PRELIMINARY TRAFFIC ASSESSMENT

SENIORS LIVING PLANNING PROPOSAL

LOT 91 IN DP 1167540
127 HIGH STREET, WALLALONG

PREPARED FOR: J. & C. WOODS

JUNE 2020

20/078

PRELIMINARY TRAFFIC ASSESSMENT
J & C WOODS

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LOT 91 DP 1167540
127 HIGH STREET, WALLALONG

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QUALITY ASSURANCE

This document has been prepared, checked, and released in accordance with the Quality Control Standards established by Intersect Traffic Pty Ltd.

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A	01/06/2020	Draft	PA
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1.0 INTRODUCTION

Intersect Traffic Pty Ltd (Intersect Traffic) has been engaged by Perception Planning on behalf of Mr. J and Mrs. C Woods to prepare a Preliminary Traffic Assessment for a seniors living application that will support the development of a seniors living complex (180 dwellings) on Lot 91 DP 1167540, 127 High Street, Wallalong. The proposal is to construct 180 dwellings as a seniors' living complex with ancillary community facilities on the existing rural land.

Vehicular access to the development site is proposed via a new vehicular access to High Street approximately 100 metres north of Rosebank Drive and an access directly at the northern end of Scott Street. The existing access via High Street will be removed as part of the development. The proposed development plans are provided in ***Attachment A***.

This report is required to support a seniors living application lodged with the NSW State Government for the proposal and allow relevant state government and Port Stephens Council officers to assess the proposal regarding its impact on the local and state road network. This report presents the findings of the traffic assessment and includes the following:

1. An outline of the existing situation near the site.
2. An assessment of the cumulative traffic impacts of the proposed development and other developments in the area including the predicted traffic generation and its impact on existing road and intersection capacities.
3. Determines any triggers for the provision of additional infrastructure.
4. Reviews access, parking, public transport, pedestrian, and cycle way requirements for the proposed development, including assessment against Council's DCP, SEPP (Housing for seniors and people with a disability) and Australian Standard requirements.
5. Presentation of conclusions and recommendations.

2.0 SITE DESCRIPTION

The subject site currently contains a two storey rural dwelling, a two storey garage, a tin shed and sparsely treed vacant land. The site is located on the northern side of the rural village of Wallalong on the western side of High Street immediately north of Rosebank Drive and north of the northern end of Scott Street. It is located approximately 2.7 kilometres north of Hinton Road (and Hinton village centre) and approximately 1 kilometre south of Clarencetown Road. The site by road is located approximately 16 kilometres northwest of Raymond Terrace and 13 kilometres northeast of Maitland which both have extensive shopping centres and facilities. The site has road frontage to its eastern boundary, with large lot residential lots opposite the site on the eastern side of High Street, low density residential properties adjoining its southern boundary and large lot rural properties to its northern and western boundaries. Its location within the context of surrounding residential and rural land is shown in the location plan provided as ***Figure 1***, below.

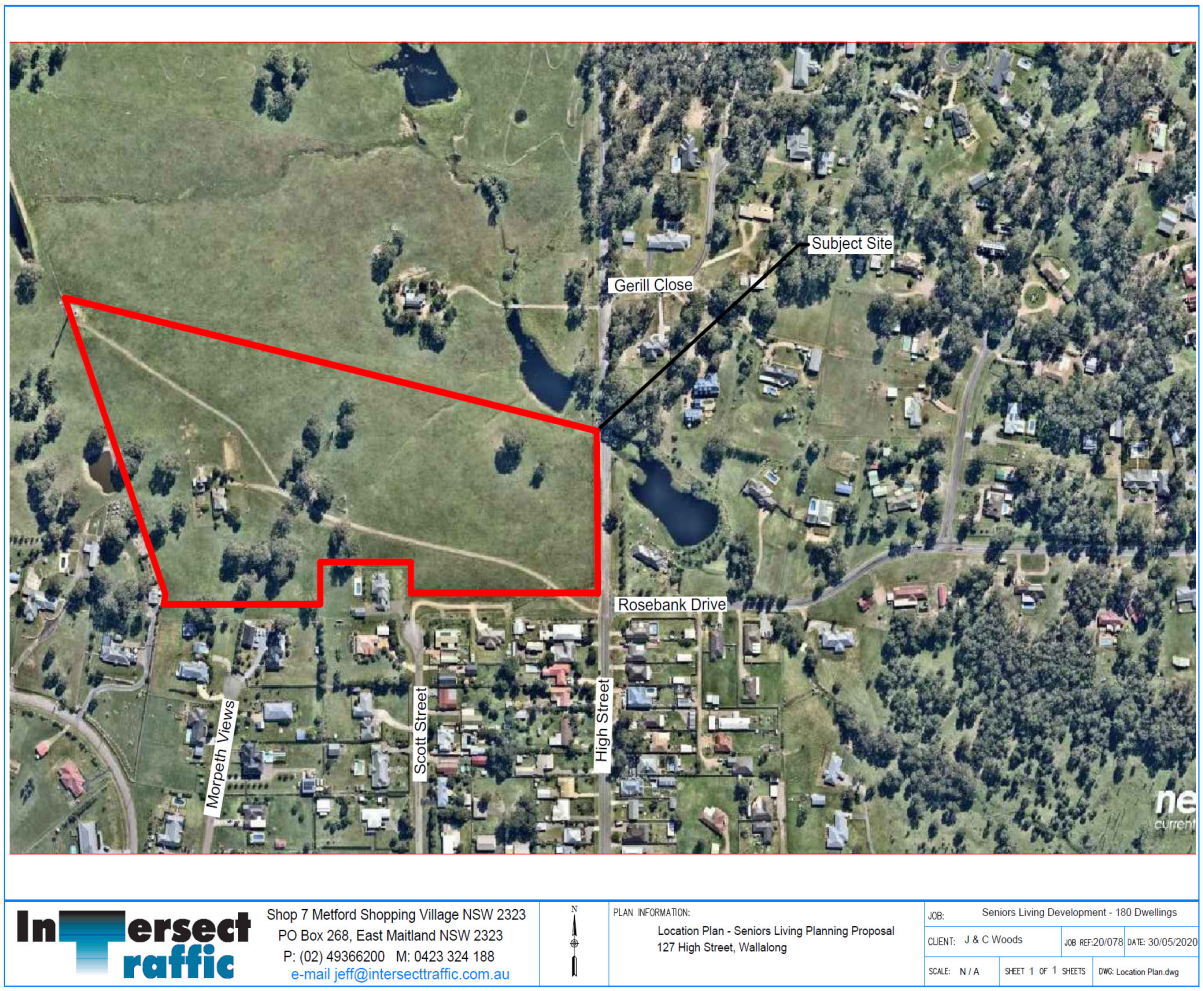


Figure 1 – Site Location

The site contains the following property descriptors:

- Formal land title of Lot 91 in DP 1167540,
- Residential address of 127 High Street, Wallalong,
- Site area of 10.22 hectares; and
- Land zoning of RU1 – Primary Production in accordance with Port Stephens LEP (2013).

The site currently has a combined entry / exit gravel rural vehicular access at High Street opposite Rosebank Drive. ***Photograph 1*** below shows the existing site conditions from High Street while ***Photograph 2*** shows the existing vehicular access to the site at High Street.

Photograph 1 – Development site from High Street

Photograph 2 – Existing vehicular access to site at High Street

3.0 EXISTING ROAD NETWORK

In terms of the local road network, the roads most likely to be impacted by the additional traffic generated by the proposed development will be rural collector roads - Hinton Road, High Street, Clarence Town Road, and local roads – Scott Street, Elizabeth Street and Market Street.

Hinton Road near the site is a sealed local road under the care and control of Port Stephens Council providing a single travel lane in both directions. Near the site it is an urban style road southeast of High Street and a rural style road northwest of High Street with lane widths generally between 3.2 and 3.5 metres wide with parking lanes to the south east of High Street, either side of the travel lanes approximately 1.8 metres wide. Hinton Road performs the function of a collector road connecting Hinton to Raymond Terrace and Morpeth. On inspection the road was observed to be in good condition with a speed zoning of 50 km/h applying eastbound and a 60 km/h applying westbound of High Street. ***Photograph 3*** shows Hinton Road near High Street.

Photograph 3 – Hinton Road east of High Street intersection

High Street near the site connects Hinton Road to Clarence Town Road and is a sealed local collector road under a functional road classification. As such it is under the care and control of the Port Stephens Council providing a single travel lane in both directions with centreline and edgeline markings for its full length. North of the site and at its southern end High Street is a rural style road with lane widths approximately 3.2 metres and shoulders varying in width between 0.5 to 2.0 metres. South of the site for approximately 700 metres the road is urban style between Rosebank Drive and McClymonts Swamp Road with centreline and edge line markings with lane widths approximately 3.3 metres wide. Parking lane widths are approximately 3 metres wide between the edgeline and the kerbs. On inspection the road was observed to be in good condition with a 50 km/h and a 60km/h speed zoning along the site frontage. ***Photograph 4*** shows High Street along the site frontage.

