

# **DRIVING SUCCESSFUL CITIES** **BENCHMARKING WELLINGTON**

RESEARCH REPORT BY JACINDA ASHLEY-JONES

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Greater Wellington Regional Council**

This report is based on information derived from academic research literature, Internet sources and Government documents.

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# ABSTRACT

The Wellington region is home to New Zealand's capital city and is recognised as having a creative culture, a high percentage of the countries skilled workforce, a growing ICT sector and a strong knowledge economy. In recent years the region's GDP, population and employment growth have been slow. In order to identify how the Wellington region can improve its current position, this research report aims to identify international common success factors that drive economic growth and analyse how Wellington compares with these.

This research report considers international cities and looks for evidence of common growth factors that could be applicable to Wellington. The cities selected are located in Europe, the United Kingdom (UK), the United States of America (USA) and Canada (CA). International evidence and research is discussed in relation to five themes in order to identify common international success factors: digital connectivity; soft infrastructure; leadership; skills and labour supply; and liveability. The main observations are contrasted with the Wellington region's current context.

The key findings of this report demonstrate that the Wellington region has strengths (primarily in liveability) which the region could further leverage. Yet it faces challenges in terms of collaboration and facilitation for example, which are evidently key to a city's success.

The report should be considered as a framework for more detailed analysis, particularly in areas such as measuring success, the degree of comparability with Wellington and understanding why other city initiatives have been particularly effective for economic growth.

## **Limitations**

There were numerous limitations that became apparent while conducting research for this report.

Due to the broad nature of this research area and for the purposes of limiting the size of the report, a limitation of this report is that it covers certain success factors and academic research relevant to the report themes, but it was unable to capture all success factors. Due to the wide and varying factors that influence economic growth, this report took a snapshot of what is happening internationally and in Wellington regarding activity that influences local economic growth. Thus, further research could be done into identifying what additional success factors there are internationally that were not covered in this report.

In regards to improving economic performance, a limitation is that there are a considerable number of influential factors that local governments are not able to control. Thus there is a limitation in terms of the amount of influence that governments can have over factors influencing a region's economic performance.

When comparing a city region such as Wellington with international cities a limitation is that New Zealand has relatively lower national and regional GDP than many of the cities identified as comparable with the Wellington region. A higher level of GDP can have a significant influence on regional economic development.

When looking at different city regions, it is important to consider that cities have different characteristics and so do individuals (Grant, 2014). A limitation highlighted by Grant (2014) is that this consideration makes the analysis of citizen's perceptions, expectations and opinions on what they want to see happen in their region even more complex and subjective.

## SUMMARY KEY FINDINGS

This report set out to identify the common international success factors for delivering economic growth and analyse how Wellington compares to these.

These success factors have shown that there are areas where Wellington has strengths, but also some areas where it could improve. Key findings can help to inform Wellington on how it can improve the current position of its local economy based on international practice and these success factors. The following is a summary of the key findings.

- Local government and the local community can play a significant role in ensuring that people are aware of the wide range of benefits of UFB and can be extremely effective in encouraging the use of UFB. Utilising local government and the local community to encourage uptake could be beneficial for Wellington to reestablish its advantage in fibre technology as a means of encouraging economic growth.
- International practice suggests that the development of partnerships, links and collaboration between academic/research facilities, government and industry can have a wide range of benefits for a region, its population and its economy. Common international examples show benefits relating to innovation, knowledge flows, business development and entrepreneurship. It is evident that in Wellington there are some weak links and minimal collaboration between these three actors. International evidence and success factors could help to inform Wellington's future approach to such relations.
- A key component of a successful city is effective and sustainable leadership. Evidence suggests that a success factor is that in order to establish good, effective and sustainable leadership, leaders should be collaborative and strategic in their approach to the local economy. Hambleton's (1998) work on indicators of good leadership is useful when analysing whether leaders are or are not demonstrating good leadership in a city. There are many issues relating to the regional leadership of Wellington, such as minimal collaboration between the councils throughout the region. International evidence and success factors could help to remedy these issues and identify and inform areas of change in the region's current regional leadership.
- International evidence suggests that universities play a significant role in the conditions in the local economy, especially because of their role in attracting and retaining talent and knowledge transfer. These findings could help inform the involvement of Wellington universities in developing a greater internship culture in the region and assist the younger population to become work ready by providing them with opportunities to gain work experience. Universities

can also act as a means of attracting migrants and evidently could help to assist government with its aim to encourage migrants to the region to further enhance economic growth and improve the region's talent pool.

- Liveability has a significant influence on people's decisions to live and work in an area as it can affect their well-being and life satisfaction. Evidence suggests that developing an environment that is aesthetically pleasing and lively, has short commuting times, good public transport and is walker friendly can help make the region liveable. Due to the variability in regions, it is evident that identifying the Wellington's strengths in terms of liveability and leveraging them into a competitive advantage can be beneficial. Evidently Wellington has many strengths in terms of liveability. In line with international practice, these strengths could be further leveraged to help encourage economic development and to further improve the well-being and life satisfaction of the regional population.

Overall, evidence and the key factors discussed in the five report themes indicate that collaboration between actors throughout a region (whether it be between local authorities, local government and the local community or between government, industry and academic/research facilities) is a key factor in the success of many international cities. For collaboration to be successful it is evident (primarily from examples drawn from Waterloo, CA across the report themes) that facilitation is also important to a city's success. Waterloo has become a leading city such due to its innovative, strategic, collaborative and active facilitation of initiatives and projects that have benefits across different areas for the local population, businesses and the local economy overall.

# 1. INTRODUCTION

The Wellington region contains many of the elements common to successful city regions around the world. The region is home to a high percentage of the nation's highly skilled workforce, has a strong knowledge economy and reputable creative sector (particularly in the film and digital media area). Yet despite these advantages, the region's GDP, population and employment growth is sluggish<sup>1</sup> compared to both the rest of New Zealand, and to cities internationally.

This report explores the factors driving success in cities around the world, and compares Wellington's performance, its challenges and its potential to 'measure up' internationally.

Drawing comparisons across different cities, all of which thrive within their own unique context is problematic. Indeed, research demonstrates there is no simple answer as to why some cities grow more than others (Stroper 2010). However, a common phenomenon recognised throughout the world is the fact that in order for cities to grow, they need to constantly change (Dainov & Sauka, 2010:145). This report is concerned with 'what types of changes - are the right changes', for the Wellington region.

This report illustrates the complexity of these issues by analysing what has made selected international cities grow and develop their economies through a wide range of methods, and we attempt to identify common success factors. The approach of these international case studies will be compared with what is happening in the Wellington region. By seeking examples of successful cities, this report will identify what drives cities that have similar attributes to Wellington in a bid to help direct thinking in the Wellington region and improve its economic performance.

## 1.1 Report Rationale

This research is designed to inform strategy, programs and initiatives of local government and economic development agencies in the Wellington region. By providing an international context, and assessing successful interventions in cities and regions with characteristics similar to Wellington, the report demonstrates alternative approaches to enhancing prosperity in the region.

The report aims to assess international good practice in regards to the role of government (and associated economic development agencies) in delivering effective economic growth, and how the Wellington region compares against such practices.

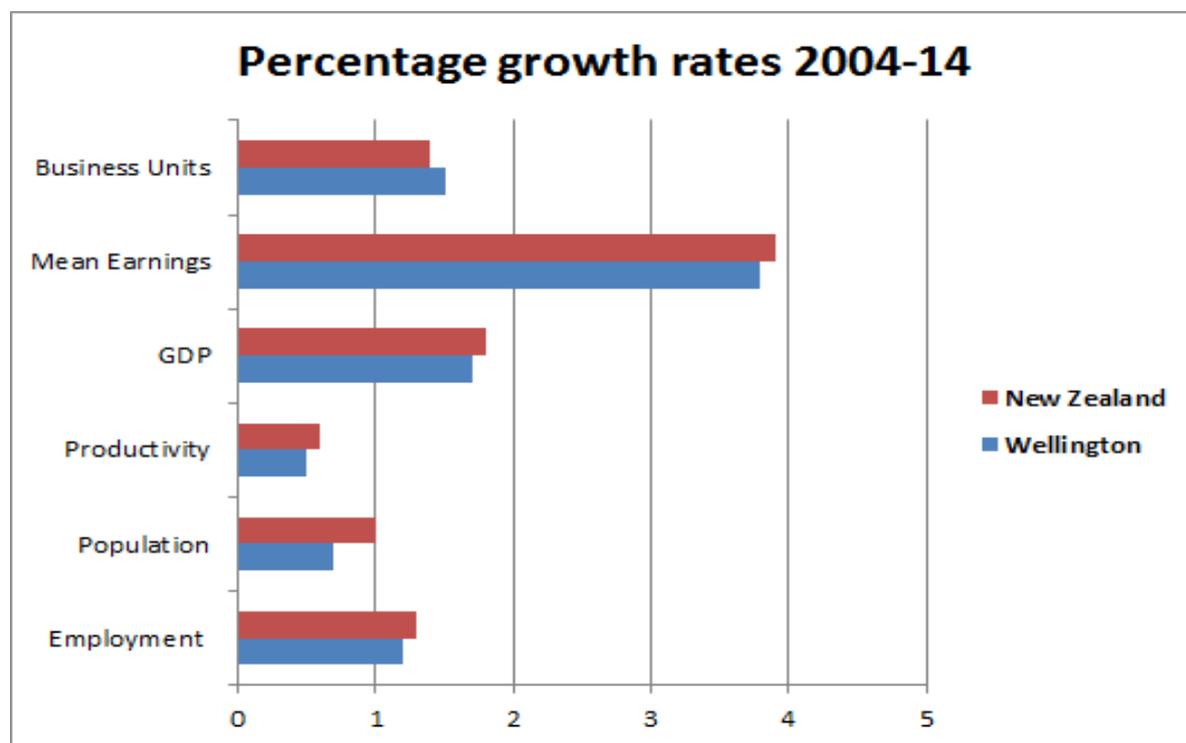
Case studies are drawn from successful cities around the world and are used as a basis for determining common success factors. Using these success factors, section 6 discusses the observations of this report and analyses how these international success factors compare to what is happening in the Wellington region.

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<sup>1</sup> When viewed on a 10 year trend 2004 to 2014 (Infometrics 2014)

## 1.2 Problem Definition – the case for change

Despite the Wellington region's comparatively small population and rough geographical landscape, the region has a lot of economic potential. However, economic data and trends have shown that Wellington has been under-performing in recent years. Compared to the performance of the rest of New Zealand, recent performance indicators have shown that the Wellington region has demonstrated a weak performance in terms of population growth, GDP growth, and labour productivity, resulting in poor overall economic performance between 2012-2013 (Stokes, Twaddle & Nana, 2014). This concerning picture is further reinforced by the Infometrics 2014 Economic Profile data which provides a ten year reference period.



**Figure 1.** Wellington region - Percentage growth rates 2004-14  
*(Source: Infometrics Wellington Regional Profile 2014)*

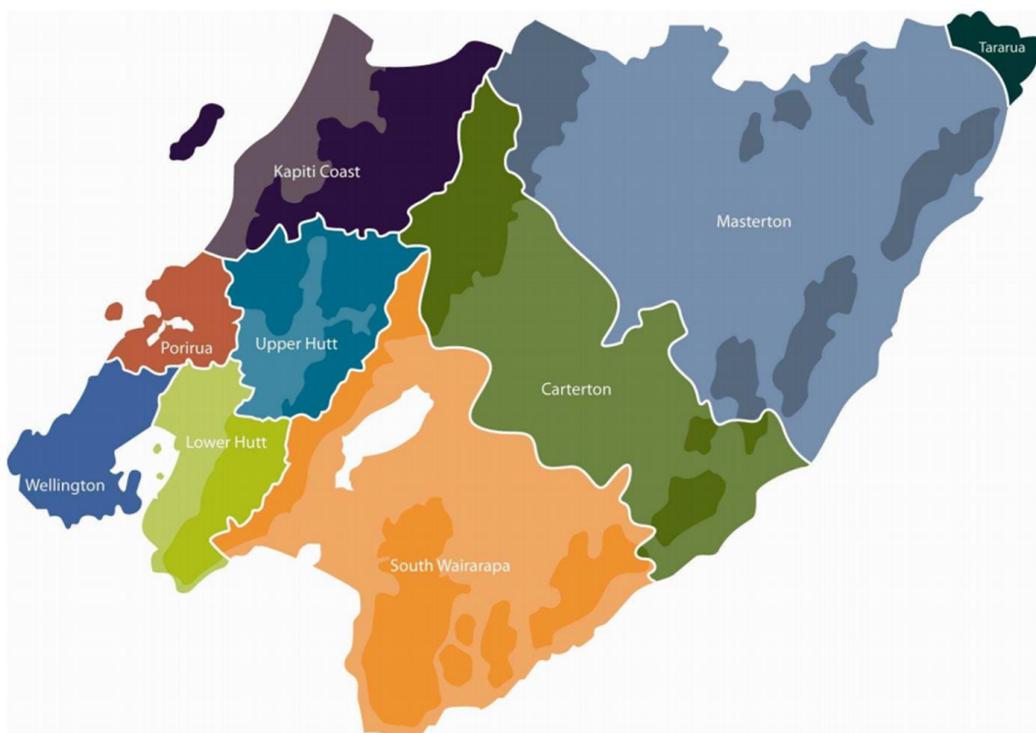
(Source:

For the Wellington region to improve and remain competitive within the New Zealand economy the Wellington Regional Strategy (WRS) promotes that the region needs to work smarter to ensure that the region's performance improves and the region is successful (WRS, 2012). The WRS aims to act as a "platform for collaborative action that will lift our region's economic performance" (WRS, 2013:1). However as discussed in section 6.3 collaboration remains a challenge with multiple delivery agencies and functions across the region.

## 2. SETTING THE CONTEXT - The Wellington region

Located at the southern tip of New Zealand's North Island, the Wellington region is the third largest population centre in the country, home to 492,000 people, or 11% of the nation's population.

