

Why Central Otago's limited airport capacity will impact land transport

Land Transport: Part 3 – A preliminary overview of the projected future network

August 2023

This Information Paper should be read in conjunction with the information papers "Introduction to Central Otago Airport land transport infrastructure" and "How would a new airport integrate with Central Otago's land transport infrastructure?" provides a high level overview of the themes that emerge from preliminary work to understand Central Otago's existing and future land transport infrastructure.*

Not accommodating future air traffic demand will cause long term problems on the regions roads

Queenstown Airport has served the region's air travel needs well for decades, however in its 2022 10-year Strategic Plan, QAC acknowledged that Queenstown Airport is rapidly approaching its current operational constraint of around 2.5 million passenger movements per annum.

QAC has signalled \$300 million of capital works are required to enable it to grow the number of passenger movements it can accommodate to 3.2 million per annum¹.

In the long-term, demand to use the airport is likely to

exceed its capacity even after this investment.

Not accommodating this increased demand for air travel is problematic.

In a 2020 report, MartinJenkins stated that only a third of visitors to Queenstown Lakes District arrive via Queenstown Airport.

The forecast demand won't disappear, instead passengers will be forced to fly to other airports (specifically Dunedin, Invercargill and Christchurch) and then drive to their destination.

The spillover from the status quo could result in an extra 500,000 km being travelled every day on South Island roads

Forcing demand not met by Queenstown Airport to be serviced by existing airports (Christchurch, Invercargill and Dunedin) is likely to increase traffic volumes on the land transport network.

Early modelling shows these 'spillover airline passengers' would travel long distances by road from those airports to reach their destinations in Central Otago.

This will result in inefficient travel patterns and increased emissions, particularly when passengers have to fly beyond their destination and drive back to it. For example, a passenger from Auckland who is unable to get a seat to Queenstown Airport flying to Invercargill

and then driving back to Wānaka.

Prices for seats into Queenstown are likely to increase due to demand outstripping supply.

This is likely to impact local residents more than international travellers, as those from overseas generally book in advance and/or pay higher prices. In which case the alternative example might be a Wānaka resident being forced to drive to Invercargill or Dunedin to catch a flight to Auckland.

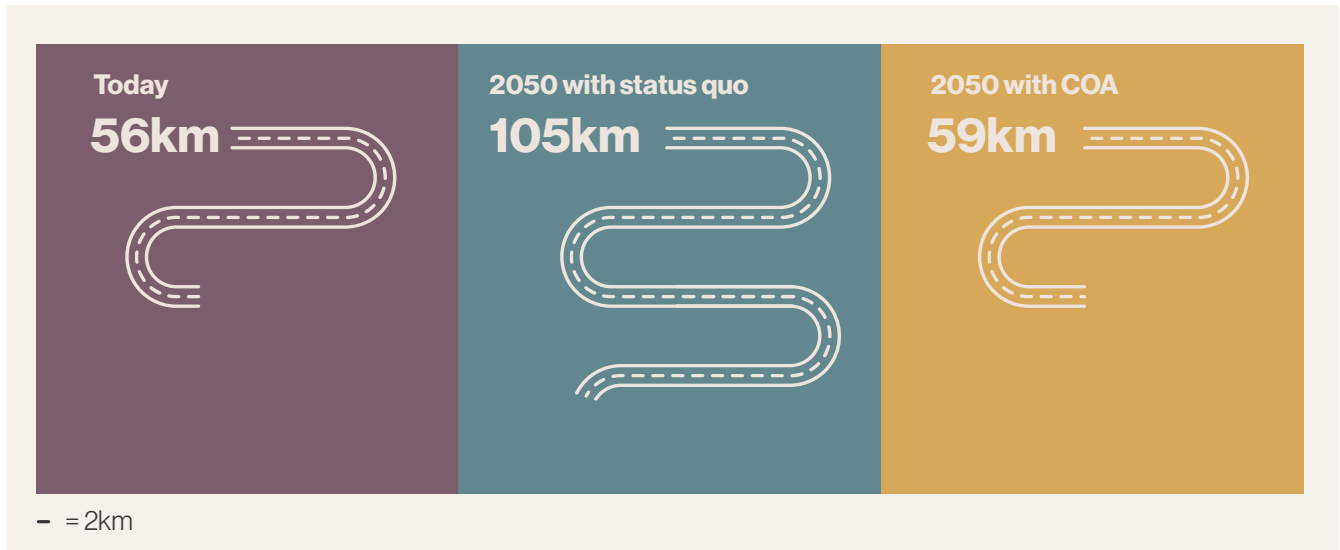
Figure 1 shows that (using the assumptions in Figure 4) by 2050, the status quo scenario will greatly increase the average road distance passengers have to travel to connect to an airport.