Photograph 4 – High Street along the site frontage

Clarence Town Road near the site is a sealed local rural collector road under the care and control of Port Stephens Council providing a single travel lane in both directions. Near the site it is a rural style road east and west of High Street with lane widths generally between 3.2 and 3.5 metres wide with shoulders approximately 0.6 to 2.0 metres wide. Clarence Town Road performs the function of a collector road connecting Wallalong to nearby Seaham and Woodville (and then on to Maitland). On inspection the road was observed to be in good condition with a speed zoning of 80 km/h. ***Photograph 5*** shows Clarence Town Road west of High Street.

Photograph 5 – Clarence Town Road near the site

Scott Street, Market Street and Elizabeth Street near the site are local sealed urban streets providing a single travel lane in both directions with no centreline or edgeline markings and have grassed table drains and verges. Sealed road widths vary between 6 and 7 metres. They are local roads under a functional road hierarchy classification. As such they are under the care and control of the Port Stephens Council. All roads are south of the site with Elizabeth Street and Market Street connecting High Street to Scott Street which in turn connects to the southern side of the site although no formal site access exists at present. On inspection all three roads were observed to be in good condition with a 50 km/h speed zoning. ***Photograph 6*** shows a section of Scott Street leading to the southern side of the site and ***Photograph 7*** shows the cul de sac end of Scott Street with the southern boundary directly ahead.

Photograph 6 – Scott Street near the site

Photograph 7 – Scott Street cul de sac end near the site

4.0 ROAD NETWORK IMPROVEMENTS

There a no known road upgrades in the vicinity of the site that will increase the capacity of the local road network.

5.0 TRAFFIC VOLUMES

Intersect Traffic undertook a manual peak hour traffic count at the High Street / Market Street T-intersection on Monday 1st June 2020 during peak the PM traffic period of 3.00 pm and 4.00 pm. This is also representative of the peak traffic generation period for the proposed seniors living development.

The 2020 PM mid-block peak hour counts were:

- High Street – north of Market Street - 273 vtph,
- High Street – south of Market Street – 279 vtph, and
- Market Street – west of High Street – 16 vtph.

Previously, Intersect Traffic engaged Northern Transport Planning and Engineering (NTPE) to carry out classifier and manual traffic counts at the Clarence Town Road / Brandy Hill Drive 4-way cross intersection 3.5 kilometres east of High Street, Wallalong. The 24 hour classifier counts were carried out for a two week period commencing on 7th September 2014 and the manual traffic counts were undertaken on Monday 15th September 2014 for the AM period of 5.30am to 6.45am and the PM period of 2.30pm to 3.30pm.

It has been determined from these traffic counts that the highest 2014 weekday mid-block peak hour counts on Clarence Town Road west of Brandy Hill Drive were:

- Clarence Town Road – east of High Street - 330 vtph AM and 355 vtph PM

The traffic count data collected for Clarence Town Road, High Street and Market Street for this assessment are presented in ***Attachment A***. To estimate the traffic in 2020 the 2014 Clarence Town Road peak hour volumes have been increased by a 2.0% per annum growth rate for 6 years. For this seniors living assessment all the 2020 peak hour traffic volumes were then increased by a 2% per annum growth rate for 10 years and then a further 5 years to calculate estimated 2030 and 2035 mid-block traffic volumes.

It is noted that the PM peak is the governing peak hour for a Seniors' Living assessment with no traffic generation rates provided by Transport for NSW (TfNSW) for the AM peak (due to the actual AM peak occurring after 9am) and as the PM peak hour figures for Clarence Town Road are higher than the AM peak hour volumes this will be the worst case for the assessment. Therefore only the PM two-way peak hour mid-block traffic volumes determined from this data are shown below in ***Table 1***.

Table 1 –2020, 2030 & 2035 Mid-block PM Peak Hour Traffic Volumes

Road	Section	2020 PM peak vtph	2030 PM peak vtph	2035 PM peak vtph
Clarence Town Road	East of High Street	400	487	538
High Street	North of Market Street	273	333	367
High Street	North of Market Street	279	340	375
Market Street	West of High Street	16	20	22

It is noted that during the PM traffic count the peak hour traffic to enter and exit Elizabeth Street via High Street was less than 30 vtph and therefore in turn Scott Street would be less than 50 vtph.

6.0 ROAD CAPACITY

The capacity of the road network is generally determined by the capacity of intersections. However, the *RTA's Guide to Traffic Generating Developments* provides some guidance on mid-block capacities and likely levels of service. For urban roads *Table 4.3* of the *RTA's Guide,* reproduced below, provides some guidance on mid-block capacities and likely levels of service. For rural roads *Table 4.5* of the *RTA's Guide,* reproduced below, provides some guidance on mid-block capacities and likely levels of service.

Table 4.3
Typical mid-block capacities for urban roads with interrupted flow

Type of Road	One-Way Mid-block Lane Capacity (pcu/hr)	
Median or inner lane:	Divided Road	1,000
	Undivided Road	900
Outer or kerb lane:	With Adjacent Parking Lane	900
	Clearway Conditions	900
	Occasional Parked Cars	600
4 lane undivided:	Occasional Parked Cars	1,500
	Clearway Conditions	1,800
4 lane divided:	Clearway Conditions	1,900

Table 4.5
peak hour flow on two-lane rural roads (veh/hr)
(Design speed of 100km/hr)

Terrain	Level of Service	Percent of Heavy Vehicles			
		0	5	10	15
Level	B	630	590	560	530
	C	1030	970	920	870
	D	1630	1550	1480	1410
	E	2630	2500	2390	2290
Rolling	B	500	420	360	310
	C	920	760	650	570
	D	1370	1140	970	700
	E	2420	2000	1720	1510
Mountainous	B	340	230	180	150
	C	600	410	320	260
	D	1050	680	500	400
	E	2160	1400	1040	820

The data for Table 4.5 assumes the following criteria:

- *terrain level* with 20% no overtaking.
- *rolling* with 40% no overtaking.
- *mountainous* with 60% no overtaking.
- 3.7 m traffic lane width with side clearances of at least 2m.
- 60/40 directional split of traffic.

Source: - RTA's Guide to Traffic Generating Developments (2002).

In undertaking this assessment it is assumed that all roads near the site are essentially urban streets except for Clarence Town Road which is a rural road.

Clarence Town Road, a rural road with an 80 km/h speed limit and ample passing opportunities is a level terrain category road with approximately 5 % heavy vehicles. As a major collector road a LoS D would be acceptable therefore from Table 4.6 of the RTA's Guide, and applying a correction factor of 0.9 for a speed limit of 80 km/h, it can be seen the capacity of the road network would be between 1,550 vtph x 0.9 and 2,500 vtph x 0.9, equating to 1,395 vtph and 2,250 vtph for two lane rural road. Therefore, Clarence Town Road near the site has a two-way mid-block capacity of 2,250 vtph. For assessment purposes it is considered that a likely lane capacity of 1,100 vtph would apply based on more recent verbal advice from TfNSW therefore a two way capacity of 2,200 vtph is considered appropriate.

For the urban roads, a single lane will have a LoS C one-way capacity of 900 vtph, from Table 4.3 above, and therefore a two way two lane mid-block capacity will be 1,800 vtph. Therefore, the sections of High Street, Hinton Road, Scott Street, Market Street and Elizabeth Street near the site each have a two-way mid-block capacity of 1,800 vtph.

However as Scott Street, Market Street and Elizabeth Street provide access to residential areas only it is considered that the RMS environmental capacity goal for a local road within Table 4.6 of the *RTA's Guide to Traffic Generating Developments* shown below is also applicable to these roads. The maximum environmental capacity of a local road is shown below as **300 vtph** and this has been adopted for Scott Street, Market Street and Elizabeth Street in this assessment.

Table 4.6
Environmental capacity performance standards on residential streets

Road class	Road type	Maximum Speed (km/hr)	Maximum peak hour volume (veh/hr)
Local	Access way	25	100
	Street	40	200 environmental goal
			300 maximum
Collector	Street	50	300 environmental goal
			500 maximum

Note: Maximum speed relates to the appropriate design maximum speeds in new residential developments. In existing areas maximum speed relates to 85th percentile speed.

Source: - RTA's Guide to Traffic Generating Developments (2002).

As existing traffic volumes on the local and state road network as determined in ***Section 5*** are well below the local and state road network capacities determined above it is reasonable to conclude the local and road network has significant spare capacity to cater for additional development in the area.

In summary the local and state road network capacities adopted for this assessment are:

Collector Roads
- Clarence Town Road (2 lane 2 way) – 2,200 vtph (LoS D),
- Hinton Road, (2 lane 2 way) – 1,800 vtph (LoS C), and
- High Street, (2 lane 2 way) – 1,800 vtph (LoS C).

Local Roads (Environmental Capacity)
- Scott Street (2 lane 2 way) – 300 vtph,
- Market Street (2 lane 2 way) – 300 vtph, and
- Elizabeth Street (2 lane 2 way) – 300 vtph.