The region spans 813,000 hectares (with 497 kilometres of coastline) and is governed by 8 territorial authorities (city and district councils) and one regional council.



**Figure 2.** Greater Wellington regional map showing territorial authority (city and district council) boundaries. Greater Wellington Regional Council's jurisdiction covers the entire area pictured. (Source: Hutt City Council 2011)

City and district councils are responsible for essential community services within their own areas, such as road maintenance, land-use and subdivisions, and community services (libraries, swimming pools and recreation areas). Regional councils manage resources and projects best approached at a regional scale. For example, because natural resources and transport infrastructure often cross city and district (local) boundaries, regional councils are charged with managing these (GWRC 2015).

## 2.1 Wellington Regional Strategy

Recognising the cross boundary and interdependent nature of economic activity, the nine councils in the Wellington region developed the Wellington Regional Strategy (WRS), an initiative designed to support, promote and facilitate sustainable economic growth throughout the region (WRS 2012).<sup>2</sup> The WRS is funded via a targeted economic development rate levied by the Greater Wellington Regional Council.

## 2.2 The Wellington Region's Economy and Key Industries

*Figure 1* above provides some comparative data and demonstrates a mixed picture for the Wellington region compared to New Zealand as a whole.

Whilst GDP per capita, skilled workforce and household income exceed national averages, growth over the last decade has been modest. international migration<sup>3</sup> and population growth represent aspects of the regional economy that are under-performing. These issues are revisited in the context of this report's main themes in section 6.

Wellington is ethnically diverse which can be a huge advantage to innovation and creativity in the region (Stokes, Twaddle & Nana, 2014). In terms of Wellington's key industries, the region host's the country's capital city and is home to the largest number of web and digital companies in the country (WRS, 2012). Wellington's strengths are in the film, digital and, information and communication technologies (ICT) sector; the arts and recreation services sector, government and professional services sector, the food and wine sector and the design and innovation led manufacturing sector. The region is recognised internationally for its leadership in screen and digital technologies and the entrepreneurs who have successfully established "inventive, high-value businesses excelling in global markets" such as Xero, Weta and Trademe (WRS, 2012:3).

Wellington has been coined a 'creative city' since the public sector reforms of the 1990s and the flourishing of the local film industry, mainly as a result of Peter Jackson and the *Lord of the Rings Trilogy* (Andersson, Andersson & Mellander, 2011).

Despite the Wellington region's small size, it has been labelled a "world cultural capital" due to its ability to attract the 'creative class' and further develop its creative industries (Florida, 2005:482; cited in Andersson, Andersson & Mellander, 2011). This compact, walkable city is a hub for research, science and the arts. It is home to a significant number of Crown Research Institutes, research oriented organisations and industry training organisations. There is 47% of the regional population in occupations that are knowledge intensive. The region also boasts four universities, three institutes of technology/polytechnics, and an innovative software and fashion industry (Andersson, Andersson & Mellander, 2011).

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<sup>2</sup> The Wellington Regional Strategy (WRS) was established in 2007 and refreshed in 2012.

<sup>3</sup> The Wellington region's 2013 International migration result was the 5th worst out of New Zealand's 16 regions.

### 3. METHODOLOGY

This report draws upon existing literature to define success and identify cities to use as case studies. Themes that encapsulate common success factors are derived from the literature reviewed, and used as a basis for comparing the Wellington region to the case study cities.

#### 3.1 Defining Success

It is difficult to define success, and what makes a city successful. For the purposes of this report a successful city is determined by factors including its sector growth, population growth, ability to attract and retain skills and labour, the involvement of universities and research capability, and the quality of life in the region. This draws on the work by Clark (2008) which analysed twenty five global indexes including the Mercer Quality of Living ranking and UN and OECD publications. This demonstrated some common approaches to looking at successful cities related to these defining success factors.

Cities for case studies were identified through-sources which included published texts and academic literature, and federal and local government websites and reports. Eight cities with sufficient comparability to Wellington were identified and are referenced throughout this report. These are pictured in figure 3 below.



**Figure 3.** International city regions considered comparable to the Wellington region.

A distinguishing feature of the Wellington region that was not considered in comparing international cities with Wellington was the level of exposure to natural hazards. The fact that the cities in the

international case studies used are not located in regions that face natural hazards as significant as Wellington's introduces a significant degree of uncertainty to the comparisons.<sup>4</sup> Compared to Wellington, many of the international cities (and their respective case studies) referenced in this report may have more funding available to them. This may be because they may not have to invest in infrastructure that is sufficient to withstand natural hazards, such as earthquakes.

Thus, there is more funding for other things within the city. Notably, it is evident that many of the cities discussed as case studies are also a part of countries (such as the UK, USA and Canada) with higher national GDP. This means that natural disasters may not have such a significant impact on the national economy as they would in New Zealand.

## 3.2 Theme Identification

Clark (2008) identified the key factors that make a city successful (figure 4). According to Clark these factors are what city leaders must be aware of if they want their region to continue to be successful.

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<sup>4</sup> The natural hazard context is broader than just the Wellington region, as New Zealand's narrow geography means 95% of the country's citizens live within 200 kilometres of the boundary between the Pacific and Australian tectonic plate (Andersson, Andersson & Mellander, 2011).

Communication	<ul style="list-style-type: none"> <li>• Communication with business is essential</li> <li>• Leadership is at the heart of cities making the most of the opportunities and challenges of a global knowledge driven economy, and how well cities provide a platform for business success.</li> <li>• This involves the leaders knowing and communicating what business the city is in</li> <li>• Being clear about the city's economic rationale and unique advantages is the first step. Agreeing to solve problems for the good of the people is the second.</li> </ul>
Organisation	<ul style="list-style-type: none"> <li>• Organising the real economy.</li> <li>• Because city economies are bigger than city boundaries metropolitan or city regional leadership and co-ordination is key.</li> <li>• City and national leaders must lead their regions and bring the key business assets of the regional economy together despite multiple authorities, There must be robust mechanisms for doing this.</li> </ul>
Leadership by Teams and Individuals	<ul style="list-style-type: none"> <li>• City economies are led by teams not just by individuals, leaders have to galvanise other leaders in business, institutions (such as universities), at higher levels of government, and at the regional level, around the competitive strategy and performance of the city in order to succeed.</li> </ul>
Active Influence	<ul style="list-style-type: none"> <li>• Cities have different direct competencies and powers. City leaders must both provide their own inputs well (services, investment, facilities) but they must also influence those provided by others (such as transport authorities, energy providers, and airports).</li> </ul>
Services to Business	<ul style="list-style-type: none"> <li>• Some city services are more important to firms than others, and firms are differently sensitive to local services. So planning, sanitation, education, transport, policing are important to firms in different sectors, and at different points in their life cycle.</li> </ul>
Investment	<ul style="list-style-type: none"> <li>• Attracting external investment is a key task for city leaders because public finance alone is not enough for city success, either in quantity or orientation. Business investment is needed in the productive platform of the city.</li> </ul>
Focus Areas	<ul style="list-style-type: none"> <li>• City centres, central business districts, airport zones, and major development areas are key focuses for business success. They must be led and managed well. They provide the productivity of place.</li> </ul>
Branding	<ul style="list-style-type: none"> <li>• Cities increasingly offer a brand platform which is a key part of the branding of firms located there. City leaders must lead the articulation and co-ordination of the brand and communicate with active commitment and enthusiasm.</li> </ul>
Openness	<ul style="list-style-type: none"> <li>• City leaders can play a key role in attracting the multi lingual populations that are the competitive advantage of diversity in serving firms in a global economy.</li> </ul>
Environmental Performance	<ul style="list-style-type: none"> <li>• Business investment is sensitive to the environmental performance of cities. Cities have to adjust to a low carbon economy and enable businesses to accrue the benefits in sustainable investment.</li> </ul>

**Figure 4.** Key factors of successful cities identified by Clark (2008).

The nature of the themes covered in this report were informed by combining Clark's (2008) work on key factors of city success with other research findings and literature. Table 1 below lists the themes and sub-themes/concepts used in this report.

**Table 1: Report Themes**

Theme	Sub-themes / concepts incorporated	Page
1 Digital Connectivity	relates to investment and focus areas	17-20
2 Soft Infrastructure	relates to openness, services to business; and also includes the topics of business friendly practices, collaboration, mechanisms for investment and sector specialisation	21-26
3 Leadership	relates to leadership by teams and individuals, communication, organisation and active influence	27-29
4 Skills and Labour Supply	relates to how a firm's location is related to skills, talent driven economic development and what influences a city's ability to attract skilled workers; discusses the role of the university in attracting and retaining talent; and provides an example of an entrepreneurial university.	30-34
5 Liveability	relates to branding and environmental performance; also touches briefly on the topic of community resiliency. Community resiliency is a huge topic in itself and therefore the section is contained.	35-37

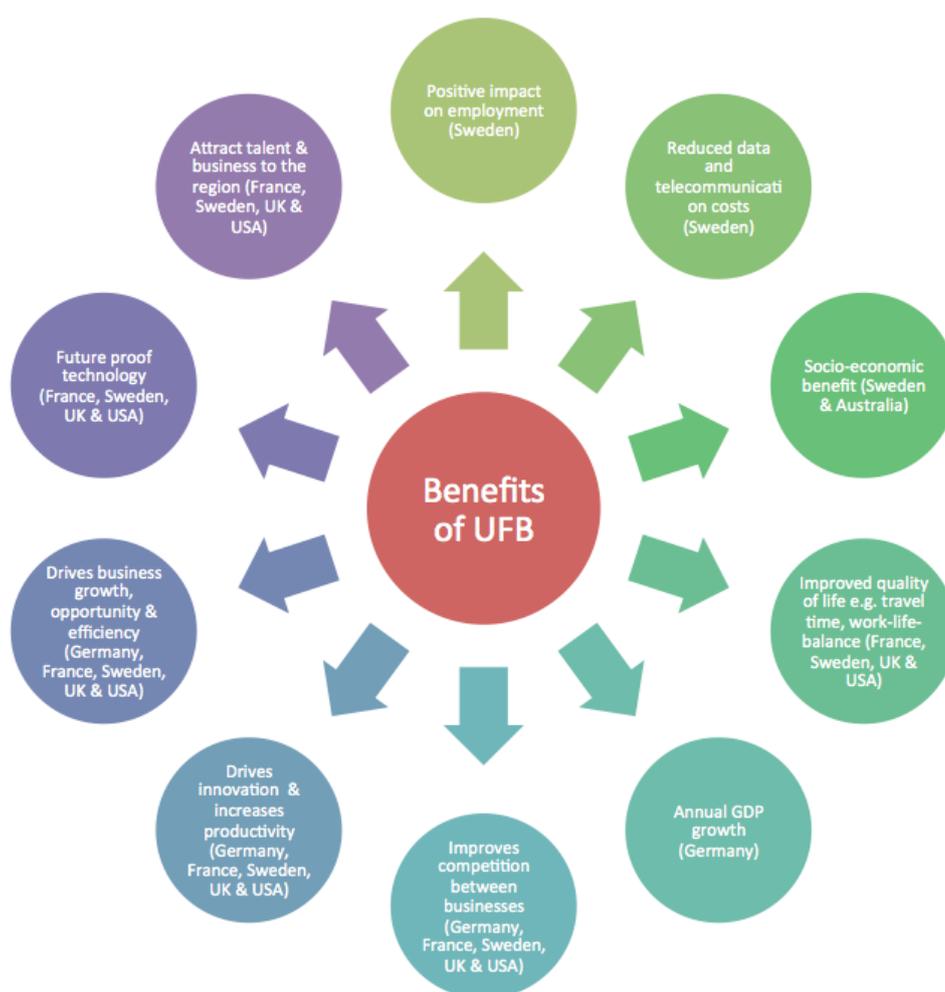
The themes of this report will be discussed first in relation to international examples and second in relation to Wellington examples. In order to compare international practice to what is happening in Wellington at the end of this report, common success factors in these report themes will be used to compare and contrast the similarities and differences between international and Wellington practices in delivering effective economic growth.

## 4. INTERNATIONAL CASE STUDIES

### 4.1 Theme One: Digital Connectivity

A significant influence on the level of economic development within a city is the nature of the decisions made in regards to infrastructure. Ultra Fast Broadband (UFB) was chosen as the focus of this report's digital connectivity theme due to international recognition of it's importance for enabling economic growth, the role local government can play in assisting implementation of fibre networks, and the significant level of effort and investment put into developing infrastructure of this type by both private and public organisations.

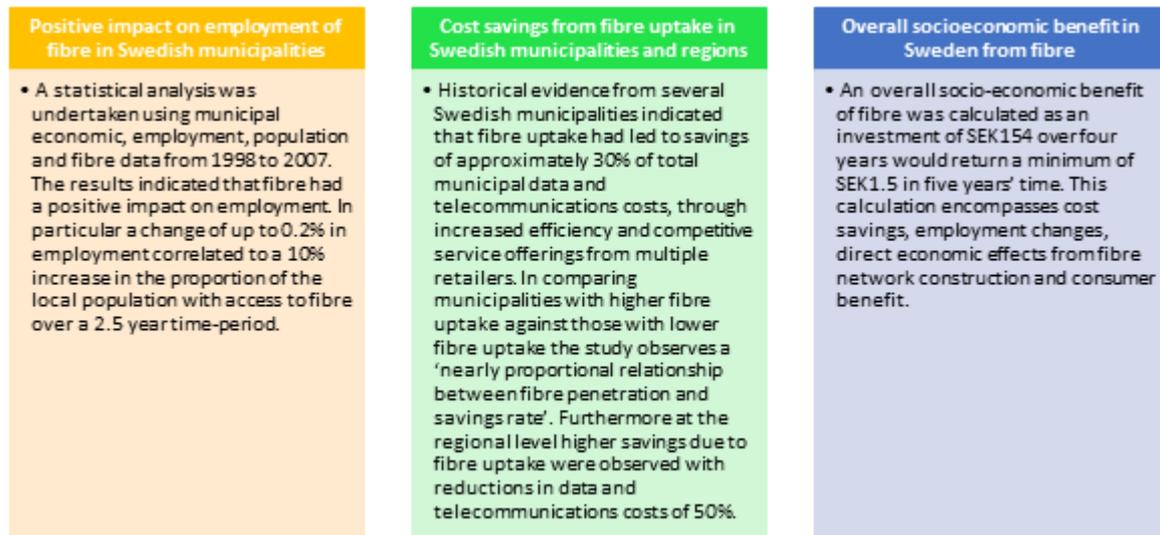
Figure 5, which illustrates the benefits found by International studies on the development and use of UFB.



