

Report pursuant to s42A Resource Management Act 1991

In the matter of: A Notice of Requirement to designate land for roading purposes between Abby Road and Johnstone Drive in Aokautere, Palmerston North

And: A hearing by Palmerston North City Council pursuant to s102

Requiring Authority: Palmerston North City Council

Hearing date: 31 March 2021

S42A Technical Evidence: Traffic and Transport by: Harriet Fraser

Contents

1	Introduction	3
1.1	Expert Witnesses – Code of Conduct	4
2	Background and Scope of Evidence	4
2.1	Background	4
2.2	Scope of Evidence	5
2.3	Site Visit	6
3	Existing Environment	6
4	Consideration of Alternatives	10
4.1	Do Nothing	10
4.2	Extend Abby Road to Intersect with Aokautere Drive (SH57)	10
4.3	Extend Abby Road to Intersect with Johnstone Drive	11
5	Alignment with Statutory Documents	12
5.1	Palmerston North City District Plan	12
5.2	Government Policy Statement on Land Transport (GPS)	16
5.3	Horizons Regional Land Transport Plan (RLTP)(2018 Review)	17
5.4	Draft Aokautere Structure Plan	18
6	Review of Submissions	19
7	Draft Requirement Conditions	20
8	Conclusions	21

1 Introduction

1. My full name is Harriet Barbara Fraser. I hold the qualification of Chartered Professional Engineer and Chartered Member of Engineering NZ. I hold a Bachelor of Civil Engineering degree from Imperial College, University of London and a Masters' degree of Science in Transportation Planning and Engineering awarded with distinction by the University of Leeds. My background of experience includes over 25 years consultancy experience in traffic and transportation matters. From August 1998 to August 2012 I worked as a Transportation Planner in the firm of Traffic Design Group Limited practicing as a transportation planning and traffic engineering specialist throughout New Zealand. Since September 2012 I have been working as a sole practitioner in the field of transportation planning and traffic engineering.
2. I am a certified Hearing Commissioner, having completed the MFE Making Good Decisions training and have also been appointed as a Development Contribution Commissioner.
3. I have prepared this evidence on behalf of Council as the determining authority in relation to the Notice of Requirement (NOR) for a new road connection between Abby Road and Johnstone Drive (the Project) lodged by Council as the requiring authority. I understand that my evidence will accompany the planning report being prepared by the determining authority under section 42A of the Resource Management Act 1991.
4. I have previously assisted Council with processing the Notice of Requirement for the Te Ahu a Turanga: Manawatu Tararua Highway Project and a number of Plan Changes during the recently completed review of the District Plan. I have assisted Council on other projects including Section 42A reporting on transportation matters associated with the He Ara Kotahi pedestrian and cycle bridge over the Manawatu River, the preparation of a Comprehensive Parking Management Plan and have also provided transportation assessments for applicants seeking resource consent from Council. As such, I have a good

working knowledge of both the transportation elements of the District Plan and the particular traffic characteristics of Palmerston North and its environs.

1.1 Expert Witnesses – Code Of Conduct

5. I confirm that I have read the Code of Conduct for Expert Witnesses 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 except where I state I am relying on information provided by another party, the content of this evidence is within my area of expertise.

2 Background and Scope of Evidence

2.1 Background

6. The NOR application seeks to enable roading access between Abby Road (currently a cul-de-sac) and Johnstone Drive. The road to be formed would have a length of approximately 180m and would be a two-lane road that would connect with Johnstone Drive via a new tee-intersection.
7. The Project objective is to secure the potential to extend Abby Road so that it joins up with Johnstone Drive for the purpose of:
 - a. Preserving and providing an efficient and logical connection between Abby Road and Johnstone Drive.
 - b. Preserving and providing provide an efficient and logical access to the eastern side of the Adderstone Reserve from Abby Road, to enable recreational opportunities.
8. The extent of the proposed designation is shown in Figure 1 of the application AEE with an extract included below.



