

# MEMO

TO: Robert Schofield  
FROM: Don Wignall  
DATE: 19 December 2016

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SUBJECT: Kāpiti Coast District Plan - Airport Proposed Private Plan Change - PC84  
Background Note - Traffic & Transport Issues v2-5

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## 1. INTRODUCTION

### Purpose

- 1.1 This note has been prepared as a background document for Council in relation to the Airport Proposed Private Plan Change (PC84).
- 1.2 The purpose of the note is to review traffic, transport and access related issues raised by the PC84, including representations by the applicant and submitters.
- 1.3 This memo refers to Council evidence presented at the Proposed District Plan (PDP) Chapter 6 Hearing in response to matters raised by KCAHL in respect of the Proposed Plan Change and associated context material.
- 1.4 Since the Chapter 6 Hearing, an independent peer review of the PDP SIDRA<sup>1</sup> modelling undertaken by Council has been undertaken. In response to the peer review, adjustments<sup>2</sup> to the SIDRA model have been made and the revised results<sup>3</sup> from this work have been incorporated in this memo.

## 2. AIRPORT DEVELOPMENT THRESHOLDS

### Background

- 2.1 In 2006/7 a comprehensive assessment was undertaken for the Airport Plan Change 73. This involved comprehensive traffic modelling based on assumptions agreed with the Airport at the time. As a result, safeguards are included in the operational District Plan (DP) to require specific infrastructure provision at 43,050 sq. m. and 62,500 sq. m GFA development thresholds, and to require a full transport assessment to be undertaken at the 102,900 sq. m. GFA threshold (see D9.2.2 (a) (iv) (b) and (c) in the operative DP). Higher thresholds were also tested and this clearly showed that at upper levels of development at 282,450 sq. m. in the Mixed-Use Precinct (D.9.1.3 (ii) in the operative DP) and 339,400 sq. m. of total development (D.9.1.5 (vi) in the

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<sup>1</sup> Signalised and unsignalised Intersection Design and Research Aid

<sup>2</sup> To improve convergence and to more accurately model Te Roto Drive, Milne Drive and Friendship Place intersections on Kāpiti Road.

<sup>3</sup> Revised results are similar to those in the earlier PDP Chapter 6 Memo, 10 August 2016, see Annex 1 and Annex 2.

operative DP) would result in severe network problems in the absence of infrastructure investment (and other required measures)..

- 2.2 In preparing for the PDP, Council reviewed the need for the retention of the operational DP development thresholds and the findings of this review and associated analysis, were that the thresholds should be retained, but for integrated transport assessment (ITA) purposes only, rather than being tied to specific physical infrastructure.
- 2.3 The PDP therefore contains Airport-specific development thresholds as established in the operative DP, including the requirement for an ITA at each threshold level. These are contained in the PDP Airport Zone Mixed Use Precinct rules, namely: those within controlled activity Rule 6G.2.2; restricted discretionary activity Rule 6G.3.2.
- 2.4 Council has informed KCAHL of the outcome of the review of operative DP thresholds and has discussed and engaged in correspondence with the submitter and their traffic expert in an effort to reach agreement going forward.

