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**Transport Assessment**

**Prepared for**

**WOLFBROOK  
DEVELOPMENTS  
(PEGASUS) LIMITED**

**Pegasus West Development Project  
Pegasus**

**July 2026**



**Transport Assessment**  
**Prepared for**

**Wolfbrook Developments (Pegasus) Limited**

Pegasus West Development Project  
Pegasus

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## Executive Summary

- This Transport Assessment supports the Referral stage of the Fast-track application for redevelopment of the former Pegasus Golf Course site, called the Pegasus West Development Project.
- **Proposal:** The project provides for up to 1,000 residential lots and an approximate 1.4ha commercial centre, with the detailed layout, staging and transport design to be confirmed through the Substantive Application stage.
- **Transport context:** The site is well connected to Pegasus Boulevard and SH1, with access to Pegasus, Ravenswood, Woodend, Rangiora, Kaiapoi and Christchurch.
- **Existing constraints:** The main existing network issues are at the SH1/Pegasus/Ravenswood roundabout and through Woodend. These constraints are already being addressed through the planned and funded Woodend Bypass.
- **Woodend Bypass:** The bypass will replace the existing SH1 roundabout with a grade-separated interchange and signalised ramp connections, improving safety, reliability and access for Pegasus and surrounding growth areas.
- **Traffic generation:** The proposal is estimated to generate 1,306 vehicle movements in the AM peak hour, 1,466 vehicle movements in the PM peak hour and 12,342 vehicle movements per day. These estimates are robust and will be refined through local surveys and detailed modelling.
- **Site access and layout:** The internal road network can be designed to provide a connected, practical and multimodal subdivision layout, including suitable connections to Pegasus Boulevard and provision for walking, cycling and potential future passenger transport.
- **Wider network effects:** Off-site works are expected to be limited and focused on Pegasus Boulevard access arrangements and the SH1 ramp connections associated with the Woodend Bypass. These can be coordinated with NZTA and confirmed through detailed modelling and design.
- **Construction traffic:** Construction effects can be managed through a Construction Traffic Management Plan, supported by certification or approval from the relevant road-controlling authorities.
- **Conclusion:** No fundamental transport impediment has been identified. The proposal is considered capable of being supported from a transport perspective for Referral to the Fast-track approvals regime, with detailed assessment and mitigation to follow at the Substantive Application stage.



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## Appendices

Appendix 1 Author's Experience



## Introduction

1. Wolfbrook Developments (Pegasus) Limited has commissioned Novo Group to prepare a Transport Assessment (TA) for the Referral stage application to the Fast-Track approvals process for primarily residential use at the former Golf Course site, Pegasus.
2. This report provides a high-level overview of the transport aspects of the proposed development for the purposes of supporting that application. The likely transport matters that will require further consideration at the Substantive Application stage are identified along with confirmation that feasible transport solutions are available to address those matters. It is not intended to provide a final detailed design or a full Integrated Transport Assessment for consenting purposes.
3. The Author's experience is set out in **Appendix 1**.
4. It is proposed to develop the Site to provide for up to 1,000 residential Lots, together with an approximate 1.4ha commercial centre centred around the existing clubhouse. These activities are anticipated to generate 1,306 to 1,466 off-site vehicle movements per hour in the peak hours and 12,342 vehicle movements per day.
5. The site location is illustrated in **Figure 1**.



**Figure 1: Site Location**  
[Background Image from Google]



## Transport Environment

### Road Network

#### Frontage Roads

6. The site is bisected by Pegasus Boulevard which provides the primary road into the wider Pegasus township from Main North Road (SH1) and Ravenswood (further to the west) as shown in **Figure 2** below. The wider network and the road hierarchy is illustrated in **Figure 3**.



Figure 2: Primary Roads Adjacent the Site  
[Background Image from Google]

