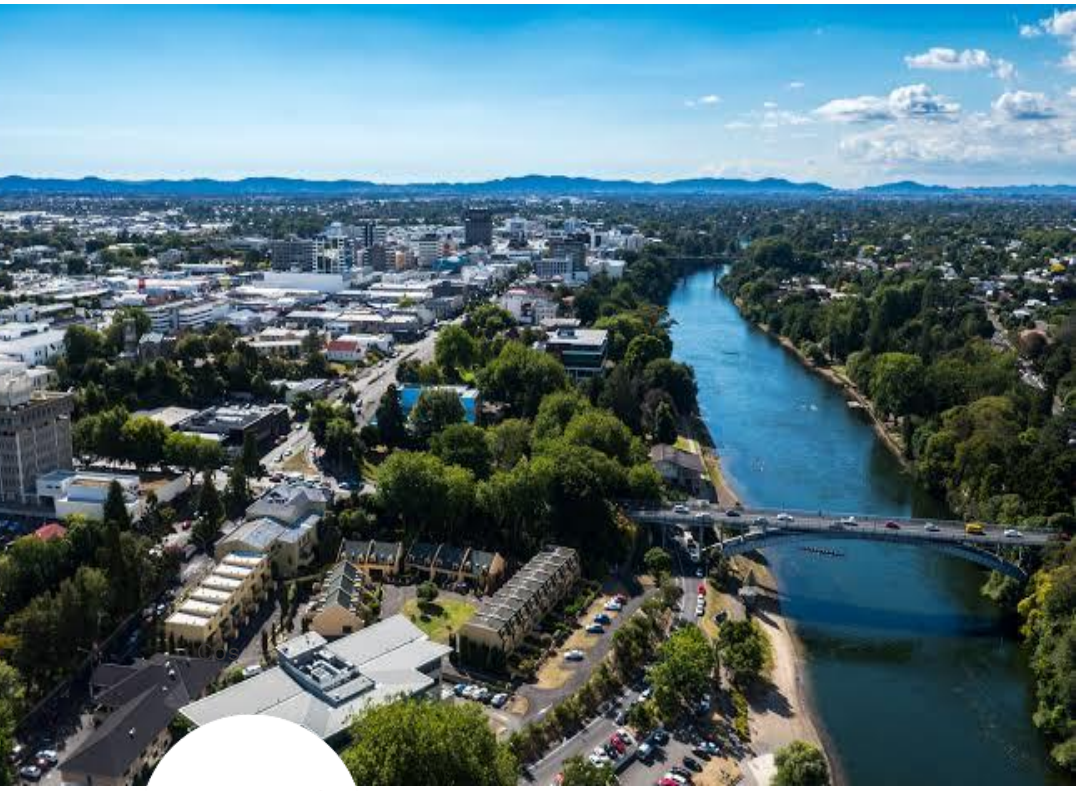


berl

Making sense of the numbers

Hamilton-Waikato Metropolitan Area

Role and function now and in to the future

Haratua 2020

Authors: Dr Ganesh Nana and Hannah Riley

©BERL Reference No: #6067 Haratua 2020

Making sense of the numbers

Hamilton City Council, on behalf of the Future Proof Partnership, commissioned this study to assess existing and potential future economic roles and functions of the Hamilton-Waikato Metropolitan Area as a metropolitan centre within the upper North Island and New Zealand.

Purpose of the study

This work arises from recent developments including: Government-led spatial planning initiatives in the Hamilton to Auckland Corridor including the creation of a Hamilton-Waikato metropolitan spatial plan; the recommencement of Hamilton to Auckland passenger rail services; preliminary investigations of the potential for a rapid rail connection between Hamilton and Auckland; and the imminent opening of the newly constructed Waikato Expressway.

The development of the Metro Area and its connections to Auckland will help shape the future of New Zealand. This study outlines the current roles and functions of the Metro Area, explores the economic linkages between the Metro Area and wider Waikato and Auckland, discusses some scenarios of development over the next 30 to 50 years; and assesses the impact of the connections on the roles and functions of the area as it evolves over the next 30 to 50 years.

Current state

The Metro Area is currently the fourth largest economy in New Zealand. Business services and the social services sectors account for over a half of the City's gross domestic product and full-time equivalent employment. The existing economic role and function of the Metro Area is integrated with its wider Waikato ecosystem. The Metro Area services the Waikato Region by providing business services and the social services, as well as servicing the Waikato primary sector.

The presence of a dominant economy in Auckland, is accompanied by a dominant population of 1.6 million. This dominance has led, arguably, to an imbalance in the nation's economic development as increasing congestion and consequent infrastructure requirements risk overwhelming the nation's investment budget. This potential imbalance can be summarised by the rank-size rule, which suggests New Zealand's second largest population centre should be close to 800,000. Or, the equivalent of Wellington (including Porirua, Lower Hutt and Upper Hutt) and Christchurch cities combined. This gap, or 'hole', in the settlement hierarchy of New Zealand is highlighted by the growing concentration in the Auckland area of high-value economic and social services for the nation.

In this light, the Metro Area faces the prospect of becoming a de facto suburb of Auckland. Such a result would likely exacerbate the nation's economic development challenges. Alternatively, progress for the nation's economic development would be assisted should the Metro Area become a larger, well-defined metropolitan area – attracting and providing an increased amount of high-value economic and social services.

Findings

The report finds that potential roles and functions of a Metro Area to be:

- Servicing for activities in primary sector hinterland
- Servicing for population in wider Waikato area
- Research and development activities, food innovation, and logistics related to the above

- A university and higher education centre.

The analysis in the report finds that the economic development of the Metro Area and wider Waikato will vary across these roles and functions depending on the nature and manner of the development of transport and other connections. A status quo development scenario would likely see an ongoing dispersal of the current Metro Area, with little focus on the four potential roles and functions. Under such a scenario we would not expect to see much change in the composition of economic activity and/or the roles and functions that the Metro Area currently plays. Development under the status quo scenario would limit agglomeration gains (in either Auckland or the Metro Area), and undermine the efficiency of built infrastructure (again, in either centre).

From the national perspective, strategic considerations reinforce the advantages of the Metro Area to develop as a relatively intensive centre with stand-alone high-value goods and services.

In line with international case study examples presented, we would expect alternative development scenarios alongside changes in connections to potentially alter the composition of economic activity. Transitioning to a compact and connected city would enable the Metro Area to service its people better and could help improve the university and higher education functions. It would be able to service the primary sector better and the R&D, food innovation and logistics functions. Changes to connections (both between the Metro Area and wider Waikato, and Auckland and the Metro Area and wider Waikato) would influence the nature and pattern of development and whether a successful focus on the above potential roles and functions can be developed.

Implications for emerging Metro Area

The case study examples highlight that the nature and quality of intra-region connections are just as important as the connections to the larger city. In other words, the state of connections between the Metro Area and wider Waikato is likely just as important as that between the Metro Area and Auckland in determining the development scenario of the Metro Area.

Improved connections to Auckland alone, accompanying a 'status quo' scenario for intra-region connections leaves a relatively negative outcome for the economic development of the Metro Area. This is essentially an outcome where the larger city in the relationship accentuates its dominance, resulting in suffocating activity in the smaller city.

The importance of improving connectivity of the towns and cities within the region is illustrated by the example Waterloo, Canada. This has a corridor running through the three main cities, which provides a spine for public transport. Further to this, improved rail connectivity between cities in a region can have a huge impact on the market demand for re-urbanisation. The lessons also showed that enhancing the role of satellite towns such as Huntly, Cambridge and Te Awamutu is likely to help improve economic outcomes in the Metro Area; improving connectivity to the nodes would enable and enhance the role of satellite towns.

If the Metro Area transitioned into a connected city with nodal growth it would significantly alter the economy composition as it would assist in accessible and high-quality services. It would enable the Metro Area to provide high-quality services to the population, and would enable high-quality tertiary education through the university and higher education. As well as, providing improved services to the primary sector and the R&D, food innovation and logistic sectors.

In a nutshell, the largest impact on potential economic developments is from a compact and connected Metro Area that is connected to the wider Waikato **and** connected to Auckland.

This outcome reinforces the need for the Metro Area to have a clear view on its role and function, accompanied by an appropriate development strategy, developing and delivering high-quality activities complementary to activities undertaken in Auckland.

Contents

Tables

Figures

1 Introduction

Hamilton City Council, on behalf of the Future Proof Partnership, has commissioned Business and Economic Research Limited (BERL) to analyse the existing and potential future economic role and function of the Metro Area as a metropolitan centre within the upper North Island and New Zealand more generally.

The purpose of this project is to better understand the following:

- The current role and function of the Metro Area as a metropolitan centre within the Upper North Island and New Zealand more generally
- The economic linkages between the Metro Area, wider Waikato and Auckland
- The potential scenarios of development over the next 30 to 50 years
- The impact of the changes in connection on the role and function of the Metro Area as it evolves over the next 30 to 50 years.

This work arises as a direct result of:

- Hamilton-Waikato metropolitan spatial plan
- Government led spatial planning initiatives in the Hamilton to Auckland Corridor
- The recommencement of passenger rail services between Hamilton and Auckland from 2020
- The recent commissioning of an indicative business case by the Ministry of Transport (MoT) for investigating rapid rail between Hamilton and Auckland
- The expected opening, in late-2020, of the newly constructed Waikato Expressway.

Firstly, we set the scene and context of the current economic activity undertaken in the Metro Area and the wider Waikato. Thereafter, we explore the links between the Metro Area and the other components of the upper North Island economy. Section 4 outlines the various development plans for the area, while section 5 explores some international examples of small-to-big city relationships and lessons from their developments. Section 6 combines our findings to describe a range of scenarios for the composition of the area's economy and their relationship to the development of the connections within and between neighbouring areas.

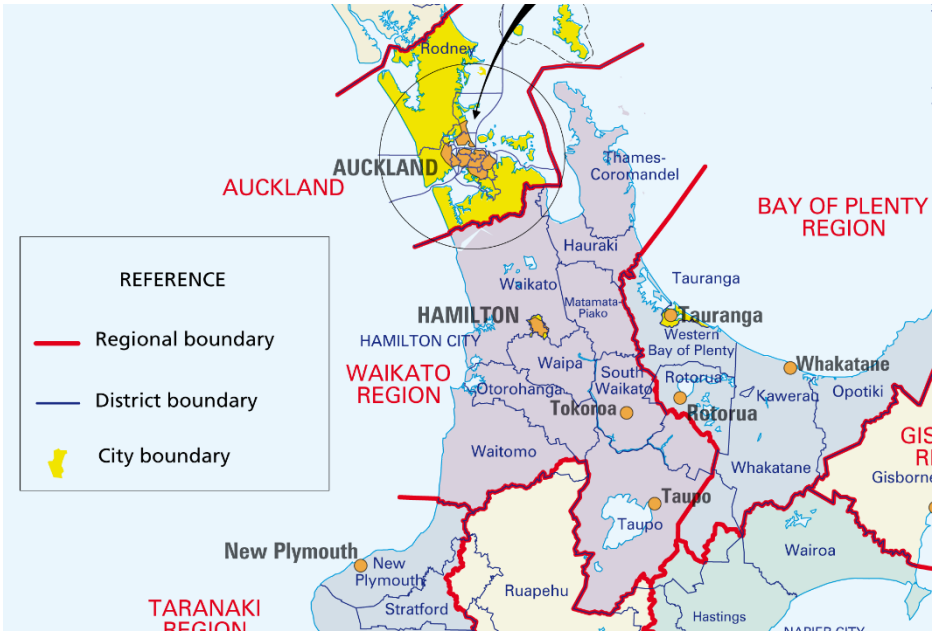
2 Scene set

The Waikato Region is the fourth largest region in New Zealand, covering 25,000 square kilometres. It stretches from the Bombay Hills and Port Waikato in the north down to the Kaimai Ranges and Mt Ruapehu in the south, and from Mokau on the west coast across to the Coromandel Peninsula in the east. The Region has one city council (Hamilton City) and ten district councils (as shown in Figure 2.1), three of which lie across the regional boundary.

