

Transport for NSW Trip Generation Surveys

Low Density Residential Data Report

Transport for NSW

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1. INTRODUCTION

1.1 Background

Transport for New South Wales (TfNSW), previously known as Roads and Maritime Services (RMS), commissioned Bitzios Consulting to undertake a trip generation and parking demand survey of Low Density Residential. The Roads and Maritime Guide to Traffic Generating Developments – 2002 (hereafter referred to as the Guide), contains traffic generation and parking demand information based on surveys completed since 1978 and regularly requires updating.

TfNSW recognised that many new and emerging business types are not adequately represented in the Guide, including Low Density Residential. Other early trip generation studies were too focussed on Sydney and did not adequately reflect potential differences in regional areas. Additionally, there is an increasing awareness that public transport and active transport access has not been adequately accounted for in previous trip and parking generation surveys for some particular land uses.

Several large trip and parking generation rate databases have been developed over the years. Notable among these are the NZ Trips Database Bureau (TDB), the US Institute of Transportation Engineers (ITE) Trip Generation / Parking Generation, and the Trip Rate Information Computer System (TRICS).

Over the last few years, the implementation of lockdowns or restrictions to mitigate the spread of Covid-19 has impacted traffic movements for certain land uses. Emerging studies are indicating that outside of government-mandated lockdowns and movement restrictions, traffic in major centres appears to be remaining consistent with pre-Covid levels. There is existing trip rate data for low density residential included in the Guide, data previously collected over large precinct areas shows some variance from similar data derived from the Household Travel Survey trip diaries. Furthermore, the ongoing effect of covid-induced working from home has not been surveyed. This study does not analyse or discuss any impacts to traffic due to Covid-19 lockdowns.

1.2 Scope

The scope of this Data Report includes:

- Research and identification of Low Density Residential which meet the requirements of Transport for NSW brief
- Summary of all collected relevant and available background data for each selected survey site (e.g. the number of dwellings within the catchment area, any localised home businesses)
- Directional traffic count data (12-bin) at the entrance to the residential precinct collected over 7 days, for each direction, at the same location as the traffic counter, in the peak periods (6.00am to 9.00am; 3.30pm to 6.30pm) on one weekday
- Assembly and summary of information on all mode trip generation data
- Tabulating and presenting the collected data to establish any initial statistical relationship.

Detailed data and regression analysis shall be included in the corresponding Analysis Report for this study.

1.3 Definition of Key Terms

The following key terms are utilised within this report:

- **TfNSW** – Transport for New South Wales
- **Trip Generation** – Generation of trips undertaken by individuals, including pedestrians and cyclist. It should be noted that a 'trip' is the movement of a vehicle or person from origin to destination so that a person travelling to a business site and departing later is counted as two trips.
- **Traffic Generation** – Individual vehicle trips regardless of the number of persons within the vehicle.

1.4 Project Challenges and Responses

Table 1.1 shows and summarises the challenges that occurred throughout the data collection phase of the project and the steps taken to address them.

Table 1.1: Addressing Project Challenges

Challenges	Responses
The large number of survey sites increased the likelihood of data collection errors or corrupted datasets	Where possible, additional surveys were undertaken to correct probably data errors. All other errors were noted within the Data Report and were taken into consideration throughout the data analysis
Ensuring a typical weekday and weekend was surveyed for each site.	Surveys were undertaken outside of School Holiday periods

2. SITE SELECTION

2.1 Transport for NSW Criteria

The selection of sites is based on the following criteria provided by TfNSW:

- Only detached and semi-detached housing – no villas, aged care, medium density or high-rise
- Reasonable geographic spread
- A range of precinct sizes
- A range of accessibility to public transport
- No non-residential traffic generating developments (e.g. child care centres; shops; schools, etc) within the catchment area.

2.2 Candidate Site Selection

The candidate sites were selected by manually reviewing aerial imagery (Google Maps and Nearmap) A total of 28 candidate sites, comprising of 9 regional and 19 around Sydney.

2.3 Selection Basis

A total of 24 sites were selected from the 28 nominates sites. The final selection of sites was based on a number of key factors. The candidate sites satisfied the Transport for NSW criteria listed above.

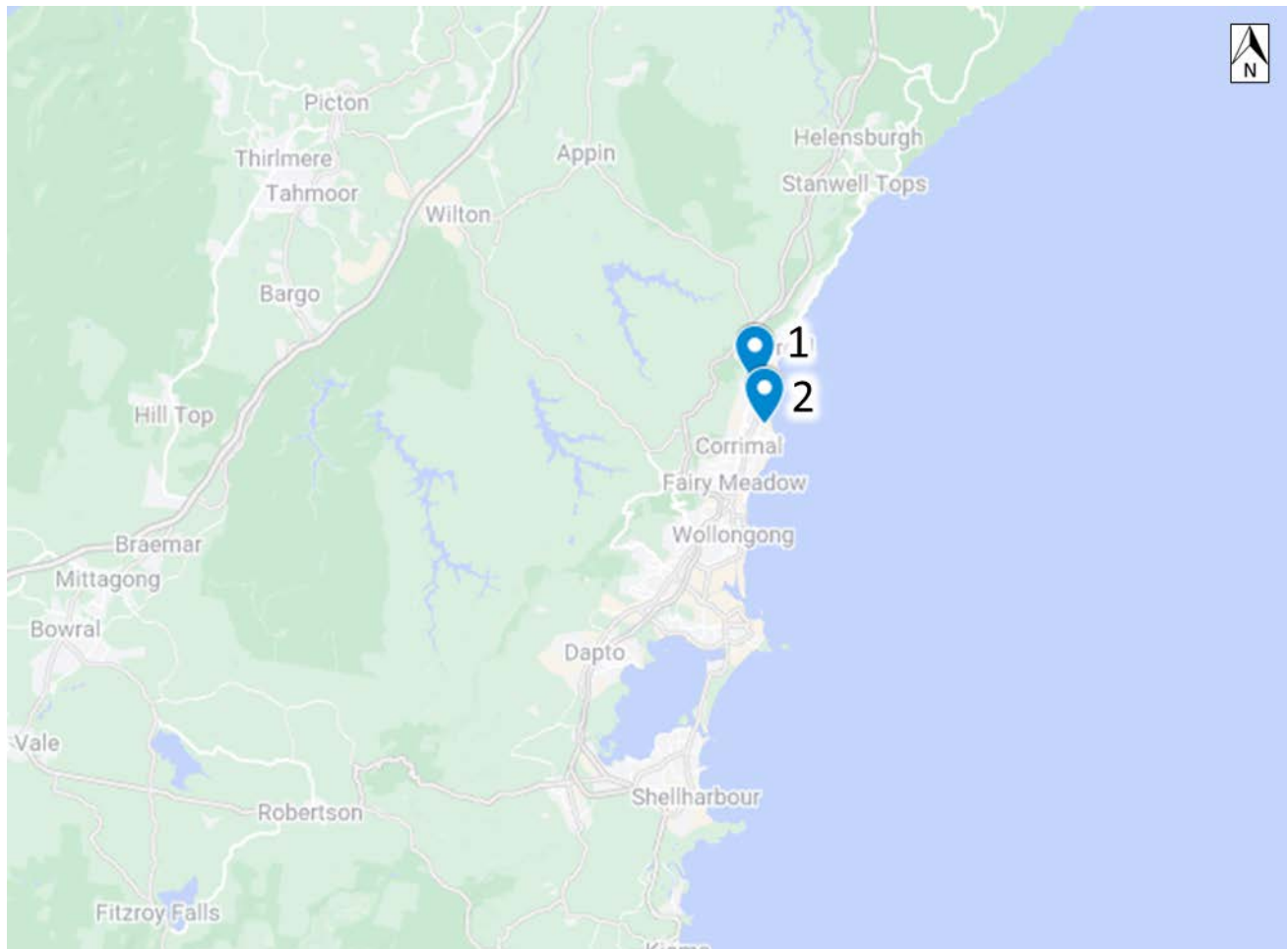
2.4 Selected Survey Sites

A summary of each of the selected survey sites and their locations is provided in Table 2.2 and Figure 2.1, Figure 2.2, Figure 2.3 and Figure 2.4 respectively. The number of home based businesses within each survey catchment has also been noted, “retail” has been defined as businesses that are understood to have home-based sales and pick-up, while “commercial” has been defined as office or trade businesses. Number of businesses is based on an aerial imagery review and online mapping information.

Table 2.1: Survey Sites

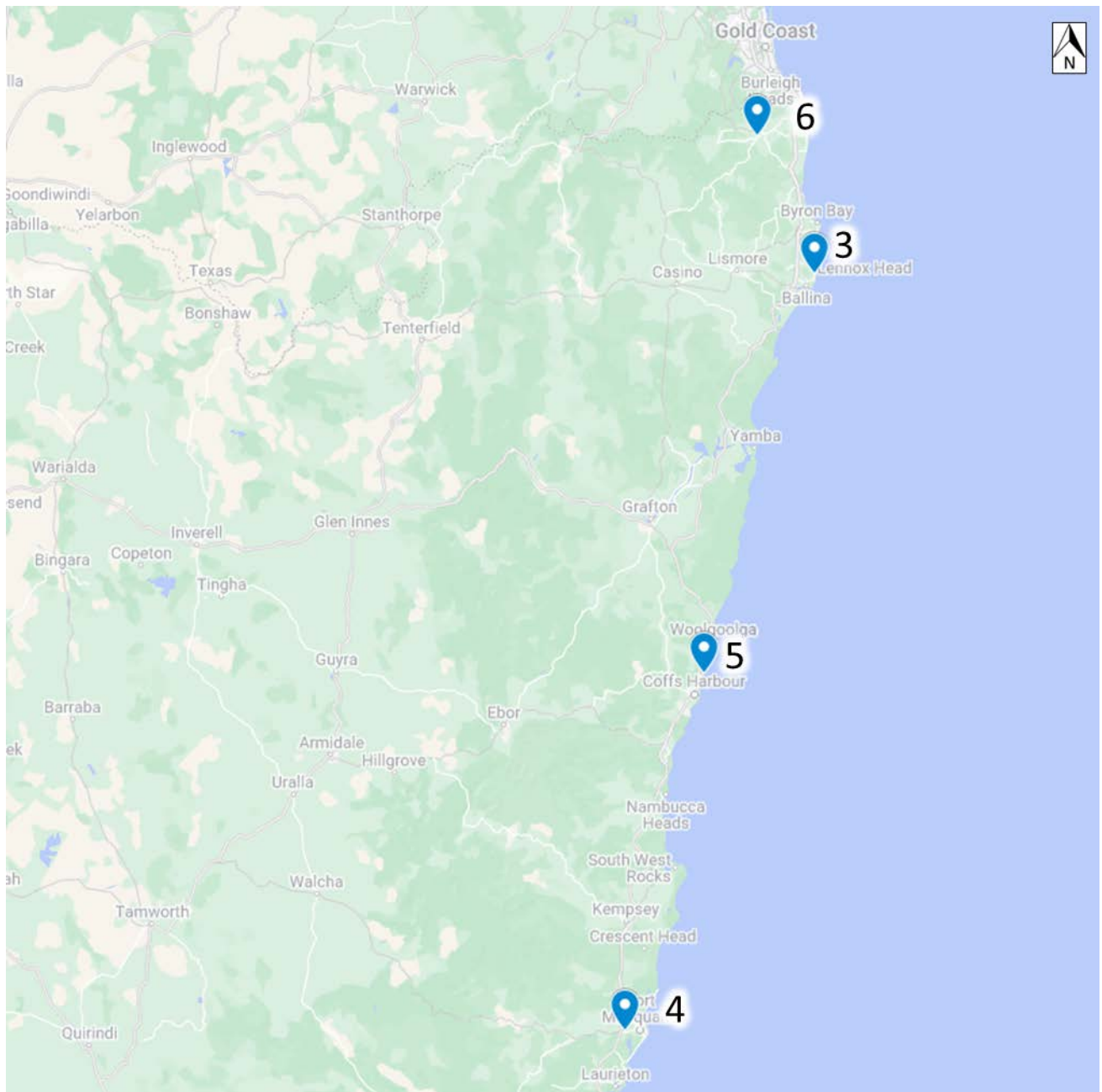
Sit e No.	Region	Region Type	Suburb /Town	Catchment Entry Road	No. of Dwellings	Retail	Commercial
1	Wollongong	Outer Suburban	Buli	Hospital Road	182	2	0
2	Wollongong	Outer Suburban	Woonona	Charlotte Harrison Drive	91	1	0
3	Ballina	87	0	Henderson Drive			2
4	Port Macquarie-Hastings	150	0	Chancellors Drive			2
5	Coffs Harbour	220	1	N Solitary Drive			0
6	Tweed	118	1	Golden Links Drive			0
7	Newcastle	87	5	Cedrella Crescent			2
8	Newcastle	Outer Suburban	Fletcher	Redwood Close	81	3	2
9	Camden	Outer Suburban	Harrington Park	Hawthorne Circuit	85	3	2
10	Sutherland Shire	Outer Suburban	Greenhills Beach	Wategos Street	226	8	0
11	Cumberland	Outer Suburban	Merrylands	Shannon Avenue	58	4	0
12	Parramatta	Inner Suburban	Northmead	Christine Street	53	1	0
13	Hornsby Shire	Outer Suburban	Pennant Hills	Kurrajong Street	129	0	0
14	City of Fairfield	Inner Suburban	Old Guildford	Orchid Road	54	8	0
15	Sutherland Shire	Inner Suburban	Illawong	Austin Street	247	0	0
16	Sutherland Shire	Inner Suburban	Menai	Portmadoc Drive	271	0	0
17	City of Willoughby	Inner Suburban	Chatswood West	River Avenue	136	0	0
18	City of Ryde	Inner Suburban	Marsfield	Elk Street	52	2	0
19	Canterbury-Bankstown	Inner Suburban	Punchbowl	Patrick Street	41	3	1
20	Campbelltown	Inner Suburban	Leumeah	Jenolan Street	56	1	0
21	Macarthur	Inner Suburban	Ingleburn	Delage Place	27	3	0

22	Liverpool	Inner Suburban	Wattle Grove	Castle Rock Court	124	2	0
23	Liverpool	Inner Suburban	Hammondville	Meehan Avenue	161	2	1
24	Liverpool	Inner Suburban	Moorebank	Marshall Avenue	121	3	0



SOURCE: Google Maps (edited by Bitzios)

Figure 2.1: Low Density Residential Survey Site Locations



SOURCE: Google Maps (edited by Bitzios)

Figure 2.2: Low Density Residential Survey Site Locations

3. SURVEY PROCEDURE

3.1 Survey Schedule

Two sets of Surveys were undertaken, Automatic Tube counts and Manual counts. Tube Counts were collected across a seven (7) day period at the entrance to the residential precinct. Manual observational counts were undertaken on a single weekday to capture pedestrian, cyclist, occupants in passing cars and passengers in passing buses if any. This was collected for each direction, at the same location as the traffic counter, during the peak periods (6.00am to 9.00am; 3.30pm to 6.30pm) to provide data on mode choice.

Table 3.1: Site Survey Schedule and Notes

Site No.	Manual Survey Date	Tube Count Survey Dates
1, 2, 5, 8, 11, 13, 18, 19, 20	Wednesday, 1 June 2022	28th May to 3rd June 2022
3, 6	Tuesday, 7 June 2022	7th - 13th June 2022
4	Thursday, 2 June 2022	30th May - 5th June 2022
7, 9, 12, 21	Tuesday, 31 May 2022	28th May-3rd June 2022
10	Tuesday, 14 June 2022	8th - 14th June 2022
14, 15, 16, 22, 23, 17	Thursday 2nd June 2022	28th May -3rd June 2022
24	Tuesday, 7 June 2022	1st - 7th June 2022

All survey sites are of 'closed' catchments with only one (1) road in/out of the survey area.

3.2 Site Information

The following site information was collected for each site (where available):

- Number of dwellings within catchment
- Bus routes / PT availability
- Parking restrictions
- Number of local businesses.

3.3 Collection Methods

Site information was collected using two (2) different sources, as follows:

- On-site observations completed by traffic counting firm Traffic Data & Control (TDC)
- Manually researching information and review aerial imagery.

4. SURVEY RESULTS

4.1 Overview

This report contains a summary of select data. Alongside daily trip data, each site's AM and PM peak periods are reviewed on a weekday (Tuesday, Wednesday or Thursday) and weekend (Saturday). Preliminary data summaries for all the sites are contained in **Appendix A** and include site information, trip generation derived from traffic counts and survey data. Complete survey data sets for individual sites, as completed by TDC, are provided in **Appendix B**.

4.2 Preliminary Analysis and Key Statistics

Key outputs of the surveys including factors that impact the road network such as, vehicle and person trip generation, development peak periods, trips per number of dwellings, and travel mode splits have been summarised in this section.

During the preliminary investigations the following was noted:

- AM Peak Hour Periods on weekdays typically occur within a narrower time frame (regularly beginning at 7:30am – 8:00am) while PM peaks varied more in range (beginning between 3:00pm – 4:30pm)
- As seen historically in data, the weekend peak periods are closer to midday than the weekday peaks, However, some sites showed a higher peak trip generation during the weekend
- Maximum trip generation on weekends has a greater disparity between the Greater Sydney vs Regional sites than on weekdays
- Catchments with high trip generation rates appear to have home-based businesses located within the catchment area.

Many of the trends noted within the data align with typically adopted industry standards. However, there are some differences, such as the trip generation during the weekend being comparable and sometimes higher than the weekday trip generation.

4.2.1 Initial Site Analysis

An initial site analysis was undertaken to identify any overarching trends within the survey data that will inform further detailed analysis and regression models to be completed in the subsequent corresponding Analysis Report.

A comparison between all site's peak vehicle trips and daily vehicle trips is shown in Figure 4.1 and Figure 4.2 respectively, to establish initial trip demand profiles.

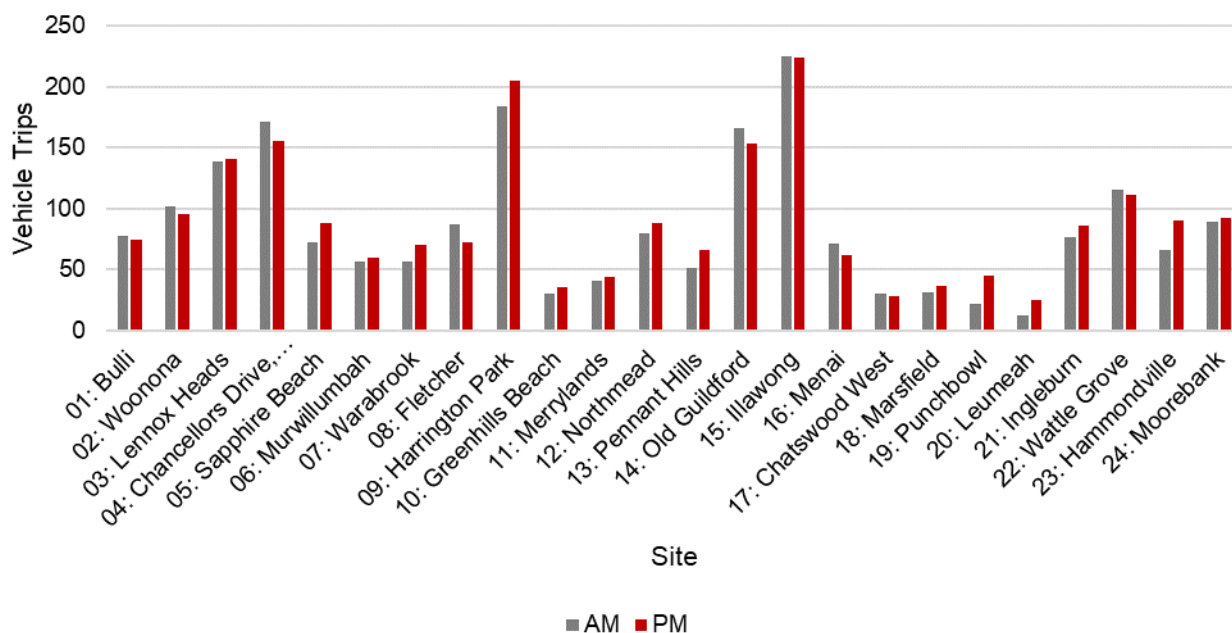


Figure 4.1: Peak Vehicle Trips on Weekdays and Weekends

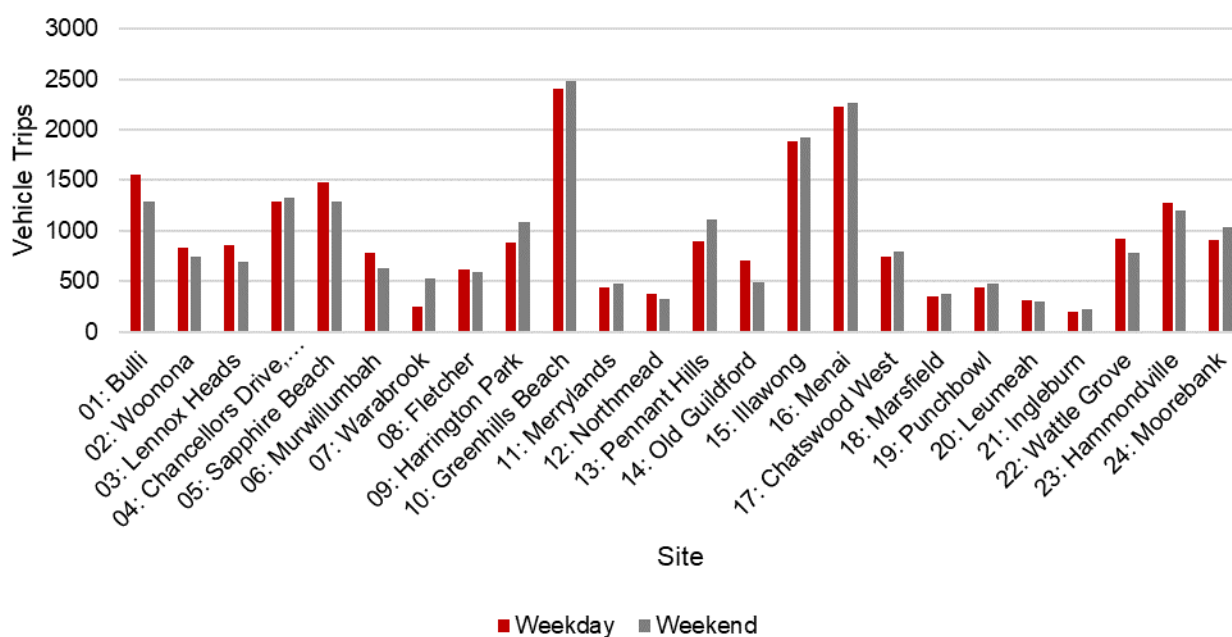


Figure 4.2: Daily Vehicle Trips Comparison

Comparisons were undertaken considering the number of dwellings at each site which, as historically applied, provides the clearest influence of trip generating variables. Generally there is an even split of sites with daily peaks occurring in the AM and PM, while a number of sites noted higher weekend peak periods than on weekdays.