Figure 1: Extent of NOR

2.2 Scope of evidence

9. I have been asked to assess the traffic and transport elements of the NOR. My assessment considers the following matters:
 - a) An overview of the existing traffic and roading environment.
 - b) Adequacy of the applicant's investigations and interpretation of the findings of those investigations.
 - c) Alignment of the NOR with statutory documents.
 - d) Submissions relating to traffic and transport.
 - e) Consideration of draft conditions.
10. My evidence should be read in conjunction with expert evidence of the other experts that have contributed to the s42A Planning Assessment.

11. As part of preparing this statement of evidence, I have read the following reports and documents:

- a. Notice of Requirement – Extension to Abby Road between Pacific Drive and Johnstone Drive – Transportation Assessment dated 2 September 2020
- b. Further Information Response dated 22 October 2020
- c. Submissions on the NOR

2.3 Site visit

12. I undertook a site visit on 18 February 2020 and am familiar with the surrounding environment.

3 Existing Environment

13. The existing transport environment is described in sections 1.3.4 and 1.3.5 of the WSP report Notice of Requirement – Extension to Abby Road between Pacific Drive and Johnstone Drive and in Section 3 of the Transportation Assessment. Key matters with regard to the existing traffic environment are:

- a. speed limit of 70km/h on SH57 Aokautere Drive through the intersections with Pacific Drive, Cashmere Drive and Johnstone Drive;
- b. speed limit of 50km/h on Pacific Drive, Johnstone Drive and Abby Road;
- c. the two sections of Johnstone Drive have yet to be connected although it is understood that the connecting link has now been vested in Council;
- d. in the Council's road hierarchy, SH57 Aokautere Drive is a Major Arterial, Pacific Drive a Minor Arterial, Johnstone Drive a Collector Road and Abby Road a Local Road;

- e. estimated weekday average peak hour traffic flows of around 1,200 vehicle movements per hour (vph) on SH57 Aokautere Drive to the west of Pacific Drive;
- f. vehicle flows (excluding heavy vehicles) of around 2,580 vehicle movements per day (vpd) on Pacific Drive and less than 500vpd on each section of Johnstone Drive with an estimated 315vpd on Abby Road;
- g. Abby Road has a 20m road reserve with an 8m wide carriageway;
- h. the reported crash search for the 5 years 2015-2020, shows that there were:
 - i. three non-injury crashes at the intersection of SH57 and Pacific Drive;
 - ii. two crashes on SH57 between Pacific Drive and Johnstone Drive; and
 - iii. two minor injury crashes on Pacific Drive north of Abby Road. One involved a motorist avoiding an animal and the other involved a car hitting a parked car.
- i. there are footpaths on both sides and no marked on-road cycle facilities on the local roads in the area;
- j. there are bus stops on Pacific Drive around 450m to the north of Abby Road with services to and from the city centre; and
- k. traffic flows on SH57 may reduce once the Te a Turanga (SH3 across the ranges) opens and traffic diverts away from the Pahiatua Track.

14. I note that Abby Road is around 6km from central Palmerston North (The Square) and that there is some provision for cyclists on the shoulders along SH57 to the west of Pacific Drive and then along Summerhill Drive.

15. Photographs of the existing local road network taken during my site visit are included below.



Photo 1: Looking along the unopened Section of Johnstone Drive



Photo 2: Looking towards the end of Abby Road



Photo 3: Looking along Abby Road towards Pacific Drive



Photo 4: Looking North along Pacific Drive from Abby Road



Photo 5: Looking South along Pacific Drive from Abby Road

4 Consideration of Alternatives

16. Section 1.5 of the AEE describes the consideration of alternatives. Three alternative options were considered:
 - a. Do Nothing
 - b. extend Abby Road to intersect with Aokautere Drive (SH57)
 - c. extend Abby Road to intersect with Johnstone Drive.

4.1 Do Nothing

17. At section 1.5.1 the AEE comments that *'the current roading pattern provides limited opportunities for passing between the collector roads without taking long routes'*.

4.2 Extend Abby Road to Intersect with Aokautere Drive (SH57)

18. At section 1.5.2 the AEE concludes that there would be traffic safety and efficiency issues with an additional intersection connection with SH57. I agree

that the focus should be on the existing and future safety and efficiency of the existing intersections along this section of SH57 rather than introducing an additional connection to SH57.