For the purposes of this report, the following definitions have been used:

- Hamilton City as it currently stands – Hamilton City
- Hamilton-Waikato Metropolitan Area (compromising of all of Hamilton City plus parts of Waikato and Waipa Districts) – Metro Area
- Waikato Region minus the Metro Area – wider Waikato
- Western Bay of Plenty District and Tauranga City – Tauranga.

Figure 2.1 Map of Councils



2.1 New Zealand economy

The New Zealand economy is dominated by business services and social services; business services contributed to 30 percent of gross domestic product (GDP) and social services contribute to 18 percent of GDP (as shown in Table 2.1). In terms of full-time equivalent (FTE) employment, business services account for 20 percent and social services 24 percent. While the primary sector is eight percent of the economy and seven percent of FTEs. However, over 40 percent of the nation's export revenues are directly dependent on primary natural resources (e.g. dairy, meat, horticulture, forestry, fisheries, and others), with another 15 percent from tourism also (arguably) reliant on the nation's natural resource attractions.

Table 2.1 New Zealand economy

Sectors (2018)	FTEs	%	GDP (2018$m)	%	Business units	%
Primary	148,840	*6.5*	21,085	*8.2*	67,938	*11.7*
Manufacturing	248,123	*10.9*	30,828	*11.9*	22,875	*3.9*
Construction	228,775	*10.0*	19,547	*7.6*	66,252	*11.4*
Wholesale and Distribution	222,693	*9.7*	31,496	*12.2*	38,271	*6.6*
Retail Trade and Services	407,974	*17.9*	27,093	*10.5*	85,284	*14.7*
Business Services	446,112	*19.5*	77,227	*29.9*	252,006	*43.3*
Arts and Recreation Services	37,205	*1.6*	3,525	*1.4*	10,920	*1.9*
Social Services	545,445	*23.9*	47,223	*18.3*	38,454	*6.6*
Sub-total (excluding O.O.D.)	2,285,167	*100.0*	258,023	*100.0*	582,000	*100.0*
*Owner-Occupied Dwellings (O.O.D)**			38,687			
Total	**2,285,167**		**296,710**		**582,000**	

The overall structure of New Zealand's macroeconomy is increasingly reliant on the Auckland area conurbation for the generation of higher-value economic goods, services, and activities, as well as global connectivity. While a significant proportion of export earnings continue to accrue from natural resource based industries in provincial areas, value added, research and development, logistics, marketing, and sales efforts, technology and innovation efforts, creative sector, look to population centres to generate economies of scale. A challenge facing the New Zealand economic structure is the relative lack of large population centres within which these activities could thrive. Critically, there are only two settlements outside of Auckland (i.e. Wellington[1] and Christchurch), where these higher-value activities can look to locate. And, the growing size of Auckland risks reducing this list of potential locations further.

2.2 Composition of upper North Island's economy

The upper North Island's economy largely consists of the following parts; the Metro Area and wider Waikato, Auckland, and Tauranga.

Hamilton City

The City is currently New Zealand's fourth largest economy, behind Auckland, Christchurch, and Wellington. While population and economy size may not follow directly, the respective rankings do so in this case.

The City's economy is dominated by the business services and the social services sectors (as noted in Table 2.2). Together these sectors account for over a half of the City's GDP and FTE employment.

[1] Including Porirua, Hutt, and Upper Hutt.

Table 2.2 Hamilton City economy

Sectors (2018)	FTEs	%	GDP (2018$m)	%	Business units	%
Primary	1,015	*1.1*	104	*1.0*	195	*1.3*
Manufacturing	10,524	*11.2*	1,413	*13.8*	723	*4.7*
Construction	9,826	*10.5*	840	*8.2*	1,851	*12.0*
Wholesale and Distribution	6,743	*7.2*	939	*9.2*	1,098	*7.1*
Retail Trade and Services	16,047	*17.2*	1,085	*10.6*	2,937	*19.0*
Business Services	18,057	*19.3*	3,108	*30.3*	6,873	*44.5*
Arts and Recreation Services	1,432	*1.5*	129	*1.3*	237	*1.5*
Social Services	29,914	*32.0*	2,645	*25.8*	1,542	*10.0*
Sub-total (excluding O.O.D.)	93,556	*100.0*	10,263	*100.0*	15,456	*100.0*
*Owner-Occupied Dwellings (O.O.D)**			1,332			
Total	**93,556**		**11,595**		**15,456**	

Auckland

While business services and social services are similarly dominant in the Auckland economy (shown in Table 2.3), it is clear that the higher-valued business services sector is more predominant in Auckland. This is the case in both GDP and FTEs. The scale of the Auckland economy is highlighted by comparing the absolute total values of FTEs and GDP in Table 2.2 and Table 2.3; 793,814 FTEs and $107,075 million in Auckland, and 93,556 FTEs and $11,595 million in Hamilton City.

Table 2.3 Auckland economy

Sectors (2018)	FTEs	%	GDP (2018$m)	%	Business units	%
Primary	7,078	*0.9*	920	*1.0*	4,194	*2.1*
Manufacturing	83,899	*10.6*	10,874	*11.6*	8,031	*4.0*
Construction	76,029	*9.6*	6,496	*6.9*	24,192	*12.0*
Wholesale and Distribution	103,238	*13.0*	14,522	*15.4*	16,635	*8.3*
Retail Trade and Services	139,054	*17.5*	9,244	*9.8*	30,489	*15.1*
Business Services	203,749	*25.7*	36,705	*39.0*	101,271	*50.3*
Arts and Recreation Services	11,965	*1.5*	1,083	*1.2*	3,585	*1.8*
Social Services	168,803	*21.3*	14,300	*15.2*	12,858	*6.4*
Sub-total (excluding O.O.D.)	793,814	*100.0*	94,145	*100.0*	201,255	*100.0*
*Owner-Occupied Dwellings (O.O.D)**			12,930			
Total	**793,814**		**107,075**		**201,255**	

Tauranga

The Tauranga economy as a whole (including both the Western Bay of Plenty District and Tauranga City) is also well balanced across the various sectors. The Western Bay of Plenty District itself is heavily weighted in the primary sector; 38 percent of GDP and 36 percent of FTEs. Whereas, the primary sector in Tauranga City is five percent in both GDP and FTEs. In Tauranga City, business services contribute to 26 percent of GDP and 17 percent of FTEs, and social services contribute to 19 percent of GDP and 23 percent of FTEs.

Table 2.4 Tauranga economy

Sectors (2018)	FTEs	%	GDP (2018$m)	%	Business units	%
Primary	10,103	*11.8*	1,035	*11.5*	3,915	*15.2*
Manufacturing	8,189	*9.6*	1,035	*11.5*	1,101	*4.3*
Construction	10,525	*12.3*	899	*10.0*	3,336	*12.9*
Wholesale and Distribution	8,492	*9.9*	1,211	*13.4*	1,530	*5.9*
Retail Trade and Services	15,331	*17.9*	1,044	*11.6*	3,417	*13.3*
Business Services	14,536	*17.0*	2,203	*24.4*	10,476	*40.6*
Arts and Recreation Services	1,026	*1.2*	102	*1.1*	384	*1.5*
Social Services	17,500	*20.4*	1,503	*16.6*	1,623	*6.3*
Sub-total (excluding O.O.D.)	85,701	*100.0*	9,032	*100.0*	25,782	*100.0*
*Owner-Occupied Dwellings (O.O.D)**			1,562			
Total	**85,701**		**10,594**		**25,782**	

Waikato Region

The Waikato Regional economy (Table 2.5) shows that for the region as a whole, Hamilton City and the other larger urban areas (Cambridge and Te Awamutu) contribute significantly to the economy as business services and social services constitute a large portion of GDP and FTEs. The primary sector and manufacturing are the next biggest contributors.

Table 2.5 Waikato Regional economy

Sectors (2018)	FTEs	%	GDP (2018$m)	%	Business units	%
Primary	22,549	*11.2*	2,893	*13.1*	11,628	*20.6*
Manufacturing	26,003	*12.9*	3,257	*14.8*	2,244	*4.0*
Construction	21,564	*10.7*	1,842	*8.4*	6,297	*11.1*
Wholesale and Distribution	13,904	*6.9*	1,965	*8.9*	2,988	*5.3*
Retail Trade and Services	35,084	*17.4*	2,344	*10.7*	7,746	*13.7*
Business Services	29,154	*14.5*	5,098	*23.2*	20,961	*37.1*
Arts and Recreation Services	3,460	*1.7*	331	*1.5*	1,038	*1.8*
Social Services	49,376	*24.6*	4,276	*19.4*	3,600	*6.4*
Sub-total (excluding O.O.D.)	201,094	*100.0*	22,006	*100.0*	56,502	*100.0*
*Owner-Occupied Dwellings (O.O.D)**			3,764			
Total	**201,094**		**25,771**		**56,502**	

Waikato District

As mentioned above, natural resource based industries are based in provisional areas. The Waikato District (Table 2.6) demonstrates this; 30 percent of GDP is from the Primary sector, and 27 percent of FTEs.

Table 2.6 Waikato District economy

Sectors (2018)	FTEs	%	GDP (2018$m)	%	Business units	%
Primary	5,359	*26.9*	658	*29.7*	2,853	*29.4*
Manufacturing	2,650	*13.3*	324	*14.6*	399	*4.1*
Construction	2,811	*14.1*	240	*10.8*	1,146	*11.8*
Wholesale and Distribution	1,094	*5.5*	157	*7.1*	417	*4.3*
Retail Trade and Services	1,965	*9.9*	123	*5.6*	780	*8.0*
Business Services	2,026	*10.2*	382	*17.3*	3,450	*35.6*
Arts and Recreation Services	321	*1.6*	32	*1.4*	165	*1.7*
Social Services	3,699	*18.6*	298	*13.5*	480	*5.0*
Sub-total (excluding O.O.D.)	19,924	*100.0*	2,215	*100.0*	9,690	*100.0*
*Owner-Occupied Dwellings (O.O.D)**			629			
Total	**19,924**		**2,844**		**9,690**	

Waipa District

Waipa District consists of urbans areas (Cambridge and Te Awamutu) that service the larger provincial area. This is reflected in an evenly distributed economy (Table 2.5).