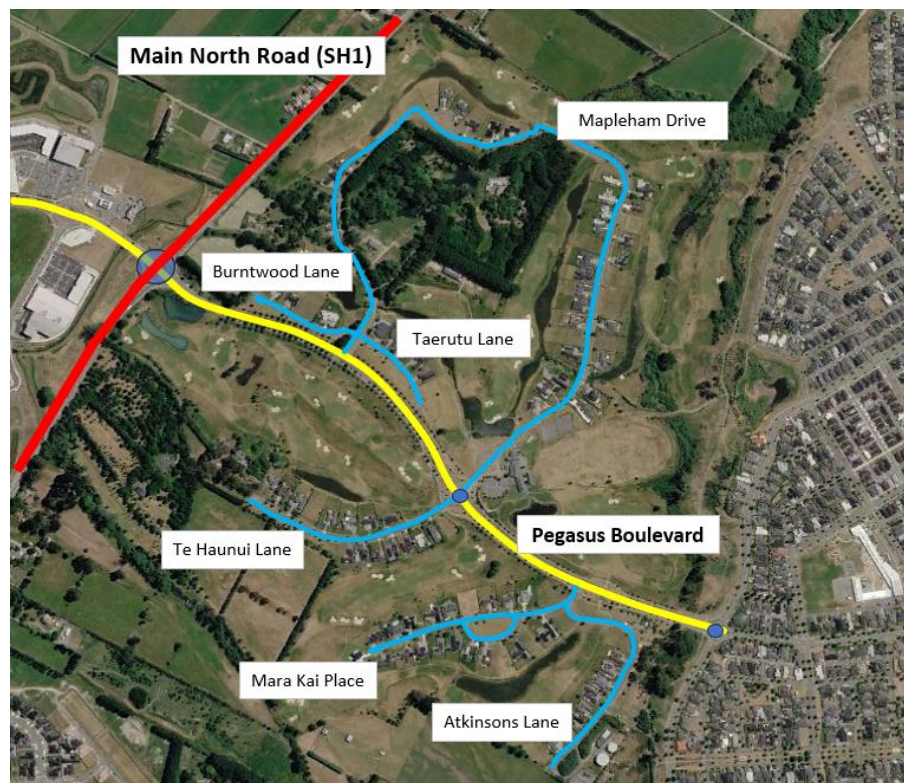


Figure 3: Road Hierarchy  
[Background Image from Google]



7. **Table 1** summarises the transport details of SH1 and Pegasus Boulevard in the immediate vicinity of the site.

**Table 1: SH1 & Pegasus Boulevard**

| Key Feature or Characteristic       | Main North Road (SH1)                                                                                                                                                                                                                                                                            | Pegasus Boulevard                                                                                                                                                                                                                                                                                            |
|-------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Road Classification                 | Strategic Road (SH1)                                                                                                                                                                                                                                                                             | Collector Road                                                                                                                                                                                                                                                                                               |
| Cross-Section Description           | Generally 7.2m carriageway (3.6m lanes)<br><br>The SH1/Pegasus Boulevard/Bob Robertson Drive intersection is roundabout controlled with two-through lanes on the SH1 arms.                                                                                                                       | Road corridor width of 30m, including:<br><ul style="list-style-type: none"> <li>- A carriageway width of 7.2m delineated with edge lines (3.6m lanes, one in each direction)</li> <li>- 1.5m sealed shoulder</li> <li>- 2.4m path on the southern side</li> <li>- Grass berms and tree plantings</li> </ul> |
| Traffic Volumes                     | The volumes range between 13,400 vehicles per day <sup>1</sup> and 21,000 vehicles per day <sup>2</sup> .                                                                                                                                                                                        | 8,000 vehicles per day <sup>3</sup> .                                                                                                                                                                                                                                                                        |
| Speed                               | 70km/h speed limit                                                                                                                                                                                                                                                                               | 70km/h speed limit                                                                                                                                                                                                                                                                                           |
| Pedestrian / Cycling Infrastructure | On road cycle lanes and tapers on approach and departure to roundabout, otherwise provided on sealed shoulder.<br><br>No dedicated footpaths provided beyond the roundabout.                                                                                                                     | 2.4m path along southside only                                                                                                                                                                                                                                                                               |
| Public Transport                    | #97 Rangiora/Pegasus service generally with 1 hour frequencies.<br><br>#95 City/Pegasus & Waikuku service, including AM express services, otherwise 1 hour frequencies during the day.<br><br>Nearest bus stops are however located on Bob Robertson Drive and Pegasus Boulevard and in Woodend. | #97 Rangiora/Pegasus service generally with 1 hour frequencies.<br><br>#95 City/Pegasus & Waikuku service, including AM express services, otherwise 1 hour frequencies during the day.<br><br>Nearest bus stops located on Pegasus Boulevard near SH1 roundabout and east of Infinity Drive.                 |
| Other Notes                         | This road environment will significantly change when the Woodend Bypass is completed (see further discussion in paragraph 15-19).                                                                                                                                                                | A pedestrian underpass is provided 50m east of the Mara Kai Place T-intersection.                                                                                                                                                                                                                            |

8. The existing site is served by six local roads (identified by the **blue** roads as illustrated in **Figure 3**). Most notably, this includes Mapleham Drive which provides a 1.9km loop around the northern portion of the site. This also includes two ~200m long cul-de-sac roads that branch off near the western end, including Burntwood Lane and Taerutu Lane. Three further dead-end roads (two of which connect directly with Pegasus Boulevard) serve the southern portion of the site, including Te Haunui Lane, Mara-kai Place and Atkinsons Lane. **Table 2** summarises the transport details of these local roads.

