

Industrial Land Research

SmartGrowth Bay of Plenty

Final Report

McDermott Consultants

For SmartGrowth Bay of Plenty

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Summary

Review of Land Availability

The projections for industrial land demand in the Western Bay of Plenty (WBOP) have been reviewed in the light of economic and industrial progress since the first projections were made in 2006 and the SmartGrowth strategy subsequently implemented.

SmartGrowth called for an additional 800ha to be zoned by 2051, with the 2007 Implementation Plan accepting that the figure could be as high as 1,000ha. Around 255ha has since been zoned at Tauriko in the Western Corridor and 410ha in the Eastern Corridor. Of this, 310ha falls in the small town, largely rural environments of Te Puke and Rangiora. At present there appears to be around 570ha available for industrial development throughout the WBOP.

The Demand Outlook

Not all of that land is serviced and much of it is unlikely to be developed until currently weak economic conditions improve, demand is reinvigorated, and prices lift. Our review of the global and national outlook and consideration of recent trends in the WBOP suggest that this could be several years away, and is subject to significant risk of further downside in the meantime.

New projections of possible long-term demand undertaken for this review reflect the slowdown since the mid-2000s. They indicate that current provisions are more than adequate in quantitative terms for foreseeable growth in both the medium (through to 2021) and long term (through to 2051). Medium-term demand is projected to be no more than 180 additional hectares and could be as low as 20ha (barring major projects).

Beyond 2021 an average increment of 50ha per decade is modelled as a low growth scenario and 120ha per decade as a high growth scenario. The result is a wide gap between the two estimates – the former suggesting demand for an additional 170ha and the latter for 520ha. The fact that the high figure is substantially below earlier expectations reflects the “loss” of up to ten years of the growth projected in 2006, primarily due to the Global Financial Crisis.¹

Drivers of Demand

Industrial expansion in WBOP remains dependent primarily on the level of residential and population growth. A significant boost could come from further port expansion if it encourages local investment in related businesses. This depends, in turn, on whether aggregation and distribution (and any associated processing) takes place within the WBOP or whether it occurs closer to the market at Hamilton or Auckland, or both.

Specialisation in a few key manufacturing sectors and increasing the value added to primary production hold long-term potential to push demand for land towards the higher of the two scenarios developed here, as does any deepening of the economy as the scale of business development in the WBOP generally increases.

The other source of potential growth is in the agri-business sector, in large part through investment in large scale supply, and primary and secondary processing business. Like large-scale storage and distribution, such activities require large, load bearing sites.

¹ The SmartGrowth 2011 revised household and population forecasts suggested the loss of around six years of population growth at that time

The Quality of Land Zoned for Industry

Analysis of the currently zoned land throughout the Western Bay of Plenty suggests that such sites may be relatively difficult to come by or, where available, subject to expensive geotechnical site work. Together with the high financial or development contributions required for bulk infrastructure in many places, these can make sites uneconomic to develop or prices prohibitive to potential investors and tenants. On these grounds, the quantity of land zoned may be less influential over future growth than the quality.

The Tauriko Business Estate is well located in the Western Corridor leading from Tauranga to the principal markets of the Waikato and Auckland regions. It provides substantial capacity for light and medium industrial activities and will meet foreseeable needs for new or relocating and expanding local businesses. It is likely to be the major focus of medium term growth related both to expanding demand, deepening of the economy by way of increasing intermediate goods and services, and catering for growing manufacturing enterprises.

Catering for Medium-Term Growth

If and when the economy begins to recover, industrial growth is likely to be concentrated in the Tauriko area. Outside Tauriko the options for urban industrial activity include Te Maunga, near Mt Maunganui, and Wairakei at Papamoa in the Eastern Corridor. Both suffer some cost disadvantages. Parts of Te Maunga will require significant earthworks to correct for variable geotechnical conditions. Wairakei is currently faced with high development contributions. These conditions lower their competitiveness against alternative sites in Hamilton as well as parts of Auckland.

Beyond 2021

While there appears to be sufficient land in the WBOP in total to cater for industrial growth to 2051, its variable quality and cost suggests that there will nevertheless be shortages of particular qualities of land or constraints that under more buoyant conditions could frustrate investment and growth.

Rangiuru and Te Puke as well as Northern Corridor sites will play a role in catering for the long-term, with Te Tumu potentially following on from the development of Wairakei.

Looking towards 2051 more land is likely to be required in the Western Corridor and close to the port to encourage long-term growth. Proximity to the port suggests that there may be a development advantage from relocating Tauranga Airport (or even the Omanu Golf Course) in favour of industry within the SmartGrowth planning timetable. While this has been considered and set aside in the past, it may need to be reconsidered for the long-term site for industry more closely aligned with WBOP opportunities and prospects than some of the alternatives. This might mean avoiding making on-site airport development decisions that pre-empt a future change in use.

Increasing Flexibility

In the meantime the particular needs of large-scale storage and handling and processing activities oriented towards the WBOP primary sector may need to be catered for outside existing zonings if investment opportunities, the capacity to add value to primary activities, and benefits of the presence of the port are not to be undermined. It may be important, especially during a period when growth is limited, to enable the rezoning or consenting of suitable rural land for industrial use on a project-by-project basis when the need can be demonstrated and the effects satisfactorily managed.

Recommendations:

Recommendation (1): The suitability of bringing in additional land for industrial development in the Western Corridor in the medium-term, including and beyond Tauriko, should be investigated, including consideration of the implications of current transport constraints on SH29;

Recommendation (2): The application of development and financial contributions policies to industrial areas may need to be reviewed by the councils in light of the potentially negative impact of current charges on industrial growth, especially in the Eastern Corridor. This means considering alternative sources of funding or varying the underlying engineering and timing parameters and assumptions behind current funding formulae;

Recommendation (3): Provision should be made within the SmartGrowth strategy for site-specific zoning or consenting of large scale, primary sector focused industrial and storage uses in suitably managed and located rural areas, subject to demonstrating a genuine need for such a location that cannot be met satisfactorily in zoned areas, satisfactorily managing environmental effects, and the developer's capacity to fund associated infrastructure.

1 Introduction

1.1 Objective

This is the final report of a review of long-term industrial land needs prepared for SmartGrowth Bay of Plenty. Its objectives were to:

"Identify the likely long-term demand for industrial land for various types of industrial land uses within the Western Bay of Plenty sub-region (WBOP) and the implications of this on the quantum and general location and economic viability of additional land (if any) that should be identified within the SmartGrowth Strategy for industrial purposes" (Project Brief).

The long-term is defined with reference to the SmartGrowth time horizon of 2051 by which time it is anticipated that the population of the area will reach around 275,000, a gain of approximately 115,000 people.

The WBOP sub-region is a combination of Tauranga City and Western Bay of Plenty District.

1.2 Approach and Outline

Long-term projections of demand in any field are problematic and consequently heavily qualified. For planning purposes they are generally managed by regular review. This report comprises the first review of projections originally prepared in 2006.

The objective for the review requires a degree of quantification that is difficult to achieve with precision. It should nevertheless provide a basis for making decisions in principle by establishing broad but by no means fixed parameters for planning and development, rather than by providing detailed forecasts to justify precise policies and rules.

Part of any such exercise is reconciling short-term expectations (over, say, five years) with a medium-term outlook (of around ten years), and long-term prospects (for up to fifty years). This has been done in the present exercise by analysis of demand and supply, building on the performance and events of the past decade and developing a framework for looking out ten years in a reasonably systematic manner. Beyond there, straightforward linear projections capture the range of possibilities between a modest and a high growth future.

The immediate outlook is considered relative to the experience, expectations, and needs of existing businesses and what they reveal about the possible shape of future demand, and through consideration of qualitative aspects of land supply.

This report first outlines the results of two working papers, the first dealing with the current supply of industrial land in the WBOP, the second with recent demand and how that might be reflected in future growth by presenting low and high growth scenarios.

It then presents a perspective of more immediate demand and supply issues, drawing on the experience and expectations of current business interests to reach recommendations for the SmartGrowth review.

1.3 Background

The current provisions for industrial land within the SmartGrowth Strategy were derived from a 2006 review (McDermott Consultants) of land requirements projected by Market Economics in 2005. These were in turn based on national sector employment

projections by the New Zealand Institute of Economic Research in 2004 and the WBOP's expected share of this.

The current review is justified by the fact that the source material is now nearly ten years old. More than that, the New Zealand economy is facing significant structural change as a result of the Global Financial Crisis (GFC), change that will impact on the absolute and relative performance of the WBOP.

The 2006 review was undertaken towards the end of what turned out to be a period of exceptional growth. Following the hiatus of the Asian Financial Crisis in the late 1990s New Zealand GDP averaged 3.5% growth from 2000 to 2008. Over the three years to March 2011 this was down to an average of 0.2%, including two years of contraction.

There is no sign that the global or national economies are facing early recovery: commentators have progressively deferred expectations of a resumption of "growth as normal", with economic agencies sounding strong notes of caution for the medium term.

Under current circumstances the best that forecasters appear to be able to offer is the prospect of a recovery of sorts late in 2013, or in 2014, most likely marked by continuing divergence in growth rates between developed (slowing) and developing (accelerating) nations. One result will be the long-term convergence of material circumstances between developed and developing nations and consequently an adjustment in the flow of goods, capital, and skills among them.

Any forecast under these circumstances is subject to more uncertainty than usual. This is especially the case in regions within nations where local circumstance can change more rapidly, inferior data provides a more uncertain starting point, and the prospects of offsetting errors reducing forecasting error is less. Hence, the usual range of forecasting caveats needs to be extended to highlight the range of possible local consequences of global instability in an inter-dependent world.

On these grounds, the key question to be addressed in an analysis of possible demand for land (or labour, or capital) is how far continuing structural changes and the prospect of further economic shocks will reshape economies rather than simply vary their rates of development along a trajectory that almost inevitably reflects past experience.

2 The Supply of Industrial Land, 2012

This section is based on Working Paper 1. It outlines current provisions for industrial land and reviews recent shifts in industrial employment and consequent land demand in the WBOP as background to revising projected industrial land needs.

2.1 The Current Supply

The Smart Growth Strategy calls for around 800ha of land to be zoned industrial through to 2051, with a commitment to 550ha by 2021. As part of this strategy land has already been zoned, with 255ha at Tauriko on the Western Corridor and 100ha at Wairakei on the Eastern Corridor within the City, a further 240ha at Rangioru to a total of 276 according to the most recent industrial land survey², and 70ha at Te Puke in the Eastern Corridor. These additions more than address the shortage of supply that emerged following rapid growth in demand from the late 1990s until around 2005 and jointly go a long way in moving towards the SmartGrowth 2051 target.

