

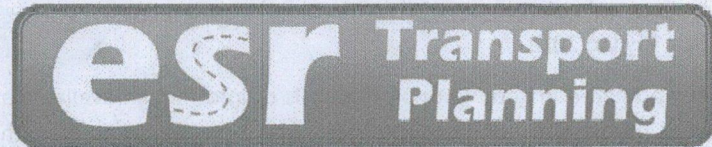
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# PROPOSED RESIDENTIAL DEVELOPMENT 64-66 PRINCES HIGHWAY, NORLANE

## Transport Impact Assessment Report

CITY OF GREATER GEELONG  
STATUTORY PLANNING  
29 AUG 2018  
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ESR Transport Planning Pty Ltd 1/34A Doveton Street North, Ballarat VIC 3350

P: 0427 044 324 | E: drewm@esrtp.com.au | www.esrtp.com.au

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Author: Drew Matthews

CONTACT

**ESR Transport Planning Pty Ltd** ABN 86 128 037 429  
1/34A Doveton Street North, Ballarat VIC 3350  
P: 0427 044 324  
E: drewm@esrtp.com.au  
www.esrtp.com.au

PREPARED FOR

Didulica + Co Shares Pty Ltd

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# 1 Introduction

## 1.1 Overview

A planning permit is being sought for a residential development at 64-66 Princes Hwy and 1 Donnelly Avenue, Norlane. To assist in the consideration of the development proposal, ESR Transport Planning has been engaged to assess relevant transport implications.

## 1.2 Scope of This Report

This report documents a transport impact assessment which investigates the following:

- Existing transport conditions in the vicinity of the site.
- Statutory transport planning requirements.
- Parking demands generated by the proposed land use.
- Anticipated impacts on local car parking conditions.
- Traffic movements generated by the proposed land use.
- Site design considerations.
- Anticipated impacts on the surrounding road network.

This version is an updated report from a document first prepared November 2016.

## 1.3 Referenced Information

- Plans prepared by MI Projects dated February 2018.
- An inspection of the site and surrounds October 2016.
- Austroads 2013, *Guide to Traffic Management Part 3 Traffic Studies & Analysis*.
- CFA, 09/10/06, *Requirements for Water Supplies and Access for Subdivisions in Residential 1 and 2 and Township Zones*.
- Geelong Planning Scheme.
- Institute of Transportation Engineers (ITE), 2012, 9<sup>th</sup> Edition, *Trip Generation Manual*.
- Public Transport Victoria, maps and timetables ([www.ptv.vic.gov.au](http://www.ptv.vic.gov.au)).
- Roads and Traffic Authority (RTA), 2002, *Guide to Traffic Generating Developments*.
- VicRoads traffic volume data and Crashstats data ([www.data.vic.gov.au](http://www.data.vic.gov.au)).

## 1.4 Terms

- Council City of Greater Geelong
- kph kilometres per hour
- m metres
- m<sup>2</sup> square metres
- vph vehicle movements per hour
- vpd vehicle movements per day

