Good things start here.
2050 AIRPORT MASTER PLAN
NELSON AIRPORT

NELSON AIRPORT

The purpose of Nelson Airport is to provide world-class infrastructure and facilities connecting Te Tauihu to the world and to support regional development.

The Airport is a key strategic gateway that enables air travel, connectivity and freight transport for around 104,000 residents in the Nelson Tasman region.

The Airport is also the gateway for visitors flying into the region from other parts of New Zealand and from overseas to visit friends and relatives, and for business, education, leisure and tourism.

Nelson Airport's success is driven by the success of the region it serves. Airport activity is a direct result of the region's liveability for locals, its economic opportunities and its attractiveness to visitors.

Good things start here.

NELSON AIRPORT

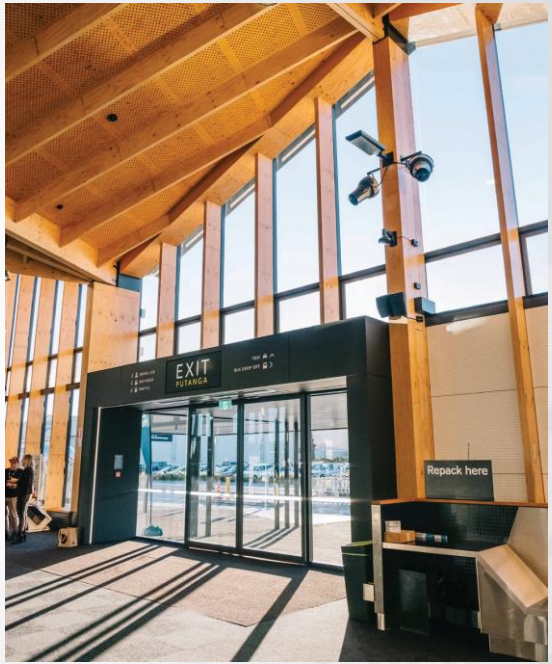
NELSON AIRPORT

The Airport is operated by Nelson Airport Limited on behalf of shareholders Tasman District Council and Nelson City Council – which hold equal shares on behalf of their communities.

Nelson Airport Limited has a statutory responsibility to operate commercially and to maximise long-term sustainable returns for its shareholders.

Dependence on air travel puts airports at risk of business failure if there is a significant downturn in aviation activity, such as has occurred as a result of the Covid-19 pandemic.

We are always working to protect our shareholders from economic risks and are focused on building and maintaining the Airport's financial and operational resilience.



Good things start here.

NELSON AIRPORT

NELSON AIRPORT

Compared to many other New Zealand airports, Nelson Airport is well served by airlines.

Frequent Air New Zealand services connect Nelson to Auckland, Wellington, and Christchurch, and onwards to many international destinations.

Local connections are also provided to Wellington and the Kāpiti Coast by Sounds Air; to Wellington, Hawke's Bay, Palmerston North, and Hamilton by Originair; and to Tākaka and Karamea by Golden Bay Air.

The Airport occupies a coastal site of 129 hectares and provides a main sealed runway of 1,347m length and two grass runways. The main runway length is shorter than what is generally recommended and usually provided for the types of aircraft currently using it. This results in some operational restrictions for airlines.

AIRPORT MASTER PLAN

Nelson Airport regularly reviews and updates its Master Plan.

The Master Plan is a guide for Airport land use and a plan that allows us to provide for future activity in a flexible, efficient and safe manner that continues to support the community aspirations of the Nelson Tasman region.

The Nelson Airport Master Plan:

- Is the framework for protecting existing and future core aeronautical activities
- Informs Nelson City Council's land use planning, and
- Provides the Airport's neighbours and the wider community with information on how Nelson Airport may change in the future.

Good things start here.

NELSON AIRPORT

SUSTAINABILITY

The Nelson Tasman region is known for its outstanding natural beauty and its commitment to protecting the environment. Nelson Airport fully supports this through our focus on sustainability, including environmental, economic and cultural elements.

SUSTAINABILITY

Environmental sustainability initiatives at Nelson Airport include:

- Independent auditing of our carbon emissions and offsetting 120% of these measured emissions
- Minimising use of disposable products and increasing recycling
- Participating in a community composting initiative for organic waste
- Using a zero-emission, electric corporate vehicle
- Using onsite solar power generation and investigating further opportunities for solar power generation
- Investigating water harvesting, and
- Proactively researching how we can assist our airline partners with their sustainability progress.

