



# Whangarei Airport – Location Options Study

## High level commentary on the future distribution of economic activity across Northland

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The Whangarei District Council is exploring the options that are available to future proof the district airport. The role of the airport in stimulating and supporting local economic activity, is well documented. But, over the long term the current location is at risk. As part of considering the options, the Council is looking at the spatial distribution of population and business activity throughout Northland. StatsNZ provides sub-regional population data and illustrates the anticipated future population distributions. Official information about the future spatial distribution of economic activity through Northland is not available.

Market Economics (M.E) have developed several economic models and tools that can be used to shed light on the potential future patterns of business and economic activity. Crucially, these models are not forecasting, because it is impossible to forecast the future economy and the associated spatial distributions – there are simply too many variables and parameters to consider. Therefore, a scenario approach is used to test the potential outcomes/patterns under different growth assumptions. The commentary presented in this short paper is based on a desktop growth scenario. Ideally, the scenario approach is discussed with local industry stakeholders and champions, to reflect local investment intentions, capture the dynamics associated with the business growth and growth drivers. Using a scenario approach is preferable because it shows the range of outcomes. The range is more valuable, and accurate, than a single number. Looking forward, it would be valuable to redefine the desktop scenario as used for this commentary.

Ultimately, the purpose is to comment on the likely distribution of economic activities and employment throughout Northland over the next 25-years or so. As part of this commentary we are also looking at the potential effects of key regional development projects and the visitor market and attractions.

### Current levels and recent trends

*Note: this section uses 2010 Dollar values and the trend analysis uses 2016 Dollar values meaning that they differ slightly.*

Historically, most of Northland's economic activities have been concentrated in Whangarei with the district delivering 59% of regional GDP. This is up from 57% in 2000. The Far North accounted for 31% of the regional product in 2017. This is down from 32% in 2000. Kaipara District delivers the balance. The shift does not suggest that the Far North economy has declined but it shows that Whangarei is delivering a larger share. Over the past 17 years, the three districts all recorded positive growth with the Far North growing at 2.2% (compounded). This was lower than the 3.5% growth in Whangarei and 3.3% lift reported for Kaipara District. In GDP terms, Whangarei produced \$4.3bn of GDP compared to \$1.9bn and \$0.8bn for the Far North and Kaipara, respectively. **Table 1** shows which sectors delivered the growth. It shows the share of change (in real GDP between 2000 and 2016) that was delivered by the sectors. *Note: the table shows what share (percentage) of Northland's GDP growth was delivered by each sector in each region. For example, between 2000 and 2016, agriculture in Kaipara delivered 2% of the regions GDP growth.*

Around two thirds (67%) of growth was delivered by the Whangarei district and a large share (13%) of the region's growth came from manufacturing in Whangarei. This is associated with the oil and petrochemical activities at Marsden Point. Other Whangarei based-sectors that delivered growth included health care and social assistance (9%); Rental, hiring and real estate (7%), as well as a collection of sectors associated with forestry, fishing, mining and utilities – these sectors delivered 7% of the overall, regional growth. Retail and construction (in Whangarei) delivered a further 5% each.



Table 1: Sectoral contribution to GDP Growth (2000-2016)

	Far North District	Kaipara District	Whangarei District
<b>Agriculture</b>	-3%	2%	0%
<b>Forestry, Fishing, Mining, and Utilities</b>	1%	1%	<b>7%</b>
<b>Construction</b>	1%	1%	5%
<b>Manufacturing</b>	0%	4%	<b>13%</b>
<b>Food and beverage services</b>	0%	0%	1%
<b>Transport, Postal and Warehousing</b>	2%	0%	2%
<b>Wholesale Trade</b>	0%	1%	2%
<b>Retail Trade</b>	3%	1%	5%
<b>Accommodation</b>	1%	0%	0%
<b>IT and Other Services</b>	1%	0%	3%
<b>Financial and Insurance Services</b>	1%	0%	2%
<b>Rental, Hiring and Real Estate Services</b>	4%	2%	<b>7%</b>
<b>Professional, Scientific and Technical Services</b>	0%	0%	4%
<b>Public Administration and Safety</b>	3%	0%	3%
<b>Health Care and Social Assistance</b>	4%	0%	<b>9%</b>
<b>Education and Training</b>	0%	0%	1%
<b>Administrative and Support Services</b>	1%	1%	3%

Source: Calculations based on SNZ

The Far North made a valuable contribution to the region's growth. It delivered 19% of the shift in GDP. Similar to Whangarei District, Health care and social services as well as Rental, hiring and real estate services also feature in the Far North growth figures, with these two sectors adding 4% (each) to the lift in regional GDP figures between 2000 and 2016.

