

**DRAFT**

# QUEENSTOWN AIRPORT MASTER PLAN

**MAY 2023**



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# CHAIR AND CEO'S MESSAGE

We are pleased to present the draft Master Plan for Queenstown Airport and to invite your feedback and input.



Adrienne Young-Cooper, Chair



Glen Sowry, CEO

**Our mission is to proudly connect our home with New Zealand and the world. Our vision is to be an innovative airport that people love to travel through, and the community takes pride in.**

Queenstown Airport was established by the community for the community in 1935 in Frankton. The airport's greatest attribute and strategic value is its central site in the heart of the Southern Lakes, providing both residents and visitors with highly convenient and efficient connections to and from the region.

It is one of the most spectacular settings for an airport anywhere in the world. As locals, we know we are home the moment we step off the plane and take a deep breath of mountain air. Our visitors are awestruck when they first glimpse the Remarkables and Lake Whakatipu.

Queenstown Airport also plays a crucial role in supporting the economic and social wellbeing of our region. We serve the Queenstown Lakes District, including Wānaka and the Upper Clutha, Central Otago and Fiordland – a steadily growing catchment of more than 75,000 people.

With daily scheduled flights from Auckland, Wellington, Christchurch and the east coast of Australia, ZQN is an international gateway to the lower South Island and connects the communities of the Southern Lakes region with New Zealand and the world.

It is timely, as we emerge from the global disruptions caused by the COVID-19 pandemic, to think deeply about the future of aviation, and the associated challenges and opportunities. We are on the verge of global changes to the aviation sector as the focus on decarbonisation and innovative technology escalates. It is, therefore, important to have a Master Plan for an airport that is future-ready and continues to contribute to the social and economic wellbeing of the region over the long term.

We are mindful of the importance of balancing aeronautical activity with both the capacity of regional infrastructure and preserving what makes the region a special place to live, work and visit.

A key decision taken during the preparation of our Strategic Plan was to plan for modest growth within the existing Queenstown Airport noise boundaries and not to exceed these boundaries within the next 10 years. Improvements in aircraft technology and increasing use of quieter aircraft will be a significant part of achieving this goal, and the Queenstown Airport Corporation will actively manage aviation activity at the airport to ensure this commitment is met.

We've also considered the Queenstown Lakes District Council's Spatial Plan for the district, including the outcomes sought by Kāi Tahu, alongside QLDC's Frankton Master Plan to ensure our Master Plan for the airport responds to and connects well with the district's broader aspirations and plans.

The Southern Lakes are a world-class destination and we want to match that with a world-class customer experience reflecting the natural attractions and unique attributes of our region.

**As part of the development of this draft Master Plan, we talked to a broad range of people from across the region to help guide us on the issues of significance to our communities. This early feedback is summarised in this document and incorporated into this draft where it relates to spatial planning.**

## 01 CHAIR & CEO'S MESSAGE

The draft Master Plan places high value on creating a customer-centric experience at the airport. We intend to seamlessly integrate land and air journeys at Queenstown Airport and deliver a flexible response to the evolving needs of both passengers and our community, with smart infrastructure upgrades and development staged over the coming decade.

We have the opportunity to increase the efficiency of the airfield by building a parallel taxiway, creating one additional aircraft parking stand, and by relocating general aviation (helicopters, fixed-wing and corporate jet facilities). A new Airport Emergency Services station is also planned. We are proposing a modest extension to the terminal to make the best use of the current footprint and greatly improve the experience for those travelling, meeting and farewelling, and working at the airport. The journey to and from the airport will also improve. We are prioritising active travel and public transport links. We're proposing a new green link that will connect the terminal to cycle trails and down to the proposed ferry jetty on Lake Whakatipu.

In our region, there is strong alignment as we tackle the challenges associated with climate change.

We support the Queenstown Lakes District's ambitious target, announced in November 2022 under the banner 'Travel to a thriving future', to be the world's first carbon-zero tourism destination by 2030.

We are already working with our colleagues at Destination Queenstown and Lake Wānaka Tourism, alongside tourism operators, on this. Planning for and enabling the decarbonisation of aviation is core to our strategy and will be critical to achieving this bold ambition.

Technology is advancing quickly and the draft Master Plan has preserved space at the airport to allow us to quickly adopt and adapt for sustainable aviation requirements.

Like much of Aotearoa New Zealand, we live in a geologically active and climate-challenged region. Queenstown Airport is a designated lifeline for Civil Defence in the event of a natural disaster or other major emergency. While this particularly relates to access in and out of the region by air, the terminal and related infrastructure are also a site that could be put to a wide range of uses in a major emergency.

On the following pages, you will see the proposed long-term spatial plan for Queenstown Airport and our key projects to bring this to life.

As QAC is a Council Controlled Trading Organisation (CCTO) and important community infrastructure asset, the input of our stakeholders on this draft Master Plan will be invaluable in preparing the final Master Plan for Queenstown Airport.

The community engagement process now under way is being undertaken in partnership with the Queenstown Lakes District Council. We want to provide an airport our communities take pride in, and we look forward to your input.

Having considered all feedback, we will report the final Master Plan to shareholders and seek shareholder endorsement of it before any final approval by the board.

The board of directors and management team are privileged to be custodians of this asset. A great deal of work and analysis has gone into the preparation of this draft Master Plan and we'd like to thank those who have contributed to date.

You can provide feedback in a variety of ways and we encourage you to participate in the consultation process.

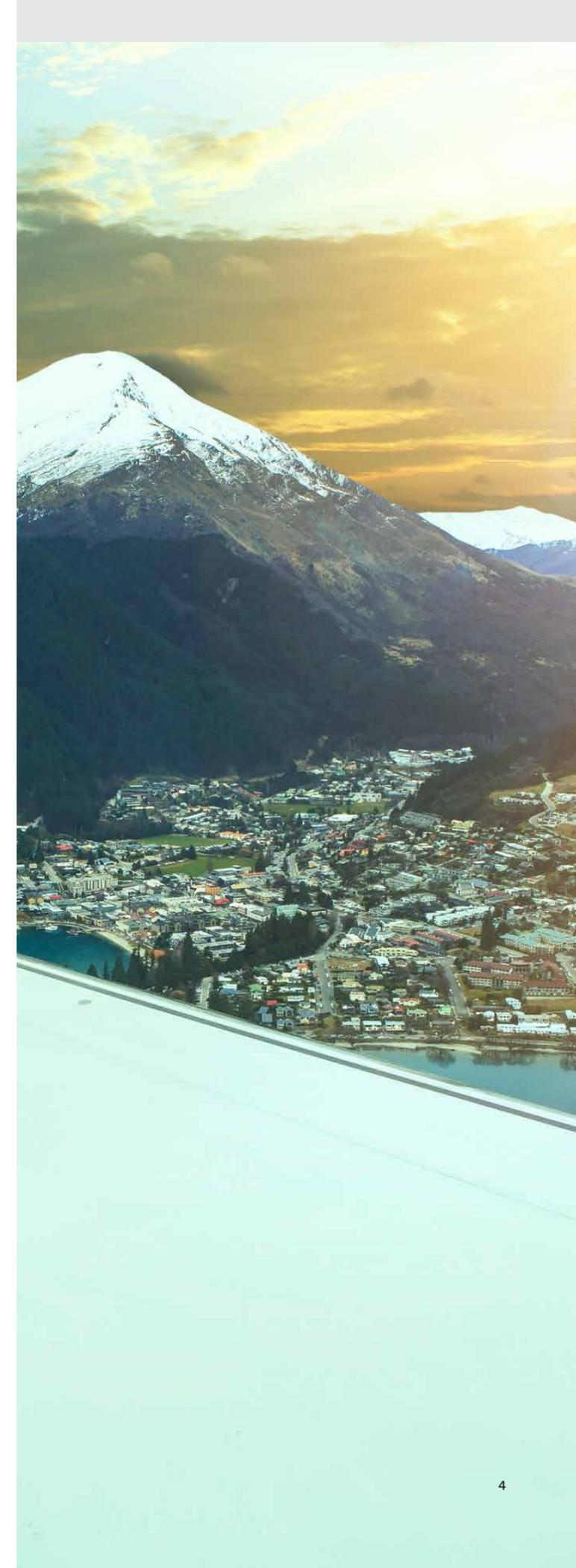


**Adrienne Young-Cooper**  
Chair



**Glen Sowry**  
CEO

May 2023





# INTRODUCTION

Our Strategic Plan outlines our aspiration to be an innovative airport that serves the Southern Lakes region far into the future.

This draft Master Plan identifies the development elements of our 10-year Strategic Plan and will ensure infrastructure is delivered where and when it is needed, while supporting our decarbonisation and sustainability targets. Enhancing safety and resilience across the airport and enabling the decarbonisation of air travel are core considerations.

The Queenstown Airport Master Plan will provide a long-term planning and land-use framework for airport infrastructure, focusing on the coming decade, while considering infrastructure that could be required beyond 2032 and safeguarding space for this. Space allocations are illustrated in the two layouts on the following pages.

A series of key initiatives and projects proposed in this draft Master Plan are set out in this section. These will enable us to achieve our aspirations over the next decade and beyond.

Any plans and concepts identified will be subject to thorough aeronautical, operational and safety assessments and consents.

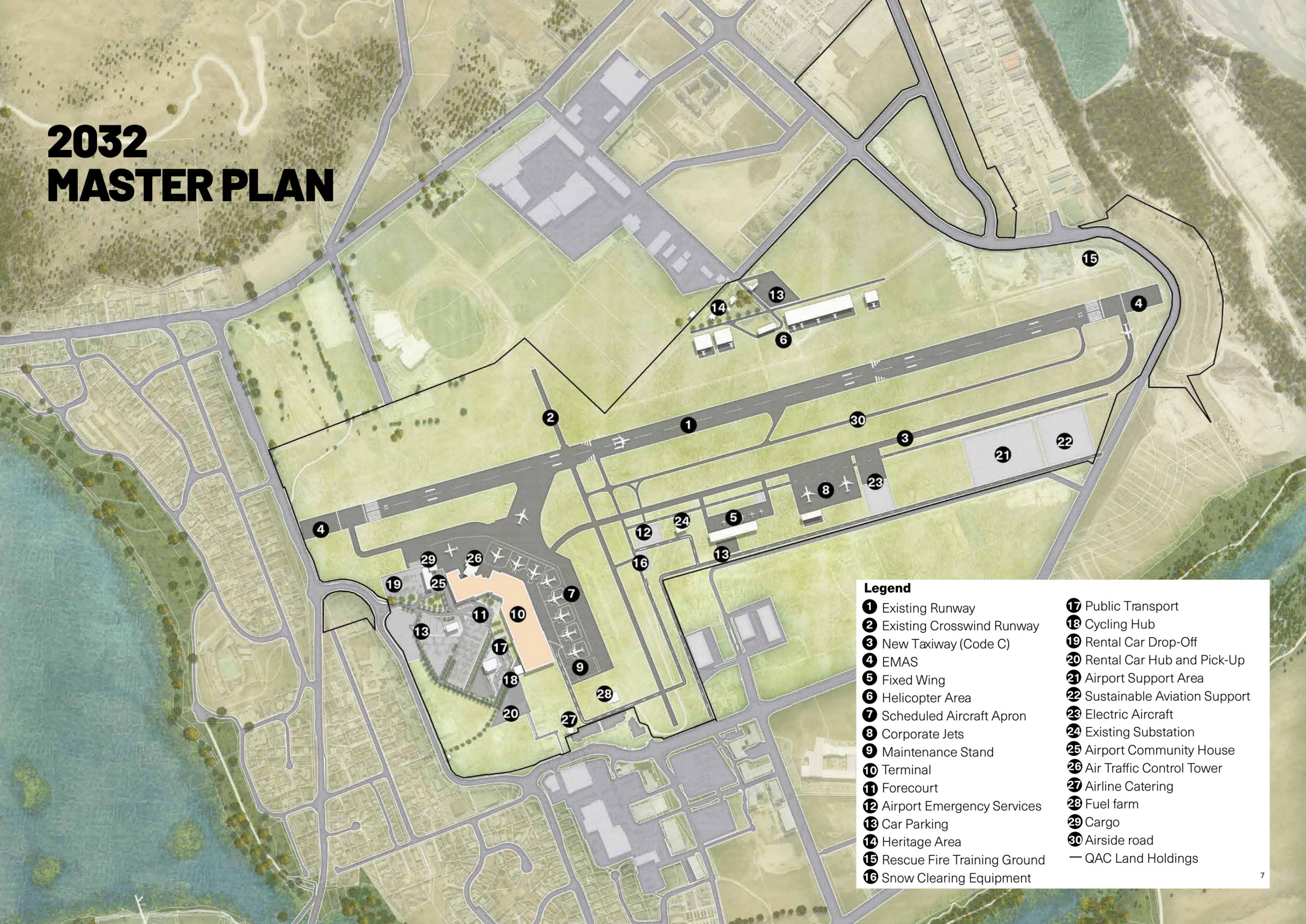
**We will use the approved Master Plan to create a more detailed Terminal Development Plan. By continuing to build our relationships with iwi, we will work to reflect Kāi Tahu values and narratives in the terminal precinct, and to support restoring Kāi Tahu values, as outlined in the QLDC Spatial Plan.**

This draft Master Plan relates only to Queenstown Airport. While QAC manages the day-to-day operations of nearby Wānaka Airport under a management services agreement, QLDC as the owner of Wānaka Airport will consult with the community on long-term plans for the airport.

QAC continues to own land adjacent to Wānaka Airport, which is currently leased and used in part for NASA's global super pressure balloon programme. Decisions regarding the future use of QAC-owned land near Wānaka Airport will be made once a long-term plan is created.

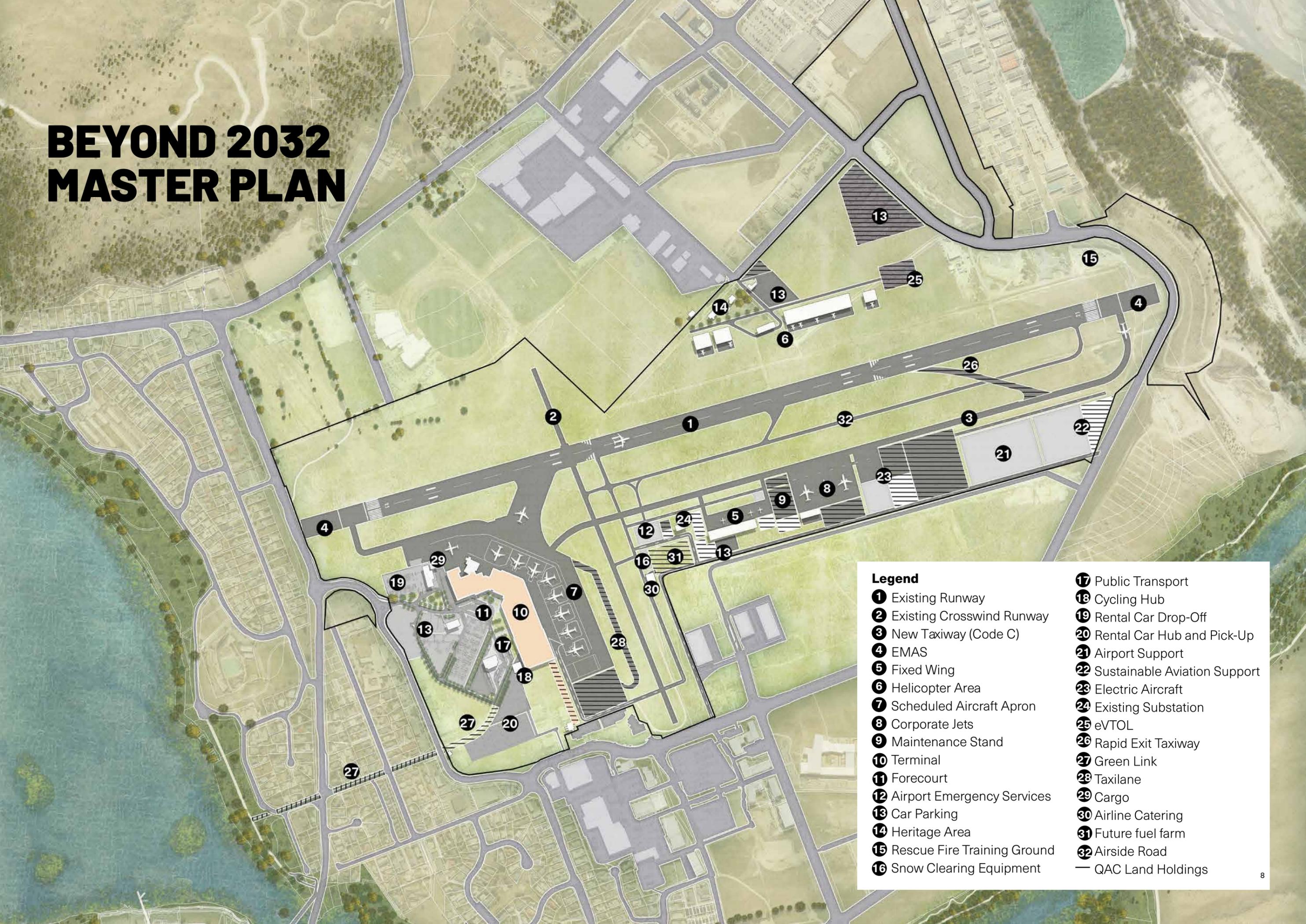


# 2032 MASTER PLAN



- Legend**
- 1 Existing Runway
  - 2 Existing Crosswind Runway
  - 3 New Taxiway (Code C)
  - 4 EMAS
  - 5 Fixed Wing
  - 6 Helicopter Area
  - 7 Scheduled Aircraft Apron
  - 8 Corporate Jets
  - 9 Maintenance Stand
  - 10 Terminal
  - 11 Forecourt
  - 12 Airport Emergency Services
  - 13 Car Parking
  - 14 Heritage Area
  - 15 Rescue Fire Training Ground
  - 16 Snow Clearing Equipment
  - 17 Public Transport
  - 18 Cycling Hub
  - 19 Rental Car Drop-Off
  - 20 Rental Car Hub and Pick-Up
  - 21 Airport Support Area
  - 22 Sustainable Aviation Support
  - 23 Electric Aircraft
  - 24 Existing Substation
  - 25 Airport Community House
  - 26 Air Traffic Control Tower
  - 27 Airline Catering
  - 28 Fuel farm
  - 29 Cargo
  - 30 Airside road
  - QAC Land Holdings

# BEYOND 2032 MASTER PLAN



- Legend**
- |                                |                                 |
|--------------------------------|---------------------------------|
| 1 Existing Runway              | 17 Public Transport             |
| 2 Existing Crosswind Runway    | 18 Cycling Hub                  |
| 3 New Taxiway (Code C)         | 19 Rental Car Drop-Off          |
| 4 EMAS                         | 20 Rental Car Hub and Pick-Up   |
| 5 Fixed Wing                   | 21 Airport Support              |
| 6 Helicopter Area              | 22 Sustainable Aviation Support |
| 7 Scheduled Aircraft Apron     | 23 Electric Aircraft            |
| 8 Corporate Jets               | 24 Existing Substation          |
| 9 Maintenance Stand            | 25 eVTOL                        |
| 10 Terminal                    | 26 Rapid Exit Taxiway           |
| 11 Forecourt                   | 27 Green Link                   |
| 12 Airport Emergency Services  | 28 Taxilane                     |
| 13 Car Parking                 | 29 Cargo                        |
| 14 Heritage Area               | 30 Airline Catering             |
| 15 Rescue Fire Training Ground | 31 Future fuel farm             |
| 16 Snow Clearing Equipment     | 32 Airside Road                 |
|                                | — QAC Land Holdings             |

# ZQN SNAPSHOT 2023 TO 2032

	 ARRIVING AND DEPARTING PASSENGERS	 SCHEDULED AIRCRAFT MOVEMENTS	 NON-SCHEDULED MOVEMENTS	 TERMINAL	 LAND DESIGNATED FOR AERONAUTICAL PURPOSES	 NON AERONAUTICAL LAND	 SCHEDULED AIRCRAFT STANDS	 RUNWAYS	
2023	2.4M	17,900	36,000	18,000 <sub>SOM</sub>	136.88 <sub>HA</sub>	16.59 <sub>HA</sub>	8	2	
2032	3.2M	22,112	43,000	21,000 <sub>SOM</sub>	136.88 <sub>HA</sub>	16.59 <sub>HA</sub>	9	2	
<b>3.2%</b> COMPOUND ANNUAL GROWTH RATE									<b>15%</b> LARGER THAN THE CURRENT TERMINAL

# COMMUNITY PERSPECTIVES

Early in the development of this draft Master Plan, we held four pre-engagement workshops to canvass what is important to the communities we serve and what improvements they would like to see at Queenstown Airport. These workshops were held in Queenstown, Wānaka and Cromwell in late September and October 2022 and were independently facilitated.

**A broad cross-section of representatives from the region’s communities attended and were given four questions to stimulate discussion:**

1. **What do you think we should consider in our Master Plan to help us realise our vision of “An innovative airport that people love to travel through, and the community takes pride in”?**
2. **Growth and ZQN’s noise boundaries** – your thoughts on managing growth and our commitment to operate within our noise boundaries for the next 10 years.
3. **Transport at ZQN includes public transport, walking, cycling, car parking, shuttles, coaches and rental cars** – what is important to you and how would you like to see the airport manage these activities?
4. **Our terminal** – what would you like to see as our terminal is upgraded and modernised?

Participants also had the opportunity to raise any other points not covered by these questions and were invited to email us if they subsequently wanted to add further comments.

The focus in the sessions was on capturing a full range of opinions, not on reaching an agreed group position.

Independently facilitated workshops were also held for QAC staff to ensure our team had an opportunity to contribute as the draft Master Plan was being prepared. All employees were invited, and these sessions were well attended, with enthusiastic discussion of the same four questions.

Analysis of the responses of the focus groups revealed eight consistent themes:

- improve the ease of getting to and from the airport
- improve the management of vehicle parking
- improve access to and the flow through the airport site and terminal
- maximise the airport’s connection with the landscape and environment
- be an airport that the community is proud of and has a sense of ownership of
- focus on an excellent customer experience
- a renewed community conversation about the factors that affect growth, addressing what the community is comfortable with and what is needed
- noise management.

This feedback provides an initial indication of factors the wider community considers important in the development of Queenstown Airport and informed the development of this draft Master Plan.

QAC is committed to positive engagement with iwi and hapū. QAC’s majority shareholder, the Queenstown Lakes District Council, has established partnerships with both Aukaha and Ngāi Tahu ki Murihiku (Te Ao Marama), who work on behalf of iwi to work with relevant territorial local authorities. We have begun discussions with a goal to building relationships with these organisations as we work to respect the whakapapa of Kāi Tahu as part of our master planning and cultural heritage initiatives. QAC will ensure that iwi values and issues are reflected in plans and initiatives.

QAC will undertake an extensive formal consultation process on this draft, which will provide all key stakeholders with the opportunity to have input into the final Master Plan. This will include a structured community engagement process conducted in partnership with QLDC.

A summary of feedback on the draft Master Plan will be provided to shareholders and available publicly on our website.

Feedback will be considered and incorporated into the final Master Plan.

## QUALITY OF LIFE SURVEY

The Queenstown Lakes District Council recently published the results of its latest Quality of Life survey.

An airport with regular scheduled national and international flights ranked No. 2 on the list of top 10 positive impacts of tourism, behind network of cycling and walking trails.

The top negative impacts of tourism related to traffic and parking pressures.

## Demographic statistics of interest to us include:

- **more than 50%** of residents were born somewhere other than New Zealand
- **19%** have lived here less than two years, and a further **19%** between two and four years
- **8%** of the district’s population lives in Frankton.



# ECONOMIC IMPACT

Queenstown Airport, as a significant infrastructure asset majority-owned by the Queenstown Lakes District, makes important contributions to the local and national economy.

The services the airport provides to travellers are the most immediate and direct contributions. These services are used by both local residents and visitors to the region.

In providing these services, the airport buys goods and services from other providers. These are described as 'indirect contributions'.

QAC engaged the New Zealand Institute of Economic Research (NZIER) to prepare an independent, authoritative and data-driven analysis to understand Queenstown Airport's current and potential contribution to the local and regional economies and to the New Zealand economy as a whole. A particular focus was on the economic impact of delivering the proposed outcomes of the Master Plan over the 10 years to 2032.

**These outputs tell us the overall economic impact of the airport and its operations:**

- across three geographical areas – Queenstown Lakes District, the rest of Otago and New Zealand
- covering the economic variables of GDP, household expenditure and employment in each area
- including output from four tourism sectors (domestic, international, tourism spending and international flights), as well as the accommodation, food and other transport industries.

