

Part A

A new vision for stable, sustainable prosperity.

Queenstown – Alpine City Campus?



John Hilhorst, David Jerram and Gillian MacLeod
FlightPlan2050, June 2020

“If you want to fly, you have to give up what weighs you down”

Roy T Bennet



Foreword

The economic pause caused by Covid-19 has provided a rare opportunity.

Years of relentless growth in visitor numbers have taken their toll on the Queenstown Lakes district. Traffic congestion epitomised this burden on over-stressed infrastructure. Pressure of over-tourism has been undermining its social licence and degrading the region's environment.

Revenue produced per worker in Queenstown has been declining. It is already significantly lower than that of Northland and the West Coast, even as the district's accommodation costs are many times more expensive.

Business-as-usual is unsustainable. Exponential annual growth in visitor numbers has eroded the environment while diminishing the wellbeing of local communities.

If there is a silver lining to the pandemic, then perhaps it is the chance to stop and reflect. It gives us an opportunity to engage in bold new thinking and to explore new options.

Many have called for an economic reset. For a new paradigm that would diversify our economy, strengthen our communities, enhance resilience, and develop high-value jobs that minimise negative resource impacts. To one that would also protect and regenerate our outstanding environment.

In this report, we offer such a vision, a systemic paradigm change that would have profound effects.

Detailed evaluations, research and analysis inform these ideas. That information is presented in two companion reports, available separately.

Goals for prosperity

Economic diversity

Covid-19 collapsed the Queenstown Lakes' economy, highlighting its overdependence on tourism, one of the country's lowest-paid industry sectors. Decades of calls to raise the productivity of tourism or diversify the local economy have had little effect.

Environmental regeneration

Outstanding natural environment is our district's fundamental resource. But ever spreading urban development and the noise and emissions of jet-aircraft have been eroding and diminishing this essential value.

Community wellbeing

Low wages, long working hours, high living costs, financial stress, and revolving workforce, together with the growing pressures of over-tourism, all undermine community wellbeing for most who work and live here.

Obstacles to economic diversity

Tourism enterprise has thrived in this district. The outstanding environment and wide range of pursuits, coupled with excellent air and road connectivity, are enough to draw visitors from throughout the world.

But these attributes are not enough to attract other business sectors.

Technology, medicine, finance, education and other knowledge-based enterprises thrive on concentration. They need strong networks of interconnected expertise and capacity enabled by a substantial, central business district, campus, or technology park that brings many businesses and people together in tight clusters.

Queenstown Lakes has no such substantial urban centre and no plans to create one. The absence of this crucial resource severely limits the district's ability to diversify its economy.

Challenges for the environment

High-volume tourism degrades the environment and diminishes this resource on which everything relies.

- Jet-aircraft noise in the Wakatipu Basin increasingly harms the experience of visitors and residents alike.
- Queenstown Airport on Frankton Flats forces the sprawl of new development throughout the Basin, eroding the outstanding natural landscape.
- Spread development creates a thin web of infrastructure that is inefficient and costly.
- Spread development also increases dependence on private vehicles and reduces the viability of public and active transport, adding to transport congestion and emissions.
- Growing our tourism economy adds to global transport emissions.

Threats to community wellbeing

Livelihoods and community cohesion have been deteriorating for those living and working in the district.

- Most workers are on or near the minimum wage while their accommodation costs are double those of other regions.
- Living conditions are increasingly crowded.
- High staff turnover results from incomes that are too low for workers to settle in the district.
- Communities have become overwhelmed by over-tourism.
- There is no urban centre able to accommodate the significant population growth likely over the next century, leading to disconnected urban sprawl.

A reset is crucial

The imperative for a vision reset

We present here an opportunity for Queenstown Lakes to resolve two fundamental issues.

1. An economy almost totally reliant on tourism

The low-income tourism industry does not provide sufficient financial return to support the community's economic wellbeing and it has high externalised costs on both the environment and local community. Its exponential growth and reliance on high-emissions air travel are unsustainable.

There is increasing segregation between those who derive their incomes and wealth from outside the district and those who work within it.

The district urgently needs a plan to develop a diversified and higher value economy.

2. Population growth

The district's population will continue to grow from domestic and international migration as we have no capacity to stop people from choosing to live here. In time, the population of the Wakatipu Basin will exceed that of Dunedin.

Such growth needs a plan for a city of 75,000 or more within 50 years. This will require extensive commercial, cultural, governmental, education and health facilities.

There are numerous reasons, including those of sustainability, why these facilities should be concentrated in one central area, forming the heart of a city.