#### **Rationale behind the Council's current position**

- 2.5 The reason that Council has proposed changing the operative DP standards concerning attached to the thresholds is the change in future network configuration involving the replacement of the former Western Link Road (WLR) proposal with the Mackays to Peka Peka Expressway (the Expressway) and the effect that this is likely to have on the timing and location of the need for infrastructure investment. It has not proved possible to define the timing and nature of infrastructure required in the time and resources available. There also remain a number of future uncertainties, including the changing nature of the Airports development plans and access related proposals.
- 2.6 Despite these uncertainties, the analysis undertaken to forecast the effects of future levels of Airport development on the transport network, clearly demonstrates that operational conditions will be substantially compromised unless timely assessments and infrastructure improvements are undertaken (see Annex 1).
- 2.7 Here it is important to note that the DP and PDP thresholds represent logical phases of development, with Stage 1 being currently built and consented development, Stage, 2 (43,050 sq. m), 3A (to 62,500 sq. m), 3B (to 102,900 sq. m), and the remaining Stages 3C, 4 and 5 representing the maximum overall development (to 282,450 sq. m for the Mixed-Use Precinct and to 339, 338 sq. m. overall). Each development stage needs to be supported by appropriate infrastructure in order to maintain acceptable operational conditions. The first step in identifying and implementing this infrastructure is to undertake a suitable ITA.
- 2.8 The analysis undertaken (in preparation for the PDP and PC84 Hearings) has confirmed the suitability of the thresholds and also that that operational problems would result from escalating levels of development without additional infrastructure provision (and other required measures). This has confirmed the need for timely ITA's to be undertaken.
- 2.9 It is difficult to understand what the practical objection could be to such an approach. The alternative would appear to be to require every resource consent to be accompanied by an in-depth ITA, would be extremely wasteful and costly, in terms of developer costs and Council resources. This would also be potentially very unfair on an individual developer who may happen to trigger a need for a major investment. In contrast, undertaking ITA's for logical phases of development at the specified thresholds, is a much more efficient and satisfactory approach. Individual developments within these phases would then, subject to scoping discussions with Council, only require relatively simple assessments, assuming they were within the overall GFA thresholds and consistent with anticipated activities.

### **Why threshold related ITA's are needed in the case of the Airport**

- 2.10 The Council's position regarding the need for ITA's to be undertaken is set out elsewhere (see PDP, Review of Transport Matters Raised in submissions on Chapter 11, Appendix 3'). However, in short, the need for ITA's is to ensure acceptable conditions are maintained on the transport network in operational efficiency, safety and other terms. This need has not been disputed by KCAHL.
- 2.11 The replacement of the Western Link Road project by the Mackay's to Peka Peka (M2PP) Expressway (under construction and due to open in February 2017) will affect the precise timing of new infrastructure projects. For this reason, the requirement for specific infrastructure to be completed prior to Airport development occurring above defined thresholds as contained in the operative DP, is recommended to be removed from the PDP (amendments recommended as part of the PDP Chapter 6 Working Environment s42A report). The purpose of the Expressway is to assist strategic 'longer distance (through) north-south traffic' movements and the Expressway will not relieve the local road network in the vicinity of the Airport, especially the east-west Kāpiti Road, which will remain under pressure. In this respect, the Expressway does not represent a "game-changer" in terms of creating opportunities for Airport development, and does not obviate the need for new development related infrastructure investment (and other required measures).
- 2.12 The only question that remains therefore is what is the most appropriate timing and nature of ITA's in the case of the Airport development? For large mixed developments, it is good practice to undertake comprehensive assessments for key phases of development. This is to ensure that appropriate analysis and traffic modelling can be undertaken to assess overall effects and to confirm that proposed access arrangements are adequate. The Airport is no different to other large mixed development proposals that have adopted this approach in Kāpiti, for example, the Coastlands Square Proposal (Plan Change 72A) and Waikanae North Development Zone (Plan Change 69).
- 2.13 The thresholds set by the Airport PC73 were established based on the original (2006/7) Airport master-plan, and these have been used for all subsequent traffic analysis and infrastructure assessment purposes. The gross floor area used in the thresholds comprises an assumed general mix of activities expected. Therefore, each threshold can be said to have a certain scale of traffic generation. These generations have been used (as an agreed convention) for assessment and modelling purposes in dialogue between the Airport and Council over many years, including being used for the M2PP NZTA Expressway modelling and for the testing undertaken by Council in preparation for the PDP and PC84 Hearings.
- 2.14 KCAHL have (in evidence to the PDP Chapter 6 Hearing) accepted the need for ITA's at the 62,500 sq. m and 102,900 sq. m. thresholds, however, KCAHL do not consider that an ITA should be undertaken at the 43,050 sq. m. GFA threshold. Here it needs to be emphasised that the purpose of undertaking an ITA at a given threshold is not only to establish a baseline and identify any existing operational issues, but importantly also to look ahead to assess the next proposed phase of development. It should also be noted that KCAHL has not undertaken any modelling or analysis in support of their opposition to the lower ITA threshold.

