

Proposed Seniors Living Residential Development

**25 Laitoki Road,
Terrey Hills**

TRAFFIC AND PARKING ASSESSMENT REPORT

15 December 2018

Ref 18716

TABLE OF CONTENTS

1. INTRODUCTION	1
2. PROPOSED DEVELOPMENT	5
3. TRAFFIC ASSESSMENT	10
4. PARKING ASSESSMENT	17

APPENDIX A TRAFFIC SURVEY DATA

LIST OF ILLUSTRATIONS

Figure 1	Location
Figure 2	Site
Figure 3	Road Hierarchy
Figure 4	Existing Traffic Controls

1. INTRODUCTION

This report has been prepared to accompany a Site Compatibility Certificate for a seniors living development proposal to be located at 25 Laitoki Road, Terrey Hills (Figures 1 and 2).

The proposed development involves the demolition of the existing dwelling house on the site to facilitate the construction of a new seniors living residential development, comprising a total of 54 x three bedroom dwellings plus ancillary communal facilities.

Off-street parking is to be provided at various locations throughout the site, including new basement car parking areas as well as private lock-up garages, ultimately in accordance with Council's and *State Environmental Planning Policy (Housing for Senior or People with a Disability) 2004* requirements.

The purpose of this report is to assess the traffic and parking implications of the development proposal and to that end this report:

- describes the site and provides details of the development proposal
- reviews the road network in the vicinity of the site, and the traffic conditions on that road network
- reviews the public transport services available in the vicinity of the site
- estimates the traffic generation potential of the development proposal, and assigns that traffic generation to the road network serving the site
- assesses the traffic implications of the development proposal in terms of road network capacity
- reviews the geometric design features of the proposed car parking and loading facilities for compliance with the relevant codes and standards

- assesses the adequacy and suitability of the quantum of off-street car parking and loading provided on the site.

