

Auckland Airport Future Economic Impact Assessment

An assessment of the future contribution by Auckland Airport
to the Auckland Region and New Zealand Economies

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Prepared for



● market economics

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1 Key Findings

This study examines the economic role of Auckland Airport, in the medium term (2021) and longer term (2031) future. Auckland Airport has a significant role in the Auckland regional economy and the New Zealand economy. It generates and facilitates economic impacts within the Auckland region and the nation as a whole by enabling the movement of goods and people, and providing a range of services to the air transport sector, travellers, exporters and importers. The land close to Auckland Airport and its major access routes, collectively known as the **Airport Corridor**¹, represents a substantial hub of economic activity. A wide range of airport focused and supporting businesses have co-located on or near Auckland Airport to benefit from both proximity and the agglomeration economies that arise from clustering.

This study builds on a 2007 study, which established the base situation (using 2006 data), to estimate the potential future economic impact for 2021 and 2031 of the activity associated with Auckland Airport. The results show that Auckland Airport will have a steadily increasing role within the regional and national economies, as the air transport sector expands more rapidly than the economy as a whole, and that the business activities within the Airport Corridor will be an important driver of Auckland's economic growth.

Current and Future Roles

- Auckland Airport has a significant impact on the New Zealand economy. Over half of this impact is realised within the Auckland economy, the balance is the economic activity it stimulates throughout the rest of New Zealand. Its economic significance arises in part from Auckland International Airport Limited ("Airport Company") as a business entity, but primarily from its role in enabling and facilitating a wide diversity of other business activities.
- In 2006, Auckland Airport generated and facilitated \$10.7bn regional GDP, and directly or indirectly helped sustain 174,000 employees (ECs). This represented 21% of regional GDP, and 28% of regional employment.
- In the "Business as Usual" future (which assumes no significant structural shifts in the economy), the Auckland economy as a whole is expected to grow at an average rate of 2.0% p.a. until 2021, and at an average rate of 1.8% p.a. in the period 2021-2031.
- The Airport Corridor is expected to grow faster than the regional and national economies. Between 2006-2021, the growth in the Airport Corridor is expected to average 3.0% p.a. (significantly faster than the 2.0% p.a. regional average) and 2.2% p.a. (versus 1.8% p.a. regional average) in the period 2021-2031. The cumulative difference in growth over the period 2006-2031 is expected to be 19%².

¹ See, Figure 1.3, for more information on the Airport Corridor.

² Business as Usual scenario. The highest growth scenario projects that the growth in the Airport Corridor could exceed Auckland region growth by 40% between 2006-2031. The lowest growth scenario indicates that the Airport Corridor could grow faster than the Region by 10% over the period.

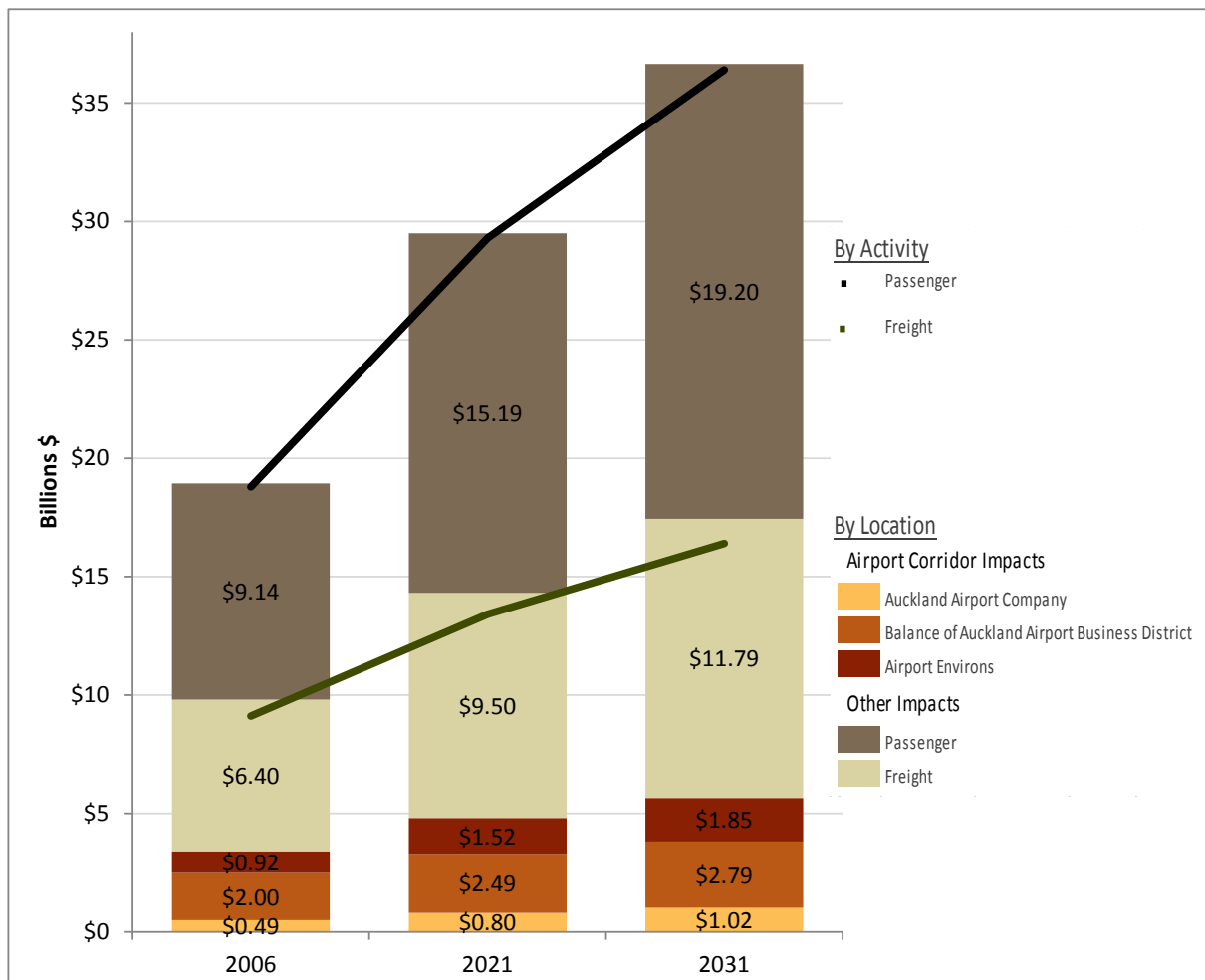
- Auckland Airport is expected to generate and facilitate:
 - **NZ GDP**
 - 2006 \$19 Bn (13% of NZ GDP)
 - 2021 \$26-32 Bn (14-16%)
 - 2031 \$30-44 Bn (14-19%)
 - **Auckland GDP**
 - 2006 \$11 Bn (21% of Auckland regional GDP)
 - 2021 \$14-18 Bn (22-24%)
 - 2031 \$17-25 Bn (22-27%)
 - **NZ Employment (EC)**
 - 2006 319,000 (across New Zealand)
 - 2021 441,000-539,000
 - 2031 528,000-756,000
 - **Auckland Employment (EC)**
 - 2006 174,000 (within Auckland region)
 - 2021 236,000-291,000
 - 2031 251,000-363,000
- Auckland Airport's role as a key driver and facilitator of economic activity is expected to grow substantially in the future. Its growth rate is expected to exceed overall economic gains into the long term, increasing its importance in both the national and regional economies. This result is caused by Auckland Airport's relatively strong growth, compared with the regional and national economies.
- Auckland Airport's facilitated impact on national GDP was estimated at \$18.9Bn in 2006. This is expected to be in the range of \$25.9Bn to \$31.9Bn by 2021, and \$30.2Bn to \$44.1Bn by 2031.
- At a national level, the largest share of impacts arises from the tourism sector. The movement and servicing of international and domestic travel will enable the generation of \$17-24 Bn by 2031.
- Within the Auckland economy, the largest impact will gradually shift from freight related activity to passenger activity. The forecast growth under all scenarios is higher for passenger activity than freight activity.
- The Airport Corridor makes up a significant hub and focus of business activity within the Auckland spatial economy. This area combined generates \$3 Bn currently, and is expected to generate or facilitate \$5-6 Bn (GDP terms) in the regional economy by 2031.
- This area currently has a workforce of some 21,000 ECs. This is projected to increase to 29,000-38,000 by 2031, as well as sustain another 28,000-34,000 ECs across the region (once the indirect and induced effects are accounted for).
- The Airport Corridor employment is forecast to grow more slowly than passenger movements, due to workforce efficiency gains, and because some of its growth is driven by the economy at