Table 2.7 Waipa District economy

Sectors (2018)	FTEs	%	GDP (2018$m)	%	Business units	%
Primary	3,320	*16.3*	386	*18.1*	1,890	*24.3*
Manufacturing	2,347	*11.5*	277	*13.0*	291	*3.7*
Construction	2,621	*12.9*	224	*10.5*	894	*11.5*
Wholesale and Distribution	1,737	*8.5*	247	*11.6*	381	*4.9*
Retail Trade and Services	3,664	*18.0*	249	*11.7*	858	*11.1*
Business Services	2,391	*11.8*	394	*18.5*	2,835	*36.5*
Arts and Recreation Services	521	*2.6*	52	*2.4*	192	*2.5*
Social Services	3,743	*18.4*	305	*14.3*	423	*5.4*
Sub-total (excluding O.O.D.)	20,344	*100.0*	2,132	*100.0*	7,764	*100.0*
*Owner-Occupied Dwellings (O.O.D)**			443			
Total	**20,344**		**2,575**		**7,764**	

2.3 New Zealand population demographics

According to the 2018 Census, the resident population of New Zealand is 4,699,755. Transitions around demographic shifts revolve around age, ethnicity, and regional dimensions. The ageing of the New Zealand population over the coming years is well documented, with Statistics New Zealand projecting those aged 65 years and older accounting for over 23 percent of the population in 20 years' time, compared to approximately 15 percent currently. However, within this demographic shift are marked changes in ethnicity. In particular, the young Māori population will grow considerably in both absolute and proportionate terms. Statistics New Zealand projects Māori aged 25 years and under will make up more than 10 percent of the total population in 20 years' time, up from the current eight percent. This shift is more pronounced in provincial New Zealand, where the number of young Māori will be increasing while the overall number of young will be essentially static (or even declining).

2.4 Composition of population demographics

The Waikato Region has a population of 458,202 (according to the 2018 Census) of which, 160,911 residents are in Hamilton City. Hamilton City is a growing urban centre, having grown 13.6 percent over the past five years. Statistics New Zealand projections put the 2043 Hamilton City population at 225,000 in their medium scenario, or close to a quarter of a million in their high scenario.

Of course, Hamilton remains dwarfed in relation to the 1.57 million population resident in its northern neighbour Auckland. Further, Statistics New Zealand projects Auckland to reach a 2043 population of between 2.3 million (medium scenario) and 2.6 million (high scenario). Auckland also attracts workers from the Waikato Region, with 4,827 people from Waikato district and 1,530 people from Hamilton City giving a workplace address within the Auckland region in the 2013 Census.[2]

Hamilton City and Auckland have an extremely similar percentage of populations in each age group category. In each, the percentage of the population 65 years and over is 12 percent.

Figure 2.2 Age pyramid for Hamilton and Auckland

[2] file://dc.berl.cloudit.services/Users$/rileyh/Downloads/commuting-patterns-in-Auckland-2006-to2013.pdf

As shown in Table 2.8, Hamilton City, Waikato Region and Auckland Region are all heavily dominated by Europeans; Europeans are 64 percent of the population in Hamilton City, 74 percent in Waikato Region and 54 percent in Auckland Region. In Auckland, 28 percent of the population are Asian, 16 percent are Pacific Peoples and only 12 percent are Māori. In Hamilton, 18 percent of the population are Asian, six percent are Pacific Peoples and 24 percent are Māori. In the Region, ten percent of the population are Asian, five percent are Pacific Peoples and 24 percent are Māori.

Table 2.8 Percentage of ethnic group in Hamilton, Waikato and Auckland[3]

Ethnic group	Hamilton City	Waikato Region	Auckland Region
European	64	74	54
Māori	24	24	12
Pacific Peoples	6	5	16
Asian	18	10	28
Middle Eastern/Latin American/African	2	1	2
Other	1	1	1

[3] We note, the percentages sum to more than a hundred because individuals can identify with more than one ethnic group

3 Economic relationships

The Waikato Region has very close and significant economic connections with Auckland. It also has economic connections with Tauranga, and collectively forms a key triangle of economic activity. The Waikato Region acts as a critical hub in the North Island, particularly in terms of the corridors and infrastructure that support not only the Waikato but also the wider New Zealand economy.[4] The critical role and function of the Metro Area is to enable the Waikato Region to carry out its economic functions and to link the Waikato Region to Auckland and the wider New Zealand economy.

Section 2.2 outlined the economies of the upper North Island. It showed that the economic bases of the urban areas (Auckland and the Metro Area) focus on slightly different industries. Similarly, the composition of both these economies differ from the wider Waikato economy.

Table 3.1 summarises the various economies at play in the triangle of economic growth in the upper North Island by noting the percentage of FTEs in each sector.

Table 3.1 Summary of economies in terms of FTEs percentages

	Hamilton City	Waikato District	Waipa District	Waikato Region	Auckland Region	Tauranga
Primary	1.1	26.9	16.3	11.2	0.9	11.8
Manufacturing	11.2	13.3	11.5	12.9	10.6	9.6
Construction	10.5	14.1	12.9	10.7	9.6	12.3
Wholesale and Distribution	7.2	5.5	8.5	6.9	13.0	9.9
Retail Trade and Services	17.2	9.9	18.0	17.4	17.5	17.9
Business Services	19.3	10.2	11.8	14.5	25.7	17.0
Arts and Recreation Services	1.5	1.6	2.6	1.7	1.5	1.2
Social Services	32.0	18.6	18.4	24.6	21.3	20.4

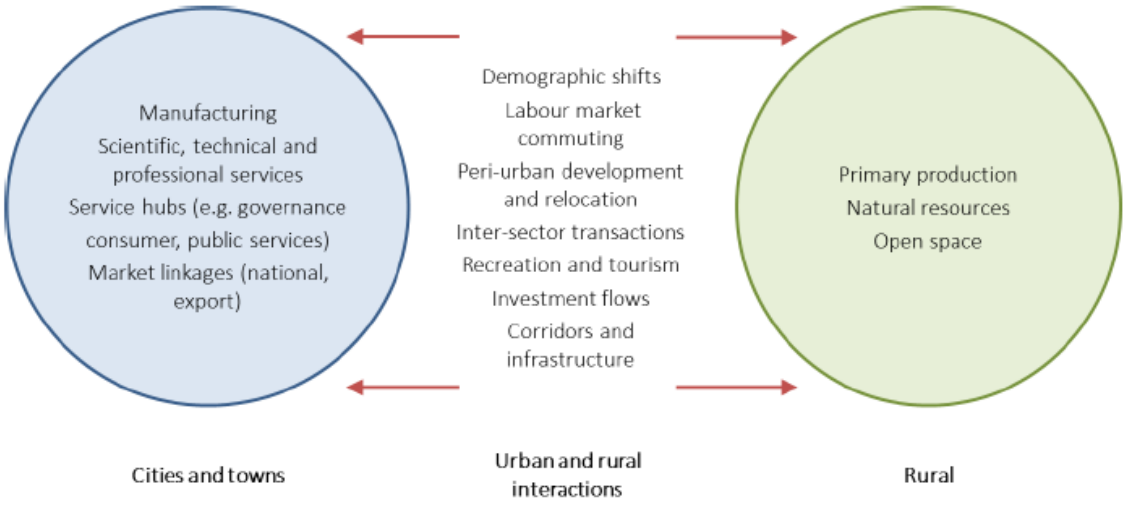
[4] Dovetail rural-urban linkages review

This section demonstrates how these various economies, which feed into the overall New Zealand economy, do not stand on their own. These conclusions are supported by the Rural-Urban Linkages report, which "highlights that urban and rural economies are shaped by not only their own respective economic bases, but also by the interdependencies between rural and urban areas."[5] The report states that rural-urban relationships usually have:

- *Interaction* in the flow of goods and services (where these places exchange different kinds of goods and services and labour)
- *Independence* in the markets that each are focused on (where their resource bases and markets are sufficiently divergent from each other for there to be little existing economic relationship)
- *Competition* (to some extent) for populations that provide labour and fund public services (where they have similar specialisms and compete with each other for resources (including labour) and/or markets).

The relationships that may exist between urban and rural areas, according to the Rural-Urban Linkages report are summarised in Figure 3.1. It shows that cities usually carry out manufacturing, professional services etc., while rural areas perform primary production.

Figure 3.1 Rural-urban flows



3.1 Auckland and the Metro Area

Competing vs complementary economies

Auckland and the Metro Area are two New Zealand metropolitans located 125 kilometres from each other. The role and function of Auckland is to provide high-value business services and social services for the nation; the Metro Area and wider Waikato depend on Auckland to provide these services. However, the Metro Area's economy is also dominated by the business services and social services sectors, and it also provides these services to wider Waikato.

As such, Auckland and the Metro Area do compete to some extent in the business and social services sectors. But they do have slightly different specialisations in these sectors, this slight independence in the markets that each are focused on facilitates complementary economies. In Hamilton City, 24 percent of its social services FTEs are employed by hospitals, while in Auckland

[5] Dovetail rural-urban linkages review

only 15 percent of its FTEs are employed by hospitals. In Auckland, 24 percent of its social services FTEs are employed by preschool and school education, while in Hamilton only 17 percent of its FTEs are employed by preschool and school education.

In regards to the business services sector, Hamilton's professional scientific and technical services is 41 percent of FTEs, while in Auckland it is 33 percent. Auckland has a larger percent of FTEs in the finance sector (eight percent) when compared to Hamilton (four percent).

The primary sectors makes up 0.9 percent of the Auckland economy. Auckland therefore depends on the provincial areas to undertake these activities, in particular Auckland depends on wider Waikato to carry out primary sector production and processing. Auckland also depends upon the Metro Area to conduct services (predominately business and social services) for its provincial area to enable the provincial area to carry out the primary sector functions. Again, independence in the markets that each economy are focused on facilitates complementary economies.

Imbalanced economies

As discussed in section 2.2, the Auckland economy is operating on a significantly larger scale than the Metro Area and wider Waikato. This is highlighted by comparing the absolute values of FTEs and GDP in Table 2.2 and Table 2.3; 793,814 FTEs and $107,075 million in Auckland, and 201,094 FTEs and $25,771 million in the Waikato Region.

As well as a dominant economy in Auckland, it also has a dominant population of 1.57 million (as noted in section 2.4). The current and projected dominance of Auckland in population terms is amplified through the positioning of the nation's primary international airport and seaport. This dominance has led, arguably, to an imbalance in the nation's economic development as increasing congestion and consequent infrastructure requirements risk overwhelming the nation's investment budget.

This potential imbalance can be summarised by the rank-size rule[6], which suggests New Zealand's second largest population centre should be close to 800,000. Or, the equivalent of Wellington (including Porirua, Lower Hutt and Upper Hutt) and Christchurch cities combined. This gap, or 'hole', in the settlement hierarchy of New Zealand is highlighted by the growing concentration in the Auckland area of high-value economic and social services for the nation.

