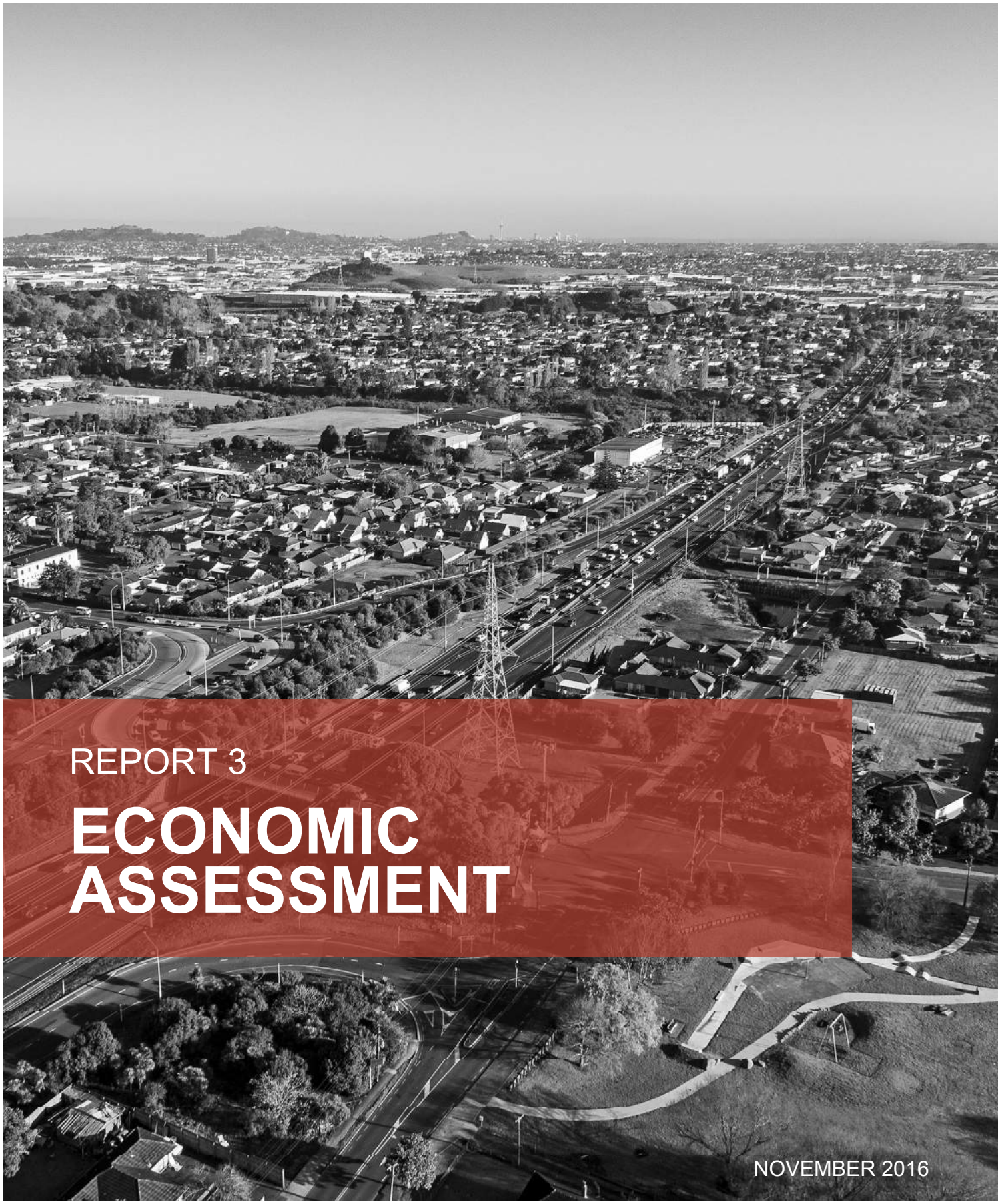

REPORT 3

ECONOMIC ASSESSMENT

NOVEMBER 2016

NZ TRANSPORT AGENCY WAKA KOTAHI

East West Link

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Quality Assurance Statement	
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Executive Summary

1. The East West Link (EWL) project area (Onehunga, Penrose, Mt Wellington and Ōtāhuhu) is Auckland's (and the Upper North Island's) main industrial, transport and distribution hub. The economic contribution of the area is regionally and nationally significant, generating approximately $4.7 billion of output in 2012, or 7.5 per cent of Auckland's total gross domestic product (GDP). The area is a major employment area in Auckland and accounted for 10 per cent of Auckland's employment in 2015, second only in size to the Auckland CBD. Between 2000 and 2015 the area added almost 13, 000 new jobs, a 24.3 per cent increase, providing a significant contribution to the region's economic growth.

2. The EWL area plays an important and unique role within the Auckland and Upper North Island economy. It is Auckland's main manufacturing location and accounts for 18 per cent of the region's and 6 per cent of New Zealand's manufacturing employment. It also acts as a major hub for transport and logistics for Auckland and the upper North Island with 20 per cent of the region's and 9 per cent of New Zealand's employment in transport and wholesaling. These two sectors combined accounted for 45 per cent of the area's total employment in 2015.

3. The area has a number of unique economic characteristics, including providing the most important interface between road and rail freight in Auckland. It contains the Westfield/Southdown road and rail freight terminal which accommodates the MetroPort inland port serving the Port of Tauranga, the adjacent Southdown KiwiRail and Toll Freight terminal and is increasingly acting as a rail served inland port for the Ports of Auckland. In addition to these intermodal activities, the area accommodates a large number of other major distribution and logistics facilities serving Auckland and the upper North Island, taking advantage of proximity to key markets and suppliers and the access to the strategic road network.

4. Northland, Auckland, Waikato and the Bay of Plenty together produce more than 50% of New Zealand's GDP. Increased economic interaction between these regions through the establishment and strengthening of supply chains will continue to drive economic growth in the Upper North Island and across the country. The Westfield/Southdown road and rail freight terminal will become increasingly important for freight movements in the future, as a key linkage within these regional supply chains. Supporting these activities and the supply chains that they underpin is clearly important to the economic prosperity of the region and the potential for future growth.

5. Whilst the EWL area remains a stronghold of manufacturing and distribution activity, a structural change is gradually taking place as business service activity grows at a faster rate than industrial, transport and distribution activities. The area's economy is becoming more service oriented over time, with a developing employment profile which is a little more reflective of the region in general. The share of the area's employment accounted for by advanced business services is now 25 per cent, up from only 15 per cent in 2000. This sector is now a significant source of employment for the EWL area.

6. The area is not, however, losing its distinctive character as an industrial and transport oriented stronghold, as the more transport intensive activities are growing too (with distribution activity compensating for a decline in manufacturing), reflecting the area's function as a specialised regional distribution centre.

7. The likely result of this pattern of economic growth will be an increase in both freight and commuting trips within and through the area. A related consequence may well be increasing

demand for supporting freight rail services, as transport and logistics operations become more multimodal.

8. The recent Auckland Transport Alignment Project Interim Report identifies the East-West Connections [1] as one of the few opportunities to add new strategic road network capacity to deal with the impacts of growth in travel demand, and to ensure that the strategic road, rail and public transport networks have sufficient capacity and resilience to operate effectively.[2] The EWL is also specifically recognised in the Auckland Plan as necessary to improve access to Southdown rail hub and major local employment areas.

9. Based on the evidence used to compile this report, transport demand in Auckland is expected to continue growing in line with population, whilst the economy of the EWL area will continue to expand, placing increasing pressure on the area's already stressed transport network. The EWL has been planned to address the following requirements, which support the growth and development of the area's economy, in line with the aspirations of the Auckland Plan:

    - Increasing growth in transport, warehouse and distribution activity will lead to an increase in freight trips to, from and within the area.
    - Increasing employment within the area will lead to increasing pressure on the transport system at peak hours as commuting trips increase.
    - Economic growth in the area is likely to result in specific pressures on the transport network, for example, greater movements of heavy vehicles, in and around Penrose and Onehunga.
    - Over and above these local factors, travel demand is expected to increase as a consequence of regional population and economic growth.

10. By reducing congestion on the road network within the Project area the EWL will benefit freight transport which will support the area's economy, as a reduction in congestion will reduce cost and travel time incurred by businesses, increasing efficiency and allowing them to undertake the same task with reduced resources. In this way improving connectivity and reducing congestion for businesses will be likely to result in better business productivity. Improvements in freight travel times can be translated into a reduction in the cost of transport which will improve margins for others in the supply chain, and could lead to reduced prices and increased demand over time.