Based on the 2011 Tauranga City and 2012 Western Bay District industrial land surveys, there is in theory 570ha of vacant industrial land available for industrial development (Table 1). 13% of vacant land lies in the Northern Corridor, split between the rural service centre at Katikati and the urban fringe at Omokoroa; 19% lies in the central city, mainly in and around Mount Maunganui (and dominated by Te Maunga); 25% is in the Eastern Corridor, and the largest share at Tauriko, in the western corridor.

Table 1. Western Bay of Plenty, Land Zoned for Industry 2012

	Distance to:		Industrial Land			Shares	
	Mount ¹	CBD ²	Vacant	Occupied ³	Total	Total	Vacant
Northern Corridor							
Waihi Beach	60	55	0.0	25.8	25.8	2%	0%
Katikati	41	36	41.2	25.7	66.9	4%	7%
Te Puna	17	12	0.0	30.6	30.6	2%	0%
Omokoroa	22	18	31.9	3.8	35.6	2%	6%
<i>Total</i>			<i>73.0</i>	<i>85.9</i>	<i>158.9</i>	<i>10%</i>	<i>13%</i>
Western Corridor							
Tauriko	14	10	244.7	19.1	263.8	17%	43%
Central Tauranga							
Sulphur Point	4	2	0.1	7.1	7.3	0%	0%
Judea	8	4	0.0	24.8	24.8	2%	0%
Oropi	13	7	0.0	52.3	52.3	3%	0%
Greerton	12	6	1.2	11.6	12.8	1%	0%
Mt Maunganui	0	4	31.8	266.8	298.7	19%	6%
Te Maunga	6	12	74.0	113.0	187.0	12%	13%
Owens Place	5	9	0.4	8.0	8.4	1%	0%
<i>Total</i>			<i>107.6</i>	<i>483.6</i>	<i>591.2</i>	<i>38%</i>	<i>19%</i>
Eastern Corridor							
Wairakei	17	24	100.3		100.3	0%	0%
Te Puke	22	25	25.1	141.1	166.2	6%	18%
Rangioru	32	35	17.6	259.2	276.8	11%	4%
Paengaroa	32	36	1.1	2.3	3.4	18%	3%
Maketu	35	39	0.0	0.1	0.1	0%	0%
<i>Total</i>			<i>144.1</i>	<i>402.7</i>	<i>546.8</i>	<i>35%</i>	<i>25%</i>
WBoP Total			569.4	991.3	1,560.8	100%	100%

Notes: 1: Distance to CBD measured to Cameron Rd;
2: Distance to Mt Maunganui measured to Hull Rd/Totara St Roundabout
3: Occupied includes land that is unavailable although not necessarily occupied at present

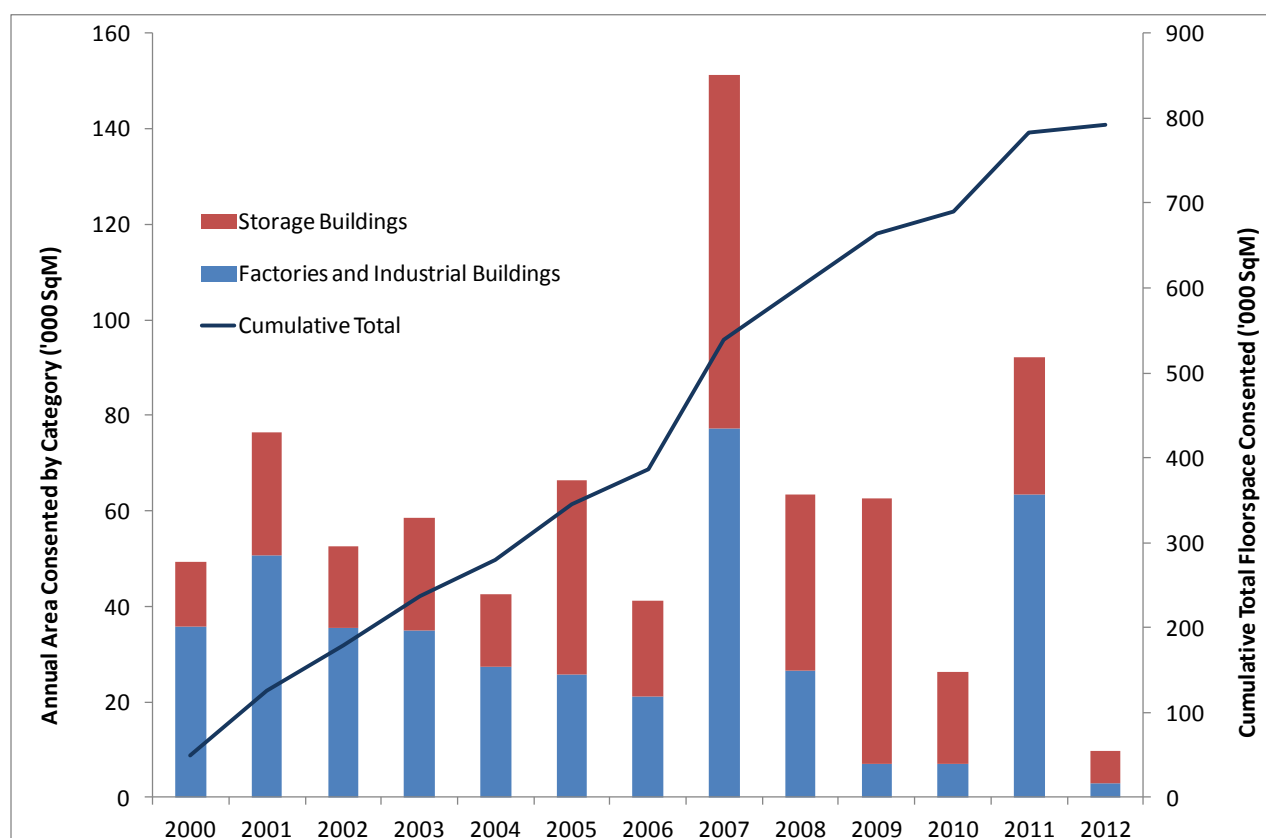
² This total includes existing uses e.g., AFFCO. The Rangioru business Park is around 200ha (gross)

2.2 Recent Demand

A recent reduction in the uptake of land reflects a slowdown in industrial activity since the initial demand projections were made. Despite outperforming the rest of the northern North Island and the country as a whole, SmartGrowth industrial development has not performed to expectations. This reflects a combination of depressed national consumption, flat housing demand, and volatile exports. One consequence of a sharp contraction in residential construction includes reduced demand for industrial land.

This is reflected in the slow-down in industrial building activity since the middle of the last decade. The growing importance of storage buildings is more obvious for new floorspace (although 2007 and 2011 countered the trend, Figure 1), and has tended to offset the reduction in factories and industrial buildings. Considering only the eight years ending March 2012 290,000sqm of storage floorspace has been consented (53% of the total), and 255,100sqm of industrial/factory space (Figure 1).

Figure 1 Area of New Industrial Building Consents, WBOP 2000-2012



Source: Statistics New Zealand

Despite outperforming the nation and adjoining regions, the WBOP has not performed to expectations. Two industrial projections were suggested in 2006 (McDermott, 2006) based on adjustments to an earlier Market Economics (2005) forecast. The first reflected the national growth rates of sectors projected by NZIER. A higher projection allowed that growth rates would not contract as sharply as assumed in the NZIER forecast and that stronger historical growth rates would prevail for some time.

Both projections turned out to be optimistic with respect to the first five years, over which it was suggested that demand would increase by between 52 and 107ha (Table 2). In fact, a contraction in industrial employment of 1,520 jobs between 2006 and 2011 suggests that the area of occupied industrial land should have fallen by around 50ha.

Based on available data there appears to have been a reduction of 30ha in occupied industrial land across the WBOP District between 2007 and early 2012 which may reflect a change in survey conventions. There was a gain of 18ha in Tauranga City over between 2007 and mid 2011. In fact, occupied land increased in Tauranga by almost 60ha between 2005 and 2011.

Table 2. Actual and Projected Employment and Land Demand, 2006-2011

	Employment Projected		Actual	Land Required at 30 Emp/Ha Gross		
	Base	Adjusted	Employed	Base	Adjusted	Actual
2006	19,970	21,580	18,860	670	720	630
2011	21,540	24,800	17,340	720	830	580
2016	23,010	27,780		770	930	
2021	24,900	30,750		830	1,030	
2051	31,430	42,980		1,050	1,430	
Actual Shift						
2006-11	1,570	3,220	-1,520	52	107	-50

Source: McDermott Consultants (2006), p.20; Statistics New Zealand Business Directory

In fact, contracting employment is unlikely to be reflected by a fall in occupied land in the short-term. Empty premises and less intensive use of existing structures are more likely. In addition, successful companies continue to expand even as less successful ones contract, maintaining some growth in occupied land, especially if the downturn is selective by sector or perceived as short-term in nature. In the current instance, some momentum has been sustained in urban Tauranga ahead of rural Western Bay of Plenty.

2.3 Subregional Specialisation

Despite limited growth recently, there are signs of emerging industrial specialisation within the subregion (Table 3). For example, the Northern and Eastern Corridors play a large part in servicing the primary sector. Demand for industrial labour and land in those corridors remains dependent on that role.

The Centre is undergoing a transformation as more intensive uses displace long-standing manufacturing. This should give rise to some decentralisation and modest growth in Tauriko and Wairakei even if no substantial new investment were to take place.

Displacement of manufacturing activities from Mt Maunganui is likely to continue in favour of storage and logistics businesses. This may see a further push of lighter manufacturing and service activities to sites on the urban edge.

2.4 The Role of the Port

Although there has been some recent diversification, export growth through the Port of Tauranga remains heavily dependent on primary products and processed primary goods. Imports are a minority of trade by value but have been growing more rapidly and are more diversified than exports. Their composition suggests a possible deepening of the economy as the region increases its role in the distribution of materials and intermediate goods and lifts its capacity to process imported industrial and agricultural inputs.

Consequently, the current situation confirms the justification for rezoning at Tauriko and Wairakei if only to provide for activity displaced or decentralising from the inner city and Mount Maunganui areas. However, the rate of uptake may be slower than originally anticipated, suggesting reduced urgency for further rezoning.