**NZIER'S RESEARCH TELLS US THAT BY 2032 WE WILL:**



✓ **have an impact on Queenstown Lakes District's GDP of +6.5%** (as against 2022 baseline); that's about the equivalent of all building construction in Queenstown today



✓ **create approximately 120 extra jobs** in the Queenstown Lakes District and 260 extra jobs in the Otago region each year



✓ **support the people of Queenstown** to increase their wellbeing and quality of life, demonstrated through a 32% increase in household spending



✓ **support expansion of production** in the following sectors in Queenstown Lakes District:

- |                         |                          |
|-------------------------|--------------------------|
| Food and services – 12% | Accommodation – 4%       |
| Transport – 6%          | Rest of the economy – 4% |
| Tourism – 6%            |                          |



# ZQN – AN AIRPORT FOR THE FUTURE

We are always looking for ways to improve the resilience, safety and efficiency of operations at Queenstown Airport for both scheduled flights by airlines and unscheduled flights by general aviation operators.



## RUNWAY SAFETY UPGRADES

Queenstown Airport plans to build an engineered materials arresting system (EMAS) at each end of the runway, which would assist an aircraft to decelerate and stop safely in the unlikely event of a runway overrun. ZQN will be the first airport in Australasia to install an EMAS. This new technology has been successfully implemented at major airports in North America and Europe. It is particularly well suited to operational environments such as ours and we are confident it will increase safety at Queenstown Airport.



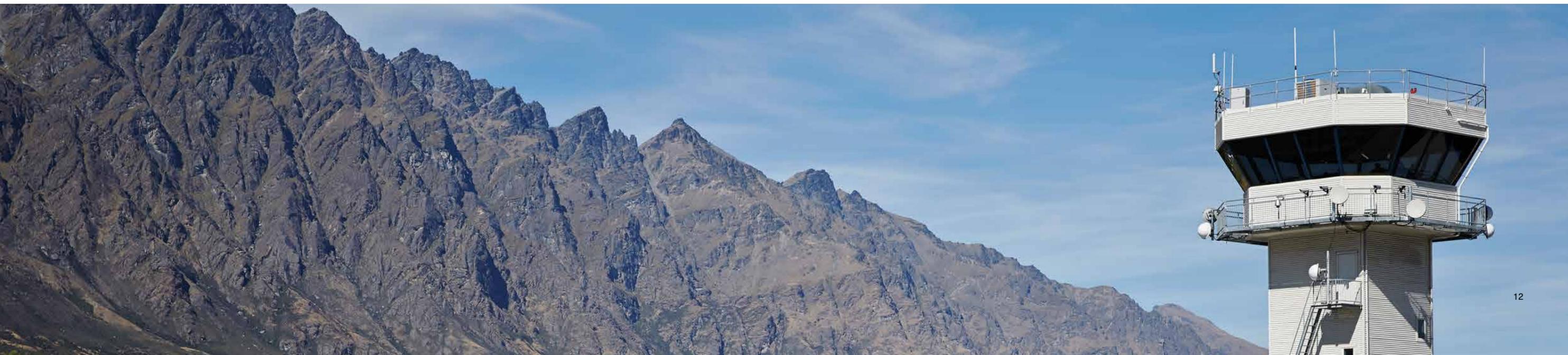
## PARALLEL TAXIWAY

A parallel taxiway is proposed to improve operational efficiency and capacity on the existing runway and airfield. It will also enhance safety and sustainability, as it will reduce the length of time pilots are asked to fly a holding pattern while waiting to land. It will also reduce ground delays and, in the event of an emergency response, it could act as an additional runway for light aircraft.



## AIRCRAFT PARKING STANDS

The plan allows room for extra aircraft parking stands and expansion of the apron. We believe one additional parking stand will be required by 2032 to increase operational efficiency and flexibility. We are also proposing to create a dedicated stand for aircraft maintenance and resilience, which Queenstown Airport does not have at present.



# CREATING NEW AVIATION PRECINCTS

Creating precincts for specific activities and relocating general aviation operators will improve operational efficiency and protect space for emerging technologies.



## NORTHERN AVIATION PRECINCT

A new Northern Aviation Precinct for helicopter operations is proposed to consolidate operations. Moving helicopters to this location will improve airspace and operational efficiencies and enable modest terminal expansion. One advantage of this will be to move noise away from the main Frankton residential area.



## SOUTHERN AVIATION PRECINCT

The acquisition of land south of the main runway (Lot 6) allows Queenstown Airport the opportunity to provide vital core airport infrastructure in a more efficient manner, as well as providing space for future and rapidly emerging aviation technologies and alternative fuel supply. Fixed-wing operators will be moved to this precinct.



## SUSTAINABLE AVIATION

We will plan for and enable emerging technologies for sustainable aviation with adaptability to cater for sustainable aviation fuels (SAF), electric and hydrogen aircraft in the future.



# A TERMINAL THE COMMUNITY TAKES PRIDE IN

The Queenstown Airport terminal has developed in stages over several decades as the district has grown. As part of our long-term planning, we have an opportunity to create better passenger flow and land transport connections, as well as to increase the building's seismic strength and resilience, deliver operational and environmental benefits, and improve the customer experience.



## EXTENDING & MODERNISING THE TERMINAL

Much of the existing terminal infrastructure will remain. Some areas will be refurbished, while others will be seismically strengthened, altered to create more adaptable spaces, or rebuilt. To allow this work to happen and to ensure smooth passenger flow, a terminal extension to the south towards Tex Smith Lane is included in this plan.

We'll take the opportunity when upgrading the terminal to incorporate new energy-saving initiatives and design a space that reflects all that is special and unique in our region.

We will seek guidance from iwi and work to reflect Kāi Tahu values and narratives in the terminal precinct, showcasing the richness of the region's culture.



## GREEN LINK

To enhance active travel options to and from the airport, we propose a green link that will be a high-quality pathway for pedestrians and cyclists, separated from vehicles. The first phase of the link will feature native planting and landscaping and be a travel corridor to join the local cycle trail network via a new cycle hub where passengers can park, assemble, disassemble, or rent a bicycle.

Beyond 2032, the green link could connect Queenstown Airport to the proposed ferry jetty at Frankton, capitalising on the views of Lake Whakatipu and the Remarkables. By providing the link, we will encourage people to make the most of the outdoor experience in Queenstown.



## TRANSPORT HUB

We will provide airport users with choice to meet individual transport needs, while promoting a shift from private vehicles to other modes of transport. To encourage people to make more sustainable choices, we are providing connections to existing active and public transport networks and giving them prime positions in front of the terminal.

We aspire to be the world's most cycle-friendly airport.



# OTHER INITIATIVES

Beyond developing robust infrastructure for aviation, we need to make plans for other assets and projects.



## HERITAGE PRESERVATION

We recognise the historical significance of Arranmore Farm (formerly McBride's Farm), including the former smithy, dairy, woolshed, and mature trees that date back to the 19th century. Preservation of these important heritage assets and buildings is an important factor in our planning and infrastructure development.



## NON-AERONAUTICAL LAND DEVELOPMENT

We will develop our non-aeronautical land assets to promote economic diversification for the Queenstown Lakes region, as well as diversifying QAC's revenue streams to support ongoing financial stability.



## DECARBONISATION ROADMAP

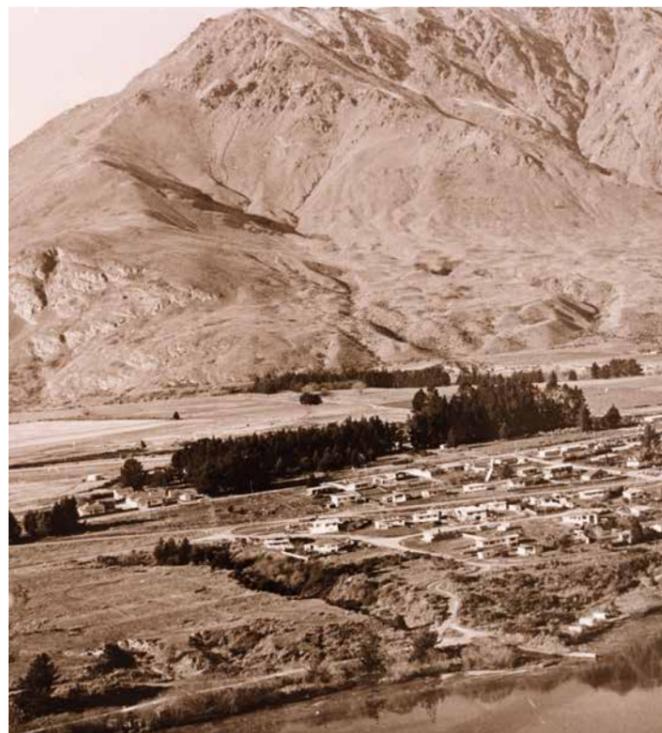
We have developed a Decarbonisation Roadmap and set science-based targets to achieve net-zero for the airport's operational emissions by 2040. Planning for and enabling the decarbonisation of air travel is a priority in this draft Master Plan. Core to our planning is to significantly improve the sustainability and environmental efficiency of our terminal and our operations.



# CONTEXT AND HISTORY

## HISTORY

Queenstown Airport celebrated its 85th birthday in 2020. It was founded in 1935 by the community for the community and remains majority community-owned to this day. The first airstrip was established in the middle of farmland on the Frankton Flats and a collection of heritage agricultural buildings by the northern side of the airport runway attest to its previously rural setting.



Frankton and Queenstown Airport 1960

According to Ngāi Tahu tradition, Lake Whakatipu fills the hollow left by the body of a giant tipua (ogre) called Matau. The lake supported permanent Māori settlements for generations and also provided access to seasonal campsites, food sources and highly treasured pounamu.

The arrival of Europeans and the discovery of gold in the Arrow and Shotover rivers in the 1860s led to the development of Queenstown township on the shores of the lake.

Tourism in the region was initially strongest in summer months and focused on the lake. The development of commercial skiing, adventure tourism activities and international flights opened Queenstown's potential as a year-round destination.

Fast forward to today and Frankton looks very different. The airport is no longer 'out of town'. Vibrant commercial and residential communities have developed around it over the years. And, through the decades, the airport has evolved from airstrip to aerodrome to the international airport it is today.

In the early days, the airstrip was mostly a base for scenic flights, but by the 1950s it was used for a range of commercial flights.

The first airport terminal was built in 1964, when Mount Cook Airlines began flying its DC-3 aircraft into Queenstown. Four years later, the runway was extended and sealed to allow Mount Cook to use turboprop Hawker Siddeley 748 aircraft.

A new terminal was opened in 1974 and has since undergone several expansions to cater for growth in both the resident population and visitor numbers. Similarly, the runway, navigation systems and other facilities have been progressively upgraded to enable jet services, increase safety and minimise flight disruptions.

International flights have been landing at ZQN since 1995 and planes have been landing after dark since 2016.



Frankton and Queenstown Airport 2017

## THE AIRPORT TODAY

Queenstown Airport is the fourth busiest airport in the country by passenger numbers, behind Auckland, Wellington and Christchurch airports. The airport is located on 153.5 hectares of land – 136.9 hectares of which are designated for aeronautical purposes. The airport has two shareholders: Queenstown Lakes District Council (75.01%) and Auckland International Airport Limited (24.99%).

Queenstown Airport is the direct domestic and international entry point to the lower South Island, providing easy access to the Southern Lakes region and lower South Island, and some of New Zealand's most renowned scenery. For many people, it is their first impression of New Zealand, with about a third of arrivals in the region travelling by air.

Its strategic importance is such that it greatly contributes towards New Zealand's economy, the tourism sector, and many of the regional communities served by the airport. The airport also plays a key role in the resilience of the region. As a lifeline utility, it will be of critical importance to the district in the case of a major natural disaster.

It is also a base for various general aviation activities, including flightseeing and other commercial operations, search and rescue, medical flights and other emergency services. It is one of New Zealand's busiest helicopter ports and a popular choice for corporate jet customers who reside in or visit the region.

The Queenstown Lakes District is one of the fastest-growing areas in the country. The airport serves a key function in supporting this growth and ensuring the region is a vibrant and liveable place. The economic and social benefits from the airport greatly support the local area as well. About 60 businesses and agencies, collectively employing more than 700 people, operate across the airport precinct.

The airport's hours of operation are 6am to 10pm, although flights are not scheduled before 7am.

Looking ahead, the company will periodically and appropriately review the assumptions that inform master planning decisions.



**Figure 1**  
Queenstown Airport Corporation landholdings

# OUR CONNECTIONS





## EXISTING RUNWAYS

### RUNWAY 05/23

The main runway is aligned north-east to south-west and has a paved length of 1889 metres and a width of 45 m. Resurfacing and widening of the runway was completed in mid-2016. The runway is a flexible pavement construction with a grooved asphalt concrete surface and has a pavement classification number (PCN) of 47.

The runway is equipped with dual precision approach path indicator (PAPI) runway lighting, permitting evening flights for approved operators.

It currently caters for narrow-body commercial jets (B737/A320/A321) and turboprop aircraft (ATR72 and Q300). No commercial wide-body aircraft can operate at the airport, nor is this proposed.

### RUNWAY 14/32

Queenstown Airport also operates a second (crosswind) runway, aligned in a north-south direction, for general aviation. The runway has a paved length of 720 m and a width of 40 m, with a 10 m sealed centre section. It has a flexible pavement constructed to accommodate aircraft with a maximum certificated take-off weight (MCTOW) of 5700 kg.

This runway is dedicated for use by smaller general aviation aircraft operated under visual flight rules.



Runway 05/23 is Queenstown Airport's main runway



Runway 14/32 is used by smaller general aviation aircraft

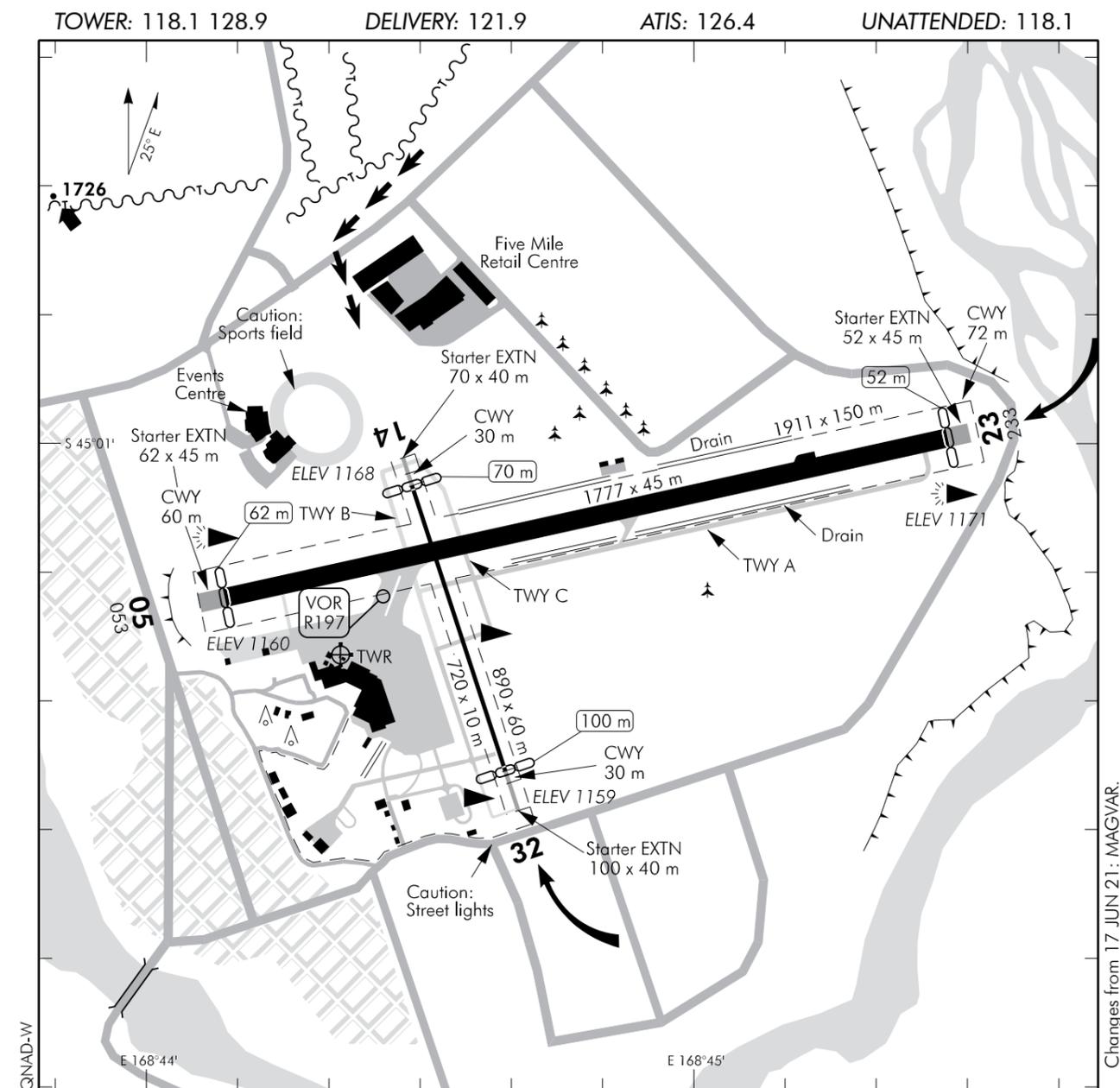


Figure 2 Queenstown Airport Aerodrome Chart from www.aip.net

## AIRFIELD, TAXIWAYS & APRONS

Queenstown Airport has a network of taxiways, primarily serving the two runways. These are described below.

**Taxiway A** – A sealed Code B (light) parallel taxiway that runs adjacent to the main runway 05/23 for about 1,200 m at a separation of 96 m.

**Taxiway B** – A sealed and grass parallel taxiway that runs adjacent to the crosswind runway 14/32. The taxiway runs for approximately 250 m between Taxiway Y and the regular public transport (RPT) apron.

**Taxiway C** – A sealed and grass parallel taxiway that runs adjacent to crosswind runway 14/32. The taxiway runs for about 250 m to the south of the main runway.

**Taxiway Y** – A sealed taxiway that provides a link between the general aviation apron and the crosswind runway 14/32.

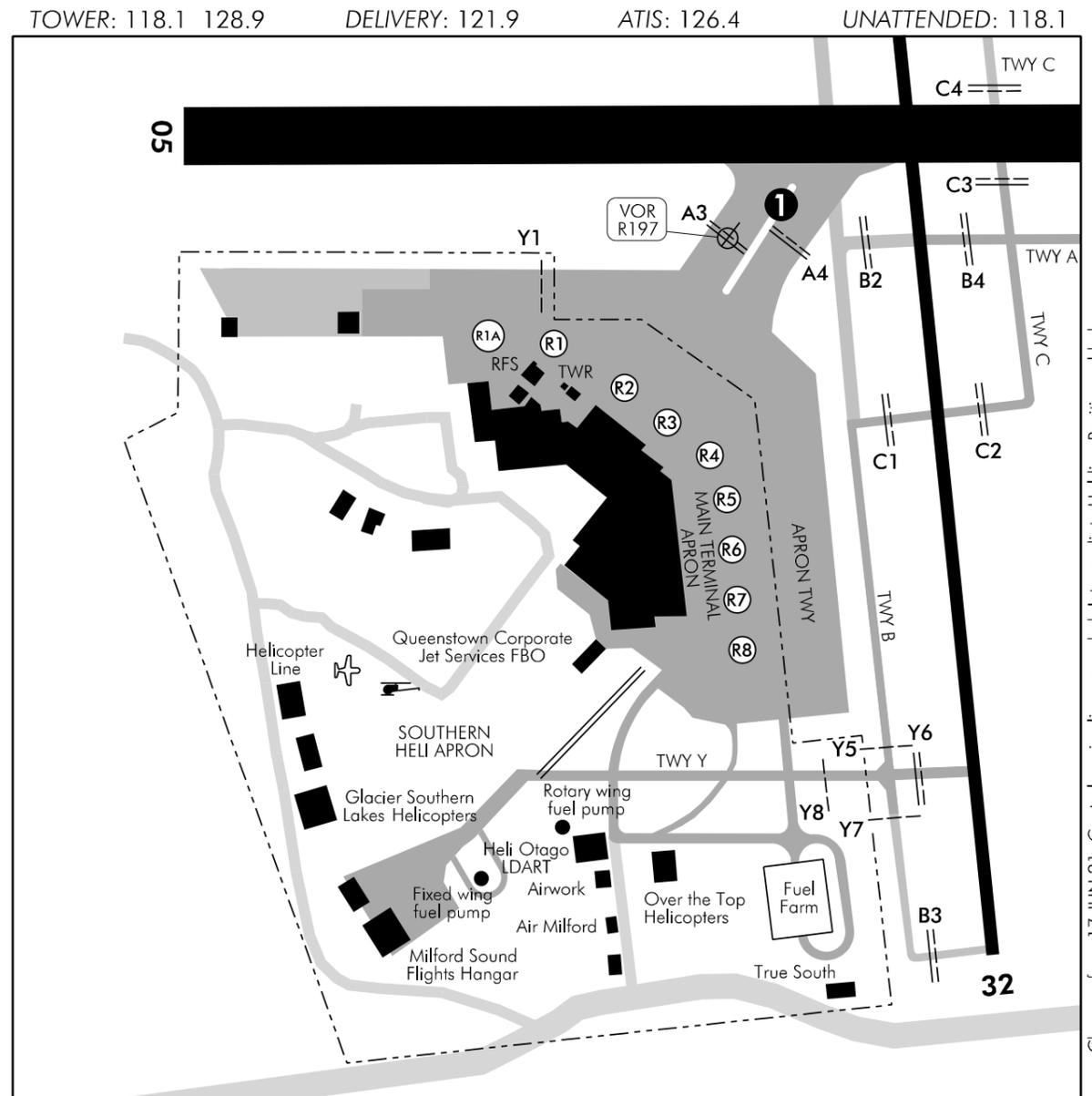
All taxiways are limited to aircraft with MCTOW no greater than 5700 kg. This limits the use of the existing taxiways to light aircraft (typically general aviation fixed-wing aircraft). All other aircraft, including regular passenger transport (RPT) services, taxi on the main runway.

Queenstown Airport has a contiguous international and domestic RPT apron and a separate GA apron. The RPT apron has seven parking positions for narrow-body Code C (B737/A320/A321 size) aircraft. Two additional stands (located on the northern apron area) are limited to aircraft with gross weight or all-up weight (AUW) no greater than 30,000 kg and wingspan of 28 m or less. Figure 3 highlights these stand locations (R1 – R8 and R1A).

Stands 1 and 1A on the RPT aprons are currently power-in and power-out positions. A power-in, power-out operation involves an aircraft taxiing to its parking stand under its own power and on departure turning and manoeuvring out from the stand under its own engine power. These positions require considerable space for manoeuvring the aircraft but are operationally more efficient because they require minimal labour and equipment in the departure process.

All other stands (R2 – R8) on the RPT apron are push-back positions, meaning aircraft power in under their own engine power but require a tug to push back and position to taxi to the runway.

Passengers currently board aircraft by walking along the terminal face and then over the apron via designated walkways.



**Figure 3**  
Queenstown Airport Ground Movements from [www.aip.net.nz](http://www.aip.net.nz)

# KEY MASTER PLAN CONSIDERATIONS

## AERONAUTICAL PROJECTIONS

### SCHEDULED AIRCRAFT MOVEMENTS & PASSENGER MOVEMENTS

The key assumptions that underpin our projections are that trans-Tasman – our only direct international connections – and domestic scheduled services will be operating for the period of the Master Plan, that demand for travel to and from Queenstown Airport remains strong, and that the airport will operate within its existing noise boundaries up to at least 2032. All aircraft movements at Queenstown Airport, including general aviation movements, are included in our annual noise compliance reports.

### PASSENGER NUMBERS EXPLAINED

Airports report passengers and aircrafts as movements. Passenger movements count both arrivals and departures. That is, one passenger is counted as two movements – their arrival and then their departure. This means that the actual number of visitors or residents arriving into the region via the airport is approximately half the number of passengers. Domestic passenger numbers include international visitors travelling on domestic flights.

Aircraft and passenger projections are a critical part of master planning and enable us to ensure infrastructure is appropriately sized. Projections are subject to variation, particularly in a post-COVID environment. Care has been taken to account for all the factors that could affect our projections, both upwards and downwards.

The Queenstown Lakes District and Queenstown Airport experienced strong growth between 2012 and 2019. This was followed by the global travel restrictions associated with the COVID pandemic. Demand for air travel started to return in 2022 and is now back to pre-COVID levels, which peaked at 18,000 aircraft movements and 2.4 million passenger movements.

