

BEFORE THE HEARING PANEL

IN THE MATTER of the Resource Management Act 1991

AND

IN THE MATTER of a request by Palmerston North city Council for Plan Change E – Roxburgh Residential Area

STATEMENT OF EVIDENCE OF CHRISTOPHER WILLIAM GROOM (TRANSPORT)

DATED 23 April 2025

INTRODUCTION

1. My full name is Christopher William Groom. I hold a Bachelor of Urban Planning (Honours) degree from the University of Auckland. I am a member of the Transportation Group New Zealand. I have worked in the transportation field for 10 years.
2. I am based in Wellington and have worked for WSP NZ Ltd as a Principal Transport Planner since August 2021. For the four years prior to that I worked as a Senior Transport Planner for Jacobs. Prior to that I worked for Greater Wellington Regional Council a Public Transport Planner for three years.
3. I have practiced as a transport planning specialist where I have provided consulting and expert witness services to clients including private developers, local government and the New Zealand Transport Agency. Examples of my relevant experience include:
 - (a) Consultant transport planner for Wellington City Council for the Transitional Cycleways Programme including expert witness evidence for appeals through High Court proceedings.
 - (b) Providing business case, design and traffic modelling advice for Palmerston North City Council projects including Pioneer Highway pedestrian crossing, Tennent Drive signalisation, Cook Street cycleway, Featherston Street cycleway and Summerhill Drive signalisation.
 - (c) Preparing transport impact assessments for a range of land developments and infrastructure projects across New Zealand including bus depots, quarries, vehicle inspection centres and medium density housing developments.
4. My evidence in this statement is given in respect to the transport matters relating to proposed Plan Change E (by Palmerston North City Council to rezone land at Roxburgh Crescent in Hokowhitu from industrial to residential). Transport matters relevant to the plan change include trip generation, road safety, vehicle access, active modes and parking. I discuss my involvement in this plan change in my paragraphs 8 to 11.
5. My evidence has been structured to first provide a summary of the findings from the Transport Assessment and then comment on the transportation matters raised by submitters.
6. I have read and agree to comply with the Environment Court Code of Conduct for expert witnesses contained in the Environment Court's Practice Note 2023. This evidence is within my area of expertise, except where I state that I rely upon the evidence of another expert witness as presented to this hearing or a report that formed part of Plan Change E. I have not omitted to consider any material facts known to me that might alter or detract from any opinions expressed. I have no conflicts of interest to declare.

DATA AND GUIDELINES

7. The data and technical guidelines that I have relied upon in preparing my evidence are:
 - (a) The roading hierarchy contained in the Palmerston North District Plan.
 - (b) Traffic counts undertaken in March 2019 which have been extracted from Palmerston North City Councils ATLYST database. Traffic counts for Roxburgh Crescent include traffic generated by the Higgins construction yard prior to its relocation.
 - (c) Traffic counts taken on February 2025 for Roxburgh Crescent north and south which is after Higgins relocated the construction yard to another location within Palmerston North.
 - (d) Crash records for the period between 2013 and 2022 extracted from NZ Transport Agency's Crash Analysis System.
 - (e) Trip generation rates contained in NZ Transport Agency's Research Report 453 – Trips and Parking Related to Land Use (2011).
 - (f) Austroads Guide to Road Design Part 6: Roadside Design, Safety and Barriers.
 - (g) Palmerston North City Council Engineering Standards for Land Development (2023).

INVOLVEMENT WITH PLAN CHANGE E

8. I have been engaged by Palmerston North City Council to provide expert witness evidence in relation to the transportation matters of Plan Change E for this hearing.
9. I have reviewed the Transport Assessment for the Roxburgh Crescent Plan Change prepared by my colleague Matthew Evis and I support the findings of the report.
10. I am familiar with the site and surrounds. I visited the site on 22 January 2025 and walked the surrounding road network.
11. My evidence is presented on behalf of Palmerston North City Council and should be read in conjunction with the Transport Assessment for Roxburgh Crescent Plan Change dated 01/03/2024¹.

