PART 2 - Context and Growth Projections
2.0 CONTEXT AND GROWTH PROJECTIONS

2.1 The Context

While the project scope focuses primarily on Hamilton City, it is impossible to make long-term strategic growth recommendations without considering the needs and aspirations of surrounding areas. In this case growth in both the Waipa and Waikato Districts have been included, particularly seeing peripheral growth of these districts is occurring, in some cases, within 500m of the Hamilton City limits. While this is not entirely unexpected, given the potential for these districts to lever off Hamilton’s greater employment and overall economic base, ideally growth should remain consistent with an overall vision.

PRIMARY SCOPE AREAS

In addition to the more general scope areas and growth cells discussed in Section 2.2 overleaf, specific consideration has been given to the following broader primary scope areas:

→ HT1 (north of Ruakura) - land subject to WDC appeals and negotiations;
→ Rototuna - particularly land in the vicinity of any additional northern bridge crossing;
→ Land adjoining the Waikato Expressway, as the alignment is not yet settled;
→ Other growth cells identified within WDC/HCC boundaries agreement;
→ Additional land in the vicinity of Kowhai Road/Onion Road HT2a.

SECONDARY SCOPE AREAS

→ Implications of rural residential areas such as Gordonton, Te Kowhai, Koromatua, Te Kauwhata, Ohaupo, Tamahere, Matangi;
→ Horotiu growth cell;
→ South-west boundary - the Templeview future urban area.
2.2 Growth Cells

To meet growth demands the Council has previously identified numerous growth cells that it considers suitable for development. Planning in some of these cells is well advanced, with structure plans for Rototuna, Rotokauri, and Peacocke in place. Development within Rototuna is well underway and in the Peacocke growth cell, approximately 500 houses are to be built as part of the initial release of Stage 1.

Analysis during the EbD workshop sought to clarify the ideal land use of each growth cell, and where more than one use was evident, the preferred mix. This enabled subsequent growth options to be based on realistic expectations of likely and feasible future development, and give confidence that they would meet growth needs and stakeholder expectations.

Key points associated with each of the growth cells deemed relevant to inform the process have been detailed on the following pages.

Preferences by each technical discipline, as determined during the EbD workshop have been tabulated as Appendix 2, to help inform of the effects of intensification and growth associated with each growth cell.

RIGHT: FIG. 2.2 Identified use of existing future growth cells, resulting from EbD analysis.
Rototuna
The workshop identified that expanding residential growth 4-500m to the north (into HT1) is a possibility, creating improved viability (by increasing the population catchment) for future passenger transport along Kay Road. Development densities are likely to be influenced by topography to the north. This results in effectual staging of Rototuna, with land to the north of Kay Road being tentatively considered in Stage 2. This approach, assumes the bridge connection in HT1 has been provided. Detailed analysis of HT1 determined that due to the significant existing rural residential development already in the south of this cell, there is little foreseeable scope for increased residential intensification beyond existing levels. Other considerations include:

- Six years remain on the existing Waikato Expressway designation and despite no funding currently being available, future proofing the route is essential;
- Existing trunk infrastructure is present, growth therefore is relatively easy to accommodate due to lack of pressure on services;
- Likely to require a new secondary school within the next 10 years. Easy to provide in new greenfield areas;
- Three Waters Infrastructure costs per ha - $250,000;
- Considered to offer benefits primarily to northern Hamilton.

Rotokauri (Based on existing Structure Plan)

- Rough order estimate of $263m infrastructure costs;
- Approximate capacity for 6,800 dwellings;
- Approx 270ha of Industrial / Employment zoned land;
- Costs for elements of MoU regarding SH1 to be decided;
- More diverse future land uses than those associated with Rototuna;
- Potential links with Horotiu to the north - particularly as the two areas grow towards each other.
Peacocke (Based on existing Structure Plan)
- Rough order estimate of $257m infrastructure costs;
-Approximate capacity for 8,400 dwellings;
-No current provision for Industrial / Employment zoned land;
-Possible to involve a MoU for SH1 impacts – yet to be determined;
-New infrastructure required to service growth - costly;
-Bridge connection required for growth;
-Indicative Three Waters Infrastructure costs per ha - $350,000;
-Development considered to offer wider regional benefits;
-When developed, will place more people in closer proximity to employment areas than both Rototuna or Rotokauri, with movement efficiencies financially estimated at $6m;
-Has strong links with the hospital and airport.

Ruakura (Eastlands)
- Land use assumptions from Council discussed with landowners and AgResearch in late 2006;
-Most recent discussions suggest landowners intention for significant changes to previously indicated land use. Employment focus comprising:
  - 15ha retail;
  - location and nature of industrial land use not yet determined.
-Connection to Waikato Expressway potentially strong;
-Size of area set aside for AgResearch reduced
-Assessment relates only to R1 area south of Greenhill Road;
**HT1**
- Significant cultural issues - pre-European gardens. Opportunities for restoration;
- Areas of cell already developed as rural residential.

**HT2**
- Reverse sensitivity issues;
- No infrastructure or services currently in place.

**Templeview**
- Requires infrastructure regardless of future growth as existing capacity inadequate. Offers the opportunity to intensify long term;
- Future proposed piped infrastructure from Peacocke to Pukete passes Templeview.
2.3 Indicative Future Land Uses

EMPLOYMENT DOMINANT AREAS

Population growth projections and likely economic trends (refer to Section 2.6) indicatively identified the number of jobs that may be required over the next 35 years. Further analysis was undertaken to identify the types and size of land uses required to accommodate the growing employment base and the quantum of land required. In addition, a number of 'locational criteria' that describe where and why particular types of business will locate where they do in the future were also outlined.

Previous studies have identified that the following growth cells could be focused around employment:
- R1;
- HT2;
- Part of Rotokauri.

The areas in R1 (comprising the land south of Greenhill Road and the Ruakura AgResearch area and surrounding farmland) was identified as being particularly suited for employment type land uses. It provides unique opportunities to leverage off the existing agri-bio research functions of AgResearch and the adjoining Innovation Park. This area is located on the east of the city and would provide employment growth for the population on the east of the city without needing to cross already under pressure bridges.

RESIDENTIAL DOMINANT AREAS

Growth projections, housing demand and housing density trends suggest that residential growth over the next 35 years will require a considerable greenfield component. This is in addition to future infill housing trends within the existing urban area, which are expected to remain relatively constant into the future.

The following growth cells are considered to be residentially dominant, supported by ancillary non-residential uses such as local shops, schools, facilities, and so on:
- Rototuna;
- Part of Rotokauri;
- Peacocke;
- HT1.

Historical patterns in Hamilton show growth has generally occurred in a linear (north / south) manner, stretching Hamilton along the Waikato River banks and SH1. In the future, and based on expected developments ear-marked in surrounding districts, growth to the east is expected. The Waikato River, a natural boundary has been bridged to a point whereby future growth is no longer constrained by the river itself. The extension of the proposed Waikato Expressway, therefore takes on greater importance as, if required, this has the potential to form a boundary between developed and undeveloped land to the east.

The Templeview growth cell was not considered to offer the same level of advantage to the city as other residentially-dominant growth cells. Once the actual likely land requirement for residential uses over the next 35 years was applied, it was confirmed that Templeview is not required to help the city meet its residential growth needs in this timeframe.

2.4 Existing Statistics

To understand future growth changes and assumptions, an understanding of current growth trends is required. Figures provided to the consultant team indicate:
- On average, 1,000 new dwellings are consented to per annum (1,233 in 2007 with an average floor area of 164m²);
- Approximately 40% of consents relate to infill sites, involving the construction of both single and multi-unit developments;
- The average residential densities across the city are as follows:
  - Established parts of city - 12.9 du/ha;
  - Maximum density found within the city is in the University Census Area Unit (CAU) - 18.6 du/ha;
  - Character areas such as Hayes Paddock - 13.6 du/ha, with an average net lot size of 596m²;
  - Typical greenfield development such as in the Rototuna growth cell - 10.5 du/ha, with an average net lot size of 650m².

(Source of Figures: Hamilton City Council.)

Existing Council strategies have resulted in growth, however, there comes a point where changing environments (including economic and political) will dictate stronger, clearer and more robust recommendations particularly as resources (most notably the supply of cheap greenfield land, infrastructure capacity etc.) become scarce. As
most growth is occurring on greenfield sites on the periphery of the existing built area, emphasis on inner city infill intensification on 'brownfield' sites will increase. The following pages discuss the implications of current and future land needs on both greenfield and brownfield sites within the city.

