Report pursuant to s42A Resource Management Act 1991

In the matter of:	A Notice of Requirement to construct and operate a new intermodal rail and freight hub on land between Palmerston North and Bunnythorpe
And:	A hearing by Palmerston North City Council pursuant to s100A
Requiring Authority:	KiwiRail Holdings Ltd
Hearing date:	9 August 2021

S42A Technical Evidence: Traffic and Transportation

By: Harriet Fraser

1 Executive Summary

1. My name is Harriet Fraser, and I am providing expert evidence on behalf of Palmerston North City Council ("PNCC" or "Council") as the notifying authority. My evidence considers the traffic effects of KiwiRail's proposed Regional Freight Hub ("**Freight Hub**"). This Executive Summary summarises the areas of contention concerning transport and sets out matters that could usefully be clarified by KiwiRail.

1.1 Assessment Methodology

2. I consider that KiwiRail's assessment methodology is limited given the lack of reporting of the incremental transport effects over and above those forecasted for the full development of the North East Industrial Zone ("**NEIZ**") and its extension. The lack of reporting implies that there is a permitted baseline of traffic effects, which I do not agree with. The development of individual sites within the NEIZ typically involves either full or restricted discretionary resource consent, with traffic effects being a matter for consideration. This activity status provides Council with the opportunity to review the transport effects of proposed activities and use conditions of consent and development contributions to assist with the mitigation of these effects as needed. For instance, if they wished, Council could seek contributions towards the upgrade of the El Prado Drive intersection with Railway Road and the establishment of connections from Alderson Drive to Richardsons Line.

3. I agree that the Palmerston North Area Traffic Model ("**PNATM**") is the most appropriate starting point to assess the traffic effects of the proposed Freight Hub. But any outputs, in particular those relating to forecasted heavy vehicle volumes and routes, need to be treated with a degree of caution. I have concerns that the modelled levels of service of the links and intersections overestimate their practical traffic carrying capacities.

4. The Waka Kotahi Infrastructure Risk Rating ("**IRR**") assessment does not consider the number of pedestrians or cyclists travelling along or across the route, or how they are provided for, if at all. As such, I consider the IRR assessment useful, but it does not provide a comprehensive safety assessment.

1.2 Transport Effects - Construction

5. KiwiRails' NOR does not provide certainty about site access locations for construction purposes. While I understand that some flexibility will be needed, I have assumed that there will be no construction vehicle access from Maple Street, the southern end of Te Ngaio Road, either end of Clevely Line, or from the existing formed section of Sangsters Road. This assumption is based on the need to minimise adverse traffic effects on the local residents on the eastern side of the railway and Maple Street, the poor sight line towards the north along Roberts Line from Clevely Line due to the vertical profile of the Roberts Line bridge over the Mangaone Stream, and the Te Ngaio Road bridge over the Mangaone Stream. If any of these routes and potential access points were to be used, significant infrastructure upgrades are likely to be needed. – The need for the upgrades would be triggered by the construction activity and should in my opinion be covered in the conditions.

1.3 Transport Effects - Operational

6. KiwiRail's failure to include a rural freight ring road and bypasses of Bunnythorpe, even as a sensitivity test, creates confusion about the likely transport effects of the Freight Hub. The rural freight ring road and bypasses of Bunnythorpe could reasonably be expected to mitigate some of the adverse transport effects associated with the NEIZ and its extension. However, without an assessment, it is not clear what the level of mitigation would be. The Freight Hub would benefit from the rural freight ring road and bypasses of Bunnythorpe but is also likely to reduce the gains within the wider urban road network and, in particular, along Tremaine Avenue and Kelvin Grove Road. Again, without an assessment, it is unclear where the balance of effects sits and what mitigation may be needed.

7. Regarding the western and southern bypasses of Bunnythorpe, I expect these would effectively remove Freight Hub trips and other trips that do not have origins or destinations in Bunnythorpe and its immediate surroundings from central Bunnythorpe. In my view, it is imperative that the Freight Hub does not impede the delivery of these possible future bypasses. This is particularly the case for the southern bypass, which is likely to share some of the corridor of the northern section of the proposed Freight Hub perimeter road. To date, KiwiRail has not demonstrated how this might be achieved.

8. KiwiRail's Integrated Transport Assessment ("**ITA**") does not assess the effects on safety and travel time for pedestrians and cyclists moving within central Bunnythorpe.[1] There is also no assessment of the traffic safety and delay effects for vehicles on side roads (Maple Street, Dutton Street) and associated frontage residences and businesses (Railway Road and Campbell Road) turning to and from busier traffic flows caused by the Freight Hub. Consequently, I consider that the transport effects of the Freight Hub on central Bunnythorpe have been underestimated and that conditions are needed to ensure that the Bunnythorpe 'node' and the section of Railway Road and Campbell Road within the built-up area operate safely and effectively for all road users.

9. The existing road level crossing in Bunnythorpe is in the High ALCAM risk band (ITA 5.6.3.1 page 32) and the change in use with the Freight Hub may result in the crossing not meeting KiwRail's LCSIA Criterion 1 (10.3.2 page 82). The NoR does not provide for any improvements at this crossing. I am concerned that an increase in road traffic, train numbers and lengths, could reduce safety in this location. No provision has been made for the possible upgrade of this crossing, including grade separation if warranted, and it is unclear what any land-take requirements, if any, would be needed.

10. The ITA does not assess the safety of the two road level crossings between Bunnythorpe and Feilding. As highlighted in the submissions (Submission 3), there are also at least two pedestrian level crossings along this section, one in the vicinity of Taonui School and the other near the Aorangi Marae.

11. The Freight Hub site plan does not separate the movement of containers between the Freight Hub site and the NEIZ other than by truck on the public road network. As such, the access provided to the Freight Hub by NEIZ businesses is no different to that of the wider public. The only transport benefit is the proximity of the two areas to each other. The NEIZ businesses that rely on vehicle access to the City via Railway Road to the south will be adversely affected by worsening congestion associated with the additional Freight Hub trips.

[1] Volume three: Technical Assessment reports and appendices, "C: Integrated Transport Assessment".

12. There is a lack of assessment of the particular traffic effects during construction and operation for the existing properties and businesses along Roberts Line, being 703 (Foodstuffs), 761, 771, 787 and 803 Roberts Line.

13. The Freight Hub is forecast to generate 12,000vpd at full build-out. The ITA is unclear about what additional vehicle movements on Railway Road south of Roberts Line will be. If 75% (say the internal trips) travel along this section, there would be some 9,000vpd additional trips. Combined with existing traffic and traffic associated with the closure of Roberts Line, and regardless of growth within the NEIZ and its extension, all intersections are likely to need to be upgraded, most likely to signals such that traffic platoons are created with gaps in the traffic that can be used by vehicles turning to and from frontage driveways.

14. I have estimated from the indicative site layout plan that there is a distance of around 50m between the new roundabout intersection of Roberts Line, Richardsons Line and the southern entry to the Freight Hub and an internal road level crossing within the site. The ITA does not assess the effect of the level crossing on the performance of the adjacent roundabout. In response to Further Information Request 154, KiwiRail state that all Freight Hub accesses will be designed to have dedicated turning lanes to accommodate any traffic that may need to queue off-site when trains stage/shunt, separate from the through movement lanes. However, it is unclear how such lanes could be provided for vehicles turning right into the Freight Hub from Roberts Line or straight ahead from Richardsons Line to avoid the risk of obstructing the roundabout.

15. I am concerned that the modelling underestimates the existing and forecast delays for traffic travelling along Tremaine Avenue at peak times. For example, the SIDRA modelling of the full build out for the intersection of Tremaine Avenue and Milson Line shows the intersection performing with a level of service of 'C' based on a 60s cycle time. The existing intersection runs on a cycle time of more than 2 minutes at the busiest times of the peak period with existing congestion.

1.4 Consideration of Alternatives

16. The ITA does not assess the transport effects of either an alternative location for the Freight Hub or alternative connections to the existing transport network.

In particular, no assessment is included of the possible future rural freight ring road or the southern and western bypasses of Bunnythorpe.

17. I consider that the connectivity advantages of the preferred site assessed as part of the Multi Criteria Analysis ("**MCA**") are likely to have been eroded by the lack of follow-through of some of the Freight Hub's key assumed connectivity components. The MCA assessment also considered a much lower traffic generation for the site, and it had been anticipated that the short list options would have been tested in the traffic model, which did not happen.

1.5 Statutory and Strategic Context

18. Given the statutory and strategic documents' aspiration for a transport system where no-one is killed or seriously injured with a target of a 40% reduction in the next decade, the track record of serious injury and fatal crashes within the Freight Hub's surrounds, and the significant forecast increases in traffic, including heavy vehicles associated with both the NEIZ and the RFH, I consider that the design of new infrastructure and the performance of existing infrastructure needs to have a strong focus on improving (not just maintaining safety), and in particular safely accommodating vulnerable road users.

19. There is a lot of uncertainty regarding the nature and scale of the transport effects, given that the assessment of effects has been compared with the effects associated with the full development of the NEIZ and its extension and that no analysis has been included regarding the combined effects with a rural freight ring road and bypasses of Bunnythorpe. Therefore, in my opinion, there is a need for a robust agreement between the various authorities to ensure that there is a pathway to identifying and mitigating the transport effects or specific conditions need to be drafted to ensure the monitoring and review of effects with a means for mitigation to be identified and implemented as needed.

1.6 Conditions

20. Given the scale of the Freight Hub, the potential for significant adverse traffic effects during construction and operation, and the uncertainty around the Waka Kotahi NZTA Palmerston North Integrated Transport Initiative ("**PNITI**") projects, I consider that robust conditions are needed that:

a. Ensure KiwiRail works with the relevant road controlling authorities (Waka Kotahi, PNCC and MDC) and Horizons;

b. Include a process for monitoring traffic effects, including identifying and implementing mitigation as the project progresses through construction and on completion;

c. Ensure the safe and efficient operation of the local and wider transport network during construction and operation while accommodating uncertainty regarding construction traffic routes and modes and the timing of the PNITI projects and construction of the Palmerston North to Bunnythorpe shared path.

21. To ensure consistency between the statutory and strategic transportation provisions, the conditions will need to provide for:

a. An environment that minimises the risk of serious injury and fatal crashes;

b. Efficient and reliable access and movement by road, rail and public transport;

c. Reliable multi-modal transport system with less modal conflicts;

d. Allowance for the future regional ring road;

e. Allowance for the shared path from Palmerston North to Bunnythorpe;

f. Allowance for the NEIZ Structure Plan; and

g. Safe and efficient operation of level crossings for vehicle, cycle and pedestrian traffic.

1.7 Further Information

22. Ahead of the hearing, it would be useful to understand:

a. By way of sensitivity testing, the combined effect of the PNITI works and the fully developed Freight Hub site, including the bypasses of Bunnythorpe, on the capacity and performance of the wider road network;

b. The type of treatment that would be needed to improve safety at the central Bunnythorpe level crossings. Is there an option for improved safety without grade separating the crossing? If the only or most likely option is grade separation, what are the property access and land acquisition effects?

c. ALCAM safety assessments to be undertaken for the two roads (Waughs Road at Newbury Line and Campbell Road at the Feilding golf course) and two pedestrian level crossings (Aorangi Marae and Taonui School) to the north of Bunnythorpe;

d. Details of the access provision through to Roberts Line for 422 and 422A Railway Road. In particular, whether the access will be parallel to or shared with 684 Roberts Line at the southern end;

e. Demonstration of at least one option for how the Foodstuffs driveways on Roberts Line will be able to operate during construction and operation of the RFH;

f. Confirmation whether there will be any temporary or permanent closures of the Maple Street connection to Railway Road;

g. Demonstrate that the operation of the internal level crossings within the site will not disrupt frontage traffic flows;

h. Confirmation that the recreational tracks around the detention ponds connect into the wider network of pedestrian and cycle paths;

i. Confirmation that there is no construction or operational access to the RFH site via 9 and 9A Maple Street;

j. Confirmation of the access points to the site for construction purposes; and

k. An outline of the process for endorsement of the Road Network Integration Plan ("**RNIP**").

23. Without information on the above matters it may be necessary to expand the conditions to ensure the safe and efficient operation of the transport network.

Contents

2 Introduction

24. 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 Master's degree of Science in Transportation Planning and Engineering awarded with distinction by the University of Leeds.

25. My background of experience includes over 27 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.

26. I am a certified Hearing Commissioner, having completed the MFE Making Good Decisions training and have also been appointed as a Development Contribution Commissioner.

27. I have prepared this evidence on behalf of the determining authority, Palmerston North City Council, in relation to the Notice of Requirement ("**NoR**") for the KiwiRail Regional Freight Hub lodged by KiwiRail Holdings Ltd ("**KiwiRail**"). 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 (the "**Act**").

28. I have previously assisted PNCC with the following:

    a. Section 42A reporting for the Notice of Requirement for the Abby Road link in Aokautere;

    b. Section 42A reporting for the Notice of Requirement to construct, operate, use, maintain and improve approximately 11.5km of new State highway connection between Ashhurst and Woodville;

    c. Several Plan Changes during the the District Plan review; and

    d. Section 42A reporting on transportation matters associated with the He Ara Kotahi pedestrian and cycle bridge over the Manawatu River.

29. I have also provided transportation assessments for applicants seeking resource consents and private plan changes from PNCC. 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.

30. I am currently undertaking Section 42A reporting on the transportation topic for Hutt City Council including assisting with the processing of the Riverlink NoR application.

2.1 Expert Witnesses – Code of Conduct

31. 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.

3 Background and Scope of Evidence

3.1 Background

32. KiwiRail is seeking to designate approximately 177.7 hectares of land between Palmerston North Airport and Bunnythorpe for a new Regional Freight Hub.

33. The Freight Hub will consist of a centralised hub incorporating tracks, marshalling yards, maintenance and service facilities, a train control and operation centre, freight handling and storage facilities (including for logs and bulk liquids), provision of access, including road and intersection upgrades where required, and specific mitigation works including noise walls/bunds, stormwater management devices and landscaping. In addition, the North Island Main Trunk rail line will be relocated to sit within the new designation area and directly adjacent to the Regional Freight Hub. The activities that take place at KiwiRail's Tremaine Avenue freight yard (apart from the passenger terminal and the network communications centre) will be relocated to the new site to form part of the new Regional Freight Hub.

34. A detailed description of the Project is set out in 6.3 of the AEE submitted by the applicant and a summary description in the s42A Planning Assessment.

35. Section 1of the KiwiRail Integrated Transport Assessment describes the transport aspects of the Project.[2]

3.2 Scope of evidence

36. have been asked to assess the traffic and transportation elements of the NoR. Michael Than covers technical rail engineering matters in his Section 42A evidence. My assessment considers the following matters:

    a. Key issues in contention.

    b. The statutory context.

    c. An overview of the existing traffic and transportation environment.

    d. Adequacy of the applicant's investigations and interpretation of the findings of those investigations.

    e. Likely key effects (positive and adverse) on the environment of allowing the Project.

    f. Appropriateness of any proposed mitigation measures or monitoring.

    g. Submissions relating to traffic and transportation.

    h. Any other matters.

37. My evidence should be read in conjunction with expert evidence of the other experts that have contributed to the s42A Planning Assessment. In particular, the evidence of Robert van Bentum (PNCC Infrastructure), Shane Vuletich (Economic Impacts), and Michael Than (Rail Engineering) are relevant to the consideration of matters I address.

3.3 Reports and material considered

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

    a. KiwiRail Integrated Transportation Assessment dated 23 October 2020;

[2] Regional Freight Hub Integrated Transport Assessment, Volume 3 C: Integrated Transport Assessment, section 1, at page 6.

b. KiwiRail Section 92 Response - Transport dated February 2021;

c. Stantec Technical Memo dated 30 April 2021;

d. KiwiRail Section 92 Response – Issues raised by submitters dated 28 May 2021;

e. KiwiRail Assessment of Environmental Effects dated October 2020;

f. Waka Kotahi NZTA Palmerston North Integrated Transport Initiative – Network Options Report dated January 2021;

g. Palmerston North Area Traffic Model – Model Development and Validation Report by Beca dated 23 December 2014;

h. Palmerston North Area Traffic Model Peer Review Report prepared by Tim Kelly Transportation Planning Ltd dated January 2015;

i. PNCC Plan Change 15E: North East Industrial Zone Extension: Intersections Assessment Report October 2014 prepared by Traffic Design Group.

3.4 Assumptions

39. My evidence is based on the following assumptions:

a. There is no 'Permitted Baseline' for the industrial development of the North Industrial Zone or its extension. The development of individual sites within the zone typically involves either full or restricted discretionary resource consent with traffic effects being a matter for consideration, and I understand that this is not a permitted baseline.

b. The delivery of the projects included in the PNITI Business Case is not assured and remains uncertain both in terms of timeframe and form. While with the Waka Kotahi Board adopting the Business Case and PNCC allocating funding in the Draft Ten Year Plan 2021-2031, there is some increased certainty, most of the elements of this project, including potential bypasses of Bunnythorpe, are not funded or programmed.

c. I understand that PNCC, and where relevant Waka Kotahi, are committed to the following upgrades to the local road network, regardless of the proposed Freight Hub:

   i. Kairanga Bunnythorpe Road – roundabouts at each of the intersections with SH54 and SH3;

   ii. Kairanga Bunnythorpe Road – bridge strengthening and renewal (Jacks Creek and Mangaone Stream);

   iii. Campbell Road – bridge renewal;

   iv. Richardsons Line Upgrade – road widening between Setters Line and Roberts Line and addition of a shared path;

   v. Richardsons Line/ Roberts Line intersection upgrade (roundabout); and

   vi. A shared path between Palmerston North and Bunnythorpe

d. At this stage, while indicated in the NEIZ Structure Plan, there is no further commitment to either the upgrading of the El Prado Drive intersection with Railway Road or the construction of a link from Alderson Drive to Richardsons Line.

e. PNCC has written to KiwiRail asking for approval for the proposed closure of the Roberts Line and Clevely Line level crossings. Assuming KiwiRail provide approval, there will be a period of engagement and consultation. These proposed road closures are driven by concerns regarding safety and are anticipated to occur regardless of the Freight Hub. As such, any traffic effects associated with these closures no longer form part of the Freight Hub NoR considerations.

f. All construction traffic access to the Freight Hub site will be from:

   i. Railway Road to the north of Roberts Line;

   ii. Richardsons Line to the north of Roberts Line;

   iii. Roberts Line in the approximate location of the connection with the proposed Perimeter Road;

iv. Railway Road to the south of Maple Street in the approximate location of the connection with the proposed Perimeter Road; and

v. Once the Perimeter Road is completed and operational, access available from each of the long-term site access locations.

g. No vehicle connections are proposed for construction or operational purposes from Maple Street, the southern end of Te Ngaio Road, either end of Clevely Line, or from the existing formed section of Sangsters Road.

3.5 Site visit

40. I have undertaken numerous site visits and am familiar with the surrounding environment.

3.6 Statutory Context

41. The statutory documents and planning provisions relevant to the evaluation of the NoR have been set out in the s42A Planning Assessment. For the purposes of preparing this evidence, I have had particular regard to the following statutory provisions and direction relevant to the traffic and transportation topic areas:

a. Government Policy Statement Land Transport 2021("**GPS Land Transport**")

b. Road to Zero – Road Safety Strategy 2020-2030 ("**Road to Zero**")

c. Horizons Regional Land Transport Plan ("**RLTP**")(2018 Review)

d. Horizons Regional Draft Land Transport Plan 2021-2031("**Draft RLTP**")

e. Horizons Regional Public Transport Plan 2015-2025 ("**RPTP**")

f. Palmerston North Strategic Transport Plan 2018/21 ("**PNSTP**")

g. Palmerston North Active and Public Transport Plan 2018/21 ("**PNAPTP**")

h. Palmerston North Urban Cycle Network Masterplan 2019

i. Palmerston North City District Plan ("**District Plan**")

j. PNCC 10 Year Plan 2018-2028

k. Manawatu District Plan

l. PNITI – Network Options Report January 2021

42. Key elements of the above documents are set out below.

Government Policy Statement Land Transport 2021 (GPS Land Transport)

43. The GPS Land Transport has the following strategic priorities:

a. Developing a transport system where no-one is killed or seriously injured;

b. Providing people with better travel options to access places for earning, learning, and participating in society;

c. Improving freight connections to support economic development; and

d. Transforming to a low carbon transport system that supports emissions reductions aligned with national commitments, while improving safety and inclusive access.

Road to Zero – Road Safety Strategy 2020-2030

44. The vision of Road to Zero is "a New Zealand where no one is killed or seriously injured in road crashes" and has the target reducing death and serious injuries on New Zealand roads by 40% over the next decade. The seven principles identified to guide the design of the network and for making road safety decisions are:

a. Promote good choices but plan for mistakes;

b. Design for human vulnerability;

c. Strengthen all parts of the road transport system;

d. Shared responsibility for improving road safety;

e. Actions are grounded in evidence and evaluated;

f. Road safety actions support health, wellbeing and liveable places; and

g. Safety is a critical decision-making priority.

