BEFORE A HEARINGS PANEL
OF THE FAR NORTH DISTRICT COUNCIL

I MUA NGĀ KAIKŌMIHANA MOTUHAKE O TE HIKU O TE IKA

Under the	Resource Management Act 1991 (RMA)
In the matter	of a request for rezoning of land in the Kerikeri-Waipapa area under the proposed Far North District Plan

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STATEMENT OF EVIDENCE OF MATHEW ROSS COLLINS IN SUPPORT OF SECTION 42A REPORT FOR HEARING 15D

TRANSPORT

10 September 2025

SIMPSON GRIERSON

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1. INTRODUCTION

1.1 My full name is Mathew (Mat) Ross Collins.

1.2 I am an Associate Transport Planner at Abley Limited. I have been in this position since September 2023.

1.3 I hold a Bachelor of Engineering (Hons) from the University of Auckland and have a post-graduate certificate in transportation and land use planning from Simon Fraser University in Vancouver, Canada.

1.4 I have ten years of experience as a transportation planner and engineer in public and private sector land development projects, which includes experience with master planning, district plan reviews, plan changes, resource consenting, notices of requirement, and outline plans of work.

1.5 I have been asked to provide evidence in relation to transport, to support the evaluation report prepared under s 42A of the RMA.

1.6 I have been working with the Far North District Council (**Council**) on the Proposed District Plan (**PDP**) since September 2024, and specifically on the Kiwi Fresh Orange Company Limited (**KFO**) submission since March 2025. I was not involved in the preparation of the Te Pātukurea – Kerikeri Waipapa Spatial Plan (**Spatial Plan**), however I have familiarised myself with the reports and assessments that Council has publicly released.

1.7 I have read the evaluation report prepared in accordance with s 42A of the RMA. I have also read the evidence prepared on behalf of KFO in support of its submission seeking urban rezoning of land between Kerikeri and Waipapa.

1.8 I have read and am familiar with the Code of Conduct for Expert Witnesses contained in the Environment Court Practice Note 2023. I have complied with the Code of Conduct in preparing my evidence and will continue to comply with it while giving oral evidence before the Hearings Panel. I confirm that my evidence is within

my area of expertise except where I state that I am relying on the evidence of another person. I have not omitted to consider material facts known to me that might alter or detract from the opinions expressed in my evidence.

2. SCOPE OF EVIDENCE

2.1 I refer to the following documents in my evidence:

(a) Integrated Transport Assessment supporting the KFO submission (**ITA**), prepared by Team Traffic, dated 19 October 2022;

(b) the Beca Spatial Plan Hybrid Scenario Transport Inputs memorandum[1] (**Beca memo**);

(c) Statement of Evidence of Phillip Brown (Transport), dated 16 June 2025;

(d) Evidence in Chief of Johan Ehlers (Infrastructure), dated 16 June 2025 (transport matters only);

(e) Statement of Evidence of Burnette O'Connor (Planning), dated 30 June 2025 (transport matters only);

(f) Brownlie Land Proposed Plan Change Traffic Modelling Report (**Flow report**), prepared by Flow Transportation Specialists Ltd, dated 28 August 2025; and

(g) Supplementary commentary on Traffic Modelling Report, prepared by Phillip Brown, dated 29 August 2025.

2.2 My evidence will cover the following matters:

(a) existing road traffic volumes;

1 Hybrid Scenario Transport Inputs memo, prepared by Beca, dated 5 February 2025, available online at https://www.fndc.govt.nz/__data/assets/pdf_file/0025/38644/e67beb77d4bcb0b4e08c517a2ac06b7e3e14ddf1.pdf.

(b) future transport environment;

(c) proposed access;

(d) discussion of the traffic modelling methodology;

(e) traffic modelling results;

(f) transport matters internal to the site;

(g) Te Pāe Waiōra Precinct provisions;

(h) transport infrastructure funding;

(i) transport planning policy; and

(j) conclusion.

3. SUMMARY OF EVIDENCE

3.1 I have reviewed the transport implications of KFO's submission seeking to rezone approximately 197 hectares of land between Kerikeri and Waipapa. My assessment has been informed by the submitter's evidence, and summary documents from the Spatial Plan.

3.2 The feasibility of key access points to the existing transport network is uncertain. Access B and C rely on third-party land and have not been confirmed as deliverable. If neither of these connections can be secured, the site would be poorly integrated with Kerikeri and would place additional pressure on State Highway 10 (**SH10**) and Waipapa Road, and in turn Kerikeri Road and the Heritage Bypass.

3.3 The traffic modelling undertaken to support the KFO rezoning proposal raises several concerns regarding its assumptions and reliability. The trip generation rates

used by Mr Brown are generally lower than industry standards, particularly for residential and retail activities. Internal capture rates — the proportion of trips expected to remain within the site — also appear to be overstated, which risks underestimating the volume of traffic entering and exiting the site. These combined factors may underpredict traffic generation on the external transport network by over 600 veh/hr for the 50% development scenario, and far more for the 100% development scenario.

3.4 These assumptions, combined with uncertainty around whether the PDP scenario uses consistent inputs, undermine the validity of comparisons between the KFO and PDP traffic modelling scenarios and cast doubt on the robustness of the modelling outputs.

3.5 The Precinct Chapter proposed by KFO does not include provisions that clearly link the Structure Plan to the delivery of the development. It also does not address staging, the delivery of transport connectivity, and transport infrastructure upgrades. As a result, there is a risk that development could proceed in a fragmented or uncoordinated manner that does not deliver the outcomes anticipated by the Structure Plan, and ahead of or without the supporting transport infrastructure.

3.6 The KFO submission does not address how transport infrastructure will be funded, creating uncertainty around the delivery of upgrades needed to support development. While the applicant should be responsible for key access and active mode infrastructure, the full extent of required upgrades — particularly for the wider network — remains unclear due to limitations in the modelling. Mr Brown recommends deferring detailed assessment of the full site yield until 50% of the site is developed, but I have reservations about this approach, due to risks associated with fragmented land ownership, inequitable funding, and cumulative effects that are difficult to manage post-rezoning. Without a clear framework for staging and funding infrastructure— there is a real risk that development could proceed ahead of necessary upgrades, undermining network safety, efficiency, and accessibility. These issues must be resolved prior to rezoning to ensure transport effects are appropriately managed.

3.7 The proposal does not demonstrate integration between land use and transport planning, nor does it provide sufficient certainty that the transport network will be safe, efficient, and well-connected for all users. The absence of traffic modelling, uncertainty around access feasibility, and reliance on transport upgrades that are presumed to be delivered by third parties further undermine confidence in the proposal's ability to manage cumulative effects, provide a safe and efficient and connected transport network, achieve emissions reduction, or promote alternative transport modes.

4. EXISTING ROAD TRAFFIC VOLUMES

4.1 SH10 forms the primary north–south route through the area and is a key strategic corridor for both local and regional traffic. Near the site, SH10 is a two-lane rural highway with a posted speed limit of 100 km/h. SH10 currently carries approximately 8,500 vehicles per day (veh/day)[2].

4.2 Kerikeri Road is the main east–west arterial[3] connecting SH10 to the Kerikeri town centre. It currently carries around 12,500 veh/day[4] and 1,200 vehicles per hour (veh/hr) during the AM and PM peaks[5].

4.3 The Heritage Bypass provides an alternative route between Kerikeri and Waipapa and is classified as an arterial road. It currently carries around 11,000 veh/day[6] and 1,250 – 1,300 vehicles per hour (veh/hr) during the AM and PM peaks[7].

4.4 Golf View Drive, Waitotara Drive, and Aranga Road provide access to residential areas and currently carry low traffic volumes of less than 1,000 veh/day[8].

2 NZTA count site 01000015.
3 PDP roading hierarchy, as proposed in the s42A report for the Transport Chapter, Hearing Stream 11 https://www.fndc.govt.nz/__data/assets/pdf_file/0025/39292/S42A-Report-Transport-Links.pdf
4 MobileRoads estimate southern of Hall Road, 30/06/2024.
5 Flow Spatial Plan Modelling Report Table 3 and 4; Submission ITA Section 3.
6 MobileRoads estimate, 30/06/2024.
7 Flow Spatial Plan Modelling Report Table 3 and 4.
8 MobileRoads estimate, 30/06/2024.

5. FUTURE TRANSPORT ENVIRONMENT

5.1 The Council has undertaken traffic modelling for the future transport network, based on a 30-year horizon. In writing his evidence, I have relied on the Beca memo, which provides the inputs for modelling the Hybrid Scenario in the Spatial Plan.

5.2 The Beca memo assumes the that following transport improvements will be required (subject to traffic modelling for the Hybrid Scenario), shown indicatively in Figure 1:

(a) Kerikeri Bypass, Hone Heke Roundabout and Hall Road connection;

(b) new roundabouts on SH10 at Waipapa Road and Kerikeri Road;

(c) shared paths on Waipapa and Kerikeri Road;

(d) right turn bay intersections on SH10 in Waipapa;

(e) road extensions in Waipapa; and

(f) public transport service (bus) and bus stops Kerikeri and Waipapa.

5.3 The Beca memo identifies several risks for the future transport network:

(a) The capacity of the Heritage Bypass. Traffic modelling of the base scenario indicated traffic volumes on the Bypass will remain within capacity of the corridor, over the longer-term capacity of this route could become an issue if traffic between Kerikeri and Waipapa continues to increase.

(b) Capacity of the SH10 / Waipapa Road roundabout. Traffic modelling indicates this roundabout may become congested in future.

(c) Higher car use and more growth in surrounding areas may lead to more traffic in Kerikeri / Waipapa.

5.4 While I have had regard to the Beca memo, my assessment of the KFO submission contained in later sections of my evidence address the scenarios modelled in the Flow report rather than the Spatial Plan scenario addressed in the Beca memo.