2.5 Regional Conditions and Influences

Regionally, significant future growth pressure is expected to come from surrounding satellite towns, especially those located along the Waikato Expressway. These towns to the north in particular, will have strong links with Auckland and Franklin, where a number of businesses are envisaged to relocate from, and will therefore appeal as a business destination. The capacity of these towns, both in the provision of residential and employment sites is also expected to increase as surrounding districts put in place their own strategic growth planning models. Clarification over the future role of the railway will also assist in this growth, as if freight and possibly commuter rail services are improved, the attractiveness of these towns correspondingly increases.

Regional development and growth will directly impact on Hamilton City, particularly with regard to the provision of social infrastructure. Given the small population base of a number of these satellite towns, and the extent of change expected in the long term, it is not thought that growth will occur to a point whereby each surrounding settlement will achieve critical mass or a level of self-sustainment. Hamilton will continue to be relied upon by the wider regional population for a number of social functions which cannot be provided in these smaller centres. The relationship Hamilton has with surrounding towns is not however, solely one dimensional or confined to social infrastructure. The surrounding districts provide numerous agricultural and service industry related jobs, and employment figures support this. Daily, approximately 14,000 people travel into Hamilton for employment, while 13,000 leave to work in the surrounding districts. This trend is set to continue into the future. In addition to employment patterns, statistics have determined that over 50% of Hamilton City’s shoppers originate outside the city’s boundaries. (Source: Speer and Starr 2008)

Peripheral growth areas close to Hamilton’s boundaries, such as those associated with the Airport, Te Kowhai and Horotiu could potentially in time be seen as part of Hamilton if indicative growth patterns continue as they have in the past. Growth to the east is expected to gain momentum, with possible future administration of these areas by HCC a distinct possibility. This has previously occurred, with HCC taking over administration from Waipa District Council of the Templeview area.

Within Waikato District, preference for growth has been assumed in both Te Kauwhata and Horotiu, while Huntly and Ngaruawahia are considered heavily constrained. Growth within many existing Waikato District administered towns is therefore unlikely to be at a level that could influence or weaken Hamilton City; however, a more critical understanding of the areas suited for growth is being undertaken via FutureProof. There are both residential and employment implications for Hamilton City resulting from growth in satellite towns. In general some employment growth in peripheral towns is seen as a positive influence in terms of allowing existing towns to meet both their employment and residential needs.

Land within Te Kauwhata is well-suited to being developed into rural residential lots, Regionally, significant future growth pressure is expected to come from surrounding satellite towns, especially those located along the Waikato Expressway. These towns to the north in particular, will have strong links with Auckland and Franklin, where a number of businesses are envisaged to relocate from, and will therefore appeal as a business destination. The capacity of these towns, both in the provision of residential and employment sites is also expected to increase as surrounding districts put in place their own strategic growth planning models. Clarification over the future role of the railway will also assist in this growth, as if freight and possibly commuter rail services are improved, the attractiveness of these towns correspondingly increases.

Factors that may influence the long term growth of Hamilton include the need for a large area suitable for ‘dirty’ industry. Horotiu in part currently serves this purpose, however, as it continues to develop towards more high end business activities, the Hamilton sub-region as a whole may lose its competitive advantage to other sub-regions (South Auckland, the Bay of Plenty), if it fails to provide such a location in the future. A future greenfield site is likely to be required for this type of industrial activity.

Another factor potentially influencing future investment in the wider Hamilton area is access to and the allocation of water, a prerequisite of many large scale industrial activities. The obvious response is to make better use of the Waikato River, however, there are iwi co-management and consenting complexities associated with such a simplistic response. These will need to be resolved should this direction be taken.

Discussion through the FutureProof process needs to identify that with current land uses and projections for demand, the Hamilton City has a demonstrated shortage of industrial and employment land. Whilst Ruakura has been identified as best suited for employment and development, it is currently not administered by HCC, therefore this creates a cross boundary discussion with Waikato DC. The current strategic Land Agreement (HCC & WDC) does not provide an acceptable resolution to this matter as the transfer of land to HCC administration is linked to the construction of the Waikato Expressway.
2.6 Population Projections

The University of Waikato (UoW) has produced a series of localised population growth projections (based on 2006 Statistics New Zealand census data) to 2044. The base economic development activities series data was selected to be used in the development of the growth strategy. This series was the same series that was agreed to be used by partners of FutureProof. Therefore it was appropriate that the same assumptions for population were used for the city’s detailed consideration of growth matters and approaches.

Total population growth is in its raw form is unhelpful, needing to be converted into household numbers to be of real use in growth planning exercises. This is in itself challenging as average household sizes will change over time, meaning that as growth occurs in coming decades, so will the number of households that need to be delivered per head of that new population - making it something of a moving target. In addition, the projections are based on extrapolations of existing demographic patterns (including migration), which may not actually occur.

Nevertheless, for the purposes of this project it allows 35-year forecasting to be made in relation to changing population size, household size, the number of future dwellings required and indicative future employment projections.

As at 2006, there were 134,400 residents in Hamilton City. In 2044, this figure is expected to increase to 225,369, an increase of over 90,000 people. Household sizes are expected to fall from 2.813 people per dwelling, to 2.638, resulting in greater housing demand as the number of people in the city requiring housing will be dispersed across more dwellings.

Hamilton City will require, in order to accommodate the population in 2044, 85,438 dwelling units. This is an increase of 36,810 new dwelling units. Employment numbers (the number of jobs) are anticipated to increase from 69,888 to 117,191, resulting in 47,303 additional jobs.

* For the purposes of this exercise employment estimates have been based on a 52% employment / population conversion. Essentially this means that 52 jobs will be required for every new 100 people in the future. This indicative split is based on observed ratios elsewhere, and is subject to change, particularly as the population within Hamilton ages. It does not consider jobs generated within Hamilton by people living in surrounding districts and can therefore be considered a conservative estimate. FutureProof is expected to strengthen and confirm updated employment figures in the future.
SPATIAL IMPLICATIONS

Statistical information gathered for growth planning exercises unfortunately, while critical, has no relationship with, or control over, where growth would most efficiently or effectively go. This means for the community as a whole, that even with this predictive tool (population projections) there are still questions including those of:

- How to coordinate infrastructure investment while imposing the lowest burden on existing and future populations (i.e. growth can make an urban form more or less efficient and expensive to run, with many costs simply beyond the ability of most market systems to price);
- How to ensure that economic growth and productivity is maximised to maintain the city’s competitiveness (i.e. growth can either help to make things better but could also slow things down).

As such, while the figures detailed in Table 2 provide some degree of reliability for long term growth planning, they are subject to change, particularly if the normative rate of growth is disrupted or influenced by any sudden change in situation. This makes predicting future growth patterns uncertain given the unpredictable nature of future events that may occur over time. However, depending on the assumptions made, process for on-going refinement or correction, and contingency planning undertaken, reliable estimates can nonetheless be made on which to base sound planning. Not ‘over planning’ is also an important part of this mix as inflexibility can undermine rapid responses to changing circumstances.

There is a strong under-lying relationship between the quantum of growth and the timeframe needed to achieve it - rapid growth before planning strategies can be implemented undermines those strategies. Slower growth lagging ‘behind’ a strategy can result in built environments that are in a perpetual half-established transition, hinting at but never delivering the quality living environments promised.

It is important to understand the occurrence of growth with its timeframe. If coupled with a system of local implementation that can respond to the specific variations as they occur over time this approach can help to coordinate growth planning over several decades while at the same time focusing on delivering high quality places for ‘today’. This is particularly relevant given the short (2009-2019) and long term (2009-2044) growth periods subject to this strategy.

DEVELOPMENT APPROACH

Given the population projections made in Table 2, existing figures become a baseline for development densities and future land use needs. To a certain extent these will also dictate the staging and release of future growth cells. Essentially there are two broad approaches to facilitate growth, being:

- **Approach One**: Developing ‘one area at a time’ to meet the growth needs over a certain time period. Once the growth cell is fully developed then move onto the next growth cell; or
- **Approach Two**: Development of numerous different growth cells at once in a manner that allows multiple development efficiencies and locational benefits to be provided.

For Hamilton, **Approach Two** is favoured, as it allows growth to occur in numerous areas that offer different attractions to different people. Simplistically, the development of ‘The Base’ in Te Rapa has created significant employment and business opportunities to the north of the city. Some people may wish to live in close proximity to this location, and they should be allowed to do so in recognition of the movement efficiencies associated with proximate residential housing. Additionally it also allows developers to bring on a certain amount of new housing stock / residential sections / employment land in response to market demands.

The provision of future land use takes many forms and results in significant complexities regarding the mix, type and cost (both opportunity and actual) associated with growth. Residential growth will continue (in line with current trends) to be dominated by greenfield growth with infill occurring where market economics make this feasible. These are both discussed briefly in the following pages.
2.7 Residential Growth Assumptions

GREENFIELD GROWTH

Traditionally greenfield growth has been low density – 10du/ha (1,000m² / site gross or around 600-700m² / site net). This is deemed to be a relative inefficient use of land; however, this is largely being driven by demand.