11. Within the three sub-areas of the EWL area, the economic effects are expected to reflect each area's economic characteristics:

    a. In Onehunga-Penrose, improved accessibility into, through and from the area provided by the EWL, combined with access to the rail freight hub will encourage transport and logistics firms to further expand their activities in this area to take advantage of this unique set of circumstances. The area's proximity to the industrial belt of the Region which extends roughly from the Rosebank area in the west through to East Tamaki in the south east, is likely to stimulate further developments in storage and distribution. Lower traffic volumes through the Onehunga Town Centre will support potential regeneration.

[1] Auckland Transport Alignment Project (ATAP), June 2016, Interim Report, p35. EWL is a component of the broader EWC programme. See further at section 3 of this Report.
[2] ATAP, Interim Report, p30.

b. For Mt Wellington, a wider level of complementary activities make this a particularly attractive location for the development of business services, particularly to serve the growing needs of the industries there and possibly further west. Historic growth in this sector has been strong, and this is likely to continue over the short-term at least. The improved access for commuters provided by the EWL will be expected to support this pattern of growth.

c. Ōtāhuhu benefits from access to rail and improved access to the strategic highway network, particularly SH20. This is expected to result in further growth in wholesaling and transport within the area.

12. Overall, the EWL will contribute positively to the delivery of the vision within the Auckland Plan, with the Project area identified as a key employment area with future growth potential. Delivery of the Project, in conjunction with the operative zoning, will support the manufacturing nature of the area and the growth of transport and distribution activity, supporting a core economic function of the EWL area. At the same time, the expected increase in and changing nature of employment within the EWL area will be supported through the relief of pressure on the transport system, reducing conflict between freight and commuter traffic. The additional transport capacity provided by the EWL will support the growth of the Project area's economy and of Auckland's economy.

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Experience of the Author

John Williamson holds a Master of Arts in Economics. John is a consulting economist and director of Ascari Partners Ltd. Prior to establishing Ascari Partners in 2005 he was employed by the former Auckland City Council for nine years. He is a member of the New Zealand Association of Economists with 20 years' experience of applying economics to policy, planning, investment and funding decisions. He has been involved in assessing the economic benefits and costs and developing business cases for a wide range of major transport projects across New Zealand and has undertaken a large number of studies examining the relationships between transport and the economy to assist in policy development in New Zealand.

Glossary of Technical Terms/Abbreviations

Terms / Abbreviation	Term
AEE	Assessment of Effects on the Environment
ATAP	Auckland Transport Alignment Project
EWL	East West Link
SH(x)	State Highway (number)

1 Introduction

This report outlines the economic context within which the EWLhas been planned and is expected to operate, as part of Auckland's transport system. The report also provides an overview of the Project's potential benefits and has been prepared in support of the Project's Assessment of Effects on the Environment.

The report considers the strategic context within which the Project is being planned in Section 3 before examining in more detail the economic structure of the wider Project area in Section 4 and the local Project area in Section 5. This leads into the development of a project area profile set out in Section 6, which considers the linkages between the economic evidence and the transport needs of the project area.

The report makes reference to two geographic areas; the wider East West Connections (EWC) area (located between Penrose, Onehunga, the Airport and East Tamaki) and the EWL area covering Onehunga, Penrose, Mt Wellington, and Ōtāhuhu. Initial economic research focused on the EWC area and as options were refined, firstly at the programme level and then at a project level, the focus of investigation was narrowed to the EWL area. The EWL is a component of the wider EWC programme.

The following technical report supports, informs and supplements this Economic Assessment:

- *Technical Report 01 –Traffic and Transport Assessment*.

2 The Strategic Context for the Project

Before looking in detail at the economic structure of the Project Area it would be helpful to provide a reminder of the importance of future transport investment in Auckland.

The recent Interim Report of the Auckland Transport Alignment Project (ATAP)[3] emphasised that Auckland plays a critical role in New Zealand's current and future prosperity as "the country's major centre of population and economic activity." The report also pointed out that "transport networks play a vital role in successful cities" and that "Auckland requires a well-functioning transport system to make the most of its opportunities."[4]

2.1 Population and Employment Growth

The ATAP Interim Report finds that the key factor increasing travel demand in Auckland over the next 30 years will be population growth.[5] Statistics New Zealand's medium growth projection is for Auckland's population to increase by over 700,000 by 2043, from 1.5 million today to 2.2 million, an increase of approximately 50%.

By 2041 Auckland is expected to be home to 42 per cent of New Zealand's population compared with 33 per cent today. This means that over this period Auckland will be expected to absorb over 60 per cent of New Zealand's total population growth.[6]

Table 2-1: Auckland Population Growth Projections

	Population	Change	Percentage Change
2016	1,571,447		
2021	1,693,972	122,525	7.8%
2026	1,817,645	123,674	7.3%
2031	1,939,805	122,159	6.7%
2036	2,064,243	124,438	6.4%
2041	2,179,712	115,470	5.6%
2046	2,279,382	99,670	4.6%

Source: JMAC ART3 Model Land Use Projections (Scenario 9I)

Over the same period, the number of jobs in Auckland is predicted to increase by almost 270,000, from just under 630,000 to over 890,000, an increase of approximately 40%.

[3] ATAP, Interim Report, p5. ATAP is a joint government and Council project tasked with developing a clear direction for the development of Auckland's transport system over the next 30 years.
[4] ATAP, Interim Report, p5.
[5] ATAP, Interim Report, p26.
[6] Statistics New Zealand, Subnational Population Projections.

Table 2-2: Auckland Employment Growth Projections

	Employment	Change	Percentage Change
2016	629,530		
2021	676,336	46,806	7.4%
2026	722,932	46,596	6.9%
2031	768,359	45,427	6.3%
2036	808,840	40,481	5.3%
2041	849,209	40,370	5.0%
2046	892,457	43,248	5.1%

Source: JMAC ART3 Model Land Use Projections (Scenario 9l)

It is predicted that over 80 per cent of the growth in New Zealand's working age population over the next 30 years will occur in Auckland, as a consequence of Auckland's population having a lower average age, compared with New Zealand as a whole.[7]

2.2 Increasing Travel Demand

One of the findings of the ATAP Foundation report was that "[T]he challenge for Auckland's transport system is to at least keep pace with the city's growth, thereby delivering economic, cultural and social benefits to Auckland and New Zealand as a whole."[8]

The ATAP Foundation Paper concluded that congestion in Auckland is projected to become more widespread and severe over the next 30 years due to increasing travel demand, particularly on the motorway network and at weekday peak and inter-peak times.[9] As congestion increases travel time variability is also likely to grow.

From a regional perspective, the ATAP Foundation Report found that regional travel demand has increased over the past decade, although at a slower rate than in preceding decades.[10] The report notes that a decline in per capita travel over the past decade in Auckland has been outweighed by population growth, leading to an overall increase in travel.[11] The observed plateauing of per capita travel demand was not anticipated by past travel projections, however, future travel demand projections made by the Auckland strategic transport model are now based on a range of input assumptions[12] which better reflect observed travel behaviour.

These projections anticipate regional travel demand increasing at a similar rate to population growth over the next 30 years, meaning per capita travel is projected to stay fairly constant over time. Even if per capita travel did continue to fall, it would take a very substantial decline for the overall level of travel in Auckland to fall over the next 30 years, given the expected high level of population growth. [13]