4.3 Extend Abby Road to Intersect with Johnstone Drive

19. At section 1.6.1 of the AEE, and on the proviso that the two sections of Johnstone Drive are connected, the findings of the Transportation Assessment for this option are summarised as follows:
 - a. The overall effect of the extension on the efficiency of the Abby Road and Pacific Drive intersection is expected to be negligible;
 - b. The performance of the intersection of Abby Road and Johnstone Drive is very good;
 - c. The overall effect on safety is expected to be negligible as the Abby Road and Johnstone Drive intersection will be designed and constructed to an appropriate standard;
 - d. The overall effect on access is expected to be a moderate positive effect as the link provides improved access and route choice for some areas; and
 - e. The overall effect on resilience is expected to be a minor positive as the link provides some route redundancy in the local road network.
20. With regard to point a. above, Table 8 in the Transportation Assessment forecasts that the Level of Service will change from an A to a C on the Abby Road approach as a result of the link road. While I consider this change in level of service to be acceptable, the change will not be negligible, residents will experience small but noticeable increases in delays and queueing.
21. Point c. above comments on the anticipated safe design of the Abby Road intersection with Johnstone Drive. With no design provided and in line with good practice, I suggest that a condition is included requiring both a Detailed Design and a Post-Construction Road Safety Audit of the intersection.

22. With regard to the design of the link road itself, I recommend that a condition is included to ensure safe sight lines from existing driveways, especially for 26 and 28 Abby Road. I am confident that there is a solution within the proposed designation and that this would be part of the detailed design process. The solution will be in Council's control such as including no stopping around the inside of the bend, no planting within the berm that would restrict sight lines from driveways and of course the detailed alignment of the curve in the road itself. The link road design should also be subject to a Detailed Design and Post-Construction Road Safety Audit or equivalent process.
23. I agree that the link will result in positive transport effects with regard to access and resilience.
24. The extension of Abby Road to connect with Johnstone Drive was selected as the preferred option. I agree that this is the better of the alternative options with regard to traffic effects on the local road network and achieving the objectives of the NOR.

5 Alignment with Statutory Documents

5.1 Palmerston North City District Plan

25. Section 7 of the Transportation Assessment describes the compliance of the proposal with the Palmerston North City Council District Plan. The version referenced is not the current version which became operative in May 2018.
26. In Table 1 below I have set out the District Plan transportation objectives (City View and Transportation) and policies that I consider are relevant to this NOR and have commented on the alignment of the NOR with them.

District Plan Objective/ Policy	Comment on Alignment
City View Objective 3 – The integrated and efficient provision of, and access to, infrastructure, network utilities and local services is facilitated for all residents.	The proposed link road will improve access for existing and future residents and in particular for pedestrians and cyclists who will benefit from shorter travel distances.
City View Objective 9 – Subdivisions, buildings and infrastructure are designed and constructed to promote a coordinated, healthy and safe environment.	Recommendations are included for the link road and its new intersection with Johnstone Drive to be subject to road safety audits to ensure the safe performance of this new infrastructure.
City View Objective 19 – the effects of natural hazards are avoided or mitigated taking into account the effects of climate change and the significant social disruption caused by natural hazard events.	The upgrading of Abby Road from a cul de sac to a through link is consistent with this objective.
City View Objective 23 – infrastructure operates in a safe and efficient manner, and the effects of activities which could impact on the safe and efficient operation of this infrastructure are avoided, remedied or mitigated.	With regard to safety, see comment on City View Objective 9 above. With regard to efficiency, on the proviso that the two sections of Johnstone Drive are connected, the intersections of Abby Road with each of Pacific Drive and Johnstone Drive are forecast to perform well.
City View Objective 24 – All forms of transport, including public transport, walking, cycling and private vehicles are adequately provided for to assist with sustainable energy use and a healthy lifestyle.	The link will result in shorter travel distances for some existing residents and in particular provides a short cut for pedestrians and cyclists.
City View Objective 25 – infrastructure and physical resources of regional or national importance are recognised and provided for by enabling their establishment, operation, maintenance, upgrading and protection from the effects of other activities.	The proposed NOR which does not include a new connection to SH57 minimises any adverse effects on the state highway.

