**BEFORE INDEPENDENT HEARING COMMISSIONERS APPOINTED BY THE WAIMAKARIRI DISTRICT COUNCIL**

| | |
|---|---|
| **IN THE MATTER OF** | The Resource Management Act 1991 |
| **AND** | |
| **IN THE MATTER OF** | Hearing of Submissions and Further Submissions on the Proposed Waimakariri District Plan |
| **AND** | |
| **IN THE MATTER OF** | Hearing of Submissions and Further Submissions on Variation 1 to the Proposed Waimakariri District Plan |
| **AND** | |
| **IN THE MATTER OF** | Submissions and Further Submissions on the Proposed Waimakariri District Plan by **Doncaster Developments Limited** |

---

**SUMMARY TRANSPORTATION EVIDENCE OF RAYMOND JOHN EDWARDS ON BEHALF OF DONCASTER DEVELOPMENTS LIMITED**

**DATE** 21 August 2024

---

Presented for filing by:
Margo Perpick,
PO Box 18, Christchurch
T 027 227 2026

## Introduction

1. My name is Ray Edwards. I am a traffic engineering consultant practicing from Christchurch. The purpose of this evidential statement is to summarise the three earlier documents I have prepared in relation to submission #290 by Doncaster Developments Limited (Doncaster) to the proposed Waimakariri District Plan. The Doncaster submission seeks to rezone 11.85ha of land from a *Large Lot Residential Zone* (LLRZ) to *General Residential Zone* (GRZ) at Arlington West, Rangiora. My three earlier documents are:

    a) My primary evidence dated 5th March 2024, which reiterated the findings of;

    b) My transportation assessment (ITA), also dated 5th March 2024, that was provided as Appendix B to my primary evidence, and;

    c) My supplementary evidence dated 2nd August 2024, which summarised both above documents and included detailed responses to the evidence of Mr Gregory who is the consultant transportation planner on behalf of the Council on this matter. I also provided some responses to relevant matters raised in Mr Wilson's S42a report.

2. My qualifications and experience are provided in Appendix A to my primary evidence. I repeat from my earlier evidence that I have read the Environment Court's Code of Conduct and agree to comply with it.

3. It is important to note that Mr Gregory was not, at the time of writing his primary evidence, specifying his final position. The same applies with Mr Wilson in relation of his s42 report. Instead, both parties invited further information from Doncaster on various transportation related issues to enable them to finalise their positions in relation to this rezoning proposal.

4. I provided this additional information in my earlier supplementary evidence where I agreed with Mr Gregory and Mr Wilson on some of the matters they have raised, but disagreed on some other matters. This summary statement will summarise the positions of Mr Gregory, Mr Wilson, and myself where we have differences of opinion in relation to the transport related issues. I note here that some of these issues may have been subsequently resolved for Mr Gregory and Mr Wilson because of the commentary provided in my earlier supplementary evidence. It is possible that Mr Gregory, Mr Wilson, and myself and I may now have an agreed position.

5. I conclude that, subject to the various design recommendations detailed in my supplementary evidence, there is no valid traffic engineering reason to decline the relief sought by Doncaster.

**Development Capacity of the Subject Site**

6. The key points are:

a) Under the currently proposed LLRZ, the site could yield around 22 allotments. Under the GRZ sought by Doncaster, both my earlier ITA and my primary evidence discussed a possible yield of 110 allotments when including the 0.25ha site at 266 Lehmans Road.

b) Mr Gregory considers that a more appropriate yield to assess the transport effects of the proposal would be around 174 dwellings based on the 15 dwellings per hectare rate which I note is sought through Rule SUB-S3 of the proposed District Plan. Mr Wilson calculates a yield range of 135-474 dwellings when outcomes sought by the MDRS are considered.

c) Having considered the positions of Mr Gregory and Mr Wilson:

i. I do not agree with the upper yield suggested by Mr Wilson, as the resultant average allotment size is too small to be realistic.

ii. However, I do agree with Mr Gregeory that a 174 dwelling yield should be used as a sensitivity test for analysis of transportation effects.

My supplementary evidence updated my earlier ITA and primary evidence to reflect a 174 dwelling yield. This additional analysis made little change to the potential transport effects arising from the relief sought by Doncaster because the site is well connected to the road network and as such site generated traffic has several logical routes. Therefore, I agree with Mr Wilson that the differences in allotment yields are not determinative in relation to road network effects in respect of the Doncaster proposal.