SUMMARY OF TRANSPORT ASSESSMENT

¹ Roxburgh Crescent Plan Change Transport Assessment, Final version, dated 01/03/2024, authored by Matthew Evis

12. WSP was commissioned by Palmerston North City Council to undertake a Transport Assessment (TA) of the proposed Plan Change to rezone existing industrial land at 20-34 Roxburgh Crescent ('the site') to medium-density residential zoning. The purpose of this TA was to provide a high-level assessment of the transport related effects of the proposed Plan Change. The TA considers:
 - a. expected trip generation and site operations;
 - b. impacts on the local road network;
 - c. suitability and safety of the proposed site accesses and internal site arrangements; and
 - d. connectivity of the site for walking, cycling and public transport.
13. The site is about 3.5 kilometres from Palmerston North's city centre, surrounded by residential zoning to the north, west, and south. It is bound by the Manawatu River to the east. Roxburgh Crescent is classified as a Local Road under the Palmerston North District Plan and will continue to operate as the primary connection to the surrounding road network following proposed redevelopment of the site. It currently has low traffic volumes with approximately 1,390 vehicles per day and relatively low vehicle speeds of 36km/hr.
14. A Structure Plan has been developed for the proposed Plan Change, which is the basis for the assessment of effects reported in the TA. The anticipated site yield of the site is approximately 104 households. On full development of the site, the medium-residential housing is expected to result in approximately 83 morning peak trips and 707 daily trips over a typical weekday. This results in a net reduction of 44 morning peak trips and 683 daily trips compared to industrial activities which is a 49% reduction in daily traffic volumes. Therefore, there is sufficient capacity available to support traffic generated by the proposed Plan Change area without having a detrimental impact on the safe and efficient operation of the transport network.
15. The internal roading network as outlined in the Structure Plan would provide permeability and connectivity between the site and the surrounding roading network. The site is also well connected to the public transport network with a five-minute walk to a bus route with a 15-minute peak frequency and 30-minute off peak frequency. The TA notes that proposed widths for local roads identified in the Structure Plan are narrower than the minimum desired widths defined within PNCC's Engineering Standards. However, the proposed road network can be developed to adhere to the intended principles of these standards.

16. Subsequent to the Transport Assessment being completed additional traffic counts were taken on Roxburgh Crescent which show a reduction in traffic volumes. This is due to the relocation of the Higgins construction yard which is a comparatively large trip generator.
17. The average weekday traffic volumes recorded in 2025 is 539 vehicles for Roxburgh Crescent south and 343 vehicles for Roxburgh Crescent north. This compares to traffic volumes in 2019 that were 660 vehicles for Roxburgh Crescent south and 730 vehicles for Roxburgh Crescent north.
18. The 2019 traffic volumes are used as the baseline to compare against for trip generation from the conversion in land uses to residential. This is because the 2019 traffic volumes represent a situation where the largest parcel of land within Roxburgh Crescent is in productive use.

RESPONSE TO SUBMISSIONS

19. I provide the following response to the submissions raising transportation related comments and concerns:

Edrei Valath, dated 1 November 2024

20. Mr Valath is against the proposed Roxburgh Crescent Plan change partly due to traffic and safety concerns and requested a smaller scale and/or slower pace development. The main concern raised is that the additional vehicle trips generated by new residents would create congestion and safety risks on Ruahine Street. Concerns were also raised regarding congestion and safety for the Pahiatua Street/ Ruahine Street/ Manawatu Street intersection due to the additional vehicle trips.
21. In consideration of Mr Valath's points the forecast trip generation from a change to residential land use on Roxburgh Crescent is 83 vehicles per hour in the morning peak or 707 vehicles per day. This is based on 104 residential lots being developed with a trip generation rate of 0.8 per household in the peak hour and 6.8 per house per day². The trip generation rate is derived from the New Zealand Transport Agency Research Report 453.

² Further detail provided in section 4.1 of the Roxburgh Crescent Plan Change Transport Assessment

