



Barclay Traffic Planning

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Dear Ms Tessendorf

PROPOSED PLAN CHANGE 20: TRAFFIC ASSESSMENT

As arranged I have considered traffic implications of the proposed plan change, and report as follows.

1. Background

Proposed Plan Change No. 20 (PPC 20) provides for rezoning of approximately 1.1 hectares of land at 60 Eastern Hutt Road, Wingate, from Passive Recreation Activity Area to General Business Activity Area.

The land is currently owned by HCC but the intention is for it to be sold for development.

2. Scope

This assessment considers traffic matters relevant to the plan change evaluation under Section 32 of the Resource Management Act 1991 (RMA). These include the ability of possible developments to comply with permitted activity conditions, and the potential for adverse effects on road safety and efficiency.

3. Description

The land currently undeveloped and is located on the eastern side of Eastern Hutt Road, between its intersection with Page Grove and the northern intersection of Peterkin Street. The land rises from the valley floor, gently at first but more steeply toward the rear.

Eastern Hutt Road is classified as a Major District Distributor Road in the District Plan roading hierarchy, the second-highest classification. This means that the predominant function is to carry through traffic. At this point the road's speed limit is 50 km/h, and it has a kerb-to-kerb width of 11.2 metres. There is a footpath on the western side but not on the east. The road carries 7,131 veh/day (7-day average, 2007).

4. Potential developments

District Plan provisions on parking and traffic are contained in Chapter 14A. These apply across all activity areas, and the proposed plan change will not affect the relevant rules.

There will however be substantial differences which can be envisaged under present and proposed zoning. With its present status of Passive Recreation, permitted activities include

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- (a) *Parks, reserves and picnic areas.*
- (b) *Walkways.*
- (c) *Landscape furniture.*
- (d) *Informal recreation, excluding all types of motorised activities except those used only for the purpose of farming and maintenance.”*

(from Section 7D2.1)

Notably, buildings and structures are provided for only as a discretionary activity.

Clearly, these provisions contemplate a very modest level of activity, with development restricted to features such as car parks, picnic tables and walking tracks. These will generate few traffic movements.

If PPC 20 becomes operative, the land will have General Business Activity Area status, where a very wide range of activities and development types is permitted. These include manufacturing, storage, warehousing, and vehicle sales and service. A number of non-industrial activities are also provided for, such as commercial recreation, places of assembly and conference facilities.

In the absence of a specific development proposal it is difficult to generalise about traffic characteristics of typical industrial activities which might be established, however a number of observations can be made:

- While some subdivision or unit titling might be possible, lot sizes will be constrained by District Plan requirements for on-site manoeuvring by rigid or articulated trucks. These will need either drive-through access, a turning head or a turning circle 25.0 metres in diameter. These constraints suggest either a small number of large allotments, or unit titles with large common areas for manoeuvring. Access will be by a small number of driveways, perhaps only two or three in total.
- As with most industrial development, buildings are likely to be single storey except perhaps for mezzanine offices and amenity areas. Parking will be at ground level. For typical parking demand rates of 1-2 spaces per 100 square metres gross floor area (GFA), and after allowing for servicing, circulation and access, this dictates a maximum site coverage of around 70 per cent. In practice coverage is likely to be considerably lower, because of the site layout and terrain, and it is reasonable to allow for coverage of no more than 50 per cent. If the full 1.1 hectares is developed in this manner, then there is space for buildings of up to around 5,500 square metres GFA, for which the District Plan will require at least 55 car parks.
- For industrial activities there can be wide variations in traffic generation rates, but a typical range would be 1-2 movements per hour per 100 square metres GFA. The hypothetical 5,500 square metre development

would therefore be expected to generate up to around 100 movements per hour at peak periods, a substantial figure even when compared with traffic levels along Eastern Hutt Road which are currently up to approximately 900 vehicles per hour at peak times (*Source*: Hutt City Council, 2007).

- As outlined earlier, possible non-industrial activities include indoor or outdoor sports, places of assembly and offices. Once again it is difficult to generalise but in the case of sporting venues and places of assembly (such as churches) the key constraint is likely to be the ability to provide enough parking. With potential for perhaps 200 to 300 parking spaces, the site can support an activity involving up to around 1,000 persons.

5. Access

District Plan access rules are contained in Section 14A(ii)2.1, and include controls on separation distance from intersections, width and number of accesses, and space for circulation and manoeuvring. There is also a general requirement for “...*vehicular access ...shall be located and designed in such a way as to ensure convenient and safe movement to and from the site with minimal interference to other traffic, to pedestrians and to on street parked vehicles.*” (from Rule 14A(ii)2.1(a)).

The requirement for safe access is particularly important in view of the site’s location on a busy road with Major District Distributor hierarchy status, and the Council needs to be in a position to enforce all relevant rules.

One concern is that controls on the width and number of accesses under Rule 14A(ii)2.1(c) only apply if the vehicle crossings cross a footpath. There is no footpath along the site frontage, and these controls could not be enforced despite the sensitive location. This means that property owners could as of right have a proliferation of driveways, or have continuous kerb crossings across the whole of their frontages. These practices are undesirable, because of the loss of on-street parking, reduced definition of the road edge and the increased complexity of vehicle interaction.