7.0 ALTERNATE TRANSPORT MODES

Hunter Valley Buses operates service route 184 (Greenhills - East Maitland – Morpeth). The closest service stop within the vicinity of the development site is at Morpeth which is approximately 5 kilometres southwest of the site (***Figure 2*** below). Morpeth is a popular destination for seniors. Route 184 provides a public bus connection to East Maitland, Greenhills shopping centre and Victoria Railway Station for connections to other bus services or train services to facilitate travel to many local and regional destinations. As the site is not within convenient walking distance of the nearest bus stop (at Morpeth) this bus service on its own is not suitable for Seniors travel. However the Seniors Living development will be providing a daily mini-bus shuttle service for use by its residents to allow connections to many destinations from Morpeth.

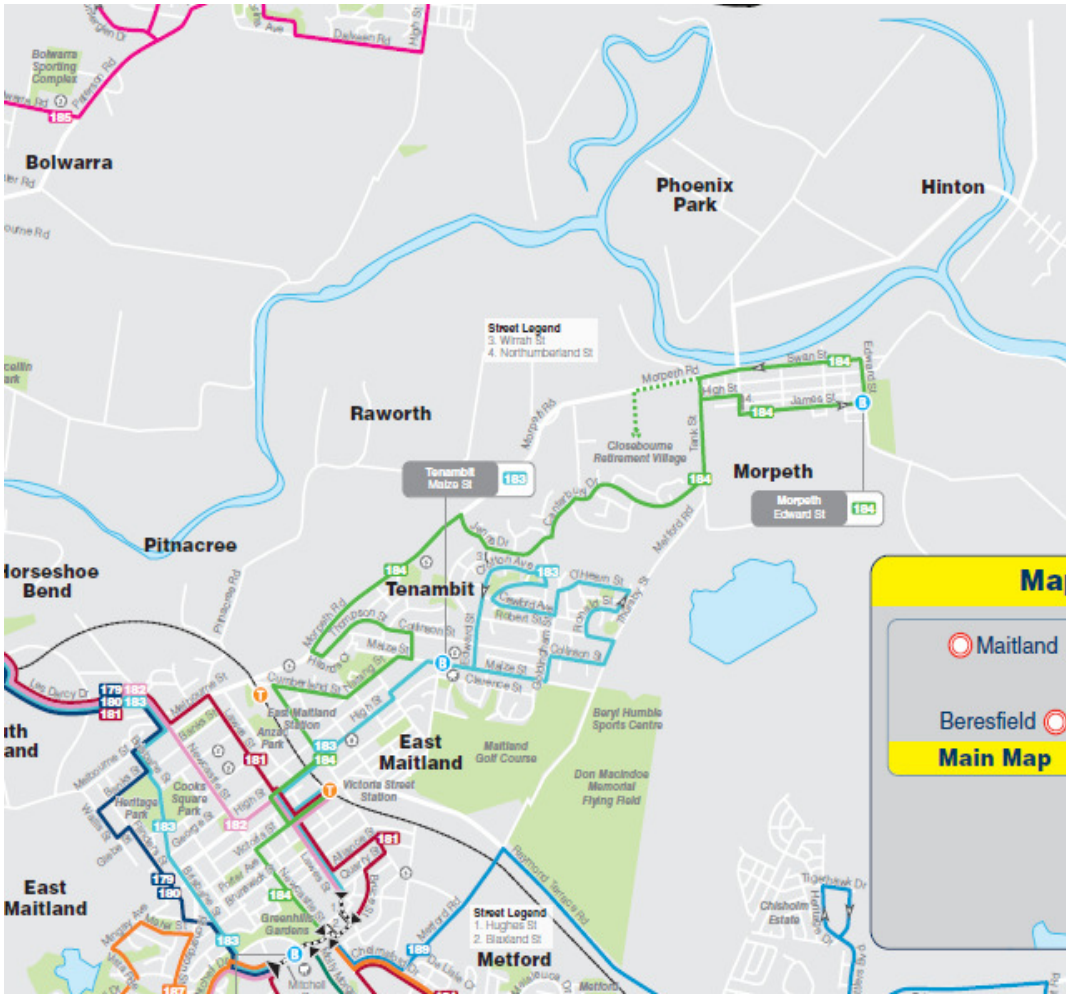


Figure 2 – Hunter Valley Buses Service Routes 182 & 189

Being predominantly a rural area there is little in the way of pedestrian and cycleway infrastructure near the site. The road frontage has grassed verges as shown in previous ***Photograph 5*** and as shown in ***Photograph 8*** below showing grassed footpaths between the kerb and gutter and property boundaries. There are no hardstand pedestrian footpaths or pedestrian crossing facilities located near the site. There was no pedestrian traffic observed during site inspections and traffic counts undertaken for the assessment.

Photograph 8 – Grassed verges High Street south of the site frontage.

There are no off-road cycleways near the site. On-road facilities for cyclists on High Street between Rosebank Drive and McClymonts Swamp Road are provided by use of the sealed area within the edgelines on the road surface separating the travel lane and the wide parking lanes. This is also shown in ***Photograph 8***, above. This urban residential section of High Street within the 50 km/h speed zone in Wallalong is considered relatively safe for cyclist use. The variable width sealed shoulders in the rural road construction areas north and south of the current urban residential area provide some safety for cyclists who may need to share travel lanes with vehicles at times. Use of the sealed surface and the grassed verges of the other local residential streets are also considered suitable for cyclists. Only 1 cyclist was observed whilst undertaking site inspections during the assessment.

8.0 DEVELOPMENT PROPOSAL

The development proposal involves the construction of 180 seniors living dwellings on Lot 91 in DP 1167540, 127 High Street, Wallalong. Specifically, the development will include the following works:

- Removal of existing structures from the site,
- Construction of 180 single storey seniors living residential consisting of 4 different styles with two or three bedrooms or two or three garages,
- Construction of a community hall and communal areas including a swimming pool for use by residents only,
- Construction of new internal roadways and driveways,
- Garage and visitor parking,
- Provision of a mini-bus shuttle service to nearby retail, business, and medical precincts for residents to the SEPP requirements,
- Construction of two new at-grade median separated entry and access driveways, one at High Street and one at Scott Street; and
- Provision of associated site drainage structures and landscaping.

The development plans are provided within ***Attachment A***. The proposal may be developed in stages however this assessment reviews the traffic impacts of the full development of the site.

9.0 TRAFFIC GENERATION

The *RTA's Guide to Traffic Generating Development's* provides specific advice on the traffic generation potential of various land uses. Regarding housing for seniors the following amended advice is provided within the Technical Direction (TDT 2013/4).

Seniors Housing Rates

Weekday daily vehicle trips = 2.1 per dwelling
Weekday peak hour vehicle trips = 0.4 per dwelling
(Note that morning site peak hour does not generally coincide with the network peak hour)

Therefore, the additional traffic generated by the proposed seniors living dwellings during the weekday peak period (PM) can be calculated as follows (rounded up):

Daily vehicle trips = 180 dwellings x 2.1 trips per dwelling
= **378 vtpd**.

Weekday AM & PM peak hour = 180 dwellings x 0.4 trips per dwelling
= 72 vtph.

These peak traffic volumes have been adopted in this assessment as the additional traffic generated by the full development of the proposal.

10.0 TRIP DISTRIBUTION

Before carrying out any traffic assessment the additional peak hour traffic generated by the development needs to be distributed through the adjoining road network. This involves making assumptions as to distribution patterns to and from the development.

The main origin / destinations and likely travel routes for this are:

- Morpeth, East Maitland, Greenhills, Newcastle, South Coast, M1 expressway, M15 expressway – High Street south then Hinton Road west,
- Hinton, Raymond Terrace, North Coast & Newcastle Airport – High Street south then Hinton Road east,
- Maitland, Singleton - High Street north then Clarence Town west, and
- Seaham, Clarence Town, Dungog & North Coast – High Street north then Clarence Town Road east.

Therefore in distributing the peak hour traffic through the adjacent road network, the following assumptions have been made for this site.

- In the PM peak 70 % of trips are inbound and 30 % are outbound,
- At the site access 80 % of trips will have an origin / destination to the south and 20 % will have an origin / destination to the north,
- Of the 80 % south traffic 30% will exit and enter at the High Street development access and 50% will have origin / destinations via Scott Street access and then High Street south,
- Of the 80 % south traffic, at the Hinton Road / High Street intersection 30 % of traffic will have an origin / destination to the east and 50 % will have an origin / destination to west,
- The 50 % south traffic exiting via Scott Street will use Market Street only, and
- Of the 50 % entry traffic via Scott Street, 25 % will use Market Street and 25 % will use Elizabeth Street.

There may be some variations to the assumed traffic routes however their impact is considered insignificant to the assessment. These assumptions will result in the trip distributions shown in ***Figure 3*** for the relevant traffic movements near the site.