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

45. The RLTP has the following objectives:

a. An optimised road, rail and public transport network that provides efficient, reliable access and movement for people and freight to and from key destinations, within and outside the region.

b. Maximise the strategic advantage of central New Zealand through efficient and well-serviced hubbing and freight distribution activities, including better utilisation of rail corridors.

c. A safe land transport system increasingly free of death and serious injury.

d. A reliable multi-modal transport system with less modal conflict, including walking and cycling, that mitigates potential environmental effects and improves environmental outcomes.

e. A resilient transport network with secure inter- and intra-regional routes that can perform following an unplanned event.

f. A transport system that provides for the increase in low carbon emission vehicles and other practices to reduce carbon emissions and environmental effects associated with transport.

46. Along with objectives, the RLTP also identifies five strategic priorities that will be the focus of the future work programme to achieve the objectives (benefits) and address the issues (problems). These strategic priorities are:

a. Effective and efficient road maintenance and delivery.

b. Improve connectivity, resilience and the safety of strategic routes to and from key destinations linking north-south and east-west, while factoring in demographic changes and impacts on land use.

c. An appropriate network of tourism routes.

d. An integrated walking and cycling network.

e. Effective, efficient, accessible and affordable multi-modal transport networks.

Horizons Regional Draft Land Transport Plan 2021-2031(Draft RLTP)

47. The strategic objectives included in the Draft RLTP are:

a. **Objective 1: Travel Choice** - Transport users in the region have access to affordable transport choices that are attractive, viable, and encourage multi-modal travel.

b. **Objective 2: Connectivity and Efficiency** - The regional transport network connects central New Zealand and is efficient, reliable, and resilient.

c. **Objective 3: Safety** - The transport network is safe for all users.

d. **Objective 4: Environment** - The impact of transport on the environment and the transport system's vulnerability to climate change is minimised.

e. **Objective 5: Land Use Integration** - Transport and land use are integrated to support well connected communities that promote a strong regional economy and liveable region.

48. The Draft RLTP includes aspirational targets intended to signal the desire to drive change in certain areas of the regional transport system. These targets are:

a. **Mode share**: 50% increase in active travel and public transport modes by 2030.

b. **Safety**: 40% reduction in deaths and serious injuries on the region's roads by 2030.

c. **Resilience**: 20% reduction in road closures on priority routes associated with natural hazards or unplanned events.

d. **Carbon emissions**: 30% reduction in regional carbon emissions from land transport by 2030.

Horizons Regional Public Transport Plan 2015-2025 (RPTP)

49. The following objectives apply to all public transport service units, taxi services and shuttle services that Horizons provides financial assistance to:

    a. A reliable, integrated, accessible and sustainable public transport system;

    b. An effective procurement system that delivers the desired public transport services;

    c. A safe and accessible network of supporting infrastructure; and

    d. Increasing patronage.

Palmerston North Strategic Transport Plan 2018/21 (PNSTP)

50. The purpose of the PNSTP is to provide the infrastructure to enable growth and a transport system that links people and opportunities, and provides amenity, safety, interconnectivity, accessibility, resilience and reliability. Desired outcomes of the PNSTP and as relevant to this NoR include:

    a. A transport system that provides a choice of intermodal transport connections and integration of modes of transport that safely and efficiently gets freight, services, and people where they need to be.

    b. A regional ring road, with a downstream bridge connection, that provides reliable and resilient interconnections for heavy vehicle traffic to the northeast and west of the city, the State Highways and the express way to Wellington.

    c. A State Highway Network that goes around the urban area and interconnects with the regional ring road.

    d. There are resilient and reliable travel routes to key destinations that meet the specific constraints for time, mode, and travel purpose of users.

    e. Reliable city and regional routes/ connections, including alternative routes, will be accessible to all ports of New Zealand for heavy vehicles.

f. Opportunities identified in the Regional Growth Study and Accessing Central New Zealand are realised.

g. There is resilient and reliable interconnected intermodal transportation of goods, services, and people.

h. Reliable road - rail links for industry.

i. Resilient rail and road infrastructure and interconnectivity form a key part of freight, distribution and logistics activities in the north-east industrial zone and Longburn.

j. Reliable and consistent traffic conditions are experienced across the city with low or moderate levels of peak time congestion.

k. Satisfaction with travel times and distribution and transport interconnections are medium to high.

l. Heavy vehicle and through traffic are directed to use the regional/inner ring roads.

m. Minimal traffic travelling unnecessarily through the city centre.

n. There is an improved city and regional bus and rail services, interconnectivity, facilities, and better interregional interconnections.

o. There are good relationships between the Council and KiwiRail, Palmerston North Airport, New Zealand Transport Authority (NZTA), Transport advocates and lobby groups and the Regional Transport Committee and other Territorial Authorities.

51. The PNSTP includes a map showing primary freight routes in Palmerston North. An extract is included below in Figure 1. Railway Road, in the vicinity of the Freight Hub site, is shown as a Possible Freight Route. I note that the possible freight route is not shown extending along Railway Road into Bunnythorpe.

Figure 1 – Primary Freight Routes (PNSTP)

52. The PNSTP also includes a map showing the Rural Ring Road, an extract is included in Figure 2.

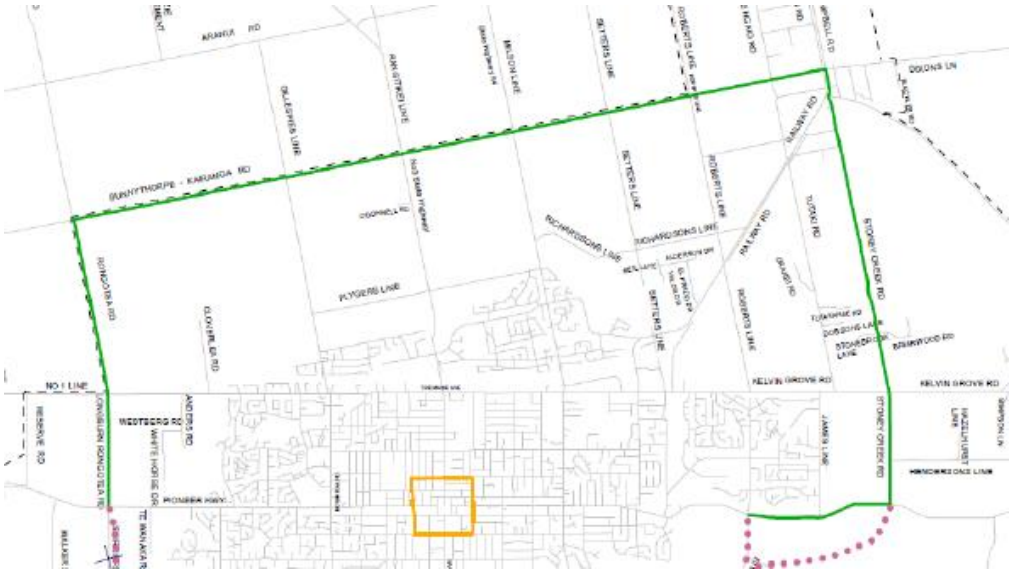


Figure 2 – Rural Ring Road (PNSTP)

Palmerston North Active and Public Transport Plan 2018/21 (PNAPTP)

53. The purpose of the PNAPTP is to have a safe, efficient, and effective active and public transport system, and the most active community in New Zealand. Desired outcomes of the PNAPTP relevant to this NoR include:

a. Palmerston North has a strong culture of walking, cycling and using public transport for the commute to work and education.

b. There is improved access to all modes of transport.

c. Safe, resilient and reliable travel routes, conditions and interconnected intermodal transportation provide for active and public transport users.

d. Interconnected intermodal transportation links meeting the specific constraints for time, distance, and mode across the region.

e. Primary cycle routes are clearly defined, easy to use, and evident on the ground.

f. Motor vehicle use and parking has little or no negative effect on walking, cycling and public transport.

g. Trucks and heavy through-traffic predominantly use the ring roads.

h. There is a resilient shared pathway around the city linking to Ashhurst, Railway Road to Bunnythorpe-Feilding, Linton and Longburn with interconnections to the road network.

i. Good passenger rail services to other centres around New Zealand e.g. Wellington, Hamilton and Auckland.

54. The PNAPTP includes a map showing the primary on road cycling and shared path network. An extract is included below in Figure 3.

Figure 3: Primary On-Road Cycling and Shared Path Network (PNAPTP)

55. The dark green lines show the primary on-road cycle network, the light green solid lines show existing shared paths and the broken light green lines show proposed shared paths. As shown, there is a proposed shared path shown along the Railway Road alignment beyond Roberts Line.

Palmerston North Urban Cycle Network Masterplan 2019

56. The Council has developed the Urban Cycle Network Masterplan to improve safety and accessibility for people on bikes. Extracts from the online map (https://arcg.is/nfOui) for both the existing cycle facilities and long-term desired cycle provision within the vicinity of the proposed regional freight hub are shown in Figures 4 and 5.

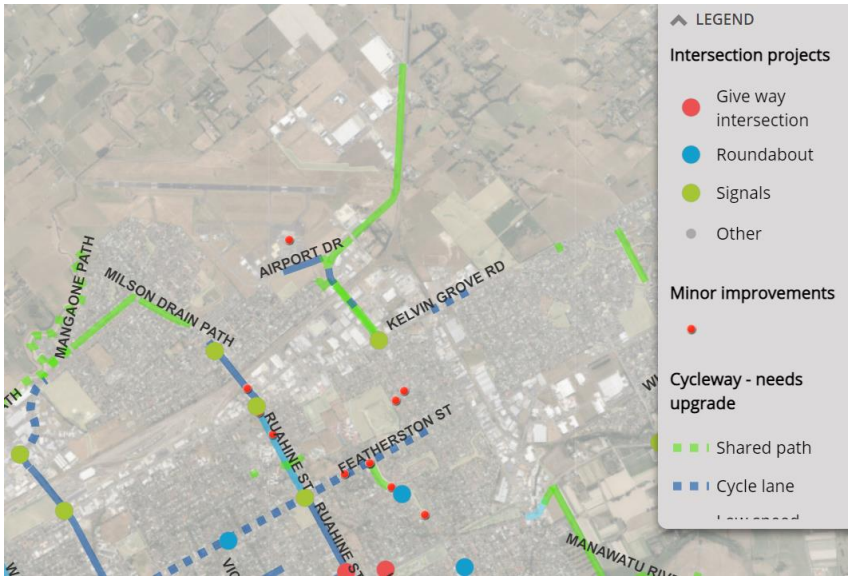


Figure 4 – Existing Provision for Cyclists

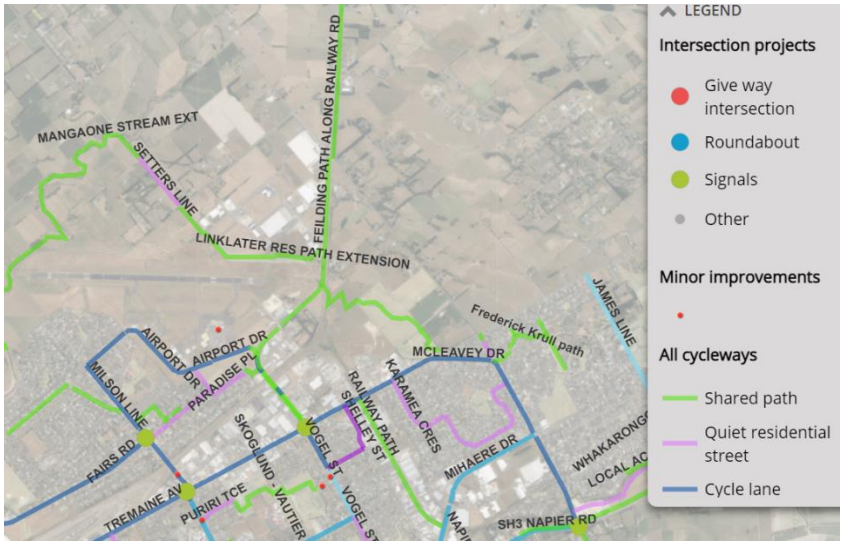


Figure 5 – Long Term Provision for Cyclists

Palmerston North City District Plan (District Plan)

57. The Land Transport section of the District Plan includes the following objectives and policies that apply to the Freight Hub NoR and its associated traffic activities:

a. **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.

i. **Policy 1.1** - Identify and apply the roading hierarchy to ensure the function of each road in the City is recognized and protected in the

management of land use, development and the subdivision of land.

ii. **Policy 1.2** - All roads in the City have function and design characteristics consistent with their place in the roading hierarchy.

iii. **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.

iv. **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.

v. **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.

vi. **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.

vii. **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.

b. **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.

i. **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 roading hierarchy to direct higher volume and heavy traffic movements on identified arterial routes and discouraging this traffic from other areas, such as residential areas.

ii. **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.

iii. **Policy 2.3** - Ensure that the adverse effects of long term and commuter parking associated with activities in the business and industrial areas on the amenity values of residential streets are mitigated.

iv. **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.

c. **Objective 3 -** The safety and efficiency of the land transport network is protected from the adverse effects of land use, development and subdivision activities.

i. **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.

ii. **Policy 3.2** - Require vehicle crossing places and vehicle entrances from public roads to be located, constructed, and maintained to standards appropriate to the expected traffic volume, pedestrian movement and speed environment of each road.

iii. **Policy 3.3** - Ensure that buildings and activities do not compromise land transport network safety, including maintaining the necessary clear sight lines for road vehicles at level crossings and road intersections.

iv. **Policy 3.4** - Ensure adequate on-site parking and manoeuvring space is provided for each type of activity in a safe and visually attractive manner.

v. **Policy 3.5** - Ensure that buildings and activities make provision for adequate and safe on-site loading.

vi. **Policy 3.6** - Control the location, design and extent of advertising signs to ensure that they do not interfere with the safe and efficient use of land transport networks.

58. The North East Industrial Zone section of the District Plan includes the following objectives and policies that apply to the proposed regional freight hub and its associated traffic activities:

a. **Objective 2** - To enable industrial use and development of the Zone taking into account topography, any existing site features, natural

hazards, the servicing needs of future industry and the ability for people and vehicles to move safely and efficiently through the area.

i. **Policy 2.1 -** To ensure that the design, layout and servicing of the Existing Zone is, as far as reasonably practicable, in accordance with key design principles outlined in the Design Guide.

ii. **Policy 2.2** - To ensure that subdivision, use and development in the Zone follows the layout shown on the Structure Plan (see Section 7, Map 7.2), particularly in regard to watercourse reserve areas and road access points.

iii. **Policy 2.4** - To provide opportunities for pedestrians, cyclists and vehicles, while ensuring that conflict with industrial traffic is minimised.

iv. **Policy 2.5** - To ensure that additional traffic does not put pressure on the safe and efficient operation of the roading network.

v. **Policy 2.7** - To provide for the efficient movement of vehicles and in particular the access requirements of emergency service vehicles.

b. **Objective 3** - To promote the efficient development and use of land and associated infrastructure within the Zoned area.

i. **Policy 3.5** - To provide for development of the North East Industrial Zone Extension Area in an integrated manner with the existing North East Industrial Zone without compromising other goals of the Plan for surrounding land.

ii. **Policy 3.6** - To ensure in the North East Industrial Zone Extension Area design of the servicing required for the area, including roading and hazard management, is provided at the earliest stage of development.

iii. **Policy 3.11** - To require development in the North East Industrial Zone Extension Area to comply with Structure Plan to ensure an integrated and sustainable pattern of development.

c. **Objective 5** - To avoid, remedy or mitigate adverse environmental effects on the amenity of the North East Industrial Zone and areas at the interface with the Zone.

i. **Policy 5.4** - To ensure that road access to the North East Industrial sites is in accordance with the Structure Plan (Section 7, Map 7.2).

ii. **Policy 5.5** - To avoid road access to the North East Industrial Zone Extension Area from Railway Road.

59. The Rural Zone section of the District Plan includes the following objectives and policies that apply to the proposed regional freight hub and its associated traffic activities:

a. **Objective 2** - To encourage the effective and efficient use and development of the natural and physical resources of the rural area.

i. **Policy 2.3 -** To control the actual or potential environmentally adverse effects of activities in the rural area, including the adverse effects of:

- traffic…

Manawatu District Council District Plan

60. The Transport section of the Manawatu District Plan includes the following objectives and policies that apply to the proposed regional freight hub and its associated traffic activities:

a. **Objective 1 -** To maintain and enhance the safe, efficient and integrated operation of the transport network within the District.

i. **Policy 1.1** - To ensure that the adverse effects of vehicle movements to and from roads are managed by:

a. Requiring appropriate sight lines for vehicles at railway crossings, at intersections and at property entrances and exits.

d. Providing appropriate facilities for pedestrians and cyclists, particularly in urban areas.

ii. **Policy 1.3** - To ensure development setbacks near railway level crossings are achieved to maintain sight distances as specified in Appendix 3B.5.

b. **Objective 2** - To protect the roading network, as identified in Appendix 3B.1, from the potential adverse effects of all land use activities.

i. **Policy 2.1** - To establish and maintain a roading hierarchy for roads in the District.

ii. **Policy 2.2** - To recognise the importance of maintaining the safety and efficiency of the District's roading network.

iii. **Policy 2.3** - To restrict the through movement of traffic where this can have adverse effects on visual, noise and safety on adjacent residential uses.

iv. **Policy 2.4** - To promote corridor management for key road routes within the District, to ensure that they are constructed and managed in a way that is safe and efficient and which may include restricting or encouraging the flow of traffic through movement of vehicles.

c. **Objective 3** - To mitigate the adverse effects of roads and vehicles on amenity values of the District.

i. **Policy 3.3** - To support and encourage walking and cycling as alternative modes of transport.

ii. **Policy 3.5** - To ensure roads are designed recognising alternative modes and the need to provide local road amenity.

iii. **Policy 3.6** - To ensure development of new roads is integrated into the existing roading network in a coordinated manner.

Palmerston North 10 Year Plan 2018-2028

61. The current 10 Year Plan includes the following transport elements within the vicinity of the proposed Freight Hub:

a. Kairanga Bunnythorpe Road (Mangaone Stream) Bridge Renewal (2020/2022)

b. Kairanga Bunnythorpe Road (Jacks Creek) Bridge Renewal (2022/23)

c. Te Ngaio Road Bridge (two lane renewal) (2024/26)

d. Richardsons Line Upgrade (2018/20 and 2024/25)

e. Roberts/ Richardsons Lines Intersection Upgrade (2018/20)

f. Stoney Creek Road (School) Safety Upgrade (2018/2020)

g. Roberts Line/ Railway Road North Intersection Safety Realignment (2018/19)

h. Shared Path Connection – Riverside Drive to Railway Road (2019/23)

i. Palmerston North to Bunnythorpe – Cycle/ Pedestrian Pathway (2021/24)

62. The status of these projects is discussed in the Section 42A evidence of Robert van Bentum. In particular, I note at paragraph 64 of the Section 42A evidence of Robert van Bentum that the planned roundabout at the intersection of Roberts Line and Richardsons Line will need a further future upgrade to meet the needs of the RFH.

63. Palmerston North City Council have just completed consultation on their 2021-2031 10 Year Plan. The Draft Plan includes urban cycle network improvements, shared path projects including Palmerston North to Bunnythorpe and funding contributions to the Strategic Ring Road. The programmes included in the proposed 2021-2031 Long term Plan are described at paragraph 37 of the Section 42A evidence of Robert van Bentum.

Palmerston North Integrated Transport Initiative (PNITI) Network Options Report January 2021

64. The PNITI Report prepared by Waka Kotahi includes a suite of programmes divided into short, medium and longer term projects. The works are intended to help manage traffic associated with forecasted regional growth while maintaining efficient freight movements to and from the KiwiRail Freight Hub, North East Industrial Zone and other industrial areas within the city.

65. The Short Term projects in the vicinity of the Freight Hub are shown in Figure 0-1 of the report. An extract is included here as Figure 6.