Overall, the region's GDP increased by \$1.5bn, of which \$1bn was generated in Whangarei and \$260m in the Far North. Accommodation in the Far North added 1% to the GDP growth (\$12m) and this is associated with tourism and visitor activity. The Far North hosted 63% of the region's guest nights<sup>1</sup> with Whangarei accounting for 30% and Kaipara 7%. In 2000, Whangarei accounted for 26% of regional guest nights meaning that the district is taking a larger share of the accommodation market. nevertheless, the Far North is an important visitor destination with more than double Whangarei's the number of guest (1.28m vs 540,000, in 2017).

It is important to note that most of the growth came from sectors that are closely linked to local population levels and activities servicing households. These include:

- Health care and social assistance,
- Retail trade<sup>2</sup>,
- Rental, hiring and real estate services (especially real estate), and
- Public administration and safety.

<sup>1</sup> Sourced from SNZ's accommodation monitor.

<sup>2</sup> A share of retail is also associated with tourism activities.



When the growth and the size of the district economies are compared against the size of the local populations, then it becomes clear that the Whangarei economy services a materially larger population. Therefore, the population servicing component is also larger. As the populations grow, so too will the 'demand driven' sectors such as health care, retail and real estate.

## Outlook

While historic trends and patterns provide a good indication of where the regions have come from, it is necessary to also look forward and to consider the outlook. As mentioned earlier, this outlook is based on existing data and is a desktop approach. A more refined assessment with different growth assumptions might alter the outcomes.

The economic outlook for a region is a function of three key drivers: population, investment<sup>3</sup> and exports. Changing the underlying growth rates of these drivers flow through the local economy, impacting on demand, supply and ultimately the size of the economy. For this assessment, we have assumed that the historic patterns will remain broadly consistent. In reality, this is unlikely to be the case because there are several strategic projects underway that will change how Northland interacts with the rest of NZ (specifically Auckland) and how the districts interact with each other. Similarly, the NZ economy is also growing, and this is felt locally. The following examples illustrate the point:

- Vision for Growth – NorthPort (growing the port infrastructure by 30%)
- NZ Super yacht market and investment in the local marine industry (e.g. recent investment in a travel lift),
- Proposed developments at Okara Marina,
- Hundertwasser Arts Centre,
- Tourism developments around Russell and Paihia,
- Strong growth in the cruise industry (first liner to NorthPort in 2020; in addition to existing stops/calls to the Far North).

Clearly, it will be necessary to refine the growth scenario in future, to reflect these (and other) proposed developments. Northland is one of the NZ government's surge regions and substantial development is expected. Funding has been approved for a range of projects, including transport upgrades, cultural centres and visitor attractions, industry pilot projects and tourism hubs. These developments are not reflected in the assessment meaning that the total size of the future economy is probably understated. Similarly, the spatial distribution of activity around the region will also see a shift over time. With reference to the shifts, it is unlikely that the total shifts will be substantially different (e.g. +/- 10%). Therefore, the **spatial patterns can be treated as 'indicative' and 'illustrative'**.

The GDP outlook is expressed in 2016-terms meaning that it excludes the effects of inflation and price changes. The outlook was prepared for 48 sectors and have been grouped into eleven sectors. The main observations about the outlook are discussed below<sup>4</sup>.