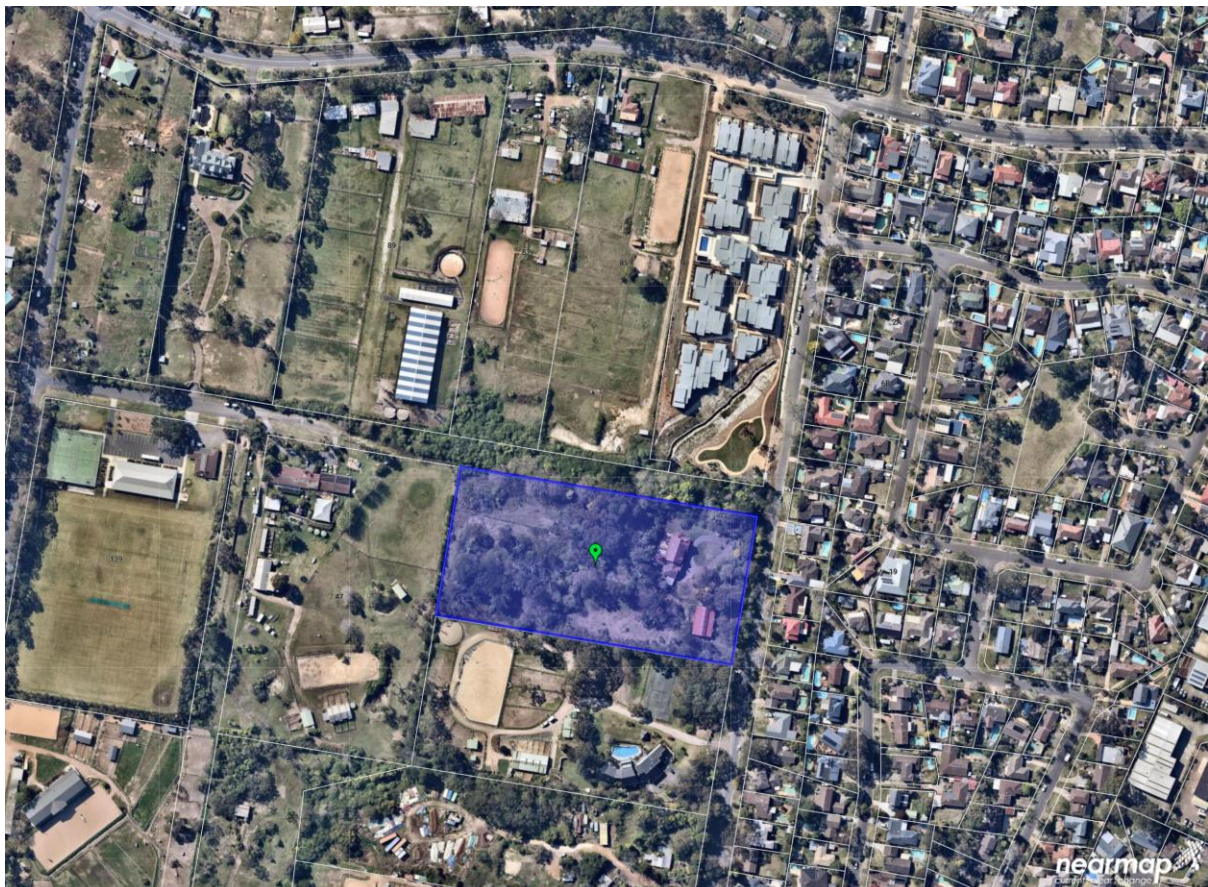
2. PROPOSED DEVELOPMENT

Site

The subject site comprises a large parcel of land located on the western side of Laitoki Road, midway between Booralie Road and Cooyong Road. The site has a street frontage approximately 101m in length to Laitoki Road and occupies an area of 2.023ha.

The subject site is currently occupied by a single dwelling house with a number of associated outbuildings, as indicated in the recent aerial image below. Vehicular access to the site is provided via a single driveway located at the northern end of the Laitoki Road site frontage.

To the north of the subject site is a recently completed seniors living development located at No.83 Booralie Road which comprises 50 dwellings and 120 off-street parking spaces accessed via Laitoki Road. A new public footpath has also been constructed along the majority of its Laitoki Road site frontage.



Proposed Development