**Estimated Traffic Generation**

7. The key points are:

   a) In my ITA and subsequent primary evidence, I applied the traffic generation rate for '*suburban dwellings'* of 10.9 trips per dwelling unit per day. This generation rate was sourced from the NZTA Research Report 453 '*Trips and Parking Related to Land Use November 2011'* (RR453). I considered that adopting this generation rate was a conservative approach.

   b) Mr Gregory also relies on RR453 but suggests that the *'outer suburban'* rate of 8.2 trips per dwelling unit per day be applied to the proposal. I agree that Mr Gregory's rate is likely to be more realistic.

   c) If Mr Gregory's adopted rate of 8.2 trips per dwelling unit per day is applied to 174 dwelling units, then this calculates to a 174-lot development generating around 1,427 trips per day. My supplementary evidence, and road network effects assessment, is now based on the Mr Gregory's higher 1,427 trips per day.

**Estimated Traffic Distribution**

8. The key points are:

   a) As noted in paragraph 6c) earlier, I agree with Mr Wilson that the subject site is well connected to the existing road network in northwest Rangiora. I travelled all these routes during the weekday peak periods and found little to no delay on any given route such that route choice would be more influenced by personal convenience or personal choice rather than being influenced by existing road network operation.

   b) For my ITA, I adopted a first principles or logic-based approach with SIDRA software used to test the operational performance of key affected intersections. Mr Gregory suggests that a transport model should be used for assessment of potential road network effects. Mr Falconer, an experienced transport modeller, advised that a first principles or logic-based approach, such as what I did in my ITA and primary evidence, would normally be undertaken for a development proposal of this scale (refer to Table 10 of the ITA).

c) I agree with Mr Gregory that, based on my first principles methodology, Belmont Avenue is likely to carry the highest volume of additional site generated traffic because of increased development yield on the subject site.

**Ambient Road Network Traffic Flows**

9. The key points are:

a) I based my ITA and primary evidence on existing road network traffic flow data supplied by the Council or on the MobileRoad website. I supplemented this with weekday PM peak hour traffic counts at the critical intersections. The intersection counts were undertaken on 25 November 2021.

b) Mr Gregory comments that my 25 November 2021 intersection counts are *"almost certainly unreliable*" because they were undertaken at a time when the effects of the Covid pandemic could have resulted in reduced traffic flows. He references the NZTA publication '*Waka Kotahi Covid 19 transport impact (March 2022), Fieldwork waves 1-27 core report*' to justify his comment. Mr Gregory suggests that my surveyed base traffic flows for the critical Belmont Avenue should be increased by 20% to provide for the transportation related effects of Covid.

c) I very strongly disagree with Mr Gregory's suggestion that my traffic count data is "*almost certainly unreliable*." I do not recall any sort of Covid related travel restrictions at the time the intersection counts were undertaken. My supplementary evidence raises several issues with the Waka Kotahi report such that it should not be relied upon in the manner that Mr Gregory has done. Waka Kotahi clearly states in that report that it does not represent their position. State Highway traffic count data shows that network traffic volumes were higher in 2021 than in pre-Covid times. My 2021 count data is reliable.

d) To test this, I completed an additional weekday PM peak hour traffic count on Monday 26th February 2024 between 4:30pm and 5:30pm at the critical Lehmans/Oxford intersection. This confirmed that traffic volumes have changed little in the 2021-2023 period. The +20% increase in Belmont Avenue traffic volumes suggested by Mr Gregory is not necessary.

**Future Road Network Traffic Flows**

10. The key points are:

a) I agree with Mr Gregory that Belmont Avenue is the critical road network link in the vicinity of the site to consider potential effects from site generated traffic because of this proposal.

b) From my supplementary evidence, Table SE2 provides estimated future daily traffic volumes on the road network that will provide the logical connections to/from the subject site (again noting that the site is well connected to the road network). The number of possible access routes to and from the site means that the estimated additional daily traffic volumes on all roads in the vicinity of the subject site are small.

c) Also from my supplementary evidence, Table SE3 provides estimated future peak hour traffic volumes on the road network that will provide the logical connections to/from the subject site. Table SE3 shows that the proposal is estimated to place around one additional vehicle per minute on the various road network links in the vicinity of the site. This change in traffic flow would be very difficult to detect.

**Planned Function of the Road Network**

11. The key points are:

a) Under the operative District Plan, many of the roads that will be used to access the Doncaster site have a local road classification. Proposed District Plan Standard TRAN-S1 specifies a design traffic volume envelope for an urban local road of up to 1,500 vehicles per day. This accords with accepted traffic engineering practice that local roads should carry up to 2,000 vehicles per day (the 500vpd difference is not material).

b) The relief sought by Doncaster needs to be considered under the framework of the proposed District Plan. A very important point missed by Mr Gregory is that many of the roads that will be used to access the Doncaster site are proposed to be upgraded to a collector road classification Under the proposed District Plan. It follows that Mr Gregory's opinion that there is a lack of a collector road access servicing the site from the east is incorrect. Proposed District Plan Standard TRAN-S1 does not specify a design traffic volume envelope for an urban collector road, although they typically cater for up to 8,000 vehicles per day.