<sup>1</sup> From Mobileroad.org

<sup>2</sup> From NZTA: [SH1 Belfast to Pegasus Motorway and Woodend Bypass](#) | NZ Transport Agency Waka Kotahi

<sup>3</sup> From Mobileroad.org



**Table 2: Local Road Characteristics**

| Key Feature or Characteristic       | [Northern Block]<br>Mapleham Drive<br>Burntwood Lane<br>Taurutu Lane                                                                                                                                                                                                              | [Southern Block]<br>Te Haunui Lane<br>Mara Kai Place<br>Atkinsons Lane                                                                                                                                                                    |
|-------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Road Classification                 | Local roads                                                                                                                                                                                                                                                                       | Local roads                                                                                                                                                                                                                               |
| Cross-Section Description           | Generally a 6.0m wide carriageway with grass berms on both sides.                                                                                                                                                                                                                 | Generally a 6.0-7.0m wide carriageway with grass berms on both sides.                                                                                                                                                                     |
| Traffic Volumes                     | 50 vehicles per day <sup>4</sup> .<br><br>(Burntwood Lane = 3 houses; Taurutu Lane = 4 houses, Mapleton Drive ~ 30 houses - some sections undeveloped).                                                                                                                           | 50 vehicles per day <sup>5</sup> .<br><br>(Te Haunui Lane ~ 16 houses; Mara Kai Place ~19 houses; Atkinsons Lane ~ 7 houses - some sections undeveloped).                                                                                 |
| Speed                               | 50km/h speed limit.                                                                                                                                                                                                                                                               | 50km/h speed limit.                                                                                                                                                                                                                       |
| Pedestrian / Cycling Infrastructure | Footpath provided on outside of the Mapleham Drive loop.<br><br>Footpath provided on northside of Burntwood Lane and Taurutu Lane.<br><br>A network of existing paths serves much of the site                                                                                     | Footpath provided on northern side of Mara Kai Place and on the southern side of Te Haunui Lane and Atkinsons Lane.                                                                                                                       |
| Other Notes                         | Mapleham Drive (north) is stop controlled at Pegasus Boulevard. Right turn bay and shorth left-turn slot provided on Pegasus Boulevard.<br><br>Mapleham Drive (south) is roundabout controlled.<br><br>Burntwood Lane and Taurutu Lane are give-way-controlled at Mapleham Drive. | Te Haunui Lane is roundabout controlled at Pegasus Boulevard<br><br>Mara Kai Place is stop-controlled at Pegasus Boulevard. Right-turn bay provided on Pegasus Boulevard.<br><br>Atkinsons Lane is give-way-controlled at Mara Kai Place. |

## Wider Connections & Network Operation

- The Site location in the context of the wider State Highway road network is illustrated in **Figure 4**. This indicates that the Site is well connected to this network with the key destinations being Rangiora, Kaiapoi and Christchurch.

<sup>4</sup> From Mobileroad.org

<sup>5</sup> From Mobileroad.org

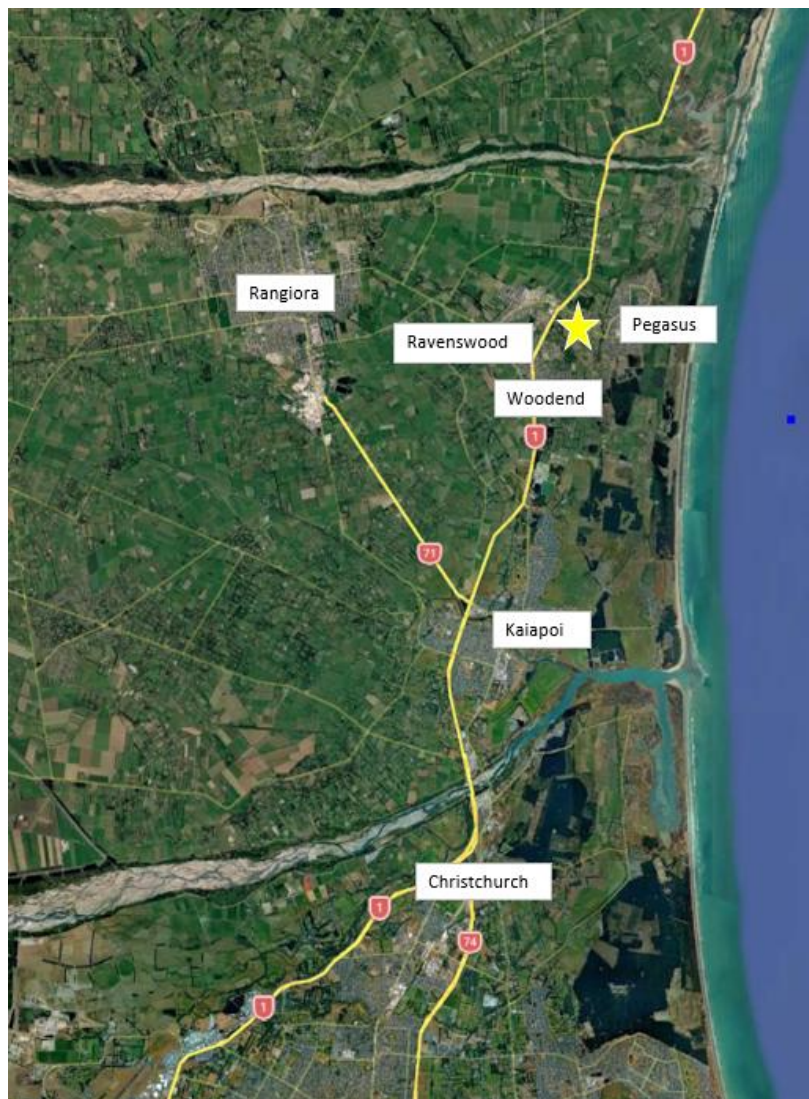


Figure 4: Arterial & State Highway Network  
[Background Image from Google]

