

**BEFORE THE NEW PLYMOUTH DISTRICT COUNCIL  
INDEPENDENT HEARING COMMISSIONERS**

**IN THE MATTER OF                      The Resource Management Act 1991**

**AND**

**IN THE MATTER OF                      Request for Private Plan Change NPDC PLC18/00048 by Oakura  
Farm Park Limited to rezone land at Oakura within the New  
Plymouth District**

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**SUMMARY OF STATEMENT OF EVIDENCE OF ANDREW DAVID SKERRETT**

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1. My name is Andrew David Skerrett and I hold a B.Eng. Civil. I have over 30 years professional experience as a highway engineer, twenty-three of which have been here in New Zealand. The following are the highlights of my evidence and background work on the proposed plan change. I am the Traffic Engineer for the Applicant.
2. The initial request was to assess the traffic impacts of the proposed plan change at the maximum possible lot numbers of 399. Subsequent work by Mr Doy of McKinlay Surveyors indicates that the likely maximum yield is more likely to be of the order of 316 lots. This reduction in lots will reduce traffic generation associated with the proposed Wairau Estate by between 706 and 863 vehicles/day. The Traffic Impact Assessment is based on the 399 lots and therefore the traffic delays calculated for the SH45/Wairau Rd intersection will be higher than the likely outcomes for the reduced 316 lot yield.
3. As part of the traffic impact assessment I was also asked to consider the effects if the Oakura West FUD area were developed. The traffic effects were assessed at maximum possible yield and thus the impacts of 601 lots accessing Lower Wairau Rd were considered. Subsequent work by Mr Doy now indicates that a yield of 283 is more likely given the topography of the land. This means the potential effects in the impact assessment are going to be greater than are likely to be realised.
4. The initial trip generation rate of 8.5 trips/lot was based the measured traffic volumes currently on Wairau Rd. NZTA requested that the higher rate of 10.4trips/lot be considered and this was duly undertaken.
5. In my evidence I have supplied commentary on trip generation rates and why the location is likely to generate rates lower than the NZTA guidelines. This lower generation rate is supported by evidence of rates based on a survey across the New Plymouth district. In expert conferencing it was agreed that the lower rate is appropriate for this plan change.
6. In order to more fully assess the impacts on Wairau Rd additional growth was added to cover other potential increases in traffic volumes. These included some additional but limited sub-division growth, the potential development of the Koru Hill Pa as a visitor attraction and an allowance for an increase in traffic due to the proposed shared cycle & walkway from Oakura (via Upper Wairau and Surrey Hill Roads to Pukeiti).

7. We analysed various growth scenarios and these were presented in the Traffic Impact Assessment as a Level of Service Summary.<sup>1</sup> The results of the analysis show that the proposed plan change would reduce the Level of Service (LOS) at the SH45/Wairau intersection of the worst movements from a level B to a C during the morning peak hour. This was considered the most likely to have adverse effects due to the high number of right-turning vehicles from Upper Wairau Rd.
8. When the additional traffic flows, including the future predicted West FUD flows were added in, the service level dropped to a LOS F with average delays in excess of 88 seconds for the right turn out of Upper Wairau Rd. In order to address this situation a roundabout was considered and when a roundabout with a 10m internal diameter was modelled the LOS was at B or better for all movements. (It can be noted that while the development of FUD West is likely to be well into the future, the approach with the subject Assessment has been to consider both existing and all likely future traffic contributions through the intersection thereby taking a long-term 'future-proofing' view of the performance of the SH45/Wairau intersection.)
9. When this analysis was discussed with NZTA's network engineer<sup>2</sup> he saw potential benefits with a roundabout to be used as a part mitigation method for slowing traffic down on the approach into Oakura. Similarly, NPDC's Transport Manager saw benefits of the roundabout as the ultimate solution for the intersection<sup>3</sup>. Funding mechanisms were discussed around joint-funding of the roundabout construction.
10. During the Traffic prehearing meeting, NZTA stated they had no concerns regarding the roundabout. NPDC's traffic engineer (Mr Doherty) raised a concern regarding the north-eastern quadrant having insufficient room within the road reserve for a footpath. I indicated that I thought there was sufficient room.<sup>4</sup> The concept design prepared by Mr Doy appended to my evidence indicates there is sufficient room.
11. Mr Gladstone in his submissions has raised concerns about the eastern approach grade (on SH45 heading toward Wairau Rd) being steeper than the recommended values in the Austroads design guide for roundabouts and the grade to the Give Way line being greater than that recommended in the Austroads guide. I believe both these issues can be overcome during the detailed design of the roundabout. Austroads allows the centre island to be extended to raise awareness of drivers to the presence of the roundabout. Further, the roundabout will be clearly visible to drivers travelling south as they pass Donnelly St before they drop down into the dip. The approach grade to the Give Way