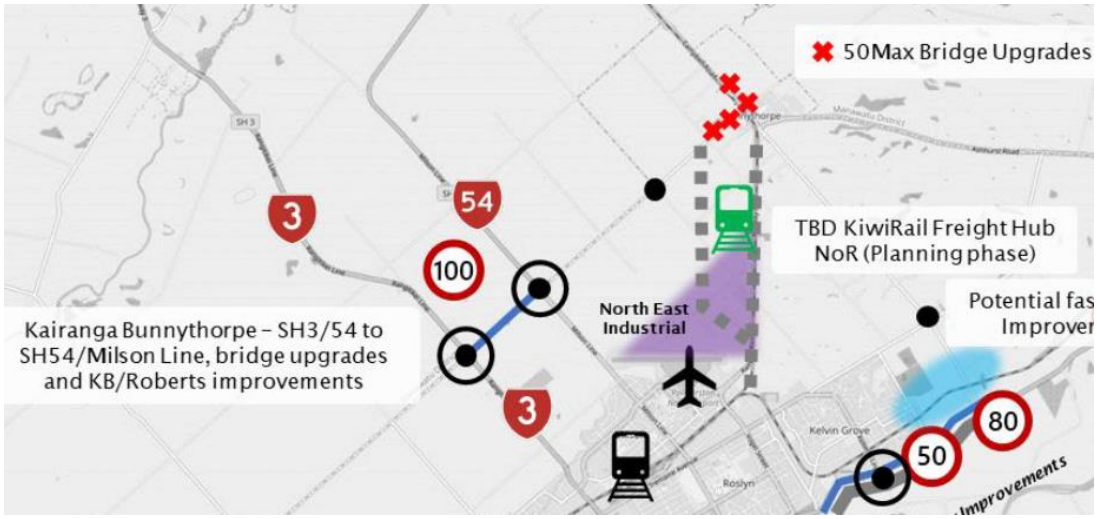


Figure 6: PNITI Short Term Works

66. The Short Term projects identified in the PNITI Report include bridge and intersection improvements on Kairanga Bunnythorpe Road and a bridge upgrade on Campbell Road. I understand that these improvements will be made over the next three years.

67. The Medium Term projects in the vicinity of the Freight Hub are shown in Figure 0-2 of the report. An extract is included here as Figure 7.

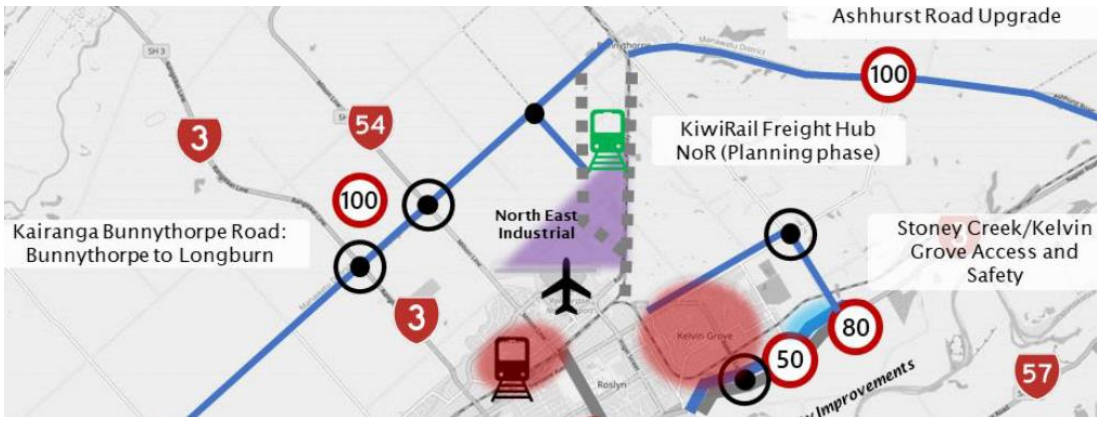


Figure 7: PNITI Medium Term Works

68. The Medium Term projects include upgrades to the length of Kairanga Bunnythorpe Road and on Roberts Line between the North East Industrial Zone/ Freight Hub and Kairanga Bunnythorpe Road. Upgrades are also shown for Ashhurst Road with no changes included within central Bunnythorpe.

69. The Longer Term projects in the vicinity of the Freight Hub are shown in Figure 0-3 of the report. An extract is included here as Figure 8.

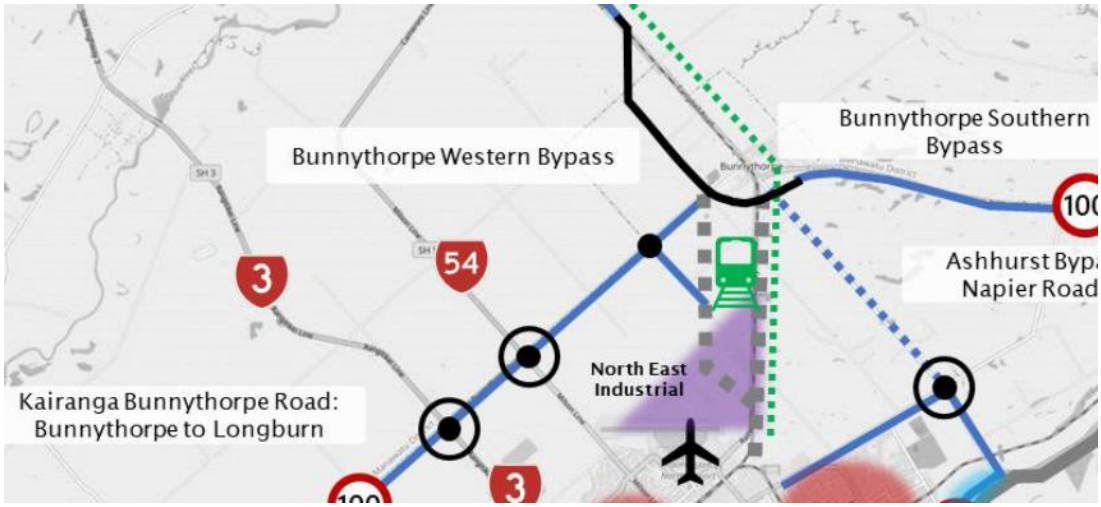


Figure 8: PNITI Longer Term Works

70. The Longer Term projects include a southern and western bypass of Bunnythorpe, an upgrade to Waughs Road to the north of Bunnythorpe, a cycleway between the southern end of Railway Road and Feilding and a possible upgrade to Stoney Creek Road. The timing of these projects will largely be determined by business case phases. The report indicates that the full programme could potentially be delivered by around 2030.

71. As set out in the Executive Summary of the Network Options Report, the programme is anticipated to achieve the following:

    a. Reduce freight movements on residential and place-based streets by up to 50%;

    b. Support and enable Urban Cycling Masterplan initiatives;

    c. Reduce the number of congested intersections by 50% and improve journey times on key freight routes by up to 10 minutes;

    d. Reduce deaths and serious injuries by 35-40% across the rural freight network;

    e. Support economic development such as the KiwiRail Freight Hub and North East Industrial Zone; and

    f. Improve safety and access for new housing developments.

72. I note the objectives of safely and efficiently accommodating the traffic associated with the KiwiRail Freight Hub while recognising that as yet there is no planning or financial commitment to many of these projects.

Summary

73. As expected, there is a lot of commonality between the various documents. I summarise the main themes as follows:

a. A transport system where no-one is killed or seriously injured with a target of a 40% reduction in the next decade;

b. Improved freight connections to support economic development;

c. Reduced emissions while improving safety and inclusive access;

d. Road safety principles include designing for human vulnerability, allowing for mistakes, strengthening all parts of the road transport system and shared responsibility for improving road safety;

e. Efficient, reliable access and movement by road, rail and public transport including for freight;

f. Well-serviced hubbing and freight distribution activities, including better utilisation of rail corridors;

g. Reliable multi-modal transport system with less modal conflict including an integrated walking and cycling network;

h. A regional transport network that connects central New Zealand;

i. Transport and land uses are to be integrated to support well connected communities that promote a strong regional economy and liveable region;

j. Any regional ring road is to provide reliable and resilient interconnections for heavy vehicle traffic to the northeast and west of the city;

k. Resilient rail and road infrastructure and interconnectivity form a key part of freight, distribution and logistic activities in the North East Industrial Zone and Longburn;

l. Reliable and consistent traffic conditions are experienced across the city with low or moderate levels at peak time congestion;

m. Minimal traffic should travel unnecessarily through the Palmerston North city centre;

n. Resilient shared pathways around the city, linking Railway Road to Bunnythorpe and Feilding with inter-connections to the road network;

o. New roads are to have function and design characteristics consistent with their place in the road hierarchy, and meet safety and efficiency performance standards;

p. Convenient, safe and accessible carparking, loading and manoeuvring facilities are to be available for staff, visitors and customers without creating congestion or conflicts with moving vehicles, pedestrians or cyclists on adjacent roads;

q. Restriction of traffic movements where the movement has adverse visual, noise and safety effects on adjoining areas by using the road hierarchy to direct traffic onto the arterial road network;

r. Safe and efficient operation of level crossings for vehicle, cycle and pedestrian traffic;

s. Roading and access within the North East Industrial Zone to be aligned with the Structure Plan (section 7, map7.2);

t. Within the North East Industrial Zone, provide for pedestrians and cyclists and vehicles, while ensuring that conflict with industrial traffic is minimised;

u. Avoid road access to the North East Industrial Zone extension Area from Railway Road;

v. Alignment with the Palmerston North City Council 10 Year Plan; and

w. Alignment with the anticipated outcomes of the PNITI Network Options Report.

74. This summary list is used later in my evidence as the basis for reviewing the alignment of the transport aspects of the Freight Hub with the various national, regional and local statutory provisions and strategic documents.

4 Existing Transport Environment

75. Sections 5 and 6 of KiwiRail's ITA (Integrated Transport Assessment) describe the existing transport environment. The key points are:

a. The existing KiwiRail freight yard and passenger rail station occupy an area of around 40 hectares and has road connections onto Tremaine Avenue in four locations. Tremaine Avenue carries 12,500 vehicles per day (vpd) with 10% being heavy vehicles.

b. Figure 5.2 of the ITA shows the Palmerston North road hierarchy, with the One Network Road Classification ("ONRC") being referenced rather than the PNCC District Plan road classification. The key differences between the two classification systems for the roads to the north of Tremaine Avenue are:

i. The ONRC elevates John F Kennedy Drive and Airport Drive to an arterial classification, that is the same as for Tremaine Avenue and Railway Road;

ii. Stoney Creek Road is shown as a Primary Collector rather than a Minor Arterial Road;

iii. Sections of Kairanga Bunnythorpe Road are shown as a Primary Collector rather than a Major Arterial Road; and

iv. Both show Flygers Line and Richardsons Line as Access Roads.

c. I understand that PNCC have adopted the ONRC, although this has yet to be reflected in the District Plan road hierarchy.

d. Table 5.1 of the ITA provides a summary of the road characteristics, including traffic volumes and speed limits, of the road network in the vicinity of the proposed Freight Hub.

e. Both Kairanga Bunnythorpe and Stoney Creek Roads are described as being narrow and, along with Ashhurst Road, without shoulders.

f. There are existing level crossings on Kairanga Bunnythorpe Road (eastern end in Bunnythorpe), Campbell Road, Waughs Road, Roberts Line, Richardsons Line and Clevely Line. The Richardsons Line crossing is noted as being private and serving two residential properties. I note from the submissions that a farm equipment supplier, Farmgear Ltd, operates from one of the properties (422 Railway Road) that relies on the Richardsons line crossing.

g. Figure 5.4 of the ITA shows the existing bus route between Palmerston North and Feilding.

h. Figure 5.6 of the ITA shows existing and planned cycleways and shared paths in Palmerston North. A combination of an existing shared path and on-road cycle lane is shown along Railway Road between Tremaine Avenue and Roberts Line. There are no existing pedestrian facilities within the road network around the proposed Freight Hub site.

i. Figure 5.7 of the ITA shows the existing alignment of the national walkway, the Te Araroa Trail. It runs along the eastern side of the existing rail corridor.

j. Table 5.3 and Figures 5.8 and 5.9 include data from road safety assessments. The following roads having a Collective Risk and/or Infrastructure Risk Rating of medium high or high:

   i. Railway Road – Kairanga Bunnythorpe Road to El Prado Drive;

   ii. Kairanga Bunnythorpe Road – SH3 to Campbell Road;

   iii. Campbell Road – Newbury Line to Kairanga Bunnythorpe Road;

   iv. Ashhurst Road – Campbell Road to Raymond Street;

   v. Richardsons Line – Milson Line to Roberts Line;

   vi. Clevely Line – Te Ngaio Road to Railway Road; and

   vii. Te Ngaio Road – Kairanga Bunnythorpe Road to Newbury Line

k. The assessment indicates that these ratings are due to the rural road formations, with narrow lanes without shoulders and unprotected power poles and other roadside infrastructure. Te Ngaio Road also has

a number of intersections and a one lane bridge which increase the risk. The intersection of Roberts Line and Kairanga Bunnythorpe Road was separately identified as a High Risk Intersection, along with the intersections of each of SH54 and SH3 with Kairanga Bunnythorpe Road.

l. Section 5.6.2 of the ITA reports on crash data from the Waka Kotahi crash database for the period 2015 to 2019 for an area to the west of the rail line and to the north of the airport. I have run an updated analysis for approximately the same area for the period 2016 to 2021, which shows a total of 79 reported crashes with the following characteristics:

i. Four crashes involving fatalities. One at the Te Ngaio Road intersection with Kairanga Bunnythorpe Road, one at the Clevely Line/ Railway Road level crossing and two at the Roberts Line/ Railway Road level crossing;

ii. Six crashes involving serious injuries. One on Kairanga Bunnythorpe Road, one in central Bunnythorpe, two at the intersection of Railway Road and Roberts Line and two at the intersection of El Prado Drive and Railway Road; and

iii. Clusters of crashes in central Bunnythorpe, at the Clevely Line/ Railway Road intersection and the intersection of Roberts Line and Railway Road.

m. I extended the search of the crash database to the east of the rail line to include Tutaki Road, Stoney Creek Road and Ashhurst Road, with the following results:

i. A total of 62 reported crashes;

ii. One fatal crash at the intersection of Ashhurst Road and Watershed Road; and

iii. 13 serious injury crashes, including five on Stoney Creek Road, of which two were at the intersection with Kelvin Grove Road and seven on Ashhurst Road.

n. I also included a search of crashes on Tremaine Avenue and Kelvin Grove Road between North Street and Tutaki Road, with the following results:

i. A total of 157 reported crashes;

ii. No fatal crashes and three serious injury crashes; and

iii. Clusters of crashes at the intersections of Tremaine Avenue on Milson Line (21 crashes) and Railway Road (22 crashes).

o. Section 5.6.3 of the ITA sets out the Australian Level Crossing Assessment Model ("**ALCAM**") assessments of the existing four road level crossings and one pedestrian level crossing between central Bunnythorpe and Roberts Line. All four of the road level crossings are assessed as being in the High risk band, meaning the crossings fall within the top 20% highest risk crossings in New Zealand. The pedestrian level crossing in central Bunnythorpe is assessed as being in the Medium-High risk band (60-80 percentile group). I note that no similar assessment is included for the road and pedestrian crossings between Bunnythorpe and Feilding.

p. Section 6 of the ITA describes the traffic generation associated with the existing KiwiRail freight yard on Tremaine Avenue. A September 2019 24 hour 7 day count of the four accesses onto Tremaine Avenue showed a total of 3,650vpd, with steady activity between 6am and 5pm with no clear peaks. The calculated vehicle movements was then factored to represent an average (50th percentile) month resulting in a daily traffic flow of 4,200vpd. In my view, there are inaccuracies in the surveyed heavy/light vehicle split, and the average of 60% light/ 40% heavy has been assumed.

q. No trip distribution data was collected specifically for the Freight Hub NoR. Instead, distributions from recent freight studies have been relied on. For external trips, these studies show 35% freight trips to/from SH3 (North), 15% to/from direction of Feilding, 25% to/from SH3 (east) and 25% to/from SH56 and SH57 (west). Similarly, no data has been collected regarding the split of internal/external trips. External trips mean trips with an origin or destination, or both, outside of the city limits.

A split of 25% external and 75% internal has been assumed for the Freight Hub.

76. Particular challenges with the existing road network include:

a. Rural roads with narrow carriageways and limited if any shoulders;

b. Bridges with weight restrictions;

c. Multiple at-grade rail crossings;

d. Complexity and constraints of the central Bunnythorpe transport node;

e. Restricted sight lines at some intersections;

f. The need for allowance for slow moving trucks to turn to and from the NEIZ, both to private accesses and side roads; and

g. Existing congestion on Tremaine Avenue with traffic including trucks diverting onto alternative non-arterial routes.

77. The centre of Bunnythorpe is shown in Figure 9, showing an intersection on either side of the level crossing. This node is the existing meeting point of both east-west (Ashhurst Road – Kairanga Bunnythorpe Road) and north-south (Campbell Road – Railway Road) routes, and accommodates significant traffic volumes and a full range of vehicle types. The roundabout is small, and any blocking back from either of the intersections or the level crossing can be disruptive to traffic flow. There is also the need to accommodate pedestrians and cyclists within this part of the road network as they move to and from central Bunnythorpe.

Figure 9 – Central Bunnythorpe Transport Node

78. The sight lines are restricted from the Railway Road approach at the Kairanga Bunnythorpe Road intersection. The hedge and the bus shelter shown in Figure 9 on the southern corner of the intersection restrict sight lines for vehicles turning out of Railway Road. I have estimated a sight distance of 40m at 5m back from the stop line increasing to 90m at 3m from the stop line. This compares with the Austroads recommended Safe Intersection Sight Distances of 97m to 123m for design speeds of 50km/h and 60km/h respectively.

79. With regard to restricted sight lines, the combination of the vertical and horizontal geometry on the southern Railway Road approach to the intersection with Maple Street in Bunnythorpe is restricted. The speed limit on Railway Road also transitions from 100km/h to 50km/h not far to the south of the intersection. Figure 10 shows a view from Maple Street looking south along Railway Road. I estimate that the existing sight line is around 100m, with 97m to 123m being the Austroads recommended Safe Intersection Sight Distances for design speeds of 50km/h and 60km/h respectively. The proposed change in the alignment of Railway Road will reduce this sight line. The speed environment in this location is unlikely to change given that the transition from the higher speed (whether 100km/h or 80km/h) occurs to the south of the intersection.

Figure 10 – View from Maple Street to the south along Railway Road (extract from Google Streetview)

80. Laden semi-trailers and B-trains can take 10 to 15 seconds to cross and clear a single traffic lane. During a site visit, I observed a truck exiting the Foodstuffs site on Roberts Line taking 15 seconds to clear the northbound traffic lane on Roberts Line. This is not unusual. Trucks also need bigger gaps than cars when turning left into a traffic flow. The existing cross-section and road markings on Railway Road to the south of Roberts Line are such that larger trucks turning right onto Railway Road from accesses and side roads need to find a gap in both traffic flows.

81. There are four sets of traffic lights along Tremaine Avenue between SH3 Rangitikei Street and Railway Road inclusive. Section 8.3 of the KiwiRail ITA explains the weekday evening peak modelled existing performance of three of these intersections (excluding North Street/ Tremaine Avenue signals). The intersections of each of Milson Line and SH3 Rangitikei Street have modelled existing levels of service of 'D', with the intersection of Railway Road and Tremaine Avenue having a modelled existing performance of level of service 'E'. The definitions for each level of service are included in Section 8.1.3 of the ITA. With the level of service being a weighted averaged over all approaches rather than for the worst approach, I consider that the modelled existing performance of these intersections suggests that they are failing during the weekday evening peak. The modelled intersection performance has not been validated against observed data. I have observed signal cycle times of more than two minutes during the busiest periods of the weekday evening peak at the intersections of Tremaine Avenue with each of Milson Line and Railway Road. This length of cycle time is an indication that the signals are struggling to accommodate demands.

82. The existing congestion along Tremaine Avenue results in vehicles, including trucks, diverting onto parallel routes, in particular Benmore Avenue and Bennett Street. Council is currently introducing raised platforms along Benmore Avenue in the vicinity of Cloverlea School to ideally deter, but at least slow down, diverted through traffic.

83. Section 8.3 of the ITA sets out the modelled existing levels of service of key links within the local road network. The link capacities assumed in the model, while not unusual for traffic modelling purposes where the intersections typically constrain traffic flows, as occurs on the ground, are significantly higher than what are considered practical link capacities. For instance, the Council's Street Design Manual includes indicative traffic flows of 8,000 to 20,000vpd for arterials, 3,000 to 10,000vpd for industrial collectors and rural roads and up to 3,000vpd for local collectors. These equate to peak hour flows of around 1,000 to 2,500vph, 375 to 1,250vph and 375vph for arterials, industrial collectors and rural roads, and local collectors, respectively.

84. The consequence of the higher link capacities in the traffic model mean that if the model shows a link being close to, at or over capacity then in practice it will be significantly exceeding its practical capacity.

85. Accordingly, I consider it likely that the links in Table 8.5 of the ITA that are shown with a level of service of D or worse (that is SH3, SH54, SH56, Railway Road, Campbell Road, Tremaine Avenue and Waughs Road), are already close to or at capacity during the weekday evening traffic peak.