10. The main existing capacity constraints are at the Pegasus/Ravenswood roundabout and on the section of State Highway through Woodend. The NZ Transport Agency (NZTA) notes that *growth in Woodend, Pegasus and Ravenswood has increased traffic volumes, resulting in delays and safety concerns*<sup>6</sup>. This is an existing and well-documented issue, and works are already underway to address it through a new motorway bypass, known as the Woodend Bypass, as part of the Roads of National Significance (RoNS) programme<sup>7</sup>. A designation exists for the project. At the time of finalising this report, an amendment to that designation and additional resource consents for the Woodend Bypass have received draft approval from a Fast-track panel. These works are discussed further in **paragraph 15-19**.

<sup>6</sup> See NZTA website: [SH1 Belfast to Pegasus Motorway and Woodend Bypass | NZ Transport Agency Waka Kotahi](#)

<sup>7</sup> The Roads of National Significance (RoNS) are a package of major transport projects that, once completed, will support economic growth and productivity, reduce congestion, improve safety, support housing development, and provide a more resilient roading network (Roads of National Significance (RoNS) | NZ Transport Agency Waka Kotahi).



## Crash History

11. The NZTA Crash Analysis System (CAS) has been reviewed to identify crashes that have been reported in the vicinity of the Site for the 5 year period ending on 27 June 2026. The output from the CAS database is included in **Figure 5**, which indicates 12 reported crashes along Pegasus Boulevard (including the SH1 roundabout at the western end and the Infinity Drive roundabout at the eastern end). This number of crashes (including the one fatality – which *appears to be a medical event*) are not considered to identify any particular trends or concerns. That said, further review and potentially recommendations for mitigation can be undertaken in the Substantive Application.
12. Furthermore, the nine reported crashes at the SH1 roundabout are expected to be addressed by the Woodend Bypass, which will replace the existing roundabout control.

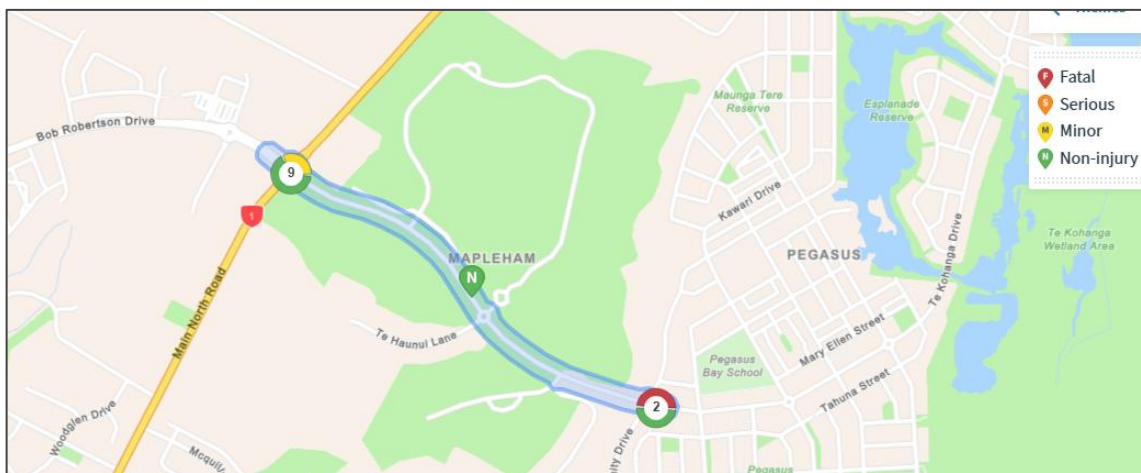


Figure 5: NZTA CAS Output

## Passenger Transport

13. As outlined on **Table 1**, the site is served by the #95 City/Pegasus & Waikuku service, including AM express services and generally 1 hour frequencies during the day; and the #97 Rangiora/Pegasus service which generally has 1 hour frequencies.
14. The location of the Site in the surrounding passenger transport network is illustrated in **Figure 6**.



