

TRANSPORT MEMO: FAST TRACK ACT (2024) REFERRAL

Subject: Orchard Grove, Kay Road, Flagstaff Hamilton

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Reviewed By: Michelle Seymour

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1 INTRODUCTION

1.1 GENERAL

The Orchard Grove proposal is for a staged and comprehensively designed residential development (including subdivision, earthworks and land use). The proposal includes subdivision to create residential lots, a small neighbourhood centre, open space and recreation areas, roading and walking and cycling facilities, three waters infrastructure, and all associated site and civil works.

Aspects of the proposal of key relevance to transport matters include:

- (1) A new residential community, comprising circa 815 new residential units with a variety of densities, a green space and a commercial node;
- (2) A neighbourhood centre of approximately 5,500sqm near the middle of the site; and
- (3) A series of walking routes through the site

The residential development is framed around a central spine collector road which runs from Reynolds Road in the north of the site, down to the Kay Road in the south of the site. Intersecting this are a number of local road connections to link the wider residential area. This transport network, supported by local roads, pedestrian and cycle connections, enables a legible grid structure in the residential area. A range of housing typologies and densities are proposed to meet the growing and changing needs of the housing market to ensure there are options for future residents.

The neighbourhood centre located in the heart of the development, will enable a number of amenities and services to support the development, wider community and local economy, such as local shops, a childcare facility and a café. The commercial node comprises an area of 5,500sqm in the centre of the development. This element of the proposal has been scaled to support the density proposed in the residential components to ensure it does not threaten the primary purpose of the nearby town centres.

The multi-functional greenway links the commercial node and open spaces of the development area. This corridor interconnects infrastructure, cultural narrative, ecological wellbeing, connectivity and amenity to support a place-based identity. A number of uses are proposed along this corridor to

encourage future residents to interact with the greenway, such as sheltered rest areas for relaxation and socialisation, active mode pathways, and play areas.

1.2 PURPOSE OF THIS MEMO

This memo has been prepared to support a referral for approval to be completed under the Fast Track Approvals Act (2024). This memo provides a high-level summary of the transportation matters related to the proposal to develop a range of activities as described above.

To support the referral, this memo provides a high-level review of the transport aspects of the proposal, including:

- Summary of the proposal and site description;
- High level analysis of traffic impacts;
- Proposed additional assessment to support application
- Conclusion.

2 SITE DESCRIPTION AND PROPOSAL

2.1 SITE DESCRIPTION

Orchard Grove ('the site') is of irregular shape and is approximately 72 hectares, and is situated within the Waikato District, directly adjoining the territorial boundary of Hamilton City to the south, as shown in Figure 2-1.

Figure 2-1: Site Location



The site can be accessed by Reynolds Road to the north, Resolution Drive to the east, Kay Road to the south, and Osborne Road to the west. Kay Road lies within the shared jurisdiction of Waikato District and Hamilton City Councils.

2.2 ADJACENT ROAD NETWORK

Figure 2-2 shows the site in relation to the local road network.