**Figure 5.** The benefits of Ultra-Fast Broadband (UFB) found from international studies (Source: *Network Strategies, 2013*).

More specifically, in an attempt to “identify and quantify the economic impact of fibre” an analysis was done as part of a study in 2011 that looked at the data of Swedish municipalities that had well-

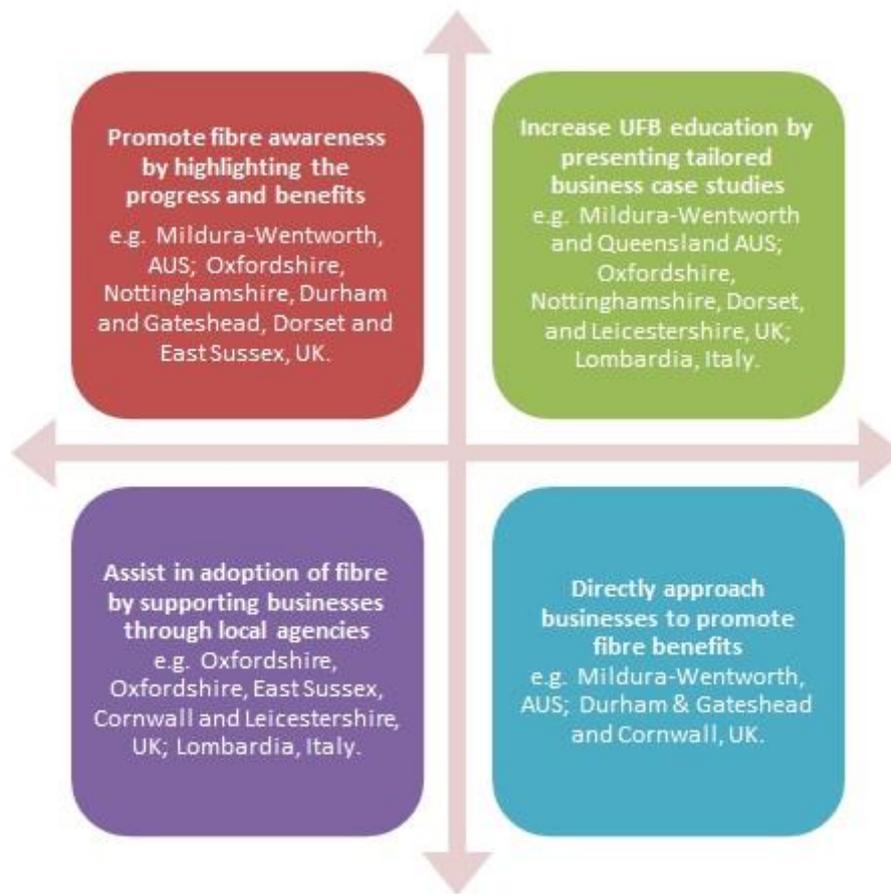
established fibre networks. The benefits of UFB highlighted in this study can be seen in figure 6. In the small Swedish city of Hudiksvall with a population of 15,000, a strong correlation was found between fibre installation and the increased number of new businesses in the city (Network Strategies, 2013).



**Figure 6.** The economic benefits of fibre in Swedish municipalities ('SEK' refers to Swedish Krona) (Source: Network Strategies).

International experience demonstrates UFB can act as an effective means of encouraging regional economic growth “through the promotion of innovation and improved competitiveness, enabling regions to attract and retain more businesses and investment”. It is apparent that “Fibre services drive the knowledge economy and the deployment of fibre networks creates jobs”. With technology playing a significant role in business development, growth and a means of increasing profits, it is evident that UFB is a viable means of helping to improve economic growth (Network Strategies, 2013).

It is evident from international examples that local government plays an influential role in the uptake of fibre and can help to ensure that the full benefits of fibre (see figure 5) are utilised (Network Strategies, 2013). Throughout Europe and the United States local governments have undertaken a wide range of initiatives over and above the initiatives of central government to promote and increase the use of fibre. These are illustrated in figure 7 (Network strategies, 2013).



**Figure 7.** Summary of international UFB local government initiatives (Source: Network Strategies, 2013).

The initiatives in figure 7 also demonstrate the type of effort going into the development of UFB by both private and public organisations internationally (Chorus, MBIE, 2015; Network Strategies, 2013). It is evident there is considerable collaboration between public and private organisations to encourage uptake (Network Strategies, 2013). Thus, internationally it is evident that there is advantage in local businesses and the local community assisting local government in the promotion and development of UFB in order for the full benefits to be utilised. In such cases local government can play an independent advisor role.

#### **4.1.1. Ultra-Fast Broadband: Establishing Cardiff as a ‘Digital City’**

The city of Cardiff is the capital city of Wales in the United Kingdom (UK). One of Cardiff Council’s ‘Improvement Objectives 2013/14’ and an aim of the Cardiff Council’s *Digital Cardiff* team was to establish Cardiff as a digital city by 2015 (Cardiff Council, 2013). This goal was supported by an initiative of the UK Government in 2012, to invest in ten cities around the UK to make them “super-connected” through the establishment of UFB (Cardiff Council, 2013:1). At the local level, the initiative was driven by the *Digital Cardiff* team (Cardiff Council, 2013).

The UK government and Cardiff Council take the view that “Digital technology is growing at an exponential rate and high-speed broadband is now considered an essential prerequisite for modern businesses, 21st century tourists and residents who are continually looking for better connectivity”

(Super Connected Cardiff, 2014:1). The investment in UFB is believed by the UK government and Council to make the Cardiff more economically competitive, stimulate more economic growth, attract and foster local business in the area, and improve local employment (Super Connected Cardiff, 2014).

#### **4.1.2. Concluding Comments on the Theme of Digital Connectivity**

UFB is internationally recognised for its importance in enabling economic growth. Local government is recognised as playing a key role in effective UFB uptake and there has been significant effort and collaboration between both private and public organisations to encourage uptake. It is evident from figure 5 and 6, and the example of Cardiff and Sweden that internationally the benefits of fibre technology and UFB are recognised as there are a lot of initiatives by national and local government (figure 7) to drive the uptake of fibre. Internationally there has been a drive from central governments to implement such capability, yet it is up to the local community and local government to ensure that the capability is fully utilised so the community can fully experience the economic benefits.

## 4.2 Theme Two: Soft Infrastructure

The theme of soft infrastructure will look at the role and development of institutions, namely those that are focused on investment in entrepreneurship and SMEs, and finish with analysing the development of science and technology parks (STPs). Each topic is discussed in term of business friendly practices and support services. The rationale behind choosing this topic area came from researching international practice in encouraging entrepreneurship and SME development. It was common for city regions that are similar to Wellington to have facilities in place to address these. It also became evident that increased investment in entrepreneurship and SME's was also a result of the development of STPs.

### 4.2.1 What it means to be Business Friendly

International research shows business concerns with government practices generally fall into the following categories:

- Unfair taxation or rating system
- Planning, zoning and consenting processes
- Business support services not visible or relevant for most
- Customer services and processes.

“Regulatory policy has already made a significant contribution to economic development and societal well-being. Economic growth and development have been promoted through regulatory policy’s contribution to structural reforms, liberalisation of product markets, international market openness, and a less-constricted business environment for innovation and entrepreneurship” (OECD, 2010).

It is worth noting that at an international level New Zealand consistently scores very high in “business friendly” measures. For example New Zealand has consistently been in the top three nations in the *Doing Business* global rankings from 2006.

A region is seen as business friendly when there are “explicit attempts by local government and their partners (including central government) to reduce the regulatory and non-regulatory barriers, costs, risks and uncertainties in all forms of commercial activity to stimulate and support local business growth, local business retention and the attraction of new business to the local area” (LGNZ, 2014:3).

Being business friendly is increasingly important for cities as they provide a focus for innovation and productivity through the density and diversity of their economic activity. They provide a space for face-to-face interaction which is critical for economic activity that is knowledge intensive (LGNZ, 2014). Cities attract high levels of economic activity, skilled labour, investment, and create opportunities to connect to the rest of the world (LGNZ, 2014).

This observation equally applies to the international case studies in this report.

#### **4.2.2 Growing Milton Keynes, South East Midlands, UK**

Milton Keynes has demonstrated that it is the fastest growing city in the UK and is well on its way to achieving its goal of being “the can-do city of the 21<sup>st</sup> Century” (Milton Keynes Council, 2011; Invest Milton Keynes, 2015a). Milton Keynes has effectively attracted inward investors and concentrations of large firms (Invest Milton Keynes, 2015e). From 1998-2008 the region increased the number of businesses in the region and five new companies located in the region each month, making it one of the UK’s more attractive areas for business and investment (Invest Milton Keynes, 2015e).

An objective of the Milton Keynes Economic Development Strategy aims to foster business growth. ‘Invest Milton Keynes’ provides a wide range of business friendly services and support for businesses in the region, ranging from business and start-up support and easy access to information about commercial premises, regional statistics, funding, and other business related information (Invest Milton Keynes, 2015b). The city itself has been designed to be business friendly and to encourage business growth (Invest Milton Keynes, 2015c). For example, the city lay out makes it easy for individuals to navigate around the city and the “free-flowing road system” helps to reduce commuting time, improving the morale and productivity of the local workforce and helps with business efficiency (Invest Milton Keynes, 2015c). Milton Keynes markets itself as a profitable location as the operating costs of doing business are low in the region due to the low average salaries and property costs (Invest Milton Keynes, 2015d).

#### **4.2.3 Entrepreneurship and Small-to-Medium Sized Businesses in Waterloo**

Waterloo, Ontario in Canada is a commonly referenced international example of the kind of soft infrastructure that has been developed to assist entrepreneurs and start-up organisations as part of a region's bid to encourage innovation, economic growth and attract talent to the region (CWED, 2015c). Waterloo has established a lively business culture for itself and through partnerships which are both innovative and strategic, the region is able to expand and support the regions variety of economic sectors (CWED, 2015c). The Accelerator Centre, Communitech and the Waterloo region Small Business Centre are examples of infrastructure developed in Waterloo to assist entrepreneurs and help companies succeed (Accelerator Centre, 2014; CWED, 2015c).

##### **The Accelerator Centre**

The Accelerator Centre helps entrepreneurs to build and expand their businesses. “We help entrepreneurs move from start-up to scale-up, accelerate time to market, attract customers, raise investment and drive more revenue” (Accelerator Centre, 2014:1). The primary focus of the Centre is to provide facilities that help technology start-ups to develop and commercialise their business (Accelerator Centre, 2014). It is funded by federal government, the City of Waterloo and the University of Waterloo, and is situated within a research and technology park.

##### **Communitech**

Communitech is a not-for-profit organisation that is a “hub for the commercialization of innovative technologies” and aims to “help tech companies start, grow and succeed” (Communitech, 2014:1).

Communitech works with companies of any size, at any stage along their development and growth process (Communitech, 2014). The Communitech vision is to “to improve Waterloo region’s competitiveness and visibility of a world-class tech cluster” (p.1). It operates to implement development in the region’s commercialisation and economy and further establish Canada as a global digital media leader through the Canadian Digital Media Network (CDMN) Communitech and to “bring more media solutions to market to create more companies, jobs and wealth in Canada” (Communitech, 2014:1).

#### **The Waterloo region Small Business Centre**

The Waterloo region Small Business Centre “encourages and contributes to the enterprising spirit and economic vitality of our community by assisting entrepreneurs with the development of new or existing businesses” (WRSBC, 2015:1). The Business Centre provides a wide range of services that assists those who are aiming to establish and grow a business in the region of Waterloo (WRSBC, 2015)

#### **4.2.4 Encouraging Growth in Austin, Texas, US**

The City of Austin, Texas aims to assist businesses of any size to grow and remain both nationally and internationally competitive through providing a range of incentives, and services and support programs (Economic Development Department, 2015). Austin leads growth nationally and has an internationally competitive advantage with an economy that is focused on creativity, and is a hub for business and SME development (Economic Development Department, 2015). Examples of Austin’s business incentives and support programs can be seen in Austin’s Technology Incubator, business friendly incentives and Small Business Program.

##### **Technology Incubator**

The University of Texas at Austin has established the Austin Technology Incubator to assist start-up companies in their bid funding from investors. The Incubator does so through the University’s “strong, long-term, trust-based relationships with investors – the local angel investors community, local and national venture capital firms, and sources of public funding” (ATI, 2014:1). The Incubator has been running for twenty-five years, with 85% of the 2012 graduating class gaining funding and are now raising over US\$230 million collectively (ATI, 2014). Each program is customised to suit the individual companies and their specific needs (ATI, 2014). The Incubator demonstrates how beneficial a strong relationship between academic and research institutions, and industry investors can be.

##### **Business Friendly Incentives**

Business incentives are mainly offered by the State of Texas which encourages incentive programs in a bid to ensure the state maintains its “business friendly reputation” (Austin Chamber, 2015a:1). Such incentives are provided through collaboration between local government and the economic development organisations. Projects that seek incentives are reviewed independent from each other to ensure the context of each case is thoroughly analysed (Austin Chamber, 2015a). There are incentives regarding tax credits and exemptions for companies who participate in research and development (Austin Chamber, 2015a).