EMISSIONS TARGETS

Paris Agreement
Limit global temperature increase in this century to 2°C above pre-industrial levels, attempt to limit to 1.5°C .

Climate Change Response (Zero Carbon) Amendment Act 2019 Targets:
- 30% reduction below 2005 (or 11% below 1990) gross emissions for 2021-2030
- 2050 Net Zero emissions (other than biogenic methane).

Tasman District Council Emissions Targets:
- Reduce the Council's methane emissions by 10% below 2017 levels by 2030
- Reduce the Council's methane emissions by 47% below 2017 levels by 2050 or earlier
- Reduce the Council's net emissions of all other greenhouses gases to zero by 2050.

Nelson City Council Emissions Targets:
Net carbon zero by 2050, with the exception of biogenic methane, for which there is a range of targets from 24% to 47% reduction.

Nelson Airport Targets:
- Avoid at least 23,000 kg CO_2e of Terminal emissions through generation of at least 182,500kWh from an on-site solar array by 2030
- Reduce CO_2e Terminal emissions on a per-passenger basis by at least 24% compared to 2021 by 2030.

Good things start here.

NELSON AIRPORT

CLIMATE RESILIENCE

Nelson Airport is vulnerable to flooding when storm tides and high rainfall intensity occur at the same time. Future sea level rise is also forecast to significantly affect coastal areas such as Nelson Airport.

Managing the effects of sea level rise over time will require a multi-faceted approach. Nelson Airport will establish a management programme to ensure inundation risks are mitigated by:

- Developing and installing automated solutions
- Installing asset control and protection systems
- Early warning systems
- Bunding
- Upgrading stormwater management.

FUTURE ACTIVITY

The number of passengers who pass through Nelson Airport each year is large relative to the population of the Nelson Tasman region, when compared with other domestic only airports in New Zealand. In our view this level of activity can be attributed to:

1. The dynamic nature of locals who love to travel and to create successful businesses.
2. The attractiveness of the region to domestic and international visitors.
3. The relative geographic remoteness of the region which makes air travel a quicker and more efficient option than other modes of travel.

FUTURE ACTIVITY

Nelson Airport has shown resilience through the Covid-19 pandemic and it is anticipated that annual passenger numbers will steadily return to pre-Covid-19 levels of more than one million passengers per annum.

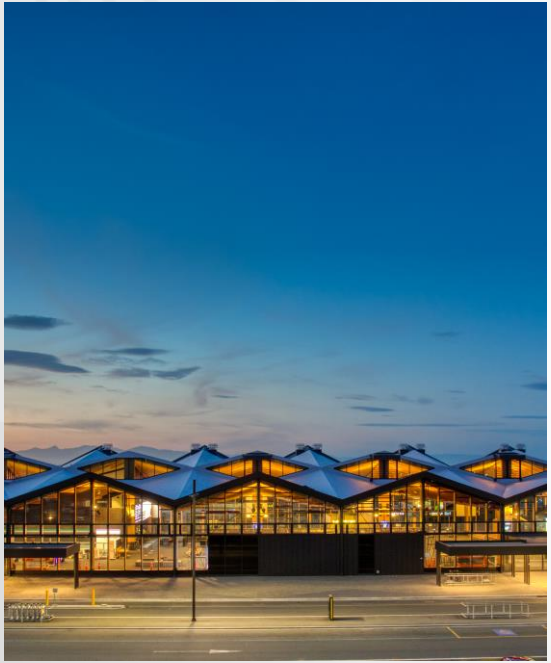
The forecast annual average growth from pre-Covid-19 levels (2019) to 2050 is:

- 1.8% for passengers
- 1.0% for flights.

It has been forecast that 1.8 million passengers per annum could be passing through Nelson Airport by 2050.

The Master Plan provides infrastructure protection to allow for forecast passengers and flights.