### **Relationship with Airport Private Plan Change request**

- 2.15 The Proposed Airport Private Plan Change, PC84, was not part of the PDP Hearings and is being specifically addressed in the PC84 Hearing. However, in the KCAHL submission on the PDP, relief was sought to obtain more flexibility in terms of the development of the Airport Zone Mixed Use Precinct through the removal and

modification of restrictions on specific types of development, primarily retail. This is also a similar basis for the changes sought under the Private Plan Change.

- 2.16 Analysis by Council (see Annex 2) has shown that development which comprises more intensive traffic generating activities, such as a department store, on the Airport land, would cause major operational issues and a severe deterioration in level of service (LOS) at the lower development thresholds.
- 2.17 The retail development that could occur as a result of PC84 being approved, would intensify (increase and concentrate) traffic generation. This would mean that higher levels of traffic would be generated by the Airport GFA thresholds within the DP/PDP. This would mean higher amounts of traffic for a given development GFA. If this retail development (refer to Annex 2 for a detailed breakdown) occurred in the short term, this could mean an increase in Stage 2 traffic generation (42,050 sq. m GFA) from 670<sup>4</sup> vehicles per hour (VPH) to 1,027 VPH, an increase of 53% and for Stage 3A (62,500 sq. m GFA) an increase from 1,130 VPH to 1,489 VPH an increase of 32%. The effect of these increases together with concentration of this traffic, would mean associated increases in adverse effects, in terms of deterioration in operational performance.
- 2.18 The Airport GFA thresholds in the operative DP (and PDP) relate to an assumed mix of development and the associated traffic generation arising from these. If therefore the KCAHL PC84 submissions are allowed, the development thresholds at which ITA's are required would potentially, need to be reduced considerably, to reflect the increased traffic intensities (described above in 2.16).
- 2.19 The KCAHL PC84 submission have not been supported by any technical transport analysis or modelling. In particular, no case has been made (in operational traffic terms) by KCAHL as to why the proposed plan change either could or should be allowed. The last comprehensive description of Airport development was provided by the Airport in 2007, and since then, very little in the form and scale of anticipated development has been issued. The additional information supplied as part of the PC84 process has been analysed in Annex 2 and discussed in more detail in Annex 3.

### **Liaison with Airport**

- 2.20 Council have supplied KCAHL with information in correspondence and have met with representatives to discuss the implications of the proposed threshold requirements and to better understand the Airport's development aspirations prior to the PC84 Hearing.

### **Summary**

- 2.21 A summary of the main points in this review are included below:
- Council remains firmly of the view that the operational DP thresholds, representing the commencement of key stages of development, remain appropriate and that threshold based ITA's should be included as requirements in the PDP. The suitability of the thresholds to represent key stages of development has been confirmed through (earlier) plan change processes and incorporated in the operational DP.
  - It is recognised that the Expressway will affect the precise timing of new infrastructure projects. For this reason, Integrated Transport Assessments need to be completed prior to Airport development occurring above defined thresholds.
  - The purpose of the Expressway is to assist strategic 'longer distance (through) north and south traffic' movements and the Expressway will not relieve the local road network in the vicinity of the Airport. The Expressway does not represent a

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<sup>4</sup> Passenger Car Units in the PM peak

"game-changer", and does not obviate the need for development related infrastructure investment (and other required measures).

- Based on forecasts of post-Expressway opening conditions, substantial increases in Airport development without additional infrastructure investment, would cause levels of service on the local road network to decline substantially. This would also result in safety, amenity, accessibility and environmental problems.
- It is important that any infrastructure required in the future is identified and planned well in advance of network problems occurring, such as a noticeable decline in road network LOS performance. This requires ITA's to be undertaken in a timely manner and for appropriate actions to be taken following the identification of future infrastructure requirements (and other required measures).
- No technical transport evidence has been provided by KCAHL to justify why the proposed plan change PC84 either could or should be allowed.
- PC84 would have the effect of locating higher traffic generating activities, such as a department store, on Airport land. Analysis undertaken by Council has demonstrated that this would intensify traffic pressures, generate substantial adverse effects and potentially trigger the need to adjust other Airport development thresholds in the operative DP and in the PDP.