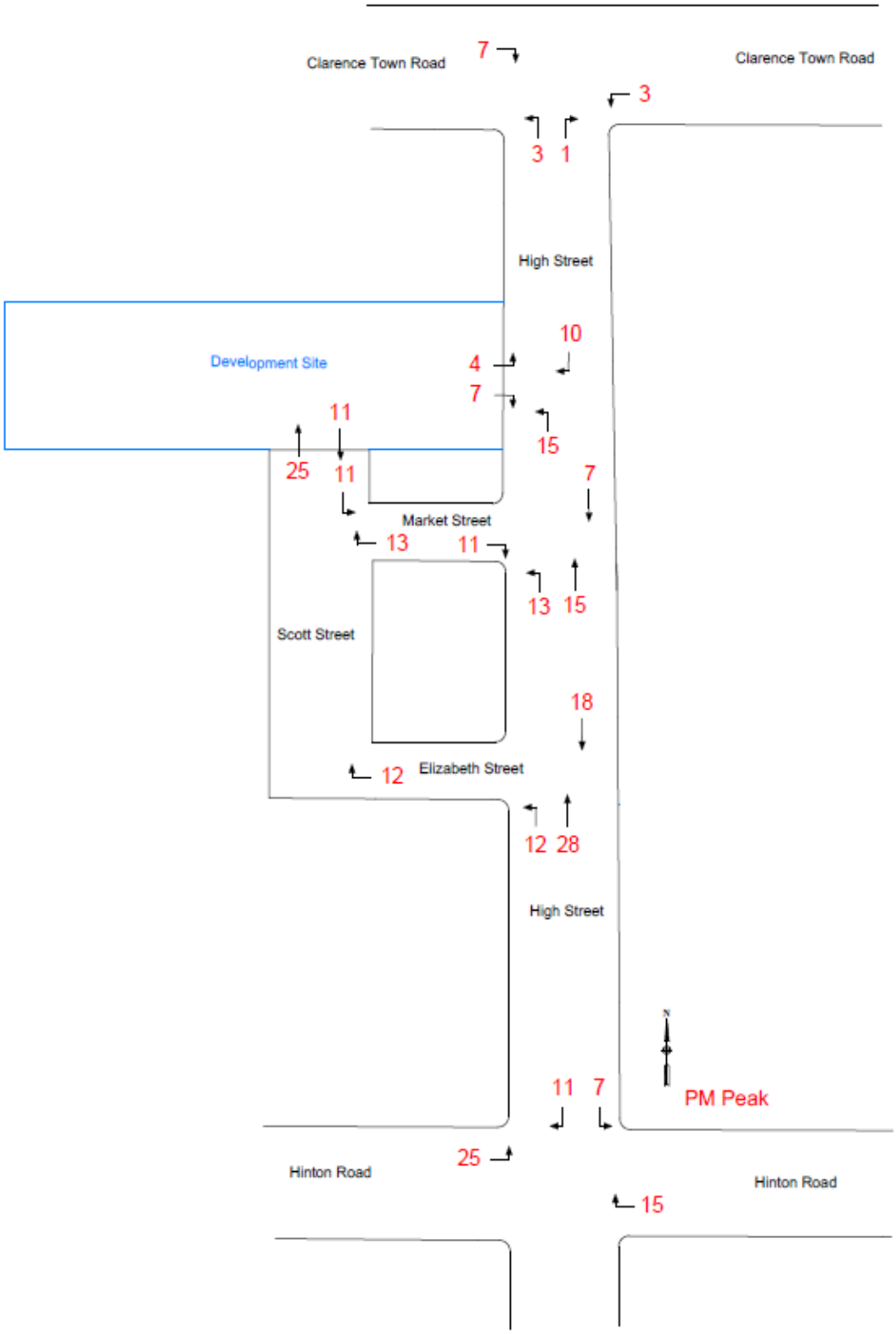


Figure 3 – Development Trip Distribution

11.0 TRAFFIC IMPACTS OF DEVELOPMENT

11.1 Road Network Capacity

It has previously been shown in ***Section 6*** of this report that the local and state road network is currently operating within its technical mid-block capacity. The proposed development of the site is likely to generate the following maximum additional traffic on the local road network during the PM peak hour period based on the trip distributions shown in ***Figure 3***:

- Clarence Town Road east of High Street – 4 vtph,
- Clarence Town Road west of High Street – 10 vtph,
- High Street north of site – 14 vtph,
- High Street south of site – 58 vtph,
- Hinton Road east of High Street – 22 vtph,
- Hinton Road west of High Street – 36 vtph,
- Scott Street south of Elizabeth Street – 36 vtph,
- Market Street west of High Street – 24 vtph, and
- Elizabeth Street west of High Street – 12 vtph.

The addition of this traffic onto the existing traffic volumes determined in ***Section 5*** will not result in the mid-block capacity thresholds for Clarence Town Road, Hinton Road and High Street or the environmental capacity for Scott Street, Market Street and Elizabeth Street determined in ***Section 6*** to be reached. Even with 2 % per annum background traffic growth over a ten-year or fifteen-year period on each of these roads, these road capacity thresholds are not reached. This is demonstrated in ***Table 2*** below.

Table 2 - Road Capacity Assessment

Road	Section	Capacity vtph	2020 PM peak vtph	2030 PM peak vtph	2035 PM peak vtph	Development	
						AM	PM
Clarence Town Road	East of High Street	2200	404	491	542	NA	4
High Street	North of Market Street	1800	287	333	381	NA	14
High Street	South of Market Street	1800	337	340	433	NA	58
Market Street	West of High Street	300	40	44	46	NA	24

Therefore, it can be concluded that the local and state road network subject to suitable intersection controls being in place has sufficient spare capacity to cater for the proposed development.

11.2 Intersection Capacity

In assessing intersection performance, the main intersections impacted by the development will be:

- Clarence Town Road / High Street Stop controlled T-intersection,
- Hinton Road / High Street Stop controlled 4 way cross intersection, and
- High Street / Market Street – Give way sign controlled T-intersection.

For the Clarence Town Road / High Street intersection the additional (development) traffic, 15 vtph, represents a maximum increase in traffic of less than 3% in 2020 and even less in 2030 and 2035. This variation in traffic volumes is much less than the daily and seasonal variation in traffic experienced in normal peak hour traffic (up to 10%) and is negligible. This variance is therefore considered insignificant and would not result in a loss of LoS for motorists using the Clarence Town Road / High Street intersection.

Whilst traffic counts were not undertaken at Hinton Road / High Street Stop sign controlled 4 way cross intersection the traffic was observed to be approximately the same volume as the Clarence Town Road / High Street intersection. The additional of 59 vtph development traffic at the intersection would represent a maximum increase of less than 9% in 2020 and even less in 2030 and 2035. Again, this variation in traffic volumes is less than the daily and seasonal variation in traffic experienced in normal peak hour traffic (up to 10%) and is negligible. This variance is therefore considered minimal and would not result in a loss of LoS for motorists using the Clarence Town Road / High Street intersection. The worst case would be that a minor upgrade may be required. A traffic count would be undertaken at this intersection at the time of proposing to submit a development application for the construction works to determine if or what minor intersection works would be required.

Further the give way controlled intersections of High Street / Market Street, High Street / Elizabeth Street, High Street / New Development private access and the Scott Street direct in and out access need to be assessed. In 2035 the peak hour traffic volumes for High Street are expected to be a maximum of 450 vtph, with peak hour traffic in Market Street - 60 vtph, Elizabeth Street - 40 vtph and the New development accesses - 37 vtph (at both the High Street and Scott Street accesses). All these volumes are less than the thresholds for uninterrupted flow conditions detailed in the following table extracted from *Austroads Guide to Traffic Management Part 6 – Intersections, Interchanges and Crossings*.

Major road type[1]	Major road flow (vph)[2]	Minor road flow (vph)[3]
Two-lane	400	250
	500	200
	650	100
Four-lane	1000	100
	1500	50
	2000	25

Given these traffic volumes are below these thresholds, uninterrupted flow conditions can be assumed and little or no delay will be experienced by motorists at High Street / Market Street, High Street / Elizabeth Street, High Street / New development private access and the Scott Street direct in / out access intersections and give way control conditions at these 4 intersections is considered acceptable.

Therefore the additional traffic generated by the seniors' living development will not have any adverse impact on nearby intersection performance on the road network during peak traffic periods and no upgrading requirements would be required.

11.3 Access

In assessing the site access' compliance with Australian Standard *AS2890.1-2004 Parking facilities – Part 1 - Off-street car parking* the following is noted for the existing and proposed accesses.

- Vehicular sight distance from the existing and proposed accesses is to meet the requirements of access sight distance as shown in Figure 3.2 of the Standard, i.e. minimum 45 metres for an 50 km/h speed zone, or 65 metres for a 60 km/h speed zone as well as the requirements under Austroads *Guide to Road Design Part 4A* requirements for safe intersection sight distance of 100 metres for a 50 km/h design speed and 125 metres for a 60 km/h design speed Table 3.2. The proposed access locations have been observed to meet all these design requirements.