Table 3. Changing Industrial Employment by SmartGrowth Corridor, 2006-2011

	Population	Total Employment	Manu- facturing	Utilities	Const- ruction	Industrial Transport & Storage	Wholesaling	All Industrial	% Total
Central Industrial Totals									
2006	37,260	40,530	5,710	413	3,130	2,777	2,172	14,202	38%
2011	39,050	40,960	4,770	450	2,725	2,776	2,221	12,942	33%
Shift	1,790	430	-940	37	-405	-1	49	-1,260	
% Shift	5%	1%	-16%	9%	-13%	0%	2%	-9%	
Share of SmartGrowth									
2006	25%	69%	75%	86%	65%	84%	82%	75%	
2011	24%	64%	72%	91%	67%	83%	78%	75%	
Shift	16%	9%	94%	336%	55%	-3%	25%	84%	
Balance Central									
2006	52,380	5295	108	29	718	173	177	1205	2%
2011	56,940	6,665	127	26	538	171	154	1,016	2%
Shift	4,560	1,370	19	-3	-180	-2	-23	-189	
% Shift	9%	26%	18%	-10%	-25%	-1%	-13%	-16%	
Share of SmartGrowth									
2006	35%	9%	1%	6%	15%	5%	7%	6%	
2011	35%	10%	2%	5%	13%	5%	5%	6%	
Shift	40%	27%	-2%	-27%	24%	-6%	-12%	13%	
Eastern Corridor									
2006	33,930	7850	1229	35	499	245	163	2171	6%
2011	37,300	10,430	1,163	9	371	230	287	2,060	6%
Shift	3,370	2,580	-66	-26	-128	-15	124	-111	
% Shift	10%	33%	-5%	-74%	-26%	-6%	76%	-5%	
Share of SmartGrowth									
2006	23%	13%	16%	7%	10%	7%	6%	12%	
2011	23%	16%	18%	2%	9%	7%	10%	12%	
Shift	29%	51%	7%	-236%	17%	-48%	62%	7%	
Northern Corridor									
2006	25,670	5490	550	6	478	118	144	1296	5%
2011	27,400	6,165	532	9	450	167	194	1,352	5%
Shift	1,730	675	-18	3	-28	49	50	56	
% Shift	7%	12%	-3%	50%	-6%	42%	35%	4%	
Share of SmartGrowth									
2006	17%	9%	7%	1%	10%	4%	5%	7%	
2011	17%	10%	8%	2%	11%	5%	7%	8%	
Shift	15%	13%	2%	27%	4%	158%	25%	-4%	
SmartGrowth Subregion									
2006	149,240	59,165	7,597	483	4,825	3,313	2,656	18,874	13%
2011	160,690	64,220	6,592	494	4,084	3,344	2,856	17,370	11%
Shift	11,450	5,055	-1,005	11	-741	31	200	-1,504	
% Shift	8%	9%	-13%	2%	-15%	1%	8%	-8%	

Source: Statistics New Zealand Business Directory

2.5 A Strategic Approach to Land Supply

It is difficult to project growth when medium to long-term trends are not obvious or a reliable guide to the future. Under these circumstances councils themselves can influence the uptake of land by adopting strategic measures to boost industrial investment, employment, and land use. These might include

- Ensuring land zoned industrial is sufficiently attractive to investors and producers;
- Promoting varied site sizes and standards, including business park-style settings;
- Allowing for ancillary uses on industrial land and mixed use on centrally located sites;
- Any future zoning continuing to emphasise sites with good access to key transport routes and nodes, labour supply, and intermediate and final demand services;
- Recognising the importance of a convenient, attractive, and amenity-rich environment to attracting and retaining skilled labour;
- Aiming to achieve development and infrastructure efficiencies and charges that maintain competitive prices for land and services;
- Acknowledging and promoting established and emerging regional specialties through collaboration with, for example, training and education providers.

3 Projecting Demand for Industrial Land

This section explores economic growth prospects for the WBOP against which to assess the possible medium-term uptake of land already zoned and to revise expectations about long-term requirements (to 2051). The approach is broad-brush, in keeping with the uncertainty that surrounds long-term projections. It is based on a brief review of global and national economic conditions and forecasts, and how these might influence the key drivers on growth in the WBOP. It then draws on a quantitative model developed for projecting different employment outcomes and associated industrial land requirements as a means of confirming or modifying industrial land needs projected through to 2051.

3.1 Global Prospects

By and large international economic agencies see global development and trade continuing to be soft through 2013 and 2014, with modest recovery beyond there. Much of the growth of the next three or four years will be in emerging and developing nations. Even that growth is under threat should Euro Zone nations fail to resolve problems of sovereign debt or should America fail to resolve long-term fiscal issues.

In addition, there is a risk that inflation will see a bubble-induced downturn in Asia. Even if developing countries continue to grow successfully emerging capacity constraints might see them slow down towards the end of the coming decade.

3.2 National Prospects

The recent slow growth experienced in New Zealand and, in turn, the Bay of Plenty will continue for some time. Indeed, it could become the new norm.

New Zealand forecasters do not currently see an early return to the high growth experienced in the first half of 2000s. There is some expectation of recovery in 2013/2014, although this is tempered by possible slow growth after that. Any optimism for the next year rests with the prospect of stimulus from Christchurch reconstruction.

Heightened volatility, increasing differentiation among regions and sectors, and significant structural changes could result from the current downturn. One prospect is a shift to a more "exploitative" economy which seeks to unlock some of the natural resource endowments of the country. This should favour the WBOP, as does a focus on trade-based growth given the growing importance of the Port of Tauranga, even if traditional manufacturing remains weak.

National economic analyses emphasise the importance of domestic capital formation. Given Christchurch's need, long-standing housing, transport, and infrastructure renewal demands in Auckland, and the Government's Roads of National Significance programme there could be significant supply constraints outside centrally-driven programmes. This is consistent with the limited capacity to raise venture and equity capital within New Zealand, something which KiwiSaver may remedy in due course.

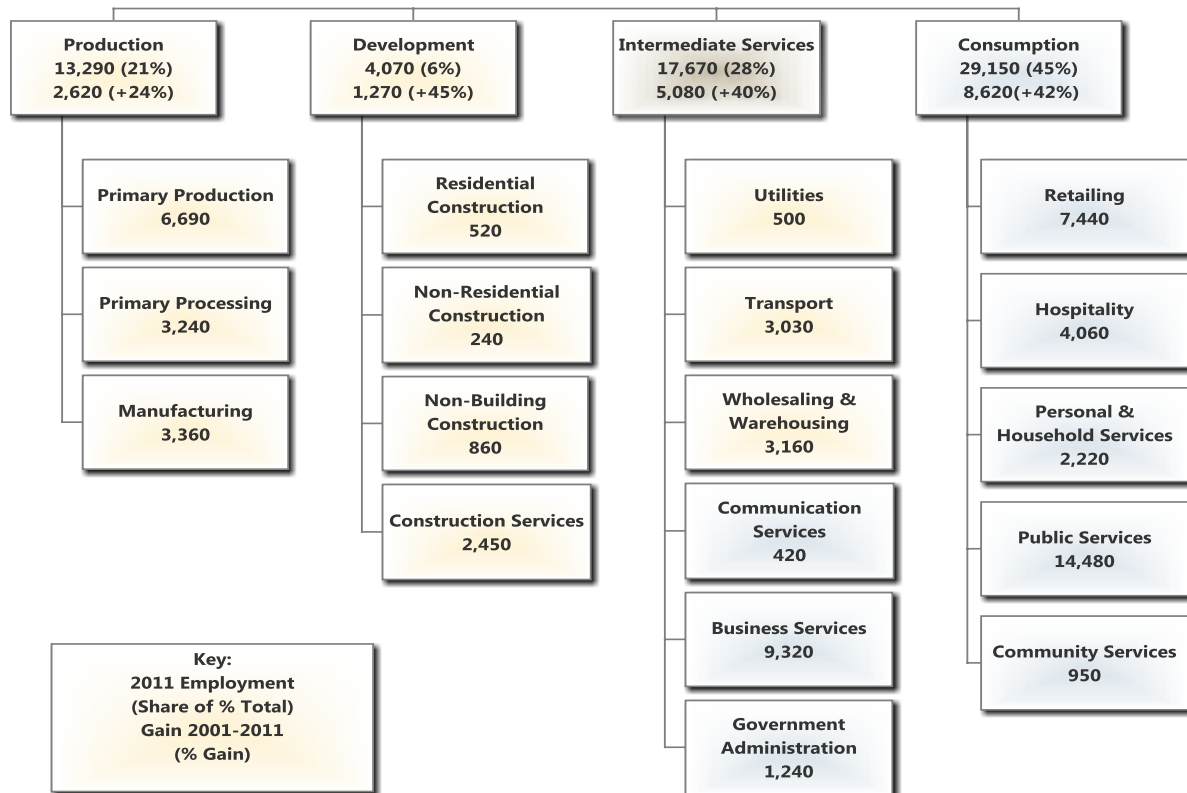
Limited resources for investment in secondary centres would impact negatively. On the other hand, the high costs of continued expansion in Auckland and any further delays in the Christchurch could see internal population migration favouring the WBOP.

3.3 Projecting Possible Employment Outcomes

A simple four division model was used to organise the projections (Figure 2), with employment allocated to **Production** (primary production, primary processing, and manufacturing), **Development** (housing and non housing building, non residential

construction, and trades); **Intermediate** activity (utilities, transport, storage, communications, business services, and government administration) and **Consumption** services (retailing, hospitality, public services, personal and household services, and community services).

Figure 2 Employment Structure, WBOP 2011



Note: Total Employment, February 2011, Sector Allocation, Appendix 1
 Lighter boxes denote sectors normally occupying industrial land
 Source: Business Demographics, Statistics New Zealand

Over the past decade employment growth has been dependent on population growth and, to a lesser extent, trade expansion. Although not large, the Development division appears to be a key, associated with the external “drivers” of the economy, on the one hand, and with the other employment divisions, on the other.

These relationships were built into a model which uses the projected SmartGrowth changes in population and consideration of trade growth prospects to generate broad employment shifts in the four divisions. Following a critique of a preliminary version of the projection model by Butcher Partners, a Christchurch-based economic consultancy, a number of transformations of the original data were tested. A regression-based model was developed for projecting annual deviations around a linear trend in employment in each division from 2011 to 2021.

Growth rates derived from the SmartGrowth population projections and diminishing rates of increase in imports (extrapolated from the past 10 years) provide the baseline assumptions used to generate a low growth scenario. This suggests growth of 10,840 jobs (1.6% a year). This is well behind the 17,590 new jobs (at 3.3% a year) from 2001 to 2011. It includes continuing contraction in the Development sector to the middle of the decade when a lift in a projected population growth could return it to growth.

A second set of assumptions provides a contrasting high growth scenario. It assumes that rates of residential growth recorded over the past decade are sustained over the

coming 10 years (recovering from current low levels) and imports grow at the rate recorded over the past decade rather than at diminishing rates. This high scenario projects 21,000 additional industrial jobs through to 2021, a 2.9% a year gain.

Despite the wide range between these figures, both scenarios are plausible based on what has happened in the past. While slow growth is the immediate prospect, there is the potential for the economy to become increasingly self-sufficient (through expanding Production and Intermediate divisions) if growth does pick up later in the decade.