86. Section 7.2.1 of the ITA states that 36 hectares of the total of 240 hectares in the NEIZ is currently developed, around 15%. Based on the traffic demands included in Table 7.2 and Figures 7.3 and 7.4 of the ITA, the NEIZ (excluding the part within the Freight Hub site) could be expected to generate a further 17,800vpd or 1,780vph during the weekday evening peak onto the local road network, via El Prado Drive and Richardsons Line onto Roberts Line. The Plan Change 15E: North East Industrial Zone Extension Intersections Assessment Report dated October 2014 identified a number of roading improvements that would be needed as the NEIZ developed, including a possible roundabout at the intersection of El Prado Drive and Railway Road. I understand that most development within the NEIZ and the NEIZ extension is likely to be a discretionary activity, allowing for consideration of the impacts of development on the immediate and wider road network.

87. There are two properties that rely entirely on vehicle access via the private level crossing at Richardsons Line.

88. In summary, there are existing safety and capacity constraints within the extent of the road network that are likely to be exacerbated by traffic associated with the proposed Freight Hub.

5 Future Transport Environment

89. Section 7.1 of the ITA describes the anticipated future transport environment. The following upgrades are assumed to be in place prior Freight Hub's operation, and have been included in future years' traffic modelling:

    a. Kairanga Bunnythorpe Road – roundabouts at each of the intersections with SH54 and SH3;

    b. Kairanga Bunnythorpe Road – road widening between SH3 and Roberts Line;

    c. Kairanga Bunnythorpe Road – bridge strengthening and renewal (Jacks Creek and Mangaone Stream);

    d. Campbell Road – bridge renewal;

    e. Richardsons Line Upgrade – road widening between Milson Line and Roberts Line;

    f. Richardsons Line/ Roberts Line intersection upgrade (roundabout);

    g. Alderson Drive to Richardsons Line – new link to NEIZ off Richardsons Line and an access into the existing NEIZ;

    h. Stoney Creek Road Safety Upgrade;

    i. Roberts Line Widening – Kairanga Bunnythorpe Road to Richardsons Line; and

    j. El Prado Drive/ Railway Road Roundabout.

90. As set out in paragraph 39 of this evidence, there is an existing commitment to deliver some of these projects. I consider that it is reasonable to assume that

all the above projects would be implemented by the time the RFH became fully operational if not before.

91. The ITA explains that the following projects are expected to be completed prior to the opening of the Freight Hub but have not been included in the future year traffic modelling:

a. Longburn Rongotea Road/ No.1 Line Intersection Safety Upgrade;

b. Roberts Line/ Railway Road Intersection Safety Realignment;

c. Napier Road (SH3)/ Roberts Line Intersection Safety Upgrade;

d. Palmerston North to Bunnythorpe Cycle/ Pedestrian Pathway;

e. Te Ngaio Road Bridge Renewal;

f. Flygers Line Replacement of One Lane Bridge;

g. Railway Road Culvert Removal;

h. Upgraded Strategic Routes to HPMV Standard;

i. Rangitikei Street (SH3)/ Featherston Street Intersection Widening;

j. Rongotea Road/ No.1 Line Intersection Safety Improvements; and

k. Milson Line Mangaone Stream Bridge.

92. Because these projects are safety driven, they are not expected to have significant effects on the capacity of the road network. As such, I consider it reasonable for them not to be included in the future year traffic modelling. However, the Freight Hub's construction is likely to influence the location, timing of construction and availability for use of the section of the proposed Palmerston North to Bunnythorpe shared path along the eastern side of the Freight Hub NoR.

93. The ITA refers to the PNITI strategic infrastructure improvements and includes the following comment at Section 7.1.2:[3]

> It is expected that these planned upgrades will form the ultimate road network. As details of these planned upgrades are not yet available, for

[3] Palmerston North Integrated Transport Initiative, page 42.

the purposes of this assessment, the road network analysis was carried out without these proposed upgrades as a starting point. It is noted that the Roading Network Integration Plan, which is to be prepared, will provide that basis for a coordinated approach to the required improvements with PNCC and Waka Kotahi.

94. None of the traffic modelling undertaken as part of the ITA includes the PNITI strategic infrastructure improvements.

95. At Council's request, as part of the further information process, the restriction of light vehicles only being able to access and egress the western end of Richardsons Line along with Flygers Line being for access only were included in the future year roading assumptions. While Flygers Line is a through road, it is not of a standard that is appropriate to carry significant volumes of through traffic.

96. A copy of the NEIZ Structure Plan is included below as Figure 11. The desired future roading links within the NEIZ are shown. Richardsons Line (blue line on map) and Setters Line (southernmost green line on map) are programmed to be upgraded. At this stage, there are no plans for the delivery of the other green roads or the roads shown as yellow dotted lines. These improvements would be triggered by resource consent applications and would be subject to discussions between the applicant and Council. There are no designations in place to secure the delivery of this infrastructure, located within private land.

97. No upgrades are included for the El Prado Drive intersection with Railway Road in the 10 Year Plan. The need for any upgrade will depend on the rate of development of the NEIZ, increases in traffic flows along Railway Road and whether road connections can be achieved through to Richardsons Line as indicated by the broken yellow lines on the Structure Plan.

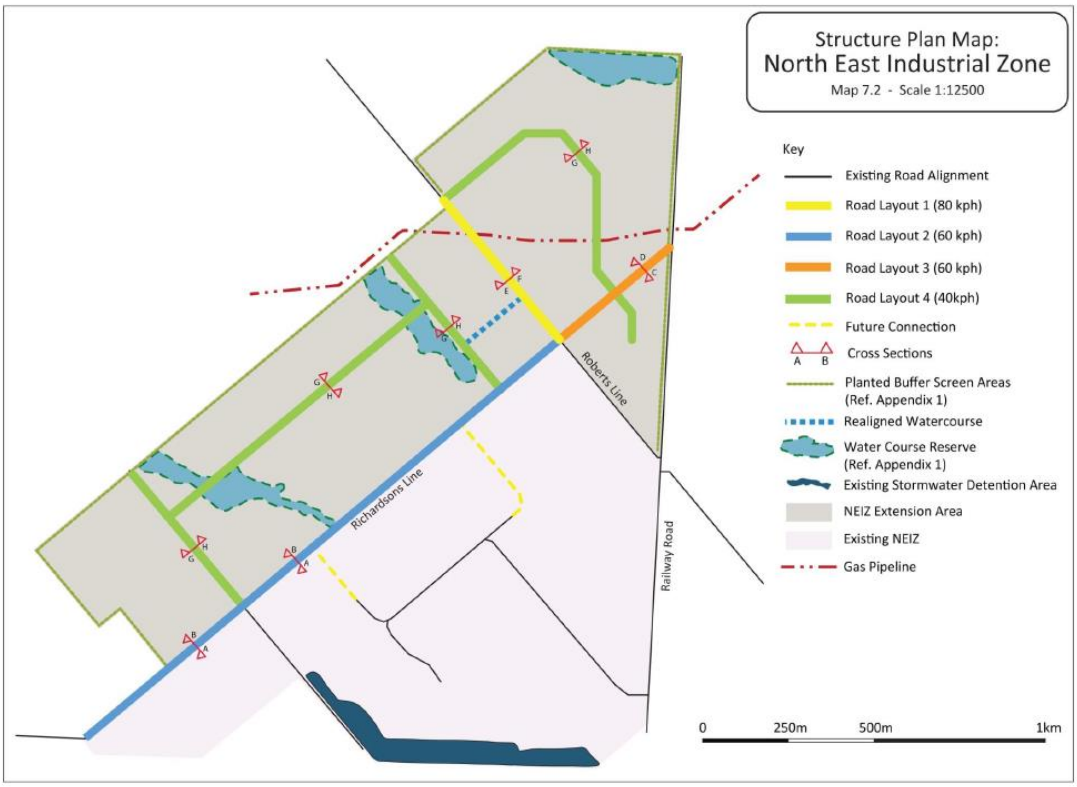


Figure 11: NEIZ Structure Plan Map

6 Data Collection and Assessment Techniques

98. Section 4 of the ITA describes the adopted assessment methodology, with Table 4.2 setting out the definitions for the ratings of the following seven categories of effect:

a. Network Traffic Effects (traffic demand, traffic distribution, network performance);

b. Travel Times (origin-destination, train lengths, route);

c. Level Crossing Closures (ALCAM safety risk assessment);

d. Safety (safety risk);

e. Public Transport (bus route);

f. Walking and Cycling (impact on walking and cycling facilities); and

g. Parking (onsite)

99. In Section 6 of my evidence, I discuss the range of potential traffic effects and comment on the assessment approach included in the Integrated Transportation Assessment.

100. Apart from the assessment of the effects on public transport, walking, cycling, and parking, the analysis included in the ITA has relied on outputs from a modified version of the PNATM (Palmerston North Area Traffic Model).

6.1 Palmerston North Area Traffic Model (PNATM)

101. The PNATM was developed by Beca for the Palmerston North City Council. It has a 2013 base year and future years of 2021, 2031 and 2041. It was developed using the CUBE VOYAGER software. There are weekday morning, evening and inter-peak models. Travel demand matrices were produced for light and heavy vehicles using a combination of observed and synthetic matrix data. Key points about the Palmerston North Area Traffic Model – Model Development and Validation Report prepared by Beca and dated 23 December 2014 are:

a. Project specific origin-destination surveys were not undertaken for this study (2.2 page 6) although commercial GPS data was used to assist with the development of the heavy vehicle trip matrix (9.2 page 51);

b. Counts used in the model development did not include counts on Richardsons Line, Roberts Line south of Clevely Line, Clevely Line or Stoney Creek Road (Figure 2-1 page 7);

c. Two-way link capacities of 1,800vph, 2,000vph, 2,500vph and 2,400vph for residential, collector, low standard arterial and low standard rural road respectively are used in the model (Table 3-1 page 14);

d. Only three travel time survey runs were undertaken for each route (10.4 page 63); and

e. With regard to the heavy vehicle validation, the daily result is good but the same level of validation was not achieved during the individual peaks, possibly due to low traffic volume for heavies (10.5 page 69). The Peer Review Report by Tim Kelly Transportation Planning Ltd dated January 2015 goes on to say:

'a consequence of this validation is that the subsequent application of the model for the assessment of any specific projects in the area where there are a significant number of heavy vehicle movements (for example, Tremaine Avenue, NE Industrial Estate etc) may require further work to refine the underlying demands.'

102. I consider that PNATM is the most appropriate starting point for assessing the Freight Hub's traffic effects, but any outputs, particularly concerning forecasted heavy vehicle volumes and routes, need to be treated with a degree of caution. As explained earlier regarding the modelling of the existing road network, I have concerns that the modelled levels of service of the links and intersections overestimates their practical traffic carrying capacities.

6.2 Modifications to PNATM

103. For the purposes of assessing the proposed Freight Hub, various changes were made to the traffic model, as follows:

a. The traffic activity for the existing KiwiRail site has been left unchanged in future years apart from the light and heavy vehicle split, which was altered to better reflect a possible future mixed-use development of the site (7.2.2 page 45);

b. The road network was modified as described in paragraph 89 of this evidence;

c. The proposed Freight Hub traffic activity forecast is based on modified observed trip generation rates from the existing KiwiRail operation on Tremaine Avenue. The observed data was factored up to reflect that of an average month;

d. Table 7.2 of the ITA assumes, based on data from 2014, that the existing trip generation for the NEIZ is 4,100vpd with the balance of the NEIZ and the NEIZ extension having the potential to generate some 22,900vpd or 2,290vph. In Figure 7.4 of the ITA, it is assumed that the Freight Hub will generate a total of 12,000vpd being 6,900vpd in addition to what was anticipated as part of the NEIZ extension;

e. For the Freight Hub, only the light vehicle/ heavy vehicle split in the model was adjusted to 60%/ 40% (8.1 page 46); and

f. For the Freight Hub, only the external/ internal distribution of heavy vehicles was changed from 85%/ 15% to 75%/25% (8.1 page 46).

104. In response to a further information request (Request 159), KiwiRail explained that based on the 2018 rail dataset there is a difference of approximately 12% between the average and 85th percentile rail commodities. KiwiRail explained that this translates to approximately an additional 100vph at the Freight Hub in 2051. On this basis, I agree that the difference between the average month and 85th percentile month data is unlikely to be significant.

105. The scenarios tested are documented in Tables 8.3 and 8.4 of the ITA and are summarised as follows:

a. Existing (2021) with NEIZ generating 4,100vpd;

b. 2031 without Freight Hub with NEIZ generating 13,500vpd and the NEIZ extension generating 4,500vpd;

c. 2041 without Freight Hub with NEIZ generating 13,500vpd and the NEIZ extension generating 13,500vpd;

d. 2031 with Freight Hub with NEIZ generating 13,500vpd and the NEIZ extension generating 4,500vpd, the existing KiwiRail site generating 4,700vpd and 5,800vpd at the Freight Hub; and

e. 2041 with Freight Hub with NEIZ generating 13,500vpd and the NEIZ extension generating 8,400vpd, the existing KiwiRail site generating 4,700vpd and 12,000vpd at the Freight Hub.

106. The above scenarios do not include any testing of the future road network with the rural ring road in place or the bypasses of Bunnythorpe. The scenarios also do not include the 'fixing up' of the future road network such that a satisfactory level of performance is achieved with the NEIZ and extension fully occupied, such that the incremental change in performance 'with the Freight Hub' can be properly tested and the particular traffic effects of the Freight Hub identified.

107. I note that the PNATM was not available when the NEIZ extension was being assessed. Only local traffic effects were analysed.

108. As well as the initial ITA and further information response, Stantec provided me with additional clarification regarding the use of the traffic model. This was provided in a memo dated 30 April 2021. In particular, the memo describes a check of how the 2021 model performs compared with 2020 and 2021 count data collected by Council. Tables 1 and 2 in the memo show a good match between the modelled and observed traffic flows except on the links with the lowest observed flows. I agree that the absolute volume differences are low and the shortfall is likely to have negligible impact on the assessment findings. I note that with all the modelled flows being lower than the observed flows, the indication is that the model is slightly underestimating trips in this part of the network. Again, I consider that the scale of the difference is unlikely to impact on the assessment findings.

6.3 SIDRA Intersection Modelling

109. As described in Section 10.1.1 of the ITA, output from the traffic model was used to identify intersections for further analysis using the SIDRA intersection modelling software. The following intersections were modelled using the 2041 flows from the traffic model for the with and without Freight Hub scenarios:

a. Railway Road – Kairanga Bunnythorpe Road;

b. SH54 – Waughs Road;

c. Railway Road – Tremaine Avenue;

d. Tremaine Avenue – Milson Line;

e. Flygers Line – SH3;

f. Campbell Road – Kairanga Bunnythorpe Road; and

g. Stoney Creek Road – Kelvin Grove Road.

110. I would have also expected the Tremaine Avenue/ SH3 Rangitikei Street intersection to be on the list given that the modelled existing level of service for the intersection was D (Table 8.6).

111. The re-run intersection level of service plots, included in Appendix B of the Transport Response to the further information request include the following additional key intersections with a Level of Service of D or worse with the full build scenario:

a. Tremaine Avenue/ SH3 Rangitikei Street; and

b. SH3 Rangitikei Street/ John F Kennedy Drive/ Bennett Street.

6.4 Safety Assessment

112. The Safety Risk Assessment described in Section 10.4 of the ITA is based on the IRR assessment (Waka Kotahi Infrastructure Risk Rating). An IRR assessment is described in the IRR Manual on the Waka Kotahi website as a road assessment methodology designed to assess road safety risk, primarily asan input to the speed management process. The IRR assessment includes the following eight key features that impact on safety risk:

a. Road stereotype;

b. Alignment;

c. Carriageway width;

d. Roadside hazards;

e. Land use ;

f. Intersection density;

g. Access density; and

h. Traffic .

113. The IRR assessment does not include consideration of the number of pedestrians or cyclists travelling along or across the route or how they are provided for, if at all. As such, I consider the IRR assessment is useful but it does not provide a comprehensive safety assessment.

7 Project Effects

114. There are a number of positive traffic effects associated with the Freight Hub NoR, these include:

a. Increased capacity for carrying freight by rail rather than by road with a range of flow on benefits for road safety, road capacity and vehicle emissions;

b. Unlike at the existing freight yard, internal trips to the Freight Hub will not need to use the local road network; and

c. The location adjacent to the NEIZ minimises trip lengths between the two sites which at the moment involve travelling through a part of the road network which is already congested at peak times.

115. I consider that there are a range of potential adverse traffic effects associated with the proposed Freight Hub, which I have categorised as follows:

a. Traffic effects during construction;

b. Potential for significant traffic effects if the proposed NoR obstructs the delivery of the PNITI works, especially the possible southern and western bypasses of central Bunnythorpe (operational);

c. Traffic effects on the road network associated with not facilitating an off-road connection between the NEIZ and the Freight Hub, such as allowing for a Straddle Corridor for the movement of containers (operational);

d. Safety effects at railway crossings that remain, including at Kairanga Bunnythorpe Road in central Bunnythorpe, the pedestrian and vehicle crossings of the rail line between Bunnythorpe and Feilding. Also, delays at the vehicle crossings with longer trains (operational);

e. Potential for land to be needed to address traffic effects that have not been identified through the analysis, such as in the vicinity of the Bunnythorpe node of Kairanga Bunnythorpe Road, Railway Road, Campbell Road, Dixons Line and the railway line (operational);

f. Effects from public and private level crossing closures, in particular at Clevely Line and private crossing serving 422 and 422A Railway Road, noting that the closure of the Roberts Line crossing is being led by Palmerston North City Council as part of a separate process (during construction and operation);

g. Effects for properties reliant on access to roads within the proposed designation. This includes Foodstuffs at 703 Roberts Line, 761 Roberts Line, 771 Roberts Line, 787 Roberts Line, 803 Roberts Line and all properties on Maple Street given that the existing intersection with

Railway Road lies within the designation (during construction and operation);

h. Traffic effects for road users within central Bunnythorpe including pedestrians crossing streets and drivers turning to and from properties on roads carrying additional traffic;

i. Increased travel distance and time for vehicle trips between Feilding and Palmerston North;

j. Effects on the Palmerston North to Feilding shared path and that part of the path that also forms part of the Te Araroa Trail (during construction and operation);

k. Effects on cyclists on the existing and future road network (during construction and operation);

l. Effects on accesses and roads connecting with roads that will become busier, including increased truck movements generated by construction and operation of the Freight Hub. This includes:

   i. Side roads and access connections to the existing section of Railway Road to the south of Roberts Line;

   ii. Side roads and access connections to the existing section of Railway Road from Maple Street to the north;

   iii. Side roads and access connections to Campbell Road in Bunnythorpe; and

   iv. Side roads and access connections to SH3 Ashhurst Road and Stoney Creek Road.

m. Operational safety and efficiency effects associated with new road infrastructure including:

   i. Available sightlines between northbound vehicles on Railway Road and vehicles turning to and from the Foodstuffs driveways along Roberts Line;

   ii. The performance of the new intersection between Roberts Line, Richardson Line and the southern entry to the Freight Hub, in

particular as a result of the level crossing immediately within the Freight Hub site;

iii. The performance of the new intersection between Roberts Line and the Perimeter Road, in particular with regard to accommodating trucks turning to and from all three approaches;

iv. The performance of the new intersection between the Perimeter Road and the western entry to the Freight Hub, in particular whether a tee intersection will have sufficient capacity;

v. The performance of the new intersection between the Perimeter Road and the northern entry to the Freight Hub, including accommodating trucks turning to and from all approaches along with the effect of the level crossing immediately within the site;

vi. Available sight lines between vehicles exiting the northern end of Maple Street and northbound vehicles on the realigned section of Railway Road immediately to the south of the intersection;

vii. Safe connections to the 'possible future recreational tracks' shown around the ponds on the western side of the Perimeter Road; and

viii. Safe provision for cyclists.

n. Traffic effects away from the immediate vicinity of the site in locations where there is already congestion that will be exacerbated by the additional traffic associated with the Freight Hub. For instance, the intersections along Tremaine Avenue between the existing KiwiRail site at North Street and the intersection with Railway Road.