AIRPORT ZONE AND PRECINCTS



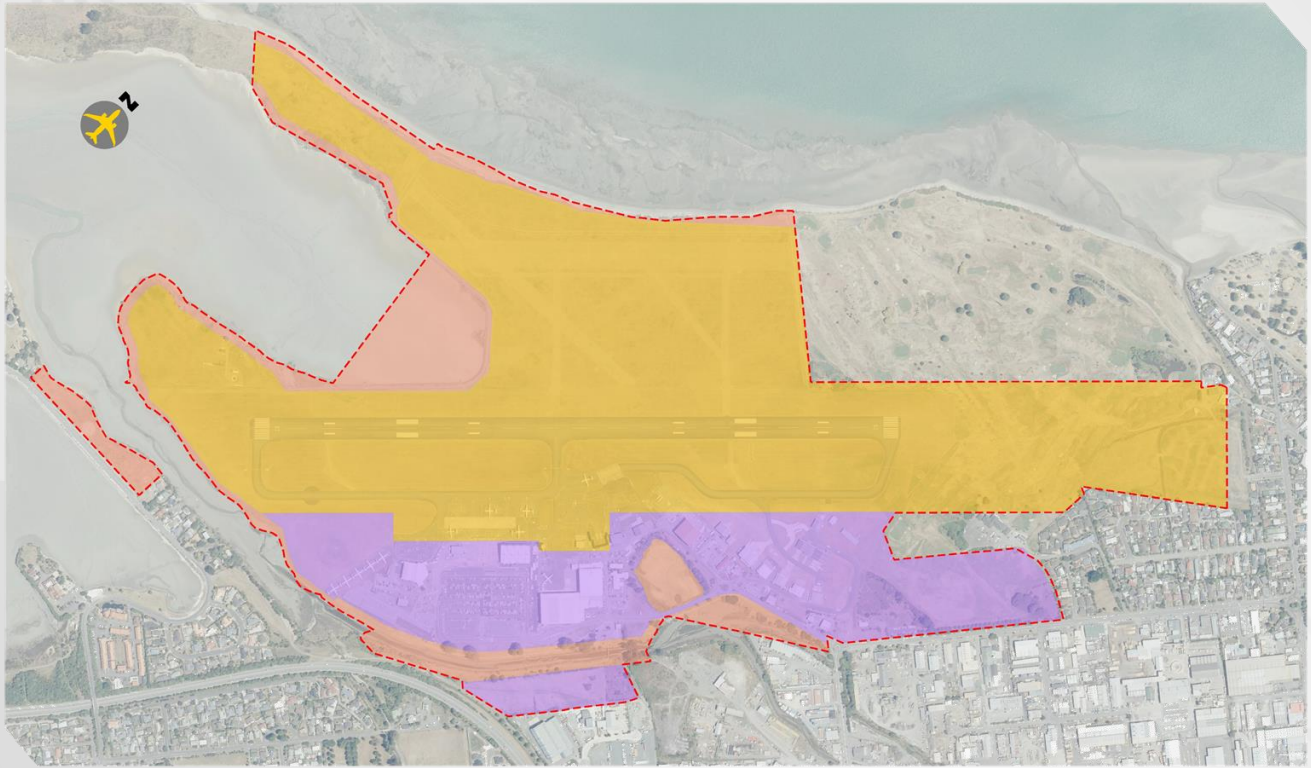
Nelson Airport will seek changes to Nelson City Council's resource management plan that will help to protect future operations and development of the Airport. Proposed airport zoning will bring Nelson Airport's zoning into line with National Planning Standards, introduced since the current district plan was created.

Three new precincts are proposed within the new Airport Zone:

- the core Airport precinct (including runway, airfield, taxiways and other aviation activities),
- the Airport environs precinct (also providing for business activities supporting and complementing the Airport), and
- the Airport coastal precinct (our coastal and river margins).

Together these precincts will enable a modern vibrant airport which provides for all relevant activities required for the operation of a modern aerodrome. This includes support for commercial, industrial and logistics activities within the environs precinct which complement the core aviation activities.

AIRPORT ZONE AND PRECINCTS



Airport Zone

Airport Coastal Precinct

Core Airport Precinct

Airport Environs Precinct

Good things start here.

NELSON AIRPORT

RUNWAY EXTENSION

The ability to safely and sustainably operate, maintain, upgrade and extend facilities and infrastructure is vital for Nelson Airport's role in supporting the region's growth, connectivity, resilience and prosperity.