The region's economic activity is expected to grow to \$6.9bn by 2043, up from \$4.7bn in 2016. Figure 1 shows the economic outlook for the three districts using Value Added (VA is similar to GDP) and highlights:

- The continued positive outlook across the wider region.
- The growing share of total activity that is located in Whangarei and that it will grow faster than the wider region,

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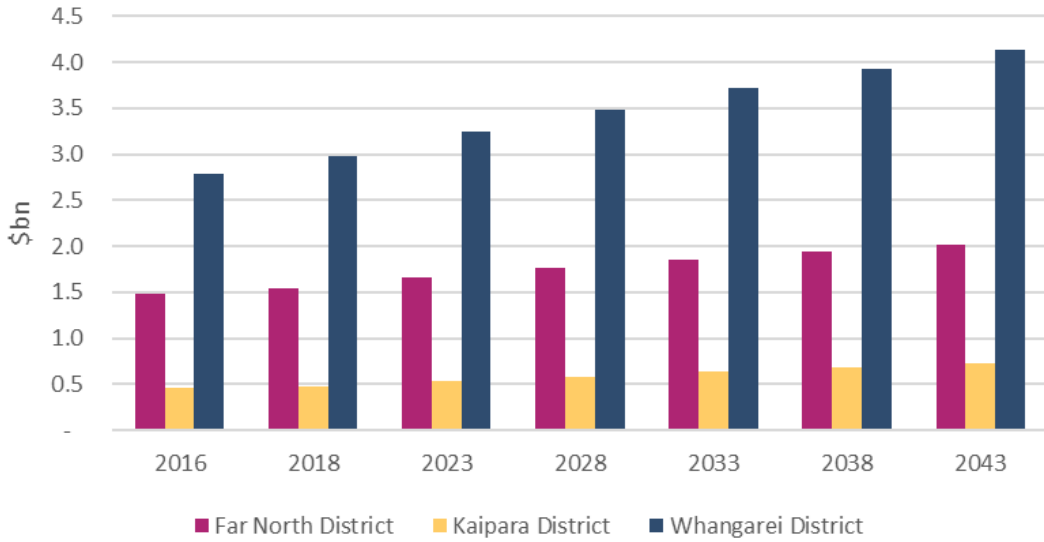
<sup>3</sup> Gross fixed capital formation

<sup>4</sup> Note, the figures are slightly different to those mentioned earlier because they are expressed using a different base year – 2016. The discussion about the historic trends uses 2010 as base year.



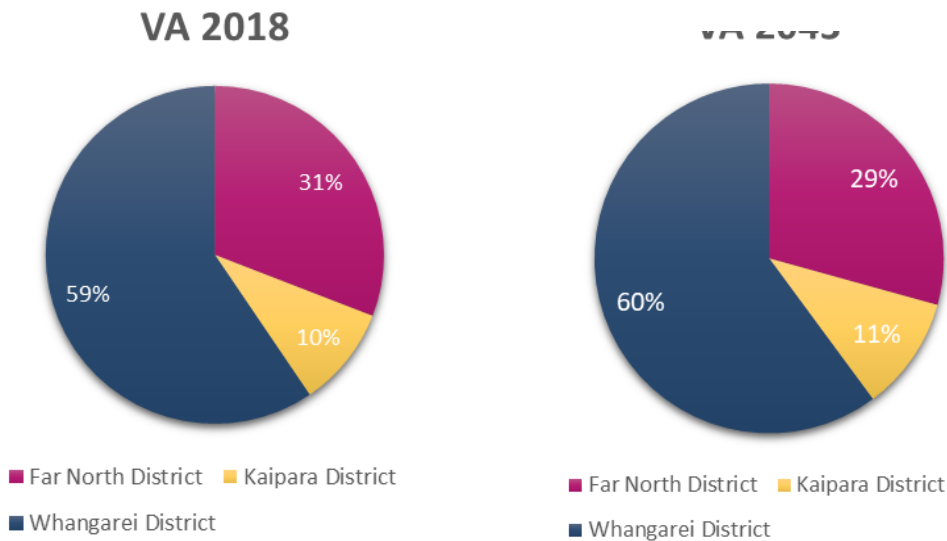
- The Far North will continue to grow, albeit at a slower pace than Whangarei. In compound growth rate terms, the Far North is expected to grow at 1.2% compared to Whangarei’s 1.5% (2016-2043). Kaipara is expected to grow at 1.7% over the same period.
- In \$-terms the value of the growth is material across the three districts. By 2043, the Far North economy is expected to generate an additional VA \$530m/year and Kaipara will add some VA \$270m/year. Whangarei will generate an additional VA \$1.3bn/year.