## 2 Existing Conditions

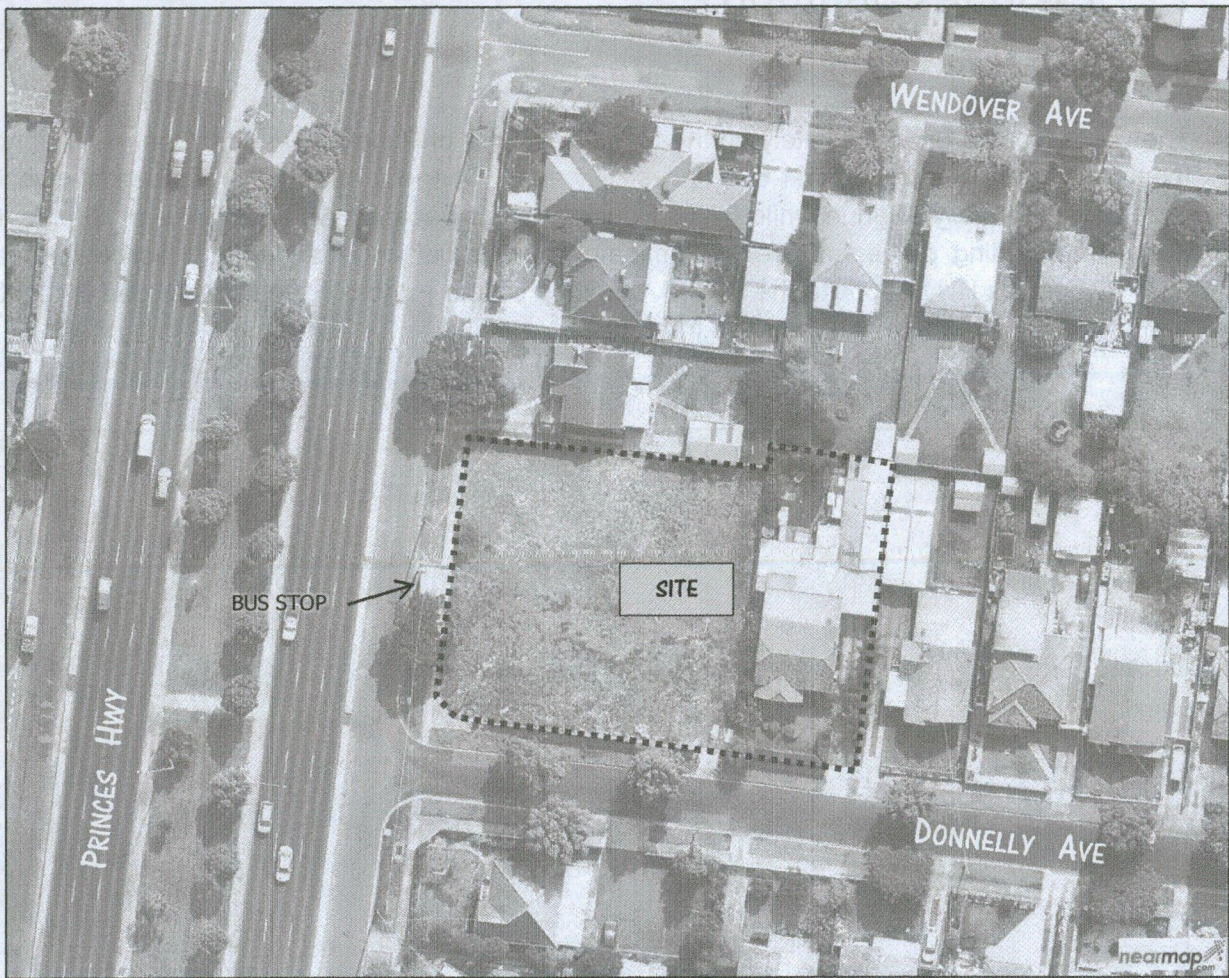
### 2.1 Site

The site is located on immediately northeast of the corner of Princes Hwy and Donnelly Avenue. It includes the land parcels of 64-66 Princes Hwy and 1 Donnelly Avenue. A residential dwelling occupies 1 Donnelly Avenue while 64-66 Princes Hwy is vacant. Within a General Residential Zone, surrounding properties are predominately residential while a dental practice operates from 62 Princes Hwy opposite the site. A bus stop on the Princes Hwy service road is located approximately midway along the site's frontage.