- Pedestrian sight lines as required in *Figure 3.2* of the Standard are achieved with the construction of driveways via the appropriate design of landscaping and fencing around the access.

- For accesses supporting between 100 and 300 car spaces of Class 1A parking (residential) via a local road, *Table 3.1* of the Standard requires a minimum Class 2 access facility. *Table 3.2* of the Standard then designates a Class 2 access facility as a combined entry / exit driveway between 6.0 metres to 9.0 metres wide. The proposed entrance entry / exit driveways are a minimum of 6 metres wide and are therefore compliant with the Standard.

- The proposed internal roads need to comply with the requirements of Australian Standard *AS2890.1-2004 Parking facilities – Part 1 - Off-street car parking* which requires the minimum width of the internal two-way roads to be 5.5 metres. The access design and internal road dimensions have not been provided on the plans however appear to scale to comply with this requirement. This will need to be confirmed further at DA stage.

Overall the proposed access is considered suitable for the development being compliant with Australian Standard *AS2890.1-2004 Parking facilities – Part 1 - Off-street car parking.*

Overall it is considered the proposed site access is suitable and would comply with Australian Standard *AS2890.1-2004 Parking facilities Part 1: Off-street car parking and* Austroads *Guide to Road Design Part 4A – Unsignalised and signalised intersections (2015).* Therefore the site access will be suitably safe for use by the development.

11.4 Off-Street Parking

On-site parking and manoeuvrability should comply with Australian Standard *AS2890.1-2004 Parking facilities – Off-street car parking* and *State Environmental Planning Policy (SEPP) (Housing for Seniors and People with a Disability) 2004*. The SEPP states the following in Part 7 Development Standards that cannot be used as grounds to refuse a consent within Division 4 Self-contained units (Clause 50):

(h) Parking: if at least the following is provided:

(i) 0.5 car spaces for each bedroom where the development application is made by a person other than a social housing provider, or

(ii) 1 car space for each 5 dwellings where the development application is made by, or is made by a person jointly with, a social housing provider.

The proposal is to provide 413 bedrooms within the seniors living buildings on the site and, as the development is proposed by a private entity and not a social housing provider, the seniors living component would need to provide a total of 207 on-site car parks. The site provides 297 garage spaces provided within the 180 dwellings. In addition there are 58 tandem parking spaces, provided in front of garages and 92 separate visitor spaces including 10 access spaces. It is concluded that an excess of car parking against the SEPP requirement exists on the site therefore, sufficient on-site car parking is provided for this component of the development as 447 spaces can be provided.

Being residential (Class 1A) parking the minimum parking dimensions are as follows:

- 2.4 metres wide x 5.4 metres long bays with a 5.8 metre aisle / apron width behind the car park. The SEPP does require wider spaces for Seniors Housing however this can still be easily accommodated within the site and will be further reviewed at DA stage.

Whilst the current concept plan is not suitably detailed with dimensions, by scale, the parking and aisle / apron widths appear to comply.

There is sufficient room and an excess of car parking on the site to ensure all parking spaces and manoeuvring areas could comply with the requirements of both Australian Standard *AS2890.1-2004 Parking facilities – Off-street car parking* and *State Environmental Planning Policy (SEPP) (Housing for Seniors and People with a Disability) 2004* which does require increased car park widths.

Therefore, it is concluded that the provision of the proposed on-site car parking (> 207 spaces) complies with the requirements for the development specified by the Australian Standard *AS2890.1-2004 Parking facilities – Off-street car parking and State Environmental Planning Policy (SEPP) (Housing for Seniors and People with a Disability) 2004 Part 7 Development Standards*, subject to verification of the parking layout dimensions.

11.5 Servicing

As a seniors' living development suitable servicing of the site is required to be designed into the development. In this regard the key servicing will be the regular weekly waste collection. This will be undertaken by a private contractor using a utility and trailer as is the case with other developments operated by the proponent that will enter the site and collect waste from bins within the site. Normal waste and recyclables will be collected separately. The internal road layout and design will therefore need to be able to accommodate the movement of this vehicle such that forward entry and exit from the site onto High Street and / or Scott Street will occur. Whilst the concept plan at this stage is not detailed enough to provide swept turning paths there is sufficient room on site for this to occur and swept turning paths can be provided at Development Application stage.

Overall it is concluded that the proposed servicing arrangements of the site would be suitable with all servicing undertaken on site with forward entry and exit from the site.

12.0 PEDESTRIAN & CYCLE FACILITIES

It is considered that the external pedestrian and bicycle traffic generated by the development would not be significant enough as to provide a nexus for the provision of additional external pedestrian and bicycle paths (on or off road) to the site particularly given the lack of existing infrastructure in the area. Suitable internal pedestrian linkages will be included in the site.

13.0 PUBLIC TRANSPORT FACILITIES

The existing public transport (bus) services provided by Hunter Valley Buses does not conveniently service the site. As the operator of the seniors living complex would be providing a private mini bus shuttle for residents of the complex there will not be sufficient demand from the development alone to warrant the extension of an existing bus service to the site or the provision of an additional service. Therefore no nexus exists for additional public transport services and infrastructure resulting from this development.

14.0 CONCLUSIONS

This preliminary traffic assessment for a proposed 180 dwelling Seniors Living development on Lot 91 DP 1167540, 127 High Street, Wallalong has concluded:

- Existing traffic volumes on the local road network are within the technical capacity standards determined by Austroads and the NSW Roads and Maritime Services (RMS).
- The local road network is currently operating satisfactorily with good levels of service and acceptable delay for motorists and has capacity to cater for additional traffic associated with new development in the area.
- The proposed development is likely to generate up to an additional 72 vehicle trips per hour during the AM peak and PM peak traffic periods.
- The local road network will cater for the development traffic generated by this development in 2020 and other developments in the area through to 2030 and 2035 without adversely impacting on current levels of service experienced by motorists on the road or the residential amenity of existing residents.
- The additional traffic generated by the seniors' living development will not have any noticeable impact on nearby intersection performance on the road network during peak traffic periods and no upgrading requirements would be reasonably required.
- Uninterrupted flow conditions will be experienced by motorists at High Street / Market Street, High Street / Elizabeth Street, High Street / New Development private access and the Scott Street direct in / out access intersections and give way control conditions at these 4 intersections is considered acceptable.
- The proposed site access, suitably conditioned on the consent, would comply with Australian Standard *AS2890.1-2004 Parking facilities Part 1: Off-street car parking and* Austroads *Guide to Road Design Part 4A – Unsignalised and signalised intersections (2010).* Therefore the site access will be suitably safe for use by the development.
- The proposed development will provide sufficient and suitable on-site car parking to meet the requirements of both Australian Standard *AS2890.1-2004 Parking facilities – Off-street car parking* and *State Environmental Planning Policy (SEPP) (Housing for Seniors and People with a Disability) 2004*.
- The site can be suitably serviced for waste collection via a private contractor utilising a utility and trailer collection vehicle weekly. There is enough room on site for this vehicle to enter the site, manoeuvre through the site and exit the site in a forward direction.
- The proposed development will not generate significant enough external pedestrian and cycle traffic to require additional external facilities particularly as the majority of pedestrian movements will be contained within the site.
- As the operator of the seniors living complex will provide a private mini bus shuttle for residents of the complex there will not be sufficient demand from the development alone to warrant the extension of an existing bus service to the site or the provision of an additional service. Therefore no nexus exists for additional public transport services and infrastructure resulting from this development.

