

CHC Noise Contour Traffic Forecast Considerations

July 2021



Purpose of engagement

- At the request of local residents to Christchurch Airport ("CHC"), Ailevon Pacific Aviation Consulting ("APAC") was asked to assess and provide advice on aspects of the aviation eco-system that would impact the future forecasts procured by the airport operator Christchurch International Airport Limited ("CIAL");
- Traffic forecasts are challenging to develop and inevitably inaccurate in further future projections. Revisiting forecasts regularly ensures a more robust forecast in the near term, being reflective in more accurate outcomes in the near term & future;
- Forecasts are relied upon in creating policy or ensuring plans are prepared that enable improved outcomes are achieved. Consistency in forecast methodology ensures ongoing assurances that the best foresight is provided based on those forecasts;
- Forecasts also require a broad understanding of emerging trends, and future interruptions to standard business practise. APAC in this summary intends to provide insights into how global trends are playing out recently, and now, that will influence future projections likely to be developed by CIAL.



Desktop literature review, coupled with analysis of past and near-term data, reveals unique insights

- APAC undertook analysis of recent CIAL annual reports, Statement of Intents ("SOI"), other relevant reference documents, including the 2017 Master Plan;
- Additional industry references were collected, from sources such as Airbus, Boeing, IATA and other globally recognised organisations or commercial enterprises;
- Data sources included IATA, Statistics New Zealand and others, as referenced;
- The literature review was conducted to determine a thematic understanding of forecasts prepared, or trends that are evident that should have a higher degree of consideration;
- The following is a summary of that information and relevant data that key stakeholders should consider, in improving the forecasts being prepared, upon which policy and procedural decisions are made.



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SOI 2021 provides strategic insights that inform forecast considerations...

- "...proactively investigate opportunities beyond a single site, that support regional economic growth across New Zealand..." Pg 4
- "...CIAL will look to extend and expand RG25 through investigating opportunities beyond a single site..." Pg 6
- "...CIAL is 90% a short-haul airport, servicing domestic, Tasman and Pacific Islands air services. These networks are expected to recover sooner than long-haul networks and the FY21-23 strategy will focus mainly on recovering and repositioning CIAL within short-haul networks, while also working closely with key airline partners on long-haul services once that opportunity arises." Pg 6
- "Domestically re-establish pre Covid-19 network and domestic transit hub position." Pg 6

Proposition supports regional spread adds economic value

As direct non-stop new city pairs grow in popularity a new site might tap further growth

Current constraints, and smaller gauge airport proposition recognised

CHC regional hub challenged as airlines seek growth in new direct flights



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...that point to the rationale used to pursue a second site in the South Island.

- "Get the Tasman and Pacific Island bubble established and re-establish connectivity to Brisbane/Melbourne/Sydney". Pg 7 SOI 2021
- "An analysis of visitor flows shows that it is very important to view Christchurch's visitor economy within the wider context of the South Island visitor economy. This is because 42% of total expenditure in Christchurch, and 82% of international holiday expenditure, is currently generated by people whose primary destination is not Christchurch." Pg 13 RG25
- "Christchurch International Airport's position within the New Zealand aviation market remains under pressure, with our growth not keeping pace with national growth, therefore we are losing market share. The appeal of Christchurch as a destination continues to be a drag on our performance and to achieve growth ahead of the market and reclaim share, we will need to over invest to structurally improve our position." Pg 6, 2020 SOI
- Numerous strategies and realignments in operating models, including the following that haven't had the desired effect of lifting the CHC run-rate to meet desired targets:
 - 2014, discussion paper Destination 2025
 - 2016, CHRISTCHURCH VISITOR STRATEGY - SETTING THE DIRECTION 2016
 - 2016, Canterbury Visitor Strategy - Canterbury Mayoral Forum

CHC position as gateway from Australia challenged by ZQN

In 2015, CIAL recognised vast value of visitors to the South Island did so outside CHC... which was not the primary destination...

