

IN THE MATTER of the Resource Management Act 1991

AND

IN THE MATTER of an application to Kapiti Coast District Council for non-complying resource consent for a proposed 53 lot subdivision¹ (including earthworks and infrastructure) at Otaihanga, Kapiti Coast.

STATEMENT OF EVIDENCE OF HARRIET BARBARA FRASER ON BEHALF OF THE APPLICANT

1. INTRODUCTION

Qualifications

- 1.1 My full name is Harriet Barbara Fraser. I hold the qualification of Chartered Professional Engineer and Chartered Member of Engineering NZ. I hold a Bachelor of Civil Engineering degree from Imperial College, University of London and a Master's degree of Science in Transportation Planning and Engineering awarded with distinction by the University of Leeds.

Experience

- 1.2 My background of experience includes over 28 years consultancy experience in traffic and transportation matters, initially in the UK and Hong Kong. From August 1998 to August 2012, I worked as a Transportation Planner in Lower Hutt in the firm of Traffic Design Group Limited (now Stantec) 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.

¹ The original application was for a 56 lot subdivision – 49 residential lots and 7 lots infrastructure

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

Background

- 1.4 I have been involved in providing traffic engineering and transportation planning advice as part of the Applicant team. Specifically, this has involved:
- (a) Design advice regarding roading and access arrangements, including the shared path and connectivity for active modes through the site;
 - (b) Traffic surveys of the existing local traffic characteristics;
 - (c) Authored the Transportation Assessment Report dated 29 June 2021, as to the transportation effects of the application;
 - (d) Participated in meetings with KCDC to discuss roading and access matters; and
 - (e) Assisted the Applicant to respond to transportation related matters included in the Further Information Requests from Council.
- 1.5 I confirm that I have read the briefs of Nick Taylor and Dave Compton-Moen, to which I will cross-refer. However, my evidence will focus on my area of expertise.

2. CODE OF CONDUCT

- 2.1 Although not necessary in respect of council hearings, I can confirm I have read the Expert Witness Code of Conduct set out in the Environment Court's Practice Note 2014. I have complied with the Code of Conduct in preparing this evidence and I agree to comply with it while giving oral evidence before the hearing committee. Except where I state that I am relying on the evidence of another person, this written evidence is within my area of expertise. I have not omitted to consider material facts known to me that might alter or detract from the opinions expressed in this evidence.

3. EXECUTIVE SUMMARY

3.1 The key findings of my transportation assessment of the proposed subdivision can be summarised as follows:

- (a) The construction traffic effects have been minimised with the earthworks not requiring the movement of cut off the site or fill to be carted in. The traffic effects associated with the delivery of roading materials can be appropriately managed through the Construction Traffic Management Plan;
- (b) Existing properties on Tiekō Street could generate an equivalent amount or more traffic than the proposed subdivision without triggering the need for any roading improvements. As such, this level of additional traffic activity and any associated effects have been considered acceptable and do not trigger a need for mitigation;
- (c) Total daily traffic flows on Tiekō Street will remain at the lower end of the range of traffic flows anticipated on Local Roads and drivers will be able to continue to turn to and from Tiekō Street with little if any queuing;
- (d) Regardless of the proposed subdivision there is a need for Council to address a number of existing maintenance and safety deficiencies on Tiekō Street;
- (e) The new intersection with Otaihanga Road is expected to perform well with a level of service of A (average delays of less than 10 seconds per vehicle on each approach) during both the weekday morning and evening traffic peaks. The available sight lines and the inclusion of a right turn bay are all expected to contribute to the safe operation of the intersection;
- (f) The landscaped pinch points along the new road (Lot 100) will usefully contribute to reducing vehicle speeds along the road with safety benefits for all users. With appropriate planting, low groundcover and clean stemmed trees as proposed, any effects on sight distances whether along the road or from driveways will be minimal.

- (g) The shared path through Lot 104 has the primary function of providing a pedestrian connection between the two parts of the subdivision. Cyclists from the northern part of the subdivision or from the northernmost end of the Tiekō Street can access the southern part of the subdivision and the Otaihanga Road shared path via Tiekō Street with only a small additional travel time;
- (h) The shared path will serve a small residential community and has been designed fit into the dune and largely rural environment, recognising the historic dray track, and providing a slow speed shared environment for daytime use where both pedestrians and cyclists feel safe; and
- (i) The proposed subdivision results in a number of positive transport effects, including the proposed shared path which ties in with existing recreational active mode routes along Otaihanga Road and the Expressway. The site is also located within a short distance of the old SH1 route for ready access to Paraparaumu and Waikanae.

3.2 Remaining areas of disagreement between myself and Mr Trotter, the Council's Transport Safety Leader are:

- (a) The design parameters for the shared path within Lot 104;
- (b) The design details and traffic effects of the landscaped pinch points within the new road in Lot 100; and
- (c) Whether the Tiekō Street works to address existing safety and maintenance deficiencies need to be provided regardless of the subdivision or whether the works are needed to mitigate effects arising from the proposed subdivision.

4. SCOPE AND STRUCTURE OF EVIDENCE

4.1 I have structured my evidence as follows:

- (a) Project description.
- (b) Summary of my report.

- (c) Summary of my inputs to the responses to Council's Requests for Further Information.
- (d) My key conclusions regarding the transportation effects of the proposed application.
- (e) Response to matters raised by submitters.
- (f) Response to Officers' Report 42A.
- (g) Suggested Conditions.
- (h) Conclusion.

5. PROJECT DESCRIPTION

5.1 The proposal involves the subdivision (including earthworks and provision of infrastructure) of a 18ha² (western) portion of the Mansell Farm that has been severed by the Kapiti Expressway. The proposed Otaihanga Estates subdivision will create a total of 53 lots:

- (a) 22 rural lifestyle lots in the northern area of the site;
- (b) 24 residential lots adjacent to Otaihanga Road in the southern area of the site;
- (c) 2 lots for two internal roads to be vested in KCDC or be dedicated as road;
- (d) 2 lots for road widening along Otaihanga Road to be vested in KCDC or be dedicated as road;
- (e) 1 lot to be vested in KCDC as a shared path linking the two internal roads;
- (f) 1 lot to be vested in KCDC as recreation reserve with access via an existing accessway from Otaihanga Road; and
- (g) 1 lot to be vested in KCDC as local purpose reserve (stormwater) providing for drainage and water storage (constructed wetland) adjacent to Otaihanga Road.

² The original application was for 17ha but additional land has been included as a result of Waka Kotahi offering back land no longer required for the Expressway

- 5.2 Other elements of the proposal include:
- (a) The retention and protection of 4 natural inland wetlands that are to be fenced to create a 10m buffer, and margins to be improved; notational building areas identified within the lots that include the natural inland wetlands;
 - (b) The retention of mature kānuka trees and pest plant management and underplanting within the groves;
 - (c) Landscape and amenity planting to soften any change in the rural-residential character and visual effects of the proposal, particularly from Otaihanga Road;
 - (d) The relocation of lizards (grass skinks) to a dedicated 1ha lizard habitat area around the northern most natural inland wetland;
 - (e) The retention as much as possible of dominant dunes on the site, and the identification of 'no-build' areas, and building setback requirements, to protect these dunes;
 - (f) In cooperation with iwi, ways (including interpretative signage relating to the Dray Track) for the identify of Ātiawa to be reflected through the development;
 - (g) A pressure sewage system and wastewater system to be connected to the nearby KCDC's reticulation system servicing Otaihanga;
 - (h) The creation of a constructed wetland to store stormwater and planting to filter out potential contaminants before it is released to the KCDC stormwater system;
 - (i) Stormwater from northern access road to be disposed of via swales and through under-drain bio-filtration devices prior to discharge to land;
 - (j) An overflow pipe in the Otaihanga Road reserve adjacent to the Waka Kotahi site immediately east of the southern area of the site to allow ponding on the Waka Kotahi caused by a 100-year flood event to discharge to the roadside drain;

- (k) Provision of a new intersection with a right turn bay on Otaihanga Road providing access to residential lots in the southern part of the site;
- (l) Provision of walking, cycling and bridleway links to the existing Kapiti WCB;
- (m) Provision of a community park;
- (n) Animal and plant pest control;
- (o) Controls on fencing;
- (p) Controls on roofing materials for buildings in Lots 1 – 22; and
- (q) Lots 23 – 46 subject to specific yard setback requirements (of 4.5m from the road boundary, 3m rear yard, and 3m for one side and 1.5m for all other sides).

5.3 Although not part of the proposal requiring resource consent, a number of upgrade improvements of Tieko Street have been offered by the Applicant, as described in my evidence to follow.