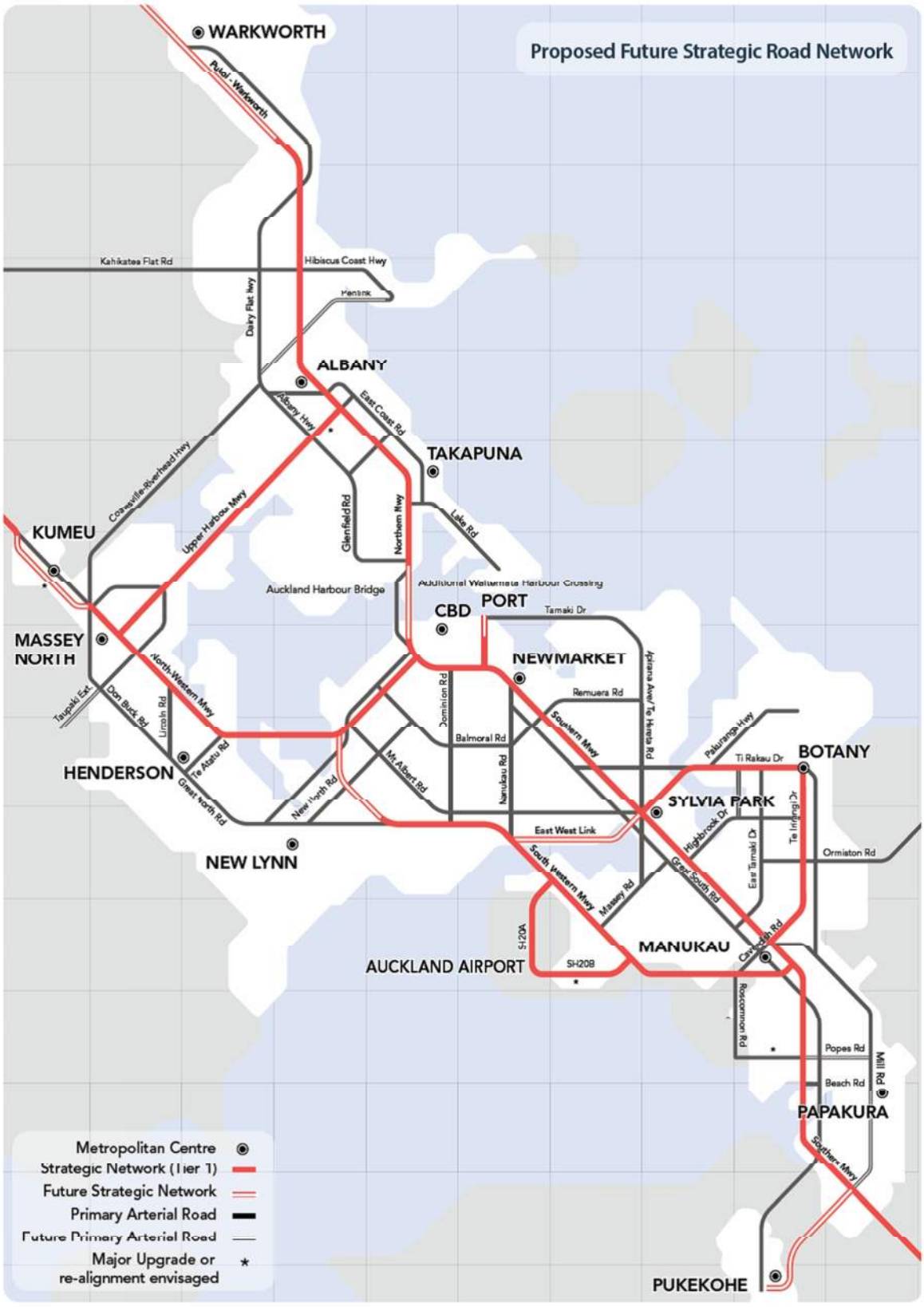
[7] ATAP, Interim Report.
[8] ATAP, Foundation Report. p13.
[9] ATAP, Foundation Report. p10.
[10] ATAP, Foundation Report. p32.
[11] ATAP, Foundation Report. p32-33.
[12] Including: location and distribution of population and employment growth, the future price of fuel and assumed inter-regional trip growth rates.
[13] ATAP, Foundation Report, p32-33.

2.3 Strategic Responses

To address the challenge of keeping pace with the city's growth the ATAP Interim Report presents an emerging strategic approach involving a combination of demand management, making better use of existing networks and investment in new capacity and services. The report acknowledges that there are very few opportunities to add new strategic road corridors in the existing urban area, beyond projects already underway or committed. The State highway networks (SH1 and SH20) have been the backbone of the regional economy, linking Auckland's main business district to the ports including the airport. The ATAP Interim Report specifically identifies the East-West Connections[14] as one of the few opportunities to add new strategic road network capacity to deal with the impacts of growth in travel demand, and to ensure that the strategic road, rail and public transport networks have sufficient capacity and resilience to operate effectively.[15]

[14] ATAP, Interim Report, p35.(Note: The EWL is a key element of the EWC programme)
[15] ATAP, Interim Report, p30.

Figure 2-1: Auckland's Strategic transport Network (ATAP Interim Report)



2.4 Growth and Freight Demand

One effect of the predicted growth in population and employment will be a continuing growth in freight movements. Around 22 million tonnes of New Zealand's freight task moves to and from Auckland each year and Auckland's freight task is projected to increase by 78% over the next 30 years.[16] This freight task combines internal distribution within Auckland and a nationally significant freight and logistics function.

The Project area is the main industrial, transport and distribution hub for Auckland and is also significant for the Upper North Island. From an economic perspective, Northland, Auckland, Waikato and the Bay of Plenty together produce more than 50% of New Zealand's gross domestic product (GDP).

Increased economic interaction between these regions through the establishment and strengthening of supply chains will continue to drive economic growth in the Upper North Island and across the country. Within the Project area the Westfield/Southdown road and rail freight terminal will become increasingly important for freight movements in the future, as a key linkage within these regional supply chains.

Around 80% of the freight originating in Auckland is distributed within the region.[17] Some of this internal demand is driven by international and inter-regional movements, with freight being moved initially within Auckland before it is sent on to its final destination. In the future, ATAP projected that international/inter-regional freight is likely to be larger scale (i.e. containers) and able to be carried by road, rail and coastal shipping and that any consolidation of movements on and off rail and coastal shipping will be expected to require road freight movements within Auckland. Auckland's largest inland port MetroPort, operated by the Port of Tauranga and located at Southdown within the Project area, is a critically important international gateway for Auckland's exports and imports. Annually, around 170,000 containers move to and from MetroPort by road within Auckland, with rail moving freight to and from the Port of Tauranga. Currently trains carrying up to 104 containers run five to six times a day to and from this part of Auckland.[18] International trends towards bigger ships may result in more concentrated and consolidated import activity in Auckland and/or surrounding ports. Additionally, while less visible than heavy commercial vehicles, over 70% of freight kilometres travelled within Auckland are by light commercial vehicles, such as couriers and local deliveries.[19]

2.5 Strategic Priorities of Auckland Council and Government

The Auckland Plan identifies the EWL area as a key employment area with future growth potential. It identifies that growth in business, employment and residential activities have created 'pressing demand for transport investment'.

The Auckland Plan refers to the EWL and includes a directive (13.5) to jointly progress the planning for EWL for implementation by 2021. The EWL is specifically recognised in the Auckland Plan as necessary to improve access to the MetroPort rail hub at Southdown and major employment areas in the locality.

Issues identified within this area included congested local roads, inefficient and high volume freight movements, inefficient logistics connections for services and goods to other economic activity hubs at the airport and the port.

Apart from SH1 and SH20, the area is largely served by a local road network which has had incremental improvements made to it over time. The continued growth of industrial activity and the recent expansion of rail-based freight and distribution centres have resulted in growth of freight traffic in

[16] Ministry of Transport (2014) *National Freight Demand Study*, available online at http://www.transport.govt.nz/assets/Uploads/Research/Documents/National-Freight-Demand-Study-Mar-2014.pdf
[17] ATAP, Foundation Report.
[18] http://www.port-tauranga.co.nz/images.php?oid=3009
[19] Ministry of Transport, 2012, Fleet Profile.

the area which now account for up to 20% of all traffic on some major roads. The local road network is inadequate to meet the demands of businesses and residents and this has created recognisable issues with traffic congestion and safety.

The EWL was identified as a priority by the government in the Prime Minister's address to the Auckland Chamber of Commerce on 28 June 2013 which identified the importance of the economic contribution to the Auckland and national economy made by industrial and transport/logistics businesses and re-iterated the conclusion of the Auckland Plan, that there was a need for investment in transport solutions for the area to support the area's economic functions. The Prime Minister re-confirmed that the EWL is a government priority in his speech to the Auckland Chamber of Commerce on 27 January 2016.

2.6 Summary

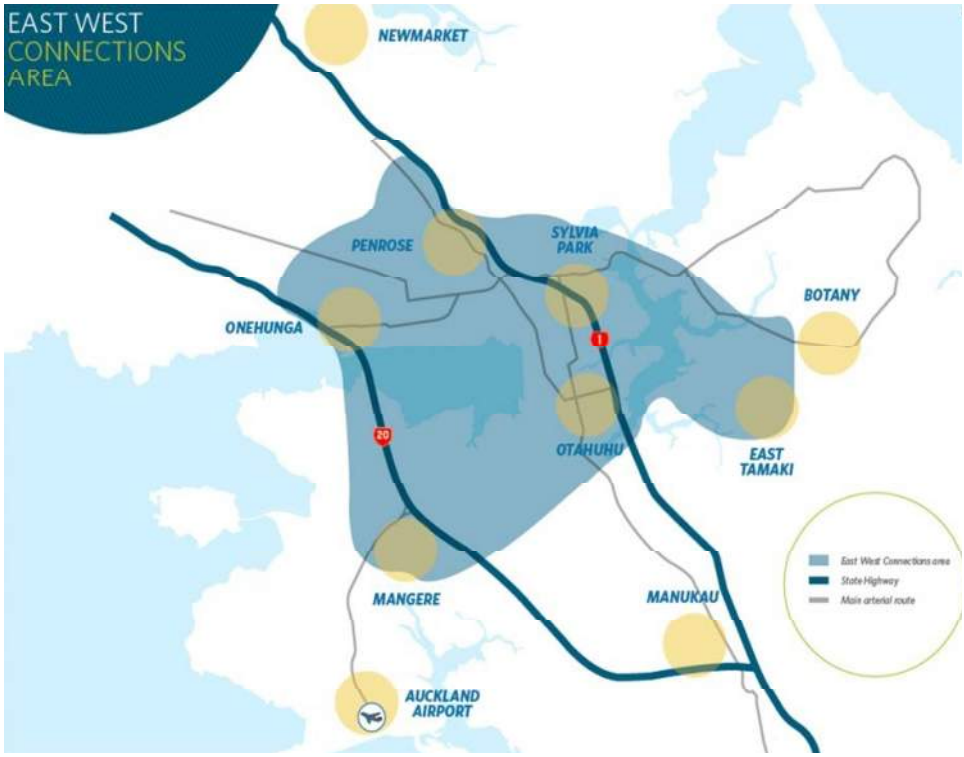
Projected population and employment growth will have a significant impact on existing roads and public transport services in Auckland, as travel demand increases. The EWL is specifically recognised by the Auckland Plan and ATAP[20] as a necessary extension to the existing transport network to ensure that the strategic road, rail and public transport networks have sufficient capacity and resilience to operate effectively and more specifically to improve access to Southdown rail hub and major employment areas in the locality.