Without this, the many city-sized resources needed would be fragmented and dispersed, built amongst residential developments and strung along arterial transport routes within the basin. This would create substantial, permanent inefficiencies and costs, plus enduring adverse environmental impacts.



Frankton Flats



A unique location

The Wakatipu Basin has only one viable option for a city centre – Frankton Flats.

Frankton Flats provides a unique opportunity for an alpine city. There is nowhere else in the district that has this capacity. Let alone a location so ready that its transformational value could be realised within a few short years.

- It is perfectly located in the centre of outstanding landscape.
- It is the central hub of Wakatipu's existing transport and infrastructure networks.
- A ring-road is already in place to protect active and public transport within the city campus while providing multiple access points.
- A wide range of public and commercial facilities are also already in place, providing a full scope of retail, educational, medical, sporting, recreational and commercial capacity.
- Its centre offers a wide-open space without old redundant buildings and so presents a unique opportunity to design a residential city campus specifically to attract high-tech, high value, knowledge-based enterprise.

Frankton Flats could easily and quickly transform into an outstanding urban centre for knowledge-based enterprise, but only if the airport were relocated.

A Smart City

Smart cities integrate technology across all systems to improve service and increase efficiencies.

Combining this with a focus on sustainability and environmental best practice urban design would create a magnet for knowledge-based enterprise from throughout the world.

One chance

Choose more than tourism

“If you build it, he will come” said Ray Kinsella in the film *Field of Dreams*. If we just build roads, airports, and hotels, we can expect more tourists.

If instead, we switched some investment to the design and development of a city campus expressly for knowledge-based enterprise, then these businesses would come. Particularly, if the district had adopted this vision, developed the plan, and undertook careful, focused marketing to this sector.

A beautiful alpine city campus on Frankton Flats provides the key to both economic diversification and the accommodation of growing population. It would promote a thriving community, future prosperity and reduce negative environmental impacts.

Swift results

This need not take long. Just as Queenstown developers will sell “off the plans,” we could reach out to new enterprise immediately.

It may take several years to develop a new city masterplan for Frankton, and possibly a decade for Christchurch International Airport Ltd (CIAL) to establish a new airport near Tarras, but the plan and commitment to develop a city campus on Frankton Flats would be enough to attract early movers to get their foot in the door and relocate to this region.

Where Destination Queenstown commits some \$4 million each year to marketing tourism, a similar organisation could actively market our new Alpine City Campus to knowledge-based enterprise throughout the world.

The Covid-19 experience would help to galvanise political will on both local, regional and national levels. The time to act is now.



An aerial photograph of a coastal neighborhood. The top of the image shows a dark blue ocean with a small white boat. Below the ocean is a sandy beach and a line of green trees. The rest of the image shows a residential area with various houses, some with swimming pools, and a road with cars. The text is overlaid on the top half of the image.

This would create

Systemic change

that would:

- be pervasive and persistent,
- affect everything,
- create new frameworks, and
- be transformational.

An aerial photograph of the Frankton Flats area. In the background, there are large, rugged mountains. In the foreground, a long, straight runway or road cuts through a green field. To the left, there's a body of water and some buildings. To the right, there's a curved road and more buildings. The overall scene is a mix of natural and developed land.

Choosing to use

Frankton Flats

for a Smart City and knowledge economy
instead of for an airport would ...

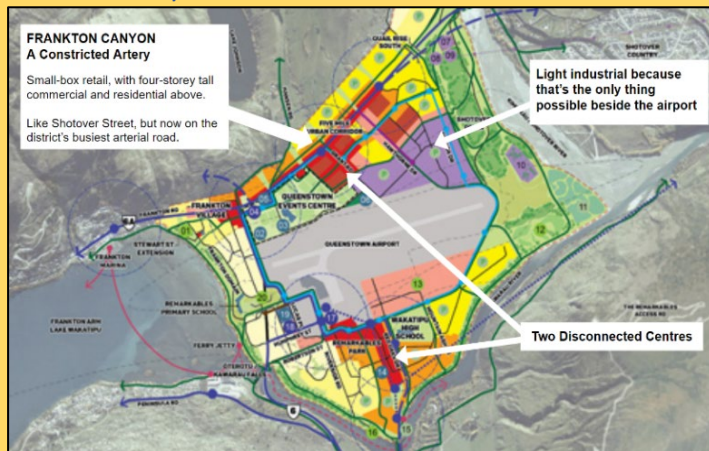
Change a fragmented industrial zone into a knowledge campus.

