

**BEFORE THE CHRISTCHURCH REPLACEMENT  
DISTRICT PLAN INDEPENDENT HEARINGS PANEL**

**IN THE MATTER** of the Resource Management  
Act 1991 and the Canterbury  
Earthquake (Christchurch  
Replacement District Plan) Order  
2014

**AND**

**IN THE MATTER** of Chapter 21 (Stage 3) Specific  
Purpose Zone (Ruapuna)  
Proposal of the proposed  
Christchurch Replacement  
District Plan

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**REBUTTAL EVIDENCE OF ANDREW FARQUHARSON MILNE  
ON BEHALF OF CHRISTCHURCH CITY COUNCIL**

**TRAFFIC**

**13 May 2016**

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## 1. INTRODUCTION

- 1.1 My name is Andrew Farquharson Milne. I am employed as a Senior Transportation Planner at Christchurch City Council and have held this position since April 2012. I am a Chartered Professional Engineer (CPEng) and registered under the Chartered Professional Engineers New Zealand Act 2002. This qualification means I have been reviewed by the registration authority and deemed competent to practice in my area of expertise.
- 1.2 My qualifications include a Master of Science Degree in Transportation Planning and Management from Westminster University in London and a Bachelor of Engineering Degree (with Honours) in Civil and Transportation Engineering from Napier University, Edinburgh. I am also a Member of the Institution of Professional Engineers New Zealand.
- 1.3 I have worked over 20 years practicing in the field of traffic engineering and transportation planning in New Zealand and the UK.
- 1.4 I have provided written and oral evidence at the hearings on the following proposals of the pRDP:
- (a) Commercial and Industrial Proposals - Stage 1;<sup>1</sup>
  - (b) Residential Proposal - Stage 2;<sup>2</sup>
  - (c) Commercial and Industrial Proposals - Stage 2;<sup>3</sup>
  - (d) Subdivision Proposal - Stage 2;<sup>4</sup>
  - (e) New Neighbourhood Zones Stage 2;<sup>5</sup>
  - (f) Central City - Stage 3.<sup>6</sup>
  - (g) Open Space Proposal (Stages 2 and 3)<sup>7</sup>
- 1.5 I confirm that I have read the Code of Conduct for Expert Witnesses contained in the Environment Court Practice Note 2014 and that I agree to comply with it. I confirm that I have considered all the material facts that I am aware of that might alter or detract from the opinions that I express, and that this evidence is within my area of expertise, except where I state that

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1 Evidence in Chief dated 14 April 2015; rebuttal evidence dated 4 May 2015; gave evidence at the hearing on 12 May 2015.

2 Evidence in Chief dated 19 August 2015; gave evidence at the hearing on 16 September 2015.

3 Evidence in Chief dated 3 September 2015, rebuttal evidence dates 25 September 2015, 1 October 2015; gave evidence at the hearing 5 October 2015.

4 Evidence in Chief dated 6 October 2015.

5 Evidence in Chief dated 8 December 2015.

6 Evidence in Chief dated 16 December 2015.

7 Evidence in Chief dated 19 January 2016.

I am relying on the evidence of another person. The Council, as my employer, has agreed to me giving expert evidence on its behalf in accordance with my duties under the Code of Conduct.

## 2. SCOPE

- 2.1 My rebuttal responds to the evidence in chief filed by Quieter Please (Templeton) Incorporated (#3015) (**Quieter Please**), specifically the matter of the potential traffic impacts associated with proposed rule 21.10.2.3.1 P21, which specifically provides for the establishment of conference and function facilities within the Ruapuna Motorsport Park (**Ruapuna**) that are ancillary to the racecourse and limited to 100 delegates and hours of operation of between 0700 - 2300 hrs.

## 3. SURROUNDING ROAD NETWORK AND EXISTING TRAFFIC CONDITIONS

- 3.1 The key access roads to Ruapuna racecourse are Hasketts Road and Barbers Road. Both of these roads are local rural roads which are constructed to typical rural road standards including widths of 6 metres with no footway, street lighting or parking provision. The roads are subject to speed limits of between 70 and 100 kilometres per hour (kph).
- 3.2 Ruapuna has two points of public vehicle access taken from the 100kph section of Hasketts Road. These accesses are provided with localised widening to provide for safe turning at the access points.
- 3.3 Council vehicle counts at the intersections of Hasketts Road/West Coast Road and Barbers Road/Waterloo Road suggest that traffic volumes along Hasketts Road and Barbers Road are about 1000 vehicles per day (**vpd**) or less with peak hour flows of 100 vph or less. This is a low volume of traffic.
- 3.4 Given the low volume of traffic travelling on Barbers and Haskett Road, it is unlikely that the surrounding road network suffers from regular congestion. I also note that at the southern end of Barbers Road, the NZTA SH1/Pound Road/Barbers Road realignment project<sup>8</sup> will provide safety improvements at this location. Crash analysis indicates that over the last six year period there have been eight reported crashes, four of which included injury and of these

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<sup>8</sup> <https://www.nzta.govt.nz/assets/projects/sh1-barters-road-pound-road-intersection-upgrade/docs/barters-road-newsletter-jul-2015.pdf>.

four, two included serious injury. Six of the eight crashes relate to failure to give way or loss of control while turning at intersections. The nature and number of recorded crashes are not untypical of a high speed, rural road environment and records show that no crashes have occurred at the park entrances.

- 3.5** The largest traffic impacts are associated with scheduled race events at Ruapuna. Traffic figures are not available for such events but it is understood that a successful event may attract between 1000-2000 spectators which may generate up to between 500-1000 vpd based on a car occupancy rate of 1.9 people per vehicle.<sup>9</sup> I understand that the public vehicle access points are marshalled to facilitate efficient flow of vehicles into and out of the site during large events.