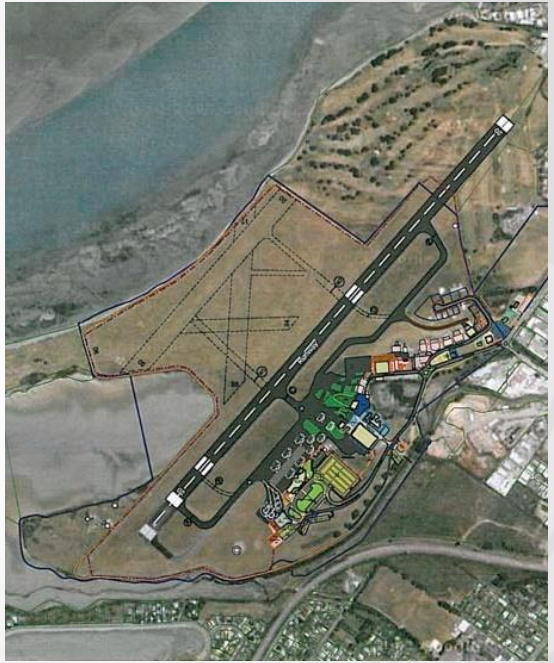
At 1,347m, Nelson Airport's main runway is among the shortest runways in the world catering for Code C aircraft (with a wingspan of 24 to 36m).

Nelson Airport has been planning for a runway extension for several years, and a runway extension was included in previous Master Plans.

The Airport will seek new planning controls and new designations which provide for extending the runway. This will enable runway activities, and management of noise exposure and obstacles (such as masts, tall chimneys and trees) that could limit the Airport's ability to operate in future.

An extended runway and associated planning controls are required so Nelson Airport can continue to provide for current and future aircraft types as well as improve safety facilities. They also ensure that future Airport operations are not unduly constrained by development or intensification occurring around the Airport.

Source: 2011 Nelson Airport Master Plan



RUNWAY EXTENSION

The current runway length leads to payload restrictions for Air New Zealand ATR72 and Originair Jetstream aircraft. Under certain weather conditions, passenger and freight capacity is limited, impacting reliability for travellers, businesses and their customers. Air New Zealand and Originair have confirmed a longer runway would remove those restrictions.

Significant effort is being expended globally in the development of sustainably powered aircraft – expected to be powered by batteries, hydrogen, and sustainable aviation fuels. There are still many challenges to overcome, including aircraft performance and incorporating new technology into larger aircraft.

The current focus in aircraft development is on fuel efficiency and sustainable alternatives to fossil fuels rather than optimising aircraft performance for short runways, such as we have at Nelson Airport.

An extended runway is the best way for Nelson Airport to prepare for next-generation aircraft.

RUNWAY EXTENSION

Runway End Safety Area

Runway End Safety Areas reduce the risk of damage to aircraft in the event of an undershoot, overshoot, or excursion from the runway.

The Civil Aviation Authority of New Zealand does not currently require Runway End Safety Areas for the existing runway at Nelson Airport. Runway End Safety Areas have not been declared in Nelson Airport's existing runway configuration.

Any increase in the length of the main runway to overcome load restrictions would trigger a requirement for Runway End Safety Areas. Space for Runway End Safety Areas would need to be provided within the proposed core Airport precinct and must be under Nelson Airport's control.

The designation and proposed core Airport precinct would also enable Nelson Airport to comply with any future direction from the Civil Aviation Authority to provide Runway End Safety Areas for the existing runway.

RUNWAY EXTENSION

The graphic below shows the configuration for an extended runway. This shows the runway extended 370m as well as moving to the north east to include the provision of Runway End Safety Areas (RESA). This runway configuration is expected to provide approximately 1,510m of landing and take-off length.

AIRPORT EFFECTS MANAGEMENT FRAMEWORK

Nelson Airport has developed a framework which aims to ensure recognition of aviation safety requirements and the Airport's impact on its neighbours.

The Airport is proposing updates to two primary land use controls that sit within the Nelson City Council's resource management plan. The updates have regard to the future runway extension. They are:

- Obstacle height controls
- Aircraft noise.

Obstacle Height Controls

The proposed change is to move the obstacle limitations surfaces height controls 370m to the northeast in conjunction with the 370m extension to the runway. The southwestern end of the obstacle limitation surfaces do not need to move. The proposed change is shown in the drawing on the following page.

OBSTACLE HEIGHT CONTROL CHANGES

AIRPORT EFFECTS MANAGEMENT FRAMEWORK

Aircraft Noise

Updated aircraft noise contours are proposed, based on an extended runway and the latest forecast of future aircraft activity.

The proposed change would modify the:

- Air noise boundary (65 dB L_{dn})
- Airport effects control overlay (55 dB L_{dn}).

These changes can be seen in the drawing on the following page.

Good things start here.

NELSON AIRPORT

AIRCRAFT NOISE CHANGES

NOISE MITIGATION

Best practice noise mitigation measures are proposed to be offered to surrounding communities as noise from the airport increases over time. These measures go beyond the specifications in the New Zealand Standard for Airport Noise Management.