The proposed development involves the demolition of the existing buildings on the site to facilitate the construction of a new seniors living residential development, comprising a range of dwelling types including houses, duplex/terraces and apartments. A total of 54 x three bedroom dwellings are proposed in the new development in addition to a number of ancillary facilities for the exclusive use of the residents.

It is envisaged that off-street parking will be provided for residents at 2 spaces per dwelling *plus* 10 ancillary/visitor parking spaces, at various locations throughout the site, including new basement car parking areas as well as private lock-up garages, ultimately in accordance with Council's and *State Environmental Planning Policy (Housing for Senior or People with a Disability) 2004* requirements.

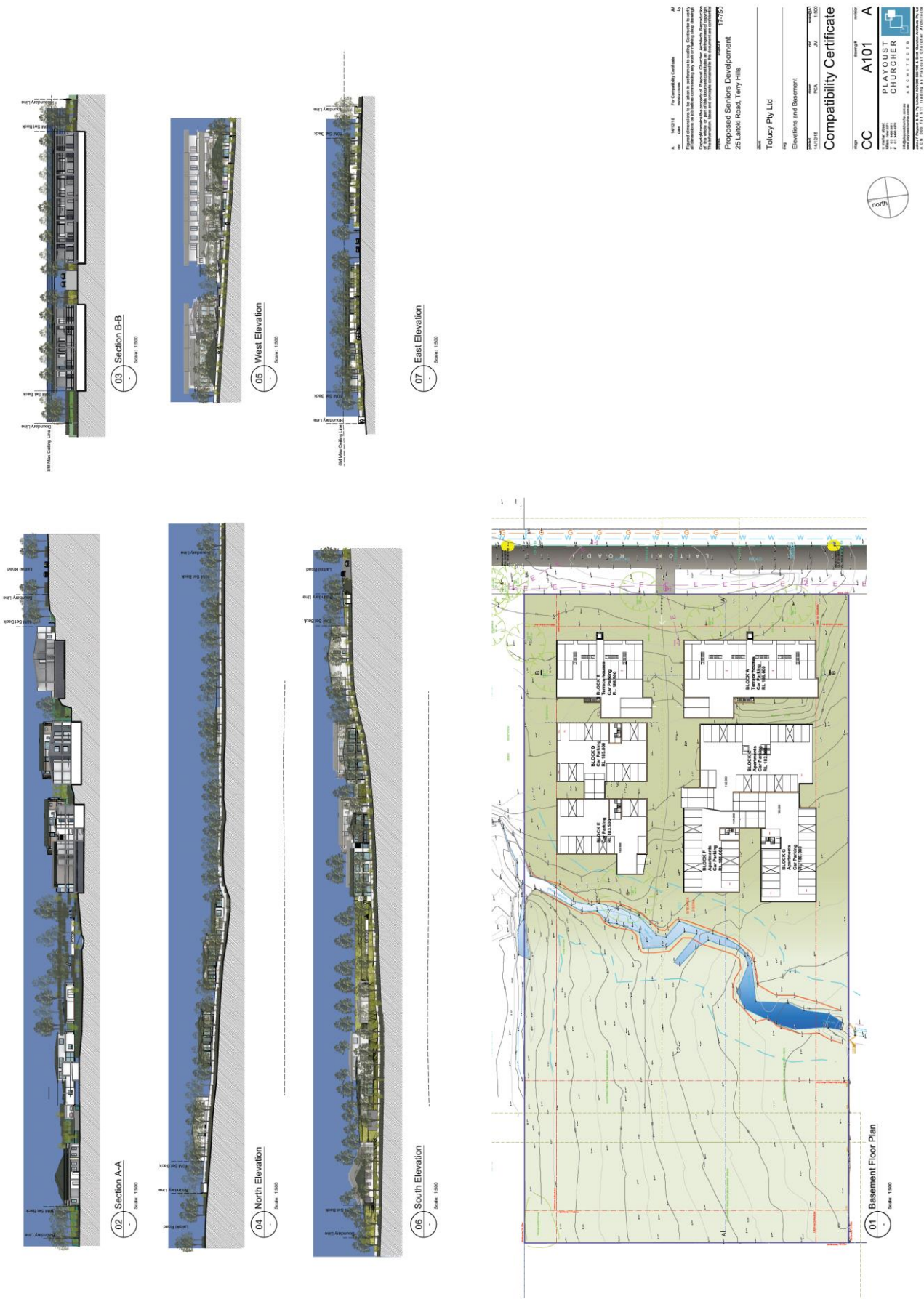
Vehicular access to the site is to be provided via a new entry/exit driveway located approximately midway along the Laitoki Road site frontage. A new internal roadway will then provide access to the various parking areas.