[20] Note: The EWL is a key element of the EWC programme referred to by ATAP.

3 East West Connections Area: Wider Project Area Economic Context

The report makes reference to two geographic areas. The initial economic research used to support the Strategic Case for the EWC programme focused on the wider EWC area located between Penrose, Onehunga, the Airport and East Tamaki. As options were refined, firstly at the programme level and then at a project level, the focus of investigation was narrowed to the EWL area. The economic context of the wider EWC area provides a useful backdrop to the more localised economic situation of the EWL area.

Figure 3-1: East West Connections Area



This area is highly significant for Auckland's economy. In 2012 the EWC area contributed $10.22 billion to GDP, 16 per cent of Auckland's total GDP. If the area was a separate regional economy within New Zealand it would rank sixth in terms of GDP and the area's economy is of an equivalent size to the economies of the Bay of Plenty, Manawatu-Whanganui or Otago.

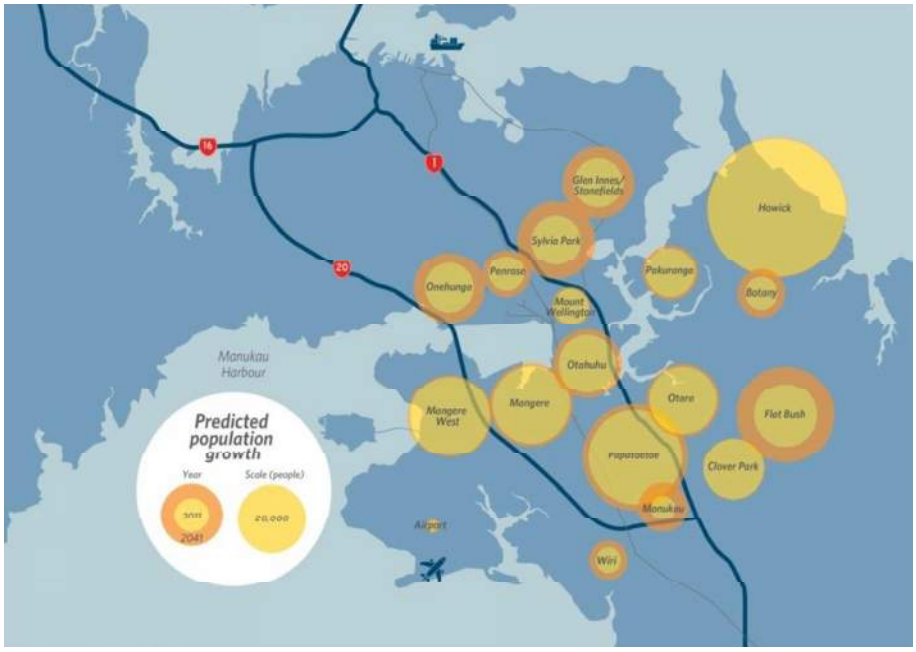
Approximately 135,400 people were employed in the EWC area in 2012, accounting for over 21 per cent of Auckland's employment. The largest concentrations of employees are found in the Penrose, Auckland Airport and East Tamaki sub-areas.

The EWC area contains almost 40% of the region's employment in the manufacturing sector and is a regional hub for transport and distribution. As well as the major industry sectors of manufacturing, wholesale trade, storage and transport the business services and finance sectors are continuing to grow in importance.

Statistics New Zealand and BERL projections indicate strong population and employment growth within, and around the EWC area, as illustrated in Figures 3.2 and 3.3:

Figure 3-2: Predicted Employment Growth 2011-2041

Figure 3-3: Predicted Population Growth 2011-2041



Source: Statistics NZ and BERL

4 The East West Link Area Economic Context

4.1 GDP/Output level and changes over time

The East West Link (EWL) area covers the areas of Onehunga, Penrose, Mt Wellington and Ōtāhuhu, within the wider EWC area described in Section 3.[21] Due to the immediate problems north of the Māngere Inlet, these areas were chosen from within the wider area.

The economic contribution of the EWL area is both regionally and nationally significant, with the area generating approximately $4.7 billion of output (GDP) in 2012, or 7.5 per cent of Auckland's total output.

Table 4-1: EWL GDP (Output) by Sub Area ($ billion)

GDP (Output)	2001	2006	2012
Penrose Onehunga	2,219	2,421	2,298
Mt Wellington/ Ōtāhuhu	1,976	2,110	2,392
Total EWL Area	4,195	4,531	4,690
EWL % Akl GDP	9.06%	8.02%	7.47%
Auckland	46,300	56,529	62,789

The value of the EWL area's output has grown by almost $0.5 billion between 2001 and 2012, although the area's economy grew at a slightly slower rate than the region as a whole. This is partly reflective of the EWL area's economic structure, with a high concentration of manufacturing activity, and partly because of productivity constraints as a result of congestion.

At a more disaggregated level, the value of output from the Onehunga/Penrose area increased by 3.6 per cent between 2000 and 2012 but declined between 2006 and 2012, due to a combination of the global financial crisis and structural changes in the economy leading to a decline in manufacturing activity. On the other hand, the Mt Wellington and Ōtāhuhu areas have grown strongly.

4.2 Overall Employment and Changes over Time

The EWL area is a major employment area in Auckland and accounted for 9.8 per cent of Auckland's employment in 2012 and 9.9 per cent by 2015. Between 2000 and 2015 the area added almost 13,000 new jobs, with employment growth of 23.4 per cent over this period, compared with regional growth of 33.3 per cent.

Table 4-2: Employment in the EWL Area

	NZ	Auckland	EWL Area	Onehunga/ Penrose	Mt Wellington	EWL % of Region
2000	1,596,310	521,040	55,515	27,785	27,730	10.7%
2006	1,891,480	615,940	60,925	31,760	29,165	9.9%
2012	1,930,620	643,800	62,925	29,820	33,105	9.8%

[21] In earlier studies East Tamaki has sometimes been included within the core project area.

	NZ	Auckland	EWL Area	Onehunga/ Penrose	Mt Wellington	EWL % of Region
2015	2,045,610	694,630	68,500	33,820	34,680	9.9%

Although between 2000 and 2015 employment in the EWL area has grown at a slightly slower rate than the region as a whole, the area remains a regionally significant employment location.

Table 4-3: Employment growth the EWL Area (from 2000)

All Sectors	Auckland	EWL Area	Onehunga/ Penrose	Mt Wellington
2006	18.2%	9.7%	14.3%	5.2%
2012	23.6%	13.3%	7.3%	19.4%
2015	33.3%	23.4%	21.7%	25.1%

Within the area, there are noticeably different patterns of employment growth and these patterns have changed over time. Between 2000 and 2015 employment in Onehunga/Penrose grew faster until 2016, whilst employment in Mt Wellington grew more quickly between 2006 and 2012.

Focusing on recent trends, between 2012 and 2015 the strongest employment growth in the EWL area was observed in the Onehunga/Penrose area, which grew by 13.4 per cent compared with 7.9 per cent for Auckland overall and 4.8 per cent for the Mt Wellington area.

Table 4-4: Employment growth in Auckland and EWL Area (2012 - 2015)

Auckland	EWL Area	Onehunga/ Penrose	Mt Wellington
7.9%	8.9%	13.4%	4.8%

4.3 Employment Composition and the Economic Structure of the EWL Area

The EWL area's employment composition reflects the area's role as Auckland's main manufacturing location and a major hub for transport and logistics, with firms taking advantage of the area's proximity to key markets and the strategic road and rail network.