5.4 Further details of the proposed subdivision and development are included in the Planning Evidence of Chris Hansen.

6. SUMMARY OF TRANSPORTATION ASSESSMENT REPORT (TAR)

6.1 I prepared the Transportation Assessment Report (TAR) dated 29 June 2021.

6.2 Section 1 of the TAR describes the site location and transport context and can be summarised as follows:

- (a) The site is located on the northern side of Otaihanga Road, immediately to the west of the Expressway. The site is within a five-minute drive of Paraparaumu train station and less than a 15 minute cycle ride from central Paraparaumu;
- (b) Otaihanga Road is a Local Community Connector in the road hierarchy and has a 60km/h speed limit. There is a centreline and edgelines marked along Otaihanga Road. In the location of

the proposed intersection there is a sightline of around 150m towards the Expressway and 105m towards the west. The sightline towards the west is limited by vegetation within the roadside paddock;

- (c) There is an existing unsealed shared path running along the Otaihanga Road site frontage;
- (d) Council traffic counts from February 2019 show Otaihanga Road carrying 4,853 vehicle movements per day with two-way peak hour flows of 470vph on weekdays between 5pm and 6pm. Traffic flows reduced when the Expressway opened. The surveyed 85th percentile vehicle speeds were within the 60km/h speed limit;
- (e) The site can also be accessed via a right of way from Tiekō Street. Tiekō Street is around 270m long and has a generally straight alignment with a curve towards the left at the end. The road rises slightly from Otaihanga Road along its length. There is no kerb and channel. The road has a sealed width of around 5.6m at each end with the width typically varying between 4.5 and 5.0m along its length with around a 50m length with a width of less than 4.5m;
- (f) At the Tiekō Street intersection with Otaihanga Road there is a clear sight line to the left from Tiekō Street all the way along Otaihanga Road to the adjacent intersection with Ratanui Road, a distance of some 95m. There is a potential sight distance to the right from Tiekō Street along Otaihanga Road of 128m which is obstructed by vegetation next to the power pole;
- (g) As described at the bottom of page 4 of the TAR, resource consent RM 170306 provides for five additional dwellings to access Tiekō Street and improvements to the Tiekō Street right of way are provided for through conditions of consent. The consent has yet to be implemented;
- (h) Traffic movements at the intersection of Tiekō Street and Otaihanga Road were counted in May 2018 and showed total peak hour traffic movements of 175vph through the

intersection. Based on the observed traffic flows and allowing for a further nine dwellings (already consented or on undeveloped sites) base peak hour traffic volumes of 32vph, 26vph and 40vph during the weekday morning, weekday afternoon and Saturday midday peaks respectively have been assumed; and

- (i) A search of the Waka Kotahi crash database is summarised at the top of page 5 of the TAR. Of the six reported crashes, none occurred on Tieko Street or at its intersection with Otaihanga Road and five were single vehicle incidents. One crash involved serious injury with the crash factors including alcohol test above limit or refused and attempted suicide. The other five crashes resulted in minor or no injury.

6.3 The transport elements of the proposed subdivision are described in Section 2 of the TAR and include:

- (a) 19 residential lots accessed from an extension to Tieko Street (Lot 101). The existing right of way off the end of Tieko Street will be upgraded to a road over a length of around 230m to provide a 6m wide carriageway with a 2.5m wide shared path along the western side. A new section of road then extends into the site, continuing with a 6m wide carriageway and 2.5m wide shared path on one side;
- (b) 30 residential lots³, including the existing house, accessed via a new road (Lot 100) connecting onto Otaihanga Road to the west of the Expressway overbridge. The new intersection includes a right turn bay and the available sight lines meet the Austroads requirements;
- (c) A 2m wide shared path is included along the eastern side of the new road (Lot 100) connecting into the existing shared path along Otaihanga Road;
- (d) Three lots (20, 21 and 22) connect with Lot 100 (new road) via a right of way that also accommodates a shared path. The design of the right of way and shared path has been amended

³ As stated above, now reduced to 27 lots

since the application was lodged in order to create a separate road and footpath.

- (e) A new pedestrian and cyclist shared path extends from the existing end of Tieko Street through to site and onto the existing shared path on Otaihanga Road (close to the Expressway);
- (f) Recommendations were included for driveway locations for Lots 16, 37 and 43 to maximise available sight lines for vehicles exiting these properties. The driveway locations no longer need to be included as the berm widths in the latest drawing set are such that there are options for the driveway locations; and
- (g) At the time the application was lodged a vehicle access was also included to the proposed reserve adjacent to 115 Otaihanga Road. This vehicle access no longer forms part of the application.

6.4 Section 3 of the TAR considers the alignment of the proposed subdivision with the transport provisions of the then Proposed District Plan. There are two areas of partial or non-compliance with the transportation matters, one is the provision of a footpath on only one side of the new road (Lot 100) from Otaihanga Road which provides access to more than 20 dwelling units. A review of the proposed subdivision against the Access and Transport Policies concluded that the detail of the proposed roading, accesses and lots are well aligned with these policies. The other is that the access widths to Lots 3 and 4 are wider than the maximum widths included in the permitted standards.

6.5 Traffic effects associated with the subdivision once it is completed and occupied are discussed in Sections 4.1, 4.2 and 4.3 of the TAR, with key matters being:

- (a) The site can be expected to generate a total of some 392 to 490 vehicle movements per day with up to around 60 vehicle movements per hour in the busiest hours. Traffic flows on Otaihanga Road will remain below the level of activity prior to the opening of the Expressway;
- (b) The proposed new intersection with Otaihanga Road, which includes a right turn bay, can be expected to perform with no

discernible change in traffic capacity or delays for existing users of Otaihanga Road;

- (c) The forecast vehicle turning movements at the Tieko Street intersection amount to around one turning movement per minute at the busiest times. At peak times there are two-way traffic flows through the intersection of up to 150vph. This level of traffic flow includes large gaps in the traffic flow and vehicles will be able to continue to turn to and from Tieko Street with little if any queuing;
- (d) The proposed new intersection with Otaihanga Road can meet the Austroads sight line requirements. The inclusion of the right turn bay will ensure that following traffic can continue along Otaihanga Road without being disrupted;
- (e) While there is no history of a safety problem at the Tieko Street intersection, it is recommended that the sight line towards the north from Tieko Street is increased to better match the Austroads guidance, either by adjusting the road markings through the intersection to facilitate shifting the Tieko Street hold line by 1m towards the west or trim the vegetation over a length of 1m back from the power pole immediately to the north of the intersection. This is a maintenance issue, Council has the authority to trim roadside trees on private land for this purpose under the district plan. With this improvement the Austroads sight line provisions can be readily achieved with benefits for existing and future users of the intersection; and
- (f) The creation of the shared path, facilitation of a walking loop/circuit (rather than the number of additional dwellings or residential lots) and existing lack of footpath in Tieko Street may trigger concerns for pedestrian safety along the section of Tieko Street where there is no footpath. These are exacerbated by overdue roading maintenance on Tieko Street and would ideally be addressed with the addition of a footpath along one side of the road but could also be mitigated by adding 'share the road' signs to reinforce to drivers that they need to move around pedestrians and cyclists.

- 6.6 The number of residential lots in the proposed subdivision has been reduced to 46 and accordingly the revised traffic generations are some 368 to 460 vehicle movements per day with up to around 55 vehicle movements per hour in the busiest hours.
- 6.7 Construction traffic effects are discussed in Section 4.4 of the TAR and can be summarised as follows:
- (a) The earthworks have been designed to be contained within the site resulting in no truck movements on the public road network involving the removal of cut or delivery of fill;
 - (b) Around 375 truck movements on Tieko Street associated with the delivery of roading aggregate with up to 64 truck movements per day. At this rate of truck activity, the roading aggregate would be delivered over a period of six working days, with construction period for the project estimated to be 3-6 months. noting that the days may not be consecutive and that more days might be involved with a less intense schedule of deliveries. A similar number of trucks will access the site from Otaihanga Road;
 - (c) A Construction Traffic Management Plan will control days and hours of construction traffic access, avoidance of trucks queuing on Otaihanga Road, avoidance of trucks passing on Tieko Street and the right of way, and wheel washing.
- 6.8 The proposed subdivision results in a number of positive transport effects (TAR Section 4.5), including:
- (a) Provision of shared paths within the site;
 - (b) Tie-in with existing recreational active mode routes along Otaihanga Road and the Expressway; and
 - (c) Proximity to the old SH1 route for ready access to Paraparaumu and Waikanae.
- 6.9 I concluded in the TAR at Section 5 that:
- (a) The part of the subdivision accessed via Otaihanga Road can be appropriately, safely, and efficiently accommodated with no

discernible change in traffic capacity or delays for existing users of Otaihanga Road. With the new road now serving a reduced number of lots, any traffic effects will also be reduced from those included in the TAR;

- (b) With minor overdue safety improvements and maintenance activities being discussed with Council's roading team, the proposed subdivision accessed from the end of Tieko Street can be safely accommodated; and
- (c) The subdivision results in wider benefits in terms of connectivity for active modes and improved safety for all users of Tieko Street.

7. SUMMARY OF RESPONSES TO FURTHER INFORMATION REQUESTS – TRANSPORTATION

Further Information Response 15 September 2021

- 7.1 I assisted Mr Hansen with the response to further information dated 15 September 2021. Roding matters are addressed in points 5 to 16 on pages 3 to 8 of that letter. All drawings referred to were developed by Cuttriss Consultants.
- 7.2 In response to point 5, I undertook additional traffic surveys during the Saturday midday traffic peak in July 2021. The traffic flows on Otaihanga Road at the intersection with Tieko Street were 13% higher than in 2018 but vehicle movements into and out of Tieko Street were less. Pedestrian and cyclist movement through the intersection was more in the 2021 survey which may in part have been due to the favourable weather on the survey day. At the same time, traffic flows along the Otaihanga Road site frontage of 501vph were counted along with six pedestrians and six cyclists. A survey between 8am and 9am on Wednesday 4 August 2021 showed two cyclists and five pedestrians using the shared path along Ratanui Road to the west of Otaihanga Road.
- 7.3 In response to point 6, drawings were provided showing two options for improving existing sight lines towards the north along Otaihanga Road from the Tieko Street intersection.