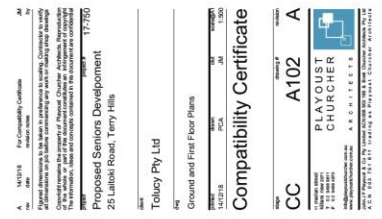
Garbage bins are expected to be lined up along the new internal roadway on "bin night" for collection the following day by Council's waste contractor. A turning area will be provided to ensure the truck can enter and exit the site in a forward direction at all times.

A new footpath will also ultimately be constructed along the Laitoki Road site frontage that will connect to the new footpath outside No.83 Booralie Road and provide residents with a safe and practical means of accessing the existing bus stops located on Booralie Road.

Concept plans of the proposed development have been prepared by *Playoust Churcher Architects* and are reproduced in the following pages.







3. TRAFFIC ASSESSMENT

Road Hierarchy

The road hierarchy allocated to the road network in the vicinity of the site by the Roads and Maritime Services is illustrated on Figure 3.

Mona Vale Road is classified by the RMS as a *State Road* and provides the key east-west road link in the area, linking Pymble to Mona Vale. It typically carries two traffic lanes in each direction in the vicinity of the site, with turning bays provided at key locations.

McCarrs Creek Road is also classified by the RMS as a *State Road* which provides the key north-south road link in the area, linking Terrey Hills to Church Point. It typically carries one traffic lane in each direction in the vicinity of the site.

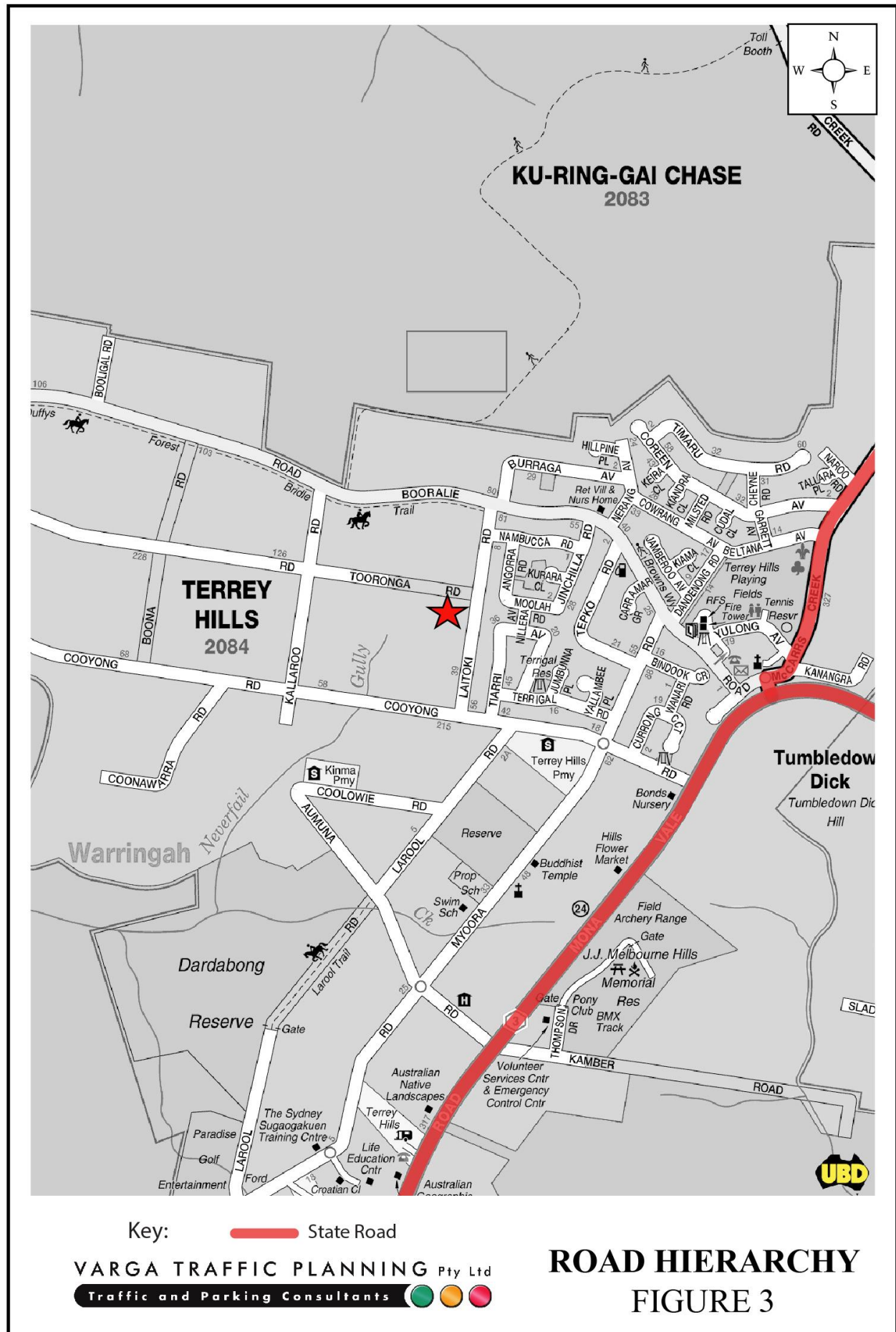
Booralie Road is an unclassified, local road which performs the function of an east-west *collector route* through the local area. It typically carries one traffic lane in each direction with kerbside parking generally permitted on both sides of all roads.

