Transportation Impact Report

Tahimana Development

Stagecoach Road

Tasman

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1 EXECUTIVE SUMMARY

This report provides an analysis and assessment of the transportation environment and considers the impacts of a proposed subdivision at the end of Stagecoach Road. The analysis has considered the existing issues with the road network and taken a gap assessment approach to identify potential effects of the proposed development.

It should be noted that Tasman District Council are encouraging a fundamental change in transport mode choice through changes in policy to have a greater focus on alternative transport modes such as walking, cycling and public transport which aligns with the Government Policy Statement on Land Transport 2021 (GPS). This philosophical change of how people use the road network is already reflected in the Te Tauihu Regional Land Transport Plan and will be reflected in the policies and planning for future developments and within the existing road network. The proposed development is located to enable this transport mode change and align with the direction that Tasman District Council and Government are taking.

The proposed subdivision has a total land area of around 68 hectares which is located on rolling land with small ridges, low valleys and areas of wetlands. There is a further 2.78ha of land owned by the crown that forms part of the development site and will be used as part of the Wastewater Disposal Field under a Licence to Occupy. These features have informed an iterative design process, with many changes in the final design to fit the site's environmental constraints and opportunities, manage effects, and provide positive sustainable outcomes.

The proposed development is relatively close to the Tasman Village and Mapua Settlement. There are a number of existing walking and cycle connections adjacent to the development site. There is a new bus service that connects Motueka to Richmond and runs through Tasman and Mapua which also provides opportunities for increased usage and connectivity. Mapua is ideally located for travel and work choices of Richmond and Motueka.

There will be a variety of section types which will allow a cross section of the community to live and play in the proposed development and the wider community. The development of the land will be completed over several stages and will result in around 141 lots.

Access to the development will be via Stagecoach Road which is connected to the wider road network via Seaton Valley Road and State Highway 60. Stagecoach Road is a road that has a number of different levels of service from a wide sealed road down to a dirt track. As part of the proposed subdivision investigations, a design has been carried out to understand the constraints and costs to seal Stagecoach Road from the start of the gravel section to the development.

The analysis has identified a small number of specific network deficiencies that currently exist as well as parts of the road network where future works may be needed to manage the growth of the development and other likely subdivisions in the Rural 3 zone. The key projects to address

existing deficiencies and provide for future growth were identified. These included the sealing of Stagecoach Road and improving/upgrading various walk cycle links.

In summary the proposed subdivision is located to take advantage of space capacity in the adjacent road network and encourage alternative transport modes. The proposed subdivision is positioned to provide a connected development area that will enable walking, cycling and bus services to work and other services, being ideally located midway between Motueka and Richmond.

2 INTRODUCTION

This report has been prepared as supporting material for an application for resource consent for a proposed subdivision and development at the end of Stagecoach Road in Upper Moutere in the Tasman District. The purpose of this report is to provide a traffic and transportation assessment to assist in the planning analysis of the environmental risks, opportunities and benefits of the development. At the end of this report is a concluding analysis of the anticipated transportation effects of the proposed subdivision and development.

It is considered the transportation analysis provides an accurate statement of the anticipated effects relevant to the environmental effects addressed in this report.

The proposed subdivision and development have a total land area of around 70.8 hectares. The proposed subdivision area is located in the coastal Tasman area which is mostly zoned as Rural 3. The zoning envisages clusters of Residential and rural residential type of development and is relatively close to Tasman Village and Mapua. The site is able to take advantage of various transport connections which include State Highway 60 which is located on its western boundary, several cycle and walking connections to the wider community including schools, shops and services located in Tasman Village, Mapua and Mahana. There are also public transport services that link Motueka with Richmond and Nelson that use Aporo Road to the north of the development site.

The proposed development seeks to have a combination of large and smaller allotments to provide a variety of housing options for potential homeowners. As noted in the Application this will also provide a more diverse community by enabling different people to buy and live in the area. The development will also allow for some affordable home options in a more balanced overall development.

Once the development is completed there will be around 141 lots with 139 lots ranging from 600m^2 to 20,000m^2, along with two large Rural Conservation Lots, being Lot 140 of 11.4 ha and Lot 141 of 5.68ha. New residents will be able to access the development from Stagecoach Road by vehicle and the wider road network. Alternative transport options are available via Dickers Road, Williams Road and Awa Awa Road, all of which connect to the Tasman Great Taste Trail.

3 DEVELOPMENT SITE LOCATION AND DESCRIPTION

The site is located at the end of Stagecoach Road in Upper Moutere which is in the Tasman District.

Figure 1 shows the development site (yellow outline).

Figure 1: Development Site. Source (Top of the South Maps)

The village of Tasman is located to the north of the development site with the Mapua settlement located to the southeast. State Highway 60 runs along the western boundary, and the site has road connections to Stagecoach Road to the south and Dickers Road (unformed). There are other paper road connections to the north including Williams Road along with formal and informal links to Westmere Drive and Horton Road.

The development site has a land area of around 70.8 ha hectares that is primarily located on eastern sloping rolling land. There are a number of small spurs within the development which separate wetland areas and low slopes for housing. Part of the development site is located on the western side of Stagecoach Road and is west facing overlooking State Highway 60. This part of the site will be used for wastewater management, with no dwellings being located in this area.

Vehicle access to the development site will be from Stagecoach Road. There are also walk and cycle connections to the development site from Dickers Road, Williams Road, and Westmere Drive.

4 TRANSPORT ENVIRONMENT

This section provides information about the existing road network. As noted above the development site provides a number of transport options to access the wider community which includes the following:

- Vehicular access from Stagecoach Road, SH 60 and Seaton Valley Road.
- Cycle access via Williams Road, Dickers Road, Stagecoach Road and Westmere Drive and the wider community via the Tasman Great Taste Trail on Aporo Road and Marriages Road.
- Walking access via Williams Road, Dickers Road, Stagecoach Road and Westmere Drive.
- Bus Services along Aporo Road.

These various transport routes are discussed in more detail below.

4.1 State Highway 60

The development is accessed from the wider road network via State Highway 60 and its intersection with Stagecoach Road. State Highway 60 connects Tasman (Richmond) with Golden Bay and provides a strategic link connecting Motueka and other coastal communities including Mapua, Tasman Valley, Upper and Lower Moutere and Riwaka.

State Highway 60 has a posted speed limit of 100km/h which reflects the high standard this relatively new road has been built to. The estimated traffic flows along the section of State Highway 60 near Stagecoach Road are around 7,200 vehicles per day. Around 6% of the traffic flow are heavy vehicles.

The intersection of State Highway 60 and Stagecoach Road forms a tee intersection that was opened in 2012. The intersection is well designed with a wide right turn bay with lead-in tapers. The sight lines are excellent, and all movements are able to see and interact with each other safely. The intersection was designed to account for the future increased development expected within the Tasman Resource Management Plan zoning in this area including rural-residential, Rural 3 and residential development.

The Stagecoach Road exit provides a single lane approach which is wide enough for left and right turning vehicles to wait side by side. Traffic on Stagecoach Road is controlled by give way signs. Immediately up Stagecoach Road is the intersection of Chaytor Road and Stagecoach Road.

Figure 2 shows the Stagecoach Road approach to State Highway 60.

Figure2: Stagecoach Road

A review of the crash history for this intersection shows no reported crashes since its construction which supports the view that the intersection is well designed.

4.2 Stagecoach Road

Stagecoach Road formed part of the Old Coach Road that provided a link from Richmond to Motueka before the construction of the Coastal Highway. Old Coach Road was split into several different roads following the completion of the Ruby Bay Bypass. The split roads include Tasman View Road and Stagecoach Road.