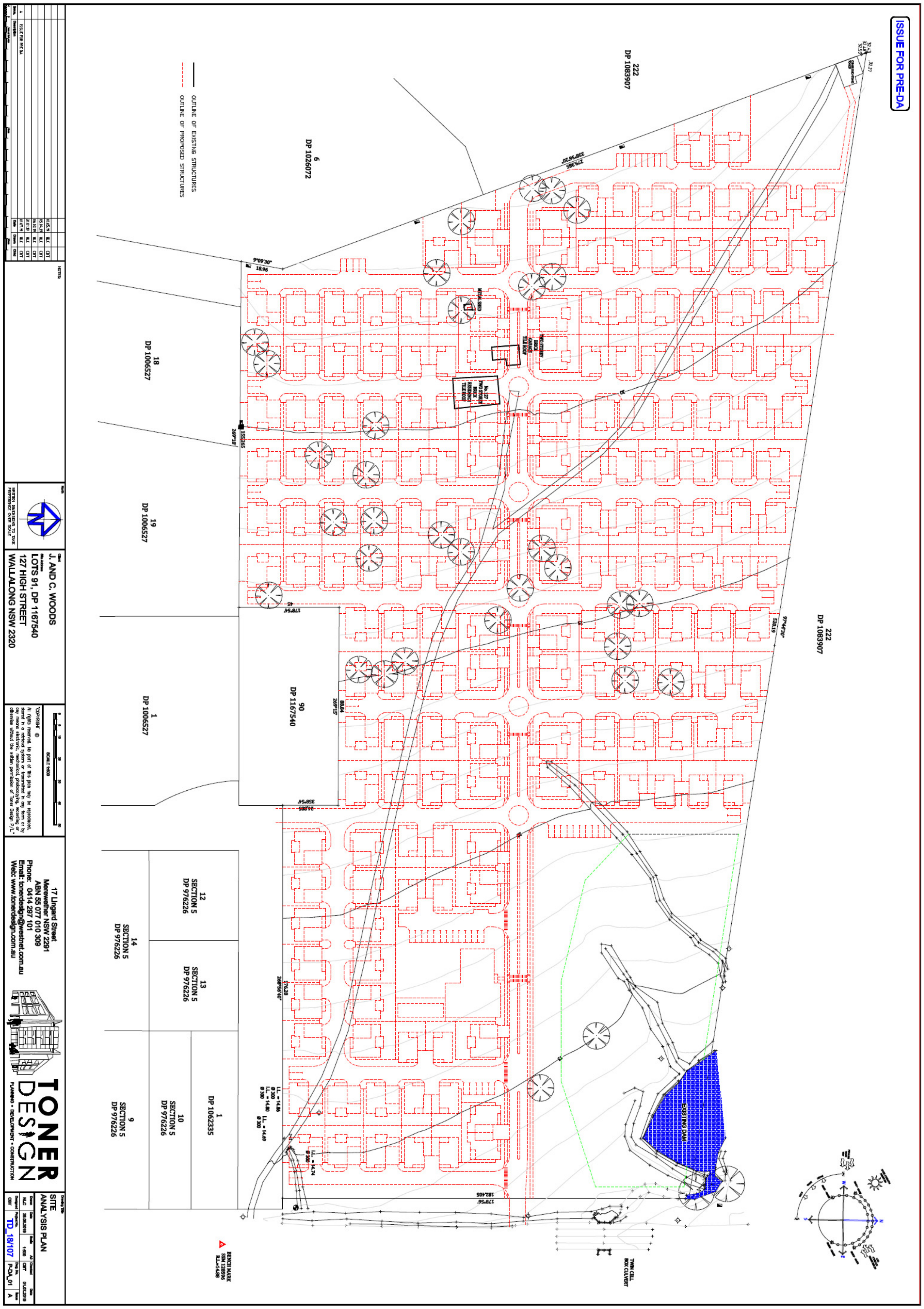
15.0 RECOMMENDATION

Having carried out this preliminary traffic assessment for a seniors living proposal for a 180 dwelling Seniors Living development on Lot 91 DP 1167540, 127 High Street, Wallalong it is recommended that the proposal can be supported from a traffic impact perspective as it will not adversely impact on the local and state road network and can comply with all relevant Port Stephens Council, Austroads, *State Environmental Planning Policy (SEPP) (Housing for Seniors and People with a Disability) 2004* and NSW Roads and Maritime Services (RMS) traffic and parking related requirements.

JR Garry BE (Civil), Masters of Traffic
Director
Intersect Traffic Pty Ltd

ATTACHMENT A

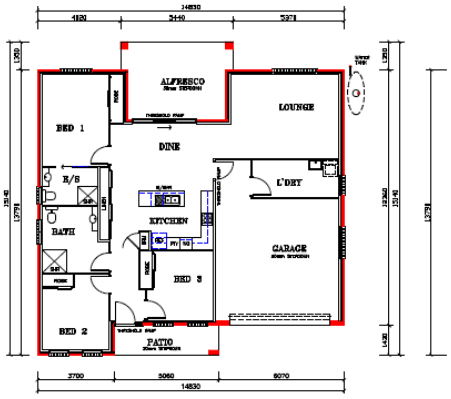
Development Plans


ISSUE FOR PRE-DA
OUTLINE OF EXISTING STRUCTURES
OUTLINE OF PROPOSED STRUCTURES
J. AND C. WOODS
LOTS 91, DP 1167540
127 HIGH STREET
WALLALONG NSW 2320
SITE
ANALYSIS PLAN
TONER
DESIGN
PLANNING • DEVELOPMENT • CONSTRUCTION
EXISTING DAM
TD_18/107


ISSUE FOR PRE-DA
DP 1083907
DP 1026072
DP 1066527
DP 1167540
SCOTT STREET
HIGH STREET
COMMUNITY HALL
FUTURE WASTE WATER DISPOSAL AREA
EXISTING DAM
J. AND C. WOODS
LOTS 91 DP 1167540
127 HIGH STREET
WALLALONG NSW 2320
OVERALL
SITE PLAN
TONER DESIGN

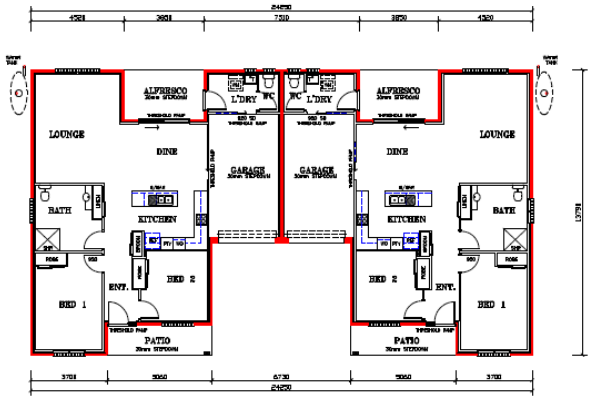
ISSUE FOR PRE-DA

NOTE: * DISABLED ACCESS TO COMPLY WITH AS1428.1
* PROVISION FOR GRAB RAILS & FOLD DOWN SEAT TO SHOWER TO COMPLY WITH AS1428.1-2009



TYPICAL FLOOR PLAN 'A'

LIVING: 134.78 M2
GARAGE: 39.47 M2
PATIO: 7.24 M2
ALFRESCO: 18.38 M2
TOTAL: 199.87 M2



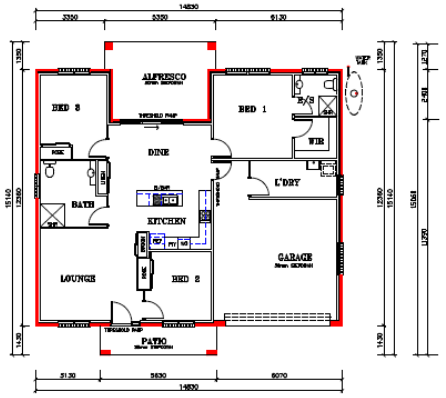
TYPICAL FLOOR PLAN 'C'

LIVING: 110.56 M2
GARAGE: 21.90 M2
PATIO: 7.24 M2
ALFRESCO: 9.24 M2
TOTAL: 148.94 M2

LIVING: 110.56 M2
GARAGE: 21.90 M2
PATIO: 7.24 M2
ALFRESCO: 9.24 M2
TOTAL: 148.94 M2

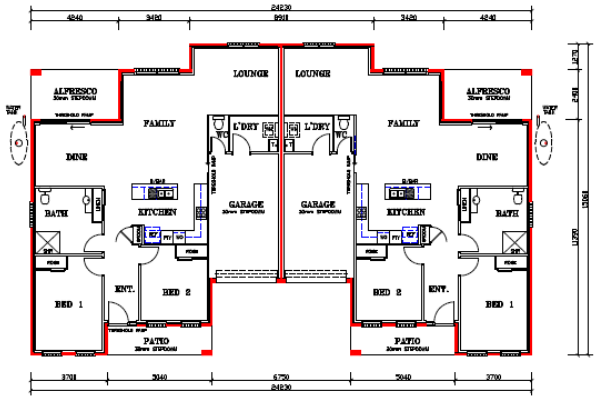
TYPICAL ELEVATION OF FLOOR PLAN 'A'

TYPICAL ELEVATION OF FLOOR PLAN 'B'



TYPICAL FLOOR PLAN 'B'

LIVING: 130.63 M2
GARAGE: 41.51 M2
PATIO: 8.05 M2
ALFRESCO: 18.38 M2
TOTAL: 198.57 M2

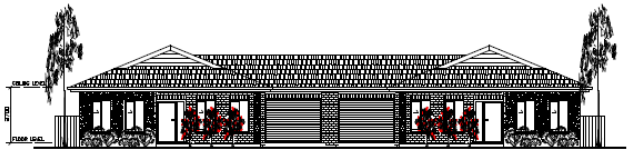


TYPICAL FLOOR PLAN 'D'

LIVING: 120.30 M2
GARAGE: 23.21 M2
PATIO: 7.24 M2
ALFRESCO: 10.18 M2
TOTAL: 160.93 M2

LIVING: 120.30 M2
GARAGE: 23.21 M2
PATIO: 7.24 M2
ALFRESCO: 10.18 M2
TOTAL: 160.93 M2

TYPICAL ELEVATION OF FLOOR PLAN 'C'



TYPICAL ELEVATION OF FLOOR PLAN 'D'

Issue	Description	Date	Drawn	Chkd
A	ISSUE FOR DA	07.11.19	NLC	CBT

WRITTEN DIMENSIONS TO TAKE PREFERENCE OVER SCALE

Client: J. AND C. WOODS
Site Address: LOTS 91, DP 1167540
127 HIGH STREET
WALLALONG NSW 2320