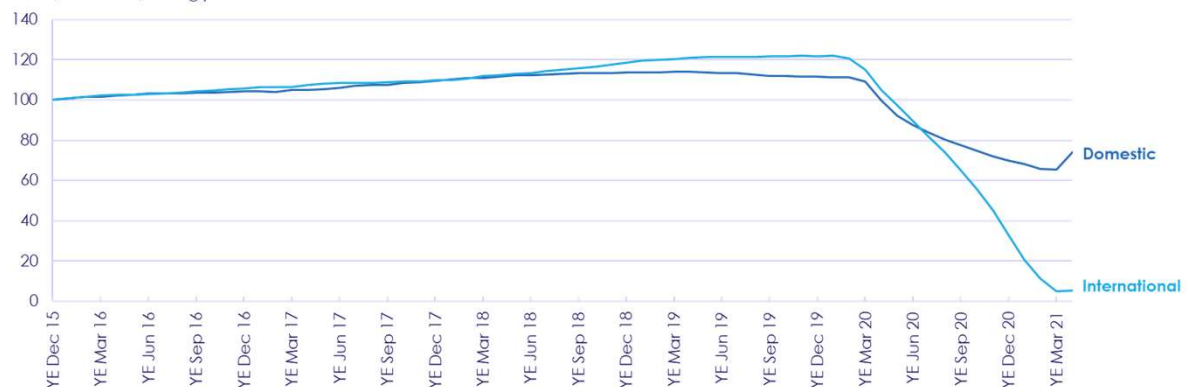
...By 2020, that position had not materially improved, made worse by COVID pandemic

With past attempts to lift CHC performance found challenging



Travel growth had slowed domestically, while international was accelerating – will NZ as a distant market, recover?

GROWTH OF CHRISTCHURCH DOMESTIC/INTERNATIONAL ORIGIN-DESTINATION DEMAND
Index, 100 = 2015, Rolling year-end total



Source: SRS schedule; Ailevon Pacific Aviation Consulting analysis



CHC forecast noise considerations: aviation is in a state of flux with multiple challenges

Emissions & environment; over-tourism

Retirement of larger aircraft

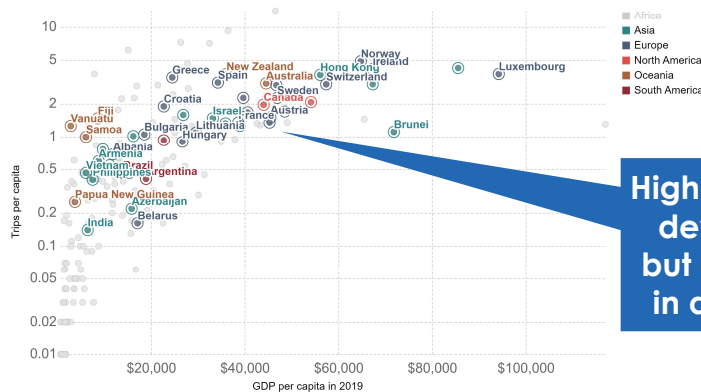
Growing emphasis on new city pair connections

Higher frequency; smaller aircraft



Air travel common amongst developed economies; but growth most evident in developing nations

Number of air travel trips vs. GDP per capita, 2019



Higher trips per capita in developed nations... but growth rates higher in developing nations

Source: Airbus (2019); World Bank
 Note: GDP figures are given in constant US-\$. This means it is adjusted for inflation to allow for comparison over time, but not for price differences between countries.

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Forecast aircraft size will plateau, as new aircraft technology improves single aisle jet performance & range

“The forecast total passenger movements are expected to grow faster than the forecast total aircraft movements, due to the general trend of increased aircraft size. Pg 9, Masterplan 2017

Accuracy of data crucial; published data & CIAL data differ. Aircraft manufactures point to smaller gauge aircraft with more frequency

While it is unlikely that the second parallel runway will be required before 2040”. Pg 12, Masterplan 2017

Based on recent data, a second runway – even if a new airport were built in Otago, would be many more years away than 2040



Transit demand in the South Island has deteriorated, as non-stop preference continues to grow

ITINERARY MIX OF SOUTH ISLAND DOMESTIC ORIGIN-DESTINATION MARKET, YE APRIL 2016- YE APRIL 2021
Thousands of passenger movements (stacked column); Percent of non-stop passenger movements (line)