In this light, the Metro Area faces the prospect of becoming a de facto suburb of Auckland. Such a result would likely exacerbate the nation's economic development challenges. Alternatively, progress for the nation's economic development would be assisted should the Metro Area become a larger, well-defined metropolitan – attracting and providing an increased amount of high-value economic and social services.

As outlined above, the structure of New Zealand's macroeconomy is increasingly reliant on the Auckland area conurbation for the generation of higher-value economic goods, services, and activities. While a significant proportion of export earnings continue to accrue from natural

[6] This concept originates in economic geography literature. Broadly, this suggests the population size of the second-largest centre in a nation is approximately one-half that of the largest centre, with the third-largest about one-third of the largest centre, and so on. This was originally developed by George Zipf, with the precise ratios (i.e. one-half, one-third, and so on) varying across nations, in Zipf G.K. (1949), *Human behaviour and the principle of least effort*, Cambridge, MA, Addison Wesley. The concept was further developed by Berry with further quantitative analysis of actual ratios in Berry, B.J.L. & Garrison, W. L. (1958), *Alternate explanation of urban rank-size relationships,* Annals of the Association of American Geographers, 48, 83-91. A later review, and discussion of ratios can be found in Berry, B. J. L., Adam Okulicz-Kozaryn (2011), *The city size distribution debate: Resolution for US urban regions and megalopolitan areas*, J.Cities (2011) doi.10.1016/j.cities 2011.11.007.

resource based industries in provincial areas, value added, research and development, logistics, marketing, and sales efforts, technology and innovation efforts, creative sector, look to population centres to generate economies of scale. Additionally, the potential for agglomeration benefits also help attract and accommodate these higher-value activities.

A challenge facing the New Zealand economic structure is the relative lack of large population centres within which these activities could thrive. Moreover, the relative lack of densely populated centres reduces the potential for agglomeration benefits to be enjoyed. In this context, the gap or 'hole' in New Zealand's settlement hierarchy can be seen as a crucial constraint for future economic development. Critically, there are only two settlements outside of Auckland (i.e. Wellington[7] and Christchurch), where these higher-value activities can look to locate. And, the growing size of Auckland risks reducing this list of potential locations further. The Metro Area is well-placed to assist in partially re-balancing this situation.

3.2 The Metro Area and wider Waikato

A critical role and economic function of the Metro Area is to service the wider Waikato. In its absence, the option facing New Zealand would be servicing this wider area through an ever larger concentration of activity in Auckland. Such an option would likely require considerably more infrastructure between Auckland and the range of smaller communities in the wider Waikato.

The Rural-Urban Linkages report found that there are clearly a range of relationships between the Metro Area, smaller towns and rural areas. However, it also stated "the lack of measurement of rural-urban linkages in the literature means that we can't know the extent to which rural-urban relationships in the Waikato should be characterised as interactive, versus independent or competitive."[8]

The Metro Area and the wider Waikato conform to usual rural-urban relationship functions; the Metro Area providing the high-value economic services and the rural areas providing primary production (as outlined in Figure 3.1). For example, FTEs in the primary sector makes up 1.1 percent of Hamilton City's economy, while business services are 19.3 percent and social services are 32 percent. In the Waikato District, the primary sector is 26.9 percent of FTEs, whereas business services are 10.2 percent and social services are 18.6 percent.

The Waikato primary sector is diversified across various industries, the Economic Development Issues and Opportunities report outlines these industries:[9]

- Forestry and logging and wood product industries concentrated in South Waikato, Matamata-Piako, Otorohanga, Waitomo, Rotorua and Taupo
- Agriculture concentrated in Matamata-Piako, Hauraki, Waikato, Waipa, Otorohanga and South Waikato
- Tourism related industries concentrated in Thames-Coromandel, Waitomo and Taupo
- Specialised manufacturing and public service industries concentrated in Hamilton
- Mining related industries relatively concentrated in Waikato, Waitomo, Waipa and Hauraki
- Aquaculture concentrated in Thames-Coromandel.

[7] Including Porirua, Hutt, and Upper Hutt.
[8] Dovetail rural-urban linkages review
[9] Economic development issues and opportunities – MartinJenkins

The Metro Area supports these industries, not only by providing business and social services, but by also providing primary processing manufacturing services (i.e., the manufacturing the equipment that these industries need). For example, Gallagher is located in Hamilton. Gallagher provide innovative technology solutions for electric fencing, weighing and EID, access control, perimeter security and fuel systems, among other products. These manufacturing services are essential in the rural-urban relationship.

There is a range of goods and services that flow between the various local economies (Hamilton, Cambridge, Te Awamutu and wider Waikato etc.), each of these relationships are fundamental in the ecosystem and the independence in the markets that each are focused on facilitates complementary economies.

3.3 Auckland-Metro Area-Tauranga triangle

A 2011 study for the Ministry of Economic Development[10] looked into the economic linkages between the three centres in the upper North Island. Key-findings of the report are as follows:

- The three cities display fundamentally different economic foundations and that the economic prosperity of the three cities is strongly influenced by these foundations
- Auckland dominates in the business services and financial sectors, providing services to the other areas
- The Metro Area and Tauranga do not provide these high services to Auckland
- The Metro Area and Tauranga are strongly influenced by their regional roles of servicing the surrounding area
- Waikato has a strong dairy industry. The Metro Area has been able to use this strong economic base to expand into agri-science, advanced engineering activity, metals manufacturing. As well as research and development of advanced equipment to support the dairy industry of processes to increase the efficiency of dairy farming
- The underlying economic foundations for Tauranga are weaker because of its remoteness from other major areas and because there are limited opportunities for larger scale value added activities.

Since that study, the relative compositions and strengths of the Metro Area and Auckland economies have not changed noticeably. However, the strengths of the Metro Area in the agri-science and primary-related R&D activities have undoubtedly intensified, as evidenced in previous sub-sections. Further, the role of the university and higher education has become more prominent.

That 2011 study, however, was relatively cautious as to the future of beneficial links between the cities. It emphasised the importance of Auckland as a primary driver, the benefits of agglomeration, and the importance of good/better intra-city transport connections.

Interestingly, recent years have seen a modest strengthening of the inter-city connections between the Metro Area and Auckland (in particular, the expressway and port activities at Northgate). Further, developments and Ruakura have arguably shifted the prospects for strengthened inter-relationships between the two cities. While it is clear that Auckland will remain the overwhelmingly dominant partner in the relationship, the connections between them (even over the past seven to

[10] Economic Linkages between New Zealand Cities, Ministry of Economic Development, 2011.

eight years) are developing and have the potential to temper (or drive) the development of each of the city's respective economic structures.

Of course, the finding that intra-city transport connections are critical should not be overlooked either.

4 Review of current growth and development plans

4.1 Outline of current growth and development plans

The Metro Area and wider Waikato have a number of growth and development plans to support the future area to be well planned. This section summarises these plans.

Hamilton City Council

The combination of Waikato Regional Policy Statement (RPS), the Waikato Regional Land Transport Plan (RLTP), the Hamilton Urban Growth Strategy (HUGS), and associated Neighbourhood Plans signal a preference for Hamilton City to grow with increased intensification. The HUGS tagline of 'A Compact and Sustainable City' makes the preferences clear. Further, Hamilton City Council's (HCC's) Long-Term (30-year) Infrastructure Strategy sees Council giving "priority to looking after what it has before building new assets", in line with a preference for intensification.

Future Proof

The above preference is reinforced by Future Proof Strategy "Planning for Growth". In particular, Future Proof Strategy "Planning for Growth" (May 2017) has a vision for growth in Hamilton City, Waipa District and Waikato District over the next 30 years. The Settlement Pattern published within the document provides "a blueprint for growth and development" in the three adjoining Territorial Local Authorities' (TLA) and identifies the future locations of residential and business land.

Metropolitan Spatial Plan

The purpose of the Metropolitan Spatial Plan (MSP) is to determine a shared 100 year vision and spatial framework for the merging Hamilton-Waikato metro area, with a 30 year plan for priority development areas and enabling investment.

Hamilton to Auckland Corridor Plan

In February 2019, the Minister for Transport and Minister for Urban Development and Economic Development launched the Hamilton to Auckland Corridor Plan (Hei Awarua ki te Oranga - Corridor for Wellbeing). The Vision of the plan is to support sustainable growth and increase connectivity between Hamilton and Auckland.

Rapid Rail Business Case

In July 2019 the Ministry of Transport went to the market to seek suitably qualified professionals to develop an Indicative Business Case (IBC) for developing a rapid rail service between Hamilton and Auckland.

The objectives of the IBC are to consider the extent to which stronger intercity connectivity can:

- Harness the nationally significant economic contribution that the Hamilton to Auckland Corridor plays in increasing New Zealand's productivity, including supporting agglomeration and investment, and better integrating the regional economies of Hamilton and Auckland
- Improve access to opportunities for those within the corridor, for example through increasing access to employment, improving transport choice and reducing congestion

- Enable a more efficient and affordable distribution of growth within the corridor, for example by anchoring urban development and unlocking capacity for housing (especially affordable housing) at either end of the corridor
- Reduce greenhouse gas emissions and the adverse effects of transport on the local environment and public health, for example through enabling sustainable transport choices.

Waipa 2050 Growth Strategy

Waipa 2050 aims to ensure that the Waipa District remains a great place to live, work and play, well into the future. By 2050 it is anticipated the Waipa District will be home to an additional 25,000 people. The purpose of this strategy is to provide direction as to where this population increase will be accommodated within the Waipa District, whilst ensuring that the special features of the Waipa District are retained.

Waikato 2070: Draft Growth and Economic Development Strategy

This strategy document provides a long-term plan to achieve the Waikato District Council's vision of creating and nurturing liveable, thriving and connected communities.

The Waikato 2070 strategy is unique as it takes an integrated approach to future growth in the Waikato District. It combines economic and community development focus areas with future land use and infrastructure planning and growth patterns. This document will inform communities, businesses, investors, iwi, governments and neighbouring local authorities and the Council itself, to help deliver and achieve the communities' vision.

The planning, design and management of our urban and rural areas, and the supporting of economic and community development activities will have long term impacts on the quality of life, social amenity, economic prosperity and wellbeing of our communities. The overall wellbeing of individuals is strongly influenced by the quality of the environments where we live, work, learn and play.

At a local level this strategy helps give life to and implement the relevant initiatives identified by the district's various communities through Blueprints. At a sub-regional level this strategy helps deliver on the Future Proof Growth Strategy and spatial plans developed through the Hamilton to Auckland Corridor Initiative.

Waikato Blueprint

The Waikato District Council published the Waikato Blueprint document in June 2019. The Waikato District Blueprint will work to achieve the overall vision established by Council for the Waikato District, which is to create Liveable, Thriving and Connected Communities – He noohanga aahuru, he iwi whai ora, he hapori tuuhono tahi. The document provides local area blueprints for Tuakau, Pokeno, Mercer, Meremere, Te Kauwhata and Rangiriri, Ohinewai, Huntly, Taupiri, Ngaruawahia, Horotiu, Te Kowhai, Whatawhata, Raglan, Tamahere, and Matangi.