large. This will see employment per million passengers reduce from 1,800 in 2009 to around 1,500 in 2021, and 1300-1500 by 2031.

Implications

- It is important to understand the increasing direct and wider significance of Auckland Airport, to ensure its future growth and role can be appropriately accommodated and supported by both infrastructure development and in statutory planning terms.
- The most direct manifestation is the Airport Corridor where much of the airport associated business activity will continue to expand, diversify and intensify over time. This will be most evident in ongoing improvement of Auckland Airport capacity, and associated property development on land owned by the Airport Company and in surrounding areas.
- The wider economic significance is less obvious, because it occurs throughout the regional and national economies. It is most evident as substantial flows of people and goods to and from Auckland Airport, and has implications for transport, storage and related infrastructure and capacity.

Figure 1-1: Source of Economic Contribution, New Zealand Value Added, 2006 and Business as Usual growth scenario 2021 and 2031



The **Airport Corridor** encompasses economic activity from a wide range of airport focused and supporting businesses located on or near Auckland Airport. The term "Airport Corridor" is becoming acknowledged internationally as an appropriate descriptor for economic activity located either within or in close proximity to an

airport and its major access routes.

In this Auckland Airport study, the economic impacts of the Airport Corridor are assessed in three parts: the economic activity generated directly by the **Airport Company** (Auckland International Airport Limited); the balance of airport-related business activity occurring within land owned by the Airport Company (the “**Auckland Airport Business District**”); and activity from businesses located adjacent to the Auckland Airport Business District (the “**Airport Environs**”). A map outlining the Auckland Airport Business District and the Airport Environs is included as figure 1.3.

Additional to these impacts within the Airport Corridor are the flow on economic benefits arising from freight and passenger movements through Auckland Airport.

Figure 1-2: Source of Economic Contribution, Auckland Region Value Added, 2006 and Business as Usual growth scenario 2021 and 2031