The posted speed limit for Stagecoach Road is 80 km/h. The estimated traffic flows along Stagecoach Road are around 240 vehicles per day. It should be noted that the flows decrease quickly as you travel further from State Highway 60.

Stagecoach Road has a number of different formations as it moves further from the highway. Generally, the land development in the area is rural residential with a combination of small and large allotments. The different formations of Stagecoach Road from the highway to the development site include the following:

- The first section is a 6500mm sealed road with sealed shoulders.
- The next section is a continuation of the 6500mm sealed width but with no shoulders provided. An informal dirt track provides an off-road cycle and pedestrian path. The

first two sections of Stagecoach Road have a curvilinear alignment that provides a good level of service.

- At around 66 Stagecoach Road the formation changes to an unsealed road with a variable width up to 5000mm. At this point, the road geometry also significantly changes with a number of sharp vertical crest curves and tight horizontal curves. There are some existing vehicle crossings with difficult sight lines and forward sight distances along Stagecoach Road. The existing formation is also sometimes not within the legal road corridor and traverses onto private property.

  The photograph below is south of 150 Stagecoach Road

- At around 208 Stagecoach Road the unsealed gravel formation makes way to a dirt track with no gravel running course. Geometrically is has a better formation than the unsealed previous section. There are a number of deep holes along its length which is a sign of the lack of stormwater control and low maintenance. It is understood Council does not maintain this section of Stagecoach Road. Generally, the road follows the road corridor all the way to the development site.

State Highway 60 can be seen on the left-hand side of the photograph with a cycle/walk connection to Westmere Drive shown on the right-hand side of Stagecoach Road. In the distance the continuation of Stagecoach Road can be seen and the development site.

The unsealed section of Stagecoach Road serves around 24 properties with Lacebark Lane being on the sealed section immediately south of the change road surface. The unsealed section of Stagecoach Road is estimated to carry around 150 vehicles per day. Stagecoach Road is a popular walking and cycling route.

4.3 Walk/Cycle Connections

The development site is located on the upper slopes of the Tasman Coastal area with a number of existing and potential walk/cycle links to the wider area via existing legal road connections. These legal road connections are generally unformed paper roads and include Dickers Road, Williams Road, Horton Road and Westmere Drive.

Stagecoach Road will form the vehicular link to the development site and will also provide a cycle/walk connection from the development to State Highway. This link will also enable cyclists and pedestrians to connect through to Tasman Village via Dickers Road.

Figure 3 shows the various existing cycle connections in the wider area.

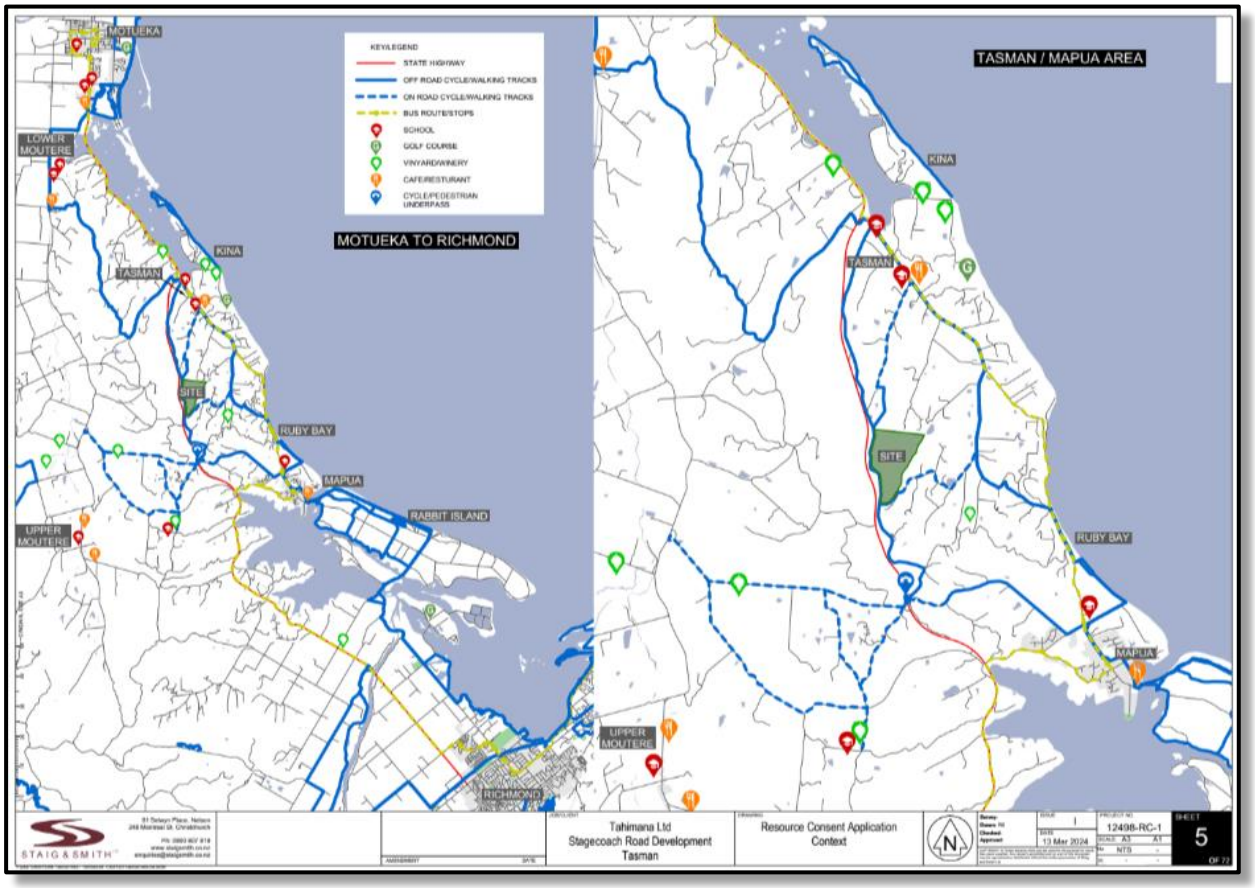

Figure 3: Cycle/Pedestrian links. (Source: Staig & Smith Plan 12498-RC-1 Drawing 5)

Larger scaled plans are available in the Resource Consent application. The blue lines represent cycle and walking connections with the yellow and blue lines also forming part of the wider network.

Of particular note is the existing connections to Tasman Village which has a local store. Also within Tasman Village are two schools. The existing connections allow people including school children to access these facilities with off road links.

The Tasman Great Taste Trail traverses through the Village and provides off road connections to the wider area including Mapua and Motueka.

Figure 4 shows a section of the Dicker Road path.

Figure 4: Dicker Road Path

The path is well formed with most of it being wider and to a higher standard than shown in this photograph.

There are some possible future connections that can also be formed on existing paper roads. While not proposed as part of this development, these connections could be formed as part of other developments that have been proposed in the Coastal Tasman area.

5 CRASH HISTORY

5.1 General

This section provides details of the crash history for the key roads related to the proposed subdivision. The search has included the roads that can be used by pedestrians and cyclists. A detailed search of the NZ Transport Agency crash database was carried out for the five-year period from 2018 to 2022. The part year of 2023 and 2024 was also reviewed and considered as part of the crash analysis. The Traffic Crash Reports (TCR) can take up to three months to be coded in the crash database. The roads that were included in the search are as follows:

- Stagecoach Road,
- Intersection of Stagecoach Road and State Highway 60,
- Williams Road,
- Dickers Road,
- Horton Road,
- Aporo Drive.