c) I emphasise that the change to a collector road classification is important because the planned function of the collector road, as stated in the District Plan, is to "*collect and distribute traffic between neighbourhoods and arterial roads, are a preferred route for travel within and between areas of population and activities."* Hence higher traffic volumes (>1500vpd) are planned to occur.

d) The predicted future daily traffic volumes along the various proposed collector routes, as shown in supplementary evidence Table SE2, are at the lower end of what the proposed District Plan considers to be a suitable traffic volume for an urban collector road.

e) The commentary provided by Mr Gregory where he discusses the formation standards of Oakwood Drive and Belmont Avenue as being more akin to a local road, are irrelevant as the Council has proposed collector road classifications for these roads. Further, Belmont Avenue has a formation standard like that identified in NZS4404:2004 for a suburban collector road carrying up to 8,000vpd[1].

f) This undermines Mr Gregory's opinion that the proposal "*could potentially noticeably change amenity within the surrounding road network.*" This is highlighted in my peak hour volume analysis presented in my supplementary evidence Table SE3 where I estimate that around one additional vehicle per minute in the weekday peak hour on the various road network links in the vicinity of the site. I repeat that this additional traffic volume would be very difficult to detect.

**Direct Site Access to the Northwest Rangiora Bypass**

12. The key points are:

a) Section 3.3 of the March 2024 ITA discussed the Council proposal to create a heavy vehicle bypass around the western side of Rangiora. This project is identified in the Council's Draft Infrastructure Strategy 2021 – 2051 with $2.2 million of funding allocated in the 2030-2031 financial years.

[1] NZS4404:2004 requires an 8.4m carriageway width. Belmont Avenue has a carriageway width of 7.0-9.0 metres. Localised islands and traffic calming features along the road. Recessed parking bay provided along the southern side of the Avenue between #5 and #23.

b) Mr Gregory considers that direct allotment access to this bypass should be restricted, or even prohibited, to protect the arterial through function of this planned future road.

c) In my opinion there will be nothing unique about the proposed bypass route that precludes it from having the same proposed District Plan site access requirements as for other arterial roads where there are tougher standards in relation to driveway numbers, driveway separation distances and intersection setbacks. I do not consider a site specific rule is necessary as suggested by Mr Wilson[2].

**Provision for Alternate Travel Modes**

13. The key points are:

a) Mr Wilson, in his paragraph 323, summarises the Waka Kotahi submission which seeks amendments to the ODP to include better cycle and pedestrian connections.

b) Mr Gregory recommends that a walking/cycling path is shown on the ODP along Lehmans Road and along the proposed northwest Rangiora bypass.

c) I agree with Mr Gregory regarding providing a shared path along the arterial bypass route, but refine this to be the provision of a shared path on the alignment of Parrott Road between Sandown Avenue and 28C Salisbury Avenue.

d) I do not agree with Mr Gregory and/or Mr Wilson that there is a need to extend a shared path northeast of Sandown Avenue in the absence of any urban development of the neighbouring racecourse site.

e) I do not agree with Mr Gregory that a walking/cycling path needs to be shown on the ODP along Lehmans Road as this is already provided south of the Parrott Road intersection, and there would be limited demand for such a connection north of the Parrott Road intersection.

f) When the existing cycle network and my recommended shared path additions are considered in the context of the road hierarchy, where local and collector roads are readily useable by cyclists, the site is well connected to the balance of Rangiora for alternate transport modes. The aspirations of Waka Kothai are met.

[2] in his paragraph 350.

**Design Recommendations**

14. Mr Wilson makes various recommendations in his S42 report:

a) *Access management to avoid direct connections onto the arterials*. As stated earlier, there will be nothing unique about the proposed arterial bypass route that precludes it from having the same proposed District Plan site access requirements as for other arterial roads;

b) *Avoid overloading the Arlington streets*. My analysis confirms that the proposal will not result in overloading of Arlington Streets – especially as these streets are proposed by the Council to become collector routes.

*c) An additional access direct between Parrott Road and West Belt.* I agree that such a connection is desirable if the racecourse land was developed for urban purposes. Because this suggested additional access is located north of the Doncaster site, there is no need for such a connection with the Doncaster proposal as Doncaster generated traffic would not use it.

*d) An additional northeast to southeast road in the middle of the Doncaster site.* I see no issue with updating the ODP to this effect.

*e) Parrott Road is formed as part of the Doncaster proposal.* I recommend that the section of the bypass route that forms part of the Doncaster internal road network should be formed to an arterial standard. There is no need to further form Parrott Road to provide a western site connection as a site connection to Lehmans Rd is being made anyway. The balance of Parrott Road is a council initiated bypass project that is not required to mitigate the transport effects of the Doncaster proposal.

*f) Provision for cyclists*. This is readily achieved as discussed earlier in this summary evidence.