Initial overviews of travel mode splits, in/out traffic movements, and daily traffic profiles was also undertaken as follows.

4.2.2 Weekday Survey Data

Surveys conducted for sites on a weekday have been examined to identify key findings and trends in trip generation and associated factors. Complete site data details can be found in **Appendix A**.

Figure 4.3 below illustrates the average hourly traffic on a weekday for all 24 sites.

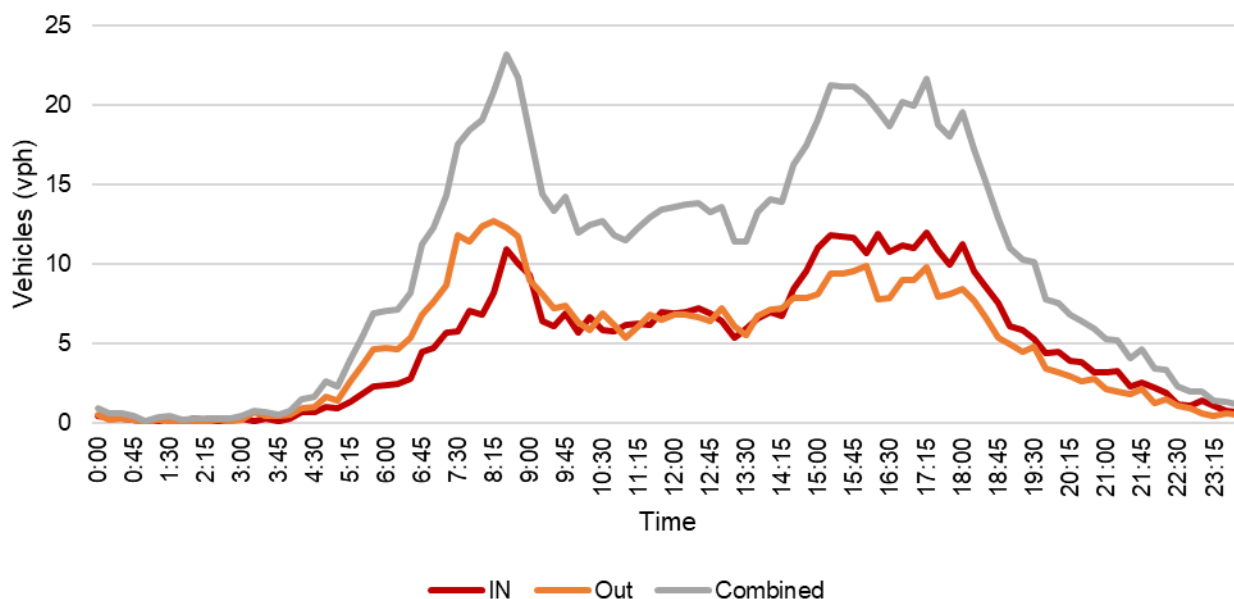


Figure 4.3: Average Weekday Inbound and Outbound Daily Profile

Examination of the data indicates that the weekday peak periods are typically between 7:30 AM and 8:30 AM and 3:30 PM and 5:30 PM.

As shown in Table 4.1 and Table 4.2 present further data for the sites on weekdays.

Table 4.1: Vehicle Trip Data Summary - Weekday

Site Number	Peak Hour (Starting)		Peak Vehicle Trips				Peak trips per dwelling		Daily Veh trips	Daily Veh trips per dwelling
			Weekday		% of Daily Trips		Weekday		Weekday	Weekday
	AM	PM	AM	PM	AM	PM	AM	PM		
1	8:00:00 AM	3:45:00 PM	163	148	10%	9%	0.90	0.81	1561	8.6
2	8:00:00 AM	3:45:00 PM	78	75	9%	9%	0.86	0.82	837	4.6
3	8:00:00 AM	4:15:00 PM	102	96	12%	11%	1.20	1.13	864	4.7
4	7:30:00 AM	3:30:00 PM	139	141	11%	11%	0.93	0.94	1291	7.1
5	7:45:00 AM	4:30:00 PM	171	155	12%	10%	0.78	0.70	1479	8.1
6	7:45:00 AM	4:45:00 PM	72	88	9%	11%	0.61	0.75	780	4.3
7	8:00:00 AM	4:45:00 PM	57	60	22%	24%	0.66	0.69	255	1.4
8	8:00:00 AM	4:45:00 PM	57	70	9%	11%	0.70	0.86	618	3.4
9	8:00:00 AM	5:30:00 PM	87	72	10%	8%	1.02	0.85	880	4.8
10	8:00:00 AM	3:30:00 PM	184	205	8%	9%	0.81	0.91	2407	13.2
11	7:45:00 AM	3:30:00 PM	30	36	7%	8%	0.52	0.62	445	2.4
12	7:30:00 AM	3:30:00 PM	41	44	11%	12%	0.77	0.83	371	2.0

13	7:45:00 AM	3:30:00 PM	80	88	9%	10 %	0.62	0.6 8	896	4.9
14	8:00:00 AM	3:30:00 PM	51	66	7%	9%	0.94	1.2 2	702	3.9
15	7:45:00 AM	4:30:00 PM	166	153	9%	8%	0.67	0.6 2	1891	10.4
16	7:30:00 AM	4:15:00 PM	225	224	10%	10 %	0.83	0.8 3	2234	12.3
17	8:00:00 AM	3:30:00 PM	71	62	10%	8%	0.52	0.4 6	746	4.1
18	8:00:00 AM	3:30:00 PM	30	28	9%	8%	0.58	0.5 4	351	1.9
19	8:00:00 AM	4:30:00 PM	31	37	7%	8%	0.76	0.9 0	439	2.4
20	8:00:00 AM	4:45:00 PM	22	45	7%	15 %	0.39	0.8 0	307	1.7
21	6:45:00 AM	5:00:00 PM	13	25	7%	13 %	0.48	0.9 3	194	1.1
22	7:45:00 AM	4:00:00 PM	77	86	8%	9%	0.62	0.6 9	916	5.0
23	8:00:00 AM	4:00:00 PM	116	111	9%	9%	0.72	0.6 9	1274	7.0
24	8:00:00 AM	5:15:00 PM	66	90	7%	10 %	0.55	0.7 4	913	5.0

Table 4.2: Vehicle Split and Person Trips Data Summary - Weekday

Site	AM Peak Splits (%)		PM Peak Splits (%)		Weekday Person Trips		Average Vehicle Occupancy	
Number	In	Out	In	Out	AM Peak	PM Peak	AM Peak	PM Peak
1	31%	69%	57%	43%	227	203	1.34	1.19
2	74%	26%	44%	56%	98	92	1.17	1.10
3	32%	68%	56%	44%	171	150	1.64	1.44

4	24%	76%	62%	38%	212	185	1.34	1.17
5	22%	78%	67%	33%	277	206	1.53	1.14
6	38%	62%	61%	39%	108	108	1.34	1.34
7	38%	62%	63%	37%	69	80	1.15	1.34
8	70%	30%	35%	65%	75	86	1.31	1.50
9	43%	57%	63%	37%	147	110	1.55	1.16
10	61%	39%	47%	53%	296	395	1.43	1.91
11	29%	71%	60%	40%	41	51	1.28	1.59
12	32%	68%	52%	48%	54	58	1.24	1.33
13	73%	27%	37%	63%	127	130	1.40	1.43
14	33%	67%	64%	36%	93	105	1.68	1.89
15	29%	71%	61%	39%	244	200	1.37	1.12
16	27%	73%	60%	40%	401	382	1.69	1.61
17	73%	27%	40%	60%	102	81	1.25	1.00
18	22%	78%	66%	34%	59	50	1.61	1.36
19	31%	69%	58%	42%	51	47	1.58	1.45
20	64%	36%	43%	57%	38	53	1.60	2.23
21	22%	78%	72%	28%	20	30	1.44	2.16
22	27%	73%	63%	37%	118	129	1.44	1.58
23	36%	64%	60%	40%	213	190	1.49	1.33
24	70%	30%	42%	58%	77	122	1.16	1.84

Initial examination of the Weekday data for all the sites indicates that:

- The average peak vehicle trips per dwelling are 0.73 and 0.79 in the AM and PM peaks respectively. Data points ranging from 0.4 to 1.2 and 0.45 to 1.22.
- Daily vehicle trips per dwelling varied from 2.9 to 13 with an average of 7.9
- Vehicle occupancy averaged as 1.45 persons per vehicle, with data ranging from 1.00 to 2.4
- On average peak traffic made up 10% of total daily traffic, though results ranged from 7% to 24%.
- In and Out splits averaged out as 41%/59% during AM peaks and 56%/44% during PM peaks.

Figure 4.4 demonstrates the hourly IN/OUT distribution on a weekday for all sites

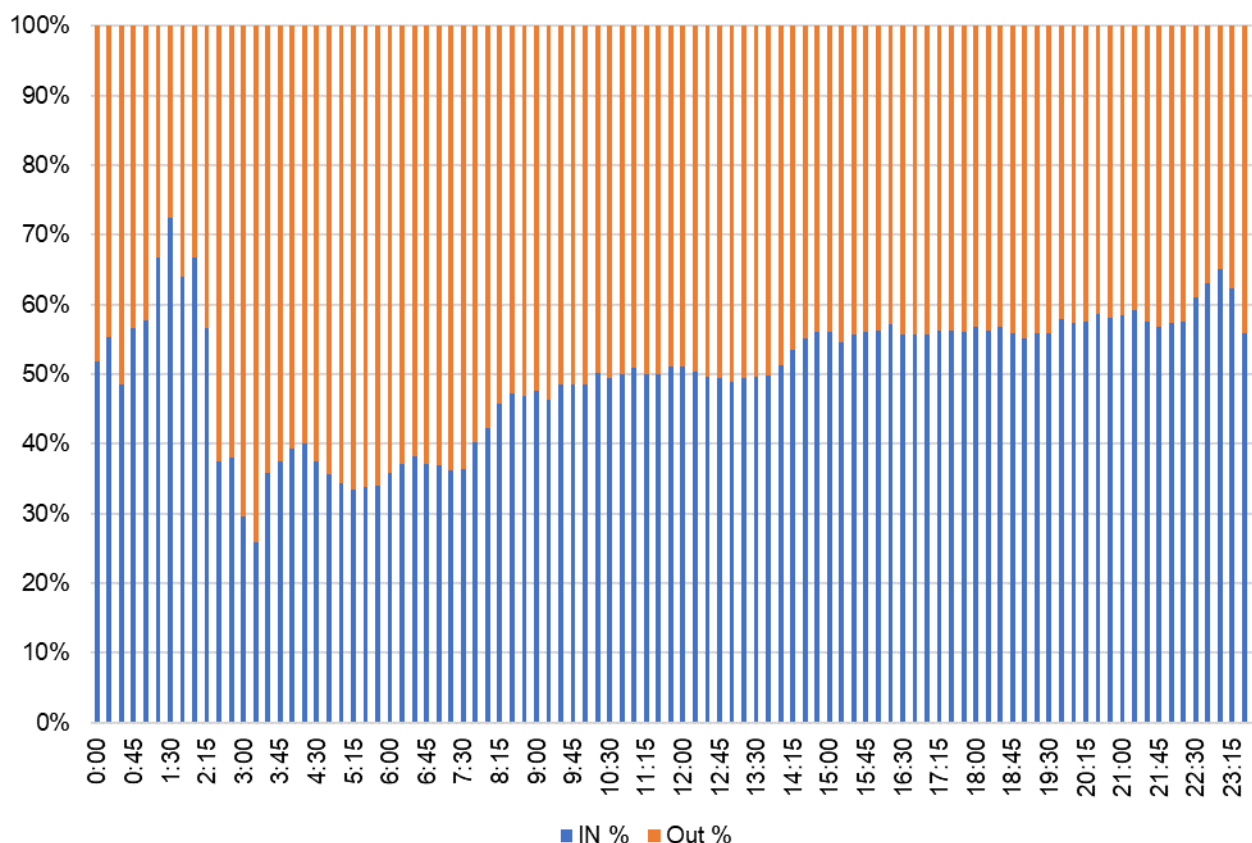


Figure 4.4: IN/OUT Directional Splits – Weekday

Figure 4.5 demonstrates the frequency of trips rates per dwelling for all survey sites.

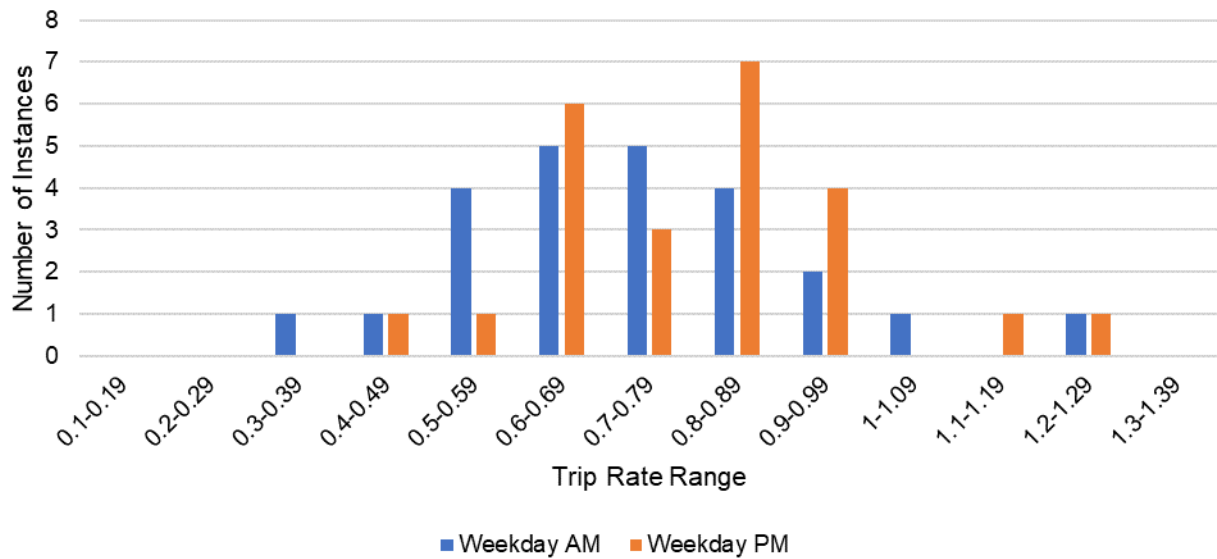


Figure 4.5: Frequency of Weekday Peak Trip Rates per Dwelling

Generally, Weekday peak rates consolidated around the 0.5 to 0.9 trips per dwelling range. However, AM peak rates are, in general, slightly lower than PM peak rates.

4.2.3 Weekend Survey Data

Automatic surveys conducted for sites on weekends have been examined to identify key findings and trends in trip generation and associated factors. Complete site data details can be found in **Appendix A**.

Figure 4.6 below illustrates the average hourly traffic on a weekend for all 24 sites.

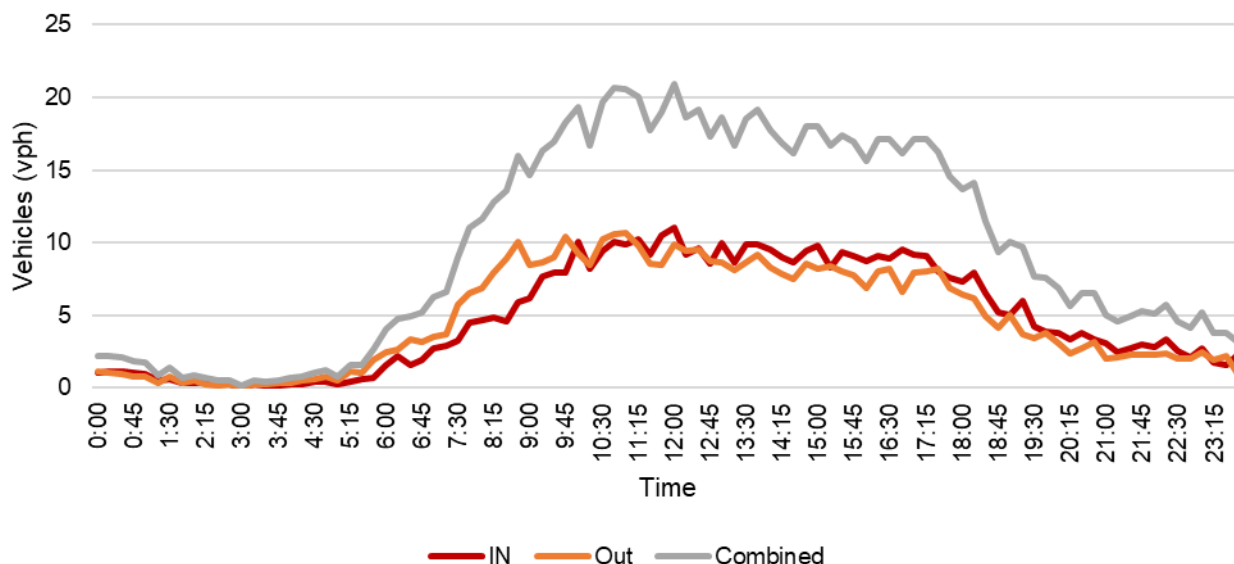


Figure 4.6: Average Weekend Inbound and Outbound Daily Profile

Examination of the data indicates that the weekend peak period is typically between 11:00 AM and 1:00 PM, however, traffic levels close to peak times extends out to 2:00PM to 3:00PM from the highest peak.

Table 4.3 and Table 4.4 present further data for the sites on weekends.

Considering the daily vehicle volumes are similar it was anticipated the total vehicle volumes would be similar.

Table 4.3: Vehicle Trip Data Summary - Weekend

Site Number	Peak Time	Peak Vehicle Trips	Peak Trips per dwelling	Daily Vehicle Trips	Daily Vehicle Trips per Dwelling
1	11:45:00 AM	113	0.62	1295	7.1
2	10:45:00 AM	81	0.89	742	4.1
3	8:45:00 AM	76	0.89	700	3.8
4	10:00:00 AM	141	0.94	1323	7.3
5	10:00:00 AM	120	0.55	1293	7.1
6	10:45:00 AM	60	0.51	634	3.5
7	10:30:00 AM	50	0.57	535	2.9
8	11:00:00 AM	54	0.67	589	3.2
9	9:45:00 AM	74	0.87	1081	5.9
10	10:45:00 AM	235	1.04	2488	13.7
11	11:45:00 AM	43	0.74	479	2.6
12	11:15:00 AM	26	0.49	325	1.8
13	10:30:00 AM	125	0.97	1108	6.1
14	11:45:00 AM	55	1.02	492	2.7
15	11:30:00 AM	170	0.69	1920	10.5
16	10:30:00 AM	207	0.76	2272	12.5
17	9:15:00 AM	88	0.65	800	4.4
18	11:00:00 AM	52	1.00	382	2.1
19	11:45:00 AM	46	1.12	478	2.6
20	9:30:00 AM	36	0.64	305	1.7
21	10:15:00 AM	33	1.22	219	1.2
22	11:45:00 AM	69	0.56	784	4.3
23	9:15:00 AM	91	0.57	1196	6.6

24	11:45:00 AM	85	0.70	1030	5.7
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Table 4.4: Vehicle Split and Person Trips Data Summary - Weekend

Site Number	Peak In (%)	Peak Out (%)	Peak Persons*	Peak Vehicle Occupancy
1	49.7%	50.3%	227	1.32
2	50.0%	50.0%	98	1.74
3	49.9%	50.1%	171	1.16
4	50.1%	49.9%	212	1.52
5	49.9%	50.1%	277	1.21
6	50.3%	49.7%	108	1.29
7	50.1%	49.9%	80	1.51
8	50.0%	50.0%	86	1.60
9	53.8%	46.2%	147	1.73
10	50.6%	49.4%	395	1.36
11	49.9%	50.1%	51	2.24
12	48.3%	51.7%	58	1.37
13	50.0%	50.0%	130	1.75
14	50.1%	49.9%	105	1.25
15	49.8%	50.2%	244	1.79
16	50.2%	49.8%	401	1.18
17	50.4%	49.6%	102	1.81
18	49.9%	50.1%	59	1.54
19	50.7%	49.3%	51	2.11
20	48.6%	51.4%	53	1.53
21	49.7%	50.3%	30	1.64
22	50.2%	49.8%	129	1.34
23	50.5%	49.5%	213	1.10

24	49.8%	50.2%	122	2.08
----	-------	-------	-----	------

**Peak Persons it estimated based on the product of average weekday peak occupancy and weekend peak vehicle trips.*

Initial examination of the Weekend data for all the sites indicates that:

- The average peak vehicle trips per dwelling is 0.81 with data points ranging from 0.54 to 1.2.
- Daily vehicle trips per dwelling varied from 5.3 to 12.7 with an average of 7.8
- Vehicle occupancy averaged as 1.55 persons per vehicle, with data ranging from 1.1 to 2.2
- In and Out splits averaged out as 47% and 53% during peaks.