22. The most recent traffic counts on Roxburgh Crescent in March 2019 measured 127 vehicles per hour in the morning peak or 1,390 vehicles per day with approximately 20% of the traffic being classes as heavy vehicles.
23. Therefore, Plan Change E is forecast to result in a reduction in traffic volumes generated by the site with 45 fewer vehicles per hour in the morning peak or 690 vehicles per day. The composition of the traffic from residential uses of the Roxburgh Crescent site is expected to be predominately light vehicles once the construction phase has been completed.
24. The road network surrounding Roxburgh Crescent has ample spare capacity to accommodate traffic during the construction and operational phases of the development. This is because Ruahine Street and Pahiatua Street are classed as collector roads under Section 20 of the Palmerston North District Plan which are typically expected to support up to 10,000 vehicles per day. Existing traffic volumes on Pahiatua Street is 4,540 vehicles per day with Ruahine Street carrying 3,640 vehicles per day. This indicates that Ruahine Street and Pahiatua Street are currently operating approximately 50% below the theoretical capacity of collector roads and can accommodate additional traffic should this occur in the future.
25. During the redevelopment of the site it is expected that there will be an increase in heavy vehicle movements on the surrounding road network. However, it is unlikely that the site will be redeveloped all at once due to there being several landowners and it generally being commercially advantageous to stage residential developments. To reduce the impact of construction traffic it is recommended that a Construction Traffic Management Plan is developed for each stage of the development prior to commencing work on site. Typical measures contained in Construction Traffic Management Plan include specifying where contractors can park, restricting heavy vehicle movements to outside of school drop off/ pickup times and staging works to maintain access to properties.
26. It is recommended that no change is made to Plan Change E as a result of this submission.

Jason Temperley

27. Mr Temperley has concerns on the impact of traffic on the surrounding area including Albert Street and Ruahine Street which are the primary road connections to the site. Submitter is of the opinion that these routes are currently congested at peak times.
28. As noted in the response to Mr Valath's submission above, the proposed change from industrial to residential activities is forecast to result in a net reduction in trips generated from the site. There is no known congestion

issue on the surrounding roading network with existing traffic volumes being well below the typical capacity of collector roads.

29. It is recommended that no change is made to Plan Change E as a result of this submission.

Frances Holdings Limited, dated 14 November 2024

30. Frances Holdings Limited is the owner of several properties in Roxburgh Crescent and Ruahine Street and is generally in support of the plan change. Several specific matters were raised by the submitter which includes the dimensions of the proposed street cross section, vehicle tracking for the proposed road network and the need for 90-degree parking at the entrance to the Manawatu River Pathway. The submitter requested that the structure plan be amended to delete the pedestrian and cycle access to Ruahine Street, remove the 90-degree parking from Road Type D and include the ability to use cul-de-sacs. I discuss each of these matters below.

Cross section dimensions

31. Regarding the street cross section contained in the proposed plan change the submitter noted that there is a discrepancy between the indicative street cross section and the measured width of Roxburgh Crescent. The submitter measured the existing width of Roxburgh Crescent as 12.8m and the indicative cross section has been labelled as 13.0m wide. However, the minimum dimensions of the indicative cross section are a total of 12.0m with two 1.8m wide footpaths, a 1.9m wide parking lane, 5.7m wide carriageway and 0.8m wide berm. Therefore, there is adequate space within the existing width of Roxburgh Crescent to accommodate the elements typically found on a residential street and the discrepancy in measurements is inconsequential.
32. The submitter also noted that there is an error in Figure 4-8 in the Transport Assessment which provides Awanui Avenue as an example of a 13m wide street. As the submitter noted this street is 14m wide measured boundary to boundary. The purpose of the figure was to provide an example of a narrow residential street in Palmerston North with a 1m discrepancy being inconsequential as at Roxburgh Crescent a narrower berm is proposed.

Structure plan provisions

33. In a pre-hearing meeting with the submitter, it was proposed that the cross sections be removed from the structure plan provisions. This was in order to provide the developer with greater flexibility to widen Roxburgh Crescent should they choose to do so. In my view, the cross sections provide a useful indication of

the street layout which is envisaged for the plan change area. This is to ensure that a permeable street network is created which provides walking connections to the Manawatū River path and to amenities with the suburb of Hokowhitu. Therefore, it would be preferable to amend the road cross sections in Map 7.10 to state that the street must be a minimum of 13m in width. This would provide the developer with the flexibility to widen Roxburgh Crescent whilst showing the minimum acceptable dimensions and layout of the street.

Vehicle tracking

34. The submitter also requested vehicle tracking for the proposed internal road layout with particular note being given to the 90-degree corners. As contained in New Zealand Transport Agency RTS 18 On road tracking curves for heavy vehicles 2007 the swept of a medium rigid truck undertaking a 90 degree turn around a corner with a 10m radius is 4.2m wide. A medium rigid truck is considered to be the appropriate check vehicle for residential subdivisions as this is the largest type of vehicle that is expected to use of the road on an infrequent basis. The swept path of a medium rigid truck can fit within the proposed carriageway with of 5.5m to 5.7m as contained in the indicative cross section.

