

5 March 2026

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Ridgeburn Limited
C\ - Cameron Hodgson
Gibbons Co

Dear Mr Hodgson

Ridgeburn Development 122 Morven Ferry Road Traffic Review

As requested, I have reviewed the Transportation Assessment and further information prepared by Mr Andy Carr of Carriageway Consulting in respect of the proposed Ridgeburn development at 122 Morven Ferry Road, Queenstown. I understand that the development will be assessed under the Fast Track Approvals Act 2024. I confirm that I have prepared my review in accordance with the Code of Conduct for Expert Witnesses contained in the Environment Court Practice Note 2023 and I will abide by the requirements of that Code of Conduct.

1. QUALIFICATIONS AND EXPERIENCE

I am a traffic engineer and transportation planner with 38 years of experience working in Auckland and London. I hold degrees in Engineering (BE(Civil) from the University of Auckland and Economics (BAppEcon) from Massey University. My work is focused on assessing traffic and transportation effects of developments and designing traffic mitigation measures. I gave advice to the Queenstown District Council Hearings Panel in respect of the Ladies Mile Development in December 2023. I confirm that the advice I give in this review is within my area of expertise.

I have visited and inspected the area including the intersections on SH6 although I have not walked across the site itself. My advice relates to potential effects on the arterial road network rather than the layout of the development within the site itself.

2. THE DEVELOPMENT

The proposed development would see:

- 1210 residential properties

- 8250sqm of retail or commercial activities
- 8950sqm of visitor accommodation.

A Masterplan has been prepared.

3. THE STRATEGIC TRANSPORT BENEFITS

In terms of transport, establishing the Ridgeburn Masterplan has the advantage of being able to integrate transport and land use. The Ridgeburn site can be serviced by a new bus connection either starting at Ridgeburn or starting in Arrowtown and passing through Ridgeburn, and all of the necessary physical infrastructure will be provided. That would have additional benefits to other commuters as well because there could be a park and ride provided.

Establishing a new centre at Ridgeburn is likely to have positive impacts on trip distribution. Distribution is the relationship between trip origins and trip destinations, and I would expect some of the trips that would otherwise use SH6 to and from Queenstown could become shorter trips with Ridgeburn as an origin or destination. For example, some people who travel from Queenstown to Arrowtown or vice versa could live or work at Ridgeburn. Similarly, the establishment of a supermarket and other commercial activities means that people will be able to make shorter trips and not have to travel to Frankton or Queenstown. These changes in trip distribution as a result of new development can occur through existing residents relocating their home or changing their employment location. But it can also occur when people who are new to the area can choose to live or work at Ridgeburn rather than the existing housing and employment centres having to expand even more.

4. THE TRANSPORT ASSESSMENT BY MR CARR

Mr Carr has set out a very detailed description of the existing transport network and current travel demand. His assessment has shown that there are two existing transport issues in the area. First is that while the right turn out of Arrowtown Lake Hayes Road onto SH6 is operating poorly during the evening peak hour, it can be expected to get considerably worse in the future as traffic growth occurs. Mr Carr's modelling suggests that by the year 2035 the queue may increase from 29 cars to around 88 cars (that is if nothing else changes and expected levels of growth occur without any underlying change to transport demands).

Secondly, while the transport assessment does not specifically model traffic on SH6 approaching the Shotover Bridge, we know from follow up work that there is already some delay during the morning peak to traffic that is heading for Queenstown. The actual bottleneck is just west of the Stalker Road roundabout where two westbound lanes merge into one lane. That one lane then continues across the Shotover Bridge. I understand from meetings with NZTA that there are no plans to widen the bridge to four lanes even with the proposed Ladies Mile Development occurring.

Mr Carr has then made a series of standard assumptions regarding trip generation, traffic distribution and mode share that have enabled him to model future traffic impacts. I have considered each of these assumptions and I consider that they are appropriate for design purposes although as I set out below it is likely that the road network will operate at a better level than is expected under these assumptions.

Mr Carr has then added his traffic forecasts to the models and has shown that provided the new roundabout at Morven Ferry Road is designed to include two approach lanes on Morven Ferry Road and SH6 (east) then the effects of the development will be mitigated.

He has suggested altering the existing intersection at Arrowtown Lake Hayes Road to a 'seagull' style intersection as a means to fix the existing issue for traffic turning right out of the side road in the evening peak hour. I understand that NZTA does not support the use of seagull intersections on higher speed rural roads and so I support the idea of reducing the speed limit to allow the intersection to be altered. In our discussions however NZTA have indicated they may not choose to reduce the speed limit. That is their prerogative, but I note that a lower speed limit at a rural 'Tee' intersection or seagull intersection will likely improve safety through both lowering the crash rate and reducing the severity of injuries should a crash occur.

I understand the proposal is that the developer will offer a sum so that the intersection can be upgraded and should NZTA choose not to build the seagull intersection then that money could be used for whatever option NZTA do decide to go with to address what is an existing issue.

In my view the Transport Assessment has set out correctly the current and future traffic and transport issues and puts forward a good series of options to ensure adverse traffic effects are mitigated.