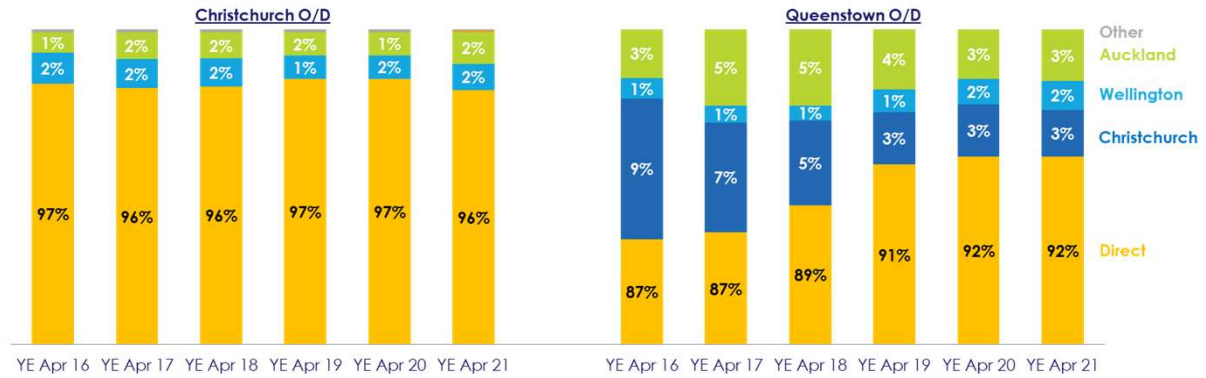
Source: IATA; SRS schedule; Ailevon Pacific Aviation Consulting analysis

Whilst the proportion of those flying indirect is below 10% - it does show a continued decline in using hubs as consumer choose direct services



Both Christchurch & Auckland have less influence as Queenstown's non-stop network has grown

GATEWAY OF CHRISTCHURCH/QUEENSTOWN DOMESTIC ORIGIN-DESTINATION MARKET, YE APRIL 2016-YE APRIL 2021
Percent of total demand; 100% stacked column

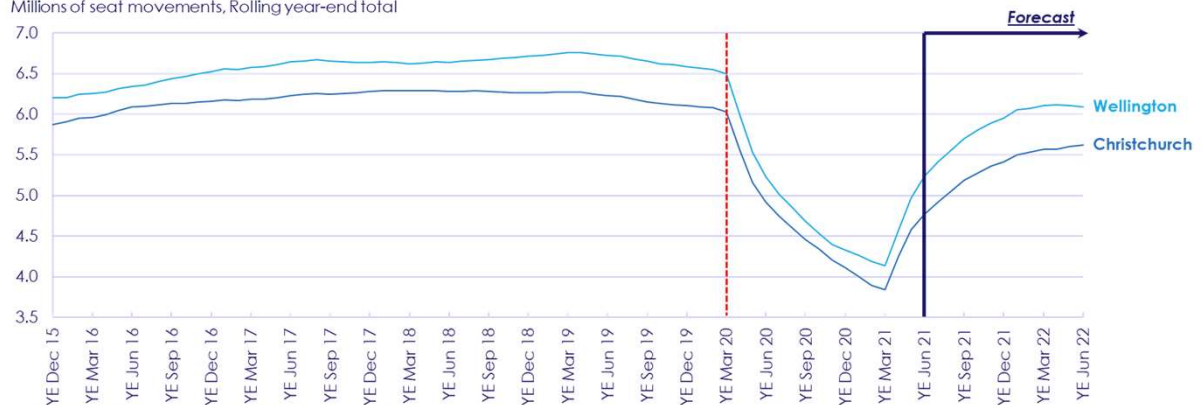


Source: IATA; SRS schedule; Ailevon Pacific Aviation Consulting analysis



Christchurch's relative performance to other peers is also challenged as growth returns

CAPACITY OF CHRISTCHURCH/WELLINGTON DOMESTIC ORIGIN-DESTINATION MARKETS, 2015-FY 2021/22
Millions of seat movements, Rolling year-end total



Source: IATA; SRS schedule; Ailevon Pacific Aviation Consulting analysis



In the key Australian market, for both inbound and outbound visitors – Queenstown continues to outperform