Te Waka Waikato Regional Economic Development Programme 2018 – 2022

The programme frames up packages of initiatives based on the priorities of the summit in August 2018 and the sectors identified as being competitive/potentially competitive in the Waikato Region. The programme captures initiatives which are already underway as well as those in the early stages of development.

The summit consisted of 250 of the Waikato Region's business, iwi, community and local government leaders together who were challenged to: "Agree what economic development initiatives will have the greatest impact for the Waikato and its people."

Whakatupuranga 2050 Strategic Blueprint Waikato-Tainui

Whakatupuranga Waikato-Tainui 2050 is the blueprint for cultural, social and economic advancement for Waikato-Tainui people. It is a long-term development approach to building the capacity of Waikato-Tainui Marae, hapu, and iwi. There are the following three critical elements:

1) A pride and commitment to uphold their tribal identity and integrity

2) A diligence to succeed in education and beyond

3) A self-determination for socio-economic independence.

4.2 Review

We understand that these plans seek to establish the Metro Area and wider Waikato as a larger, well-defined metropolitan within the upper North Island and New Zealand more generally. These plans are (rightly so) extensive, but in essence the plans outline that to achieve these goals increased intensification in the Metro Area is required as well as increased connectivity, so that the Metro Area becomes a compact and sustainable metropolitan that achieves sustainable growth.

5 International examples and lessons

There are various international examples of cities embarking upon a metropolitan strategic planning process. BERL has considered that the most relevant examples are those in which it is a city that is in close proximity to a large, already established metropolitan. For this reason, the following examples have been considered: London and Birmingham, Melbourne and Geelong, Sydney and Newcastle, and Waterloo and Toronto.

Table 5.1 Comparison of international examples

	Hamilton and Auckland	Birmingham and London	Geelong and Melbourne	Newcastle and Sydney	Waterloo and Toronto
Population of larger city	1.57 million	8.2 million	4.5 million	5 million	6 million
Population of smaller city	160,911	1 million	280,000	576,000	580,000
Distance between cities	125 kilometres	200 kilometres	75 kilometres	160 kilometres	110 kilometres

Table 5.1 compares international examples, it shows that some of the examples are better comparisons for Hamilton because of population sizes and distance between the two cities. This report focuses largely on the international examples that are better comparisons.

5.1 International examples

5.1.1 Birmingham and London

The Greater London Region is the largest city and metropolitan area in England, it has a population of 8.2[11] million. Birmingham is the second-largest city and metropolitan area in England, it is located 200 kilometres away from London and, as at the 2011 Census, has a population of 1 million[12] people in the city and a population of 2.7 million[13] in the wider West Midlands County.

Economic structure

Birmingham's largest sectors[14] are:

- Wholesale and retail trade (16 percent)
- Human, Health and social work activities (15 percent)
- Education (12 percent).

In Birmingham's wider County, manufacturing is also a large sector (12 percent).

Greater London's largest sectors[15] are:

11 https://www.londoncouncils.gov.uk/our-key-themes/local-government-finance/population-and-census

12 https://www.birmingham.gov.uk/downloads/file/4564/2011_census_birmingham_population_and_migration_reportpdf

13 https://countrydigest.org/population-of-birmingham/

14 https://www.birmingham.gov.uk/downloads/file/9760/2018_ks605_industryxlss

15 https://data.london.gov.uk/dataset/employee-jobs-by-sectors

- Professional, real estate, scientific and technical (16 percent)
- Administrative and support services (11 percent)
- Health and Social (10 percent).

The focus on different sectors within each of Birmingham and London's economies indicates that the economies are complementary rather than competitive. However, London has an advantage because it offers higher-value activities.

Connections

The average journey time between Birmingham and London on the train is two hours, although it can be as fast as 1.22 hours[16].

City development plans

In 2007, Birmingham City Centre Masterplan: Visioning Study was commissioned to consider:

- Why Birmingham matters
- What a Masterplan could do
- How well Birmingham has done
- How to make a serious city even more important.

This resulted in the Big City Plan being launched in 2008 and the Birmingham Big City Plan City Centre Masterplan in July 2011.

The Big City Plan[17] is a 20-year City Centre Masterplan. It outlines that it's a vision to encourage and support Birmingham's continuing transformation into a world class city centre. It covers every aspect of the built environment. This includes:

- Creating 1.5 million square metres of new floorspace
- Creating over 50,000 new jobs
- Contributing £2.1 billion to the economy each year
- Creating a well-connected, efficient and walkable city centre
- Providing 65,000 square metres of new and improved public spaces
- Providing 28 kilometres of enhanced walking and cycling routes
- Providing over 5,000 new homes with new leisure and recreational facilities to attract more families
- Valuing the city centre's heritage and cultural assets
- Integrating sustainable development and addressing the impact of climate change as part of the future transformation of the city centre
- Delivering five areas of transformation supporting the growth of the city core.

[16] We are attempting to unearth some more relevant commuting data. Will include here if we find any. This note also applies to the other case study examples below.

[17] https://www.birmingham.gov.uk/downloads/20054/planning_strategies_and_policies

The Birmingham Development Plan (BDP)[18] 2031 was adopted by Birmingham City Council on 10 January 2017. The BDP sets out a spatial vision and strategy for the sustainable growth of Birmingham for the period 2011 to 2031, and will be used to guide decisions on planning, development and regeneration. This replacing the policies in the Birmingham Unitary Development Plan 2005.

The Big City Plan sits alongside the BDP as a non-statutory document that sets out a vision and framework for how the city centre will be transformed and the key proposals are reflected in the BDP.

5.1.2 Geelong and Melbourne

Melbourne is the capital of the Australian state of Victoria, it has a population of 4.5 million[19]. Geelong is the second largest Victorian city, it is located 75 kilometres away from Melbourne and has a population of approximately 280,000.[20]

Economic structure

Geelong's largest sectors[21] are:

- Retail Trade (14 percent)
- Health Care Services (ten percent)
- Pre-School, Primary, Secondary and Special Education (seven percent).

Melbourne's largest sectors[22] are:

- Business Services (18 percent)
- Finance and Insurance (14 percent)
- Health care and Social Assistance (nine percent).

The composition of the economies in Geelong and Melbourne are different; each focus on different industries. This indicates that the economies are complementary rather than competitive. However, again, the larger city (Melbourne) has an advantage because it offers higher-value activities.

Connections

The train from Melbourne to Geelong is an hour and fifteen minutes. Geelong has 4,961 residents travelling to Melbourne for work (4.8 percent).

18 https://www.birmingham.gov.uk/info/20054/planning_strategies_and_policies/78/birmingham_development_plan

19 https://quickstats.censusdata.abs.gov.au/census_services/getproduct/census/2016/quickstat/2GMEL

20 https://quickstats.censusdata.abs.gov.au/census_services/getproduct/census/2016/quickstat/203?opendocument

21 https://data.gov.au/data/dataset/geelong-employment-by-sector/resource/4749ab88-a56c-4403-9e0d-ddc704588bfd

22 https://www.melbourne.vic.gov.au/SiteCollectionDocuments/clue-2018-summary-report.pdf

City development plans

The G21 Geelong Region Plan[23] is a strategic framework and agreed vision, looking toward 2050, for the Geelong Region Alliance (G21).

The plan identifies and addresses the challenges the region will face in areas such as environment, settlement, land use, community cohesion and the economy.

The plan was developed during 2007 and represents the work and opinions of hundreds of people and organisations including the five G21 municipalities, the state government, peak bodies and environmental, community and business organisations from across the region.

It is a collaborative approach to longer-term regional challenges, developed by the people of the region. The research supporting the strategy is robust. It includes information from regional, state-wide and national organisations, as well as specifically-commissioned research, analysis and extensive consultation.

When developed, the plan was unique in Australia. It created new opportunities for delivering priority projects to ensure the future productivity, liveability and sustainability of our region. The G21 Geelong Region Plan outlines important projects for achieving its objectives, including the following project:

- Regional rail connection
    - Faster Geelong to Melbourne rail service
    - Increase rail service between Geelong and Colac and Warrnamnool (cities that are west of Geelong).

5.1.3 Greater Newcastle and Sydney

Sydney is the state capital of New South Wales, it has a population of five million[24]. Newcastle is the second most populated area in the Australian state of New South Wales, it is located 160 kilometres away from Sydney and has a population of 150,000[25]. The Greater Newcastle population is 576,000[26].

Economic structure

The largest sectors in Greater Newcastle[27] are:

- Health Care and Social Assistance (16 percent)
- Property and Business Services (ten percent)
- Retail Trade (ten percent).

The largest sectors in Sydney[28] are:

23 http://www.g21.com.au/geelong-region-plan-2006

24 https://quickstats.censusdata.abs.gov.au/census_services/getproduct/census/2016/quickstat/1GSYD?opendocument

25 https://quickstats.censusdata.abs.gov.au/census_services/getproduct/census/2016/quickstat/CED131

26 Greater Newcastle metropolitan planning

27 https://www.planning.nsw.gov.au/-/media/Files/DPE/Reports/greater-newcastle-metropolitan-strategy-economic-prospects-to-2036-2017-11.pdf

28 https://economy.id.com.au/sydney/employment-census?BMID=20

- Professional, Scientific and Technical Services (19 percent)
- Financial and Insurance Services (18 percent)
- Public Administration and Safety (seven percent).

Looking at Greater Sydney[29], the largest sectors are:

- Health Care and Social Assistance (12 percent)
- Professional, Scientific and Technical Services (ten percent)
- Retail Trade (ten percent).

The economic bases in Greater Newcastle and Sydney are different. This independence in the markets that each are focused on supports complementary economies rather than competitive. Sydney and Greater Newcastle both offer higher-value activities. However, Sydney does have an advantage because it offers a significant amount of higher-value activities.

Connections

The express train from Newcastle to Sydney takes approximately 2.5 hours. However, the Greater Newcastle Metropolitan Plan (outlined below) seeks to create higher speed connections to Sydney to encourage new employment opportunities. Travel times between Sydney and Newcastle could be reduced to 2 hours, providing improved travel time reliability, increased capacity, comfort and amenity and improved connectivity to the surrounding region through integrating public transport services with the improved rail services.

Currently, 439 Newcastle City residents travel to Sydney for employment (0.6 percent).

City development plans

The Greater Newcastle Metropolitan Plan 2036 was launched on 17 September 2018. As Australia's seventh largest city and global gateway for northern New South Wales, Greater Newcastle faces a new future with investment in aviation, transport, education, health and tourism.

This first-ever Metropolitan Plan for Greater Newcastle, and first for a non-capital city in Australia, aims to capitalise on this investment through a collaborative approach.

The Plan sets out strategies and actions that will drive sustainable growth across Cessnock City, Lake Macquarie City, Maitland City, Newcastle City and Port Stephens communities, which together make up Greater Newcastle.

The Plan also helps to achieve the vision set in the Hunter Regional Plan 2036 - for Hunter to be the leading regional economy in Australia with a vibrant new metropolitan city at its heart.