Figure 4.7 demonstrates the hourly IN/OUT distribution on a weekend for all sites.

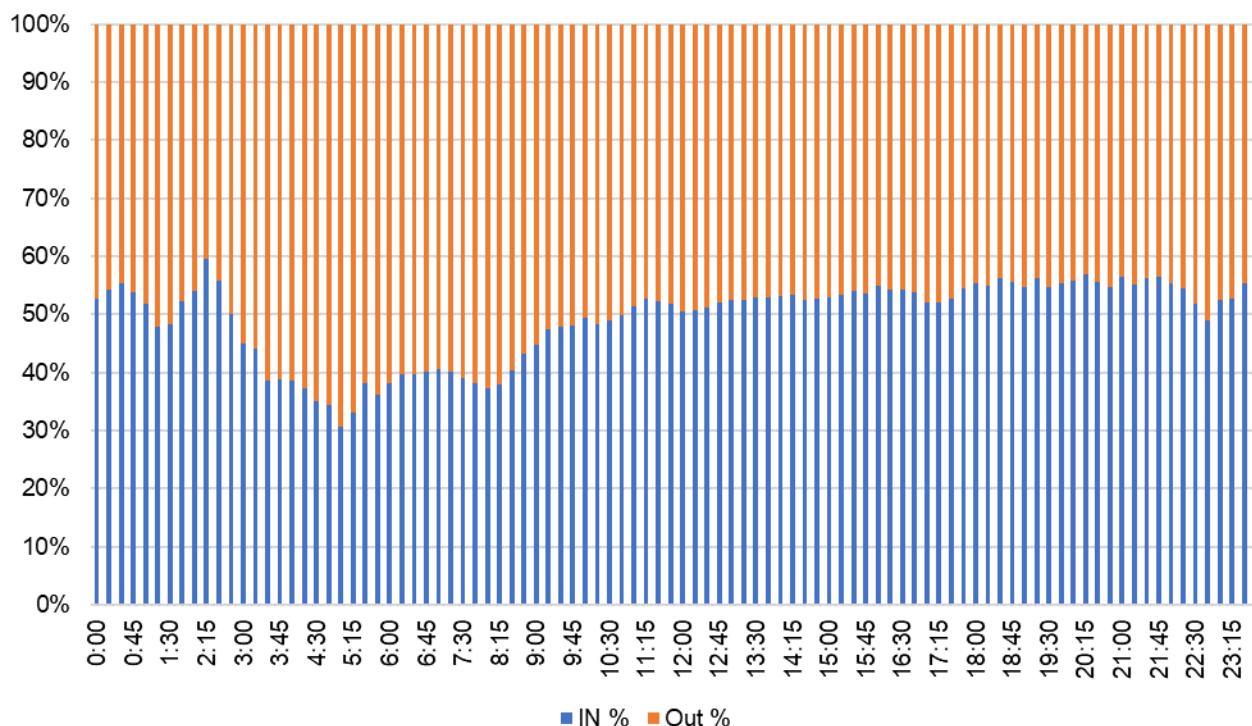


Figure 4.7: IN/OUT Directional Splits – Weekend

Figure 4.8 demonstrates the frequency of trips rates per dwelling for all survey sites.

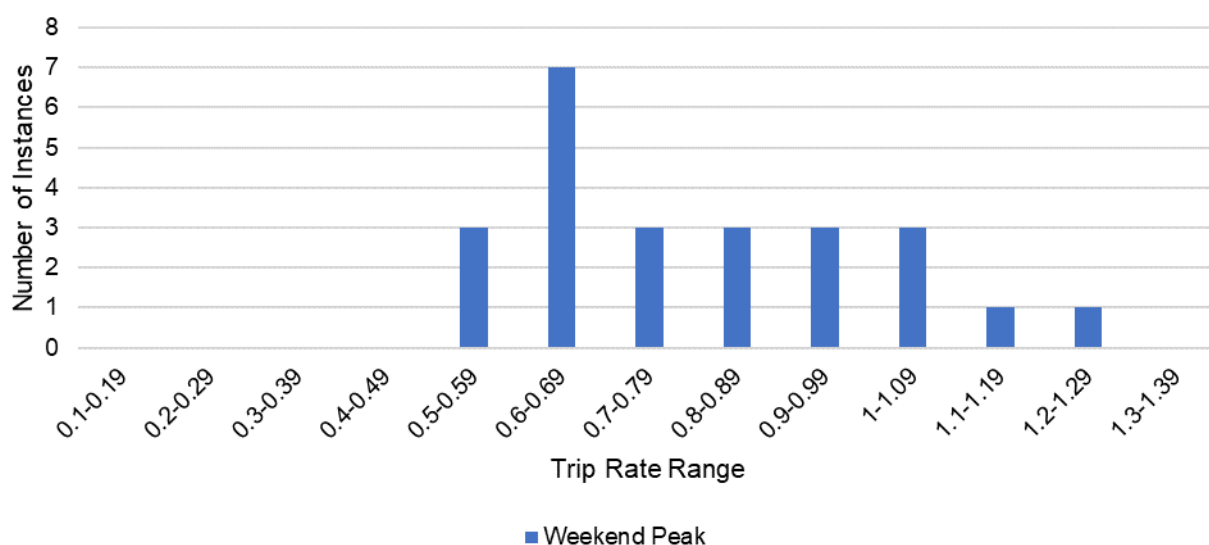


Figure 4.8: Frequency of Weekend Peak Trip Rates per Dwelling

Although the weekend resulted in a wide range of trip rates, all rates were above 0.5. The largest number of sites surveyed trip rates fall between 0.6 and 0.7.

4.2.4 Weekly Trip Rate Profiles

Figure 4.9, Figure 4.10, Figure 4.11, demonstrate the average trip rates per dwelling across a surveyed week for Daily, AM Peak and PM Peak periods respectively.

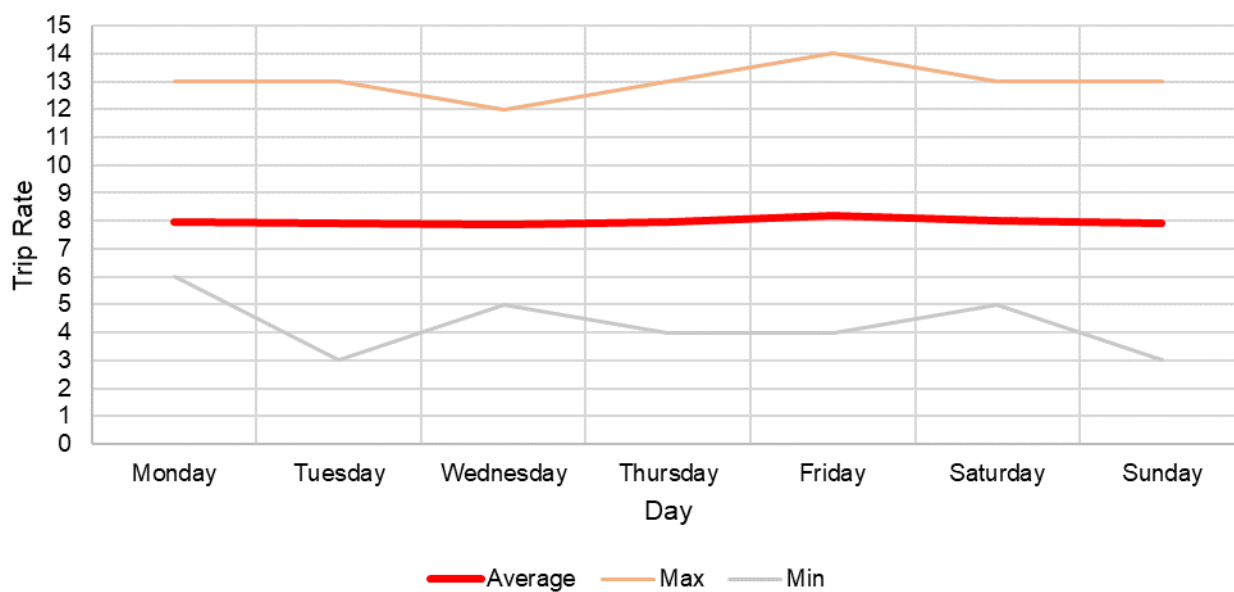


Figure 4.9: Daily Vehicle Trips per Dwelling – Weekly Profile

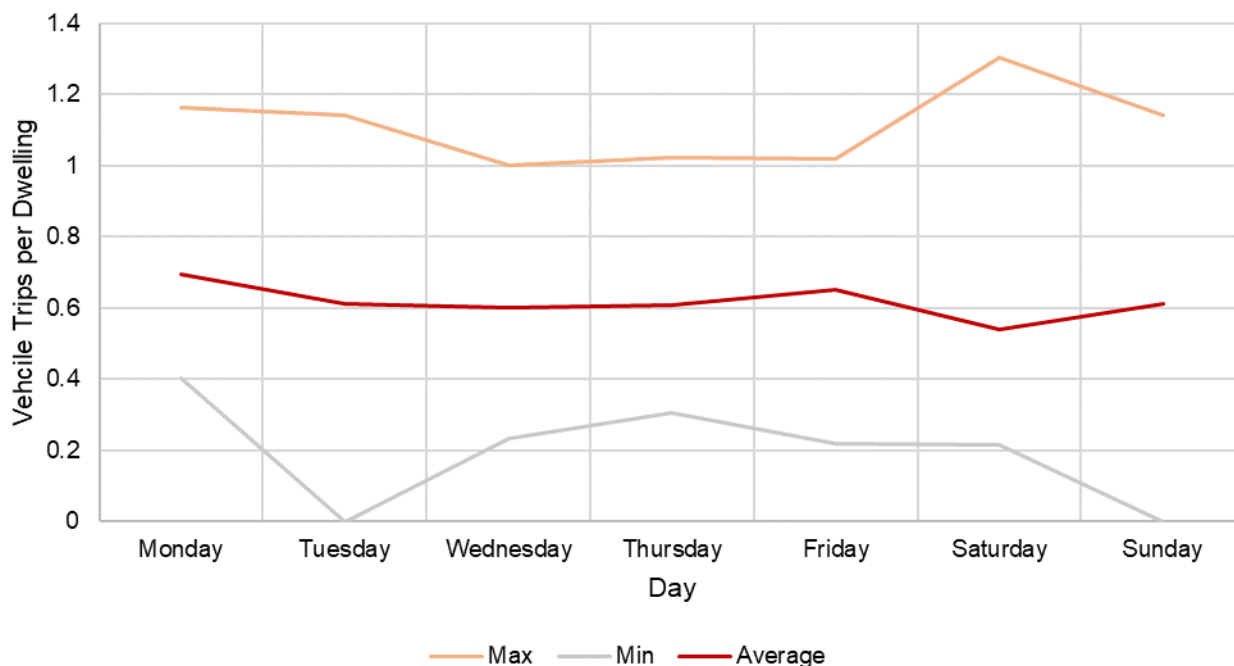


Figure 4.10: AM Peak Vehicle Trips per Dwelling – Weekly Profile

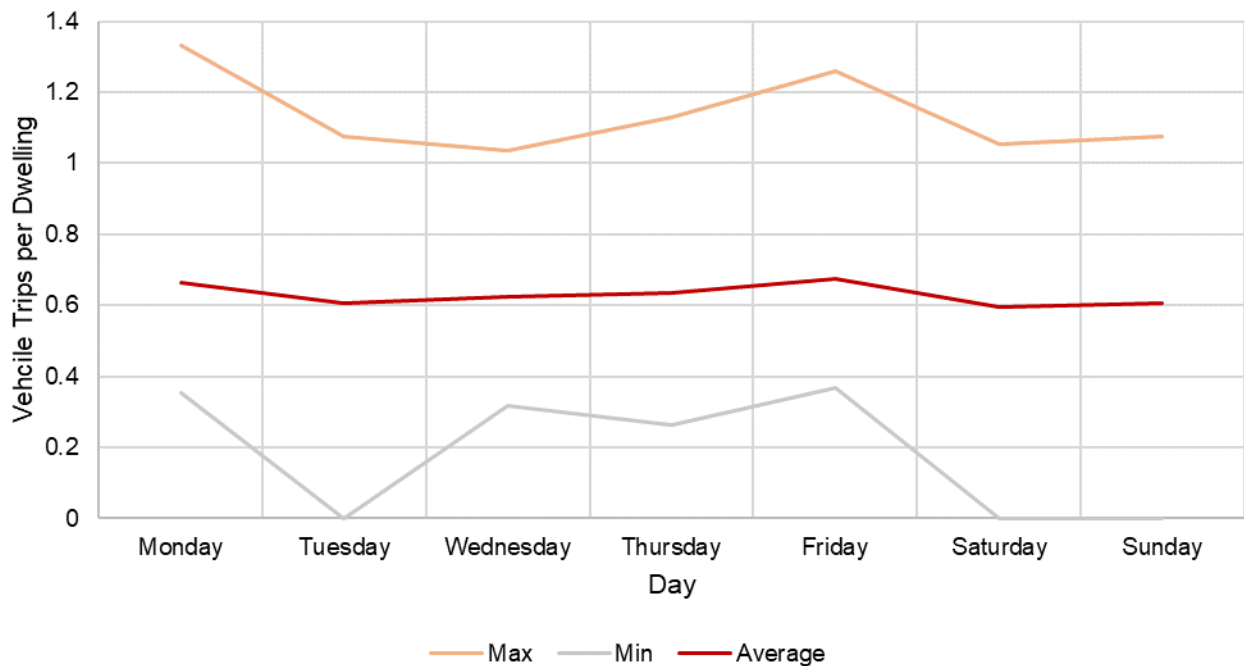


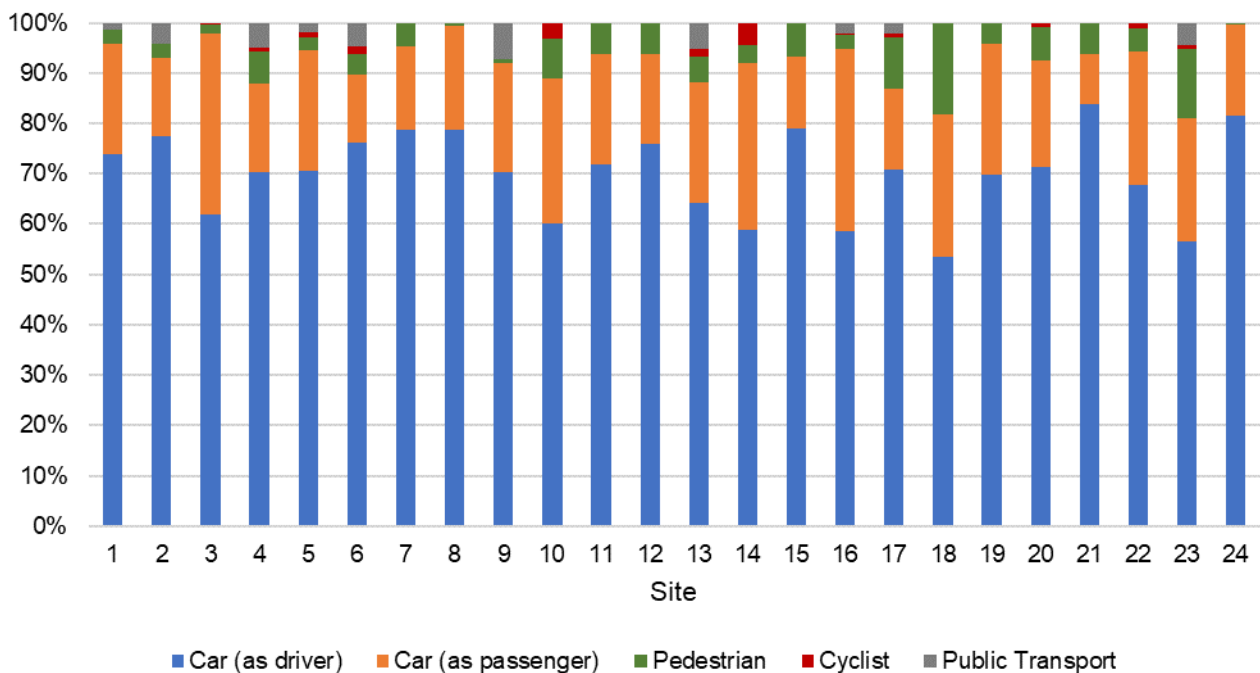
Figure 4.11: PM Peak Vehicle Trips per Dwelling – Weekly Profile

Initial examination of the week trip rate profiles indicates that:

- On average the highest vehicle trip rates occur on a Friday, with lowest demands occurring on Tuesdays, Wednesdays and Saturdays
- Maximum trips rates occur on Mondays and Fridays, while minimums occur on Tuesdays and Sundays.

4.2.5 Travel Mode Splits

Peak period mode splits based on manual surveys for each of the sites are shown in Figure 4.12.



Mode Split data was manually collected during AM and PM peak periods on a typical weekday

Figure 4.12: Mode Split Comparison by Site

Initial examination of the above data shows that:

- Private vehicles make up the majority of the mode share of trips with an average proportion of 15%- 20% persons as car passengers
- The second largest mode of travel surveyed was pedestrians, accounting for up to 10% of trips at some sites.

4.3 Additional Survey Data or Information

Figure 4.13 summarises the maximum 1-hour peak person trips across all sites.

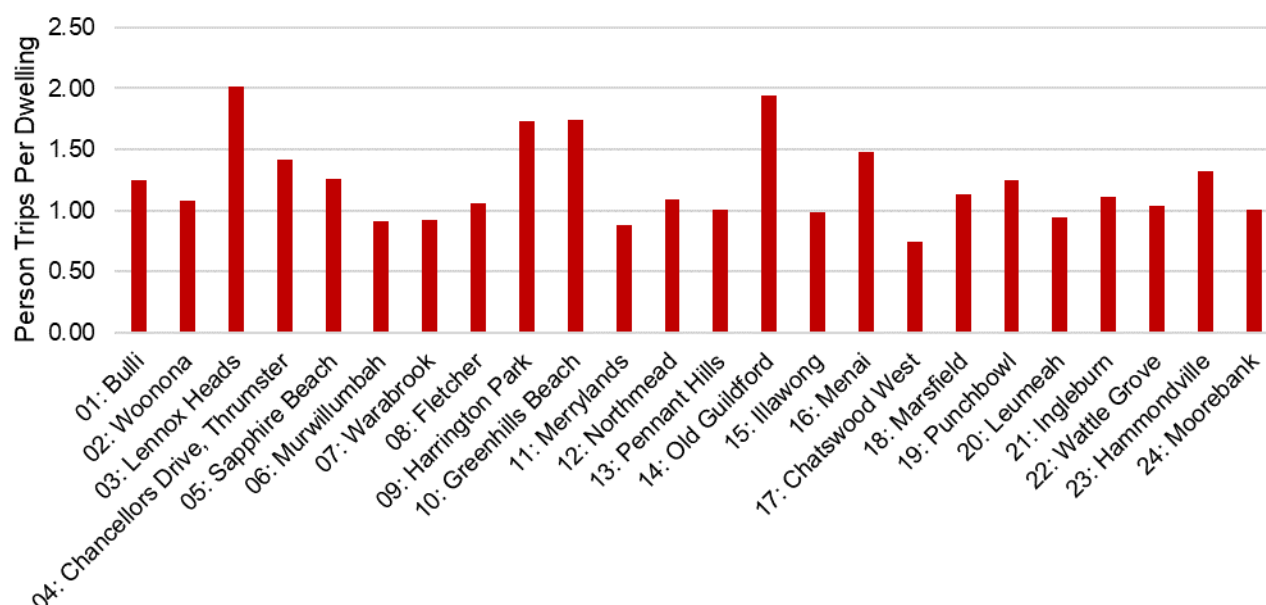


Figure 4.13: Maximum 1-hour Person Trips per Site

On average person trips were 13% higher than vehicle trips, though some sites showed a much higher or lower proportion of person trips than others. For example, Site 3 (Lennox Head) had a rate of almost double the amount of person trips per dwelling than vehicle trips per dwelling, while Site 17 (Chatswood West) had a rate half that of vehicle trips.

5. CONCLUSIONS

A total of 24 Low Density Residential sites were surveyed across regional NSW areas. A large range of locations were surveyed to capture potential differences that might arise in trip generation. The proposed surveys provide an opportunity to gather recent and relevant data to call upon, and the ability to better match survey sites and traffic generation rate, with new developments, especially those in regional and metropolitan locations of various sizes and geographical catchment areas. The survey methodology of low-density residential trip generation used a combination of Automatic Traffic Counter (ATC) and manual (on-site) surveys during a typical weekday AM and PM peak. Data from all 24 sites has been presented in this data report.

Each site's ATC recorded vehicles entering and exiting each study area, included directional movements, and classified (12 bins) of vehicle types at 15-minute intervals across seven days. The manual surveys were undertaken at the same locations as the ATC (i.e. at the entry/exit to the residential precinct) between 6:00am-9:00am and 3:30pm-6:30pm on a typical weekday. Manual surveys recorded:

- Pedestrians
- Cyclists
- Occupants in passing cars
- Passengers in passing buses.

For each site, peak Period Start times, Peak Vehicle & Person Trips, Daily Vehicle & Person Trips have been determined, noting that daily person trips have been estimated based on surveyed results during peak times. The rate of trips per dwelling have also been determined for each site's AM Peak, PM Peak, Weekend Peak, and Daily periods.