Figure 2.1 Subject Site Locality Map



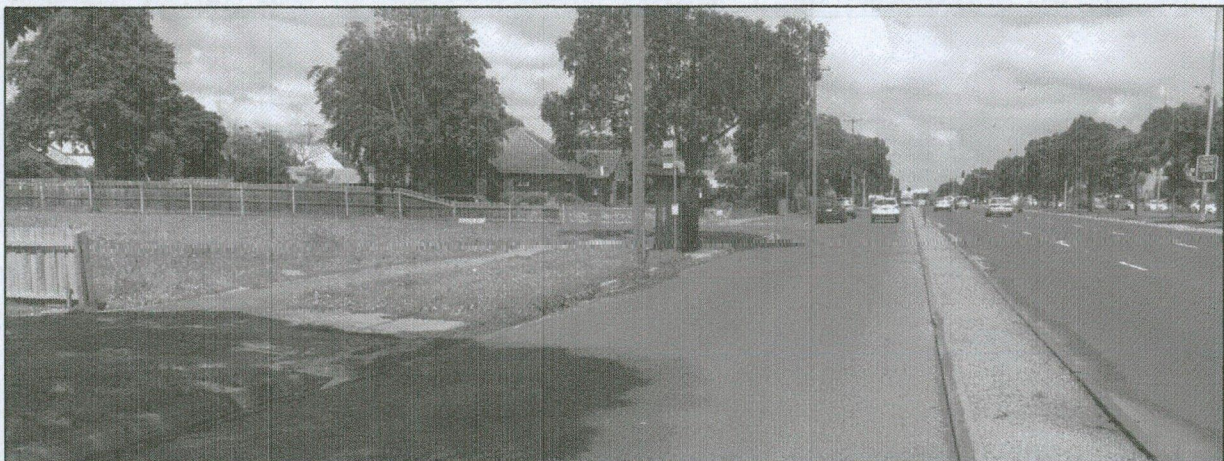
Figure 2.2 Subject Site Aerial Photo



## 2.2 Road Network

Princes Hwy is an arterial road with a divided main carriageway accommodating 3 traffic lanes in each direction. Service roads on both sides provide property access and kerbside parallel parking. The main carriageway has an 80 kph speed limit while a 50 kph limit applies along service roads.

Figure 2.3 Princes Hwy (facing south, site on left)



Donnelly Avenue functions as an Access Road and is subject to a default 50kph speed limit. It has a 7m wide carriageway (approx.) accommodating two-way traffic flow and kerbside parallel parking.

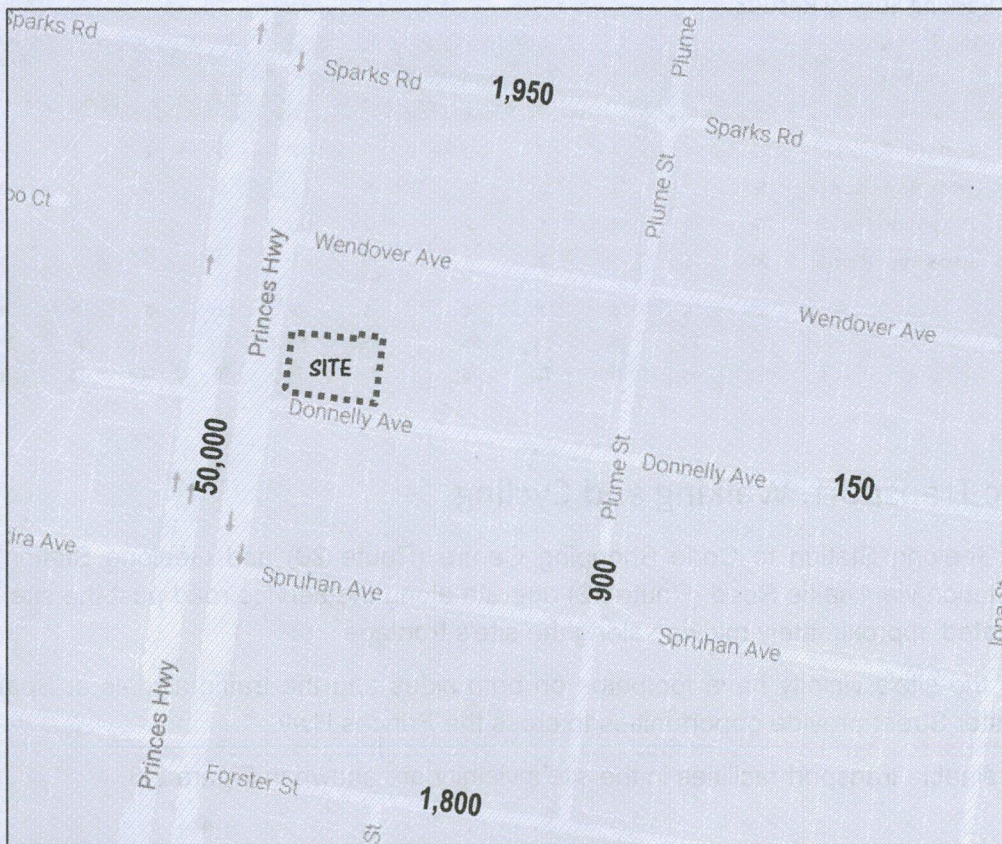
Figure 2.4 Donnelly Ave (facing east from Princes Hwy)



### 2.3 Traffic Volumes

Figure 2.5 provides traffic volume data for the nearby road network.

Figure 2.5 Indicative Weekday Daily Two-way Traffic Volumes



Sources: VicRoads databases ([www.data.vic.gov.au](http://www.data.vic.gov.au)). Council traffic volume surveys.