We are actively managing demand and expect growth rates over the coming years to be more modest than experienced before 2020. We are planning for up to 1.6 million arriving passengers (3.2 million passenger movements) by 2032.

The introduction of larger, quieter and more fuel-efficient aircraft enables incrementally higher numbers of passengers per aircraft while we continue to operate within our noise boundaries.

International passengers are expected to account for about a third of passengers flying to and from Queenstown, as is the case today.

The draft Master Plan identifies areas that will not be developed in the short to medium term but have been protected for planning purposes beyond 2032. We have not made any assumptions about passenger volumes, aircraft movements or aircraft fleet composition in these later years. However, as a long-term infrastructure provider, we need to ensure we provide scope and adaptability for the future.

### PLANNING EFFICIENT & SUSTAINABLE INFRASTRUCTURE

Aircraft schedules and passenger numbers have been analysed to determine infrastructure requirements to deliver an exceptional experience for passengers and staff in a safe and efficient airport. Thought has been given to the importance of adaptable and sustainable spaces that function well and reflect our unique home.

#### During this process we considered:

- rolling-hour aircraft movement forecasts to inform the runway usage and taxiway options, noting that the largest planes to operate at Queenstown are, and will continue to be, narrow-body Code C aircraft
- rolling-hour passenger forecasts to determine the optimal footprint for the terminal and land transport precinct
- aircraft stands utilisation to determine the number of scheduled aircraft stands required in the future
- daily aircraft movements to understand and plan for seasonal variation
- general aviation, including helicopter, fixed-wing aircraft and corporate jet movements.



### RUNWAY CAPACITY

Analysis of the forecast aircraft schedule was used to determine the infrastructure requirements for the runways and taxiways.

This analysis shows that the vast majority of aircraft movements can be accommodated on the runway without the need for additional supporting taxiway infrastructure. However, a parallel taxiway would increase operational efficiency of the airfield, reduce delays and congestion, support better management of airspace near the airport, and provide extra capacity in peak periods. This would have several benefits, including smoother peak-hour operations and lower aircraft emissions.



## 05 KEY MASTER PLAN CONSIDERATIONS

### STAND REQUIREMENTS

There are eight scheduled aircraft stands at Queenstown Airport, which is sufficient for current aircraft numbers. However, these can come under pressure in a dynamic operating environment linked to a wider network where issues such as local weather, national weather disruptions, and airline network issues caused by technical or operational disruptions come into play.

Analysis shows nine operational stands will be required in 2032.

It is also proposed that a maintenance stand be provided at Queenstown Airport to accommodate aircraft repairs or maintenance. This would be provided in the Southern Aviation Precinct in the future, but in the shorter term it could be located adjacent to the active scheduled aircraft stands and serve a dual purpose of resilience and maintenance.

Space has been preserved for a total of 12 stands if required beyond 2032.

### SLOT MANAGEMENT

QAC has recently introduced an enhanced 'slot coordination' system, which manages the availability of the runway for aircraft landing and departing, as well as the use of aircraft stands on the apron, where passengers board and disembark, and aircraft are loaded.

Carefully controlling the slots allocated to airlines means QAC can actively manage peaks, so we are not building infrastructure that would be used for only very short periods of a day.

This must be balanced with passengers' preferences for time of travel, and airlines' ability to serve many different routes while working around the constraints at the airports they are flying to and from.

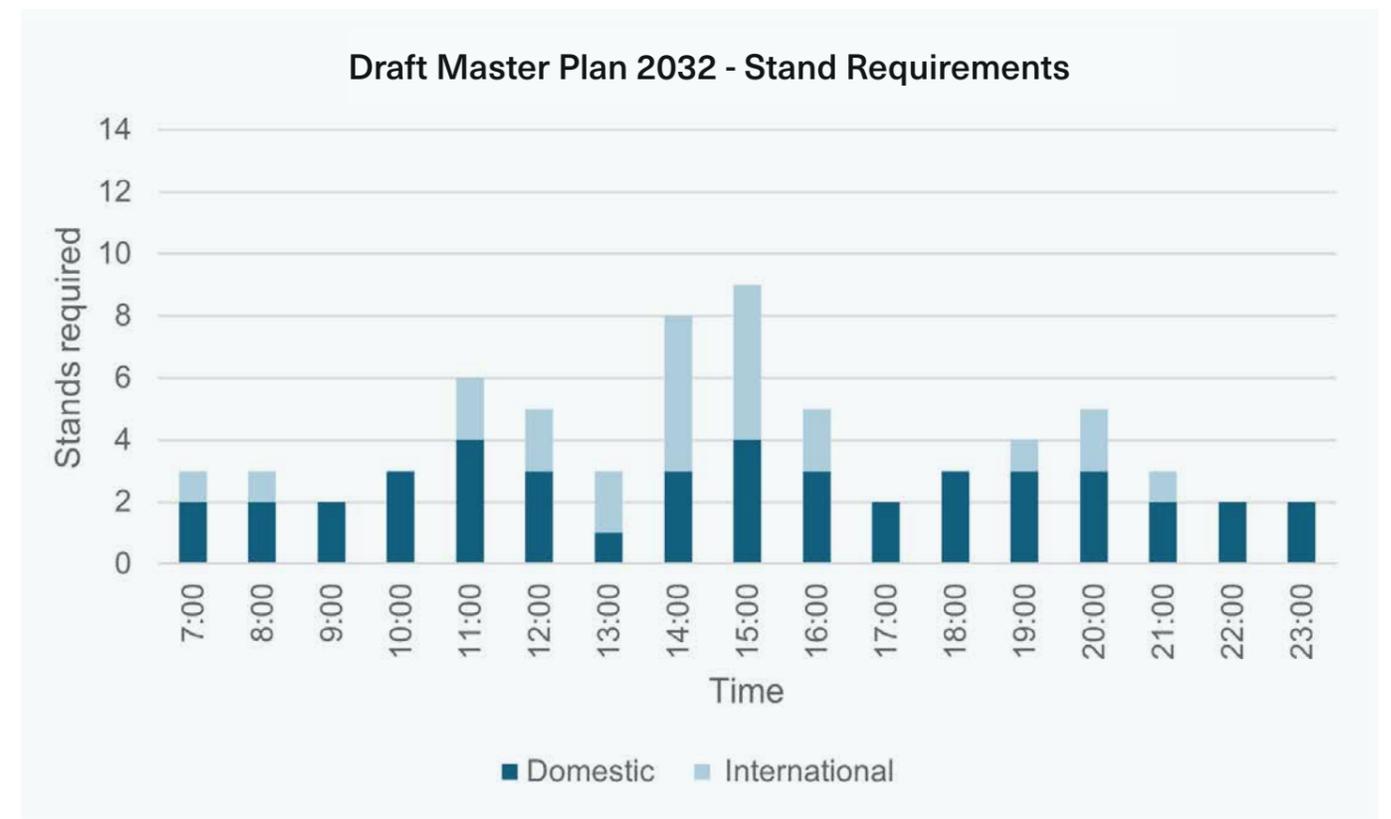


Figure 4

Note: Stand requirements illustrated after 22:00 relate to aircraft parked at the airport overnight.

YEAR	2023	BY 2032
Scheduled Aircraft Stand	8	9
Maintenance Stand	0	1

## 05 KEY MASTER PLAN CONSIDERATIONS

### ROLLING PASSENGER FORECASTS

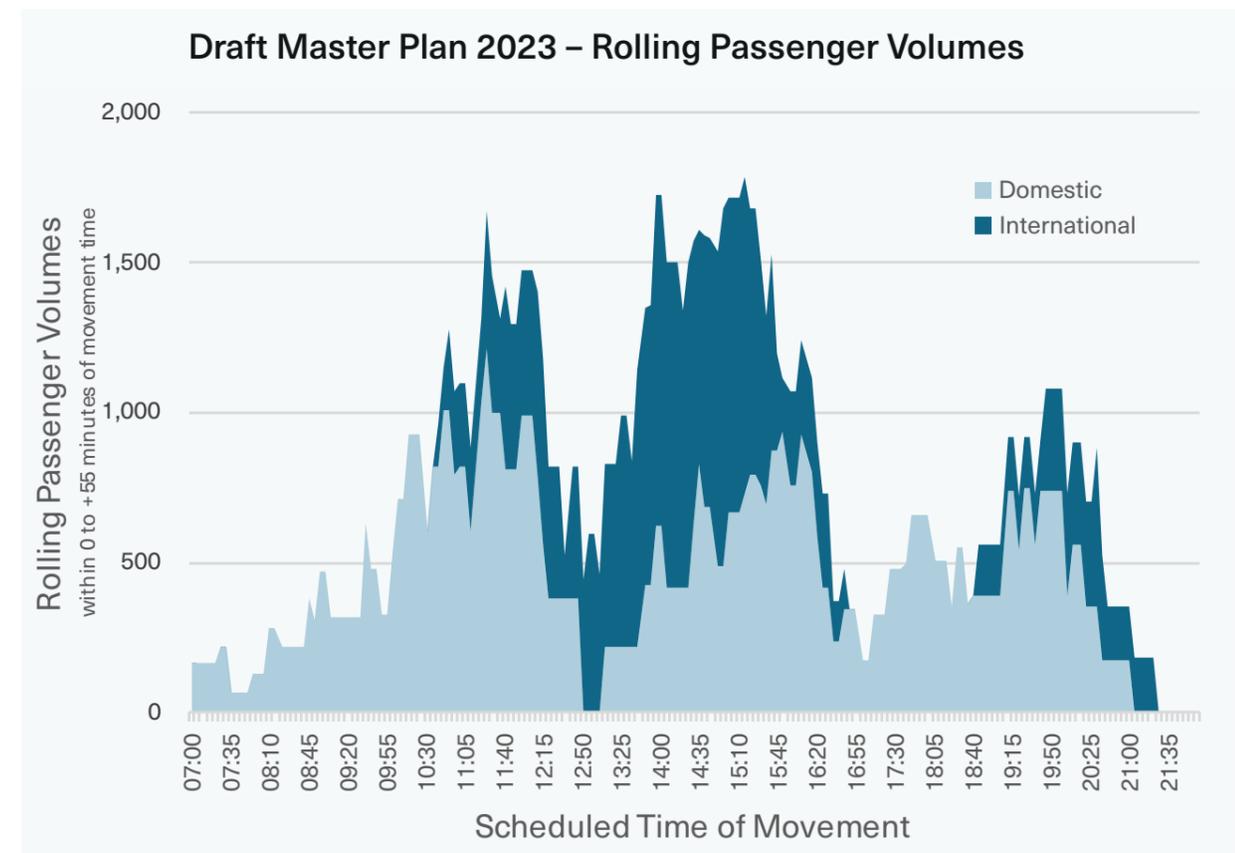
While planning for runway capacity and aircraft stands is based on aircraft movements at peak periods, terminal and landside infrastructure planning is based on passenger volumes.

Detailed analysis has been conducted to understand passenger flows and activity projected within the airport precinct, using the 18th busiest projected day as the forecast parameter. This means we are not planning or building infrastructure for the 'peak of the peak'. This analysis informed spatial planning for the terminal and land transport areas.

Based on the scheduled aircraft forecast for 2032, two peaks will occur during the day:

- The midday peak between 11:25 and 12:25, when about 1,670 passengers are expected to travel through the terminal, is mostly related to domestic flights.
- The second peak in the afternoon is mostly driven by international flights and will be longer. Over the two hours from 14:00 to 16:00, we expect to see about 3,600 passengers.

At these peak periods, the terminal should be able to comfortably accommodate the forecast numbers of departing and arriving passengers, plus staff, other airport users and those meeting or farewelling travellers.



**Figure 5**  
2023 Rolling Passenger Forecast Including both arriving and departing passengers

### WHAT ARE ROLLING-HOUR FORECASTS?

A rolling hour is a sum of the preceding 60 minutes of activity. For example, the rolling sum at 14:25 includes everything after 13:25 and on or before 14:25. To move forward 5 minutes from 14:25, we roll our start time to 13:30 and our end time to 14:30.

Rolling hours are used because they can show the peaks in usage better than summing over a clock hour.

For example, imagine in a quiet terminal where a surge of passengers arrives about 14:00. On the clock hour, it should show half the passengers arriving 13:00 to 14:00, and half in 14:00 to 15:00, hiding the surge pattern. However, on the rolling hour at 14:30, we would include 13:30-14:30 and capture all these passengers, better representing the spike we would see inside the terminal.

## 05 KEY MASTER PLAN CONSIDERATIONS

### GENERAL AVIATION OUTLOOK

General aviation consists of fixed-wing aircraft, helicopters, corporate jets, search and rescue operations, and itinerant flights.

In 2022, there were 35,222 general aviation movements, compared with 42,924 movements in the 2018 peak. QAC needs to ensure that capacity across the airport is equitably allocated between all users, including general aviation. For the purposes of planning infrastructure and noise modelling, projections for general aviation activity have been based on the highest movements experienced in 2018.

About two-thirds of these movements were helicopters, and one-third were fixed-wing planes. The main driver of the general aviation business is tourism, with flightseeing to Milford Sound particularly significant.

No flight training activity is based at Queenstown Airport, and there is minimal agricultural activity.

Queenstown Airport currently provides space for four fixed-wing operators and six helicopter operators, and no increase in the number of operators is anticipated in the period covered by the Master Plan.

The mix of fixed-wing and helicopter activity at Queenstown Airport is also expected to remain similar to now.



Image source (Above & Right): Glenorchy Air



## NOISE MANAGEMENT

We are committed to being a good neighbour. Our proximity to Frankton and Queenstown has significant advantages and benefits for travellers, but it also means we are located close to homes and communities. We recognise the impact our airport operations can have. We have committed to operate within our existing noise boundaries for the next 10 years, and to reduce the negative impacts of our operation wherever possible.

All aircraft movements, including general aviation and corporate jet movements, are measured as part of our annual noise monitoring, and all technical modelling is undertaken by independent acoustic engineers.

Our noise boundaries set a limit on the total amount of noise aircraft using the airport can make. Land-use restrictions apply to properties inside these boundaries.

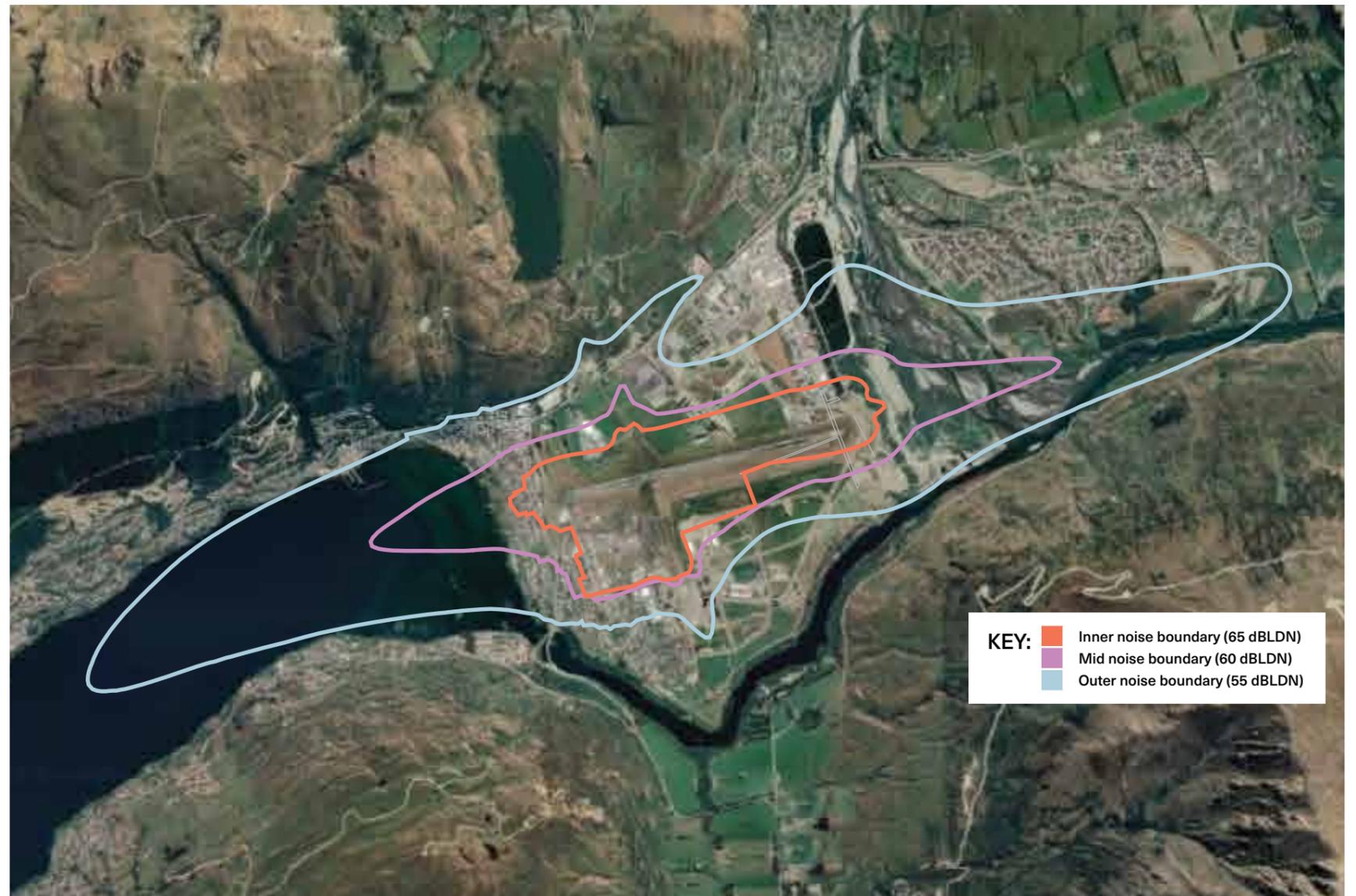
These noise boundaries will ultimately cap the amount of aviation growth within the district. The growth provided for within the existing noise boundaries aligns with the goals set out in our region's Destination Management Plan.

Aircraft noise is closely monitored for compliance and reported annually. It is measured using a New Zealand standard that has been especially developed for the purpose following international best practice. Noise levels are recorded in decibels (dB) and averaged over a 24-hour period. This average day/night measurement of noise is called Ldn.

Ldn takes into account both the number of noise events and the loudness of each event to provide a measure of the 'noise exposure energy', and then averages this using the busiest consecutive three-month period of the year.

A 10 dB penalty is added during night-time hours (between 10pm and 7am) to account for sleep disturbance. For noise monitoring purposes, this means one flight between 10pm and 7am is equivalent to 10 flights between 7am and 10pm.

Queenstown Airport's operating hours are 6am to 10pm, and these hours are strictly enforced. QAC has also chosen not to allow scheduled flights before 7am to reduce the disturbance of local residents and to actively manage our noise footprint.



**Figure 6:**  
Queenstown Airport Operative / Existing Noise Boundaries

## SUSTAINABILITY

It is a privilege to call this remarkable place home. We are dedicated guardians, committed to preserving and protecting our region alongside the community for the benefit of generations to come. Sustainability guides the way we think, the decisions we make and the way we do business.

Embedding sustainability and resilience across our business and across the airport is a significant focus of our draft Master Plan. It will provide the pathway to develop a more sustainable, resilient and adaptable airport with net-zero emission operations.

Our immediate focus up to 2032 is reducing emissions within our control on the ground, while preparing for the innovative fuel and engine technologies that will enable the decarbonisation of aviation.

New and emerging digital technologies offer ways to improve operational efficiencies and enhance customer journeys. We will plan for, enable and adopt these technologies as appropriate.

### QUEENSTOWN AIRPORT'S TRANSITION TO NET-ZERO

Our Sustainability Strategy and Decarbonisation Roadmap detail our emission-reduction targets, with clear strategies outlining how we will be a sustainable infrastructure and service provider. Our approach to net-zero aviation prioritises the elimination of emission sources, only using offsets as a last resort. To achieve these targets, we will:

- reduce Category 1-6 emissions as measured and reported in accordance with ISO 14064-2018
- decarbonise our airfield through the provision of electric infrastructure for aircraft and ground service equipment
- advocate for policy and regulatory change, both as an organisation and through aviation sector bodies
- reserve space for changing infrastructure service requirements as airlines and operators adopt new clean-energy technologies, including hydrogen, sustainable aviation fuel (SAF) and ground power for aircraft recharging
- support the decarbonisation of land transport, including provision of electric vehicle charging infrastructure for passengers and commercial transport operators, improving the range and access to public and active transport services and enhanced connections with the wider transport network.

To enhance our resilience, we will report annually on our climate risks and opportunities, as aligned with external reporting board (XRB) guidance, starting in 2023. Climate-related financial disclosures are a useful tool for identifying and quantifying the risks and opportunities posed by climate change and direct organisational mitigation efforts. These will be important considerations in our planning.

We are also developing sustainable construction and development guidelines that will set minimum standards for renovations of existing facilities and all new construction. The guidelines will include the consideration of low embodied carbon materials, and healthy indoor environments designed to highlight connections to nature.

### AIRCRAFT EMISSIONS

In the coming years there will be an incremental annual increase in aviation-related emissions as passenger and aircraft activity grows. While QAC is not directly responsible for aircraft emissions, we recognise that the decarbonisation of air travel is where the greatest opportunities lie.

Planning for and enabling the decarbonisation of aviation is embedded in our Sustainability Strategy and this draft Master Plan. We will support and encourage airline partners in their pursuit of carbon-reduction objectives and technologies. Further information about this can be found in the Future of Aviation section.



# ZQN'S RUNWAY TO NET-ZERO

We've set some ambitious targets to achieve net-zero carbon emissions by 2040 at ZQN.

We recognise the biggest impact we can have, is to plan for and enable the decarbonisation of air travel. Our planning will anticipate and allow for the infrastructure required to achieve this.

Reducing our operational emissions is our immediate priority. We've prioritised three key areas of focus that contribute significantly to our emissions: Energy, Waste and Transport.



## ENERGY

Improve energy efficiency across the airport.

Committed to using only renewable energy.

Electrify our airfield.

Provide EV charging facilities.

Phase out and replace infrastructure that relies on diesel or CFCs to operate.



## WASTE

Go single-use cup free by 2023.

Support tenants to reduce waste to landfill.

Improve our waste management facilities.

Expand our composting programme.

Include recycling and waste management requirements in procurement policies and service contracts.



## TRANSPORT

Facilitate and enhance active and public transport connectivity to and from the airport.

Support active and public transport for staff commuting.

Offset flights and have preferred suppliers for company travel.

Transition company vehicle fleet to electric vehicles.