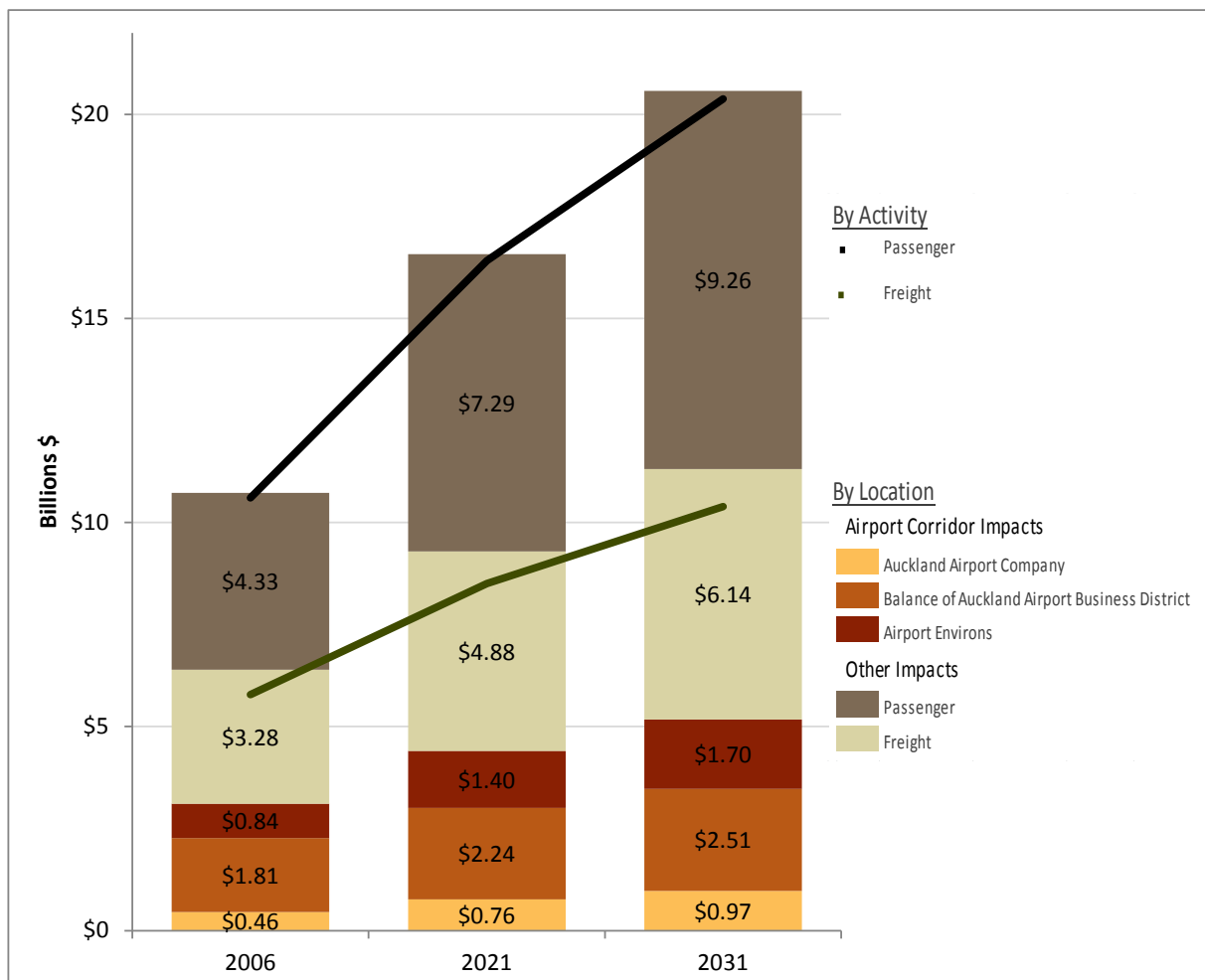


Figure 1-3: Auckland Airport Corridor Map



2 Objective and Approach

2.1 Objective

This report documents the projected economic significance of Auckland Airport in the Auckland regional and national economies for the future years 2021 and 2031 (June year). It builds on several earlier studies of the Airport's economic role and impact, prepared over the past 25 years for Auckland Airport, most recently by Market Economics in 2007.

The method of impact assessment is consistent with the 2007 study, which measured business activity for Auckland Airport (both capital and operating) and in the Airport Corridor (Auckland Airport Business District and Airport Environs), and examined Auckland Airport's role in enabling and facilitating travel and tourism activity, and national and international trade.

The assessment also considers the implications of long term growth in Airport activity for future land requirements.

2.2 Report Structure

This report focuses on results and key findings, with the detailed description of the activities measured and the technique provided in the 2007 study. Where new techniques have been applied we provide a brief description.

Section 3 covers the projection method, and describes the scenarios developed to produce the range of future economic outcomes.

Section 4 provides a description of the future economic outcomes, including GDP and employment impacts.

Section 5, the future employment is expressed in terms of likely future land requirements, as one basis for forward planning to support airport and related economic growth.

The overall future economic impact and the land requirements are summarised in Section 6.

3 Future Economic Projections

3.1 Scope

Economic impacts associated with Auckland Airport activity are significant in both national and regional economies. The Airport Company (Auckland International Airport Limited) itself generates some impacts directly, as a business unit. However, its main impact is by enabling the movement of tourists, trade and business activity, as it facilitates and helps sustain substantial economic activity throughout the national and regional economy.

This section sets out the method used to calculate the future direct and facilitated economic activity, according to future activity which is attributable to Auckland Airport.

The future Auckland Airport activity and associated impacts are measured in three scenarios, to provide an array of possible futures. Scenarios are appropriate because the actual economic future for New Zealand, Auckland, and Auckland Airport, is highly dependent on results on the international stage, and subject to considerable uncertainty.

The scenarios are based on the Business as Usual future (BAU), which assumes no major structural changes in the national and regional economies. The future activity levels are likely to be close to the levels projected under the BAU scenario. The High Growth and Low Growth futures span a wider range, which includes most of the possible outcomes. 2006 is the base year, and the futures set out the situations in 2021 and 2031. The basis and assumptions are shown below.

3.2 Scenarios

The future scenarios are derived from two related projection sets. One set is based on the outlook for Auckland Airport and the air transport sector itself. The other is the broader outlook, for the regional economy as a whole, and the national economy, based on the Economic Futures Model (EFM). The EFM projections take into account the air transport sector projections, in combination with the outlook for all other sectors of the economy.

The 2006 study provides the base for the scenarios. The future economic activity was projected from data sets on each key driver of the airport's impact:

- International and Domestic passenger projections,
- Auckland Airport activity projections (capital and operating expenditure),
- Other industry projections (EFM)
- Export and Import volumes.

These were based on a range of data, including Auckland Airport passenger forecasts, Auckland Airport trade projections (Eagle-i 2010), Tourism New

Zealand visitor arrival and domestic travel forecasts, Auckland Airport operating expenditure and capital works forecasts, and growth by sector from the EFM.

3.2.1 *Business as Usual Scenario*

The Business as Usual (BAU) scenario is based on Auckland Airport medium term forecasts, Eagle-i 2010 trade projections and the EFM medium growth future projections.

Passenger Projections

The BAU uses the Auckland Airport forecasts of international and domestic passenger out to 2015, which show average annual growth of around 3.2% (compound).

The international passenger forecasts were extended to 2031 using Market Economics' Long Run Tourist (LRT) projections. These projections are based on long term historic arrivals data from Tourism New Zealand, which shows an apparent trend that the annual percentage growth rate is declining slowly, as total arrival numbers increase. In each decade since the 1970s, the average growth rate has been around 70% of the rate recorded in the previous decade (range 0.69-0.76). Assuming this trend continues, for the BAU scenario international passenger numbers are projected to increase by some 2.2% p.a. during 2020-2029, and 1.6% p.a. during 2030-39.

The domestic passenger forecasts were extended using Auckland Airport historic and projected domestic travel data (1996 to 2015), together with Statistics New Zealand's (SNZ) sub national population estimates (Auckland Region 1996 to 2009) and forecasts (2006 base medium projection). Total domestic travellers were estimated using the average passenger per capita trips per annum applied to the medium population projection. The historic data shows propensity to undertake domestic travel is increasing over time. The BAU scenario assumes that this trend continues but more slowly, at around half the rate seen in the historic data.

Auckland Airport Activity Projections

Auckland Airport also prepares its own forecasts of capital works and operating expenditure out to 2015, for its planning purposes. We adopt these as the best medium term projections for the BAU scenario.

The medium to long term projections are based on the average spend per passenger from the Auckland Airport historic and forecast data, assuming that expenditure at the airport is correlated with passenger volumes. Statistical analysis shows that the operating activity is highly correlated with passenger numbers and capital expenditure is somewhat correlated. Therefore it is reasonable to assume that Auckland Airport activity in the longer term will track closely to the passenger forecasts.

Export and Import Volumes

The projection of the volume of international trade through Auckland Airport is taken from the Eagle-i Airline Planning study 2010. Eagle-i analysed the short to

medium term growth potential for international trade through Auckland Airport. The projected organic growth from the Eagle-i study is applied in the BAU scenario out to 2025. We have extended the Eagle-i projections, applying the same growth rate to 2031.