## 2.4 Accident History

A review of road accidents in the site's vicinity has been undertaken using VicRoads Crashstats database<sup>1</sup> which includes accidents reported to police which resulted in personal injury. The review investigated the Princes Hwy service road and Donnelly Avenue for the last available five year period. In that time, no accidents were recorded providing no evidence of significant road accident activity in the site's vicinity.

## 2.5 Car Parking

Kerbside parallel parking is provided along nearby roads and is generally un-restricted.

Surveys of on-street car parking have been undertaken along the Princes Hwy service road between Sparks Road and Forster Street, as well as Donnelly Avenue, Wendover Avenue and Spruhan Avenue between Princes Hwy and Plume Street. A total of 80 parking spaces are available in these areas. Parking demands were observed on Tuesday 18/10/16 at various times of the day with results presented in Table 2.1.

Nearmap aerial photographic images provide an historical record of cars parked on-street. The images are captured typically during the middle of the day and results are also presented in Table 2.1.

Survey results indicate on-street parking demands in the site's vicinity are very low. At most, 1 vehicle parked per 100m of road length was observed.

Table 2.1 Car Parking Survey Results

Location Street	Side	Extents	Supply	Demands - ESR Surveys				Demands - Aerial Photos					
				Tue 18/10/16 9:30 AM	Tue 18/10/16 12:30 PM	Tue 18/10/16 2:00 PM	Tue 18/10/16 4:30 PM	Wed 20/4/16	Tue 29/10/15	Mon 16/3/15	Fri 7/11/14	Sat 17/5/14	Mon 27/1/14
Princes Hwy (svc rd) east		Sparks Rd - Forster St	22	2	4	3	2	0	2	0	2	2	2
Wendover Av	both	Princes Hwy - Plume St	19	1	1	0	0	0	1	2	0	0	0
Donnelly Ave	both	Princes Hwy - Plume St	19	2	1	1	2	2	0	0	1	0	1
Spruhan Av	both	Princes Hwy - Plume St	20	1	1	3	0	3	1	2	3	0	1
<b>Total Supply / Demand</b>			<b>80</b>	<b>6</b>	<b>7</b>	<b>7</b>	<b>4</b>	<b>5</b>	<b>4</b>	<b>4</b>	<b>6</b>	<b>2</b>	<b>4</b>
<b>Occupancy</b>				<b>8%</b>	<b>9%</b>	<b>9%</b>	<b>5%</b>	<b>6%</b>	<b>5%</b>	<b>5%</b>	<b>8%</b>	<b>3%</b>	<b>5%</b>
<b>Vacancies</b>				<b>74</b>	<b>73</b>	<b>73</b>	<b>76</b>	<b>75</b>	<b>76</b>	<b>76</b>	<b>74</b>	<b>78</b>	<b>76</b>