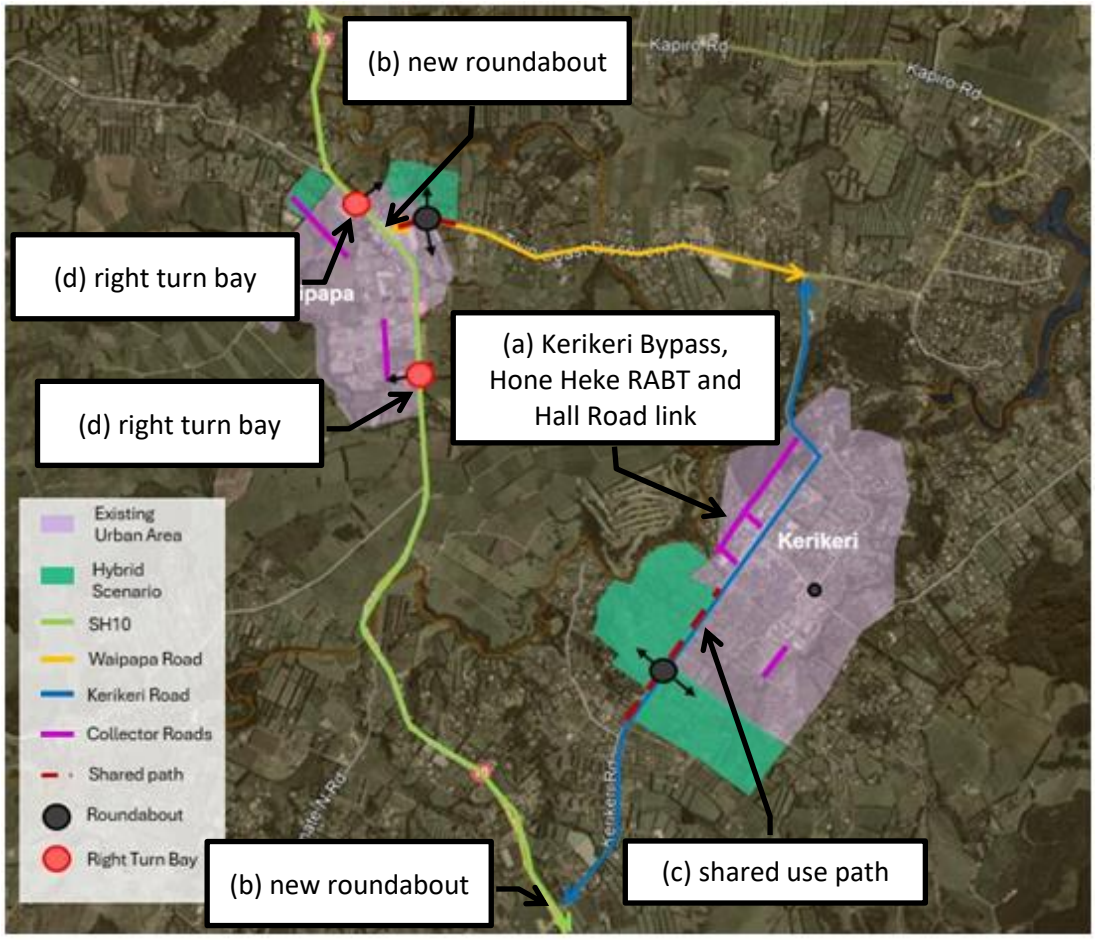


Figure 1: Assumed significant transport upgrades – Spatial Plan Hybrid Land Use Scenario (Source: Beca memo Figure 2)

6. PROPOSED ACCESS

Vehicle access

6.1 KFO's submission proposes four primary vehicle access points to connect the site to the surrounding transport network. These are labelled Access A through D on the proposed Precinct Plan, reproduced in Figure 2.

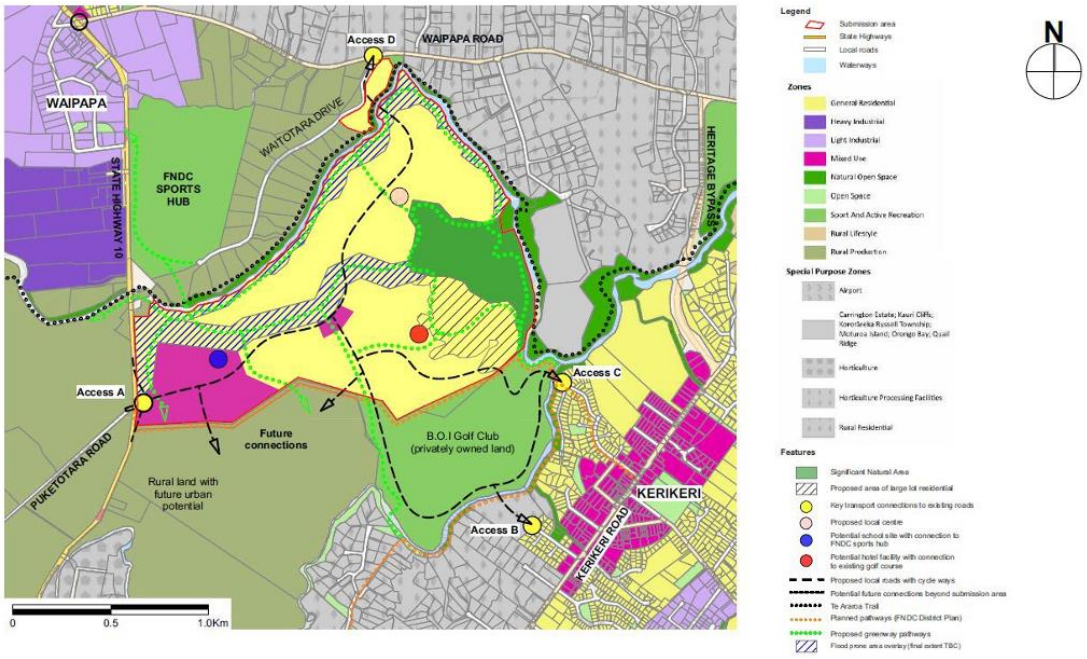


Figure 2: Proposed Precinct Plan (Statement of Evidence, Burnette O'Connor)

6.2 **Access A**: New roundabout on SH10. This includes a realignment of SH10 and Waipapa West Road, and the formation of a new roundabout, with land being vested to NZ Transport Agency Waka Kotahi (**NZTA**) to enable the upgrade. It appears that NZTA does not have any fundamental concerns about the roundabout[9], and I consider that the applicant can vest sufficient land to NZTA as required to form the roundabout. Therefore, I consider this access has a high degree of confidence of being feasible.

6.3 However, I note that the extent of land that would need to be vested to NZTA will need to be confirmed through further assessment of traffic modelling, lane configuration, heavy vehicle tracking assessments etc. Furthermore, it is likely that the speed limit would need to be reduced to 80 km/hr on the approaches to the intersection.

9 Submission ITA, Appendix 1, Waka Kotahi NZTA consultation

Figure 3: Access A (Source: Statement of Evidence, Johan Ehlers)

6.4 **Access B**: Aranga Road. I understand this is an alternative to Access C, to provide a connection to Kerikeri should Access C not be feasible. This includes the formation of a new road over the Bay of Islands Golf Course site and the Aranga Backpackers (23 Aranga Road) and would require a bridge across Puketōtara Stream. To date I have not been provided evidence that confirms that the third-party land needed to form this link can be acquired by KFO, therefore I consider this access has a low degree of confidence of being feasible. Furthermore, KFO has not assessed whether upgrades to Aranga Road and the Kerikeri Road/Aranaga Road intersection would be required, if this connection is made.

Figure 4: Access B (Source: Statement of Evidence, Johan Ehlers)

6.5 **Access C**: Golf View Drive. I understand this is an alternative to Access B. This includes the replacement of the one-lane bridge serving the Bay of Islands Golf Course site, and extension through the golf course. To date I have not been provided evidence that confirms that the third-party land needed to form this link can be acquired by KFO, therefore I consider this access has a low degree of confidence of being feasible. Furthermore, KFO has not assessed whether upgrades to Golf View Drive, Fairway Drive, and Homestead Road would be required, if this connection is made.

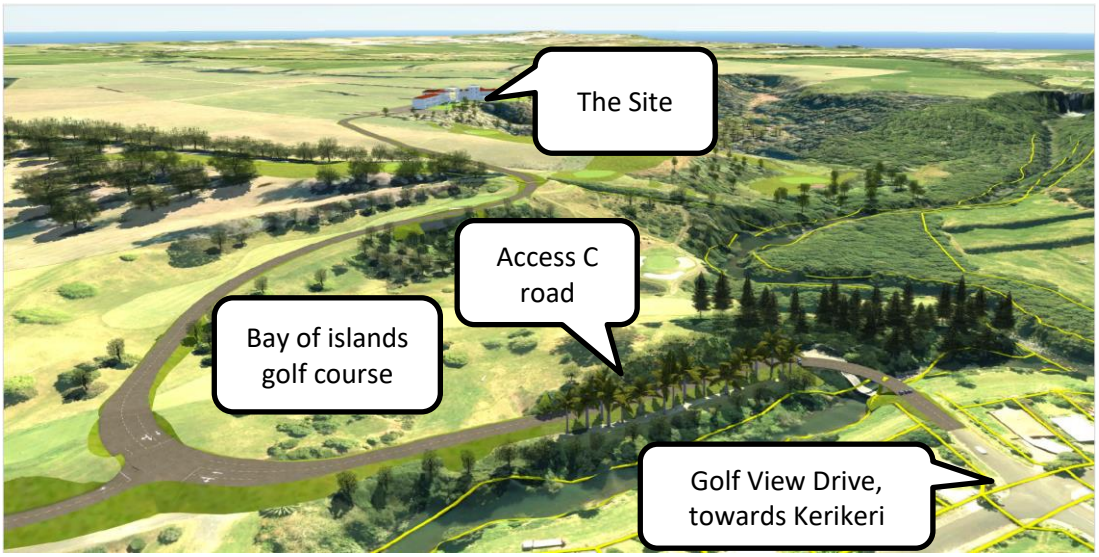


Figure 5: Access C (Source: adapted from Statement of Evidence, Johan Ehlers)

6.6 **Access D**: Waitōtara Drive. This includes the realignment of Waitōtara Drive, a crossing of Waipekakoura River, and an upgraded intersection with Waipapa Road. This access is located on land owned by Cole James Investment, one of the landholdings subject to the submission, and therefore appears to be feasible.