#### **4. TRIP GENERATION**

- 4.1** I understand that the proposed rules allow for a 100 delegate conference and function facility that is ancillary to motor sports activities. For use as a function facility, vehicle occupancy rates for similar activities in rural locations suggest car occupancy rates of around 3.3 people per vehicle.<sup>10</sup> Assuming that a function enables 100 guests, this could equate to some 66 vehicle trips (33 arrivals and 33 departures).
- 4.2** No trip generation data is available for a conference activity however assuming, as a worst case scenario, each delegate arrives independently by car, this could generate approximately 200 vehicles per day (100 arrivals and 100 departures).
- 4.3** I consider that even the higher estimate associated with a 100 delegate conference is unlikely to create safety and capacity effects on the surrounding road network given the low volume use of the access roads and the ability for the surrounding road to safely accommodate traffic generation associated with race events that are several magnitudes greater than can be expected from the use of a 100 delegate conference centre.

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<sup>9</sup> NZTA Research Report 399 vehicle occupancy rates for social /recreational visits page 57.

<sup>10</sup> Surveyed occupancy data from Lansdowne Function centre.

## 5. TRAFFIC IMPACTS

- 5.1 In my view, the use of a conference facility during race events is likely to be indistinguishable from the traffic associated with the race event itself, in other words people using the facility would have attended the event thus already forming part of the event traffic attraction. In addition, conference events that do not coincide with a scheduled race event are likely to be timed such that they come to a close at the end of a typical working day.
- 5.2 I also consider that traffic attracted to the facility has the opportunity to disperse in both directions along Hasketts Road thus further reducing any net increase in traffic volumes on either side of the park and including Barthers Road.
- 5.3 In terms of amenity effects of increases in traffic volumes, I refer to **Figure 1**, which is an extract from local area traffic management guidance<sup>11</sup> showing the threshold values of when traffic increases can be readily perceived and may be considered unacceptable in most communities. While I acknowledge the lack of precision in defining an 'acceptable' level of traffic from an amenity perspective, I consider the figure to be a useful guide toward quantifying the level of effects associated with increases in traffic volumes along Hasketts Road and Barthers Road.

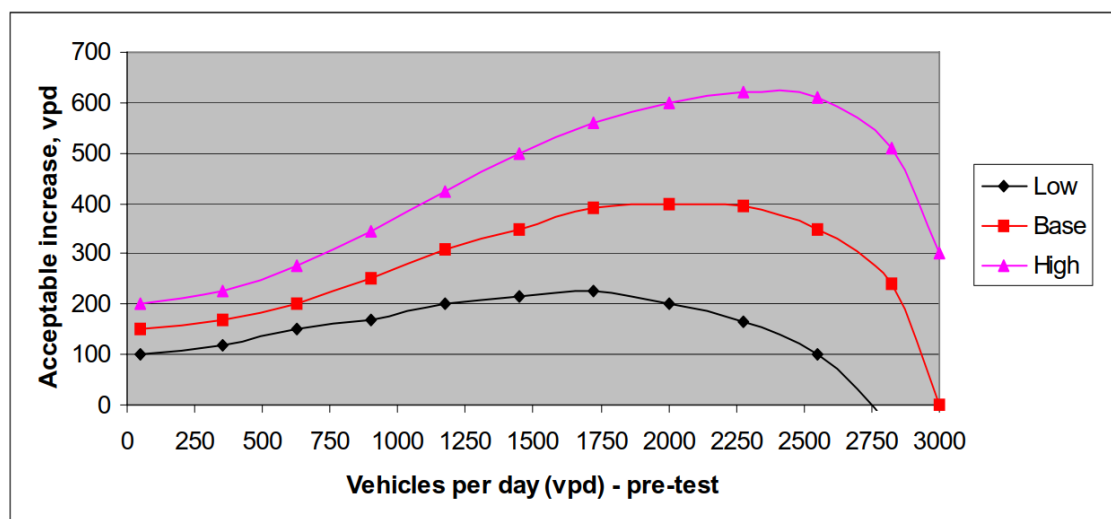


Figure 1: An example for thresholds for diverted traffic.

<sup>11</sup> Austroads Guide to Traffic Management Part 8: Local Area Traffic Management, 2008, page 16-17, Figure 2.1.

**5.4** Figure 1 shows 'impact threshold curves' with the central 'Base' curve reflecting a level of increase that is considered to be acceptable in the context of existing traffic flows along the affected road. Traffic volumes above this threshold and shown on the 'High' curve, would, however be considered to become readily noticeable to the community.

**5.5** The figure shows that for a road carrying 1000 vpd (such as Hasketts Road and Barters Road) traffic increases of about 250 vpd would be acceptable. Given the worst case scenario trip generation of the 100 delegate conference is predicted to generate no more than 200 vpd, and that a proportion of this traffic will be dispersed along both directions of Hasketts Road, I consider that any increase in traffic volumes associated with an ancillary conference/function activity is likely to be acceptable from a traffic amenity perspective.

## **6. CONCLUSION**

**6.1** Based on the above assessment, I consider that the traffic effects of an ancillary conference/function facility within Ruapuna would not be significant given:

- (a) the surrounding road network has sufficient capacity to safely accommodate the modest increases in traffic associated with the ancillary conference/function facility;
- (b) the vehicle trip generation associated with the conference/function activity is likely to be of a low nature and may be indistinguishable from Ruapuna event traffic; and
- (c) the estimated increase in traffic volumes along the subject roads is unlikely to be readily noticeable to the surrounding community.



**Andrew Farquharson Milne**

**13 May 2016**