**Figure 6: Passenger Transport Network**  
[Background Image from <https://go.metroinfo.co.nz/>]

## Transport Upgrades

### Woodend Bypass

15. As part of the Government's RoNS programme, the Woodend Bypass has been prioritised for delivery. These works have already commenced.
16. As extracted from the NZTA project website<sup>8</sup>:

*SH1 from Belfast to Pegasus is the key freight route to the north of Christchurch, and provides critical access to Christchurch City, the primary service centre for the South Island, with Christchurch International Airport, Lyttelton Port and major health, education, commercial and industrial services.*

*Woodend, Pegasus and Ravenswood are experiencing significant growth, far above what was anticipated when the project was designated in 2015.*

*This growth has led to high traffic volumes sooner than expected and this is leading to delays and safety concerns. SH1 approaching Woodend carries around 21,000 vehicles per day, and this is expected to grow to around 28,000 by 2048. During busy times it can take up to 20 minutes to travel through Woodend, and it's difficult for people to access the shops, drop off and pick up children from Woodend Primary School and to turn into and out of side streets. It's also difficult for people and children crossing between Ravenswood and Pegasus at the Pegasus roundabout.*

*The SH1 Belfast to Pegasus Motorway and Woodend Bypass project spans approximately 11kms. It involves upgrading SH1 to four lanes north of Christchurch, from the SH1/SH71 Lineside Road interchange to the Williams Street interchange at Pineacres. The project also includes a 6km bypass around Woodend, which will connect back to SH1 north of the current Pegasus roundabout.*

<sup>8</sup> See website: [SH1 Belfast to Pegasus Motorway and Woodend Bypass](#) | NZ Transport Agency Waka Kotahi



*Recognising the significant growth in the Pegasus, Ravenswood and Woodend communities since the original scheme design was developed, a motorway overpass with signalised on and off ramps will be included in the design where the Pegasus roundabout is now.*

*This project has been prioritised for delivery as one of the Roads of National Significance.*

17. Key Project Details can be summarised as follows:

- **Purpose:** Reduce congestion on Main North Road (Woodend) and improve safety/reliability for travellers.
- **Scope:** A 6km bypass to the east of Woodend, connecting the SH1/Lineside Rd interchange to north of the Pegasus roundabout, with 4-laning of existing SH1.
- **Timeline:** Early works began in early 2026, with main construction to follow. Completion is expected around 2030.
- **Features:** A new grade-separated interchange at Pegasus (replacing the roundabout) and a new overbridge at Gladstone Road.
- **Expected Benefits:**
  - *An efficient and reliable state highway connection between Belfast and Pegasus that supports economic growth in Woodend, Pegasus and Ravenswood;*
  - *Safety improvements, including reduced traffic volumes on Main North Road, lowering crash risks at local intersections. (Traffic through Woodend is expected to reduce from 21,000 to 8,000 vehicles per day).*
  - *Grade separated interchanges (overpasses) at Williams Street and the Pegasus roundabout will enhance local connectivity.*
  - *Improved access and community connection for Woodend.*
  - *Freight can get where it's needed to keep our economy thriving.*
- **Tolling:** NZTA is proposing a two-point tolling system for the completed motorway. [Tolling consultation | NZ Transport Agency Waka Kotahi](#)

18. The NZTA website provides flyover video imagery: [SH1 Belfast to Pegasus Motorway and Woodend Bypass | NZ Transport Agency Waka Kotahi](#). A screenshot from that video is provided in **Figure 7** which highlights the removal of the existing Pegasus/Ravenswood roundabout and replacing it with a SH1 new flyover. The on and off ramps to/from Pegasus will be signal controlled.



**Figure 7: NZTA Woodend Bypass (Pegasus Blvd)**  
[Background Image from NZTA video Imagery <https://go.metroinfo.co.nz/>]

19. It follows that access to and from the Site (and more broadly the wider Pegasus and Ravenswood area generally) and SH1 will be much enhanced with the Woodend Bypass.

## Other Residential Growth Areas

20. This Site is close to land that contains a listed project under the Fast-Track legislation, to the north-west of the site (and on the opposite side of SH1). That project summary is known as The Gressons Road Development and includes the subdivision of land to develop approximately 1,500 residential dwellings and a retail and community hub.
21. Ravenswood, immediately to the west of the Site (also on the opposite side of SH1) also includes an evolving site with underlying Town Centre, General Industrial and Medium Density Residential zoning. It is identified as a Key Activity Centre, intended to serve as a focal point for commercial, community and service activities, supported by high levels of accessibility and residential intensification in the surrounding area.
22. The remainder of this report has been prepared on the basis that the above sites may proceed, although the assessment does not rely on this outcome. Further residential growth would support more efficient public transport, while town centre and industrial development would provide local employment opportunities and contribute to a more connected urban environment.

## The Proposal

23. It is proposed to develop the Site to provide up to 1,000 residential Lots and an approximate 1.4ha commercial centre. The internal location and layout will be developed at the substantive stage and through detailed design, however it is understood that this could include sites ranging from 200-500m<sup>2</sup>. The following sets out the preliminary transport elements of the proposal in further detail.