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# ANNEXURE

# ANNEX 1

## Airport Development Threshold Review: Analysis Results

### Network Operational Performance

A1.1 A review of potential development assessment thresholds has been undertaken, using the KTM SATURN<sup>5</sup> pm peak model and SIDRA network analysis, for the following scenarios:

Airport Development	
Threshold GFA	Description
<b>23k</b> (23,261 sq. m.)	Existing and consented development
<b>43k</b> (43,050 sq. m.)	DP/PDP Assessment threshold 1
<b>62k</b> (62,500 sq. m.)	DP/PDP Assessment threshold 2
<b>102k</b> (102,900 sq. m.)	DP/PDP Assessment threshold 3
<b>203k</b> (203,603 sq. m.)	Airport suggested assessment threshold
<b>340k</b> (339,338 sq. m.)	Full development

A1.2 As noted in the table above the threshold GFA numbers have been abbreviated for ease of reference only and this has been continued through the remainder of this annex.

A1.3 The basis of the network LOS analysis is the speed efficiency ratio (average modelled speed over all links to desired speed) on the following scale:

Network / Route Level of Service	Speed Efficiency
<b>A</b>	$0.90 < R_e \leq 1.00$
<b>B</b>	$0.80 < R_e \leq 0.90$
<b>C</b>	$0.70 < R_e \leq 0.80$
<b>D</b>	$0.50 < R_e \leq 0.70$
<b>E</b>	$0.30 < R_e \leq 0.50$
<b>F</b>	$0 \leq R_e \leq 0.30$

<sup>5</sup> Simulation and Assignment of Traffic to Urban Road Networks

A1.4 The analysis undertaken for 2017<sup>6</sup> and for 2021<sup>7</sup> is shown below:

<b>2017</b>			
<b>GFA</b>	<b>LOS</b>	<b>Speed</b> (km/hr)	<b>Change</b>
<b>23k</b>	<b>D</b>	<b>30.6</b>	
<b>43k</b>	<b>D</b>	<b>27.8</b>	<b>-9%</b>
<b>62k</b>	<b>E</b>	<b>19.6</b>	<b>-36%</b>
<b>2021</b>			
<b>GFA</b>	<b>LOS</b>	<b>Speed</b> (km/hr)	<b>Change</b>
<b>102k</b>	<b>E</b>	<b>19.3</b>	<b>-38%</b>

A1.5 This shows that post Expressway opening, in 2017, with existing and consented development of 23k the network would operate at an overall average speed of 30.6 km/hr. Alternatively, if the development threshold of 43k was reached, network speed would be reduced by 9%. Moving to the 62k GFA threshold, without further infrastructure investment, would reduce the average network speed even more substantially, by 36% to 19.6 km/hr. Increasing the development level to 102k in 2021 (based on alternative/lower background SATURN modelling) would further reduce average network speeds.

A1.6 In the longer term, forecast network conditions in 2031<sup>8</sup> are shown below:

<b>2031</b>			
<b>GFA</b>	<b>LOS</b>	<b>Speed</b> (km/hr)	<b>Change</b>
<b>23k</b>	<b>D</b>	<b>31.3<sup>9</sup></b>	
<b>43k</b>	<b>D</b>	<b>27.9</b>	<b>-11%</b>
<b>62k</b>	<b>E</b>	<b>22.4</b>	<b>-28%</b>
<b>102k</b>	<b>E</b>	<b>19.5</b>	<b>-38%</b>
<b>203k</b>	<b>F</b>	<b>13.4</b>	<b>-51%</b>
<b>*340k<sup>10</sup></b>	<b>F</b>	<b>12.2</b>	<b>-61%</b>
<b>340k</b>	<b>F</b>	<b>9.5</b>	<b>-70%</b>

A1.7 This shows that post Expressway opening, in 2031, with existing and consented development of 23k the network would operate at an overall average speed of 31.3 km/hr. Alternatively, if the development threshold of 43k was reached, network speed would be reduced by 11%. Moving to the 62k GFA threshold, without further infrastructure investment, would reduce the average network speed even more substantially, by 28% to 22.4 km/hr. Increasing the development levels further without infrastructure investment (and other required measures) would further reduce average network speeds.