The vision for the Plan is for Greater Newcastle to be Australia's newest and emerging economic and lifestyle city, connected with northern New South Wales and acknowledged globally as:

- Dynamic and entrepreneurial, with a globally competitive economy and the excitement of the inner city and green suburban communities
- Offering great lifestyles minutes from beaches or bushland, the airport or universities, and from the port to the lake

[29] https://economy.id.com.au/sydney/employment-census?BMID=20

- A national leader in the new economy, with smarter cities and carbon neutral initiatives, and with collaborative governance that makes it a model to others in creating and adapting to change.

5.1.4 Waterloo and Toronto

Waterloo Metro Area (Waterloo) is a polycentric metro spanning three main cities - Cambridge, Kitchener and Waterloo. Its history of metropolitan collaboration is more than 40 years old, beginning when Waterloo Regional Municipality was established in 1973. This reform reduced the number of local governments in the area from 16 to eight and brought into being a two-tier system of local government – a Regional Municipality above the seven local governments.[30] Waterloo is located in Southern Ontario, Canada. The Waterloo Metro Area has a population of 580,000[31] and is 110 kilometres from Toronto, Canada, which has a population of six million.[32]

Economic structure

Waterloo's employment by industry[33] shows that the largest sectors are:

- Manufacturing (18 percent)
- Wholesale and retail trade (14 percent)
- Health care and social assistance (ten percent).

Toronto's employment by sector[34] shows that the largest sectors are:

- Health Care and Social (12 percent)
- Professional, Scientific and Technical (ten percent)
- Finance and Insurance (ten percent).

Waterloo and Toronto again focus on different sectors. The economies are complementary rather than competitive.

Connections

The train from Toronto to Waterloo Region takes approximately two hours. Implementation of high speed rail between these locations is underway, the future travel time will be 48 minutes between Toronto and Waterloo.

Commuters leaving Waterloo Region to work in Toronto is 3,075. While commuters coming to Waterloo Region from Toronto is 1,535.[35] As mentioned above, the economic structures of the two cities are independent and complementary. It is likely that the independent markets have influenced commuters to travel both to and from Waterloo to work because the respective cities provide different career opportunities.

[30] Metropolitan Strategic Planning – Case Studies Report for Greater Newcastle, NSW.
[31] https://www.regionofwaterloo.ca/en/doing-business/demographics.aspx
[32] https://www.toronto.ca/city-government/data-research-maps/toronto-at-a-glance/
[33] https://www.regionofwaterloo.ca/en/regional-government/resources/2017_Labour_Force_Report.pdf
[34] https://www.toronto.ca/wp-content/uploads/2018/03/95b8-Toronto-Employment-Survey-2017-Bulletin.pdf
[35] https://www.regionofwaterloo.ca/en/regional-government/resources/Census/Census-Bulletin-10-Place-of-Work-and-Commuting-ACCESS.pdf

City development plans

The Case Studies Report for Greater Newcastle states that one of the main impacts of the creation of the new governance structure in 1973 was that Waterloo began an entirely new urban planning process based on:

1) Intensification rather than sprawl, via the creation of an urban boundary
2) Protection of environmentally sensitive areas
3) Protection of vital water sources
4) Efficient use of public infrastructure
5) Maintenance of the farmland and the agricultural economy.

Figure 5.1 Water Regional Municipality Leader's quote

"We've taken a look at what 25 years of no planning and no transit in Greater Toronto had done down there – created grid lock, massive absorption of farmland – do we want our community to look like Greater Toronto? And we said 'no we don't'."

Ken Seiling,
Leader, Waterloo Regional Municipality

By 1976, "the region had identified the catalyst to achieve these five aims: a 'reurbanisation corridor' that would run through the three main cities and that could provide a spine for rapid high-quality public transport."[36]

Figure 5.2 Waterloo Metro Region light rail transit network

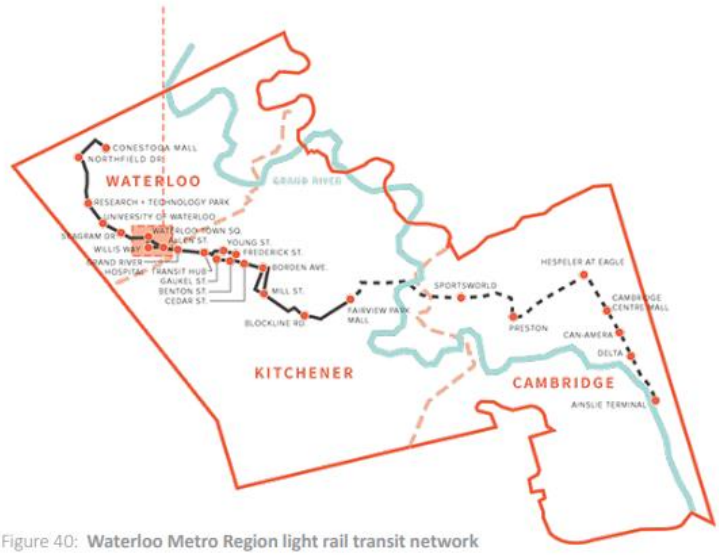


Figure 40: **Waterloo Metro Region light rail transit network**

[36] https://www.planning.nsw.gov.au/~/media/files/dpe/reports/greater-newcastle-metropolitan-strategic-planning-case-studies-report-2017-07.ashx

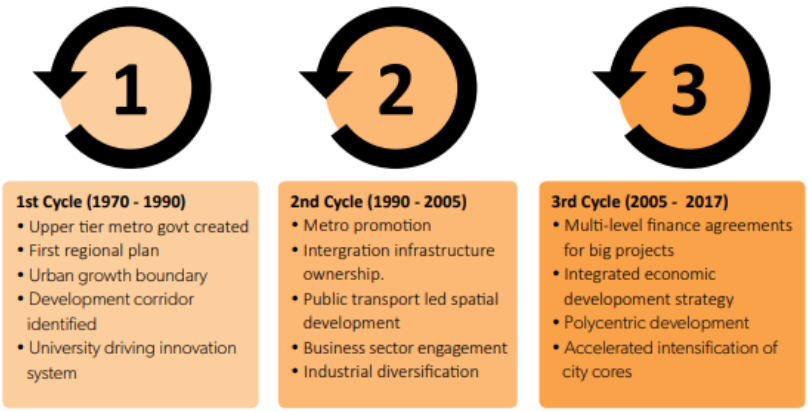
Since the corridor was implemented it has (and continues to) transition into light rail transit. And even though the light rail line has taken a long time to be established, it has already increased market demand for residential apartments along the line. The forthcoming transport links have allowed the metro to target three areas for its growth plan. These will become high density major employment centres.

In 1987, the different cities of Waterloo moved from competitive economies to establishing a loose collaborative arrangement on economic development initiatives. This gave birth to the non-profit 'Canada Technology Triangle,' whose promotion was co-ordinated to put it on the radar of potential investors. The Triangle helped to create spin-offs in technology and to host investment delegations. In 1998 Waterloo created a regional Economic Development Corporation to present a unified voice. At this time, Communitech was founded by entrepreneurs as an industry-led attempt to raise the profile of the Waterloo Region tech community.

The Case Studies Report notes that community engagement has been fundamental to Waterloo's ability to deliver its growth plan.

Figure 5.3 outlines Waterloo's three cycles of metropolitan development, according to the Case Studies Report.

Figure 5.3 Waterloo's three cycles of metropolitan development



5.2 Lessons

The international examples highlight the following lessons:

- The importance of improving connectivity with other towns and cities in the wider region
- The importance of developing complementary economies rather than competitive economies
- The role of universities in metropolitan development
    - The knowledge creation and talent creation of the universities, especially in maths, engineering and business management, was a catalyst for growth in technology firms and the emergence of the metro's reputation as a centre for technology in addition to its long-standing insurance cluster
    - The commercialisation of university and higher education research has helped cement the metro's tech specialisation
- Alignment of transport and land-use planning has been key to the successful intensification process along the transport corridor

- Active search for co-investment solutions enables smaller metropolitan areas to move forward more quickly than others that have relied on 100 percent higher tier funding
- Enhancing the role of satellite towns (such as Cambridge and Te Awamutu) is likely to help improve economic outcomes in Hamilton-Waikato Metropolitan Area
- Agreeing a package for improved rail connectivity between cities in a region can have a huge impact on the market demand for re-urbanisation. Light rail investment is a major signal to the business community about where future growth will take place
- The mobilisation of parts of the city's existing business base to support the projects can be important in building appetite among the rest of the business community and citizens
- Clear demonstration of the costs of transport inaction, both in terms of competitiveness but also in terms of alternative road and congestion expansion, is an important part of the case-making process where there is a strong anti-transport instinct. Clear costing of all options and alternatives is also important
- Clarity about roles and responsibilities of Auckland, the Metro Area and wider Waikato
    - Recognise the different identities and organisational ways of working of each
    - Recognise strengthens and weaknesses of each.

6 Impact of changes on the Metro Area

The purpose of this report is to lay out the current role, function and purpose of the Metro Area which was outlined in section 2 and 3. The report then outlined what the future Metro Area and wider Waikato role, function and purpose should be in section 4. In section 5, international examples were analysed for lessons to provide insight on how to develop a metropolitan city next to large, and an already established, metropolitan city. This section outlines the various potential impact of changes on Metro Area achieving its role, function, and purpose. This section does not provide a recommendation, instead it provides potential impacts of changes to assist the relevant parties to make decisions.

There are many factors that will influence and impact on the Metro Area and wider Waikato, such as population growth, the Government, transport policies, technology, climate change etc. This section focuses on potential connection developments and potential economic developments to highlight the impact of these changes on the Metro Area and wider Waikato.

6.1 Scenarios of development

The following potential urban futures have been outlined:

- Status quo
- Compact and connected City
- Connected nodes.

Status quo

Under the status quo development scenario, the Metro Area will be a product of the current planning framework. The Metro Area will continue to grow in the manner in which it currently is growing.

Compact and connected city

Under this scenario for development, there will be city-focussed growth and intensification, which will result in a compact and connected Metro Area. To support the compact city to be connected, there will be a mass transit focus within the city centre to ensure that it is well connected. This could involve improved and comprehensive bus and/or light-rail train services within the area. Connection networks may also enable a wider range of mobility options (e.g. walking/bicycling/scooters).

Compact and connected city that is connected to the wider Waikato

The connected nodes approach seeks to create nodal growth, resulting in Metro Area being connected within the city, as well as to its surrounding areas. This may be a mass transit system focussed to support expansion and development of nodes beyond central city limits. There could be comprehensive bus and/or light-rail train services within Metro Area, and a combination of busses and regional commuter rail services to surrounding areas. Similarly, networks to facilitate other mobility options would be present across the wider area.

6.2 Scenarios of economic developments

The ‘gap’ in New Zealand’s settlement hierarchy provides the Metro Area with an opportunity to develop its offerings in the business services sector and provide higher-value activities.

