

Kapiti Coast District Council

Plan Change 72A

Review of Access Requirements

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Plan Change 72A – Review of Access Requirements

1 Introduction

This review considers the effects of implementing Plan Change (PC) 72A on the Kapiti local transport network, within the context of other planned changes, such as the MacKays to Peka Peka (MtPP) expressway, future Airport development and the Ihakara Street extension.

This review has been undertaken on the basis that the PC 72A development is a suitable and appropriate use of this land, provided that adequate access arrangements are put in place.

2 Findings

Development and use of the land subject to the PC 72A will generate significant amounts of traffic in the evening peak period (potentially approaching 1,000 vehicles two-way per PM peak hour). If this demand is concentrated onto Rimu Road, which has a current two-way traffic demand of approximately 1,300 vehicles per hour, then very careful consideration will be needed (above defined thresholds) prior to the consent application stage, to ensure acceptable operational conditions are maintained.

For example, roundabouts at the site boundary with Rimu Road may work (purely) in traffic capacity terms, but is unlikely to be satisfactory for pedestrians and cyclists without additional measures being introduced.

Signalised intersections, including pedestrian phases, is not likely to achieve acceptable levels of service unless additional stop-lines, widening or other measures are introduced.

It is recommended that two access points are provided to the PC 72A area on Rimu Road opposite the existing Coastlands accesses. This will assist in integrating the PC 72A area with the remainder of the town centre.

However, in terms of traffic capacity and safety impacts on other parts of the network, a 'Rimu Road only' connection strategy is likely to create unacceptable pressure on existing junctions, such as Coastlands-Rimu Road, Iver Trask Place-Rimu Road, Kapiti Road-Rimu Road and potentially others, such as SH1- Ihakara Street.

One or more connections from the PC 72A area onto Ihakara Street and/or Kapiti Road are therefore likely to be required. Additional connection is needed to reduce the concentration of PC 72A related traffic pressures on Rimu Road and other affected junctions on the local network.

This is the reason why the PC 72A included a requirement that development above a particular scale will be controlled more restrictively until additional linkages are in place.

A suitable link to Ihakara Street from the main PC 72A development should therefore be established as part of any future access strategy. It may also be possible to gain access

to the Arawhata Road-Kapiti Road intersection for direct access to the local and strategic network via the Kapiti Road expressway interchange.

This 'two connection' approach will allow traffic flows to be appropriately balanced and will reduce the pressure on any one access route, especially on Rimu Road between Kapiti Road and Ihakara Street.

The modelling for the MtPP expressway (by Beca for NZTA) has assumed that significant, but uncommitted, network improvements are undertaken, including the Ihakara Street extension and the provision of new 'town centre links' connecting Ihakara Street, Rimu Road and Kapiti Road. These new roads would both service local development access and attract a proportion of 'through' traffic movements.

The MtPP expressway is expected to have some relieving effect on Rimu Road whatever the future local network consists of, but in the absence of a further more detailed analysis, implementation of the Ihakara Street extension and the new town centre links are also likely to be required in order for the full development of the PC 72A area to work acceptably. In the absence of these new roads (and suitable connections to them from the PC 72A area) operational difficulties, beyond a low level of traffic generation, are likely to occur.

A detailed safety analysis of the local network is also needed (above defined development thresholds) prior to a consent application. This analysis should be undertaken in conjunction with the further investigation of traffic capacity and other modal access considerations.

A lot depends on timing. If PC 72A development occurs prior to the MtPP expressway then it will be necessary to make sure the access strategy for the development can cope with the changing traffic demands on Rimu Road and that development is phased appropriately.

Detailed traffic modelling is necessary as part prior to any consent application (above defined thresholds) to take account of future scenarios: for example, with no MtPP expressway, no Ihakara Street extension and/or no additional town centre links.

3 Recommendations

- (i) A precautionary approach is recommended to address uncertainty regarding the scale and type of PC 72A development, implementation timing, future configuration of the local highway network and the impact of the MtPP expressway.
- (ii) The PC 72A development access strategy needs to include two suitable connections to Rimu Road and also (beyond a limited scale of development) one or more connections to another suitable point in the network, on Ihakara Street and/or to Kapiti Road.

- (iii) A permitted activity rule /standard is required to limit development on the basis of overall maximum permitted traffic generation from all activities on the PC 72A area as follows:
- (a) Access to the PC 72A area is restricted to (no more than) two access points onto Rimu Road. These accesses to be located opposite the existing Coastlands accesses on Rimu Road. This restriction to apply prior to the submission of a full transport assessment (by the applicants) and approval by Council of the proposed development related access strategy for the entire PC 72A area.**
 - (b) Access to all parts of the PC 72A area via the northern cross-road (four-arm) intersection with Rimu Road will have a maximum permitted two way traffic generation at each junction of 50 vehicles in any given hour.**
 - (c) Access to all parts of the PC 72A area via the southern cross-road (four-arm) intersection with Rimu Road will have a maximum permitted two way traffic generation of 100 vehicles in any given hour.**
- (iv) A resource consent should be required for any development that will lead to exceedence of the above traffic volumes. Prior to any resource consent application (above defined thresholds), a full transport assessment covering the matters outlined below will need to be carried out and mitigation implemented in agreement with the Council:
- (a) Scope of assessment (for example: area of influence, modes and safety).
 - (b) Methodology.
 - (c) Development schedule, trip generation, trip distribution, pass-by trip, linked trip and other assumptions.
 - (d) Network and traffic demand/growth scenarios.
 - (e) Assessment years.
 - (f) Access options to be considered
 - (g) Preferred access strategy, associated measures required and commitments.

