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Dear Greg

Parkburn Transportation Matters: Response to Matters Raised by NZTA

Further to our letter assessing the transportation effects of the proposed development at Parkburn, this letter responds to the matters raised by the New Zealand Transport Agency in their email of 22 August 2025. For ease of reference we have firstly set out and/or summarised the relevant matter before then setting out a detailed response.

Trip Generation Rates

In our assessment we set out that in Plan Change 21 (which considered the use of the site for residential development), the trip rate used had been based on a typical residential area within Cromwell rather than a subdivision that was located out-of-town. Consequently we carried out a traffic survey of Pisa Moorings, which showed peak hour volumes of 229 and 244 vehicles (two-way) on Pisa Moorings Road. NZTA has sought more data around the traffic generation rate per household.

NZTA suggest that in order to confirm the trip rate, it is necessary to understand how many registered titles are within Pisa Moorings. The approach we used was to reference the Council's GIS system (which shows the location of each legal allotment) and count how many of these show that a house is present. This equated to around 450 separate houses. In the event that there are more houses present, then this would *reduce* the trip generation per household. Hence we have not considered that particular scenario any further.

We agree that at any given time, some houses will be unoccupied, but the survey was fortuitously carried out on the same day of the year that the census was carried out 2 years prior. This showed that 81% of houses in Pisa Moorings were occupied (which we took into account in our analysis).

NZTA suggests that the lower trip rate could be related to the number of retirees in Pisa Moorings. We have reviewed the census data for the population aged 65 years and over, and this is summarised below:

- Cromwell East (Statistical Area 2): 20.1%;
- Cromwell West (Statistical Area 2): 21.8%;
- Pisa Moorings: 15.6%

It can be seen that the census data does not support a view that Pisa Moorings has more retirees, but rather, there are more retirees within Cromwell.



NZTA also sets out that there is no explanation as to why the trip rate is much lower than “*typical*”. However in our letter we gave two reasons why it was not appropriate to assume that the traffic generation of a town centre area is the same as an out-of-town location:

- Drivers living more remotely will set off earlier on their journey due to longer travel distances. This means that the ‘peak hour’ of the development does not necessarily coincide with the peak hour on the adjacent network, and it is also likely that the traffic generation will be spread over a longer period; and
- Trips into town will be organised to visit several different destinations as part of the same trip (‘trip-chaining’). This then results in fewer trips being made per household.

With regard to the first matter, we have revisited the observations during our survey. In the morning peak period, the greatest traffic generation for vehicles leaving Pisa Moorings was 187 vehicles in a 60-minute period (as shown on Figure 4 of our previous letter). However in the whole of the survey period, the lowest traffic generation for vehicles leaving Pisa Moorings was 168 vehicles, just 10% lower than the peak hour). A similar scenario is seen in the evening peak period with the peak hour having 193 vehicles entering Pisa Moorings, but between 4:40pm and 6:15pm, every continuous 60-minute period (of which there are 35) had traffic flows no lower than 174 vehicles, again showing a variation of just 10%. In our view this demonstrates that peak spreading is occurring which we consider is due to the location of Pisa Moorings.

Consequently, in response to NZTA’s query about why half of the houses generate no traffic in the peak hour, the data shows that while the houses do not generate traffic in the peak hour, they generate traffic in the periods on either side of the peak hour. This outcome is commensurate with the location, that because a proportion of drivers have to travel for a greater distance, they set off earlier and return later, than if their house was closer to employment etc.

In our view, these factors will also be present for the proposed development, as it is located in a similar position relative to larger settlements as Pisa Moorings. As such we consider that the trip rates used are supportable.

In passing, we also highlight that in Pisa Moorings at present, there is only limited commercial development. Within the Parkburn site, commercial development is proposed. Thus we expect that a proportion of trips made by residents of Parkburn to commercial land use will not need to be made on the external roading network but will instead be made wholly on the internal roads. This is difficult to quantify and so no reduction was made in the traffic generation rates. However by not making allowance for it, it provides a further degree of robustness for the trip rate adopted.