7.1 Construction Traffic Effects

116. The KiwiRail Design, Construction and Operation Report which is part of the Freight Hub NoR application includes the following:

a. At Section 1.2, the preparation of construction management plans as a future stage. A future stage is also listed regarding the construction of the new perimeter road and other access roads to provide access to the site, presumably during construction;

b. At Section 1.3.3.1, the additional material required to be imported as part of the bulk earthworks is estimated at 1.5 million m^3. The top 700mm layer over the site will require the importing of granular fill, ballast and concrete and asphalt;

c. Likely construction hours of Monday to Saturday, 7am to 7pm (Section 1.3.3.2);

d. Once external detention ponds are excavated and planted and the northern noise mitigation bund constructed and planted, form and open the perimeter road. Form temporary construction site accesses off Richardsons Line and Railway Road (Section 1.3.3.2);

e. Section 2.2.2 discusses material sourcing which I have summarised as follows:

   i. Earthworks – the estimated 1.55 million m^3 of imported fill will most likely be carted in by truck and trailer if sourced locally. If sourced from further afield, there may be an opportunity for material to be transported by rail;

   ii. Ballast – initially by truck but later option of constructing a siding for delivery of ballast from Otaki by train;

   iii. Rail – initial trucking in of 25m lengths with later option of 75m lengths being delivered by rail; and

   iv. Box culvert units – a large number are required and may be produced at multiple sites around New Zealand. May be option for delivery by rail.

f. Based on 15m^3 capacity (truck and trailer) and a bulking factor of 1.4, 145,000 loads of imported fill is needed over a 75 week period (Sections 4.1 and 4.2). I have calculated this to be a total of 290,000 truck movements with an average of 644 truck movements per day or 54 truck movements per hour for 12 hour operation. These numbers would double if single unit trucks are used; and

g. Other construction activities that will result in construction traffic on the road network include creating the detention ponds and noise bunds, building the perimeter road and constructing on-site buildings and structures.

117. Section 11.1 of the ITA includes a list of non-project specific details that are typically included in Construction Traffic Management Plans ("**CTMPs**"). I consider that some more specific scoping matters could usefully be included in conditions, including staging to minimise traffic disruption, ongoing access to affected properties, and encouraging the transportation of construction materials by rail rather than road whenever possible. There is also the need to ensure ongoing access to the Te Araroa Trail and allowing for the construction and use of the shared path from Palmerston North to Bunnythorpe.

7.2 Strategic Road Network

118. The Council has included the concept of a freight or rural ring road in its strategic planning documents for many years, at least since the 2010 Joint Transport Study completed by Waka Kotahi, Horizons and the local Councils. Most recently and as included earlier in my evidence, the Palmerston North Strategic Transport Plan 2018/21 showed both a freight route and a rural ring road. The PNITI has since expanded and extended on its vision of a rural freight ring road. Within the northeast area of the City, the ring road continues to be shown along Kairanga Bunnythorpe Road, and the PNITI concepts show both a southern and western bypass of Bunnythorpe. The southern bypass connects onto Ashhurst Road to facilitate the east-west road corridor.

119. I agree that there is no certainty around the delivery of the rural freight ring road and possible bypasses of Bunnythorpe, in terms of both timing and alignment. However, there has been a longstanding expectation that a rural freight ring road will form part of the future road network. As such, my expectation is that, as a minimum, KiwiRail should have undertaken a sensitivity test that included at least the northern half of the ring road route from SH56 in the west to Ashhurst in the east and including the bypasses of Bunnythorpe. This analysis has not been undertaken and the effect of the Freight Hub on the likely future road network is not fully understood.

120. My expectation of the effects of a rural freight ring road as currently indicated in the PNITI reporting and in relation to Freight Hub project are:

    a. With 75% of the Freight Hub trips forecast to be internal Palmerston North trips along with the Freight Hub site location being in the northeast corner of the network, a rural freight bypass will have little effect on the routing of these trips;

b. Only the external trips to and from SH56 are likely to divert from the central city routes. This is 25% (ITA Figure 6.4) of the 25% of external trips, so around 6% of the total Freight Hub trips; and

c. Any relief to existing and future traffic congestion in the central City will come from the diversion of external to external trips onto a rural freight ring road.

121. Accordingly, the additional traffic generated by the Freight Hub would make use of capacity resulting from the diversion of non-Freight Hub trips away from the central City rather than relying on Freight Hub trips accessing the site via the rural freight ring road.

122. Without the analysis it is not possible to determine whether the additional Freight Hub traffic is less than, similar to or more than the level of traffic that would be removed from the central City streets. This consequently means that the degree to which the PNITI's anticipated outcomes are achieved is unclear, in particular:

a. To reduce freight movements on residential and place-based streets by up to 50%; and

b. To reduce the number of congested intersections by 50% and improve journey times on key freight routes by up to 10 minutes.

123. With regard to the western and southern bypasses of Bunnythorpe, I expect that these would effectively remove Freight Hub trips, and other trips that do not have origins or destinations in Bunnythorpe and its immediate surrounds, from central Bunnythorpe. In my view, it is imperative that the Freight Hub NoR does not impede the delivery of these possible future bypasses. This is particularly the case for the southern bypass, which is likely to share some of the corridor of the northern section of the proposed Freight Hub perimeter road. To date, KiwiRail have not demonstrated how this might be achieved.

7.3 Transport Integration with NEIZ

124. The Freight Hub site plan does not include any separate provision for the movement of containers between the Freight Hub site and the NEIZ other than by truck on the public road network. As such, the access provision to the Freight Hub by NEIZ businesses is no different to that of the wider public. The only transport benefit is the proximity of the two areas to each other. The

desirability of integration with the NEIZ is discussed in Section 4.3.1 of the Section 42A Economic Impacts evidence of Shane Vuletich.

125. My understanding is that for containers to be moved between the two sites without using the public road network a straddle corridor with a width of around 50m would be needed.

126. As discussed later in this evidence, the NEIZ businesses which rely on vehicle access to the City via Railway Road to the south will be adversely affected by worsening congestion associated with the additional Freight Hub trips.

7.4 Safety at Railway Crossings

127. The existing road level crossing in Bunnythorpe is in the High ALCAM risk band (ITA 5.6.3.1 page 32) and the change in use with the Freight Hub may result in the crossing not meeting KiwiRail's LCSIA Criterion 1 (10.3.2 page 82). The NoR does not provide for any improvements at this crossing. I am concerned that an increase in road traffic, train numbers and lengths could all contribute to reduced safety in this location. No provision in the NoR is made for the possible upgrade of this crossing, including grade separation, if warranted, and it is unclear what land-take requirements, if any, would be needed.

128. The ITA does not include an assessment of the safety of the two road level crossings between Bunnythorpe and Feilding. As highlighted in the submissions (Submission 3), there are also at least two pedestrian level crossings along this section. One in the vicinity of Taonui School and the other near the Aorangi Marae.

7.5 Land-take for Mitigation of Transport Effects

129. As well as possibly needing to allow for safety improvements to the rail crossings in central Bunnythorpe, there is also the matter of addressing safety and capacity challenges at the intersection of Railway Road and Kairanga Bunnythorpe Road. It is unclear whether any land acquisition would be needed to facilitate any upgrades.

7.6 Level Crossing Closures

130. Noting that the Council are separately leading the closure of the Roberts Line and Clevely Line level crossings, the RFH results in the closure of the private crossing serving 422 and 422A Railway Road.

131. The ITA includes the following with regard to the level crossing closures:

a. The two properties accessed via the private Richardsons Line crossing will in the future be accessed from a driveway from Roberts Line along the eastern side of the rail lines within the Sangsters Road paper road (10.1.2.1 page 73). There is an existing driveway to 684 Roberts Line along the southern part of the alignment. It appears that this is a single lane width, two-way driveway. No indication is provided regarding any upgrade that may be needed to this access to accommodate traffic associated with additional properties including that of the existing agricultural business;

b. A six minute travel time increase for trips to/from Bunnythorpe and the two properties currently using the Richardsons Line level crossing (10.2.1.2 pages 78 & 79). I have used Google Streetview to look at the difference in travel time during the weekday morning peak for travelling from 684 Roberts Line to the Tremaine Avenue intersection with Railway Road via each of Railway Road or Roberts Line and Kelvin Grove Road. The travel time via Railway Road is 4 minutes compared with 4 to 7 minutes via Roberts Line and Kelvin Grove Road. The variation in travel time for the second route appears to be due to congestion on the eastern approach to the Tremaine Avenue intersection with Railway Road; and

132. The additional travel times to and from the Palmerston North direction, while inconvenient, are not dissimilar to some of the existing variation that occurs at peak times. With regard to the two properties that currently use the Richardsons Line crossing, my main concern is that the access to Roberts Line is of sufficient standard to accommodate their needs, including the movement of agricultural vehicles and plant while safely accommodating existing traffic associated with 684 Roberts Line. I recommend that provisions are included in the conditions to ensure the provision of safe access that meets the practical needs of the various properties.

7.7 Effects of Designation on Access

133. Foodstuffs have a distribution hub at 703 Roberts Line. Their frontage to Roberts Line extends from Railway Road to Richardsons Line. All vehicle accesses to Roberts Line are in line with the policy of minimising NEIZ connections to Railway Road.

134. The easternmost access serves the staff carpark. There are a pair of one-way driveways that tie in with the building configuration and accommodate the movement of goods onto and off the site. My expectation is that up to a maximum of size B-trains and semi-trailers access the site, and that fully laden trucks both enter and exit the site. A fully laden B-train or large semi-trailer can take 10 to 15 seconds to cross a single traffic lane. This requires large gaps in the frontage traffic flow. KiwiRail have yet to demonstrate how the vehicle activity associated with the Foodstuffs operation will be accommodated both during construction and operation of the Freight Hub.

135. In the further information response dated 28 May 2021, KiwiRail comment that the conditions requiring a RNIP and CTMP will ensure that any transport related effects of the Freight Hub both during construction and operation will be managed. I consider that, given there are some restrictions on the road corridor width of Roberts Line in this location, and the bore location on the northern side of the road, at least an option for delivering ongoing access to the Foodstuffs site is needed.

136. In the event that, say, a separate parallel service lane is needed to accommodate the ongoing Foodstuffs activity, it would need to be demonstrated that the designation is sufficient in this part of the network to accommodate this or alternative mitigation.

137. There is no discussion of the construction or operational traffic effects for the properties at 761, 771, 787 and 803 Roberts Line, which rely on access to the part of Roberts Line within the designation. These properties will be affected by both increases in frontage traffic flow and proximity to the new intersection between the Perimeter Road and Roberts Line.

138. The intersection of Railway Road and Maple Street is shown lying within the designation. The implications of this for Maple Street residents is unclear. In order to understand the potential scale of any traffic effects, clarification is sought about whether the intersection could be closed on either a temporary or permanent basis and, if temporary, for how long.

7.8 Central Bunnythorpe

139. The assessment of transport effects in central Bunnythorpe in the ITA includes travel time effects due to increased train length, the performance of the two

central intersections, the safety of the road and pedestrian level crossing, the infrastructure risk rating assessment and the need to relocate the bus stop.

140. It is estimated that the increased train length could increase delays at the level crossings for the first vehicle (also pedestrians and cyclists) by less than 30 seconds to just over a minute. These delays will be balanced to some degree by there being possibly fewer trains (10.2.2 page 80).

141. The existing road crossing is assessed as being in the ALCAM High risk band. The road crossing safety is assessed to be reduced either with or without the Freight Hub, but no conclusion is drawn about whether the road crossing needs upgrading in any way (10.3.1.1 page 81).

142. Campbell Road is assessed to have a slight increase in safety risk but remains in the medium high risk category (Table 10.12 page 83). The table includes the comment that:

> In the event of the implementation of the Western Bunnythorpe Bypass traffic volumes on Campbell Road and the level crossing will reduce, improving future IRR. Prior to the strategic improvements being realised, the Roading Network Integration Plan will provide a framework for KiwiRail to coordinate improvements with PNCC and Waka Kotahi.

143. There are significant differences in the assessed performance of the central Bunnythorpe intersections between the network modelling and the SIDRA intersection modelling (Tables 10.3 and 10.4 pages 69 and 71). Neither approach models the combined effect of the two intersections and the rail crossings, and, therefore, in my mind are unlikely to reasonably reflect the current and future performance of this particular part of the road network.

144. On page 72 of the ITA, the following points are made:

> It is assessed that the traffic impact of the RFH on link and intersection performance will be negative-minor, since those links and intersection shown to be performing poorly in the 'with RFH' scenario are shown to also be performing poorly in the 'without RFH' scenario and in need of addressing by authorities other than KiwiRail.
>
> The traffic generated by the RFH, (6,900vpd), alone will not trigger the improvements outlined in section 7.1.2 (western and southern bypasses of Bunnythorpe and the ring road).

> As above, the performances identified here exist irrespective of the RFH, such that the strategic infrastructure improvements to be advanced by Waka Kotahi and PNCC are not fundamental in terms of link performance for the Project.

145. I disagree with this approach. I do not consider the "with" NEIZ and NEIZ extension fully occupied to be the permitted baseline. Development and land use changes within the NEIZ and NEIZ extension trigger consideration of traffic effects that can be either local or within the wider network. As such, a development within the NEIZ or NEIZ extension area could be required to contribute to the mitigation of adverse traffic effects within the local or wider road network.

146. The ITA does not include assessment of the effects on safety and travel time for pedestrians and cyclists moving within central Bunnythorpe. There is also no assessment of the traffic safety and delay effects for vehicles on side roads (Maple Street, Dutton Street) and associated with frontage residences and businesses (Railway Road and Campbell Road) turning to and from busier traffic flows as a result of the Freight Hub.

147. I consider that the transport effects of the Freight Hub on central Bunnythorpe have been underestimated and that conditions are needed to ensure that the Bunnythorpe 'node' as well as the section of Railway Road and Campbell Road within the built-up area operate safely and effectively for all road users.

7.9 Palmerston North to Feilding Vehicle Trips

148. In Section 10.2.3 of the ITA, Tables 10.10 and 10.11 show the change in travel time on the key routes between the future 'with and without' Freight Hub scenarios during the weekday evening peak. Vehicle travel times between Feilding and Palmerston North CBD are forecasted to increase by 6-12 seconds at the Initial Stage and by 18-24 seconds at the Full Build-Out Stage, depending on the direction of travel. No absolute travel times are provided and no comparison is made with existing travel times.

149. I have looked on Google Maps for existing routes and travel time ranges as follows:

a. For travel from Feilding to The Square during the weekday morning peak, 18-28 minutes via SH54 and SH3, 20-35 minutes via SH54 and Milson Line;

b. For travel from The Square to Feilding during the weekday evening peak, 18-35 minutes via SH3 and SH54, 20-40 minutes via Milson Line and SH54 and 20 to 35 minutes via Bunnythorpe; and

c. For travel from Feilding to the intersection of Railway Road/ Tremaine Avenue during the weekday morning peak, 12-18 minutes via Railway Road and 12-20 minutes in the reverse direction during the weekday evening peak.

150. The range of the existing travel times over a number of routes during both the weekday peaks indicates that there is existing congestion within this part of the road network. These delays will be associated with the existing performance of a number of intersections. The variability in delays is associated with some approaches or movements fluctuating between being close to, at or over capacity depending on the daily fluctuations in traffic flows. Future increases in traffic flows associated with growth will result in an increase in the likelihood of the intersections being at or over capacity and the travel times being closer or above the upper range currently indicated.

151. I agree that the additional route length of the Perimeter Road compared with Railway Road will make very little difference to overall travel times. However, the additional traffic within the road network is likely to result in significant increases in travel times compared with the existing situation which is already unstable during the weekday morning and evening peaks.

7.10 Palmerston North to Feilding Shared Path

152. At Section 10.6 of the ITA, the following comments are included regarding effects on walking and cycling:

> The Freight Hub is not expected to disrupt any existing or planned walking and cycling routes…
>
> …the Freight Hub will provide the opportunity for potential improvements along portions of the Te Araroa Trail, specifically along the eastern side of the site.
>
> It is envisaged that the proposed Active Mode Connectivity Palmerston North to Feilding will follow the current Te Araroa New Zealand Trail.

153. In the most recent further information response, dated 28 May 2021, the response to Question 8 states that there is a possibility the construction works

related to delivering the Freight Hub could impact on the shared pathway. The response goes on to say:

> If the shared path has been constructed by the Council before the Road Network Integration Plan is submitted then KiwiRail will need to provide an alternative route during construction and/or a permanent replacement for any section of the shared pathway that is directly affected, in order to manage transport effects.

154. Given the likely duration of construction activities, I suggest that conditions will be needed to ensure the ongoing use of the Te Araroa Trail, including diversions if needed, and provision for the shared path to be constructed, including temporary diversions, ahead of the Freight Hub.

155. I note at paragraph 50 of Robert van Bentum's evidence Council's desire for a connection between the shared path and the western side of the railway. I consider that such a connection would usefully provide for cycling commuters to access the NEIZ and RFH, minimising the distance travelled on the road network.

Cyclist Travel Time and Safety

156. The ITA does not include a particular assessment of the effects of the Freight Hub on cyclist travel times and safety.

157. Google Maps indicates a travel distance of around 19km and a travel time of around one hour for cyclists travelling between central Feilding and central Palmerston North for either the SH54/ SH3 route or via Bunnythorpe and Railway Road. Both of these routes will involve cyclists mixing with existing and future increased freight movements. Both of these routes involve cyclists travelling along roads with little, if any, shoulder.

158. The Freight Hub will result in additional truck activity on these routes and therefore increased exposure and risk to cyclists. The combination of rural road vehicle speeds and the vulnerability of cyclists means that any crashes are likely to result in serious or fatal injuries. Mitigation for this increased risk includes increased shoulder widths and the provision of separated alternatives. As such, the delivery of the Palmerston North to Feilding shared path ahead of construction of the Freight Hub and its availability during construction is important, in my opinion. It is particularly important given the

uncertainty regarding the timing of the delivery of the improvements that form part of PNITI.

7.11 Local Road Network Traffic Effects

159. Along **Railway Road from Roberts Line in the north to Airport Drive to the south** there are a number of side roads and frontage accesses. These include the intersections of Railway Road with El Prado Drive, Setters Line and The Cutting Way. These are all intersections that serve industrial activities and can be expected to need to accommodate trucks turning to and from Railway Road.

160. The ITA includes the El Prado intersection being modelled as a roundabout. My understanding is that the upgrade to a roundabout (or signals) would be triggered by development within the NEIZ and/or increased traffic flows on Railway Road. Depending on the circumstances, a resource consent application could trigger the ability for the Council to seek a contribution from the applicant towards the infrastructure improvement. The ITA shows the intersection performing satisfactorily if upgraded to a roundabout.

161. The existing traffic flows on the section of Railway Road to the north of Roberts Line are 6,500vpd (ITA Table 5.1). The Table does not include a traffic flow for the section of Railway Road between Roberts Line and Airport Drive. In the absence of a traffic count it is estimated that the traffic flows on Railway Road to the south of El Prado Drive are around 30% more than the flows to the north of Roberts Line, which is around 7,900vpd. This is based on the existing counts included in the Plan Change 15E: North East Industrial Zone Extension – Intersections Assessment Report.

162. Roberts Line towards Kelvin Grove Road carries around 3,000vpd (PNCC count August 2020). The closure of the Roberts Line level crossing will presumably result in most of these vehicle movements transferring onto Railway Road. This would result in a total of around 10,900vpd on Railway Road to the south of El Prado Drive with around 1,100vph at peak times.

163. The Freight Hub is forecast to generate 12,000vpd at full build-out. It is unclear from the ITA what the additional vehicle movements on Railway Road south of Roberts Line will be. If 75% (say the internal trips) travel along this section, there would be some 9,000vpd additional trips. Combined with existing traffic and traffic associated with the closure of Roberts Line, and regardless of growth within the NEIZ and its extension, all intersections are likely to need to

be upgraded, most likely to signals such that traffic platoons are created with gaps in the traffic that can be used by vehicles turning to and from frontage driveways.

164. As shown in Figure 12 below, there are several **residential driveways along Railway Road between Maple Street and Kairanga Bunnythorpe Road** in Bunnythorpe. Some of these properties do not include provision for on-site turning, so rely on reversing either to or from Railway Road. The ITA at Table 5.1, page 19, indicates that existing traffic flows on this section of Railway Road are 6,500vpd. With the Freight Hub forecast to generate 12,000vpd, the external trips to and from Feilding and Ashhurst directions would result in a 1,200vpd increase in traffic on this section (15%(Feilding) + 25%(Ashhurst) of the 25% of external trips). If peak hourly traffic flows are assumed to be 10-12% of the daily flows, the average gap in two-way traffic along this section will be around 4 to 5 seconds at peak times. This does not take into account any growth within the NEIZ and its extension. At this level of frontage traffic activity, it can become difficult to cross or join the frontage traffic flows without right turning bays and flush medians.

Figure 12 – Railway Road between Maple Street and Kairanga Bunnythorpe Road

165. Similarly, as shown in Figure 12, there are **properties with frontages to Campbell Road within central Bunnythorpe and at the intersection with Dutton Street** where vehicles turning right out need to find a gap in both frontage traffic flows. It is unclear from the application what the changes in traffic flow will be in this location compared with the existing situation.