The crash history for these roads is provided below.

Table 1 provides the details of the reported crashes.

Road	Location	Date	Collision Date Reference	Accident Description	Severity
Dickers Road	At Goddard Road	24/05/2019	201956696	Intoxicated driver travelling on Goddard Road has missed the intersection and ran into a ditch.	Minor
Aporo Drive	20 metres west of Dickers Road	26/08/2022	2022233657	Motorcyclist heading east on Aporo Drive has lost control of their bike when cornering.	Minor
	At Williams Road	17/02/2022	2022213610	Inexperienced motorcyclist heading east on Aporo Drive has gone to overtake a truck turning right into Williams Road. Motorcyclist has swerved to avoid truck and lost control on the left-hand side of the road.	Minor

	At 260 Aporo Drive	30/06/2019	201972809	A driver heading east on Aporo Drive has crashed into the rear end of a vehicle turning right into a private access.	Non-injury
	At 258 Aporo Drive	03/03/2020	2020147890	A driver heading west on Aporo Drive has lost control of their vehicle when negotiating a right-hand bend. Hit tree and road sign.	Minor
Stagecoach Road	Outside 154	04/06/2022	2022225111	Driver avoiding police chase has lost control on a curve on a gravel road and gone into a bank.	Non-injury

Table 1: Reported Crashes 2018 to 2023 (Source: NZ Transport Agency)

There are only six reported crashes in the search area. There were no reported cycle crashes. There were no reported crashes at the Stagecoach Road/State Highway 60 intersection. Two of the crashes involved inexperienced or intoxicated drivers and one crash being a driver fleeing the police.

The reported crashes show no inherent deficiencies in the road network.

6 CONSULTATION

Early engagement with Tasman District Council and NZTA has been carried out on the proposed development.

The meeting with Council set out what was proposed noting that there have been modifications to the proposal as a result of this meeting and other matters that needed to be addressed. Notes from the meeting dated 27 April 2023 provide the key aspects which the development needs to consider for traffic. These included the following.

- The sealing of the full length of Stagecoach Road.
- A Road Safety Audit will be required as part of the application.
- Design issues around road boundaries for Stagecoach Road.
- Connections to other roads for emergency vehicles etc.
- Other shared paths.
- Subdivision design with cul de sacs.
- The assumption that there will be no streetlights.
- Written Approval from NZTA.
- Concerns about increase private vehicle use and Vehicle Kilometre Travelled Reduction Policy.

These matters will be addressed in the assessments below with most already forming part of the application that is being submitted.

The meeting with NZTA raised the following matters which need to be considered. Generally, NZTA representatives saw the issues being able to be managed.

- Site connectivity to the wider road network and in particular for alternative transport modes.
- Resilience and the connection to SH60.
- Wider planning framework such as the Regional Land Transport Plan.

As with the Council's commentary the NZTA's feedback is also addressed in the assessment below with further consultation continuing through the subdivision process..

7 THE PROPOSED DEVELOPMENT

The proposed subdivision seeks to provide around 141 lots over 68 hectares of Rural 3 zoned land. The development consists of small and large lots ranging from 600m² to 20,000m², with 2 Rural Conservation Lots each with a BLA. The subdivision is located at the end of Stagecoach Road.

7.1 Development Layout

Figure 5 shows the proposed subdivision. Note that larger scale and more detailed plans are provided in the consent application.

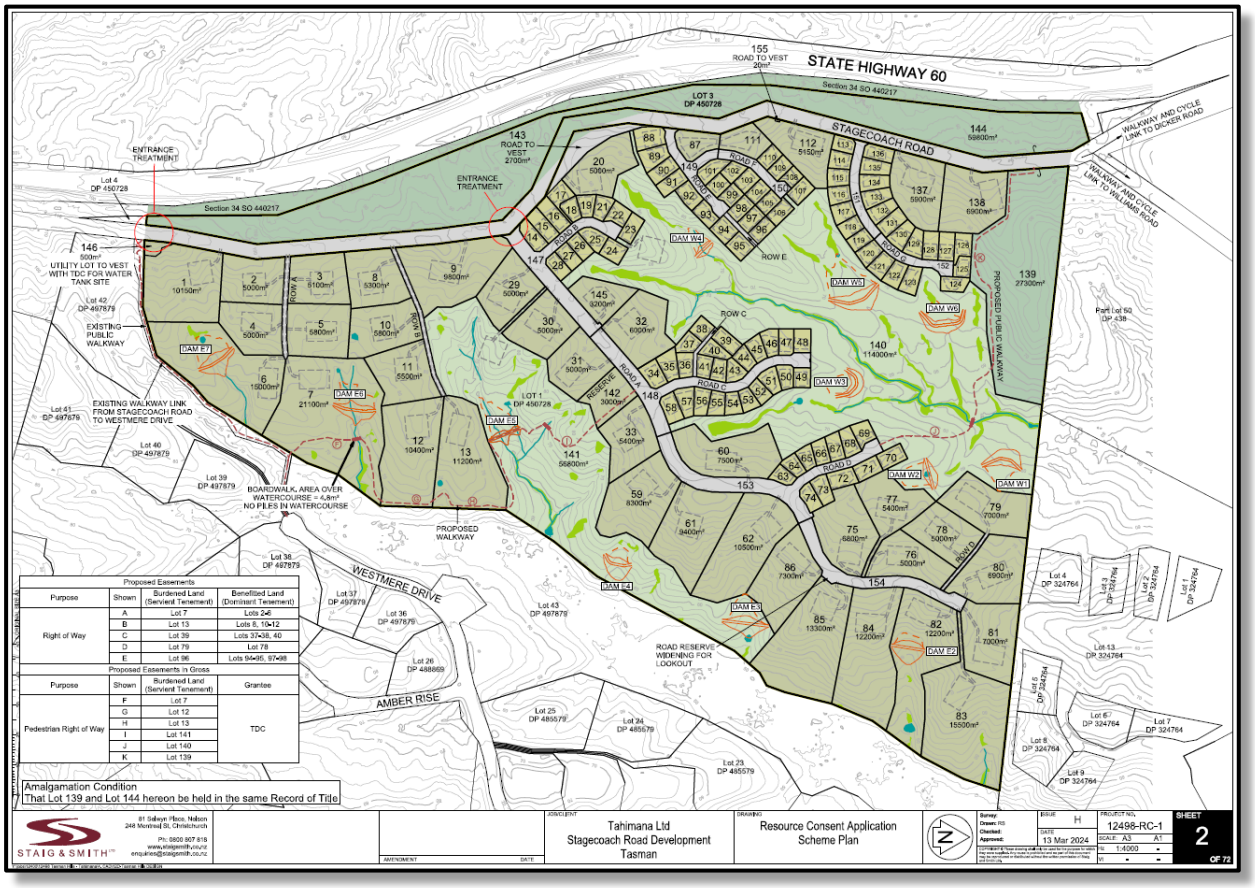

Figure 5: Scheme Layout. (Source: Staig & Smith Plan 12498-RC1 Sheet 2)

As shown the existing Stagecoach Road is to the south of the development site and provides the connection to the wider vehicular network via SH60. All the new roads come off the ridge line and head to the east off Stagecoach Road.

Larger lots are planned to the south and end of Road 1 with more dense development to the north of Road 1. The roads have been typically designed to traverse along the spurs within the development site. This is to avoid streams and wetlands within the gullies of the development site.

As noted on the plan there are various cycle and walking connections from the development to the north via Dicker Road and Williams Road and to the east via Road 1 and Westmere Drive. These connections also link to the Great Taste Tasman Trail, Mapua and Motueka. Stagecoach Road also provides a connection to the south and Seaton Valley Road, SH60 and Mahana.