Parking provision

35. With regards to the proposed 20.5m cross section (road type D), the submitter queried the need for 90-degree parking and requested parallel parking instead. In my view, 90-degree parking is required to provide sufficient parking for the users of the Manawatu River Pathway and adjacent public open spaces. This is because the Manawatu River Pathway is a popular activity particularly on weekends and that the other accesses including Albert Street, Waterloo Crescent, Ayr Place and Ruahine Street all have off street or 90-degree parking.

Pedestrian and cycle access

36. Regarding pedestrian and cycle access, the structure plan includes a path between 571 and 577 Ruahine Street that would replace an existing vehicle accessway (Figure 1). The pedestrian and cycle path provides direct access to the bus stops at 555 Ruahine Street and 121 Pahiatua Street. I do not support removing the pedestrian and cycle path from the structure plan as it would discourage active modes by making routes less direct. A transport network which priorities walking and cycling is one of the objectives of Palmerston North Transport Plan 2021-2031. In my view, the current structure plan has better strategic alignment with PNCC transport policies.

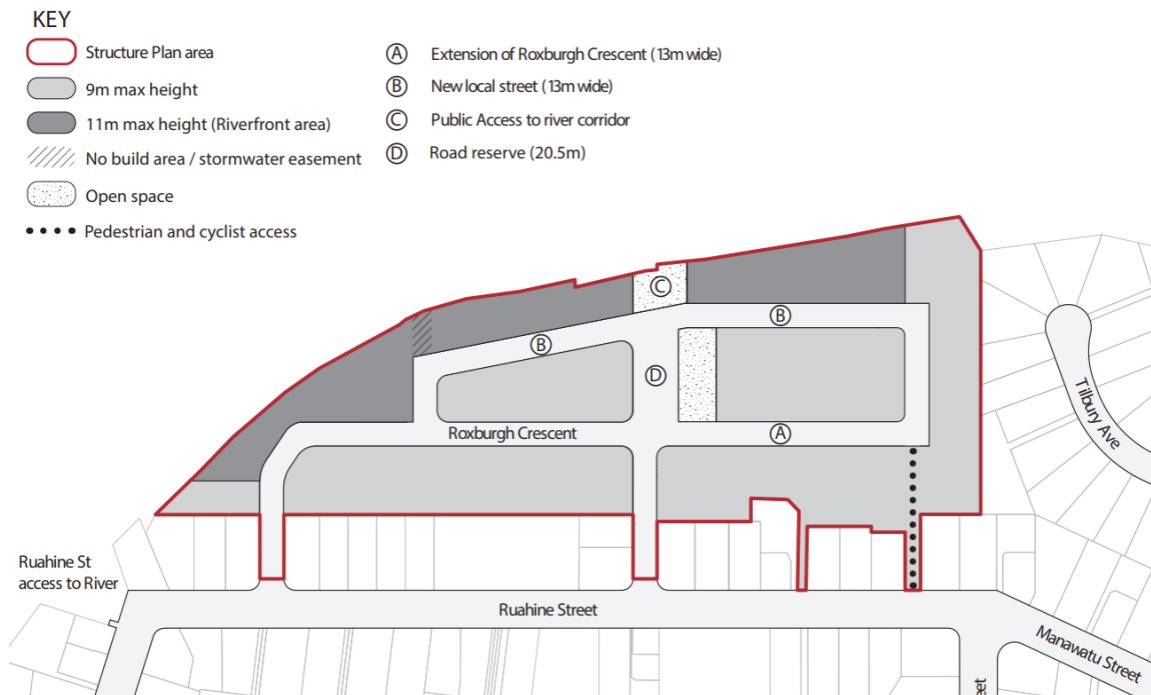


Figure 1: Proposed structure plan showing pedestrian and cycle access as dotted line

Removal of local street B

37. I do not support the proposed replacement of local street B with cul-de-sacs as contained in the indicative subdivision plan provided by the submitted. The proposed grid street network within the Structure Plan provides superior transportation outcomes. A grid street network creates shorter block lengths than a street network comprising of cul-de-sacs and therefore encourages more walking and cycling due to shorter trip distances. The long right of ways shown³ within the indicative layout plan also raise safety concerns, particularly with respect of an increased risk of low speed run over fatalities (i.e. when a child is run over whilst playing on a driveway (most commonly by a parent or other family member). Comparatively a grid street network provides for shorter driveways which children are less likely to use as a play area and also greater separation between the driveway and outdoor areas.