GROWTH OF CHRISTCHURCH/QUEENSTOWN TRANS TASMAN ORIGIN-DESTINATION DEMAND

Index, 100 = 2015, Rolling year-end total



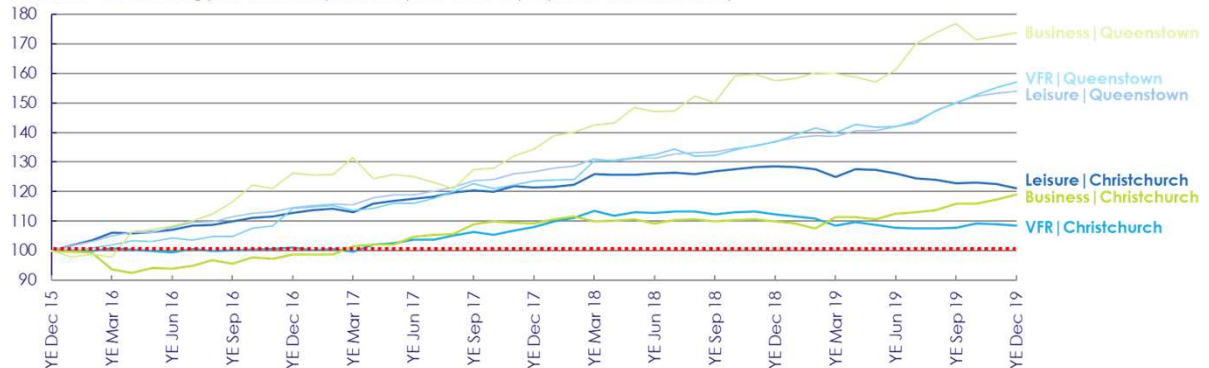
Source: IATA; Ailevon Pacific Aviation Consulting analysis



As Queenstown expand its Trans-Tasman network, it attracts more Australian visitors' in all market segments

GROWTH OF AUSTRALIAN VISITORS TO NEW ZEALAND (BY PORT OF DISEMBARKATION)

Index, 100 = 2015; Rolling year-end total (Label: Purpose of travel | NZ port of disembarkation)



*VFR = Visiting Friends & Relatives

Source: Statistics New Zealand; Ailevon Pacific Aviation Consulting analysis



CHC will continue to see lower growth rates due to a combination of factors

Highly mature developed market:
Mature western markets such as CHC tend to reach a threshold for travel propensity

Lower use as a hub:
As other regional points (Dunedin, Nelson, Queenstown) grow traffic volumes, the CHC regional hub declines

Inbound leisure markets mature:
As markets mature, less time is spent in single destinations – CHC has always had a low travel preference

Population growth for CHC slows:
Population growth and migration contribute to travel demand; lower profiles in growth reduce travel



The NZ domestic market trend has been impacted by JQ regional services and COVID...

NEW ZEALAND DOMESTIC SEAT CAPACITY GROWTH, YE JUNE 2016-2022
Percent year-on-year growth in seat capacity



Source: SRS Analyser; Ailevon Pacific Aviation Consulting analysis



...while Christchurch has a larger gauge than the rest of NZ – the gauge size has been declining

CHRISTCHURCH DOMESTIC SEAT CAPACITY GROWTH, YE JUNE 2016-2022
Percent year-on-year growth in seat capacity

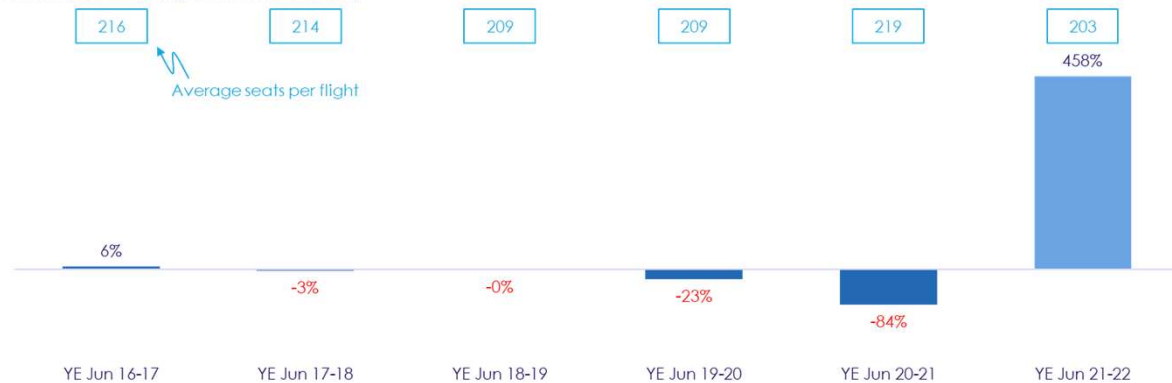


Source: SRS Analyser; Ailevon Pacific Aviation Consulting analysis



Trans-Tasman has seen fewer larger gauge 5th freedom flying, with service increases off-set by smaller aircraft use...