- 7.4 Council requested additional information regarding the vertical geometry of the proposed new intersection with Otaihanga Road and details of crossfalls for users of the existing shared path as they cross the new road (point 7). A drawing was provided showing both a long section of the new road and cross-sections on each of the approaches.
- 7.5 At point 8, Council asks that further information is provided to address concerns regarding Crime Prevention Through Environmental Design (CPTED). I have summarised the CPTED principles to be addressed and the response provided in Table 1. A more detailed CPTED assessment has subsequently been undertaken by DCM Urban Design dated 17 February 2022 and was provided to Council as part of the 8 April 2022 response to a further information request.

CPTED Principle	RFI Response (15/9/21)
(a) Be direct and no greater than two properties long	The context is rural, and this principle is considered better aligned with an urban context.
(b) Have good sight lines for passive surveillance with fences a maximum height of 1.2m for 10m from the road frontage, or no fencing	The lot sizes associated with the adjacent rural-residential lots may limit the opportunity for passive surveillance. The fencing type, open style and with a maximum height of 1.5m, will retain a sense of openness.
(c) be sited to ensure high levels of community use	An active mode recreational loop will be created. The shared path will service the entire subdivision and connect with existing shared paths.
(e) have provision for the disposal of stormwater	The path will be topped with a fine gravel (and permeable) similar to paths adjoining the Wharemauku Stream in Paraparaumu. If the path were to be sealed in the future, Cuttriss advise that stormwater disposal could be addressed using a combination of swales and soakage devices within the Lot 104 boundary easement.
(f) be provided with pedestrian level lighting	The shared path is intended to be a daytime recreational facility and the use of the path during the hours of darkness will not be encouraged.

Table 1: Alignment of Proposed Shared Path with CPTED Principles

- 7.6 At point 9, Council request that footpaths are provided on both sides of the roads. I advised that cyclists can be expected to cycle within the carriageway and that pedestrian volumes will be low given the walking distances to amenities and as observed during the various surveys. I consider that the provision of footpaths is only warranted on one side of the new roads.

- 7.7 Council sought mitigation measures to limit conflict with trucks and damage to the road on Tieko Street during construction (point 10). The response noted that this can be addressed through a Construction Traffic Management Plan including measures to minimise truck activity on Tieko Street. I discuss this in further detail below.
- 7.8 Council requested that the proposed shared path have a minimum width of 2.5m (point 11). This was agreed to, and updated drawings provided. The footpath along the Tieko Street extension is not a shared path and will have a width of 2m.
- 7.9 In response to Council's concerns (point 12) regarding the shared use of Lot 104, including with vehicles, the cross-section was amended to provide a separate 2.5m wide shared path and a 3.5m wide vehicle access to Lots 20 and 21. Two passing bays were added and as requested in point 14, comply with NZS4404:2010. No lighting is proposed given the limited vehicle movements with access only being provided to two dwellings.
- 7.10 In response to point 13, it was confirmed that the requirement for rights of way to have a minimum width of 3.5m would be complied with and amended drawings were provided.
- 7.11 In response to point 15, an extract from Google Maps showed a 16-minute cycle time between the site and Coastlands.
- 7.12 Council requested further information regarding the design and operation of the proposed new intersection on Otaihanga Road (point 15). The response included the following:
- (a) A scale drawing prepared by Cuttriss showing the dimensions of the intersection along with proposed road markings;
 - (b) That the tightening of the curve on Otaihanga Road as a result of the widening to provide a right turn bay will not result in the need to change the existing 60km/h speed limit;
 - (c) The intersection performance was modelled using the Sidra software and the analysis showed the intersection performing well with a level of service of A (average delays of less than 10

seconds per vehicle on each approach) during both the weekday morning and evening traffic peaks; and

- (d) An expectation that details regarding lighting, tactile paving and curve warning signage will be provided as part of the detailed design once resource consent is granted. If necessary, these matters for detail design could be captured through a condition of consent.

Further Information Response 28 September 2021

- 7.13 The Council's Roading Team raised some outstanding matters in a memo that was attached to an email from Ms Rydon dated 28 September 2021.
- 7.14 The Council asked for confirmation of the costs of the works to Tieko Street and the intersection with Otaihanga Road and how the works would be secured if consent is granted (point 6). At that time as a result of meetings that I had attended, the expectation was that this would be addressed through a Developer Agreement between the Applicant and Council.
- 7.15 At point 8, Council reiterates their request that the shared path is formed with concrete or asphalt and lit and that fencing alongside the path have a maximum height of 1.2m rather than 1.5m. The response confirms that the path will have a similar surface to the existing shared path along Otaihanga Road which is not sealed or formed in concrete. The Applicant's position that the lighting of the path is not appropriate is also confirmed. The reduction of the maximum fence height from 1.5m to 1.2m is agreed with.
- 7.16 At point 10, Council request that a draft Construction Management Plan is provided to address concerns regarding the effects of trucks on Tieko Street. The response confirms that a Construction Traffic Management Plan (CTMP) will be prepared in the event that consent is granted and accepts that a condition of consent sets out the matters to be addressed by the CTMP.
- 7.17 In response to point 13, it was confirmed that the shared path and right of way (to Lots 20 and 22) will be separated by a swale, that waste collection for Lots 20 and 22 will be from the cul de sac head and that

cars will be able to turn at the end of the right of way. A drawing prepared by Cuttriss showing turning for a van on the right of way was provided to Council on 12 October 2021.

Further Information Response 8 April 2022

- 7.18 I assisted Mr Hansen with the response to further information dated 8 April 2022. Roading matters are addressed in points 6 to 10 on pages 2 to 7 of that letter. All drawings referred to were developed by Cuttriss Consultants.
- 7.19 At point 6, Council request detail of the proposed improvements to Tieko Street and at its intersection with Otaihanga Road. Detail was also sought on any constraints to provide improvements or widening. Key elements of the response were that:
- (a) The proposed subdivision will result in very little additional traffic activity on Tieko Street;
 - (b) Drawings of the proposed works had already been provided to Council but were reattached to the response. The response includes:

'The proposed works are offered up by the Applicant to improve the existing part of Tieko Street as part of the extension to Tieko Street to service the proposed subdivision, and are not in response to any effect that the proposal causes.'
 - (c) Constraints to the widening of the Tieko Street carriageway are noted to include the existing wetland on the eastern side of Tieko Street along with a large kanuka tree on the opposite side of the road; and
 - (d) A set of suggested consent conditions was provided with Condition R3 including a list of project specific scoping points for the CTMP.
- 7.20 Point 7 is regarding the proposed shared path that connects the two new access roads within the subdivision. Council reiterates their position that the path is to be lit and surfaced in concrete or asphaltic cement. The Applicant's response includes that:

- (a) The expectation was that the shared path would be vested in Council as a local purpose reserve (walkway/ cycleway/ bridleway) not a roading asset;
- (b) The shared path will accommodate a number of functions including connecting the two parts of the subdivision, connecting the northern part of the subdivision with the existing shared path network, providing a connection for existing properties at the end of Tieko Street to the existing shared path network and the creation of a recreation walking and cycling loop for use by existing and future residents;
- (c) Justification for the unsealed, unlit nature of the proposed shared path includes that the usage can be reasonably expected to be lower than that of the existing path along Otaihanga Road and that the existing path is unsealed and unlit, apart from intersection flag lights;
- (d) Iwi have requested that the path be kept as natural as possible and not be lit;
- (e) The CPTED report by DCM Urban Design, attached to the response, determines that the proposed provision for the path is appropriate for its setting in a rural-residential environment and is well aligned to the CTPED principles;
- (f) A preference for the path to be unsealed and unlit is included in the submissions; and
- (g) It is proposed to include reflectors along the shared path, and particularly denoting the sharp corner at the southern end between Lots 20 and 21.

7.21 In point 8, Council request further information regarding the gradient of the shared path through Lot 104 and comment that if the gradient is steeper than 3% it should not have a metal surface. The response includes that the proposed gradients for the path are as a result of minimising the earthworks within the site. Updated vertical and horizontal alignments were provided with a gradient of 5% or less along the length of the path. The amended arrangement includes the sealing of the path

around the sharp bend at the southern end of the path between Lots 20 and 21 where it joins the right of way.

- 7.22 In point 9, Council includes concerns regarding the ability for the mobility impaired and cyclists with narrow tyres to use the unsealed path. The response confirms that the shared path will have a width of at least 2.5m and I advised that:

'cyclists can safely use Tieko Street if they choose. It will remain a low volume road and there is excellent forward inter-visibility between road users. The formalised narrow section will also assist with keeping vehicle speeds down. The addition of the footpath on Tieko Street will be a benefit to mobility impaired pedestrians and this path will connect into the footpath on Otaihanga Road.'

- 7.23 At point 10, Council indicates their preference for all construction traffic to access the site from Otaihanga Road and that if that is not possible to provide details of construction traffic activity on Tieko Street. The response includes that a CTMP will be required as a condition of consent and that it will include the requirement to minimise the use of Tieko Street by construction traffic, but cannot avoid it altogether. The CTMP and Temporary Traffic Management Plans will be used to ensure safe interaction between road users.

8. KEY FINDINGS

- 8.1 There is an existing need for Council to undertake maintenance and upgrade activities on Tieko Street to address:
- (a) damage to the edge of the seal where the road is not wide enough for two vehicles to comfortably pass and vehicles pass regardless given that there are no kerbs to restrict the vehicle paths;
 - (b) vegetation clearance to protect the sight line towards the north along Otaihanga Road for a vehicle turning out of Tieko Street;
 - (c) the lack of a footpath given the existing residential nature of the northern side of Tieko Street; and
 - (d) the lack of street lighting.