To grow the Metro Area's business services sector, the services would need to be complementary to Auckland (in line with international examples) rather than competing. Key sectors for the Metro Area to develop in the business services sector are the professional scientific and technical services as well as computer system design and related services. This could complement the Auckland economy by allowing it to focus on the Finance, Insurance and Superannuation Funds industry.

Another opportunity for the Metro Area is the wholesale and distribution sector. Interestingly, the wholesale and distribution sector is proportionately smaller in the Metro Area than it is in Auckland. A reduction in the proportionate size of Auckland's wholesale and distribution sector would be consistent with more cohesive economic development in the upper North Island. In a future well-planned Metro Area, both the business services and wholesale and distribution sectors would be expected to be proportionately larger. In essence, relatively less wholesale, logistics, and distribution activities located in Auckland would enable that economy to focus on higher-value activities more appropriate for the nation's largest population centre.

Further, by encouraging the Metro Area to develop as a well-planned city with intensive economic activity, the prospect of higher value sectors locating there and experiencing agglomeration benefits also increases.

This would include relatively more business services as well as social services (including R&D); in both instances exploiting potential economies of scale and agglomeration benefits. Consequently, from a national perspective, the Metro Area is well placed to accommodate relatively more of the wholesale, logistics, and distribution activities. In turn, retaining Te Rapa North (and Horotiu) as an industrial area would facilitate such an outcome, with consequential economies of scale and agglomeration benefits.

In summary, potential roles and functions of the Metro Area would be:

- Servicing for activities in primary sector hinterland
- Servicing for population in wider Waikato
- Related research and development, food innovation, and logistics
- University and higher education.

These functions are unpacked in this section. These roles and functions are not new ideas, they stem from the City's current role and function, as well as the growth and development plans in section 4. One of the lessons in section 5.2 is, the mobilisation of parts of the City's existing business base to support the projects can be important appetite among the rest of the business community and citizens. As these roles and functions are not unknown territory, in fact, the Te Waka Waikato Regional Economic Development Programme report included primary production and agri-technology, digital and ICT, freight and logistics in its sectoral priorities, mobilisation of existing business base will be achievable.

The Metro Area's existing entities strengthens its ability to achieve these economic developments. These entities include the university and other higher education institutes, the hospital, the inland ports, airport, Gallagher, AgResearch, and Landcare Research. These entities will be important in accelerating advancement towards a Metro Area. The hospital will support the Metro Area to service the population. The remaining entities will support related research and development, food innovation, logistics, as well as supporting the primary sector hinterland.

Servicing primary-sector

Servicing the primary-sector involves providing goods and services to the primary industry. As the Metro Area would be the dominant city within the wider Waikato, it will need to continue to be able to service the primary sector.

Data pertaining to this role, in terms of FTEs, GDP, and business units is reflected in the primary sector, construction and business services.

Servicing the population

Industries in this sector can be divided into those servicing individuals (e.g. hair dressing) and households (e.g. supermarkets) and those servicing businesses (e.g. financial, insurance, accounting, advertising, law, and management). These will be referred to as customer services and producer services respectively.

The latter includes very high value services – professional, creative and financial – that are termed advanced producer services. Advanced producer services are critical for 'global cities' because they house the management and servicing functions that have enabled globalisation of economic activities. GaWC Research Bulletin 349 ranked Auckland 40 for overall network connectivity. The GaWC assesses cities in terms of their advanced producer services using the interlocking network model. Therefore, Auckland is doing well in providing advanced producer services. The world according to GaWC 2018 gave Auckland a rating of Beta +. Beta level cities are important world cities that are instrumental in linking their region or state into the world economy. Therefore, Auckland is also doing well connecting New Zealand into the world economy.

As mentioned in section 5.2, it is better to develop complementary centres rather than competitive economies. For the Metro Area and Auckland to be complementary economies, it will require the Metro Area to step up in terms of servicing the population. This would alleviate the pressure on Auckland to provide these services so that Auckland could focus on building its advanced producer services and connecting New Zealand globally. The Metro Area needs to ensure that it is providing the full range of individual services and producer services for the Metro Area and wider Waikato.

These services also need to be accessible to attract people who currently travel to Auckland for these services. This involves providing these services to neighbouring regions, such as the Bay of Plenty. The Metro Area is conveniently located to service businesses in Tauranga; it is double the distance for businesses to travel to Auckland than the Metro Area, and this is without accounting for the traffic in Auckland. This (in combination with improved connectivity to Tauranga) provides the Metro Area with an opportunity to provide high quality services to businesses in Tauranga.

In terms of FTEs, GDP and business units, the function of servicing the population will be reflected in the following sectors: business services, social services, construction and retail.

Related R&D, food innovation, and logistics

The Metro Area has the opportunity to secure its position as New Zealand's science and technology city. Crown Research Institutes and science entities providing research and development (such as Plant and Food), as well as the university and other higher education institutes are already established. A MartinJenkins report[37] found that there were weak linkages between the research and education organisations and some industries. The lessons from Waterloo would suggest that these ties need to be strengthened to enable commercial research and/or spinoffs.

[37] MartinJenkins (2013). *Economic development issues and opportunities.*

Innovation, technology, research and development underpin all facets of the economy. It will be important for the Metro Area to provide this function. To achieve this, the Metro Area needs to grow R&D, especially R&D that is related to its role and function (such as agri-technology) as well as other R&D it currently carries out (such as food technology).

As mentioned above, it would also be necessary for the Metro Area to pick up a greater percentage of the FTEs relating to logistics (wholesale and distribution), to alleviate the pressure on Auckland to provide these services.

In terms of FTEs, GDP and business units, the function of servicing of the population will be reflected in business services, primary sector and wholesale and distribution.

University and higher education

Section 5.2 outlined the role of universities and higher education in metropolitan development. The research found that the knowledge creation and talent creation of the universities, especially with maths, engineering and business management, was a catalyst for growth in technology firms and the emergence of the metro's reputation as a centre for technology in addition to its long-standing insurance cluster. The research also found that the commercialisation of university and higher education research has helped cement the metro's tech specialisation.

This function will enable the Metro Area's other roles and functions to grow and develop; knowledge creation, talent creation, and research commercialisation will help service the population, and will support growth in the primary sector, as well as related R&D, food innovation, and logistics.

In terms of FTEs, GDP and business units, the function of the university and higher education will be reflected in the social services sector and the primary sector.

6.2.1 Spatial planning considerations to support these opportunities

The Ministry for the Environment defines a spatial plan as "a high-level strategy for developing a region that relates to its geography, and seeks to achieve desired broad outcomes. Developed and implemented via collaboration between multiple parties, it provides a mechanism for agreeing joint priorities, actions and investment."[38]

Supporting the potential roles and functions of the Metro Area requires the spatial plan to create a city that attracts people to work and live. Achieving this desirable city requires enhancing its connection to nature (in particular the Waikato river) and its connection to people.

[38] https://www.mfe.govt.nz/publications/rma/building-competitive-cities-reform-urban-and-infrastructure-planning-system-12

6.3 How do these scenarios of development impact the economy composition?

The following system has been used to indicate how each development scenario will impact on each of these roles and functions.

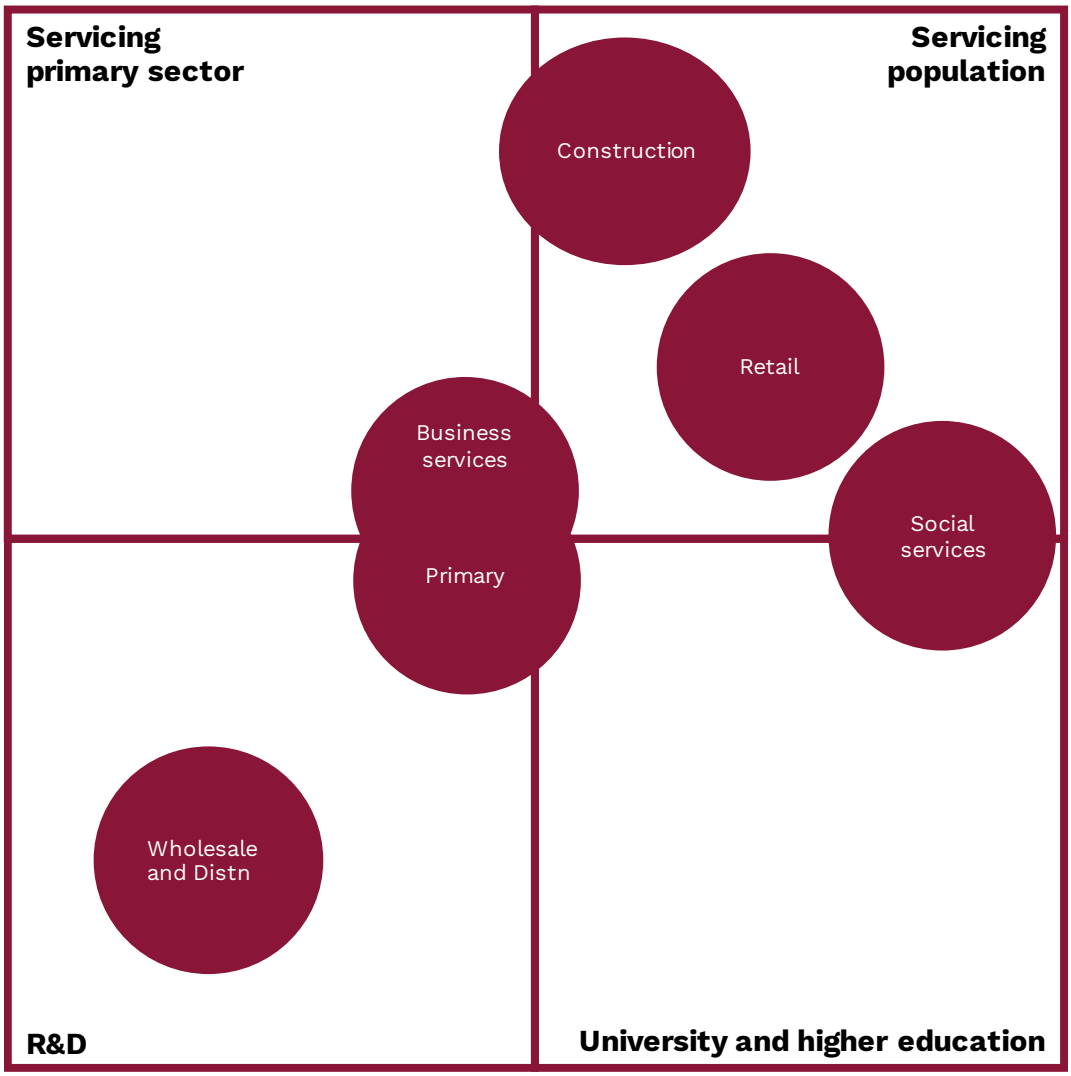
Table 6.1 System used to indicate scenario impact on role and function

Impact	System
Significant positive impact	
Substantial positive impact	
Strong positive impact	
Small positive impact	
No impact	
Negative impact	

The impacts on the roles and functions then link to the eight sectors in the following ways (and shown in (Figure 6.1):

- Servicing the primary-sector is reflected in the following sectors:
  - Primary
  - Business Services
  - Construction
- Servicing the population is reflected in the following sectors:
  - Business Services
  - Social Services
  - Construction
  - Retail
- Related R&D, food innovation, and logistics is reflected in the following sectors:
  - Business Services
  - Primary
  - Wholesale and Distribution
- University and higher education is reflected in the following sectors:
  - Primary
  - Social Services.