<sup>6</sup> Original analysis in August 2015 using SIDRA 6.1 revised in December 2016

<sup>7</sup> Original analysis in July 2016 using SIDRA 7, revised in December 2016

<sup>8</sup> Original analysis in August 2015 using SIDRA 6.1, revised in December 2016.

<sup>9</sup> This is higher than the 2017 23k equivalent speed due to network improvements, including those associated with the Kāpiti Road Relief Route.

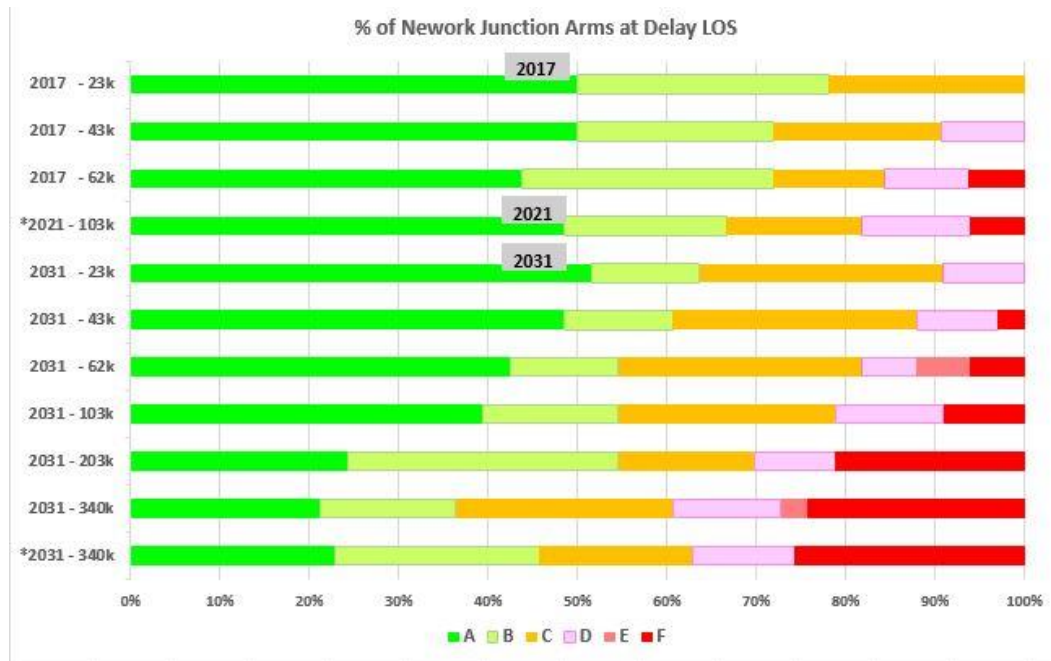
<sup>10</sup> Based on SIDRA 7 and alternative/lower SATURN modelling in July 2016, revised in December 2016.



A1.8 On the basis of anticipated network traffic conditions, it can therefore be concluded that the Airport development should be assessed (in transport terms) at the 43k, 62k and 102k thresholds, as per the operative District Plan provisions.