7.2 Cycle and Walk Connections

As part of the development, it is proposed to enable/enhance the connections that this site has with the wider network including the Great Taste Tasman Trail.

As part of upgrading Stagecoach Road, the existing informal dirt track that is sometimes used by walkers and cyclists will be improved to a 2500mm wide compacted basecourse path. The first section of Stagecoach Road from SH60 to the unsealed section of Stagecoach Road should be improved, which is not proposed to be part of the works the applicant will contribute to.

Dickers Road is a well-used walk/cycle path that provides a connection to the north, Tasman Village and the Great Taste Tasman Trail. It is mostly well formed with seal in some places and wide gravel formation in others. As with Stagecoach Road there are some sections that will need some improvements to provide a consistent standard to the existing and future users.

Williams Road is mostly an informal dirt track. No improvements are planned for this connection. Again there is some merit in some work to be carried out to provide the wider community with alternative route choices.

7.3 Road Design

The development is located within the Rural 3 zone. The nature of the development seeks to have smaller lots in some areas of the site and in line with that increased density the road designers are proposing to construct new roads generally to a residential standard.

It is proposed to upgrade Stagecoach Road generally to meet the NTLDM requirements. Discussions have been held with Council officers to understand Council's requirements. Council staff have confirmed that they want a six-metre-wide sealed carriageway with 500mm wide gravel shoulders on each side of the road. There was some discussion around the cycle/walk path width and need. The plans are showing a 2500mm wide gravel path separate from the road formation of Stagecoach Road.

There are some sections of Stagecoach Road that are not within road reserve and traverse into private land. The design has realigned the road to have all the public road formation within road reserve. This has led to some minor modifications to the typical layout to provide a design that can meet the needs of the increased traffic and local residents. It was noted to Council that the upgrade of Stagecoach Road had some noticeable wider public benefits and will potentially make it easier for other Rural 3 land in this area to be developed.

Figure 6 shows the typical cross section of three road types within the development and the upgrading of Stagecoach Road. Larger scaled plans are provided within the consent application.

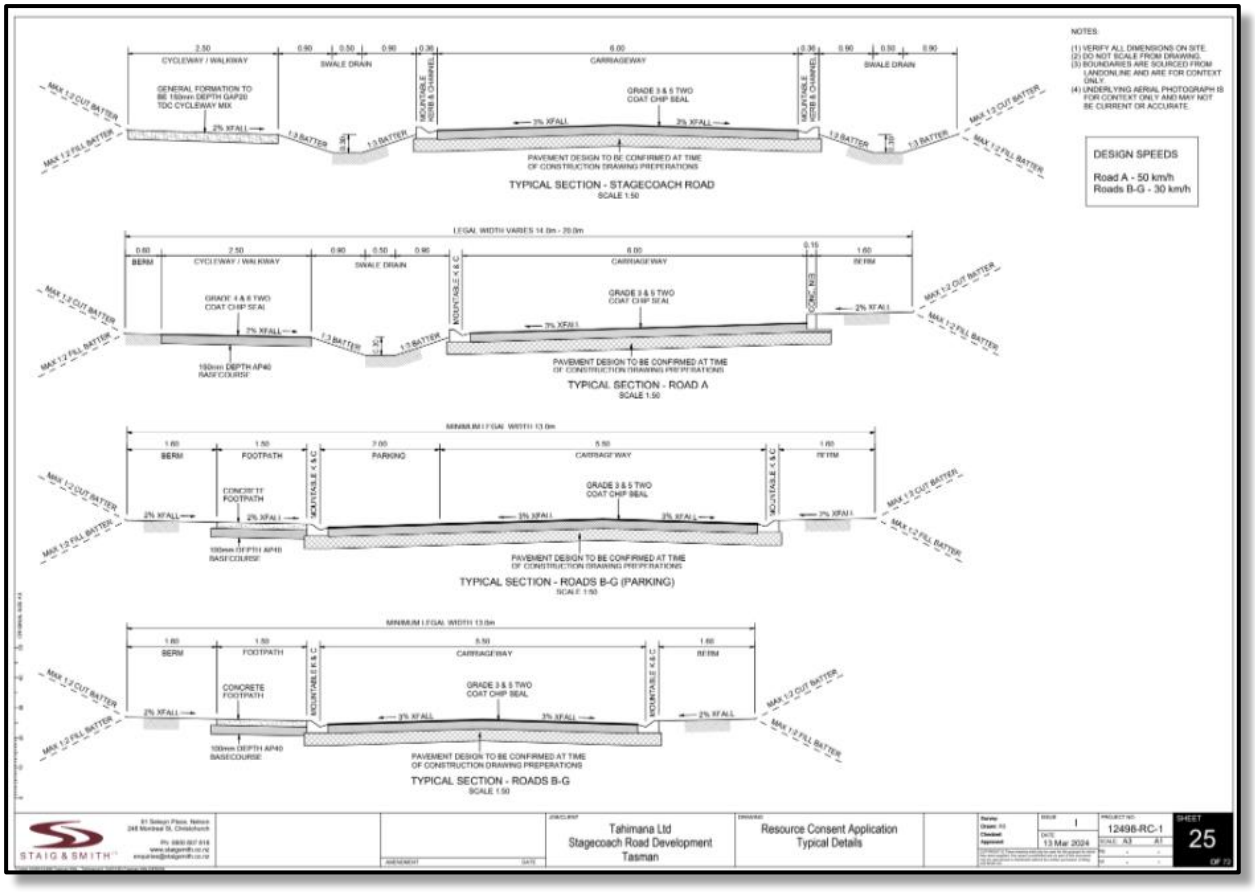

Figure 6: Typical Road Cross sections. (Source: Staig & Smith Plan 12498-RC1 Sheet 25)

As the number of lots decrease on the individual roads the formation standard also reduces in line with Table 4-7 of the NTLDM.

The right of ways have also been designed to the requirements of the NTLDM.

8 TRANSPORTATION PLANNING FRAMEWORK

8.1 General

This analysis is an audit of the design of the development road and traffic matters and its compliance with the requirements of the Tasman Resource Management Plan (TRMP) as well as the Nelson Tasman Land Development Manual (NTLDM).

It is important to note that design and layout of the development has been independently commissioned and carried out by Staig & Smith. Traffic Concepts staff have been independently commissioned to consider the transportation matters and the potential positive and adverse effects on the wider road network. The analysis includes an assessment and evaluation of any non-compliance with the TRMP. Separately Traffic Concepts staff have also been commissioned to complete a Safe System/Road Safety Audit of the preliminary design. Traffic Concepts staff have not been involved in the design of the development.

8.2 Te Tauihu Regional Land Transport Strategy/Plan (RLTP)

The RLTP, called "Connecting Te Tauihu (Top of the South)" is a critical document that underpins the region's road network and transportation planning. Within this document there are a number of guiding objectives and policies that align with the GPS. It should be noted that the 2024 GPS will be published soon and may to have a different transport direction to the 2021 GPS as a result of the change in Government.

Nevertheless, the overarching direction to provide resilience and transport choice will likely remain. The key strategic objectives set out in the RLTP include mode choice, safety, network management, economic prosperity, resilience and environment outcomes.

The development site is able to meet high-level objectives and policies with connections to cycle and walking being provided and linkages to public transport. The upgrading of Stagecoach Road will improve resilience and safety. The development will give people choices to where they live and play. With the development site ideally located between Richmond and Motueka, future residents have convenient choices for work and other services. The development is accessed from SH60 which conveniently links to the wider road network.