The growth cells identified by HCC represent a response to market demand. There is an urgent need to confirm / refute the signalled potential growth projections and provide a clear market direction, particularly over the next decade to coincide with the 2009-19 LTCCP period.

In the Hamilton sub-region there is an extensive supply of greenfield land available to meet future growth demands. Numerous factors exist, which may influence the supply of new greenfield areas, including prescribed minimum densities, infrastructure provision and the willingness of developers to bring developments into the market.

INFEILL GROWTH

Conservative estimates put the available amount of infill capacity within Hamilton City’s existing urban area at over 30 years supply (based on historical rates of development). This has significant implications in terms of the timing and release of additional greenfield growth cells, as what we are being told is effectively, if infill growth dominated future residential housing provision there is no need to release large areas of greenfield development for a number of years (certainly at least beyond the 2009-19 LTCCP period). Given expected population growth rates in relation to current infill rates and housing preference, it has been determined that infill housing alone is unable to meet the expected future demand, hence supporting the need to continue expanding into greenfield areas.

Infill capacity includes the ability to construct a second dwelling on existing larger lots, and construction on vacant lots. Much of the ‘easily’ developable sites have already been developed, leaving only those sites with known constraints (sites requiring resource consent, those with difficult access arrangements, topography issues etc.) undeveloped. Analysis of current market determinants indicate that infill growth is currently not economically viable for developers who do not already have land purchased for development. The existing high price of land is prohibitive to developments that achieve greater intensification in the city. To overcome this, the ability to construct a second dwelling on an existing built lot would require a relaxation of the density provisions in the District Plan, allowing more lots the ability to intensify. A simplistic view would mean two lots could be created on a 500m² / site net, thereby allowing a delineated area of 250m² / site net per dwelling. Allowing smaller sections, which Christchurch is doing, could increase supply and suppress prices making housing more affordable.

To understand the willingness of developers to pursue infill housing, a more detailed understanding of the market economics is required. The view currently associated with infill housing is that to be viable, sections need to be purchased for around $100,000. Currently, vacant sections are selling for around $160,000 (including $30,000 in HCC fees and levies) for a flat, rear developable site. Analysis of current sections for sale found 13 infill sites for sale. The cheapest price was $150,000 and the most expensive was $205,000, with an average of $173,000. The purchase cost of infill sections, as well as the difficulties in subdividing remaining developable sites is preventing meaningful residential infill intensification from occurring.

Market demand largely determining rate of Greenfield / Infill Growth.

Due to the previous discussion, it is not surprising that greenfield growth and stand-alone detached dwellings seems to be the housing type of preference. There is a seemingly established pattern of consumer preference for home ownership around clearly delineated private property (separated horizontally and vertically), over more intensive medium density semi-detached housing. This leads to the conclusion that detached suburban housing (even on very small lots) will remain popular. Initial medium density and intensification efforts could focus on variations of this type including very compact detached units or well-designed terraced forms (such as innovative garage placement to exaggerate separation between units).

Other legitimate reasons for this housing preference could include the lack of effective information or ‘marketing’ for intensification in comparison to greenfield development. In particular the fair representation of benefits and costs (capital, maintenance, other amenities and conveniences etc.) between housing types in public forums is typically not strong. Experience elsewhere suggests that for many people conditioned to lifestyles where driving to every destination is just a normal way of life, some of the key advantages of intensification are simply not appreciated or understood in processes of determining comparative best advantage in their living choice.

Hamilton, due to its relatively compact nature and proximity of greenfield residential housing areas to the CBD offers significant attraction to those wishing to build in greenfield areas. The benefits of constructing a new dwelling on a vacant site, within easy commuting distance to the CBD and other employment areas of the city are proving to be more popular than infill housing. This is one of the strongest reasons why greenfield growth is expected to remain the most popular form of housing without intervention or pricing incentives from the public sector.
OPPORTUNITY COSTS OF RESIDENTIAL GROWTH TYPES

Delivering the growth strategy will need to include considerations of ‘how much’ different residential housing types are required and where. The basic residential typologies available are:

1. Small holdings (typically 1 unit: 4ha+);
2. Rural-residential (typically 1 unit: 1 - 2ha);
3. Large lot residential detached (typically 1 unit: 800m² – 1 unit: 1,200m²);
4. Residential detached (typically 1 unit: 400m² - 1 unit: 800m²)
5. Residential ‘compact’ detached (typically 1 unit: 300m² - 1 unit: 400m²);
6. Infill on existing residential property (typically 1 unit: 300m² - 1 unit: 400m²);
7. Medium density types (greater than 1 unit: 300m²);
8. High density apartments and mixed-use (greater than 1 unit: 100m²).

There are implications for the type of intensification sought and its ideal delivery mechanism. Greenfield residential developments on lots between 400m² - 800m² are often attractive in part because they offer more opportunity for individuals to buy and build ‘their dream’ on their own property. Not only is this a part of the romantic ‘kiwi psyche’, it is also at a scale where middle income individuals are able to raise the capital necessary to pursue construction.

Denser forms of housing inevitably require greater capital and security to develop, moving from the grasp of individuals into those of progressively bigger companies. The largest-scale apartment buildings in New Zealand (still missing in Hamilton), are now commonly built either by or in partnership with foreign companies and shareholders. Conversely, larger lot sections above 800m² also incur higher purchase costs unless their location is remote enough that a lack of demand allows land prices to decrease per square metre. This basic demand-value principle underlies the normative location of rural-residential away from centres of intensity.

A simplistic argument seeking to help manage these pricing issues in relation to developments is to provide more land supply, on the theory that more supply lowers demand forcing more competition between producers. This in turn results in a ‘buyer’s market’ of competitive pricing. But this argument does not translate entirely into the realities of three-dimensional space where not everything can locate next to everything else. Depending on scale and other geo-physical and socio-economic factors eventually the costs of servicing and facilitating necessary movement between places (over the design life) can negate or even exceed the theoretical savings provided to consumers through greater initial supply of the resource.
The implications of the identified housing preferences and dynamics mean that there is no easy way to provide for a wide range of accessible housing choices. It is likely that HCC will need to become active, rather than passive participants in delivering quality housing for future growth given the increasing pressure that is already occurring for land.

HISTORICAL INFILL TRENDS

Fig 2.4 illustrates recent infill and greenfield housing trends in Hamilton between 1996-2008.

### TABLE 3: INFILL HOUSING CAPACITY

<table>
<thead>
<tr>
<th>Total Remaining Infill Capacity - 10,703 dwellings (based on existing zoning)</th>
<th>2009-2019*</th>
<th>2019-2044**</th>
<th>Infill Capacity (in years) depleted unless more provided (e.g. change zoning)</th>
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<tbody>
<tr>
<td>NEW DWELLINGS REQUIRED</td>
<td>9,096</td>
<td>26,399</td>
<td></td>
</tr>
<tr>
<td>Infill at 34%</td>
<td>3,093</td>
<td>8,976</td>
<td>31 (2039)</td>
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<td>Balance of Greenfield at 66%</td>
<td>6,003</td>
<td>17,423</td>
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<td>Infill at 50%</td>
<td>4,548</td>
<td>13,199</td>
<td>21 (2029)</td>
</tr>
<tr>
<td>Balance of Greenfield at 50%</td>
<td>4,548</td>
<td>13,199</td>
<td></td>
</tr>
<tr>
<td>Infill at 70%</td>
<td>6,367</td>
<td>18,479</td>
<td>15 (2023)</td>
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<td>Balance of Greenfield at 30%</td>
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<tr>
<td>Infill at 34% (09-19); at 50% (19-44)</td>
<td>3,093</td>
<td>13,199</td>
<td>23 (2031)</td>
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<tr>
<td>Balance of Greenfield</td>
<td>6,003</td>
<td>13,199</td>
<td></td>
</tr>
</tbody>
</table>

Table 3 Assumptions

* The total number of dwellings required between 2009-2019 is 9,096
** The total number of dwellings required between 2019-2044 is 26,399

Multiplying the remaining infill capacity (10,703 dwellings) by the percentage allocated in the three scenarios (34%, 50% and 70%) details the allocation of dwellings required. Infill capacity (in years) has been calculated by adding the infill rates (for both the 2009-19 and 19-44 periods) and dividing this by 35 years. 10,703 (infill capacity) is then divided by this figure, indicating how many years capacity remains at this rate.