166. There will also be changes in traffic flows on **Ashhurst Road and Stoney Creek Road.** ITA Table 10.6 shows 1,200vpd and 600vpd additional to the future without Freight Hub scenario on Stoney Creek Road and Ashhurst Road, respectively. It is not clear how the future traffic flows compare with the existing situation. ITA Figure 10.5 shows no heavy vehicle movements on Stoney Creek Road associated with the Freight Hub. Assuming that the Stoney Creek Road link is available for use by heavy vehicles, it is presumably the level of delay within this part of the network that makes this link undesirable.

7.12 New Road Infrastructure

167. No assessment of the safety of the ongoing use of the **Foodstuffs driveways at 703 Roberts Line** is included in the ITA. The site and its driveways are shown in Figure 13. My understanding is that the eastern driveway provides access to the staff carpark. The next access is the freight exit driveway, and the western access is the freight entry driveway.

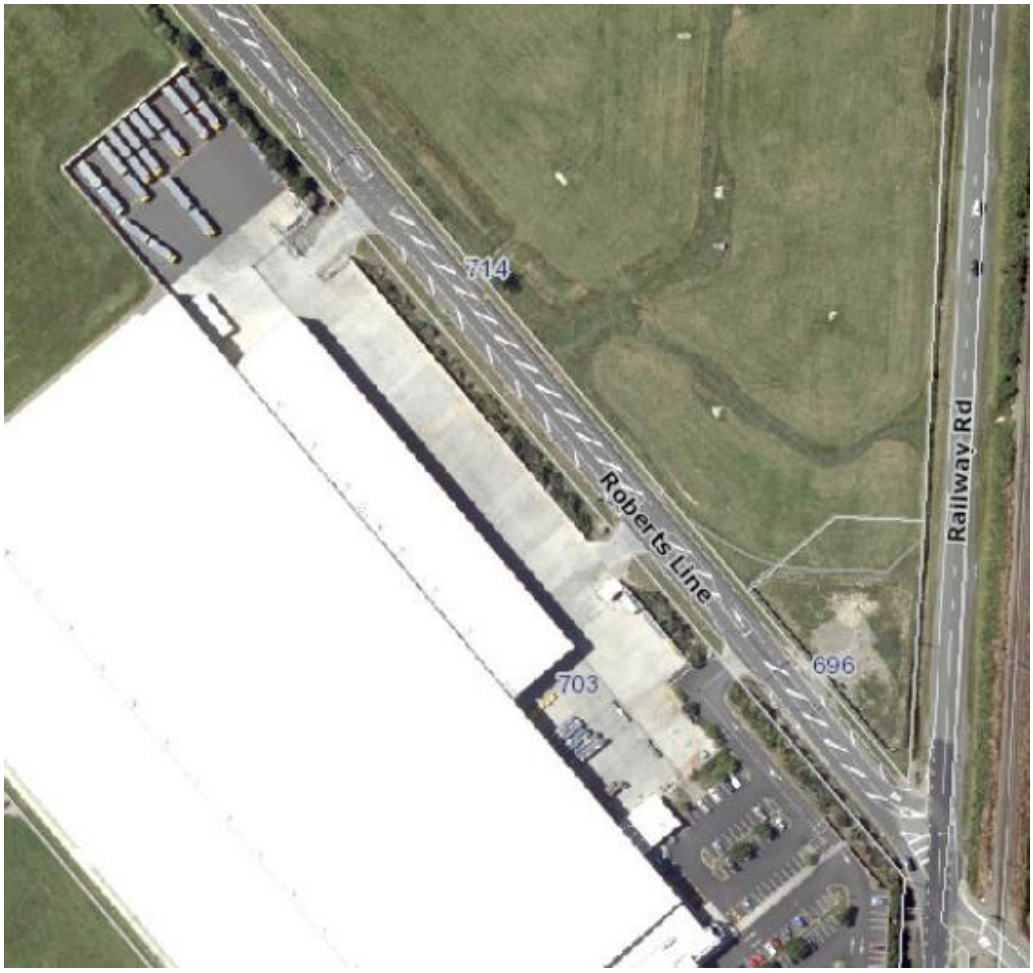


Figure 13: Foodstuffs Driveways – 703 Roberts Line

168. I have estimated the sight line from the staff carpark driveway and goods exit driveway towards Railway Road to be around 85m and 135m, respectively. The 85m sightline allows for a minimum gap sight distance associated with a 5s gap and an 85th percentile approach speed of 60km/h. Provided that the traffic flows are such that there are 5 second gaps, a car can safely turn right out of the site and join the frontage traffic flow with minimal disruption to through traffic.

169. For the goods exit driveway, the 135m sightline allows for an 8s gap with an 85th percentile approach speed of 60km/h. Small and medium trucks can turn right out of the site with minimal disruption to frontage traffic flow, but larger and articulated trucks will rely on oncoming traffic, seeing the truck start to turn and slowing to allow the truck to complete the turn. As previously mentioned, a laden B-train or semi-trailer can take 10 to 15 seconds to cross a single traffic lane. As the frontage volumes increase, the gaps in traffic flow will become smaller, and trucks will find it more difficult to turn out of the site

safely. This situation will worsen if the new road design allows vehicles to enter Roberts Line from Railway Road at speeds of more than 60km/h.

170. In my opinion, KiwiRail needs to demonstrate that there is a safe access solution for Foodstuffs, both during construction and operation of the Freight Hub, that meets the particular operational requirements of the business.

171. I have estimated from the indicative site layout plan a **distance of around 50m between the new roundabout intersection of Roberts Line, Richardsons Line and the southern entry to the Freight Hub and an internal road level crossing within the site**. The ITA does not assess the effect of the level crossing on the performance of the adjacent roundabout. In response to Further Information Request 154, KiwiRail state that all Freight Hub accesses will be designed to have dedicated turning lanes to accommodate any traffic that may need to queue off-site when trains stage/shunt, separate from the through movement lanes. It is unclear how such lanes could be provided for vehicles turning right into the Freight Hub from Roberts Line or straight ahead from Richardsons Line to avoid the risk of obstructing the roundabout. A 50m storage length can only accommodate, say, 7 cars or two of the largest trucks.

172. The **intersection of Roberts Line with the Perimeter Road** is shown as a tee-intersection on the indicative plans. Given the number and size of trucks that can be expected on all three approaches to this intersection, I am concerned that a tee-intersection may not be sufficient to safely and efficiently accommodate turning traffic and, in particular, trucks. I consider that a roundabout intersection may be needed and that it should be demonstrated that a roundabout can fit within the proposed designation if warranted. It will also be necessary to consider any effects on access to adjoining and nearby properties.

173. I have similar concerns about the **tee-intersections that are indicated for the western and northern accesses to the Freight Hub**. The northern entry to the Freight Hub also seems to have a road level crossing within around 50m of the Perimeter Road. As for the southern entry, it is unclear how the obstruction of frontage traffic flows can be avoided when the level crossing is in use. KiwiRail has indicated in response to Further Information Request 155 that there is space for roundabouts if needed.

174. The ITA does not discuss the changes in the available sight line for **drivers turning out of the northern end of Maple Street onto Railway Road**. I have

estimated that the existing sight line from Maple Street towards the south along Railway Road is around 100m. The available sight line is affected by both the vertical and horizontal alignment of Railway Road in this location. The speed environment also transitions to 50km/h just to the south of Maple Street, meaning that vehicles are still transitioning to slower speeds as they travel northbound through the intersection.

175. For a design speed of 60km/h, Austroads recommends a Safe Intersection Sight Distance of 123m; that is more than is available at present. The NoR application plans show the alignment of this section of Railway Road having a tighter curve, which will reduce the existing available sight line. Given that the traffic flows will potentially increase significantly on this section of Railway Road, I consider that it should be demonstrated that the intersection can perform safely and efficiently.

176. **Possible future recreational tracks are shown around the two stormwater attenuation ponds** along the western boundary of the Freight Hub within the detail of the landscape plan. The northern track is shown with a connection through to the northern end of Maple Street. It is unclear how the southern loop track connects with the wider recreational network.

177. I am uncertain what the intended provision for **cyclists is along the Perimeter Road.** Given the heavy vehicle volumes and likely speed environment, I consider that to ensure cyclist safety a separated cycling facility will be needed along the entire length of the road, including provision for cyclists to safely negotiate intersections and entry points to the Freight Hub. Such a provision should be ensured through conditions.

7.13 Wider Road Network Traffic Effects

178. Section 10.1 of the ITA discusses the network traffic effects associated with the Freight Hub. Section 10.1 concludes that there is a negative-minor impact on the road network based on an additional traffic demand of 6,900vpd, with this being a small amount of the traffic within the whole network.

179. As previously stated, I am of the view that the traffic effects associated with the full 12,000vpd need to be considered rather than the incremental addition to the NEIZ and its extension being fully developed. Also, comparing the level of additional traffic to the amount of traffic within the entire network risks hiding localised but significant adverse traffic effects.

180. Concerning reviewing the traffic effects within the wider road network, my focus is on the performance of intersections as they typically constrain the traffic carrying capacity of the road network rather than the links between them. My wider review is focused on the rural intersections to the north and west of Bunnythorpe and the intersections along Tremaine Avenue.

181. Table 1 below summarises reported modelled intersection performance data from Tables 8.6, 10.3 and 10.4 of the ITA.

Intersection	Existing PNATM Table 8.6	Forecast PNATM Initial Stage Table 10.3	Forecast PNATM Full Build Out Table 10.3	Forecast SIDRA Full Build Out Table 10.4
SH54/ Kairanga Bunnythorpe Rd	C	A	A	
SH3/ Kairanga Bunnythorpe Rd	C	A	B	
SH54/ Waughs Rd	D	F	F	F
Railway Rd/ Tremaine Ave	E	E	E	D
Tremaine Ave/ Milson Line	D	E	E	C
Tremaine Ave/ SH3	D	D	D	?

Table 1: Intersection Performance - Summary

182. As expected, the planned roundabouts at the intersections of Kairanga Bunnythorpe Road with each of SH54 and SH3 create additional capacity to accommodate forecast future traffic flows. The SH54 intersection with Waughs Road is modelled as currently starting to struggle and then failing in the future. A roundabout is likely to be needed at this intersection to accommodate future traffic flows. The SIDRA analysis included in Appendix C4 of the Further Information Response – Transport, shows a roundabout working with a level of service of C at full build out of the RFH.

183. The Tremaine Avenue intersections are shown with modelled existing levels of service of D and E. As discussed earlier in my evidence, the cycle length data from these signals indicate that they are currently struggling to accommodate peak traffic demands. I have also had a look at travel time information included in Google Maps. For peak hour trips along the 2.7km section of Tremaine Avenue between the eastern side of SH3 Rangitikei Street and the western side of Railway Road, the indicated morning travel times are 4-10

minutes eastbound and 4-12 minutes westbound. During the evening, peak estimated travel times are 5-14 minutes eastbound and 5-12 minutes westbound. These ranges of travel times for a short section of the road network suggest that the intersections along this part of Tremaine Avenue already operate at a level of service of F at times, that is, with delays of more than 80 seconds on at least one of the approaches.

184. I am concerned that the modelling underestimates the existing and forecast delays for traffic travelling along Tremaine Avenue at peak times. For example, the SIDRA modelling for the intersection of Tremaine Avenue and Milson Line for the full build out shows it performing with a level of service of C based on a 60s cycle time. The existing intersection is running on a cycle time of around two minutes during the weekday evening peak and is already congested.

7.14 Public Transport

185. Section 10.5 of the ITA identifies that a single bus route will need to be rerouted onto the Perimeter Road and that this will necessitate the relocation of the bus stop in Bunnythorpe and that the route will be 200m longer with an associated 15 second increase in travel time. I agree that rerouting the bus route will provide an opportunity for the bus service to better serve the workforces within the NEIZ and Freight Hub.

186. The reliability of bus arrival times and travel times on the bus route will be affected by increased congestion within the immediate and wider road network arising from the additional traffic activity associated with both the NEIZ and the Freight Hub.

7.15 Parking

187. Section 10.7 of the ITA states that all parking requirements for the Freight Hub will be accommodated on-site. Given the size of the site, I agree with this position and suggest that a condition could be used to ensure this outcome.

7.16 Alignment with Statutory and Strategic Provisions

188. I have considered the alignment of the Freight Hub NoR against the summary list of statutory and strategic transport provisions that I included in paragraph 73 and provide my comments in Table 2.

Statutory or Strategic Transport Matter	Comment on Alignment
A transport system where no-one is killed or seriously injured with a target of a 40% reduction in the next decade.	The NoR increases traffic flows, in particular truck activity, including on high speed rural roads and through the Palmerston North urban road network. There have been serious injury and fatal crashes within the area of the network that will be accommodating additional traffic. I consider that there is a risk of increased serious injury and fatal crashes as a result of the Freight Hub NoR with cyclists being the most vulnerable.
Improved freight connections to support economic development.	The Freight Hub will deliver improved rail freight connections but will have an adverse effect on existing road freight connections.
Reduced emissions while improving safety and inclusive access.	There will be some benefit in terms of freight that is carried by rail rather than road but this is balanced with increased emissions associated with increased traffic congestion. The relationship between the two has not been quantified and I expect that it would be difficult to do so.
Road safety principles include designing for human vulnerability, allowing for mistakes, strengthening all parts of the road transport system and shared responsibility for improving road safety.	Given the freight moving nature of the activity, it is going to be particularly important to ensure that pedestrian and cyclist movements are separated from truck movements wherever possible.
Efficient, reliable access and movement by road, rail and public transport including for freight.	There is already some variability in travel times at peak times. The increased congestion associated with the Freight Hub will result in more variable travel times for all vehicles on the affected parts of the road network including trucks and buses.
Well-serviced hubbing and freight distribution activities, including better utilisation of rail corridors.	The proposed Freight Hub will provide such a facility for businesses located within the hub, it is less clear how the Freight Hub integrates with existing and future businesses within the NEIZ and its extension.

Statutory or Strategic Transport Matter	Comment on Alignment
Reliable multi-modal transport system with less modal conflict including an integrated walking and cycling network.	Attention is needed to ensure that the inter-modal conflicts are minimised along the Perimeter Road corridor and through Bunnythorpe.
Regional transport network that connects central New Zealand.	The PNITI works aim to deliver this outcome. It is going to be important to ensure that the Freight Hub does not impede that outcome from being locally achieved in the Bunnythorpe area.
Transport and land use are integrated to support well connected communities that promote a strong regional economy and liveable region.	The Freight Hub is integrated with the NEIZ and its extension by way of location but the transport integration is limited to public road access.
Regional ring road providing reliable and resilient interconnections for heavy vehicle traffic to the northeast and west of the city.	As above, the PNITI works aim to deliver this outcome. It is going to be important to ensure that the Freight Hub does not impede that outcome from being locally achieved in the Bunnythorpe area.
Resilient rail and road infrastructure and interconnectivity form a key part of freight, distribution and logistic activities in the North East Industrial Zone and Longburn.	The proposed location of the Freight Hub within and adjacent to the NEIZ creates an opportunity for interconnection. The proposed Perimeter Road has the potential to link into future strategic roading improvements, but no indication has been provided regarding how this would be delivered.
Reliable and consistent traffic conditions are experienced across the city with low or moderate levels at peak time congestion.	The Freight Hub will increase traffic flows in an already congested part of the road network.
Minimal traffic travelling unnecessarily through the city centre.	With the majority of the traffic activity associated with the Freight Hub being internal to the city, there will continue to be a reliance on the use of city streets to access the Freight Hub even with the possible future delivery of a rural freight ring road.

Statutory or Strategic Transport Matter	Comment on Alignment
Resilient shared pathway around the city, linking Railway Road to Bunnythorpe and Feilding with inter-connections to the road network.	There is the potential for the Freight Hub to disrupt the delivery and operation of the Palmerston North to Bunnythorpe section of the shared path.
New roads to have function and design characteristics consistent with their place in the road hierarchy and meet safety and efficiency performance standards.	Conditions requiring Road Safety Auditing of new sections of road and intersections will help ensure a safe outcome for all road users. There is the potential for rail crossings within the site to cause traffic disruption on the frontage road.
Convenient, safe and accessible carparking, loading and manoeuvring facilities are available for staff, visitors and customers without creating congestion or conflicts with moving vehicles, pedestrians or cyclists on adjacent roads.	Given the size of the site it is expected that this should be readily achievable.
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 traffic onto the arterial road network.	The site is well positioned for access to the arterial road network. Depending on the timing of delivery of the PNITI works, it is likely in the interim to be necessary to monitor traffic flows on the local road network, in order to determine whether any short-term traffic management measures are needed to ensure the safe operation of the non-arterial road network.
Safe and efficient operation of level crossings for vehicle, cycle and pedestrian traffic.	Council intends to close the Roberts Line and Clevely Line crossings, and the proposed Freight Hub results in the closure of the private Richardsons Line crossing. No improvements are included at this stage for the central Bunnythorpe crossing or the crossings between Bunnythorpe and Feilding. The safety of these remaining crossings should be monitored moving forwards.

Statutory or Strategic Transport Matter	Comment on Alignment
Roading and access within the North East Industrial Zone to be aligned with the Structure Plan (section 7, map7.2).	The proposed new and altered roading does not impede the delivery of the roading and access arrangements included in the Structure Plan.
Within the North East Industrial Zone provide for pedestrians and cyclists and vehicles, while ensuring that conflict with industrial traffic is minimised.	I recommend that provision for cyclists along the Perimeter Road is provided in a separated facility through the road corridor with particular consideration given to cyclists at intersections and entry points to the Freight Hub.
Avoid road access to the North East Industrial Zone Expansion Area from Railway Road.	The Freight Hub NoR closes the section of Railway Road which would provide access to the NEIZ Expansion Area. The Council may separately seek to minimise access
Alignment with the Palmerston North City Council 10 Year Plan.	The assessment has taken into account the roading changes included in the 10 Year Plan.
Alignment with the anticipated outcomes of the PNITI Network Options Report.	The Freight Hub NoR assessment does not include any of the PNITI works and without these improvements the Freight Hub will result in increased freight movements on the urban road network including residential streets, increased congestion at many intersections, especially along Tremaine Avenue with associated increased travel times, travel time variability and risk of crashes.

Table 2: Review of Alignment of Freight Hub NoR with Statutory and Strategic Transport Provisions

7.17 Summary

189. Given that the assessment of effects has been compared with the effects associated with the full development of the NEIZ and its extension, and that no analysis has been included regarding the combined effects with a rural freight ring road and bypasses of Bunnythorpe, there is much uncertainty regarding the nature and scale of the transport effects. In my opinion, there

is a need for a robust agreement between the various authorities to ensure that there is a pathway to identifying and mitigating the transport effects; or specific conditions need to be drafted to ensure effects are monitored and reviewed, with a means for mitigation to be identified and implemented as required.

7.18 Consideration of alternative sites, routes or methods

190. The ITA does not include an assessment of transport effects associated with either an alternative location for the Freight Hub or alternative connections to the existing transport network. In particular, no assessment is included of the possible future rural freight ring road or the southern and western bypasses of Bunnythorpe.

191. The Multi Criteria Analysis and Design Conferencing Process ("**MCA**") considered a long list of nine possible locations for the Freight Hub (MCA Summary Report Table 5.1) as follows:

a. Option 1 – Bunnythorpe1: West Side

b. Option 2 – Bunnythorpe 2: East Side

c. Option 3 – Bunnythorpe 3: West Side (Airport)

d. Option 4 – Bunnythorpe 4: East Side

e. Option 5 – Longburn: North Side

f. Option 6 – Longburn: North West Side

g. Option 7 – Longburn: West Side (River)

h. Option 8 – Longburn 8: South East Side

i. Option 9 – Existing KiwiRail Site Tremaine Avenue

192. The connectivity assessment showed Options 2, 3 and 8 having a Medium High Impact and the other options a Medium Impact. Option 3 best describes the final proposed location for the Freight Hub. As a result of the full MCA, Options 6 to 9 were dropped due to fatal flaws and Options 1 to 5 were refined to form Options 1a, 1b, 2a, 2b, 3c, 4 and 5.

193. The connectivity assessment for the refined options ranked Options 3c and 4 as Medium Low Impact and the rest of the options as either Medium or Medium High Impact. Table 5.31 of the MCA Summary Report includes the following for Option 3c:

> Site 3 has significantly lower connectivity impacts than previously assumed for area option 3 due to the location being parallel to the existing NIMT rather than offline (reduction in both number and extent of potential network impacts). Reduction in the original score overall (3 to 2).

194. The Specialist Assessment – Connectivity Criterion Report, which was part of the MCA assessment at Section 1, recommended that transport modelling be undertaken at the short list stage to understand network-wide impacts. My understanding is that traffic modelling was only undertaken once the preferred site had been selected. Section 3 of the same report explains that the existing freight yard traffic volumes were factored up by 1.5 to allow for future growth. The growth allowed for in the ITA assessment is almost three times the existing freight yard volumes at 12,000vpd.