- 8.2 The submission from James Tisley includes photographs which reflect some of the existing maintenance issues on Tieko Street.
- 8.3 The key transport elements of the proposed subdivision as amended through the responses to further information requests can be summarised as follows:
- (a) 19 residential lots accessed from an extension to Tieko Street. 27 residential lots (reduced from 30 lots when the application was first lodged) including the existing dwelling accessed via a new road that connects with Otaihanga Road immediately to the west of the Expressway overbridge;
 - (b) The transport details of the proposed subdivision are shown in the Cuttriss drawing set 22208 SCH1 Revision Q with the following sheets being most relevant:
 - (i) Sheets 1 and 13 show the proposed roading and access arrangement within the context of the local road network;
 - (ii) Sheet 14 shows the cul de sac head on the road within Lot 100. The swept path for an 8m rigid truck is shown clear of a central planted island. A pinch point is also shown that will help ensure slow vehicle speeds and provides an opportunity to accommodate additional landscaping;
 - (iii) Sheet 15 shows vehicle turning for a van within Lot 104 which provides vehicle access to Lots 20, 21 and 22. The boundary of Lot 20 has been amended to ensure good inter-visibility between cyclists on the shared path and vehicles using the turning area or turning to or from Lot 20. The local widening of the right of way carriageway in this location also allows for vehicles to pass;
 - (iv) Sheets 16 and 17 include details of the shared path within Lot 104. The path is shown with a formed width of at least 3m and a maximum gradient of 5%. At the bend at the southern end of the path there is localised

widening, a sealed surface, and reflectors to assist with delineating the path for cyclists. Post and rail fencing is included along each side of the path;

- (v) Sheet 18 shows the works needed on Tiekō Street to address existing maintenance deficiencies. As noted in the AEE, the Applicant considers that this falls outside of the consent application, and these had been the subject of separate developer agreement discussions. These were provided in response to the RFI (with that caveat). These include formalising the narrowest section of the road between the wetland and the kanuka tree to a single lane two-way section of road (details shown in Sheets 20 and 21), widening the formed width of the road to 5.5m elsewhere where it is narrower and the addition of a footpath along the northern side of the street;
 - (vi) Sheet 19 shows an option for modifying the road markings on Otaihanga Road to enable the Give Way line on Tiekō Street to be advanced and the sight line towards the north along Otaihanga Road to be improved;
 - (vii) Sheets 22 to 24 show details of the proposed new intersection between Otaihanga Road and the road within Lot 100; and
 - (viii) Sheet 25 shows typical cross-sections for the Tiekō Street extension (cross-section A with location shown on Sheet 13) and the new road within Lot 100 (cross-section B with location shown on Sheet 13).
- (c) The Landscape Concepts prepared by DCM Urban show three pinch points along the Lot 100 road. As shown within the detail of Drawing 2020_142/LA/006 Revision C, these include narrowing the carriageway to a single lane width of 4m with landscaping buildouts accommodating low planting and Kanuka trees with 'clean' stems to ensure that inter-visibility between road users is maintained.

Tieko Street – Traffic Effects

- 8.4 The traffic effects on Tieko Street as a result of the proposed subdivision can be grouped into:
- (a) Safety effects at the existing intersection with Otaihanga Road;
 - (b) Performance effects at the existing intersection with Otaihanga Road;
 - (c) Effects on the traffic carrying capacity of Tieko Street;
 - (d) Safety effects of the additional traffic on Tieko Street;
 - (e) Effects on the road maintenance of Tieko Street as a result of the additional traffic; and
 - (f) Temporary effects associated with the construction traffic activity during the establishment of the proposed subdivision.
- 8.5 While there have been no reported crashes at the Tieko Street/ Otaihanga Road intersection over the most recent five-year period, I noted that the available sight line towards the north along Otaihanga Road from Tieko Street is restricted by vegetation. The available sight line is less than the Austroads guidance. This is an existing maintenance issue that should usefully be resolved by the Council regardless of the proposed subdivision, either by trimming/removing the vegetation or through road marking changes as shown in Sheet 19 of the Cuttriss drawing set.
- 8.6 The assessed effects on the performance of the Tieko Street intersection with Otaihanga Road intersection remain unchanged from those included in the TAR, that is the forecast vehicle turning movements at the Tieko Street intersection amount to around one turning movement per minute at the busiest times. At peak times there are two-way traffic flows through the intersection of up to 150vph. This level of traffic flow includes large gaps between vehicles and drivers will be able to continue to turn to and from Tieko Street with little if any queuing.
- 8.7 The additional 19 dwellings are expected to generate 152 to 190 vehicle movements per day with up to 23 additional vehicle movements during peak hours of traffic activity. This is equivalent to an additional vehicle movement on Tieko Street and through the intersection every two to

three minutes at the busiest times, less outside peak hours. I note that this level of traffic activity would be equivalent to two of the existing properties accessed from Tiekō Street having on-site activities that generated traffic within the permitted range, of up to 100 vehicle movements per day. Accordingly, existing properties on Tiekō Street could generate an equivalent amount or more traffic than the proposed subdivision without triggering the need for any improvements.

- 8.8 The combination of traffic flows on Tiekō Street associated with the existing dwellings, potential dwellings (on other vacant and consented sites) and the proposed subdivision amounts to up to 63 vehicle movements per hour which I expect to be equivalent to around 500 vehicle movements per day. NZS4404:2010 Land Development and Subdivision Infrastructure includes in Table 3.2, page 69, that a suburban road with a minimum width of 5.5m with shared parking in the movement lane (that is the road reduced to single lane two-way traffic flow as a result of on-street parking) can provide access to up to 100 dwellings (1,000vpd). As such, I consider that while Tiekō Street has some narrow points, in terms of traffic carrying capacity, this is similar to cars being parked in the carriageway and in my view the forecast traffic volumes can be appropriately accommodated in line with the levels of service which are considered acceptable in NZS4404:2010.
- 8.9 With regard to safety effects on Tiekō Street, the existing level of residential activity along the northern side of the street, without the proposed development, warrants street lighting and the inclusion of a footpath along at least one side of the street. NZS4404:2010 includes access to more than 20 dwellings or a length of more than 100m as thresholds for including a footpath rather than having shared use of the carriageway. The existing section of Tiekō Street triggers both these thresholds. Discussions with Roading Team indicate that they are aware of the need to upgrade Tiekō Street, but that no action has been taken because Council consultation to date with Tiekō Street residents has been inconclusive. The proposed subdivision with additional vehicle, cyclist and pedestrian flows strengthens the case for these upgrades, but to be clear the proposed development does not create or trigger the need for them. In my opinion they are already overdue.
- 8.10 Tiekō Street would originally have been constructed as a rural road and has over many years been transitioning towards being a residential street

as demonstrated by the development pattern along the northern side of the street. As a rural road serving a limited number of properties it was constructed with a narrow formed width and roadside drainage rather than kerb and channel. As traffic activity has increased and without kerbs to constrain vehicle paths, vehicles are meeting more frequently, and damage is occurring to the seal edge. This is an existing maintenance issue that will need to be addressed by Council regardless of the proposed subdivision. An option for the design of the works is shown in Sheets 18 to 20 of the Cuttriss drawing set. The proposed subdivision, if consented, will increase the urgency with which the works are needed but again I reiterate the fact that the need for these works already exists.

- 8.11 I consider that the construction traffic effects on Tiekko Street fall into two categories being potential additional damage to the carriageway from truck loadings and trucks passing other vehicles, and safety effects associated with trucks interacting with other road users, including vehicles, cyclists and pedestrians.
- 8.12 Potential damage to the carriageway can be addressed in the CTMP with a requirement to undertake a baseline road condition survey and for the road to be returned to that condition or better following construction, noting that the current road condition is low/ poor as illustrated in the photographs included in the submission from James Tilsley.
- 8.13 It is my understanding from the discussions with the Roothing Team that I have attended, that Council will need to consult with residents under the Local Government Act 2004 about proposed changes to Tiekko Street, in advance of finalising the detailed design. Mr Trotter indicated that may take considerable time.
- 8.14 I do not consider it necessary or appropriate to tie the safety upgrades or the timing of those to a condition or require that they be undertaken in advance of work on the Tiekko Street part of the subdivision commencing. The final form of those will only be known once the LGA consultation is complete.
- 8.15 I consider that the CTMP can be used to firstly minimise the risk of further damage to the Tiekko Street carriageway by including measures to

prevent trucks passing other vehicles on narrow sections and secondly require any damage to be put right.

- 8.16 The safe interaction between construction traffic and all other road users can be managed through temporary measures required through the CTMP, for example single lane two-way operation on narrow sections controlled with barriers and signage and temporary road marking if needed.

Otaihanga Road – Traffic Effects

- 8.17 The assessed traffic effects on Otaihanga Road resulting from the development of the southern part of the subdivision include:

- (a) Safety and performance effects at the new intersection with Otaihanga Road;
- (b) Safety effects where the existing shared path along Otaihanga Road crosses the new road at the intersection; and
- (c) Construction traffic effects associated with trucks accessing the site from the Otaihanga Road frontage.

- 8.18 The intersection performance was modelled using the Sidra software and the analysis showed the intersection performing well with a level of service of A (average delays of less than 10 seconds per vehicle on each approach) during both the weekday morning and evening traffic peaks. With the now reduced number of residential lots accessed from the new road, the average delay for turning vehicles will be slightly reduced.