This Eagle-i study did not extend to domestic freight. We believe that the availability of domestic freight opportunities relates closely to domestic air passenger movements. As with the Auckland Airport activity, the BAU scenario links the growth in domestic trade to passenger projections using the historic average volume per passenger.

Other Industry Forecasts

The growth projections for other industries have been drawn directly from the Auckland Regional and New Zealand EFM. This model was developed to establish the possible future economic outcomes for Auckland and New Zealand. The EFM provides projections of economic activity for each industry out to 2031, and is explained in detail in the work undertaken for Auckland Regional Council (2009).

The BAU scenario applies growth rates from the medium run of the EFM, which allows for medium growth in population, exports, fixed capital formation and labour efficiency, for all other sectors.

Economic Future with Air Transport Sector Growth

However, EFM directly incorporates the Auckland Airport passenger, airport activity and trade projections (above), through the overall effects on the Air Transport Sector. This means the regional and national economic futures outputs are modified to include the airport related projections directly, and also their flow on implications through the economy.

The EFM-based projections have been applied to all non airport related activities within the Airport Corridor.

3.2.2 High Growth Scenario

The High Growth (HG) scenario measures the upper bound on the potential impacts from Auckland Airport. The scenarios in this study are set to encompass the most feasible high growth outcomes for the Auckland Airport.

The growth rates for each of the four main drivers adopt the optimistic forecasts:

- **Passenger Projections:** In the short run the passenger projections are held at the Auckland Airport forecasts. The long run slowing of international travel growth is less, based on a logarithmic function showing growth rates at around 80% of the previous decade, rather than the 70% in the BAU (as per the linear trend). The domestic passenger projections for the HG scenario use a similar method to the BAU projection but with SNZ's high population projection and the average passenger numbers per capita allowed to increase at the historic rate of around 4.4% per annum. This projection assumes a higher propensity to

travel domestically.

- **Auckland Airport Activity Projection:** Like in the BAU scenario, the airport activity is linked to passenger activity. The higher rate of growth in passenger numbers in the HG scenario flows through into higher Auckland Airport activity, relative to the BAU scenario.
- **Export and Import Volumes:** In the HG scenario the growth in international exports and imports is increased to include the inorganic growth forecast by Eagle-i (2010). The Eagle-i forecast was extended to 2031 applying the same growth rate. As in the BAU, the domestic freight is linked to passenger numbers, and the higher growth in domestic passengers underpins higher domestic freight volumes.
- **Other Industry Projections:** The growth rates for the other industries are based on medium-high EFM projection, rather than medium. Population growth is per the SNZ high projection, while export levels and gross capital formation are assumed to be medium-high, and labour efficiency gains at the same rate as the BAU scenario.

Economic Future with Air Transport Sector: The medium-high EFM run has been modified to include the HG scenarios growth in Auckland Airport, passenger and freight activity.

It should be noted there is potential for Auckland Airport to outperform the HG scenario. For example, it is conceivable that global and domestic activity increases causing growth in passenger numbers to continue at the levels observed in recent years. If this was to occur economic activity associated with the Auckland Airport would increase substantially (several billion dollars above that shown here in the HG scenario). However, it was not considered appropriate to apply such a “blue skies” future to the HG scenario used for this assessment.

3.2.3 Low Growth Scenario

The Low Growth (LG) scenario measures the lower bound on the potential impacts from Auckland Airport. The growth rates for each of the four main drivers are reduced, in line with more pessimistic projections:

- **Passenger Projections:** As with the HG and BAU scenarios the LG scenario maintains the Auckland Airport passenger forecasts for the short run. However, the long run international traveller projections assume a much more rapid slowdown, with growth rates in each future decade at only 50% of the rates for the preceding decade. The domestic passenger projections for the LG scenario apply the SNZ low population projection, while propensity to fly domestically grows by just 1% p.a.
- **Auckland Airport Activity Projections:** Consistent with the other scenarios, the LG scenario allows for airport activity to be driven mainly

by passenger volumes. The lower rate of growth in passenger numbers means Auckland Airport activity increases at a slower rate than the BAU scenario.

- **Export and Import Volumes:** International trade growth in the LG scenario assumes just 1.5% p.a. Domestic freight is linked to passenger numbers, resulting in lower growth in domestic freight volumes.
- **Other Industry projections:** The growth rates for the other industries are based on low-medium EFM projection. Population growth is based on the SNZ low forecast, while exports and gross capital formation are set at the low to medium, and labour efficiency at the rate in the BAU scenario.

Economic Future with Air Transport Sector: The medium-low EFM run has been modified to include the LG scenarios growth in Auckland Airport, passenger and freight activity.

4 Economic Futures 2021 and 2031

4.1 Scope

The key measures of economic impacts, and facilitated economic activity which is related to Auckland Airport activity, are set out for each scenario with future projections of top level indicators of GDP (value added) and employment for Auckland Region and New Zealand. These are examined in relation to:

- Auckland Airport activity – the impact of the Airport Company (Auckland International Airport Limited), based on its operational turnover and capital expenditure effects.
- The Airport Corridor (comprising the Auckland Airport Business District and Airport Environs), though excluding activity by businesses within the Airport Corridor unrelated to Auckland Airport.
- The facilitated passenger-related economic activity, including spend by international visitors, NZ residents, travel agent fees (margin/service), airline expenditure and business revenue return from investment in travel.
- The international and domestic trade and associated land-based freight handling activities.

As with the 2007 study, care has been taken to avoid the double count issue by excluding expenditure estimated to have occurred within the Airport Corridor from the total spend figures by the major groups (passengers and traders) in the final section. This is liable to include retail spend at duty free outlets, rental car hires at the airport, accommodation in the Airport Corridor from the passenger spend group, and storage, freight forwarding, freight handling that occurs within the Airport Corridor from the traders group.

The results are displayed here in summary form, and Appendix A, B and C provide more detailed outputs from the study.

4.2 Scenario Results

In all scenarios, Auckland Airport's role is expected to increase in the future regional and national economies, particularly its facilitated impacts.

4.2.1 *Auckland Airport Facilitated GDP*

The GDP impact from Auckland Airport's operation has grown consistently since the mid-1980s, including substantial growth since 2000. At the national and regional level the activity facilitated by Auckland Airport has increased both in dollar value and relative to the economy, reflecting the more rapid growth of the air transport sector relative to the economy as a whole.

This pattern is expected to continue over the next two decades.

Auckland Region

Auckland Airport's direct and facilitated impact on GDP in 2006 was estimated at \$10.7Bn for the Auckland Region. It is expected to be in the range of \$14.4Bn to \$17.9Bn by 2021. This represents growth in impact of 2.0% to 3.5% p.a. over the period (Table 4-1).