### Intersection Performance

A1.9 The results from the revised SATURN modelling also demonstrate a consistent pattern of intersection performance issues increasing in direct relationship with the scale of Airport development, as shown below:



Level of Service	Control delay per vehicle in seconds (d)		
	Signals	"SIDRA Roundabout LOS" method (1)	Sign Control
A	$d \leq 10$	$d \leq 10$	$d \leq 10$
B	$10 < d \leq 20$	$10 < d \leq 20$	$10 < d \leq 15$
C	$20 < d \leq 35$	$20 < d \leq 35$	$15 < d \leq 25$
D	$35 < d \leq 55$	$35 < d \leq 50$	$25 < d \leq 35$
E	$55 < d \leq 80$	$50 < d \leq 70$	$35 < d \leq 50$
F	$80 < d$	$70 < d$	$50 < d$

A1.10 The above analysis confirms the need for assessments at the defined 43k, 62k and 102k thresholds to ensure adequate measures are in place and infrastructure investment (and other required measures) occurs in a timely manner, to ensure acceptable operational conditions can be maintained.

## ANNEX 2

### Effect of higher traffic generating activities as a result of the KCAHL Proposed Private Plan Change - PC84: Analysis Results

#### Network Operational Performance

A2.1 A review of the traffic effects of the introduction of higher traffic generating activities as a result of the KCAHL Proposed Private Plan Change<sup>11</sup>, using the Kāpiti Traffic Model (KTM3) SATURN pm peak model and SIDRA (6.1) network analysis, for the following scenarios:

Airport Development	
Threshold GFA	Description
<b>23k</b> (23,261 sq. m.)	Existing and consented development
<b>43k</b> (43,050 sq. m.)	DP/PDP Assessment threshold 1
<b>62k</b> (62,500 sq. m.)	DP/PDP Assessment threshold 2

A2.2 As noted in the table above the threshold GFA numbers have been abbreviated for ease of reference only and this is continued through the remainder of this Annex.

A2.3 The analysis shows that in 2017, following the opening of the Expressway, up to 23k GFA of Airport development is forecast to result in average network speed of 30.6 km/hr in the evening peak. Alternatively, on the basis of DP (and PDP) based forecasts, if the development threshold of 43k was reached, network speed would be reduced by 9%. Similarly using DP (and PDP) forecasts, moving to 62,500 sq. m GFA, without further infrastructure investment, would reduce the average network speed more substantially, by 36% to 19.6 km/hr.

2017 Operational DP / PDP			
GFA	LOS	Network Speed (km/hr)	Change
<b>23k</b>	<b>D</b>	<b>30.6</b>	
<b>43k</b>	<b>D</b>	<b>27.8</b>	<b>-9%</b>
<b>62k</b>	<b>E</b>	<b>19.6</b>	<b>-36%</b>

<sup>11</sup> Originally undertaken in November 2015 and revised in December 2016.

A2.4 In contrast, on the basis of PC84 forecasts provided by KCAHL, the introduction of higher traffic generating activities, such as a 6,000 sq. m GFA department store<sup>12</sup>, would have the effect of increasing the amount of traffic generated within each of the development thresholds (43K and 62K) as shown below:

2017 PC84			
GFA	LOS	Network Speed (km/hr)	Change
23k	D	30.6	
43k	E	22.8	-25%
62k	F	14.3	-53%

A2.5 This demonstrates the introduction of higher generation activities as proposed in PC84 would have the effect of reducing operational levels of service much more substantially than under operational DP or PDP forecasts. This would also mean that (as yet unspecified) infrastructure investment would be required, well before the 43k GFA threshold is reached.

A2.6 The implications for the Operational District Plan (and Proposed District Plan), if more intensive traffic generating uses such as a department store, were to be introduced on Airport land, would be the potential need to lower all currently specified GFA development thresholds for the Airport. An assessment of the implications of approving PC84 has been undertaken and this indicates the following changes to operative DP (and PDP) GFA thresholds would be required<sup>13</sup>:

Current Operative DP (and recommended PDP) SQ. M. GFA Thresholds for ITA purposes	Traffic Generation (PM PEAK VPH)	Revised GFA Thresholds (If PC84 was to be approved)
43,050	670	32,300
63,500	1,130	51,800
102,900	1,600	92,200

A2.7 It is not possible to rely 'entirely' on an assessment based on the 20,000 sq. m. GFA breakdown supplied by KCAHL as part of the PC84 application process (see A3.3 in Annex 3 for further comment on this). Therefore, if future development is more intensive than anticipated, then an additional and separate ITA will be needed, irrespective of the position on the major GFA threshold ITA requirements, as tabulated above.