- 8.19 The available sight lines and the inclusion of a right turn bay are all expected to contribute to the safe operation of the intersection. The Detailed Design and Post-Construction Road Safety Audits of the intersection will also allow for safety refinements to be made as needed. These audits will also consider the safe interaction between turning traffic and users of the existing Otaihanga Road shared path.

- 8.20 I consider that it is likely that trucks will either access the site from the existing driveway at northern end of the Otaihanga Road site frontage or in the vicinity of the proposed intersection at the southern end of the road frontage. On safety grounds, I recommend that trucks only access the site from the southern end once the proposed intersection is constructed.

- 8.21 In summary, I consider that the following matters need to be addressed through conditions of consent:
- (a) Potential damage to the Tieko Street carriageway as a result of construction traffic activity;
 - (b) The management of the interaction between all road users and construction traffic on Tieko Street;
 - (c) Inclusion of a requirement for Detailed Design and Post Construction Road Safety Audits of the proposed new intersection on Otaihanga Road; and
 - (d) Truck access to the site from Otaihanga Road for construction purposes is restricted to the existing northern driveway until the new intersection is constructed.

9. RESPONSE TO SUBMITTERS

- 9.1 The following concerns relevant to my area of expertise have been raised in submissions on this proposal.
- 9.2 **NZ Custodial Trustees (103) Ltd and Pendennis Custodial Trustees Ltd (44 Tieko Street)** have expressed the concern that Tieko Street is not wide enough for vehicles to pass.
- 9.3 I agree that there are sections of Tieko Street where the sealed width does not allow for vehicles to comfortably pass without leaving the seal. As explained earlier in paragraph 8.8, roads with single lane two-way sections created by on-street parking can be expected to accommodate traffic flows of up to 1,000 vehicle movements per day. The issue is not so much with the width of the road as the lack of definition of the narrow section and no requirement for one of the approaching vehicles to give way. This situation exists now, and is an issue that requires attention regardless of whether the subdivision is approved.
- 9.4 **Brian and Stephanie Middleton (34 Tieko Street)** include in their submission their opinion that Tieko Street does not adequately accommodate existing users and they also have concerns regarding construction traffic.

- 9.5 I agree with the submitters that there are some existing maintenance concerns on Tieko Street. As set out earlier in paragraph 8.1, I consider that regardless of the proposed subdivision Council need to address the damage to the edge of seal, improve the sight line at the intersection with Otaihanga Road, and introduce a footpath and lighting along Tieko Street.
- 9.6 With regard to construction traffic, it is estimated that there will be around 375 truck movements on Tieko Street associated with the delivery of roading aggregate with up to 64 truck movements per day. At this rate of truck activity, the roading aggregate would be delivered over a period of six working days, noting that the days may not be consecutive and that more days might be involved with a less intense schedule of deliveries. I do not consider that this level of truck activity triggers the need for the Tieko Street works to be undertaken ahead of construction.
- 9.7 A Construction Traffic Management Plan (CTMP) is required through the proposed conditions of consent, see Condition 68. Scoping points for the CTMP include minimising truck activity on Tieko Street and ensuring the safe interaction between construction traffic and all other road users. This can either be managed through temporary measures required through the CTMP, for example single lane two-way operation on narrow sections controlled with barriers and signage and temporary road marking if needed, or through the early completion of the suggested safety upgrades. I consider that either option would be satisfactory and should be provided for.
- 9.8 **Trevor and Sally Sutton (31A Tieko Street)** are also concerned about construction traffic activity on Tieko Street and request that construction access is from Otaihanga Road. They also recommend that the proposed footpath along the existing section of Tieko Street should be on the eastern side of the road where there are fewer driveways.
- 9.9 My response to the previous submission regarding construction traffic also applies to this submission. Regarding the location of the footpath, my understanding is that the existing wetland on the southern side of the road is the main barrier to the footpath running along that side. I also consider it likely that the main pedestrian desire lines are to and from the north on Otaihanga Road in the direction of the Domain and the main

part of the Otaihanga settlement, which ties in better with a footpath along the northern side of the street.

- 9.10 **Kyle Tonks and Rhiannon Neumayr (122 Ratanui Road)** express concern about the level of traffic activity on Ratanui Road and Otaihanga Road and the associated difficulty with accessing their driveway.
- 9.11 The proposed subdivision with 46 lots is expected to generate up to 55 vehicle movements per hour during the busiest hours of traffic activity. With an estimated 50:50 split in traffic distribution to/from old SH1 and Mazengarb Road, the proposed subdivision could result in around 25 to 30 additional vehicle movements per hour past the driveway at 122 Ratanui Road during peak hours of traffic activity. This is equivalent to an increase in traffic activity on Ratanui Road of around 6%. This level of increase is within the range of daily traffic fluctuations and is unlikely to be noticeable. The traffic activity on Otaihanga Road and Ratanui Road is forecast to remain below the levels prior to the opening of the Expressway. As such, I do not expect the additional traffic associated with the proposed subdivision to have a significant effect on the access to 122 Ratanui Road.
- 9.12 **Brent James and Leanne Morris (111 Otaihanga Road)** are concerned about the traffic effects, including on bird life and rural amenity.
- 9.13 As per my response to the previous submission, I expect that the traffic activity along the frontage to the submitter's home to increase by no more than around 6% at peak times and that this level of increase is within the range of daily traffic fluctuations and is unlikely to be noticeable. The traffic activity on Otaihanga Road and Ratanui Road is forecast to remain below the levels prior to the opening of the Expressway.
- 9.14 **Matthew and Marie Andrews (13B Tiekō Street)** express concern about the additional traffic activity on Tiekō Street.
- 9.15 As described previously, I forecast that the traffic flows on Tiekō Street associated with the existing dwellings, potential dwellings (on vacant and consented sites) and the proposed subdivision will be to up to 63 vehicle movements per hour which I expect to be equivalent to around 500 vehicle movements per day (of which 23vph and up to 190vpd would be associated with the proposed subdivision). This level of traffic activity

while more than at the moment, is still at the lower end of the range for Local Roads which based on the classification system used in NZS4404:2010 Land Development and Subdivision Infrastructure can be expected to carry traffic volumes of up to 2,000 vehicle movements per day.

9.16 I note that the thresholds for providing a footpath along Tiekō Street are already triggered and that the proposed subdivision increases the urgency with which a footpath is provided.

9.17 **Travis and Andrea Palmer (35 Tiekō Street)** mention a number of concerns regarding traffic in their submission, including:

- (a) The accuracy of the forecast traffic generations on Tiekō Street;
- (b) Lack of compliance of Tiekō Street with NZS4404:2010 Land Development and Subdivision Infrastructure and Crime Prevention Through Environmental Design (CPTED) principles, in particular with regard to road width, lack of kerb and channel, no shared path, inadequate lighting and inadequate turning on Tiekō Street for waste collection trucks;
- (c) Safety of the Tiekō Street/ Otaihanga Road intersection resulting from restricted sight line to the right on exiting Tiekō Street; and
- (d) Potential damage to their driveway and ongoing damage to Tiekō Street carriageway from construction traffic.

9.18 The submitters request that Tiekō Street and the right of way should comply with Austroads, NZS4404:2010 and CPTED. They request that Tiekō Street is widened to allow for vehicles to pass, inclusion of a pedestrian path, introduction of kerb and channel and street lighting. They also request that repairs are made to any damage caused to their driveway as a result of construction traffic.

9.19 With regard to the accuracy of the traffic forecasts for Tiekō Street, my assessment is based on Tiekō Street already providing access to an estimated 24 dwellings and that a further nine dwellings are either consented or could be constructed on vacant sites. It is possible that some of these dwellings have now been constructed.

- 9.20 I agree with the submitters that Tieko Street is not fully aligned with the provisions of NZS4404:2010, this in part is as a result of its transition from rural road to residential street. I consider the main areas of poor alignment to be the lack of streetlighting, footpath and turnaround. While there are some narrow sections along the road, I consider that the key matter is that if the width is not sufficient for vehicles to comfortably pass that a formalised single lane two-way section of street is created to avoid the ongoing damage to the edge of the seal. On low volume local roads such as Tieko Street, NZS4404:2010 anticipates that there will be single lane sections as a result of on-street parking within the carriageway.
- 9.21 With regard to the need for kerb and channel and the management of road run-off, I rely on the evidence of Nick Taylor.
- 9.22 I note that a turning head is included at the end of the Tieko Street extension and this will hopefully reduce the need for trucks and in particular rubbish trucks to turn elsewhere along Tieko Street.
- 9.23 I agree with the submitters that there would be safety benefits to improving the sight line towards the north along Otaihanga Road at the Tieko Street intersection. This is an existing maintenance matter which Council should address. Two options have been identified, one including the trimming/removal of vegetation and the other modifying the road markings such that the Give Way line can be advanced.
- 9.24 With regard to any damage to the street or driveways resulting from construction traffic, as previously described, I consider that this can be addressed through the Construction Traffic Management Plan. I suggest that a baseline road condition survey is done prior to construction and that a requirement is put in place to return the road and driveways to this condition or better once the earthworks and road construction are completed.
- 9.25 **Gerard and Elizabeth Earl (50 Hollis Road, Paraparaumu Beach) (31D Tieko Street)** raise the following transport concerns:
- (a) The accuracy of the traffic forecasts for Tieko Street;
 - (b) Safety concerns regarding construction traffic on Tieko Street, in particular during times children will be cycling or walking to

school. A request is included to eliminate construction traffic activity from Tieko Street; and

- (c) Safety concerns regarding the shared path within Lot 104 being used by motorized vehicles. The submitters preference is for a narrower metalled path with mitigation to prevent motorized vehicle access.