Table 4-5: EWL area employment and share by sector (number employed and proportion of area's employment by sector)

	EWL Area Total	Transport & Warehousing	Manufacturing	Construction	Adv Business Services*	Retail	Other
2000	55,515	17,992	15,627	3,533	8,316	2,568	7,479
2006	60,925	17,420	15,000	6069	12,598	3,134	6,704
2012	62,925	16,340	13,625	6333	14,308	4,825	7,494

	EWL Area Total	Transport & Warehousing	Manufacturing	Construction	Adv Business Services*	Retail	Other
2015	68,500	17,688	12,935	6363	17,414	4,970	9,130
2000		32.4%	28.1%	6.4%	15.0%	4.6%	13.5%
2006		28.6%	24.6%	10.0%	20.7%	5.1%	11.0%
2012		26.0%	21.7%	10.1%	22.7%	7.7%	11.9%
2015		25.8%	18.9%	9.3%	25.4%	7.3%	13.3%

* Financial services, property services, professional services and admin services

Employment in the EWL area is heavily concentrated in the transport & warehousing and manufacturing sectors, with the two sectors combined accounting for almost half of the area's total employment in 2015. However, the data also points to a reduction in the dominance of these two sectors over time. The share of the EWL area employment accounted for by transport & wholesaling and manufacturing is falling, from 32 per cent and 28 per cent respectively in 2000 to 26 per cent and 19 per cent in 2015, whilst construction, retail and particularly business services have all increased their share of employment. At the same time, advanced business services has become a significant employment sector in the area and now account for 25 per cent of the area's employment.

Economically, whilst the EWL area remains a stronghold of manufacturing and distribution activity in terms of the value of output and employment, the data confirms that the area is evolving into a more complex economic structure, becoming more service oriented, with a developing employment profile which is a little more reflective of the region in general over time. The Onehunga Town Centre area is predominantly retail and commercial activities.

However, the area also has a long way to go before it loses its distinctive character as an industrial and transport oriented stronghold. To emphasise this point, the following table shows that the EWL area contains 27.3 per cent of the region's and 12.5 per cent of New Zealand's employment in transport and wholesaling and 31.2 per cent of the region's and 10.3 per cent of New Zealand's manufacturing employment.

Table 4-6: EWL area employment by key sector compared to Region and NZ

Transport and Warehousing	NZ	Auckland	EWL Area	EWL as % of Region	EWL as % of NZ
2000	175,810	79,670	17,992	22.6%	10.2%
2006	191,460	88,030	17,420	19.8%	9.1%
2012	186,960	85,510	16,340	19.1%	8.7%
2015	195,050	89,590	17,688	19.7%	9.1%

Manufacturing	NZ	Auckland	EWL Area	EWL as % of Region	EWL as % of NZ
2000	238,550	83,320	15627	18.8%	6.6%
2006	250,290	84,540	15000	17.7%	6.0%
2012	214,040	72,130	13625	18.9%	6.4%
2015	219,650	72,450	12935	17.9%	5.9%

Therefore, despite the ongoing process of transformation the EWL area remains a strongly industrialised area and a highly desirable location for logistics firms. This desirability can be seen in land use changes between 1996 and 2015, as commercial land has substantially increased its share of total land in the EWL area.

5 Economic effects of the EWL

5.1 The EWL Area's Economy and Transport

The economic function of the EWL area, with its focus on manufacturing, wholesaling, transport and distribution is strongly influenced by the historically good level of accessibility offered by the transport system. This is particularly the case for transport and logistics activities which benefit from the access to both rail and the strategic transport network.

In the future, the expected increase in and changing nature of employment within the EWL area will place increasing pressure on the transport system, but in importantly different ways. Employment growth in service activities is expected to place increasing pressure on the transport system at peak times, leading to increasing conflict between freight and commuter traffic as freight traffic also grows.

The growth in freight traffic will be partly driven by an increasing level of specialisation within the transport and logistics sector which can be observed within the area, with the growing concentration of road/rail freight activities around Westfield and Southdown as logistics companies invest in specialised facilities to take advantage of the unique combination of a road/rail interface connected to the country's two major ports in proximity to central Auckland.

An important observation is that freight volumes within the area are more closely linked to regional and upper North Island consumption levels and growth rather than local employment forecasts relating to the transport sector. With the development of advanced handling techniques the relationship between employment and freight volumes is likely to change with increases in freight volumes being achieved with relatively lower increases in employment. However, it is expected that increasing regional demand for consumable goods as a consequence of ongoing population and economic growth will result in increasing in transport activity within the EWL area. To meet customer needs these movements will occur throughout the working day, which for this sector may extend beyond 12 hours per day.

At the local level, Port of Tauranga has expressed ambitious plans to increase the volume of freight through MetroPort. There is available capacity and space for the inland port to expand by making more intensive use of the existing land and plans are underway to allow this expansion to take place. There are also intentions to introduce longer trains and additional services. A key element of the efficiency of the inland port is good access by road. Increasing congestion on Neilson Street would raise the risk that the inland port will becomes less favourable, limiting potential for growth in rail freight and the resulting cost savings to all users. Providing better access to Neilson Street and increasing the capacity of the connection would improve the flow into and out of the inland port.

Capacity on the rail network may become an issue, with the timing of the section of the southern third freight line from Southdown an important consideration as well as steps to upgrade the capacity of the East Coast Main Trunk line between Hamilton and Tauranga. Maximising the potential of the inland port will require the consideration of the balance between road access, rail capacity and land development.

The EWL provides an opportunity to reduce congestion for businesses and improve connectivity; between firms and markets and between workers and jobs. This is expected to result in increased business productivity, through greater efficiency, faster travel times and reduced operating costs. This in turn will increase returns to business and provide incentives to increase investment and output. Providing a transport system which can keep pace with growth will deliver economic benefits to both Auckland and New Zealand.

5.2 Transport and Land Use Integration – The Planning Context

Increased accessibility to and within the EWL area will tend to be reflected in rising land values and left unchecked will be likely to result in the relocation of certain lower value activities away from this area. It is, however, uncertain as to whether the space vacated will be taken up by an expansion of the distribution and logistics or manufacturing activities for which parts of the area has particular

advantages or whether it will encourage new types of activities, possibly supporting those already in the area, to move in.

While the continuing trend is that the economy of the area may gradually transform away from manufacturing towards business services and become more reflective of the overall regional economic structure, the Auckland Council, through the Proposed Auckland Unitary Plan Decisions Version has applied zoning and other regional planning provisions to protect the existing parts of the area used by industries such as manufacturing and distribution to restrict and minimise any further encroachment of business service or retail activities (via non-complying activity status) into these industrial areas (with the exception of Onehunga Town Centre). These provisions have not been appealed and are now the operative planning provisions for the area. This approach to land use planning is consistent with the strategic direction within the Auckland Plan. The lessons from other parts of Auckland show that if this approach is not followed the resulting economic structure of the EWL area may not be consistent with planning aspirations.

5.3 Firm Interviews

In an earlier study[22] the author interviewed 19 firms mainly within the study area, selected to reflect the geographic spread and the nature of the activities in the area.[23] These included transport, logistics and manufacturing firms in Onehunga-Penrose and business service providers in Ellerslie/Greenlane. The surveys provided a richer, contextual understanding of the ways in which the level of transport provision influenced the economic performance of the area and helps illustrate how the consequences of a lack of transport investment might impact on the economic performance of businesses in the area.

The survey highlighted a number of economic advantages of the EWL area which may influence future patterns of development and consequentially, transport patterns. The main benefits were seen to be; its central location in relation to the main industrial areas of Auckland, proximity to customers and suppliers and proximity to good transport links. As the number of businesses within this area has grown, the comparative advantages of the area have increased and the linkages between businesses, and their suppliers and customers have grown in importance. Interview respondents indicated the desirability of the EWL area has grown due to the proximity to the inland port, Auckland International Airport, and the Ports of Auckland.

The survey indicated that firms operating in the area have been required to adapt to the levels of congestion on both the local road network and across the Auckland road network by a combination of:

- Adjusting their patterns of operations as far as possible to avoid the worst periods of congestion, starting early in the morning and finishing before the main evening peak.
- Transport firms typically undertake their longer deliveries in the early morning when traffic flows and congestion are relatively low and switch to more local movements in the middle of the day when traffic flows are higher.
- Increasing the level of resources required to meet their transport needs. This results in increases in costs and reductions in both employee and vehicle productivity but this is seen as the price to be paid for operating within a busy urban area.

East to west connections through the area are limited and do not provide particularly high quality routes, being either somewhat convoluted or passing through sensitive areas. Interview respondents identified that the key freight transport issues include a lack of a good east-west connection, and increasing congestion on the road network at particular pinch points. For a number of firms in the area, freight

[22] Sanderson, K.,Stokes,F., Paling, R. and Williamson, J. 2013, An Economic Assessment of MMEWS: For the strategic assessment and programme business case.
[23] List of interviewed firms at Appendix B4.

activities are time critical and firms are unable to work outside the congested times given customer expectations and the need to develop good relationships with customers.

