appendix 10 implies a lack of willingness by myself or KCAHL to discuss or reach agreement on the thresholds. This is not the case – indeed during the preparation of this evidence I have struggled to obtain responses from KCDC officers on a number of matters.

SPECIFIC RELIEF SOUGHT

- 65 For the reasons I have described, I am frustrated that despite extensive traffic modelling of the Kāpiti district, the information available upon which to set development thresholds lacks detail and has not been the subject of any rigorous review.
- 66 Nonetheless, I acknowledge that progressive development in the AMUP will increase traffic activity and I can appreciate that KCDC has some concerns relating to the potential effects upon the operation of the road network.

67 Liaison with Mr Collins, the planning expert engaged by KCAHL, has resulted in a proposal for a compromise position in which a single ITA requirement would be triggered at a cumulative development threshold of 62,500m² GFA. Development below this level would have Permitted activity status and, between this level and 102,900m² GFA, Controlled activity status. Mr Collins discusses this in more detail in his statement of evidence.

68 As I have previously described, KCDC now wishes that the Chapter 11 standard 11P.1.13 be applicable to the development within the AMUP. This would trigger Restricted Discretionary status for individual activities generating more than 200 vehicle movements a day, necessitating a transport assessment. In my view, this would introduce an unnecessary additional layer of compliance requirements, since effects are already effectively controlled through the wider thresholds. The only outcome of such control would be that both the developer and KCDC would incur additional costs in the preparation, review and processing of such assessments.

69 With this, the specific relief sought is:

- modification of Rule 6G.1 to include development up to 62,500m² GFA in the AMUP as a Permitted activity;
- the replacement of Rule 6G.2.2.7 (b) and (c) with a reworded rule requiring an ITA at the 62,500m² GFA threshold for the AMUP; and
- the Chapter 11 standards for maximum vehicle movements per day should not be applicable to development with the AMUP which is already subject to the development thresholds described above.

70 In addition to these points, I note that the rather exact cumulative GFAs used as the basis of the existing thresholds creates a misleading impression of accuracy in forecast effects. For simplicity, the opportunity could be taken to “tidy these up” by rounding to the nearest 1,000m² GFA.

71 Linked to the point above and as I have previously described, thresholds based upon GFAs presume a specific development mix. In my view, thresholds based around traffic volumes would be preferable because these are more closely linked to potential effects and would also allow for any changes to the activity types.

72 As indicated in Table 1, cumulative development at 62,500m² and 102,900m² GFA is equivalent to generated traffic volumes of 1,130 and 1,600 vehicles/hour respectively for the weekday PM peak period. I do not consider that the associated monitoring of traffic volumes should be problematic, simply requiring permanent counter installations at each access location.

CONCLUSIONS

73 The establishment of the original 102,900m² GFA Controlled activity threshold achieved a compromise between KCDC and developer, ensuring that appropriate provision was made for additional traffic activity while providing certainty for the purposes of planning and investment.

74 No disagreement exists regarding the retention of this cap on Controlled activity development and the need for an associated ITA to review the performance of the road network at this time.

75 The only issues in contention relate to the introduction by the PDP of a requirement for ITAs to be undertaken at the “intermediate” 43,050m² GFA and 62,500m² GFA development thresholds, and for the additional application of the Chapter 11 provisions relating to the 200 vehicles/day threshold for individual activities.

76 These additional requirements would not only involve significant costs for KCAHL (and KCDC), but also uncertainty. Such uncertainty arises, not because KCAHL considers that the ITAs would identify any significant operational problems, but rather in their interpretation by KCDC (particularly without any agreed target network performance thresholds). Experience to date suggests that a protracted process of discussion and negotiation will ensue, with an uncertain outcome for KCAHL in terms of its ability to progress development. This uncertainty discourages longer-term planning and investment.

77 The detail of the analysis used by KCDC to justify these thresholds is unclear, and it has not been subject to any form of independent peer review or sensitivity testing. For these reasons, I do not consider it to be fit for the purpose of identifying ITA requirements.

78 The KCDC position and concerns have been acknowledged and for this reason a compromise position is proposed which would require a review of the operation of the

transportation network at a 62,500m² GFA threshold, with Permitted activity status below this point.

- 79 In my view, this offers a pragmatic solution which addresses uncertainty in the modelled forecasts, reduces compliance requirements for both KCAHL and the Council and provides a reasonable level of certainty to enable longer term planning of development in this area.

Tim Kelly

September 2016