3.4 Implications for Industrial Land – the Medium Term

These employment projections were converted into estimates of demand for additional land by considering likely employment densities by division, the share of employment in each division actually engaged in industrial activities, and the share of industrial activity that might be expected to take place on land zoned for the purpose (allowing for some out-of-zone activity).

The resulting scenarios suggest that between 20ha and 180ha is sufficient to cover the range of demand for additional industrial land between 2011 and 2021 (Table 4). Based on the *theoretical* availability of 570ha in the WBOP currently, reconciliation of supply and projected demand provides no grounds for adding to the current pool of industrial land for some considerable time. This prospect needs to be tested, however, by consideration of the suitability of the pool of land, a matter picked up in Section 5.

Table 4. Industrial Land Requirements, Low and High Scenarios

	Low Scenario		High Scenario	
	Employment	Land (Ha)	Employment	Land (Ha)
2011	17,430	530	17,570	530
2016	16,910	500	18,380	550
2021	18,880	550	22,610	700
Increase	1,450	20	5,040	170

Notes: Employed refers to employees likely to occupy industrially-zoned land
The 2011 base figure is also projected to project off a trend rather than a single point

3.5 Industrial Land Requirements – the Long-Term

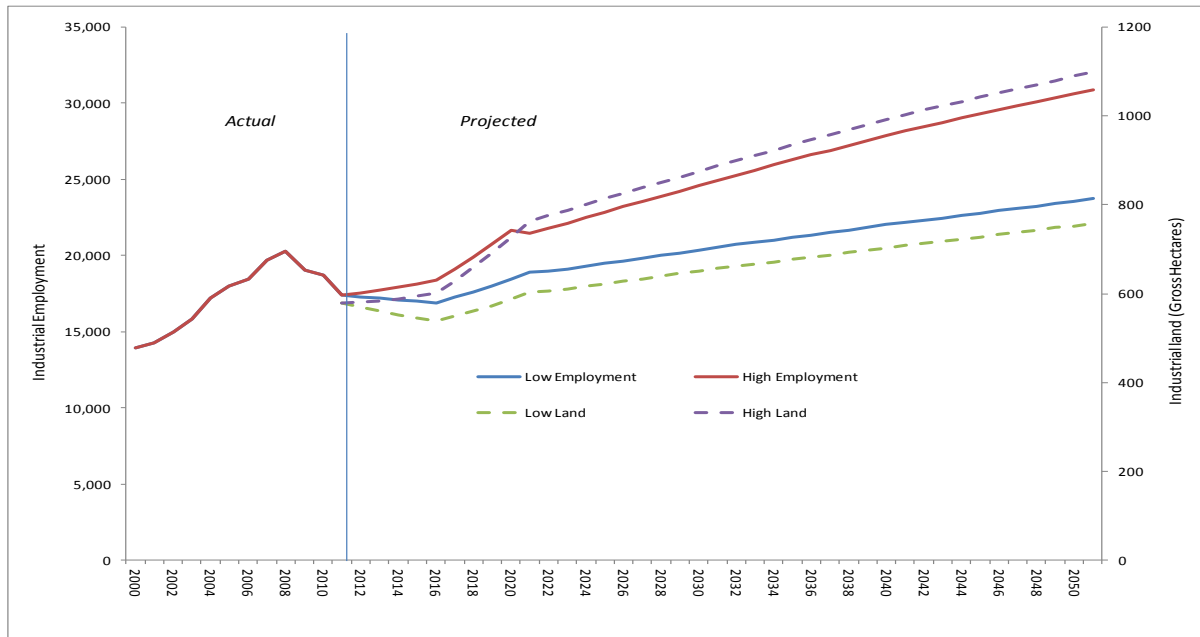
The long-term perspective of SmartGrowth requires that possible land requirements are projected beyond the ten year horizon underlying the preceding analysis. The prospects for land demand beyond 2021 have been explored by projecting forward the 2001-2021 series resulting from the medium term projections.

Beyond 2021 an average increment of 50ha per decade is modelled in the low scenario (following a medium term projection of just 20ha); and an increment of 120 per decade (compared with 180ha from 2011 to 2021). The result is a wide gap between the high and low scenarios – the former suggesting demand for an additional 520ha and the latter for 170ha (Figure 3).³

³ The 2051 population assumptions derived through the modelling process are around 280,000 for the baseline (low) projection and 185,000 in the high projection. These compare with 175,000 in the original projections, and reflect in the baseline case the impact of rounding on growth rate based projections.

This range is a measure of uncertainty underlying long-term projections generally and, more particularly, the volatility of the current environment. The lower figure implies continuation of recent slow-growth conditions. The higher figure reflects a continuation of the sort of growth experienced earlier in the decade, albeit following a growth hiatus of up to ten years. Both suggest that in quantitative terms current provisions and expectations are more than adequate relative to likely growth, although this conclusion is subject to the suitability of the current pool of available land.

Figure 3 Long-Term Industrial Land Projections, 2011-2051



These projections are modest when compared with those generated by the SmartGrowth team using land:population ratios, which suggest demand for an additional 720ha to 790ha by 2051. At this stage these higher projections derived from extrapolating labour supply may be less reliable than the projections developed for this study which are based on demand (although both have an association with population growth). It may be inferred from this comparison, however, that there will be a change in labour force participation, reducing historical levels, or a relative shift in employment structure out of industrial activity. Exploring these possibilities lies outside the scope of this study.

It is concluded, however, that consideration of the current pool of industrial land alongside projections for growth in demand do not, of themselves, provide grounds for substantially increasing in the long-term the area zoned above what exists at present.

However, this conclusion needs to be qualified by identification, in the preceding section (and Working Paper 1) of significant differences in the structure and rates of growth between different parts of the WBOP. This in turn raises questions over whether or not the land currently zoned will be appropriate for the region's industry in the future. Just as there are subregional differences in the nature of industrial activities, there may need to be subregional differences in the quality and cost (and therefore attractiveness) of industrial land. This is the subject of Section 5.

4 Economic Development Initiatives

The discussion of employment structure indicates the possibility of strengthening relationships among existing businesses and sectors, thereby increasing the rate and depth of growth that might result from higher population, trade, and primary production activity as a result of a deepening economy.

There is also the prospect that totally new initiatives and businesses will promote higher levels of growth. The following discussion addresses this prospect, based on interviews and the outcome of the *2012 Business Summit* organised by Priority One, the vehicle for pursuing the subregion's "SmartEconomy" objectives.

4.1 Deepening the Economy

The value added in an economy as a result of growth in a key sector – including residential development – is in part of function of the capacity of local businesses to meet its input requirements. As a growth sector expands, ideally a range of local suppliers will expand their output in response. Through this, a local multiplier effect generates additional regional income and employment. The value of a multiplier reflects the depth of local compared with non-local transactions.

Typically, larger economies with a greater depth of local business have higher multipliers than smaller economies, in which growth businesses inevitably import a greater share of their inputs. Even in a small economy, though, local specialisation might create and exploit a range of local linkages as proximity helps businesses become knowledgeable about and specialise in meeting each other's needs.

Employment multipliers have been estimated for the WBOP for this study across some 87 sectors in 2007 by Butcher Partners. Among the primary sectors, services to forestry, logging, mining and quarrying, and oil and gas exploration have relatively high multipliers. They are also minor employers in the WBOP, so the overall impact on employment and land requirements of a gain in them is likely be limited.

Higher than average multipliers are generally evident among processing sectors, simply because they purchase a large share of their input from local primary producers. Hence, the multipliers in the dairy industry, meat processing, and beverage sector easily exceed the average for the WBOP. Processing in the region may have only limited indirect impacts, however, as growth need not be based on higher on-farm production so much as increased direct application of labour and capital in existing or new processing plants.

Either way, the effects on industrial land will be minimal. A small positive impact may arise from additional local purchasing of materials (for packaging, for example), trade and business services, and capital equipment alongside the increased final demand associated with higher wages.

Few of the current manufacturing sectors have high multipliers. Those that do are oriented towards construction, including basic metals, non-metallic mineral products, and prefabricated buildings. The electronic and scientific equipment sectors have above average multipliers based largely on relatively low direct employment per \$million of value-added which does, in turn, lead to high "induced" or final demand effects from the local spending of increased household income.

The construction sectors have perhaps the strongest linkages with local suppliers. Non-residential construction in particular generates a large amount of local employment with a total (Type II) multiplier of 5.06 (compared with an all sector average of 2.29): for every person employed in construction four more will be employed amongst suppliers.

Residential construction also has a high Type II multiplier (2.9). The implication is that population growth will be transmitted readily into other activities in the WBOP

The utilities sectors (electricity, gas and waste disposal services) have generally high multipliers but account for limited employment. Business services have above average Type II multipliers, suggesting a relatively high household spending impact, potentially stimulating demand for industrial land indirectly.

An analysis of the multipliers associated with primary production, processing, and manufacturing indicates that for every ten people employed in "production" activities nine people are employed by local suppliers. The greater the share of processing undertaken locally, the greater this multiplier effect will be.

Primary	1.52
Processing	2.57
Manufacturing	1.57
Aggregate	1.94

These multipliers support the possibility that the relationship emerging at the end of the last decade between growth in the Production and Intermediate Divisions if sustained could provide a boost to industrial land demand which might not be projected on the basis of past relationships.

In terms of industrial land demand, any increase in inter-industry transactions within the region is likely to involve increased production from the land (materials) or increased local manufacturing (components, packaging supplies, and capital equipment), maintenance, and trade services. The latter group comprises traditionally urban-based activity where access to diverse labour force skills and business support services sustains smaller-scale industrial activity. Any deepening of the economy through enhanced labour local transactions, then, is likely to increase the demand for industrial land in the urban area.

4.2 Business Development

The Business Summit convened by Priority 1 in May 2012 recognised the need for transformation in an economy which continues to be subject to uncertain global conditions. It identified general growth themes as well as highlighting the potential contribution of specific initiatives, both through their own capacity to grow locally and through leadership in innovative local investment that such initiatives represent.

The themes revolved around a proactive and collaborative approach to: (1) a combination of traditional strengths, reflected in the presence, performance, and plans of the Port of Tauranga and the performance of the horticulture, food production and increasingly the aquaculture sectors; (2) new initiatives, taking advantage of the quality of Bay of Plenty lifestyle and, (3) related to that, the potential to attract and retain high skilled individuals working in leading edge companies.

Trade growth and, to a lesser extent, primary sector growth are elements of the employment model adopted for the study. Distinctly new initiatives fall outside it.

Initiatives identified by the summit include the prospect of building on the tertiary partnership between local firms and the University Waikato, Bay of Plenty Polytechnic, and the indigenous university, Te Whare Wanānga o Awanuiarangi. Already several initiatives build on the application of innovative science underpinned by university research. These reflect marine biodiversity and a diverse and efficient primary sector.