The figure of 10,703 dwellings has been sourced from the HCC infill study (a planning constraints exercise). It did not take account of whether or not development on a particular site was feasible based on siting of existing dwelling / topography, rather it was based on lot sizes in relation to existing planning rule requirements etc.
2.8 Employment Growth Assumptions

The EbD examined the economic and employment structure of the Hamilton economy and explored the nature of recent demand for industry land and business space in Hamilton from 2000 to 2006. The likely future demand for industry land and business space for the next 10 years (up to 2019), and for the 35 years (up to 2044) in Hamilton was determined by projecting:

- **Hamilton’s Existing Economy** – Where the number of jobs per 1,000 residents in 2006 is used to project the future demand for industrial land and office space based on Hamilton City’s future population growth and existing economy;

- **Hamilton’s Population Driven Demand** – Where employment generated by the increase in residential population is translated into the minimum demand for industrial land and office space based on future population growth and New Zealand’s population driven jobs ratios;

- **Hamilton’s Recent Employment Growth** – Where the recent growth in employment is projected forward to estimate the future demand for industrial land and office space based on future population growth and Hamilton continuing to transition towards its new service based economy;

- **Hamilton Transition Towards Auckland’s Economy** – Where employment in Hamilton begins to approach that of ‘Peripheral Auckland’ (The Greater Auckland Region, without Auckland City with its Port and CBD functions). This would contribute to some industries migrating to Hamilton out of the Greater Auckland Region.

Hamilton’s existing economy projections are used for the purposes of this project and this provides a realistic demand for industrial land and business space based on future population growth and Hamilton’s existing economy. Consideration is then given to the best location for different types of industry land and business space, given different business needs, the location of existing and likely future residential and other land uses, existing and proposed roads, suitable traffic and truck access, and good urban design.

Provision is made for the likely spill-over to Hamilton from the Greater Auckland Region of some industrial land uses because of the severe shortage of greenfield industrial land in this location.

Recent trends indicate Hamilton City will continue its transition and growth in ‘new economy activities’ and will to continue to expand its crown research, technology and creative industries, agricultural, university, technical research and higher education roles for the Greater Waikato Region and beyond.
BUSINESS AND EMPLOYMENT PROJECTIONS

The way in which new business and employment growth is delivered can have a large impact on the provision of local jobs, business success and long term growth and prosperity. Where possible, the provision of jobs locally is supported, as this can significantly help to achieve multiple aims of sustainability. In addition, locating businesses in areas where synergies and relationships with other businesses can be formed significantly enhances their long term viability. As such, determining the location of certain business types needs to be treated with care.

Significant future demand for both industrial and office space has been predicted on the basis of reconciling a calculation of quantum with ideal settings for specific business uses. Business needs are relatively sensitive to location and deficient long term spatial planning can lead to either a poor long term outcome, or a business setting that experiences low uptake as the market fails to respond to the difficulties associated with the poor location.

The provision of quality business settings will greatly assist in creating successful future business and employment locations within Hamilton.

THE EXISTING HAMILTON ECONOMY AND RECENT EMPLOYMENT GROWTH

Retailing provided most employment in the Hamilton City Territorial Local Authority (TLA) in the year 2000, followed, some way behind, by Manufacturing and Business Services (Fig. 2.6). Since then there has been a major surge in Business Services employment as the Hamilton economy has quickly transitioned towards a rapidly growing services based, new economy. Consequently, in the six years from 2000 to 2006, most employment growth in the Hamilton TLA has been generated by Business Services. This quickly brought Business Services employment up to match Retailing, by 2006, leaving employment in Manufacturing well behind (Fig. 2.6).

Most employment growth between 2000 and 2006 came from the Financial, Property and Business Services sector. This provided 28% of Hamilton’s net employment growth. This sector grew by 80%, to create 5,830 more jobs over the six years (at an average rate of 970 jobs per year).

The Business Services component of this sector grew in employment by 97% to create 5,260 more jobs (24% of all Hamilton’s employment growth). Most of this employment came from Other Business Services (Fig. 2.7). These grew by 167% (at an average rate of 582 jobs per year), to provide an additional 3,490 jobs, 16% of all
Hamilton’s employment growth between 2000 and 2006. Most of this growth was in employment, cleaning and other business services.

This compares with Government and Community Services that provided 14% of Hamilton’s net employment growth, creating 4,140 jobs over the six years (at an average rate of 690 jobs per year). Most of this employment growth was in Health and Community Services, in particular Allied Health Services (which grew by 1,110 jobs) and Community Care Services (which grew by 860 jobs).

Retailing only provided 13% of Hamilton’s recent employment growth, creating only 3,530 jobs over the six years from 2000 to 2006. Most retail employment growth was in the sale of Personal and Household Goods (1,160 more jobs, one third of all additional retail jobs) and in the hospitality industry, namely Cafes and Restaurants (970 more jobs, 27% of all additional retail jobs).

However, Business Services created more employment than both Construction and Manufacturing combined (creating 15% more jobs, 5,260, compared with Manufacturing and Construction combined, with 4,590 jobs).

Within the Business Services Sector, Other Business Services alone created 50% more jobs than either Manufacturing or Construction and virtually the same number of jobs as Retailing (3,490 jobs created between 2000 and 2006), mainly from new jobs created in employment and cleaning services.

Construction generated two thirds as many jobs as Retailing (2,340 jobs, compared with 3,530 for Retailing) and Construction created marginally more jobs than Manufacturing (2,340 for Construction, compared with just 2,250 jobs gained in Manufacturing in the six years from 2000 to 2006).
2.9 Meeting the Future Demand for Commercial Premises

Consequently, the greatest recent demand for premises in Hamilton City has come from Financial, Property and Business Services. This sector provided 52% of all the demand for business premises in Hamilton over the six years from 2000 to 2006 and occupied 1,186 more premises in 2006 than in the year 2000 (198 more premises per year, including home based businesses).

Most of this demand has been generated by Property Services (occupying on average 118 more premises per year, over these six years). Property Operators and Developers accounted for 25% of all demand; occupying 575 more premises in just six years (giving an average take up rate of an additional 96 premises per annum). The next greatest demand came from Business Services with an average take up rate of an additional 70 premises per annum.

Development and Construction Professionals (mainly consulting engineers, architects, surveyors and geo-technical services) accounted for 15% of all the increased demand for premises of all types (with an average take up rate of an additional 54 premises per annum). Business Management and Marketing Services, Development Professionals, and Computer Services, have been growing particularly rapidly in employment in recent years (Fig. 2.8).

This has been reflected in increased demand for premises in Hamilton, especially over the last three years from 2003 to 2006 (Fig. 2.9).

THE NATURE OF RECENT DEMAND FOR OFFICE SPACE

Most demand for commercial premises has come from small businesses requiring relatively little space. The greatest increase in the number of commercial premises (excluding Retailing and Hospitality between 2000 and 2006) came from:

- Property Operators and Developers – 575 additional premises;
- Marketing and Business Management – 150 additional premises;
- Computer Services – 79 additional premises;
- Real Estate Agents – 77 additional premises;
- Financial Asset Investors – 51 additional premises;
- Building Professions (including architects, engineers, surveyors) – 21 additional premises;
- Other Business Services (employment, security, cleaning services) - 83 additional premises.
The average size of Financial, Property and Business Services firms was only 6.8 employees. (This sector provided 52% of all demand for premises in the six years from 2000 to 2006). Within this sector, Business Services, which provided most employment growth, and most demand for commercial premises, averaged less than seven jobs per establishment.

The strongest employment growth, resulting in high demand for premises has come from Other Business Services, mainly from businesses engaged in providing employment, security and cleaning services. These are activities that are often accommodated in cheap office, or light industrial buildings. Most recent demand for commercial premises has been for office space occupied by property and development related businesses. Many of these are willing to occupy offices in industrial areas. In combination, these have been driving demand for office and service space in Hamilton’s industrial areas.

However, there is increasing demand from knowledge based businesses. These are likely to favour central city, business and research park locations and locations close to the university. They are also likely to convert residential buildings to office use on the major arterials, close to the hospital, University and central city. These knowledge based activities are most likely to drive future demand for commercial premises in Hamilton in the immediate future, and well into the foreseeable future.

THE RECENT TAKE-UP OF QUALITY OFFICE SPACE

A recent report to Council found that ‘A’ Grade office space in Hamilton increased by 25% over the five years from March 2002 to 2007 (1). During this time vacancies in ‘A’ Grade office space had declined from 25% to just 4% (2). This is slightly less than the necessary 5% market lubricating vacancy level need for the efficient operation of the property market and to ensure there is a choice of premises. This indicates a potential acute shortage of good quality office space in Hamilton City. This report also indicates an average annual take-up rate for good quality office space of over 20,000m² per year in Hamilton City. At this rate, Hamilton will require 200,000m² of additional good quality office space over the next 10 years (700,000m² over the next 35 years).