QAC air noise boundaries



The Air Noise Boundaries (ANB) shown above severely restrict the location and type of development permitted on Frankton Flats.

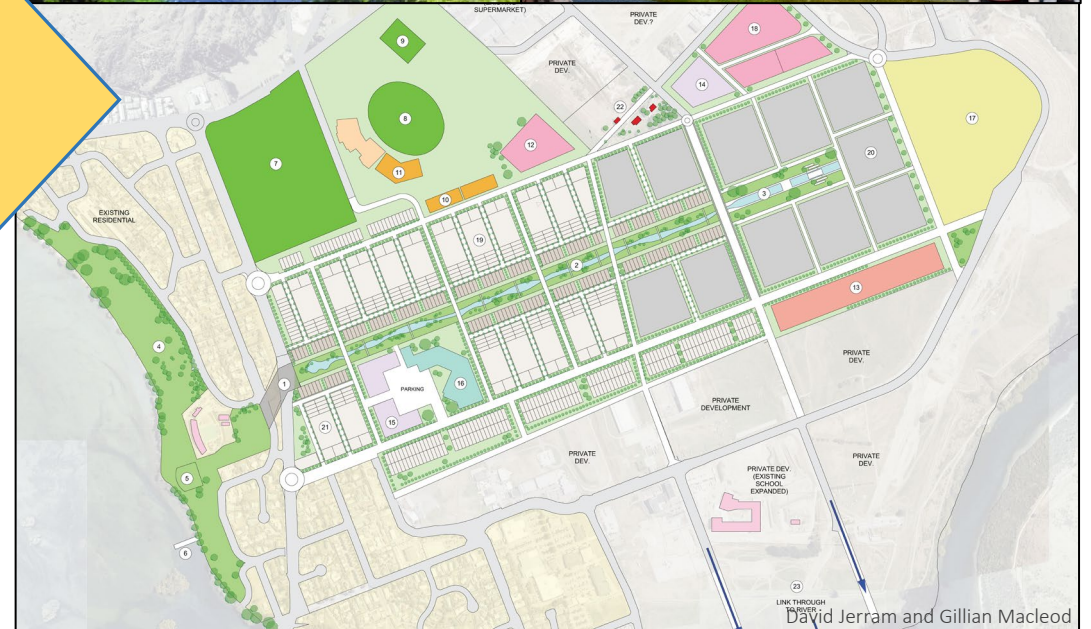
QLDC 30-year Frankton Master Plan



The ANB would:

- Concentrate small-box, high-density, four-storey retail, commercial and residential onto State Highway 6 at Five Mile,
- Clog up the district's busiest Arterial Transport route at Five Mile.
- Permanently disconnect the two commercial centres, and
- Have jet-aircraft noise making it undesirable for residential use and all other activities sensitive to jet-aircraft noise.

Alternative proposal for Frankton Flats



Frankton Flats offers tremendous opportunity for a High-density Smart City focused on sustainable, regenerative design with quality public space.

This would have:

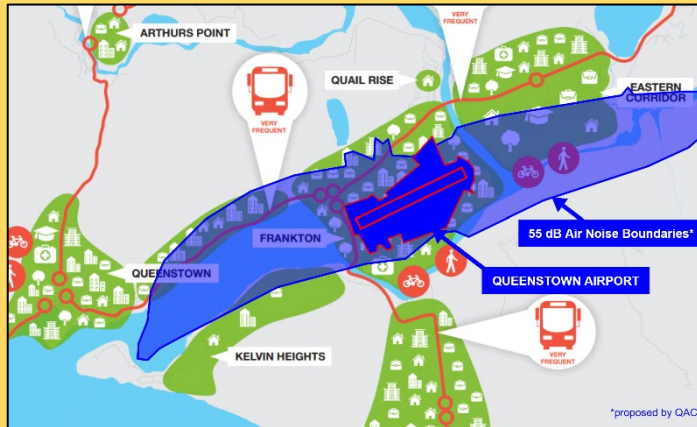
All the commercial, retail, educational, sporting, theatrical, recreational, medical and public facilities needed to be a fully integrated and wonderful city in which to live.

Active and public transport to meet all internal transport needs.

The only opportunity within this district to create a comprehensive CBD campus required to attract high-value, knowledge-based enterprise.

Change fragmented sprawl into an efficient concentrated network.

QLDC Spatial Planning



The Spatial Plan map above shows the adverse impacts of the airport on urban development. These impacts shown here in blue were excluded from the maps and discussion at public workshops.