Overall, it was felt by respondents that poor east west connectivity in the area has an impact on the productive potential of the economy, particularly because of the additional cost and travel time incurred by businesses. Of the firms interviewed, the majority indicated that reductions in congestion would increase their efficiency and reduce their costs, allowing them to undertake the same freight task with reduced resources, leading to increased competitiveness. This supports the view that improving connectivity and reducing congestion for businesses will be likely to result in better business productivity through greater efficiency, faster travel times and reduced costs to business.

The firms interviewed mainly indicated that they see improvements in freight travel times being translated into lower costs for handling the same volumes, rather than being translated into higher levels of output. This reflects the fact that freight transport is a derived demand, responding to the volume of freight and that a change in the price of transport may not immediately lead to a change in freight volumes. However, a reduction in the cost of transport will improve margins for others in the supply chain, which could lead to reduced prices and increased demand over time, which would increase freight volumes.

An important question was to what extent have businesses modified their work practises to deal with traffic congestion experienced by employees? Firstly, traffic congestion was identified as a problem, from the point of view of getting employees to and from work in the area. Travel to work data reveals that the majority of employees live further than five kilometres from their workplace, and drive and public transport, active modes, and car-pooling were not modes of transport generally used by these employees. Off-street parking was provided by many companies, and for those companies that do not provide parking on-site, there was relatively easy access to free car parking on the street. There is currently little or no incentive for these employees to use public transport or active modes.

Although considerable focus is placed on freight movements in the EWL area, commuting traffic impacts significantly on the capacity of the transport corridors into and out of the area, particularly during peak times. To address commuting problems experienced by workers, many businesses spoken to as part of this study have adopted flexible work practises where possible, including employees starting from home and going to client visits first rather than the office or work premises; employees working from home and using broadband to remote access work documents and email; or employees working flexible hours such as 7am to 4pm or 10am to 6pm, to take account of traffic congestion. People in office roles generally work flexible hours where they start as early as 6am and leave in the early afternoon. However, in a lot of cases businesses have to operate within working hours of 7am to 7pm to match customer expectations and provide customer relationship/interface opportunities which are considered extremely important by most firms surveyed.

The interview respondents expressed a range of views, but in general public transport was considered to be unreliable, expensive, time-consuming and inflexible. It was felt that public transport would need to be cheap, easily available, reliable and convenient for people in the study area to use if it was to become a viable alternative to the private car.

Looking at the development picture, transport firms in the Onehunga-Penrose area regard it as the best place to be, given their needs. The area offers these firms good accessibility to customers in the main manufacturing belt in the region, the strategic road network, the port and rail, which is becoming more important. This could lead to the redevelopment of brownfield sites in the area. As an example, a major logistics firm, who had previously chosen to locate close to the airport due to lower costs confirmed that they were seeking to establish a facility along Neilson Street which would allow them to offer a good rail connection for their clients, who see advantages for rail both in terms of transport costs and in terms of the environmental sustainability of their operations. This firm has now developed a facility in the Neilson Street area. This is a sign of increasing specialisation within the transport sector, with operators taking advantage of specific locational advantages. MetroPort is also looking to expand their site to allow increases in throughput and this is being pursued by a rationalisation of the land holdings in the area, which would also provide opportunities for other operators to take advantage of the rail connections in the area.

5.4 Implications for Transport from Industry and Employment Changes

The observed changes in industry and employment structure are important from a transport perspective, and particularly so if these trends continue.

The changing nature of the industry mix in the EWL area is likely to lead to an associated change in the range of firms' transport needs, commuting patterns and residential development. It is therefore important to consider how anticipated changes in industry structure at the EWL area levels might impact on transport needs.

Within the EWL area, the growth of the business services, finance and government sector is reshaping the economic and spatial structure of parts of this area. The growth of this sector is not evenly distributed, with locations such as One Tree Hill East, Onehunga North West and Mt Wellington South, around the periphery of the area (and also Highbrook which is adjacent to the EWL area) having significantly increased business services activities supporting the industrial and distribution activities in more core locations.

The expansion of business services in an area is typically associated with a higher number of employees per hectare than the goods-producing and distribution industries. Expansion of business services, not accompanied by the provision of a higher level of access to public transport and/or active modes, can be expected to exacerbate the congestion of an area. This is particularly an issue during commuting peak times which may also have development potential.

Overall, three key themes can be identified from the data which, if not addressed will be likely to exacerbate constrained growth in the EWL area, and have influenced the decision making through the investigation and planning phase of the EWL:

- **More freight traffic**: Transport intensive activities are growing in the area, due to outside factors, such as population growth increasing demand for consumer goods, and the presence within the area of a concentration of key intermodal transfer points and major distribution centres. A result of this will be an increase in freight trips within and through the area. A related consequence may well be increasing demand for supporting freight rail services, as transport and logistics operations become more multimodal.

- **More private vehicles:** As employment increases generally within the area, there will be a corresponding increase in commuting trips. The area is poorly served by passenger transport and many workplaces are low density and located too far from main roads to make walking from bus routes practical. The result is that increased commuting to the areas with low employment density will primarily be reflected in increased numbers of private vehicles.

- **More congestion in peaks:** The structural change in economic activity taking place in parts of the EWL area, as service activity grows will generate increasing pressures on the transport system, but this pressure may be felt unevenly across the area because of the location of particular types of activity and through the relative transport and labour intensity of different activities. For example, as employment in the business and financial services sector grows access for workers around peak hours will become a more pressing issue with increasing conflicts during these times between commuter and business trips a likely result.

5.5 Economic Benefits of the EWL

The economic benefits of the EWL will be realised through the Project's ability to address the problems, and issues clearly outlined in the Detailed Business Case (Dec 2015). The identified transport problems in the Project area (outlined in the Project's Investment Logic Map, developed as part of the Strategic Case for the Project and also in *Volume 2: Technical Report 1-Traffic and Transport*) are:

- Inefficient transport connections increase travel times and constrain the productive potential of Auckland and the upper North Island;

- Lack of response to changes in industry's supply chain strategies leads to greater congestion, unpredictable travel times and increased costs; and
- Quality of transport choices is inadequate and hinders development of liveable communities.

The more specific transport issues the Project is intended to address include:

- Difficulty in accessing SH20 at Onehunga Mall;
- High frequency of freight on Neilson Street and Church Street for majority of the working day; and
- No signalised access to and from major freight hubs, and indirect southbound connection on SH1.
- Poor cycle connections and lack of reliable public transport between centres.

The EWL delivers the following benefits, which clearly respond to the identified problems and issues and which link directly to improving the economic performance of the EWL area:

- Improving travel time and travel reliability between Onehunga–Penrose area and SH1 and SH20;
    - Travel times for trucks accessing SH1 improved by up to 13 minutes, and accessing SH20 improved by up to four minutes.
    - Provides an enduring response to the area's transport problems with a sustained reduction in traffic along both Neilson Street and Church Street. By providing an entirely new corridor between SH1 and SH20, traffic is diverted to the new corridor, removing pressure along the existing corridor. Up to 7,800 vehicles per day are removed from this section of Neilson St.
    - The provision of an alternate corridor results in a reduction of general traffic and heavy vehicles from other key arterials and local roads in the Onehunga area, including Church Street and Mt Smart Road. These areas are predominantly residential in nature and as such, reduction in traffic volumes is likely to have a positive impact on safety and amenity.
    - Reduces congestion accessing properties, including 16,400 vpd (52%) reduced on Neilson St, 6,800 vpd (14%) reduced on Church Street and 11,300 vpd (34%) reduced on Great South Road.
- Improving journey time reliability for buses between SH20 and the Onehunga Town Centre.
    - Travel times for buses accessing Onehunga from SH20 improved by between five and six minutes in peak periods.

By reducing congestion on the road network within the Project area the EWL will benefit freight transport which will support the area's economy, as a reduction in congestion will reduce cost and travel time incurred by businesses, increasing efficiency and allowing them to undertake the same task with reduced resources. In this way improving connectivity and reducing congestion for businesses will be likely to result in better business productivity. Improvements in freight travel times can be translated into a reduction in the cost of transport which will improve margins for others in the supply chain, and could lead to reduced prices and increased demand over time.

Within the three sub-areas of the EWL area, the economic effects are expected to reflect each area's economic characteristics:

- In Onehunga-Penrose, improved accessibility into, through and from the area provided by the EWL, combined with access to the rail freight hub will encourage transport and logistics firms to further expand their activities in this area to take advantage of this unique set of circumstances. The area's proximity to the industrial belt of the Region which extends roughly from the Rosebank

area in the west through to East Tamaki in the south east, is likely to stimulate further developments in storage and distribution. Lower traffic volumes through the Onehunga Town Centre will support potential regeneration.