There is a particular interest in knowledge-based manufacturing and a commitment to networking to achieve sound and well grounded local businesses, a commitment which

would effectively increase the local multiplier effects of the “success stories”. The Summit promoted collaboration to take advantage of existing strengths and progress new initiatives in small to medium export oriented businesses. This is already evident with respect to the local promotion of the titanium industry (see Box 1).

Box 1: Titanium – an Opportunity for Deep Specialisation

The Titanium Industry Development Association (TiDA) was established in 2009 to advance the application of titanium powder metallurgy consolidation processes. Its establishment was supported by Bay of Plenty Polytech through early debt funding and provision of on-campus premises. TiDA maintains close relationships with Waikato University and with the Fraunhofer Institute for Manufacturing Technology and Advanced Materials in Dresden.

Demand for titanium products is increasing rapidly, with applications in laptops, mobile phones, sporting goods, medical, automotive, and aerospace applications. TiDA provides research, testing, product development, prototyping, and short-run manufacturing services incorporating 3D printing and metal injection technology.

Its key roles are:

- To introduce and promote titanium powder technology to New Zealand industry;
- To help companies improve their technology and techniques by providing the best possible product options;
- To manage a prototype and testing facility;
- To implement and run a national research development programme;
- To attract and manage skills to the industry;
- To strengthen existing international links and help forge new ones.

TiDA's output of services, components, design, and products is by its nature high value, generating significant revenue relative to its footprint. This is a characteristic of the business generally. Employees tend to be highly paid, although employment density will be relatively low.

TiDA serves clients from throughout New Zealand, including Auckland, Christchurch Timaru and Hamilton as well as Tauranga, with recent interest in its services from Australia. It is involved in between 40 and 50 assignments annually, with perhaps 10% of value generated deriving from the Tauranga area. While its two biggest customers are Tauranga-based, the share of sales made outside the region is increasing. Distribution is straightforward, given the small size and high value of products, generally by overnight courier.

TiDA is able to support the development of emerging businesses, including high-tech start-ups in the powder metallurgy sector, effectively creating an incubator on campus. Here it can support companies as they establish and prior to them expanding into larger, independent premises. It also provides support to traditional businesses, like local firm Page McRae Engineering, as they move into high-tech products and processes.

TiDA's development, and that of its local clients, depends on attracting and retaining highly skilled operatives. The quality of the living environment in Tauranga is therefore important, together with the capacity of staff to enjoy a short commute to work. For these reasons, urban locations are most likely to be favoured by new and expanding firms in Tauranga's high tech sector. Currently, relatively high housing prices may be a disincentive for the skilled employees such firms require, people who because of their skills are highly mobile.

At the same time, it is important to both new and growing established firms that industrial land prices are favourable, and competitive with alternative locations.

If successful, such initiatives should see high value added activities making increasing demands on quality, well-connected industrial land. This is likely to differ from the land

traditionally associated with processing, traditional manufacturing, trades, transport, and storage. Indeed, in an increasingly specialised knowledge-intensive sector there may be crossover between industrial and commercial land.

In addition, the quality of the local industrial environment and associated services and amenities will play a significant part in attracting and retaining both leading edge firms and the skilled and experienced staff necessary to ensure their success.

At the same time, Priority 1 is highlighting the potential of more traditional-industries in the food sector through the operation of a business cluster in the sector (see Box 2).

Box 2: Food Bay of Plenty

Food Bay of Plenty aims is to make Tauranga is a leading region for food manufacturing and processing by supporting the growth of existing businesses and encouraging new enterprise. It is doing this mainly through networking and sharing technical expertise among members. Members include growers, processors, exporters, and end users (chefs, bakeries). They range from very small, locally-focused enterprises through to large export activities. Among them are a number of specialist processors of sauces, packaged and frozen foods for export, ingredients, restaurant supplies, oils and kernels, processed fruit products, meat, wine and honey, seafoods, and food processing equipment, as well as education, training and consultant service providers.

Post-harvest and primary processing activities tend to be distributed widely throughout the WBOP although higher level and specialised processing tends to take place in Tauranga, particularly around Mount Maunganui.

A high priority is also being placed on the promotion of aquaculture, a relatively new and small scale activity in the region at present (Box 3), but one that is seen to have considerable potential for regional and local expansion.

Box 3: Aquaculture – a region-Wide opportunity

A regional aquaculture strategy was prepared for the Bay of Plenty in 2009, reflecting the considerable resource potential of the area and an “excellent support infrastructure base”. There were nine consented operations underway or in trial mode at the time, with three based in Ohiwa Harbour and three land-based saltwater farms consented.

The industry is in its infancy, however, with significant work underway to establish technical and economic parameters for successful large-scale operations including the potential for ocean-based cage farming compared with the currently prevailing inter-tidal oyster and sheltered water suspended line farming. At the time of writing, only one registered factory existed in the region – North Island Mussel Processors at Greerton.

The land use needs for future post-harvest packing and processing facilities include: good road access to the fishing wharf or farm operation and to the port; access to trained staff for farming and processing; access to or incorporation of laboratory facilities; access to water and wastewater facilities; and cool storage (chilled or frozen) facilities. The implication is that land for processing should be close to wharf, farm, or the port. In off-shore farming, Tauranga is also likely to be the most appropriate port for unloading given its all-weather facilities, favouring post harvest operations there. The alternative, especially for fish farming, is processing in Whakatane or Opotiki, potentially on a greenfield site that might meet the particular access and water requirements of a large scale facility close to a small town.

4.3 Conclusion

Consideration of business investment initiatives and opportunities highlights the different land requirements of increasingly specialised sectors. This is reflected in Priority1's Opportunities Bay of Plenty publication which anticipates development of an agrifoods manufacturing plant, the Harbour Central Marine Precinct, ICT Technology Park, and

Freight Village as components of an industry focused drive for growth, each with different physical requirements and characteristics and each developing in distinctive directions in terms of industrial activity.

At the same time, a contrast is apparent between activities that are closely tied to primary production, and their commitments to sites within rural areas, and more specialised sectors and intermediate production and service activities, which favour urban industrial locations. These distinctions need to be brought to bear on an appraisal of the nature and quality of industrial land zoned for industrial uses in the WBOP.

5 Land Suitability

The preceding analysis suggests that demand for industrial demand will take several forms. Large scale, port or primary production-related processing, storage, and distribution or consolidation activities will require relatively large scale sites on or beyond the city edge (unless they are already operating close to the port).

Population oriented production, trades, and services are likely to occupy smaller sites and lighter industrial premises, favouring proximity to the urban labour and market catchments. Construction and works depots are likely to require relatively large sites but still within the city or on its edge. Specialised business initiatives and clusters may favour distinctive precincts or parks tuned to their particular needs and, over time, serving as a focus for the requisite specialist skills and services.

Manufacturing generally, including emergent high value production of specialist goods, engineering and fabrication, and added value processing of primary products are likely to favour broadly defined industrial zones, with a preference for those that meet their particular transport needs and provide ready access to labour.

Rural service activities, including engineering, equipment supply and maintenance, and the distribution of farm supplies are likely to continue to favour the small service towns on the eastern and northern corridors.

Primary storage, distribution, and processing are more likely to favour rural sites. One of the questions this raises is whether those areas of land identified as industrial in predominantly rural areas will meet their needs.⁴

The question, then, is whether and where these diverse demands might be catered for among the areas of industrial land currently available.

The section addresses at a general level the nature of land zoned industrial in the WBOP using secondary sources –reports by Beca Carter Hollings and Ferner (BCHF) and S&L Consultants (S&L) and interviews with key informants. The S&L (2011) report focused on the suitability of sites for large buildings with potentially high floor loadings of the sort typically required for bulk storage and handling. The BCHF (2008) report was of a more general nature and deals mainly with sites in the Western Bay of Plenty District.

5.1 Central Tauranga

With its long-established industrial zones–supported by substantial investment in surface transport and accessibility to both labour force and port–the area from Maleme St through to Sulphur Point (Figure 4) dominates industry in the SmartGrowth subregion. The central area nevertheless experienced a substantial contraction in employment between 2006 and 2011 with a loss of over 1,000 jobs from 2006 to 2011, close to one quarter of the total.

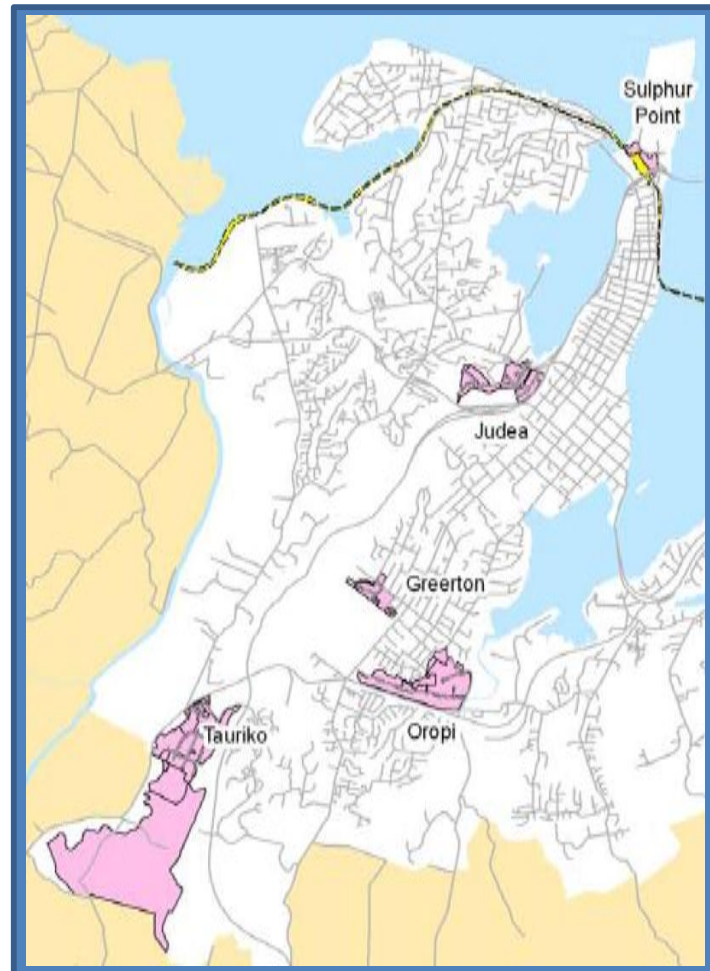
The Port of Tauranga controls some 60ha of industrial land at Sulphur Point. Of this, 29ha is currently committed to port-related industrial activity, associated for example with container handling and refurbishment, maintenance of refrigeration units, and the

⁴ We were made aware of at last one major business operating in the primary sector that has been discouraged from new investment because of the difficulty of finding a new site; and of another for which the costs of establishing at Tauranga (where the port is an attraction to it) either from the geotechnical works or development contributions required (depending on the candidate site) may see it opt for an Auckland location.

like. Under long-term plans for berth extension at Sulphur Point, especially as imports into Tauranga expand, much of this industry will need to relocate.