Preliminary data review also include investigation of daily traffic profiles, In/Out movement splits, vehicle occupancy during peak times, weekly profiles, and travel mode splits. Some key outcomes included:

- In comparing weekend with weekday, weekend peaks appear to have a slightly higher trip generation rate
- Weekdays present two clear 'peak' times in the morning and afternoons and weekends present a single midday peak. It is noted that while weekday peaks are very distinct, weekend traffic profiles are flatter and much more gradual
- Generally trip rates and times for peak and daily periods are consistent with historical rates and times for low density housing. The proportion of peak to daily trips also remained consistent with the industry 'rule of thumb' value of 10%
- Vehicle occupancy averaged at approximately 1.4-1.6 people per vehicle
- The split of trips 'in to' and 'out of' surveyed sites was observed to provide only a gradual shift throughout the day (approximately 45/55 in the AM to 55/45 in the evenings)
- The highest trip rates occurred on Fridays and Mondays, with the lowest occurring on Tuesdays and Sundays
- Private vehicles account for the largest proportion of trips (approx. 90%), with 'pedestrian' trips accounting for the next highest proportion.

Overall the data collected, and preliminary analysis, has built a platform for detailed analysis to provide a recommendation for trip generation for Low Density Residential, which will be contained in the subsequent Analysis Report.

Appendix A: Traffic Data Summaries

Site 01 - Results Summary Sheet

Address Hospital Road, Buli
Notes: Summary of survey results and preliminary analysis for site, as per TINSW template.



Survey for:		Transport for NSW		Office Ref Only
Survey Period				
Date and Time		Extended Data Collection? NO		Includes Manual Survey?
Main Land Use		R2: LOW DENSITY RESIDENTIAL		
A. Main				
Sub Land Use				
B. Catchment Details	DETAILS OF ADDRESS AND LOCATION TYPE			
	Site Name	Hospital Road, Buli		
	Street	Hospital Road		
	Town	Buli		
	Territorial Local Authority	Wollongong		
	Latitude (5 decimal places)	-34.33499		
	Longitude (5 decimal places)	150.9048		
	Location	Outer Suburban		
	Pedestrian Activity	Low		
	Public Transport Accessibility	Low		
	DETAILS OF LOCAL POPULATION LEVELS			
	Population within 500 metres			
	Population within 1 kilometre			
	Population within 5 kilometres			
	Total Population of Urban Area			
ROAD HIERARCHY AND TRAFFIC VOLUME				
Major Arterial				
Minor Arterial				
Collector Road				
Local Road	Local Road			
C. Area Characteristics	AREA CHARACTERISTICS			
	Site Name	Hospital Road, Buli		
	Land Use	Low Density Residential		
	No. Dwellings	182		
	Typical Housing Style	Single Dwelling		
	No. Bus Stops	0		
	Average Lot Size (m2)	580		
	Median Weekly Household Income	\$ 1,896.00		
	Average Car Ownership/Houshold	1.9		
	Nearby Businesses	Unmetered		
Parking Regime	Unmetered			
COMMENTS				
SURVEY DATE AND WEATHER DETAILS				
D. Survey Summary	Survey date (dd/mm/yyyy)	#####		
	Survey start time	6:00:00 AM		
	Survey end time	6:30:00 PM		
	AM weather conditions	Fine		
	PM weather conditions	Fine		

Traffic Generation	Road AM Peak Period	Time	8:00:00 AM	9:00:00 AM	
		Total	163		
	Road PM Peak Period	Time	3:45:00 PM	4:45:00 PM	
		Total	148		
	Road Daily	Total	1561		
Vehicle Trip Generation	Peak 1-hour Vehicle-trips per Dwelling	AM Peak	0.90	trips per dwelling	
		PM Peak	0.81	trips per dwelling	
		Daily	8.58	trips per dwelling	
	Development Trips per average household vehicle ownership	AM Peak	0.47	trips per vehicle owned	8:00:00 AM
		PM Peak	0.43	trips per vehicle owned	3:45:00 PM
		Daily	4.51	trips per vehicle owned	4:45:00 PM
Mode Split	Mode Split (Averaged over both peaks)				
	Mode Split	Number	%		
	Total Private Vehicles	155	96%		
	Car (as driver)	155	74%		
	Car (as passenger)	47	22%		
	Total All Trans (PT and	9	4%		
	On Foot	6	3%		
	Cycle	0	0%		
	Public Transport	3	1%		
Survey Undertaken by (organisation):		TDC	Survey Contact	Fred Stone	
Survey Undertaken by (surveyor):		Fred Stone	fred@trafficdc.com.au		

Site 02 - Results Summary Sheet

Address Charlotte Harrison Drive, Woonona
Notes Summary of survey results and preliminary analysis for site, as per TNSW template.



Survey for:		Transport for NSW		Office Use Only:
Survey Period				
Date and Time		Extended Data Collection? NO	Includes Manual Survey?	
Main Land Use		R2: LOW DENSITY RESIDENTIAL		
A. Main	Sub Land Use			
B. Catchment Details	DETAILS OF ADDRESS AND LOCATION TYPE			
	Site Name	Charlotte Harrison Drive, Woonona		
	Street	Charlotte Harrison Drive		
	Town	Woonona		
	Territorial Local Authority	Wollongong		
	Latitude (5 decimal places)	-34.35987		
	Longitude (5 decimal places)	150.91314		
	Location	Outer Suburban		
	Pedestrian Activity	Low		
	Public Transport Accessibility	Low		
	DETAILS OF LOCAL POPULATION LEVELS			
	Population within 500 metres			
	Population within 1 kilometre			
	Population within 5 kilometres			
	Total Population of Urban Area			
ROAD HIERARCHY AND TRAFFIC VOLUME				
Major Arterial				
Minor Arterial				
Collector Road				
Local Road	Local Road			
C. Area Characteristics	AREA CHARACTERISTICS			
	Site Name	Charlotte Harrison Drive, Woonona		
	Land Use	Low Density Residential		
	No. Dwellings	91		
	Typical Housing Style	Single Dwelling		
	No. Bus Stops	0		
	Average Lot Size (m2)	650		
	Median Weekly Household Income	\$ 1,511.00		
	Average Car Ownership/Houshold	1.7		
	Nearby Businesses			
Parking Regime	Unmetered			
COMMENTS				
D. Survey Summary	SURVEY DATE AND WEATHER DETAILS			
	Survey date (dd/mm/yyyy)	Wednesday, 1 June 2022		
	Survey start time	6:00:00 AM		
	Survey end time	6:30:00 PM		
	AM weather conditions	Fine		
	PM weather conditions	Fine		

Traffic Generation	Road AM Peak Period	Time	8:00:00 AM	9:00:00 AM	
		Total	78		
	Road PM Peak Period	Time	3:45:00 PM	4:45:00 PM	
		Total	75		
	Road Daily	Total	837		
Vehicle Trip Generation	Peak 1-hour Vehicle-trips per Dwelling	AM Peak	0.88 trips per dwelling		
		PM Peak			
			0.82 trips per dwelling		
		Daily	9.20 trips per dwelling		
	Development Trips per average household vehicle ownership	AM Peak	8:00:00 AM	9:00:00 AM	
		PM Peak	0.50 trips per vehicle owned	3:45:00 PM	4:45:00 PM
			0.48 trips per vehicle owned		
		Daily			
			5.41 trips per vehicle owned		
Mode Split	Mode Split (Averaged over both peaks)				
	Modal Split	Number	%		
	Total Private Vehicles	74	93%		
	Car (as driver)	74	77%		
	Car (as passenger)	15	16%		
	Total All Trans (PT and	7	7%		
	On Foot	3	3%		
	Cycle	0	0%		
	Public Transport	4	4%		
Survey Undertaken by (organisation):		TDC	Survey Contact	Fred Stone	
Survey Undertaken by (surveyor):		Fred Stone	fred@traffidc.com.au		

Site 03 - Results Summary Sheet

Address Henderson Drive, Lennox Heads
Notes: Summary of survey results and preliminary analysis for site, as per TNSW template.



Survey for:		Transport for NSW		Office Use Only:
Survey Period				
Date and Time		Extended Data Collection? NO		Includes Manual Survey?
Main Land Use		R2: LOW DENSITY RESIDENTIAL		
A. Main	Sub Land Use			
B. Catchment Details	DETAILS OF ADDRESS AND LOCATION TYPE			
	Site Name	Henderson Drive, Lennox Heads		
	Street	Henderson Drive		
	Town	Lennox Heads		
	Territorial Local Authority	Ballina		
	Latitude (5 decimal places)	-28.8228		
	Longitude (5 decimal places)	153.59638		
	Location	Outer Suburban		
	Pedestrian Activity			
	Public Transport Accessibility	Low		
	DETAILS OF LOCAL POPULATION LEVELS			
	Population within 500 metres			
	Population within 1 kilometre			
	Population within 5 kilometres			
	Total Population of Urban Area			
ROAD HIERARCHY AND TRAFFIC VOLUME				
Major Arterial				
Minor Arterial				
Collector Road				
Local Road	Local Road			
C. Area Characteristics	AREA CHARACTERISTICS			
	Site Name	Henderson Drive, Lennox Heads		
	Land Use	Low Density Residential		
	No. Dwellings	87		
	Typical Housing Style	Single Dwelling		
	No. Bus Stops	0		
	Average Lot Size (m2)	1200		
	Median Weekly Household Income	\$ 1,577.00		
	Average Car Ownership/Household	1.9		
	Nearby Businesses	5 potential businesses within catchment		
Parking Regime	Unmetered			
COMMENTS				
D. Survey Summary	SURVEY DATE AND WEATHER DETAILS			
	Survey date (dd/mm/yyyy)	Tuesday, 7 June 2022		
	Survey start time	6:00:00 AM		
	Survey end time	6:30:00 PM		
	AM weather conditions	Fine		
	PM weather conditions	Fine		

Traffic Generation	Road AM Peak Period	Time	8:00:00 AM	9:00:00 AM		
		Total	102			
	Road PM Peak Period	Time	4:15:00 PM	5:15:00 PM		
		Total	96			
	Road Daily	Total	864			
Vehicle Trip Generation	Peak 1-hour Vehicle-trips per Dwelling	AM Peak	1.17 trips per dwelling			
		PM Peak	1.10 trips per dwelling			
		Daily	9.93 trips per dwelling			
	Development Trips per average household vehicle ownership	AM Peak	8:00:00 AM	9:00:00 AM		
		PM Peak	4:15:00 PM	5:15:00 PM		
		Daily	0.58 trips per vehicle owned			
		Daily	5.23 trips per vehicle owned			
Mode Split	Mode Split (Averaged over both peaks)	Modal Split	Number	%		
		Total Private Vehicles	99	98%		
		Car (as driver)	99	62%		
		Car (as passenger)	58	36%		
		Total All Trans (PT and	4	2%		
		On Foot	3	2%		
		Cycle	1	0%		
		Public Transport	0	0%		
Survey Undertaken by (organisation):		TDC	Survey Contact	Fred Stone		
Survey Undertaken by (surveyor):		Fred Stone	fred@traffidc.com.au			

Site 03 - Results Summary Sheet

Address Chancellors Drive, Thrumster
Notes: Summary of survey results and preliminary analysis for site, as per TNSW template.



Survey for:		Transport for NSW		Office Use Only:
Survey Period				
Date and Time		Extended Data Collection? NO	Includes Manual Survey?	
Main Land Use		R2: LOW DENSITY RESIDENTIAL		
A. Main	Sub Land Use			
B. Catchment Details	DETAILS OF ADDRESS AND LOCATION TYPE			
	Site Name	Chancellors Drive, Thrumster		
	Street	Chancellors Drive, Thrumster		
	Town	Thrumster		
	Territorial Local Authority	Port Macquarie-Hastings		
	Latitude (5 decimal places)	-31.45493		
	Longitude (5 decimal places)	152.82743		
	Location	Outer Suburban		
	Population Activity	Moderate		
	Public Transport Accessibility	Low		
	DETAILS OF LOCAL POPULATION LEVELS			
	Population within 500 metres			
	Population within 1 kilometre			
	Population within 5 kilometres			
	Total Population of Urban Area			
ROAD HIERARCHY AND TRAFFIC VOLUME				
Major Arterial				
Minor Arterial				
Collector Road				
Local Road	Local Road			
AREA CHARACTERISTICS				
C. Area Characteristics	Site Name	Chancellors Drive, Thrumster		
	Land Use	Low Density Residential		
	No. Dwellings	150		
	Typical Housing Style	Single Dwelling		
	No. Bus Stops	0		
	Average Lot Size (m2)	750		
	Median Weekly Household Income	\$ 1,885.00		
	Average Car Ownership/Household	2.1		
	Nearby Businesses			
	Parking Regime	Unmetered		
COMMENTS				
SURVEY DATE AND WEATHER DETAILS				
D. Survey Summary	Survey date (dd/mm/yyyy)	Thursday, 2 June 2022		
	Survey start time	6:00:00 AM		
	Survey end time	6:30:00 PM		
	AM weather conditions	Fine		
	PM weather conditions	Fine		

Traffic Generation	Road AM Peak Period	Time	7:30:00 AM	8:30:00 AM		
		Total	139			
	Road PM Peak Period	Time	3:30:00 PM	4:30:00 PM		
		Total	141			
	Road Daily	Total	1291			
Vehicle Trip Generation	Peak 1-hour Vehicle-trips per Dwelling	AM Peak	0.93 trips per dwelling			
		PM Peak				
		Daily	0.94 trips per dwelling			
		Daily	8.61 trips per dwelling			
	Development Trips per average household vehicle ownership	AM Peak	7:30:00 AM	8:30:00 AM		
		PM Peak	0.44 trips per vehicle owned	3:30:00 PM	4:30:00 PM	
		Daily	0.45 trips per vehicle owned			
		Daily	4.10 trips per vehicle owned			
		Mode Split (Averaged over both peaks)				
		Mode Split	Modal Split	Number	%	
Total Private Vehicles	139		88%			
Car (as driver)	139		70%			
Car (as passenger)	36		19%			
Total All Trans (PT and	24		12%			
On Foot	13		7%			
Cycle	2		1%			
Public Transport	9		5%			
Survey Undertaken by (organisation):		TDC	Survey Contact	Fred Stone		
Survey Undertaken by (surveyor):		Fred Stone	fred@trafficdc.com.au			

Site 05 - Results Summary Sheet

Address N Solitary Drive, Sapphire Beach
Notes Summary of survey results and preliminary analysis for site, as per TNSW template.



Survey for:		Transport for NSW		Office Use Only:
Survey Period				
Date and Time		Extended Data Collection? NO	Includes Manual Survey?	
Main Land Use		R2: LOW DENSITY RESIDENTIAL		
A. Main	Sub Land Use			
B. Catchment Details	DETAILS OF ADDRESS AND LOCATION TYPE			
	Site Name	N Solitary Drive, Sapphire Beach		
	Street	N Solitary Drive		
	Town	Sapphire Beach		
	Territorial Local Authority	Coffs Harbour		
	Latitude (5 decimal places)	-30.22621		
	Longitude (5 decimal places)	153.14891		
	Location	Outer Suburban		
	Pedestrian Activity	Low		
	Public Transport Accessibility	Low		
	DETAILS OF LOCAL POPULATION LEVELS			
	Population within 500 metres			
	Population within 1 kilometre			
	Population within 5 kilometres			
	Total Population of Urban Area			
ROAD HIERARCHY AND TRAFFIC VOLUME				
Major Arterial				
Minor Arterial				
Collector Road				
Local Road	Local Road			
AREA CHARACTERISTICS				
C. Area Characteristics	Site Name	N Solitary Drive, Sapphire Beach		
	Land Use	Low Density Residential		
	No. Dwellings	220		
	Typical Housing Style	Single Dwelling		
	No. Bus Stops	0		
	Average Lot Size (m2)	650		
	Median Weekly Household Income	\$ 1,544.00		
	Average Car Ownership/Household	1.8		
	Nearby Businesses			
	Parking Regime	Unmetered		
COMMENTS				
SURVEY DATE AND WEATHER DETAILS				
D. Survey Summary	Survey date (dd/mm/yyyy)	Wednesday, 1 June 2022		
	Survey start time	6:00:00 AM		
	Survey end time	6:30:00 PM		
	AM weather conditions	Fine		
	PM weather conditions	Fine		

Traffic Generation	Road AM Peak Period	Time	7:45:00 AM	8:45:00 AM	
		Total	171		
	Road PM Peak Period	Time	4:30:00 PM	5:30:00 PM	
		Total	155		
	Road Daily	Total	1479		
Vehicle Trip Generation	Peak 1-hour Vehicle-trips per Dwelling	AM Peak	0.78 trips per dwelling		
		PM Peak	0.70 trips per dwelling		
		Daily	6.72 trips per dwelling		
	Development Trips per average household vehicle ownership	AM Peak	7:45:00 AM	8:45:00 AM	
			0.43 trips per vehicle owned		
		PM Peak	4:30:00 PM	5:30:00 PM	
			0.39 trips per vehicle owned		
		Daily	3.73 trips per vehicle owned		
Mode Split	Mode Split (Averaged over both peaks)				
	Modal Split	Number	%		
	Total Private Vehicles	162	95%		
	Car (as driver)	162	71%		
	Car (as passenger)	59	24%		
	Total All Trans (PT and	14	5%		
	On Foot	7	3%		
	Cycle	2	1%		
	Public Transport	6	2%		
Survey Undertaken by (organisation):		TDC	Survey Contact	Fred Stone	
Survey Undertaken by (surveyor):		Fred Stone	fred@trafficdc.com.au		

Site 06 - Results Summary Sheet

Address Golden Links, Murwillumbah
Notes: Summary of survey results and preliminary analysis for site, as per TNSW template.



Survey for:		Transport for NSW		Office Use Only:
Survey Period				
Date and Time		Extended Data Collection? NO		Includes Manual Survey?
Main Land Use		R2: LOW DENSITY RESIDENTIAL		
A. Main	Sub Land Use			
B. Catchment Details	DETAILS OF ADDRESS AND LOCATION TYPE			
	Site Name	Golden Links, Murwillumbah		
	Street	Golden Links Drive		
	Town	Murwillumbah		
	Territorial Local Authority	Tweed		
	Latitude (5 decimal places)	-28.3367		
	Longitude (5 decimal places)	153.36605		
	Location	Inner Rural		
	Pedestrian Activity	Low		
	Public Transport Accessibility	Low		
	DETAILS OF LOCAL POPULATION LEVELS			
	Population within 500 metres			
	Population within 1 kilometre			
	Population within 5 kilometres			
	Total Population of Urban Area			
ROAD HIERARCHY AND TRAFFIC VOLUME				
Major Arterial				
Minor Arterial				
Collector Road				
Local Road	Local Road			
C. Area Characteristics	AREA CHARACTERISTICS			
	Site Name	Golden Links, Murwillumbah		
	Land Use	Low Density Residential		
	No. Dwellings	118		
	Typical Housing Style	Single Dwelling		
	No. Bus Stops	1		
	Average Lot Size (m2)	680		
	Median Weekly Household Income	\$ 957.00		
	Average Car Ownership/Household	1.6		
	Nearby Businesses	Golf Course		
Parking Regime	Unmetered			
COMMENTS				
D. Survey Summary	SURVEY DATE AND WEATHER DETAILS			
	Survey date (dd/mm/yyyy)	Tuesday, 7 June 2022		
	Survey start time	6:00:00 AM		
	Survey end time	6:30:00 PM		
	AM weather conditions	Fine		
	PM weather conditions	Fine		

Traffic Generation	Road AM Peak Period	Time	7:45:00 AM	8:45:00 AM	
		Total	72		
	Road PM Peak Period	Time	4:45:00 PM	5:45:00 PM	
		Total	88		
	Road Daily	Total	780		
Vehicle Trip Generation	Peak 1-hour Vehicle-trips per Dwelling	AM Peak	0.61 trips per dwelling		
		PM Peak			
			0.75 trips per dwelling		
		Daily	6.61 trips per dwelling		
	Development Trips per average household vehicle ownership	AM Peak	7:45:00 AM	8:45:00 AM	
			0.38 trips per vehicle owned	4:45:00 PM	5:45:00 PM
		PM Peak			
			0.47 trips per vehicle owned		
		Daily			
			4.13 trips per vehicle owned		
Mode Split (Averaged over both peaks)					
Mode Split	Modal Split	Number	%		
	Total Private Vehicles	78	90%		
	Car (as driver)	78	76%		
	Car (as passenger)	14	13%		
	Total All Trans (PT and	11	10%		
	On Foot	5	4%		
	Cycle	2	1%		
	Public Transport	5	5%		
Survey Undertaken by (organisation):		TDC	Survey Contact	Fred Stone	
Survey Undertaken by (surveyor):		Fred Stone	fred@trafficdc.com.au		

Site 07 - Results Summary Sheet

Address Cedrella Crescent, Warabrook
Notes: Summary of survey results and preliminary analysis for site, as per TNSW template.