## Traffic Generation

### Residential

24. The traffic generation of the proposed residential development has been broadly based on data from the New South Wales *Guide to Transport Impact Assessment*. The adopted traffic generation rate is for low density residential development<sup>9</sup> and is set out in **Table 3**. This table also sets out the resultant traffic generation of the proposed activity.

**Table 3: Residential Traffic Generation**

|                        |              | Arrivals | Departures | Total |
|------------------------|--------------|----------|------------|-------|
| Trip Rate per Dwelling | AM Peak Hour | 0.21     | 0.64       | 0.85  |
|                        | PM Peak Hour | 0.54     | 0.31       | 0.85  |
|                        | Daily        | 3.77     | 3.77       | 7.53  |
| Traffic Generation     | AM Peak Hour | 210      | 640        | 850   |
|                        | PM Peak Hour | 540      | 310        | 850   |
|                        | Daily        | 3,770    | 3,770      | 7,530 |

### Commercial Area

25. The (approximate) 1.4ha commercial area is indicatively assumed to have a total Gross Floor Area (GFA) of approximately 5,000m<sup>2</sup>. The traffic generation of this activity has been based on data from the New South Wales *Guide to Transport Impact Assessment*<sup>10</sup>. The resultant traffic generation are set out in **Table 4**.

<sup>9</sup> This is a higher traffic generation rate than for Medium Density Residential and is consistent with observed current trip rates recently used in Rolleston, for example. As part of the substantive application, formal traffic counts will be undertaken to determine more accurate trips rates for the Pegasus area.

<sup>10</sup> This includes Thursday data for Small Shopping Centres with gross floor areas ranging between 1,000-6,000 GLFA. (Arrival and departure volumes have been split 50%/50%)



**Table 4: Commercial (Small Shopping Centre) Traffic Generation**

|              | Arrivals | Departures | Total |
|--------------|----------|------------|-------|
| AM Peak Hour | 228      | 228        | 456   |
| PM Peak Hour | 308      | 308        | 616   |
| Daily        | 2,401    | 2,401      | 4,802 |

26. It is anticipated that 5% to 10% of the traffic generated by the commercial development will be from within the subdivision, with a further 30% likely passing the site on the surrounding road network.

### Resultant Traffic Generation

27. Accounting for the above, the estimated overall traffic generation of the proposed activity is set out in **Table 5**. Note that this does not account for the 10% of the commercial traffic being internal to the subdivision, which results in robust results.

**Table 5: Total Traffic Generation**

|              | Arrivals                      | Departures                    | Total  |
|--------------|-------------------------------|-------------------------------|--------|
| AM Peak Hour | 210 Res + 228 Com = 438       | 640 Res + 228 Com = 868       | 1,306  |
| PM Peak Hour | 540 Res + 308 Com = 848       | 310 Res + 308 Com = 618       | 1,466  |
| Daily        | 3,770 Res + 2,401 Com = 6,171 | 3,770 Res + 2,401 Com = 6,171 | 12,342 |

28. At the Substantive Application stage, traffic generation will be refined through local traffic surveys to better establish average daily residential trip generation in the Pegasus area. Commercial traffic generation rates will also be reviewed in further detail. The rates adopted above are considered sufficiently robust for estimating traffic generation at this stage.

### Site Layout and Access

29. The site layout has not yet been finalised and will be refined through preparation of the Substantive Application.
30. Two new road connections may be provided to Pegasus Boulevard, one on the northern side and one on the southern side. These would be appropriately located and designed in accordance with the District Plan and Code of Practice, and would be subject to a Road Safety Audit as part of the subdivision application at the Substantive Application stage.
31. Following consultation with Ngāi Tūāhuriri Rūnanga (via Whitiara Centre Limited), no road connection to Preece Road will be provided.
32. The site is likely to retain the framework of the existing local road network. Any new roads branching from these roads will be designed and constructed to meet the new road standards in TRAN-S1 of the District Plan, including requirements for road corridor widths, traffic lanes, footpaths and parking. Road corridors can also be tailored to Council's satisfaction, where required.
33. Existing local roads will be upgraded where required, in accordance with the District Plan or Code of Practice, having regard to the proportion of development traffic they are expected to carry.



34. Most new roads are expected to have a Local Road classification. Depending on the final yield and layout, some loop roads may be designed to a Collector Road standard to accommodate future public transport, on-road cycle lanes or similar facilities.
35. The internal road layout will provide an interconnected network that supports convenient links and connections, particularly for active transport modes.
36. Cross-road intersections will generally be avoided, with T-intersections preferred. Where cross-road intersections are unavoidable, Local or Collector Road intersections are expected to be designed with a roundabout treatment.
37. Traffic volumes on most internal roads are expected to be low, as traffic will be distributed toward the main access points on Pegasus Boulevard.
38. Pedestrian and cycle facilities will be provided on internal roads, as appropriate, to create a connected walking and cycling network. Some frontage roads will also be upgraded to an urban standard along the site frontage.