## 2.6 Public Transport, Walking and Cycling

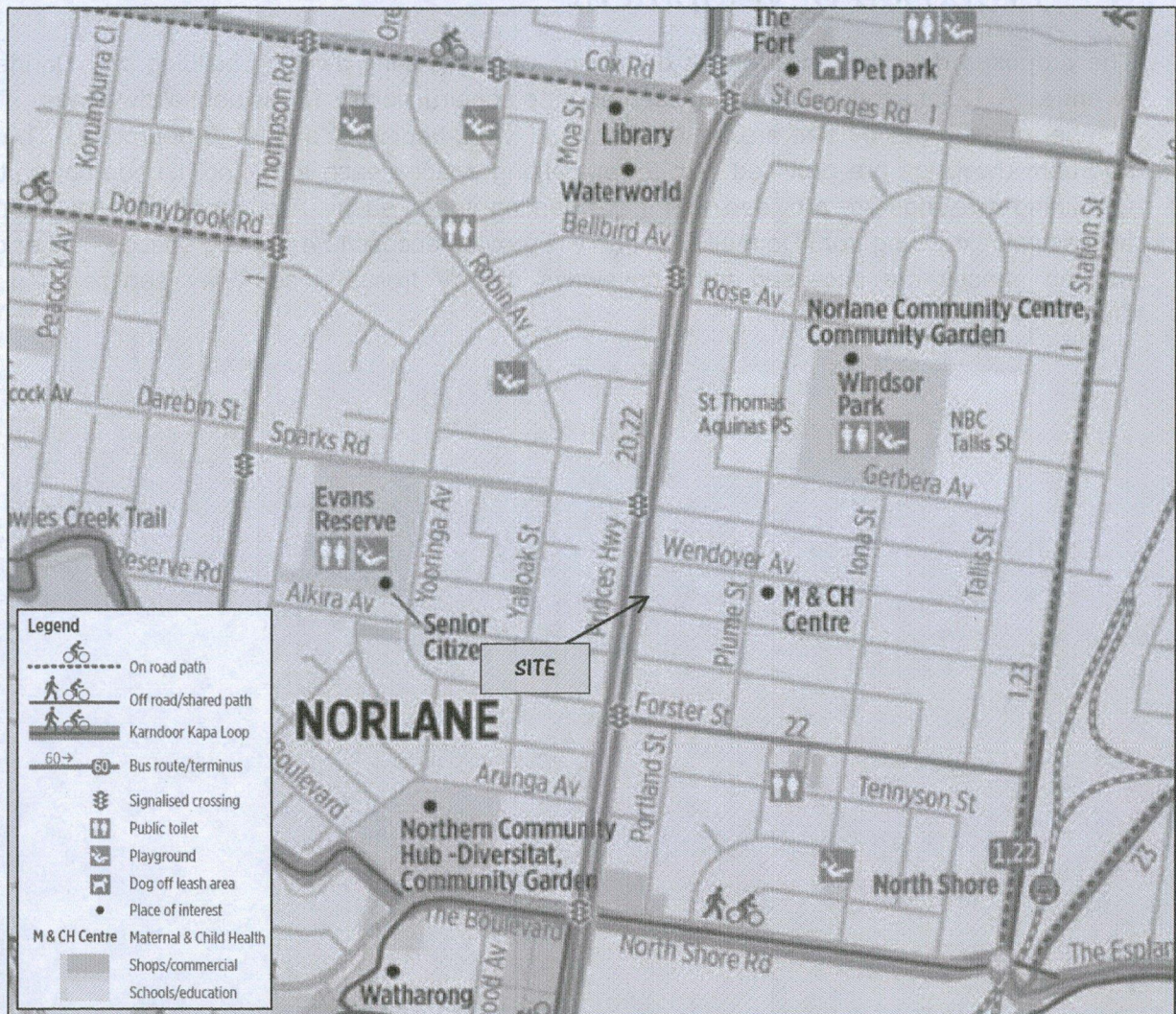
Bus services Geelong Station to Corio Shopping Centre (Route 20) and Geelong Station to North Shore Station via Anakie Road (Route 22) operate along the service road past the site. A bus stop is located approximately midway along the site's frontage.

Most roads in the site's vicinity have footpaths on both sides and the traffic signals at Sparks Road and Forster Street provide opportunities to cross the Princes Hwy.

Details of sustainable transport facilities in the site's vicinity are shown in Figure 2.6.

<sup>1</sup> VicRoads databases ([www.data.vic.gov.au](http://www.data.vic.gov.au)).

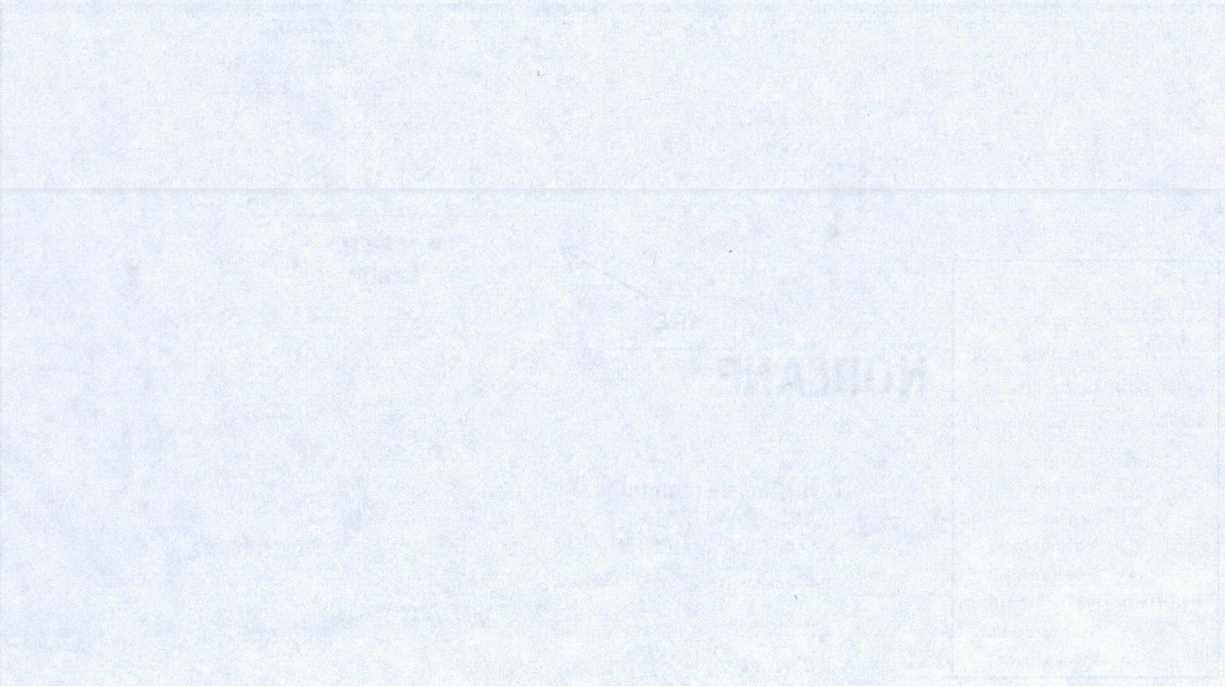
Figure 2.6 Extract from Geelong Active Travel Map