*This project defines the Central Otago region as the area encompassed by the territories overseen by Queenstown Lakes District Council and the Central Otago District Council.

¹ www.queenstownairport.co.nz/media/1.%20Hero/qac-10-year-strategic-plan-fy23-32-digital-version.pdf

² crux.org.nz/assets/Uploads/QAC-submission-Air-NZ2.pdf

Figure 1: Average km Central Otago passenger travels to airport



This project can resolve the air capacity constraint and have limited impact on traffic volumes

Preliminary analysis shows traffic volumes will increase in Central Otago regardless of whether a new regional airport is built.

Overall, the total volumes will remain much lower in the Central Otago District Council area than in the Wakatipu Basin.

A new regional airport located at Tarras would have minimal impact on traffic volumes in the Wakatipu Basin – the area under the greatest pressure at present.

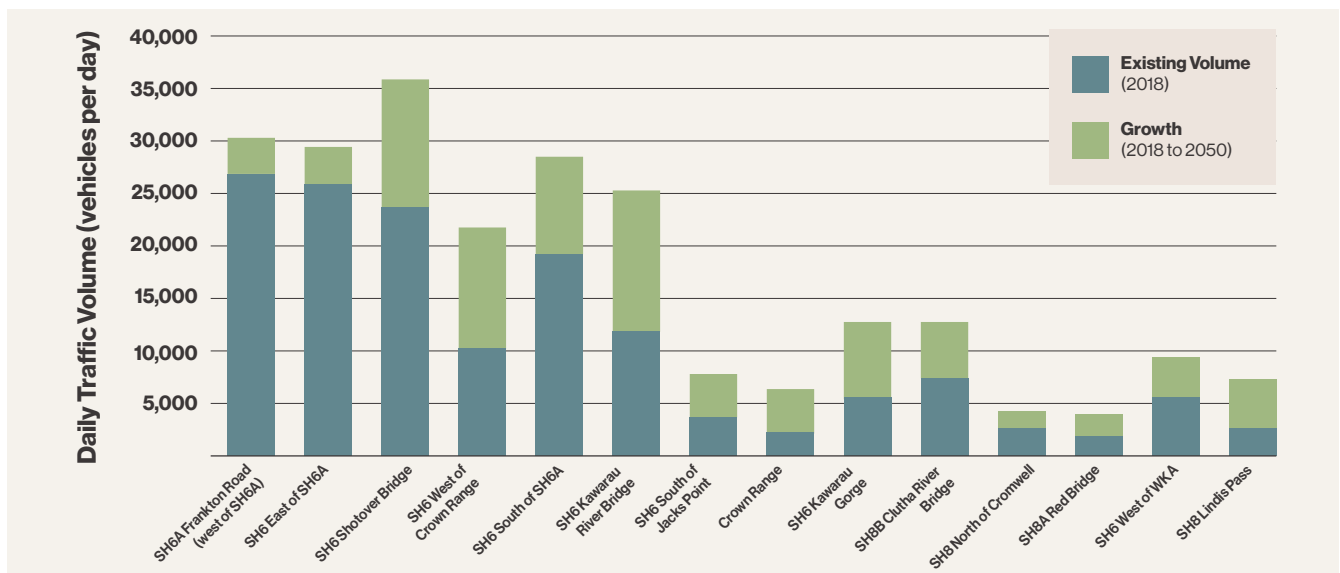
Traffic volumes are forecast to grow in the Wakatipu Basin and investment will be required in the area’s land infrastructure network regardless of whether a new airport is built.