5. TRAFFIC EFFECTS AT THE SHOTOVER BRIDGE

There are only two routes from the site into Queenstown, and the Shotover Bridge will likely be the route chosen by almost all drivers heading that way so NZTA have specifically asked that the assessment includes effects at the bridge. In keeping with NZTA's requirements, Mr Carr has used modelling data available for other developments to assess the level that the bridge will be over-capacity during the busiest hour. That ranges from being 4% over-capacity at present, to 45% in the future which would include Ridgeburn traffic and Ladies Mile traffic.

While that answers the questions asked by NZTA we need to be careful with such estimates. They are based on a notional capacity of 1700 vehicles per hour, yet when we measure capacity on roads like SH6 we get numbers closer to 2200 vehicles per hour per lane. Also, the overcapacity measure excludes the possibility that some people will choose not to travel or travel at a slightly different time to avoid any delays.

In my view it is relevant to note the decision made by the Fast Track Panel on the Homestead Bay development where similar issues arose with the Kawarau Bridge on SH6 at the Frankton Arm. There the Panel noted that the developer was already contributing to significant upgrades and it wasn't necessary or equitable to fund corridor-wide, public-led works on the State Highway network beyond the scale of its effect (at paragraph 230). I agree with that view. I would go further and say that the possibility of any delay at the bridge or its approach is simply due to there being one major route into Queenstown and there hasn't been any real planning to address these inevitable issues that will continue to occur with growth.

Further, if the housing was not provided, people will go elsewhere and have to travel further and for longer.

5.1 Trip Generation

The data used by Mr Carr follows best practice in my view. It can still be noted that experience shows us that when delay starts to occur due to traffic congestion some people making trips that are optional will either choose to make their trip at another time or they might even choose to forgo the trip and combine it with another. This occurs because we do not have road pricing in New Zealand so some trips are made by car that have low value and some discretionary trips can be deferred at very little cost. Of course, some people travelling in the busiest hour have no choice, and we can expect those people to travel regardless. None of these effects are accounted for when we use industry standard fixed trip rates that were really intended for unconstrained conditions.

5.2 Traffic Distribution

Trip distribution is the combination of origin and destination pairs. For an individual, that can appear fixed because you have a home and you have a workplace or school you need to attend regularly, but at a community level distribution can change in response to travel costs and traffic congestion. Should the Shotover Bridge ever actually operate at 45% over capacity I would expect that some people who work in Queenstown may choose to not live at Ridgeburn. Those homes might then be occupied by a higher proportion of people who work at Arrowtown or perhaps who work at home. This change in distribution as a result of capacity and travel cost is a very real effect but usually not accounted for in traffic assessments.

A risk is that if people can't find a home in the area at all, they might have to commute in from further afield, such as Cromwell. There are already a considerable number of people who do this (approximately 186 in the 2023 Census, up from 132 in the 2018 Census). If that is the case, then they will end up queueing at the Shotover Bridge regardless of whether Ridgeburn is built or not.

5.3 Off Model Effects

The combination of changes to travel time, changes to trip generation, and changes to trip distribution are the reason we very often predict higher levels of traffic congestion than ever actually result. Mr Carr has in my view presented a correct assessment using industry standard techniques, but in my view, we also need to consider these other 'off-model' effects which will tend to mitigate adverse effects.

6. SH6 / ARROWTOWN LAKE HAYES ROAD INTERSECTION

Mr Carr has proposed a seagull type intersection on SH6 at the Arrows town Lake Hayes Road intersection. This form of intersection allows traffic turning right out of the side road greater opportunity to turn because drivers only have to give way to traffic approaching from their right. They then merge with traffic approaching from the left. This means there is greater capacity for the traffic turning right out of the minor road. The intersection already experiences queueing in the evening peak which will get worse with or without the Ridgeburn development. The proposed seagull would address this issue. It also provides sufficient capacity to mitigate any effects additional traffic on SH6 created by Ridgeburn might cause.

There is research that suggests seagull intersections can be a safety problem on higher speed roads. My view is that we should not allow high speed limits at any busy priority-controlled intersection whether it is a seagull or not. Safe System principles mean in my view the speed limit at that intersection should be reduced, ideally to 60 km/h or 70 km/h if that proves impossible. I support Mr Carr's proposal at this intersection, and I consider a speed reduction essential regardless of whether or not Ridgeburn goes ahead.

7. CONCLUSIONS

Potential traffic and transportation effects of the proposed Ridgeburn development can be mitigated through the construction of a roundabout on SH6 and Morven Ferry Road and through an upgrade of the intersection at Arrows town Lake Hayes Road. NZTA could install a seagull type intersection at that location with a speed reduction to ensure safety. Alternatively, the developer is offering an equivalent contribution that could be used for some other upgrade. In my view this means any existing adverse traffic effects at this location are remedied and any potential effects of the Ridgeburn development are mitigated.

Regarding the issue of traffic flows on the Shotover Bridge, normally we would simply take the view that the traffic has been dealt with through giving safe and efficient access to the arterial road network. NZTA has a choice to either increase capacity across the Shotover River or accept that there will be some delays at limited times of the day, which will occur regardless of whether or not the Ridgeburn development goes ahead. In my view either of these choices will create acceptable outcomes. Some traffic congestion at peak times is normal in every successful city and every town that is growing to eventually become a city. If drivers do not like sitting in a queue, then they can either travel at a different time or choose to live and work in closer proximity.



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