District Plan Objective/ Policy	Comment on Alignment
Transportation Objective 1 – The City’s land transport networks are maintained and developed to ensure that people and goods move safely and efficiently through and within the City	
Policy 1.1 – Identify and apply the roading hierarchy to ensure the function of each road in the City is recognised and protected in the management of land use, development and the subdivision of land.	The application includes the intention that the new road will be a Local Road in the road hierarchy and the proposed NOR includes adequate width for this to be achieved. The forecast traffic flows on the existing and proposed sections of Abby Road are consistent with those expected for a Local Road.
Policy 1.2 – all roads in the City have function and design characteristics consistent with their place in the roading hierarchy.	As per comment on Policy 1.1.
Policy 1.3 – maintain and upgrade the existing roads in the City and provide for new roads to meet the current and future needs of the City.	The proposed road will serve both existing and future residents.
Policy 1.4 – the road network stormwater control system shall protect the road, road users and adjoining land from the adverse effects of water from roads and minimise any adverse effect on the environment.	This is a matter of detailed design later in the planning process.
Policy 1.5 – require all new public roads, private roads and vehicle accesses to be designed and constructed to meet performance standards relating to the safety and efficiency of vehicle movement, and to ensure the safe use of the road transport network for all users.	This is a matter of detailed design later in the planning process. The extent of the NOR and the existing road reserve widths allow for designs that can be expected to be the safe and efficient for all road users.
Policy 1.6 –Encourage the development of safe and accessible pedestrian paths and cycleways, as well as convenient and accessible cycle parking, to support the opportunity for people to use active and non-vehicular modes of transport throughout the City.	The application includes the intention that the new road will include footpaths along both sides and that cyclists will share the traffic lanes as is common on Local Roads. The footpaths will benefit from passive surveillance from passing traffic.
Policy 1.7 –to support and encourage the provision of public transport and its use throughout the City as an integral part of the transportation system.	The link road will improve access to the bus stops on Pacific Drive for residents on Johnstone Drive.

District Plan Objective/ Policy	Comment on Alignment
<p>Policy 1.8 – Convenient, safe, and accessible car parking, loading and manoeuvring facilities are available for residents, staff, visitors and customers for all activities without creating congestion or conflicts with moving vehicles, pedestrians or cyclists on adjacent roads.</p>	<p>The cross-section of the new section of road as indicated in the application will allow for two-way vehicle flow as well as parking along both sides.</p>
<p>Transportation Objective 2 - The land transport network is safe, convenient and efficient while avoiding, remedying or mitigating adverse effects in a way that maintains the health and safety of people and communities, and the amenity values and character of the City's environment.</p>	
<p>Policy 2.1 – to restrict the through movement of traffic where the movement has adverse visual, noise and safety effects on adjoining areas by using the road hierarchy to direct higher volume and heavy traffic movements on identified arterial routes and discouraging this traffic from other areas, such as residential areas.</p>	<p>The forecasting included in the application indicates that the link would get used by a limited number of households and that traffic flows will remain within the range anticipated for a Local Road.</p>
<p>Policy 2.2 – to avoid, remedy or mitigate the impact of roads and parking areas on visual amenity values of the community by requiring the provision of landscaping.</p>	<p>My expectation is that the width of the NOR is such that any necessary landscaping can be accommodated.</p>
<p>Policy 2.4 – avoid adverse effects on amenity and character by ensuring that new roads are well designed and visually complement the character of the surrounding areas.</p>	<p>This is a matter for detailed design. The width of the NOR is such that compliance is considered achievable.</p>
<p>Transportation Objective 3 – The safety and efficiency of the land transport network is protected from the adverse effects of land use, development and subdivision activities.</p>	
<p>Policy 3.1 – Avoid, remedy or mitigate the adverse effects of increased traffic or changes in traffic type, which would compromise the safe and efficient operation of any road or level crossing, or the safe and convenient movement of pedestrians and cyclists on roads or at level crossings.</p>	<p>The forecast performance of the intersections is satisfactory. It is recommended that the link road and new intersection are subject to road safety audits to ensure their safe operation.</p>
<p>Policy 3.3 – Ensure that buildings and activities do not compromise land transport network safety,</p>	<p>Comment as per Policy 3.1 above.</p>

District Plan Objective/ Policy	Comment on Alignment
including maintaining the necessary clear sight lines for road vehicles at level crossings and road intersections.	