9.26 As included earlier in my evidence, with 19 additional dwellings accessed off Tieko Street I expect some 152 to 190 additional vehicle movements per day on Tieko Street with up to 23 additional vehicle movements during the weekday morning and evening peak hour and the Saturday midday peak hour of traffic activity. This is equivalent to one additional vehicle movement every two to three minutes at the busiest times, less outside peak hours.

9.27 The intention is to minimise truck activity on Tieko Street, see Condition 68(f), but truck activity to deliver material to form the road extension to Tieko Street needs to come in from Tieko Street. Condition 68(h) seeks to ensure the safe interaction between construction traffic and all other road users.

9.28 I agree with the submitters that measures are needed to ensure that motorized vehicles cannot access and travel along the proposed shared path within Lot 104.

9.29 **Paula Keene and John Rice (68 Tieko Street)** request that access is provided to their property throughout construction.

9.30 Following receipt of this submission, the Applicant has had discussions with the submitters and in an email dated 28 April 2022 confirmed with regard to access that:

‘a Construction Traffic Management Plan is being proposed that would (amongst other things) ensure methods are used to minimise the use of Tieko Street by all road users.’

9.31 This proposed approach was accepted by Paula Keene in an email to the Applicant dated 16 June 2022.

- 9.32 **Gareth Turner (13A Tiekō Street)** has safety concerns in the event that there is increased traffic on Tiekō Street without significant upgrades to the road.
- 9.33 I agree with the submitter that there are some existing maintenance and safety deficiencies that should usefully be undertaken by the Council. These include the existing damage to the edge of seal along Tiekō Street, the improvement to the sight line at the Tiekō Street intersection with Otaihanga Road along with the introduction of a footpath and street lighting.
- 9.34 **Jimmy Tilsley (33 Tiekō Street)** has concerns regarding the existing condition of Tiekō Street including damage caused by the rubbish trucks, lack of street lighting, lack of path for pedestrians, cyclists and equestrians, narrow width of road and damage to seal edge and parking on verges.
- 9.35 My response to the previous submission also applies to this submission. With regard to parking on verges, this is an existing matter which the proposed subdivision is not expected to affect, and which should be addressed by the Council.

10. RESPONSE TO OFFICERS REPORT

- 10.1 The Officers Report has raised a number of matters that are within my area of expertise. I have carefully considered the points raised and comment on each one in the table below.

Matter Raised in Officers Report	Harriet Fraser Comment
Para 70 – construction noise and vehicle movements will comply with the permitted activity standards, and therefore, any noise effects or effects associated with vehicle movements can be disregarded under the permitted baseline.	I understand that this is in relation to Rule 11E.1.2. which provides for a permitted level of traffic activity of up to 100vpd for an activity in zones other than Working Zones where the limit is 200vpd.
Para 71 – the District Plan permits accesses with a maximum width of 9m, two accesses exceed this at 11.1m and 14.5m. Only those	These are the legal widths of the accesses, in practice the formed widths will be narrower. There is not a footpath across

Matter Raised in Officers Report	Harriet Fraser Comment
effects associated with the additional width will be assessed.	these accesses so there is no adverse effect for pedestrians.
Para 77 – positive effects are confirmed regarding community benefits including walking and cycling, and easy access to the wider road network.	I agree.
Para 109 – if consent is granted, access to 68 Tiek Street during construction can be ensured via a condition of consent.	This can be expected to be addressed with the CTMP required by Condition 68.
Para 113 – the planting that is restricting the sight line from Tiek Street is on third party land and Council has limited jurisdiction to insist that planting is trimmed back. Given that the proposed Condition R4 would require involvement by a third party, it is not considered acceptable.	This is an existing maintenance deficiency that has resulted in a safety concern. Council can either arrange for the vegetation to be trimmed or if this is not possible an option has been developed that shows that the road markings could be modified to facilitate an improved sightline without trimming the vegetation.
Para 115 – the wetland prevents the footpath being located along the southern (eastern) side of Tiek Street.	This is also my understanding. The wetland is considered likely to meet the NPS-FM criteria to be classified as a natural wetland meaning consents are required for any works within 10m of it under the NES-F – the edge of the wetland appears to be very close to the edge of the road and is in private ownership; getting consents for any works to construct a footpath so close to the edge of the wetland may be difficult, and Council has (understandably) been reluctant to pursue this option.
Para 117 – Council consider that the Tiek Street works are needed to mitigate the effects of the increased traffic activity associated with the proposed subdivision.	<p>I consider that the Tiek Street works are needed to address existing maintenance and safety deficiencies and that the effects of the proposed subdivision do not trigger the need for the works (or change what would be required) but do increase the urgency with which they are delivered.</p> <p>The additional 19 dwellings are expected to generate up to 190 vehicle movements per</p>

Matter Raised in Officers Report	Harriet Fraser Comment
	<p>day. This level of traffic activity would be equivalent to two of the existing properties accessed from Tiekko Street having on-site activities that generated traffic within the permitted range, of up to 100 vehicle movements per day. Accordingly, existing properties on Tiekko Street could generate an equivalent amount or more traffic than the proposed subdivision without triggering the need for any roading improvements.</p> <p>I understand that there are at least two existing lots within the proposed subdivision site that could be accessed from Tiekko Street. Each of these lots could generate up to 100vpd as a permitted activity, making a total of 200vpd which is similar to the 190vpd expected from the proposed subdivision.</p>
<p>Para 119 – the design of the extension to Tiekko Street provides for safe and efficient vehicle use.</p>	<p>Agreed. The proposed works for the existing section of Tiekko Street were designed in conjunction with Council when it became apparent that the proposed extension would be of a higher standard than the existing section of Tiekko Street. There was an expectation that the additional non-extension works on Tiekko Street would be subject to a developer agreement providing roading credit for the works. However, Council appears to have changed their position.</p>
<p>Para 120 - the design of the new road in Lot 100 provides for safe and efficient vehicle use.</p>	<p>Agreed.</p>
<p>Para 121 – any planting within the berm along the northern side of the Lot 100 road needs to be mowable.</p>	<p>This is addressed in the landscape evidence. From a transport perspective the key matter is that any planting within the berm does not obstruct sight lines either along the road or from driveways. This can usually be controlled by ensuring any plants have a low height at maturity.</p>

Matter Raised in Officers Report	Harriet Fraser Comment
<p>Para 122 – safety and maintenance concerns regarding the planting within the pinch points along the Lot 100 road.</p>	<p>I understand that the intention is to include low groundcover plants and trees with clean stems. As such, I do not anticipate any adverse effects on sight lines. The pinch points will usefully create slow points and assist with keeping vehicle speeds down on the new road.</p>
<p>Paras 127 and 128 – the adverse effects associated with the width of the accesses to Lots 3 and 4 exceeding the District Plan maximum permitted width are considered to be less than minor.</p>	<p>Agreed.</p>
<p>Para 129 – requirement for Detailed Design and Post-Construction Road Safety Audits.</p>	<p>Agreed.</p>
<p>Para 130 – the volunteered condition for the Construction Traffic Management Plan is considered an acceptable starting point for developing a full CTMP to ensure that construction traffic effects are acceptable.</p>	<p>Agreed.</p>
<p>Para 131 - Provided the mitigation works proposed in the application and any updates included via conditions of consent are imposed, the adverse effects associated with construction of new roads, widening of an existing road and subsequent vehicle movements from allotments being occupied are considered to be acceptable.</p>	<p>As stated previously, I consider that the Tieko Street works are needed to address existing maintenance and safety deficiencies and that the proposed subdivision does not trigger the need for the works.</p>
<p>Paras 187 to 189 – the shared path within Lot 104 will be a roading asset and as such needs to have a sealed width of 2.5m within a 5.5m wide corridor.</p>	<p>Given the rural-residential context, the unsealed nature of the existing Otaihanga Road shared path, the forecast low usage, the alternative route via Tieko Street and the Iwi concerns regarding the Dray Track, I consider that the path does not need to be formed in a permanent surface. I do however note that with a 5% grade the design and construction of the path pavement including surface drainage will be key to minimising maintenance efforts and costs.</p>

Matter Raised in Officers Report	Harriet Fraser Comment
Para 190 – the impact of the shared path within Lot 104 and the Dray Track is currently unclear.	I understand that this is being addressed by others.
Para 191 and 194 – the use of part of the shared path as access to Lot 22 is considered to have more than minor safety effects for cyclists.	The latest design provides for the separation of the vehicle access and the shared path. This separation along with the good available inter-visibility between users of the shared path will ensure the safety of all users.
Para 200 – adverse transport effects are acceptable with conditions.	Agreed.

Table 2: Transport Matters Raised in the Officers Report

10.2 Evidence from Mr Trotter, Council’s Transport Safety Leader, is attached to the Officers Report. He recommends that the proposed development should be approved with the matters outlined in his evidence being addressed by conditions. I have considered the concerns raised in Mr Trotter’s evidence and provide comments in the table below.