SCALE 1:100

17 Lingard Street
Merewether NSW 2291
ABN 55 077 010 309
Phone: 0414 297 101
Email: tonerdesign@westnet.com.au
Web: www.tonerdesign.com.au

TONER DESIGN
PLANNING • DEVELOPMENT • CONSTRUCTION

Drawing Title: TYPICAL FLOOR PLANS AND FRONT ELEVATIONS

Drawn	Date	Scale	A1	Checked	Date
NLC	28.06.2019	1:100		CBT	01.07.2019

Designed	Project No.	Dwg. No.	Issue
CBT	TD_18/107	P-DA_03	A

ATTACHMENT B

Traffic Count Data

Intersect Traffic
PO Box 268
East Maitland, Nsw, 2323
0423324188

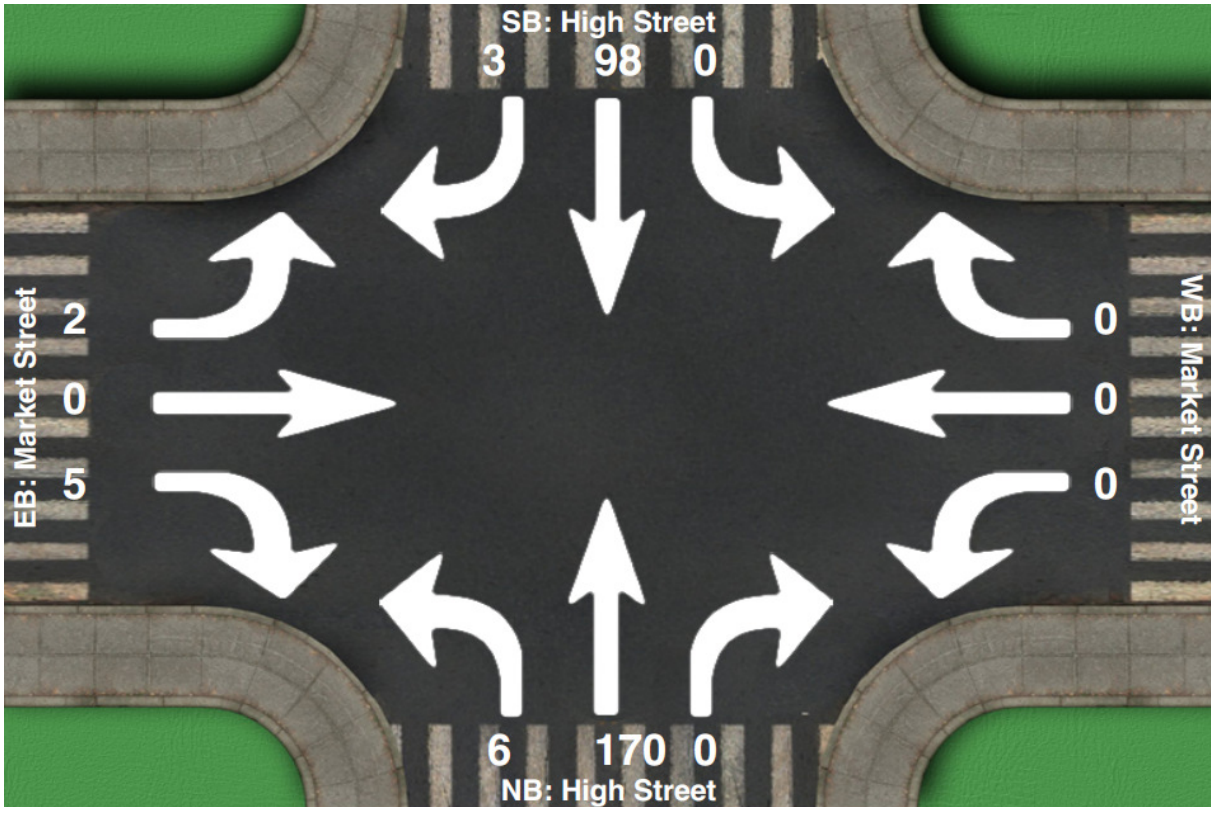
Intersection Peak Hour

15:00 - 16:00

Location: High Street at Market Street , Wall along
GPS Coordinates: Lat=-32.693037, Lon=151.649821
Date: 2020-06-01
Day of week: Monday
Weather: Sunny
Analyst: Peter

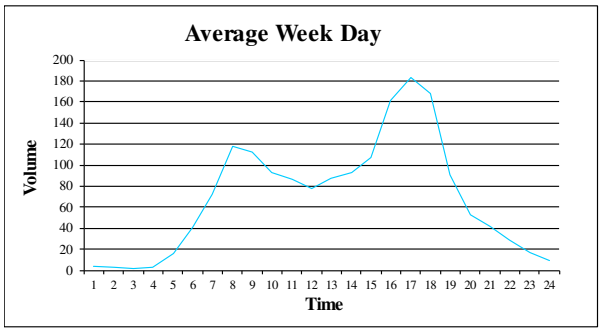
Total vehicle traffic

Interval starts	SouthBound			Westbound			Northbound			Eastbound			Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
15:00	0	26	0	0	0	0	2	30	0	0	0	1	59
15:15	0	32	0	0	0	0	2	43	0	1	0	3	81
15:30	0	24	1	0	0	0	1	61	0	0	0	0	87
15:45	0	16	2	0	0	0	1	36	0	1	0	1	57



Clarence Town Rd 150 m W of Brandy Hill Dr **Eastbound** **Week 1**

Day	Sun	Mon	Tue	Wed	Thu	Fri	Sat	W/Day	W/End	7 Day
Time	7/09/2014	8-Sep-14	9-Sep-14	10-Sep-14	11-Sep-14	12-Sep-14	13-Sep-14	Ave.	Ave.	Ave
0:00	10	3	4	4	4	5	9	4	10	6
1:00	6	2	1	3	1	4	4	2	5	3
2:00	7	1	1	1	4	0	2	1	5	2
3:00	4	2	1	3	2	4	3	2	4	3
4:00	3	16	16	19	10	16	10	15	7	13
5:00	9	45	43	36	42	36	23	40	16	33
6:00	7	65	85	62	78	69	32	72	20	57
7:00	18	113	121	116	117	121	49	118	34	94
8:00	48	112	100	115	116	122	95	113	72	101
9:00	83	88	79	91	106	100	102	93	93	93
10:00	98	74	92	75	100	89	116	86	107	92
11:00	147	72	73	70	68	103	112	77	130	92
12:00	114	80	75	73	112	100	98	88	106	93
13:00	95	65	78	103	100	117	108	93	102	95
14:00	95	85	103	95	125	126	108	107	102	105
15:00	121	178	151	141	153	183	93	161	107	146
16:00	103	177	190	173	192	184	107	183	105	161
17:00	93	172	162	157	153	198	94	168	94	147
18:00	55	80	75	95	91	112	65	91	60	82
19:00	31	37	60	46	73	50	38	53	35	48
20:00	30	33	45	44	56	29	29	41	30	38
21:00	14	22	21	41	36	23	27	29	21	26
22:00	6	7	11	11	12	41	31	16	19	17
23:00	8	6	6	5	12	16	23	9	16	11
Total	**1205**	**1535**	**1593**	**1579**	**1763**	**1848**	**1378**	**1664**	**1292**	**1557**

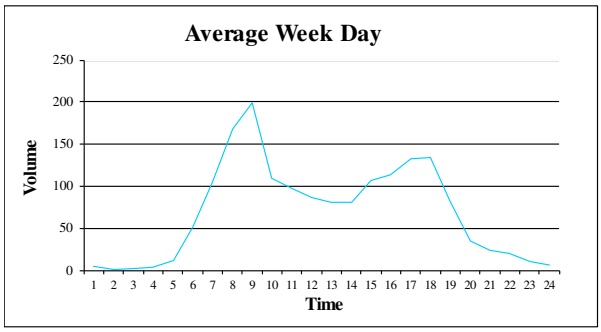


Summary

	from	to	
AM Peak	8:00 AM	9:00 AM	**122**
PM Peak	5:00 PM	6:00 PM	**198**
		Week Day Average	**1664**
		Weekend Day Average	**1292**
		7 Day Average	**1557**