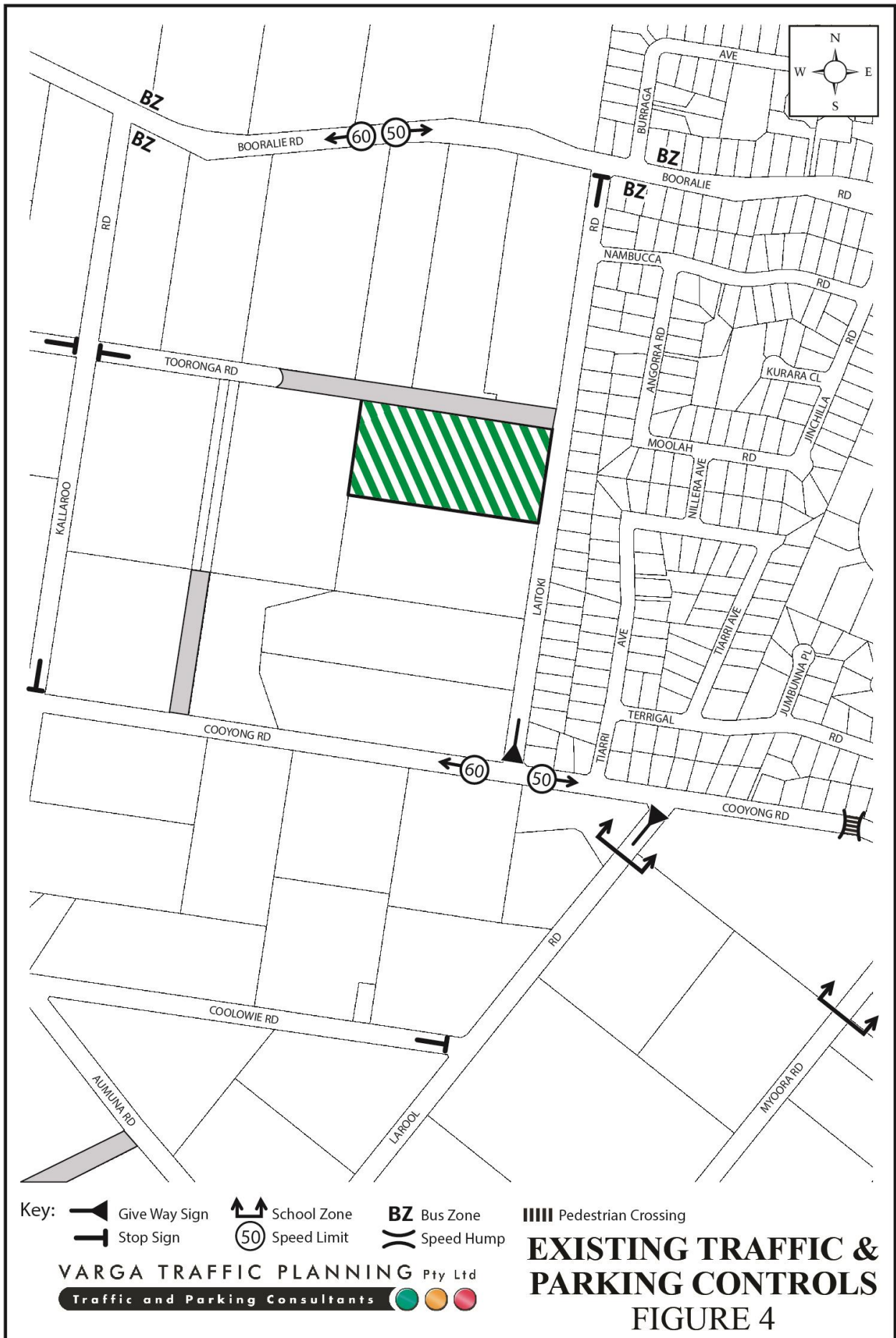
Laitoki Road is also a local, unclassified road which is primarily used to provide vehicular and pedestrian access to frontage properties.