8.3 Tasman Resource Management Plan (TRMP)

The development is located within the Rural 3 zone as listed within the TRMP (Map 87). As such, the development parking, loading and access is considered against Chapter 16, Section 16.2 Transport. Consideration of Section 16.3 (Subdivision) and Section 18.8 (Road Area) has also been provided.

Section 16.2 provides the rules and standards for the access, parking and traffic requirements for developments. The TRMP also references the Nelson Tasman Land Development Manual for engineering standards applicable under the TRMP.

Section 16.3 provides rules and standards around subdivisions with an assessment provided below.

Section 18.8 provides rules and standards for new roads to be vested with Council.

There is no specific Rule requiring a Road Safety Audit in the TRMP, however Table 4-2 of the NTLDM sets out audit stages for developments. Based on Table 4-2 a Road Safety Audit is required to be provided prior or with a Resource Consent application. A Safe System Audit of the proposed sealing of Stagecoach Road and a Road Safety Audit of the proposed development will be provided separately as part of the resource consent process.

Table 2 below provides a statement of compliance against the relevant requirements set out in Section 16.2.

RULE	REQUIREMENT	DISCUSSION	COMPLIANCE
16.2.2.1	**Permitted Activities (Land Use – Vehicle Access Considerations)** Any land use is a permitted activity that may be undertaken without a resource consent, if it complies with the following conditions:		
16.2.2.1 - Access and Vehicle Crossings			
(a)	*The site of the activity is provided with an access and crossing, laid out and constructed in accordance with the matters listed in Figure 16.2A.* *Note that Figure 16.2A now refers to the NTLDM 2019.*	Figure 16A refers to the NTLDM 2019 and the following: General 4.10.2.1 (a) – (e), 4.10.2.3 and 4.10.2.4 – 4.10.2.8 Higher speed environments 4.10.2.2 Grade and gradient design 4.10.3.2 – 4.10.3.4 Spacing 4.10.2.3 and 4.10.7 Tracking and turning 4.10.6 Sight distances 4.10.4	**Refer to the NTLDM Table (Table 2)**
(b)	*Visibility from the access and crossing complies with 4.10.4.1 and 4.10.4.2 of the Nelson Tasman Land Development Manual 2019.*		**Refer to the NTLDM Table (Table 2)**
(c)	*The design of the access and crossing complies with Figure 4-10 of the Nelson Tasman Land*	Figure 4-10 refers to treatments associated with footpaths.	**Complies**

	Development Manual 2019 for a Rural 3 zone.	The road design will meet the requirements of the NTLDM and for a residential area.	
(j)	*On-site manoeuvring space is provided on any site for the largest class of vehicle likely to need access to the site on a regular, frequent or predictable basis, so that a vehicle does not need to reverse to or from any road; except that this requirement does not apply to a site containing only a single dwelling that has access from a collector, access road or access place.*	The roads within the development are Access Roads so there is no requirement to provide on-site manoeuvring.	**N/A**
16.2.2.2 – Frontage to Unformed Legal Roads			
(b)	*Vehicular access to the site of any activity is by formed legal road, or by an existing right-of-way or other legally enduring instrument over another property.*	All access will be from a formed legal road or Right of Way.	**Complies**
16.2.2.3 - Provision for Parking and Loading			
Size of Parking Spaces			
(b)	*The activity does not use parking spaces on another site, except where the title of the site of the activity and the title of the site on which the parking for that activity is provided, are amalgamated or otherwise encumbered so that one site cannot be disposed of independently of the other.*	Parking is provided on the individual allotments and will not be on other titles.	**Complies**
(f)	*Any residential car park is 5 metres x 3 metres, but where two car parks are side-by-side, the combined area may be 5 metres x 5 metres.*	All parking spaces can easily comply with the design vehicle and manoeuvring requirements of the TRMP.	**Can comply**
(j)	*Cycle parking laid out in accordance with Schedule 16.2B is provided*	This rule appears to relate to non-residential activities. The individual lots have sufficient on-site land area to meet this requirement.	**Complies**
(k)	*A carparking area must be included for people with disabilities. The dimensions of*	This rule appears to relate to non-residential activities.	**Complies**

	spaces for disabled people are detailed in Figure 16.2D. *Note: In accordance with provision D1.3.6 of the Building Act Code, vehicle spaces for use by people with disabilities shall be provided in sufficient numbers.*	The individual lots have sufficient on-site land area to meet this requirement.	

Table 2: Tasman Resource Management Plan Standards Compliance Table

As shown, the design completed by Staig & Smith shows there are no areas of non-compliance, noting that the NTLDM assessment is provided below.

It should be noted that some non-compliances may present themselves as detailed design is carried out and in some cases as houses are being constructed. These non-compliances should be addressed at Engineering Plan approval stage or as part of the building consent process for the new homes.

Table 2 below provides a statement of compliance against the relevant requirements referenced in the TRMP Section 16.2 that are set out in the NTLDM. The TRMP specifically references the following sections of the NTLDM.

- Sections 4.10.2.1 (a) to (e)
- Section 4.10.2.3
- Sections 4.10.3.2 to 4.10.3.4
- Section 4.10.4
- Section 4.10.6
- Section 4.10.7

These sections are set out in the table below, along with discussion and compliance. It should be noted that these requirements will typically be considered at the time of the Building Consent, as the subdivision does not generally have sufficient detail to assess these compliances. The assessment below reviews the preliminary design plans to see if compliance can be achieved based on the detail provided.

Table 3 provides the assessment of the accesses against the NTLDM.

RULE	REQUIREMENT	DISCUSSION	COMPLIANCE
Private Access - Section 4.10.2			
Section 4.10.2.1	*a) Be designed in accordance with the minimum specifications in Table 4-13.*	All accesses and right of ways within the development are designed to the NTLDM requirements.	**Complies**
	b) Only serve up to six units.	All RoW's have less than six users.	**Complies**

	c) Give access to the lower ranked road in the Hierarchy if the site has frontage to more than on road.	New roads within the subdivision will be Local roads.	**N/A**
	d) Not create a shorter through-route alternative for vehicles, cycles and pedestrians than the road network.	The individual accesses for homes will not create a shorter through route.	**Complies**
	e) Intersect with the carriageway between 75 and 105 degrees on classified roads.	All new vehicle crossings for the development will connect at 90 degrees to the legal road.	**Complies**
Section 4.10.2.3	*Not more than one crossing is provided per site.*	The new lots will have one vehicle crossing.	**Complies**
Section 4.10.3.2	*The maximum gradient of an access ramp for the first 6m from the property boundary line will be 1-in-20 (5%).*	The gradients for the new accesses can be designed to meet this requirement.	**Complies**
Section 4.10.3.3	*On roads where the footpath is located against or close to the kerb and where the target speed environment is 40km/h or lower, vehicle crossings will be designed with a mountable kerb.*	The proposed footpaths on vested roads are not located against the kerb. A grass berm is provided.	**Complies**
4.10.4	*The minimum sight distance that must be available from any vehicle access point along the frontage road is shown in Table 4-14.*	The new vehicle crossings will meet this requirement noting the lower operating speeds around intersections and certain sections of roadway. The sight distance required for an operating speed of 30 km/h is 23 metres.	**Complies**
4.10.5.1	*For all vehicle access points, a minimum visibility splay with the dimensions shown in Figure 4-10 must be provided. Items may be located within the visibility splay provided they do not obstruct visibility to pedestrians. Generally, this means avoiding objects and vegetation with a height of more than 0.9m.*	The footpaths are located away from the adjacent property boundary which provides the pedestrian splay. No objects over 900mm will be within the required pedestrian splay.	**Complies**

4.10.6	*Section 4.10.6.2* *Tracking paths and turning circles on private land will be provided in accordance with AS/NZS 2890.1 "off-street carparking" 2004.*	The individual parking spaces will meet the tracking path requirements. Note there is no requirement to provide on-site turning as noted in Rule 16.2.2.1 (j).	**Complies**
	Section 4.10.6.3 *Vehicle access points must be located so that no part of the access, nor tracking path crosses any part of another site except where there is a right of way or other similar legal easement over those parts of the other site see Figure 4-12.*	None of the accesses cross over adjacent properties without appropriate RoW's in place.	**Complies**
4.10.7	*No part of a vehicle crossing shall be closer to a road intersection than the distances permitted in Table 4-15.*	The vehicle crossings are located more than 10 metres from the nearest road intersections.	**Complies**

Table 3: NTLDM 2020 TRMP Reference Compliance Table

As shown the development can meet all of the referenced requirements from the TRMP to the NTLDM.