Nelson Airport proposes two tiers of mitigation, based on actual aircraft noise.

Both mitigation offers will be 100% funded by Nelson Airport.

60–64 dB L_{dn} (day night average sound level) mitigation offer

- Ventilation to provide outdoor air to habitable rooms
- Heat pump in main living space for thermal comfort
- Allows residents to close windows to reduce noise
- Offered when annual actual aircraft noise reaches 60 dB L_{dn} at the property.

65–69 dB L_{dn} mitigation offer

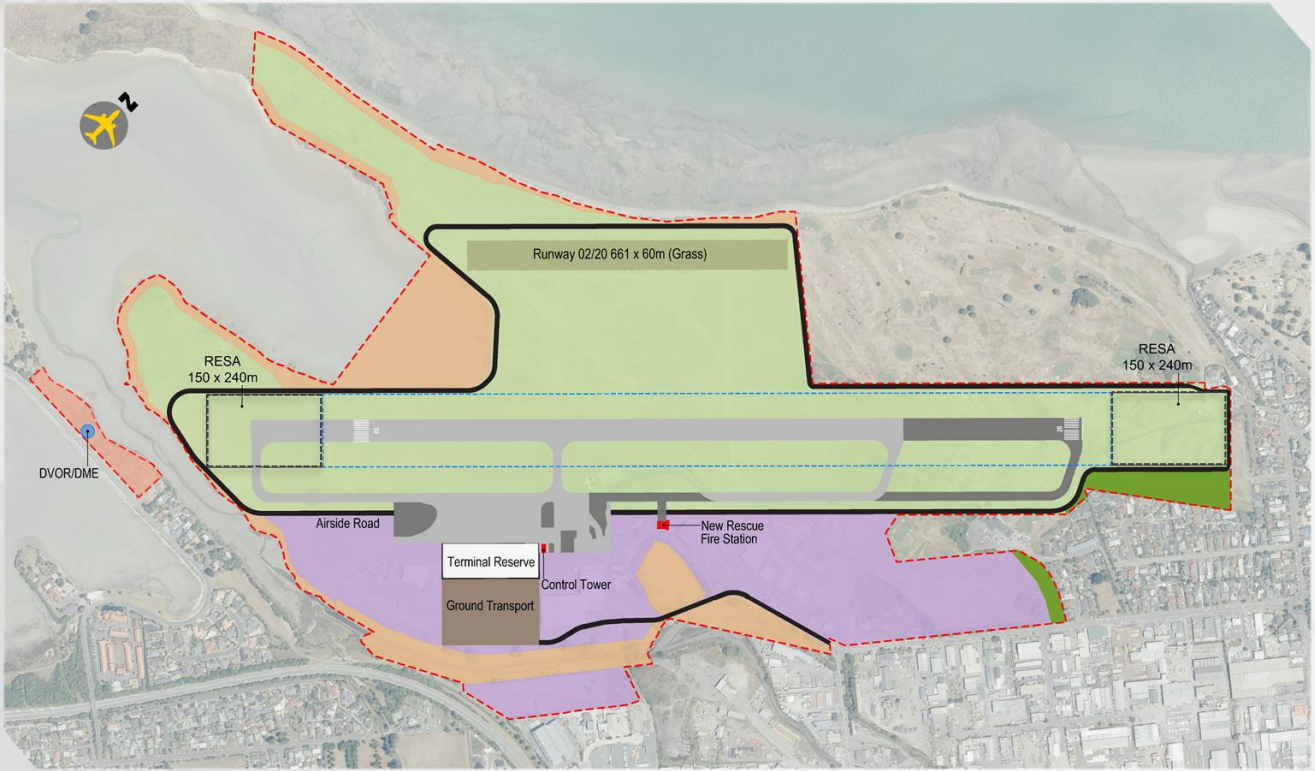
- Ventilation system as for the 60–64 dB L_{dn} described above
- Acoustic treatment to habitable rooms (e.g. window seals, additional wall/ceiling linings, secondary glazing) to achieve 40 dB L_{dn} indoors
- Offered when annual actual aircraft noise reaches 60 dB L_{dn} at the property.

OPERATIONAL AREAS

The following page shows the allocation of areas within the Airport site and its Precincts to the following activities:

- Airfield
- Aviation support
- Terminal
- Ground transport
- Development areas.