Figure 2-2: Site Location

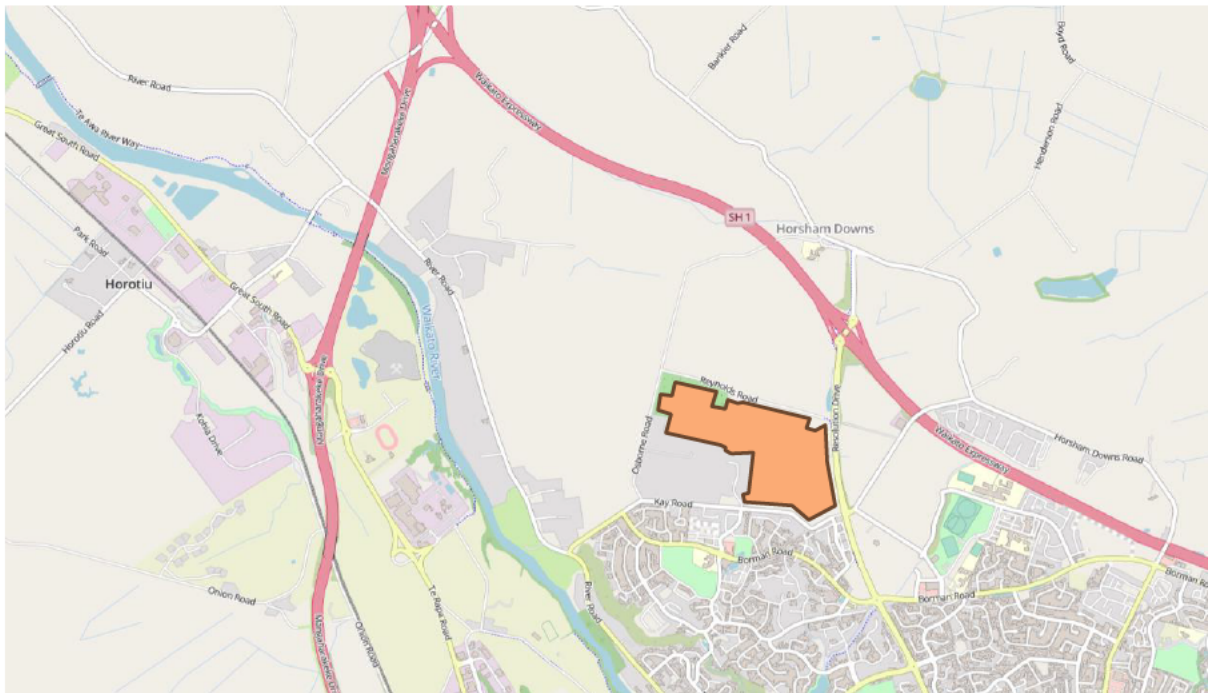
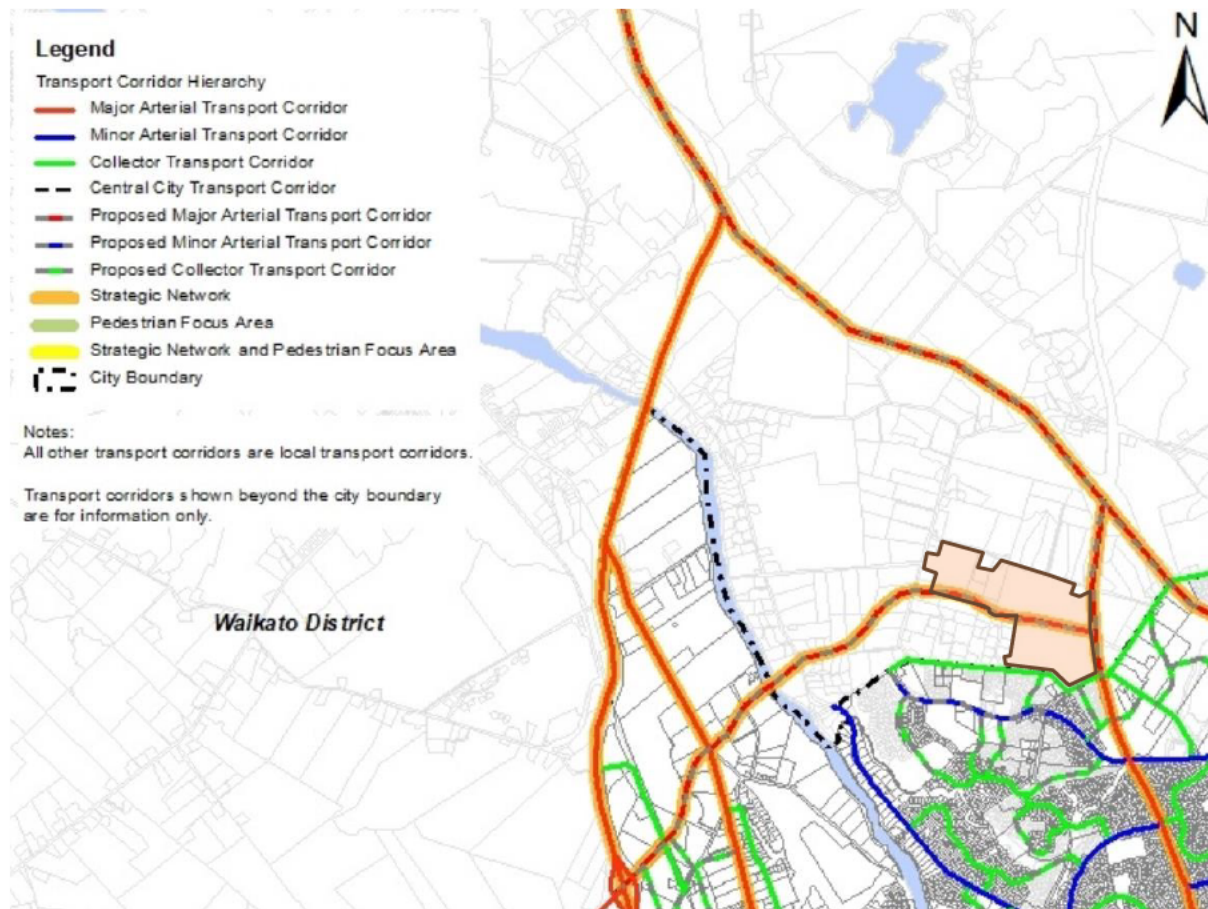