Matter Raised in Mr Trotter’s Evidence	Harriet Fraser Comment
Para 6.5 – Mr Trotter agrees with the ITA findings regarding the safety improvements to Tiekö Street as being critical to mitigate the effects of the proposed subdivision.	The findings of the Transportation Assessment and the transport elements of the various further information responses do not identify the Tiekö Street works as being needed to mitigate the effects of the proposed subdivision. The need for the works is triggered by existing safety and maintenance deficiencies.
Para 6.8 – given the current less than ideal situation in Tiekö Street it is my opinion that the potential increase in traffic, which is a maximum of 100 vehicle movements per day per lot, along this road is not acceptable.	The additional 19 dwellings are expected to generate up to 190 vehicle movements per day. This level of traffic activity would be equivalent to two of the existing properties accessed from Tiekö Street having on-site activities that generated traffic within the permitted range, of up to 100 vehicle movements per day. Accordingly, existing properties on Tiekö Street could generate an equivalent amount or more traffic than the

Matter Raised in Mr Trotter's Evidence	Harriet Fraser Comment
	<p>proposed subdivision without triggering the need for any roading improvements.</p> <p>I understand that there are at least two existing lots within the proposed subdivision site that could be accessed from Tieko Street. Each of these lots could generate up to 100vpd as a permitted activity, making a total of 200vpd which is similar to the 190vpd expected from the proposed subdivision.</p>
<p>Para 7.2 – Mr Trotter does not consider that the vehicle movements associated with an additional 19 lots using Tieko Street can be safely accommodated without the mitigation shown in the Cuttriss drawing set.</p>	<p>I consider that a similar level of additional traffic to the proposed subdivision could be generated by permitted activities on existing properties without triggering the need for any roading improvements. As such, I consider that this level of additional traffic activity and any associated effects have been considered acceptable and not needing mitigation.</p> <p>The works for the existing section of Tieko Street shown in the Cuttriss drawing set are just one option for how the existing maintenance and safety deficiencies might be addressed. Alternative treatments could be to add lighting and continue to allow for the shared use of the carriageway between all road users, using signage to support this. Other treatments could include pedestrians being accommodated within a shoulder rather than on a footpath.</p>
<p>Paras 9.3 to 9.32 – Mr Trotter has concerns regarding the design of the shared path within Lot 104. These concerns can be summarised as follows:</p> <p>a) Should design for a cycle speed of 30km/h which has implications for the horizontal and vertical alignment of the path as well as sightlines and the surface treatment;</p>	<p>a) Given the shared use of the path, a 30km/h design speed for cyclists is considered unsafe. There is a risk of a collision between a cyclist and a pedestrian resulting in serious injury at this speed. The path is considered primarily a pedestrian path which</p>

Matter Raised in Mr Trotter's Evidence	Harriet Fraser Comment
<p>b) Concern regarding steep grades;</p> <p>c) Lack of escape route for cyclists on the outside of curves;</p> <p>d) Need for flatter grades to accommodate wheelchair users and the less physically able;</p> <p>e) Safety of the interaction between the shared path, vehicle access to Lot 20 and the turnaround at the end of the right of way;</p> <p>f) The path needs to be formed with a permanent surface along its full length due to the gradient to ensure ease of use by pedestrians, cyclists, mobility impaired and wheel-chair users;</p>	<p>cyclists can also use. High speed confident road cyclists can use Tieko Street and Otaihanga Road;</p> <p>b) There is a need to balance the grade of the path with the resultant scale of any earthworks. The grades have been reduced through the design process to date, and the maximum grade is now 5% which is not considered a steep grade. I note that if there was a road connecting the two parts of the subdivision, NZS4404:2010 would allow for a grade of up to 12.5% which would include pedestrians walking on a footpath with this grade and cyclists within the carriageway on the same grade.</p> <p>c) Cyclists are not expected to be travelling at a speed where an escape route is considered necessary;</p> <p>d) My understanding is that the further of the grades will result in an undesirable amount of additional earthworks;</p> <p>e) Given that the vehicle access services a single lot, the right of way provides access to three lots and shared path serves a limited number of properties (primarily existing properties along the existing right of way off Tieko Street and the proposed subdivision), the risk of any interaction is low. In the event that there is an interaction, the boundary to Lot 20 has been adjusted to provide inter-visibility between users and both vehicle and cyclist speeds are expected to be low as they are turning either around the bend in the path, to or from the right of way or within the turning area;</p> <p>f) Given the good drainage conditions within the dune environment and the maximum 5% gradient, I consider that the path as proposed will provide a slow speed, recreational link within a rural</p>

Matter Raised in Mr Trotter's Evidence	Harriet Fraser Comment
<p>g) The path needs to be lit as a result of the shared use between pedestrians and cyclists and the need to highlight conflict points;</p> <p>h) Fencing needs to be offset from the path by 0.5m on straight sections and at least 1m on tight curves; and</p> <p>i) Safety concerns regarding the bollard treatments at each end of the path.</p>	<p>context which can be safely shared by pedestrians and cyclists, who will largely come from the limited number of existing and future local residential properties. If the context was more urban in nature, I agree that a different form of path might be appropriate – but it is not;</p> <p>g) Given the context of the path within a largely rural environment, the path is intended for daytime use only and therefore lighting is not considered necessary or desirable;</p> <p>h) I agree that an off set of 0.5m is useful to avoid a 'shy' space adjacent to the fence. This can be addressed through the detailed design and road safety audit process;</p> <p>i) The design of these treatments can be addressed through detailed design and the road safety audit process. The key matter is that motorised vehicles are prevented from accessing the path.</p>
<p>Paras 10.2 to 10.4 – safety concerns regarding the pinch points on the road in Lot 100 and the need for further assessment.</p>	<p>I consider that the pinch points will usefully contribute to reducing vehicle speeds along the road with safety benefits for all users. With appropriate planting, low groundcover and clean stemmed trees as suggested, any effects on sight distances whether along the road or from driveways will be minimal. I consider that any design refinements can be addressed through the detailed design and road safety audit process.</p>
<p>Para 12.2 – Mr Trotter summarises outstanding matters as being:</p> <p>a) The shared path design shall be amended by the Applicant to comply with the guidelines contained in Austroads 6A.</p>	<p>a) As included in the comments above, I consider the path to have an appropriately bespoke design to fit into the dune and largely rural environment, recognise the historic dray track, provide a slow speed shared environment where</p>

Matter Raised in Mr Trotter's Evidence	Harriet Fraser Comment
<p>b) The design details and effects on road safety and efficiency shall be provided for consideration by the Applicant for the landscaping and road narrowing features being proposed by the Applicant for the proposed road accessed directly from Otaihanga Road.</p>	<p>both pedestrians and cyclists feel safe, serving a small residential community.</p> <p>b) As included in the comments above, the key matter is the choice of plants and I consider that any design refinements can be addressed through the detailed design and road safety audit process.</p>

Table 3: Transport Matters Raised in Mr Trotter's Evidence

10.3 The other area of disagreement is that I consider that the following are existing safety and maintenance deficiencies on Tieko Street that need to be addressed by Council rather than being triggered by the proposed subdivision:

- (a) The trimming of the vegetation at the Tieko Street intersection with Otaihanga Road;
- (b) The repair of the edge of seal along Tieko Street and the introduction of measures to minimise the risk of ongoing damage; and
- (c) The provision of a footpath along Tieko Street along with streetlighting.

11. CONDITIONS

11.1 I provide comment on each of the proposed Roding Conditions in turn below.

11.2 *Condition 62 - Prior to an application being lodged for section 224(c) certification, the improvements to Tieko Street shall be constructed as shown on the Final Approved Plans detailed in Condition 1 and in accordance with the final design details to be submitted to and certified in writing by the Access and Transport Manager prior to the commencement of works.*

11.3 As discussed throughout my evidence, I consider that the Tieko Street works are not needed in response to an effect of the development, they

are needed to address existing safety and maintenance deficiencies and need to be undertaken by Council. I also note that the works will be subject to an LGA process with associated uncertainty regarding timing and design outcome. As such, I recommend that this Condition is deleted.

11.4 *Condition 63 - The access roads and shared path connecting the two access roads serving the development to be vested to Council as road shall be constructed in accordance with Final Approved Plans detailed in Condition 1 and in accordance with the final design details to be submitted to and certified in writing to the Access and Transport Manager prior to the commencement of works.*

11.5 I agree with this Condition in relation to the access roads (Lot 100 and Lot 101) but note that there is some uncertainty regarding whether the shared path (Lot 104) is best vested as road or as a local purpose reserve (shared path). I consider that it may be useful to expand this condition to include measures preventing access to the shared path through Lot 104 by motorised vehicles, which is a valid concern expressed by Mr and Mrs Earle. The drawings show bollards at the northern end, but the path remains open at the southern end. The final treatment needs to allow for bicycles to access the path but prevent access by motorbikes, quad bikes, and vehicles. I agree that bollards need to be both ends.

11.6 *Condition 64 – Detailed Design and Post Construction road safety audits are required for the following:*

- *All proposed access roads;*
- *The intersection of the proposed access road with Otaihanga Road;*
- *The proposed shared path linking the proposed access roads; and*
- ~~*The alterations to Tiekō Street.*~~

These road safety audits are to be carried out in accordance with guidance contained in the KCDC Sub-division guide and Waka Kotahi (NZTA) guidance.

11.7 I agree with this Condition subject to the removal of the last bullet point regarding Tiekō Street. The Applicant cannot pre-empt Council's

consultation with residents under the Local Government Act. The final sentence should usefully be edited to read:

These road safety audits are to be carried out in accordance with the Waka Kotahi (NZTA) Road Safety Audit Procedures for Projects May 2013.