To address this concern, HCC will construct a footpath along the frontage as it prepares the land for sale. As well as activating some important access rules, the path will be a useful facility on an arterial road. Although there might not be much pedestrian activity now, as soon as the site is developed with significant employment the number of pedestrians will increase.

As well as rules relating to the width and number of crossings, requirements relating to distance from an intersection, circulation and the need to avoid reverse manoeuvres to or from the site will apply. These remain appropriate. Additional requirements will apply if a service station is constructed (refer Section 14A(ii)2.1(e)).

With the exception of service stations, there is no specific sight distance standard although satisfactory visibility is an implicit requirement of Rule 14A(ii)2.1(a) as quoted earlier. For an estimated operating speed of 60 km/h the Australia / New Zealand standard AS/NZS 2890.1-2004 recommends a minimum desirable sight distance of 83 metres (refer Figure 3.2). This is comfortably exceeded at the site in both directions, with visibility available well in excess of 100 metres.

If a high-volume driveway is established features such as parking prohibitions and a marked turn bay may be required, however these can readily be implemented if needed.

6. Parking

For industrial activities the District Plan requires parking to be provided at the rate of one per staff member or one for every 100 square metres GFA, whichever is the greater. For warehouses, the requirement is 1.5 per staff member. While there may be exceptions these rates will generally be sufficient to cover demand, so that all parking is accommodated on site with no need for cars to park on the road.

This may not be the case for some non-industrial uses, for which the Council as a matter of policy has set the parking requirement at a level below demand. Figure 1 shows the comparison between the requirement and actual demand for selected uses:

Activity	Unit	District Plan requirement	Actual demand	Shortfall
Office	100 m2 GFA	2.0	2.8	0.8
Place of assembly / sporting venue	Spectators	0.2	0.4	0.2

Source: RR209: Trips and Parking Related to Land Use (Transfund 2001)

Figure 1: Comparison between District Plan parking requirements and actual demand of selected activities

Offices have a similar pattern of usage as industrial activities, and it could be argued that they set a permitted baseline below that of actual demand. It can be expected therefore that some large office developments and their industrial equivalents could be approved with a shortfall in parking, leading to a demand for kerbside parking.

Sporting venues, commercial recreation and places of worship will also have a shortfall. These activities however tend to be active during evenings and weekends when many industrial activities are closed, and are thus more easily sustained. The different character of effects means their baseline is largely irrelevant in the assessment of industrial-type activities.

It can be expected therefore that under a number of scenarios some developments could be approved with a shortfall in parking. Some parking space is available along the site frontage and along nearby sections of Eastern Hutt Road. Space may also be available in Peterkin Street, although this is already well-used by existing activity.

Although much of the on-street demand will be met on Eastern Hutt Road, most of it will be all-day staff parking which will be accessed only twice a day. Despite the road's high hierarchy status it should be possible to manage the parking in a way which maintains safety and efficiency.

7. Loading and unloading

Section 14A(iv) of the District Plan requires all loading and unloading activity to take place off the road, and for industrial and retail activities to provide for different sizes and combinations of design vehicle according to the size of development.

This section needs to be read together with 14A(ii)2.1(d) which requires all access to and from the site to be in a forward direction. Because Eastern Hutt Road is a Major District Distributor, this requirement applies to all access.

The subject land is approximately 140 metres long by 50 metres wide, enough to enable facilities to be provided for all sizes of vehicle up to a 20-metre long articulated combination. Some subdivision could also be considered.

8. Effects on road network

As discussed earlier, peak traffic generation for a typical industrial development could amount to around 100 movements per hour, comparable to that of a typical service station. This compares with a flow of up to 900 veh/h on Eastern Hutt Road.

Under most conditions cars on entering or leaving the site will be able to find gaps with only brief delays. The road is wide enough for a turn bay or widened flush median to be formed. There should be little difficulty in establishing a satisfactory access.

Because new development on the site will be accessed directly from an arterial road, there will be no effect on minor residential or industrial streets. The additional traffic will be readily absorbed into the arterial network, with effects diminishing rapidly as one moves away from the site.

9. Road safety

An examination of the New Zealand Transport Agency crash record for the five-year period 2005 to 2009 shows a total of six reported crashes on Eastern Hutt Road between the northern and southern intersections with Peterkin Street. (At the time of writing a complete record for the year 2010 is not available.) Two involved manoeuvring vehicles, two a loss of control, and two involved right-turning vehicles. Only one accident resulted in injury.

Although any accident is a matter of concern, for an arterial road carrying large volumes of traffic such a record is not unexpected. With careful design of access points including parking prohibitions where necessary, development of the rezoned land should not unduly affect safety.

10. Conclusions

In PPC 20 HCC is proposing to rezone an area of land at 60 Eastern Hutt Road from Passive Recreation to General Business, with a view to making it available for industrial development.

This report has considered traffic effects of PPC 20 as part of the Section 32 evaluation, and concludes that although the change will facilitate a substantially higher level of activity District Plan provisions will ensure satisfactory control of access, parking, servicing and network effects, with no more than a minor effect on road safety and efficiency.

Yours faithfully



Bill Barclay

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