Figure 6.1 How the role and functions link to the sectors



Impact of the status quo approach

If and higher education centre continues to develop as it currently is, then there will be no dramatic changes in the economy composition. The composition of the economy will remain relatively steady, and as such, it will be as follows:

Table 6.2 Economy under status quo approach

Sector	%
Primary	1
Manufacturing	11
Construction	11
Whole and Distribution	7
Retail Trade and Services	17
Business Services	19
Arts and Recreation Services	2
Social Services	32

Impact of the compact and connected city approach

The Metro Area is currently New Zealand's fourth largest economy, behind Auckland, Christchurch, and Wellington. While population and economy size may not follow directly, the respective rankings do so in this case. Accentuating agglomeration benefits (via improved employment and residential densities) would assist the Metro Area to progress towards a larger, well-defined metropolitan area. In this regard, there is strategic importance in the Metro Area becoming a high-value densely-populated centre, developing as a centre of economic activity with its own distinct features.

From the national perspective, strategic considerations reinforce the advantages of the Metro Area to develop as a relatively intensive centre with stand-alone high-value goods and services. Development under the status quo scenario would limit agglomeration gains (in either Auckland or the Metro Area), and undermine the efficiency of built infrastructure (again, in either centre).

If the Metro Area is developed to be a compact and connected city, it would enable the Metro Area to service its people better and would improve the university and other higher education institutes. It would be able to service the primary sector better, albeit only slightly better. It would also improve the R&D, food innovation and logistics.

Table 6.3 Impact of the compact and connected city approach

Role and function	Impact
Servicing primary-sector	
Servicing the population	
Related R&D, food innovation, and logistics	
University and higher education	

These impacts on these sectors would alter the economic composition in the following ways:

- Improved population services and university / higher education will increase retail and social services
- Improved primary sector would proportionally increase primary and business services
- Improve R&D, food innovation and logistics increases business services, and whole and distribution.

Each of these sectors will increase in terms of absolute figures. The sectors that will increase proportionally to the other sectors (i.e. increase more than other sectors) will be retail and services.

Impact of the compact and connected city that is connected to the wider Waikato

Section 5.2 highlighted the importance of improving connectivity between the Metro Area and towns in wider Waikato. Waterloo provides a great example of this, it has a corridor running through the three main cities (as shown in Figure 5.2), which provides a spine for public transport. Further to this, the lessons outlined that agreeing a package for improved rail connectivity between cities in a region can have a huge impact on the market demand for re-urbanisation.

The lessons also showed that enhancing the role of satellite towns such as Huntly, Cambridge and Te Awamutu is likely to help improve economic outcomes in the Metro Area; improving connectivity to the nodes would enable the enhancement of the role of satellite towns.

If the Metro Area transitioned into a connected city with nodal growth it would significantly alter the economy composition as it would ensure accessible and high-quality services. It would enable the Metro Area to provide high-quality services to the population, and would enable high-quality tertiary education through the university and other higher education. As well as, providing improved services to the primary sector and the R&D, food innovation and logistic sectors.

Table 6.4 Impact of the connected nodes approach

Role and function	Impact
Servicing primary-sector	☺☺
Servicing the population	☺☺☺
Related R&D, food innovation, and logistics	☺☺
University and higher education	☺☺☺

This development scenario will increase each of the discussed sectors in absolute numbers. The sectors that will increase its percentage share will be business services, and wholesale and distribution.

6.4 How do connections to Auckland impact the economy composition?

Impact of the status quo approach

Improved connections with Auckland under the status quo approach will be disadvantageous for the Metro Area. This scenario may result in residents commuting to Auckland for work but living in the Metro Area, which would erode the Metro Area workforce and economy. The eight sectors would decrease in absolute value and in proportionate terms. Such an environment would further the competition between the cities.

Table 6.5 Impact of the status quo approach with improved connection to Auckland

Role and function	Impact
Servicing primary-sector	☹
Servicing the population	☹
Related R&D, food innovation, and logistics	☺
University and higher education	☹

Impact of the compact and connected city approach

Improved connections with Auckland under the compact and connected city scenario would enhance the positive impact that was outlined above at the section titled 'Impact of the compact and connected city approach'.

Table 6.6 Impact of the compact and connected city approach with improved connection to Auckland

Role and function	Impact
Servicing primary-sector	☺☺
Servicing the population	☺☺☺
Related R&D, food innovation, and logistics	☺☺
University and higher education	☺☺☺

Impact of the compact and connected city that is connected to the wider Waikato

This approach would best achieve the Metro Area aspirations as would be well connected within the city and with the wider Waikato, which would enable it to be a complementary economy to Auckland. Increased connection between Waikato and Auckland in this scenario would enable both cities to benefit economically.

The H2A WSP International Experience found that fast rail is an enabler, it is not a catalyst on its own. It needs to primarily benefit economic development in knowledge based industries. Focusing

on developing the connections within the City and connectivity to the nodes will economically develop the four roles and functions of the Metro Area.

Fast rail will support the economic developments in the Metro Area and wider Waikato. Comparing Table 6.4 and Table 6.7 highlights the importance of improved connectivity between the Metro Area and Auckland. It shows that connectivity between Auckland and the Metro Area will have a greater positive impact than without this connectivity. As mentioned above, Auckland is successfully connecting New Zealand to the world economy and providing advanced producer services. It is necessary that the Metro Area will have improved access to these advanced producer services and improved connection to the global economy. Therefore improved connectivity between Auckland and the Metro Area is required.

Without improved connectivity between the Metro Area and Auckland, achieving these potential roles and functions are hindered. As Auckland provides global connectivity, it will be particularly difficult to increase the R&D, food innovation, and logistics sector without improved connectivity to Auckland. In terms of servicing the population, the Metro Area needs to focus on providing the core customer and producer services that are widely needed rather than the advanced services. To enable this, the Metro Area needs to be connected to Auckland so that those who require these advanced services can easily access them. This would alleviate pressure from the Metro Area needing to provide these services, so that it can focus on the core high-value services that are widely needed. The university and higher education requires access to advanced services and global connectivity, as such, its connection to Auckland is necessary.

The improved connectivity will also increase the Metro Area's potential workforce, as it will have access to a larger labour pool in Auckland.

Table 6.7 Impact of the connected nodes approach with improved connection to Auckland

Role and function	Impact
Servicing primary-sector	☺☺
Servicing the population	☺☺☺☺
Related R&D, food innovation, and logistics	☺☺☺☺
University and higher education	☺☺☺☺

6.4.1 How do connections to Tauranga impact the economy composition?

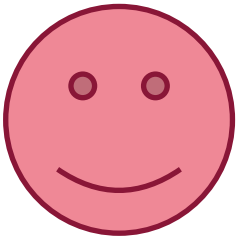
As mentioned above, the Metro Area is conveniently located to service businesses in Tauranga. Improved connectivity/public transport to Tauranga is required to support Metro Area to provide high quality services to businesses in Tauranga, as improved accessibility will encourage Tauranga businesses to travel to the Metro Area, rather than Auckland.

6.5 Summary

Table 6.8 shows that the largest impact on potential economic developments is from the compact and connected Metro Area that is connected to the wider Waikato and connected to Auckland.

Moreover, improved connections to Auckland accompanying a 'status quo' scenario for the Metro Area leads to a relatively negative outcome. This is essentially an outcome where the larger city in the relationship accentuates its dominance resulting in suffocating activity in the smaller city. This outcome reinforces the need for the Metro Area spatial plan which embraces a compact and connect city that is connected to the wider Waikato, developing and delivering high-quality activities complementary to activities undertaken in Auckland.

Table 6.8 Matrix of which scenario developments and potential economic developments will help the Metro Area achieve its role, function, and purpose

	Potential scenarios of developments		
	Status quo	Compact and Connected City	Compact and connected city that is connected to the wider Waikato
No connection with Auckland			
Connection with Auckland			

The size and theme of the face shows the impact on potential economic developments.

7 Reference list

Title	Author	Date
H2A Intercity Connectivity - RfP	HCC	2019
608-the-economic-impacts-of-connectivity	NZTA	2017
Assessment of Key Busines Sectors Summary	HCC	2017
Briefing to MoT Rapid Rail IBC team	Council	2019
Draft scoping document for 23 Sept 2019 meeting with GN	HCC	2019
Economic development issues and opportunities	Martin Jenkins	2013
Economic Linkages between New Zealand Cities	ASCARI/BERL/Paling for Ministry of Economic Development	2011
Future Proof Implementation Committee Agenda	Future Proof	2019
Growth and Infrastructure Committee Report Passenger Rail Final Business Case	NZTA	2018
H2A Intercity Connectivity - RfP	HCC	2019
H2A Intercity Connectivity - terms of reference	MoT	2019
Hamilton-Waikato Metro Spatial Plan	HCC	2019
HWMSP Presentation to MoT Rapid Rail IBC Team	Council	2019
Local and Regional Impacts of High Speed Rail in the UK	Professor Tomaney	
Metro Spatial Plan - terms of reference	HCC	2019
Rural-Urban Linkages	Dovetail	2015
Single Stage BC Report - passenger rail	Stantec	2018
Understanding Greater Hamilton	Martin Jenkins	2019
Upper North Island Freight Story	Upper North Island Strategic Alliance	2013
H2A WSP International Experience - Australia 21.10.19	WSP	2019
H2A WSP International Experience - UK & France 23.10.19	WSP	2019

Title	Author	Date
Presentation to Future Proof Waikato - Waikato Freight Hub	Ports of Auckland	2016
Assessment of Housing demand and supply	NZIER for Fonterra	2017
Hamilton Urban Growth Strategy	HCC	2010
Future Proof - Hamilton to Auckland Corridor Study	Future Proof	2012
Future Proof Economic Evaluation Update	Future Proof	2017
Future Proof Property Economics	Future Proof	2010
Future Proof Strategy	Future Proof	2017
HCC Infrastructure Strategy	HCC	2015
Regional Land Transport Plan Summary	Waikato Regional Council	2015
The Hamilton Plan	HCC	2015
Waikato Regional Policy Statement	Waikato Regional Council	2016
Waipa 2050 Growth Strategy	Waipa City Council	2017
Big City Plan	Birmingham City Council	2011
Geelong Region Plan	G21 Councils	2006
Greater Newcastle Metropolitan Strategy	Department of Planning and Environment	2017
Metropolitan Strategic Planning	Department of Planning and Environment	2017
Waikato Regional Economic Development Programme 2018 - 2022	Te Waka	2019
Waikato 2070: Draft Growth and Economic Development Strategy	Waikato District Council	2019
Waikato blueprint	Waikato District Council	2019
Whakatupuranga Waikato-Tainui 2050	Waikato-Tainui	