Figure 1: Economic Outlook



Due to the different growth rates, the centre of gravity will naturally shift towards Whangarei. Figure 2 shows the share of VA that each district will deliver. Whangarei’s relative importance will continue to increase with 60% of the region’s VA being produced in the district. The Far North’s share of total activity will decline marginally to 29%.

Figure 2: Share of VA produced in each District



It is important to look beyond the headline figures and the total VA growth levels to also consider the sectoral make-up of the growth. This is needed because not all sectors rely on, or need, air connectivity.



The VA outlook for the three districts is presented below. The growth outlook is presented for the following sectors:

- Primary industries (agriculture, forestry and mining),
- Manufacturing (activities such as: meat and meat product manufacturing, wood product manufacturing, petroleum and coal product manufacturing),
- Utilities (power supply and generation, waste water management),
- Construction (residential and non-residential buildings),
- Wholesale and transport (road, rail and air transport as well as wholesale trade),
- Retail,
- Accommodation,
- Information media and telecommunications,
- Professional services (finance, professional, scientific, technical, administrative and support services, insurance, and real estate),
- Government, health services, social services and education (includes local and central government),
- Personal services (arts, recreation and other services).

The business as usual growth outlook for the three districts is presented below (see Figure 3 to Figure 5; Attachment 1 shows the breakdown but instead of VA it shows employment). The details of each district are not discussed but the following observations are made:

- Far North
  - The growth is concentrated in primary industries and professional services with these groups dominating the landscape. Combined, these two sectors will drive the direct economy forward.
  - The local professional services will account for a quarter of annual growth.
  - Primary industries will continue to be an important part of the local economy. On average, the primary industries will drive 37% of overall VA growth.
  - Accommodation will see an increase in overall value. Note: recall that the modelling does not reflect proposed and current developments (e.g. Pepper's Carrington Golf Resort) that will see a lift in the accommodation sector's VA.
  - Government, health services, social services and education are important, and it is expected that these services will continue to form an important part of the local economy.
  - Looking past the important role of the primary industries, the local services economy is expected to expand and play an important part.
- Kaipara
  - The primary industry is the most important sector, and this is expected to remain the case.
  - Professional services will increase over the medium term, but it will remain less than half the size of the primary sector.
  - The district's economy will see little structural change over the next 25 years.
- Whangarei
  - The district's manufacturing base is important and will continue to play an important role in the future. Marsden Point and the petrochemical industry will account for three quarters of manufacturing VA. Other manufacturing will deliver around 8% of VA with this share remaining relatively stable, albeit on a slight upward path.
  - Professional services, health and government related activity and other personal services are expected to increase in VA-terms. But, after accounting for the effects of manufacturing, the relative share of these sectors' economic contribution is expected to remain relatively flat.
- Overall
  - The primary industries across the region will see strong growth. In terms of the compound annual growth rate (CAGR), primary industries grow at the highest rate, coming in at between 2.3% and 2.5% over the next 25 years.
  - Sectors focusing on the local population are expected to grow in line with population.