Table 1: Alignment with District Plan Transportation Objectives and Policies

27. As shown, the proposed NOR is well aligned with many of the objectives and policies and the recommended road safety audits will ensure the safe operation of the link and its new intersection with Johnstone Drive.
28. I am also of the view that the alignment with other documents including the Government Policy Statement on Land Transport 2021 and Horizons Regional Land Transport Plan (2018 Review) needs to be considered.

5.2 Government Policy Statement on Land Transport 2021(GPS)

29. In Table 2 below I have set out the GPS strategic priorities and have commented on the alignment of the NOR with them.

GPS Strategic Priority	Comment on Alignment
Developing a transport system where no-one is killed or seriously injured.	The 50km/h speed environment helps minimise the risk of death and serious injury crashes. It is recommended that the link road and the new Johnstone Drive intersection with Abby Road are subject to both detailed design and post-construction road safety audits to ensure their safe operation.
Providing people with better travel options to access places for earning, learning, and participating in society.	The new link will improve access through the local road network, in particular for pedestrians and cyclists who will benefit from the increased connectivity.
Improving freight connections to support economic development.	Not relevant to this local road scenario within a residential area.

GPS Strategic Priority	Comment on Alignment
Transforming to a low carbon transport system that supports emissions reductions aligned with national commitments, while improving safety and inclusive access.	Small reductions in vehicle trip lengths and associated emissions can be expected.

Table 2: Alignment with GPS on Land Transport

5.3 Horizons Regional Land Transport Plan (RLTP)(2018 Review)

30. In Table 3 below I have set out the RLTP policies and measures that I consider relevant to the NOR application.

RLTP Policies and Measures	Comment on Alignment
<p>Policy 1.1 – Ensure the road network provides suitable access to business, educational, defence, social and recreational services for the region's residents, visitors and businesses by:</p> <p>1.1.3 Encouraging the separation of arterial and local road traffic where appropriate (territorial authorities)</p>	The proposed NOR will lead to some local rerouting of trips but will not lead to arterial road traffic rerouting through the local road network.
<p>Policy 2.2 – Support the provision of effective connections to the region's principal economic growth and productivity areas by:</p> <p>2.2.2 Encouraging the separation of arterial and local road traffic where appropriate and align with the One Network Road Classification (NZTA, territorial authorities)</p>	As per comment above.
<p>Policy 2.5 – encourage effective integration of transport and land use planning in growth areas of the region by:</p> <p>2.5.2 Developing transport projects and services which are consistent with land use plans and strategies (NZTA, territorial authorities)</p> <p>2.5.3 Ensuring freight, tourist flows, and walking and cycling routes are taken into account during</p>	The assessment has given consideration to some future growth in the Aokautere area. The NOR has the potential to improve access for some pedestrians and cyclists moving through the local area and will improve access to the Adderstone Reserve and walkway.

RLTP Policies and Measures	Comment on Alignment
planning processes (NZTA, territorial authorities)	
<p>Policy 4 – encourage the uptake of walking and cycling as transport modes and for recreation by:</p> <p>4.1 Providing new infrastructure that caters for safe walking and cycling, where appropriate (NZTA, territorial authorities)</p> <p>4.5 Developing and promoting recreational walkways and cycleways where appropriate (NZTA, territorial authorities)</p>	<p>The width of the NOR allows for footpath provision on both sides. On Local Roads such as this, cyclists typically share the carriageway with vehicular traffic. There will be improved access to the Adderstone Reserve and walkway.</p>

Table 3: Alignment with RLTP

5.4 Draft Aokautere Structure Plan

31. The Draft Aokautere Structure Plan was released in August 2019. An extract from the consultation material is included here as Figure 2.