The longer range projection indicates a direct and facilitated impact for the Auckland Region of \$16.8Bn to \$24.7Bn by 2031, representing growth of 1.8% to 3.4% p.a. The BAU projection indicates growth of 2.9% to 2021, and 2.6% to 2031.

Based on the BAU projection, Auckland Airport's direct and facilitated effect in the Region is expected to grow from 21% of the regional economy in 2006 to 24% by 2021, and 27% by 2031. This result is caused by Auckland Airport's relatively strong growth, compared with the regional economy as a whole. This means Auckland Airport will become more important in economic terms to the Auckland Region, particularly because of its facilitated economic activity.

Table 4-1 GDP Direct and Facilitated Impact of Auckland Airport on Auckland Region, (\$m) YE June

| | GDP Facilitated (\$m) | | | |
|---------------------------------|-----------------------|--------|--------|--------|
| | 2000 | 2006 | 2021f | 2031f |
| Auckland Region | | | | |
| High Growth | | | 17,941 | 24,740 |
| Business as Usual | 6,900 | 10,728 | 16,574 | 20,578 |
| Low Growth | | | 14,420 | 16,797 |
| BAU as % of Auckland GDP | | 21%* | 24% | 27% |

*differs from 2007 report. The GDP figure has been updated to actual.

The major share of the impact is the facilitated effect, with the Airport Company accounting for just under 5% (\$970m) of the total impact in 2031 (Table 4-2).

The impact associated with the Airport Corridor activity is projected to increase faster than the regional average, growing from \$3.1Bn in 2006 to \$5.2Bn by 2031.

Table 4-2 Split of Regional GDP Direct and Facilitated Impact, (\$m) YE June Business as Usual

| | GDP Facilitated (\$m) | | |
|----------------------------------|-----------------------|---------------|---------------|
| | 2006 | 2021f | 2031f |
| Auckland Airport Corridor | | | |
| Auckland Airport Company | 457 | 763 | 970 |
| Balance of Airport BD | 1,810 | 2,244 | 2,505 |
| Airport Environs | 844 | 1,401 | 1,700 |
| Total Corridor Impacts | 3,111 | 4,408 | 5,174 |
| Other Impacts | 7,616 | 12,167 | 15,403 |
| Total Impacts | 10,728 | 16,574 | 20,578 |

New Zealand

Auckland Airport's facilitated impact on national GDP was estimated at \$18.9Bn in 2006. This is expected to be in the range of \$25.9Bn to \$31.9Bn by 2021, and \$30.2Bn to \$44.1Bn by 2031 (Table 4-3). Based on the BAU projection, the Airport's facilitated effect in the New Zealand economy is expected to grow from 13% to 15% of national GDP by 2021, and further to 17% by 2031.

This highlights both Auckland Airport's significant role in the national economy as a major driver and facilitator of economic activity, and the future increase in its importance at the national level, with its growth rate expected to exceed the national economic gains into the long term.

Table 4-3 GDP Direct and Facilitated Impact of Auckland Airport on New Zealand, (\$m) YE June

| | GDP Facilitated (\$m) | | | |
|---------------------------|-----------------------|--------|--------|--------|
| | 2000 | 2006 | 2021f | 2031f |
| New Zealand | | | | |
| High Growth | | | 31,903 | 44,092 |
| Business as Usual | 14,170 | 18,937 | 29,501 | 36,648 |
| Low Growth | | | 25,920 | 30,181 |
| BAU as % of NZ GDP | | 13%* | 15% | 17% |

*differs from 2007 report. The GDP figure has been updated to actual.

4.2.2 Auckland Airport Facilitated Employment

Auckland Airport has a similarly major role in helping sustain employment, both directly and indirectly, at regional and national levels. The 2007 study estimated that the Airport facilitated nearly 174,000 jobs (ECs) in the Auckland Region and 319,000 jobs in the New Zealand³.

The scenarios show a greater influence from Auckland Airport into the longer term future (Table 4-4). The number of jobs facilitated by Auckland Airport is expected to be 236,000-291,000 by 2021, and reach 251,000-363,000 by 2031. This represents growth between 1.5% and 3.0% p.a. to 2031.

At the national level, Auckland Airport is expected to facilitate employment of 441,000-539,000 by 2021, and 528,000-756,000 by 2031. This represents annual growth of between 2.0% and 3.5% p.a. and a considerable increase from the 319,000 ECs facilitated in 2006.

³ In the previous study employment was measured using Full Time Equivalents (FTE). This measure has been discontinued by Statistics New Zealand in favour of Employee Count (EC) measure. In order to maintain consistency with future studies the results from the 2007 study have been converted from FTEs to ECs. All analysis of employment was undertaken using the new EC measure.

Table 4-4 Employment Direct Facilitated Impact of Auckland Airport on Auckland Region and New Zealand, (EC) YE June

| | Employment Facilitated | | | |
|-------------------------------|------------------------|---------|---------|---------|
| | 2000 | 2006 | 2021f | 2031f |
| <u>Auckland Region</u> | | | | |
| High Growth | | | 291,000 | 363,000 |
| Business as Usual | 113,000 | 174,000 | 269,000 | 300,000 |
| Low Growth | | | 236,000 | 251,000 |
| <u>New Zealand</u> | | | | |
| High Growth | | | 539,000 | 756,000 |
| Business as Usual | 235,780 | 319,000 | 499,000 | 627,000 |
| Low Growth | | | 441,000 | 528,000 |

4.3 Summary of Results

The future scenarios show that Auckland Airport is expected to become progressively more important in the regional and national economies in the medium to long term.

Auckland Airport already facilitates a significant proportion of the economic activity within the Auckland and national economies. This importance is entirely consistent with Auckland Airport's role as the country's main entry and exit point for international and domestic travellers, including around 90% of travellers on long haul air services to/from Asia or the Americas. This covers not just leisure travel, but also business travel, with Auckland Airport facilitating business growth into domestic and world markets. Auckland Airport also has a significant role in facilitating flow of relatively high value freight, both domestically and internationally.

These core roles throughout the economy are also manifest on and around the airport itself. The Airport Corridor is a very significant node of business activity within the Auckland Region, with about one-quarter of the regional impact arising from business activity on the land owned by the Airport Company (the Auckland Airport Business District) or in the immediately surrounding business land (the Airport Environs).