Survey for:		Transport for NSW		Office Use Only:
Survey Period				
Date and Time		Extended Data Collection? NO		Includes Manual Survey?
Main Land Use		R2: LOW DENSITY RESIDENTIAL		
A. Main	Sub Land Use			
B. Catchment Details	DETAILS OF ADDRESS AND LOCATION TYPE			
	Site Name	Cedrella Crescent, Warabrook		
	Street	Cedrella Crescent		
	Town	Warabrook		
	Territorial Local Authority	Newcastle		
	Latitude (5 decimal places)	-32.88976		
	Longitude (5 decimal places)	151.71869		
	Location	Inner Rural		
	Pedestrian Activity			
	Public Transport Accessibility	Low		
	DETAILS OF LOCAL POPULATION LEVELS			
	Population within 500 metres			
	Population within 1 kilometre			
	Population within 5 kilometres			
	Total Population of Urban Area			
ROAD HIERARCHY AND TRAFFIC VOLUME				
Major Arterial				
Minor Arterial				
Collector Road				
Local Road	Local Road			
C. Area Characteristics	AREA CHARACTERISTICS			
	Site Name	Cedrella Crescent, Warabrook		
	Land Use	Low Density Residential		
	No. Dwellings	87		
	Typical Housing Style	Single Dwelling		
	No. Bus Stops	0		
	Average Lot Size (m2)	600		
	Median Weekly Household Income	\$ 1,391.00		
	Average Car Ownership/Household	1.8		
	Nearby Businesses			
Parking Regime	Unmetered			
COMMENTS				
D. Survey Summary	SURVEY DATE AND WEATHER DETAILS			
	Survey date (dd/mm/yyyy)	Tuesday, 31 May 2022		
	Survey start time	6:00:00 AM		
	Survey end time	6:30:00 PM		
	AM weather conditions	Fine		
	PM weather conditions	Fine		

Traffic Generation	Road AM Peak Period	Time	8:00:00 AM	9:00:00 AM	
		Total	57		
	Road PM Peak Period	Time	4:45:00 PM	5:45:00 PM	
		Total	60		
	Road Daily	Total	255		
Vehicle Trip Generation	Peak 1-hour Vehicle-trips per Dwelling	AM Peak	0.66 trips per dwelling		
		PM Peak			
			0.69 trips per dwelling		
		Daily	2.93 trips per dwelling		
	Development Trips per average household vehicle ownership	AM Peak	8:00:00 AM	9:00:00 AM	
			0.36 trips per vehicle owned		
		PM Peak	4:45:00 PM	5:45:00 PM	
			0.38 trips per vehicle owned		
		Daily			
			1.63 trips per vehicle owned		
Mode Split	Mode Split (Averaged over both peaks)				
	Modal Split	Number	%		
	Total Private Vehicles	59	95%		
	Car (as driver)	59	79%		
	Car (as passenger)	13	17%		
	Total All Trans (PT and On Foot	4	5%		
	Public Transport	0	0%		
	Cycle	0	0%		
	Survey Undertaken by (organisation):	TDC	Survey Contact: Fred Stone		
	Survey Undertaken by (surveyor):	Fred Stone	fred@trafficdc.com.au		

Site 08 - Results Summary Sheet

Address Redwood Close, Fletcher
Notes: Summary of survey results and preliminary analysis for site, as per TNSW template.



Survey for:		Transport for NSW		Office Ref Only:
Survey Period				
Date and Time		Extended Data Collection? NO	Includes Manual Survey?	
Main Land Use		R2: LOW DENSITY RESIDENTIAL		
A. Main	Sub Land Use			
B. Catchment Details	DETAILS OF ADDRESS AND LOCATION TYPE			
	Site Name	Redwood Close, Fletcher		
	Street	Redwood Close		
	Town	Fletcher		
	Territorial Local Authority	Newcastle		
	Latitude (5 decimal places)	-32.88514		
	Longitude (5 decimal places)	151.65212		
	Location	Outer Suburban		
	Pedestrian Activity	Low		
	Public Transport Accessibility	Low		
	DETAILS OF LOCAL POPULATION LEVELS			
	Population within 500 metres			
	Population within 1 kilometre			
	Population within 5 kilometres			
	Total Population of Urban Area			
ROAD HIERARCHY AND TRAFFIC VOLUME				
Major Arterial				
Minor Arterial				
Collector Road				
Local Road	Local Road			
C. Area Characteristics	AREA CHARACTERISTICS			
	Site Name	Redwood Close, Fletcher		
	Land Use	Low Density Residential		
	No. Dwellings	81		
	Typical Housing Style	Single Dwelling		
	No. Bus Stops	0		
	Average Lot Size (m2)	600		
	Median Weekly Household Income	\$ 2,296.00		
	Average Car Ownership/Household	2.2		
	Nearby Businesses			
Parking Regime	Unmetered			
COMMENTS				
D. Survey Summary	SURVEY DATE AND WEATHER DETAILS			
	Survey date (dd/mm/yyyy)	Wednesday, 1 June 2022		
	Survey start time	6:00:00 AM		
	Survey end time	6:30:00 PM		
	AM weather conditions	Fine		
	PM weather conditions	Fine		

Traffic Generation	Road AM Peak Period	Time	8:00:00 AM	9:00:00 AM	
		Total	57		
	Road PM Peak Period	Time	4:45:00 PM	5:45:00 PM	
		Total	70		
	Road Daily	Total	618		
Vehicle Trip Generation	Peak 1-hour Vehicle-trips per Dwelling	AM Peak	0.70 trips per dwelling		
		PM Peak			
			0.86 trips per dwelling		
		Daily	7.63 trips per dwelling		
	Development Trips per average household vehicle ownership	AM Peak	8:00:00 AM	9:00:00 AM	
			0.32 trips per vehicle owned		
		PM Peak	4:45:00 PM	5:45:00 PM	
			0.39 trips per vehicle owned		
		Daily			
			3.47 trips per vehicle owned		
Mode Split	Mode Split (Averaged over both peaks)				
	Modal Split	Number	%		
	Total Private Vehicles	64	99%		
	Car (as driver)	64	79%		
	Car (as passenger)	17	21%		
	Total All Trans (PT and	1	1%		
	On Foot	1	1%		
	Public Transport	0	0%		
	Cycle	0	0%		
	Survey Undertaken by (organisation):	TDC	Survey Contact: Fred Stone		
Survey Undertaken by (surveyor):		Fred Stone	fred@trafficdc.com.au		

Site 09 - Results Summary Sheet

Address Hawthorne Circuit, Harrington Park
Notes: Summary of survey results and preliminary analysis for site, as per TNSW template.



Survey for:		Transport for NSW		Office Use Only:
Survey Period				
Date and Time		Extended Data Collection? NO		Includes Manual Survey?
Main Land Use		R2: LOW DENSITY RESIDENTIAL		
A. Main	Sub Land Use			
B. Catchment Details	DETAILS OF ADDRESS AND LOCATION TYPE			
	Site Name	Hawthorne Circuit, Harrington Park		
	Street	Hawthorne Circuit		
	Town	Harrington Park		
	Territorial Local Authority	Camden		
	Latitude (5 decimal places)	-34.02022		
	Longitude (5 decimal places)	150.73967		
	Location	Outer Suburban		
	Pedestrian Activity	Low		
	Public Transport Accessibility	Low		
	DETAILS OF LOCAL POPULATION LEVELS			
	Population within 500 metres			
	Population within 1 kilometre			
	Population within 5 kilometres			
	Total Population of Urban Area			
ROAD HIERARCHY AND TRAFFIC VOLUME				
Major Arterial				
Minor Arterial				
Collector Road				
Local Road	Local Road			
C. Area Characteristics	AREA CHARACTERISTICS			
	Site Name	Hawthorne Circuit, Harrington Park		
	Land Use	Low Density Residential		
	No. Dwellings	85		
	Typical Housing Style	Single Dwelling		
	No. Bus Stops	0		
	Average Lot Size (m2)	800		
	Median Weekly Household Income	\$ 2,416.00		
	Average Car Ownership/Household	2.3		
	Nearby Businesses	3 potentially in catchment		
Parking Regime	Unmetered			
COMMENTS				
D. Survey Summary	SURVEY DATE AND WEATHER DETAILS			
	Survey date (dd/mm/yyyy)	Tuesday, 31 May 2022		
	Survey start time	6:00:00 AM		
	Survey end time	6:30:00 PM		
	AM weather conditions	Fine		
	PM weather conditions	Fine		

Traffic Generation	Road AM Peak Period	Time	8:00:00 AM	9:00:00 AM	
		Total	87		
	Road PM Peak Period	Time	5:30:00 PM	6:30:00 PM	
		Total	72		
	Road Daily	Total	880		
Vehicle Trip Generation	Peak 1-hour Vehicle-trips per Dwelling	AM Peak	1.02 trips per dwelling		
		PM Peak			
			0.85 trips per dwelling		
		Daily	10.35 trips per dwelling		
	Development Trips per average household vehicle ownership	AM Peak	8:00:00 AM	9:00:00 AM	
		PM Peak	0.45 trips per vehicle owned	5:30:00 PM	6:30:00 PM
			0.37 trips per vehicle owned		
		Daily	4.50 trips per vehicle owned		
Mode Split	Mode Split (Averaged over both peaks)				
	Modal Split	Number	%		
	Total Private Vehicles	79	92%		
	Car (as driver)	79	70%		
	Car (as passenger)	27	22%		
	Total All Trans (PT and	12	8%		
	On Foot	1	1%		
	Cycle	0	0%		
	Public Transport	11	7%		
Survey Undertaken by (organisation):		TDC	Survey Contact:	Fred Stone	
Survey Undertaken by (surveyor):		Fred Stone	fred@trafficdc.com.au		

Site 10 - Results Summary Sheet

Address Watagos Street, Greenhills Beach
Notes Summary of survey results and preliminary analysis for site, as per TNSW template.



Survey for:		Transport for NSW		Office Use Only:
Survey Period				
Date and Time		Extended Data Collection? NO		Includes Manual Survey?
Main Land Use		R2: LOW DENSITY RESIDENTIAL		
A. Main	Sub Land Use			
B. Catchment Details	DETAILS OF ADDRESS AND LOCATION TYPE			
	Site Name	Watagos Street, Greenhills Beach		
	Street	Watagos Street		
	Town	Greenhills Beach		
	Territorial Local Authority	Sutherland Shire		
	Latitude (5 decimal places)	-34.02634		
	Longitude (5 decimal places)	151.16148		
	Location	Outer Suburban		
	Pedestrian Activity	Moderate		
	Public Transport Accessibility	Moderate		
	DETAILS OF LOCAL POPULATION LEVELS			
	Population within 500 metres			
	Population within 1 kilometre			
	Population within 5 kilometres			
	Total Population of Urban Area			
ROAD HIERARCHY AND TRAFFIC VOLUME				
Major Arterial				
Minor Arterial				
Collector Road				
Local Road	Local Road			
C. Area Characteristics	AREA CHARACTERISTICS			
	Site Name	Watagos Street, Greenhills Beach		
	Land Use	Low Density Residential		
	No. Dwellings	226		
	Typical Housing Style	Single Dwelling		
	No. Bus Stops	0		
	Average Lot Size (m2)	550		
	Median Weekly Household Income	\$ 3,731.00		
	Average Car Ownership/Household	2.5		
	Nearby Businesses	~10		
Parking Regime	Unmetered			
COMMENTS				
D. Survey Summary	SURVEY DATE AND WEATHER DETAILS			
	Survey date (dd/mm/yyyy)	Tuesday, 14 June 2022		
	Survey start time	6:00:00 AM		
	Survey end time	6:30:00 PM		
	AM weather conditions	Fine		
	PM weather conditions	Fine		

Traffic Generation	Road AM Peak Period	Time	8:00:00 AM	9:00:00 AM	
		Total	184		
	Road PM Peak Period	Time	3:30:00 PM	4:30:00 PM	
		Total	205		
	Road Daily	Total	2407		
Vehicle Trip Generation	Peak 1-hour Vehicle-trips per Dwelling	AM Peak	0.81 trips per dwelling		
		PM Peak			
			0.91 trips per dwelling		
		Daily	10.65 trips per dwelling		
	Development Trips per average household vehicle ownership	AM Peak	8:00:00 AM	9:00:00 AM	
		PM Peak	3:30:00 PM	4:30:00 PM	
			0.33 trips per vehicle owned		
			0.36 trips per vehicle owned		
		Daily	4.26 trips per vehicle owned		
Mode Split	Mode Split (Averaged over both peaks)				
	Modal Split	Number	%		
	Total Private Vehicles	195	89%		
	Car (as driver)	195	60%		
	Car (as passenger)	95	29%		
	Total All Trans (PT and	36	11%		
	On Foot	26	8%		
	Cycle	10	3%		
	Public Transport	0	0%		
Survey Undertaken by (organisation):		TDC	Survey Contact	Fred Stone	
Survey Undertaken by (surveyor):		Fred Stone	fred@trafficdc.com.au		

Site 11 - Results Summary Sheet

Address Shannon Avenue, Merrylands
Notes: Summary of survey results and preliminary analysis for site, as per TNSW template.



Survey for:		Transport for NSW		Office Use Only:
Survey Period				
Date and Time		Extended Data Collection? NO	Includes Manual Survey?	
Main Land Use		R2: LOW DENSITY RESIDENTIAL		
A. Main	Sub Land Use			
B. Catchment Details	DETAILS OF ADDRESS AND LOCATION TYPE			
	Site Name	Shannon Avenue, Merrylands		
	Street	Shannon Avenue		
	Town	Merrylands		
	Territorial Local Authority	Cumberland		
	Latitude (5 decimal places)	-34.02634		
	Longitude (5 decimal places)	151.16148		
	Location	Outer Suburban		
	Pedestrian Activity	Low		
	Public Transport Accessibility	Moderate		
	DETAILS OF LOCAL POPULATION LEVELS			
	Population within 500 metres			
	Population within 1 kilometre			
	Population within 5 kilometres			
	Total Population of Urban Area			
ROAD HIERARCHY AND TRAFFIC VOLUME				
Major Arterial				
Minor Arterial				
Collector Road				
Local Road	Local Road			
C. Area Characteristics	AREA CHARACTERISTICS			
	Site Name	Shannon Avenue, Merrylands		
	Land Use	Low Density Residential		
	No. Dwellings	58		
	Typical Housing Style	Single Dwelling		
	No. Bus Stops	0		
	Average Lot Size (m2)	550		
	Median Weekly Household Income	\$ 1,267.00		
	Average Car Ownership/Household	1.6		
	Nearby Businesses			
Parking Regime	Unmetered			
COMMENTS				
D. Survey Summary	SURVEY DATE AND WEATHER DETAILS			
	Survey date (dd/mm/yyyy)	Wednesday, 1 June 2022		
	Survey start time	6:00:00 AM		
	Survey end time	6:30:00 PM		
	AM weather conditions	Fine		
	PM weather conditions	Fine		

Traffic Generation	Road AM Peak Period	Time	7:45:00 AM	8:45:00 AM	
		Total	30		
	Road PM Peak Period	Time	3:30:00 PM	4:30:00 PM	
		Total	36		
	Road Daily	Total	445		
Vehicle Trip Generation	Peak 1-hour Vehicle-trips per Dwelling	AM Peak	0.52 trips per dwelling		
		PM Peak			
			0.62 trips per dwelling		
		Daily	7.67 trips per dwelling		
	Development Trips per average household vehicle ownership	AM Peak	7.45:00 AM	8:45:00 AM	
			0.32 trips per vehicle owned		
		PM Peak	3:30:00 PM	4:30:00 PM	
			0.39 trips per vehicle owned		
		Daily			
			4.80 trips per vehicle owned		
Mode Split	Mode Split (Averaged over both peaks)				
	Modal Split	Number	%		
	Total Private Vehicles	33	94%		
	Car (as driver)	33	72%		
	Car (as passenger)	10	22%		
	Total All Trans (PT and	3	6%		
	On Foot	3	6%		
	Cycle	0	0%		
	Public Transport	0	0%		
	Survey Undertaken by (organisation):	TDC	Survey Contact: Fred Stone		
Survey Undertaken by (surveyor):		Fred Stone	fred@trafficdc.com.au		

Site 12 - Results Summary Sheet

Address Christine Street, Northmead
Notes Summary of survey results and preliminary analysis for site, as per TNSW template.



Survey for:	Transport for NSW		Office Use Only:
Survey Period			
Date and Time	Extended Data Collection? NO	Includes Manual Survey?	
Main Land Use R2: LOW DENSITY RESIDENTIAL			
A. Main Sub Land Use			
B. Catchment Details	DETAILS OF ADDRESS AND LOCATION TYPE		
	Site Name	Christine Street, Northmead	
	Street	Christine Street	
	Town	Northmead	
	Territorial Local Authority	Parramatta	
	Latitude (5 decimal places)	-33.7957	
	Longitude (5 decimal places)	150.98718	
	Location	Inner Suburban	
	Pedestrian Activity	Low	
	Public Transport Accessibility	Moderate	
	DETAILS OF LOCAL POPULATION LEVELS		
	Population within 500 metres		
	Population within 1 kilometre		
	Population within 5 kilometres		
	Total Population of Urban Area		
ROAD HIERARCHY AND TRAFFIC VOLUME			
Major Arterial			
Minor Arterial			
Collector Road			
Local Road	Local Road		
C. Area Characteristics	AREA CHARACTERISTICS		
	Site Name	Christine Street, Northmead	
	Land Use	Low Density Residential	
	No. Dwellings	53	
	Typical Housing Style	Single Dwelling	
	No. Bus Stops	0	
	Average Lot Size (m2)	620	
	Median Weekly Household Income	\$ 1,639.00	
	Average Car Ownership/Household	1.6	
	Nearby Businesses		
Parking Regime	Unmetered		
COMMENTS			
D. Survey Summary	SURVEY DATE AND WEATHER DETAILS		
	Survey date (dd/mm/yyyy)	Tuesday, 31 May 2022	
	Survey start time	6:00:00 AM	
	Survey end time	6:30:00 PM	
	AM weather conditions	Fine	
	PM weather conditions	Fine	

Traffic Generation	Road AM Peak Period	Time	7:30:00 AM	8:30:00 AM	
		Total	41		
	Road PM Peak Period	Time	3:30:00 PM	4:30:00 PM	
		Total	44		
	Road Daily	Total	371		
Vehicle Trip Generation	Peak 1-hour Vehicle-trips per Dwelling	AM Peak	0.77 trips per dwelling		
		PM Peak			
			0.83 trips per dwelling		
		Daily	7.00 trips per dwelling		
	Development Trips per average household vehicle ownership	AM Peak	7.30:00 AM	8:30:00 AM	
			0.48 trips per vehicle owned		
		PM Peak	3:30:00 PM	4:30:00 PM	
			0.52 trips per vehicle owned		
		Daily	4.38 trips per vehicle owned		
Mode Split	Mode Split (Averaged over both peaks)				
	Modal Split	Number	%		
	Total Private Vehicles	43	94%		
	Car (as driver)	43	76%		
	Car (as passenger)	10	19%		
	Total All Trans (PT and	4	6%		
	On Foot	4	6%		
	Cycle	0	0%		
	Public Transport	0	0%		
Survey Undertaken by (organisation):		TDC	Survey Contact	Fred Stone	
Survey Undertaken by (surveyor):		Fred Stone	fred@traffidc.com.au		

Site 13 - Results Summary Sheet

Address Kurrajong Street, Pennant Hills
Notes: Summary of survey results and preliminary analysis for site, as per TNSW template.



Survey for:		Transport for NSW		Office Use Only:
Survey Period				
Date and Time		Extended Data Collection? NO		Includes Manual Survey?
Main Land Use		R2: LOW DENSITY RESIDENTIAL		
A. Main	Sub Land Use			
B. Catchment Details	DETAILS OF ADDRESS AND LOCATION TYPE			
	Site Name	Kurrajong Street, Pennant Hills		
	Street	Kurrajong Street		
	Town	Pennant Hills		
	Territorial Local Authority	Hornsby Shire		
	Latitude (5 decimal places)	-33.74587		
	Longitude (5 decimal places)	151.07783		
	Location	Outer Suburban		
	Pedestrian Activity			
	Public Transport Accessibility	Low		
	DETAILS OF LOCAL POPULATION LEVELS			
	Population within 500 metres			
	Population within 1 kilometre			
	Population within 5 kilometres			
	Total Population of Urban Area			
ROAD HIERARCHY AND TRAFFIC VOLUME				
Major Arterial				
Minor Arterial				
Collector Road				
Local Road	Local Road			
C. Area Characteristics	AREA CHARACTERISTICS			
	Site Name	Kurrajong Street, Pennant Hills		
	Land Use	Low Density Residential		
	No. Dwellings	129		
	Typical Housing Style	Single Dwelling		
	No. Bus Stops	0		
	Average Lot Size (m2)	880		
	Median Weekly Household Income	\$ 2,222.00		
	Average Car Ownership/Household	1.7		
	Nearby Businesses	~2		
Parking Regime	Unmetered			
COMMENTS				
D. Survey Summary	SURVEY DATE AND WEATHER DETAILS			
	Survey date (dd/mm/yyyy)	Wednesday, 1 June 2022		
	Survey start time	6:00:00 AM		
	Survey end time	6:30:00 PM		
	AM weather conditions	Fine		
	PM weather conditions	Fine		

Traffic Generation	Road AM Peak Period	Time	7:45:00 AM	8:45:00 AM	
		Total	80		
	Road PM Peak Period	Time	3:30:00 PM	4:30:00 PM	
		Total	68		
	Road Daily	Total	896		
Vehicle Trip Generation	Peak 1-hour Vehicle-trips per Dwelling	AM Peak	0.62 trips per dwelling		
		PM Peak			
			0.68 trips per dwelling		
		Daily	6.95 trips per dwelling		
	Development Trips per average household vehicle ownership	AM Peak	7:45:00 AM	8:45:00 AM	
			0.36 trips per vehicle owned		
		PM Peak	3:30:00 PM	4:30:00 PM	
			0.40 trips per vehicle owned		
		Daily			
			4.09 trips per vehicle owned		
Mode Split	Mode Split (Averaged over both peaks)				
	Modal Split	Number	%		
	Total Private Vehicles	83	88%		
	Car (as driver)	83	88%		
	Car (as passenger)	31	24%		
	Total All Trans (PT and	15	12%		
	On Foot	7	5%		
	Cycle	2	2%		
	Public Transport	7	5%		
Survey Undertaken by (organisation):		TDC	Survey Contact	Fred Stone	
Survey Undertaken by (surveyor):		Fred Stone	fred@trafficdc.com.au		

Site 14 - Results Summary Sheet

Address Orchard Road, Old Guildford
Notes Summary of survey results and preliminary analysis for site, as per TNSW template.