Figure 3: VA outlook – Far North

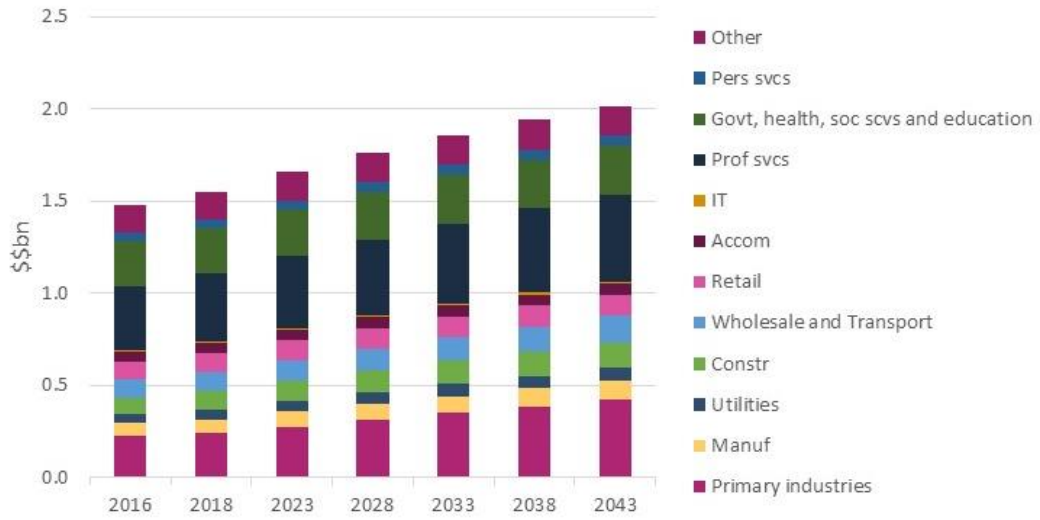


Figure 4: VA outlook – Kaipara

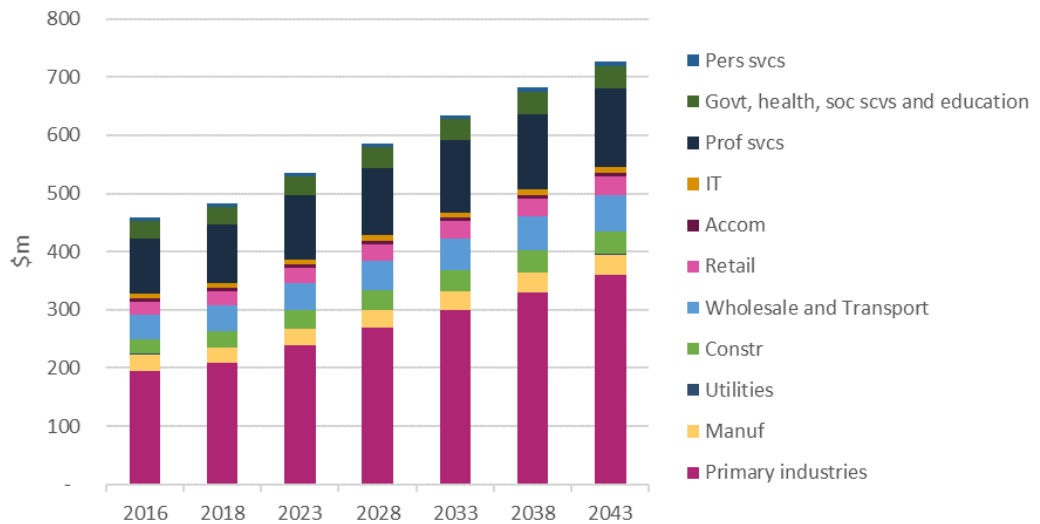
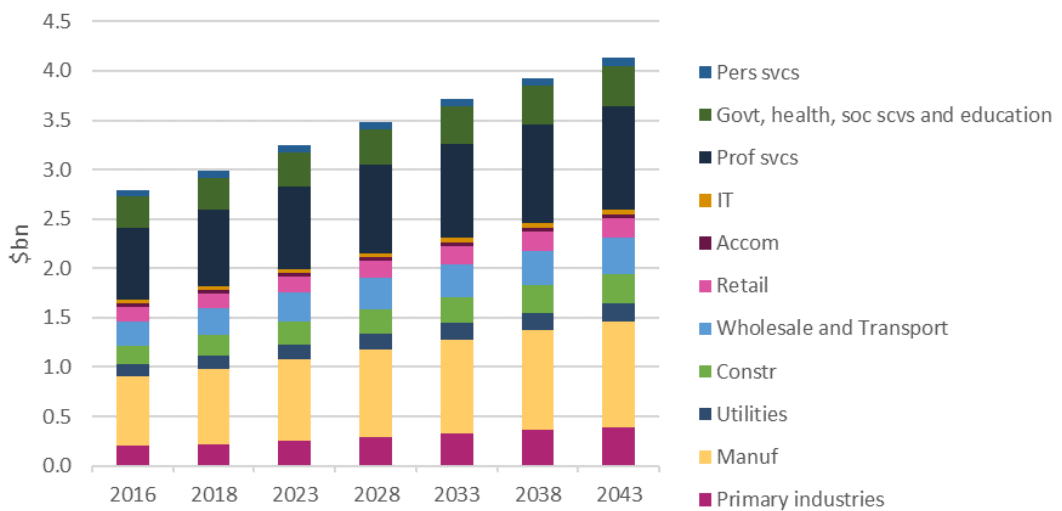