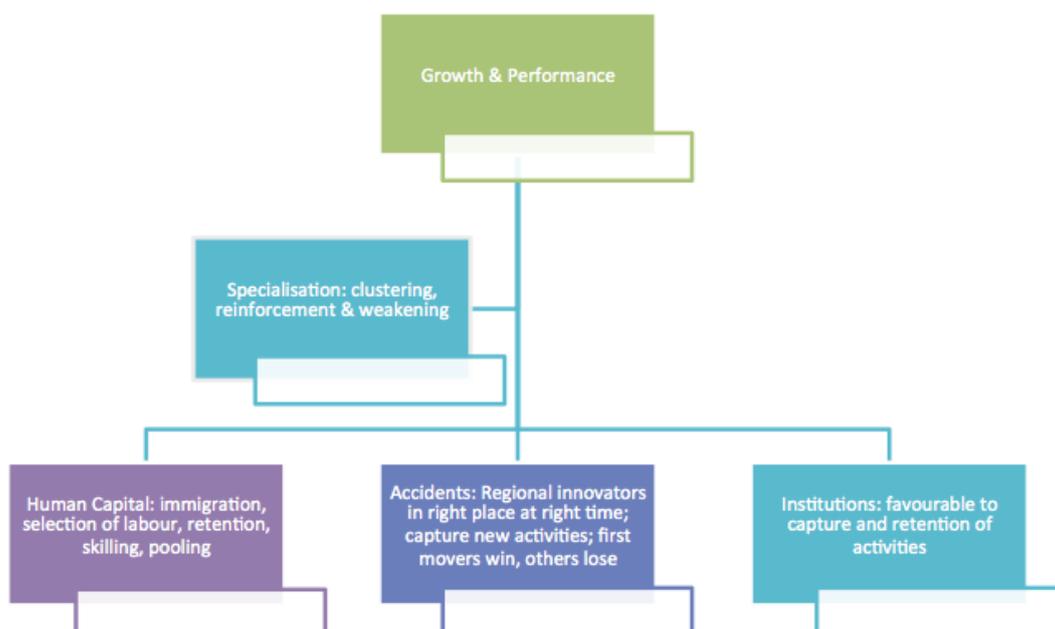
Other examples of incentives include the Skills Development Fund and Small Business Program. The Skill Development Fund assists by providing grants to educational institutions in the region to run custom-made training for jobs in local businesses (Austin Chamber, 2015b). Partnerships are formed between local businesses and unions, and educational institutions as businesses play a role in creating new jobs and developing the skills of their current workers (Austin Chamber, 2015b). The Skills for Small Business Program aims to assist small businesses (<100 employees) with their training needs including training new workers or upskilling their current workers (Austin Chamber, 2015b).

### The Small Business Program

The Small Business Program in Austin, Texas is part of the city’s Economic Development Department that aims to “develop and empower small businesses in order to strengthen their business capability and survivability” (City of Austin, 2015:1). The Program achieves this by encouraging the creation of jobs and providing assistance to help grow both new and current businesses, its primary focus is to provide “assistance and business solutions” to small businesses that are still developing by providing the Departments resources and connecting businesses with resources outside of the Department (City of Austin, 2015:1).

### 4.2.5 Soft Infrastructure and Sector Specialisation in Knowledge Intensive Industries

In the beginning of the twenty-first century, there has been significant debate regarding advanced economies and what conditions help to establish new economic activities (primarily creative and knowledge-intensive industries) within city regions (Dainov & Sauka, 2010). Evidently when a sector develops and sector specialisation occurs in a region it has a huge influence on the quality of jobs and growth in the sector is strongly related with the regions overall growth (Stroper, 2010). Stroper’s (2010) work demonstrates the cause of regional specialisation and its relationship to regional growth and performance.



**Figure 8.** The cause of regional specialisation according to research by Stroper (2010).

It was evident in research on sector specialisation and regional development that cities are investing in knowledge intensive industries (KIS) and many are creating STPs and actively establishing good relations and networks at a local level to drive collaboration and knowledge flows. The KIS sector is defined in New Zealand as a broad range of activities including “scientific research, architecture and engineering, information technology services, financial services, advertising, marketing, legal and accounting services” (MBIE, 2014). Industries that are deemed KIS are commonly used as a proxy for an economy's ability to encourage local innovation and economic growth through creating new knowledge and the economy's ability to take in new knowledge from international sources. The following examples demonstrate examples where cities have tried to establish local and/or global knowledge flows, and put effort into establishing effective collaboration between local and global industry, academic and research facilities and government.

### **Establishing Relations and Knowledge Flows in Austin (US), Calgary and London (CA)**

It is evident that it is beneficial for knowledge flows to establish good relations and networks at both the international and local level. For instance, Austin, Texas and Calgary, Canada both simultaneously concentrate and disperse their economic activity which means they benefit from and have access to to both local and international knowledge flows (Wolfe, 2014). In Austin this is made possible by Austin's large cluster of technology-intensive activity (Wolfe, 2014).

Simply putting effort into establishing international networks and relations, and placing little emphasis on developing these at the local level may have negative implications for knowledge flows and collaboration between businesses and academic and research facilities in a region. In London, Ontario many innovative businesses tend to have a strong focus on connecting with external international businesses. This has resulted in innovative firms in the region being disconnected to their local relations and networks as they are more focused on global relations and networks (Wolfe, 2014). Although having global connections and networks is desirable, the local economy may face challenges due to this global focus as it has meant that many innovative firms in London placing little emphasis on developing good relations with other firms in the region, local universities and colleges and research laboratories (Wolfe, 2014). This example demonstrates how organisations global focus can be a barrier to establishing collaboration between local industry, academic and research institutions, and establishing local knowledge flows.

### **Transformation of the Knowledge Intensive Industries in Helsinki, and Toulouse**

After an economic crisis in the 1990's, the City Board of Helsinki, Finland implemented a strategy that focused on science, education and innovation to help grow and future proof the local economy (Martin-Brelot & Kepsu, 2010). The ICT sector has become the main driver of economic growth since the crisis (Martin-Brelot & Kepsu, 2010).

Like Helsinki, Toulouse in France managed to convert their economy to specialise in the high-tech sector in a short timeframe and strengthen relations between businesses and academic research institutions (Martin-Brelot & Kepsu, 2010). Toulouse's competitiveness was improved due to the effort of both national and local government (Martin-Brelot & Kepsu, 2010). As part of the local government's strategic plan in Toulouse, there is also a strong emphasis on increasing cognitive

abilities within the region in order to increase the circulation of knowledge (Martin-Brelot & Kepsu, 2010). The knowledge based economy in Toulouse is one of the main attractions for businesses and workers, as well as the local governments focus on the 'soft' factors which improve the liveability of the region (Martin-Brelot & Kepsu, 2010). Like Wellington, Toulouse is an area that specialises in research and has a high proportion of highly educated individuals (Martin-Brelot & Kepsu, 2010).

#### **The Research Triangle Regional Partnership, North Carolina, US**

The importance of having a strong partnership between industry, the university and local government is evident in the literature. An example of a strong partnership can be seen in The Research Triangle Regional Partnership (RTRP) in the Research Triangle region of North Carolina, USA (Research Triangle region, 2014). The RTRP is a "business-driven, public-private partnership dedicated to keeping the Research Triangle region economically competitive through business, government and educational collaboration" (Research Triangle region, 2014:1).

The partnership is administered by the sixteen city's economic development agencies who work alongside the Department of Commerce and other stakeholders to ensure that the Research Triangle region is effectively attracting investment and that the region's economy remains competitive by ensuring that any actions taken are strategically aligned (Research Triangle region, 2014).

The education and business sector interact in an area called the Research Triangle Park that was established in 1959 by private investors within the Research Triangle region. It has come to be known as one of the largest research parks in the world with approximately 170 organisations and 45,000 workers (Sakowski et al., 2010). The Park was formed due to its connection and geographical location between the region's three main universities (North Carolina State University, Duke University, and University of North Carolina at Chapel) (Sakowski, Harwood, Kirk, Sparrow & Waters, 2010). The primary use of the Park is for organisations in the research and development sector to draw on the resources at the universities to conduct research (Sakowski et al., 2010).

#### **4.2.5. Concluding Comments on the Theme of Soft Infrastructure**

It is evident from the examples above that encouraging movement of knowledge and investment between government, universities and industry at both the global and local level can help establish mechanisms for encouraging entrepreneurship, knowledge flows, innovation, and support for businesses. The success of the approach used by the international examples in this report suggest that partnerships, good networking relationships and the establishment of specialised facilities to assist and endorse such activity (such as establishing an STP) can result in a greater and more efficient use of resources. These soft infrastructure partnerships have positive impact upon the economic success of the city and help to secure further growth in cities.

The involvement of the university and research sector as part of a city's business support environment appears to be a critical element to growing a city's economy.

### 4.3 Theme Three: Leadership

Local authorities exercise democratic management over public services and play a role in managing societal issues surrounding economic and social changes. Leadership within a local authority can be found in an individual, a small group of individuals or a whole political party (Hambleton, 1998). It is commonly accepted that leadership is considered a key component of what drives economic growth, development and change within a region (Stough, 2010). According to Clark (2008:166) "City leadership is the heart of city success" and according to Stough (2010) leadership is a key creative component in the process of regional economic development. Stimson et al. (2009; cited Stough, 2010) argues that leadership, institutions and entrepreneurship are the most important factors that influence the success of a region's economy and its ability to frequently alter its mix of resources to meet the external resource constraints and market conditions and to ultimately remain competitive.

Hambleton (1998) emphasises that it is useful when seeking a new perspective on local authority management to compare local authorities, both nationally and internationally. However, when comparing local authorities and their practices it is crucial that the differences in the legal, political and cultural contexts are recognised and acknowledged (Hambleton, 1998).

#### 4.3.1 Hambleton's Research on Successful Leadership by Local Authorities

Hambleton's (1998) analysis in to *Strengthening Political Leadership in UK Local Government* draws upon international examples in order to highlight the present debates regarding the leadership of local authorities. In Hambleton's (1998) research, five aspects were discussed as effective indicators of good regional leadership.



Figure 9. Indicators that an area has good leadership according to Hambleton (1998).

#### 4.3.2 The University of Waterloo as a Community Leader

The University of Waterloo (UW), Ontario in Canada plays a significant leadership role in the Waterloo community and is seen as Canada's most innovative university (CWED, 2015b). UW has also

been a leader with its forward thinking approach (UW, 2014a). The University's community leadership can be seen by the university's establishment of the first 'Co-Operative Education Program' in the world (UW, 2014a). The Co-Operative Program has approximately 18,300 students and 140 programs that run over three trimesters (UW, 2014a). This program has been extremely successful and has multiple benefits for the community (UW, 2014ab). It is now the largest co-operative program for post-secondary students (UW, 2014ab). Its associated incubator programs have resulted in 22% of all Canadian spin-off IT firms (UW, 2014ab).

UW has been a leader in encouraging innovation, investment and commercialisation. As a result of UW's intellectual property policy, which states that intellectual property developed at UW is entirely owned by the student(s) or faculty that develops it (CWED, 2015a). This has meant that the Waterloo community has been able to adopt a "leading model for an innovative community with a culture founded on a cycle of investment" (CWED, 2015a:1). The property policy is a founding characteristic of UW's entrepreneurial approach, and has led business innovation and success at the global level, reinvestment in the community and commercialisation throughout the region (CWED, 2015a).

The University is also a leader in creating partnerships in research. In 2012, UW opened a research centre called Mike and Ophelia Lazanidis Quantum-Nang Centre (CWED, 2015a). The partnership between UW, the Institute of Quantum Computing (IQC) and the Waterloo Institute of Nanotechnology (WIN) has meant that the Centre can effectively provide researchers with the facilities they need to make new discoveries in quantum information science (CWED, 2015a). The output from the Centre is hugely beneficial for the region and the facilities and partnerships aim to attract international interest in quantum information science (CWED, 2015a).

Overall, UW has taken the lead with selling a vision and then making it happen with their development of the Co-Operative Education Program and the quantum information science centre.

#### **4.3.3. Regional Leadership Resulting in Economic Development in Austin, Texas, US**

Austin is the state capital of Texas, USA. In the 1960's Austin was a small town with minimal activity and labour force that primarily focused on the state government and the University of Texas (Stough, 2010). In the twenty-first century, Austin is a modern, technology centred economy with a population of over one million people (Miller, 1999; cited Stough, 2010). Austin has a strong ICT sector that hires the largest number of workers in the region. The local economy is based on "software development, semiconductor R&D, computer system integration, software consulting, data processing and internet-related services as well as an emerging focus on biotechnology" (Stough, 2010:615).

Austin was able to transform itself into the thriving city it is today by stimulating economic growth through strategic policy decisions that drove a vigorous pursuit to develop a new core industry for the economy to specialise in (Stough, 2010). This pursuit towards high-technology (high-tech) was the result of "a vision, a plan, a combination of business, academic and government leadership and partnership to enact such a plan" (p.615). It involved multiple actors who would work in collaboration to achieve a shared goal (Stough, 2010). The transformation was also attributed to Austin's universities also played a pivotal role in training workers, undertaking research and shifting

technology into the market (Stough, 2010). The development was also made possible by the regions endowment of capital, high quality of life and pleasant business environment (Stough, 2010).

#### **4.3.4 Concluding Comments on the Theme of Leadership**

Leadership can come in many forms. It is evident that a main driver of a region's economic development and growth is effective leadership.

The regional leadership in Austin demonstrates how a strategic focus, collaboration between the multiple parties and a shared goal for the economic development between the parties is effective in bringing about sustainable economic growth for the region. Leadership in regional economic development can come from any of a number of parties, however all exhibit a high degree of collaboration. This is demonstrated in Waterloo where the UW has developed a co-operative programme and have taken a lead in connecting students with industry. UW has also been a leader in attracting and driving innovation and investment in the region and driving business successes at both the international and local level. Hambleton's (1998) work on indicators of region good leadership is a useful tool when evaluating the leadership in a region. However, it should be noted that Hambleton cautions to be wary of differing contexts when comparing the leadership of different regions, especially between local authorities.