Figure 2-3 shows the site road hierarchy Operative Hamilton City Council District Plan (Figure 15-4b) noting the Waikato District Council has all surrounding roads as local roads except SH1 (National Route).

Figure 2-3: Site Location



Resolution Drive is classified as a ‘Major Arterial Transport Corridor’ in the Operative Hamilton City Council District Plan and runs in a general north-south alignment. Resolution Drive has a posted speed limit of 80 km/hr in vicinity of the site. It includes a single vehicle lane in each direction and a shared cycle / pedestrian shared path.

Kay Road is classified as a ‘Collector Transport Corridor’ in the Operative Hamilton City Council District Plan and runs in a general east-west alignment. Kay Road has a posted speed limit of 50 km/hr in vicinity of the site. It has no pedestrian / cycling facilities along the site frontage (essentially still a rural road).

Borman Road is classified as a ‘Minor Arterial Transport Corridor’ in the Operative Hamilton City Council District Plan and runs in a general east-west alignment. Borman Road has a posted speed limit of 50 km/hr in vicinity of the site. It includes a single vehicle lane in each direction separated by a flush median and a footpath on both sides as well as an on-road cycleway.

Osbourne Road and Reynolds Road are not classified in the Operative Hamilton City Council District Plan as they are located wholly within the Waikato jurisdiction. They have a posted speed limit of 60 km/hr in vicinity of the site. They include a single vehicle lane in each direction as a typical rural road.

Of further note, the Operative Hamilton City Council District Plan identifies within Appendix 15 a “Proposed Major Arterial Transport Corridor” running east-west through the middle of the site, linking Resolution Drive in the east through to SH1C in the west. The indicative route identified for

information purposes within Appendix 15 is located within the Waikato District and to date, there are no designations or Notice of Requirements for this major arterial corridor.

2.3 PUBLIC TRANSPORT

Figure 2-4 and Figure 2-5 shows the nearby bus routes and stops near the site. There are two bus routes located within 1km of the site (15-minute walk):

- Bus Route 4N – Flagstaff North; linking Flagstaff North through to Clyde Street in Hamilton
- Bus Route RC – Rototuna Circular. Linking Rototuna with Chartwell