Auckland Airport is the main hub for Air New Zealand, the national carrier undertaking much of its land-based activity within Auckland, with a significant impact on the regional economy. More than 20 international airlines use Auckland Airport as minor hub or a stopping point, both Pacific Island services and larger international carriers use Auckland Airport as a mid way stop between Australia, the South Pacific, the USA and South America. These airlines impact positively on the New Zealand and Auckland economies.

Much of Auckland Airport's economic importance stems from its status as New Zealand's main international gateway and principal aviation hub. Although an increasing number of other New Zealand airports are seeking to grow short-haul air services (especially on trans-Tasman routes), it would be extremely difficult (both on commercial and economic grounds) to replicate Auckland Airport's hub status.

5 Facilitating Growth and Employment

5.1 Scope and Method

The strong growth outlook for the Auckland Airport and air transport sector has implications for business activity and employment in the Airport Corridor.

In this section, we have assessed the growth scenarios in terms of employment and land requirements on and around Auckland Airport. A similar approach has been applied to that used for the hearings in 2009 into Plan Change 13 to the Regional Planning Statement and Plan Change 14 to the Manukau District Plan, to provide additional business land near Auckland Airport. That study provided estimates of the future land required to service Auckland Airport and airport related business activity within the Region, taking into account patterns of business activity in the Airport Corridor, and focusing on businesses which find it advantageous to locate on or near Auckland Airport. Broadly, the 2009 study sought to identify the employment sustained by the air transport sector and locating in the Airport Corridor, and understand the growth prospects for these sectors in order to understand future employment levels and land requirements in the Airport Corridor.

A similar approach has been applied here, using the most up-to-date Auckland Airport forecasts and the latest outputs from the EFM. The employment projections and indicated land use implications are shown for the wider Airport Corridor, rather than separately for the Auckland Airport Business District and the Airport Environs. The reason is that while there is clear geographic concentration of specific sectors into the general locality of Auckland Airport, for most of these sectors (apart from obvious activities like air transport and aircraft servicing) it is not feasible from an economic viewpoint to distinguish their location potential between land owned by the Airport Company and adjacent land.

5.2 Employment Projections

The land requirements arise from the likely future business activity and employment within the Airport Corridor. Two methods are relevant. One is a “bottom-up” approach, which examines current (2009) employment by sector in the Airport Corridor, and applies regional projections of future employment in each sector to this base (Airport Corridor Trends approach). Since most of the business sectors locating in the Airport Corridor are related to airport activity, then understanding likely growth in these specific sectors provides reasonable guidance as to future activity levels there.

The other approach is essentially “top-down” and based on estimates of business growth in the region which are generated primarily by growth in the air transport sector. These estimates are related to the Airport Corridor according to the established patterns of clear spatial concentration using location quotients (the Sector Shares approach).

Both approaches imply similar business activity and employment outcomes for the

Airport Corridor.

The techniques applied in this study rely on the existing behaviour, as evident by current locational choice, as a guide to the future. This method does not account for new activities and may result in an underestimation of land requirement. There are several types of “new” activity which may locate within the Airport Corridor; international examples include technology parks, conference centres and education facilities. If new activities locate in the Airport Corridor the demand for land would increase beyond the projections presented in this study.

5.2.1 Airport Corridor Trends

The Airport Corridor Trends approach, “growing” employment in sectors already concentrated there, indicates significant growth in business activity over the next 20 years. The growth in employment is projected in the range of 5,000 to 8,000 by 2021 and 7,000 to 15,000 by 2031 (1.3% to 2.3% p.a.). This would see total employment of 26,500-29,500 by 2021, and 29,100-36,700 by 2031, substantial increases from the 21,800 count estimated in 2009 (Table 5-1).

Table 5-1 Employment at Auckland Airport Corridor (Airport Corridor Trends)

| | Employment Count | | |
|-------------------------|------------------|--------|--------|
| | 2009 | 2021f | 2031f |
| <u>Airport Corridor</u> | | | |
| High Growth | | 29,500 | 36,700 |
| Business as Usual | 21,800 | 27,900 | 32,100 |
| Low Growth | | 26,500 | 29,100 |

5.2.2 Sector Share

The Sector Share approach is based on identifying growth generated mainly by the air transport sector, and its associated concentration near Auckland Airport. That approach also indicates significant growth in employment in the Airport Corridor by 2021, and 2031 (Table 5-2). The projected increases are in the range of 5,000 to 7,000 by 2021 and 7,000 to 16,000 by 2031 (1.3% to 2.5% p.a.).

Table 5-2 Employment at Auckland Airport Corridor (Sector Share)

| | Employment Count | | |
|-------------------------|------------------|--------|--------|
| | 2009 | 2021f | 2031f |
| <u>Airport Corridor</u> | | | |
| High Growth | | 29,000 | 37,800 |
| Business as Usual | 21,800 | 27,700 | 31,900 |
| Low Growth | | 26,800 | 29,000 |

5.2.3 Employment to Activity Level

In this section we compare the forecast airport activity, in terms of passenger numbers, to the employment activity in the Airport Corridor, to show growth in airport activity relative to that in business activity located near the Airport.

The results show that under all scenarios the number of employees in the Airport Corridor increases at a slower rate than the number of passengers through the airport. This is to be expected as firms in the Airport Corridor service some non airport demand from the rest of the Region, while there is also a general improvement in employment productivity over time. The employment in the Airport Corridor per passenger through the Airport will decline during periods when growth in Airport activity outstrips the regional growth.

The results show that employment per million passengers in the Airport Corridor reduces from 1,800 in 2009 to around 1,500 in 2021. The forecasts indicate that the rate is likely to continue to fall, to an expected range of 1,300 to 1,500 by 2031.

Table 5-3 Employees per Million Passengers at Auckland Airport Corridor

| | Employee per million passengers | | |
|-------------------------|---------------------------------|-------|-------|
| | 2009 | 2021f | 2031f |
| Airport Corridor | | | |
| High Growth | | 1,500 | 1,300 |
| Business as Usual | 1,800 | 1,500 | 1,400 |
| Low Growth | | 1,600 | 1,500 |

5.3 Land Use Implications

The land required to accommodate these projected employment levels in the Airport Corridor has been estimated according to base year floorspace and land area per person employed.

The Airport Corridor Trends approach suggests a requirement for 99 to 160 ha by 2021, and 141 to 286 ha space by 2031. This implies an overall employment density of some 48-52 EC/ha into the long term.

The Sector Trends approach suggests a similar land area requirement of 105-150 ha by 2021, and 139-308 ha by 2031 (also at employment density of 48-52 EC per ha).

This suggests that into the medium term future (2009-2021), business growth will take up in the range of 8ha to 14ha annually to accommodate demand in and around Auckland Airport. This rate of uptake is consistent with the historic development levels of around 10ha per annum.