OPERATIONAL AREAS

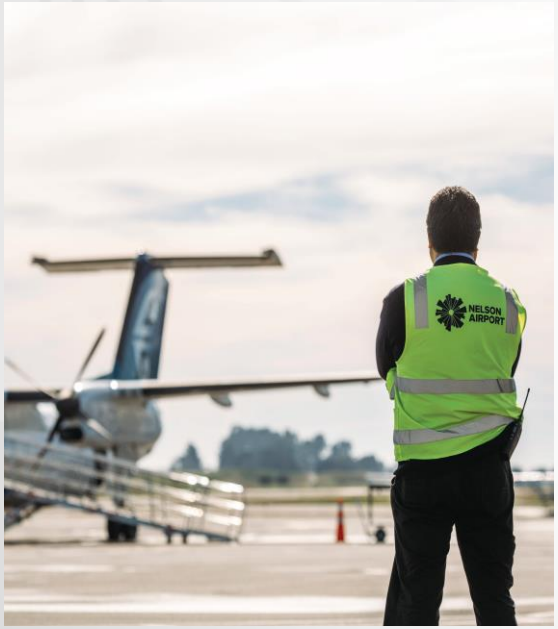


- Airport Zone
- Airport Coastal Precinct
- Airfield
- Existing pavement
- New pavement
- Landscaped buffer
- Terminal reserve
- Ground transport
- Development areas

Good things start here.

NELSON AIRPORT

OPERATIONAL AREAS



Airfield

Nelson Airport's aeronautical infrastructure protection is based on the existing airline fleet and consideration of aircraft that may operate at the Airport in the future.

Nelson Airport is closely watching developments in aircraft powered by fossil fuel alternatives, such as batteries, hydrogen and sustainable aviation fuels. The Master Plan provides flexibility for a range of future operational requirements that new aircraft may bring.

The parallel taxiway could be straightened in its middle section and extended if there is a requirement to provide additional runway throughput capacity.

Aviation Support

The locations for key elements such as the Air Traffic Control tower and Rescue Fire station are identified in the Master Plan.

OPERATIONAL AREAS

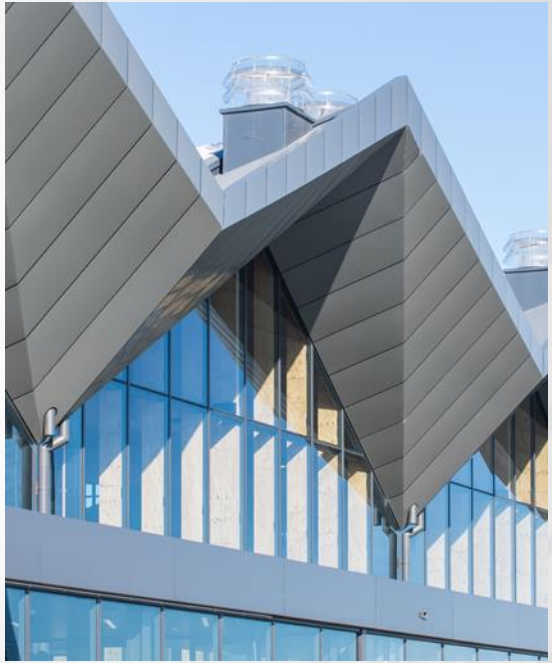
Terminal

The new terminal building, opened in October 2019, expresses the unique character, confidence and future focus of our region.

The Master Plan enables future expansion of the terminal and parking for aircraft when required.

Ground Transport

An area has been protected for the full range of ground transport options that passengers may wish to use. The configuration of the ground transport area is expected to evolve over time as the available options change. Nelson Airport welcomes new public transport initiatives and provides cycle-friendly amenities.



OPERATIONAL AREAS

Development Areas

The Master Plan identifies developments areas to accommodate the range of commercial activities that might be expected at a modern Airport.

Nelson Airport's approach is to support the community by:

- Providing opportunities for businesses wanting to operate at the Airport
- Protecting shareholders' interests through revenue diversification.

Aircraft maintenance is a significant existing activity within the development areas undertaken by large operators such as Air New Zealand as well as many smaller maintenance providers.

Aircraft maintenance is an essential activity which must be supported and provided for at the Airport, and also managed responsibly.

We expect that ground transport activities, such as rental cars and car parking, will continue to occur in development areas. The Master Plan provides Nelson Airport with flexibility to meet the community's needs as they change over time.

NELSON AIRPORT

Good things start here.