THE PROJECTED FUTURE DEMAND FOR OFFICE SPACE IN HAMILTON CITY

Most of this demand will come from small businesses, requiring relatively small, but good quality, affordable, well-located office space. The future demand for office space has been projected based on future population growth and Hamilton’s existing economy (Table 4).

This indicates potential demand for 84,300m² gross floor area (gfa), of office space in Hamilton over the next 10 years, rising to 283,600m² gfa, over the 35 years to 2044. Most of this demand (77%) will be for good quality, affordable office space for small businesses, seeking a credible business address. Only 13% of demand will be for high value ‘prestige’ office space in signature buildings or requiring high quality CBD locations.

Only 5% of Hamilton’s potential demand will come from offices requiring ground floor, retail frontage locations. These retail frontage offices can be expected to require 220 linear metres of retail frontage in Hamilton’s CBD, and other commercial centres, over the next 10 years, rising to 740 linear metres of retail frontage by 2044.

However, 95% of future office space is free to locate in residential or industrial areas, well away from Hamilton’s CBD, the central city and other commercial centres, although this is undesirable for reasons of urban efficiency, public transport, employee services and business hospitality. Therefore, particular attention needs to be given to promoting suitable locations and creating the business case for this affordable, good quality office space to be developed close to Hamilton’s retail heart; at new business centres, and in business parks and at arterial business nodes close to Hamilton’s business centres.

| TABLE 4: PROJECTED DEMAND FOR ‘OFFICE SPACE’ IN HAMILTON OVER THE NEXT 10 AND 35 YEARS |
|----------------------------------------|-----------------|-----------------|
|                                       | 10 Years        | 35 Years        |
| Retail Frontage Offices               | 4,400m²         | 14,800m²        |
|                                       | (5%)            | (5%)            |
| Other Office Locations                | 79,900m²        | 268,800m²       |
|                                       | (95%)           | (95%)           |
| Total Office Space                    | 84,300m²        | 283,600m²       |

(1) Robert Speer and Andrew Mead ‘Rotokauri Business Park Risk Evaluation’ (June 2007)
(2) It should be noted that this is ‘A’ Grade in Hamilton terms but much of this space would not be classified as ‘A’ Grade by the Property Council or when compared with major city office space. Therefore, this is best considered as demand for ‘good quality office space’.

THE RECENT TAKE-UP OF QUALITY OFFICE SPACE

A recent report to Council found that ‘A’ Grade office space in Hamilton increased by 25% over the five years from March 2002 to 2007 (1). During this time vacancies in ‘A’ Grade office space had declined from 25% to just 4% (2). This is slightly less than the necessary 5% market lubricating vacancy level need for the efficient operation of the property market and to ensure there is a choice of premises. This indicates a potential acute shortage of good quality office space in Hamilton City. This report also indicates an average annual take-up rate for good quality office space of over 20,000m² per year in Hamilton City. At this rate, Hamilton will require 200,000m² of additional good quality office space over the next 10 years (700,000m² over the next 35 years).
This requires creating superior business settings to attract the development of clusters of good quality, affordable offices, at high amenity locations, with good exposure to passing traffic, with a credible business address. Individual small businesses, and individual small developments, cannot create the necessary superior business settings and a credible business address on their own. Without superior business settings, created by special place making initiatives, it is unlikely that small office clusters will be developed to support the Hamilton CBD and to attract offices away from dispersed industrial and residential areas.

**THE PREFERRED FUTURE DISTRIBUTION OF HAMILTON’S OFFICE SPACE**

Fig 2.10 shows a potential desirable future distribution of Hamilton’s new office space. This allocates 70% of the future supply of office space (59,000m²) to the central city over the next 10 years. This proportion gradually declines to 60% by 2044. However, this would still result in the central city providing an additional 170,200m² of office space over the 35 years to 2044.

The Waikato Hospital and Hamilton West corridor to the central city could provide 10% of Hamilton’s office space over the next 10 years (8,500m²), then gradually falling to 5% by 2044 (14,200m²). Ruakura, with its AgResearch Centre, Business Park, University and local Business Centre, could supply 15% of Hamilton’s office space over the next 10 years (12,600m²), rising to 20% by 2044 (56,650m²).

There are also important opportunities to provide commercial office nodes along major arterials (including along Rapa Road and Avalon Drive). These will also provide important employment and public transport journey to work destinations. It is proposed that these could supply 5% of the demand for future office space (providing 4,200m² over the next 10 years, rising to 14,200m² by 2044).

A further 10% of office space could be developed at new and existing commercial centres, especially in the new population growth areas, and at high amenity locations (such as fronting the river reserve at Peacocke) where land can still be provided for good quality, affordable office space. These may be difficult to complete within the next 10 years, but could supply at least 10% of future office space (at least 28,350m²) by 2044.
**2.10 Addressing the Adverse Development Economics of the Central City**

The main difficulties facing the Hamilton CBD are the adverse development economics in the retail heart and the lack of suitable sites nearby to attract the clustering of good quality, affordable small office space.

The following points summarise concerns expressed by real estate agents, valuers, retailers and the development industry about the present difficulties of commercial development in the CBD, and provide possible responses to these difficulties.

**Possible Responses:**

1. **The main concern is that there appears to be no financial benefit from locating in CBD. There is cheaper land, lower rates, and lower rentals for new premises located elsewhere, where there is plenty of free car parking.**

2. **Rentals do not support rebuilding or refurbishment of existing buildings. CBD rentals have been lowered just to get ground floor tenants (rentals only just back to early 1990s levels). If you pull down a CBD building and rebuild a high quality building you get no higher ground floor rental, so no one is rebuilding.**

3. **In addition CBD pedestrian traffic is falling - down by 20% to 44% below 1997 pedestrian counts (pedestrian traffic counts for 50 out of 52 CBD footpath locations being regularly monitored).**

**Possible Responses:**

- Populate the upper floors of existing buildings with community, personal development, education and training, recreational, health and fitness, life long learning and life long interest activities and creative arts studios (that attract residents, business people, talented and creative people, employees and their families, to the CBD, especially during weekday evenings, at night and weekends). It is envisaged the market will need to deliver this;

- Relocate activities that attract and concentrate people exhibiting anti-social behaviour (so that families and desirable targeted groups are willing to spend quality time in the CBD at night and weekends);

- Support nightclubs, private clubs and basement music venues (in areas where noise will not detract from CBD residential developments).

4. **Build a better non-financial business case for businesses locating in the Hamilton CBD (based on superior business setting, quality, affordable small business premises, passing pedestrian trade, business support facilities and attractions to help businesses attract and retain creative and talented people);**

5. **Bring new sites into play around the CBD that will provide good quality, affordable office space with car parking. Provide opportunities to relocate car yards and warehouse and storage space and encourage development of vacant and under-developed sites in the central city (including the development of early demonstration projects);**

6. **Improve CBD car parking provision (consider building public car parks with some spaces dedicated for the use of business people moving into CBD premises without car parks).**

- Develop fashion, creative and designer goods focus for the CBD (targeted at both the upper and middle to lower ends of the market);

- Develop the cultural and entertainment role of the CBD (concentrating these opportunities within convenient walking distance of the retail heart);

- Provide specific attractions within convenient walking distance of the retail heart (for young people and those with pre-school children and young families);

- Attract more tourists and day visitors to stay longer in the CBD (get them out of their cars and walking around (the ‘i-site’ is a magnet attraction that should start this, located to create ‘passing trade’);

- Provide recreational reasons for residents, ‘day visitors’ and tourists to come and stay longer in the CBD (provide as many activities as possible that will keep them interested for 1.5 hours);
Lack of activity, energy and vitality to energise all the existing and possible future retail frontages and laneways.

Possible Responses:

→ Identify and promote where future active retail frontages are proposed.

Some sites close to the Hamilton CBD, where good quality, affordable, office buildings could possibly be developed was indicatively identified during the EbD workshop (Fig. 2.11).

Releasing these sites, by providing better locations for the relocation of existing uses (such as big box retailing and car yards), and promoting their future development for affordable, designer office buildings will be particularly important to underpin the economic future of the Hamilton CBD.

However, existing vacant and releasing under-developed sites, within convenient walking distance of the retail heart will only provide 2.5ha land (less than 28% of land needed for good quality, affordable, office buildings over the next 10 years). Therefore, it is critically important to bring suitable new land for good quality, affordable, office space into play both in the central city, and elsewhere at commercial business nodes throughout the city.
2.11 Meeting the Future Demand for Industrial Land

Construction and Construction Trades occupied 272 more premises in Hamilton City in the six years between 2000 and 2006 (an average of 45 per year, although many of these would be from home based tradespeople).