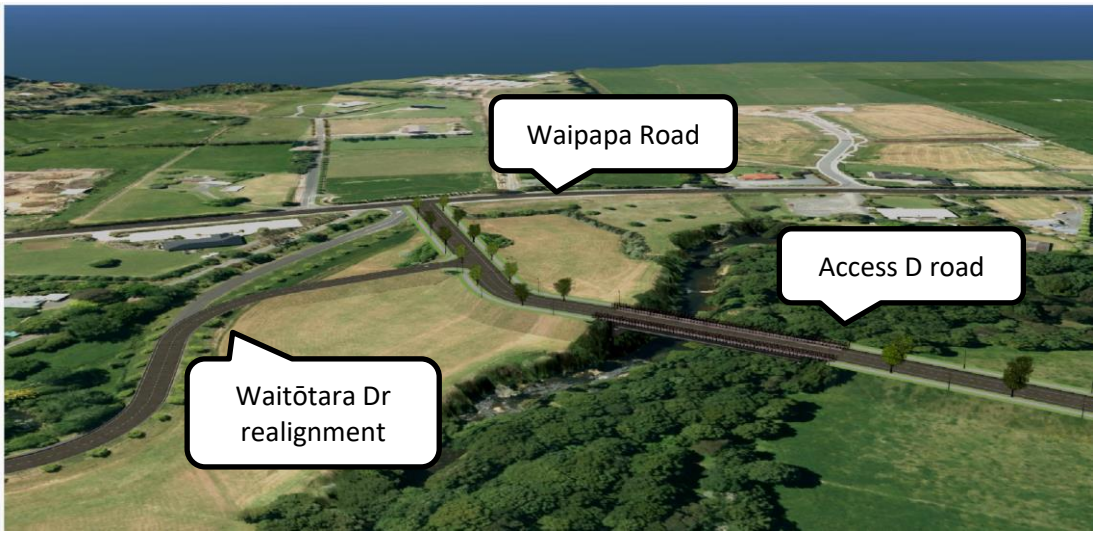


Figure 6: Access D (Source: adapted from Statement of Evidence, Johan Ehlers)

Walking and cycling access

6.7 KFO's submission proposes three pedestrian/cyclist only access points to connect the site to the surrounding transport network. These are shown in Figure 2 and are:

(a) A greenway pathway through the Council's Sports Hub on SH10, terminating on SH10 near Kahikatearoa Lane. This appears to require access over an un-numbered lot at the end of Waitōtara Drive (adjacent to 147 Waitōtara Drive).

(b) A greenway pathway to Golf View Drive. This requires access over the Bay of Islands Golf Club land. The Structure Plan assumes that the further connection along Golf View Drive / Fairway Drive to the Kerikeri town centre will be provided by Council (as indicated by the "Planned pathways (FNDC District Plan)" notation).

(c) A greenway pathway to the vicinity of Riverbank Drive (although no connection is proposed). This requires access over the Bay of Islands Golf Club land. The Structure Plan assumes that the further connection along Puketōtara Stream and Golf View Drive / Fairway Drive to the Kerikeri town centre will be provided by Council (as indicated by the "Planned pathways (FNDC District Plan)" notation).

6.8 Walking and cycling connections would also be expected with any vehicle accesses to the existing transport network, as discussed in the previous paragraphs.

Consideration of access, if all vehicle and pedestrian/cycling access points can be secured

6.9 If three proposed access points (Access A, D and either B or C) can be secured and delivered as described by KFO, the site would benefit from a reasonable degree of connectivity to both Kerikeri and Waipapa for general traffic.

6.10 This would support a more balanced distribution of traffic across the network, reduce reliance on any single access point, and improve resilience in the event of localised congestion or disruption. It would provide an alternative traffic route between Kerikeri and Waipapa, which may ease future pressure on Kerikeri Road and the Heritage Bypass (noting that traffic modelling assessments have not been provided).

6.11 I consider that three access points would provide for a reasonably connected transport network that could support public transport, with several potential routing options (linear or circular) between Kerikeri and Waipapa via the site.

6.12 However, even if all three walking and cycling connections can be secured, I consider that walking and cycling accessibility to and from the site would remain limited, for the following reasons:

(a) the connection to the Waipapa Sports Hub terminates on SH10 and does not extend into the Waipapa urban area, limiting its utility for everyday trips;

(b) both connections to Kerikeri town centre route via Golf View Drive, which has a significant gradient that will constrain accessibility for walking and cycling, and appear to rely on Council to undertake upgrades to Golf View Drive through to the Kerikeri town centre; and

(c) the distance between the central Mixed Use zone within the site and the surrounding centres is likely to discourage most walking trips:

(i) approximately 2.9 km to Waipapa (via Waipapa Road), which is an approximately 40 min walk at 4.5 km/hr; and

(ii) approximately 2.4 km to, which is an approximately 36 min walk at 4 km/hr Kerikeri (via Golf View Drive) accounting for the steep gradients that will reduce average walking speeds.

6.13 As such, I consider the walking trips to/from the site will largely be limited to recreational trips. Cycling trips to Waipapa are feasible, however cycle trips to Kerikeri may be limited to those extremely able of body and those that have access to an electric bike.

Consideration of access, if neither Access B nor Access C be secured

6.14 If neither Access B nor Access C can be secured — both of which rely on third-party land — the site would be isolated from Kerikeri, and would not provide the connectivity between Kerikeri and Waipapa that KFO identifies as a positive effect of the submission.

6.15 This would concentrate traffic on the remaining access points and place increased pressure on the SH10/Waipapa Road roundabout and the Heritage Bypass, as discussed in Section 8 of my evidence.

6.16 While the site could still be serviced by public transport, the efficiency of such a service would be compromised. The site would no longer be “on the way” between

Kerikeri and Waipapa, and services would need to detour into the site. This would reduce the attractiveness of public transport, and would likely result in increased operating costs, reduced service frequency, or both.

6.17 Walking and cycling access would be even further limited, as the distance between the central Mixed Use zone within the site and Kerikeri town centre would be approximately 5km (via Access D, Waipapa Road, and the Heritage Bypass).

7. DISCUSSION OF THE TRAFFIC MODELLING METHODOLOGY

7.1 Under direction from Mr Brown, Flow has undertaken traffic modelling, using the Council's Kerikeri Transport Model (**the Kerikeri Transport Model**).

7.2 Flow tested the following scenarios:

(a) 10 year Proposed District Plan (**the PDP scenario**). This uses the 2032 forecast land use changes in the Kerikeri Transport Model, developed by Flow on behalf of Council. It is unclear to me whether this is based on the notified PDP land use zoning.

(b) 10 year KFO scenario (with 50% of site developed) with Access A, C and D at SH10, Waitotara Road, Fairway Drive respectively (**the 10y three access point scenario**).

(c) 10 year KFO scenario (with 50% of site developed) with Access A and D at SH10 and Waitotara Road respectively (**the 10y two access point scenario**).

(d) 20 year KFO scenario (with 100% of site developed) with Access A, C and D and without the Kerikeri CBD bypass (**the 20y three access points without KK bypass scenario**).

(e) 20 year KFO scenario (with 100% of site developed) with Access A, C and D, and with the Kerikeri CBD bypass (**the 20y three access points with KK bypass scenario**).

7.3 I discuss the inputs, assumptions, and results of these scenarios in the following subsections.

Land use assumptions

7.4 KFO's submission seeks to rezone approximately 197ha of land to enable a mix of residential, commercial, community, and educational activities.

7.5 Mr Brown's evidence estimates a total of 24,750m² of commercial/retail/industrial GFA and approximately 1,600 dwellings[10] at 50% development of the site, and 2,440 dwellings and 49,500m² of commercial/retail/industrial GFA at 100% development of the site.

7.6 I also note that the Te Pāe Waiōra Precinct Plan includes a school. This was not included in the traffic modelling. A Primary School would largely serve a local catchment area and therefore may not overly affect the external road network. However, a High School would likely generate some effects on the external road network.

Vehicle trip generation rates

7.7 Mr Brown has assumed that residential activities will generate 0.5 vehicles per hour per dwelling (veh/hr/dw), based on surveys he has undertaken on Aranga Road and Access Road[11]. Mr Brown has excluded the survey he undertook for and Waitotara Road, which showed higher PM trip rates as I understand, through discussions with Mr Brown, that he considers that lifestyle lot development on Waitotara Drive does represent development that is anticipated within the KFO site.

10 Statement of Evidence of Phillip Robert Brown on behalf of Kiwi Fresh Orange Company Limited (Transport), 16 June 2025 (**Brown Evidence**) at [34].

11 ITA, Section 3.3

7.8 I consider Mr Brown's surveys to be helpful context, however in my view they should be treated with caution given:

(a) The limited sample size – 2 sites over a limited number of days (albeit the ITA has not identified how many days were surveyed).

(b) Access Road is a mix of rural activities and lifestyle residential blocks and may not be comparable to the residential activities proposed by KFO.

(c) Aranga Road includes the Aranga Backpackers, and it is not clear how this was factored into the calculation of trips per dwelling.

(d) It is not clear how Access Road and Aranga Road catchments might be influenced by proportion of lower trip generating residents (e.g. retirees, onsite residence and business, working from home etc).

7.9 I understand that the Kerikeri Transport Model, which has been calibrated and verified, anticipates a trip rate of 0.75 veh/hr/dw residential development in greenfields area, and only uses a trip rate of 0.5 veh/hr/dw for intensification areas which have good walking and cycling access to a range of destinations.

7.10 Furthermore, a trip rate of 0.75 veh/hr/dw is consistent with the Trips Database Bureau, which reports an average trip rate of 0.70 veh/hr/dw in the AM peak and 0.91 veh/hr/dw in the PM peak, based on 85 surveys for sites across New Zealand.

7.11 Mr Brown has estimated trip generation rates for various non-residential activities, and has provided these to Flow as traffic modelling inputs. These assumptions are contained in Appendix B of the Flow report, which Mr Brown has provided to me in spreadsheet form. The majority of these rates are lower than what are typically recognised as industry standard trip rates.

7.12 Following a request by email to Mr Brown on 4 September 2025, Flow provided the trip rates that were applied to the PDP scenario included in their technical report. These rates applied a single AM and PM trip rate to retail, commercial and

industrial land uses in Kerikeri and Waipapa, and a higher trip rate for residential activities.

7.13 I have summarised Mr Brown's KFO scenario trip rates, Flow's PDP scenario trip rates, and industry standard trip rates in the table below.