Spread, disconnected developments



32 Fragmented residential developments are spread throughout the Wakatipu. Retaining the airport in Frankton would cause more disconnected sprawl, causing congested roads and an inefficient thin web of sewerage, water supply and other infrastructure. Expensive for ratepayers and unsustainable for the environment.

The airport in Frankton forces the sprawl of disconnected developments.



An integrated CBD campus at Frankton Flats would centralise development and create an efficient hub for public and active transport.

An alpine city campus in Frankton would centralise development with less costly and more efficient networks for transport and other infrastructure.

Enable economic diversity

Queenstown Lakes has a unique opportunity to develop a fully integrated, environmentally beautiful and resource efficient alpine city campus that would be the envy of the world. It would:

- Concentrate high capacity, interconnected enterprises within a walkable city campus.
- Create a concentrated, multi-disciplinary urban campus that would be a magnet for high-value, knowledge-based enterprises.
- Reduce economic dependence on tourism and air travel.

It would do this by:

- Leveraging the district's outstanding natural environment with the alignment of all design and development with environmental best practice.
- Designing and building a fully integrated, liveable city in the heart of the Wakatipu on Frankton Flats.

Regenerate the environment

A Smart City on Frankton Flats would enable the most efficient use of all the district's resources while having the least harmful impacts on the environment. It would:

- Restrict the spread of inefficient development sprawl across the outstanding natural landscape.
- Minimise the resource and energy cost per dwelling.
- Centralise infrastructure, avoiding an ever-spreading, inefficient thin web.
- Enable public and active transport to be used by most of the population.
- Attract high-value enterprises that require minimal resource use.
- Remove intrusive jet-aircraft noise from the district's population centres.
- Make best-practice sustainability and environmentally focused development central to the district's enterprise value.

Enhance community wellbeing

An integrated, cohesive community on Frankton Flats would enhance community wellbeing. It would:

- Provide a fully walkable and liveable community with full access to a comprehensive range of community and commercial facilities.
- Create a centre able to accommodate the large population growth likely over the next century, avoiding the human costs of disconnected urban sprawl.
- Provide a far wider range of accommodation within the district.
- Better enable lower construction costs through higher density development.
- Reduce the pressure of over-tourism by diversifying the economy.
- Enable increased economic productivity and incomes by attracting high-value, high-wage enterprise.
- Reduce reliance on private vehicles, with their associated financial and congestion costs.

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Research shows that knowledge economy activities require the geographic concentration of their talented workforce, despite improvements in digital communication. This is because the development of ideas thrives on face-to-face interactions and close personal networks.

This city-campus design should leverage the district’s environment and values. It should exemplify sustainable and environmental best practice. It should be a joy to live in, with engaging communal space, public art, and all at the human scale that enables active transport to be the default option.

Sir Paul Callaghan's advice for growing New Zealand's prosperity was to attract low-impact, high-value, knowledge-based enterprise by creating:

Frankton Flats provides us with this unique opportunity.



Alpine City Campus

A vision of opportunity

Architect and urban designers David Jerram and Gillian Macleod have published an initial plan for Frankton Flats that could achieve the vision of a knowledge economy in an alpine city.

We share their plan over the following pages. This is indicative only but gives some insight into the opportunity that could be realised. A comprehensive public design process would be part of any future plan.

Real life examples such as Auckland's Wynyard Quarter, Copenhagen's rise to become the world's most liveable city and Freiburg's journey to become the world's best example of sustainable urban living, all show the value that can be gained from a cohesive planning strategy being implemented by the city or local government.

Each of these demonstrate enormous gains in their communities' social, cultural, environmental and economic wellbeing.



Alpine City Campus

Key design moves

Jerram and Macleod suggest that the current zoning surrounding Frankton Flats remains in place to ensure existing property rights are protected. In their proposal, Five-Mile and Remarkables Park are connected into a continuous commercial and business district and high-density residential enlivens the city centre.

Helicopters and other vertical take-off and landing aircraft access a district transport hub at the eastern end, where the river systems provide natural flying corridors.

A linear park with water features provides a central connector through the community, linking it visually and physically to the lake. A broad pedestrian overpass extends this over State Highway 6, giving free flow connectivity to the lakeside reserve.

The airport buildings are re-purposed for community and council facilities, business, or convention centre.



