

The Cardrona Cattle Company Limited,
Suite 58, The Heritage,
98 Worcester Street,
Christchurch 8011.
Attention: Dave Henderson

Via email: s 9(2)(a) [REDACTED]

22 June 2022

Dear Dave,

RE: CARDRONA CATTLE COMPANY, VICTORIA FLATS ROAD, TRANSPORT ASSESSMENT

I write in response to your request for a summary transport assessment of a proposal by Cardrona Cattle Company Limited (**CCCL**) to construct and operate a resource recovery park (including recycling centre, demolition yard, building materials recycling and resales yard), rural type industrial and contracting/service activity yard (such as a contracting yards for processing and storage of landscaping supplies), as well as facilities for more general storage, and other yard-based and related industrial or otherwise compatible activities (e.g. a worm farm and composting activity) and associated subdivision (overall, "**The Yards**").

In particular you have asked me to consider four issues relating to the proposal listed below:

- a) Assessing the traffic generation and effects on the roading network of The Yard development comprising a gross land area of approximately 37 hectares and a net land area (allowing for roads and reserves) of around 30 hectares;
- b) Consideration of traffic generation rates derived from survey data of the industrial development located in Glenda Drive Frankton;
- c) Consideration of the effect of a volunteered 15% site coverage for the various activities that could establish on the site would have on traffic generation rates and the subsequent need to upgrade the intersection, relative to general industrial zoning within urban areas such as Glenda Drive Frankton which has a building coverage in the order of 34.5%.
- d) Consideration of the likelihood of trip origins and destinations of staff employed on the site already passing the site anyway, or otherwise being diverted away from the Shotover bridge during weekday peak hour traffic periods.

You have asked me to consider what effect these considerations would have on the need to upgrade the intersection of Victoria Flats Road and State Highway 6; and to also advise upon whether or not there is capacity at the Shotover bridge to cater for additional site generated traffic. I have previously considered earlier development proposals, to be advanced through the proposed district plan process. These involved rezoning across a larger area. I have focused in this assessment on the more particular “The Yards” proposal as identified at the start of this letter.

I provide below a summary of my current analysis of the traffic generation characteristics of The Yards proposal identified at the outset, with key points highlighted in bold text. I have determined that:

- a) The **critical road network** period for assessment is the weekday **AM peak period** because the right turn movement into Victoria Flats Road is the critical intersection performance movement. A key element is whether any upgrade to the Victoria Flats Road and SH6 intersection would require a right-turn bay or a roundabout.
- b) Analysis of traffic count data provided by the Council for business development in Glenda Drive, Frankton in 2018 indicates that the 17.2 hectares of developed land within the Glenda Drive survey cordon generated 1,726 trips in the weekday peak hour. This calculates to a peak hour trip generation rate 74.1 trips per hectare. However, the site coverage within the survey cordon area was 34.5% which is a site coverage more than double the 15% site coverage proposed for the Victoria Flats Road site. Allowing for this means that, all other things being similar to Glenda Drive, The Yards proposal site would generate around **32.2 trips per hectare in the peak hour**.
- c) Another contributing element to take into account associated with potential effects of the Victoria Flats Road proposal on the operation of the intersection with State Highway 6, are that the nature of the activities likely to establish under The Yards proposal will be, by the nature and separation distance from Cromwell and Queenstown, be lower generating types of activity. This means that **adopting a peak hour trip generation rate of 32 trips per hectare is likely to be a conservative** (high generation) assessment approach.
- d) A review of the latest NZTA count data shows that State Highway 6 traffic volumes have reduced over the last two years (by around 20%). This is most likely as a result of Covid influences, and traffic volumes should return to ‘normal’ over time although historic traffic growth rates along State Highway 6 are unlikely to continue for a number of reasons including, but not limited to, significantly increased fuel prices, a slowing of the economy, and a change in work practices (more people

working from home). The intersection traffic volumes and modelling of traffic generation identify that **an absorption capacity for around 800 additional site generated trips could be accommodated at the intersection in the weekday AM peak hour before a roundabout upgrade would likely be required.**

- e) Working backwards from a trip generation rate of 32 trips per hectare still means that around 25 net hectares of the site could be developed before a roundabout upgrade would be required (compared to around 30 net hectares currently proposed) before a roundabout upgrade would likely be required.
- f) In terms of traffic generation onto the Shotover Bridge, staff employed on the CCCL site will likely be drawn from the catchments of Cromwell, Queenstown, Lake Hayes and the like. For these trip origin locations, the proposal will generate trips from Queenstown that are opposing the ambient peak hour traffic flow direction, or otherwise divert trips from Cromwell, Lake Hayes and the like that would otherwise head into at least Frankton via the Shotover bridge. The combination of this diversion of currently passing traffic flow, combined with the likely conservative use of the 32 trips per hectare peak generation rate means that, in reality, the right turn bay option for the Victoria Flats Road intersection will likely have an even longer design life. **It is likely that all 30 net hectares of the development proposed by The Yards resource consent could be accommodated with a right turn bay intersection upgrade and that a roundabout is unlikely to ever be required.**
- g) Further afield, it is agreed with the NZTA that the Shotover bridge is the critical link in the surrounding road network. However, analysis of a substantial amount of traffic count data supplied by the NZTA for State Highway 6 either side of the Shotover bridge shows that the Victoria Flats Road plan change proposal is unlikely to result in regular peak traffic volumes across the bridge that exceed what the bridge already carries on its annual peak day. More importantly, the traffic flow across the bridge is heavily tidal in the weekday peak hour periods, and the proposed site location east of Franktown means that the majority of site generated traffic will be contra-flow to the ambient peak hour traffic flow (i.e., they will be going the other way to everyone else). Therefore, **the proposal is unlikely to make much difference to road network performance in the vicinity of the Shotover bridge during the weekday peak hour periods.**

Given all of the above, in my opinion it is likely that all of The Yards development could be accommodated with a right turn bay intersection upgrade and that a roundabout is unlikely to ever be required. I therefore consider that the road network in the wider vicinity of the CCCL site, and State Highway 6 in particular, will have capacity to cater for The Yards consent proposal.

I trust the above is sufficient, however if you require any further information then please do not hesitate to contact me directly on s 9(2)(a) [REDACTED]

Yours faithfully,



Ray Edwards

Managing Director

URBIS TPD LIMITED