Figure 2-4: Route 4N - Flagstaff

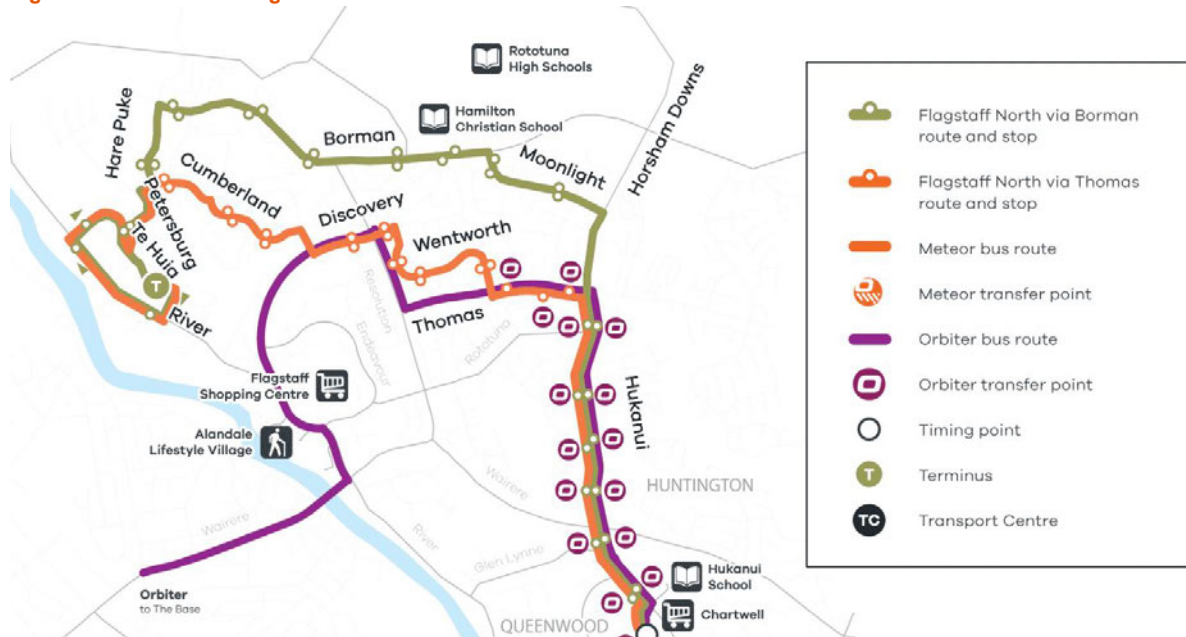
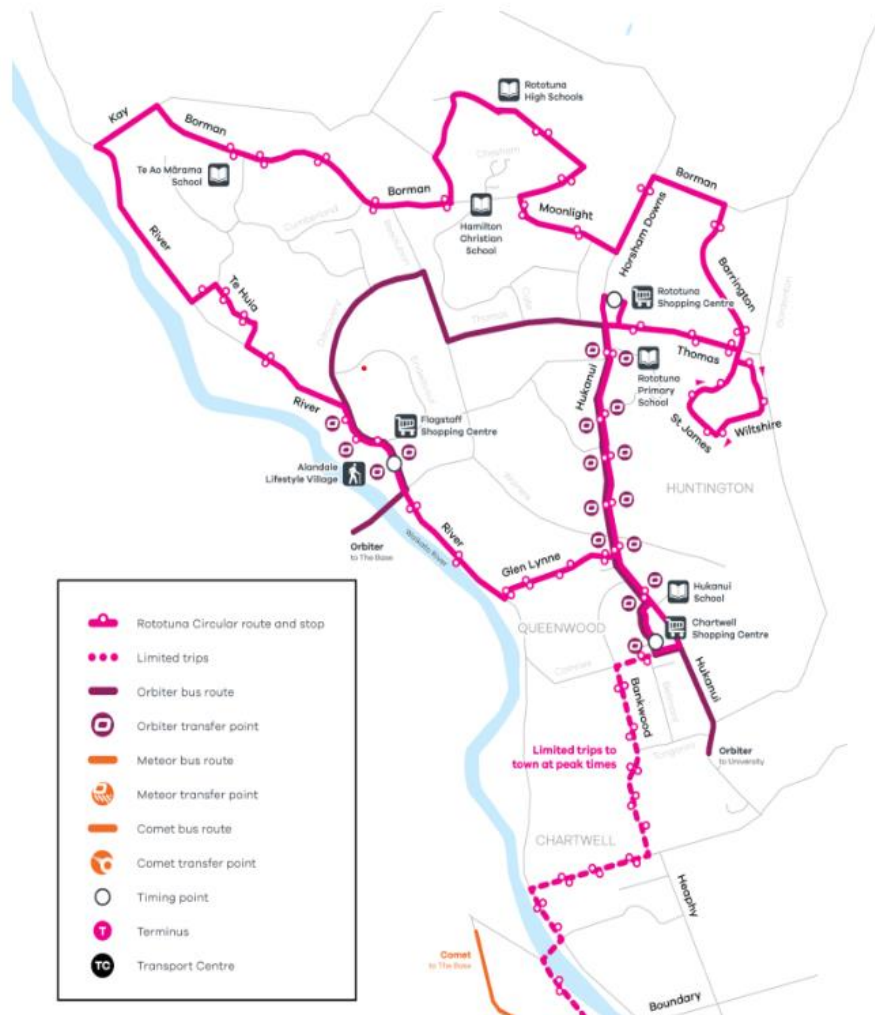