NEW ZEALAND TRANS-TASMAN SEAT CAPACITY GROWTH, YE JUNE 2016-2022
Percent year-on-year growth in seat capacity



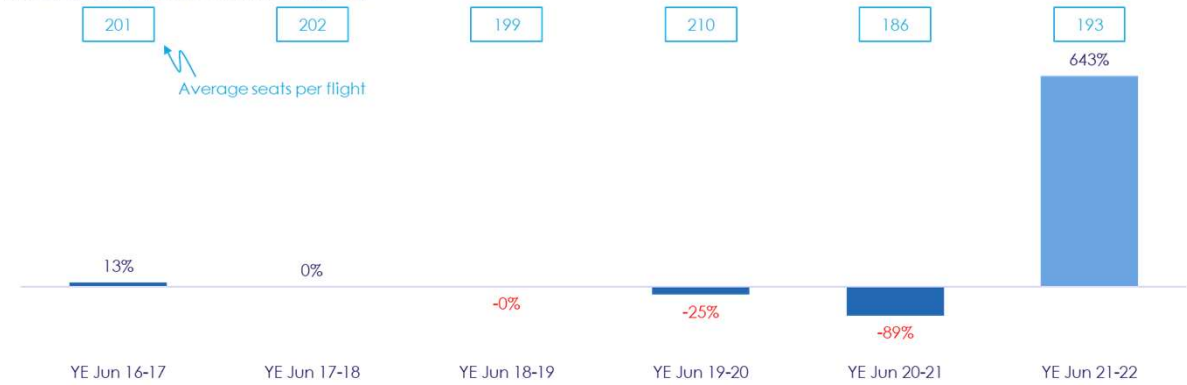
Source: SRS Analyser; Ailevon Pacific Aviation Consulting analysis



...CHC gauge is lower, and showing a decline over time

CHRISTCHURCH TRANS-TASMAN SEAT CAPACITY GROWTH, YE JUNE 2016-2022

Percent year-on-year growth in seat capacity



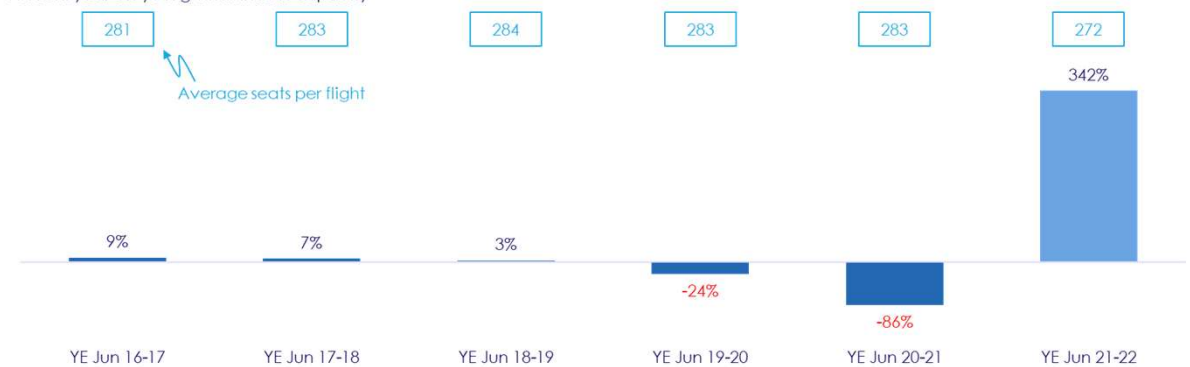
Source: SRS Analyser; Ailevon Pacific Aviation Consulting analysis



Regionally, Australia/NZ Int'l capacity had experienced good growth, with a stable aircraft gauge preference...