Existing Traffic Controls

The existing traffic controls which apply to the road network in the vicinity of the site are illustrated on Figure 4. Key features of those traffic controls are:

- a 60 km/h SPEED LIMIT which applies to Booralie Road and Cooyong Road, west of Laitoki Road
- a 50 km/h SPEED LIMIT which applies to Booralie Road and Cooyong Road, east of Laitoki Road, and other local roads in the area
- a STOP SIGN in Laitoki Road where it intersects with Booralie Road

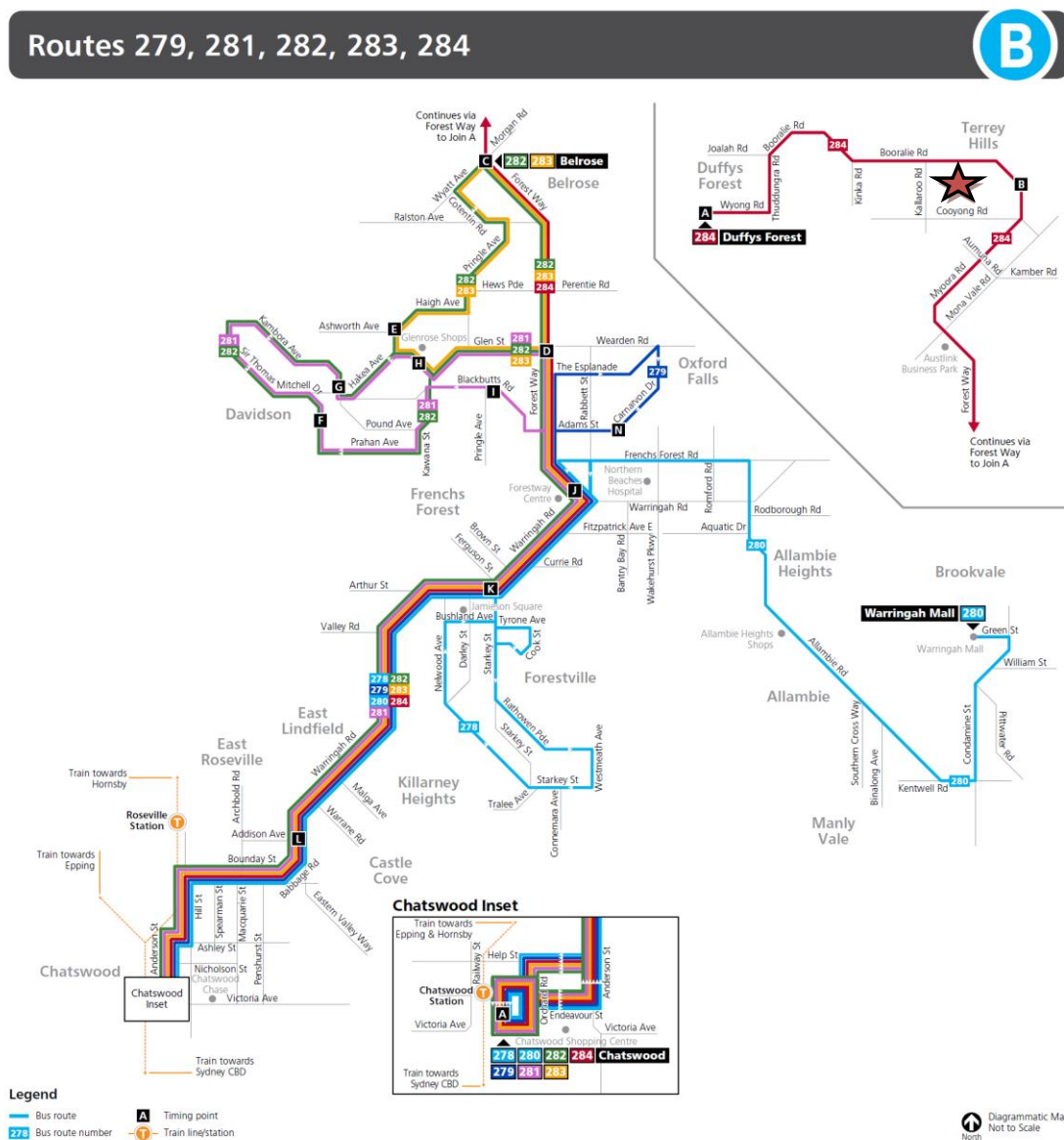




- an UNFORMED ROAD at the far eastern end of Tooronga Road which precludes vehicular access to/from Laitoki Road
- a GIVE WAY SIGN in Laitoki Road where it intersects with Booralie Road.

Existing Public Transport Services

The existing public transport services available in the vicinity of the site are illustrated on the *Forest Coach Lines* map below. The 284 bus service operates along Booralie Road, between Duffys Forest and Chatswood Railway & Bus Interchange.



The nearest bi-directional bus stops are located approximately 350m walking distance north of the site and accessed via the new footpath along the western side of Laitoki Road, outside the new seniors living development located at No.83 Booralie Road.

In summary there are 16 inbound service and 13 outbound services between Monday and Friday (inclusive), 8 inbound services and 7 outbound services on Saturday and 6 inbound services and 7 outbound services on Sunday.

The site is therefore located within an “accessible area” as defined in the *SEPP (Housing for Senior or People with a Disability) 2004*.

Existing Traffic Conditions

An indication of the existing traffic conditions on the road network in the vicinity of the site is provided by peak period “tube” traffic surveys undertaken as part of this traffic study. The “tube” traffic surveys were undertaken over a 7-day period in Laitoki Road, directly outside the subject site, in between No.24 and No.26. The results of the traffic surveys are reproduced in full in Appendix A and reveal that:

- the *morning* peak period typically occurs between 8am and 9am where there are on average 30 vehicles per hour (vph), bi-directional, comprising 18 vph southbound and 12 vph northbound
- the *afternoon* peak period typically occurs between 3pm and 4pm where there are on average 43 vph, bi-directional, comprising 18 vph southbound and 25 vph northbound
- the 85th percentile speed was in the order of 50km/h.

Projected Traffic Generation

An indication of the traffic generation potential of the development proposal is provided by reference to the Roads and Maritime Services publication *Technical Direction TDT 2013/04a (August 2013)*.

The RMS *Technical Direction* is based on extensive surveys of a wide range of land uses and nominates the following traffic generation rate which is applicable to the development proposal:

Housing for Seniors

0.4 peak hour vehicle trips per dwelling

Application of the above traffic generation rate to the 54 seniors living dwellings outlined in the development proposal yields a traffic generation potential of approximately 22 vehicle trips per hour during commuter peak periods.

That projected increase in traffic activity as a consequence of the development proposal is minimal and will clearly not have any unacceptable traffic implications in terms of road network capacity.

Environmental Capacity of Residential Streets

Research undertaken by the Roads and Maritime Services has identified a number of environmental capacity performance standards for different types of residential streets, as set out in the table below:

Table 4.6 Environmental Capacity Performance Standards on Residential Streets			
Road Class	Street 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.

The cumulative traffic flows in Laitoki Road as a consequence of the development proposal is therefore expected to be in the order of 65 vehicle trips per hour during the afternoon weekday peak period (i.e. 22 vph proposed and 43 vph existing), *well below* the threshold of 200 vph which is the environmental goal for a local residential street. As such, the projected increase in traffic activity as a consequence of the development proposal will clearly not have any unacceptable traffic implications in terms of road network capacity.

4. PARKING IMPLICATIONS

Existing Kerbside Parking Restrictions

The existing kerbside parking restrictions which apply to the road network in the vicinity of the site comprise:

- generally UNRESTRICTED kerbside parking along Laitoki Road and throughout the local area
- BUS ZONES located at regular intervals along both sides of Booralie Road.

Off-Street Parking Provisions

The off-street parking requirements applicable to the development proposal are specified in the *State Environmental Planning Policy (Housing for Seniors or People with a Disability) 2004*, which specifies the following off-street car parking requirements:

Division 4 Self-contained dwellings

50 Standards that cannot be used to refuse development consent for self-contained dwellings

- (2) A consent authority must not refuse consent to a development application made pursuant to this Chapter for the carrying out of a development for the purpose of a self-contained dwelling (including in-fill self-care housing and serviced self-care housing) on any of the following grounds:

(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.