Figure 2-5: Route 4C Rototuna Circular



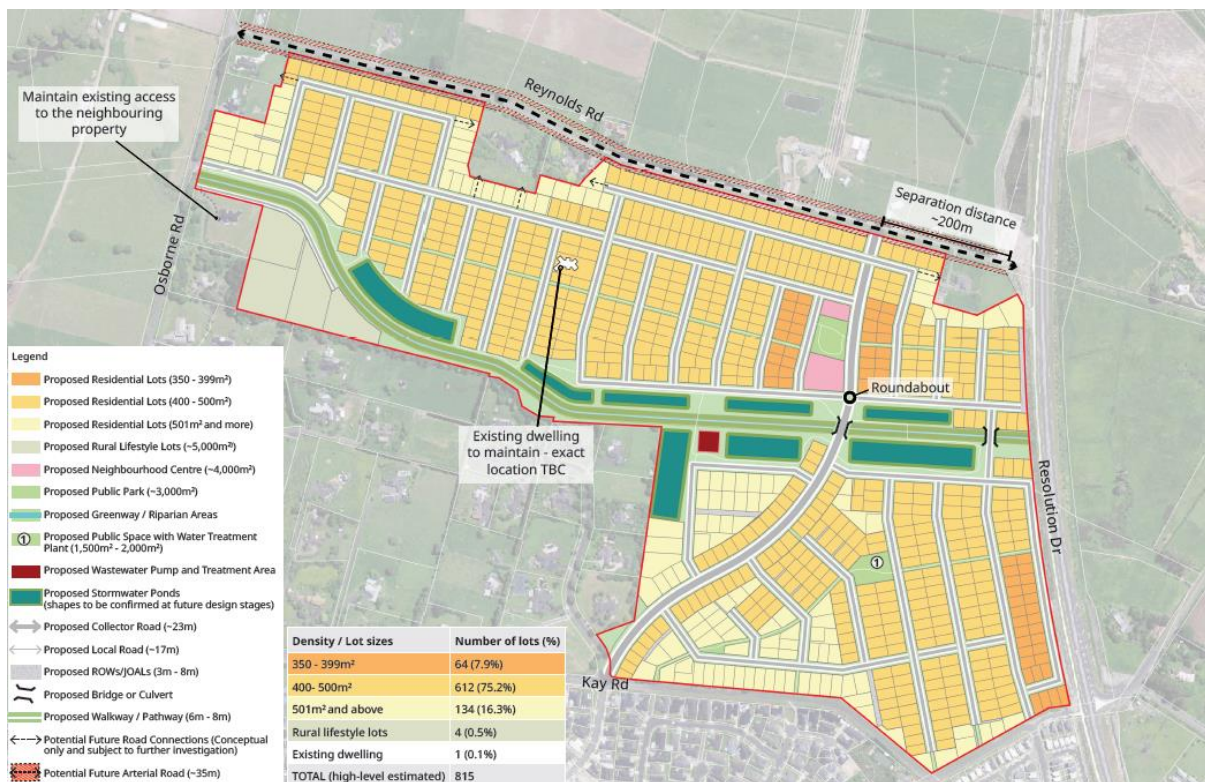
The proposed development is theoretically reasonably well-connected from a public transport perspective and provides residents public transport services for travel to and from the site; however, no pedestrian facilities are provided in the area surrounding the site limiting access to public transport services. This will be fully rectified by the proposal.

2.4 ORCHARD GROVE PROPOSAL

The applicant is proposing to develop the site to provide for a mix of residential activities and a neighbourhood centre. The proposed development will involve the subdivision to create approximately 846 residential lots, as well as all associated earthworks, construction works and structures.

The figure below shows the proposed development including its internal roading configuration and proposed connections to existing roads.

Figure 2-6: Plan of proposed development



As this is a large development, a staged approach to implementation is anticipated.

3 HIGH LEVEL ANALYSIS OF TRAFFIC IMPACTS

3.1 PRIVATE VEHICLE

3.1.1 TRAFFIC GENERATION

In New Zealand, the RTA Guide is frequently used for assessing the traffic generating potential of residential developments. For residential dwellings such as those proposed, the RTA predicts 0.85 trips / dwelling for peak hour trips and 9.0 trips / dwelling for daily trips.

In terms of the neighbouring centre, as this is sized to serve only the subject site it is not expected to generate any external traffic.

The total estimated traffic generation is summarised below in Table 3-1.