Further Detail on the Modelling Approach

By way of an overall background to the modelling, the approach used was identical to that used to evaluate the effects of PC21, and so the effects on roading capacity were modelled using the same Council transportation model. This approach was deliberately progressed for three reasons:

- so that if necessary, the current proposal could be directly compared with PC21 and without any confounding factors arising from using a different model or modelling methodology;
- to use the same model that had been through independent scrutiny as part of Plan Change 21; and
- to use the same approach that NZTA would have seen and assessed through the Agency’s involvement in the Plan Change 21 process.

However one outcome of this is that the Council only has a weekday evening peak hour model (not a weekday morning peak hour model) and so the weekday morning peak has not been assessed.



The model has been previously subject to a calibration and validation process, and we understand has previously been used for a number of plan changes (as well as PC21). We consider it is therefore fit for purpose.

Critical Movements at Intersections

NZTA had several queries around the traffic volumes and the outcomes at intersections, and we appreciate that the functioning of intersections on the highway will be an important aspect of ensuring that the efficiency and safety of the transport networks are not compromised by the proposal. We reiterate though that the model used is the same as seen by NZTA for Plan Change 21, just with adjustments made to the traffic generation of Parkburn. On this basis, we suggest that within the Transportation Assessment for the substantive application, we set out a detailed assessment of each of the identified intersections which will not only identify the traffic volumes but will also address the matters of intersection geometries (and turning lanes) and also road safety.

One query raised by NZTA was about the requirements for right-turn lanes. Within the text of the report we noted that the proposed intersections serving the site were assumed to have right-turn lanes from the outset. An assessment will be included in the Transportation Assessment in respect of other locations, based on the Austroads warrants.

Assumptions Around Trip Distribution Resulting from Creating the Pony Court Link

The particular query raised was whether Pisa Moorings traffic would realistically travel further north to an intersection with worse level of service to then head south on the highway. Unfortunately this misunderstands the role of this roading link.

By way of background, the model already includes the direction of travel of residents of the area. The Pony Court link did not have any new assumptions made, it was simply inserted into the model and then the model distributed the generated traffic based on an overall minimisation of journey times. Thus the only scenario under which drivers would travel north to through the Pont Court link and then double-back south is if the model identified that this was the fastest journey time overall. (which it is unlikely to be). However it would be faster for Pisa Moorings traffic to use Pony Court to travel to one of the site accesses and turn northwards, because this right-turn movement will be opposed by less traffic on the highway.

Effects on Road Safety

The exercise thus far has been one of an evaluation of capacity, rather than of road safety. However there do not appear to be any constraints on State Highway 6 at the location of the proposed site accesses which would preclude intersection layouts from being constructed that met in full the relevant guides and standards. The Transportation Assessment for the substantive application will address road safety as a matter of course, but as set out above we suggest that we include a specific safety assessment of each of the key intersections as well.

Consideration of Active Transport Modes to Cromwell

The analysis presented was focussed on the effects on the roading network, meaning that matters such as active travel were not addressed. We note that NZTA mentions the Lake Dunstan Cycle Trail, which runs along the western side of Lake Dunstan from Smith's Way to Cromwell. As such, it is located on the eastern side of the site and provides a continuous, off-road walking and cycling link between the site and Cromwell, around 9km away.



The route is classified as a 'Grade 1' route (the easiest¹) and 'family friendly' which again suggests an absence of difficult terrain. We expect that there will be connections between the site and this route and this will be addressed through the substantive application.

We trust that this addresses the matters raised in the request for further information, but as always, we would be pleased to discuss matters arising with you at your convenience.

Kind regards
Carriageway Consulting Limited

Andy Carr
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¹ <https://www.centralotagonz.com/tracks-and-trails/lake-dunstan-trail/map-and-sections/>