Survey for:	Transport for NSW		Office Use Only:
Survey Period			
Date and Time	Extended Data Collection? NO	Includes Manual Survey?	
Main Land Use R2: LOW DENSITY RESIDENTIAL			
A. Main Sub Land Use			
B. Catchment Details	DETAILS OF ADDRESS AND LOCATION TYPE		
	Site Name	Orchid Road, Old Guildford	
	Street	Orchid Road	
	Town	Old Guildford	
	Territorial Local Authority	City of Fairfield	
	Latitude (5 decimal places)	-33.86173	
	Longitude (5 decimal places)	150.984783	
	Location	Inner Suburban	
	Pedestrian Activity	Low	
	Public Transport Accessibility	High	
	DETAILS OF LOCAL POPULATION LEVELS		
	Population within 500 metres		
	Population within 1 kilometre		
	Population within 5 kilometres		
	Total Population of Urban Area		
ROAD HIERARCHY AND TRAFFIC VOLUME			
Major Arterial			
Minor Arterial			
Collector Road			
Local Road	Local Road		
AREA CHARACTERISTICS			
C. Area Characteristics	Site Name	Orchid Road, Old Guildford	
	Land Use	Low Density Residential	
	No. Dwellings	54	
	Typical Housing Style	Single Dwelling	
	No. Bus Stops	0	
	Average Lot Size (m2)	550	
	Median Weekly Household Income	\$ 1,286.00	
	Average Car Ownership/Household	2.1	
	Nearby Businesses	-3	
	Parking Regime	Unmetered	
COMMENTS			
SURVEY DATE AND WEATHER DETAILS			
D. Survey Summary	Survey date (dd/mm/yyyy)	Thursday, 2 June 2022	
	Survey start time	6:00:00 AM	
	Survey end time	6:30:00 PM	
	AM weather conditions	Fine	
	PM weather conditions	Fine	

Traffic Generation	Road AM Peak Period	Time	8:00:00 AM	9:00:00 AM	
		Total	51		
	Road PM Peak Period	Time	3:30:00 PM	4:30:00 PM	
		Total	66		
	Road Daily	Total	702		
Vehicle Trip Generation	Peak 1-hour Vehicle-trips per Dwelling	AM Peak	0.94	trips per dwelling	
		PM Peak			
		Daily	1.22	trips per dwelling	
		Daily	13.00	trips per dwelling	
	Development Trips per average household vehicle ownership	AM Peak	8:00:00 AM	9:00:00 AM	
		PM Peak	0.45	trips per vehicle owned	
		Daily	0.58	trips per vehicle owned	
		Daily	6.19	trips per vehicle owned	
		Mode Split (Averaged over both peaks)			
		Modal Split	Number	%	
		Total Private Vehicles	59	92%	
		Car (as driver)	59	99%	
		Car (as passenger)	33	33%	
Mode Split	Mode Split	Total Alt Trans (PT and	8	8%	
		On Foot	4	4%	
		Cycle	5	4%	
		Public Transport	0	0%	
		Survey Undertaken by (organisation)	TDC	Survey Contact	Fred Stone
		Survey Undertaken by (surveyor)	Fred Stone	fred@traffidc.com.au	

Site 15 - Results Summary Sheet

Address Austin Street, Ilwong
Notes Summary of survey results and preliminary analysis for site, as per TNSW template.



Survey for:	Transport for NSW		Office Ref Only:
Survey Period			
Date and Time	Extended Data Collection? NO	Includes Manual Survey?	
Main Land Use R2: LOW DENSITY RESIDENTIAL			
A. Main	Sub Land Use		
B. Catchment Details	DETAILS OF ADDRESS AND LOCATION TYPE		
	Site Name	Austin Street, Ilwong	
	Street	Austin Street	
	Town	Ilwong	
	Territorial Local Authority	Sutherland Shire	
	Latitude (5 decimal places)	-34.00073	
	Longitude (5 decimal places)	151.04005	
	Location	Inner Suburban	
	Pedestrian Activity	Low	
	Public Transport Accessibility	Moderate	
	DETAILS OF LOCAL POPULATION LEVELS		
	Population within 500 metres		
	Population within 1 kilometre		
	Population within 5 kilometres		
	Total Population of Urban Area		
ROAD HIERARCHY AND TRAFFIC VOLUME			
Major Arterial			
Minor Arterial			
Collector Road			
Local Road	Local Road		
C. Area Characteristics	AREA CHARACTERISTICS		
	Site Name	Austin Street, Ilwong	
	Land Use	Low Density Residential	
	No. Dwellings	247	
	Typical Housing Style	Single Dwelling	
	No. Bus Stops	0	
	Average Lot Size (m2)	690	
	Median Weekly Household Income	\$ 1,352.00	
	Average Car Ownership/Household	1.8	
	Nearby Businesses	~2	
Parking Regime	Unmetered		
COMMENTS			
D. Survey Summary	SURVEY DATE AND WEATHER DETAILS		
	Survey date (dd/mm/yyyy)	Thursday, 2 June 2022	
	Survey start time	6:00:00 AM	
	Survey end time	6:30:00 PM	
	AM weather conditions	Fine	
	PM weather conditions	Fine	

Traffic Generation	Road AM Peak Period	Time	7:45:00 AM	8:45:00 AM	
		Total	166		
	Road PM Peak Period	Time	4:30:00 PM	5:30:00 PM	
		Total	153		
	Road Daily	Total	1891		
Vehicle Trip Generation	Peak 1-hour Vehicle-trips per Dwelling	AM Peak	0.67 trips per dwelling		
		PM Peak			
			0.62 trips per dwelling		
		Daily	7.66 trips per dwelling		
	Development Trips per average household vehicle ownership	AM Peak	7.45:00 AM	8:45:00 AM	
			0.37 trips per vehicle owned		
		PM Peak	4:30:00 PM	5:30:00 PM	
			0.34 trips per vehicle owned		
		Daily			
			4.25 trips per vehicle owned		
Mode Split	Mode Split (Averaged over both peaks)				
	Modal Split	Number	%		
	Total Private Vehicles	160	93%		
	Car (as driver)	160	79%		
	Car (as passenger)	33	14%		
	Total All Trans (PT and	14	7%		
	On Foot	14	7%		
	Cycle	0	0%		
	Public Transport	0	0%		
	Survey Undertaken by (organisation):	TDC	Survey Contact: Fred Stone		
Survey Undertaken by (surveyor):		Fred Stone	fred@trafficdc.com.au		

Site 16 - Results Summary Sheet

Address Portmadoc Drive, Menai
Notes Summary of survey results and preliminary analysis for site, as per TNSW template.



Survey for:		Transport for NSW		Office Use Only:
Survey Period				
Date and Time		Extended Data Collection? NO		Includes Manual Survey?
Main Land Use		R2: LOW DENSITY RESIDENTIAL		
A. Main	Sub Land Use			
B. Catchment Details	DETAILS OF ADDRESS AND LOCATION TYPE			
	Site Name	Portmadoc Drive, Menai		
	Street	Portmadoc Drive		
	Town	Menai		
	Territorial Local Authority	Sutherland Shire		
	Latitude (5 decimal places)	-34.01112		
	Longitude (5 decimal places)	151.0181		
	Location	Inner Suburban		
	Pedestrian Activity	Low		
	Public Transport Accessibility	Moderate		
	DETAILS OF LOCAL POPULATION LEVELS			
	Population within 500 metres			
	Population within 1 kilometre			
	Population within 5 kilometres			
	Total Population of Urban Area			
ROAD HIERARCHY AND TRAFFIC VOLUME				
Major Arterial				
Minor Arterial				
Collector Road				
Local Road	Local Road			
C. Area Characteristics	AREA CHARACTERISTICS			
	Site Name	Portmadoc Drive, Menai		
	Land Use	Low Density Residential		
	No. Dwellings	271		
	Typical Housing Style	Single Dwelling		
	No. Bus Stops	0		
	Average Lot Size (m2)	520		
	Median Weekly Household Income	\$ 2,238.00		
	Average Car Ownership/Household	2.1		
	Nearby Businesses	~3		
Parking Regime	Unmetered			
COMMENTS				
D. Survey Summary	SURVEY DATE AND WEATHER DETAILS			
	Survey date (dd/mm/yyyy)	Tuesday, 7 June 2022		
	Survey start time	6:00:00 AM		
	Survey end time	6:30:00 PM		
	AM weather conditions	Fine		
	PM weather conditions	Fine		

Traffic Generation	Road AM Peak Period	Time	7:30:00 AM	8:30:00 AM	
		Total	225		
	Road PM Peak Period	Time	4:15:00 PM	5:15:00 PM	
		Total	224		
	Road Daily	Total	2234		
Vehicle Trip Generation	Peak 1-hour Vehicle-trips per Dwelling	AM Peak	0.83 trips per dwelling		
		PM Peak	0.83 trips per dwelling		
		Daily	8.24 trips per dwelling		
	Development Trips per average household vehicle ownership	AM Peak	7:30:00 AM	8:30:00 AM	
		PM Peak	4:15:00 PM	5:15:00 PM	
		Daily	0.39 trips per vehicle owned		
			3.93 trips per vehicle owned		
Mode Split	Mode Split (Averaged over both peaks)				
	Modal Split	Number	%		
	Total Private Vehicles	223	95%		
	Car (as driver)	223	99%		
	Car (as passenger)	138	38%		
	Total All Trans (PT and	20	5%		
	On Foot	10	3%		
	Cycle	2	0%		
	Public Transport	9	2%		
	Survey Undertaken by (organisation):	TDC	Survey Contact:	Fred Stone	
Survey Undertaken by (surveyor):		Fred Stone	fred@trafficdc.com.au		

Site 17 - Results Summary Sheet

Address River Avenue, Chatswood West
Notes: Summary of survey results and preliminary analysis for site, as per TNSW template.



Survey for:		Transport for NSW		Office Use Only:
Survey Period				
Date and Time		Extended Data Collection? NO	Includes Manual Survey?	
Main Land Use		R2: LOW DENSITY RESIDENTIAL		
A. Main	Sub Land Use			
B. Catchment Details	DETAILS OF ADDRESS AND LOCATION TYPE			
	Site Name	River Avenue, Chatswood West		
	Street	River Avenue		
	Town	Chatswood West		
	Territorial Local Authority	City of Willoughby		
	Latitude (5 decimal places)	-33.79301		
	Longitude (5 decimal places)	151.15621		
	Location	Inner Suburban		
	Pedestrian Activity	Moderate		
	Public Transport Accessibility	High		
	DETAILS OF LOCAL POPULATION LEVELS			
	Population within 500 metres			
	Population within 1 kilometre			
	Population within 5 kilometres			
	Total Population of Urban Area			
ROAD HIERARCHY AND TRAFFIC VOLUME				
Major Arterial				
Minor Arterial				
Collector Road				
Local Road	Local Road			
C. Area Characteristics	AREA CHARACTERISTICS			
	Site Name	River Avenue, Chatswood West		
	Land Use	Low Density Residential		
	No. Dwellings	136		
	Typical Housing Style	Single Dwelling		
	No. Bus Stops	2		
	Average Lot Size (m2)	650		
	Median Weekly Household Income	\$ 2,533.00		
	Average Car Ownership/Household	1.9		
	Nearby Businesses			
Parking Regime	Unmetered			
COMMENTS				
D. Survey Summary	SURVEY DATE AND WEATHER DETAILS			
	Survey date (dd/mm/yyyy)	Wednesday, 1 June 2022		
	Survey start time	6:00:00 AM		
	Survey end time	6:30:00 PM		
	AM weather conditions	Fine		
	PM weather conditions	Fine		

Traffic Generation	Road AM Peak Period	Time	8:00:00 AM	9:00:00 AM	
		Total	71		
	Road PM Peak Period	Time	3:30:00 PM	4:30:00 PM	
		Total	62		
	Road Daily	Total	746		
Vehicle Trip Generation	Peak 1-hour Vehicle-trips per Dwelling	AM Peak	0.52 trips per dwelling		
		PM Peak			
		Daily	0.46 trips per dwelling		
		Daily	5.49 trips per dwelling		
	Development Trips per average household vehicle ownership	AM Peak	8:00:00 AM	9:00:00 AM	
		PM Peak	0.27 trips per vehicle owned		
			3:30:00 PM	4:30:00 PM	
		Daily	0.24 trips per vehicle owned		
		Daily	2.89 trips per vehicle owned		
Mode Split	Mode Split (Averaged over both peaks)				
	Modal Split	Number	%		
	Total Private Vehicles	65	87%		
	Car (as driver)	65	71%		
	Car (as passenger)	16	16%		
	Total All Trans (PT and	12	13%		
	On Foot	9	10%		
	Cycle	1	1%		
	Public Transport	2	2%		
	Survey Undertaken by (organisation):	TDC	Survey Contact: Fred Stone		
Survey Undertaken by (surveyor):		Fred Stone	fred@trafficdc.com.au		

Site 18 - Results Summary Sheet

Address Elk Street, Marsfield
Notes Summary of survey results and preliminary analysis for site, as per TNSW template.



Survey for:	Transport for NSW		Office Use Only:
Survey Period			
Date and Time	Extended Data Collection? NO	Includes Manual Survey?	
Main Land Use R2: LOW DENSITY RESIDENTIAL			
A. Main Sub Land Use			
B. Catchment Details	DETAILS OF ADDRESS AND LOCATION TYPE		
	Site Name	Elk Street, Marsfield	
	Street	Elk Street	
	Town	Marsfield	
	Territorial Local Authority	City of Ryde	
	Latitude (5 decimal places)	-33.77594	
	Longitude (5 decimal places)	151.09754	
	Location	Inner Suburban	
	Pedestrian Activity	Moderate	
	Public Transport Accessibility	Moderate	
	DETAILS OF LOCAL POPULATION LEVELS		
	Population within 500 metres		
	Population within 1 kilometre		
	Population within 5 kilometres		
	Total Population of Urban Area		
ROAD HIERARCHY AND TRAFFIC VOLUME			
Major Arterial			
Minor Arterial			
Collector Road			
Local Road	Local Road		
C. Area Characteristics	AREA CHARACTERISTICS		
	Site Name	Elk Street, Marsfield	
	Land Use	Low Density Residential	
	No. Dwellings	52	
	Typical Housing Style	Single Dwelling	
	No. Bus Stops	0	
	Average Lot Size (m2)	580	
	Median Weekly Household Income	\$ 1,641.00	
	Average Car Ownership/Household	1.4	
	Nearby Businesses		
Parking Regime	Unmetered		
COMMENTS			
D. Survey Summary	SURVEY DATE AND WEATHER DETAILS		
	Survey date (dd/mm/yyyy)	Wednesday, 1 June 2022	
	Survey start time	6:00:00 AM	
	Survey end time	6:30:00 PM	
	AM weather conditions	Fine	
	PM weather conditions	Fine	

Traffic Generation	Road AM Peak Period	Time	8:00:00 AM	9:00:00 AM	
		Total	30		
	Road PM Peak Period	Time	3:30:00 PM	4:30:00 PM	
		Total	28		
	Road Daily	Total	351		
Vehicle Trip Generation	Peak 1-hour Vehicle-trips per Dwelling	AM Peak	0.58 trips per dwelling		
		PM Peak			
			0.54 trips per dwelling		
		Daily	6.75 trips per dwelling		
	Development Trips per average household vehicle ownership	AM Peak	8:00:00 AM	9:00:00 AM	
		PM Peak	0.41 trips per vehicle owned	3:30:00 PM	4:30:00 PM
			0.38 trips per vehicle owned		
		Daily	4.82 trips per vehicle owned		
Mode Split	Mode Split (Averaged over both peaks)				
	Modal Split	Number	%		
	Total Private Vehicles	29	82%		
	Car (as driver)	29	53%		
	Car (as passenger)	16	29%		
	Total All Trans (PT and On Foot)	10	18%		
	On Foot	10	18%		
	Public Transport	0	0%		
	Cycle	0	0%		
	Survey Undertaken by (organisation):	TDC	Survey Contact: Fred Stone		
Survey Undertaken by (surveyor):		Fred Stone	fred@trafficdc.com.au		

Site 19 - Results Summary Sheet

Address Patrick Street, Punchbowl
Notes: Summary of survey results and preliminary analysis for site, as per TNSW template.



Survey for:		Transport for NSW		Office Ref Only:
Survey Period				
Date and Time				
Extended Data Collection? NO		Includes Manual Survey?		
Main Land Use		R2: LOW DENSITY RESIDENTIAL		
A. Main	Sub Land Use			
B. Catchment Details	DETAILS OF ADDRESS AND LOCATION TYPE			
	Site Name	Patrick Street, Punchbowl		
	Street	Patrick Street		
	Town	Punchbowl		
	Territorial Local Authority	Canterbury-Bankstown		
	Latitude (5 decimal places)	-33.93589		
	Longitude (5 decimal places)	151.06161		
	Location	Inner Suburban		
	Pedestrian Activity	Low		
	Public Transport Accessibility	High		
	DETAILS OF LOCAL POPULATION LEVELS			
	Population within 500 metres			
	Population within 1 kilometre			
	Population within 5 kilometres			
	Total Population of Urban Area			
ROAD HIERARCHY AND TRAFFIC VOLUME				
Major Arterial				
Minor Arterial				
Collector Road				
Local Road	Local Road			
C. Area Characteristics	AREA CHARACTERISTICS			
	Site Name	Patrick Street, Punchbowl		
	Land Use	Low Density Residential		
	No. Dwellings	41		
	Typical Housing Style	Single Dwelling		
	No. Bus Stops	0		
	Average Lot Size (m2)	430		
	Median Weekly Household Income	\$ 1,146.00		
	Average Car Ownership/Household	1.7		
	Nearby Businesses			
Parking Regime	Unmetered			
COMMENTS				
D. Survey Summary	SURVEY DATE AND WEATHER DETAILS			
	Survey date (dd/mm/yyyy)	Wednesday, 1 June 2022		
	Survey start time	6:00:00 AM		
	Survey end time	6:30:00 PM		
	AM weather conditions	Fine		
	PM weather conditions	Fine		

Traffic Generation	Road AM Peak Period	Time	8:00:00 AM	9:00:00 AM	
		Total	31		
	Road PM Peak Period	Time	4:30:00 PM	5:30:00 PM	
		Total	37		
	Road Daily	Total	439		
Vehicle Trip Generation	Peak 1-hour Vehicle-trips per Dwelling	AM Peak	0.76	trips per dwelling	
		PM Peak			
			0.90	trips per dwelling	
		Daily	10.71	trips per dwelling	
	Development Trips per average household vehicle ownership	AM Peak	8:00:00 AM	9:00:00 AM	
			0.44	trips per vehicle owned	
		PM Peak	4:30:00 PM	5:30:00 PM	
			0.53	trips per vehicle owned	
		Daily			
			6.30	trips per vehicle owned	
Mode Split	Mode Split (Averaged over both peaks)				
	Modal Split	Number	%		
	Total Private Vehicles	34	96%		
	Car (as driver)	34	70%		
	Car (as passenger)	13	29%		
	Total All Trans (PT and	2	4%		
	On Foot	2	4%		
	Cycle	0	0%		
	Public Transport	0	0%		
	Survey Undertaken by (organisation):	TDC	Survey Contact: Fred Stone		
	Survey Undertaken by (surveyor):	Fred Stone	fred@trafficdc.com.au		

Site 20 - Results Summary Sheet

Address Jenolan Street, Leumeah
Notes Summary of survey results and preliminary analysis for site, as per TNSW template.



Survey for:		Transport for NSW		Office Ref Only:
Survey Period				
Date and Time		Extended Data Collection? NO	Includes Manual Survey?	
Main Land Use		R2: LOW DENSITY RESIDENTIAL		
A. Main	Sub Land Use			
B. Catchment Details	DETAILS OF ADDRESS AND LOCATION TYPE			
	Site Name	Jenolan Street, Leumeah		
	Street	Jenolan Street		
	Town	Leumeah		
	Territorial Local Authority	Campbelltown		
	Latitude (5 decimal places)	-34.05242		
	Longitude (5 decimal places)	150.83767		
	Location	Inner Suburban		
	Pedestrian Activity	Low		
	Public Transport Accessibility	Low		
	DETAILS OF LOCAL POPULATION LEVELS			
	Population within 500 metres			
	Population within 1 kilometre			
	Population within 5 kilometres			
	Total Population of Urban Area			
ROAD HIERARCHY AND TRAFFIC VOLUME				
Major Arterial				
Minor Arterial				
Collector Road				
Local Road	Local Road			
C. Area Characteristics	AREA CHARACTERISTICS			
	Site Name	Jenolan Street, Leumeah		
	Land Use	Low Density Residential		
	No. Dwellings	56		
	Typical Housing Style	Single Dwelling		
	No. Bus Stops	0		
	Average Lot Size (m2)	550		
	Median Weekly Household Income	\$ 2,083.00		
	Average Car Ownership/Household	2		
	Nearby Businesses	-1		
Parking Regime	Unmetered			
COMMENTS				
D. Survey Summary	SURVEY DATE AND WEATHER DETAILS			
	Survey date (dd/mm/yyyy)	Wednesday, 1 June 2022		
	Survey start time	6:00:00 AM		
	Survey end time	6:30:00 PM		
	AM weather conditions	Fine		
	PM weather conditions	Fine		

Traffic Generation	Road AM Peak Period	Time	8:00:00 AM	9:00:00 AM	
		Total	22		
	Road PM Peak Period	Time	4:45:00 PM	5:45:00 PM	
		Total	45		
	Road Daily	Total	307		
Vehicle Trip Generation	Peak 1-hour Vehicle-trips per Dwelling	AM Peak	0.39 trips per dwelling		
		PM Peak			
			0.80 trips per dwelling		
		Daily	5.48 trips per dwelling		
	Development Trips per average household vehicle ownership	AM Peak	8:00:00 AM	9:00:00 AM	
			0.20 trips per vehicle owned		
		PM Peak	4:45:00 PM	5:45:00 PM	
			0.40 trips per vehicle owned		
		Daily			
			2.74 trips per vehicle owned		
Mode Split	Mode Split (Averaged over both peaks)				
	Modal Split	Number	%		
	Total Private Vehicles	34	92%		
	Car (as driver)	34	71%		
	Car (as passenger)	9	21%		
	Total All Trans (PT and	3	8%		
	On Foot	3	7%		
	Cycle	1	1%		
	Public Transport	0	0%		
	Survey Undertaken by (organisation):	TDC	Survey Contact: Fred Stone		
	Survey Undertaken by (surveyor):	Fred Stone	fred@traffidoc.com.au		

Site 21 - Results Summary Sheet

Address Delage Place, Inglesburn
Notes Summary of survey results and preliminary analysis for site, as per TNSW template.