The long-established sites of light industry at Judea, Greerton and Oropi account for close to 90ha with virtually none of vacant. However, under currently depressed conditions there are vacant premises throughout the area. Consequently, there is capacity to absorb some growth in the short-term.

Figure 4 Industrial Areas in Central Tauranga



Construction has been a substantial contributor to demand for industrial land in central Tauranga, although it has been volatile and contracted sharply over the past five years. Manufacturing has contracted across a range of activities, with this most pronounced in wood products, textiles and clothing. Other than growth in seafood processing, even food products suffered a 30% job loss from 2006 to 2011. Transport and storage have fared little better, although transport support services expanded.

The picture, then, is one of a diverse industrial mix, but across an area that could easily begin hollowing out if the sort of industrial employment figures recorded over the past five years persist. This may not be a bad thing if it frees some of the more accessible land in the centre for more mixed and intensive activities. This is the likelihood for the port land as increased shipping to accommodate freight growth sees ancillary activities forced to relocate. In that case, the most likely destination will be elsewhere within the urban area with good access to the port, and the most likely candidate in the medium term is the Tauriko Business Estate (TBE).

5.2 Tauriko Business Estate

Tauriko is currently the favoured industrial locality within the WBOP, with good road access to the port, to Tauranga central and the surrounding labour catchment, and to the key transport link to the west. It sits on the route between the Port of Tauranga and the Waikato region (and Auckland), and is seen as the natural focus for future development.

In addition, it has a significant current and potential supply of industrial land well into the medium to long-term, this future supply subject, though, to progressing a significant earthworks programme. These requirements in a strong demand environment saw industrial land prices reach over \$350/sqm, although in today's market prices have fallen back to around \$200/sqm, or less with the prospect of substantial discounts for poorer quality sites.

The mixed quality of the land on the TBE has been the subject of considerable attention, as discussed below. Despite some doubts raised over its suitability for large scale, heavy industry, it is clearly favoured for population-related and added value activities by its location, availability, and the mix of activities (including commercial development) in the wider locality, while retaining some capacity to cater for larger scale activity.

5.3 Providing for Heavy Industry

Doubts over the suitability of some of the zoned land for heavy industry at TBE apply across much of the WBOP. The focus on TBE reflects the fact that currently it is the principle site of new industrial investment, with Stage 1 completed and development of Stage 2 commenced. The background is flagged here because of its wider implications for the industrial capacity theoretically provided for by the SmartGrowth strategy.

S&L summarised the findings of geotechnical reports by Coffey Geotechnics to compare the suitability of different localities for large scale, heavy loading industrial buildings.

Considerable land preparation took place in the early stages of developing TBE with fill of 5-6m in low lying areas, some of which overlies peat, a not uncommon situation throughout the WBOP. Preloading has induced ground settlement, although in some areas there is the possibility of secondary settlement of up to 300mm taking place over 5 to 50 years. This is not an issue for light industrial uses. However, it calls for flexible structures on stiffened raft floor slabs, settlement monitoring and associated building maintenance, and limiting of floor loadings to 10kPa.

Future development west of the existing TBE (towards Belk Rd) will also require earthworks, with *"the placement of controlled filling in gullies from which unsuitable potentially compressible soils would be removed prior to placement of the filling"* (p.14).

A review of the S&L report by Coffey Geotechnics states that industrial subdivision engineering normally caters for live floor loads of 20kPa and that specific geotechnical investigations are undertaken for heavier industrial buildings as and when required. The Coffey Report identifies over 7ha (net) in Stage 2 lowered by at least 7m to provide fully load compensated land. There is also the prospect of future stages of development including suitable land – 16.5ha within the Business Estate and perhaps another 46.5 ha on development of the plateau to the west in the long term.

This exchange reflects more general issues facing much WBOP industrial land:

- (1) While there is land within Tauriko and elsewhere capable of catering for heavy structures, there may be longer term challenge in finding sufficient land suitable for large scale industry and storage with high floor loadings within existing zoned areas;
- (2) The cost of land once prepared to meet the loading requirements within existing industrial zoned parcels is likely to be a deterrent to investment.

The inference is that a planning approach that confines industrial uses to land that has been zoned ahead of demand may not be suitable for some activities if their particular site requirements have not been anticipated through consideration of the quality as well as quantity of land zoned.

In the current instance there may well be a future deficit of affordable sites that meet the requirements of the large scale storage, processing, and handling facilities often associated with New Zealand's rural areas and primary industries. These include dairy factories, aquaculture processing, fertiliser storage and distribution, post-harvest facilities, timber processing and the like, industries that are an important element of the primary base of a region like WBOP.

In the past, some of these have grown in situ from small start-up rural businesses. Others have been able to secure and develop rural sites under a planning approach that responds to rather than anticipates their particular needs. Hence, certain industrial uses may occupy stand-alone rural sites, including freezing works, timber processing, post-harvest handling of horticulture, wineries, and rural supply depots.

Historically such activities have tended to locate on the edge of urban areas (from which expansion has often displaced them); close to small rural service centres; or in greenfield sites within a rural environment, often with infrastructure services provided on-site or as an adjunct to the services of a nearby town, benefiting from the low cost of extensive sites in such locations. There may still be justification for allowing such activities to locate in rural areas because of their scale, transport advantages, and because of their potential reverse sensitivity impacts in urban locations.

It can be concluded that the approach adopted by SmartGrowth of providing 50 years of potential land supply and confining industrial investment to the areas so zoned may be inappropriate for a few potentially large rural industries. The approach limits the flexibility of site selection necessary for them. It also imposes excessive urban land and servicing prices on them, while creating additional challenges for the management of environmental externalities within the fabric of urban infrastructure.

5.4 Mount Maunganui

There are several industrial zones at Mount Maunganui (Figure 5). The area referred to as Mount Maunganui dominates, with almost 300ha zoned, and just over 10% of that not currently occupied. There is some 115ha between the Port and Totara Street, committed to cargo business and port-related activity. A significant area of vacant land on the south side of Totara Avenue is being held for container handling purposes.

The implication is that there is very limited capacity for business to establish or expand in Mount Maunganui outside the freight and related sectors, other than through displacement of existing businesses should they contract or relocate. This remains a possibility given the value of centrally located land and any opportunity for large scale operations to move to more cost effective locations.

Concern has been expressed over the presence of large scale retail business on industrially-zoned land in the area, particularly on the high traffic routes of Hewletts Rd and Totara St and the intrinsically higher land value this imparts. Some retail uses are directly associated with industrial activity through direct sales to the public. Others

serve the needs of local employees. In yet other cases there is a fine distinction between wholesaling and retailing. They may be either indistinguishable one from the other, or both may be conducted from the same premises, especially in the building and associated trades. Such businesses may have little choice because they find it difficult to secure suitable premises in traditional commercial areas.

The presence of retailing raises questions over where to draw the line between commercial and industrial land uses and how far to allow activities that are not strictly industrial onto industrial land.⁵ In terms of the present study, the issue simply means that it is unlikely that there will be an expansion of industrial uses other than those associated with the port into the Mount Maunganui area. While this is generally desirable industrial land given its centrality and access to the port, in practice it has little impact on the quantum of land available across the wider WBOP.

Owens Place is a relatively small industrial area, even more subject to mixed use. In any case, it has very little vacant land available. In both Mount Maunganui and Owens Place, there will no doubt be some turnover of premises and thereby changes in the nature of industrial and retail activity. Given the likelihood of land in these areas fetching a premium, such change is likely to lead to higher value producers locating in these areas than has traditionally been the case.

Figure 5 Industrial land at Mount Maunganui 2011



5.5 Te Maunga

The industrial land at Te Maunga is well located relative to the port, the labour market, and road network. However, geotechnical conditions and road requirements could put pressure on land prices.

⁵ Equally, the changing nature of high value added industry may see it develop in non-industrial areas with little adverse environmental or commercial impact.

According to S&L the land at Te Maunga is low-lying, especially adjacent to the harbour and oxidation ponds. While not subject to comprehensive analysis, S&L suggests that based on past assessments of individual sites and anecdotal evidence, *"large buildings can be located on elevated areas where the dunal sand-based subsoils are present"* although *"improvement work will be required and significant deep foundations may also be warranted where large ground surface loads may be imposed"* with *"substantial areas if ground improvement ... required to accommodate large buildings"* (p.11)

While some concerns were expressed regarding tenure (being Maori leasehold land) there are signs that Te Maunga is beginning to develop, with 4ha committed to a fertiliser bagging and distribution centre. It is the obvious next step in the development of industry, especially port-related industry, at and around Mt Maunganui.

5.6 Wairakei

There is provision for 100ha of industrial land at Wairakei in the Eastern Corridor, some 24km from Tauranga CBD and 17km from the port. The area comprises predominantly medium dense sands that "can be reworked to provide dependable support to large buildings" (S & L, 2011).

The feasibility for residential and industrial development was examined in an internal Tauranga City report (Udale et al., 2010). This identified likely land cost, site development costs and infrastructure costs, including consents and subdivision costs, and bulk infrastructure costs. The latter is reflected in the development contributions charged by the Council.

The uptake of industrial land was assumed to be 3.5ha per annum initially, increasing over time to 6.5ha per annum in that assessment.

At an assumed sale price of \$190/square metre the gross margin estimated for the base case is 7.3% and the project IRR 8.2%, both well below the returns required to justify funding an advancing development.

Sensitivity tests suggest that development becomes feasible if local development contributions can be reduced by around 50%, if the land is made available at no cost, or if the sales price increases by 15% in real terms (i.e. with no corresponding increase in costs) to close to \$220/sqm.

The uptake of this land for industrial purposes would appear to depend on relatively high added value investment, sufficient to sustain high industrial land prices.

5.7 Te Puke

Despite proximity to Tauranga and "considerable flat and versatile land" at Te Puke the BCHF study identified geotechnical limitations and flooding as constraints on this land.

S&L summarised a Connell Wagner report on properties west of Te Puke, which identified that 68% of properties were in a floodplain with low lying areas within the floodplain requiring 1-2m of fill. Extensive areas of peat were identified through the centre of the area, to greater than 4m in some places.

Development would be severely restricted across 10% of the area because of the extent of peat. In the 68% comprising floodplain, the costs of fill would make development very expensive. Around 22% was considered sufficiently suitable for development s to justify further investigation, despite containing areas of peat.

A further locational disadvantage is the fact that the eastern arterial link will bypass Te Puke, putting it “off the radar” for significant regional investment. The recent sale of a substantial parcel of industrial land west of Te Puke for just \$5 per square metre suggests that it will remain viable for agriculture and is unlikely to be committed to industry in the short- to medium-term (covering the next ten years).