## Assessment of Effects

### Internal Arrangements

39. The internal transport arrangements, including road design, road type and cross-section elements, can be developed to achieve a practical and functional subdivision layout that appropriately accommodates all transport modes. The detailed arrangement will be confirmed through the Substantive Application process, and no impediment to achieving an acceptable layout has been identified.
40. Similarly, details of Right of Ways and Lot accesses will be confirmed through preparation of the Substantive Application. That said, the characteristics of the Site indicate that these matters can be satisfactorily resolved through the Substantive Application process.

### Site Access Operation

41. The proposed site accesses can be designed to operate satisfactorily. The higher-volume accesses to Pegasus Boulevard are likely to be roundabouts, providing safe and efficient access. Other intersection forms remain possible and can be confirmed at the Substantive Application stage, including bespoke access arrangements for the commercial centre if required. Lower-volume road accesses are proposed to be priority-controlled, which is appropriate in suburban environments.
42. The detailed access designs will be developed through the Substantive Application process to confirm safe and efficient operation. No spatial constraints have been identified that would prevent appropriate design solutions from being achieved.

## Wider Network Effects

### Traffic Effects

43. The traffic effects of the proposal will need to be assessed as part of the Substantive Application. **Table 6** sets out the locations that we anticipate requiring upgrades because of this proposal based on our



knowledge of the Woodend Bypass, which has received provisional approach and is expected to be completed in 2030.

Table 6: Anticipated Off-Site Transport Upgrades

| Location                        | Upgrade                           | Comments                                                                                                                                                                                                                                                                                            |
|---------------------------------|-----------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Pegasus Boulevard/SH1 on-ramp   | Corner widening and lane capacity | Pre-application discussions with NZTA indicate that the on-ramp may benefit from additional lane capacity or corner-rounding for left-turning traffic from Pegasus Boulevard onto the new signalised on-ramp. Third-party modelling advice will be provided as part of the Substantive Application. |
| Pegasus Boulevard road accesses | Road improvements, where required | Road upgrades/improvements and traffic delay analysis will be undertaken to support safe and efficient access to and from Pegasus Boulevard.                                                                                                                                                        |

44. The Woodend Bypass is already planned and funded.
45. Depending on the timing and staging of the proposal and associated works, it would be logical and desirable to coordinate construction and any required improvements with NZTA. Any additional road improvement works are unlikely to be significant and are expected to relate primarily to the design and capacity of the Pegasus Boulevard on-and off-ramp interchange arrangements. These arrangements have already been subject to design consideration, as illustrated in **Figure 7**. As the Site adjoins these works, no spatial constraints have been identified that would prevent appropriate design solutions from being achieved.
46. If improvements are required, they can be coordinated between the applicant and NZTA. The specific requirements will be confirmed through detailed traffic modelling and liaison with NZTA to optimise the outcome. Pre-application discussions with NZTA indicate that appropriate solutions can be delivered and would not prevent development of the Site. This is assisted because the applicant has control of the adjoining land needed for those works.
47. During construction phases, a Construction Traffic Management Plan (CTMP) will also be required to support the safe and effective movement of vehicles and personnel associated with the construction of the subdivision works. This would establish the controls necessary to minimise disruption to Pegasus Boulevard and to the State Highway network (especially if that construction coincides with the construction of that Bypass itself). It would also protect the safety of road users and site personnel, and comply with relevant regulatory requirements, including the Code of Practice for Temporary Traffic Management (CoPTTM), Environment Canterbury expectations, and Waimakariri District Council guidelines.
48. A detailed CTMP will be prepared closer to the start of construction, with updated plans provided for each stage of work. A framework of relevant matters can be prepared at the Substantive Application stage, and CTMP implementation can be secured through a consent condition. Subject to an appropriate condition requiring certification or approval from the relevant road-controlling authorities, construction traffic effects are expected to be safely managed through preparation of, and adherence to, a comprehensive CTMP.



## Alternate Transport Modes

49. The internal site layout will be designed and constructed so it can accommodate bus services, should these be provided by Environment Canterbury. This proposal does not preclude the provision of bus services.
50. The Site is also able to be integrated with the existing walking and cycling networks through the wider Pegasus area. It is understood that footpaths and cycle lanes/paths will also be provided to connect Pegasus with Ravenswood as part of the Woodend Bypass works.