Table 1: Comparison of trip generation rates, higher rates in red, lower rates in green

Land use activity	**Trip rate used by Mr Brown for KFO scenarios (veh/hr/m² and veh/hr/dw)**		**Trip rate used by Flow for PDP scenario (veh/hr/m² and veh/hr/dw)**		**Industry standard trip rate (veh/hr/m² and veh/hr/dw)**	
	AM trip rate	PM trip rate	AM trip rate	PM trip rate	AM trip rate	PM trip rate
Retail	0.04	0.2	Kerikeri rate 0.03 Waipapa rate 0.01	Kerikeri rate 0.03 Waipapa rate 0.012	0.12[12]	0.16[13]
Supermarket	0	0.0371			0.027[14]	0.18[15]
Large format retail	0	0.0371			0.0075[16]	0.05[17]
Commercial service	0	0.015			0.00225[18]	0.015
Office	0.02	0.02			0.02	0.02
Light industry	0.015	0.015			0.015	0.015
Recreation & health	0.01	0.02			0.047[19]	0.054[20]
Residential	0.5	0.5	0.85	0.85	0.75[21]	0.75

12 TDB: AM average smaller shops.
13 TDB: AM average smaller shops.
14 15% of PM Peak Rate.
15 TDB: PM average rate for supermarket less than 3000sqm.
16 15% of PM Peak Rate.
17 NSW Guide to Traffic Impact Assessments.
18 15% of PM Peak Rate.
19 Assumed 50% GFA consult rooms with 100m2 per room with NSW Guide to Traffic Impact Assessment AM rates. Assumed remaining GFA is gym with TDB PM rates.
20 Assumed 50% GFA consult rooms with 100m2 per room with NSW Guide to Traffic Impact Assessment PM rates. Assumed remaining GFA is gym with TDB PM rates.
21 Per Kerikeri Transport Model greenfield growth area rate.

7.14 In summary, I consider the trip rates used by Mr Brown may under predict the amount of traffic that could be generated by the KFO site. I discuss the sensitivity of these trip rates from paragraph 7.23 of my evidence.

7.15 Furthermore, the PDP scenario and the KFO scenarios use different trip rates. As such the comparison between the traffic effects generated by the PDP scenario and KFO 10y scenarios, discussed in the Flow technical report and Mr Brown's interpretative report, are not valid as they are not an "apples to apples" comparison.

Trip distribution rates

7.16 Mr Brown has estimated trip generation and trip distribution rates for various non-residential activities and has provided these to Flow as traffic modelling inputs. These assumptions are contained in Appendix B of the Flow report, which Mr Brown has provided to me in spreadsheet form.

7.17 The majority of non-residential land use activities are assumed to internalise a significant proportion of their trips (referred to as internal capture), mostly around 50%.

7.18 I consider the extent of internal capture may be overstated.

7.19 I acknowledge that estimating the extent of internal capture for development the scale of the KFO site is challenging and would typically require the use of a gravity model where sub-regional land use zoning and transport networks are linked.

7.20 In the absence of this information, I have referred to previous investigation of internal capture rates undertaken by Albey in 2010[22] for a 4.2ha mixed-use site in Central Christchurch, which I am familiar with. While the context is quite different (urban intensification site versus greenfield growth site), I consider it provides a relevant contrast to the high internal capture rates assumed by Mr Brown.

22 NEW URBANISM – IS IT REALLY APPLICABLE TO NEW ZEALAND DEVELOPMENTS?, Courtney Groundwater and Steve Abley, IPENZ Transportation Group Conference Christchurch. March, 2010, https://www.transportationgroup.nz/papers/2010/14_Groundwater__Courney.pdf

7.21 As can be seen in Figure 7, with a site area of 197ha the KFO site would sit between 10 – 20% internal capture rate, when plotted against the Florida Section of the Institute of Transportation Engineers surveyed sites.

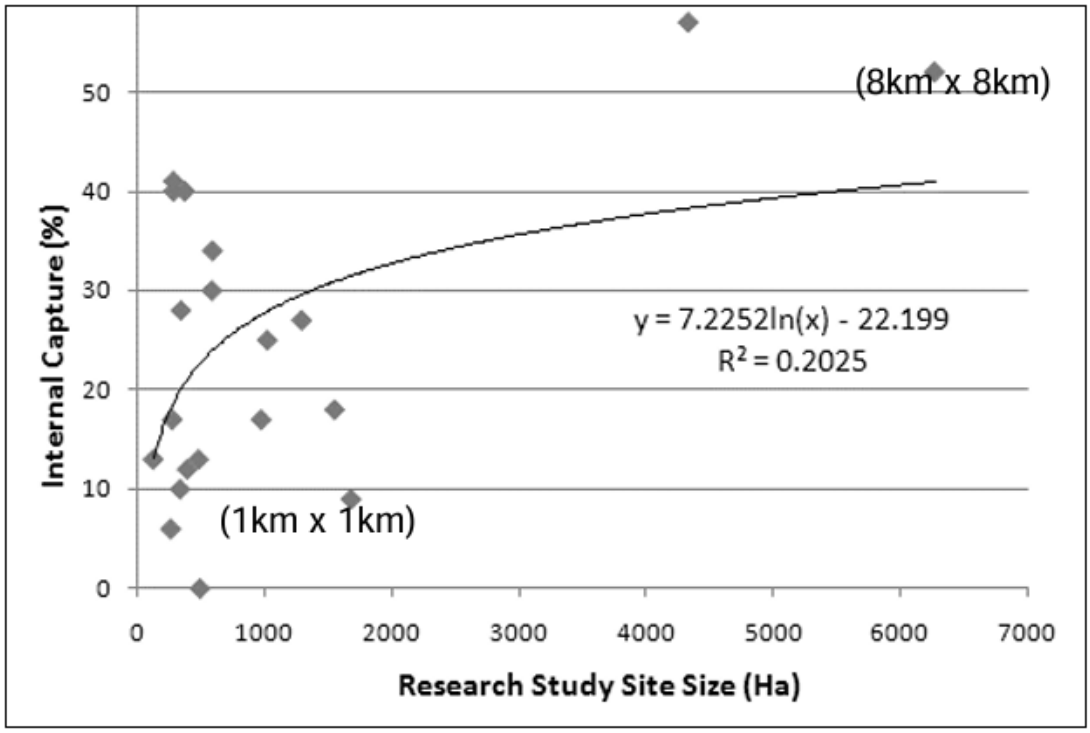


Figure 7: Correlation Between Research Study Site Size and Internal Capture (Source, Courtney Groundwater and Steve Abley)

7.22 In summary, I consider the internal capture rates used by Mr Brown may under predict the amount of traffic that could be generated by the KFO site. I discuss the sensitivity of these trip rates from paragraph 7.23 of my evidence and have tested how a lower internal capture rate of 20% would affect the number of trips on the external road network.

Overall trip generation and distribution

7.23 Based on my discussion in the previous paragraphs, I have provided a summary of how the number of internal/external trips could be affected, comparing trip generation and internal capture assumptions from Mr Brown with my own assessments. A full comparison is provided in Annexure 1 and summarised in Table 2 below. Note that I have not used the trip rates from the PDP scenario, as these

were too coarse for non-residential activities and did not allow for a fine grained understanding of the traffic generating potential of the KFO submission.

7.24 My comparison in Annexure 1 shows that the 10 year KFO scenarios (50% development) may underpredict traffic movements into and out of the KFO site by a range of 95 – 626 veh/hr in the AM peak and 245 – 680 in the PM peak. This range would be significantly higher for the 20 year KFO scenarios (100% development).

Table 2: Comparison of external trips based comparing trip rate and internal capture assumptions (50% development scenario)

	Mr Brown 50% development scenario	**With revised internal capture of 20%**	**With revised trip rates per Table 1**	**With revised trip rate and revised internal capture rate of 20%**	**Range of variance from Mr Brown's assessment**
AM total external trips (veh/hr)	825	920	1,282	1451	95 - 626
PM total external trips (veh/hr)	1,073	1391	1,474	1753	245 - 680

8. TRAFFIC MODELLING RESULTS

PDP Scenario

8.1 The PDP scenario uses forecast land use in the Kerikeri Transport Model (2032 year), which I understand has been peer reviewed by Beca on behalf of the Council. The Flow technical report and Mr Browns interpretive report compare the performance of the transport network under the PDP scenario with the KFO scenario, concluding that the 10-year three access scenario shows some minor

improvement in peak hour performance of the network when compared with the PDP scenario.

8.2 As discussed in paragraph 7.12, the PDP scenario uses different (generally higher) trip rates than those used for the KFO scenarios.

8.3 As such, it is likely that the KFO scenarios underpredict the potential traffic effects compared to the PDP scenario, as the (generally) lower trip rates for the KFO scenario will suppress the effects on the existing transport network. For this reason, I have not referenced or placed any weight on the PDP scenario during my review.

10-year KFO scenario – three access points

8.4 The modelling assesses a scenario where 50% of the KFO site is developed, with Access A provided via SH10 (Puketotara Road roundabout), Access D provided at Waipapa Road (Waitotara Drive), and Access C provided at Fairway Drive (connecting to Homestead Road). This scenario assumes the delivery of the Mill Hall Road link but excludes other major upgrades such as the Kerikeri CBD bypass.

8.5 The modelling predicts that[23]:

(a) SH10/Kerikeri Road will operate at LOS B overall, with the worst approach operating at LOS C during the AM and PM peaks

(b) SH10/Waipapa Road will operate at LOS B - C overall, with the Waipapa Loop Road West approach operating at LOS F during PM peaks (181 veh/hr with 92 sec average delay).

(c) Fairway Drive/Homestead Road will operate at LOS B – C overall, with the Fairway Drive operating at LOS F during PM peaks (317 veh/hr with 84 sec average delay). Mr Brown states that this results in a queue of 200 –

23 Flow technical report, Appendix B.

250m, but the peak is relatively short-lived, about 15 – 20 minutes in the peak hour[24].

8.6 In my opinion, the modelling indicates that mitigation is required at:

(a) the SH10/Waipapa Road intersection, to address delays on Waipapa Loop Road West; and

(b) the Fairway Drive/Homestead Road intersection, to address delays on Fairway Drive.