5.8 Rangioru

The BCH (2008) report indicated that the area of land available at Rangioru, proximity to the proposed Eastern Arterial Link, to rail, and to the labour supply at Papamoa made it “relatively suitable” for industrial development.

There is around 200ha available for industrial development at Rangioru, subject to subdivisions and infrastructure development, and resolution of access issues. The S&L report (2011) reported that,, based on an earlier study by Foundation Engineering Consultants Ltd for Quayside Developments Ltd, peat up to 3m deep could occupy up to 75% of the area.

This would call for significant limitations on floor loadings over most of the site, even with significant fill in some parts (up to 10 kPa). Bulk earthworks to remove peat could allow for higher loadings (to 15 kPa over 8% of the development area). Some 36% was seen as requiring little ground improvement works but with a maximum 15 kPa loading.

The original structure plan for the land was incorporated into the Western Bay of Plenty District Plan in 2005 and revised in 2010. Both plans suggested that the site was uneconomic to develop. A further revision was undertaken in 2012 with substantially modified infrastructure provisions resulting in much lower financial charges. Nevertheless, the revised cost of bringing land to the market still appears to exceed its likely value:

A minimum of \$150 - \$160 m² improved land value is required to support development and the Tauranga City Council financial viability model suggests a range of \$200 - \$220 m².

On this basis it will be at least ten years or more before increasing prices might make development viable, by which time site access issues will also need to be resolved. Provided that a significant economic recovery or at least a return to substantial demand for industrial demand occurs, the zoned land at Rangioru will contribute to long term industrial capacity. The provisos are that land prices do increase in real terms to around \$200/sqm and that in the interim horticultural and grazing lease income is sufficient to meet holding costs.

5.9 The Northern Corridor

The Northern Corridor in 2011 accounted for just 8% of the WBOB industrial employment. In Katikati light manufacturing is important, covering wood products furniture, and engineering – supplemented by small numbers in road transport and wholesaling. Saw milling is based in the rural area of Aongatete, pharmaceutical and chemical products in Minden. Construction has driven industry growth in Te Puna.

There is a strong horticultural sector in the northern corridor creating demand for packing services and equipment, fertiliser and pesticides, and associated services.

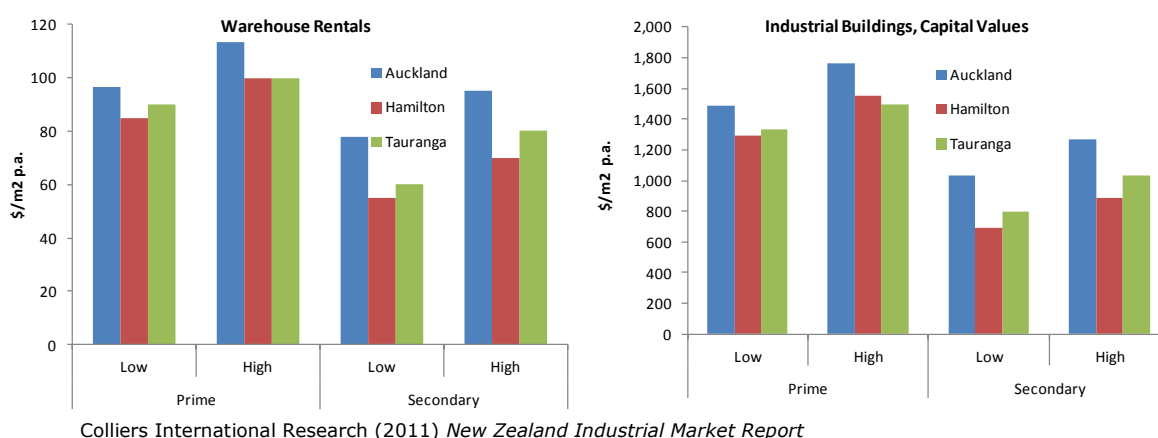
These activities, supplemented by limited but diverse light manufacturing and trade services, are the main components of the Northern Corridor industrial landscape. More generally, the corridor is as notable for the lifestyle and residential services it offers in a

rural and village environment. While there is a significant amount of land zoned for industrial uses in Omokoroa, little of this is available at present and limited demand suggests that it will remain in rural activity for some time to come.

5.10 Land Prices

A common theme in discussion was the historically high price of industrial land in Tauranga. Colliers *New Zealand Industrial Market report* (December 2011) provides comparative data on rentals and values for prime and secondary industrial properties that supports this contention (Figure 6). Tauranga rentals and capital values generally exceed those of Hamilton, although still lag well behind Auckland.

Figure 6 Value of Industrial Premises, Auckland, Hamilton and Tauranga 2011



Colliers (2011) noted the widening yield gap between primary and secondary property, which suggests weakening demand for the latter. The report expects this to continue in the face of concerns about rental growth and tenant longevity (p.6).

Given its scarcity, land prices at the Mount have reached as much as \$400/sqm, although they are currently down to \$275/sqm. Similarly, Tauriko sales had reached \$350/sqm or more, but have fallen to \$200/sqm and less with current low demand.

A review of listed industrial land in the WBOP on the www.primecommercial.co.nz website in September 2012 revealed the dominance of Tauriko Business Estate (accounting for 34 of 44 listings), with a median price of \$225/sqm, or \$220 with outliers removed. In practice, the presence of significant lots with listed prices of under \$200/sqm suggests that the market will be well-below the average asking price.

5.11 Supply Constraints – Quality not Quantity

Closer examination reveals several shortcomings in the pool of industrially zoned land in the WBOP. Without undertaking a systematic review of land suitability, there appear to be significant constraints on the development of land for heavy uses or activities that have limited tolerance for ground movement. While geotechnical constraints are not prohibitive, correcting them can substantially raise the cost of land.

In addition, there seems to be little appetite for land outside Tauranga City. Demand for the Eastern Corridor sites around Te Puke and Rangiora has been limited, with on-site constraints compounded by high servicing costs and a reluctance to locate to the east of the city in a direction perceived to be away from the natural pull of markets (Auckland,

Waikato). Other than businesses serving local agriculture, residential and lifestyle activity, much the same appears to be true of the northern corridor.

The Tauriko Business Estate is widely favoured, with good access to the port, a supply of industrial land readily available and location on SH29, the main transport route to the Waikato and Auckland markets. Despite some geotechnical constraints Tauriko is likely to be favoured by light industry, including manufacturing, transport and storage, and trade workshops, especially as these activities are displaced from more central localities.

While there has been only slow growth in demand recently, and there is currently a large amount of capacity, Tauriko could come under considerable pressure in the medium term with economic recovery from both population-related and trade-related growth.

The other significant areas of vacant industrial land within Tauranga are at Te Maunga and Wairakei. Both are well located relative to the expanding Papamoa labour catchment and the port at Mount Maunganui, particularly Te Maunga. This appears to be a logical place for early development given the limited land availability and high cost of land in the vicinity, the advantage of rail access, and potentially large industrial sites. There is some risk is that the costs of correcting geotechnical irregularities and servicing could push up costs, or put pressure land prices to the point at which it would be hard to justify development.

Indeed, the likelihood of high land development and servicing costs at most localities raises questions over the economics of developing much of the land currently zoned industrial. Given the prospect of weak economic growth and limited investment for some time to come, these circumstances are likely to contribute to limited short- to medium-term demand. The irony is that this may contribute to the view that the land available for industrial development today is sufficient to meet demand, when its character may in fact constraining investment.

6 Conclusions

6.1 Economic Uncertainty

Continuing slow or inconsistent growth appears a likely outcome for the WBOP for at least the next two years and quite possibly well into the decade. There are several risks that could prolong slow growth.

- (1) A continuing sovereign credit, banking, and unemployment crisis and increasing volatility in Europe together with highly conservative fiscal policies and poor profit and employment performance in the United States suppressing global demand;
- (2) Slower growth from Asia as a result of the first two, compounded by the prospects of the property bubble bursting in China and Asian nations generally encountering capacity constraints by the end of the decade;
- (3) Increasing fiscal austerity in New Zealand, with public spending focused on Christchurch (and perhaps Auckland) and a general scarcity of investment capital outside the public sector;
- (4) Growing migration losses of young, motivated and skilled persons from New Zealand.

A continuing global downturn will constrain income growth and investment in New Zealand, and limit the government's options for spending on infrastructure beyond its immediate commitments. The result could be a further five to ten years of minimal growth in demand for industrial land in WBOP.

6.2 Growth Opportunities

On the upside, the WBOP in the medium-term (through to the end of the decade) could benefit from a return to residential growth and the associated activity in the building sector and final demand. Beyond that there is the prospect that port expansion drives even greater growth, facilitating amongst other things the relocation of younger working people to the area, reinforcing a recovery in the population growth rate.

There are three parts to potential port growth.

- (1) Increasing exports could see an increase in bulk storage and handling facilities and associated service activity;
- (2) Increasing imports could promote an expansion in Tauranga's role as a centre of distribution, consequently increasing opportunities for local processing of imported materials and components, including bulk chemical goods;
- (3) The overall growth in port activity favours the expansion of related activities locally, including stevedoring, freight forwarding, and support services such as mechanical and engineering services and maintenance.

The prospects for manufacturing growth are probably more limited despite initiatives underway to lift industrial activity in the WBOP. This reflects changes in global trade and within manufacturing technology generally, blurring the line between production and logistics and creating new hearths of global production, with China being the most obvious but by no means the only one.

This nevertheless leaves the way open for the development of highly specialised manufacturing in niche markets, with high value products consequently able to locate in places like Tauranga provided they have strong transport and communication links, on the one hand, and an attractive environment for skilled operatives on the other.

Initiatives along these lines in WBOP include:

- (1) The attraction of small businesses located elsewhere, particularly in Auckland, to take advantage of the availability of well priced land or labour, and the Bay of Plenty lifestyle.
- (2) The development of entrepreneurial businesses associated with titanium related manufacturing sector, food production, aquaculture, ICT, and marine industries.
- (3) The further development of primary processing or post harvest activity associated with the primary base with demands on extensive rural as much as urban sites.

There are some impediments to growth in these areas. For example, infrastructure and development costs may reduce the price competitiveness of land, especially relative to Hamilton. A relatively small labour force with limited depth is unlikely to be attractive to growing Auckland-based firms looking for sites for expansion. In any case, firms servicing Auckland are unlikely to be attracted to the WBOP ahead of alternative South Auckland fringe sites currently in the pipeline.

It may only be possible to attract small or start-up businesses especially if they can be influenced by lifestyle opportunities, port dependence, or the specialties emerging in the WBOP manufacturing sector. Even then, the costs of premises (and associated land prices) will remain critical for start up or expanding businesses that may be attracted.