Figure 2: Extract from Draft Aokautere Structure Plan Consultation Material

32. Some 56 potential residential lots are shown accessing the link road. The NOR Transportation Assessment includes allowance for 65 residential lots within this area as included in Table 3 of the assessment report. As such reasonable

consideration of the possible outcomes of the wider Aokautere development has been included.

6 Review of Submissions

33. Four submissions have been received.
34. The submission from **Bo Yu** includes concerns regarding the filling of the gully with no specific traffic concerns identified.
35. The submission from **Lynne Bishop** does not include traffic matters.
36. The submission from **Powerco** does not include traffic matters.
37. **Aokautere Land Holdings Limited** oppose the NOR and include the following traffic and transportation matters in their submission:
 - a. at paragraphs 23 to 29 of the submission, the submitter implies that when Johnstone Drive is connected a road along the NOR alignment is redundant. My understanding of the benefits of the NOR are with regard to providing improved access to Johnstone Drive and beyond for existing residents of Abby Road and Woodgate Court, efficient access to Pacific Drive and beyond for future potential residents (to the north and east), improved connectivity for pedestrians and cyclists along with improved access to the Adderstone Reserve. While no doubt useful, the completion of Johnstone Drive does not in my view achieve these particular local benefits;
 - b. at paragraphs 32 to 34 of the submission, the submitter raises concerns regarding the width of the NOR. In my experience, the width of the NOR is selected to allow for a range of vertical and horizontal road alignments. Once the road is completed the designation would be reduced to reflect the final position of the road and any associated earthworks or structures; and

- c. at paragraph 66 of the submission, the submitter states their preference for a road from Johnstone Drive to Aokautere Drive adding a further connection to SH57. As per my comments on the 'Alternative Option' which also included a new connection to SH57, Section 4.2 of this evidence and Section 1.5.2 of the Transportation Assessment, I consider that the proposed NOR provides a safer and more efficient arrangement.

7 Draft Requirement Conditions

38. I have read the proposed draft conditions and comment as follows:

- a. The scope of the Construction Management Plan (Condition 3) and the scope of the Traffic Management Plan (Construction) (Condition 34) will ensure the appropriate management of effects associated with construction traffic;
- b. Condition 9 usefully seeks to maintain public access to the Addlestone Reserve when this can be done safely;
- c. Condition 26.d) and 27.l) ensure that public pedestrian access is provided to the Manga o Tane Reserve and that the location, width and grade of the path is subject to a certification process;
- d. The scope of the Infrastructure & Streetscape Management Plan (Condition 42) requires the provision of roading design drawings as part of the certification process; and
- e. My preference with regard to ensuring the safe operation of the new roading and intersection that will be formed is that a Detailed Design and a Post-Construction Road Safety Audit are required. These are undertaken by an independent suitably qualified person and are required to follow the Waka Kotahi NZTA processes for such audits.

8 Conclusions

39. In undertaking this review of the transportation matters associated with the NOR, I have come to the following conclusions:

- a. I expect that there might also be some use made of the link by residents on Pacific Drive with ready access to Abby Road, up to say 15 households for occasional trips, whether for local internal trips or further afield to the northeast via SH57. I consider that the use of conservative household trip generation rates in the assessment allows for this limited additional use;
- b. I agree that the link improves access, especially for the active modes which will benefit from 'the shortcut'. Access to the Adderstone Reserve will be improved for all modes provided that paths and parking are provided through subsequent planning processes;
- c. I agree that inclusion of the link adds resilience, in particular for the residents of Abby Road and Woodgate Court as a result of the additional connection to the local road network;
- d. I agree that of the options considered, the extension of Abby Road to connect with Johnstone Drive is the better option with regard to traffic effects on the local road network and achieving the objectives of the NOR;
- e. the proposed NOR is well aligned with many of the transport-related District Plan objectives and policies;
- f. the proposed NOR is consistent with the GPS on Land Transport strategic priorities;
- g. the proposed NOR is consistent with the Horizons Regional Land Transport policies and measures; and
- h. I recommend that conditions are used to ensure that mitigation measures are included to provide for safe access to Abby Road from frontage

properties and the safe performance of the new intersection with
Johnstone Drive.

Harriet Fraser

9 March 2021

Harriet Fraser