A2.8 Supporting transport documents, issued on behalf of KCAHL, do not provide any assurance that the proposed private plan change would either, result in acceptable operational conditions on the local road network, or that appropriate and timely infrastructure will be provided. The Airport has not undertaken any technical transport analysis in support of their application.

<sup>12</sup> Based on: possible (as indicated by KCAHL) development mix arising from the proposed plan change, previously agreed trip generation rates and distribution based on SATURN O/D matrices for Airport model zones.

<sup>13</sup> Adjustments to other GFA thresholds in the operative DP and PDP would also be required.

A2.9 The basis for this note was originally prepared in November 2015 but has been reviewed to take account of the findings in the latest KTM3 modelling test assumptions (July 2016) and the SIDRA model peer review (November 2016).

A2.10 The results from the above analysis are unambiguous, and clearly demonstrate the deterioration in LOS if higher intensity activities and associated increases in traffic generation were to eventuate, without appropriate assessment and mitigation.

## ANNEX 3

### **KCAHL Request for a Private Plan Change to Kāpiti Coast District Plan: Review of Tim Kelly letter (30-10-2015), other relevant KCAHL material issued via Russell McVeagh email (05-11-2015) and the February 2016 Private Plan Change Request**

#### **Key Points**

A3.1 The response by Alistair White on behalf of KCAHL (30-10-2015) includes the statement: *“Prohibited status is rarely used and is perhaps only appropriate if there are known circumstances why a class / kind of activity should not even be considered for consent...”* (last paragraph). However, in my opinion, the Airport related development as proposed in PC84 may represent such a special case, for the following reasons:

- The Airport has been assessed for a mix of development types into the future up to an absolute maximum of 282,450 sq. m. GFA in the mixed-use precinct and 339,338 sq. m. GFA in terms of maximum overall development. Above this higher limit, development has a non-complying status in the operational DP.
- Three intermediate traffic related thresholds are also specified for development in the operational DP. At the two lower thresholds (43,050 and 63,500 sq. m. GFA), specific infrastructure is to be provided. At the higher threshold (102,900 sq. m. GFA) a transport assessment is to be undertaken.
- The effects of Airport related development proposed as part of PC73 were tested by Council using traffic modelling and the effects arising were assessed. The outcome from this work was agreed with the Airport (in 2007) and the findings considered and approved through statutory processes and hearings, as incorporated in the operational DP.
- No other development in Kāpiti District has been through such a comprehensive and thorough assessment and approval process, prior to being included in an operational DP. Since this time, and in preparation for the PDP, all earlier modelling and assessments have been reviewed by Council, to take account of changed circumstances, most notably the implementation of the Expressway to replace the Western Link Road.
- This review has confirmed that extreme care is needed, in association with long term planning, to introduce large scale new development, such as that proposed, for Airport land. The review also confirmed the need to retain development related thresholds as currently specified in the operational DP (and in the PDP moving forward).
- As a result of these considerations, and exceptionally, the need for transport assessments at specific threshold points development restrictions (through prohibited or non-complying status) can be established in this case with some certainty.

A3.2 The proposed private plan change would create the intensification, concentration and acceleration of traffic effects associated with new airport related development, as follows;

- **Intensification:** If the mix of activities was to change as proposed, this would lead to a higher rate of traffic generation for any given GFA threshold. The responses on behalf KCAHL do not dispute this (see for example Table 2 in Tim Kelly’s letter (30-10-2015) indicating a much higher traffic generation from an illustrative 20,000 sq. m of development). This would represent a very substantial increase in traffic generation of 217%. over estimates based on currently anticipated / permitted activities. If this were to occur, such intensification would mean that the current development thresholds in the operational and proposed DPs would mean that higher traffic levels would be permitted (than have been envisaged and planned for) through earlier statutory processes.
- **Concentration:** As higher flows would come from particular localised sites, this demand would be more highly focussed onto particular accesses, in particular, those accesses connecting with Kāpiti Road, which is already under considerable pressure. The effect of more concentrated flows onto specific points on the network would have the effect of increasing delays for existing users and reducing the operational level of service on the network.
- **Acceleration:** The development of higher traffic generating uses would mean that infrastructure would be needed earlier than as has been assessed and as stipulated in the operational DP. The effect of accelerating the need for infrastructure would reduce the likelihood that it could be provided in time, which would prevent the effects of development from being properly mitigated.