Alpine City Campus

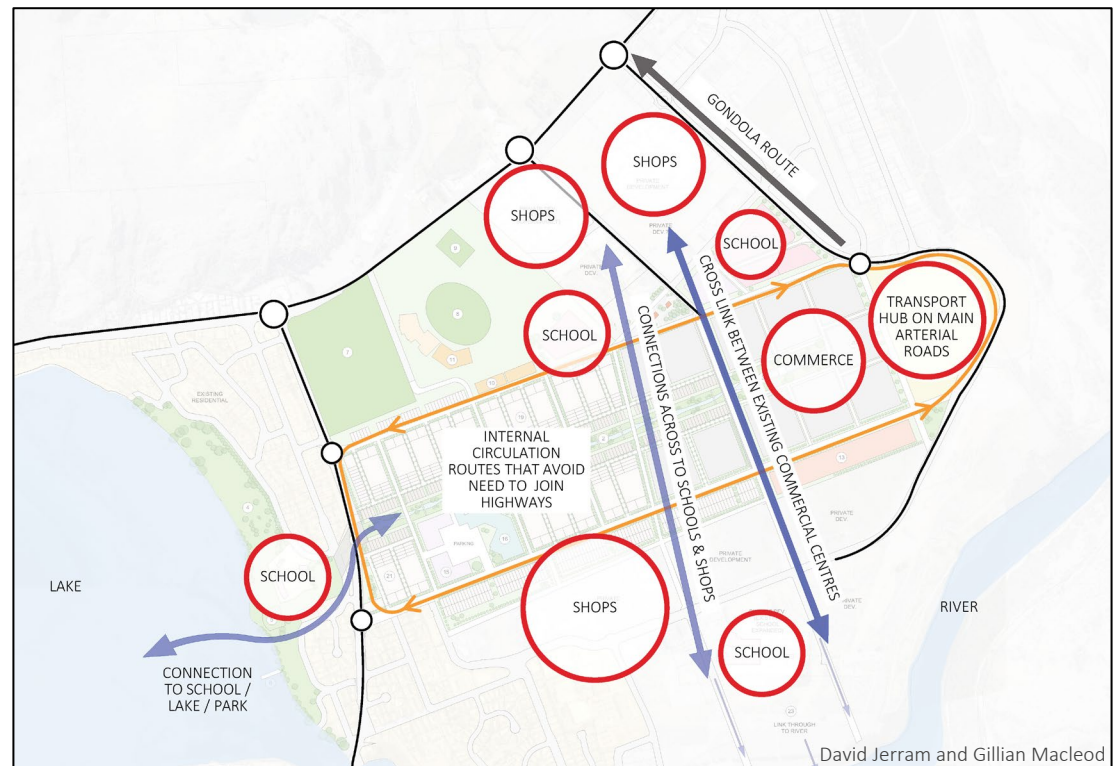
Transport routes and connections

The existing main roads surrounding the area continue to work as currently developed, routing traffic around the township while allowing access at multiple points.

An inner circulation route provides opportunity for effective and constant public transport.

Internal roads and alleyways provide low impact transport options, while retaining supply access to all areas.

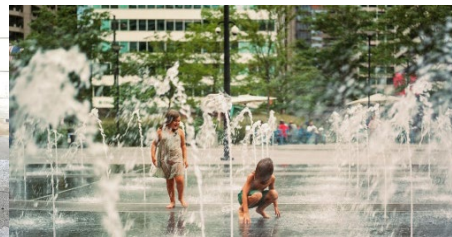
People are prioritised over vehicles, with limited roadside parking. All key community assets including schools, shops, sporting facilities, recreational areas, community centres and major transport links are easily accessed, with minimal need for private vehicle use.