## OUR GOALS



**CARBON NEUTRAL**  
by 2023

**60% ABSOLUTE EMISSIONS REDUCTION**  
by 2030\*

**NET-ZERO EMISSIONS**  
by 2040 or earlier

\*From our baseline year of 2019





## FUTURE OF AVIATION

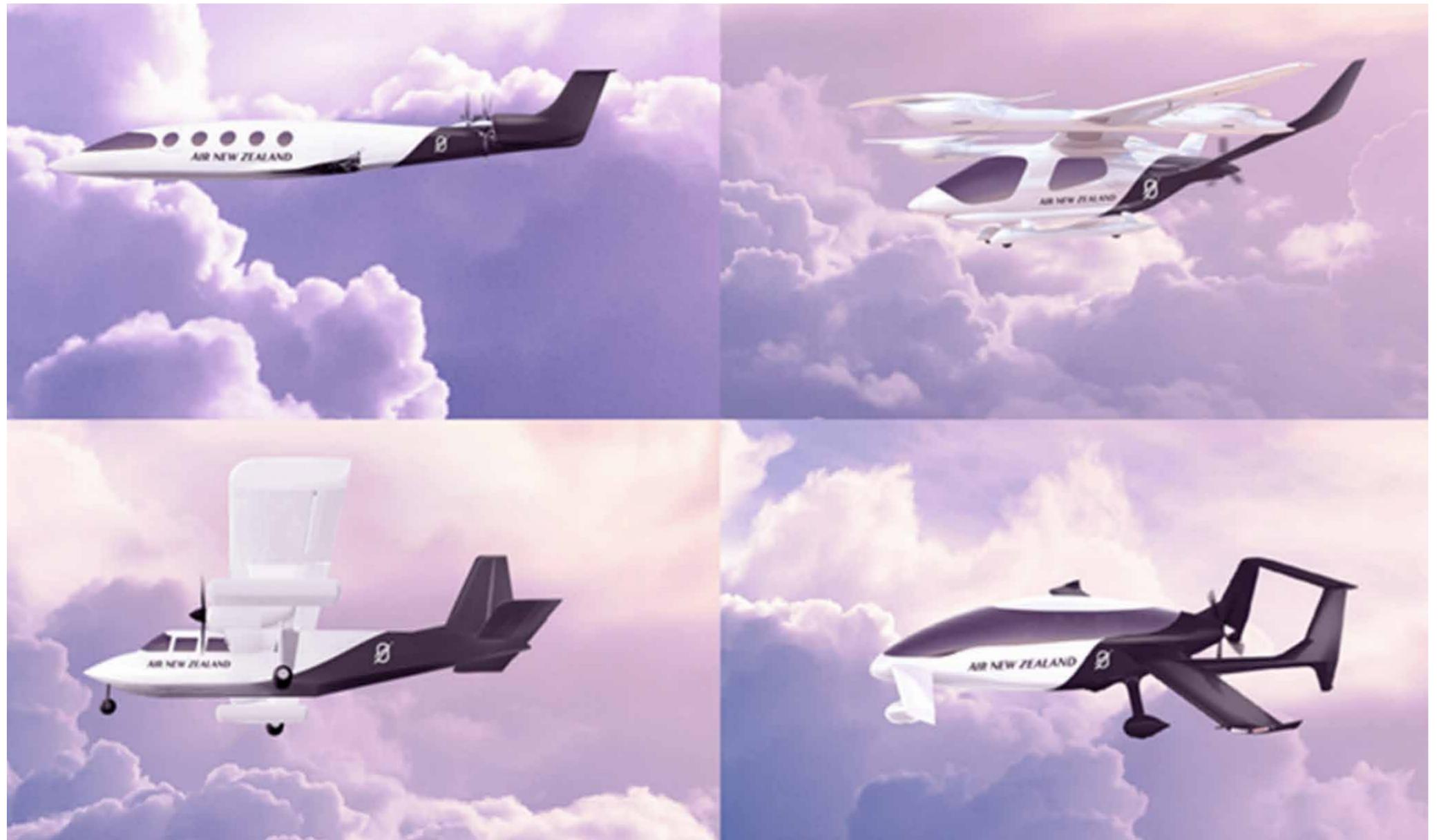
In November 2021, at the 26th United Nations Climate Change Conference of the Parties (COP26), the international aviation community declared an ambition to achieve net-zero emissions by 2050. This has triggered a significant effort to transform operations to make zero-emission aviation possible.

Queenstown Airport fully supports the ambition of the international aviation community to eliminate carbon emissions and intends to be a local leader.

The introduction of new technologies will enable the decarbonisation of aviation, changing the way people fly, the way they travel to and from the airport, and the way goods are transported. While these technologies are still emerging, this draft Master Plan provides a flexible framework to adapt to and adopt new technology quickly.

The following sections discuss options for the aviation industry – including airlines and airports – to decarbonise. Almost inevitably this is going to result in increased demand for non-fossil fuel energy sources, with a heavy weighting towards a need for additional electricity supply and/or generation – for example the electrification of aircraft, ground fleet, terminal operations, and rental car fleets, and the generation of green hydrogen.

QAC is actively working on the identification of solar power generation opportunities, and also advocating for more reliable, consistent and sufficient energy sources of electricity. The rest of the region is also actively seeking to decarbonise, which will add additional demands on electricity supply. QAC is committed to working with other stakeholders in the region, as well as with energy distributors, to ensure supply needs are understood for the district and planned and delivered in line with, or ahead of, needs.



**Figure 7**  
© Air New Zealand, from <https://www.airnewzealand.co.nz/press-release-2022-air-new-zealand-announces-mission-next-gen-aircraft-partners>

## 05 KEY MASTER PLAN CONSIDERATIONS

### AIRLINE TRANSITION TO NET-ZERO

Airlines are key in the transition to net-zero. The member airlines of the International Air Transport Association (IATA) – including all four of our airline customers, Air New Zealand, Qantas, Virgin Australia and Jetstar – have committed to reach net-zero by 2050.

Airlines are adopting a multipronged approach to achieve this. The range of measures being pursued by airlines include fleet modernisation to increase fuel efficiency, adopting new aircraft engine technologies and cleaner fuels as they emerge. These include the development of electric and battery cell technologies, hydrogen fuel cell technologies, sustainable aviation fuel (SAF) and hybrid engine options. Queenstown Airport facilitates domestic and trans-Tasman services. Reducing or eliminating emissions associated with short-haul travel is likely to be achieved sooner than those associated with long-haul travel.

Some general aviation operators at Queenstown Airport have letters of intent in place with companies developing electric aircraft suitable for their operations. They also intend to adopt SAF for turbine aircraft as soon as it is available. Provision for the infrastructure required to enable this transition is factored into our master planning.



Image source: Neste Corporation

### SUSTAINABLE AVIATION FUELS

Sustainable aviation fuels (SAF) made from plants, solid waste, or renewable electricity are being developed to replace conventional fossil-based aviation fuels. SAF can be blended with Jet A1 fuel to reduce aircraft engine emissions, as it burns more efficiently than Jet A1 and is compatible with existing internal combustion engine technologies. IATA estimates 65% of carbon savings will be achieved through global use of SAF by 2050.

Cost and scale are the key challenges to adoption. Airlines are eager to use SAF, with new engine technologies being designed to increase the use of SAF, and Air New Zealand is factoring this into its fleet upgrades.

SAF is not currently produced in New Zealand, but domestic SAF production could be viable. A study undertaken by the SAF Consortium has identified a pathway to set up a SAF industry for New Zealand. The study indicates the SAF industry could supply 50% of New Zealand's aviation fuel demand by 2050.

SAFs can be blended with Jet A1 and are not expected to significantly change the way fuel is handled or stored at Queenstown Airport, although some expansion of fuel facilities might be required.

## 05 KEY MASTER PLAN CONSIDERATIONS

### HYDROGEN & ELECTRIC AIRCRAFT

The International Air Transport Association (IATA) expects hydrogen and electric aircraft will contribute significantly to carbon savings globally in the future.

Hydrogen is considered a viable fuel, offering greater aircraft payload and range compared with battery technology.

We have anticipated on-site hydrogen storage requirements as part of our master planning, with hydrogen either produced on site or transported in.

Hybrid or battery/electric aircraft are options for shorter aviation routes. These aircraft are expected to be operational in the early 2030s. An electric aircraft precinct has been reserved in this draft Master Plan. This is intended to serve the smaller aircraft described, with provision for a small terminal and associated infrastructure to support charging. As with hydrogen, provision has been made for minimum initial requirements, with further investment when required.

We also see opportunities for a renewable energy transport hub to cater for activities in and around Queenstown, including public transport, visitor transport, and heavy transport.

### ADVANCED AIR MOBILITY

eVTOLs (electric vertical take-off and landing), or urban air mobility, are fully electric aircraft capable of carrying four to five people. They produce no carbon emissions and are quieter than helicopters. These aircraft are expected to come online in the mid-2020s and may be used for shorter routes (such as taxi services or tourist flights).

Wisk Aero has been testing several versions of its autonomous eVTOL aircraft in New Zealand. Its sixth-generation air taxi is the first-ever autonomous eVTOL candidate for Federal Aviation Administration certification in the US.

Unmanned cargo drones are another emerging technology. They have already been licensed by the Civil Aviation Safety Authority (CASA) in Australia for deliveries in the Australian Capital Territory and Queensland. Services are also being explored for New Zealand. A potential use could be the delivery of medical supplies to remote communities in this region. We believe unmanned cargo drones could be a significant opportunity to take freight off the road network.



An unmanned cargo drone

### AIR NEW ZEALAND'S PLANS

Air New Zealand has partnered with several global innovators as part of the Mission Next Gen Aircraft. These innovators, including Airbus, Cranfield Aerospace Solutions, Embraer and Universal Hydrogen, are developing an aircraft conversion that runs on hydrogen fuel cell propulsion.

Air New Zealand has also signed a strategic alliance agreement with Hiringa Energy, a New Zealand-based green-hydrogen supply and refuelling infrastructure company. The aim of this agreement is to further understand the infrastructure required to fly green-hydrogen aircraft.

In addition, Air New Zealand is supporting Airbus' efforts to develop hydrogen-powered aircraft. Airbus has several aircraft in design, ranging from a smaller regional turboprop through to a turbofan Code C aircraft, as well as a blended-wing variant.

These aircraft are expected to begin operating in the 2030s and would reduce both emissions and noise.

As part of its Next Gen Aircraft mission, Air New Zealand has partnered with several companies to accelerate the development of zero-emission aircraft technologies and the infrastructure required to make these a reality for commercial air travel in New Zealand. The ambition is to:

- fly the first commercial demonstrator flight from 2026
- begin replacing the Q300 domestic fleet with more sustainable aircraft – likely green hydrogen or battery hybrid systems – from 2030.



Figure 8

© Airbus ZEROe, from <https://www.airbus.com/en/innovation/zero-emission/hydrogen/zeroe>

## FINANCIAL STRATEGY & FUNDING IMPLICATIONS

As a Council Controlled Trading Organisation, we seek to deliver shareholder value in a manner that recognises the need of the company to be profitable, return a financial dividend to its shareholders, invest for the future and support community wellbeing.

**In preparing the draft Master Plan, we applied core financial and funding principles. We will:**

### **Ensure we are making the best use of our assets**

We are seeking a commercial return on all investments, including investment in aeronautical infrastructure, which will be recovered through well-established aeronautical pricing principles.

We set aeronautical pricing for the use of the airport and associated services and facilities. This is in accordance with the Airport Authorities Act 1966 and in consultation with our airline customers and general aviation operators.

### **Pay a dividend to shareholders**

We intend to pay dividends over the period, while ensuring there is sufficient capacity to enable the required investment in aeronautical and other assets. Dividends will be set to adhere to our policy and will be paid at an appropriate and sustainable level.

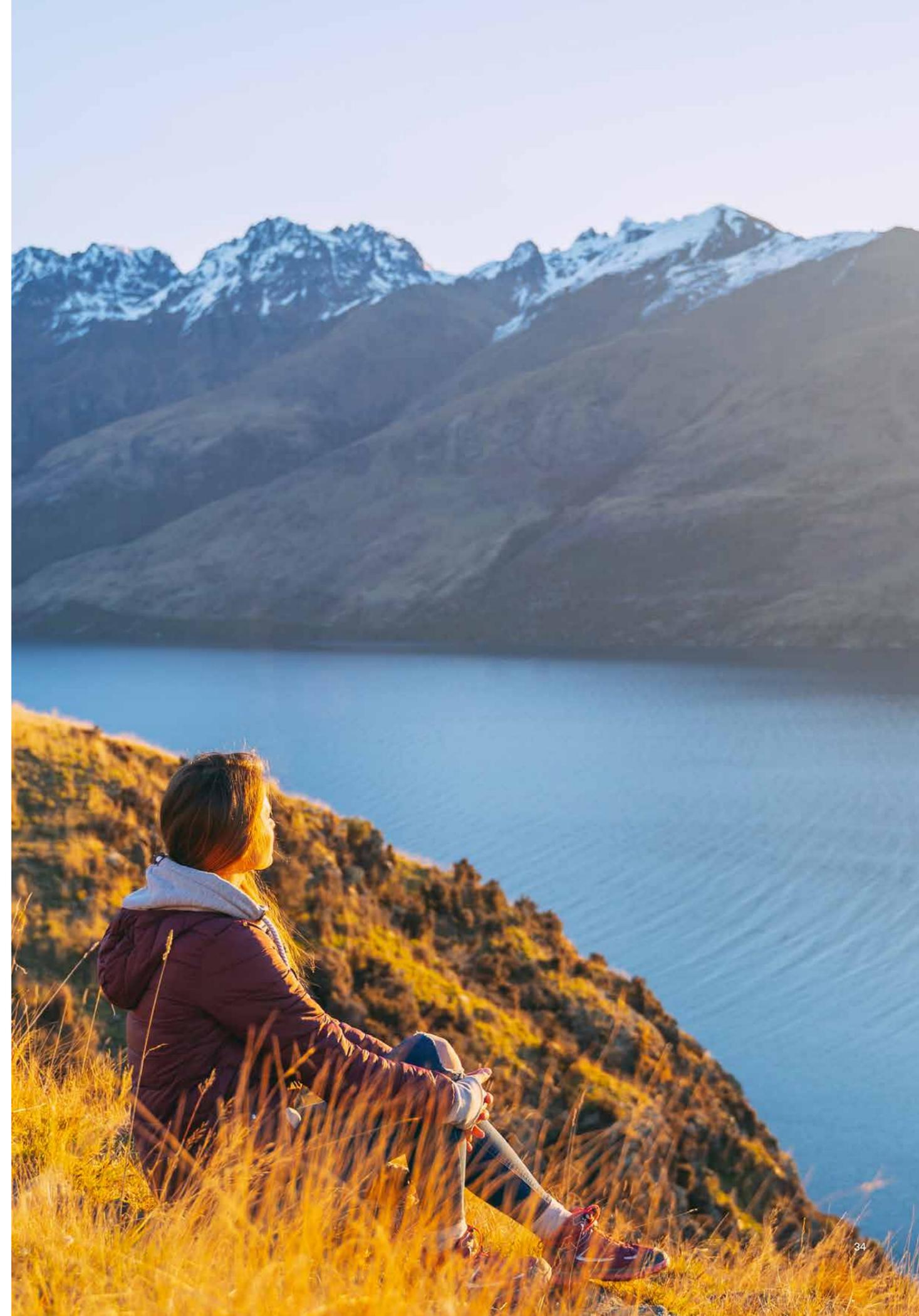
### **Manage debt at a prudent level**

The availability of funding is integral to our future development; we need to ensure that we live within our means. Funding for the delivery of the Master Plan will come from a mix of working capital and debt. We will not be seeking a financial contribution from our shareholders to finance the Master Plan.

While we remain focused on keeping debt at a manageable level over the course of the Master Plan, we will take on an increased level of debt at certain periods. We will utilise a mix of debt products, including corporate banking and debt capital markets, to ensure we can continue to secure borrowing on competitive terms. We will align our funding with our Sustainability Strategy, which is expected to result in the introduction of sustainability-linked debt products.

### **Stage development**

In addition, over the course of the 2032 Master Plan and in line with our Strategic Plan, we intend to take a staged approach to development to ensure that the economic outlook will support the incremental investment. Each stage of development will be subject to stage gates and approvals of capital spend by the board of directors.



## LAND TRANSPORT

### OUR ASPIRATIONS, PRINCIPLES & OBJECTIVES

How people travel to and from Queenstown Airport can have a significant influence on their overall experience using the airport.

QAC is committed to lowering carbon emissions from land transport, enabling more affordable travel, and reducing congestion on local roads by prioritising walking, cycling and public transport. We aspire to be the world's most cycle-friendly airport and want to provide easy and seamlessly integrated journeys to and from the airport. We want to be part of the solution to traffic congestion in the Whakatipu Basin.

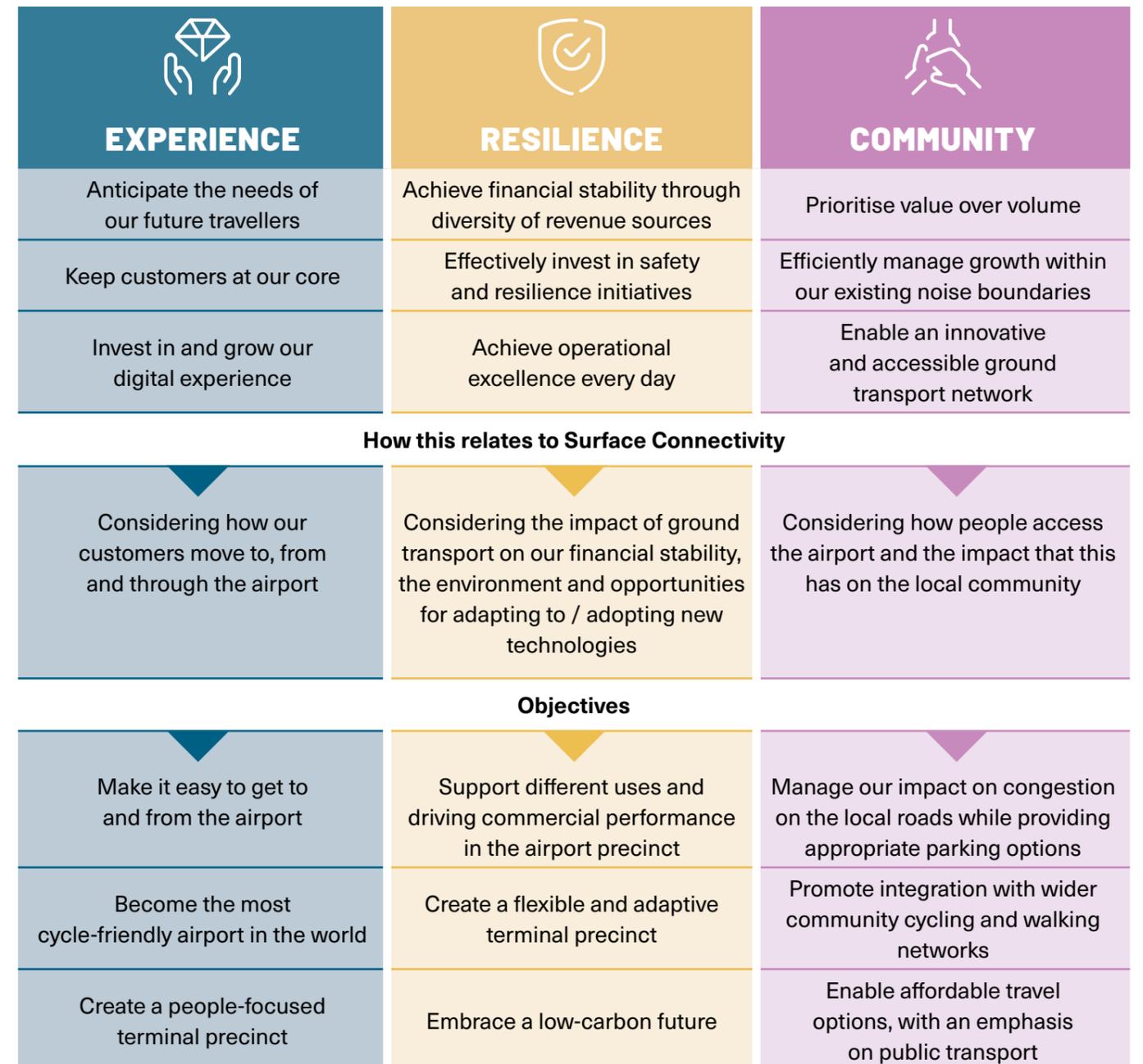
QAC's Land Transport Strategy, which underpins the development of the Land Transport Precinct in this plan, establishes six key principles. We will:

- continue to provide choice for our customers by enabling access to all existing (and future) modes of transport
- encourage, but not force, mode shift for our airport passengers, community and customers
- encourage and enable emerging low-emission technologies and transport solutions
- ensure we invest in adaptable infrastructure and integrate with adjacent networks
- reduce the impact that surface access to the airport has on the environment
- ensure commercial viability and invest in projects that support revenue generation.

Prioritising active modes of transport and public transport requires a fundamental shift in our planning to make these modes more attractive and viable alternatives to private vehicles. This will require, at a minimum:

- improving connections to, from, and through the airport for people on foot and bike
- advocating for better public transport services
- exploring our role in connecting passengers with convenient and direct services to central Queenstown
- integrating with public transport providers, operators and other passenger transport operators
- encouraging and enabling emerging technologies in transport solutions
- carefully allocating space to different modes of transport.

The following sets out our objectives with the strategic pillars defined in our Strategic Plan.



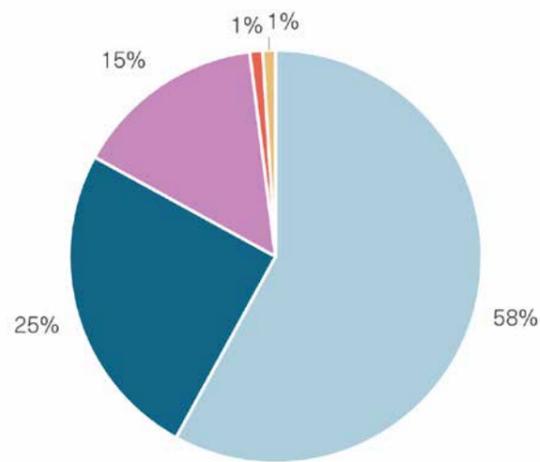
**MODE SHARE ASPIRATIONS**

More than half the trips to and from Queenstown Airport are made in private cars. This includes vehicles dropping off or collecting passengers, as well as those using the airport’s short- and long-term parking.

Data on the transport modes used to access the airport was collected in 2019.

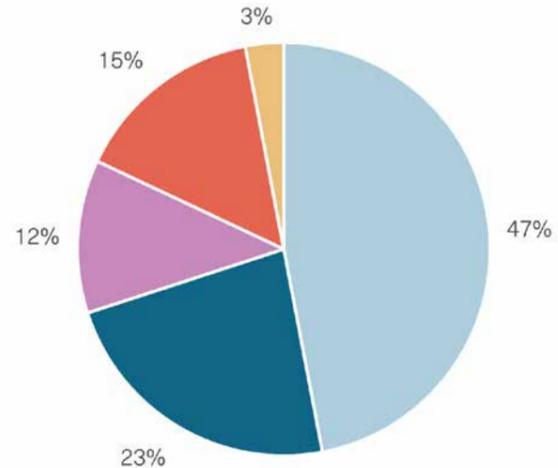
While continuing to provide a wide array of choice for people travelling to and from the airport, our target is to increase the proportion of trips to and from the airport using active or public transport to 18% by 2032. This aligns with the regional goal of a mode shift to 30% of all trips within the district to be undertaken by walking, cycling and public transport by 2045.

**Current Mode Share Target**



**Figure 9**

**Future Mode Share Target**



**Figure 10**

Private vehicle   Commercial   On-site rental   Public transport   Walk & cycle



# APPROACH TO PRECINCT PLANNING

## LAND-USE PRIORITIES

In developing this draft Master Plan, we have prioritised the use of our land as follows:



### PRIORITY 1

#### AVIATION

Facilitating aviation requirements over the long term, including airfield and apron facilities to serve aircraft and passenger movements directly associated with aviation activities.



### PRIORITY 2

#### TERMINAL & FORECOURT

Optimising passenger and community experience and commercial returns for the terminal building and forecourt.



### PRIORITY 3

#### LAND TRANSPORT CONNECTIVITY

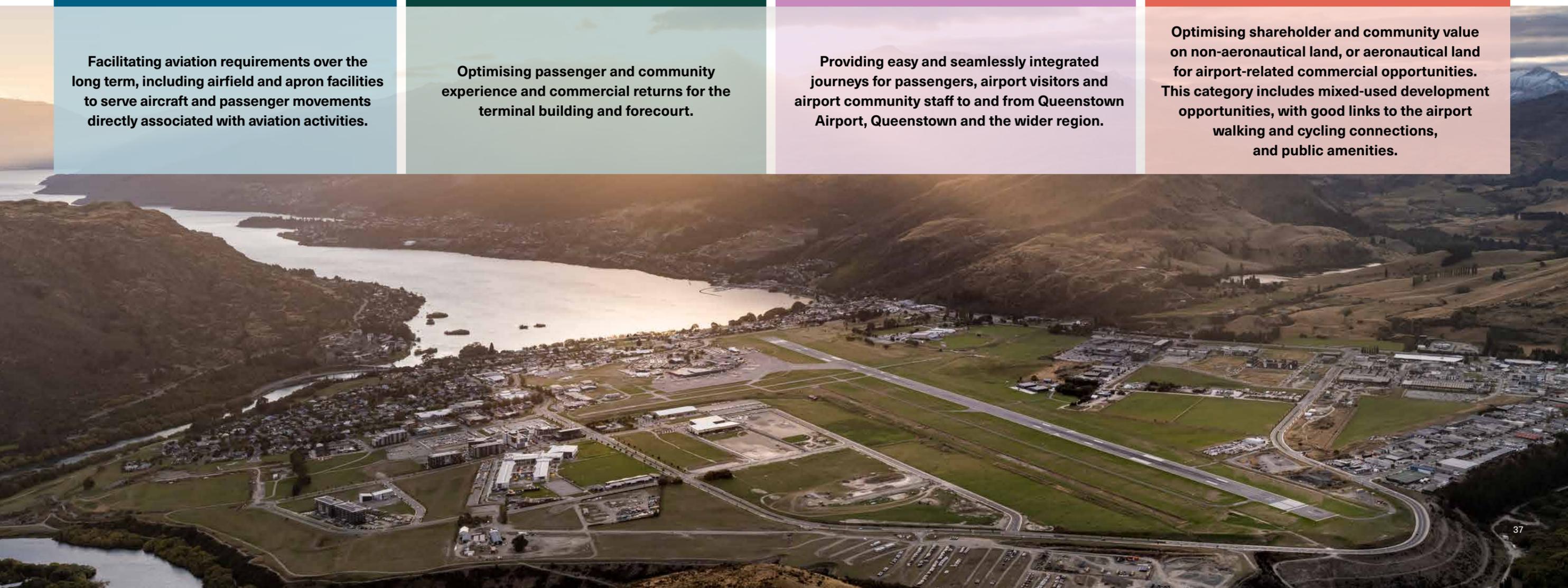
Providing easy and seamlessly integrated journeys for passengers, airport visitors and airport community staff to and from Queenstown Airport, Queenstown and the wider region.