## 4.4 Theme Four: Skills and Labour Supply

Investment in skills and labour supply is crucial in order for individuals to sustain a good standard of living and for both a national and regional economy to progress and grow (OECD, 2012). Not only do skills and labour supply help countries and regions to remain internationally and nationally competitive and grow their economies, but the level of skills in an economy can also have implications for the lives of individuals and the state of the nation's well-being (OECD, 2012).

### 4.4.1 The Location of Firms and Attracting Talent

Attracting talent, especially highly skilled talent is not simple and the question asked by economic geographers is “do people follow jobs or do jobs follow people?” (Grant, 2014:6). There have been numerous attempts to theorise what attributes of a place influence its ability to attract talent and therefore what influences the dispersal of human capital geographically (Grant, 2014). Location theories suggest that ‘hard’ conditions play a significant role in influencing where firms establish themselves, and where economic growth is encouraged (Musterd & Murie, 2010). Such conditions include availability to skilled labour and capital, and accessibility to advanced infrastructure (Musterd & Murie, 2010).

There is considerable evidence (Florida, 2002b; Berry & Glaeser, 2005; cited Grant, 2014) to suggest that the economic growth of a region is positively influenced by a highly skilled and educated workforce, and therefore there is a correlation between inhabitant’s education and a region’s development. Subsequently, this correlation is further reinforced by the fact that firms will readily relocate to an area with a high concentration of human capital (Grant, 2014). The following figure 10 illustrates the four theories identified as part of a study by Grant (2014) that interviewed employees in fifteen Canadian cities and seeks to explain talent driven economic development.

When looking at Grant’s (2014) work it is evident that attracting and retaining workers is complex. Figure 10 shows that there are multiple variables that are not easily controlled when trying to effectively attract and retain skills and labour in an area. Clark (2008) states that due to the shift towards knowledge-based economies there has been a switch and workers are no longer following jobs and firms, jobs and firms are following the workers. Thus, firms will locate where workers want to live.



**Figure 10.** The four main theories of talent driven economic development from Grant’s (2014) ‘Seeking Talent for Creative Cities’.

As a result of the changing dynamics between firms and workers, the “quality of life and place, the ambience, and facilities of cities will become a critical competitive tool in attracting knowledge workers, who are themselves the magnets for external corporate investment and local expansion” (Clark, 2008:164-165). Clark (2008) states that this is why financial cities such as London and New York are seeking a clean, green image and why developing world cities, such as Helsinki and Seattle are trying to improve the city's liveability, and expand the opportunities for a better quality of life in the city. This topic relates to the theme of leadership discussed in this report as for city leaders to be successful at attracting organisations they need to be in touch with the needs of firms and local sectors so they can effectively support them with services and infrastructure, and assist firms with any local operating problems they may have (Clark, 2008).

#### **4.4.2 Universities can significantly influence a region’s Skills and Labour Supply**

In terms of attracting and retaining talent, there is considerable literature that focuses on the influential role that universities play in inspiring innovation and attracting and retaining talent in a region. Universities are viewed as key to regional economic development as firms who are in close

geographical proximity to universities gain the benefits of knowledge transfer (Grant, 2014). This is because the process of knowledge transfer tends to be extremely localised (Grant, 2014). David (1997; cited Bramwell & Wolfe, 2008:1175) supports this idea and argues that universities are not simply “knowledge factories” for the economy, but act as a means of transferring knowledge.

According to Grant (2014) there are four roles that universities play in attracting and retaining talent. These roles are demonstrated by the first section of the following table 6 and were a result of a study by Grant (2014) that analysed the role of universities within Canadian cities. Research by Bramwell & Wolfe (2008) has also highlighted four roles that universities play in the process of knowledge transfer. These are illustrated in the second half of table 6.

Role of the University in Attracting and Retaining Talent	- The role of universities to collaborate with local firms to ensure that there are lively local industries that attract local graduates and those from outside the region.
	<ul style="list-style-type: none"> <li>- Generate talent for the local labour market.</li> <li>- Key source of talent for local firms to recruit.</li> </ul> <p>E.g. The University of Waterloo and Wilfrid Laurier University in the Waterloo region are a significant source of talent for local firms. The link between the University of Waterloo and firms is strengthened by the cooperative education programs.</p>
	<ul style="list-style-type: none"> <li>- Source of new talent.</li> <li>- Attract young talent for study and employs skilled and academic experts.</li> </ul> <p>E.g. Halifax &amp; Kitchener-Waterloo universities play a significant role in attracting talent at both the national and international level.</p>
	<ul style="list-style-type: none"> <li>- "Create vibrant and tolerant communities" (p.20).</li> <li>- These lively, cultural local communities attracts graduates to remain in the city.</li> </ul> <p>E.g. Kitchener-Waterloo, there is a lively local market that has been influenced by the flow of international students to the city.</p>
Role of the University in Knowledge Transfer	Attract and produce talent that adds to the stock of knowledge in the local economy and makes the labour market thicker
	Along side research, they support sustained firm-based R&D by offering technical support, and expertise and facilitates in specialised areas
	Channel for firms to tap in to global knowledge through networks of international academic research
	"... function as 'good community players' that support firm formation and growth by facilitating tacit knowledge exchange among networks of innovative firms and acting as 'anchors of creativity' that sustain the virtuous cycle of talent attraction and retention" (p.1176)

**Table 2.** Illustrates Grant’s (2014) research on the roles of universities in attracting and retaining talent in Canadian cities and Bramwell & Wolfe’s (2008) research on the roles of universities in the process of knowledge transfer (Bramwell & Wolfe, 2008).

There is significant research looking at the potential benefits that a university can provide to its local and regional economy (Bramwell & Wolfe, 2008). For instance, a partnership has been established between Cambridge University and the Massachusetts Institute of Technology (MIT) to form the

Cambridge-MIT Institute (CMI). This brings together government and industry funding to develop tools that can be used to encourage the interchange of knowledge between universities and industry in a bid to advance production, competition and entrepreneurship in local economies (Bramwell & Wolfe, 2008). Another example is the University of Twente in the Netherlands, which was successful at establishing an entrepreneurial spirit that positively influenced the local economy (Bramwell & Wolfe, 2008).

In response to policy directions in the 1990s, Sweden has experimented with different modes of university–industry linkages, and Chalmers University of Technology was transformed into an “entrepreneurial” university in an attempt to help improve the performance of the local economy. However, “in this case, an emphasis on commercialization without the appropriate macro-institutional supports and micro-institutional, or university level, flexibility, has made the experience comparatively problematic and lackluster”, substantiating the assertion that the presence of a strong research university in itself is no guarantee of regional economic growth

#### **4.4.3 The Entrepreneurial Research University of Waterloo, Ontario, CA**

The UW stands as a good example of how a university can contribute to the growth and development of the regional economy (Bramwell & Wolfe, 2008). The Waterloo region is one of the most significant hubs for high-tech in Canada (Bramwell & Wolfe, 2008). The region is known for being an active and strong source for activity in the high-tech sector, with 468 organisations who produce or facilitate high-tech activity (Bramwell & Wolfe, 2008). The region has been able to brave economic downturns due to the economy being varied and distributed across the manufacturing, service and high-tech sectors (Bramwell & Wolfe, 2008).

The UW is labelled an ‘entrepreneurial research university’ that is proactive in helping to further local economic development (Tonatzky et al., 2002; cited Bramwell & Wolfe, 2008). UW plays a significant role in supporting entrepreneurial activity and is seen as the main institutional hub for the region’s cluster of high-tech organisations (Bramwell & Wolfe, 2008). The involvement of UW in the high-tech industry has resulted in high-tech startups emerging from UW and has spurred firms to migrate to the region (Bramwell & Wolfe, 2008). The strength of the link between UW and industry in the Waterloo region is reflected in the number of high-tech organisations that are by-products of this link, the large amount of investment from both public and private sources that UW attracts, and the UW’s licensing and patenting policies (Bramwell & Wolfe, 2008).

UW also has a significant influence on the local economy as it is a source for knowledge transfer within the region (Bramwell & Wolfe, 2008). Its role in knowledge transfer helps to maintain and connect the region with knowledge networks and flows at both the local and international level (Bramwell & Wolfe, 2008). One of the UW’s main successes has been its Co-Operative Education Program (Co-op program), which has meant that tacit knowledge is transferred between students and ICT firms, within and outside the Waterloo region (Bramwell & Wolfe, 2008). The Program, which is one of the internationally the biggest and most prosperous co-op programs, is part of the curriculum for students at UW (Bramwell & Wolfe, 2008). As part of the program students undertake a term of work within an industry that helps prepare them to enter the workforce (Bramwell & Wolfe, 2008).

The success of UW and the way it has established itself is the result of decisions that were strategic and innovative in order to establish the skill, talent and large volume of research that is associated with the UW's role as a facilitator for the high-tech economy in the region (Bramwell & Wolfe, 2008).

#### **4.4.4 Concluding Comments on the Theme of Skills and Labour Supply**

The role of the university in attracting and retaining skills and labour to a region is significant, especially as academic institutions have an influential role in the transfer of knowledge through networks and flows, which is increasingly important in the knowledge economy.

The UW demonstrates how a university can encourage business, entrepreneurial and high-tech start-up activity. It also demonstrates that a university can be beneficial for the local economy through its role in the process of knowledge transfer and its role in facilitating and linking both local and international knowledge flows and networks. It is apparent that one of the main strengths that attracts businesses, students and workers to the Waterloo region is the products of the strong link between UW and the local industry. UW has been the birthplace of many of the high-tech companies in the region and has a well-established co-operative program with local firms that not only encourages knowledge transfer, but acts as an effective tool to retain talent from UW in the local economy.

It is evident that the concept of place and the quality of the place does have an impact on whether talent is attracted to the area. By establishing partnerships between local industry and universities, it is evident that with their combined ability to attract firms and talent, while also encouraging flows and networks of knowledge, universities can have positive implications on the quality of the place and can be a tool to help shape the region's image to further attract and retain talent in the region.

## 4.5 Theme Five: Liveability

The movement of talented, highly educated and creative workers is not simply based on whether or not the right type of job is available. Workers movement is considerably influenced by factors relating to the quality of a place (Grant, 2014).

Examples of research into quality of place, liveability and 'soft' conditions can be seen in Grant (2014) and Musterd & Murie's (2010) research. Grant's (2014) research shows the "social characteristics, dynamics and relationship within the wider-region are important determinants of economic performance" (p.xi). Musterd & Murie (2010) look at 'soft' conditions encouraging economic growth and identified the primary conditions that help establish economic development in urban areas. Musterd & Murie's (2010) focus on creating conditions that are attractive to workers (such as quality of life, the environment, the housing market and the quality of the urban atmosphere) as being the key to driving economic development in a region (Musterd & Murie, 2010). These conditions also include the "levels of tolerance, openness and diversity" in the region (Musterd & Murie, 2010:8).

### 4.5.1 The Small City of London, Ontario, CA Attracting through Aspects of Liveability

As part of Grant's (2013:15) study, employees in Canadian cities highlighted that "liveability attributes shape their settlement and career location preferences". London, Ontario, CA is a city with a similar population size to Wellington, that faces the problem of being small and unable to provide many of the attractions of big city living. Since it cannot provide big city living, London aims to attract workers with families through advertising the cities high quality of life, and features that contribute to its quality lifestyle (Grant, 2013). London attracts workers due to its "affordability, short commute times, good public schools, and sense of personal safety" (p.15) and its family friendly image (Grant, 2013). The city's ability to use its liveability strengths to attract workers demonstrates how effective the technique of focusing of factors of liveability can be in attracting skills and labour to a city, despite the small size of the city. This shows relevance to the areas surrounding Wellington City, who provide the workforce and housing for the economic hub in Wellington City.

### 4.5.2 Strong Regional Culture and Business Practices in Saskatoon, Calgary & London, CA

From Grant's (2013) study, workers and organisations pointed out that a region with a strong city culture can be influential and mould business practices. The culture of Saskatoon, Saskatchewan, CA is similar to Wellington in the sense that it operates on a significant number of informal connections (Grant, 2013). In Saskatoon it was found that encouraging informal connections fosters knowledge sharing (Grant, 2013).

Similarly, an entrepreneurial spirit has established itself in businesses in Calgary, Alberta, CA due to the city's trusting, open culture, and 'can do' attitude (Grant, 2013). These ideas relate to the economic development theory on the importance of personal network. The networks that form between employees, employers and entrepreneurs significantly influence the location of businesses and where they opt to expand to (Musterd & Murie, 2010).

In London, Ontario, CA public art is used to promote the city's culture and the creative city environment (City of London, 2013). The public art has benefits for local business because it promotes creativity and develops a unique identity for the city (City of London, 2013). This unique identity and the preservation of the city's culture can lead to visitors and individuals considering to settle in the city due to their positive cultural experiences (City of London, 2013). Therefore, public art can be effective in attracting skills, residents, tourists and investment to the city (City of London, 2013).

Public art has been used in numerous cities around the world as a way of creating a unique identity for a city and making the city an attractive place to visit and live (City of London, 2009). Subsequently, these cities have found that investing in public art has positive implications for the local economy (City of London, 2009). These cities include London in Ontario, Portland in Oregon, San Francisco in California, Calgary in Alberta and Vancouver in British Columbia (City of London, 2009). Investment in public art is also evident in the Wellington region with Wellington City Council and the Hutt City Council have initiatives regarding public and community arts (Hutt City Council, 2014; Wellington City Council, 2015).

#### **4.5.3 Portland, Oregon as a Walkable City**

The concept of 'walkability' is defined by the '...the extent to which the built environment is walking friendly' (Abley & Turner, 2005:11 ). The theory of walkability states that in order for one to favour walking over other modes of transport it must be useful (e.g. able to get to and between locations with ease), safe, comfortable (e.g. wide open spaces) and interesting (Speck, 2012).