It is important to note that there needs to be a reasonable degree of flexibility around the development format. It is expected that a portion of the development in the Airport Corridor will be dense in nature (greater than 100 EC per ha). However, in the short to medium term it is expected that the majority of

development will continue to be relatively low density until land supply becomes more constrained.

If the land is developed more intensively, with higher employment levels per ha, then the annual land requirement would be correspondingly less. For example if the employment density was 10% higher the land requirements would be 13 to 26 ha lower than is shown in the table by 2031. This would extend the capacity of the land in the Airport Corridor by 1 to 3 years.

Table 5-4 Land Required within the Auckland Airport Corridor

| | Additional Land Required (ha) | |
|----------------------------------|-------------------------------|------|
| | 2021 | 2031 |
| <u>Airport Hub Trends</u> | | |
| High Growth | 160 | 286 |
| Business as Usual | 127 | 199 |
| Low Growth | 99 | 141 |
| <u>Sector Share</u> | | |
| High Growth | 150 | 308 |
| Business as Usual | 123 | 196 |
| Low Growth | 105 | 139 |

5.4 Comparison to Land Area

The land demand scenarios will be evident both within the Auckland Airport Business District (the land owned by the Airport Company) and other business zoned land mainly to the north, in and around the existing business precincts.

The Airport Company's land resources are fairly substantial in relation to medium term demand, with a mix of already serviced land which is sufficient to accommodate 2-3 years' of total growth. In addition, land with redevelopment potential could accommodate another 1-2 years' of total growth at these uptake rates. The Airport Company also has a substantial amount of land which is yet to be serviced but could be developed in the medium term, which would accommodate approximately 17 years' of growth which would service growth out to 2030. In the long term there are land resources in the Puhinui and Aviation Golf Club which could potentially provide additional capacity beyond then.

We note that this estimate is conservative, in that the business land outside the Airport Company's land holdings will attract shares of the expected growth, while development at higher intensity – likely in the longer term as the business activity becomes more diversified – can support higher employment capacity. This suggests good capacity to accommodate airport related business growth into the long term, well beyond 2030.

Overall, the economic future scenarios indicate strong business growth in and around Auckland Airport. There is sufficient land resource within the Auckland

Airport Business District and adjacent areas to accommodate and facilitate growth into the medium to long term.

6 Conclusion

6.1 Findings

Auckland Airport already plays a significant role in both the Auckland regional and national economies. As well as an important business entity in its own right, Auckland Airport facilitates substantial levels of business activity by enabling and supporting tourism and trade in Auckland and throughout New Zealand. As Auckland Airport (and the air transport sector generally) grows more rapidly than the economy as a whole, its role as a facilitator and generator of business activity is expected to steadily increase into the long term.

Within the Auckland spatial economy, the Airport Corridor will be a major focus of business activity, and a catalyst for economic growth across the region. Its significance as a driver of economic growth must not be under-estimated, especially because of its compound effect – the Airport Corridor is critical to the ongoing growth of Auckland Airport itself, and Auckland Airport has a major role as a facilitator of economic activity. Therefore, the enabling effect of the Airport Corridor is more than the economic impact of the business activity in that location.

The analysis of employment suggests that there is strong growth in demand for business land in and around Auckland Airport. There is sufficient land to allow this projected business growth to locate near Auckland Airport in the medium to long term.

6.2 Implications

This growth potential, and its regional and national significance, has a number of important implications:

- a. Since a significant aspect of the growth is in business activity in the Airport Corridor, it follows that there needs to be land capacity in the airport locality. Planners and policy makers should ensure that there is enough capacity for the airport associated business activity to grow in order to maximise the benefits from Auckland Airport.
- b. Auckland Airport is and will continue to be a major driver of people and freight movements. Therefore it is critical that this role is recognised in statutory planning, especially the Auckland Spatial Plan, including aspects which are specific to, and often unique to, the Airport and its associated activity, and growth drivers.
- c. As Auckland Airport is a significant driver of growth, efficient access and development in and around the Airport is required. Auckland Airport needs specific recognition of both its role in facilitating economic growth and requirements for infrastructure to support that growth.
- d. Auckland Airport has a catalytic effect in the Auckland economy. The future growth in airport activity will require forward planning and additional infrastructure. The benefits from this growth may be reduced or potential obstructed if policy makers and planners act in a reactionary manner. A proactive recognition of Auckland Airport's role as a catalyst of economic growth would maximise the potential benefit.

7 Appendices

Appendix A: Business as Usual Detailed Results 2021 and 2031

| Business as Usual Future Summary Table | Auckland Region | | | | | | | | New Zealand | | | | | | | |
|---|-----------------|---------------|-----------------------|----------------|-------------------------|---------------|-------------------|------------|---------------|---------------|-----------------------|----------------|-------------------------|---------------|-----------------|------------|
| | Output (\$m) | | Total Employment (EC) | | Total Value Added (\$m) | | % of Akld Economy | | Output (\$m) | | Total Employment (EC) | | Total Value Added (\$m) | | % of NZ Economy | |
| | 2021 | 2031 | 2021 | 2031 | 2021 | 2031 | 2021 | 2031 | 2021 | 2031 | 2021 | 2031 | 2021 | 2031 | 2021 | 2031 |
| <u>Auckland Airport Corridor</u> | | | | | | | | | | | | | | | | |
| Auckland Airport Company | 718 | 912 | 5,877 | 7,714 | 763 | 970 | 1% | 1% | 718 | 912 | 6,362 | 9,226 | 801 | 1,018 | 0% | 0% |
| Balance of Auckland Airport Business District | 2,692 | 3,034 | 34,861 | 34,288 | 2,244 | 2,505 | 3% | 3% | 2,692 | 3,034 | 37,549 | 40,987 | 2,492 | 2,792 | 1% | 1% |
| Airport environs | 1,580 | 1,911 | 18,562 | 20,377 | 1,401 | 1,700 | 2% | 2% | 1,580 | 1,911 | 20,132 | 24,013 | 1,521 | 1,846 | 1% | 1% |
| Total Corridor Impact | 4,990 | 5,856 | 59,300 | 62,379 | 4,408 | 5,174 | 6% | 6% | 4,990 | 5,856 | 64,044 | 74,227 | 4,815 | 5,656 | 2% | 2% |
| <u>Other Impacts</u> | | | | | | | | | | | | | | | | |
| Passenger Impact | 7,012 | 8,924 | 128,741 | 175,229 | 7,285 | 9,265 | 10% | 10% | 12,881 | 16,307 | 273,579 | 419,669 | 15,187 | 19,199 | 7% | 8% |
| Trade Impact | 8,526 | 10,592 | 81,254 | 62,805 | 4,881 | 6,139 | 7% | 7% | 15,468 | 19,055 | 161,595 | 132,693 | 9,500 | 11,793 | 5% | 5% |
| Total Other Impacts | 15,538 | 19,516 | 209,996 | 238,033 | 12,167 | 15,403 | 16% | 17% | 28,348 | 35,362 | 435,175 | 552,362 | 24,686 | 30,992 | 12% | 13% |
| Total Facilitated Impact on Economy | 20,529 | 25,372 | 269,296 | 300,413 | 16,574 | 20,578 | 22% | 23% | 33,339 | 41,218 | 499,218 | 626,589 | 29,501 | 36,648 | 15% | 15% |