### PRIORITY 4

#### NON-AERONAUTICAL DEVELOPMENT

Optimising shareholder and community value on non-aeronautical land, or aeronautical land for airport-related commercial opportunities. This category includes mixed-used development opportunities, with good links to the airport walking and cycling connections, and public amenities.



## OUR PRECINCTS

For planning purposes, we have divided QAC's land into five precincts:

### A AIRFIELD PRECINCT

The Airfield Precinct includes the runways, taxiways, aircraft stands and associated infrastructure and activities.

### B SOUTHERN AVIATION PRECINCT

Under the draft Master Plan, the Southern Aviation Precinct would become the new location for general aviation fixed-wing operations, the Airport Emergency Service, a fixed base operator, and electric plane facilities. An airport support area providing for freight and logistics, including drone activity, and a sustainable aviation support area are proposed at the eastern end of the precinct.

### C NORTHERN AVIATION PRECINCT

It is proposed general aviation helicopter activities would move to the Northern Aviation Precinct. Space for eVTOLS has been protected here. The helicopter area neighbours an important collection of heritage farm buildings, which are to be preserved.

### D TERMINAL & LAND TRANSPORT PRECINCT

The Terminal and Land Transport Precinct encompasses the terminal building, forecourt and plaza area, as well as public transport and taxi stands, a cycle hub, rental cars and vehicle parking.

### E FRANKTON DEVELOPMENT PRECINCT

The Frankton Development Precinct is land not needed for aeronautical purposes, which provides an opportunity for economic diversification.

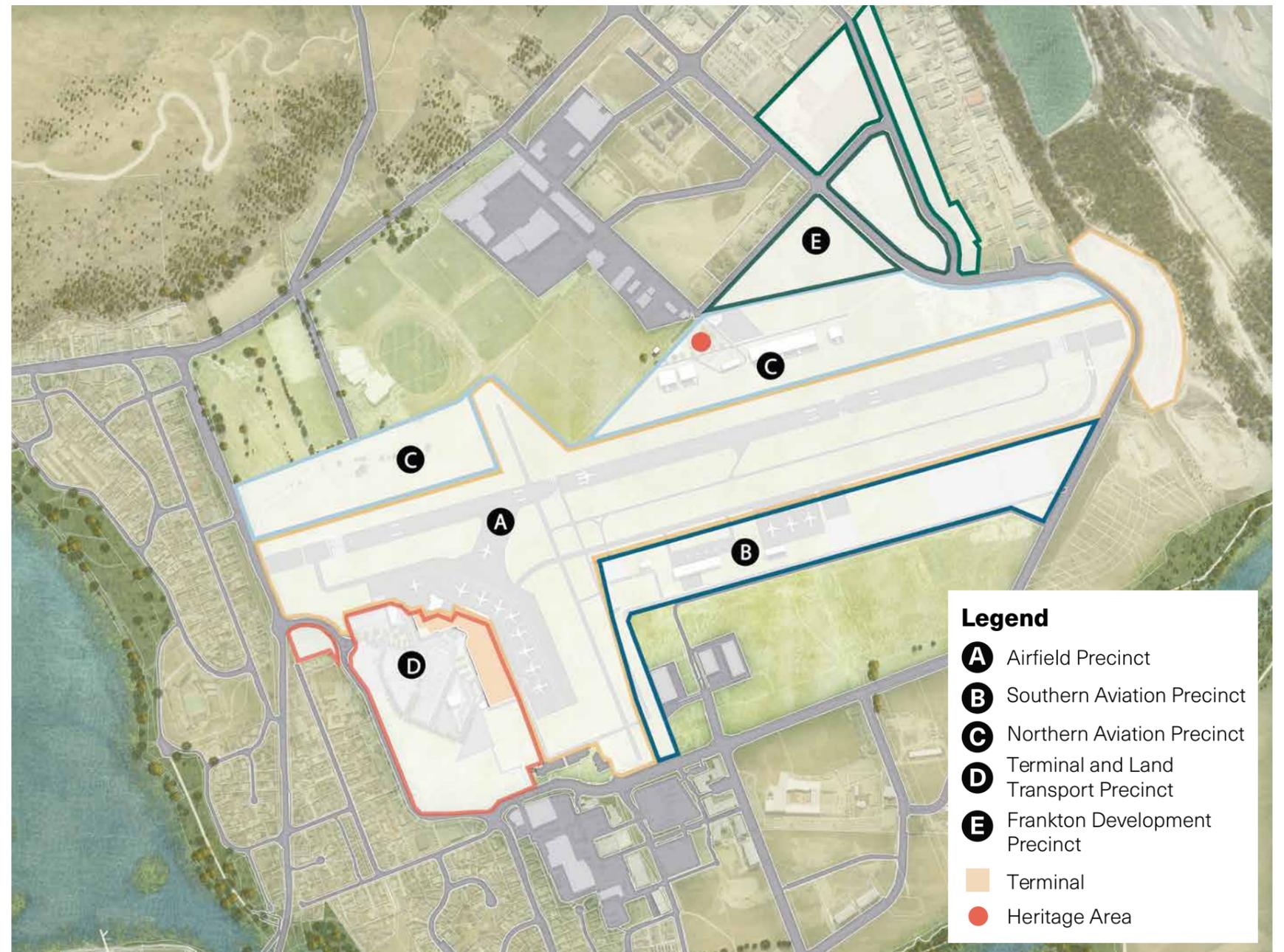


Figure 11

## AIRSIDE DESIGN PRINCIPLES

The four design principles prepared for Queenstown Airport's airside precinct prioritise safety and security, flexibility and optimisation of existing assets. Safety and security are central to all activity at Queenstown Airport and are incorporated at all phases of the airside design process. Flexibility and the optimisation of infrastructure reflect Queenstown Airport's overarching vision and objectives, ensuring efficiency and sustainability in all outcomes.

### OPTIMISING INFRASTRUCTURE

Minimise the requirement for new infrastructure to optimise the day-to-day operation of the airport, and support sustainability and decarbonisation objectives.



### FLEXIBILITY FOR FUTURE GENERATIONS

Protect for future generations while supporting sustainable aviation and meeting our commitment to operate within our existing noise boundaries. This includes preserving space for new or improved aircraft technologies.



### SAFE, SECURE & COMPLIANT

Core planning assumptions will comply with New Zealand's Civil Aviation Authority (CAA) regulations and be guided by internationally recognised (ICAO) regulations to provide a robust and safe airside design.



### OPTIMISING AIRFIELD LAYOUT & DESIGN

Optimise airfield layout and design to support efficient use of the runway, taxiways, aprons and airspace.



## LANDSIDE DESIGN PRINCIPLES

Four urban design principles have been established to ensure best-practice urban design is incorporated at the beginning of the landside design process.

### PRESENCE & EXPERIENCE

Creating a memorable experience for passengers arriving and departing at Queenstown Airport.



### CONNECTIONS & MOVEMENT

Provide intuitive and accessible connections that enable safe, sustainable and efficient movement.



### NATURAL ENVIRONMENT

Celebrate and enhance existing natural features, cultivating environmental responsibility and promoting sustainability to minimise demands on energy, materials and water.



### CHARACTER & FORM

Support and provide for a range of complementary land uses and development, catering for the needs of the diverse users of the airport: local community, staff and domestic and international travellers.



# AIRFIELD PRECINCT

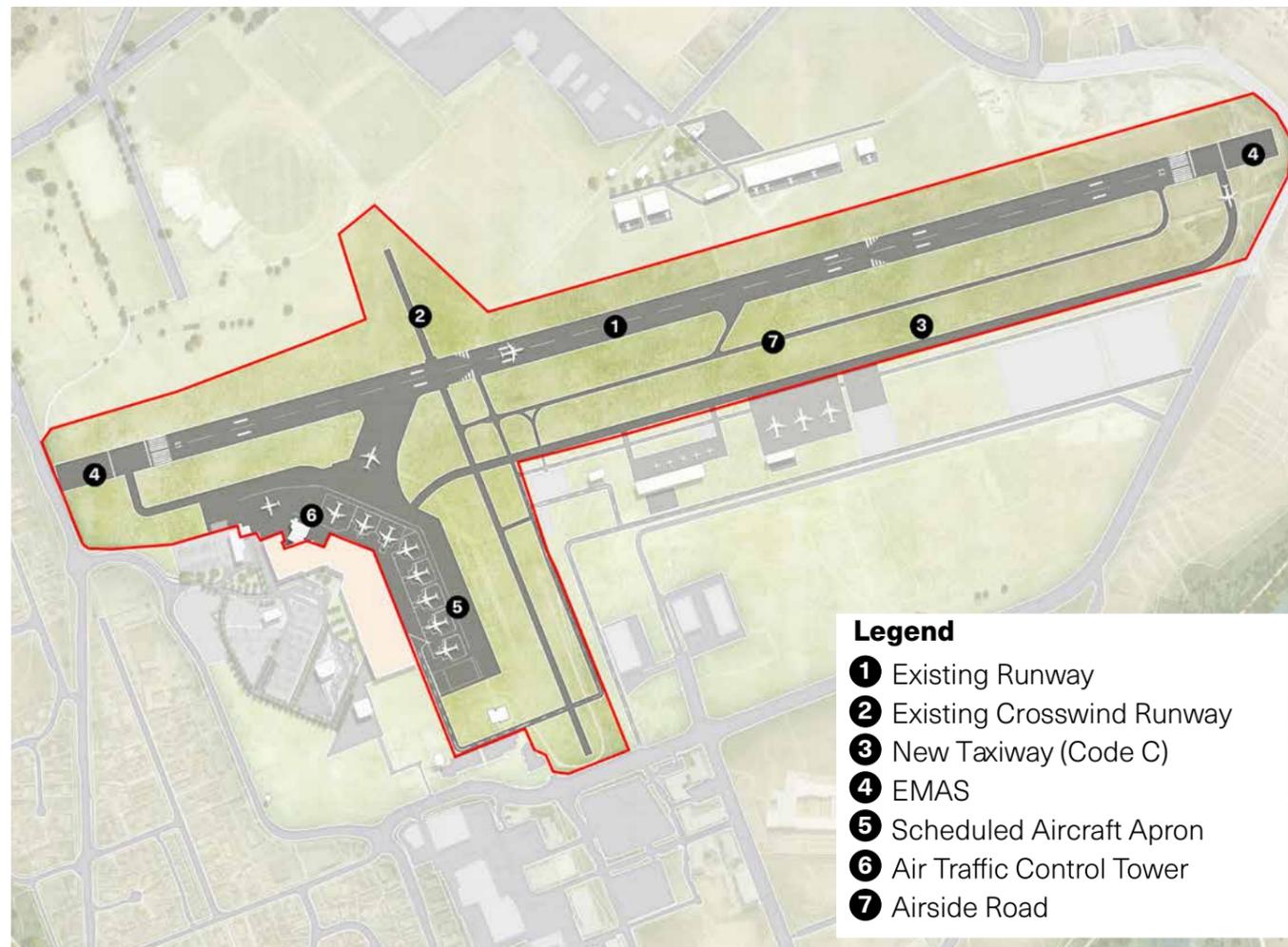


Figure 12

Our Airfield Precinct will support both scheduled flights and general aviation (GA) activity on our airfield.

## RUNWAY

The main runway (05/23) will be retained at its current length of 1,889 m and continue to serve narrow-body (Code A – C) aircraft from international and domestic destinations. The runway can support a maximum of 11 movements an hour currently.

We plan to build an engineered materials arresting system (EMAS) at each end of the runway, which would assist an aircraft to decelerate and safely come to a stop in the unlikely event of a runway overrun.

Queenstown Airport will be the first airport in Australasia to install an EMAS. This new technology has been successfully implemented at major airports in the United States, Asia and Europe. It is particularly well suited to operational environments such as ours and we are confident it will increase safety at Queenstown Airport.

The crosswind runway (14/32) will remain operational for general aviation, but its use is likely to decrease as scheduled traffic increases, and fixed-wing operations are relocated to the Southern Aviation Precinct, adjacent to the main runway (05/23). This will result in the main runway being used for the majority of fixed-wing flights.

## TAXIWAYS

To support the relocation of fixed-wing general aviation operations to the Southern Aviation Precinct and to improve operational efficiency and safety, we propose additional taxiways across the airfield.

- A partial Code C parallel taxiway to the south of the main runway would provide significant airfield efficiencies and safety improvements. It would eliminate the need for backtracking and the associated long runway occupancy times. An added benefit would be increased capacity on the runway if required. The centreline of this parallel taxiway would have 168 metres of separation from the centreline of the 05/23 runway. A rapid exit taxiway (RET) could be provided in the future to further reduce the occupancy time on the runway.
- Code C access to the 05 (west) end of the main runway is contemplated to remove the need for backtracking and the associated runway occupancy time. This taxiway would also reduce the pavement wear caused by aircraft undertaking 180 degree turns at the end of the runway. This portion of the parallel taxiway would have 93 m separation from its centreline to the centreline of the 05/23 runway. The use of the taxiway connection would be coordinated by Air Traffic Control to maintain clear runway occupancies.
- The reduction in runway occupancy time enables more efficient airspace management, which in turn reduces congestion and delays, both airborne and on the ground.
- A Code C taxi-lane associated with future apron expansion would provide two access options to the southern apron, minimising the pushback dependencies and congestion at the passenger terminal.

## SCHEDULED AIRCRAFT APRON

The existing apron will remain in place, with one Code B stand and seven Code C stands. The rear-of-stand road will be retained for these stands.

In addition to the existing apron, we plan to develop a Code C apron extension incorporating two additional Code C stands (one scheduled aircraft stand and one maintenance / resilience stand), a Code C taxi-lane at the rear of the stands; and a stand depth of 75 metres.

New stands may be connected to the passenger terminal via passenger airbridges, depending on final terminal design and costings, to facilitate the separation of arriving and departing passengers. Where airbridges are considered, a head-of-stand road has been included.

The apron space is adaptable and will be able to cater for changes in aircraft, such as the introduction of electric or hydrogen technology. The draft Master Plan also provides sufficient apron space to accommodate and support electric or hydrogen-powered aircraft and ground service equipment (GSE) in the future.

The Code C apron can be developed without closing the crosswind runway. However, we anticipate the cul-de-sac configuration could create operational challenges in future, triggering the need for an additional taxi-lane. This development could potentially restrict the availability of the crosswind runway during peak periods in the future.

Beyond 2032, the draft Master Plan has protected space for additional stands, which in part would be accommodated by the relocation of the maintenance stand from the apron to the Southern Aviation Precinct.



## SUPPORT FACILITIES

### AIR TRAFFIC CONTROL

The Air Traffic Control tower (ATCT) will remain in its current location.

### GROUND SERVICE EQUIPMENT

Ground service equipment (GSE) will be accommodated on or adjacent to the apron.

### AIRCRAFT MAINTENANCE

As noted above, a dedicated aircraft maintenance stand will initially be provided adjacent to the existing aircraft stands. Space has been allocated in the Southern Aviation Precinct for this facility in the longer term.

### AIRSIDE ROADING & LIGHTING

The existing airfield lighting is expected to be sufficient for the main airfield, but new lighting would be required for the proposed taxiways and general aviation precincts.

A new airside road to connect the existing passenger terminal operations with the developments in the Southern Aviation Precinct is proposed. Vehicle access points onto the airfield will be minimised to maintain security standards. The road would run adjacent to the new Code C partial parallel taxiway to serve the Southern Aviation Precinct.

### DE-ICING EQUIPMENT

Current de-icing of aircraft occurs as required on stand. De-icing equipment is accommodated within each airline's GSE allocation and managed by the airline or ground handlers.

Runway and taxiway de-icing and snow clearing is the airport's responsibility and equipment for this will be located in the Southern Aviation Precinct.

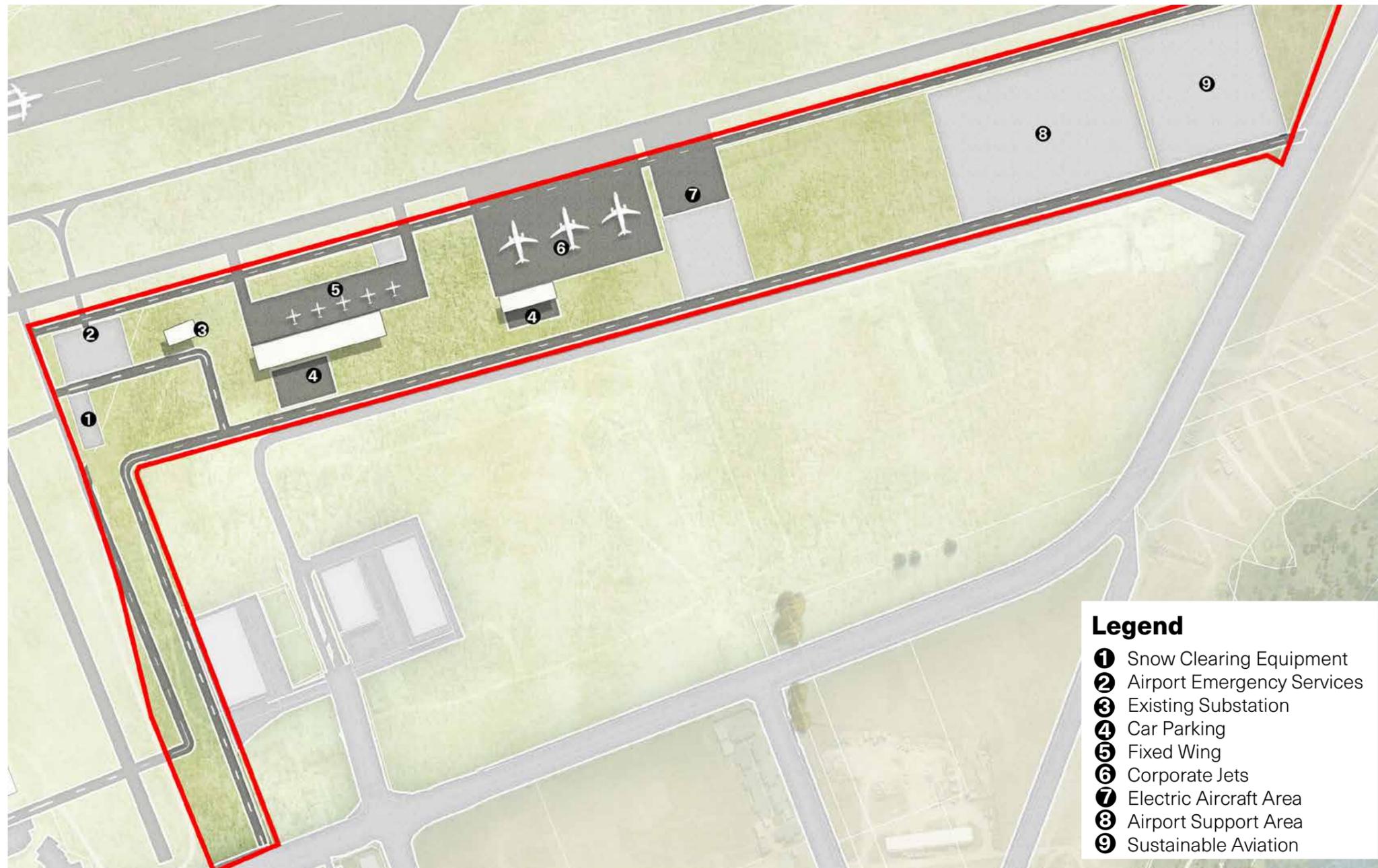
### AIRLINE CATERING FACILITIES

Facilities associated with the provision of flight catering services at Queenstown Airport are currently located in Tex Smith Lane and it is proposed they remain there in the meantime. Space has been preserved in the Southern Aviation Precinct for these to be relocated beyond 2032 if required.

### FUEL FACILITIES

A supply of Jet A1 fuel is required on site close to Tex Smith Lane. This facility is proposed to remain in its current location until 2032. Space has been preserved in the Southern Aviation Precinct for this facility to be located with sustainable aviation fuels (SAFs and hydrogen) in the future.

# SOUTHERN AVIATION PRECINCT



**Legend**

- ❶ Snow Clearing Equipment
- ❷ Airport Emergency Services
- ❸ Existing Substation
- ❹ Car Parking
- ❺ Fixed Wing
- ❻ Corporate Jets
- ❼ Electric Aircraft Area
- ❽ Airport Support Area
- ❾ Sustainable Aviation

## SUPPORT FACILITIES

### AIRPORT EMERGENCY SERVICE

We propose to relocate the Airport Emergency Service (AES) to a new state-of-the-art resilient base in the Southern Aviation Precinct, close to the apron ❷. This positions AES closer to the mid-point of the main runway, but also near the terminal for response to medical events. We intend to retain the existing Code B taxi-lane as an airfield access road.

### SNOW-CLEARING EQUIPMENT

Runway and taxiway de-icing and snow clearing equipment would be accommodated near the proposed new AES base ❶.

### FIXED-WING FACILITIES

We propose to move the general aviation fixed-wing facilities to the south-west, as indicated in ❺. To develop this area, the following elements would be required:

- a Code B taxi-lane access to the new Code C taxiway
- hangars and apron for fixed-wing aircraft
- a landside fuel access road
- aviation fuel storage and a refuelling apron.

Should future Government regulations require security screening of people at the fixed-wing facility before airside access, sufficient area has been allocated to accommodate this.

Figure 13  
Draft Queenstown Airport Master Plan

# SOUTHERN AVIATION PRECINCT

## CORPORATE JET FACILITY

Provision has been made for a fixed base operator (FBO) in the Southern Aviation Precinct 6. An FBO is a company that leases space or premises at an airport and provides services for corporate jets. These services can include ground handling, aircraft parking, and facilitation of screening and international border entry requirements. There is one FBO operating at Queenstown Airport now.

A small FBO terminal and offices will be required, along with car parking. The terminal will include border agency infrastructure and enable any screening required for access to airside.

The proposed apron space will be able to cater for various-sized aircraft. The initial apron will be large enough to accommodate aircraft with a wingspan similar to that of a Code C aircraft, as well as allowing efficient storage of a variety of smaller aircraft. Further space has been reserved for an expansion of this facility beyond 2032, if it is required.

The apron space could be shared with a Code C maintenance stand if necessary beyond 2032.

## ELECTRIC AIRCRAFT AREA

Space for electric aircraft has also been allocated in the Southern Aviation Precinct 7.

The first of the new-generation electric aircraft to use Queenstown Airport are likely to be smaller aircraft undertaking shorter flights than are currently scheduled to bring passengers here. Therefore, we are planning a dedicated space that could accommodate electric aircraft of a similar size to the Q300. This space will be sufficient to accommodate aprons, terminal and car parking.

## SUSTAINABLE AVIATION AREA

On the easternmost end of the Southern Aviation Precinct, we have allocated space to support sustainable aviation 9. What form this will take is subject to further feasibility studies into hydrogen processing, solar opportunities or other ways to support the decarbonisation of aviation.

## FREIGHT, LOGISTICS & DRONES

While cargo operations are currently managed through scheduled flights, the draft Master Plan identifies land within the Southern Aviation Precinct as a potential site for cargo and freight facilities, with the flexibility to transition to unmanned drones for deliveries in the future.

## PROTECTED SPACE

Space within the Southern Aviation Precinct has also been protected for the following activities:

- **Jet A1 & sustainable fuel facilities** – An area has been preserved among the Support Facilities area for the potential move of existing Jet A1 fuel facilities to the Southern Aviation Precinct. This space could accommodate increased storage capacity for Jet A1 fuels, as well as safeguarding for increased use of sustainable aviation fuels (SAFs and hydrogen) in the future.
- **Emergency medical evacuation facility** – An area has also been preserved within the Support Facilities area for a fixed-wing air ambulance, should it be required in the future.
- **Aircraft storage** – Another area has been preserved for additional aircraft parking and/or storage in the Southern Aviation Precinct.