NEW ZEALAND/AUSTRALIA-INTERNATIONAL* SEAT CAPACITY GROWTH, YE JUNE 2016-2022

Percent year-on-year growth in seat capacity



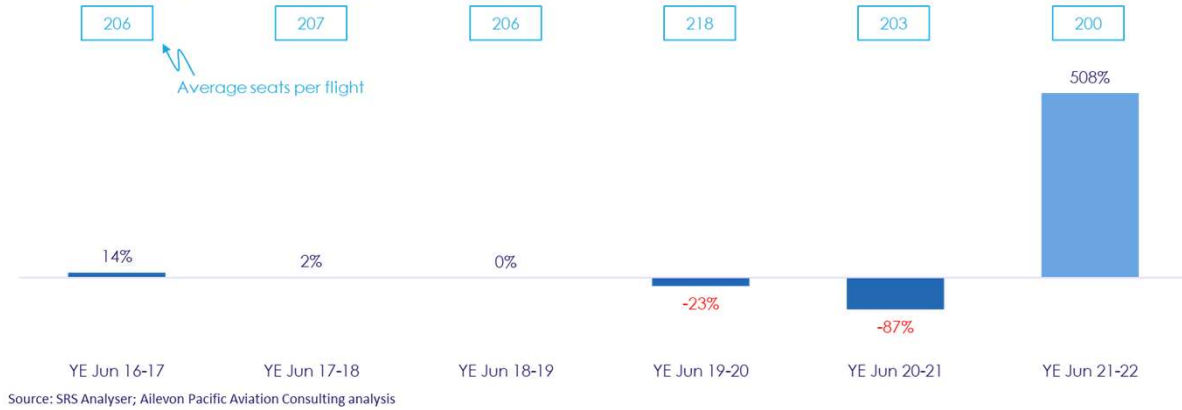
*Excluded Trans-Tasman O/D capacity

Source: SRS Analyser; Ailevon Pacific Aviation Consulting analysis



...while Christchurch int'l. flying will rely more on the Trans-Tasman market, with a much lower average gauge overall

CHRISTCHURCH INTERNATIONAL SEAT CAPACITY GROWTH, YE JUNE 2016-2022
Percent year-on-year growth in seat capacity



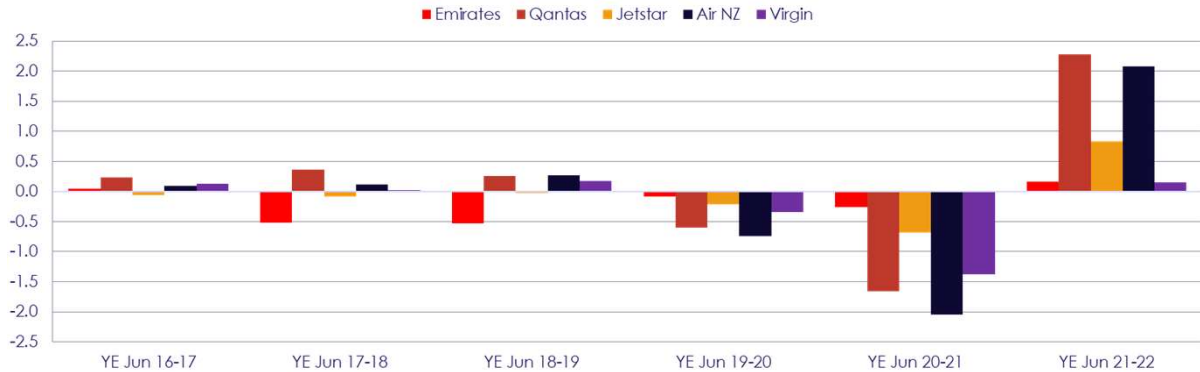
Combined, CHC seat counts are declining, with lower levels of growth.

CHRISTCHURCH SEAT CAPACITY GROWTH, YE JUNE 2016-2022
Percent year-on-year growth in seat capacity



Competition on the Tasman has reduced, as VA/EK have reduced their footprint; QF has stepped-up; NZ remains flat

NEW ZEALAND TRANS-TASMAN SEAT CAPACITY GROWTH, YE JUNE 2016-2022
Net growth; Millions of seat movements