Table 3-1: Expected external Traffic Generation

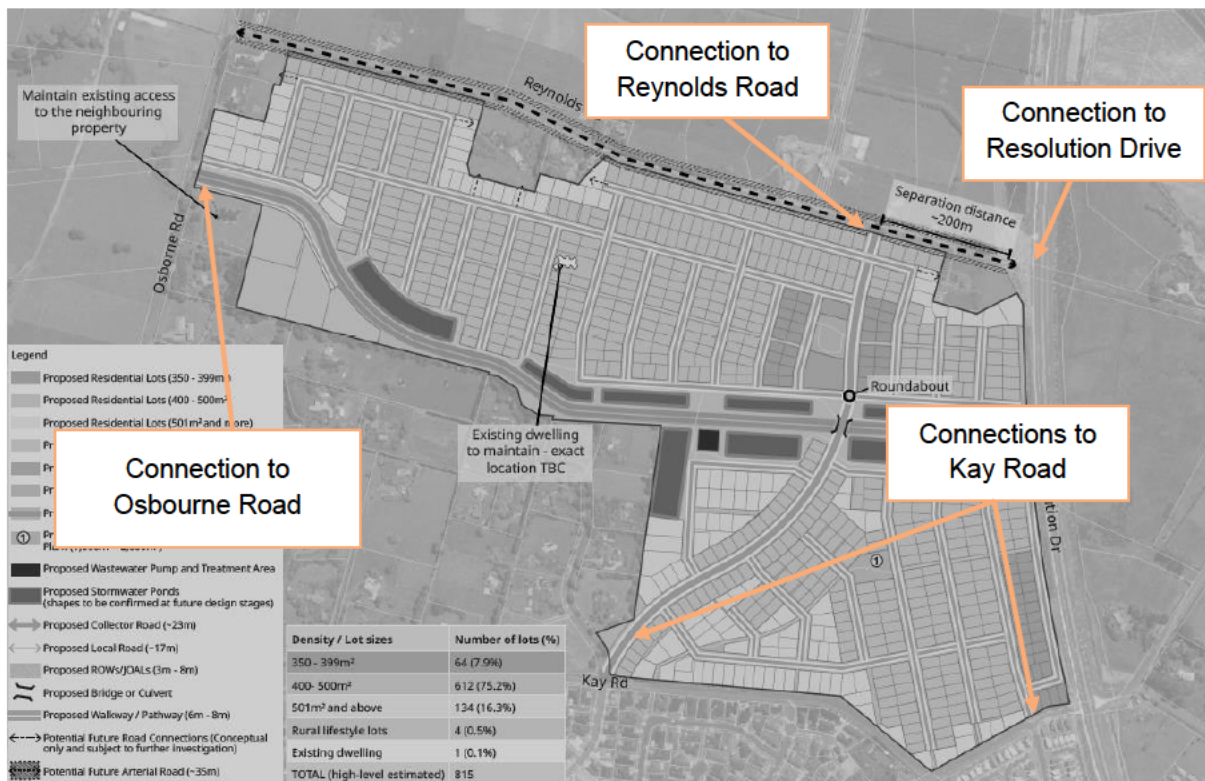
Activity	RTA Rate	Unit	PM external Peak Hour trips
Proposed Plan Change – Residential	0.85 trips per dwelling for peak hour 9.0 trips per dwelling for daily trips	815 dwellings	693 trips
Commercial Activities		5,500sqm	0
Total			693 trips

3.1.2 NETWORK CONNECTIONS

The site is proposed to connect surrounding road network in several locations:

- Kay Road – two connections with the main connection at Hare Puke Drive via a new roundabout and a secondary connection at Tennile Street.
- Reynolds Road at one location. Location can likely initially be formed as priority intersection however as Reynolds Road is proposed to be a future arterial, these intersections will most likely need to be future proofed for an upgrade to a roundabout.
- Osbourne Road in one location (likely priority intersection).

Figure 3-1 Proposed Transport Connections



3.1.3 NETWORK CAPACITY

Initial staging assessments indicates that there is sufficient capacity within the existing network to accommodate a staged approach to development.

It is noted that there is likely a limitation on development that can occur before a link to Resolution Drive is required. This connection will be via Reynolds Road with the intersection of Resolution Drive in the form of a roundabout. At the same time as this connection is included, Reynolds Road will need to be upgraded (from the internal connection to Resolution Drive) to cater for the expected additional traffic. The timing and design of this intersection will be further refined and considered within the Integrated Transport Assessment (ITA).