8.7 However, this mitigation will only support 50% of the development.

10-year KFO scenario – two access points

8.8 The modelling assesses a scenario where 50% of the KFO site is developed, with Access A provided via SH10 (Puketotara Road roundabout) and Access D provided via Waipapa Road (Waitotara Drive), but excluding the Fairway Drive connection (Access C). This scenario also assumes the delivery of the Mill–Hall Road link, but not the Kerikeri CBD bypass.

8.9 The modelling predicts that[25]:

(a) SH10/Kerikeri Road will operate at LOS B - C overall, with the worst approach operating at LOS D during the AM peak.

(b) SH10/Waipapa Road will operate at LOS B – D overall, with the northern SH10 approach and Waipapa Loop Road West operating at LOS F during PM peaks (641 veh/hr and 78 second average delay, and 182 veh/hr and 99 second average delay respectively).

24 Mr Brown interpretative report, "Network with Fairway Drive connection"
25 Flow technical report, Appendix B.

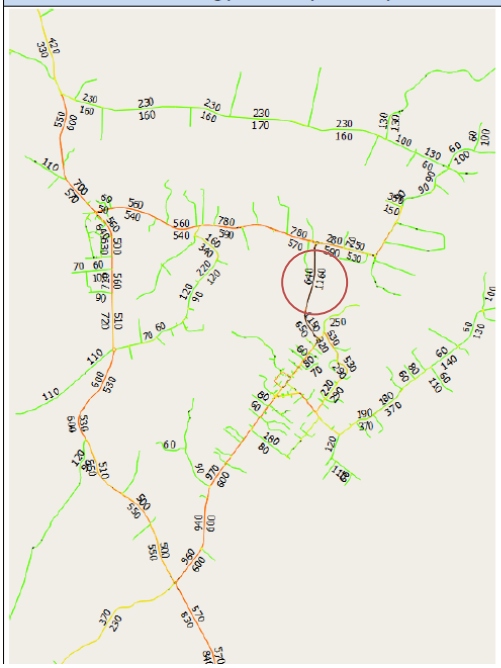
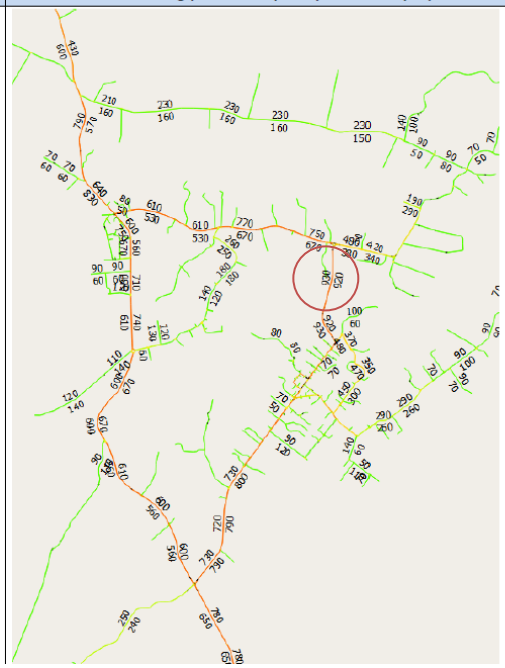
(c) Waipapa Rd/Heritage Bypass intersection will operate at LOS A - B overall, with the worst approach operating at LOS D during the AM peak.

(d) Other reported intersections are predicted to operate at LOS A or B, with low delays.

8.10 I consider that mitigation is required at the SH10/Waipapa Road intersection to address significant delays, particularly on the SH10 southbound approach and Waipapa Loop Road West. However, this mitigation will only support 50% of the development

8.11 Furthermore, while not discussed in the Flow technical or Mr Brown's interpretive reports, the Heritage Bypass is predicted to be under significant pressure, particularly in the AM peak. AUSTROADS Guide to Traffic Management Part 3 Table 6.1 indicates a capacity of between 900 - 1400 veh/hr/lane for limited access urban roads. Figure 14 of the Flow Technical Report, reproduced below, indicates a traffic demand of 1160 veh/hr in the southbound direction.

Table 3: traffic flows for 10-year KFO scenario with two access points, showing Heritage Bypass[26]

Brownlie Development traffic flows – 10 year forecast without Fairway Drive access	
Morning peak hour (8 to 9 am)	Evening peak hour (4:30 pm to 5:30 pm)
	

26 Flow Report, Figure 14

20-Year KFO Scenarios – Three Access Points

8.12 The modelling assesses two scenarios where 100% of the KFO site is developed and tests the network both with and without the Kerikeri CBD bypass. Both scenarios assume that Access A, D and C are provided via SH10 (Puketotara Road roundabout), Waipapa Road (Waitotara Drive), and Fairway Drive respectively.

8.13 The modelling predicts that[27]:

(a) Without the Kerikeri CBD bypass:

(i) Fairway Drive/Homestead Road operates at LOS F in the AM and PM peak, with PM peak queues exceeding 500 metres and average delay of 241 seconds;

(ii) SH10/Waipapa Road roundabout experiences significant delays during the AM and PM peak; and

(iii) SH10/Puketotara Road/KFO access roundabout experiences delays during the AM and PM peak, particularly on the SH10 approaches.

(b) With the Kerikeri CBD bypass in place:

(i) Fairway Drive/Homestead Road performance improves, with the bypass relieving pressure on the CBD;

(ii) SH10/Waipapa Road still experiences delays, but significant delays no longer occur in the AM peak; and

(iii) The network can accommodate full development, subject to delivery of the bypass and further upgrades.

27 Flow Report, Section 14 and Table 11 and 12, p.31; Mr Brown Commentary, p.11.

8.14 Mr Brown highlights the uncertainties and limitations associated with modelling transport effects at a 20-year horizon. I agree with him on this point. To address the uncertainty, Mr Brown recommends that an updated transport assessment be undertaken once the site reaches 50% development[28].

8.15 I have reservations about this approach, as I consider there are significant risks with relying on future ITAs to address effects once the site has already been rezoned:

(a) The KFO site is likely to be fragmented into multiple landholdings over time. Where transport upgrades are required, it becomes difficult to secure equitable funding across multiple owners and beneficiaries.

(b) This can create first-mover or last-mover disadvantages. For example, the first consent that triggers a threshold may be required to fund a full upgrade, or conversely, the last developer to apply for consent may face responsibility for addressing cumulative effects generated by earlier consents.

(c) Infrastructure funding and addressing cumulative effects are complex issues, and I do not believe the PDP or Te Pāe Waiōra Precinct can fully resolve them. Mitigating cumulative effects often requires a combination of developer-funded and Council-funded infrastructure improvements benefiting multiple parties. Given this complexity, a framework for funding and staging bulk transport infrastructure needs to be secured prior to rezoning.

(d) The Council may not be able to recover costs through development contributions where upgrades to the wider transport network are required but have not been funded in the Long Term Plan. Once land is zoned for urban development, it is also difficult in practice for Council to decline consents, particularly when applications are lodged in small stages.

28 Mr Brown interpretative report, "FULL BUILD-OUT OF PLAN CHANGE AREA".

(e) There may be future mitigations that are required to address effects of rezoning but are not feasible and achievable. For example:

(i) the access to Golf View Drive, which almost certainly will be required to mitigate effects, however, it is not currently confirmed; and

(ii) the upgrade of an intersection may require third party land, which the developer is unable to acquire and Council does not want to prepare a notice of requirement for.

8.16 In my experience, these risks can be better managed through clear and enforceable mechanisms being secured prior to rezoning, rather than leaving them to be resolved through future consent processes. Options include:

(a) staging provisions that prohibit development that can occur until specific transport upgrades are in place (for example, limiting development until the Fairway Drive connection, Kerikeri CBD bypass etc are provided);

(b) integrated infrastructure funding arrangements that clearly allocate responsibility for state highway and local road upgrades between landowners, Council, and NZTA Waka Kotahi; and

(c) funding mechanisms such as targeted rating or a Special Purpose Vehicle under the Infrastructure Funding and Financing Act 2020, if Council elects to use these tools, to ensure that funding is collected consistently from all benefiting landowners.

8.17 However, it is unclear what transport infrastructure is required to support the development (both the 50% and 100% development scenarios), let alone how the costs of this infrastructure might be apportioned. In my view it is critical that these matters are addressed now, if the site is to be rezoned.

9. TRANSPORT MATTERS INTERNAL TO THE SITE

Transport network

9.1 KFO's submission includes a Structure Plan that outlines the internal road layout and proposed walking and cycling connections. The evidence of Ms O'Connor indicates that the Structure Plan is proposed to be included as a Precinct Plan for the Te Pāe Waiōra Precinct, which I have reproduced in Figure 2.

9.2 The Precinct Plan identifies the key roads within the site as "Proposed Local Road with cycle ways".

9.3 In his evidence, Mr Brown discusses the primary roads within the site and considers it likely that these would be Primary and Secondary Collector Roads.[29] Under *TRAN-Table Y – Road formation criteria of the PDP*[30], these roads would be in 24m – 25m wide corridors.

9.4 Based on the PDP Roading Hierarchy of the surrounding road network (see Figure 8), I consider that an arterial route through the site may be warranted. For comparison, Kerikeri Inlet Road (between the town centre and Pā Road) and Landing Road are classified as arterial roads and may carry a similar volume of traffic[31] to the internal roads proposed within the site — although transport modelling has not been provided to date to confirm this.

9.5 In paragraphs 60 – 72 of his evidence, Mr Brown discusses how the Structure Plan will allow a comprehensive, well-connected and integrated network of on-road and off-road paths for active modes.

9.6 I take a more cautious view than Mr Brown, as I do not see a clear link between the Precinct Plan and the provisions in the proposed Precinct Chapter attached to Ms O'Connor's evidence. There is no mechanism to ensure that the internal transport

29 Brown Evidence at [28] - [32].

30 Hearing 11 Transport s42a report Appendix 1.1, TRAN-Table Y – Road formation criteria https://www.fndc.govt.nz/__data/assets/pdf_file/0023/39191/APPEND~2.PDF

31 MobileRoads: Kerikeri Inlet Road near Pa Road – estimated 3900 veh/hr, Landing Road near Kapiro Road – estimated 3000 veh/day.

network — including road hierarchy, connectivity, active mode infrastructure, and staging — will be delivered as shown.