Survey for:		Transport for NSW		Office Ref Only:
Survey Period				
Date and Time				
Extended Data Collection? NO		Includes Manual Survey?		
Main Land Use		R2: LOW DENSITY RESIDENTIAL		
A. Main	Sub Land Use			
B. Catchment Details	DETAILS OF ADDRESS AND LOCATION TYPE			
	Site Name	Delage Place, Inglesburn		
	Street	Delage Place		
	Town	Inglesburn		
	Territorial Local Authority	Macarthur		
	Latitude (5 decimal places)	-34.00188		
	Longitude (5 decimal places)	150.88215		
	Location	Inner Suburban		
	Pedestrian Activity	Low		
	Public Transport Accessibility	Moderate		
	DETAILS OF LOCAL POPULATION LEVELS			
	Population within 500 metres			
	Population within 1 kilometre			
	Population within 5 kilometres			
	Total Population of Urban Area			
ROAD HIERARCHY AND TRAFFIC VOLUME				
Major Arterial				
Minor Arterial				
Collector Road				
Local Road	Local Road			
C. Area Characteristics	AREA CHARACTERISTICS			
	Site Name	Delage Place, Inglesburn		
	Land Use	Low Density Residential		
	No. Dwellings	27		
	Typical Housing Style	Single Dwelling		
	No. Bus Stops	0		
	Average Lot Size (m2)	550		
	Median Weekly Household Income	\$ 1,401.00		
	Average Car Ownership/Houshold	1.6		
	Nearby Businesses			
Parking Regime	Unmetered			
COMMENTS				
D. Survey Summary	SURVEY DATE AND WEATHER DETAILS			
	Survey date (dd/mm/yyyy)	Tuesday, 31 May 2022		
	Survey start time	6:00:00 AM		
	Survey end time	6:30:00 PM		
	AM weather conditions	Fine		
	PM weather conditions	Fine		

Traffic Generation	Road AM Peak Period	Time	6:45:00 AM	7:45:00 AM	
		Total	13		
	Road PM Peak Period	Time	5:00:00 PM	6:00:00 PM	
		Total	25		
	Road Daily	Total	194		
Vehicle Trip Generation	Peak 1-hour Vehicle-trips per Dwelling	AM Peak	0.48 trips per dwelling		
		PM Peak			
			0.93 trips per dwelling		
		Daily	7.19 trips per dwelling		
	Development Trips per average household vehicle ownership	AM Peak	6:45:00 AM	7:45:00 AM	
		PM Peak	0.30 trips per vehicle owned	5:00:00 PM	6:00:00 PM
			0.58 trips per vehicle owned		
		Daily			
			4.49 trips per vehicle owned		
Mode Split	Mode Split (Averaged over both peaks)				
	Modal Split	Number	%		
	Total Private Vehicles	19	94%		
	Car (as driver)	19	94%		
	Car (as passenger)	3	10%		
	Total All Trans (PT and	1	6%		
	On Foot	1	6%		
	Cycle	0	0%		
	Public Transport	0	0%		
Survey Undertaken by (organisation):		TDC	Survey Contact:	Fred Stone	
Survey Undertaken by (surveyor):		Fred Stone	fred@trafficdc.com.au		

Site 22 - Results Summary Sheet

Address Castle Rock Court, Wattle Grove
Notes Summary of survey results and preliminary analysis for site, as per TNSW template.



Survey for:		Transport for NSW		Office Use Only:
Survey Period				
Date and Time		Extended Data Collection? NO	Includes Manual Survey?	
Main Land Use		R2: LOW DENSITY RESIDENTIAL		
A. Main	Sub Land Use			
B. Catchment Details	DETAILS OF ADDRESS AND LOCATION TYPE			
	Site Name	Castle Rock Court, Wattle Grove		
	Street	Castle Rock Court		
	Town	Wattle Grove		
	Territorial Local Authority	Liverpool		
	Latitude (5 decimal places)	-33.94757		
	Longitude (5 decimal places)	150.94088		
	Location	Inner Suburban		
	Pedestrian Activity	Low		
	Public Transport Accessibility	Moderate		
	DETAILS OF LOCAL POPULATION LEVELS			
	Population within 500 metres			
	Population within 1 kilometre			
	Population within 5 kilometres			
	Total Population of Urban Area			
ROAD HIERARCHY AND TRAFFIC VOLUME				
Major Arterial				
Minor Arterial				
Collector Road				
Local Road	Local Road			
C. Area Characteristics	AREA CHARACTERISTICS			
	Site Name	Castle Rock Court, Wattle Grove		
	Land Use	Low Density Residential		
	No. Dwellings	124		
	Typical Housing Style	Single Dwelling		
	No. Bus Stops	0		
	Average Lot Size (m2)	410		
	Median Weekly Household Income	\$ 2,148.00		
	Average Car Ownership/Household	2		
	Nearby Businesses			
Parking Regime	Unmetered			
COMMENTS				
D. Survey Summary	SURVEY DATE AND WEATHER DETAILS			
	Survey date (dd/mm/yyyy)	Thursday, 2 June 2022		
	Survey start time	6:00:00 AM		
	Survey end time	6:30:00 PM		
	AM weather conditions	Fine		
	PM weather conditions	Fine		

Traffic Generation	Road AM Peak Period	Time	7:45:00 AM	8:45:00 AM	
		Total	77		
	Road PM Peak Period	Time	4:00:00 PM	5:00:00 PM	
		Total	86		
	Road Daily	Total	916		
Vehicle Trip Generation	Peak 1-hour Vehicle-trips per Dwelling	AM Peak	0.62 trips per dwelling		
		PM Peak			
			0.69 trips per dwelling		
		Daily	7.39 trips per dwelling		
	Development Trips per average household vehicle ownership	AM Peak	7:45:00 AM	8:45:00 AM	
			0.31 trips per vehicle owned		
		PM Peak	4:00:00 PM	5:00:00 PM	
			0.35 trips per vehicle owned		
		Daily			
			3.69 trips per vehicle owned		
Mode Split	Mode Split (Averaged over both peaks)				
	Modal Split	Number	%		
	Total Private Vehicles	82	94%		
	Car (as driver)	82	88%		
	Car (as passenger)	32	29%		
	Total All Trans (PT and	7	6%		
	On Foot	6	5%		
	Cycle	2	1%		
	Public Transport	0	0%		
	Survey Undertaken by (organisation):	TDC	Survey Contact: Fred Stone		
	Survey Undertaken by (surveyor):	Fred Stone	fred@trafficdc.com.au		

Site 23 - Results Summary Sheet

Address Meehan Avenue, Hammondville
Notes Summary of survey results and preliminary analysis for site, as per TNSW template.



Survey for:		Transport for NSW		Office Use Only:
Survey Period				
Date and Time		Extended Data Collection? NO		Includes Manual Survey?
Main Land Use		R2: LOW DENSITY RESIDENTIAL		
A. Main	Sub Land Use			
B. Catchment Details	DETAILS OF ADDRESS AND LOCATION TYPE			
	Site Name	Meehan Avenue, Hammondville		
	Street	Meehan Avenue		
	Town	Hammondville		
	Territorial Local Authority	Liverpool		
	Latitude (5 decimal places)	-33.94845		
	Longitude (5 decimal places)	150.95079		
	Location	Inner Suburban		
	Public Transport Accessibility	Moderate		
	DETAILS OF LOCAL POPULATION LEVELS			
	Population within 500 metres			
	Population within 1 kilometre			
	Population within 5 kilometres			
	Total Population of Urban Area			
	ROAD HIERARCHY AND TRAFFIC VOLUME			
Major Arterial				
Minor Arterial				
Collector Road				
Local Road	Local Road			
C. Area Characteristics	AREA CHARACTERISTICS			
	Site Name	Meehan Avenue, Hammondville		
	Land Use	Low Density Residential		
	No. Dwellings	161		
	Typical Housing Style	Single Dwelling		
	No. Bus Stops	0		
	Average Lot Size (m2)	570		
	Median Weekly Household Income	\$ 1,580.00		
	Average Car Ownership/Houshold	1.7		
	Nearby Businesses	~4		
Parking Regime	Unmetered			
COMMENTS				
D. Survey Summary	SURVEY DATE AND WEATHER DETAILS			
	Survey date (dd/mm/yyyy)	Thursday, 2 June 2022		
	Survey start time	6:00:00 AM		
	Survey end time	6:30:00 PM		
	AM weather conditions	Fine		
	PM weather conditions	Fine		

Traffic Generation	Road AM Peak Period	Time	8:00:00 AM	9:00:00 AM	
		Total	116		
	Road PM Peak Period	Time	4:00:00 PM	5:00:00 PM	
		Total	111		
	Road Daily	Total	1274		
Vehicle Trip Generation	Peak 1-hour Vehicle-trips per Dwelling	AM Peak	0.72 trips per dwelling		
		PM Peak			
			0.69 trips per dwelling		
		Daily	7.91 trips per dwelling		
	Development Trips per average household vehicle ownership	AM Peak	8:00:00 AM	9:00:00 AM	
			0.42 trips per vehicle owned		
		PM Peak	4:00:00 PM	5:00:00 PM	
			0.41 trips per vehicle owned		
		Daily			
			4.65 trips per vehicle owned		
Mode Split	Mode Split (Averaged over both peaks)				
	Modal Split	Number	%		
	Total Private Vehicles	114	81%		
	Car (as driver)	114	56%		
	Car (as passenger)	50	25%		
	Total All Trans (PT and	38	19%		
	On Foot	28	14%		
	Cycle	2	1%		
	Public Transport	9	4%		
	Survey Undertaken by (organisation)	TDC	Survey Contact	Fred Stone	
Survey Undertaken by (surveyor)		Fred Stone	fred@trafficdc.com.au		

Site 24 - Results Summary Sheet

Address Marshall Avenue, Moorebank
Notes Summary of survey results and preliminary analysis for site, as per TNSW template.



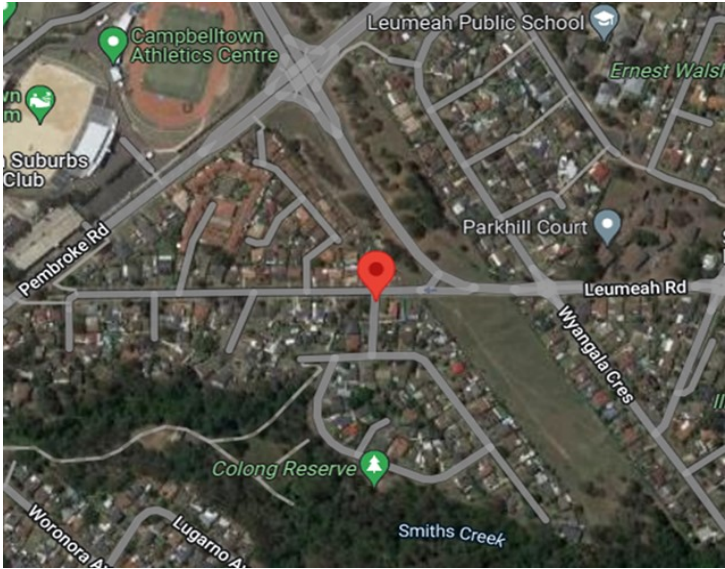
Survey for:		Transport for NSW		Office Use Only:
Survey Period				
Date and Time		Extended Data Collection? NO	Includes Manual Survey?	
Main Land Use		R2: LOW DENSITY RESIDENTIAL		
A. Main	Sub Land Use			
B. Catchment Details	DETAILS OF ADDRESS AND LOCATION TYPE			
	Site Name	Marshall Avenue, Moorebank		
	Street	Marshall Avenue		
	Town	Moorebank		
	Territorial Local Authority	Liverpool		
	Latitude (5 decimal places)	-33.94259		
	Longitude (5 decimal places)	150.95143		
	Location	Inner Suburban		
	Pedestrian Activity	Low		
	Public Transport Accessibility	High		
	DETAILS OF LOCAL POPULATION LEVELS			
	Population within 500 metres			
	Population within 1 kilometre			
	Population within 5 kilometres			
	Total Population of Urban Area			
ROAD HIERARCHY AND TRAFFIC VOLUME				
Major Arterial				
Minor Arterial				
Collector Road				
Local Road	Local Road			
C. Area Characteristics	AREA CHARACTERISTICS			
	Site Name	Marshall Avenue, Moorebank		
	Land Use	Low Density Residential		
	No. Dwellings	121		
	Typical Housing Style	Single Dwelling		
	No. Bus Stops	0		
	Average Lot Size (m2)	750		
	Median Weekly Household Income	\$ 1,889.00		
	Average Car Ownership/Household	1.9		
	Nearby Businesses	~2		
Parking Regime	Unmetered			
COMMENTS				
D. Survey Summary	SURVEY DATE AND WEATHER DETAILS			
	Survey date (dd/mm/yyyy)	Tuesday, 7 June 2022		
	Survey start time	6:00:00 AM		
	Survey end time	6:30:00 PM		
	AM weather conditions	Fine		
	PM weather conditions	Fine		

Traffic Generation	Road AM Peak Period	Time	8:00:00 AM	9:00:00 AM	
		Total	66		
	Road PM Peak Period	Time	5:15:00 PM	6:15:00 PM	
		Total	90		
	Road Daily	Total	913		
Vehicle Trip Generation	Peak 1-hour Vehicle-trips per Dwelling	AM Peak	0.55 trips per dwelling		
		PM Peak			
			0.74 trips per dwelling		
		Daily	7.55 trips per dwelling		
	Development Trips per average household vehicle ownership	AM Peak	8:00:00 AM	9:00:00 AM	
			0.28 trips per vehicle owned		
		PM Peak	5:15:00 PM	6:15:00 PM	
			0.39 trips per vehicle owned		
		Daily			
			3.97 trips per vehicle owned		
Mode Split	Mode Split (Averaged over both peaks)				
	Modal Split	Number	%		
	Total Private Vehicles	78	100%		
	Car (as driver)	78	82%		
	Car (as passenger)	18	18%		
	Total All Trans (PT and On Foot)	1	0%		
	On Foot	1	0%		
	Cycle	0	0%		
	Public Transport	0	0%		
	Survey Undertaken by (organisation):	TDC	Survey Contact: Fred Stone		
Survey Undertaken by (surveyor):		Fred Stone	fred@trafficdc.com.au		

Appendix B: Raw Survey Data

Low Density Residential Catchment Site Information	
Site Location	Jenolan St, Leumeah
Number of Completed Dwellings	
Number of Bus Stops	
Weather Conditions	Fine
Local Traffic Congestions/Incidents	
Home Based Businesses in Catchment	
Special Events in Vicinity of Site	
Traffic Surveyor Comments (eg. Local issues?, Roadworks?, Closed Areas?, Disability Access?, etc)	

Site Map



LOW DENSITY RESIDENTIAL TRIP GENERATION SURVEY												
Site Location:-		Jenolan St, Leumeah										
Survey Day/Date:-		Wednesday, 1 June 2022										
Survey Period:-		6am-9am & 3:30pm-6:30pm										
Surveyors Name:-		X Rai										
Start Time	Cars				Bus				Pedestrians		Cyclists	
	Entering		Exiting		Entering		Exiting		Entering	Exiting	Entering	Exiting
	Vehicles	Occupancy	Vehicles	Occupancy	Vehicles	Occupancy	Vehicles	Occupancy				
6:00 AM	0	0	1	1	0	0	0	0	0	0	0	0
6:15 AM	0	0	0	0	0	0	0	0	0	0	0	0
6:30 AM	0	0	4	5	0	0	0	0	0	0	0	0
6:45 AM	2	2	3	3	0	0	0	0	0	0	0	0
7:00 AM	1	2	2	2	0	0	0	0	0	1	0	0
7:15 AM	1	1	2	3	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	3	4	1	1	0	0	0	0	1	1	0	0
8:00 AM	1	1	5	6	0	0	0	0	0	2	0	0
8:15 AM	0	0	4	5	0	0	0	0	0	2	0	0
8:30 AM	0	0	4	8	0	0	0	0	0	0	0	0
8:45 AM	4	4	4	9	0	0	0	0	1	0	0	0
3:30 PM	2	2	6	7	0	0	0	0	0	0	0	0
3:45 PM	4	5	4	5	0	0	0	0	0	0	0	0
4:00 PM	3	3	2	3	0	0	0	0	0	0	0	0
4:15 PM	2	2	2	3	0	0	0	0	0	0	0	0
4:30 PM	6	8	2	3	0	0	0	0	0	0	0	0
4:45 PM	8	9	2	2	0	0	0	0	0	0	1	0
5:00 PM	9	12	8	10	0	0	0	0	0	0	0	0
5:15 PM	4	5	2	2	0	0	0	0	0	0	0	0
5:30 PM	5	5	7	7	0	0	0	0	0	0	0	0
5:45 PM	1	3	1	1	0	0	0	0	0	0	0	0
6:00 PM	3	4	5	7	0	0	0	0	0	0	0	0
6:15 PM	4	6	3	4	0	0	0	0	0	0	0	0
AM Total	12	14	30	43	0	0	0	0	2	6	0	0
PM Total	51	64	44	54	0	0	0	0	0	0	1	0
Average Pax per Vehicle		1.17	AM	1.43								
		1.25	PM	1.23								

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Low Density Residential Catchment Site Information	
Site Location	Kurrajong St, Pennant Hills
Number of Completed Dwellings	
Number of Bus Stops	
Weather Conditions	Fine
Local Traffic Congestions/Incidents	
Home Based Businesses in Catchment	
Special Events in Vicinity of Site	
Traffic Surveyor Comments (eg. Local issues?, Roadworks?, Closed Areas?, Disability Access?, etc)	

Site Map



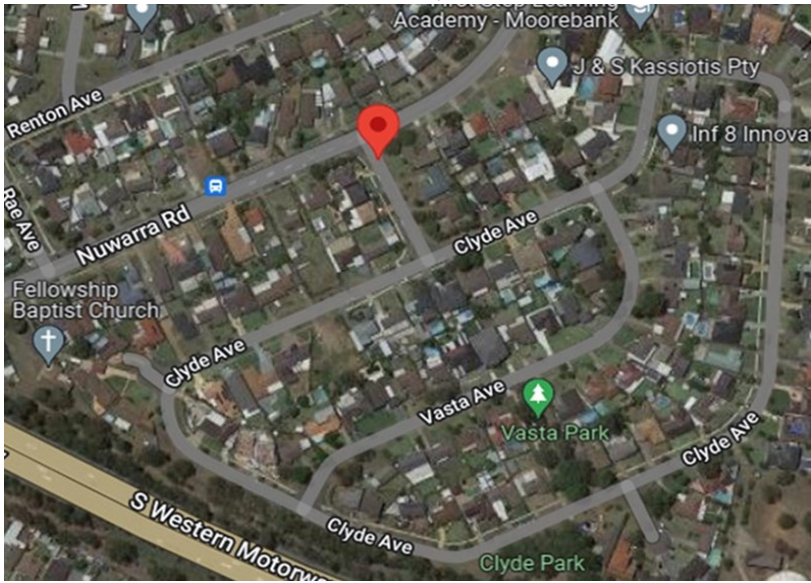
LOW DENSITY RESIDENTIAL TRIP GENERATION SURVEY												
Site Location:-		Kurrajong St, Pennant Hills										
Survey Day/Date:-		Wednesday, 1 June 2022										
Survey Period:-		6am-9am & 3:30pm-6:30pm										
Surveyors Name:-		R Bigger										
Start Time	Cars				Bus				Pedestrians		Cyclists	
	Entering		Exiting		Entering		Exiting					
	Vehicles	Occupancy	Vehicles	Occupancy	Vehicles	Occupancy	Vehicles	Occupancy	Entering	Exiting	Entering	Exiting
6:00 AM	0	0	5	6	0	0	0	0	0	0	0	0
6:15 AM	3	4	8	12	0	0	0	0	1	0	0	0
6:30 AM	1	1	5	7	0	0	0	0	0	0	0	0
6:45 AM	1	1	8	14	0	0	0	0	0	0	0	0
7:00 AM	7	7	8	12	0	0	0	0	0	1	0	0
7:15 AM	4	5	13	19	0	0	0	0	1	0	0	0
7:30 AM	4	4	10	16	0	0	0	0	0	0	0	0
7:45 AM	3	4	20	32	0	0	0	0	0	2	0	0
8:00 AM	2	2	12	15	0	0	0	0	1	1	0	0
8:15 AM	10	10	14	20	0	0	0	0	1	2	0	0
8:30 AM	2	2	15	21	1	5	1	7	0	0	0	2
8:45 AM	4	4	8	11	0	0	0	0	0	0	1	0
3:30 PM	20	24	9	14	0	0	0	0	1	0	0	0
3:45 PM	9	12	13	19	0	0	1	1	1	0	0	0
4:00 PM	15	19	7	12	0	0	0	0	1	0	0	1
4:15 PM	8	11	6	10	0	0	0	0	2	1	1	0
4:30 PM	6	6	6	11	0	0	0	0	1	0	0	0
4:45 PM	10	14	8	11	0	0	0	0	1	3	0	0
5:00 PM	10	14	4	5	0	0	0	0	0	0	0	0
5:15 PM	8	11	5	7	0	0	0	0	0	2	0	0
5:30 PM	6	8	7	8	0	0	0	0	1	1	0	0
5:45 PM	12	16	6	7	0	0	0	0	3	0	0	0
6:00 PM	7	9	4	5	0	0	0	0	0	0	0	0
6:15 PM	15	20	6	7	0	0	0	0	2	1	0	0
AM Total	41	44	126	185	1	5	1	7	4	6	1	2
PM Total	126	164	81	116	0	0	1	1	13	8	1	1
Average Pax per Vehicle	1.07	AM	1.47	Average Pax per Bus	5.00	AM	7.00					
	1.30	PM	1.43			PM	1.00					