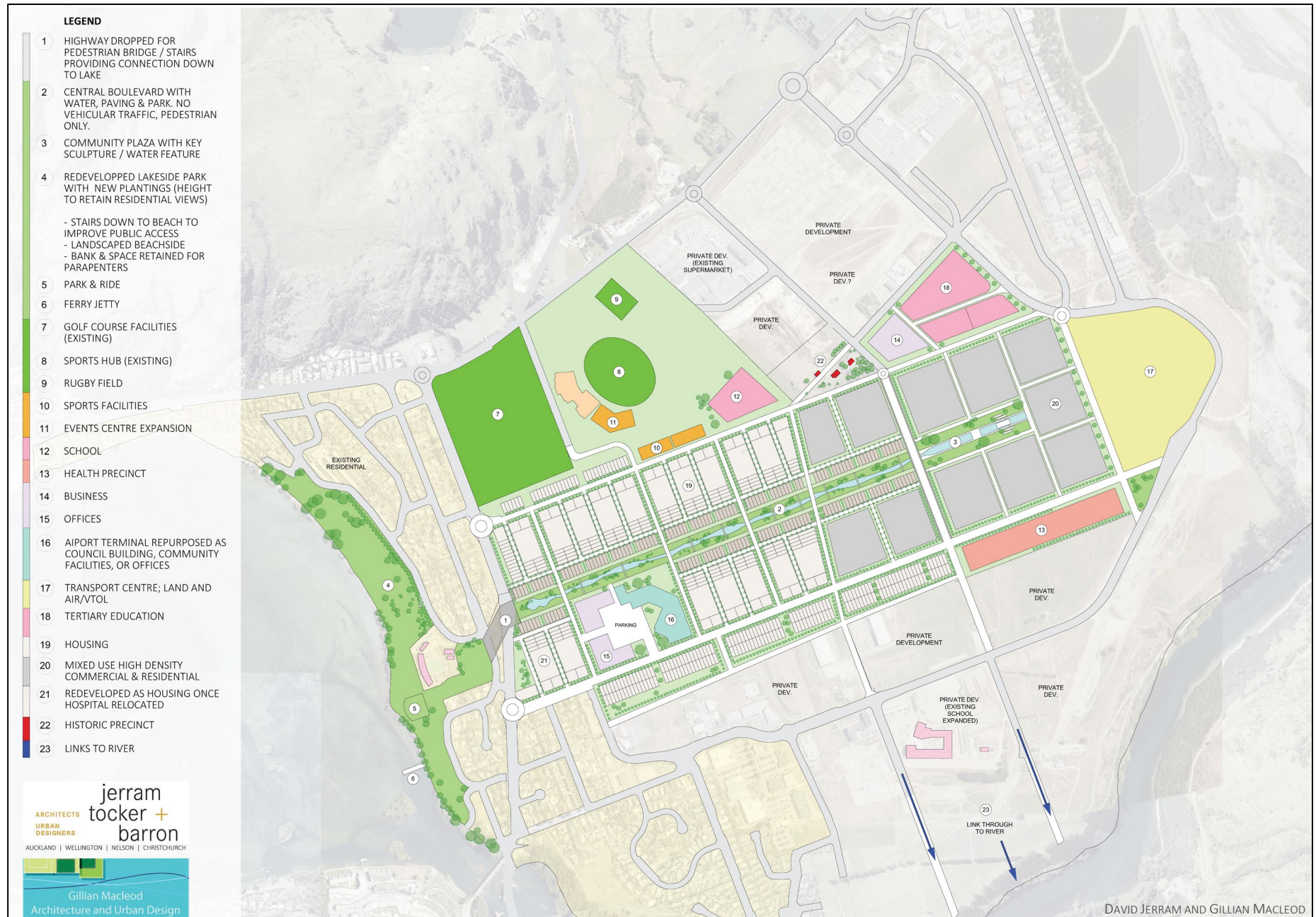
Alpine City Campus

Reserves and green spaces

Good access to high quality reserves and green spaces provides a healthy and replenishing environment.



Frankton Master Plan



What about the airport?

Airport obstructs Queenstown's best growth options

In its current location, Queenstown Airport does NOT support the best potential for Queenstown or the district.

The airport:

- Prevents the development of a successful, thriving central business campus that would support a diversified economy.
- Undermines the environmental sustainability of the district's future communities and infrastructure.
- Entrenches a tourist reliant economy, urban sprawl, and noise impacts.

Queenstown's diversified, prosperous and sustainable development requires the airport land for a city centre. Left in place, the airport would diminish the potential future wellbeing and prosperity of the district's people and communities.

Christchurch International Airport Ltd's (CIAL) Tarras airport presents an enormous opportunity for Queenstown, our district and the region. It could allow Queenstown Lakes District Council to close Queenstown Airport without the need to pay for a new one.

The MartinJenkins social and economic impact assessment found in favour of a new airport location even without having considered the enormous and compelling benefits from the development of an alpine city campus on Frankton Flats.

Our best option?

Scary idea?

The idea of closing Queenstown Airport is scary for a lot of people. Frequent flyers strongly resist their potential loss of convenience. Many in business have expressed concern that an extra 50-minute drive would cause the collapse of the Queenstown tourist economy. Those rightly concerned about the environment are deeply sceptical. The idea seems to elicit a visceral reaction in many.

FlightPlan2050 have spent over 3000 hours investigating the potential relocation of Queenstown Airport and urban development of Frankton Flats. The research has been invigorating for the extraordinary potential and positive outcomes found in almost every sphere. Positive for economic prosperity, for social wellbeing and for the environment, including the reduction of carbon emissions per person.

That CIAL plans to build an international airport at Tarras makes the case even more compelling.

Financial benefit?