Application of the above parking requirements to the 54 seniors living dwellings outlined in the development proposal yields an off-street parking requirement of 81 parking spaces.

It is envisaged that off-street parking will ultimately be provided for residents at 2 spaces per dwelling *plus* 10 ancillary/visitor spaces (which are not required to be provided under the *SEPP*), thereby comfortably satisfying the *SEPP* car parking requirements.

The geometric design layout of the proposed car parking facilities will ultimately be designed to comply with the relevant requirements specified in the Standards Australia publications *Parking Facilities Part 1 - Off-Street Car Parking AS/NZS2890.1:2004* and *Parking Facilities Part 6 – Off-Street Parking for People with Disabilities AS2890.6* in respect of parking bay dimensions, ramp gradients and aisle widths.

The servicing needs of the proposed residential development is expected to be minimal, and is likely to comprise weekly garbage collection services using Council's garbage trucks and irregular visits by removalist trucks when future residents are moving house. The future internal roadway will be designed in such a way to allow trucks up to 8.8m in length, the ability to turn around safely within the site and to enter and exit the site in a forward direction at all times.

In summary, the proposed parking and loading facilities satisfy the relevant requirements specified in Council's *DCP*, *SEPP 2004* and the Australian Standards and it is therefore concluded that the proposed development will not have any unacceptable parking or loading implications.

Conclusion

The foregoing assessment has found that the proposed development will not result in any unacceptable implications in terms of road network capacity or off-street parking/loading/access requirements. Furthermore, the proposed development will ultimately satisfy the parking requirements of the *SEPP* and the design requirements of the Australian Standards.

APPENDIX A

TRAFFIC SURVEY DATA

Count Number 6733

Ref : VAR

Street

LAITOKI ROAD, TERRY HILLS : Between BOORALIE ROAD & COOYONG ROAD (bidirectional) :

UBD 136 G-7

Location

On power pole in between No.24 & No.26, ELP TERR344

Carriageway

TOTAL COUNT MATRIX

Start Date
06-NOV-18
Start Time
1200
Duration
7 DAYS
Interval
1 HOUR

Weekly 50th Percentile Speed
42
Weekly 85th Percentile Speed
50
Five Day AADT
371
Seven Day AADT
363

	MON 12TH	TUE 13TH/6TH	WED 7TH	THU 8TH	FRI 9TH	SAT 10TH	SUN 11TH	5 Day		7 Day	
								Total	Average	Total	Average
Midnight - 1am	0	0	0	1	0	6	3	1	0	10	1
1am - 2am	0	0	0	0	1	1	2	1	0	4	1
2am - 3am	0	0	0	0	1	0	0	1	0	1	0
3am - 4am	0	0	0	0	0	0	1	0	0	1	0
4am - 5am	0	0	2	0	0	1	0	2	0	3	0
5am - 6am	4	0	5	2	2	0	0	13	3	13	2
6am - 7am	21	0	21	12	17	6	3	71	14	80	11
7am - 8am	27	0	35	28	27	17	12	117	23	146	21
8am - 9am	31	0	40	38	41	16	13	150	30	179	26
9am - 10am	25	0	28	26	29	28	21	108	22	157	22
10am - 11am	25	0	30	20	17	36	23	92	18	151	22
11am - Midday	21	25	24	21	23	20	36	114	23	170	24
Midday - 1pm	29	24	26	28	24	25	28	131	26	184	26
1pm - 2pm	28	19	23	22	25	21	28	117	23	166	24
2pm - 3pm	40	33	26	35	32	19	23	166	33	208	30
3pm - 4pm	31	51	46	37	49	42	31	214	43	287	41
4pm - 5pm	0	37	37	42	40	24	30	156	31	210	30
5pm - 6pm	0	38	29	34	34	34	26	135	27	195	28
6pm - 7pm	0	25	20	29	33	26	27	107	21	160	23
7pm - 8pm	0	18	14	17	23	14	9	72	14	95	14
8pm - 9pm	0	4	10	9	15	7	5	38	8	50	7
9pm - 10pm	0	8	5	3	6	8	3	22	4	33	5
10pm - 11pm	0	2	5	1	11	5	2	19	4	26	4
11pm - Midnight	0	0	2	0	7	4	0	9	2	13	2
Total	282	284	428	405	457	360	326	1856	371	2542	363

Count Number 6733 Ref : VAR UBD 136 G-7
 Street LAITOKI ROAD, TERRY HILLS : From BOORALIE ROAD to COOYONG ROAD : SOUTH BOUND
 Location On power pole in between No.24 & No.26, ELP TERR344 Carriageway

TOTAL COUNT MATRIX

Start Date
Start Time
Duration
Interval

06-NOV-18
1200
7 DAYS
1 HOUR

Weekly 50th Percentile Speed
Weekly 85th Percentile Speed
Five Day AADT
Seven Day AADT