Manufacturing occupied 78 more premises (an average of 13 more per year). Most of these (31%) were for Metal Products Product (which occupied 24 more premises). The traditional manufacturing sectors of Food Manufacturing and Clothing Manufacturing both declined in the number of premises occupied in Hamilton over these six years.

Wholesaling only occupied 46 more premises (eight per annum) with most demand coming from Basic Materials Wholesaling (with 21 more premises) and Building Supplies Wholesaling (with 21 more premises). More precisely, the greatest increase in premises requiring industrial land (excluding Building and Construction) came from:

- Motor Vehicle Services – with a net increase of 26 additional premises;
- Building Supplies Wholesaling – 21 additional premises;
- Motor vehicle Wholesaling – 14 additional premises;
- Farm Produce Wholesaling – 10 additional premises;
- Fabricated Metal products Manufacturing – 19 additional premises;
- Structural metal products Manufacturing – 11 additional premises;
- Wood Products Manufacturing (excluding furniture, timber dressing) – 12 additional premises.

Most demand is from relatively small industrial land users, with Hamilton’s Motor Vehicle Services employing an average of less than five persons; Manufacturing less than 12 persons per establishment; Wholesaling 10 jobs per establishment; Road Transport 10 jobs per establishment, and Storage less than two jobs per establishment (noting that Road Transport and Storage may be weighted by single operator, home based businesses).

However, demand is likely to increase rapidly for larger operations, requiring large sites seeking to locate in Hamilton because of the acute shortage of industrial land, in particular large, cheap ‘greenfield’ sites in the Greater Auckland Region. Despite perceptually being perceived as offering cheaper industrial land, Hamilton land prices are increasing, potentially resulting in Hamilton pricing itself out of the market. As such Hamilton may need to promote its strong rail and transport networks and quality business settings as its main point of difference and competitive edge.

LAND AVAILABILITY AND RECENT DEMAND FOR INDUSTRIAL LAND IN HAMILTON

A recent report to Council (November 2006) (3) found only 16ha of vacant industrial land available in Hamilton City. There was a severe shortage of medium and large sites, with only 5.3ha of this vacant land being in parcels greater than one hectare (and only 9.8ha in parcels greater than 5,000m²). There were only 10 vacant sites over 5,000m² available for industrial development. Of these only three were greater than one hectare. (This compares with 17 land parcels greater than one hectare identified as vacant in Hamilton in May 2004, when three of these vacant land parcels were larger than 10ha).

The report to Council points to the wide variation in estimates of the annual take-up of industrial land. These range between 8ha to 18ha per annum. But it is clear that these has been increasing demand above the earlier average over the last five years, which partly reflects significant retail developments in industrial areas. At these take-up rates Hamilton would need between 80ha to 180ha of industrial land for the next 10 years, and between 280ha to 630ha of industrial land for the 35 years up to 2044.

However, the demand for industrial land in Hamilton has been increasing in recent years and demand is likely to increase even more rapidly in the future because of the acute shortage industrial land in the Greater Auckland Region. The report concludes that provision should be made for 300ha of industrial land in Hamilton over the coming 10 years up to 2016 (with projected demand ranging from 90ha to 300ha). With potential demand for up to 560ha of industrial land in Hamilton for the following 10 years (with projected demand ranging from 120ha to 560ha). This gives a total requirement for up to 860ha (gross) industrial land (excluding roads etc) for the next 20 years (with projected demand ranging from 210ha to 860ha).

THE PROJECTED FUTURE DEMAND FOR INDUSTRIAL LAND IN HAMILTON CITY

The future demand for industrial land has been projected based on future population growth and Hamilton’s existing economy (Table 5). This indicates potential demand for 182ha of industrial land in Hamilton over the next 10 years, rising to 611ha over the 35 years to 2044 (4). Ignoring any demand from Auckland or outside the region

(3) Andrew Mead “Hamilton Industrial Land Study” (May 2007)
(4) This ignores any intensification on existing industrial land. It ignores any “spill-over” of demand from the Auckland Region. It ignores the loss of industrial land to residences, offices, retail and other non-industrial land uses. It also assumes that only 25% of the demand from increased in employment in Building and Construction translates to demand for industrial land (because of the high proportion of home based construction and building trade businesses).
most of this demand (45%) will come from Wholesaling, Transport, Storage and Logistics (requiring at least 82ha over the next 10 years, and 277ha over the next 35 years based on Hamilton’s Existing Economy).

This land is best provided close to major Regional Road network interchanges, where there is no need for trucks to pass through heavily trafficked, retail or residential areas. Given this demand, early provision should be made for a world class inter-modal inland port, road / rail interchange – especially given the likely early demand from large-scale industries, warehousing and logistics activities not able to be accommodated in the Greater Auckland Region (see the following Section). This requires about 100ha of flat land, adjacent to the existing rail network, able to accommodate a 2km long, relatively straight spur line.

Some 23% of demand (41ha over the next 10 years, 140ha over the next 35 years) will come from Basic Materials Processing and Manufacturing (5), Engineering and General Industries. These are best spatially buffered from residential, clean production and technology and research based businesses and other sensitive land uses. Food and Other Clean Production (6) will provide 13% of demand (requiring 24ha over the next 10 years, and 80ha over the next 35 years) under Hamilton’s existing economy scenario.

These are best located in separate clean production areas because many technology and research businesses will not find it desirable to locate next to a mainline bakery, vegetable, or fish processing plant, and some export food industries do not want to risk the possibly of food taints or contamination from health and beauty products being produced nearby.

| TABLE 5: PROJECTED DEMAND FOR INDUSTRIAL LAND IN HAMILTON CITY OVER THE NEXT 10 AND 35 YEARS |
|-----------------------------------------------|-------------------------------|-------------------------------|
| 10 Years  | 35 Years  |
| General Industries and Basic Materials Processing  | 41ha (23%)  | 140ha (23%)  |
| Food and Other Clean Production  | 24ha (13%)  | 80ha (13%)  |
| Wholesaling, Transport, Storage and Logistics  | 82ha (45%)  | 277ha (45%)  |
| Building and Construction* and Utilities  | 26ha (14%)  | 87ha (14%)  |
| Vehicle Sales and Vehicle Services  | 8ha (5%)  | 28ha (5%)  |
| Total ‘Industrial Land’ ^ Demand  | 182 ha  | 611ha  |

* Only 25% of demand translated to industrial estates.
^ Industrial land uses only - excludes retail, office and other non-industrial land uses.

The Auckland Region as a whole is rapidly running out of employment lands. As at 2003, the Auckland Region needed about 3,500ha of additional employment land by 2021, and 5,300ha by 2031 (ARC ‘Auckland Business Location Strategy - 2003’).

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The Acceleration Shortage of Industrial Land in the Greater Auckland Region

The Auckland Region as a whole is rapidly running out of employment lands. As at 2003, the Auckland Region needed about 3,500ha of additional employment land by 2021, and 5,300ha by 2031 (ARC ‘Auckland Business Location Strategy - 2003’).

The Auckland Regional Council (ARC) identified that there was only 1,615ha of business and industry land presently available. This was only sufficient for the next 15 years at the present take-up rate of 108ha per year.

The ARC report found the available supply of industrial land in the Auckland Region is likely to be considerably shorter than this - perhaps as little as eight years. Due to increasing demand, because existing of employment land is being converted to other uses, and because of speculation and purchasers buying more land than they need.

Future modelling by the ARC also showed the take-up of vacant business land will be significantly faster in the future, than in recent years. This future modelling found that an additional 1,400ha of vacant industrial would be required in the Auckland Region by the year 2011. Consequently, the Auckland Region is almost out of business and industry land unless there is significant business intensification and / or new greenfield sites are found.

The ARC recognises the need to locate manufacturing, storage, transport and warehousing activities requiring large, relatively cheap sites on new greenfield sites, with good motorway access, located away from residential areas. However, there is virtually no vacant future industrial land available in the north of the Auckland Region, North Shore has no greenfield land available and little ability to supply business land once the Albany Basin is built out. Waitakere City had less than eight years supply (without considering the loss of land converted to residential and non-industrial uses). An additional 103ha of greenfield industrial land will provided at Massey North and in the Hobsonville Corridor but this is barely sufficient to meet Waitakere’s own needs for the next 18 years (when combined with the 107ha of existing vacant and potentially vacant land and the intensification on Waitakere’s existing working environment lands). This leaves Waitakere with no ability to address the Regional shortfall of industrial land elsewhere in the Greater Auckland Region. The situation in the south of the Region is less pressing, but serious

(5) Including foundries, iron and steel and non-metallic metals processing, chemical making, rubber and leather products and processing, glass, concrete, lime and cement products, saw mills and timber dressing, timber and paper products.