# NORTHERN AVIATION PRECINCT

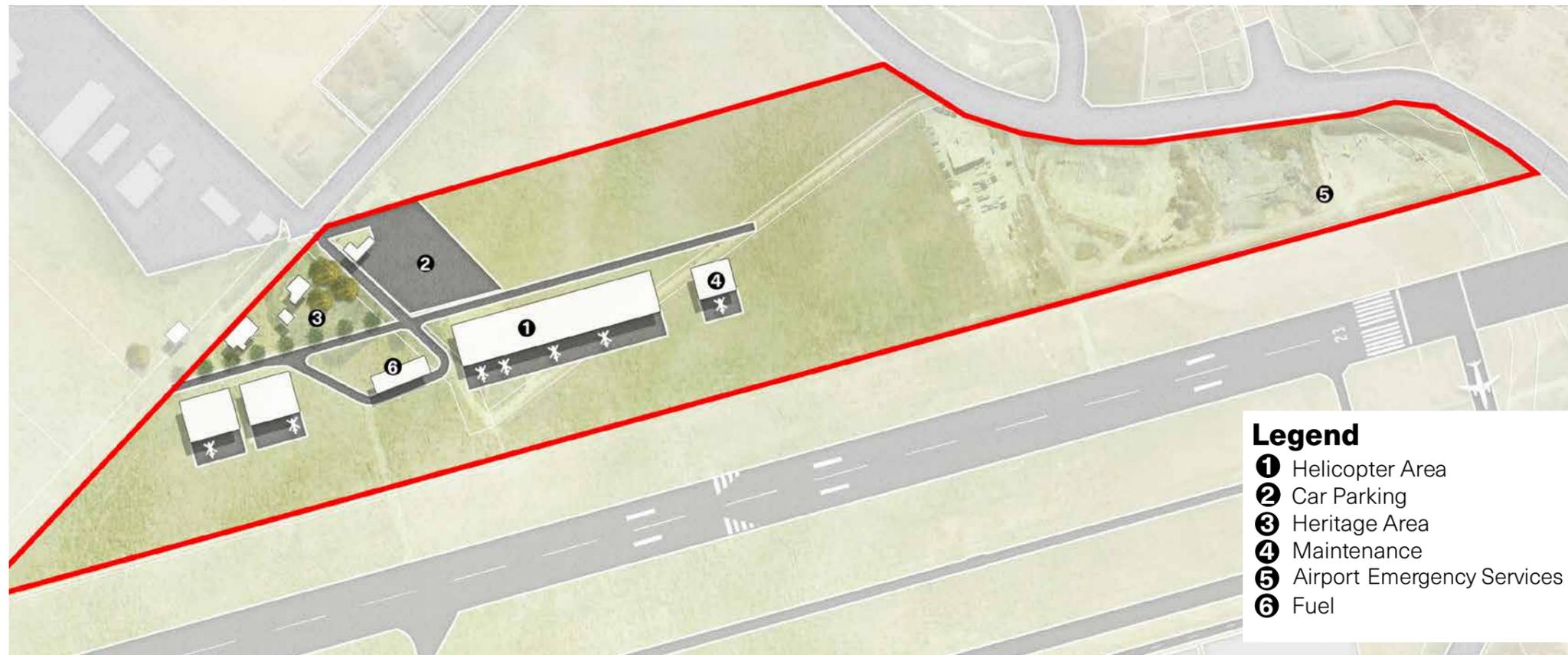


Figure 14

## HELICOPTER FACILITIES

We propose relocating helicopter facilities to the Northern Aviation Precinct ①. Three ‘final approach and take-off area’ (FATO) positions have been nominated to facilitate the arrival and departure of helicopters.

The positioning of the FATOs will allow general aviation fixed-wing operations to operate simultaneously on the main runway. Helicopter and the larger scheduled aircraft operations will need to be coordinated by Air Traffic Control.

There are already two helicopter hangars in the Northern Aviation Precinct. Initially established as temporary facilities, these hangars would become permanent facilities on the airfield. Additional hangars in alignment with the existing hangars are proposed.

These helicopter operations and an adjacent helicopter maintenance facility would operate outside the airside perimeter fence, as is the case for the two existing hangars now, eliminating the need for helicopter operators and passengers to enter security controlled areas.

## HERITAGE AREA

QAC owns the historically significant collection of heritage buildings at Arranmore Farm (formerly McBride’s Farm), which includes a former smithy, dairy, wool shed, and mature trees dating back to the 19th century ③. An adjacent building, ‘The Barn’, sits on land owned by the Queenstown Lakes District Council. We are developing a Heritage Conservation Plan for the Arranmore Farm heritage area to guide works to stabilise and strengthen the buildings. Integrating the future use and protection of these buildings will be factored into our development plans for the Northern Aviation Precinct.

Soft landscaping is proposed to help screen the heritage area from the helicopter area. Although the future use of the heritage buildings has yet to be determined, helicopter passengers will be able to view them as part of their experience.

## RESCUE FIRE TRAINING GROUND

Additional activities that support the primary function of the airfield have been included across the precinct. This includes a Rescue Fire training ground to the north-east of the runway.

## PROTECTED SPACE

Space has been preserved in the helicopter area for the potential introduction of passenger eVTOL operations.

### Legend

- ① Helicopter Area
- ② Car Parking
- ③ Heritage Area
- ④ Maintenance
- ⑤ Airport Emergency Services
- ⑥ Fuel

# TERMINAL & LAND TRANSPORT PRECINCT

This precinct is where our passengers and visitors most closely interact with the airport. We aim to provide a seamless customer experience and to showcase our special environment and region. We also have a vision to be the world's most cycle-friendly airport, and these goals are woven into all aspects of the Terminal and Land Transport Precinct.

## THE TERMINAL

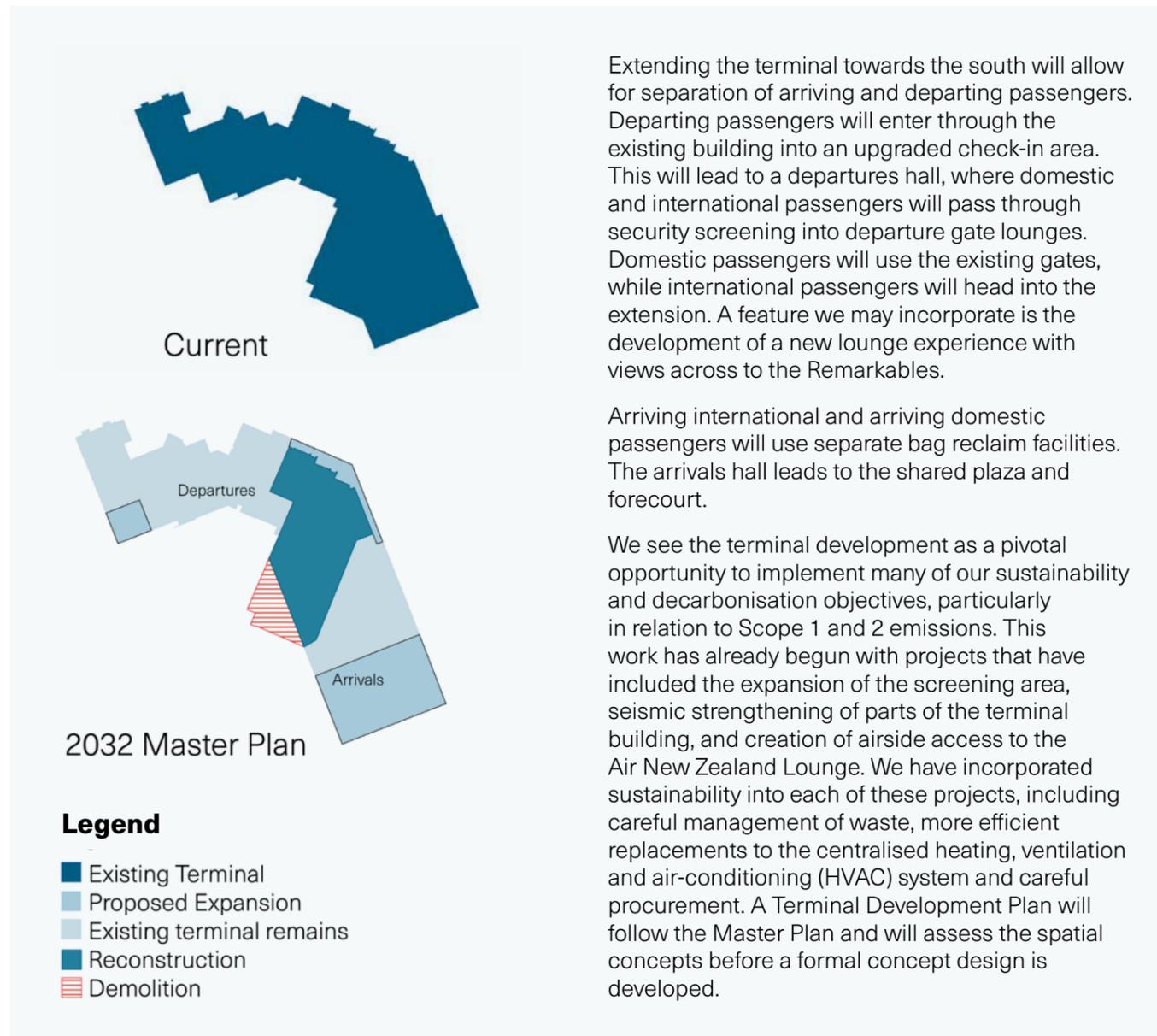
The terminal will remain in its existing location, with a modest extension proposed to improve customer experience and terminal efficiency. Projected passenger activity and aircraft movements are based on what is possible within existing noise boundaries. The proposed extension would be built south towards Tex Smith Lane, providing an additional gate and access to an additional aircraft apron stand. Customer experience will be improved by intuitive wayfinding and a high level of accessibility, resulting in a high-quality, memorable passenger experience.

A spatial concept for terminal development has been created, which proposes:

- reconstruction of part of the existing terminal to increase seismic strength and adaptability
- expansion of the check-in area to the south-east to reduce congestion and improve passenger experience
- relocation and expansion of the security screening area on the ground floor of the existing building
- relocation of the baggage reclaim belts and international arrivals and departures into a new section of the terminal, to the south of the existing building.



Figure 15



**Figure 16**  
Terminal Outline

## FORECOURT PLAZA

The forecourt plaza will provide two main access points into and out of the terminal building.

Passengers departing from Queenstown will use the existing forecourt to enter the check-in area.

The multi modal forecourt allows passenger to be dropped off by private car, taxi or ride-share service. Shuttles will also be able to use the forecourt for passenger drop-offs, and then drive to the designated coach / shuttle hub for pick-ups.

The forecourt will provide space for trolleys and meeting fellow travellers before entering the check-in area. A dedicated rental car drop-off area will be provided close to check-in.

Arriving passengers will walk out of the terminal to a plaza and green link that provides easy access to a cycle hub, a public transport hub and rental cars.

The plaza also provides a waiting area for transport, with access to coaches, taxis, and pick-up facilities from the forecourt.

### Queenstown Airport aspires to be the world's most cycle-friendly airport.

There are opportunities to cover parts of the plaza to provide shelter from the elements, while also providing the opportunity for energy generation such as solar, and to improve the passenger experience.

There are also opportunities for commercial activities on the forecourt plaza, where people can relax and enjoy food and drink.

### GREEN LINK

The green link is envisaged as a high-quality pathway for pedestrians and cyclists, separated from vehicles. It will feature planting and landscaping, and provide an active travel corridor linking Queenstown Airport to the proposed ferry jetty at Frankton and the cycle network.

The proposed link follows a route from the plaza, past the new cycle hub where passengers assemble or disassemble their own bicycle, or rent a bicycle or e-bike. To encourage people to take up the option of cycling, we will investigate opportunities for passenger bags to be transferred from the airport to local hotels and other accommodation providers.

While the primary function of the green link is an active transport connection, we recognise the opportunity for the link to be a tourist destination, capitalising on the views of Lake Whakatipu and the Remarkables. By providing the link, we will encourage people to make the most of the outdoor experience in Queenstown.

The proposed green link aligns with the Frankton Master Plan's proposed lake link project, which will provide a vital physical connection between Lake Whakatipu and Frankton, and enhance a safe active travel network. An extension along Humphrey Street would include a path for pedestrians and cyclists to the proposed ferry terminal and Frankton Beach. Both airport users and the Frankton community would benefit from a green link along Humphrey Street, shortening walking and cycling journeys.

The Humphrey Street link needs further design, feasibility assessment and commitment from Waka Kotahi and the Queenstown Lakes District Council. For this link to work as intended, active travel users will need safe access across State Highway 6. We will continue to work closely with Waka Kotahi and QLDC to determine the feasibility and timing of this initiative, and in the meantime ensure there are appropriate alternatives to active travel links between Queenstown Airport and existing pedestrian and cycling links.

The green link will not be fully developed until current roading infrastructure is nearing full capacity, and there is commitment from QLDC to activate the lake link project, including the Humphrey Street link. Until this time, we will preserve space for this link to be fully developed, and plan adjacent infrastructure with the vision of the fully developed green link clearly in mind.



An artist's impression of a possible active transport link to Lake Whakatipu © QLDC

## LAND TRANSPORT

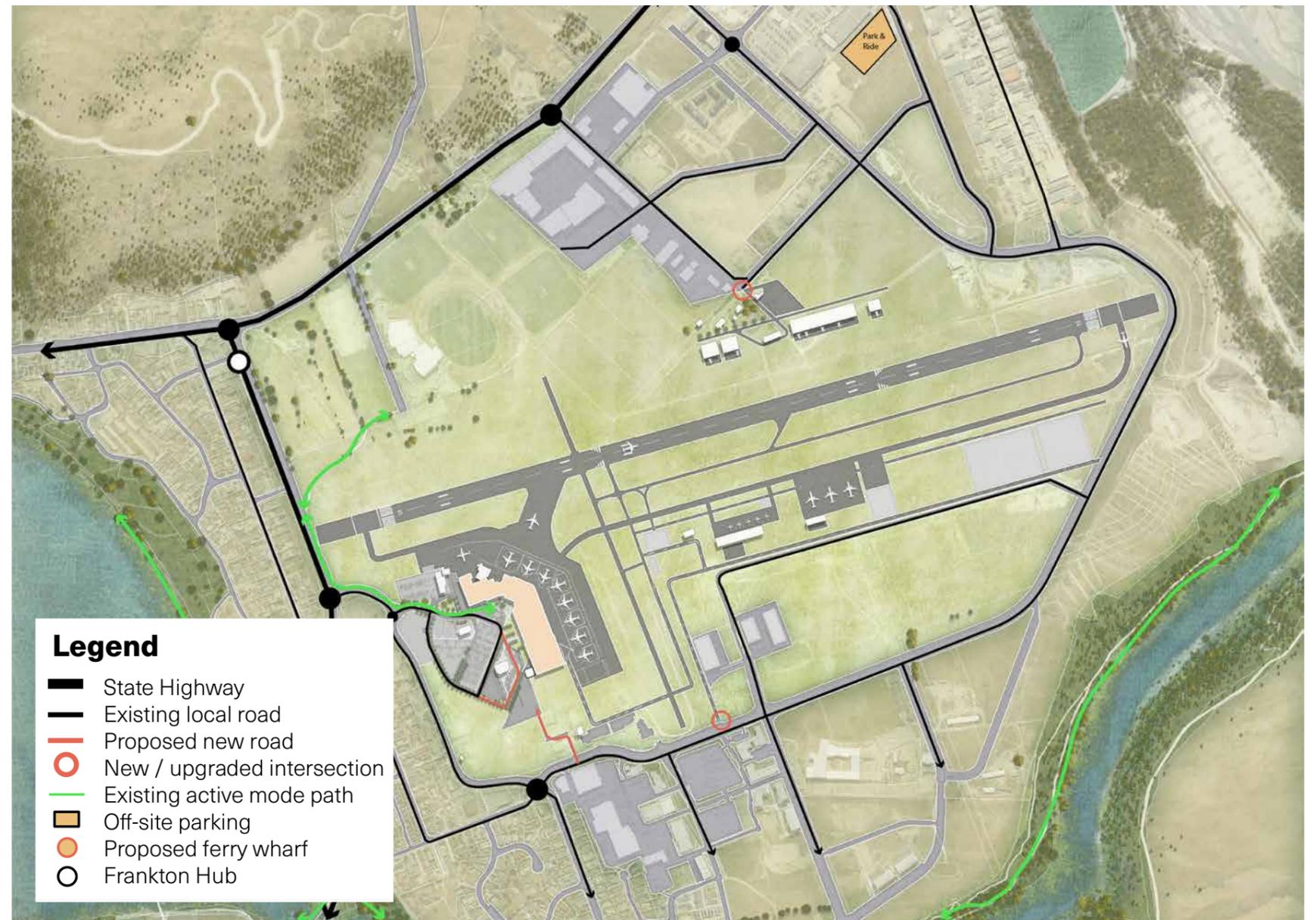
Our proposed land transport area will improve links to public transport and active travel – walking and cycling – modes. Passengers arriving at Queenstown Airport will step out of the terminal and onto the new forecourt plaza from where routes to the public buses, regional buses and coaches and cycle hub are immediately visible. Wayfinding will help passengers find taxis, rental cars and car parking – all within a two-minute walk from the arrivals hall doors. We intend to reduce the visual prominence of car parking.

To improve safety and efficiency, the road network through the forecourt will be predominantly one-way. This reduces the number of interactions between pedestrians and vehicles. As a result, the number of road crossings for pedestrians will be minimised when heading to the public buses, the green link and the rental car park. One road crossing is needed between the car park and the coach/bus hub – however, the forecourt will be designed in such a way that vehicles on the road with a crossing are restricted to public buses and coaches.

## FRANKTON FLATS WIDER MOVEMENT PLAN

It is important to understand how the movements of people and vehicles integrate with the wider network. The following map shows the draft Master Plan 2032 and the wider movement plan associated with the airport and the Frankton Flats roading network.

Proposed new roads are highlighted in orange, with an indication of where upgraded intersections might be needed. Any changes would be subject to further analysis.



**Figure 17**  
2032 Draft Master Plan Movement Plan

**LAND TRANSPORT MOVEMENT PLANS**

The land transport movements for all transport modes within ZQN's Land Transport Precinct are shown at the right.

**Pedestrians** will in the future be able to access the terminal via Lucas Place, Hawthorne Drive and, ultimately, via the green link. Once at the airport, potential vehicle interactions for pedestrians are restricted to rental cars on the Hawthorne Drive route.

**Taxis and private vehicles** will use the existing forecourt to drop off and pick up passengers.

**Public buses** will enter the forecourt from the existing roundabout on Lucas Place. Public bus stops are located in front of the arrivals hall. Departing passengers will have a brief walk to the check-in. An additional bay for a proposed direct Airport-Queenstown express bus is allocated.

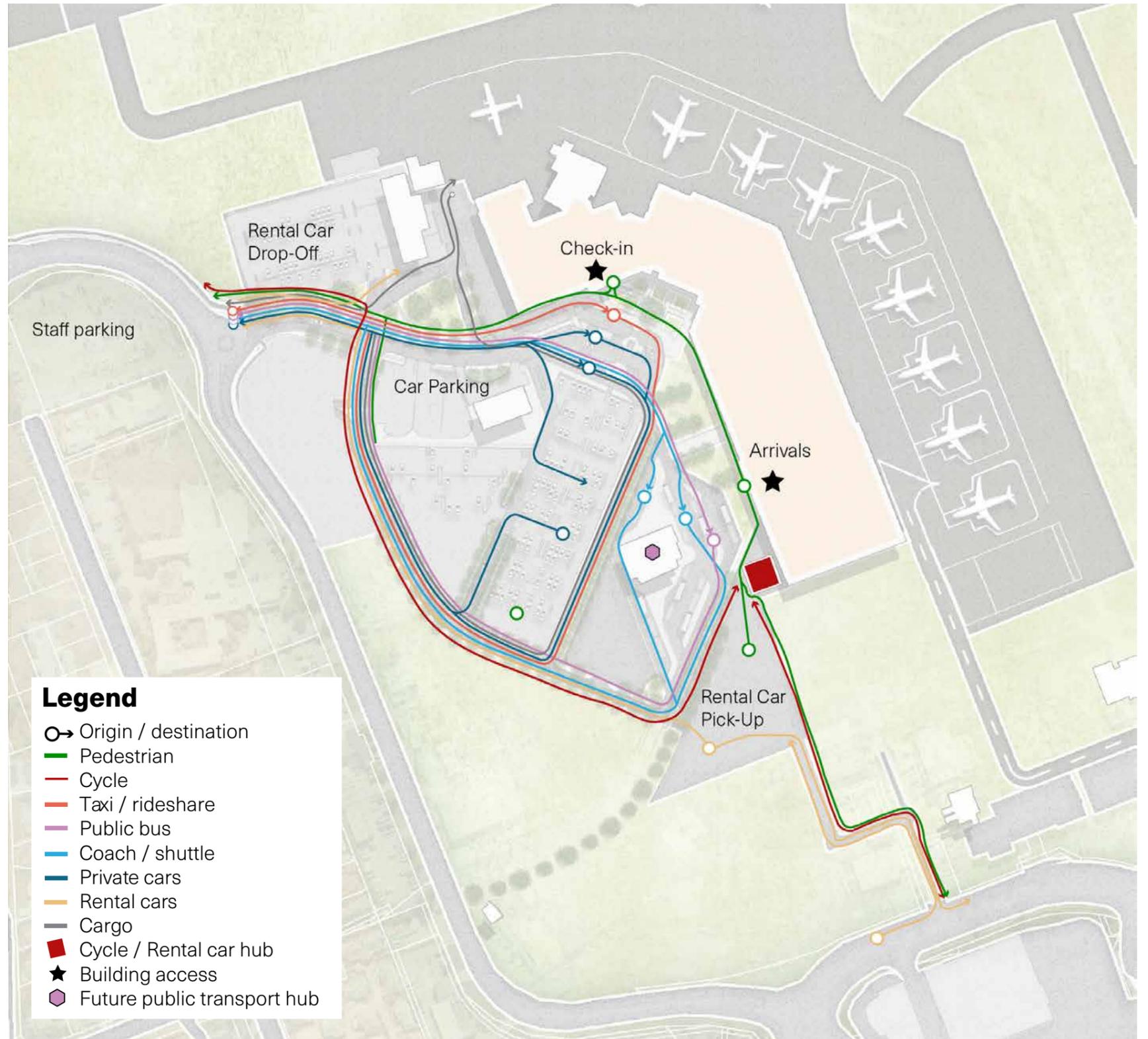
A new **coach and regional bus facility** in front of the arrivals building is proposed. This facility will be scalable to address demand, with bays added when required.

We will retain and expand the existing **car parking facilities for private vehicles**. These can be scaled up and down as required.

**Rental car pick-up** will shift south of the green link, with passengers able to access the rental car facilities via the plaza. A new rental car hub beside the bicycle hub is proposed, which would create a central rental car and pick-up point for all arriving passengers, and a bike facility for both arriving and departing passengers. Rental car parks will in the future be connected to Tex Smith Lane.

**Rental car drop-off** will be located close to check-in. Clear wayfinding will be developed to differentiate between rental car pick-up and drop-off areas.

Lastly, a **freight / cargo route** is established through the current rental car park and out via the perimeter of the car park, away from the coach and bus hub.



**Figure 18**  
2032 Draft Master Plan Forecourt Modal Flows

**ALLOCATION OF SPACE**

To determine size requirements for different parts of the land transport area in 2032, we considered two scenarios: 'business as usual' with the land required calculated using current mode splits, and a mode-shift priority scenario where we provide space according to our mode-shift targets. We aim to encourage more use of sustainable modes of travel mode and have, therefore, allocated space on the basis that 18% of trips to and from the airport are carried out by public or active modes.