Clarence Town Rd 150 m W of Brandy Hill Dr **Westbound** **Week 1**

Day	Sun	Mon	Tue	Wed	Thu	Fri	Sat	W/Day	W/End	7 Day
Time	7/09/2014	8-Sep-14	9-Sep-14	10-Sep-14	11-Sep-14	12-Sep-14	13-Sep-14	Ave.	Ave.	Ave
0:00	11	4	3	6	3	6	5	4	8	5
1:00	2	1	0	1	3	1	2	1	2	1
2:00	2	3	1	2	1	2	0	2	1	2
3:00	2	5	4	3	3	4	1	4	2	3
4:00	3	12	9	10	15	13	9	12	6	10
5:00	6	52	49	53	53	50	35	51	21	43
6:00	16	103	108	107	111	92	35	104	26	82
7:00	35	181	159	159	168	173	65	168	50	134
8:00	57	199	183	207	196	208	120	199	89	167
9:00	84	101	116	111	109	111	141	110	113	110
10:00	117	73	91	89	108	124	159	97	138	109
11:00	161	77	75	78	112	90	115	86	138	101
12:00	106	70	68	76	93	99	98	81	102	87
13:00	115	80	64	78	108	72	93	80	104	87
14:00	116	89	110	94	108	130	99	106	108	107
15:00	131	115	121	88	105	137	90	113	111	112
16:00	137	135	134	136	131	128	106	133	122	130
17:00	104	136	136	142	127	130	102	134	103	125
18:00	68	67	79	79	108	81	64	83	66	78
19:00	29	38	28	36	39	33	33	35	31	34
20:00	24	25	11	26	29	28	16	24	20	23
21:00	24	13	20	21	21	26	15	20	20	20
22:00	11	8	7	10	7	20	25	10	18	13
23:00	8	4	5	2	7	10	27	6	18	9
Total	**1369**	**1591**	**1581**	**1614**	**1765**	**1768**	**1455**	**1664**	**1412**	**1592**

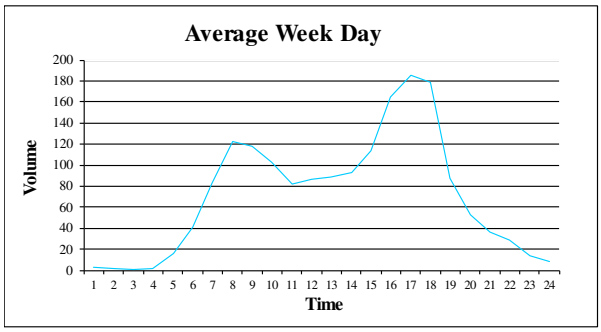


Summary

	from	to	
AM Peak	8:00 AM	9:00 AM	**208**
PM Peak	5:00 PM	6:00 PM	**142**
		Week Day Average	**1664**
		Weekend Day Average	**1412**
		7 Day Average	**1592**

Clarence Town Rd 150 m W of Brandy Hill Dr **Eastbound** **Week 2**

Day	Sun	Mon	Tue	Wed	Thu	Fri	Sat	W/Day	W/End	7 Day
Time	14/09/2014	15-Sep-14	16-Sep-14	17-Sep-14	18-Sep-14	19-Sep-14	20-Sep-14	Ave.	Ave.	Ave
0:00	12	2	2	4	4	4	11	3	12	6
1:00	4	2	1	1	3	3	4	2	4	3
2:00	7	0	2	0	0	3	4	1	6	2
3:00	0	3	1	3	0	0	6	1	3	2
4:00	7	20	18	15	11	16	9	16	8	14
5:00	9	42	41	38	47	36	14	41	12	32
6:00	13	92	86	82	83	72	34	83	24	66
7:00	38	121	131	115	122	123	67	122	53	102
8:00	54	116	123	118	112	119	128	118	91	110
9:00	77	95	96	96	104	123	131	103	104	103
10:00	106	83	63	73	92	99	156	82	131	96
11:00	145	76	88	81	84	103	138	86	142	102
12:00	103	80	72	91	92	108	142	89	123	98
13:00	143	103	74	91	89	107	139	93	141	107
14:00	123	110	93	116	102	148	112	114	118	115
15:00	113	160	148	163	157	194	116	164	115	150
16:00	96	149	205	177	198	199	115	186	106	163
17:00	78	191	173	169	191	169	91	179	85	152
18:00	53	83	66	79	109	103	68	88	61	80
19:00	22	50	58	44	55	59	43	53	33	47
20:00	30	35	29	44	38	34	16	36	23	32
21:00	14	18	31	31	27	36	22	29	18	26
22:00	10	7	8	13	21	21	24	14	17	15
23:00	2	6	8	5	6	14	13	8	8	8
Total	**1259**	**1644**	**1617**	**1649**	**1747**	**1893**	**1603**	**1710**	**1431**	**1630**

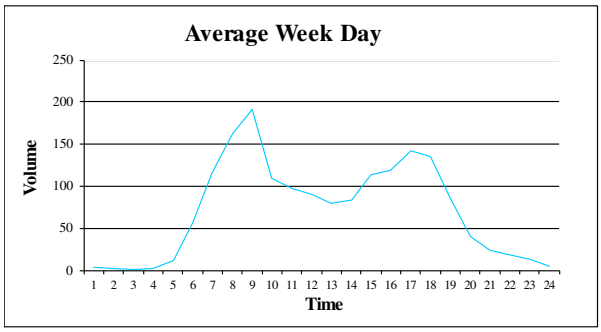


Summary

	from	to	
AM Peak	7:00 AM	8:00 AM	**131**
PM Peak	4:00 PM	5:00 PM	**205**
		Week Day Average	**1710**
		Weekend Day Average	**1431**
		7 Day Average	**1630**

Clarence Town Rd 150 m W of Brandy Hill Dr — **Westbound** — **Week 2**

Day / Time	Sun 14/09/2014	Mon 15-Sep-14	Tue 16-Sep-14	Wed 17-Sep-14	Thu 18-Sep-14	Fri 19-Sep-14	Sat 20-Sep-14	W/Day Ave.	W/End Ave.	7 Day Ave
0:00	8	4	5	3	5	3	6	4	7	5
1:00	2	3	2	1	3	3	3	2	3	2
2:00	5	0	1	2	1	1	1	1	3	2
3:00	3	2	3	3	2	1	1	2	2	2
4:00	7	10	14	13	11	9	6	11	7	10
5:00	12	60	48	59	54	58	23	56	18	45
6:00	18	108	123	120	130	101	48	116	33	93
7:00	56	168	162	168	161	156	94	163	75	138
8:00	76	202	197	195	169	193	126	191	101	165
9:00	123	119	115	112	95	103	158	109	141	118
10:00	178	98	92	94	102	103	150	98	164	117
11:00	140	84	84	88	88	106	117	90	129	101
12:00	120	85	83	74	92	61	120	79	120	91
13:00	117	81	71	76	85	106	92	84	105	90
14:00	151	124	88	111	120	127	105	114	128	118
15:00	114	115	110	126	89	155	95	119	105	115
16:00	124	136	141	136	157	139	82	142	103	131
17:00	93	155	136	117	124	145	79	135	86	121
18:00	57	61	88	87	107	86	56	86	57	77
19:00	31	38	43	40	47	35	32	41	32	38
20:00	20	22	30	23	23	23	21	24	21	23
21:00	14	18	11	15	19	26	25	18	20	18
22:00	9	7	10	14	11	25	26	13	18	15
23:00	7	3	3	5	3	11	6	5	7	5
Total	**1485**	**1703**	**1660**	**1682**	**1698**	**1776**	**1472**	**1704**	**1479**	**1639**



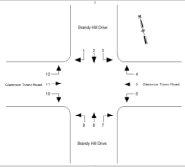
Summary

	from	to	
AM Peak	8:00 AM	9:00 AM	**202**
PM Peak	4:00 PM	5:00 PM	**157**
		Week Day Average	**1704**
		Weekend Day Average	**1479**
		7 Day Average	**1639**

Date	14/10/2014
Day	Tuesday
Time	8 am - 9 am
Weather	Rain
Conducted by:	Jeff

MOVEMENT	1	2	3	4	5	6	7	8	9	10	11	12
8:00 - 8:15	2	2	1	2	41	1	1	2	17	22	10	0
8:15 - 8:30	1	2	3	0	26	5	5	1	14	9	14	1
8:30 - 8:45	0	0	1	1	43	3	2	2	12	13	11	0
8:45 - 9:00	0	1	0	3	25	0	0	1	7	24	4	0
SUM	3	5	5	6	135	9	8	6	50	68	39	1
Road PEAK	3	5	5	6	135	9	8	6	50	68	39	1

Leg	PHT (vph)
Brandy Hill Drive North	26
Brandy Hill Drive South	146
Clarence Town Road West	296
Clarence Town Road East	202



Date	15/09/2014
Day	Monday
Time	2.30 pm - 3.30 pm
Weather	Fine
Conducted by:	Jeff

MOVEMENT	1	2	3	4	5	6	7	8	9	10	11	12	
2:30 - 2:45	1	0	0	0	14	1	2	0	22	9	14	1	
2:45 - 3:00	0	0	0	0	16	1	1	2	10	9	22	2	
3:00 - 3:15	1	4	0	1	12	1	1	0	11	16	15	0	
3:15 - 3:30	1	2	0	0	21	2	1	0	14	10	22	0	262
SUM	3	6	0	1	63	5	5	2	57	44	73	3	
PEAK	3	6	0	1	63	5	5	2	57	44	73	3	

Leg	PHT (vph)
Brandy Hill Drive North	15
Brandy Hill Drive South	119
Clarence Town Road West	243
Clarence Town Road East	147