Figure 5: VA outlook – Whangarei





The economic structure and relative importance of the individual sectors to the district economies are expected to remain relatively stable. This statement will hold if no large, external development impetus is delivered. The source of such an impetus will vary. Small, incremental developments and improvements are unlikely to result in a meaningful departure from the business as usual growth path.

Earlier work by M.E<sup>5</sup> identified the demand drivers for air travel. Overall demand is determined by factors such as:

- The size of the local population,
- The economic activity in the local market,
- The cost and convenience of flying,
- The availability of alternative transport modes, and
- The relative cost and convenience of alternative transport options (relative to air travel).

These factors are at play in the Whangarei (and Northland) context. The high-level analysis suggests reasonable growth in business sectors that have a strong affinity with air travel. These sectors include: professional services, financial and insurance services, administrative and support services as well as public administration. All of these sectors feature in the growth outlook, with most of the growth (in these sectors) expected in Whangarei. However, the Far North will also experience strong growth in sectors that show links with air travel. In light of the growth over the wider region and the travel distances the regional airport network is critical.

Looking forward, the availability of alternative transport models and the relative cost and convenience of these alternatives, will be determining factors in the level of demand for air travel. This means that the development of road and rail infrastructure will influence the demand for air services, especially if it has a material impact on how passengers view the 'new options' vs air travel (i.e. the cost-convenience continuum).

### **Concluding remarks**

Whangarei is the largest business centre in Northland and is expected to capture most of the region's growth over the next 25 years. A large share of this growth is expected in the manufacturing sector and is associated with Marsden Point and the petrochemical activity taking place there. As the region's main centre, a large share of business is located in Whangarei. As the regional economy grows, the size of business services delivered elsewhere will also grow, but the share of business activity that takes place in the wider region will remain relatively small. However, this does not mean that the activity taking place outside Whangarei is not important. The size (\$-value) of this activity is expected to grow.

Historically, Northland's economic performance has lagged behind other regions. There are several large developments that are being investigated to address this issue. Other initiatives seek to address other issues in the NZ context (e.g. shifting Auckland port). If any of these large-scale developments come to fruition, then the business landscape will change in a dramatic way. The developments will change the economic structure, inter-industry relationships, inter-regional trade patterns and, ultimately, the demand for air service (inbound and outbound). Further, road improvements that improve travel times, safety and reliability between Whangarei and Auckland, will also impact on the demand for air services.

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<sup>5</sup> Future Domestic Air Network Analysis. Phase 1. January 2016. Prepared by Market Economics. Prepared for Ministry of Transport and New Zealand Airports Association.



In terms of the future airport network, it is important to not only look at the growth in Whangarei (and the shift of the economy to Whangarei). Regional connectivity is very important, and Far North's two lifelines are State Highway 1 and the Airport. Over the past four years, the Bay of Islands Airport has seen passenger movements go from 60,000 to 100,000 (2017). This growth was in line with wider development and growth in the tourism sectors as well as the local economy.

Any assessment of region's airport network would need to consider the efficiency losses/gains to the overall region, as well as the individual districts, that an alternative airport configuration (1 vs 2 airports) would deliver. The assessment would need to consider:

- Shifts in travel times,
- Travel costs, including the cost of time
- The facilitated economic effects,
- The total economic costs (capex, opex and other intangibles) and benefits associated with redevelopment
- The shift in economic activity due to different service levels.
- The alignment, or otherwise, with the infrastructure development programme.





### Attachment 1: Employment outlook

MEC = Modified Employee Count (a measure of employment that includes working proprietors as well as employees)