More than \$1.2 billion potential land value at Frankton could be returned to QAC's owners, providing a massive \$900 million directly to Council to enable unprecedented investment in the infrastructure and community amenities our district needs.

Or, it could be held in a council-owned land bank assuring Council control over the total development, while providing regular cash injections through the sale of smaller development parcels. Or Council could sell just the development rights, retaining long-term ownership over the land lease.

When rezoned to high-density the airport land would produce \$16 million annually in rates revenues. This would double and treble as the land was developed. It is more than the \$5 million annual dividends QAC paid to Council, lost now to Covid-19.

Auckland International Airport would get over \$300 million for its \$27.7 million investment in 2010.

Q&A

Too far away?

Chamonix (France) and Whistler (Canada) are respectively 1:30 hrs and 2:30 hrs from their feeder airports, while Yuzawa, the nearest ski field to Tokyo, is 3:00 hrs from Narita Airport. The Gold Coast is 1:30 hrs drive south from Brisbane Airport while Noosa is over 2:00 hrs' drive to the North. Even on the small island of Phuket, the main tourist centre is an hour's drive from Phuket Airport.

This is typical of many international resorts with the inevitable conclusion there is no evidence to support the view that relocation of the airport to an hour's drive from Queenstown or Wānaka would collapse or diminish the tourism economy.

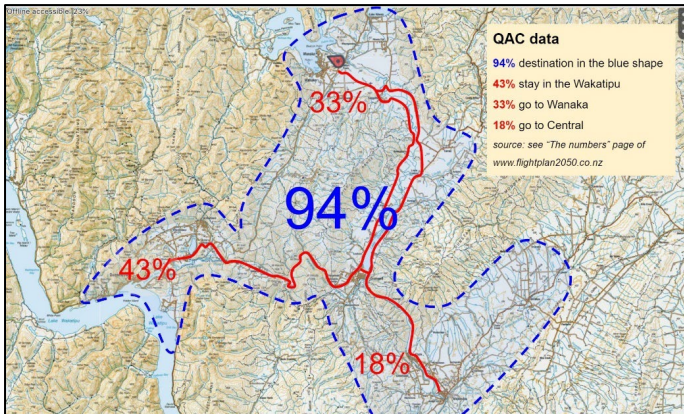
Kawarau Gorge?

The passenger destination data published by QAC during its 2018 public consultation on air noise boundaries suggests a Tarras airport would result in little net change. According to that data, fewer than half the people using Queenstown Airport stay in the Wakatipu Basin, with most travelling to the Wānaka and Central Otago districts. Additionally, a Tarras airport location makes an electric airport-express bus service to Queenstown and Wānaka much more viable than the current situation, where travellers' destinations are more dispersed.

Manage growth?

Diversification of our economy offers the best way to manage tourism growth by changing focus from increased tourist numbers to the development of a centre where talent wants to live.

The proposed runway length of 2.2 km is a requirement needed to deploy the autopilot technologies allowing aircraft to land unassisted in fog, a necessary feature for a Tarras airport. It is also a necessary length for the new breeds of fuel-efficient aircraft. It potentially enables wide-body jets, depending on runway strength, but these make less noise and offer a lower carbon footprint for trans-Tasman flights.



Destination catchment for travellers using Queenstown Airport according to data published by QAC during public consultation over air noise boundaries



SH6 through Kawarau gorge. This is regularly upgraded by central government.

Q&A

Environment and emissions?

Densification of urban development on Frankton Flats is the surest way to reduce urban sprawl and emissions per person, enable public and active transport outcomes and offers the most efficient infrastructure networks for the Wakatipu Basin. QAC's destination data suggests little net change for airport related road traffic, while CIAL say 65% of its travellers drive through to Queenstown, with a Tarras location potentially eliminating four-hours' drive for many. Also, a Tarras location makes electric airport express buses more viable. Diversification from tourism to knowledge-based enterprise reduces reliance on long-distance air travel. The Tarras location reduces flight times, reduces in-air weather delays and diversions, increases aircraft load capacities, and enables new breeds of fuel-efficient aircraft – all reducing emissions.

General aviation?

Helicopter operations would continue from a transport hub on Frankton flats. Fixed-wing GA could be relocated to Kingston aerodrome or a new facility on Queenstown Hill, with investment funds available from the sale of Frankton land.

Earthquake resilience?

The Ladies Mile stretch of State Highway 6 could easily be designated by the Governor-General as a lifeline utility and adapted to double as an emergency runway. Both New Zealand's and Australia's Hercules aircraft, the C-130H and C-17, could operate from this with simple engineering solutions for the roundabouts and streetlights. A small setback on the northern side of this highway, as already exists to the south, is all that would be needed. Such designation and provision are commonplace throughout Europe, Asia, and Australia.