195. Options 2a, 3c and 4 were taken forward for shortlist assessment and renamed Sites 2, 3 and 4, respectively. The connectivity assessment for the shortlist ranked sites 2 and 3 as Medium Low Impact and Site 4 as Medium Impact. At Section 6.5.10 of the MCA Summary Report, the following commentary is included for Site 3, the final preferred option:

> Option 3 scored a medium to low impact because its location aligns well to the proposed PNCC future hierarchy, with close proximity to the existing North East Industrial Zone and key links to Kairanga Bunnythorpe Road. However, further consideration of upgrading or detuning other links will be required to avoid "rat-running" and give effect to the proposed roading network. Its location in close proximity to Palmerston North airport has the potential for direct connection. In addition, as a minimum a 3.5km length of new links, including intersection treatments along with a major grade separation of Campbell/ Kairanga Bunnythorpe Roads near Bunnythorpe Township will be required.

196. With regard to the above, the NoR application:

a. Does not include testing the site with the rural freight ring road or Bunnythorpe bypasses, which form part of a possible PNCC future hierarchy;

b. Only makes use of the Roberts Line connection to Kairanga Bunnythorpe Road;

c. Does not include mitigation to minimise rat-running;

d. Does not include a direct connection to the Airport; and

e. Does not include a major grade separation of Campbell/ Kairanga Bunnythorpe Roads.

197. I therefore consider it likely that the connectivity advantages of this site have been eroded by KiwiRail's lack of follow-through into the NoR concerning the some of the key assumed connectivity components. It is also unclear how the MCA assessment conclusions might have been affected had the larger traffic generation been used and the shortlist options tested in the traffic model.

8 Mitigation and environmental offsetting

8.1 Construction

198. Section 11 of the ITA discusses mitigation. A CTMP is proposed to mitigate transport effects during the construction period. Matters set out for inclusion in the CTMP are:

a. An outline plan for enabling works, including the staging of construction works and identification of key activities during each work phase;

b. The numbers, frequencies, routes, and timing of enabling and construction works traffic movements;

c. Identification of site access routes, site access arrangements and access points for heavy vehicles in a manner consistent with the NZTA's Code of Practice for Temporary Traffic Management and measures to manage the movements of heavy vehicles during peak times;

d. Methods to manage local and network-wide effects of the construction, including temporary traffic management measures, such as traffic detours and temporary speed limits;

e. Plan to limit the heavy vehicle construction traffic movements through key areas during night and peak times;

f. Provision for maintaining safe pedestrian and cyclist access movements in the vicinity of the site;

g. Allowable construction vehicle noise and requirements for effective noise suppression;

h. Provisions for ongoing vehicle access to private and adjacent properties;

i. Provisions for new permanent accesses to be formed at the earliest opportunity to limit the adverse effects of construction and severance;

j. Management of fine material loads (e.g. covers) and the timely removal of any material deposited or spilled on public roads; and

k. Traffic management communications plan.

199. Other matters that I consider should be included, within scope, are:

a. Provision for the Palmerston North to Bunnythorpe shared path such that its delivery is not delayed due to the Freight Hub and that it can operate during the construction of the Freight Hub. Similarly that the Te Araroa Trail can remain open, albeit with diversions if needed, during the construction of the Freight Hub;

b. Provision for the management of any combined traffic effects associated with any other major construction activity occurring within the City at the same time;

c. Include reference to specific properties that are considered likely to have their access affected during construction, these include;

i. Foodstuffs

ii. 422 and 422A Railway Road

iii. 761, 771, 787 and 803 Roberts Line

d. Requirement for the full construction of the new perimeter road, including connections to Railway Road to the north and south prior to the closure of Railway Road;

e. Access to the northern end of Richardsons Line at Roberts Line to be available at all times to provide for truck access to this part of the NEIZ;

f. Set out where vehicle accesses to the site for construction purposes are planned. In particular, whether any construction access is planned from Te Ngaio Road, Sangsters Road and Clevely Line. If access is planned from any of these roads, consideration of traffic effects is needed and mitigation identified. For example, if Clevely Line is to be used as a site access, an assessment of the safety of the Clevely Line/ Roberts Line intersection to accommodate the types and numbers of vehicles expected will need to be undertaken;

g. Monitoring and putting right of road pavements on non-arterial roads that are used for construction access to the site; and

h. As per the submission from the Ministry of Education (MOE), include consultation on the CTMP with MOE.

200. The scoping of the CTMP will need to be carried through into the conditions.

8.2 Operation

201. Mitigation set out in Section 11.1 of the ITA includes:

a. Works as a result of closing Railway Road;

b. Works as a result of closing the Roberts Line, Clevely Line and Richardsons Line level crossings;

c. Works as a result of the closure of Clevely Line and Te Ngaio Road;

d. Construction of the perimeter road between Roberts Line and Maple Street, including the tee intersection with Roberts Line and the northern and western accesses to the Freight Hub;

e. 80km/h speed limit on the perimeter road;

f. Sangsters Road link improvements to Roberts Line;

g. Rerouting of the Feilding-Palmerston North bus line and relocation of Bunnythorpe stop; and

h. Improvements to existing NEIZ accesses along Roberts Line as required.

202. The identified mitigation also includes an LCSIA assessment at the Campbell Road/Kairanga Bunnythorpe Road level crossing and the Waughs Road/ Campbell Road level crossing to determine the safety risks and need for safety improvements at these level crossings. No information has been provided regarding the possible nature of any safety improvements, if needed, and whether these improvements can be accommodated within the existing rail and road reserve and whether there are any effects on access for nearby properties. I note that the MCA indicated that grade separation would be needed at the Bunnythorpe 'node'.

203. I note that the Council will be leading the closure of the Roberts Line and Clevely Line level crossings ahead of and regardless of the Freight Hub NoR.

204. The ITA recommends that the following improvements are made, but that they are not triggered by the implementation of the Freight Hub:

a. SH54/ Waughs Road upgraded to a roundabout;

b. SH3/ Flygers Line upgraded to a roundabout; and

c. Tremaine Avenue/Milson Line intersection to include additional through lanes on each approach

205. The network model indicates that the SH54/ Waughs Road is performing at a level of service D. This indicates that at peak times, the SH54 Camerons Line approach is beginning to struggle to accommodate the traffic demands. All the future year modelling, both the network model and the SIDRA intersection modelling, for the 'with' and 'without' Freight Hub cases show that the intersection fails with a level of service of F. In my view, growth within the NEIZ and the proposed Freight Hub are contributing factors to this decline in the intersection's performance. I recommend that the upgrading of the intersection is included in the RNIP to be resolved between KiwiRail, Waka Kotahi and Manawatu District Council.

206. I agree that the need, if any, for upgrades to the SH3/Flygers Line intersection is not triggered by the Freight Hub.

207. As previously discussed, I am of the view that the section of Tremaine Avenue between SH3 Rangitikei Street and Railway Road is already performing unsatisfactorily at peak times. The rural freight ring road is expected to remove some trips out of the City, and I expect that traffic growth associated with both the NEIZ and the Freight Hub will use the spare capacity. In the meantime, traffic growth from the NEIZ and Freight Hub will contribute to the ongoing decline of this part of the road network's performance. In the absence of any proposed mitigation, I recommend that the management of this section of Tremaine Avenue is included in the RNIP for resolution between KiwiRail, Waka Kotahi and Palmerston North City Council.

208. I also consider for reasons set out previously that there is likely to be a need for mitigation along the section of Railway Road from Roberts Line to Airport Drive to ensure safe and efficient access from frontage driveways and side roads. I recommend that the management of this section of Railway Road is included in the RNIP for resolution between KiwiRail and Palmerston North City Council.

9 Review of submissions

209. I have reviewed the submissions, grouped them into topics within the transport category and provide my comments below.

9.1 Positive Effects

210. Submissions 23, 24 and 55 include comments on positive transport effects arising from the Freight Hub, which include:

a. A reduction in on-road kilometres travelled by freight;

b. A reduction in truck activity on the road; and

c. The safety benefits associated with the rail level crossing closures.

211. The KiwiRail Response to Further Information dated 28 May 2021 includes some analysis of the economic benefits of the increased carrying capacity of freight by rail. This is also discussed in the Section 42A evidence of Shane Vuletich. I agree that any transfer of existing freight movements and the

accommodating of future freight movements by rail has a range of positive effects for the transport system and environment.

212. I agree that the closure of existing rail level crossings will also have positive safety benefits, although there are associated adverse effects in terms of travel distances and times for those affected properties and road users. I note that the Council are leading the closure of the Roberts Line and Clevely Line crossings in a separate process to the Freight Hub project, and as such, the effects of this are not relevant for consideration here.

9.2 Local Road Network Effects

213. The majority of the transport-related submissions include comments regarding potential traffic effects within the local road network. I have summarised and commented on these in the following table:

Submission Summary	**Comment**
Concerns regarding the ability of Parrs Road, Tutaki Road, Clevely Line, Eastern Clovely Road, Stoney Creek Road and Sangsters Road to accommodate increased traffic flows and safety of turning traffic **(Submissions 1, 28, 41, 52, 57, 62, 84, 87 and 91).**	Figures 9.4 and 9.6 of the ITA and Appendix D of the KiwiRail Section 92 Response – Transport show very little, if any, of the Freight Hub traffic using any of these roads. However, Table 10.6 of the ITA includes a shift of 1,200vpd onto Stoney Creek Road over and above that forecast with the full occupation of the NEIZ. With local diversion of trips resulting from the closures of the level crossings mainly associated with the limited number of properties along the roads to the east of the railway line, this additional traffic is presumably longer distance traffic that has diverted onto Stoney Creek Road to avoid congestion elsewhere in the network. I agree with the submitters that this is a concern and recommend that monitoring and triggers for mitigation are needed.
Concerns regarding additional traffic in central Bunnythorpe including in the vicinity of the school **(Submissions 22, 28, 30, 35, 36, 37, 61, 66, 84, 90 and 92).**	I also have concerns regarding the additional traffic in central Bunnythorpe. It is unclear from the application how much additional traffic there will be compared to the existing situation. There will not be additional traffic along the school frontage but there will be additional traffic on roads that children may need to navigate on their way to and from school whether walking, cycling or being driven by car. In the absence of any mitigation measures in Bunnythorpe, there is going to be a need to monitor the ongoing safety

	and performance of the road network with triggers for mitigation as needed.
Ease of travel between Palmerston North and Bunnythorpe and Feilding **(Submissions 1, 20, 26 and 51).**	There is existing congestion on these routes at peak times with trips to and from central Palmerston North typically being faster by routes other than Railway Road. Trips on all routes in this northeast segment of the City will be affected by increasing congestion on Tremaine Avenue as the NEIZ continues to develop along with the Freight Hub. An, as yet unquantified, level of relief to this congestion will occur in the event that the rural freight ring road is constructed.
Concerns regarding increased traffic to the north of Bunnythorpe on Waughs Road, including at the intersection with Cameron Line **(Submission 44).**	The ITA has identified the need for the SH54/ Cameron Line/ Waughs Road intersection to be upgraded to a roundabout. I consider this to be triggered by a combination of existing traffic flows along with projected growth within the NEIZ and the Freight Hub. As such KiwiRail, Waka Kotahi and Manawatu District Council need to work together on the delivery of this upgrade.
Concerns regarding the safety for pedestrians crossing Waughs Road, Campbell Road and the railway line in the vicinity of both the Marae and Taonui School **(Submission 3).**	I consider that KiwiRail should provide an ALCAM assessment of these crossings to inform the NoR in the same way that assessments have been provided for the crossings to the south.
Concerns regarding increased traffic activity to the west of the Freight Hub and Bunnythorpe on Roberts Line and Kairanga Bunnythorpe Road **(Submissions 93 and 98).**	There will be additional traffic on both these roads as a result of growth at the NEIZ and the proposed Freight Hub. Council have work programmes in place to start upgrading both roads.
Concerns regarding potential combined adverse traffic effects for some properties resulting from the Freight Hub and PNITI **(Submission 4).**	The PNITI projects are at a very preliminary stage and the ITA does not include consideration of the combined works and it is therefore not possible to identify where there might be additional adverse traffic effects from the delivery of both projects.
Concern regarding access to the Freight Hub adjacent to 9 and 9A Maple Street **(Submission 6).**	My interpretation of the plans is that there is no proposed access to the Freight Hub site in this location. KiwiRail should confirm that there is no access during either the construction or operational phases.
Concern that traffic congestion at the intersection of Tremaine Avenue and Vogel Street will lead to traffic rat-running through the road network to the east of the rail line **(Submission 7).**	I also have this concern and recommend that KiwiRail, Waka Kotahi and Palmerston North City Council work together on managing traffic congestion in this part of the City.

Concern about increased traffic congestion at the intersection of Railway Road and Tremaine Avenue **(Submission 13).**	As above.
Concern regarding traffic effects at the intersections of Kelvin Grove Road with each of Stoney Creek Road and Tremaine Avenue **(Submission 41).**	As above.
Submission 13 includes the suggestion that Sangsters Road between Roberts Line and Clevely Line be upgraded to a two-way width including allowance for truck movements.	I consider that KiwiRail need to provide for the ongoing use of the Te Araroa Trail, the construction and operation of the Palmerston North to Bunnythorpe shared path and access to Roberts Line for the properties currently reliant on the Richardsons Line crossing. I do not consider that there are effects that require KiwiRail to upgrade or extend the traffic-carrying section of Sangsters Road unless there is a need for construction access.
Submission 33 includes concern regarding increased travel times for emergency services.	Emergency vehicles will be subject to changes in travel times due to increased congestion in the same way that all traffic will be affected. For properties affected by the rail crossing closures there will be small increases in travel times for emergency service access.
Submission 41 seeks confirmation whether Tutaki and Parrs Roads will become no exit roads.	My understanding is that Sangsters Road will continue to connect Tutaki and Parrs Roads with the eastern side of Clevely Line.

Table 3: Submission Summary and Comment – Local Road Network Effects

9.3 Property Access

214. The following submissions include concerns regarding access to individual properties:

Submission Summary	**Comment**
787 Roberts Line **(Submission 2)**	The driveway to 787 Roberts Line runs along the eastern boundary and will connect with Roberts Line close to the proposed intersection between the new perimeter road and Roberts Line. I agree with the submitter that they need to be provided with ongoing safe access both during construction and operation of the Freight Hub. I consider that the intersection may need to be a roundabout rather than a tee-intersection. I recommend that there is a condition that requires ongoing safe access to 787 Roberts Line during both construction and operation of the Freight

	Hub. The condition needs to provide for flexibility in the intersection form and that if needed KiwiRail will form a new access further to the west along the property frontage including any new sections of driveway and fencing changes.
422A Railway Road **(Submission 13)**	This property currently relies on vehicle access to the road network (Railway Road) via the private Richardsons Line level crossing. This crossing will be closed as part of the Freight Hub proposal and access provided to Roberts Line. The submitter seeks that the Roberts Line level crossing be left open, and includes a suggested modified arrangement. My understanding is that the Council is leading the closure of the Roberts Line level crossing on safety grounds and that this now falls outside of the Freight Hub NoR process.
55 Parrs Road **(Submission 15)**	The submitter is concerned about the change in ease of access to the City. There will be an increase in distance and time for trips that are currently made via the Clevely Line level crossing. I consider that there are reasonable options for accessing the City via either Tutaki Road or Stoney Creek Road and then Kelvin Grove Road or travelling to Bunnythorpe and then accessing the new road around the Freight Hub.
Foodstuffs 703 Roberts Line **(Submission 58)**	Foodstuffs seek assurance that their driveways can continue to operate as they do at present. I have discussed this earlier in my evidence. Given the scale of the business and the particular operational requirements, including accesses that relate to the building configuration and reliance on trucks of up to maximum legal size, I consider that KiwiRail should demonstrate at least one option for how ongoing access can be achieved during construction and operation of the Freight Hub. A condition also needs to be included to ensure that the access arrangements allow for the ongoing operation of Foodstuffs in this location during construction and operation.
662 Roberts Line **(Submission 87)**	The submission includes that they will be affected greatly by the road closure. My understanding is that the Roberts Line level crossing closure is now being led by Council and is not part of the Freight Hub NoR.

Table 4: Submission Summary and Comment – Property Access

9.4 Designation

215. Submission 72 seeks a delay in the designation until there is certainty around the projects signalled by PNITI. Submission 74 supports the location for the NoR and considers that there are opportunities for roads to bypass Bunnythorpe.

216. While there is no commitment at this stage to the bypasses around Bunnythorpe shown in the current PNITI reporting, I note that Council has included considerable budgets over the coming years within the Draft Ten Year Plan 2021 2031 for progressing the PNITI programme. About the bypasses, my main concern is that the Freight Hub NoR does not adversely affect the ability for bypasses to be delivered, in particular the southern section. In my opinion, KiwiRail should demonstrate how the Freight Hub allows for the possible future bypasses of Bunnythorpe.

9.5 Construction

217. Submission 22 raises concerns regarding traffic effects during construction, and Submission 47 requests that the CTMP be made available as part of the NoR process.

218. It is common practice not to include a CTMP as part of a resource consent or NoR application as it is unknown which contractor will be delivering the project and where materials and supplies will be sourced. However, I recommend that the scope of the CTMP as included in conditions is refined to reflect some of the matters specific to this project and location. This revision could include confirming site access location and using rail rather than road for the transportation of materials whenever possible. Given the scale of material being imported from, as yet, unknown sources, it may also be necessary to introduce thresholds for heavy construction vehicle movements on certain roads.

9.6 Active modes

219. Submissions 7, 9, 20, 26, 29, 42, 57, 64 and 73 all include submissions regarding active modes, that is, walking and cycling.

Submission Summary	**Comment**
Concerns regarding safety of pedestrians and cyclists on the	It is unclear what construction vehicle access if any will be needed from the eastern side of the railway. This should be clarified by KiwiRail and I

berms on local roads to the east of the rail line.	recommend that conditions are used to ideally eliminate but otherwise minimise construction vehicle access through this part of the network and that any access route and site entry is clearly defined. Once operational, additional vehicle movements on roads such as Sangsters Road, Parrs Road and Clevely Line will be associated with locals rerouting to access Tutaki Road and Stoney Creek Road to travel to Bunnythorpe or towards Kelvin Grove Road. These traffic volumes will be low. I consider that there is a risk that the additional Freight Hub traffic will lead to rat-running by non-Freight Hub traffic through the wider network as drivers seek to minimise delays as they travel to and from Palmerston North. I recommend that traffic flows on Stoney Creek are monitored along with the performance and safety of its intersections with Ashhurst Road to the north and Kelvin Grove Road to the south.
Concerns regarding the safety of pedestrians and cyclists, including children, when exposed to truck traffic both in Bunnythorpe and the wider road network.	I agree that increased traffic and in particular truck traffic increases the safety risk for pedestrians and cyclists (including children) moving through the road network. Given the timeframes involved and the changing nature of the road network, I am recommending that key intersections are audited for safety prior to the opening of the Freight Hub to ensure that they can operate safely for all road users. The Bunnythorpe 'node' would be one of the locations where such audits should be undertaken.
Support of improvements for active transport in the immediate and wider road network, including the Palmerston North to Bunnythorpe shared path.	I consider that the key matters are that the Freight Hub does not adversely affect the delivery or operation of the shared pathway between Palmerston North and Bunnythorpe and that separated provision is made for active modes alongside the perimeter road.
Need for separated provision for cyclists.	As above, I consider that separated provision for cyclists is needed along the perimeter road given the heavy vehicle traffic and anticipated 80km/h speed limit.
Concern regarding the loss of the quieter cycle route using Roberts Line, Clevely Line and Te Ngaio Road.	My expectation is that cyclists will have the option of either using the shared path from Palmerston North to Bunnythorpe or travelling along a separated path along the perimeter road.
Ensure ongoing development of the Te Araroa Trail.	As for the shared path, I recommend that conditions are used to ensure that the Freight Hub

	does not impede the upgrade or use of the Te Araroa Trail.
Support of more detailed design work and consultation regarding the Te Araroa Trail during the design phase of the Freight Hub.	I agree. A communication pathway will need to be provided for through conditions.

Table 5: Submission Summary and Comment – Active Modes

9.7 Integration with Transport Network

220. Submissions 47, 63 and 72 raise concerns about the lack of integration between the proposed roading changes associated with the Freight Hub and the future roading changes signalled in the PNITI reporting.

221. I agree and consider that KiwiRail needs to demonstrate how the Freight Hub, particularly the northern section of the perimeter road, does not impede the delivery of a southern bypass of Bunnythorpe.

222. Submission 61 includes concerns that the combination of the two projects will have a negative effect on Bunnythorpe.