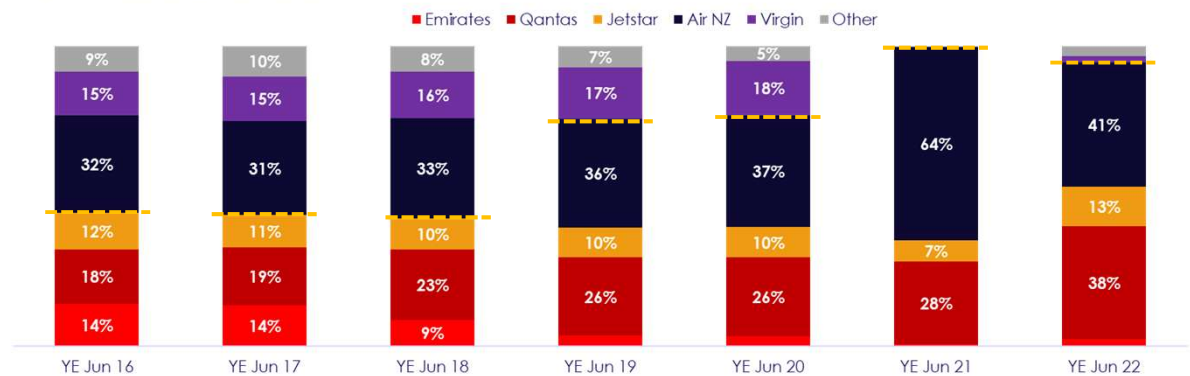


Source: SRS Analyser; Ailevon Pacific Aviation Consulting analysis



From duopoly to monopoly: QF & NZ dominant thus reducing price competition, and lowering growth profiles

NEW ZEALAND TRANS-TASMAN SEAT CAPACITY GROWTH, YE JUNE 2016-2022
Net growth; Millions of seat movements

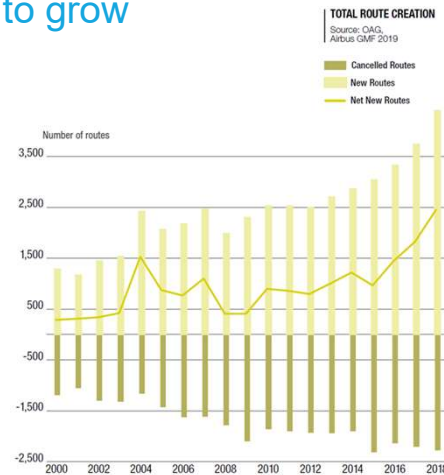


Source: SRS Analyser; Ailevon Pacific Aviation Consulting analysis



Global air routes are growing; not all new routes will succeed, but history shows net new services continue to grow

- Many new routes are being created between new city pairs (i.e. Auckland to Invercargill), as consumers look for the convenience of direct air service, rather than connecting at hubs (rather than connecting over CHC or WLG previously);
- Hub carriers will continue to add new service from their key hubs. However, new carriers will create new service to/from other non-hub airports, creating growth in new route services (Wanaka-CHC);
- Foreign carriers are key in continued growth, as access to international markets offer higher growth trajectories compared to mature domestic markets;
- A new airport in Otago is likely to “divert” traffic from CHC, and lower further, growth trajectories, as a new airport in which to secure new services.



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Smaller gauge aircraft are becoming increasingly popular and more sustainable in their future operation...

“Single-aisle airplanes such as the 737 MAX will continue to be the largest market segment, with operators projected to need 32,270 new airplanes in the next 20 years. Single-aisle demand will recover sooner due to its key role in short-haul routes and domestic markets as well as passenger preference for point-to-point service.

In the widebody market, Boeing forecasts demand for 7,480 new passenger airplanes by 2039. Widebody demand will be affected by a slower recovery in long-haul markets – typical after air-travel shocks – as well as uncertainties from COVID-19’s impact on international travel.”....



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...to serve longer-thin routes such as CHC, but can do so in more sustainable newer aircraft.

"Over the past 5 years, Oceania international market growth has outpaced the intra-regional market... continued market fragmentation has enabled further growth... With Oceania expected to continue gaining popularity as a tourist destination... the region is poised to maintain a preference for more efficient small- and medium-sized widebody airplanes in a post pandemic environment. These airplanes will offer more direct networks at greater frequencies in the geographically remote Oceanic region."