42
50
181
178

	MON 12TH	TUE 13TH / 6TH	WED 7TH	THU 8TH	FRI 9TH	SAT 10TH	SUN 11TH	5 Day Total	5 Day Average	7 Day Total	7 Day Average
Midnight - 1am	0	0	0	0	0	3	0	0	0	3	0
1am - 2am	0	0	0	0	1	0	1	1	0	2	0
2am - 3am	0	0	0	0	0	0	0	0	0	0	0
3am - 4am	0	0	0	0	0	0	1	0	0	1	0
4am - 5am	0	0	1	0	0	1	0	1	0	2	0
5am - 6am	3	0	3	1	2	0	0	9	2	9	1
6am - 7am	15	0	14	9	11	3	1	49	10	53	8
7am - 8am	19	0	21	23	15	10	7	78	16	95	14
8am - 9am	16	0	24	23	26	9	9	89	18	107	15
9am - 10am	16	0	17	14	17	17	14	64	13	95	14
10am - 11am	12	0	20	12	13	22	13	57	11	92	13
11am - Midday	13	12	13	9	13	7	20	60	12	87	12
Midday - 1pm	14	7	14	16	13	10	8	64	13	82	12
1pm - 2pm	18	10	9	11	13	10	16	61	12	87	12
2pm - 3pm	25	19	16	16	15	11	9	91	18	111	16
3pm - 4pm	12	25	19	14	19	20	18	89	18	127	18
4pm - 5pm	0	13	13	17	15	10	15	58	12	83	12
5pm - 6pm	0	11	8	14	12	13	9	45	9	67	10
6pm - 7pm	0	5	8	9	14	14	11	36	7	61	9
7pm - 8pm	0	7	6	7	11	7	5	31	6	43	6
8pm - 9pm	0	2	5	2	4	5	3	13	3	21	3
9pm - 10pm	0	1	0	0	3	3	1	4	1	8	1
10pm - 11pm	0	1	0	0	3	3	0	4	1	7	1
11pm - Midnight	0	0	1	0	1	1	0	2	0	3	0
Total	163	113	212	197	221	179	161	906	181	1246	178

Count Number 6733

Ref : VAR

UBD 136 G-7

Street LAITOKI ROAD, TERRY HILLS : From COOYONG ROAD to BOORALIE ROAD : NORTH BOUND

Location On power pole in between No.24 & No.26, ELP TERR344

Carriageway

TOTAL COUNT MATRIX

Start Date
Start Time
Duration
Interval

06-NOV-18
1200
7 DAYS
1 HOUR

Weekly 50th Percentile Speed 43
Weekly 85th Percentile Speed 51
Five Day AADT 190
Seven Day AADT 185

	MON 12TH	TUE 13TH/6TH	WED 7TH	THU 8TH	FRI 9TH	SAT 10TH	SUN 11TH	5 Day Total	5 Day Average	7 Day Total	7 Day Average
Midnight - 1am	0	0	0	1	0	3	3	1	0	7	1
1am - 2am	0	0	0	0	0	1	1	0	0	2	0
2am - 3am	0	0	0	0	1	0	0	1	0	1	0
3am - 4am	0	0	0	0	0	0	0	0	0	0	0
4am - 5am	0	0	1	0	0	0	0	1	0	1	0
5am - 6am	1	0	2	1	0	0	0	4	1	4	1
6am - 7am	6	0	7	3	6	3	2	22	4	27	4
7am - 8am	8	0	14	5	12	7	5	39	8	51	7
8am - 9am	15	0	16	15	15	7	4	61	12	72	10
9am - 10am	9	0	11	12	12	11	7	44	9	62	9
10am - 11am	13	0	10	8	4	14	10	35	7	59	8
11am - Midday	8	13	11	12	10	13	16	54	11	83	12
Midday - 1pm	15	17	12	12	11	15	20	67	13	102	15
1pm - 2pm	10	9	14	11	12	11	12	56	11	79	11
2pm - 3pm	15	14	10	19	17	8	14	75	15	97	14
3pm - 4pm	19	26	27	23	30	22	13	125	25	160	23
4pm - 5pm	0	24	24	25	25	14	15	98	20	127	18
5pm - 6pm	0	27	21	20	22	21	17	90	18	128	18
6pm - 7pm	0	20	12	20	19	12	16	71	14	99	14
7pm - 8pm	0	11	8	10	12	7	4	41	8	52	7
8pm - 9pm	0	2	5	7	11	2	2	25	5	29	4
9pm - 10pm	0	7	5	3	3	5	2	18	4	25	4
10pm - 11pm	0	1	5	1	8	2	2	15	3	19	3
11pm - Midnight	0	0	1	0	6	3	0	7	1	10	1
Total	119	171	216	208	236	181	165	950	190	1296	185