- For Mt Wellington, a wider level of complementary activities make this a particularly attractive location for the development of business services, particularly to serve the growing needs of the industries there and possibly further west. Historic growth in this sector has been strong, and this is likely to continue over the short-term at least. The improved access for commuters provided by the EWL will be expected to support this pattern of growth.

- Ōtāhuhu benefits from access to rail and improved access to the strategic highway network, particularly SH20. This is expected to result in further growth in wholesaling and transport within the area.

Overall, the EWL will contribute positively to the delivery of the vision within the Auckland Plan, with the Project area identified as a key employment area with future growth potential. Delivery of the Project, in conjunction with operative zoning, will support the manufacturing nature of the area and the growth of transport and distribution activity, supporting a core economic function of the EWL area.

At the same time, the expected increase in and changing nature of employment within the EWL area will be supported through the relief of pressure on the transport system, reducing conflict between freight and commuter traffic.

6 Conclusions

Transport demand in Auckland is expected to continue growing in line with population, whilst the economy of the EWL area continues to expand, placing increasing pressure on the area's already stressed transport network.

The EWL area's economy is dominated by transport and manufacturing activity, but it is also evolving with the business services sector becoming increasingly important. The transport sector will continue to play a strong role in the EWL area's economy with increasing demand for transport and logistics services due to growing regional demand for consumable goods and the increasing importance of the interface between road and rail freight at Southdown.

From an economic perspective, the EWL has been planned to address the following requirements, which support the growth and development of the area's economy, in line with the aspirations of the Auckland Plan:

- Increasing growth in transport, warehouse and distribution activity will lead to an increase in freight trips to, from and within the area.
- Increasing employment within the area will lead to increasing pressure on the transport system at peak hours as commuting trips increase.
- Economic growth in the area is likely to result in specific pressures on the transport network, for example, greater movements of heavy vehicles, in and around Onehunga and Penrose.
- Over and above these local factors, travel demand is expected to increase as a consequence of regional population and economic growth.
- Overall, the EWL will contribute positively to the delivery of the vision within the Auckland Plan, with the Project area identified as a key employment area with future growth potential. Delivery of the Project, in conjunction with appropriate zoning, will support the manufacturing nature of the area and the growth of transport and distribution activity, supporting a core economic function of the EWL area.

The additional transport capacity provided by the EWL will support the growth of the Project area's economy and of Auckland's economy.

Appendix A

Data

Table A1.1: Employment in the EWL Area 2000-2015

Year	Onehunga - Penrose	Mt Wellington - Ōtāhuhu	EWL Area	Auckland	NZ
2000	27,785	27,730	55,515	521,040	1,596,310
2001	26,810	27,965	54,775	522,710	1,622,790
2002	28,020	25,895	53,915	534,650	1,670,660
2003	29,315	27,085	56,400	556,510	1,725,320
2004	30,150	28,330	58,480	581,280	1,796,130
2005	31,900	29,155	61,055	601,750	1,856,970
2006	31,760	29,165	60,925	615,940	1,891,480
2007	32,230	31,330	63,560	629,470	1,931,110
2008	30,380	32,020	62,400	645,810	1,977,250
2009	28,990	33,410	62,400	624,150	1,928,210
2010	28,840	32,230	61,070	616,350	1,902,170
2011	30,210	32,215	62,425	628,310	1,912,650
2012	29,820	33,105	62,925	643,800	1,930,630
2013	30,630	32,610	63,240	651,840	1,946,100
2014	31,580	32,755	64,335	670,020	1,999,240
2015	33,820	34,680	68,500	694,630	2,045,610

Table A1.2: Annual Employment Change in the EWL Area 2000-2015

Year	Onehunga - Penrose	Mt Wellington - Ōtāhuhu	EWL Area	Auckland		NZ
2000						
2001	-975	235	-740	1,670		26,480
2002	1,210	-2,070	-860	11,940		47,870
2003	1,295	1,190	2485	21,860		54,660
2004	835	1,245	2080	24,770		70,810
2005	1,750	825	2575	20,470		60,840
2006	-140	10	-130	14,190		34,510
2007	470	2,165	2635	13,530		39,630
2008	-1,850	690	-1160	16,340		46,140
2009	-1,390	1,390	0	-21,660		-49,040
2010	-150	-1,180	-1330	-7,800		-26,040
2011	1,370	-15	1355	11,960		10,480
2012	-390	890	500	15,490		17,980
2013	810	-495	315	8,040		15,470
2014	950	145	1095	18,180		53,140
2015	2,240	1,925	4165	24,610		46,370

Table A1.2a: Employment Change in the EWL Area 2000-2015

Year	Onehunga - Penrose	Mt Wellington - Ōtāhuhu	EWL Area	Auckland	NZ
2000					
2006	3,975	1,435	5,410	94,900	295,170
2012	-1,940	3,940	2,000	106,760	39,150
2015	4,000	1,575	5,575	111,160	114,980

Table A1.3: Annual Employment % age change in the EWL Area 2000-2015

Year	Onehunga - Penrose	Mt Wellington - Ōtāhuhu	EWL Area	Auckland	NZ
2000					
2001	-3.5%	0.8%	-1.3%	0.3%	1.7%
2002	4.5%	-7.4%	-1.6%	2.3%	2.9%
2003	4.6%	4.6%	4.6%	4.1%	3.3%
2004	2.8%	4.6%	3.7%	4.5%	4.1%
2005	5.8%	2.9%	4.4%	3.5%	3.4%
2006	-0.4%	0.0%	-0.2%	2.4%	1.9%
2007	1.5%	7.4%	4.3%	2.2%	2.1%
2008	-5.7%	2.2%	-1.8%	2.6%	2.4%
2009	-4.6%	4.3%	0.0%	-3.4%	-2.5%
2010	-0.5%	-3.5%	-2.1%	-1.2%	-1.4%
2011	4.8%	0.0%	2.2%	1.9%	0.6%
2012	-1.3%	2.8%	0.8%	2.5%	0.9%
2013	2.7%	-1.5%	0.5%	1.2%	0.8%
2014	3.1%	0.4%	1.7%	2.8%	2.7%
2015	7.1%	5.9%	6.5%	3.7%	2.3%

Table A1.3a: Employment % age change in the EWL Area 2000-2015

Year	Onehunga - Penrose	Mt Wellington - **Ōtāhuhu**	EWL Area	Auckland	NZ
2000					
2006	14.3%	5.2%	9.7%	18.2%	18.5%
2012	-6.1%	13.5%	3.3%	20.4%	2.1%
2015	13.4%	4.8%	8.9%	20.8%	6.0%

Table A1.4 EWL Area GDP and Change in GDP over Time

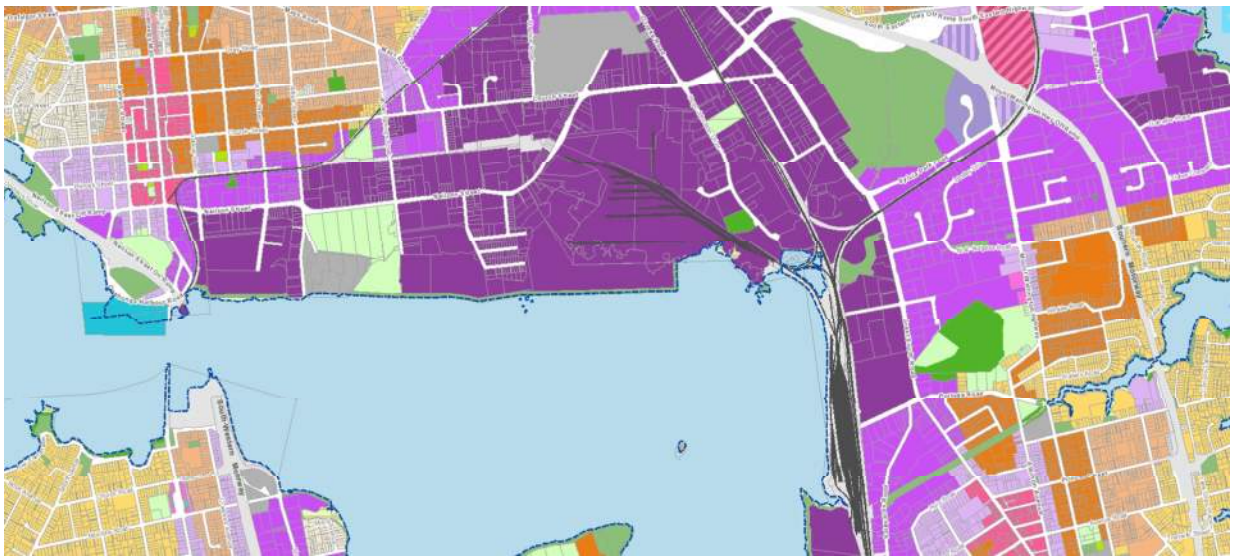
GDP ($ B)	**2001**	**2006**	**2012**
Penrose Onehunga	2,219	2,421	2,298
Mt Wellington/ Ōtāhuhu	1,976	2,110	2,392
Total EWL Area	4,195	4,531	4,690
EWL as %age of Akl GDP	9.06%	8.02%	7.47%
Total Auckland GDP	46,300	56,529	62,789
Change in GDP	**2001**	**2006**	**2012**
Auckland ($B)	46,300	56,529	62,789
% 01-06 & 06 -12		22.10%	11.10%
% 01-12			35.60%
Penrose Onehunga ($B)	2,219	2,421	2,298
% 01-06 & 06 -12		9.10%	-5.10%
% 01-12			3.60%
Mt Wellington/ Ōtāhuhu **($B)**	1,976	2,110	2,392
% 01-06 & 06 -12		6.80%	13.40%
% 01-12			21.10%