3.1.4 NETWORK UPGRADES

There are a series of wider network upgrades considered to be appropriate to serve the development. The triggers for these upgrades will be determined in the development of the ITA. This includes:

- Urbanising Kay Road, between Resolution Drive and Hare Puke Drive adjacent to the development
- New roundabout at Kay Road / Hare Puke Drive
- Urbanising road frontages as development occurs, including along Reynolds Road and Osborne Road
- Inclusion of a link extending Reynolds Road to Resolution Drive (including new roundabout)

3.1.5 INTERNAL ROADS

The internal roads include:

- 17m local roads which can accommodate, 6m carriageway, 1.5m footpaths both sides and parking both sides.
- 23m wide collector roads which can accommodate 7m carriageway, 1.5-1.8m footpaths, parking, central median and potential cycle provision.

These proposed cross sections are generally appropriate to support safe and efficient movement of vehicles and people through residential areas. Full vehicle tracking will be completed as part of the final assessment.

3.2 WIDER NETWORK CONNECTIONS

As noted in Section 2.2, the Hamilton City District Plan provides a road hierarchy plan that includes a “Proposed Major Arterial Transport Corridor” running east-west through the middle of the site linking Resolution Drive in the east through to SH1C in the west.

This arterial road is not entirely provided for as a new corridor in the current proposal. Instead, the provision of this arterial link is proposed to be achieved through the use of Reynolds Road linking to Resolution Drive including provision of a future Arterial corridor of 35m by widening the existing 20m road reserve by 7.5m on each side of the road (15m in total).

Overall, by using the existing road network, the development proposal enables this future connection through to SH1C in an efficient manner consistent with the intention of the road hierarchy map.

Specifically, it is noted that:

- The map provided is an indicative plan provided as an appendix, and as such subject to more detailed assessments on likely locations for bridge crossings. In addition, the map confirms that transport corridors shown outside of the Hamilton City boundaries are for information only.
- The maps shown in the HCC District identify a wider roading network that travels beyond the HCC boundaries, and crosses into the Waikato District. There is no corresponding map with the proposed alignment provided in the Waikato District Plan.
- No designations have been lodged by either Requiring Authority, confirming that further investigations are still required.
- The utilisation of the Reynolds Road corridor does not preclude a future continuation of this arterial over the Waikato River as intended by the plan and therefore the Master Plan design for Orchard Grove does not preclude the ability for a future river crossing designation (in any location)

It is also note that when reviewing the full extent of HT1, the arterial alignment along Reynolds Road better aligns with the middle of HT1 and a ‘mid block’ connection through to Resolution than the location shown in the District Plan (Figure 2-3).

Extending the arterial through to SH1C (including a new bridge over the Waikato River) is not considered necessary to address the traffic impacts of the proposed development. Notwithstanding this, the proposed intersection modelling to be completed as part of the Broad ITA will assess local intersection performance without the link to confirm this conclusion.

The ITA would also investigate options for interim connection / intersection to Resolution Drive i.e. left in and left out prior to a final solution (likely roundabout) being implemented as well as interim treatment of Osbourne Road and potential intersection that would link to a future northern road.

3.3 WALKING, CYCLING AND PUBLIC TRANSPORT

3.3.1 PROPOSED WALKING, CYCLING AND PUBLIC TRANSPORT FACILITIES

The proposed walking and cycling facilities include:

- The provision of 1.5m footpaths on both sides of all new local and collector roads
- Off-road walkway / pathway both through the main east-west greenway and through the residential
- Upgrade of Kay Road (to urban standards) to include pedestrian provision

The provision of these facilities will improve walking and cycling both within the site and improve connectivity the existing public transport networks.

4 PROPOSED FURTHER ASSESSMENT

Following on from this high-level assessment, further detailed analysis will be undertaken to confirm these initial findings.

Traffic Modelling

Intersection modelling will be undertaken for the key interfaces between the development and the existing road network. This will include the intersections of

- All new intersections (Kay Road, Osbourne Road, Reynolds Road)
- Kay Road / Hare Puke Drive
- Kay Road / Osbourne Road
- Hare Puke Drive / Borman Road
- Borman Road / Resolution Drive
- Kay Road / River Road

The methodology proposed to complete this will utilise existing counts, that are then subsequently factored to reflect background traffic growth. The expected traffic generation of the site will then be distributed across the network based on likely destinations and existing census data. This traffic modelling will be undertaken using intersection modelling software (SIDRA). Additionally midblock capacity will also be considered to ensure that sufficient network capacity remains available.