<https://investors.boeing.com/investors/investor-news/press-release-details/2020/Boeing-Forecasts-Challenging-Near-Term-Aerospace-Market-with-Resilience-in-Long-Term/default.aspx>



CIAL forecasts are overly optimistic, or challenging to achieve stated future targets

	Actual						Forecast								
	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	→→→	2030	→→→	2040
Real Growth 2025	5,930,000	6,310,000	6,570,000	6,870,000	6,931,441	5,194,982					8,500,000				
Growth		6.00%	4.00%	4.40%	0.90%	-33.40%									
CAGR growth to 2025	3.7%	3.4%	3.3%	3.1%	3.5%	10.3%									
Masterplan 2017															
Passengers		6,300,000									8,471,000		9,418,000		11,654,000
Aircraft movements		67,000									84,000		91,000		111,000
Pax/aircraft		94									101		103		105
Statement of Intent 2021															
Passengers						5,165,340	3,389,287	5,642,614	6,795,282		8,500,000				
Growth							-52.40%	39.90%	17.00%						
CAGR growth to 2025						10.5%	25.8%	14.6%	11.8%						
CAGR growth to 2030						6.2%	12.0%	6.6%	4.8%						
CAGR growth to 2040						4.2%	6.7%	4.1%	3.2%						

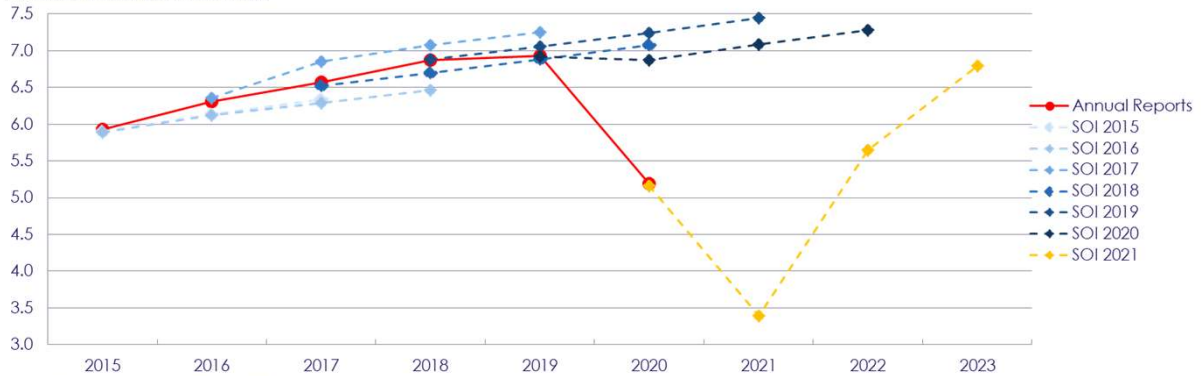
Recent SOI forecasts & the required CAGR to achieve forecast Master Plan targets in 2040 have never been exceeded. The 2022 target SOI volume of 5.6m is expected to grow to 6.8m in 2023. In an unconstrained market, pre-COVID, it took 4 years to achieve the same volume of growth



When forecasting, presenting the short to long-term future as pre-determined brings risks around assumptions for policy

PASSENGER MOVEMENTS & FORECAST AT CHRISTCHURCH AIRPORT, 2015-2023

Millions of passenger movements



Source: Christchurch Airport; Ailevon Pacific Aviation Consulting analysis



CHC is challenged by a lowered growth profile caused by various dynamics that impinge on growth previously forecast

Previous targets & strategies have been frustrated in achieving set volume goals: CAGR rates are lower than they need to be to achieve targets set

Destination CHC is overshadowed by ZQN – who has more AU visitors in some months than CHC, in key market segments (i.e. holiday)

A second site strategy attempts to take some market share, from consumers with no desire to visit CHC

CHC average domestic aircraft size is larger than national levels, but are declining; as are Tasman & international aircraft sizes

New city pairs are emerging, serving consumers that want to fly direct – bypassing the CHC hub (such as IVC-AKL services)

Smaller gauge aircraft sizes, flying direct to final choices of destinations, will further reduce CHC forecast volumes



Forecast considerations?

- Key forecasts have been developed in the past: Forecasts prepared in 2007; Real Growth 2025; Masterplan 2017; Aeronautical Charges 2017-2022, etc. Were these forecasts completed by the same professionals?
- What methodology of forecast was used in each instance?
- How reliable have forecasts been to actual out-turn results each time?
- Data sources are sometimes different, and are used to provide descriptive explanations of various market segments, but cloud the view on actual final volumes.
- Quinquennial reviews for aero charges could also provide a view on forecast expectations, as forecasts require some consultation with airlines. These volume forecasts might also go beyond the 5 year period to give airlines a view on pricing beyond the regulatory period. As CIAL charges expire in 2022; consultation on forecast volumes may soon begin (or may have already begun as forecast passenger volumes are a key determinant of aero charge units).



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Thank You

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