According to Speck (2012) a means of attracting and retaining business and talented workers the region needs to provide the sort of environment that individuals want. Speck (2012) states that creative-class citizens are attracted by walkability as to creates a pedestrian culture that makes the city streets thrive with activity. Walkability can not only help to reduce commuting time which has proven to have a negative impact on life satisfaction, but it also encourages face-to-face interaction which can be beneficial for business relations, networks and knowledge transfer within the city (Speck, 2012).

The idea of a 'walkable city' relates to Wellington's city centre. Like Wellington, the city of Portland, Oregon, CA is classed as a walkable city. Such cities allow for individuals to easily network and meet people face-to-face, and can result in individuals having more time and money for recreational activities (Speck, 2012). The close proximity and ease of accessibility in such cities can also result in the city becoming more energy efficient (Speck, 2012). Some other possible benefits of being a walkable city can be seen in Portland. Portland has been able to reduce travel time and congestion on the city's roads (Speck, 2012). Since residents have on average been travelling four miles per day the region has saved approximately USD\$1.1billion each year since 2007 (Speck, 2012). A reduction of nine minutes of peak travel time to 43 minutes per day resulted in the region saving another USD\$1.5billion (Speck, 2012).

#### **4.5.4 Concluding Comments on the Theme of Liveability**

The perception of whether a city is liveable has a significant influence on who and whether it attracts and retains a healthy population that contributes positively to economic growth. As noted by Grant's (2013) study individual's decisions associated with settlement and the location to pursue their career are shaped by aspects of liveability.

Public art is used around the world as a means of establishing an attractive brand for the city. Public art makes the city aesthetically pleasing, but also brings the city to life with creativity and thus attracts people out into the area.

Walkability enhances the connection between people in the city which has positive implications for the brand of the city. A walkable city brings people into the streets and thus makes the city more lively. It is also beneficial to business connections within the city, as individuals can easily interact face-to-face and thus make connections and transfer knowledge. Both examples of public art and walkability contribute to well-being and life satisfaction of the local population.

It is evident that a city's brand, city life and culture, along with the perceived well-being and life satisfaction of residents can help to increase the resident population, attract talent, businesses and investment to encourage economic growth.

## 5. SUMMARY of SUCCESS FACTORS

There are many factors that contribute to a city's growth, and the case studies presented above distilled some common ones. These provide a basis to test how Wellington compares and to what degree such success factors can promote further regional economic growth. In report theme areas such as connectivity and liveability, Wellington consistently ranks highly in national and international benchmarks like *Mercer*. In other areas the region will be lagging in regards to some success factors.

The common success areas arising from Section 4 case studies are summarised as:

- a) driving UFB uptake and the adoption of digital technologies.
- b) having mechanisms that promote the movement of knowledge and investment between government, research institutions (including universities) and business. The integration on research capability, business support services, access to finance and local skills development is apparent.
- c) the presence of effective leadership and collaboration between institutional parties. Leadership can come from local government, the university or private sector although all three are required in a collaborative model.
- d) the ability to attract and retain the necessary skills through strategic partnerships. The focus in the case studies is a link between the city's skills demands and aligning these with the university programme.
- e) the liveability of a city as defined by factors such as ease of movement, arts and culture, and the natural environment. Research shows the increasing importance of where talent wants to live and liveability factors.

## 6. COMPARING WELLINGTON WITH INTERNATIONAL SUCCESS FACTORS

To help inform action to improve the current position of the Wellington economy, this section will now outline what has and is occurring in Wellington in relation to the themes of this report and the common success factors above. This exercise then leads to making some observations on areas of strengths for Wellington as opposed to success factors that may be less evident for driving future economic and population growth.

### 6.1 Theme One: Digital Connectivity

#### 6.1.1 Increasing the Uptake of Ultra-Fast Broadband in the Wellington region

In 1995, as part of the Info City strategy the Wellington City Council (WCC) established 'CityLink' to install one of the world's first fibre optic broadband networks into Wellington. This development has huge benefits for the local economy and business (Network Strategies, 2013).

In New Zealand the development of such telecommunications infrastructure is usually a result of collaboration between national government, local government and the private sector. Currently in the Wellington region retail service providers compete in an open access model to provide fibre to the market. To boost UFB, central government has implemented a government funded UFB initiative that aims to connect homes and businesses throughout New Zealand (Network Strategies, 2013).

Although there has been increased focus in the Wellington region on UFB due to this initiative, there have only been a small portion of consumers and firms in the region that have adopted UFB. For the region to benefit fully from the wide range of benefits of UFB there needs to be collective action by the regional community and local government to encourage the UFB uptake (Network Strategies, 2013). International evidence suggests that local government can be extremely effective in increasing the uptake of UFB and overcoming the obstacles that can lead to issues with UFB. Barriers to uptake have been identified as access to good information in regards to advantages of uptake, resistance to change, affordability and installation difficulties (Network Strategies, 2013).

New Zealand is ranked 7<sup>th</sup> in the world for Internet use by the World Wide Web Foundation, yet it is ranked 17<sup>th</sup> in terms of its ability to gain economic benefits from using the internet (Blick, Davies, Glass, & Hefter, 2014). Wellington and Auckland have the highest rate of household broadband uptake, yet Wellington is behind in regards to business presence on the web and has very few businesses utilising cloud services (Chorus, 2012). It is evident that this needs to change as evidence found in a study by Network Strategies (2013) noted that investment in UFB would provide a range of productivity and profitability benefits. This is especially for the ICT sector (Network Strategies, 2013) which is a large, growing sector in the Wellington region (MBIE, 2014). Many of these benefits are in line with the benefits found internationally that are highlighted in section 4.1 of this report. The study showed that due to Wellington's strong ICT sector, that the region would have a greater

increase in GDP compared to any other region in New Zealand (Network Strategies, 2013). This is a huge incentive for the region to encourage greater uptake across all sectors of the economy.

## 6.2 Theme Two: Soft Infrastructure

### 6.2.1 Support for Small-to-Medium Enterprises, Entrepreneurship & Business Friendly Practices

New Zealand has 432,000 workers employed in the Knowledge Intensive Sectors (KIS) (MBIE, 2014). These sectors contribute a fifth of the national GDP and 62% of the country's overall commercial services exports. A report by the Ministry of Business, Innovation and Employment (MBIE, 2014) in New Zealand found that KIS sectors have to adapt to the changes in the global economy and the changes that are a result of the digitalisation of both economic and social activities. Thus, in order for KIS firms to remain competitive internationally they must adapt their way of doing business to meet such changes (MBIE, 2014).

According to Hendy & Callaghan (2013), New Zealand's growth rate has been affected by the country's limited capability to generate knowledge and be innovative. This has meant that the knowledge gap for New Zealand will continue to widen if the country does not act like countries of a similar size such as Denmark, Finland and Israel (Hendy & Callaghan, 2013). Hendy & Callaghan (2013) suggest that an action that New Zealand must take is to look at Denmark, Finland and Israel as examples of how small countries can effectively develop high technology industries, separate from their previous industry strengths. For New Zealand's small size and large distance from international markets to not impact on the nation's growth, Hendy & Callaghan (2013) suggest that New Zealand must take the same route as Denmark, Finland and Israel and develop its high technology industries further. To do so, it is essential that the government provides funding for research and development activities to encourage "private-sector innovation and to build diversity in our innovation ecosystem" (Hendy & Callaghan, 2013:195).

In the Wellington region there is a wide range of activities taking place to help encourage regional economic development. One big issue for the Wellington region is that the eight district councils in the region compete for resources for activities (such as economic development) (Wellington Regional Local Government Review Panel (WRLGRP), 2012). In order to ensure that the whole region has a shared focus and approach to economic growth and development activities, the region's economic development agency Grow Wellington is tasked to lead the majority of the activities that drive the development and growth of the Regional economy (WRLGRP, 2012). Figure 12 illustrates a sample of the targets and subsequent actions that Grow Wellington and its partners are taking to strengthen the region's business and economy, and develop a shared focus and approach to economic growth.



**Figure 12.** Targets and examples of subsequent actions that were promoted in 2013-2014 by Grow Wellington (2014) and its partners.

There are currently changes being made to the way that local government operates in the Wellington region, especially how the local authorities within the region collaborate and overcome their current differences in visions and priorities for the region (WRLGRP, 2012). These changes will undoubtedly shape the way in which the local government approaches its regional economic growth strategy and the types of soft infrastructure and business friendly practices it develops.

## 6.2.2 Knowledge Intensive Industries and Relations between Government, Industry and Academic/Research Institutes in the Wellington region

### Science & Technology Parks: Can they help develop Wellington's Knowledge Intensive Industries?

Technology parks could be a way that Wellington brings together the ICT industry, with education and research centres to help drive economic growth and increase the region's specialisation in the sector (Martin-Brelot & Kepsu, 2010).

STPs have related to many sections of this report and made a common occurrence in the research for this report. Research shows that there is a common investment by cities is in STPs. These STPs are an "organisation managed by specialist professionals whose main aim is to increase the wealth of its community by promoting the culture of innovation and the competitiveness of its associated businesses and knowledge based institutions" (IASP, 2015:1). Internationally there are over 700 of these parks, primarily in Europe and North America (IASP, 2015; UKSPA, 2015). Currently, there are no STP's in New Zealand (IASP, 2015; UKSPA, 2015). These institutions are attractive as it "stimulates and manages the flow of information and technology amongst universities, R&D institutions, companies and markets; it facilitates the growth of innovation based on companies through incubation and spin off processes; and provides other value services together with high quality space and facilities" (IASP, 2015:1)

The New Zealand equivalent to an STP is business incubators that are used as a means of encouraging and supporting companies that are deemed as high growth in specialised industries (Catts & Kirk, 2004). Some of the issues with incubators is that they don't have formal links with research and knowledge capability, such as universities, and they cannot support large or international companies (Catts & Kirk, 2004). The STPs are more effective as, although they vary each STP tends to have the same foundations (IASP, 2005; UKSPA, 2005). These foundations include the commitment of an affiliated tertiary institution or research centre; implementation strategy – to create quality facilities and an operating environment that encourages technology companies; [and] strong, continuing partnership – between research organisations, business and government to better achieve their individual or joint objectives (IASP, 2005; UKSPA, 2005).

As part of STPs to run effectively it is crucial that there is a university or research institution, which will help distinguish what industry sectors would be suitable for the STP (IASP, 2005; UKSPA, 2005). Even though Wellington has well established tertiary and research institutions, despite newly established commercial partnerships there is a weak tertiary-business relationship (Catts & Kirk, 2004). Relative to other regions, universities in the Wellington region lack commercial relationships with companies in the private sector (Catts & Kirk, 2004). From experience with STPs internationally, existing business and tertiary relations are the key to filling the tenancy of the STP (Catts & Kirk, 2004).

In 2005 there was a feasibility study done on establishing a STP in Wellington. This study was conducted jointly for a developer and a local authority, and was based on following international practice in a Wellington context. While this study is confidential to the clients, the author was able to confirm that a STP (site specific in this instance) might not be the best option for the Wellington region.

For instance, the development of an STP would require the support of institutions such as Victoria University of Wellington and other research institutes, yet there is no sign of support for the development. Alternatively it would require a large high technology firm to be an anchor tenant, yet there has been no evidence at the time to suggest that the region could attract and retain appropriate high technology organisations.

### **Examples of Collaboration between Industry, Government and Academic Institutions**

'Icehouse' is based in Auckland and is a well regarded New Zealand example where a university (The University of Auckland), government bodies and the private sector organisations have come together to support businesses (Icehouse, 2015). The role of Icehouse is to provide services for start-up and SMEs and help them to "learn the skills and develop better techniques you need to build a business, drive progress and succeed" (Icehouse, 2015:1). Icehouse also acts as a facilitator of networking for firms, which is a key ingredient for organisations to grow and develop (Icehouse, 2015).

Creative HQ (a company of Grow Wellington) works with innovation start-up organisations that is supported by a mix of private organisations such as Chapman Tripp, Microsoft, BizSpark and Deloitte Private who are partners and sponsors alongside government organisations including MBIE and Callaghan Innovation (Creative HQ, 2015). It offers incubation and accelerators services for start-up companies (Creative HQ, 2015). As part of their incubation services they provide a entrepreneur boot-camp which provides an opportunity for people to gain some tips and experience (Creative HQ, 2015). Creative HQ is a similar service to the international case study examples. If there was a university invested in Creative HQ then this would reflect a similar partnership to the one in Ice House and could help to establish a stronger focus on developing a solid connection between government, industry and academic and research facilities.

## **6.3 Theme Three: Leadership**

### **6.3.1 Leadership in the Wellington region**

The Wellington region is "characterised by the diversity of its communities and the strength of its culture, economy and people" (WRLGRP, 2012:4). The region has many strengths including the fact that it is the location for central government (a significant driver of activity in the region), it is a leader in screen and digital technologies industries, it has well established tertiary education and research facilities, a large base of research focus firms, sufficient infrastructure, unique natural environment, large proportion of the population employed in knowledge occupations and passionate people (WRLGRP, 2012). Local government in Wellington takes a leadership role in aiming to "attract, retain and grow economic activity" (WRLGRP, 2012:139), and takes a pivotal role in managing the region's diverse economy, the vast metropolitan area, transport networks and natural resources. The region's past achievements in development initiatives, forward-thinking planning, urban design, and regional marketing campaigns demonstrate what the region is capable of achieving (WRLGRP, 2012).

However, in recent years the Wellington region has no longer been seen as a leader in "governance, vision and place" (WRLGRP, 2012:4). Currently there are policies and structures, both local and

regional initiatives, that are in place to lead economic development within the Wellington region (WRLGRP, 2012). It was noted by the Wellington region Local Government Review Panel's Report *'Future Wellington – Proud, Prosperous and Resilient'*

“Economic growth has slowed, jobs are harder to find, technology is changing rapidly, we have an ageing population and managing the environment – particularly water – is becoming more complex. We face an uncertain future in relation to climate change and natural hazards. From a political economy perspective, we are caught between two major centres of heavy economic activity – Auckland and Christchurch. The eye of central government is being drawn away from Wellington. We think Wellington's relatively small size and New Zealand's geographic isolation from global markets make the challenges substantial” (p.4).