223. I agree that there is a need to consider the combined traffic effects of the Freight Hub NoR and PNITI works. If the Freight Hub development impedes the ability for future bypasses of Bunnythorpe, there is the potential for enduring negative road safety and traffic congestion effects in central Bunnythorpe.

9.8 Integration with the NEIZ

224. Submissions 17 and 63 include concerns with the reliance on public road access for the movement of goods between the Freight Hub and both the airport and the NEIZ.

225. I share this concern, in particular concerning freight movements between the NEIZ and RFH.

226. Submission 63 by the Central New Zealand Distribution Hub Stakeholder Group seeks an ongoing relationship with KiwiRail to deliver integrated transport connections.

227. I agree that there is a need for ongoing consultation between KiwiRail and a number of organisations including the Central New Zealand Distribution Hub Stakeholder Group.

9.9 Analysis

228. Submissions 26, 72 and 83 include matters associated with the analysis undertaken.

Submission Summary	Comment
Inconsistencies in the multi-criteria assessment treatment of transport matters.	I have discussed the MCA assessment of traffic matters in paragraphs 191 to 197. I agree that there are inconsistencies in the level of mitigation included in the MCA assessment of the selected site and the proposed mitigation included in the Freight Hub NoR.
Need for an assessment of the pavement condition of affected roads.	There is a risk of pavement damage resulting from construction truck traffic. I recommend that a matter is included in the scope for the CTMP that requires monitoring and putting right of any non-arterial pavement that is part of a construction traffic access route to or from the site. Once the Freight Hub is operational the trucks can be expected to use the arterial road network where significant volumes of truck traffic is anticipated.
Concern that forecast freight vehicle movements did not consider data from local businesses.	I note that commercial GPS data was used to assist with the development of the heavy vehicle trip matrix in the original PNATM traffic model.
Need for an assessment of a scenario with Railway Road closed and no perimeter road.	My understanding is that Railway Road will only be closed once the full length of the perimeter road is operational. This should be conditioned to provide certainty.
The lack of any plans showing the detail of the proposed road changes.	While I share this frustration there is no requirement to provide detailed plans at this stage in the process. I have relied on the landscape plan included in Appendix C of the KiwiRail Assessment of Environmental Effects.

Table 6: Submission Summary and Comment – Analysis

9.10 Statutory Alignment

229. In their submission (Submission 20), Horizons Regional Council notes that while the Freight Hub is not yet recognised as a nationally or regionally significant infrastructure, the designation of the site and existing roading networks within the proposed site is considered a sensible and appropriate mechanism to give effect to the intent of the RPS objective and policies in this space.

230. Horizons note that while the Freight Hub cannot be included in the Regional Land Transport work programme, it will play a vital role in achieving Horizons

Regional Transport Committee's vision for 'a region that connects central New Zealand and supports safe, accessible and sustainable transport options'.

231. In their submission (Submission 63), the Central New Zealand Distribution Hub Stakeholder Group submit that the Freight Hub is generally consistent with a range of significant non-RMA strategic planning documents.

9.11 Conditions

232. Submissions 20, 23, 24, 65, 73 and 92 all include comments on the proposed conditions.

Submission Summary	**Comment**
Horizons Regional Council (Submission 20)	
Seek for allowance to be included for a 12-18 month period that is required for the planning and consultation of an alternative bus route as a result of the closure of Railway Road in the vicinity of the Freight Hub.	Given the scale of the construction activity and the associated timeframe, I assume that the time requested for planning and consultation by Horizons can be readily provided. This should be conditioned.
While not the preferred process, Horizons consider the use of a condition requiring a Road Network Integration Plan to be appropriate in the circumstances.	Noted.
Seek allowance for the Road Network Integration Plan to be able to be reviewed and updated as needed as the project unfolds.	Agreed that the conditions need to allow for the RNIP to be a living document.
Seek for public transport services to be referred to in Condition 46(h).	Agreed.
Mike Tate & Zaneta Park (Submission 23 & 24)	
Support a mechanism to ensure collaboration between the authorities.	Noted. It is going to be key that there is a pathway for consultation and shared priority for mitigation of traffic effects between KiwiRail and the various local road controlling authorities.
Waka Kotahi (Submission 65)	
Support the use of management plans, especially the Outline Plan, Road Network Integration Plan, Construction Traffic Management Plan and the Operational Traffic Management Plan.	Noted.
Seek to work with KiwiRail on the wording of the proposed	Noted. At the time of writing I am unaware of any proposed additions or changes to the conditions as a result of any discussions between parties.

conditions in advance of the hearing.	
The Construction and Operational Traffic Management Plans need to include consultation with and endorsement by both Waka Kotahi and Palmerston North City Council.	Agreed. May also need to include Manawatu District Council and Horizons Regional Council.
Seek a requirement for construction traffic monitoring as part of the Construction Traffic Management Plan.	I agree that monitoring of construction traffic would assist with ensuring that the CTMP delivers the anticipated outcomes.
Consider the 12 month timeframe for the development of the Road Network Integration Plan to be too short and seek to work with KiwiRail to establish an appropriate timeframe.	I suggest that a timeframe of requiring the RNIP to be finalised prior to the start of construction.
Seek to work with KiwiRail to agree a process for the endorsement of the Road Network Integration Plan.	Noted. This needs to occur prior to the hearing to provide certainty and assist with the decision-making process.
Seek a requirement for the monitoring of operational traffic.	I agree that monitoring of operational traffic will assist with ensuring the future safe and efficient operation of the road network.
Horowhenua District Council (Submission 73)	
Support refinement of the Road Network Integration Plan.	Noted.
Ministry of Education (Submission 92)	
Seek to be consulted with as part of the development of the Construction Traffic Management Plan and any other network management plans.	Noted. The need for consultation with the Ministry of Education could be included in the scope for the CTMP.
Seek to be consulted with regarding safe pedestrian crossing facilities, footpaths or cycleways within the catchment of Bunnythorpe School.	Noted. My expectation is that consultation with the local community would be part of such projects.
Seek to work with KiwiRail and Palmerston North City Council on Travel Plans for Bunnythorpe School during construction and operational phases of the Freight Hub.	I recommend including a condition to meet this requirement.

Table 7: Submission Summary and Comment – Conditions

10 Draft Requirement conditions

233. There are several transport-related draft conditions. The ITA does not include any comment on these; I comment on these in turn below.

234. Condition 5 includes that management plans should be submitted at least 20 working days prior to construction commencing or unless otherwise specified in the conditions. Given that it is possible that intersection upgrades or localised road widening or strengthening might be needed to facilitate construction, I consider that a longer timeframe is required for the CTMP. I suggest that a six month period might be more appropriate.

235. Condition 9 includes a requirement to provide a Construction Traffic Management Plan, a Road Network Integration Plan, and an Operational Traffic Management Plan.

236. Conditions 41 and 42 refer to a Level Crossing Safety Impact Assessment. Assessments are proposed for the Campbell Road/ Kairanga Bunnythorpe Road and Waughs Road/ Campbell Road level crossings. I recommend that similar assessments are also undertaken for the pedestrian level crossings in the vicinity of the Aorangi Marae and Taonui School and also the Campbell Road crossing immediately to the south of Feilding. These would require consultation with Manawatu District Council.

237. With regard to Condition 42 and the allocation of responsibility for any works resulting from the assessments, I note that a discussion with Council would be required.

238. Conditions 43 to 46 provide the objective for and scope of the Road Network Integration Plan. I have tabulated the draft conditions and included comments below.

RNIP Draft Conditions	**Comment**
43. At least 12 months prior to construction commencing, the Requiring Authority shall prepare a RNIP.	I agree that the RNIP needs to be prepared and agreed to by the various parties well in advance of the commencement of construction. There also needs to be a pathway for the RNIP to be updated as the project unfolds given the likely changing road environment in the vicinity of the site.
44. The objective of the RNIP is to ensure that the roading network for the Freight Hub is appropriately managed and integrated with the wider transport network.	I consider the objective to be wider than the integration of the road network, it is also managing the effects of traffic activity generated by the Freight Hub within the local and wider road network. I suggest that either the geographical extent of influence of the RNIP is agreed

	as part of developing the condition or is included as a scoping point in the condition.
45. The Requiring Authority shall consult and share information with Palmerston North City Council, Horizons Regional Council and Waka Kotahi NZ Transport Agency in preparing the RNIP.	Needs to include Manawatu District Council.
46. The RNIP shall include:	
a) the timing for the closure of and/or the legal stopping of any relevant roads (or sections of roads, as the case may be), including Railway Road, Clevely Line, Te Ngaio Road and Roberts Line;	Needs to be clear that Railway Road will only be closed once the perimeter road is fully functional.
b) the location, timing and design of any access to the Freight Hub;	The locations could be included in the condition with the timing being a scoping point for the RNIP.
c) any changes and upgrades required to existing property accesses, intersections and roads required for construction and operation of the Freight Hub to be delivered by the Requiring Authority;	Agreed.
d) the timing of the closure of any level crossing;	Agreed. Noting that PNCC are now leading the closures of both the Roberts Line and Clevely Line crossings.
e) the proposed speed limits for any new roads and changes to speed limits for existing roads;	Speed limit changes to existing roads will be subject to a separate consultation process.
f) the location and timing and form of any changes and upgrades to pedestrian walkways, cycleways and public transport facilities, including any new walkways, cycleways and public transport facilities, including new or relocated bus stops;	Horizons have indicated that 12-18 months is needed to plan, design and consult on the bus stop relocation.
g) the location and timing of confirmed and funded upgrades or additions to the wider transport	Agreed.

	network and the identification of opportunities for that wider transport network to integrate with any roading upgrades and connections required for construction and operation of the Freight Hub; and	
h)	details of the feedback provided by Palmerston North City Council, and Horizons Regional Council and Waka Kotahi the NZ Transport Agency and how this has been incorporated into the RNIP, including any feedback regarding the location and timing of a ring road and/ or any bypasses of Bunnythorpe and how these connections integrate with the roading network required for the construction and operation of the Freight Hub.	The RNIP will also need to include Manawatu District Council. I agree that documenting feedback from the various parties will be useful especially given the long construction timeframe with reasonable chances of changes of personnel.

Table 8: Draft Conditions RNIP

239. I consider that the following matters should also be included in the RNIP scope:

a. KiwiRail to work with Waka Kotahi and PNCC to ensure that a road corridor remains available for a southern bypass of Bunnythorpe as needed. The KiwiRail response to Further Information Request 114 at point 2.1.3 includes the following wording, which could be included as part of the RNIP scope:

> 'provide the opportunity for the northern section of the perimeter road to be designed and constructed to a southern bypass standard or in a manner that would not foreclose the ability of the southern bypass to be constructed subsequently.'

b. Monitoring and assessing the safety and performance of the local road network to ensure that the Freight Hub traffic is safely and efficiently accommodated, which can be demonstrated through pre-opening road safety audits and level of service assessment of the intersections, links and accesses listed below. An intersection level of service of D or better, as modelled with SIDRA or similar, and road safety audits with no serious or significant safety concerns, at the time of opening of the Initial and then Full Stages are considered to demonstrate the

satisfactory performance of the identified infrastructure. Suggested infrastructure to be monitored and assessed includes:

i. Railway Road from Roberts Line to Airport Drive including the side road intersections and accesses onto Railway Road;

ii. Central Bunnythorpe including the intersections of Kairanga Bunnythorpe Road with each of Railway Road and Campbell Road and the interaction with the level crossing, the Maple Street intersection with Railway Road, accesses onto Maple Street and Campbell Road within central Bunnythorpe;

iii. SH54/ Waughs Road; and

iv. Stoney Creek Road including its intersections with Ashhurst Road and Kelvin Grove Road.

240. Conditions 54 to 57 provide the objective for and scope of the Construction Traffic Management Plan. I have tabulated the draft conditions and included comments below.

CTMP Draft Conditions	**Comment**
54. Prior to the commencement of construction, the Requiring Authority shall prepare a CTMP, and implement the plan for the duration of construction.	Agreed. As per comment on draft condition 5, I consider that the CTMP should be submitted considerably more than 20 days in advance of the start of construction.
55. The objective of the CTMP is to outline the methods that will be undertaken to minimise adverse effects from construction works on property access, traffic safety and efficiency of traffic movements.	Suggest that the objective is expanded to include safety for all road users not just traffic.
56. The CTMP shall be prepared by a suitably qualified and experienced person.	Agreed.
57. The CTMP shall: a) Identify the numbers, frequencies, and timing of traffic movements for each phase of the construction programme as developed under the CMP, including any limitations on heavy vehicle movements through key areas during night and peak times, as required;	Agreed.

b) identify safe site access routes, site access arrangements, and access points for vehicles in a manner consistent with Waka Kotahi NZ Transport Agency's Code of Practice for Temporary Traffic Management;	I consider that it might be possible to identify the site access points ahead of the CTMP. If this is not considered possible, it may be necessary to consider whether safe access can be provided from say the eastern side of the rail line and also from the western end of Clevely Line given the available sight lines at the Cleverly Line intersection with Roberts Line.
c) outline methods to manage local and network wide effects of the construction, including temporary traffic management measures, such as traffic detours including for public transport and school bus routes and temporary speed limits;	Agreed. Diversions may also be needed for the Te Araroa Trail and planned Palmerston North to Bunnythorpe shared path. Again, including a list of known affected infrastructure would increase the robustness of the scope.
d) provide details for measures to maintain safe pedestrian and cyclist access movements in the vicinity of the site;	Agreed.
e) include the construction vehicle noise limits and any requirements for effective noise suppression;	Agreed.
f) detail measures to provide vehicle access to private and adjacent properties;	I suggest that the properties are listed as most will already be known and it provides some certainty to those property owners.
g) identify opportunities to use the rail network to minimise effects on the roading network where practicable;	Agreed.
h) provide details for any new permanent accesses to be formed at the earliest practical opportunity to limit the adverse effects of construction and severance;	Agreed.
i) provide measures for the management of fine material loads (e.g. covers) and the timely removal of any material deposited or spilled on public roads; and	Agreed.
	Agreed.

j) provide a process for preparing a traffic management communications plan.	

Table 9: Draft Conditions CTMP

241. Section 11 of the ITA also includes scoping points for the CTMP. These need to be combined into the draft condition with the additional matters that I have included at paragraph 199 of this evidence.

242. Conditions 65 to 68 provide for an Operational Traffic Management Plan. I have tabulated the draft conditions and included comments below.

OTMP Draft Conditions	**Comment**
65. The Requiring Authority shall prepare and implement an OTMP.	Agreed. What is the trigger for the first OTMP to be prepared?
66. The objective of the OTMP is to outline the methods that will be undertaken to manage adverse transport effects from operational activities of the Freight Hub.	Agreed. I suggest that a timeframe is added and also the extent of the area over which any adverse transport effects are going to be managed.
67. The OTMP shall include:	
a) a description of the expected traffic generation, including light and heavy vehicles, for activities within the Freight Hub;	Include actual and forecast traffic loadings on each of the Freight Hub accesses.
b) the method for assessing the performances of accesses to the Freight Hub, both in terms of safety and traffic efficiency;	This could be set out explicitly in this condition. For instance, a requirement for road safety audits and modelling of the intersection performances including allowance for interaction with internal rail crossings.
c) the form and timing of safety upgrades to the section of Roberts Line between Railway Road and Richardsons Line, including in respect of established accesses and intersections; and	This is the Foodstuffs frontage, there are no other properties along this section. I consider that ahead of or at the NoR hearing, Foodstuffs should be provided with certainty that there is at least one practical option for ongoing safe and efficient access to meet their particular operational requirements.
d) a description of any other roading connections relevant to the access or operation of the Freight Hub detailed in the RNIP.	Agreed.
68. The Requiring Authority shall review and update the OTMP with each outline plan of	There may also be a need to respond to changes in the external road network, for

works for buildings and development of the Freight Hub where relevant.	instance the ring road or any bypasses of Bunnythorpe.

Table 10: Draft Conditions OTMP

243. I recommend that the OTMP scope includes allowance for ongoing traffic monitoring of the Freight Hub accesses and local road network.

244. I disagree with KiwiRail's view, as set out in response to Further Information Request 151 (point 2.18.1), that there will not be a need for separated provision for cyclists along the Perimeter Road. Given the likely speed environment and a high proportion of heavy vehicles along with the vulnerability of cyclists in a crash, I consider that a condition is needed requiring separated cycle facilities along the route and through the intersections.

11 Conclusions

245. I consider that there are three main categories of transport effects associated with the Freight Hub: construction traffic effects; effects resulting from new, closed or modified transport infrastructure; and effects associated with the increased traffic activity.

246. Key matters associated with potential construction traffic effects are:

a. The scale of the project and the associated timeframes, which while temporary, endure for a number of years;

b. The large amount of material and supplies that will need to be brought onto the site;

c. Unavoidable uncertainty regarding the source of materials and supplies and therefore access routes and whether there is an option to use rail for some deliveries; and

d. The possibility of other construction activities running in parallel, such as the PNITI projects, NEIZ roading improvements and the construction of the Palmerston North to Bunnythorpe shared path.

247. Traffic effects resulting from roading and rail infrastructure changes, such as level crossing closures and impacts on property access, are more easily assessed, and mitigation measures can be conditioned with some certainty.

248. Traffic effects associated with traffic activity generated by the Freight Hub include the safety and performance of new and modified intersections around the perimeter road, intersections and accesses along Railway Road to the south of Roberts Line, the Bunnythorpe 'node', wider network including Stoney Creek Road and Tremaine Avenue. Key matters associated with determining and understanding these effects are:

a. Uncertainty regarding the future strategic road network;

b. KiwiRail has chosen not to test, even by way of sensitivity testing, the combined effects of the Freight Hub and the PNITI projects; and

c. KiwiRail has chosen to assess the incremental change in traffic effects compared with the full development of the NEIZ and its extension, resulting in additional traffic being loaded onto a network that is already failing in places. This leads to uncertainty in the scale and location of effects attributable to the Freight Hub, and it is unclear whether mitigation is needed or if the selected mitigation is appropriate.

249. Given the scale of the Freight Hub NoR, the potential for significant adverse traffic effects during construction and operation and the uncertainty around the PNITI projects, I consider that robust conditions are needed that:

a. Ensure KiwiRail works with the relevant road controlling authorities (Waka Kotahi, PNCC and MDC) and Horizons;

b. Provide a process for monitoring traffic effects, including identifying and implementing mitigation as the project progresses through construction and on completion;

c. Ensure the safe and efficient operation of the local and wider transport network during construction and operation while accommodating uncertainty regarding construction traffic routes and modes and the timing of the PNITI projects and construction of the Palmerston North to Bunnythorpe shared path.

250. To ensure consistency with the statutory and strategic transportation provisions, the conditions will need to deliver:

a. An environment that minimises the risk of serious injury and fatal crashes;

b. Efficient and reliable access and movement by road, rail and public transport;

c. Reliable multi-modal transport system with less modal conflicts;

d. Allows for the future regional ring road;

e. Allows for the shared path from Palmerston North to Bunnythorpe;

f. Allows for the NEIZ Structure Plan; and

g. Safe and efficient operation of level crossings for vehicle, cycle and pedestrian traffic.

251. Ahead of the hearing, it would be helpful to understand:

a. By way of sensitivity testing, the combined effect of the PNITI works and the fully developed Freight Hub site, including the bypasses of Bunnythorpe, on the capacity and performance of the wider road network;

b. The type of treatment that would be needed to improve safety at the central Bunnythorpe level crossings. Is there an option for improved safety without grade separating the crossing? If the only or most likely option is grade separation, what are the property access and land acquisition effects?

c. ALCAM safety assessments to be undertaken for the two road (Waughs Road at Newbury Line and Campbell Road at the Feilding golf course) and two pedestrian (Aorangi Marae and Taonui School) level crossings to the north of Bunnythorpe;

d. Details of the access provision through to Roberts Line for 422 and 422A Railway Road. In particular, whether the access will be parallel to or shared with 684 Roberts Line at the southern end;

e. Demonstration of at least one option for how the Foodstuffs driveways on Roberts Line will be able to operate during construction and operation of the Freight Hub;

f. Confirmation whether there will be any temporary or permanent closures of the Maple Street connection to Railway Road;

g. Demonstrate that the operation of the internal level crossings within the site will not disrupt frontage traffic flows;

h. Confirmation that the recreational tracks around the detention ponds connect into the wider network of pedestrian and cycle paths;

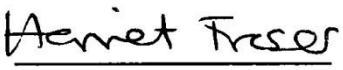
i. Confirmation that there is no construction or operational access to the Freight Hub site via 9 and 9A Maple Street;

j. Confirmation of the access points to the site for construction purposes;

k. Confirmation of the parties to be consulted with as part of the RNIP; and

l. Outline of the process for endorsement of the RNIP.

252. Without information on the above matters, it may be necessary to expand the conditions to ensure the safe and efficient operation of the transport network.



Harriet Fraser

18 June 2021