Annex A

Plan Change 72A – Technical Note on Transport Requirements

A.1 Development and traffic demands

Previously in KCDC evidence (Peter Knight, Nov 2007, para 3.7) it was assumed that the PC 72A development would involve 29,000 sq. m retail, 6000 sq. m offices, 9,300 sq. m apartments and 2,000 sq. m community uses.

The latest modelling of the PC 72A area has maximum development assumptions (incorporated in the current Kapiti SATURN model (v13 as maintained by Beca for NZTA) as follows.

Land use - PC 72A	GFA sq. m
Large format retail (<i>3,000 in Ihakara St area</i>)	10,000
Specialist / convenience retail	14,500
Business services / offices	15,600
Industrial /commercial (<i>all Ihakara St area</i>)	5,700
Civic uses	3,000
Housing	21,750

Calculated trip generation for the evening peak hour from this scale of development is estimated to be 348 LV 4 HV inbound and 1,012 LV 18 HV outbound in the evening peak hour.

The estimated development demand has been combined with current (2010/2011) network demands to create test demand flows for two development access options as follows:

(a) Via a new fourth arm for development access added to the existing main (central) Coastlands priority junction with Rimu Road (at the northern end of the PC 72A frontage with Rimu Road) and/or:

(a) Via a new three arm priority junction between the development access and Rimu Road, assumed to be equivalent to connection with the existing secondary (southern) Coastlands priority junction with Rimu Road (at the southern end of the PC 72A frontage with Rimu Road)

In testing these access options, allowance has been made for pass-by trips (i.e. trips already on the Rimu Road that could be expected to divert into and out of the development).

A.2 Network capacity - overall

Previously, the Council forecast that the current network plus expected changes in network capacity, including: the Western Link Road (WLR), Ihakara Street extension and junction improvements, would be sufficient to permit the scale of envisaged town centre development to be successfully implemented (Peter Knight, Nov 2007, para 11.1).

This is still the case in principle, with the substitution of the MtPP expressway for the WLR, although the MtPP proposal has yet to go through statutory processes and the Ihakara St extension is conditional on the WLR being completed. It is possible therefore that the Ihakara St. extension may not be implemented as a result of this condition. Should these network improvements not be completed, then the ability of the network to accommodate additional development will be significantly limited.

A.3 Network capacity – initial analysis

For initial assessment purposes, SIDRA analysis has been undertaken.

The findings from this analysis are as follows:

- (i) Full development (accessed as described in A.1 (a) and (b) above) would result in problematic operational conditions, in traffic capacity, level of service and safety terms.
- (ii) If an access to the PC 72A area was provided via a fourth arm opposite the main Coastlands access to/from Rimu Road, a maximum hourly traffic generation to/from the development of 50 vehicles an hour could be permitted.
- (iii) If an access to the PC 72A area was provided via a fourth arm opposite the secondary (southern) Coastlands access to/from Rimu Road, a maximum hourly traffic generation to/from the development of 100 vehicles an hour could be permitted.

A number of factors could alter these findings, including variations in the number and form of connection points to the current and future road network.

A.4 Discussion

Considerable detail is required to be sure that the traffic impacts of the approved PC 72A can be successfully managed. This is because the existing network, especially Rimu Rd between Ihakara St and Kapiti Rd is under stress in both capacity and safety terms and this is expected to worsen until the network improvements referred to in A.2 above are completed.

Prior to a full transport / traffic impact assessment being undertaken (with associated design and mitigation proposals) it is not possible to 'pre-approve' any substantial amount of development (i.e. to make this 'permitted activity') with any degree of confidence.

It is important to consider the scale, type and timing of development in conjunction with the proposed access strategy. For example, to make sure that, for such a large potential development: appropriate traffic access links are provided and to confirm the suitability / form of traffic access junctions at individual connections with the local road network.

It would be beneficial to integrate the transport network of the PC 72A area with the wider town centre, especially with Coastlands on the opposite side of Rimu Road.

Arrangements for other modes, particularly walking, cycling, PT and heavy commercial traffic also need to be carefully considered.

A detailed safety assessment of potential impacts on the local network is required.

At this stage it is possible to conclude that a relatively small amount of development, to reflect initial site activity, of between 50 and 100 vehicles per hour onto Rimu Road at defined locations would be acceptable.

50 and 100 vehicles per hour represents a range of between 4 and 8% of the initial estimate of the PM peak traffic generation and is consistent with the approach taken to the Bunnings warehouse site, prior to a full transport / traffic assessment being undertaken and associated design proposals being approved by the Council.

Annex B

Plan Change 72A – Variation in Development schedule

B.1 Development schedule

A variation in development schedule has been estimated, assuming that the Ihakara Street element of the PC 72A development does not impact directly on Rimu Road. The maximum development schedule for the remainder of the PC 72A area is estimated to be as follows:

Land use - PC 72A (excluding Ihakara Street area)	GFA sq. m
Large format retail	7,000
Specialist / convenience retail	14,500
Business services / offices	12,750
Civic uses	3,000
Housing	21,750

B.2 Traffic generation

The reduction in traffic generation between the above schedule and that assumed in Annex A is approximately 7.5%. This reduction is not sufficient to alter the recommendations made in the main paper or to require any detailed recalculation of the analysis in Annex A.

The scale of (non-residential or community) development that could be permitted on the PC 72A area without breaching a 50 vehicles in/out limit (from any one access) in any one hour is summarised below:

Land use - PC 72A (excluding Ihakara Street area)	GFA sq. m	Trips per hr
Large format retail	2,000	48
Other retail	1,000	50
Business services / offices	4,500	48