The effectiveness of local government in leading growth in the region is put into question as economic development is at the current time hindered by 'bidding wars' between local councils in the region which has implications for the region's shared services. It is also questioned as local councils are not obligated to adopt the regional strategies and plans (WRLGRP, 2013). Based on the findings in the Review Panel's Report, the region's leadership needs to be more robust and strategically aligned (WRLGRP, 2013). At present there are nine leaders who compete for capital and the opportunity to be heard (WRLGRP, 2013). There is little consensus among the nine leaders who hold dissimilar versions of what the Regions' vision and priorities are and should be (WRLGRP, 2013). This means that there is no primary leader that has the power to voice Wellington's needs and opinions, which weakens Wellington's ability to stimulate the local economy and collaborate with agencies in central government (WRLGRP, 2013).

The actions that local government in Wellington takes and how it is organised significantly influence the success and welfare of the region (WRLGRP, 2012). The Wellington Regional Strategy is tasked with establishing a “resilient, diverse economy – one that retains and creates jobs (especially high value jobs), supports the growth of high value companies and improves the region's position in relation to the national Gross Domestic Product and national employment” (WRLGRP, 2012:140). The Strategy is a result of collaboration between the regional councils and aims to govern, support, promote and assist the Regions' economic growth by establishing relations and collaborating with the local community, government and the private sector (WRLGRP, 2012). The region's economic development agency called Grow Wellington also plays a leading role in encouraging developments and growth in the regional economy (WRLGRP, 2012). At the local level, the local councils run activities to encourage economic development however the amount spent on encouraging such growth varies between local councils (WRLGRP, 2012).

## 6.4 Theme Four: Skills and Labour Supply

### 6.4.1 Attracting and Retaining Talent in the Wellington region

The Wellington region is the most knowledge intensive city region in New Zealand and has a strong presence of knowledge economy firms (Norman & Oakden, 2014). Most of the jobs in the region are located in Wellington City and workers commute from the outer areas such as Porirua and Lower Hutt (Wellington Regional Settlement Strategy (WRSS), 2012). The Wellington region is made up of local authorities which have their own business strengths (Drew, 2006). Clusters of business sectors in the region include the ICT sector, craft beer, manufacturing, the health sector and the digital media sector (Norman & Oakden, 2013). Per capita the Wellington region has the largest concentration of web and digital-based companies in the country, meaning that a large proportion of the labour force are employed in Information, Communications and Technology (ICT) (WRS, 2012; cited Norman & Oakden, 2014). Within the ICT sector, Xero and Trademe have been influential in attracting skilled workers to the region (Norman & Oakden, 2013).

The region is made up of a diverse population, with a variety of capabilities (Drew, 2006). Throughout the region each area is socially and economically interdependent (Drew, 2006). The labour market is an extremely crucial and influential part of the region's economic growth (Drew, 2006). The region also has a comparably high labour force participation rate when compared with the rest of the country (WRSS, 2012). The region according to the WRS has a high percentage of workers in knowledge intensive occupations (47%), which is considerably higher than the national average (33%) (WRS, 2012; cited Norman & Oakden, 2014). The region also has a strong labour force of scientists, with one research scientist for every two-hundred and fifty residents (WRS, 2012; cited Norman & Oakden, 2014).

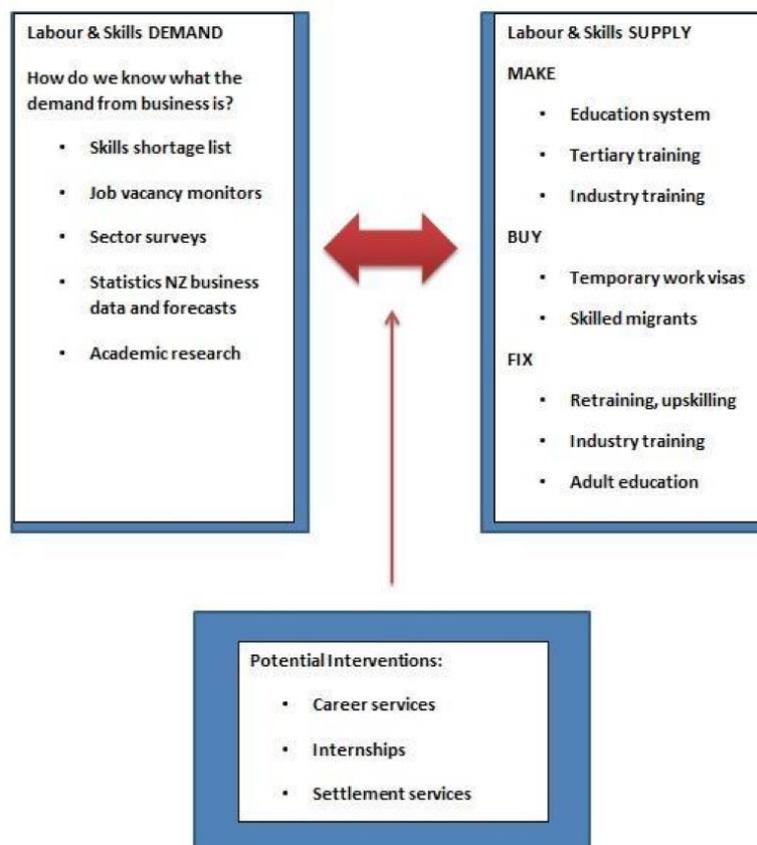
In terms of attracting and retaining, Wellington provides benefits to businesses and workers as the city is close to central government, there is available skilled labour and the compact nature of the region means that it is easy to establish networks and links between workers, within sectors and between sectors (Norman & Oakden, 2014).

There has been a lot of concern regarding the conditions in the Wellington economy and the opportunities for employment in the region (Norman & Oakden, 2014). Many firms and workers face challenges with the small size of the local economy, finding appropriately skilled workers within a small workforce and the fall in the amount of available corporate office space (Norman & Oakden, 2013). Figure 13 shows how one-hundred and thirteen respondents from organisations in Wellington answered, as part of Norman & Oakden's (2013) report, when asked "To what degree is it easy to hire a suitably skilled workforce in Wellington". The results in figure 13 demonstrate that the majority of the respondents found it 'limited' to 'moderate' to find a suitable skilled workforce (Norman & Oakden, 2013). These findings could highlight a reason why businesses may be dis-incentivised to locate in the Wellington region.



**Figure 13.** Degree to which suitable workforce is available in Wellington (Base: 113 respondents) (Source: Norman & Oakden, 2013).

To further understand the market for labour and skills in Wellington, the following Figure 14 illustrates on the left hand side the demand for labour and skills by businesses and how it is possible to know the nature of this demand so that actions can be taken to ensure that it is met. On the right hand side of figure 14 is the the supply of labour and skills which can either be made (education system), bought (immigration) or fixed (re-trained). The labour and skills supply relates to educational institutions such as universities, training organisations, and policies that are aimed at attracting and retaining the workforce. There should be good collaboration between the demand and supply side to ensure that the needs of both sides are met. Career services, internships and settlement services are three possible interventions that can be used to ensure the demand and supply collaborate and that their needs are met.



**Figure 14.** The demand and supply of labour and skills, and the potential interventions to ensure there is collaboration between demand and supply.

#### **6.4.1.1 Internships**

In terms of interventions to ensure collaboration between demand and supply of skills and labour, there are several issues with some interventions. For example, Wellington does not have a strong culture of creating internship positions for graduates (Drew, 2013). Internships are well known around the world as an effective tool for gaining entry into the workforce, and vital for economies at both the national and regional level (Drew, 2013). A respondent noted that the New Zealand approach is extremely different to the approach used in the USA where there are a lot of opportunities for summer jobs and internships (Norman & Oakden, 2013).

The findings from Norman & Oakden's (2013:18) report shows that firms prefer to recruit workers with "real-world experience" or experience in a workplace, not just what they have gained from tertiary education. However, the current internship initiatives from both private and public sector do not address all the professions where there are skill shortages as they mainly focus on traditional sectors such as law, accounting and engineering sectors (Drew, 2013). The lack of internships in Wellington can be attributed to many reasons (Drew, 2013). For instance, on the supply side the culture at Victoria University of Wellington is not focused on employment like other universities throughout the country (Drew, 2013). Students also have issues due to preconceived perceptions of students by employers in regards to their approach and attitude to work (Drew, 2013). There is also a lack of unity between stakeholders in the area and that there is a "need for more collaboration between employers at all levels, educational institutions, careers people, and government agencies" (Drew, 2013:5).

It has also become evident in a report by Norman & Oakden (2013) that Wellington businesses also struggle to find senior staff as there are concerns by senior workers as to the career development opportunities in the Wellington region. It was found that many workers believe Wellington to provide limited opportunities, compared to Auckland, Sydney or Melbourne (Norman & Oakden, 2013).

#### **6.4.1.2 Migrants**

Attracting and retaining skilled migrants is an avenue whereby the skill and labour supply can meet skills and labour demand. In recent years the New Zealand government has had a strong focus on attracting and retaining skilled migrants in order to fill skill shortages (WRSS, 2012). Attracting and retaining migrants is a way in which the Wellington region can fill the gaps in terms of skills and they have a significant influence on the region's economic growth (WRSS, 2012). Skilled migrants are also key to counteracting the local emigration and help to fill gaps in the regional labour market (WRSS, 2012). According to the Wellington Regional Settlement Strategy (WRSS) (2012) there are skill and labour shortages in the Wellington region in industries such as health, science, oil and gas, social services, finance and business, hospitality and tourism, and construction.

It is evident that the Wellington region needs to alter its approach to attracting and retaining skilled migrants, as currently the region is not competing with the likes of Auckland and Canterbury for skilled migrants and is therefore not gaining the associated economic benefits (WRSS, 2012). For 2014, Wellington ranked fourth for the numbers of skilled migrants (Essential Skills visa) behind Auckland, Canterbury and Otago (Immigration NZ, 2014). Wellington also had the lowest growth rate of these centres (Immigration NZ, 2014). A similar pattern is evident with the number of first student

visa (international students) where the five major university city's had growth rates for 2014 in the range of 7-37% while Wellington was 1% (Immigration NZ, 2014).

Attracting skilled migrants is challenging as they are highly sought after in the domestic and international labour markets (WRSS, 2012). In order to counteract this challenge and compete with the growing migrant destinations of Auckland and Canterbury, it is suggested that Wellington establishes a combined and coordinated regional effort to improve Wellington's reputation in order to establish it as a preferred migrant destination (WRSS, 2012). This is opposed to each council within the region taking on their own approach to attract migrants (WRSS, 2012). It is also suggested that the region identify how it can differentiate itself to attract migrants and promote a connection between employers and migrant attraction methods (WRSS, 2012). These suggestions are based on the assumption that migrants are attracted to the Wellington region's natural environment, compact geographical landscape, unique labour market, educational institutions and social connections (WRSS, 2012). Since educational institutions are seen as a way of attracting migrants, it is evident that much like the example of internships, universities in the region can play an influential role in attracting migrants.

## 6.5 Theme Five: Liveability

### 6.5.1 Indicators and Indexes to Measure Liveability and Quality of Life

As noted by Hendy & Callaghan (2013) measures of well-being pose limitations as "they reflect different societal values, and in particular different perceptions of the meaning of societal well-being. They are inherently ideological, and their different selections of data make them subject to political manipulation" (p.8). Hendy and Callaghan (2013) pointed out, a limitation of comparing countries using indexes and indicators is that it is difficult to find indicators other than the universal GDP, which are used consistently between countries. Thus, there is a tendency to use GDP as the proxy for illustrating effective economic growth. Trebeck (cited Morrison & Weijers, 2012) points out that policies that are focused on GDP and economic growth have had negative implications for the assets (such as social, human, natural and physical) that are required for the current population and future generations to thrive. Thus, policies focusing on GDP ignore other aspects of individuals lives that allow individuals to flourish and can also influence economic growth.

Two issues identified by Morrison & Weijers (2012) that have arisen from the development and use of well-being indicators is that the words such as "well-being, subjective well-being, progress, quality of life, health and happiness are often used interchangeably" (Morrison & Weijers, 2012:53). This could create issues when interpreting indicators as those using the indicators may interpret these terms differently, unless it is clearly specified. Another issue is that it can be extremely complicated to create and use measures and indices of well-being (Morrison & Weijers, 2012). There is evidence of useful measures of well-being to inform policy and there is growing interest internationally in measuring well-being through a wide range of measures to inform government policy at all levels (Morrison & Weijers, 2012).

There are indicators and indexes being developed to capture the social aspects that influence the performance of a city. An example of such an index can be seen at the University of Waterloo who has developed the 'Canadian Index of Wellbeing' (CIW) (2014). The CIW (2014) was developed as an effective measure of Canada's social progression by incorporating areas of individual's lives that economic based measures such as GDP fail to acknowledge (e.g. education, health, quality of the environment) and the externalities created by economic development (e.g. pollution). The CIW (2014) hopes to inform decisions by policy makers and government, and inform citizens of quantifiable evidence of what is happening in their country and community.

Similar measures are being developed in Wellington with the Genuine Progress Index (GPI) which is a project of the Wellington Regional Strategy Office. The GPI analyses the economic, environmental, social and cultural well-being of the region as an indicator of the region's performance and success (WRS, 2012). It is used by the WRS to monitor progress towards the Strategy's well-being goals (WRS, 2011). The QLP (2007) measures the quality of life in twelve cities around New Zealand. This project highlights why individuals choose to live in certain areas, in a bid to inform decisions that aim at ensuring sustained development and a good quality of life in these cities. Morrison (2011) states that the QLP's Quality of Life Survey is effective as it "embraces this multidimensional nature of well-being by asking three separate questions on subjective well-being: on happiness, satisfaction and quality of life" (p.1042). In New Zealand, another measure used to collect data on well-being and quality of life include the General Social Survey for New Zealand (GSS) which is administered by Statistics New Zealand (Morrison, 2011).