This preliminary analysis has not yet looked at the connections between the proposed airport site and the local Tarras area immediately around it.

However, overall it shows the new airport’s impact would be proportionally greater on highways closer to its site. Because this would add to a low base, traffic volumes would still remain comparatively low.

For example, State Highway 8 north of Cromwell would increase to around 8,000 vehicle movements per day – that is about the same as existing traffic on State Highway 1 near Gore and Balclutha currently.

Figure 2: 2050 traffic volumes – current and in 2050



A new airport could alleviate pressure on the South Island's land transport network

Preliminary analysis shows that, regardless of whether a new airport is built, there will be a need to plan upgrades to some of Central Otago's land transport infrastructure.

In particular careful consideration needs to be given to:

- SH6 and 6A out of Queenstown which are already facing congestion and capacity issues.
- The Kawarau Gorge which is subject to increasing safety risk and commuting peaks. Traffic is forecast to more than double on this road by 2050, with the proposed new airport likely to have a comparatively minor increase.
- The Crown Range, which is New Zealand's highest alpine pass and has a high safety risk. A new regional airport located at Tarras is not predicted to increase traffic on this road.

Consideration would have to be given to the two single lane bridges that cross the Clutha River – these may need upgrading due to the increase in traffic. However, the increase in airline passengers and international visitors using them could strengthen the case for investment.

This analysis also shows there will be negative consequences on the South Island's state highway network in the long-term if airport capacity is not grown in the region.

By 2050, this could result in airline passengers travelling an extra 500,000 kilometres by road every day to connect to airports.

This will have negative impacts on carbon emissions, road safety and a wide range of communities.

A new airport could act as a catalyst for regional public transport

A key objective of local authorities in the Central Otago region is the creation of a sustainable public transport network.

This sub-regional public transport network could link Queenstown, Frankton, Wānaka, Cromwell and Hawea.

Having a new regional airport situated at Tarras would create consistent demand throughout the day and help strengthen the case for a sub-regional public transport network.

Its location would also support a high proportion of passengers taking public transport to the new airport.

A word on assumptions

The modelling undertaken by the experts includes a range of assumptions that have had to be made to provide a broad understanding of how the airport could

influence the land transport network over time in a range of different scenarios. In particular they focussed on two scenarios described in Figure 3.

Figure 3: Two scenarios proposed to address ZQN constraint

Scenario	Demand met by	Assumption	Assumed visitor movements in 2050
The status quo + spillover	ZQN + existing airports	ZQN grows its capacity to 3.2 million with demand above that spilling to existing airports (CHC, IVC, DUD) and the state highway network.	3.2 million – ZQN 2.5 million – IVC, DUD and CHC with passengers then driving to/from their destination in Central Otago
New airport	ZQN + COA	ZQN reaches 3.2m and unmet demand spills to a new COA.	3.2 million – ZQN 3.7 million – COA

ZQN = Queenstown Airport

IVC = Invercargill Airport

DUD = Dunedin Airport

COA = a new Central Otago Airport

A series of traffic models were created using similar methodology and inputs used by roading and territorial authorities in Central Otago.

Although these are informed assumptions, they were solely for the purpose of testing those scenarios and should not be viewed as forecast of passenger

movements. This modelling includes the assumption that annual demand for airline seats into and out of the Central Otago region could reach 6.8 million by 2050.

Those assumptions and their outputs will be revalidated as the project progresses and more accurate information becomes available.

The information provided in this Information Paper is of a preliminary and general nature and for informational purposes only. Information may change as further more detailed investigations are undertaken.