Table 4 sets out the various rules from Section 16.3 that relate to subdivisions. These rules are more relevant for assessment at the resource consent stage than the above tables as they set out requirements around road design and subdivision layout rather than detailed design. Based on material provided by the designers it is understood the proposed layout of the cluster housing has been designed to a residential standard rather than a Rural 3 standard due to the type and density of the proposal.

RULE	REQUIREMENT		COMPLIANCE
16.3.7	**Rural Zone**		
(h)	*(h) The subdivision complies with the transport conditions in Schedule 16.3B.*	This rule is for a Controlled Activity. The proposed subdivision is not a controlled activity. The rules set out below have been used as an assessment tool.	**See Below**

Schedule 16.3B	Transport Conditions		
Roads, Access and Parking	*(a) All roads, including indicative and connecting road, are laid out, constructed and vested in the Council in accordance with the road construction conditions specified in Section 18.8 for the relevant Road Class in the road Hierarchy shown on the planning maps.*	Section 18.8 has been modified to now reference the NTLDM 2019. It should be noted that the NTLDM has been updated in 2020. The planning framework still requires NTLDM 2019 to be used. All roads have been designed to meet the NTLDM noting the exceptions relating to the proposed "Residential Lane" road standard which is not provided for in the Rural zone. THe footpath on Roads B to G are not 2.5 metres as required by the NTLDM.	**Does not comply.** Roads B – G not to rural zone standard Road B to G footpath is not 2.5 metres wide.
	(b) Every allotment has vehicle access to a formed legal road other than a limited access road. Access to allotments is constructed in accordance with conditions specified in section 16.2.	All new lots will have access to a formed legal road or RoW and constructed to the requirements in Section 16.2.	**Complies**
	(c) Where subdivision creates or alters title boundaries of developed sites, every allotment created (including any balance title) has vehicle parking provided and constructed in accordance with the conditions specified in section 16.2.	All parking areas will be constructed in accordance with Section 16.2.	**Complies**
Linking Subdivision Roads to Existing Roads	*(e) Where any land to be subdivided is subject to a notation on the planning maps as an "Indicative Road", a road is laid out and constructed on the general alignment of the indicative road.*	There are no indicative roads through the site. The new roads to be vested meet the requirements.	**N/A**
	(f) Where any land to be subdivided is subject to a notation on the planning maps indicating that a "Connecting Road" is required through the land, the road is to be laid out, constructed and vested in the Council at the time of the subdivision.	The planning maps do not indicate connecting roads for the development site. However, where possible a link has been provided.	**N/A**
	(g) Where any new road extends or completes an existing road, the road is constructed at the developer's cost to the relevant conditions specified in section 18.8.	Stagecoach Road will be extended as part of the development.	**Complies** **See Assessment**

		New roads will be built as part of the subdivision by the developer.	
	(h) Except in the Rural 3 Zone and Services Contribution Area, and in the Lower Queen Street and McShane Road in the Richmond West Development Area, where any land to be subdivided has frontage to any existing road that is not constructed to the conditions set out in section 18.8 for the relevant level of the existing road in the Road Hierarchy, the road along the frontage adjoining the land to be subdivided is formed and upgraded by the developer to the conditions of road widths, kerb and channelling and associated drainage attributable to the subdivision, berm, footpath, crossings and street lighting specified in section 18.8.	The proposed development is within the Rural 3 Zone and therefore no upgrade is required. The road frontage for the proposed subdivision will be constructed to the requirements of Section 18.8.	**N/A**
	(i) Where any land to be subdivided has a frontage to an existing council road which has inadequate road reserve width to meet the condition in the Plan, adequate land to meet the condition is vested in the Council at the time of subdivision, at no cost to the Council.	The road widths allow for the construction of new roads.	**Complies**
	(j) The subdivision provides a safe and efficient road, cycleway and pedestrian access connection to adjoining roads, cycleways and pedestrian accessways.	Roads, cycleways and pedestrian accessways will be provided as part of the development.	**Complies**

Table 4: Compliance Table for Section 16.3 of the TRMP

As set out in the table above, the development can meet the TRMP requirements set out in Schedule 16.3B except for the use of a residential lane in the rural area and the 1.5 metre wide footpath which is one metre less than the required standard for a rural road.

For the purpose of the analysis of the requirements of Section 18.8 the new roading for the development is considered to be Local Roads.

There are seven new vested roads within the development along with five right of ways. The proposed development includes the upgrading and sealing of Stagecoach Road.

It should be noted that the upgrading of the unsealed Stagecoach Road will be to the requirements that Council officers have requested. These requirements were a six-metre-wide road, 500mm wide gravel shoulders, 1600mm wide service berms (where possible) and a 2500mm wide gravel path. As this has been agreed the upgrade of Stagecoach Road is

considered to meet Council's requirements. For this reason, Stagecoach Road has not been assessed in the table below.

The design of the subdivision roads is a hybrid of the rural road standard and the residential road standard. The designer's philosophy is to provide a rural road to the development and for areas where the level of density for subdivision is similar to a rural road. Within the cluster areas a higher level of infrastructure has been provided to meet the demands of these areas. The higher level of infrastructure includes on-street parking. The rural roads for the subdivision (Stagecoach Road Extension and Road A) have been designed to meet the NTLDM 2020 requirements.

Table 5 sets out the requirements of Section 18.8 of the TRMP for the cluster housing roads. As noted above the road designers have used the requirements of a residential road for new roads within the proposed development as opposed to a rural road design.

RULE	REQUIREMENT	DISCUSSION	COMPLIANCE
18.8.3.1	**Road Construction**		
(b) *The activity meets the standards set out in the following sections of the Nelson Tasman Land Development Manual 2019: (assumed NTLDM 2020)*			
(i) Section 4.6.1.1: road design cross section	*A Local Road (residential) road requires the following parameters.*		
	A 5500mm wide sealed moving lane.	The internal roads will be constructed to more than this standard.	**Complies**
	1 carpark/2 dwellings Or 2 x 2.0	Individual lots are able to provide at least one off-street car park. The road widths will allow this requirement to be met.	**Complies**
	Berm - Min 0.3m, Max 6.0m Area ≥ 3.0m2 /lm averaged over 50m or 2 x 1.5	Berms are provided within the service strip.	**Complies**
	Footpaths - 2 x 1.5 – Local Road (all). *Local Road (<20 dwellings) 1 x 1.5*	A footpath is provided along one side of all of the new roads and is consistent for roads servicing less than 20 lots. Road A has one 2500mm wide path. It only provides a path along one side of the road which does not meet the NTLDM for a local road in a residential area. However, it does meet the Local Road rural standard which is	**Complies** Road A meets rural standard for a local road.