Width of Roxburgh Crescent

38. It is noted that under the PNCC Engineering Standards for Land Development (2023) the minimum carriageway width for local residential roads which service up to 200 dwellings is 15.5m. The structure plan for Plan Change E retains and extends the existing street network with Roxburgh Crescent having a width of

³ Shepherd M, Austin P, Chambers J. 2010. Driveway runover, the influence of the built environment: A case control study. Journal of Paediatrics and Child Health 46(12): 760-7.

12.8m to 14.0m depending on the point of measurement. 549 Ruahine Street to 9 Roxburgh Crescent is 13.0m wide, 9 Roxburgh Crescent to 33A Roxburgh Crescent is 12.8m wide and 33A Roxburgh Crescent to 521 Ruahine Street is 14.0m wide.

39. In my opinion the proposed carriageway width is suitable for residential purposes because narrower streets encourage slower vehicle operating speeds and visitor parking can be accommodated on one side of the street.

Structure Plan amendment

40. It is recommended that as a result of this submission the road cross sections in Map 7.10 are updated to state that the street is to be a minimum of 13m in width. This will provide clarity that the developer can widen Roxburgh Crescent should they choose to do so. Retaining the structure plan and cross sections will ensure that good transport outcomes are achieved which includes walking permeability, access to the Manawatu River path and safety.

P.N Engineering Ltd

41. The submitter operates a business based out of units 25 and 25A Roxburgh Crescent and raised concerns about the impact on off street parking and heavy vehicle deliveries from installing a footpath and kerb along the western side of Roxburgh Crescent.
42. As part of the roading changes associated with plan change there would be vehicle crossings which traverse the footpath to provide access to private properties including off street parking. This type of arrangement is very common across Palmerston North and therefore there would be no obstruction to off street parking on private property.
43. Regarding heavy vehicle access for deliveries and pickups the truck could park on the accessway behind the staff parking which is considered appropriate as traffic volumes and speeds on Roxburgh Crescent will be low.
44. It is recommended that no change is made to Plan Change E as a result of this submission.

Rosemary Watson, dated 19 November 2024

45. Submitter raised a general concern regarding the safety of the proposed access to the Manawatu River Pathway for pedestrians and cyclists.

46. From reviewing the plan change material and undertaking a site visit no safety concerns could be identified regarding pedestrian and cycle access to the Manawatu River Pathway via Roxburgh Crescent. It is noted that there is an existing raised pedestrian crossing near Winchester School and that it is proposed that Roxburgh Crescent is to be upgraded to better reflect residential land uses with footpaths on both sides of the road.
47. The proposed Manawatu River Pathway access from Roxburgh Crescent is considered to be equally as safe as the existing access from Ayr Place which is a low volume residential cul-de-sac. The proposed Roxburgh Crescent access is considered to be safer for pedestrians and cyclists than the existing Ruahine Street entrance as at a 90-degree corner which limits visibility.
48. It is recommended that no change is made to Plan Change E as a result of this submission.

Horizons Regional Council, dated 19 November 2024

49. Submitter is in support of the Plan Change due to alignment with Regional Land Transport Plan and Regional Public Transport Plan. Specific aspects of the proposal which are supported are the increase in density in central parts of the city, that the development would provide good access to the bus stops on Ruahine Street and walking and cycle connections to the Manawatu River Pathway.
50. Points raised in the submission are noted and agreed with.
51. It is recommended that no change is made to Plan Change E as a result of this submission.

CONCLUSION

52. Having reviewed the transportation matters raised by the submitters I consider that the Plan Change E provisions will adequately and appropriately address the concerns raised. I note that the forecast trip generation of site under residential land use is 49% lower than industrial land use. Furthermore, there are no current capacity issues for the road network surrounding Roxburgh Crescent with traffic volumes being less than half the theoretical capacity for collector roads. No safety concerns could be found with regards to the proposed access to the Manawatu River Trail.
53. I recommend that the cross sections contained in the Structure Plan are amended to make it clear that the dimensions are minimums and could be widened should the developer choose to do so. In my opinion retaining local street B provides better transport outcomes than cul-de-sacs due to shorter walking distances and the avoidance of long right of ways.

54. In summary, there are in my opinion no matters relating to transportation that would preclude Plan Change E from being granted as sought.

Chris Groom

23 April 2025