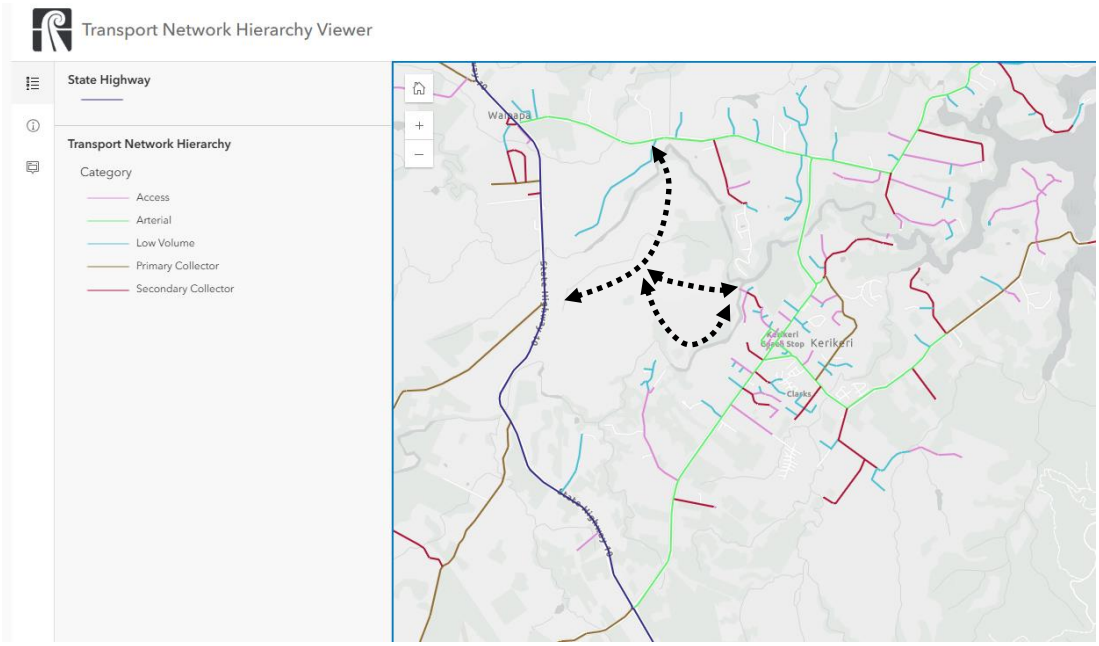


Figure 8: PDP Transport Network Hierarchy[32] showing the approximate location of key roads through the site

Land use activities

9.7 The Structure Plan identifies several proposed land use activities, but there is no explanation for how these were determined or how they relate to transport planning principles.

9.8 The "Potential School" is located to the west of the site, within the Mixed Use zone. This will significantly restrict the walking and cycling catchment for the school.

9.9 The "Proposed Local Centre" is located away from the key internal road, which may result in vehicle trips detouring into the local road network to access the centre. This could undermine the efficiency of the internal network and increase localised congestion.

32 https://maps.fndc.govt.nz/portal/apps/instant/sidebar/index.html?appid=ca773a912e2c4bc6b943cfdede3ef4a5

9.10 There does not appear to be any density requirements for residential activities. In my opinion, higher densities should be planned along key transport routes to maximise the potential for public transport viability, and support mode shift to walking and cycling within the site.

10. TE PĀE WAIŌRA PRECINCT PROVISIONS

10.1 KFO's submission includes a proposed Precinct Chapter intended to guide future development within the rezoned area. This chapter, attached to the evidence of Ms O'Connor, includes objectives, policies, and rules that seek to manage development within the Te Pāe Waiōra Precinct[33]. I understand that the Structure Plan, shown as the "Te Pāe Waiōra Precinct Plan" in Ms O'Connors evidence, is intended to be included in the Precinct Chapter.

10.2 In my opinion, the proposed Precinct Chapter does not provide sufficient certainty that development will occur in accordance with the Precinct Plan, nor does it include adequate mechanisms to ensure that transport effects are appropriately managed.

10.3 The Precinct Plan outlines the intended road layout, land use zones, and active mode connections. However, there is no clear mechanism in the Precinct Chapter to require that development occurs in accordance with the Precinct Plan. This creates uncertainty about whether the transport network shown will be delivered and undermines the ability to assess cumulative effects.

10.4 The Precinct Chapter does not include any provisions to ensure that key transport infrastructure, such as access points, intersection upgrades, or internal road connectivity, is delivered in conjunction with development. This creates a risk that development will proceed ahead of, or in absence of, transport infrastructure, resulting in adverse effects on safety, efficiency, and accessibility. The Precinct Chapter should include, as a minimum:

33 Proposed Te Pāe Waiōra Precinct Chapter, attached to the Evidence of Ms O'Connor (30 June 2025).

(a) mechanisms to stage development with transport network improvements including:

(i) connectivity to the existing transport network, including Access A – D and walking/cycling connections, and how uncertainty will be addressed where third-party land is involved;

(ii) connectivity within the site and between Kerikeri and Waipapa, to ensure network resilience and accessibility, and to manage effects on Kerikeri Road and the Heritage Bypass;

(iii) offsite transport upgrades including responsibility for funding;

(b) Arterial/Collector Road typology for roads identified on the Precinct Plan.

10.5 The Precinct Chapter includes a rule requiring a Comprehensive Development Plan (**CDP**) to be submitted prior to development. However:

(a) the requirements of the CDP appear to be more aligned with typical requirements for a subdivision consent, rather than a mechanism to ensure the Structure Plan objectives and anticipated outcomes are delivered;

(b) it is unclear whether the CDP must cover the entire precinct or whether a separate CDP can be submitted for discrete portions of the Precinct;

(c) there is no requirement for the CDP to align with the Precinct Plan; and

(d) if a CDP is not provided, the activity status defaults to discretionary rather than non-complying.

11. TRANSPORT INFRASTRUCTURE FUNDING AND STAGING

11.1 The KFO documents do not address funding responsibilities for transport infrastructure, nor infrastructure staging requirements.

11.2 In my experience it is well established that, where development requires transport infrastructure that is solely beneficial or is solely required by the development to mitigate any effects, the responsibility for funding that infrastructure sits solely with the developer. Furthermore, it is common for this infrastructure to be identified in Precinct Provisions.

11.3 On that basis, my view is that KFO should be required to fund 100% of the cost of the following infrastructure, which should also be identified with appropriate Precinct Provisions:

(a) Realignment of SH10 and formation of the SH10/Puketotara Road/KFO access intersection. The need for realignment and formation of a roundabout is being driven by KFO, as the existing intersection is operating acceptably and I am unaware of any plans from NZTA to alter the intersection in response to traffic growth in the wider area.

(b) Realignment of Waitotara Drive, and formation of a right turn bay at the Waitotara Drive/Waipapa Road intersection. Similar to the above, the existing Waitotara Drive and intersection with Waipapa Road is operating acceptably and I am unaware of any plans from Council to alter the intersection in response to traffic growth in the wider area.

(c) Formation of Golf View Drive extension including Fairway Drive and interfacing with Homestead Road. Formation of Access C will significantly increase traffic movements on this road. As discussed in paragraph 8.6. improvements may be required and are being triggered by the KFO development.

(d) All off site walking and cycling infrastructure, including:

(i) Enhancing existing facilities on Golf View Drive, Fairway Drive and Homestead Road. These roads currently do not carry a high number of pedestrians and cyclists, given the limited catchment. Nor are these roads designed in a way that are suitable to act as a key walking and cycling link between Kerikeri and the KFO site. Alterations such as wider footpaths, improved intersection crossings, and cycle infrastructure would be required to support active modes.

(ii) Connection to the FNDC Sports Hub on SH10. The desire line between the FNDC Sports Hub and the KFO site will not exist unless the KFO site develops, therefore I consider the demand for the link is being driven solely by the KFO site.

11.4 It is not uncommon for infrastructure that is needed to support development, but has wider benefits, to be identified in Precinct Provisions. This ensures that development is staged to align with transport upgrades being delivered by Council and/or NZTA.

11.5 There is likely to be other infrastructure improvements needed to support up to 50% development of the site, as discussed in paragraphs 8.6 and 8.10. However, as discussed in Section 7 of my evidence, I do not have confidence in the assessment of effects on the existing transport network, and therefore am not able to determine the extent of off-site improvements needed.

12. TRANSPORT PLANNING POLICY

12.1 I have assessed the proposal against the relevant Proposed District Plan Transport Objectives and Policies[34], refer to Annexure 2.

34 Hearing 11 – s42a Report Transport, Appendix 1.1., available online at https://www.fndc.govt.nz/__data/assets/pdf_file/0023/39191/APPEND~2.PDF

12.2 In summary, the proposal does not demonstrate integration between land use and transport planning (TRAN-O3), nor does it provide sufficient certainty that the transport network will be safe, efficient, and well-connected for all users (TRAN-O5 and TRAN-O6). The uncertainty around access feasibility and modelling of effects on the existing transport network, and reliance on transport upgrades that are presumed to be delivered by third parties further undermine confidence in the proposal's ability to manage cumulative effects, provide a safe and efficient and connected transport network, achieve emissions reduction, or promote alternative transport modes (TRAN-P2, TRAN-P3, TRAN-P5, TRAN-P7, TRAN-P8).

13. CONCLUSION

13.1 In my opinion, KFO's submission and evidence from KFO experts raise a number of unresolved transport issues that limit the ability to support the proposed rezoning at this time. The scale of development proposed is significant and would generate substantial additional travel demand on the existing transport network.

13.2 Reliance on third-party land for Access B and C, and on Council delivered walking and cycling improvements, introduces a high degree of risk that the site will not be able to connect effectively to Kerikeri. This would undermine the submitter's stated benefits of improved connectivity between Kerikeri and Waipapa, and would likely result in increased pressure on SH10, Kerikeri Road, and the Heritage Bypass.

13.3 The questions about land use and traffic modelling assumptions, combined with uncertainty around the feasibility of key access points, make it difficult to assess the transport effects of the proposal with confidence. The modelling relies on trip generation and internal capture rates that are lower than industry standards, which may result in a significant underestimation of the volume of traffic generated by the site. These combined factors may underpredict traffic generation on the external transport network by over 600 veh/hr for the 50% development scenario, and far more for the 100% development scenario. Several intersections are predicted to operate at poor levels of service under both 10-year and 20-year development scenarios, and the proposal does not clearly identify the mitigation required to address these effects.