		appropriate based on the road environment.	
	Service Berms- 2 x 1.6	Service berms will be provided.	**Complies**
	A legal road reserve width of 13 metres.	All new subdivision roads meet the requirements of Table 4-7 for a Residential Road or Residential Lane.	**Complies**
(ii) Section 4.9.2: intersection spacing	*This section refers to Safe Intersection Sight Distances (SISD) and not intersection spacing. There would appear to be no minimum spacings for new intersections for roads with a posted limit of 50 km/h.*	The new intersections within the development are able to meet the minimum SISD as set out in Table 4-11.	**Complies**
(iii) Section 4.8.5: road alignment safe stopping distances	*This section sets out the Safe Stopping Distance (SSD) requirements for new intersections.*	The new roads within the development will meet this requirement.	**Complies**
(iv)Section 4.6.4.2: cul de sac turning circles	*The minimum radius of the turning circle of a cul-de-sac will be 7m in residential zones,*	The new cul de sacs within the development will meet the requirement turning head radius.	**Complies**

Table 5: Compliance Table for Section 18.8 of the TRMP

As shown in the table above the proposed subdivision along with the new roads is able to meet the requirements of the NTLDM, except for the legal widths.

The next section of this report considers the areas of non-compliance, along with other transportation matters that require further consideration. The next section also provides an assessment of effects.

9 TRANSPORTATION IMPACTS

9.1 General

This section looks at the development and provides an analysis of the road network. The assessment of the potential positive and other effects, shortfalls in the adjacent road network and mitigation measures are provided below. Some of the measures may require further discussion with Council and the applicant to understand the wider community benefits of some of the improvements and how they should be funded.

The key aspects of the development will be the traffic generated from the site, the connections to the wider road network and the cycle and pedestrian linkages.

9.2 Traffic Generation

The calculation of trip generation for developments are usually based on research undertaken by NZTA and is set out in Research Report 453 (RR453) from 2011. While this document has not been updated recently to reflect changes in travel choice that have occurred for a number of reasons, it provides a conservative assessment tool for calculating the trip generation that could occur at the upper limits. The document RR453 provides figures of 10.7 trips per dwelling per day or around 1.3 trips per home in the peak hour.

More recent traffic count data and surveys for residential development shows that trip rates have reduced from this high figure of 10.7 per day. Even some of the more recent information from RR453 shows trip rates between six and eight movements per household.

Surveys show trip generation rates are typically lower and fall within the range of four to eight trips per dwelling depending on its location to public transport and other services. Traffic count surveys for rural residential type development falls between four and six trips per dwelling.

This is noticeably less than reported in RR453.

The location of the development site is not as close to an urban area, employment zones and services.. There are likely to be some multi-purpose trips (trips with different destinations combined) which would lower the trip count. This typically happens with rural residential development as noted in the surveys above, which would be similar to this site. Assessing trip numbers is complicated by likelihood that some future residents will use public transport and different transport choices including walking, cycling and various forms of e-transport.

Based on these assumptions above, a very conservative trip generation rate of seven vehicles per day per dwelling has been used. Based on 141 homes the expected traffic movements associated with the completed subdivision would be around 990 vehicles per day or 100 vehicles in the peak hour.

9.3 Trip Distribution

As shown above, the site is large and will be connected to the wider road network via Stagecoach Road. All vehicular traffic will use Stagecoach Road for access which conveniently links to Seaton Valley Road and Mapua or State Highway 60 to Richmond and Motueka.

Most of the traffic will head out of the development site in the morning and return in the evening. Typically, residential type developments have an 80/20 split for the outward and inward movements which is reversed in the evening. Accordingly, around 80 vehicles will exit via Stagecoach Road with 20 vehicles coming into the development in the morning peak which is reversed in the evening peak. It should be noted that the evening peak is usually spread over a longer period than the morning peak due to the different trips and finishing times when people return from work.

It is difficult to assess the likely trip distribution at the intersection of Stagecoach Road and State Highway 60 due to the good employment zones, shops and services in Motueka and Richmond. Mapua and the wider coastal Tasman area also provides destinations for future residents to work and play.

For assessment purposes it is assumed that there is a 65/35 split with most traffic going to Richmond and the rest to Motueka. No split is provided for Mapua or Coastal Tasman as they would most likely be equally split with the above. Some vehicular traffic may use Seaton Valley Road to access the Mapua area. This has been ignored as it is expected to be a relatively small portion.

Table 6 shows the assumed trip distribution for traffic using the Stagecoach Road/State Highway 60 intersection.

		AM Peak	PM Peak
Stagecoach Road	L	52	13
	R	28	7
SH60	Right in	13	52
	Left in	7	28

Table 6: Trip Distribution

As shown the flows are fairly low with around one vehicle making a left out of Stagecoach in the morning and right turn into Stagecoach Road in the evening every minute. As noted above the existing traffic flows on Stagecoach Road are very low at around 240 vehicles in the peak hour.

The flows from the completed development along with the existing movements can be accommodated easily within the well-designed intersection.

9.4 Road Capacity

The available capacity of Stagecoach Road has been assessed using the Austroads suite of guidelines to determine link capacity of the roads. A number of factors affect road capacity which include road width, traffic composition, vehicle speeds and road geometry. The other important element of capacity is the target operating Level of Service (LoS) which the roads are expected to function at.

There are six different LoS ranging from A through to F. LoS A is a condition of free-flowing stable traffic stream with LoS F being unstable with long delays and queues. Typically, arterial roads have a target LoS service being no worse than LoS D.

Under ideal conditions the number of movements per hour can be as high as 2,200 vehicles per lane. Flows have been recorded at this level for urban motorways in peak conditions. However, the peak operational capacity of a two lane, two-way road (one lane in each direction) is more practically around 2,800 vehicles per hour. This operational flow is for a road with traffic lanes with a width of 3.7 metres and shoulders of 2.0 metres (parking lane). It should be noted that the capacity of a road that has 2.7 metre wide lanes with no parking lane is around 1,400 vehicles per hour or 14,000 vehicles per day.

Putting this into context, the current flows on Stagecoach Road are around 240 vehicles per day.

The completed subdivision is expected to increase the number of movements using the wider road network by around 990 vehicles per day. This is still well below the operational capacity of Stagecoach Road and other surrounding roads with the total flows being around 1230 vehicles per day upon completion of the development.

There are no traffic capacity constraints along Stagecoach Road with the road expected to operate around 10 to 20% of its practical operating capacity.

As traffic moves further away from the development site, the density of the new traffic will be dispersed over the wider network. Accordingly, any effects of the increase in traffic will be diminished across the wider network with no discernible difference on other road users.

9.5 Stagecoach Road Design

As noted above there are three distinct parts to Stagecoach Road. The first section which is sealed, the second section which is not sealed and the last section which is a dirt track. The applicant will be carrying some works to address potential effects of the increased use of Stagecoach Road. The discussion below provides information about the existing use and the wider benefits of the proposed development.

The first section of Stagecoach Road is sealed and formed to a standard that can accommodate the existing flows and the increased use that will come from the development. It should be noted that there are no formal footpath/cycle facilities for this section. Walkers and cyclists

either use the road or the informal off road dirt track that runs alongside the road. This is an existing situation.

The second section of Stagecoach Road will be upgraded to accommodate the increased use arising from the development. The preliminary road design plans show a six metre wide road with a 2.5 metres wide off road shared path. This improvement will also improve the level of service to the existing properties being around 24 properties and the public using this section of Stagecoach. The road improvements will also enable the existing properties to subdivide as the impediment of current unsealed roading will be removed.