As stated previously, this intersection modelling will not include connections over the Waikato River, ensuring that a conservative (ie worst case) assessment of traffic effects is provided.

This traffic modelling will also be completed to confirm the proposed mitigations by staging, to ensure that the identified mitigations are linked to the appropriate stage.

Vehicle Tracking

Given that the development will provide for a number of new roads and new intersections, and a new commercial hub vehicle tracking will be completed to confirm that all relevant development standards will be met.

Broad Integrated Transport Assessment

A Broad Integrated Transport Assessment (ITA) will be developed. The ITA will include the following key assessments areas:

- **Background:** A description of the proposed activity, purpose and intended use of ITA.
- **Existing Land Data:** A description of location, site layout, existing use, adjacent and surrounding land use.
- **Existing Transport Data:** Description of access arrangements, onsite car parking, surrounding road network (including hierarchy, traffic volumes and crash analysis). Comment on public transport, walking and cycling networks.
- **Committed environmental changes:** Consideration other development and land use in the immediate vicinity.
- **Existing travel characteristics:** Trip generation of existing use.
- **Proposal details:** Description of the proposal (site layout, vehicle access, on site car parking, internal vehicle circulation, end of journey facilities).
- **Predicted travel data:** Trip generation of the proposal including consideration of other modes.
- **Appraisal of transportation effects:** Assessment of safety, efficiency and environmental effects.
- **Avoiding or mitigating actions:** Details of any mitigating measures and revised effects.
- **Compliance with policy and other frameworks:** Hamilton and Waikato District Plan objectives, policies and rules.
- **Discussion and conclusions:** Assessment of effects and conclusion of effects.

5 PROJECT TEAM

Commute has significant experience working with public and private organisations including large residential developments, commercial developments and providing advice to Auckland Transport, NZTA, the Ministry of Education and other government agencies.

Leo Hills is a Director at Commute Transportation. Leo has over 28 years' experience in traffic and transportation engineering, including intersection design, traffic safety engineering and design of passenger transport routes and facilities. His work has included projects that focussed on strategic assessment of roading and passenger transport routes through to detailed design tasks of transport schemes.

Michelle Seymour is a Principal Transport Planner with Commute Transportation. Michelle has over 15 years of practical traffic engineering and transport planning experience. Having experience in both the private and public sector, Michelle delivers a keen understanding project drivers and provides a pragmatic solution-based approach. She has a wide range of experience including Integrated Transport Assessments for large scale plan changes, notice of requirements, and resource consent applications.

6 PREVIOUS EXPERIENCE

Commute have provided transport advice on a wide range of developments, below are two similar developments where we have provided transport planning and traffic engineering advice.

Auranga Town Centre, Drury, Auckland

Commute were responsible for transport inputs into the town centre development of Auranga in Drury, Auckland. This development included a Plan Change and subsequent resource consents for the rezoning and development of 33.65ha from Future Urban Zone to a mix of Residential and Business zonings. Commute undertook a range of transport assessments including network modelling, intersection modelling and provided design advice including network access plans to determine the internal roading networks and proposed cross sections to support a multimodal outcome. This development was approved and is currently under construction.

River Road, Retirement Village, Hamilton

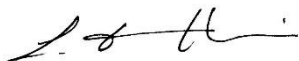
Commute were responsible for the transport inputs into a large retirement village located in Flagstaff, Hamilton. The village provided 120 care beds, in addition to 211 apartments for independent living. Commute undertook a transport assessment to understand the transport implications of the proposal, including proposed accesses onto River Road, on site parking and servicing, pedestrian connectivity throughout the site and connectivity to the wider network and the overall internal site design. This development was approved, constructed and currently occupied.

7 CONCLUSION

Based on our experience and information received to date, it is concluded that there are no transport related reasons why the development as described above could not proceed under a fast-track application process.

We acknowledge that further assessment will be undertaken as part of the Integrated Transport Assessment, however at this stage we have not identified any significant transport effects that would preclude this development from occurring.

We trust this meets your requirements. Please do not hesitate to contact us if you have any questions or require any additional information.



Leo Hills

Director

Commute Transportation Consultants