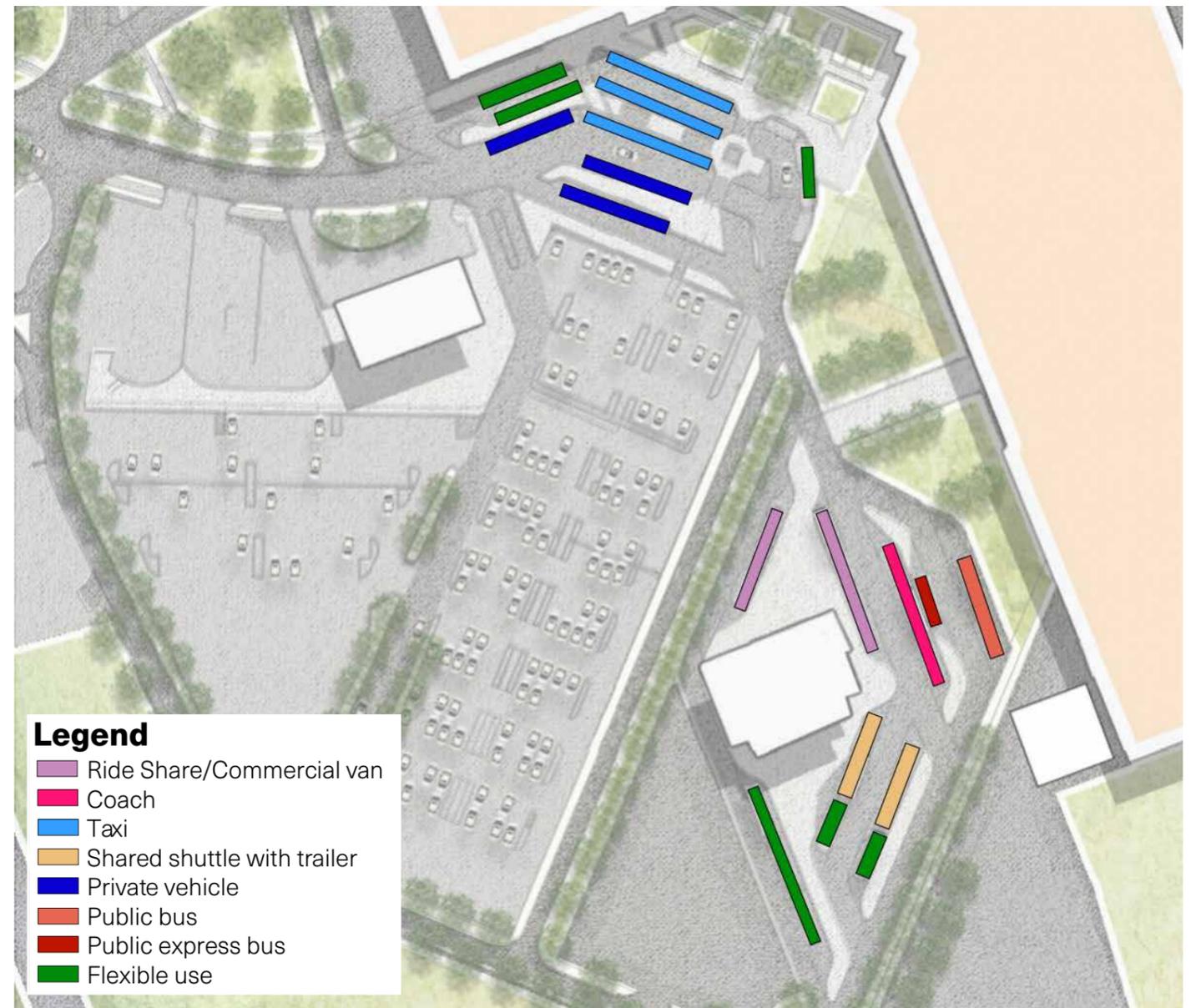
Based on this desired mode shift, we calculated the approximate area requirements for all transport

modes at the airport. Parking areas include accessways and manoeuvring space within the car parks, but not access roads.

Following this analysis, we prioritised the allocation of space by the principles established in our Land Transport Strategy.

Figure 19 shows a proposed allocation of space based on our priorities and mode analysis. Final layout and allocations will be subject to further detailed traffic planning.

MODE	NUMBER OF BAYS/SPACES		TOTAL AREA (M <sup>2</sup> )	
	2022	2032	2022	2032
Ride Share/Commercial Van	6	7	144	162
Coach Buses	4	5	150	200
Taxis	9	11	216	262
Shared Shuttles	2	2	48	58
Private Drop-off	14	16	336	393
Public Bus	2	2	75	75
Private Parking	377	404	12,064	12,928
Rental Parking	-	-	18,900	20,026
Bicycles (inc. Rentals)	45	300	100	1,596
<b>Total</b>			<b>32,000</b>	<b>35,700</b>



**Figure 19**  
2032 Draft Master Plan Forecourt Allocation Plan

### RENTAL CAR PARKING

We propose to relocate rental car parking close to the arrivals hall, with modest growth accommodated to 2032. A new rental car hub near the arrivals hall will provide a central pick-up point for arriving passengers. We will also invest in infrastructure to support the transition of the rental car fleet to electric vehicles (EVs).

For private car parking, we have increased the number of parks in line with the projected population growth of the district, given local residents are the primary users of these parks. We will increase the parks by 10%, reflecting the forecast 10% population growth until 2025, at which point the number of parks will be capped. This is intended to give time for improvements to public transport and active transport links, which should cater for further growth in passenger numbers.

Given the compact nature of cycle parking, a large number of bikes can be stored on a small area. We have based the number of parks on the high growth potential for cycling and possibly scooters.

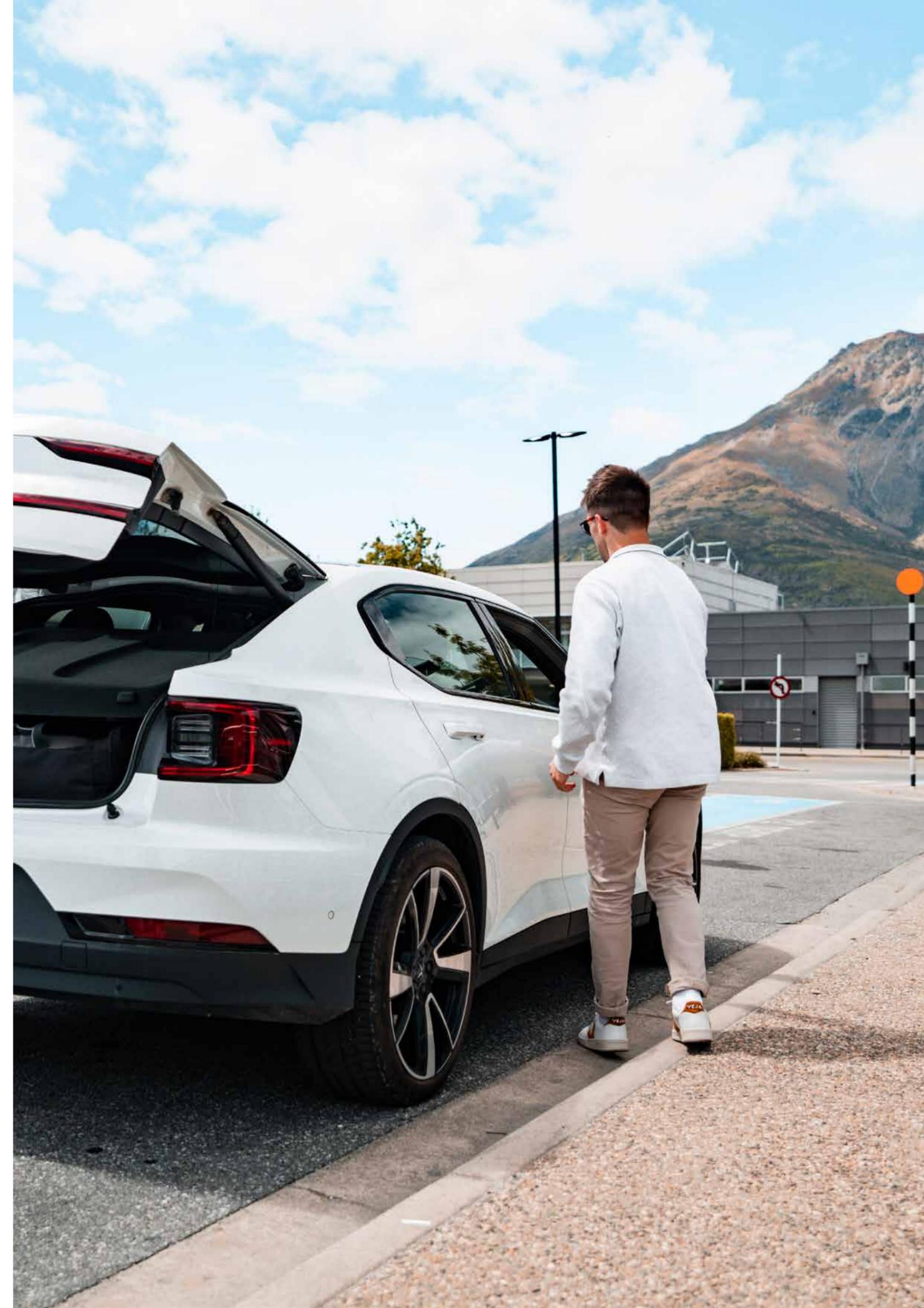
### SUPPORT FACILITIES

#### AIRPORT COMMUNITY HOUSE

We propose to include a commercial office building, with provision for communal spaces, to meet the needs of QAC and the wider airport community. We intend to use the ground floor of the building as a covered premium rental car drop-off point.

#### CARGO

Provision has been made for the processing of cargo directly adjacent to the airfield. This would enable the efficient processing of any bellyhold cargo that is transported to and from Queenstown Airport.



# PROPERTY DEVELOPMENT OPPORTUNITIES

The overall goal of developing property at Queenstown Airport is to diversify QAC's revenue streams and to provide economic diversification opportunities for the Queenstown Lakes District.

Diversifying revenue sources to reduce the reliance on direct and indirect aeronautical activity will boost operational and financial resilience, increasing our ability to withstand disruptions such as the COVID pandemic and improve our ability to provide sustainable dividends to shareholders.

Property development at Queenstown Airport offers the opportunity to support airport activity and complement neighbouring areas. There is opportunity for a range of activities across the non-aeronautical precincts, responding to the unique circumstances of each site and adjacent land uses.

Development in the areas identified below will be undertaken with the previously described Landside Design Principles and the following principles:

- **Strategic fit** – Development aligns with our vision, purpose and strategic goals.
- **Economic diversity** – Development supports and enables diversification of the local economy. It complements other local activities and local government master planning, adding value for residents and businesses and increasing the range of employment options.
- **Delivers good urban design** – Development that provides a positive community amenity with its use, design, aesthetic and convenience.
- **Sustainable development** – Development that aligns with our sustainability objectives, including economic, social, cultural and environmental initiatives.

- **Optimises returns** – Development provides strong returns and diversifies revenue. It can be staged and delivered to meet market demands.
- **Leverages airport infrastructure** – Development that can take advantage of its proximity to airport operations and uses.

## FRANKTON DEVELOPMENT PRECINCT

Most of our landholdings within this area are zoned 'Frankton Flats B'. Larger-scale industrial and service-based activities are generally anticipated within this activity area of the zone.

It is our intention that use of the Frankton Development Precinct landholdings creates an attractive and desirable location that fits with the character of the area and aligns with the principles above.

This precinct will be subject to a separate planning exercise, which will begin mid-2023.

This draft Master Plan will evolve and respond to market conditions over time.



Figure 20

### **PARK & RIDE, RENTAL CAR & STAFF PARKING**

Park & Ride, rental car and staff parking facilities will be considered within the Frankton Development Precinct.

The airport Park & Ride is currently located in the area of land behind Mitre 10, and it is proposed it will remain in this location until at least 2032. However, the triangle of land outside the airport zone and on the south-western side of Hawthorne Drive has been identified as a potential longer-term location to accommodate a relocated or additional Park & Ride facility, along with rental car servicing and storage, complementing activity within the Land Transport Precinct.

In the longer term, some of this land could be used for airport staff car parking, which is currently located close to the airport. Locating these activities at the same site would help coordinate and efficiently manage vehicle movements into and out of the Land Transport Precinct.

This land is zoned 'Frankton Flats B' and is within the D Activity Area. This activity area is dedicated to yard-based industrial and service activities, where there is a predominance of outdoor storage of goods, equipment and materials.

### **LUCAS PLACE AIRPORT-RELATED DEVELOPMENT**

Land has been preserved for development of airport-related commercial uses in the Land Transport Precinct. It is proposed this development be located along the frontage of Lucas Place to provide a buffer from land transport activities for the surrounding residential and business communities. Any developments would be designed and built in line with our landside development principles.

There is also a longer-term opportunity on the current staff car park site for other airport-related uses.

The Land Transport Precinct is zoned 'Airport Zone – Precinct A', which provides for all airport and airport-related activities as a permitted activity.



# NEXT STEPS

The following next steps have been identified:

## STAKEHOLDER & COMMUNITY CONSULTATION

An airport master plan is a complex and highly technical document that presents a long-term view. Stakeholder feedback is a vital part of the planning process and will be sought and incorporated into our final plan to ensure a shared future vision.

Our community engagement is open to all and we welcome feedback from individuals or organisations. As well as engaging with the community, we will consult the Civil Aviation Authority, Airways, our scheduled airline customers, and non-scheduled aviation operators, as well as our commercial tenants and the business community. The master plan preparation process must also consider and satisfy important safety obligations, both aviation and seismic, and meet regulatory compliance obligations.

The community engagement process will be undertaken in partnership with QLDC as our majority shareholder and a summary of consultation will be provided to shareholders.

The board of directors and executive commit to open, constructive and collaborative consultation.

Having considered all feedback, we will report the final Master Plan to shareholders and seek shareholder endorsement of it before any final approval by the board.

This is expected to be completed by the end of 2023.

## DETAILED PRECINCT PLANNING

Before individual projects begin, detailed precinct plans will be prepared. This process will test assumptions made in the master planning process to ensure each precinct is technically, operationally and financially feasible.



### TERMINAL DEVELOPMENT PLAN

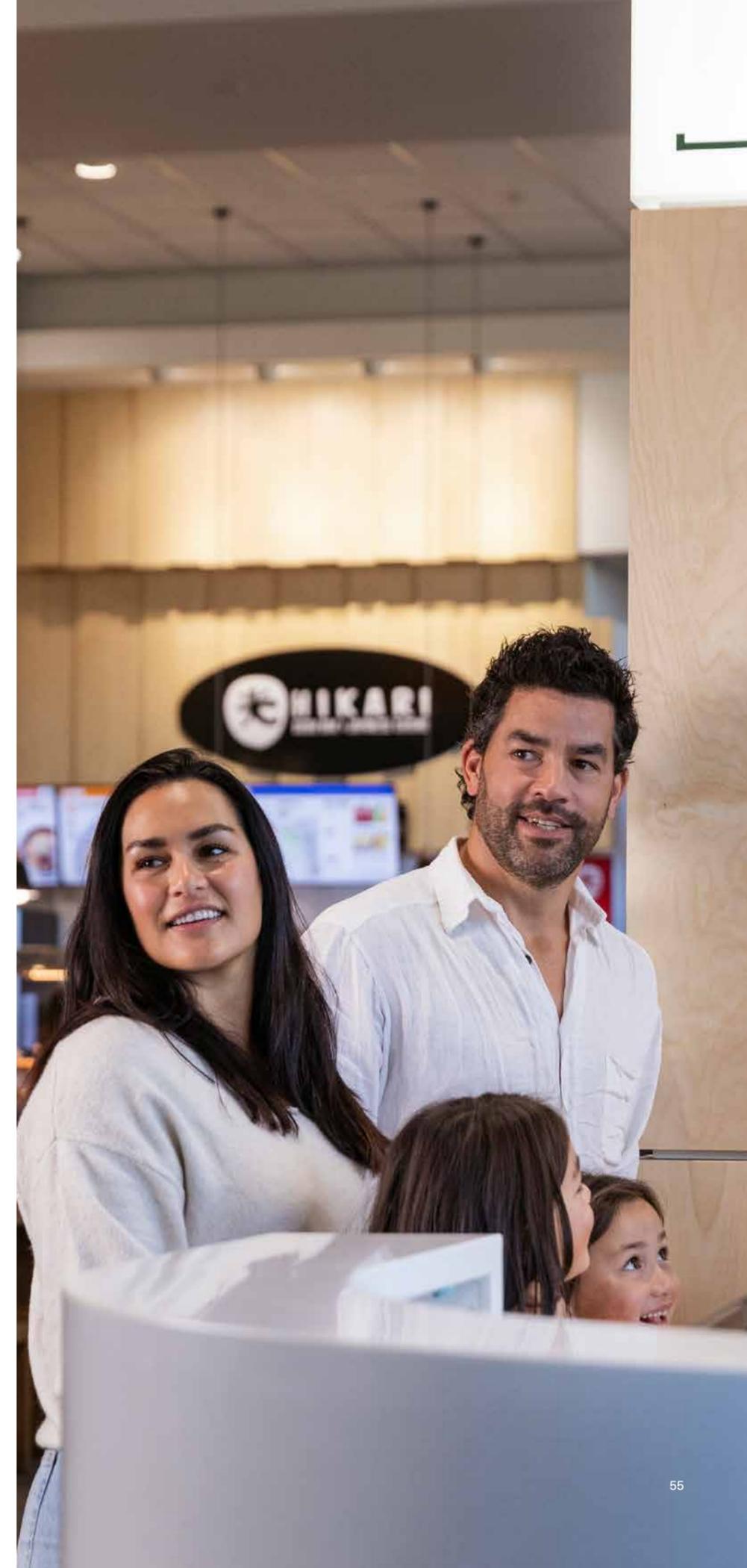
Once a Master Plan has been finalised, a Terminal Development Plan (TDP) will be developed to further define, size, and provide detailed locations of spatial layouts and facilities of the terminal, apron, and land transport infrastructure. The TDP will also address:

- strong thematic and design references to the unique landscape features of our district. This will include narratives and design cues to reflect iwi values and the early settlers' history and pioneering spirit.
- apron requirements including detailed layout and operational model(s) for various users
- support facilities (e.g. airline offices, QAC offices, MPI and border protection facilities)
- retail and food and beverage facilities
- gate lounge operations
- interfaces between the airfield and passenger terminal, commercial offices and facilities, and departures baggage processing and screening facilities
- further traffic and commercial modelling associated with public transport, cycle facilities, taxis, shuttles, regional buses, private vehicles, rental vehicles and associated facilities, and roading (internal and interfaces with external roading network), followed by schematic design for the overall land transport precinct, including the road network and intersections.

### AIRFIELD DEVELOPMENT PLAN

An Airfield Development Plan will consider how the airfield is designed and developed to allow for ongoing use and future growth. This will be a central part of understanding phasing and staging for Queenstown Airport. The plan will cover:

- **The main airfield** – The parallel Code C taxiway; EMAS; taxiways connecting new precincts to the main runway; reviewing the operation and use of the crosswind runway in relation to other changes to the airfield infrastructure and procedures.
- **General aviation** – As a result of the proposed extension to the terminal over time, general aviation operators will be required to operate from a new location on the airfield, with new operational procedures as a consequence.
- **Northern Aviation Precinct** – This has been identified for helicopter operations. Activities in this location will acknowledge and preserve the heritage buildings in the vicinity.
- **Southern Aviation Precinct** – This has been identified for fixed-wing general aviation operations. It will also incorporate corporate jets, a new Airport Emergency Service base, provision for electric aircraft aprons and facilities; a fuel farm, including provision for future decarbonised fuel supply; and other uses.
- **Non-aeronautical precinct development plan(s)** – Further analysis and investigation is required to inform master planning for non-aeronautical development, with a focus on the 'Frankton Development Precinct' north-east of Hawthorne Drive. These opportunities, including supporting landside facilities and phasing will need to be analysed and stand-alone business cases prepared.



### STAGING OF DEVELOPMENT

The airfield design will help inform the staging of the airport development. In principle, staging needs to consider the following:

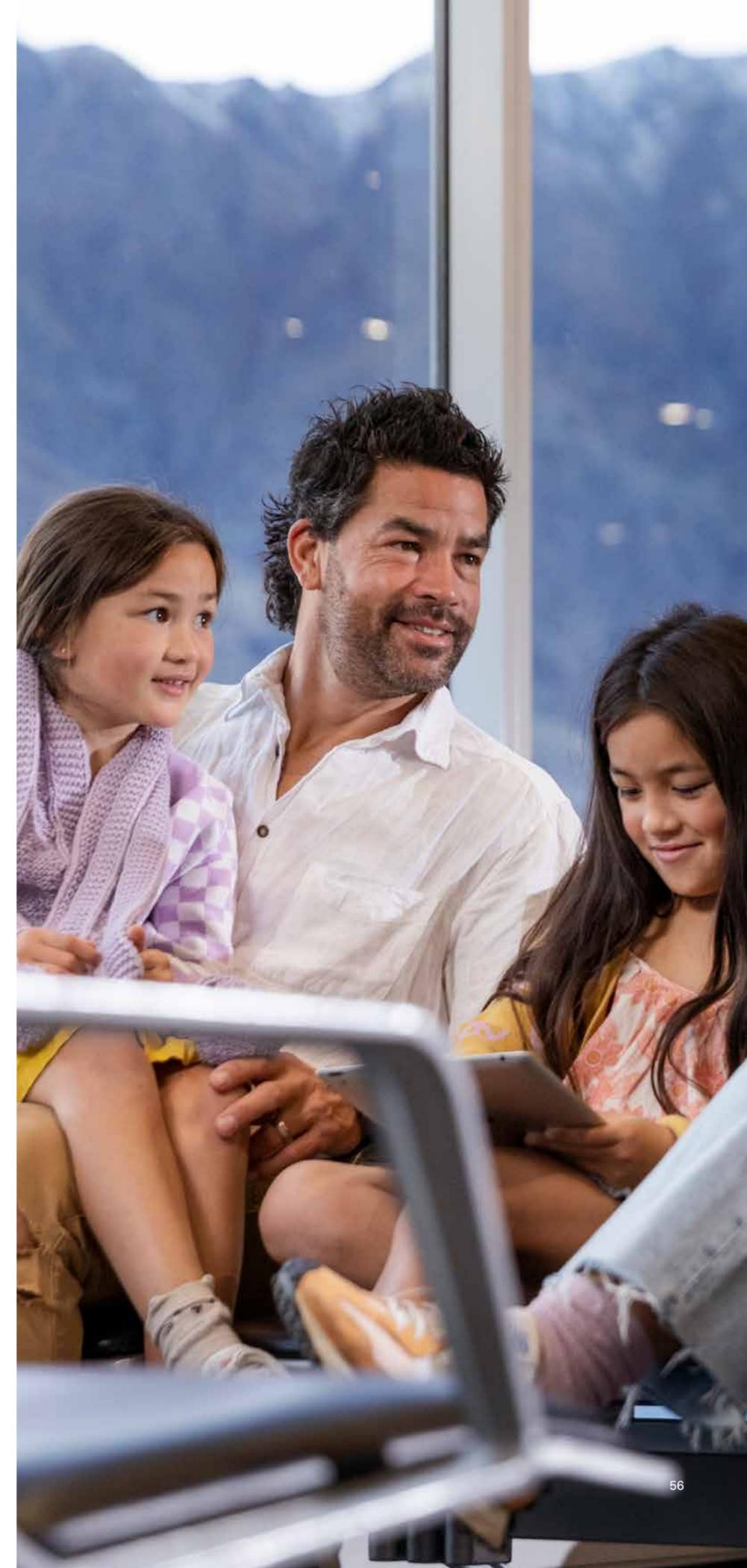
- ensuring the airport continues to operate safely and maintains compliance
- minimising restrictions on operators
- minimising inconvenience on customers in the Terminal and Land Transport Precinct
- financial implications and funding of relevant stages to ensure financial viability.

To achieve this, as well as to minimise disruption across the airfield, we will apply a methodology of first developing new facilities that create capacity that allows for relocation of existing facilities into their new location. This approach will likely see the development of the general aviation precincts first to enable their relocation into the new precincts. That in turn allows for the development of additional terminal space that will enable the redevelopment of the existing terminal without negatively affecting operators and customers.

Where appropriate, some development can occur concurrently to support improved safety or efficiency outcomes such as the EMAS development and the parallel taxiway, which can be developed independently of other airfield activity.