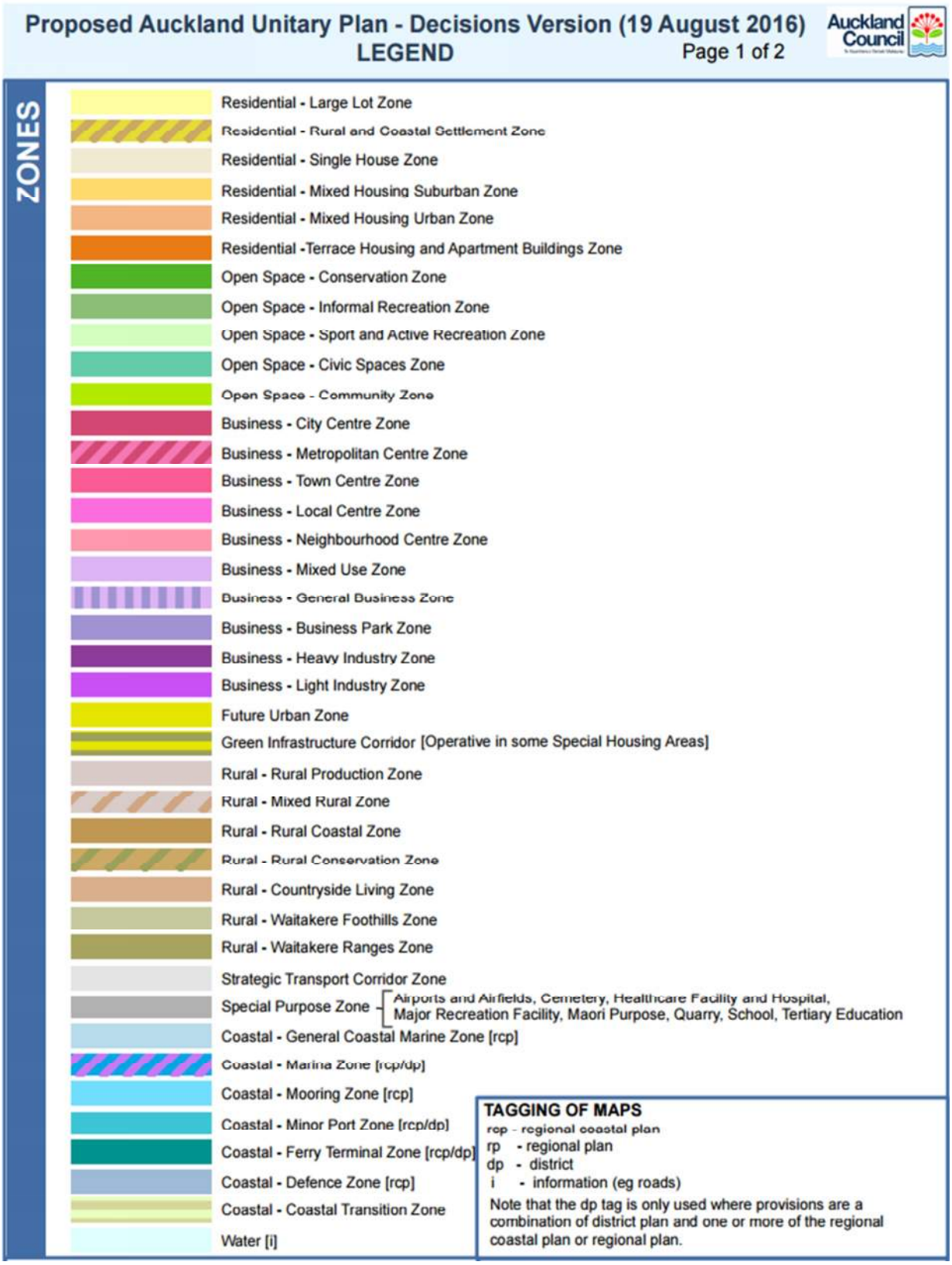
Table A1.5 Employment Share by Sector EWL Area 2000 - 2015

2000	EWL Area	Share within EWC Area
Transport and Warehousing	17,992	32%
Manufacturing	15,627	28%
Construction	3,533	6%
Advanced Business Services	8,316	15%
Total	55,515	
2006	**EWL Area**	**Share within EWC Area**
Transport and Warehousing	17,420	29%
Manufacturing	15,000	25%
Construction	6,069	10%
Advanced Business Services	12,598	21%
Total	60,925	
2012	**EWL Area**	**Share within EWC Area**
Transport and Warehousing	16,340	26%
Manufacturing	13,625	22%
Construction	6,333	10%
Advanced Business Services	14,308	23%
Total	62,925	
2015	**EWL Area**	**Share within EWC Area**
Transport and Warehousing	17,688	26%
Manufacturing	12,935	19%
Construction	6,363	9%
Advanced Business Services	17,414	25%
Total	68,500	

Appendix B

Operative zoning under PAUP




Proposed Auckland Unitary Plan - Decisions Version (19 August 2016)
LEGEND
Page 1 of 2
Auckland Council
ZONES
Residential - Large Lot Zone
Residential - Rural and Coastal Settlement Zone
Residential - Single House Zone
Residential - Mixed Housing Suburban Zone
Residential - Mixed Housing Urban Zone
Residential -Terrace Housing and Apartment Buildings Zone
Open Space - Conservation Zone
Open Space - Informal Recreation Zone
Open Space - Sport and Active Recreation Zone
Open Space - Civic Spaces Zone
Open Space - Community Zone
Business - City Centre Zone
Business - Metropolitan Centre Zone
Business - Town Centre Zone
Business - Local Centre Zone
Business - Neighbourhood Centre Zone
Business - Mixed Use Zone
Business - General Business Zone
Business - Business Park Zone
Business - Heavy Industry Zone
Business - Light Industry Zone
Future Urban Zone
Green Infrastructure Corridor [Operative in some Special Housing Areas]
Rural - Rural Production Zone
Rural - Mixed Rural Zone
Rural - Rural Coastal Zone
Rural - Rural Conservation Zone
Rural - Countryside Living Zone
Rural - Waitakere Foothills Zone
Rural - Waitakere Ranges Zone
Strategic Transport Corridor Zone
Special Purpose Zone - Airports and Airfields, Cemetery, Healthcare Facility and Hospital, Major Recreation Facility, Maori Purpose, Quarry, School, Tertiary Education
Coastal - General Coastal Marine Zone [rcp]
Coastal - Marina Zone [rcp/dp]
Coastal - Mooring Zone [rcp]
Coastal - Minor Port Zone [rcp/dp]
Coastal - Ferry Terminal Zone [rcp/dp]
Coastal - Defence Zone [rcp]
Coastal - Coastal Transition Zone
Water [i]
TAGGING OF MAPS
rcp - regional coastal plan
rp - regional plan
dp - district
i - information (eg roads)
Note that the dp tag is only used where provisions are a combination of district plan and one or more of the regional coastal plan or regional plan.

Appendix C

Firms Interviewed

These firms were interviewed in 2013 to inform an earlier report:

Sanderson, K.,Stokes, F., Paling, R. and Williamson, J. 2013, An Economic Assessment of MMEWS: For the Strategic Assessment and Programme Business Case.

1. Toll
2. Linfox
3. Seamount
4. Cromptons
5. Reclaim
6. Car Distribution Group
7. MetroPort
8. Doorways
9. Bakels NZ Ltd
10. Laminex Group Ltd
11. Electrix
12. CHH Penrose Mill
13. Charta Packaging
14. Yates NZ
15. Amway
16. McAlpine Hussmann
17. BOC Gases
18. Mico Metals
19. Spicer Paper