- 11.8 *Condition 65 – Any signage / road markings must be in accordance with TCD's, The Manual for Traffic Signs and Signals: 2010 and Traffic Control Devices Manual: 2008.*
- 11.9 I agree with this Condition.
- 11.10 *Condition 66 – Prior to an application being lodged for section 224(c) certification, the existing redundant driveways on Otaihangā Road are to be removed and reinstated to line and level footpath and grass berm (in accordance with Council standard drawing RD002 concrete footpath/grass berm detail) with standard Kerb and channel (RD001 – standard kerb and channel detail).*
- 11.11 I agree with this Condition.
- 11.12 *Condition 67 – Prior to an application being lodged for section 224(c) certification, street lighting columns and Luminaire shall be provided to service the development roads,–(excluding the shared path) ~~Tieko Street improvements, the shared path connecting the two development roads~~ in accordance with KCDC's Standard Details and Specifications for Road Lighting Infrastructure Version 1.1:2018 (<https://www.kapiticoast.govt.nz/media/34265/streetlighting-design-guidelines.pdf>). The street lighting layout shall comply with AS/NZS 1158 (Category P) including all referenced standards including NZTA M30, Specification and Guidelines 2014. Any street lights installed within the development shall be provided with a separate street lighting system.*
- 11.13 I agree with this Condition with regard to the access roads but consider that it should not apply to the existing section of Tieko Street or the shared path, as per the strikethrough in the above paragraph.
- 11.14 *Condition 68 – A Construction Traffic Management Plan (CTMP) shall be submitted to and certified in writing by the Access and Transport Manager prior to any earthworks or construction commencing on any part of the site. The CTMP shall cover the following topics:*

- (a) *Details of the traffic management of Tiekō Street and Otaihanga Road*
- (b) *Details of control of mud and detritus from the site onto the road – onsite wheel washing and off-site road sweeping*
- (c) *Details of on-site turning for delivery vehicles*
- (d) *Site compound location shown on a plan*
- (e) *Identified areas for site offices and site operative parking*
- (f) *Methods to minimise the use of Tiekō Street by construction traffic; inclusion of forecasts of vehicle types and daily volumes (typical & peak) using each site access point during the various stages of construction*
- (g) *Ensuring additional damage by construction traffic to the road pavement on Tiekō Street is avoided; a baseline pavement condition inspection will be undertaken prior to construction and the CTMP would provide a mechanism for the repair of the road pavement back to baseline standard*
- (h) *Ensuring the safe interaction between all road users (including pedestrians) on Tiekō Street and construction traffic, with particular consideration of pedestrians and cyclists*
- (i) *Ensuring the safe crossing of the site accesses on Otaihanga Road with particular regard to the existing frontage shared path*
- (j) *Ensuring the safe turning of construction traffic to and from Otaihanga Road and any site access points; consideration should be included of the early formation of the proposed new Otaihanga Road intersection*
- (k) *Construction traffic movements on Tiekō Street during daylight hours only given the lack of lighting*
- (l) *Avoid construction traffic activity on weekends and public holidays when recreational use of the existing Otaihanga Road shared path can be expected to be busier*
- (m) *All construction traffic to park within the site; and*

- (n) *Description of how construction traffic activity will be communicated to local residents along with an incident reporting process.*

11.15 I recommend that on safety grounds, point j) is strengthened to only allow truck access to the site at the southern end of the Otaihanga Road frontage once the intersection is constructed. Otherwise, I agree with this Condition and consider that the scoping points for the CTMP will ensure that any construction traffic effects can be appropriately mitigated.

12. CONCLUSION

12.1 The traffic effects associated with the proposed subdivision can be separated into the following categories:

- (a) Construction traffic effects with trucks accessing the site from both Tieko Street and Otaihanga Road, primarily to deliver roading materials;
- (b) Operational traffic effects on the proposed Tieko Street extension and the existing section of Tieko Street including its intersection with Otaihanga Road;
- (c) Operational traffic effects on the proposed new road within Lot 100 and the new intersection with Otaihanga Road;
- (d) Operational traffic effects associated with the shared path connection (Lot 104) between the new sections of road in Lots 100 and 101; and
- (e) Positive traffic effects associated with the proposed subdivision.

Construction Traffic Effects

12.2 The earthworks have been designed to be contained within the site resulting in no truck movements on the public road network involving the removal of cut or delivery of fill. It is estimated that there will be around 375 truck movements on Tieko Street associated with the delivery of roading aggregate over a 6-8 week period, as included in Mr Taylor's evidence. As such, I estimate that there would be some 40 to 60 truck

movements per week on Tieko Street over this 6-8 week period. A similar number of trucks will access the site from Otaihanga Road.

- 12.3 Draft Condition 68 requires the preparation of a Construction Traffic Management Plan. The scoping points for the CTMP include controlling the days and hours of construction traffic access, avoidance of trucks queuing on Otaihanga Road, avoidance of trucks passing on Tieko Street and the right of way, the repair of road damage caused by construction trucks and wheel washing. With these measures in place, I consider that the traffic effects during construction can be appropriately managed.

Operational Traffic Effects on Tieko Street

- 12.4 The additional 19 dwellings accessed from Tieko Street are expected to generate up to a total of 190 vehicle movements per day. This level of traffic activity would be equivalent to two of the existing properties accessed from Tieko Street having on-site activities that generated traffic within the permitted range, of up to 100 vehicle movements per day (permitted activity standard TR-R2 2.). Accordingly, existing properties on Tieko Street could generate an equivalent amount or more traffic than the proposed subdivision without triggering the need for any roading improvements. As such, I consider that this level of additional traffic activity and any associated effects have been considered acceptable and do not trigger a need for mitigation.
- 12.5 Total daily traffic flows on Tieko Street will be up to around 500 vehicle movements per day, this remains at the lower end of traffic flows on Local Roads, which in NZS4404:2010 can be expected to carry up to 2,000 vehicle movements per day.
- 12.6 Two-way traffic flows on Otaihanga Road through the Tieko Street intersection are around 150 vehicle movements per hour. This level of traffic flow, being equivalent to an average of one vehicle every 20 to 30 seconds, includes large gaps between vehicles and drivers will be able to continue to turn to and from Tieko Street with little if any queuing.
- 12.7 Regardless of the proposed subdivision there is a need for Council to address the following existing maintenance and safety deficiencies on Tieko Street:

- (a) damage to the edge of the seal where the road is not wide enough for two vehicles to comfortably pass and vehicles pass regardless given that there are no kerbs to restrict the vehicle paths;
- (b) vegetation clearance to protect the sight line towards the north along Otaihanga Road for a vehicle turning out of Tieko Street;
- (c) the lack of a footpath given the existing residential nature of the northern side of Tieko Street; and
- (d) the lack of street lighting.

Operational Traffic Effects of New Road (Lot 100) and New Otaihanga Road Intersection

- 12.8 The intersection performance was modelled using the Sidra software and the analysis showed the intersection performing well with a level of service of A (average delays of less than 10 seconds per vehicle on each approach) during both the weekday morning and evening traffic peaks. With the now reduced number of residential lots accessed from the new road, the average delay for turning vehicles will be slightly reduced.
- 12.9 The available sight lines and the inclusion of a right turn bay are all expected to contribute to the safe operation of the intersection. The Detailed Design and Post-Construction Road Safety Audits of the intersection will also allow for safety refinements to be made as needed.
- 12.10 I consider that the pinch points along the new road will usefully contribute to reducing vehicle speeds along the road with safety benefits for all users. With appropriate planting, low groundcover and clean stemmed trees as suggested, any effects on sight distances whether along the road or from driveways will be minimal. Again, any design refinements can be addressed through detailed design and the road safety audit process.
- 12.11 The part of the subdivision accessed via Otaihanga Road can be appropriately, safely, and efficiently accommodated with no discernible change in traffic capacity or delays for existing users of Otaihanga Road.

Operational Traffic Effects along the Shared Path (Lot 104)

- 12.12 The primary function of the shared path is to provide a pedestrian connection between the two parts of the subdivision. Cyclists from the northern part of the subdivision or from the northernmost end of the Tieko Street can access the southern part of the subdivision and the Otaihanga Road shared path via Tieko Street with only a small additional travel time.
- 12.13 I consider the path, which serves a small residential community, to have an appropriately bespoke design fitting into the dune and largely rural environment, recognising the historic dray track, and providing a slow speed shared environment for daytime use where both pedestrians and cyclists feel safe. I consider that standards such as Austroads Guide to Road Design Part 6A: Paths for Walking and Cycling can be helpful to guide design but can be limited in their ability to accommodate the particular context of a path and hence an approach more responsive to the local conditions and environment can be more appropriate while still delivering a safe outcome.
- 12.14 In my opinion, the path as designed in the revised designs with the recommendations included in my evidence, will be safe for the shared use of pedestrians and cyclists and I have no concerns for the safety of users of the proposed shared path.

Positive Traffic Effects

- 12.15 The proposed subdivision results in a number of positive transport effects, including:
- (a) Provision of shared paths within the site;
 - (b) Tie-in with existing recreational active mode routes along Otaihanga Road and the Expressway; and
 - (c) Proximity to the old SH1 route for ready access to Paraparaumu and Waikanae.

- 12.16 Overall, I consider that the roading infrastructure associated with the proposed subdivision, including the shared path, can operate safely and efficiently, and that the additional vehicle activity resulting from the subdivision can be accommodated within the local road network with less than minor changes to the safety and efficiency for existing road users.

Harriet Fraser

Harriet Fraser

19 July 2022