The remaining third section is a complete road construction project which will include new basecourse and sealed surfaces to accommodate the new traffic to and from the proposed development. This will include the construction of an off-road shared path for existing and future users.

9.6 Transport Choices

As noted above the development site is well located to make use of the nearby existing walking and cycle connections to the wider road network. More recently a new public transport bus service has been commissioned that links between Motueka and Richmond that goes via Tasman Village and Mapua.

There are schools and services within the Tasman Village which can be accessed from the development site through existing links including Williams Road and Dickers Road.

Figure 7 shows the nearby cycle and walking connections from the development site.

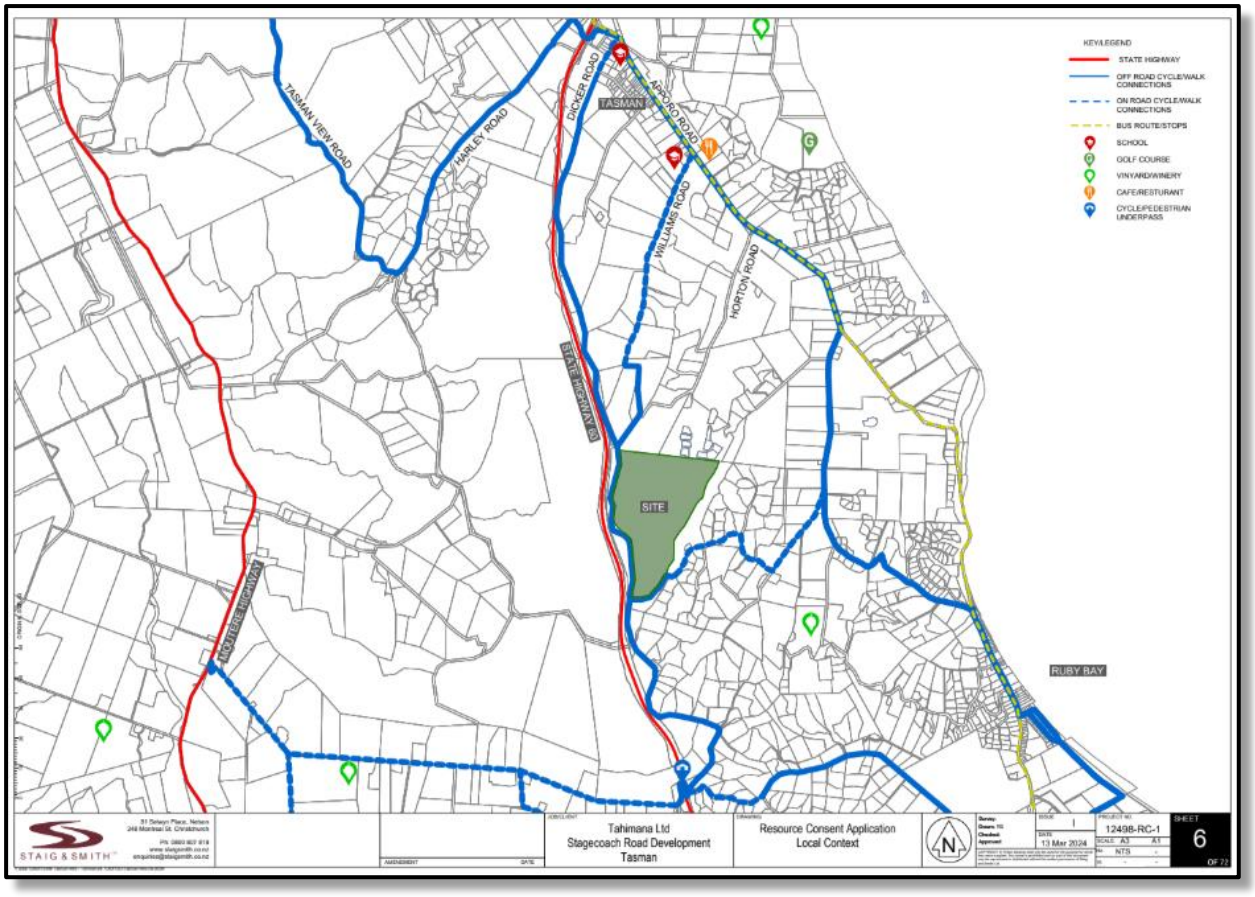

Figure 7: Walking and Cycle Connections. (Source: Staig & Smith Plan 12498-RC1 Sheet 6)

The walk and cycle links from the development site also connect to the Tasman Great Taste Trail. The Tasman Great Taste Trail provides off road links to Motueka and Mapua. It is also possible to cycle to Richmond via Rabbit Island and the Mapua Ferry.

There are also links to Mahana and Upper Moutere via Stagecoach Road and the underpass under the Ruby Bay Bypass at Chaytor Road.

The site is well placed to provide low and no emission transport choices for the new residents of the development.

9.7 Vehicle Kilometres Travelled

The site is located in the Coastal Tasman area which has been set aside for more development and is well linked via the SH60 connection between Richmond and Motueka. The Rural 3 Zone allows for cluster housing for residential use.

The development site is positioned roughly centrally between the urban areas of Richmond and Motueka which provides excellent choices for future residents to access employment services, goods and services. With the availability of two different urban areas to provide for the needs of future residents, it is expected to have a no more than minor effect on total vehicle kilometres travelled. More importantly the road network that residents are likely to use is less congested than the urban network between Nelson and Richmond as well as out to Brightwater. Future residents will access the employment areas of Mapua (identified growth area), Upper Moutere,

Motueka and Richmond. This will remove vehicles and congestion from the Nelson – Brightwater road corridor.

The future residents are able to use existing roads to access the wider network via the strategic road network (SH60). Residents are also provided with transport choices with the connecting walking and cycling links and the public bus service.

The development site is well located to take advantage of the state highway network to access employment and service areas with any effects considered to be no more than minor.

9.8 Road Safety

A separate Safe System Audit and Road Safety Audit will be provided with the consent application. The audit process has been undertaken separately to the road designers of the subdivision.

In general terms the roads will be constructed to the Council requirements and standards. Stagecoach Road will be upgraded to meet the increased traffic flows.

The intersection of Stagecoach Road and SH60 is well designed and is expected to safely accommodate the increase flows from the development. It should be noted that the intersection was designed on the expectation of land use change and growth as part of the construction of the Ruby Bay Bypass.

A Safe System Audit has been completed on the sealing of Stagecoach Road. The existing formation has been assessed against the proposed works for the unsealed section of Stagecoach Road. A separate Road Safety Audit on the concept design has been completed for the subdivision and the new construction of Stagecoach Road.

The effects of the development on levels of service for road safety are less than minor.

10 CONCLUSION

The proposed development is a subdivision providing around 141 lots that have a variety of lot sizes.

The development site is conveniently located between Motueka and Richmond. Access to the site is from Stagecoach Road which connects directly to the wider road network through State Highway 60. There are also transport choices provided from the development site with walking and cycle connections to Tasman Village and beyond along with bus services.

Stagecoach Road links to State Highway through a well-designed intersection that was designed to accommodate higher flows from the development of the Rural 3 land.

The proposed development is expected to largely comply with the requirements of the Nelson Tasman Land Development Manual (NTLDM). There may be some non-compliances when it comes to detail design, and these will be addressed at the Engineering Plan Approval stage. Separately a Safe System Audit and Road Safety Audit will be provided with the consent application in accordance with the requirements of the NTLDM.

Overall, the analysis and assessment of the adjacent road network shows that it will support the future traffic from the proposed subdivision area. There are no discernible effects on other road users.