In regards to measuring subjective well-being, there is no uniform measure of well-being used throughout New Zealand (Morrison & Weijers, 2012). Efforts to establish subjective well-being measures can be helpful to measure the impact of large events (e.g. natural disasters) or changes in the conditions of the natural environment (e.g. levels of pollution) (Morrison & Weijers, 2012). Well-being measures are a more effective way of capturing the full impact than using market forces as an indicator of the impact of such events and conditions (Morrison & Weijers, 2012).

### **6.5.2 The Influence of Wellington's Arts and Culture Sector on Liveability**

A huge influence on the liveability of Wellington is its creative culture (Coulon, McGough & Harding, 2011; Norman & Oakden, 2013). The Wellington culture is characterised by the arts and culture sector which helps to shape the region's quality of life and establish the city's reputation as the country's cultural capital (Coulon, McGough & Harding, 2011). The arts and cultural sector which incorporates performing arts, museums, library, archives, publishing, design, screen production and radio, visual arts and photography seemingly "adds to the city's unique fabric, making Wellington a lively, exciting and interesting place to live, work and visit" (Coulon, McGough & Harding, 2011:2). The arts and cultural sector plays a significant role in attracting visitors to the region through its major art events and cultural experiences are a key driver of visitors to the region (Coulon, McGough & Harding, 2011).

The sector has strong partnerships with firms in the sector and tertiary education, however for the sector to be sustainable and continue to keep the strong arts and cultural spirit alive in Wellington the sector believes that a vision and strategy needs to be adopted that is clear and is supported by the

political leadership who could prioritise the sector in decision-making at the regional level (Coulon, McGough & Harding, 2011).

### **6.5.3 Connectivity and Access**

Wellington businesses believe that the region offers a wide range of lifestyle benefits such as its thriving city life, the ease of walking in the central city, short commuting time and its strong creative culture (Coulon, McGough & Harding, 2011; Norman & Oakden, 2013). The ease of walking in Wellington City was captured by the Walkable Index's data that "combines of street connectivity, dwelling density, land-use mix, and retail floor ratio area" which illustrated that the inner Wellington City was considerably walker-friendly (Mavoa, Witten, Pearce, & Day, 2009:12). It was noted by a food company manager in the report by Norman & Oakden (2013:10) that "people tend to work relatively altruistically in order to make sure the city is vibrant and interesting and well regarded".

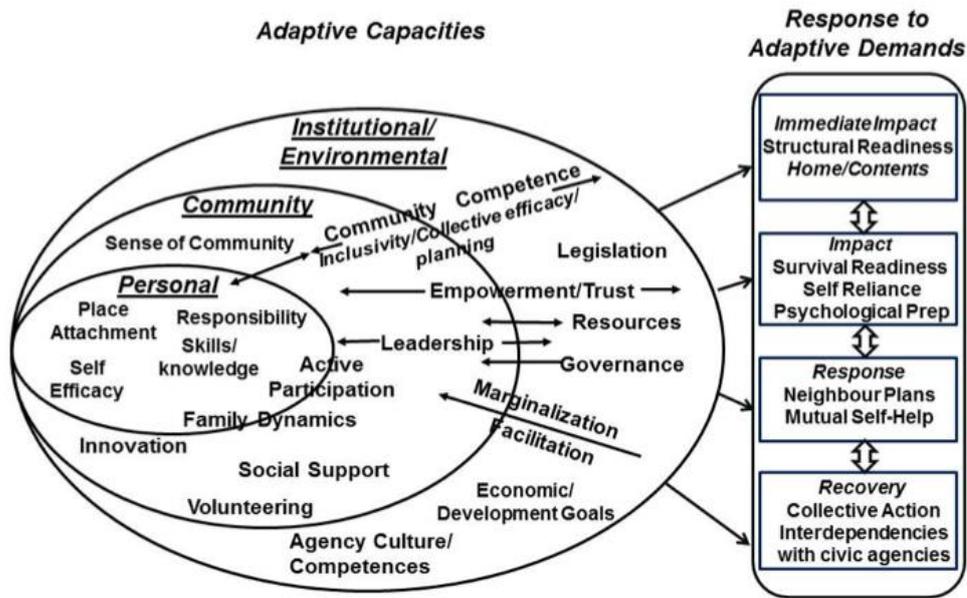
Public transport also plays a significant role in Wellington's liveability, with the region boasting the largest number of boardings on to public transport per person per year in county and many major Australian cities (Metlink, 2015). Over the past 10 years, the number of people using public transport has increased approximately 14% (Metlink, 2015). From 2013-2014, it was estimated that 90% of the region's population used public transport and 33% of those arriving into the Wellington CBD at peak times travelled by public transport (Metlink, 2015).

### **6.5.4 Community Resiliency**

Community resiliency is a very relevant concept to the Wellington region. The Wellington region is one of the few city Regions alongside San Francisco, USA that is built on fault lines that are active (Paton & Johnson, 2006).

Resiliency is important from a liveability perspective as Wellington region's exposure to natural hazards (namely earthquakes) has meant that the regional population and government understand the risks and therefore have developed resilient communities and infrastructure to cope with this risk. Thus far there have been four significant earthquakes in Wellington since 1840 (Brown, 2012). Over the next decade the city's resilience is top on the agenda with \$80 million committed to the seismic strengthening of public buildings and infrastructure (Brown, 2012). There has been a range of initiatives over the years to build community resilience, from the strengthening of the region's water networks in the 1990s to the adoption of the Wellington Earthquake National Initial Response Plan (Brown, 2014). More effort is currently being put into citywide building assessments, initiatives encouraging resilient people and neighbourhoods (Brown, 2012).

The aspects of community preparedness to an extreme event and their relations with the primary community processes can be seen in Figure 15. This figure stands as an example of how complicated community resilience and adaptation is, and how a community reacts is influenced by a wide range of interconnected factors. Figure 15 also demonstrates the type of research that is being done in relation to community resilience which is an important part of the liveability of all regions around



**Figure 15.** Summary of responses to adaptive demands over time (adaptive capacity) and the adaptive capacities and interdependencies at personal, community, cultural and institutional/environmental levels identified (Paton, Selway & Mamula-Seadon, 2013).

The contents of Figure 15 is relevant to Wellington as Paton, Selway & Mamula-Seadon (2013) believe their findings could be used for further research into resilience and be used to help sum up the findings from the paper and inform other New Zealand communities of their findings on community resilience.

Overall, the Wellington region has a lot of strengths in terms of liveability. It is a region with an attractive and accessible landscape and environment, which is complimented by its creative regional brand and strong arts and cultural sector. Despite its challenges due to earthquakes, there is a lot of effort being put into community resilience throughout the region to ensure that it is aware of and resilient to seismic activity.

## 7. OBSERVATIONS

### 7.1 Comparing Wellington with International Practice

The following Table 3 highlights the observations made as part of this report and compares what is happening Internationally to what is happening in Wellington.

The table categorizes these findings and comparisons according to the report themes and the sub-headings that are drawn from the work of Grant (2013) (figure 10, page 31 & Table 2, page 32), Clark (2008) (figure 4, page 15 & section 3.1, page 13) and Hambleton (1998) (figure 9, page 27). These themes and sub-readings can be found in the 'Indicator' column. Observations made from the International and Wellington research are combined and compared in relation to the report themes under the 'Comparison' column.

**Table 3.** Observations and comparisons made by this report in relation to the report themes, concepts and success factors discussed.

Indicator	Comparison
<p><b>Digital Connectivity and Soft Infrastructure</b></p> <p>Services to Business and Business Friendly Practices</p> <p>Effective Management of Regional Resources</p>	<p>Internationally there is a lot of recognition of the benefits of UFB and thus, there is a huge drive for investment in such technology. It is a proven method for boosting economic growth and can also be seen as a business friendly process as it increases the ease of doing business and business productivity. More specifically, Swedish municipalities have shown that there are employment, cost and socio-economic benefits of adopting fibre, and benefits in attracting businesses. In Cardiff, Wales the investment in UFB is believed to make Cardiff more economically competitive, attract and retain businesses and be beneficial for the local workforce and employment. Wellington was an early adaptor of fibre in the mid-1990s. Despite this advantage in the 1990s, the Wellington region has not managed to sustain this advantage and currently throughout the region there are only a small number of consumers and businesses that have adopted UFB. At present there is a central government initiative to promote the adoption of UFB. However, to effectively increase uptake and to gain the full benefits of UFB it is evident from International examples that Wellington's local government and community can also help promote UFB up-take.</p> <p>Although there is investment in the development of start-up organisations, business friendly practices and tools to encourage entrepreneurship in the Wellington region, there is limited collaboration or resource sharing between different parties when compared to successful cities. Wellington has a lot of knowledge</p>

	<p>intensive industries who would benefit from a stronger partnership between government bodies, firms and academic and research institutions. The examples of Waterloo, Austin, Milton Keynes and the Research Triangle region encourage innovation through combining forces and collaborating with one another. In the Wellington region there is little collaboration beyond smaller projects to drive innovation within the city and support entrepreneurship and start-up organisations through a joint effort.</p>
<p><b>Leadership</b></p> <p>Communication</p> <p>Team and Individual Leadership: Cohesive and Communicative Partnerships Between Local Government Authorities, and Other Community Players</p>	<p>International examples suggest that effective and sustainable leadership is a hugely significant part of establishing a successful city. It is key when trying to improve economic activity and ensure future regional economic prosperity that local government has a strategic focus, a shared vision for the region, a collaborative approach between local actors and a future proof governing system. Hambleton’s (1998) research on what makes good local leadership is helpful when trying to summarise and identify areas where leadership is strong and where it is lacking.</p> <p>International examples illustrate that it is not solely up to local authorities to take positions of leadership as academic and research facilities (such as universities) and local industry can as well. They can take actions to lead regional growth by being innovative, forward thinking and building partnerships. Many of the international examples in this report (not solely in the leadership section) demonstrate leadership by government, industry and academic/research institutions in establishing partnerships that have significantly benefited the local community.</p> <p>Regional leadership is seemingly an issue for the Wellington region as the nine councils often compete with one another. There is a lack of strategic focus and collaboration as the authorities have varying opinions on the vision and priorities for the region. In the Wellington region there is little evidence of such actors taking a leadership role in facilitating strong, sustainable partnerships similar to those seen internationally.</p>
<p><b>Skills and Labour Retention and Attraction</b></p> <p>Partnerships between</p>	<p>Investment in skills and labour supply is beneficial for a region’s standard of living and economic growth and progress. Evidence suggests that universities are an effective tool for attracting and retaining talent. Liveability, branding and quality of place also influence attraction and retention. It is evident that by establishing a</p>

<p>Government, Industry and Academic and Research Institutions</p> <p>University Actively Encouraging Innovation and Entrepreneurship</p>	<p>strong link between the university and industry can attract and retain talent within the local economy as it can create opportunities for collaborative projects (which can have subsequent benefits for the local economy) and can encourage the development of flows and networks of knowledge at both the international and local level.</p> <p>Evidence suggests that there is minimal collaboration between academic and research facilities, industry and government in the Wellington region. The only Wellington example is Creative HQ. However, Creative HQ has limited input from the local academic institutions. This lack of collaboration is also evident as the Wellington region does not have a strong culture of internships and evidence suggests that there is a perceived lack of career development opportunities in the region.</p>
<p><b>Liveability</b></p> <p>Branding and Positive Image of Area</p> <p>Quality of Place</p>	<p>Liveability has a significant influence on who is attracted and who settles in a region. Public art and developing walker friendly areas are two ways internationally which have been effective at establishing an attractive city brand and good quality of life in a region. They help to attract people through the lively, creative, walkable and interactive atmosphere they create. They subsequently have positive implications for the well-being and life satisfaction of the local population.</p> <p>In terms of liveability, the Wellington region has a strong arts and cultural sector that and an image as a creative, lively city region. The region’s good public transport and inner city walkability makes it attractive to businesses and workers who can then spend minimal time commuting between work and home. Evidence suggests that ensuring the commuting time in Wellington stays minimal in the future will be beneficial for the city, in terms of financial gains and life satisfaction. In line with international practice, a well-being index called the GPI has been developed to measure well-being throughout the region. However, the challenge is to develop a uniform measure of well-being that is used nationwide.</p> <p>Community resiliency is a big issue for the Wellington region, as it affects many aspects of life in the city such as people’s perception of the region (branding), the way infrastructure is developed and regulated, and the liveability, life satisfaction and well-being of the population. It is a huge part of living in the Wellington region. Yet, many of the international examples used in this report do not face risks comparable with Wellington’s due to their geographical location.</p>

	<p>The most relevant evidence of how the Wellington region could be effected iis from the Christchurch earthquake. Evidence suggests that not only will Wellington be significantly affected by a natural disaster, but the whole of New Zealand will be highly affected given the country's relatively low GDP compared to many other countries who face the same natural hazards risks (e.g. Japan and the USA). The region needs to continue to ensure that the community is aware and infrastructure is resilient so that is prepared.</p>
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## 7.2 Further Research

There could be further research into a wide range of areas.

As noted, due to the broad nature of this research topic further research could be conducted into additional international success factors that influence local economic growth.

Possible further research could look into the topic of collaboration and partnerships. Further research could look at how a city with a wide range of different local authorities (such as Wellington), who have varying views and priorities for the region can overcome their differences and work together. Other further research could look at the type of projects, initiatives and partnerships where industry, government and academic/research facilities work collaboratively.

The topic of community resiliency was only briefly touched on as part of this report. Further research could be in to how Wellington's efforts in terms of community resiliency compare internationally and whether Wellington could use natural hazards to its advantage and become a leader in seismic research and technology.

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