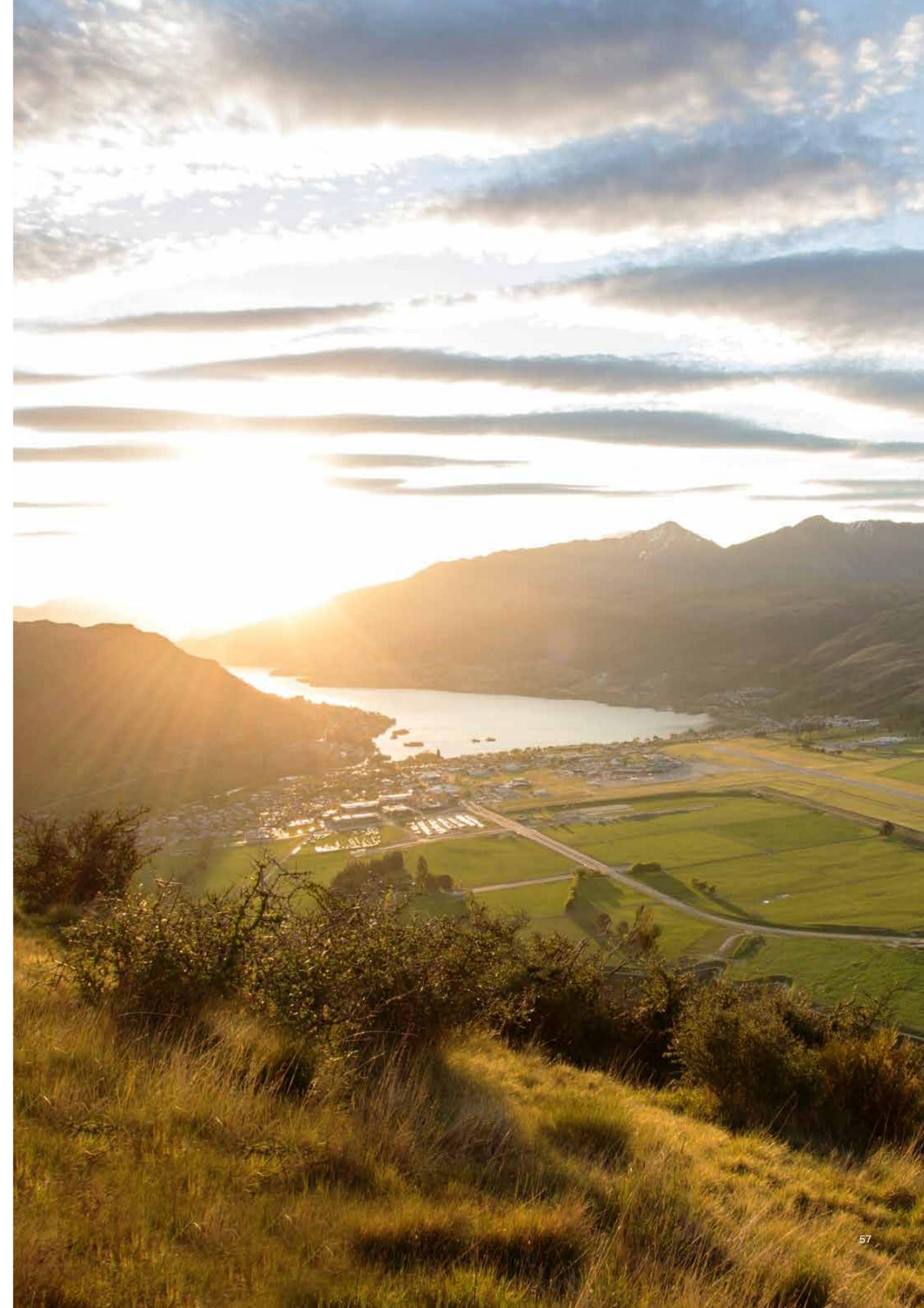
### OTHER ACTIVITIES

- **Noise** – QAC has made a commitment to operate within its noise boundaries for at least the next decade. As such, QAC will actively manage noise of all airport users – scheduled aircraft, fixed-wing, helicopters, corporate jets and other itinerant users.
- **Resource Management Act planning, including:**  
Alterations to the Airport Approach and Land Use Controls designation to align future runway protection strip with requirements for a non-precision approach instrument runway associated changes to the Obstacle Limitation Surfaces.
- **Utilities & services** – Analysis will be undertaken to determine the services and utilities required to support this Master Plan, taking into account increased or change demand patterns, along with decarbonisation and sustainability initiatives. This work will need to consider the requirements for stormwater, wastewater, potable water, electricity, and telecommunications.
- **Property** – Consideration of any property changes required as a result of proposed use. This includes changes to any easement or other property rights and boundary readjustments.
- **Sustainability and decarbonisation** – Translation of QAC's Sustainability Strategy and decarbonisation plans, including current and proposed future commitments, will need to be translated into infrastructure projects, including planning, design, procurement and construction.
- **Land transport** – The draft Master Plan layouts have been based on a recommended strategic direction for all land transport activities at Queenstown Airport, which have incorporated our sustainability, decarbonisation and mode-shift goals. Land transport facilities have been sized appropriately, balancing these objectives and growth. QAC will work closely with our land transport partners – QLDC, Otago Regional Council and Waka Kotahi – to ensure the transport network can enable, facilitate and deliver on these objectives.



# GLOSSARY AND ACRONYMS

<b>Airside</b>	Parts of the airport accessible to travellers and authorised airport employees after clearing security
<b>AES</b>	Airport emergency services
<b>Apron</b>	A parking area for aircraft
<b>ATCT</b>	Air traffic control tower
<b>AUW</b>	All-up weight
<b>CAA</b>	Civil Aviation Authority
<b>CASA</b>	Civil Aviation Safety Authority
<b>eVTOL</b>	Electric vertical take-off and landing
<b>EV</b>	Electric vehicle
<b>GA</b>	General aviation
<b>Gate</b>	The location where an aircraft is parked for passengers to board or disembark
<b>GSE</b>	Ground service equipment
<b>FATO</b>	Final approach and take-off
<b>FBO</b>	Fixed base operator
<b>IATA</b>	International Air Transport Association
<b>ICAO</b>	International Civil Aviation Organisation
<b>Landside</b>	Parts of the airport accessible to the general public
<b>MCTOW</b>	Maximum certificated take-off weight
<b>MPI</b>	Ministry for Primary Industries
<b>NZIER</b>	New Zealand Institute of Economic Research
<b>RESA</b>	Runway end safety area
<b>RET</b>	Rapid exit taxiway
<b>Runway</b>	A specially prepared surface for the take-off and landing of aircraft
<b>RPT</b>	Regular public transport
<b>SAF</b>	Sustainable aviation fuel/s
<b>Stand</b>	An aircraft parking space
<b>Taxiway</b>	A path for aircraft connecting a runway with a parking apron, terminal or hangar
<b>TDP</b>	Terminal development plan



# APPENDICES

## APPENDIX A: QUEENSTOWN LAKES DISTRICT PLAN

### ZONING

The airport is located in the Queenstown Lakes District Plan's 'Airport Zone', which applies a range of performance standards to manage the effects of airport operations on the amenity of surrounding properties. The zoning complements QAC's designation with the objective that Queenstown Airport be maintained as nationally significant infrastructure and a generator of nationally and regionally significant economic, social and cultural benefits.

Queenstown Airport is surrounded by a mix of residential, recreational, commercial, and industrial zoned land. Special zones such as the 'Remarkables Park Zone' and 'Frankton Flats B Zone' allow for development tailored to the context of their respective sites adjacent to Queenstown Airport.

The New Zealand Standard for Airport Noise Management and Land Use Planning, NZS6805: 1992 promotes an approach whereby all activities sensitive to aircraft noise are prohibited within an Airport Noise Boundary or Outer Control Boundary, where this can be practically achieved. The Queenstown Lakes District Plan has taken a compromise approach that endeavours to balance the future needs of the airport with the needs and aspirations of the Frankton residential community. While the land-use management approach established in the District Plan goes some way to addressing the potential noise effects of aircraft operations at Queenstown Airport inside residential dwellings, it is important to note that such measures are not effective at addressing the effects on outdoor amenity.

The Queenstown Lakes District is home to one of the fastest growing populations in the country. There is continued and increasing pressure for intensification of residential zones, including those surrounding the airport. An increase in the number of people exposed to the effects of aircraft noise over time will inevitably lead to an increase in reverse sensitivity.

Activity sensitive to aircraft noise not only includes residential activity, but also includes visitor accommodation, community activities, education activities, and day care activities. Many of these activities are permitted in the surrounding zoning and have the potential to create reverse sensitivity effects and impact the ongoing operation of the airport.

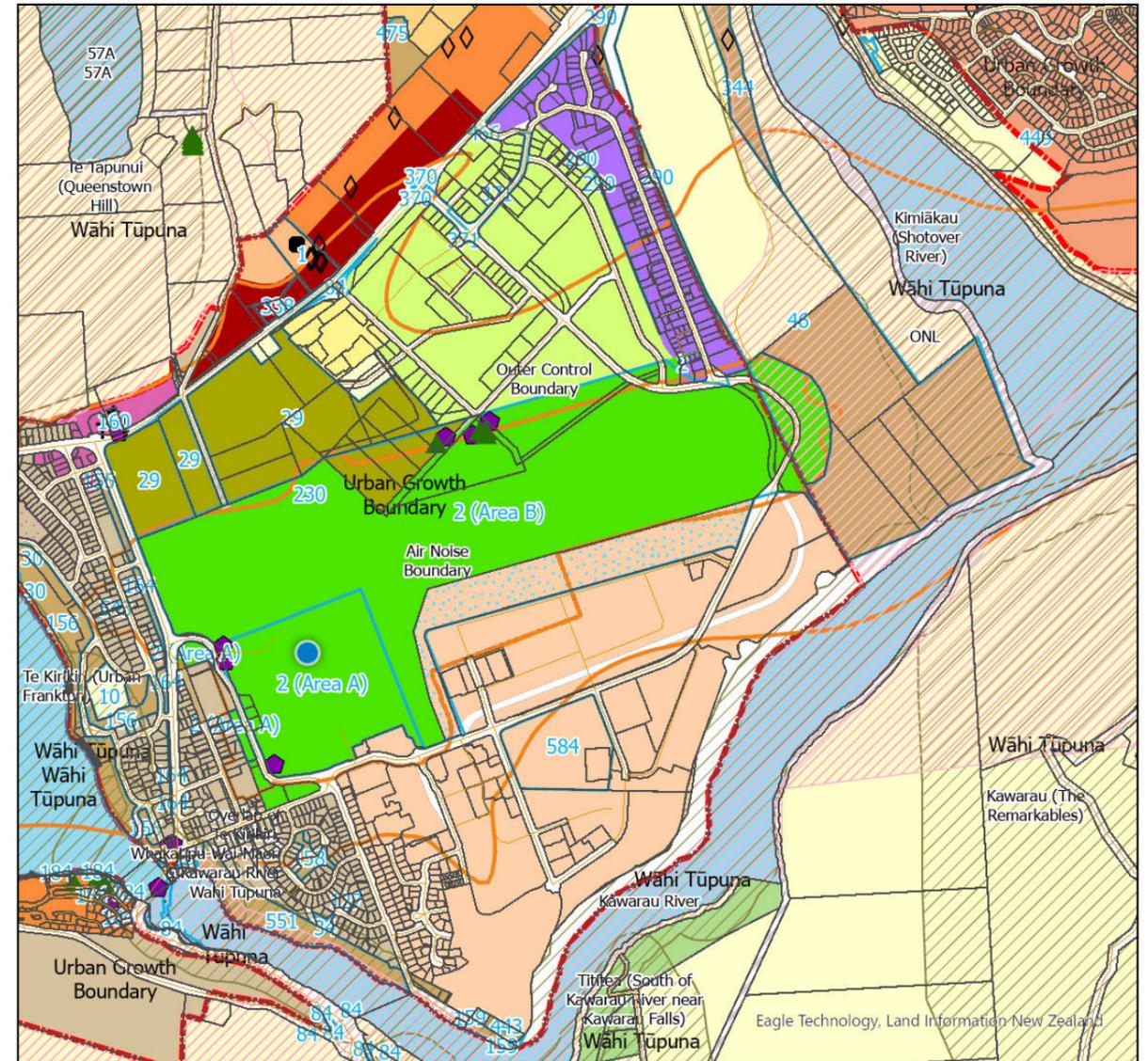
### DESIGNATIONS

The Queenstown Airport Corporation is the authority responsible for two designations in the Proposed Queenstown Lakes District Plan. These are:

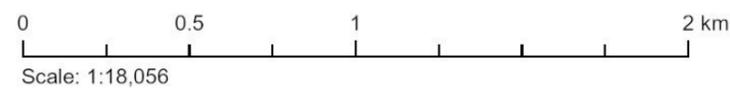
- **Designation 2** – Aerodrome Purposes, which is intended to protect the operational capability of the airport, while minimising adverse environmental effects from aircraft noise on the community to at least 2037.
- **Designation 4** – Approach and Land Use Control (transitional slopes and surfaces), the purpose of which is to provide obstacle limitation surfaces around the airport to ensure the safe operation of aircraft approaching and departing ZQN.

All appeals related to these have been heard and both designations are now operative.

QLDC Operative and Proposed District Plan Map



<ul style="list-style-type: none"> <li>Roads</li> <li>Parcels and Properties</li> <li>Overlay Polygons</li> <li>OverlayType</li> <li>Landscape Classification Label</li> <li>Wāhi Tūpuna</li> <li>Urban Growth Boundary</li> <li>Queenstown Airport</li> <li>Significant Natural Area</li> <li>Unformed Road</li> <li>Landscape Priority Area</li> </ul>	<ul style="list-style-type: none"> <li>Zones</li> <li>Large Lot Residential A</li> <li>Lower Density Suburban Residential</li> <li>Medium Density Residential</li> <li>High Density Residential</li> <li>Rural</li> <li>Rural Lifestyle</li> <li>Local Shopping Centre</li> <li>Business Mixed Use</li> <li>General Industrial and Service</li> <li>Community Purposes</li> </ul>	<ul style="list-style-type: none"> <li>Informal Recreation</li> <li>Wakatipu Basin Rural Amenity Zone</li> <li>Airport</li> <li>Road</li> <li>Water (zone Rural unless otherwise shown)</li> <li>Visitor Accommodation Subzone</li> <li>Community Purpose - Cemetery SubZone</li> <li>Designations</li> <li>Overlay Points</li> <li>FeatureType</li> <li>Historic Heritage Feature</li> </ul>	<ul style="list-style-type: none"> <li>Protected Tree</li> <li>Open Cemetery</li> <li>Transpower Frankton Substation</li> <li>Transpower Line Support Structure (location approximate)</li> <li>Zones</li> <li>Airport Mixed Use Zone</li> <li>Corner Shopping Centre Zone</li> <li>Frankton Flats Zone</li> <li>High Density Residential Zone</li> <li>Industrial A Zone</li> </ul>	<ul style="list-style-type: none"> <li>Low Density Residential Zone</li> <li>Quail Rise Zone</li> <li>Remarkables Park Zone</li> <li>Road Zone</li> <li>Rural General Zone</li> <li>Shotover Country Special Zone</li> <li>Special Zone</li> <li>Water Zone</li> <li>Queenstown Airport Designation</li> <li>Outer Control Boundary</li> <li>Air Noise Boundary</li> </ul>
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The information provided on this map is intended to be general information only. While considerable effort has been made to ensure that the information provided on this map is accurate, current and otherwise adequate in all respects, Queenstown Lakes District Council does not accept any responsibility for content and shall not be responsible for, and excludes all liability, with relation to any claims whatsoever arising from the use of this map and data held within.

Map Date:  
3/04/2023



## APPENDIX B: REGIONAL VISION & SPATIAL PLANNING

The Queenstown Lakes District has developed a vision for the region, as well as master planning several discrete areas within the district. These processes and documents have all been through community engagement processes and have provided QAC with the context in which we began our own strategic planning and this draft Master Plan.

In this section, we have identified those planning documents that have the most relevance to Queenstown Airport:

### VISION BEYOND 2050

'Vision Beyond 2050' is QLDC's guiding document for decision-making and planning. It establishes eight vision statements that reflect values that collectively define what is unique about the Queenstown Lakes District.

**A unique place.  
An inspiring future.**

**He Wāhi Tūhāhā.  
He Āmua Whakaohooho.**

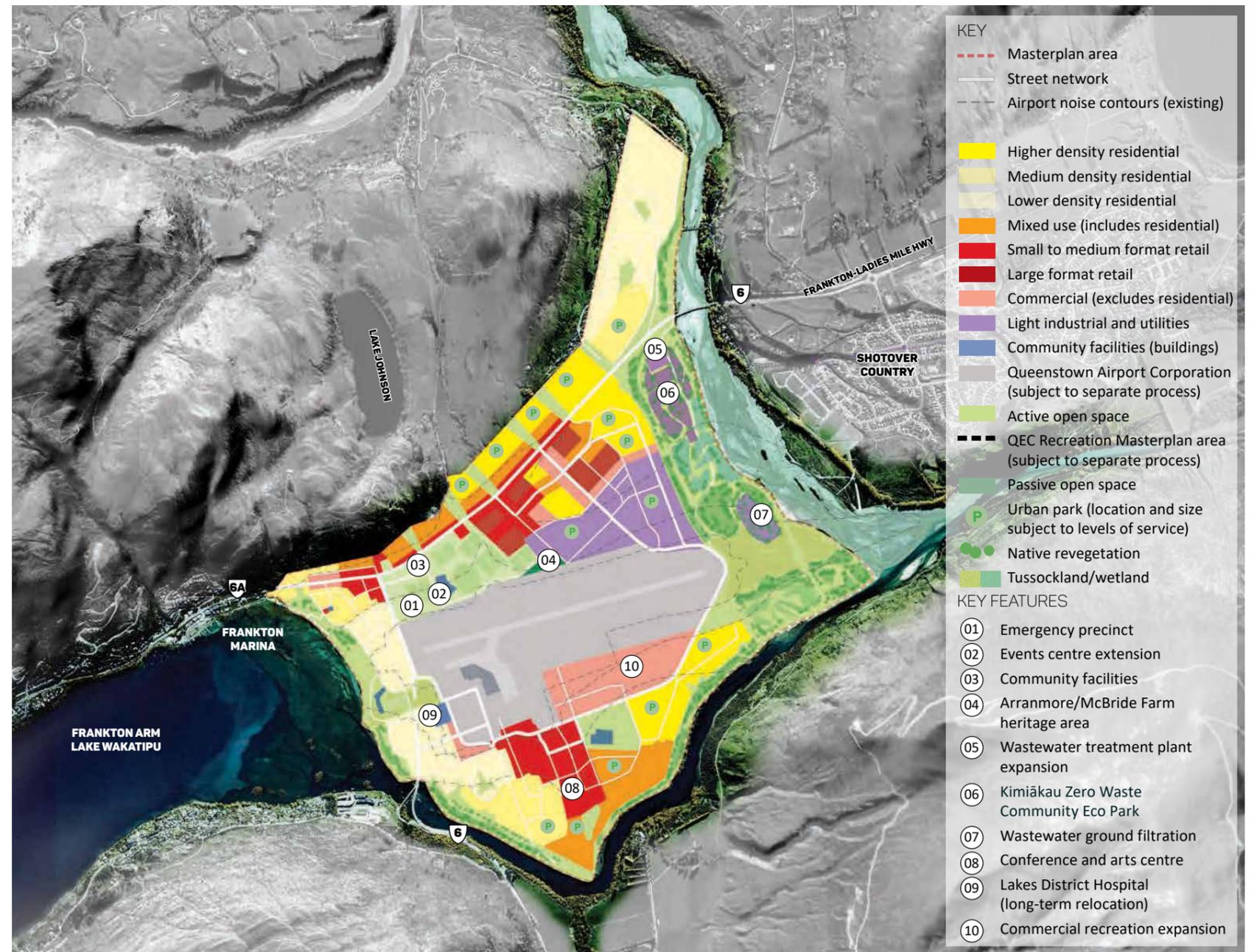
VISION BEYOND 2050

<p><b>Thriving people</b> Whakapuawai Hapori</p> <p style="font-size: x-small;">Ours is a community with a strong heart and vibrant souls that run deep.</p>	<p><b>Living Te Ao Māori</b> Whakatūmāta i te ao Māori</p> <p style="font-size: x-small;">Ours is a district that wishes to live in harmony with mātauranga Māori for all our people, now and into the future.</p>	<p><b>Breathtaking creativity</b> Whakaohooho Aotūhaka</p> <p style="font-size: x-small;">Inspired by the endless inspiration of our landscapes, ours is a place that nurtures the arts, culture and the spirit of invention.</p>
<p><b>Opportunities for all</b> He Ohaka taurikura</p> <p style="font-size: x-small;">Our district is a place of bold, environmental and technological enterprises.</p>	<p><b>Deafening dawn chorus</b> Waraki</p> <p style="font-size: x-small;">Our ecosystems flourish and are protected for every generation.</p>	<p><b>Zero carbon communities</b> Parakore hapori</p> <p style="font-size: x-small;">From Whakapara to Kingdon, our people will be inspired to regenerate, low carbon living, working and living.</p>
<p><b>Disaster-defying resilience</b> He Hapori Aumanga</p> <p style="font-size: x-small;">Queenstown Lakes is a place that is ready and prepared for every emergency.</p>	<p><b>Pride in sharing our places</b> Kia noho tahi ki tōu kaitiaki</p> <p style="font-size: x-small;">Our district is a place where our quality of life is enhanced by growth through investment and thoughtful management.</p>	

### QUEENSTOWN LAKES SPATIAL PLAN - WHAIORA GROW WELL

The Queenstown Lakes Spatial Plan is a vision and framework for how and where the communities of Whakatipu and Upper Clutha can 'grow well' and develop to ensure wellbeing and prosperity. It is intended to guide decisions and investment across local, regional and central government.

**RIGHT> Figure 21**  
QLDC Frankton Master Plan 2020 Land Use



### FRANKTON FLATS MASTER PLAN

The Frankton Flats Master Plan and preferred programme of transport interventions was endorsed in October 2020. The key features proposed over the next 30 years include:

- improving the experiences of people arriving in Queenstown via the Queenstown Airport, state highway and trail network, including the establishment of a Frankton Flats-Whakatipu 'lake link' and potentially recognising wāhi tūpuna (ancestral landscapes) at the Kimiākau/ Shotover and Kawarau River crossings
- integrating the Queenstown Airport terminal and other landside operations into the public transport network and surrounding compatible land uses, including investigating opportunities for the long-term relocation of Lakes District Hospital facilities outside the Queenstown Airport noise contours
- expressing Kāi Tahu values and narratives of Te Kirikiri/Frankton
- recognising cultural heritage from the perspective of Chinese, mining and pastoral farming, including creation of the Arranmore Farm heritage area.

A key part of the Frankton Flats Master Plan is the 'lake link', which would provide a vital physical and visual connection between Lake Whakatipu and the Te Kirikiri/Frankton urban area.

### Key Features:

- 01 Lake link bridge
- 02 Lakes District Hospital
- 03 Humphrey Street extension
- 04 Regional Coach Hub
- 05 Ferry Jetty
- 06 Commercial Recreation Expansion

The lake link project is included in the medium term (5-15 years) of the Frankton Master Plan.

Another key callout from the Frankton Flats Master Plan is the development of a **Heritage Precinct**.

**RIGHT> Figure 22**  
QLDC Frankton Master Plan Frankton Village and Queenstown Event Centre

### KEY

<p>--- Masterplan area</p> <p>MOVEMENT NETWORKS</p> <ul style="list-style-type: none"> <li>Public transport route/stops (separated lanes or priority)</li> <li>Orbital bus route / stops</li> <li>Gondola lines / base station (private)</li> <li>Ferry route / stops</li> <li>Street network</li> <li>Active travel network (walking and cycling)</li> <li>New road corridor</li> </ul>	<ul style="list-style-type: none"> <li>Freight route</li> <li>Bridge crossing (Active travel and / or public transport)</li> <li>400m (5min) walking distance</li> <li>Park and Ride</li> <li>Cultural significance</li> <li>Potential gateway feature</li> </ul> <p>LAND USE</p> <ul style="list-style-type: none"> <li>Higher density residential</li> <li>Medium density residential</li> <li>Lower density residential</li> <li>Mixed use (includes residential)</li> </ul>	<ul style="list-style-type: none"> <li>Small to medium format retail</li> <li>Large format retail</li> <li>Commercial (excludes residential)</li> <li>Light industrial and utilities</li> <li>Community facilities (buildings)</li> <li>Queenstown Airport Corporation (subject to separate process)</li> <li>Active open space</li> <li>QEC Recreation Masterplan area (subject to separate process)</li> <li>Passive open space</li> <li>Urban park (location and size subject to levels of service)</li> </ul>	<ul style="list-style-type: none"> <li>Native revegetation</li> <li>Tussockland / wetland</li> </ul> <p>CONSTRAINTS</p> <ul style="list-style-type: none"> <li>Queenstown Airport noise contours (existing)</li> </ul> <p>KEY FEATURES</p> <ol style="list-style-type: none"> <li>1. Frankton Campground redevelopment</li> <li>2. Public transport interchange</li> <li>3. Emergency precinct</li> <li>4. Events centre extension</li> <li>5. Community facilities</li> <li>6. Arranmore / McBride Farm heritage area</li> </ol>
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