13.4 The internal transport network, as shown on the Structure Plan, lacks clarity around road hierarchy, active mode infrastructure, and integration with the surrounding network. While the proposed Precinct Chapter includes a requirement for a Comprehensive Development Plan, it does not provide sufficient certainty that the transport outcomes shown on the Structure Plan will be delivered, nor does it include mechanisms to ensure that development is staged in conjunction with infrastructure delivery within the site and for the existing transport network.

13.5 Critically, the submission does not address how transport infrastructure will be funded or staged to align with development. Deferring resolution of cumulative effects and infrastructure upgrades to future consent processes carries significant risks, particularly given the likelihood of fragmented land ownership and the complexity of securing equitable funding across multiple parties. In my experience, these risks are best managed through enforceable staging and funding mechanisms secured prior to rezoning.

13.6 Without clarity on what access can be achieved, what infrastructure is required to support both partial and full development of the site, and how it will be funded, the proposal does not currently demonstrate integration between land use and transport planning, nor does it provide sufficient certainty that the transport network will be safe, efficient, and well-connected for all users.

Mathew Ross Collins

10 September 2025

Annexure 1 – Trip generation and distribution comparison

Table 4: TEAM Traffic 50% development AM peak

AM generation		Area	Trip rate	Inbound	Outbound	Passby factor	Overall total trips		Percentage split		Total Internal trips	Total external trips	
							Inbound	Outbound	Internal trips	External trips		Inbound	Outbound
Mixed use - Commercial and Employment Centre	Retail	2500	0.04	60%	40%	20%	48	32	50%	50%	40	24	16
	Supermarket	1250	0	50%	50%	20%	0	0	50%	50%	0	0	0
	LFR	2500	0	50%	50%	20%	0	0	50%	50%	0	0	0
	Commercial service	1250	0	35%	65%		0	0	50%	50%	0	0	0
	Office	1250	0.02	80%	20%		20	5	50%	50%	13	10	3
	Light industry	7500	0.015	80%	20%		90	23	50%	50%	56	45	11
	Residential	2500	0.5	35%	65%		6	12	20%	80%	4	5	9
	Accommodation	1000	0.5	35%	65%		3	5	20%	80%	1	2	4
	Recreation & health	2500	0.01	70%	30%	20%	14	6	50%	50%	10	7	3
Mixed use - Local centre	Retail	375	0.2	60%	40%	20%	36	24	50%	50%	30	18	12
	Commercial service	375	0.02	35%	65%		3	5	50%	50%	4	1	2
	Office	250	0.02	80%	20%		4	1	50%	50%	3	2	1
Hotel	(rooms)	50	0.1	60%	40%		3	10	30%	70%	4	2	7
Local centre		250	0.04	50%	50%	20%	4	4	85%	15%	7	1	1
Residential		1600	0.5	35%	65%		280	520	20%	80%	160	224	416
										TOTAL	**331**	**341**	**484**

Table 5: 50% development AM peak, with revised internal capture split shown in highlight

AM generation		Area	Trip rate	Inbound	Outbound	Passby factor	Overall total trips Inbound	Overall total trips Outbound	Percentage split Internal trips	Percentage split External trips	Total Internal trips	Total external trips Inbound	Total external trips Outbound
Mixed use - Commercial and Employment Centre	Retail	2500	0.04	60%	40%	20%	48	32	20%	80%	16	38	26
	Supermarket	1250	0	50%	50%	20%	0	0	20%	80%	0	0	0
	LFR	2500	0	50%	50%	20%	0	0	20%	80%	0	0	0
	Commercial service	1250	0	35%	65%		0	0	20%	80%	0	0	0
	Office	1250	0.02	80%	20%		20	5	20%	80%	5	16	4
	Light industry	7500	0.015	80%	20%		90	23	20%	80%	23	72	18
	Residential	2500	0.5	35%	65%		6	12	20%	80%	4	5	9
	Accommodation	1000	0.5	35%	65%		3	5	20%	80%	1	2	4
	Recreation & health	2500	0.01	70%	30%	20%	14	6	20%	80%	4	11	5
Mixed use - Local centre	Retail	375	0.2	60%	40%	20%	36	24	20%	80%	12	29	19
	Commercial service	375	0.02	35%	65%		3	5	20%	80%	2	2	4
	Office	250	0.02	80%	20%		4	1	20%	80%	1	3	1
Hotel	(rooms)	50	0.1	60%	40%		3	10	20%	80%	3	2	8
Local centre		250	0.04	50%	50%	20%	4	4	85%	15%	7	1	1
Residential		1600	0.5	35%	65%		280	520	20%	80%	160	224	416
										TOTAL	**236**	**406**	**514**

Table 6: 50% development AM peak, with revised trip rate shown in highlight

AM generation		Area	Trip rate	Inbound	Outbound	Passby factor	Overall total trips Inbound	Overall total trips Outbound	Percentage split Internal trips	Percentage split External trips	Total Internal trips	Total external trips Inbound	Total external trips Outbound
Mixed use - Commercial and Employment Centre	Retail	2500	0.12	60%	40%	20%	144	96	50%	50%	120	72	48
	Supermarket	1250	0.027	50%	50%	20%	14	14	50%	50%	14	7	7
	LFR	2500	0.0075	50%	50%	20%	8	8	50%	50%	8	4	4
	Commercial service	1250	0.00225	35%	65%		1	2	50%	50%	1	0	1
	Office	1250	0.02	80%	20%		20	5	50%	50%	13	10	3
	Light industry	7500	0.015	80%	20%		90	23	50%	50%	56	45	11
	Residential	2500	0.75	35%	65%		9	17	20%	80%	5	8	14
	Accommodation	1000	0.75	35%	65%		4	7	20%	80%	2	3	6
	Recreation & health	2500	0.047	70%	30%	20%	65	28	50%	50%	47	33	14
Mixed use - Local centre	Retail	375	0.12	60%	40%	20%	22	14	50%	50%	18	11	7
	Commercial service	375	0.00225	35%	65%		0	1	50%	50%	0	0	0
	Office	250	0.02	80%	20%		4	1	50%	50%	3	2	1
Hotel	(rooms)	50	0.1	60%	40%		3	10	30%	70%	4	2	7
Local centre		250	0.12	50%	50%	20%	12	12	85%	15%	20	2	2
Residential		1600	0.75	35%	65%		420	780	20%	80%	240	336	624
										TOTAL	**551**	**534**	**747**

Table 7: 50% development AM peak, with revised internal capture split and revised trip rate shown in highlight

PM generation		Area	Trip rate	Inbound	Outbound	Passby factor	Overall total trips Inbound	Overall total trips Outbound	Percentage split Internal trips	Percentage split External trips	Total Internal trips	Total external trips Inbound	Total external trips Outbound
Mixed use - Commercial and Employment Centre	Retail	2500	0.12	50%	50%	20%	120	120	20%	80%	48	96	96
	Supermarket	1250	0.027	50%	50%	20%	14	14	20%	80%	5	11	11
	LFR	2500	0.0075	50%	50%	20%	8	8	20%	80%	3	6	6
	Commercial service	1250	0.00225	35%	65%		1	2	20%	80%	1	1	1
	Office	1250	0.02	35%	65%		9	16	20%	80%	5	7	13
	Light industry	7500	0.015	20%	80%		23	90	20%	80%	23	18	72
	Residential	2500	0.75	60%	40%		16	11	20%	80%	5	13	9
	Accommodation	1000	0.75	60%	40%		6	4	20%	80%	2	5	3
	Recreation & health	2500	0.047	35%	65%	20%	33	61	20%	80%	19	26	49
Mixed use - Local centre	Retail	375	0.12	50%	50%	20%	18	18	20%	80%	7	14	14
	Commercial service	375	0.00225	35%	65%		0	1	20%	80%	0	0	0
	Office	250	0.02	35%	65%		2	3	20%	80%	1	1	3
Hotel	(rooms)	50	0.1	60%	40%		3	10	20%	80%	3	2	8
Local centre		250	0.12	50%	50%	20%	12	12	85%	15%	20	2	2
Residential		1600	0.75	60%	40%		720	480	20%	80%	240	576	384
										TOTAL	**382**	**779**	**671**

Table 8: TEAM Traffic 50% development PM peak

PM generation		Area	Trip rate	Inbound	Outbound	Passby factor	Overall total trips		Percentage split		Total Internal trips	Total external trips	
							Inbound	Outbound	Internal trips	External trips		Inbound	Outbound
Mixed use - Commercial and Employment Centre	Retail	2500	0.2	50%	50%	20%	200	200	50%	50%	200	100	100
	Supermarket	1250	0.0371	50%	50%	20%	19	19	50%	50%	19	9	9
	LFR	2500	0.0371	50%	50%	20%	37	37	50%	50%	37	19	19
	Commercial service	1250	0.015	35%	65%		7	12	50%	50%	9	3	6
	Office	1250	0.02	35%	65%		9	16	50%	50%	13	4	8
	Light industry	7500	0.015	20%	80%		23	90	50%	50%	56	11	45
	Residential	2500	0.5	60%	40%		11	7	20%	80%	4	9	6
	Accommodation	1000	0.5	60%	40%		4	3	20%	80%	1	3	2
	Recreation & health	2500	0.02	35%	65%	20%	14	26	50%	50%	20	7	13
Mixed use - Local centre	Retail	375	0.2	50%	50%	20%	30	30	50%	50%	30	15	15
	Commercial service	375	0.015	35%	65%		2	4	50%	50%	3	1	2
	Office	250	0.02	35%	65%		2	3	50%	50%	3	1	2
Hotel	(rooms)	50	0.5	60%	40%		15	10	30%	70%	8	11	7
Local centre		250	0.2	50%	50%	20%	20	20	85%	15%	34	3	3
Residential		1600	0.5	60%	40%		480	320	20%	80%	160	384	256
										TOTAL	**596**	**580**	**492**

Table 9: 50% development PM peak, with revised internal capture split shown in highlight