Source: City of Greater Geelong

### 3 Proposed Development

The proposed development involves demolition of the existing dwelling building at 1 Donnelly Avenue. A 12 lot subdivision is proposed and the construction of 12 residential dwellings. The number of dwellings by size are: x1 (1-bedroom), x9 (2-bedroom) and x2 (3-bedroom). The 3-bedroom dwellings are provided with 2 car parking spaces each including 1 undercover, the remaining dwellings are provided with 1 car parking space each. A common property shared accessway extending from Donnelly Avenue will provide access to 4 parking spaces. Other car parking spaces are accessed from driveways directly from Princes Hwy service road or Donnelly Avenue.



## 4 Car Parking Assessment

### 4.1 Planning Policy

Clause 52.06 (Car Parking) of the Geelong Planning Scheme sets out planning controls with respect to car parking and Table 1 to Clause 52.06-5 specifies parking provision rates for various land uses. The Planning Scheme also states that the standard provision can be reduced or fully waived.

For dwellings the resident provision rate specified is 1 space per 1 or 2 bedroom dwelling and 2 spaces per 3 or more bedroom dwelling. These provision requirements are accommodated by the proposed development.

For multi-dwelling developments, a visitor parking rate of 0.2 spaces per dwelling is specified, requiring a total of 2 visitor spaces. The proposed development does not incorporate on-site visitor car parking.

Where a proposal seeks to reduce or waive the standard parking provision requirement the Planning Scheme lists a series of decision guidelines for consideration when making such an assessment. The sections that follow provide discussion on those decision guidelines relevant to the proposed development.

### 4.2 Empirical Assessment

The daytime on-street parking surveys set out in Section 2.4 indicate that adjacent approximately 55 properties the peak parking demand was 7 spaces. If it assumed that the on-street demands are equivalent to visitor parking demands associated with these properties, the equivalent parking rate is 0.13 visitor spaces / dwelling.

### 4.3 Availability of Parking in the Area

As noted in Section 2.4, on-street parking demands in the site's vicinity are low.

Ample vacant parking opportunities are likely to be available to accommodate what is anticipated to be a small number of visitor vehicles seeking on-street parking.

Given convenient on-street parking is likely to be available, many visitors associated with the proposed development could be anticipated to park on-street, regardless of whether or not dedicated visitor parking facilities were provided on-site.

### 4.4 Parking Impact of Proposal

Given all of the above, it is considered reasonable that a waiver of visitor parking spaces apply to the proposed development which is not expected to significantly impact parking amenity within the surrounding area.

## 5 Traffic Assessment

### 5.1 Traffic Generation

Guidance on the likely traffic generating characteristics of medium density residential land use is contained within RTA 2002. This source specifies that medium density dwellings generate traffic at the following rates:

- 1-2 bedroom dwellings: 0.4-0.5 vph / dwelling (peak hour), 4-5 vpd / dwelling (daily).
- 3+ bedroom dwellings: 0.5-0.65 vph / dwelling (peak hour), 5-6.5 vpd / dwelling (daily).