The net result of the above effects means that, if the private plan change were to be approved as proposed by the Airport, the replacement of currently anticipated and permitted mix of activities by higher traffic generating uses, would result in higher traffic generation rates, more concentrated traffic impacts and earlier network problems, leading to an inability to secure the necessary infrastructure to mitigate such effects.

- A3.3 It is not possible to rely entirely on an assessment based on the 20,000 sq. m. GFA breakdown supplied as part of the PC84 application process (or the more detailed breakdown of activities in GFA terms) on which traffic generation rates used by Tim Kelly have been based (Table 2 of the letter from Fraser Colegrave, dated 30-10-2015). This is for two reasons. Firstly, as the Russell McVeagh letter makes clear, the potential demand for activities included in the proposed plan change cannot be known until KCAHL "...engage with the market." and also that: *"... the proponent does not yet have any firm plans for what it wishes to develop."* Secondly, no assurance is offered in the proposed plan change to limit the proposed activities, only indicative GFAs are provided and these may change. For these reasons, any assessment of potential impacts over time needs to assume that the scale and mix of higher traffic generating uses could be higher than currently anticipated. If so, this would exacerbate the existing and known problems associated with increases in traffic demand over and above those previously anticipated from the Airport Zone.
- A3.4 Given the concentration of existing and planned infrastructure, it has already been established (for example, through the processes to approve the operative DP) that the best location, by far, to locate the future expansion of town centre type activities, is in and immediately adjacent to the existing town centre. In traffic terms, the Expressway was found to reinforce the need for activities to be concentrated in the existing town centre (see for example, the outcome of the PC72A Environment Court Appeal Hearing). Furthermore, no alternative site could replicate the scale of infrastructure needed to service a new town centre without either causing large problems on the existing network or receiving substantial Council assistance. Any reduction in activities in the existing town centre would result in the devaluation and underutilisation of existing and planned public infrastructure.
- A3.5 The argument is used in the Russell McVeagh letter that: *"... the change from prohibited to non-complying or discretionary activity status will not in and of itself create any adverse environmental effects"* However, this could be said of any change in any aspect of a plan until such time as a resource consent is applied for and a proposal implemented. Furthermore, the statement also in this case, ignores the fact that the overall development has already been comprehensively modelled and its potential effects have been assessed. It is not disputed in the responses on behalf of KCAHL that a plan change of the nature proposed is likely to add to those effects substantially. For example, work by Tim Kelly (p2 of his letter) estimates an indicative *"... increase in vehicular activity from 310 to 672 movements/hour"* and in page 5 of his letter it is stated that: *"...the PPC could result in a more intensive pattern of development with a higher level of vehicular activity on the local road network."*
- A3.6 The private plan change request incorrectly states in 5.12 (b) that Mr Kelly has used scenarios prepared for private plan purposes to *"model the traffic impacts."* In fact, this has not been undertaken and KCAHL have not undertaken any appropriate modelling or analysis of the potential effects of their proposals in traffic or transport terms. In contrast, Council have assessed potential effects and have found the plan change is likely to generate substantial operational problems on the local road network.
- A3.7 For the above reasons, I am of the opinion that:
- There is strong justification for retaining prohibited or non-complying status for higher traffic generating uses (as referred to in the proposed private plan change).
  - The private plan change as proposed should not be approved.
  - If the plan change is approved, it should be substantially modified to include appropriate safeguards as recommended by the Council planning officer.