## Summary & Conclusion

### Summary

51. This report provides a high-level transport assessment to support Referral of the proposed redevelopment of the former Pegasus Golf Course site to the Fast-Track process. The proposal provides for up to 1,000 residential lots and an approximate 1.4ha commercial centre, with the detailed site layout, staging and transport design to be refined through the Substantive Application stage.
52. The site is well connected to the surrounding transport network through Pegasus Boulevard and SH1, with access to Rangiora, Kaiapoi and Christchurch. Existing transport network constraints are principally associated with the SH1/Pegasus/Ravenswood roundabout and SH1 through Woodend. These matters are already being addressed through the planned and funded Woodend Bypass, which will replace the existing roundabout with a grade-separated interchange and signalised ramp connections.
53. The preliminary traffic generation assessment indicates that the proposal could generate approximately 1,306 vehicle movements in the AM peak hour, 1,466 vehicle movements in the PM peak hour and 12,342 vehicle movements per day. These estimates are conservative, as they do not account for reductions associated with internal trips or pass-by trips. Traffic generation rates, distribution and network effects will be refined through local surveys, detailed modelling and further assessment at the Substantive Application stage.
54. The proposed internal transport network can be designed to provide a practical, connected and multimodal subdivision layout. This includes Local and Collector Road corridors, walking and cycling facilities, suitable access arrangements to Pegasus Boulevard, and the ability to accommodate future passenger transport services if extended to the site.
55. Potential off-site transport improvements are expected to be limited and focused on Pegasus Boulevard access arrangements and the SH1 on- and off-ramp interchange associated with the Woodend Bypass. These matters can be coordinated with NZTA and confirmed through detailed traffic modelling, concept design and engagement with the relevant road-controlling authorities.
56. Construction traffic effects can be appropriately managed through a Construction Traffic Management Plan, supported by certification or approval from the relevant road-controlling authorities. This will allow construction staging, access, safety and temporary traffic management requirements to be addressed as the project progresses.



## Conclusion

57. Overall, this high-level assessment has identified the key transport matters likely to require further consideration through the Substantive Application process. Based on the assessment undertaken to date, no fundamental transport impediment has been identified that would prevent the proposal from proceeding to that stage.
58. Feasible transport solutions are available to address the matters identified, including internal road design, walking and cycling connections, site access treatments, coordination with the Woodend Bypass works and any required wider network mitigation. The detail of these measures can be developed through traffic modelling, concept design, road safety review and engagement with Waimakariri District Council, NZTA and other relevant stakeholders.
59. On this basis, the proposal is considered capable of being supported from a transport perspective for Referral to the Fast-track resource consent process, with the detailed assessment and mitigation package to be confirmed at the Substantive Application stage.



## **Appendix 1**

### **Author's Experience**



1. This referral report was prepared by Rhys Chesterman and reviewed by Nick Fuller.
2. Although this is not an Environment Court proceeding, we confirm that we have read and are familiar with the Environment Court's Code of Conduct for Expert Witnesses, contained in the Environment Court Practice Note 2023, and we agree to comply with it. Our qualifications as experts are set out below. Other than where we state that we are relying on the advice of another person, we confirm that the issues addressed in this assessment are within our area of expertise. We have not omitted to consider material facts known to us that might alter or detract from the opinions that we express.

### **Rhys Chesterman BRS, MRP, MET, MNZPI**

3. Rhys Chesterman is an experienced Director and Transport Engineer with over 25 years in the planning and traffic engineering field. His expertise is centred on land use development and subdivisions, where he provides design and technical advice, prepares traffic impact assessments/integrated transport assessments, road safety audits, and offers expert evidence for Council and Environment Court.
4. His project experience is diverse, covering supermarkets, shopping malls, hotels, motels, retirement villages, hospitals, pre-schools, holiday parks, educational institutions, hospitals, residential and business plan changes, residential show homes, quarry developments, wind farms, and various residential, retail, commercial, and industrial developments.

### **Nick Fuller BE (Civil)**

5. Nick Fuller is a Principal Transport Engineer with over two decades of experience in traffic and transportation engineering across New Zealand, the United Kingdom, Australia, and the Pacific Islands. He specialises in land development projects and has a strong background in providing transport advice to developers, as well as the New Zealand Transport Agency and local authorities in Christchurch and Auckland. Nick's expertise includes Integrated Transport Assessments, concept intersection layouts, and Road Safety Audits.
6. Throughout his career, Nick has worked on numerous significant Plan Change applications, providing expert transport advice and assessments. Some of the notable recent projects include:
  - i. West of Rolleston Residential Plan Changes: Rural to Residential rezoning to permit 3,770 dwellings plus associated local commercial centres to the west of Rolleston;
  - ii. Two Chain Road Industrial Plan Change: Rezoning of 98Ha of Rural land to permit Industrial purposes to the north-west of Rolleston;
  - iii. Lincoln South Plan Change: 1,710 dwellings plus associated commercial centres to the south of Lincoln, Selwyn; and
  - iv. iPort Extension Plan Change: Rezoning of 27Ha of Rural land to permit Industrial purposes to the north of Rolleston
7. Both Rhys and Nick have provided Transport Assessments that relate to Fast Track applications. Both have also completed training in Safe Systems Assessments and are Road Safety Auditors and regularly undertake Road Safety Audits for subdivisions.