The RTA is based on surveys undertaken predominately in Sydney. For comparison, ITE 2012 (predominately USA data) specifies average peak rates for low rise apartments and town houses in the order of 0.45-0.6 vph / dwelling (peak hour) and 5.5-6.5 vpd / dwelling (daily).

Adopting the highest traffic generation rates above for all dwelling types, the proposed development (with a net increase of 11 dwellings) could be anticipated to generate additional traffic movements of 7 vph (peak hour) and 72 vpd (daily).

### 5.2 Traffic Distribution

The direction in which vehicles travel to and from the site is influenced by a variety of factors including the site's location, configuration of access intersections, characteristics of the surrounding road network and trip purpose. After reviewing these factors it is considered reasonable to assume that the majority of site traffic will arrive and depart via the Princes Hwy service road.

### 5.3 Ability of Nearby Road Network to Absorb Development Traffic

As a general rule, 2 lane roadways in urban areas typically experience high delays during commuter peak periods when daily traffic volumes approach 15,000-20,000 vpd<sup>2</sup>.

However, in residential areas, roadways are planned to carry an indicative maximum volume which takes into account amenity considerations. The Planning Scheme defines indicative maximum volumes of 3,000 vpd for (Level 2) Access Roads and 7,000 vpd for (Level 2) Connector Roads. As set out in Section 2.4, Access and Connector Roads in the site's vicinity currently carry traffic volumes well below capacity.

### 5.4 Traffic Impacts

The amount of additional traffic generated by the proposed development is relatively minor being only 7 vehicle movements per hour during peak periods. Nearby roads have sufficient spare capacity to accommodate significant traffic volume increases and there is no evidence to suggest that there are any significant road management deficiencies nearby.

Accordingly, traffic generated by the development proposal is not expected to compromise the safe and efficient operation of the surrounding road network.

<sup>2</sup> Interrupted flow capacity = 900vph lane (Austroads 2013), with 10% peak to daily ratio = 18,000vpd

## 6 Design Review

The design of proposed transport infrastructure has been reviewed in terms of its consistency with the Planning Scheme and other relevant guidelines. Key findings are listed as follows:

1. The dimensions of parking spaces and accessways are consistent with the Design Standards within Clause 52.06 of the Planning Scheme.
2. A driveway crossover access to 1 of the dwellings is located within the kerb space occupied by a bus stopping at the adjacent bus stop. This is a reasonable circumstance given the following: (i) There is a low likelihood of bus and driveway vehicle movements occurring simultaneously. (ii) Buses are unlikely to stop for lengthy durations. (iii) If a bus is stopped, a driveway vehicle can queue to wait for the bus to depart within areas that are unlikely to impede other road users.
3. The dead-end common property accessway extends approximately 40m from the Donnelly Avenue carriageway. With reference to the CFA Requirements for Access for Subdivisions, an emergency vehicle turn around facility is not considered necessary.
4. It is appropriate for the common property accessway to be a shared carriageway (motor vehicles, pedestrians, cyclists) given the following: (i) Vehicle speeds will be very low. (ii) The low volume (or infrequency) of road user activity. (iii) The short length ensures it will not be too inconvenient for users to yield for oncoming traffic.
5. Proposed driveway crossovers will reduce the number of on-street parking spaces along Donnelly Avenue from 6 spaces existing to 3 spaces proposed. On-street parking along the Princes Hwy service road will not be affected by the proposal. With reference to Section 4, a reduction of 3 on-street spaces along the site's frontage is unlikely to significantly impact local parking amenity.
6. As specified by Design Standards within Clause 52.06 of the Planning Scheme, landscaping within a 2m x 2.5m corner splay adjacent where driveways cross footpaths should be less than 900mm in height.

Given all of the above, proposed transport infrastructure is expected to accommodate safe and efficient operational outcomes.

## 7 Conclusions

The following conclusions have been made within this report:

1. The proposed development satisfies Planning Scheme requirements for the provision of resident parking spaces.
2. A residential visitor parking waiver is being sought for a peak visitor parking demand of 2 spaces.
3. Ample parking opportunities are available nearby to accommodate visitor parking needs.
4. It is considered reasonable to apply a visitor parking waiver which is not expected to significantly impact parking amenity within the surrounding area.
5. The proposed development is anticipated to generate an additional 7 vehicle movements per hour during peak periods.
6. Traffic generated by the development proposal is not expected to compromise the safe and efficient operation of the surrounding road network.
7. The proposed transport infrastructure is expected to accommodate safe and efficient operational outcomes.