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<sup>1</sup>PPC 48 Request – Appx 9 – TIA – pg. 20, Table 7

<sup>2</sup> Intersection Site Visit 12 April 2017 with R Ashman, NZTA

<sup>3</sup> Meeting 31 May 2017 with C Whittleston, NPDC

<sup>4</sup> Traffic Pre-Hearing Meeting Report – 29 Jan 2019; pg. 5 paras 24 & 25.

line is required over the length of one design vehicle. I believe this can be achieved by adjusting the levels on the road.

12. Mr Doherty, in his traffic review for the Council, raised concerns regarding visibility to the north from Upper Wairau Rd. The Austroads design guide has three criteria for sight distances on the approach to a roundabout. The first is sight distance to the Give Way line; based on the concept design by Mr Doy I believe this can be met. The second criteria is the ability to see vehicles approaching the roundabout from the right and those circulating the roundabout; again I believe these can be met. The last criteria is that it is desirable that a driver approaching a roundabout is able to see other entering vehicles before that driver reaches the holding line. This may be difficult to achieve but would be worked through in a detailed design that would be safety audited. Within my experience there are a number of roundabouts that don't meet this 'desirable' criteria but still function at a satisfactory level.
13. Ms Greenough, in her review for NZTA, indicates that she believes the roundabout should have a larger diameter due the approach speed from the south being greater than the 60kph design speed of a 10m radius. I believe traffic calming measures on the southern approach to the roundabout could address that issue. Such measures will be required to be installed whether the roundabout proceeds or not.
14. In expert conferencing it was concluded that if the roundabout were not to proceed then improvements to the existing intersection would be able to accommodate the increased traffic flows from the proposed plan change area. These improvements would take the form of traffic calming elements on the highway, creating a right turn acceleration pocket for the right turn movement out of Upper Wairau Rd and upgrade to pedestrian facilities.
15. The National Road Carriers Association (NRCA) submitted that they did not believe the roundabout was appropriate given the grade of the approach. As I have indicated earlier I believe that the NRCA concerns can be addressed during the detailed design of the roundabout.
16. Public notification of the Plan Change resulted in a number of submitters raising concerns about the roundabout (and what were perceived to be adverse effects resulting for Wairau Rd) with several proposing that an access from SH45 south of the Wairau Road intersection ought to be developed as a better option. We were aware from our early discussions with NZTA that the highway controlling authority preferred the roundabout that an access from SH45 was not favoured. Notwithstanding, we

undertook to investigate. These investigations were presented in the short report Plan Change 48 Wairau Estate – SH45 Access Assessment.<sup>5</sup>