(6) Including scientific, ITC, electronic and technology based products, machinery and equipment assembly and production; pharmaceutical, veterinary, health and beauty products.
shortages of industrial land could emerge within the next eight years (beginning with large sites that are already in extremely short supply).

Manukau City has the greatest supply of industrial land in the Greater Auckland Region. Therefore, the shortage of industrial land elsewhere in the Auckland Region will increasingly fall on Manukau City. However, there was only 875ha of vacant employment land in Manukau City in 2003 (equivalent to only eight years supply for the Greater Auckland Region – ignoring the predicted increase in demand). Manukau’s industrial land is already being occupied at over 50ha per year.

Therefore, Manukau’s existing, vacant, industrial land can be expected to be rapidly taken-up, within the next 12 years - especially once the remaining vacant industrial land is taken-up elsewhere in the Region. Papakura TLA has 100ha of zoned industrial land but much of this is fragmented, and in small lots, and has access problems. Papakura will only be able to provide sufficient industrial land to meet its own population growth over the next 20 years. Franklin also has an emerging industrial land shortage that its Council is beginning to address, but there is limited prospect for Franklin to meet the greater shortfall in the greater Auckland Region.

These shortages of industrial land throughout the Greater Auckland Region present particular issues for Hamilton and the Waikato Region because low intensity, low employment land uses and difficult to locate activities requiring large sites and cheap land will increasingly seek to locate in the Waikato Region. Manukau City is already finding difficulties in supplying larger, suitably buffered, sites greater than 1.5ha.

Manukau City and the other Auckland TLAs have been unable to provide suitable sites for paint and plastics manufacturers, alloy wheels and vehicle suspension manufacturers, an agricultural equipment manufacturer, a nationwide timber paling distributor, cable maker and large transport and logistics firms over the last few years. Suitably located, affordable sites have not been found in the south of the Auckland Region for distribution warehouses, food processing, timber treatment and timber post and rail wholesaling and retailing operations (each requiring large sites - greater than 1.5ha, and some up to 5ha).

These are also the types of existing businesses are choosing or being forced to relocate from the Auckland Metropolitan Area because of residential development pressures, reverse sensitivity issues, environmental concerns, their need to expand, or the opportunity to profit from the sale of their existing sites. It is these types of activities that will be the first to seek to locate in Hamilton and the Waikato Region. Therefore, the demand for industrial land has potential to increase significantly in Hamilton and the Waikato Region within the next seven years.

The greatest early demand will come from difficult to locate activities and low intensity activities with large site, and / or cheap land requirements. At least 408ha of additional industrial land would be required if Hamilton, or the Waikato Region, were to provide for 25% of the manufacturing, wholesale and logistics businesses seeking sites over 1.5ha wanting to locate in Peripheral Auckland, over the next 20 years. For 180 businesses, each requiring sites over 1.5ha - with at least nine businesses requiring sites over 5ha (7).

The demand for sites for these activities will arrive well before the main demand for land from other, higher order industries, providing greater employment. This demand will also arrive well ahead of the demand from businesses needed to serve Hamilton’s growing residential population. Without proper planning to meet this demand, these activities could easily locate on land better used for smaller scale, higher value-adding and higher employment activities.

(7) If 33% of projected Peripheral Auckland demand were to ‘spill-over’ to Hamilton, or the Waikato Region, over the next 20 years, there would be demand for at least 545ha, of industrial land (from 240 businesses, requiring sites over 1.5ha - with at least 12 businesses requiring sites over 5ha).
THE PREFERRED FUTURE DISTRIBUTION OF HAMILTON’S INDUSTRIAL LAND

Fig. 2.12 shows the desirable provision of industrial land that is currently in or adjoining Hamilton City.

The figure broadly outlines the different types of demand being catered for in each industrial estate. The following pages detail this more completely and provide a projected hypothetical timing of this take-up of demand. Provision has been made in these assumptions and projections for the take-up of land for industrial land uses unable to find suitable sites in the Greater Auckland Region. This more detailed allocation of land takes into account the proposed provision and use of land in the adjoining local government areas, in particular:

- The 120ha ‘Industrial Business Park’ proposed for Horotiu – proposed for agricultural engineering and other manufacturing and distribution industries;
- The 100ha ‘Titanium Business Park’ at the Hamilton Airport – positioned to attract aviation, air transport and other high end industrial land uses.

The potential distribution, use and total area required for these industrial areas is outlined in more detail in the following pages, particularly with regard to the Rotokauri and Ruakura industrial precincts.

ABOVE AND LEFT: FIG. 2.12: Possible distribution of future industrial land, specifying type and quantity.
THE PREFERRED USE OF THE ROTOKAURI INDUSTRIAL LAND

Provision can be made at Rotokauri for up to 220ha of general industrial land between the rail line and the Te Rapa Bypass. Most industrial land demand up to 2019 can be accommodated on this land at Rotokauri. However, the release of this land is constrained by the Memorandum of Understanding between the New Zealand Transport Agency, Waikato District and Hamilton City Council. Some of the land identified in the Rotokauri Structure Plan for employment land uses cannot be developed until the construction of the Te Rapa Bypass – likely to occur around 2016. (Fig. 2.13).

The 70ha further north (close to the Fonterra Plant) could be retained for future food processing and other clean production (possibly beyond 2044).

Up to 75ha can be provided at Rotokauri, for smaller scale, lower impact land uses buffering the proposed residential areas to the west of the Te Rapa Bypass.

In the first 10 years, this service trade’s land could be used to accommodate the 25ha of small-scale construction, wholesale showrooms and service trades projected to be required by Hamilton up to 2019. These uses are best located adjacent to the bypass, but further way from the new Business Centre and the Avalon Wintec Campus (so that the opportunity is retained to locate higher value, higher employment activities and office space close to the new Business Centre and Wintec).

The balance of this land would then be used, over then next 25 years up to 2044, for more construction, wholesale showrooms and service trades, car sales and services, and higher value, higher employment activities and good quality, affordable office space close to the new town centre and Wintec.

Provision can also be made for wholesale showrooms and service trades, and car sales and services along the Te Rapa Bypass and along the new service road running parallel to Avalon Drive. This should enable these uses to re-locate from the city centre, thereby freeing up large central city sites for clusters of good quality affordable, small office space.

<table>
<thead>
<tr>
<th>TABLE 6: ROTOKAURI INDUSTRIAL AREA</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
<tr>
<td>Warehousing Logistics</td>
</tr>
<tr>
<td>Basic Production / General Industry</td>
</tr>
<tr>
<td>Clean Industry (Including ICT)</td>
</tr>
<tr>
<td>Clean Food (Including packaging)</td>
</tr>
<tr>
<td>Construction Service / Commercial Business</td>
</tr>
<tr>
<td>Vehicle Sales</td>
</tr>
<tr>
<td>Vehicle Services</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
</tr>
</tbody>
</table>

This land could be used for the next 10 years to accommodate the 40ha of General Industry and Basic Materials Processing, and the 80ha of Wholesaling, Transport and Distribution land, projected to be required by Hamilton City by 2019. Provision could also be made for 40ha of land for larger scale general industries, wholesale and distribution activities unable to be accommodation in the Greater Auckland Region. Early provision could be made at Rotokauri for a large world class ‘inland port’ (on the land adjacent to the rail line - thereby also negating the need for Fonterra to develop its own dedicated spur line).
THE PREFERRED USE OF THE RUAKURA INDUSTRIAL LAND

It is clearly vital to build on the existing ‘AgResearch’ and ‘bio-genetics’ research specialisations for the economic health of the city. This requires the long term security of a core area of approximately 60ha for agricultural research and the field studies centre. This needs to be protected from any potential future reverse sensitivity issues from neighbouring land uses. It also important to safeguard the opportunity for expansion of the 40ha Innovation Park as a flagship science park for small scale clean production, research and development and business incubation. (This will also enable the easily location of spin-out creative, research and clean production businesses from the Crown Research Institute and Wintec). Overall, there is 190ha beyond the core agricultural research area that could be used for business and industry purposes.