6.3 Preferred Locations

In practice, there are likely to be constraints which could frustrate one or more of the growth paths identified above. Land will be differentiated not only by price but also by location and suitability for different types of development.

Most of the potential drivers of demand for new land favour proximity to the urban population (to services, housing, and final demand) or the port. This places a premium on land around Mount Maunganui and favours development at Te Maunga and Wairakei. Tauriko is also highly favoured for port-related activities and has the immediate advantage of availability. More intensive high value-added manufacturing is likely to favour localities close to the labour market and therefore to the city, adding this pressure on these localities.

Primary processing activities and perhaps space-extensive storage facilities are likely to favour land on the edges of the city or, indeed, some distance from it. Such land may not be readily available and is unlikely to be zoned for industry at present except for Rangioru, which is zoned but not available because of lack of infrastructure.

The Eastern Corridor sites may be disadvantaged by land preparation costs, high financial and development fees, and suffer the disadvantage of costly backhauls of materials and goods that do not originate east of Tauranga. They are likely to be low in the priorities of many investors.

While on paper the WBOP appears to have a substantial pool of industrial land, more than sufficient for the foreseeable future, differentiation by the nature of demand and the quality of sites and localities suggests that this is not the case. Certainly, Tauriko provides a significant buffer. Together with a small number of vacant sites or vacant premises in central Tauranga and Mount Maunganui, it provides opportunities for housing small-scale manufacturing and trade workshops and depots in the short term.

6.4 Looking to the Long Term

It is difficult to project not just the quantum of demand beyond ten years, but also the nature of land likely to be required. While the analysis suggests that there is more than enough land for several decades, the reality is that structural changes mean that some currently zoned land may never be developed for industrial use because of suitability issues. Other favoured sites may be in much greater demand, while some investments require rural settings on sites not currently zoned industrial. Under the current provisions of the SmartGrowth strategy the costs and risks of seeking a resource consent or plan change to enable alternative sites to be developed mean that investments critical to efficiency and value added in the primary sector might not go ahead.

A finer grained analysis suggests that quantitative projections to underpin long-term planning are inappropriate for dealing with the contingencies and possible opportunities associated with a period of slow growth and economic volatility.

The implication is that industrial demand should be reviewed regularly, perhaps every 10 years, and that there should be capacity to respond to particular demands for industrial land here they manifest themselves regardless of the appearance of sufficient land within current zones.

6.5 Analysing Capacity

Among other things, the review of the quality of land in the region is a reminder that capacity is a relative term. For some time Auckland has suffered high industrial land prices because it was assumed that the bulk of vacant land contributed to capacity when in fact much of it was unsuitable for development, too fragmented to suit many investors, difficult to access, or simply being “banked” for future development by existing owners or investors. There are no hard and fast rules as to when additional land should be zoned relative to the uptake of existing land. However in a region where much of the industrial land is compromised by difficult geotechnical conditions, it would be appropriate to be prepared to zone additional land to meet specific needs regardless of the measure of gross capacity.

Relative capacity is also defined with respect to price: for space demanding low value-added activities, which play a large part in the WBOP economy and in the health of its primary sector, there may be an absolute shortage of land, especially when land that is vacant is either too expensive to develop or unsuitable for large structures and loadings.

Even where land is available, its conversion to industrial use depends on investment returns. At the moment, the return on industrial buildings is probably too low to justify investment for anything other than guaranteed purchasers or occupants.

6.6 Inter-regional Competition

Competition for industrial land is related to end use. The main activities likely to experience competition are those associated with distributing products to and from their markets; transport, storage, consolidation, and distribution. If there is to be a break-in-bulk location for distribution purposes, or consolidation is required prior to export, this can take place at any point between ship and origin or destination. Ideally it will take place close to the port so that movement is subject to local handling from ship to depot.

Once an activity relies upon the transport of containers from ship to depot via rail or road, though, it can locate anywhere between the port and the principal destination. This is the basis of inland port development. Already the use of Metro Port in Auckland has substantially boosted the capacity and trade for the Port of Tauranga. A similar

facility in the Waikato (most likely at Ruakura) would contribute further, but reduce the demand for land within the WBOP.

Nevertheless, the growth of the Port of Tauranga makes localities on the rail line or highway to Auckland attractive, particularly if the cost of land and building is competitive with Waikato or South Auckland locations. In some respects, port expansion as a driver of growth raises its own uncertainties, depending on how effectively Tauriko might be positioned as a distribution hub for port-dependent activities in the long term.

6.7 Local Competition

The question of local competition among a small number of large landowners is not currently material. A soft market means that pricing of the currently dominant and preferred site at Tauriko must meet the market in order to maintain sales subject to covering costs and sufficient margin to sustain forward development. This has seen a significant reduction in site costs from a peak of \$350/sqm to under \$200/sqm today.

As recovery does occur competition – or the lack of it – may become an influence on land prices and consequently industrial rents. It is likely that there will continue to be pressure on central and suburban land around Tauranga, and that this should be addressed in anticipation of and perhaps to facilitate recovery. The development of Te Maunga and Wairakei offers the best early prospects for increasing options for investors and occupants, although in both cases the land will need to be relatively highly priced to cover costs and achieve a reasonable return.

6.8 Long Term Options - Urban

Land within Tauranga is clearly favoured as and when recovery gathers momentum, both by the significance of population and residential growth in stimulating industrial activity and by the role of the port. Beyond Te Maunga and Wairakei, the most obvious long-term options for the development of industrial land lie with relocation of the airport and/or the Omanu Golf Club.

The advantages of centrality and currently compromised uses, especially for the airport, in particular issues of compatibility with surrounding uses, and proximity to key transport routes make land in this area a logical focus of long-term growth. While this raises questions over the future location of Tauranga airport, changes in the nature of the aviation sector and the benefits by way of increased land value and industrial activity suggest that decision making for these facilities should reflect the prospect that they may be likely to require relocation well before 2051.

Regardless of developments around Mount Maunganui, the Tauriko Business Estate is likely to be fully occupied well before land in the Eastern Corridor (Wairakei, Te Puke, Rangiuru, and Te Tumu) nears capacity. This suggests a need to consider approaches to future industrial development in the Western Corridor in the long-term, perhaps south and west of Tauriko.

6.9 Rural Industry

Constraints on existing parcels in the corridor suggest that they should not be considered the only options for large-scale development, and rural industry. Greater flexibility may be appropriate both now and in the future to allow rezoning or consenting for industrial uses associated with primary production at localities best suited to their efficiency and the quality of service they provide to producers, provided effects are satisfactorily managed. This, after all, has been the foundation of significant industrial

activity at Rangiuru, Paengaroa, and in the Northern Corridor (post-harvests and saw milling facilities).

This may also mean accepting the limitations to land on the TBE, particularly for any such activities that require high load bearing foundations over a large area. Consideration of alternative sites in the Western Corridor could be initiated, including the prospect of developing land owned on SH29 owned by Clarkson at Tauriko or advancing development west of the TBE through to Belk Road.

While the SmartGrowth strategy and the planning documents through which it is implemented would need to be modified to allow for this, consent to change a site from rural to industrial to meet the needs of a particular sector or business should be based on the requirements of actual investment projects and not on general provision for the generic expansion of zoned industrial land. It would need to be demonstrated to the satisfaction of the consenting authority that the activity could not be located in an established industrial zone.

6.10 Recommendations

The analysis described above suggests that there is more than adequate industrially zoned land for the growth of urban industries for some time to come. Slow growth means that in quantitative terms, at least, supply might be expected to satisfy demand through the planning period.

However, the land so zoned is of different qualities and carries different appeal for business location. The most preferred locality within the WBOP – Mount Maunganui – is largely occupied or committed. This suggests that development at nearby Te Maunga and Wairakei should gather pace as recovery takes place.

In addition, differential growth rates for different areas are likely to see the Tauriko Business Estate occupied well within the planning period given that it is the most favourable available location for urban industrial investment. Even now, during a period of slow growth, there is progress at TBE, as companies relocate from more central but older sites and premises, and as new businesses enter the WBOP. If (or when) recovery accelerates, pressure will come on TBE which may be translated into medium-term demand for additional land (including subsequent stages of TBE) even before capacity has been absorbed elsewhere in the WBOP.

These observations suggest that:

Recommendation (1): The suitability of bringing in additional land for industrial development in the Western Corridor in the medium-term, including and beyond Tauriko, should be investigated, including the implications of current transport constraints on SH29.

The prospect for relocating Tauranga Airport in the long-term to release further land for industry at Mt Maunganui could be investigated as part of any future review of the SmartGrowth industrial strategy. Relocation has been considered previously, mainly in terms of airport expansion and rationalisation. However, a greater value may now need to be placed on its possible use for development under circumstances in which allowing new industrial investment within the urban labour market and close to the port may be more important to the WBOP's future prosperity than it has been in the past. While no immediate recommendation is called for at this stage, reconsideration of the potential for and role of long-term industrial use on the airport site may call for a watching brief in the meantime, and avoiding decision-making around airport development does not unnecessarily pre-empt the possibility of a change in land use.

Land zoned industrial in the Eastern Corridor has site or service limitations which make it relatively expensive to develop and threaten to impede its uptake unless significant additional costs associated with these limitations are absorbed by the owners (leading to low yields) or through more favourable financial arrangements for infrastructure and service provision.

The level of financial or development contributions applying to industrial sites generally may be an impediment to investment, diminishing the competitiveness of industrial land, and possibly impeding the potential growth associated with port-related business investment in particular. Slowing down or discouraging potential industrial investment will in turn undermine the uptake assumptions on which contributions are based and potentially also reduce population growth both from loading infrastructure recovery on the residential sector and suppressing job growth.

This suggests that:

Recommendation (2): The application of development and financial contributions policies to industrial areas may need to be reviewed by the councils in light of the potentially negative impact of current charges on industrial growth, especially in the Eastern Corridor. This means considering alternative sources of funding or varying the underlying engineering and timing parameters and assumptions behind current funding formulae.⁶

Large-scale primary processing business, logistics, and processing activities may be prevented from expanding or investing within the Western Bay of Plenty by the costs associated with developing and occupying such land. Given their importance to the regional economy and their distinctive location and land needs, a more flexible approach may be called for in responding to their land use needs.

This suggests that

Recommendation (3): Provision should be made within the SmartGrowth strategy for site-specific zoning or consenting of large scale, primary sector focused industrial and storage uses in suitably managed and located rural areas, subject to demonstrating a genuine need for such a location that cannot be met satisfactorily in zoned areas, satisfactorily managing environmental effects, and the developer's capacity to fund associated infrastructure.

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⁶ For example, a recent review of engineering and timing assumptions resulted in a substantial reduction in estimated financial contributions associated with the development of Rangioru.

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