The Otago Regional Council's 2015 seismic hazard analysis found Frankton Flats to be some of the most stable ground in the district, clear from liquefaction, rockfall, and tsunami threats, allowing the most resilience for high-density urban construction.



Both the RNZAF C-130 Hercules and RAAF c-17 Globemaster iii could land on ladies mile

Q&A

Ancillary businesses?

All the ancillary businesses within the air-travel sector – from airlines and airport shops to vehicle rentals and supply logistics – would be worse off if the region has two airports instead of one. They would be forced to either operate from two sites or to lose market share. With two sites, companies would face higher capital, operational and employment costs. Two airports instead of one would structurally and permanently undermine the productivity and profitability – and therefore wages and salaries – of the whole air-transport sector of this region. More than one hundred businesses and the people they employ would be made worse off, and this disadvantage would be baked into the system forever.

Housing affordability?

A Tarras airport improves the region's housing affordability through five systemic forces. Many workers can relocate away from the most expensive accommodation centre in New Zealand to more affordable townships. This reduces housing demand in the Wakatipu. The densification of Frankton Flats would have construction economies and reduced infrastructure costs, enabling lower build costs per dwelling. Council development control over Frankton Flats could ensure provision of an appropriate range of accommodation options, rather than just the profit maximising niche typical of property developers.

Also, the urban concentration better enables district-wide public transport plus it creates a walkable city campus with all the commercial and community amenities needed for those living in it, all reducing reliance on private vehicle ownership and its associated costs.



Ancillary businesses would face additional costs and lower profits if forced to operate from two separate locations if the travelling market were unnecessarily split.

Q&A



View to Tarras from the south, showing Lake Dunstan.

- Cromwell is 25 km as the crow flies from the proposed Tarras airport, just 5 km closer than it is from Queenstown Airport.
- Pisa Moorings would be 15 km, as far as Gibbston Valley and Skippers are from Queenstown Airport.
- Queensbury is 8 km, as far as Fernhill and Millbrook are from Queenstown Airport.

Timeframe?

The Tarras airport combined with the densification of Frankton Flats is a natural candidate for the expedited Covid-response resource consent process, in terms of jobs and resetting national infrastructure spend for the greatest economic, environmental and community long-term benefits.

The benefits could start immediately. Just the plan would be enough to attract new knowledge-based business, to stop development sprawl and to consolidate transport and other infrastructure.

Time for new ideas?

This discussion paper has outlined a vision to grow the prosperity and wellbeing of Queenstown Lakes and Central Otago communities through the creation of a city campus on Frankton Flats.

Three international airports within an hour of each other makes no sense. Nor would continuing with an airport severely constrained by mountains, community opposition and thousands of neighbours when the land could be put to much better use.

Instead of doubling down on last century's "business-as-usual," this is a time to be open-minded and look for what is best for the region and our country. Our community needs people to seriously engage with these ideas. To be curious and to ask questions. To look beyond self and business interest and consider instead the whole community and region. We ask you to make the effort to explore.

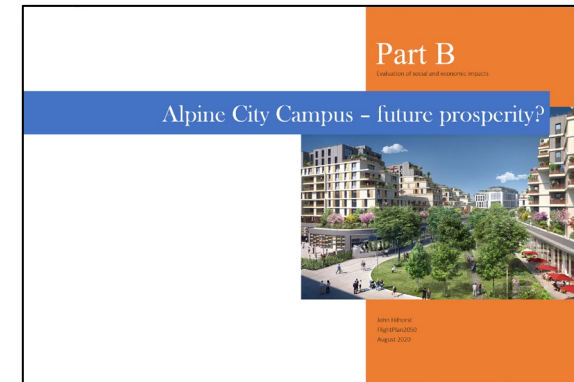
The detail

Thank you for taking the time to read this. If you like what you have seen, please share with others, join the conversation and learn more by reading the two companion reports.

These reports and further information can be accessed from the website www.flightplan2050.co.nz.

Part B: Alpine City Campus – future prosperity?

This report presents a broad ranging evaluation of the social and economic impacts of the development of an Alpine City on Frankton Flats together with the relocation of Queenstown Airport to the Cromwell-Tarras Valley. Estimated delivery date is August 2020.



Part C: Alpine City Campus – facts and figures

This report records the detailed analysis, research and evidence that inform the evaluation presented in PART B. Estimated delivery date is October 2020.