### TABLE 7: R1S INDUSTRIAL AREA

<table>
<thead>
<tr>
<th>Category</th>
<th>Hamilton 10yrs</th>
<th>Hamilton 35yrs</th>
<th>From Auckland</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Warehousing Logistics</td>
<td>0</td>
<td>90</td>
<td>0</td>
<td>90ha</td>
</tr>
<tr>
<td>Basic Production General Industry</td>
<td>10</td>
<td>20</td>
<td>0</td>
<td>30ha</td>
</tr>
<tr>
<td>Clean Production</td>
<td>0</td>
<td>16</td>
<td>0</td>
<td>16ha</td>
</tr>
<tr>
<td>Food Production</td>
<td>24</td>
<td>30</td>
<td>0</td>
<td>54ha</td>
</tr>
<tr>
<td>Construction Service Trades</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Vehicle Sales</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Vehicle Services</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>34ha</strong></td>
<td><strong>156ha</strong></td>
<td><strong>0</strong></td>
<td><strong>190ha</strong></td>
</tr>
</tbody>
</table>

The timing and release of employment land in Ruakura needs to be carefully considered. While the release of land for specialist activities associated with the Innovation Park is a certainty in the short to medium term (5 years+), the timing and release of more general employment land needs to be undertaken in a manner that creates market efficiencies. There are benefits in having more than one employment growth area ‘active’ during any particular period. In developing both Ruakura and Rotokauri, it will keep prices competitive, and provide employment opportunities to residents living east of the river.

It is proposed that 34ha of this 190ha be developed over the next 10 years, with 24ha promoted and marketed for clean food production, and 10ha for agricultural machinery and equipment production. It is recommended that 70ha of this area be developed for clean production, by 2044. This would become Hamilton’s flagship area for information and communications technology, private research and development, electronic and scientific machinery and equipment production, and technology based business. It can provide high amenity, landscaped locations for future small-scale clean food production and packaging, and for health and beauty, pharmaceutical and veterinary products.

A further 20ha could be promoted for clean environmental, and small-scale, clean recycling industries, and for agricultural engineering and equipment manufacturing. This would leave 90ha to meet Hamilton’s future transport and distribution needs to be developed between 2019 and 2044.
Provision can also be made at Ruakura for an additional 400ha of industrial land (east and north of Fairview Downs).

These Ruakura areas provide the opportunity to meet Hamilton’s future Transport and Distribution needs, and to meet Hamilton’s needs for Construction and Service Trades land from 2019 to 2044. The use of Ruakura for large scale industrial and distribution would best take place after the completion of the Waikato Expressway (although smaller-scale industrial, distribution and service trade’s areas could be easily accessed from the E1 - Hamilton Arterial Ring Road).

The completion of the Waikato Expressway would allow this area to provide 190ha of land to accommodate large scale Warehousing and Distribution activities and large scale Basic Materials Processing and General Industries unable to locate in the Greater Auckland Region.

Beyond this, consideration could be given to adding to the existing land, east of the proposed Waikato Expressway, to create a site of at least 100ha (at least 2km long and 500 metres wide) as an alternative ‘inland port’ inter-modal road / rail transport interchange. However, this use would depend on completion of the future Waikato Expressway and interchanges (whereas the alternative Rotokaunui site could be immediately developed for this purpose).

<table>
<thead>
<tr>
<th>TABLE 8 - R1N AND R2 INDUSTRIAL AREA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hamilton 10yrs</td>
</tr>
<tr>
<td>-------------------------------------------</td>
</tr>
<tr>
<td>Warehousing Logistics</td>
</tr>
<tr>
<td>Basic Production, General Industry</td>
</tr>
<tr>
<td>Clean Production</td>
</tr>
<tr>
<td>Food Production</td>
</tr>
<tr>
<td>Construction, Service Trades</td>
</tr>
<tr>
<td>Vehicle Sales</td>
</tr>
<tr>
<td>Vehicle Services</td>
</tr>
<tr>
<td>TOTAL</td>
</tr>
</tbody>
</table>

B E L O W : FIG. 2.15: Proposed Provision and take-up of Industrial Land - R1N and R2.
POSSIBLE USE OF THE ROTOTUNA ‘HT 1’ LAND FOR INDUSTRIAL PURPOSES

If sufficient suitable land cannot be provided in Ruakura ‘Area R1’ to meet Hamilton’s projected industrial land needs then it would be essential to provide alternative land in Hamilton or the adjoining TLAs.

The most obvious location is the land at Rototuna, near the junction of the proposed Waikato Expressway and the link road already being built to the Western Corridor Bypass (Rototuna ‘Area HT1’, north of the undulating land, and well buffered from the rural residential properties to the south). This area could provide 240ha of general industrial land, mainly for large-scale industrial land uses between 2019 and 2044.

This area could accommodate 158ha for large-scale Warehousing and Distribution activities (92ha to meet Hamilton’s projected needs between 2019 and 2044, and 66ha to accommodate similar uses unable to locate in the Greater Auckland Region). This land could also accommodate 82ha of Basic Materials Processing and General Industries (48ha to meet Hamilton’s projected needs between 2019 and 2044, and 34ha to accommodate similar uses unable to locate in the Greater Auckland Region).

NOTE: The HT1 industrial recommendation has, following the EbD workshop, been looked at more detail and subsequently dismissed as unsuitable. The EbD identified a number of issues with having this area as ‘industrial’ and further work supported HT1 as a residential cell. Despite this, future residential development will be constrained by existing rural residential development – particularly in the south and along the river margins.

REALISING HAMILTON’S FUTURE INDUSTRIAL COMPETITIVE ADVANTAGES

Two ways for Hamilton to maximise its high end, new economy, and high value adding, export industry potential is by maximising Ruakura’s:

1. ‘AgResearch and University Cluster’ Potential;
2. ‘Environmental and Wet-Industry Cluster’ Credentials.

(1) Maximising Ruakura’s ‘AgResearch and University Cluster’ Potential - It is providing opportunities to interact with the local community and ‘live out’ a ‘quality life’ locally that will best attract the people with scarce skills Hamilton needs to continue to grow its research and development, information and technology, and other ‘new economy’ specialisations. In Ruakura, planning will need to particularly focus on creating a very high quality, very high amenity local centre where academics, researchers, post-docs and key knowledge workers will want to frequently come with colleagues, their families and friends (before and after work, during their breaks, on weekday evenings, at night and weekends). These may seek to provide:

- Attractive ‘public places’ where people want to spend their ‘free time’ (that create opportunities for casual and accidental meetings);
- Quality ‘cafes and restaurants’ opening out onto ‘public spaces’, with passing ‘pedestrian traffic’ (where people can meet and see colleagues, business acquaintances and friends, and for business hospitality);
- Opportunities and venues for planned meetings and professional development, (which will support knowledge transfer and innovation by bring people from different sectors, backgrounds and experience together);
- Opportunities for ‘life long learning’ and pursuing ‘life long interests’ (which will bring people from different backgrounds but similar interests together to form friendships and build ‘social capital’);
- With quality ‘health’, ‘fitness’ and ‘childcare’ facilities (important to the ‘quality of life’ for people who can work and live wherever they wish);
- A boutique hotel, motel and tavern, or Country Club (with conference, reception and meeting facilities).
Providing High Quality, Informal Recreational Opportunities - Several potential interventions could create the quality informal recreation settings required within Hamilton. These, if provided in the appropriate location and serviced by the necessary amenities could significantly enhance specific locations throughout the city, generating positive local ‘place-based’ improvements. These areas may seek to provide:

- A modest sized, informal open spaces with BBQs (for throwing a Frisbee, kicking a ball or playing touch football);
- Quality natural, and man made outdoor recreation and water features;
- Paths, bikeways, fitness trails and jogging paths (running to and through high quality, natural areas);
- Safe bikeways connecting the centre to the university, research institutes, the business park and nearby residential and business areas;
- Unique adventure playgrounds (for pre-school and school aged children and adolescents);
- World class skateboard facilities (with a bowl for those with different levels of skill and skateboard trails);
- High standard, sports facilities with night lighting (for bowls, croquet, tennis and squash facilities);
- An aquatic centre open to the public (for serious swimming, aquatic training, aquactic health and fitness, sports and injury recovery, water sports and events, and for family fun aquatic activities).

Promoting Ruakura as an Environmentally Friendly Area - Initiatives proposed in Ruakura, to promote it as an environmentally friendly area (given its proximity to a rural peripheral setting) could seek to:

- Ensuring the area is particularly attractive to environmental industries and environmentally responsible businesses;
- Requiring buildings and businesses to be environmentally responsible (including the introduction of environmental rating for commercial buildings to be developed in the area) (8)
- Providing shared industry specific common user facilities (for the food industry these could include co-generation, with reticulated hot water, chilled water, industrial gases and steam, shared freezers and cold stores, and trade waste treatment, recycling and discharge);
- Attracting clean recycling industries (such as those in recycling by-products, gases, plastics and packaging).

(8) It is recognised that a residential type “environmental rating” system is still to be introduced for commercial and industrial buildings in New Zealand (this may provide an opportunity for Hamilton). There are also businesses that will rate building products and appliances for the energy efficiency and environmental impacts. (Hamilton could also seek to attract one of these, preferably one providing this type of accreditation for overseas developments)