17. The location of the new access was chosen for several reasons;
- to meet the sight distance criteria for 100kph design speed,
  - to provide potential future access into the Oakura West FUD area opposite, and
  - it facilitated ready connectivity with the proposed structure plan layout .
18. For this access from SH45 I believe the sight distance criteria can be met although detailed design would need to confirm this. The vertical crest curve to the west could be eased to improve sight distance if required. Notwithstanding this we also recommended that the speed limit be dropped from 100 to 80kph from south of the new intersection. This was to reflect the changing nature of the environment along the highway as the urban area develops to the west.
19. With two access points the internal traffic flows would be split between Upper Wairau Rd and SH45. A split of 60:40 was used based on journey time from lots within the structure plan area to the SH45/Wairau Rd intersection. An analysis of the revised flows indicates the existing intersection would be able to accommodate these flows with only a minor drop in the level of service.
20. NZTA have indicated that they are not in favour of the new SH45 access as it adds an additional potential location for crashes to occur and that under the Limited Access Roads assessment criteria, with the access onto Upper Wairau Rd the new access is not justified. Under the LAR criteria I agree it is not justified. However, I believe not to provide for the proposed SH45 access will be an opportunity missed in terms of what the local urban environment either side of SH45 could be in the future.
21. During the Education prehearing meeting<sup>6</sup> the school raised concerns regarding the impacts of increased traffic as result of a potential increase in the school roll. As a result we undertook a traffic turning count at the SH45/Donnelly St intersection and also monitored the pedestrian and car movements at the school at the end of school day. In our short report we recommended parking controls were installed on one side Donnelly St between the highway and Hussey St so that the passage of two vehicles was unhindered and also that a link between Hussey St and Butlers Lane (on the paper road) be considered in the future to provide an alternative access point.<sup>7</sup>

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<sup>5</sup> S42A Report – Appendix 6 and Traffic Pre-Hearing Meeting Report – 29 Jan 2019

<sup>6</sup> Education Pre-Hearing Meeting Report – 28 Jan 2019 pg. 6 paras 28-36

<sup>7</sup> S42A Report – pgs.51-54; paras 13.114 – 13.121

22. In his review Mr Doherty had some concerns regarding the capacity of Butlers Lane to accommodate additional traffic. It is currently part-formed as an all-weather footpath and cycle way. However, the road reserve width is 20m and it is essentially flat over the approx. 85m involved. I am of the opinion that, with appropriate design and traffic controls would be part of any investigation of providing a multi-modal trafficable link.
  
23. In expert conferencing the provision of parking control serving the school was discussed. It was considered that any control would be flouted and parents would park anyway and remain in their vehicles. Mr Doherty suggested widening Donnelly St to a width so that two vehicles could pass with cars parked at each kerb. I am not opposed to this concept.
  
24. At expert conferencing Mr Gladstone raised concerns regarding the right turn off SH45 into Donnelly St. Currently there is no formal right turn bay but the taper from the end of the flush median extends beyond the intersection. I suggested that a right turn bay pocket on SH45 for up to 3 cars by extending the taper to the west. I suggested this be investigated as this would remove stationery vehicles waiting to turn right from the through traffic lane.
  
25. At expert conferencing much was discussed regarding active modes of transport. The proposal is to provide a pedestrian/cycle/equestrian underpass below SH45 to the immediate south of the Wairau Rd Intersection. Ms Greenough / Mr Doherty / Mr Gladstone expressed concern that it was too far from the intersection and had concerns over the approach ramps. The underpass location was sited to provide a link serving all users on the inland side of Upper Wairau Rd and environs and including the plan change area. This would ultimately connect the esplanade walkways either side of SH45 providing access to beach thus allowing active transport means to avoid having to cross SH45 on grade.
  
26. The proposed underpass is a concept that the then NPDC Transport Manager (Mr C Whittleston) saw as having long-term benefits and having potential to be part of the active corridor to and beyond the plan change area, with particular benefits for those coming off the proposed Oakura to Pukeiti Shared Pathway.
  
27. I believe that the majority of the subdivision would be more likely to walk down to the underpass and then along SH45 to the CBD, school or down to the CBD. Those lots closer

to Upper Wairau Rd would utilise Upper Wairau Rd and the footpath to Donnelly St for the more active users due to the steep grades or via SH45.

28. At the expert conferencing it was agreed that the provision of central islands should be considered to assist pedestrians and vulnerable users to cross both Upper and Lower Wairau Rd and the State Highway as well as a shared use path on the inland side of SH45 between the underpass and Donnelly St.
29. In conclusion I believe the surrounding roading network can accommodate the predicted traffic flows from the proposed plan change area. I also believe that a suitable designed roundabout can be achieved although it will require some engineering judgement if the alternative access onto SH45 is not adopted.