PM generation		Area	Trip rate	Inbound	Outbound	Passby factor	Overall total trips Inbound	Overall total trips Outbound	Percentage split Internal trips	Percentage split External trips	Total Internal trips	Total external trips Inbound	Total external trips Outbound
Mixed use - Commercial and Employment Centre	Retail	2500	0.2	50%	50%	20%	200	200	20%	80%	80	160	160
	Supermarket	1250	0.0371	50%	50%	20%	19	19	20%	80%	7	15	15
	LFR	2500	0.0371	50%	50%	20%	37	37	20%	80%	15	30	30
	Commercial service	1250	0.015	35%	65%		7	12	20%	80%	4	5	10
	Office	1250	0.02	35%	65%		9	16	20%	80%	5	7	13
	Light industry	7500	0.015	20%	80%		23	90	20%	80%	23	18	72
	Residential	2500	0.75	60%	40%		16	11	20%	80%	5	13	9
	Accommodation	1000	0.75	60%	40%		6	4	20%	80%	2	5	3
	Recreation & health	2500	0.02	35%	65%	20%	14	26	20%	80%	8	11	21
Mixed use - Local centre	Retail	375	0.2	50%	50%	20%	30	30	20%	80%	12	24	24
	Commercial service	375	0.015	35%	65%		2	4	20%	80%	1	2	3
	Office	250	0.02	35%	65%		2	3	20%	80%	1	1	3
Hotel	(rooms)	50	0.5	60%	40%		15	10	20%	80%	5	12	8
Local centre		250	0.2	50%	50%	20%	20	20	85%	15%	34	3	3
Residential		1600	0.5	60%	40%		480	320	20%	80%	160	384	256
										TOTAL	**362**	**690**	**629**

Table 10: 50% development PM peak, with revised trip rate shown in highlight

PM generation		Area	Trip rate	Inbound	Outbound	Passby factor	Overall total trips Inbound	Overall total trips Outbound	Percentage split Internal trips	Percentage split External trips	Total Internal trips	Total external trips Inbound	Total external trips Outbound
Mixed use - Commercial and Employment Centre	Retail	2500	0.16	50%	50%	20%	160	160	50%	50%	160	80	80
	Supermarket	1250	0.18	50%	50%	20%	90	90	50%	50%	90	45	45
	LFR	2500	0.05	50%	50%	20%	50	50	50%	50%	50	25	25
	Commercial service	1250	0.015	35%	65%		7	12	50%	50%	9	3	6
	Office	1250	0.02	35%	65%		9	16	50%	50%	13	4	8
	Light industry	7500	0.015	20%	80%		23	90	50%	50%	56	11	45
	Residential	2500	0.75	60%	40%		16	11	20%	80%	5	13	9
	Accommodation	1000	0.75	60%	40%		6	4	20%	80%	2	5	3
	Recreation & health	2500	0.054	35%	65%	20%	38	70	50%	50%	54	19	35
Mixed use - Local centre	Retail	375	0.16	50%	50%	20%	24	24	50%	50%	24	12	12
	Commercial service	375	0.015	35%	65%		2	4	50%	50%	3	1	2
	Office	250	0.02	35%	65%		2	3	50%	50%	3	1	2
Hotel	(rooms)	50	0.5	60%	40%		15	10	30%	70%	8	11	7
Local centre		250	0.16	50%	50%	20%	16	16	85%	15%	27	2	2
Residential		1600	0.75	60%	40%		720	480	20%	80%	240	576	384
										TOTAL	**744**	**809**	**665**

Table 11: 50% development PM peak, with revised internal capture split and revised trip rate shown in highlight

PM generation		Area	Trip rate	Inbound	Outbound	Passby factor	Overall total trips Inbound	Overall total trips Outbound	Percentage split Internal trips	Percentage split External trips	Total Internal trips	Total external trips Inbound	Total external trips Outbound
Mixed use - Commercial and Employment Centre	Retail	2500	0.16	50%	50%	20%	160	160	20%	80%	64	128	128
	Supermarket	1250	0.18	50%	50%	20%	90	90	20%	80%	36	72	72
	LFR	2500	0.05	50%	50%	20%	50	50	20%	80%	20	40	40
	Commercial service	1250	0.015	35%	65%		7	12	20%	80%	4	5	10
	Office	1250	0.02	35%	65%		9	16	20%	80%	5	7	13
	Light industry	7500	0.015	20%	80%		23	90	20%	80%	23	18	72
	Residential	2500	0.75	60%	40%		16	11	20%	80%	5	13	9
	Accommodation	1000	0.75	60%	40%		6	4	20%	80%	2	5	3
	Recreation & health	2500	0.054	35%	65%	20%	38	70	20%	80%	22	30	56
Mixed use - Local centre	Retail	375	0.16	50%	50%	20%	24	24	20%	80%	10	19	19
	Commercial service	375	0.015	35%	65%		2	4	20%	80%	1	2	3
	Office	250	0.02	35%	65%		2	3	20%	80%	1	1	3
Hotel	(rooms)	50	0.5	60%	40%		15	10	20%	80%	5	12	8
Local centre		250	0.16	50%	50%	20%	16	16	85%	15%	27	2	2
Residential		1600	0.75	60%	40%		720	480	20%	80%	240	576	384
										TOTAL	**464**	**931**	**822**

Annexure 2 – PDP Transport Objectives and Policies assessment

Table 12: Assessment of relevant Proposed District Plan Transport Objectives and Policies

Proposed District Plan – Transport Objectives and Policies		My assessment
TRAN-O3	Land use and transport planning are integrated to achieve an efficient pattern of land use and a transport network that is safe, efficient and well connected.	I consider that the proposal may not achieve this objective. Refer to my discussion in Sections 7, 8, 9, 10, 10 and 11.
TRAN-O5	The transport network provides for the safe and efficient movement of vehicular, cycle and pedestrian traffic and that also meets the needs of persons with a disability or limited mobility.	I consider that the proposal may not achieve this objective. Refer to my discussion in Sections 7, 8, 9, 10, 10 and 11.
TRAN-O6	The transport network is resilient to the likely current and future effects of climate change, and supports urban environments designed to reduce greenhouse gas emissions by encouraging the provision of active modes of transport and public transport networks	I consider that the proposal may not achieve this objective. Refer to my discussion in Sections 8, 9, and 10.
TRAN-P2	Establish and maintain a transport network that: a. provides safe and efficient linkages and connections; b. recognises the different functions and design requirements for each road classification, as shown on the Transport Network Hierarchy map; c. supports reductions of greenhouse gases from vehicle movements and encourages the provision of active modes of transport and public transport networks;	I consider that the proposal may not be consistent with aspects this Policy. There is uncertainty about the provision of Access B and C, and all walking and cycling only connections. Refer to my discussion in Sections 8 and 10. The Precinct does not provide road classifications that align with the Transport

	d. considers the likely current and future impacts of climate change when new sections of the network are proposed or existing sections upgraded; and e. provides for existing and future pedestrian and cycling pathways that are well connected, including the Pou Herenga Tai Twin Coast Cycle Trail.	Network Hierarchy map. Refer to my discussion in Section 9. The Precinct does not provide confidence that greenhouse gases from vehicle movements will be managed, nor that active modes of transport and public transport networks will be provided. Refer to my discussion in Section 8 and 10.
TRAN-P3	Ensure the safe, efficient and well connected operation of the transport network through the management of: a. the subdivision layout, and location of buildings, structures and other potential visual obstructions that may impact on sightlines and the integrity of the road carriageway and the railway corridor; b. well connected roads, including discouraging the design and construction of cul-de-sacs c. the design of access (including emergency response access) and parking; d. vehicular access to and from sites; e. the volume of traffic from land use activities; f. vehicular, pedestrian, and cyclist needs, including persons with a disability or limited mobility;	I consider that the proposal may not be consistent with aspects of this Policy. Adverse cumulative effects may not be managed. Refer to my discussion in Sections 7, 8, 9, 10, 10 and 11.

	g. the adverse cumulative effects of land use and subdivision on the transport network; and h. reverse sensitivity effects that may impact regionally significant infrastructure.	
TRAN-P5	Encourage new land uses to support an integrated and diverse transport network by: a. promoting alternative transport modes; b. the provision of safe and secure parking facilities for bicycles and associated end-of-trip facilities changing or showering facilities for staff; c. allocation of parking facilities for motorcycles, car share vehicles, pick/up/drop off areas for ride share services and charging stations for electric vehicles; and d. supporting the establishment and operation of accommodation and tourism related activities in close proximity to the Pou Herenga Tai Twin Coast Cycle Trail, provided reverse sensitivity effects can be avoided.	I consider that the proposal may not be consistent with aspects of this Policy. The site may not promote alternative transport modes, refer to my discussion in Sections 8 and 10.
TRAN-P7	Only allow high traffic generating activities exceeding the thresholds in TRAN-Table 11 - Trip generation where these activities support the safe, efficient and effective use of transport infrastructure, as demonstrated through an integrated transport assessment (ITA). All ITAs should be completed by a suitably qualified and experienced transport professional.	I have concerns that the applicant has not sufficiently demonstrated the rezoning would not compromise the safe, efficient and effective use of transport infrastructure. Refer to my discussion in Sections 7, 8, 9, 10, 10 and 11.
TRAN-P8	Consider the following matters where relevant when assessing and managing the effects on the transport network and adjacent land: a. the type and level of traffic anticipated;	I consider that the proposal may not be consistent with aspects this Policy.

	b. the location of high traffic generating activities and their relationship to existing roads, the and their classification of those roads (as shown on the Transport Network Hierarchy map) status under the National Transport Network classification system, and adjacent properties; c. low impact design principles, including green spaces; d. safety requirements and improvements; e. the management of stormwater; f. any natural hazards; g. any cumulative effects arising from lawfully established activities in the surrounding environment; h. current and future connectivity including pathways and parking, and open space networks; i. any traffic assessment prepared by a suitably qualified and experienced transport professional; j. impacts on any State Highway or Limited Access Road; and k. any historical, spiritual or cultural association held by tangata whenua, with regard to the matters set out in Policy TW-P6.	The Precinct does not provide road classifications that align with the Transport Network Hierarchy map. Refer to my discussion in Section 9. Adverse cumulative effects may not be managed. Refer to my discussion in Sections 7, 8, 9, 10, 10 and 11. There is uncertainty about the provision of Access B and C, and all walking and cycling only connections. Refer to my discussion in Sections 8 and 10.