Appendix B: High Growth Detailed Results 2021 and 2031

| High Growth Future Summary Table | Auckland Region | | | | | | | | New Zealand | | | | | | | |
|---|-----------------|---------------|-----------------------|----------------|-------------------------|---------------|-------------------|------------|---------------|---------------|-----------------------|----------------|-------------------------|---------------|-----------------|------------|
| | Output (\$m) | | Total Employment (EC) | | Total Value Added (\$m) | | % of Akld Economy | | Output (\$m) | | Total Employment (EC) | | Total Value Added (\$m) | | % of NZ Economy | |
| | 2021 | 2031 | 2021 | 2031 | 2021 | 2031 | 2021 | 2031 | 2021 | 2031 | 2021 | 2031 | 2021 | 2031 | 2021 | 2031 |
| <u>Auckland Airport Corridor</u> | | | | | | | | | | | | | | | | |
| Auckland Airport Company | 779 | 1,132 | 6,377 | 9,574 | 828 | 1,204 | 1% | 1% | 779 | 1,132 | 6,903 | 11,451 | 870 | 1,263 | 0% | 1% |
| Balance of Auckland Airport Business District | 2,912 | 3,570 | 37,625 | 40,024 | 2,424 | 2,928 | 3% | 3% | 2,912 | 3,570 | 40,546 | 47,902 | 2,693 | 3,266 | 1% | 1% |
| Airport environs | 1,723 | 2,289 | 20,216 | 24,168 | 1,526 | 2,028 | 2% | 2% | 1,723 | 2,289 | 21,927 | 28,482 | 1,657 | 2,203 | 1% | 1% |
| Total Corridor Impact | 5,414 | 6,991 | 64,219 | 73,767 | 4,779 | 6,160 | 7% | 7% | 5,414 | 6,991 | 69,376 | 87,835 | 5,220 | 6,732 | 3% | 3% |
| <u>Other Impacts</u> | | | | | | | | | | | | | | | | |
| Passenger Impact | 7,590 | 11,073 | 139,065 | 216,197 | 7,884 | 11,489 | 11% | 14% | 13,918 | 20,111 | 294,767 | 513,447 | 16,398 | 23,642 | 8% | 11% |
| Trade Impact | 9,219 | 12,244 | 87,944 | 72,991 | 5,279 | 7,091 | 7% | 8% | 16,741 | 22,156 | 175,021 | 154,980 | 10,285 | 13,718 | 5% | 6% |
| Total Other Impacts | 16,809 | 23,318 | 227,009 | 289,188 | 13,163 | 18,580 | 19% | 22% | 30,659 | 42,267 | 469,789 | 668,426 | 26,683 | 37,360 | 14% | 17% |
| Total Facilitated Impact on Economy | 22,224 | 30,308 | 291,228 | 362,955 | 17,941 | 24,740 | 25% | 29% | 36,073 | 49,258 | 539,165 | 756,261 | 31,903 | 44,092 | 16% | 20% |

Appendix C: Low Growth Detailed Results 2021 and 2031

| Low Growth Future Summary Table | Auckland Region | | | | | | | | New Zealand | | | | | | | |
|---|-----------------|---------------|-----------------------|----------------|-------------------------|---------------|-------------------|------------|---------------|---------------|-----------------------|----------------|-------------------------|---------------|-----------------|------------|
| | Output (\$m) | | Total Employment (EC) | | Total Value Added (\$m) | | % of Akld Economy | | Output (\$m) | | Total Employment (EC) | | Total Value Added (\$m) | | % of NZ Economy | |
| | 2021 | 2031 | 2021 | 2031 | 2021 | 2031 | 2021 | 2031 | 2021 | 2031 | 2021 | 2031 | 2021 | 2031 | 2021 | 2031 |
| <u>Auckland Airport Corridor</u> | | | | | | | | | | | | | | | | |
| Auckland Airport Company | 677 | 792 | 5,544 | 6,698 | 720 | 842 | 1% | 1% | 677 | 792 | 6,001 | 8,011 | 756 | 884 | 0% | 0% |
| Balance of Auckland Airport Business District | 2,600 | 2,761 | 33,617 | 31,270 | 2,170 | 2,290 | 3% | 3% | 2,600 | 2,761 | 36,206 | 37,361 | 2,409 | 2,550 | 1% | 1% |
| Airport environs | 1,526 | 1,728 | 17,938 | 18,556 | 1,353 | 1,541 | 2% | 2% | 1,526 | 1,728 | 19,456 | 21,866 | 1,470 | 1,674 | 1% | 1% |
| Total Corridor Impact | 4,802 | 5,281 | 57,098 | 56,524 | 4,243 | 4,674 | 6% | 6% | 4,802 | 5,281 | 61,663 | 67,238 | 4,635 | 5,108 | 2% | 2% |
| <u>Other Impacts</u> | | | | | | | | | | | | | | | | |
| Passenger Impact | 6,609 | 7,744 | 121,462 | 152,580 | 6,867 | 8,042 | 10% | 10% | 12,159 | 14,208 | 258,572 | 367,418 | 14,340 | 16,743 | 8% | 8% |
| Trade Impact | 6,073 | 7,332 | 57,357 | 41,566 | 3,309 | 4,082 | 5% | 5% | 11,587 | 13,742 | 120,914 | 93,826 | 6,945 | 8,330 | 4% | 4% |
| Total Other Impacts | 12,683 | 15,076 | 178,819 | 194,146 | 10,176 | 12,123 | 15% | 16% | 23,746 | 27,949 | 379,486 | 461,244 | 21,285 | 25,073 | 11% | 12% |
| Total Facilitated Impact on Economy | 17,485 | 20,357 | 235,917 | 250,670 | 14,420 | 16,797 | 22% | 22% | 28,549 | 33,231 | 441,149 | 528,482 | 25,920 | 30,181 | 14% | 14% |