TDC
Traffic Data & Control

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Low Density Residential Catchment Site Information	
Site Location	Marshall Avenue, Moorebank
Number of Completed Dwellings	
Number of Bus Stops	
Weather Conditions	Fine
Local Traffic Congestions/Incidents	
Home Based Businesses in Catchment	
Special Events in Vicinity of Site	
Traffic Surveyor Comments (eg. Local issues?, Roadworks?, Closed Areas?, Disability Access?, etc)	

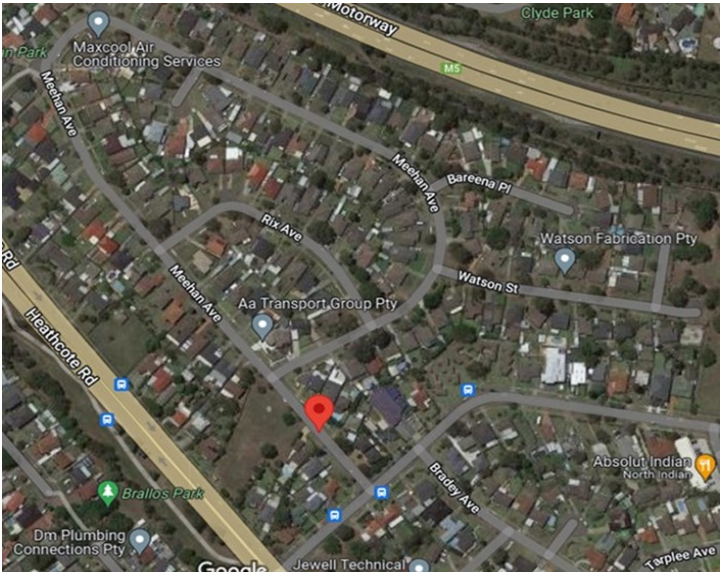
Site Map



LOW DENSITY RESIDENTIAL TRIP GENERATION SURVEY												
Site Location:-		Marshall Ave, Moorebank										
Survey Day/Date:-		Tuesday, 7 June 2022										
Survey Period:-		6am-9am & 3:30pm-6:30pm										
Surveyors Name:-		X Rai										
Start Time	Cars				Bus				Pedestrians		Cyclists	
	Entering		Exiting		Entering		Exiting		Entering	Exiting	Entering	Exiting
	Vehicles	Occupancy	Vehicles	Occupancy	Vehicles	Occupancy	Vehicles	Occupancy				
6:00 AM	0	0	10	19	0	0	0	0	0	0	0	0
6:15 AM	0	0	6	7	0	0	0	0	0	0	0	0
6:30 AM	0	0	9	12	0	0	0	0	0	0	0	0
6:45 AM	0	0	5	8	0	0	0	0	0	0	0	0
7:00 AM	0	0	8	12	0	0	0	0	0	0	0	0
7:15 AM	0	0	8	14	0	0	0	0	0	0	0	0
7:30 AM	0	0	8	10	0	0	0	0	0	0	0	0
7:45 AM	2	2	8	9	0	0	0	0	0	1	0	0
8:00 AM	0	0	8	9	0	0	0	0	0	0	0	0
8:15 AM	5	7	11	15	0	0	0	0	0	0	0	0
8:30 AM	4	5	14	15	0	0	0	0	0	0	0	0
8:45 AM	10	11	14	15	0	0	0	0	0	0	0	0
3:30 PM	11	22	6	6	0	0	0	0	2	0	0	0
3:45 PM	8	11	5	5	0	0	0	0	0	0	0	0
4:00 PM	12	20	6	7	0	0	0	0	0	1	0	0
4:15 PM	16	24	9	11	0	0	0	0	0	0	0	0
4:30 PM	10	17	8	9	0	0	0	0	2	0	0	0
4:45 PM	13	19	10	12	0	0	0	0	0	0	0	0
5:00 PM	10	12	6	8	0	0	0	0	0	2	0	0
5:15 PM	16	20	7	7	0	0	0	0	0	0	0	0
5:30 PM	10	12	10	13	0	0	0	0	1	0	0	0
5:45 PM	16	19	6	8	0	0	0	0	0	0	0	0
6:00 PM	10	13	15	23	0	0	0	0	0	0	0	0
6:15 PM	4	8	6	8	0	0	0	0	0	0	0	0
AM Total	21	25	109	145	0	0	0	0	0	1	0	0
PM Total	136	197	94	117	0	0	0	0	5	3	0	0
Average Pax per Vehicle		1.19	AM	1.33								
		1.45	PM	1.24								

Low Density Residential Catchment Site Information	
Site Location	Meehan Ave, Hammondville
Number of Completed Dwellings	
Number of Bus Stops	
Weather Conditions	Fine
Local Traffic Congestions/Incidents	
Home Based Businesses in Catchment	
Special Events in Vicinity of Site	
Traffic Surveyor Comments (eg. Local issues?, Roadworks?, Closed Areas?, Disability Access?, etc)	

Site Map



LOW DENSITY RESIDENTIAL TRIP GENERATION SURVEY												
Site Location:-		Meehan Ave, Hammondville										
Survey Day/Date:-		Thursday, 2 June 2022										
Survey Period:-		6am-9am & 3:30pm-6:30pm										
Surveyors Name:-		N Ofamooni										
Start Time	Cars				Bus				Pedestrians		Cyclists	
	Entering		Exiting		Entering		Exiting		Entering	Exiting	Entering	Exiting
	Vehicles	Occupancy	Vehicles	Occupancy	Vehicles	Occupancy	Vehicles	Occupancy				
6:00 AM	1	1	10	12	0	0	0	0	0	0	0	0
6:15 AM	0	0	5	5	0	0	0	0	0	0	0	0
6:30 AM	0	0	5	5	0	0	0	0	0	1	0	0
6:45 AM	2	2	14	17	0	0	0	0	0	0	0	0
7:00 AM	4	4	7	9	0	0	0	0	1	3	0	0
7:15 AM	4	6	12	18	0	0	0	0	1	3	0	0
7:30 AM	3	3	16	28	1	10	1	11	2	0	0	0
7:45 AM	7	7	12	18	0	0	0	0	0	7	0	0
8:00 AM	5	7	18	26	0	0	0	0	0	6	0	1
8:15 AM	10	15	19	32	0	0	0	0	1	5	1	0
8:30 AM	9	10	23	41	0	0	0	0	1	14	0	0
8:45 AM	11	15	21	30	0	0	0	0	6	1	0	1
3:30 PM	16	26	7	9	0	0	0	0	1	0	0	1
3:45 PM	19	27	7	12	0	0	0	0	0	0	0	0
4:00 PM	15	21	14	25	1	9	1	8	7	2	0	0
4:15 PM	14	15	13	18	0	0	0	0	0	1	0	0
4:30 PM	14	17	5	6	0	0	0	0	2	3	0	0
4:45 PM	14	17	20	32	0	0	0	0	6	1	0	0
5:00 PM	14	18	7	11	0	0	0	0	0	0	0	2
5:15 PM	14	16	8	11	0	0	0	0	4	4	0	0
5:30 PM	11	11	18	26	0	0	0	0	2	1	5	2
5:45 PM	18	24	6	8	0	0	0	0	1	4	0	0
6:00 PM	22	26	14	18	0	0	0	0	1	1	0	0
6:15 PM	11	11	11	19	0	0	0	0	0	0	0	0
AM Total	56	70	162	241	1	10	1	11	12	40	1	2
PM Total	182	229	130	195	1	9	1	8	24	17	5	5
Average Pax per Vehicle	1.25	AM	1.49	Average Pax per	10.00	AM	11.00					
	1.26	PM	1.50	Bus	9.00	PM	8.00					

Site Location	Eastman Ave. Hammondville
Survey Date	08/04/2022 - 08/05/2022
Survey Period	22 Hours
AM Peak Period	
PM Peak Period	



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Date: _____										Page: _____																																																																																									
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67																																	

Low Density Residential Catchment Site Information	
Site Location	N Solitary Dr, Sapphire Beach
Number of Completed Dwellings	
Number of Bus Stops	
Weather Conditions	Fine
Local Traffic Congestions/Incidents	
Home Based Businesses in Catchment	
Special Events in Vicinity of Site	
Traffic Surveyor Comments (eg. Local issues?, Roadworks?, Closed Areas?, Disability Access?, etc)	

Site Map



LOW DENSITY RESIDENTIAL TRIP GENERATION SURVEY												
Site Location:-		N Solitary Dr, Sapphire Beach										
Survey Day/Date:-		Wednesday, 1 June 2022										
Survey Period:-		6am-9am & 3:30pm-6:30pm										
Surveyors Name:-		M Ludolph										
Start Time	Cars				Bus				Pedestrians		Cyclists	
	Entering		Exiting		Entering		Exiting					
	Vehicles	Occupancy	Vehicles	Occupancy	Vehicles	Occupancy	Vehicles	Occupancy	Entering	Exiting	Entering	Exiting
6:00 AM	1	1	7	7	0	0	0	0	2	2	0	0
6:15 AM	4	4	9	9	0	0	0	0	0	0	0	0
6:30 AM	3	4	8	9	0	0	0	0	1	1	0	0
6:45 AM	7	8	16	16	0	0	0	0	0	1	0	0
7:00 AM	4	6	14	17	0	0	0	0	2	1	1	1
7:15 AM	0	0	17	19	0	0	0	0	0	0	0	1
7:30 AM	8	8	21	27	0	0	0	0	0	0	0	0
7:45 AM	10	12	36	68	1	1	1	10	0	11	0	0
8:00 AM	11	12	40	57	0	0	0	0	0	0	0	2
8:15 AM	7	8	31	43	0	0	0	0	0	0	0	0
8:30 AM	5	5	29	48	0	0	0	0	0	0	0	0
8:45 AM	10	13	26	40	0	0	0	0	0	0	0	0
3:30 PM	28	39	14	16	0	0	0	0	4	0	0	0
3:45 PM	20	27	8	9	1	6	1	1	0	0	0	0
4:00 PM	23	32	19	19	0	0	0	0	6	0	1	0
4:15 PM	30	38	7	8	0	0	0	0	0	0	0	0
4:30 PM	22	27	18	22	0	0	0	0	0	0	0	0
4:45 PM	24	30	10	10	0	0	0	0	0	0	0	0
5:00 PM	31	39	9	10	0	0	0	0	1	1	2	0
5:15 PM	26	34	15	17	0	0	0	0	0	0	0	0
5:30 PM	16	21	11	13	0	0	0	0	0	0	0	0
5:45 PM	17	20	9	9	0	0	0	0	0	0	0	0
6:00 PM	23	28	16	19	0	0	0	0	0	0	0	0
6:15 PM	14	18	7	9	0	0	0	0	0	0	0	0
AM Total	70	81	254	360	1	1	1	10	5	16	1	4
PM Total	274	353	143	161	1	6	1	1	11	1	3	0
Average Pax per Vehicle	1.16	AM	1.42	Average Pax per Bus	1.00	AM	10.00					
	1.29	PM	1.13		6.00	PM	1.00					

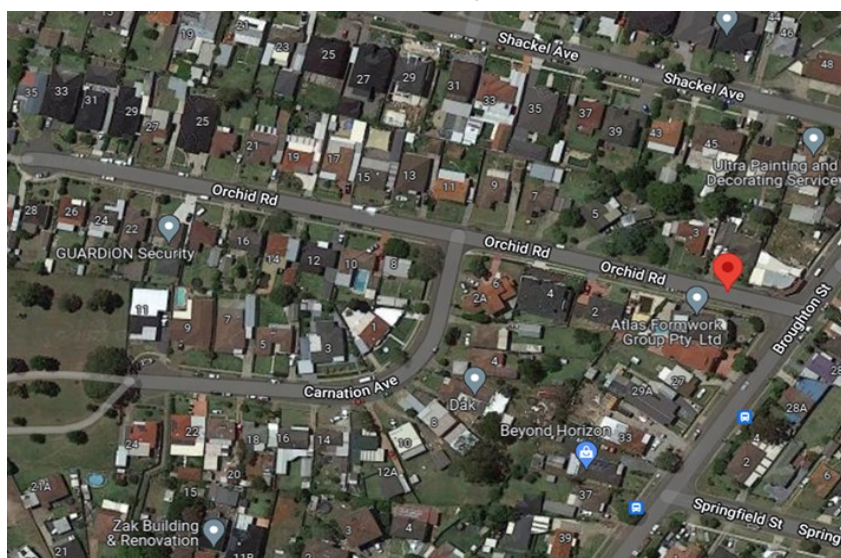
Site Location	11 Military Dr., Tappan, New York
Survey Date	20th May – 2nd June 2012
Survey Period	2.2 Hours
AM Peak Period	
PM Peak Period	



Name	Age	English										Math										Total
		Reading	Writing	Listening	Speaking	Grammar	Vocabulary	Spelling	Punctuation	Comprehension	Analysis	Algebra	Geometry	Calculus	Statistics	Probability	Logic	Reasoning	Problem Solving	Application	Communication	
John Doe	25	85	78	92	88	80	85	75	82	88	85	70	75	80	78	82	75	80	78	85	80	80
Jane Smith	22	75	70	85	80	75	78	72	75	78	75	65	70	72	68	70	65	70	68	75	70	75
Michael Johnson	30	90	85	95	90	88	92	85	90	92	90	80	85	90	88	92	85	90	88	95	90	90
Sarah Williams	28	82	75	88	85	78	82	75	80	85	82	68	72	75	70	75	68	72	70	80	75	80
David Brown	35	78	72	82	78	75	78	70	75	78	75	60	65	68	62	65	60	65	62	70	65	70
Emily Davis	20	88	80	90	85	82	85	78	82	88	85	72	75	80	78	82	75	80	78	85	80	85
James Wilson	32	70	65	75	70	68	70	62	65	70	68	55	60	62	58	60	55	60	58	65	60	65
Olivia Miller	27	85	78	88	82	75	80	72	78	85	82	65	70	72	68	70	65	70	68	75	70	75
Benjamin Moore	38	72	68	78	72	70	72	65	68	72	70	58	62	65	60	62	58	62	60	68	63	68
Charlotte Lee	24	80	75	85	80	78	80	72	75	80	78	62	65	70	68	70	62	65	68	75	70	75
William Taylor	31	68	62	72	68	65	68	60	62	68	65	52	55	58	50	55	52	55	50	60	55	60
Isabella White	26	88	82	92	88	85	88	80	85	90	88	70	75	80	78	82	75	80	78	85	80	85
Robert Harris	33	75	70	80	75	72	75	65	68	75	72	55	60	62	58	60	55	60	58	65	60	65
Maria Clark	29	82	75	88	82	78	80	72	75	85	82	65	70	72	68	70	65	70	68	75	70	75
Christopher King	36	70	65	75	70	68	70	62	65	70	68	55	60	62	58	60	55	60	58	65	60	65
Ava Green	23	85	78	88	82	75	80	72	78	85	82	65	70	72	68	70	65	70	68	75	70	75
Matthew Adams	34	65	60	70	65	62	65	55	58	65	62	50	52	55	48	50	48	50	45	55	50	55
Sophia Baker	21	80	75	85	80	78	80	72	75	80	78	62	65	70	68	70	62	65	68	75	70	75
Daniel Hall	37	72	68	78	72	70	72	65	68	72	70	58	62	65	60	62	58	62	60	68	63	68
Grace Young	26	88	82	92	88	85	88	80	85	90	88	70	75	80	78	82	75	80	78	85	80	85
Henry Scott	39	68	62	72	68	65	68	60	62	68	65	52	55	58	50	55	52	55	50	60	55	60
Lily King	24	85	78	88	82	75	80	72	78	85	82	65	70	72	68	70	65	70	68	75	70	75
Thomas Wright	32	70	65	75	70	68	70	62	65													

Low Density Residential Catchment Site Information	
Site Location	Orchid Rd, Old Guildford
Number of Completed Dwellings	
Number of Bus Stops	
Weather Conditions	Fine
Local Traffic Congestions/Incidents	
Home Based Businesses in Catchment	
Special Events in Vicinity of Site	
Traffic Surveyor Comments (eg. Local issues?, Roadworks?, Closed Areas?, Disability Access?, etc)	

Site Map



LOW DENSITY RESIDENTIAL TRIP GENERATION SURVEY													
Site Location:-		Orchid Rd, Old Guildford											
Survey Day/Date:-		Thursday, 2 June 2022											
Survey Period:-		6am-9am & 3:30pm-6:30pm											
Surveyors Name:-		L Ma											
Start Time	Cars				Bus				Pedestrians		Cyclists		
	Entering		Exiting		Entering		Exiting						
	Vehicles	Occupancy	Vehicles	Occupancy	Vehicles	Occupancy	Vehicles	Occupancy	Entering	Exiting	Entering	Exiting	
6:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	
6:15 AM	0	0	3	3	0	0	0	0	0	0	0	0	
6:30 AM	3	3	5	11	0	0	0	0	0	0	0	0	
6:45 AM	2	2	5	7	0	0	0	0	0	0	0	0	
7:00 AM	2	2	4	5	0	0	0	0	0	0	0	0	
7:15 AM	2	2	4	6	0	0	0	0	0	0	0	0	
7:30 AM	2	3	4	5	0	0	0	0	0	1	0	0	
7:45 AM	0	0	6	11	0	0	0	0	0	0	0	0	
8:00 AM	0	0	5	8	0	0	0	0	0	0	0	0	
8:15 AM	4	4	10	21	0	0	0	0	1	1	0	2	
8:30 AM	6	8	12	26	0	0	0	0	0	0	1	0	
8:45 AM	4	4	10	16	0	0	0	0	0	1	0	0	
3:30 PM	10	18	7	8	0	0	0	0	1	0	0	0	
3:45 PM	8	20	6	8	0	0	0	0	1	0	0	1	
4:00 PM	9	10	6	6	0	0	0	0	1	1	2	2	
4:15 PM	11	15	9	10	0	0	0	0	0	0	1	0	
4:30 PM	10	15	4	5	0	0	0	0	0	0	0	0	
4:45 PM	6	12	8	8	0	0	0	0	0	0	0	0	
5:00 PM	6	8	10	11	0	0	0	0	0	0	0	0	
5:15 PM	6	6	5	5	0	0	0	0	0	0	0	0	
5:30 PM	4	4	2	2	0	0	0	0	0	0	0	0	
5:45 PM	5	5	2	2	0	0	0	0	0	0	0	0	
6:00 PM	8	8	5	5	0	0	0	0	0	0	0	0	
6:15 PM	1	1	5	5	0	0	0	0	0	1	0	0	
AM Total	25	28	68	119	0	0	0	0	1	3	1	2	
PM Total	84	122	69	75	0	0	0	0	3	2	3	3	
Average Pax per Vehicle	1.12	AM	1.75										
	1.45	PM	1.09										



Site Location	Section 96, Old Guilford
Survey Date	08th May - 3rd June 2022
Survey Period	08 Hours
AM Peak Period	
PM Peak Period	



In Use Period	Monday - 10 July										Sund										Notes/Entry																																																																																																																																																																																																																																																																																																																																																																																																																																											
	0000	0005	0010	0015	0020	0025	0030	0035	0040	0045	0050	0055	0100	0105	0110	0115	0120	0125	0130	0135		0140	0145	0150	0155	0160	0165	0170	0175	0180	0185	0190	0195	0200	0205	0210	0215	0220	0225	0230	0235	0240	0245	0250	0255	0260	0265	0270	0275	0280	0285	0290	0295	0300	0305	0310	0315	0320	0325	0330	0335	0340	0345	0350	0355	0400	0405	0410	0415	0420	0425	0430	0435	0440	0445	0450	0455	0460	0465	0470	0475	0480	0485	0490	0495	0500	0505	0510	0515	0520	0525	0530	0535	0540	0545	0550	0555	0600	0605	0610	0615	0620	0625	0630	0635	0640	0645	0650	0655	0700	0705	0710	0715	0720	0725	0730	0735	0740	0745	0750	0755	0800	0805	0810	0815	0820	0825	0830	0835	0840	0845	0850	0855	0900	0905	0910	0915	0920	0925	0930	0935	0940	0945	0950	0955	1000	1005	1010	1015	1020	1025	1030	1035	1040	1045	1050	1055	1100	1105	1110	1115	1120	1125	1130	1135	1140	1145	1150	1155	1200	1205	1210	1215	1220	1225	1230	1235	1240	1245	1250	1255	1300	1305	1310	1315	1320	1325	1330	1335	1340	1345	1350	1355	1400	1405	1410	1415	1420	1425	1430	1435	1440	1445	1450	1455	1500	1505	1510	1515	1520	1525	1530	1535	1540	1545	1550	1555	1600	1605	1610	1615	1620	1625	1630	1635	1640	1645	1650	1655	1700	1705	1710	1715	1720	1725	1730	1735	1740	1745	1750	1755	1800	1805	1810	1815	1820	1825	1830	1835	1840	1845	1850	1855	1900	1905	1910	1915	1920	1925	1930	1935	1940	1945	1950	1955	2000	2005	2010	2015	2020	2025	2030	2035	2040	2045	2050	2055	2100	2105	2110	2115	2120	2125	2130	2135	2140	2145	2150	2155	2200	2205	2210	2215	2220	2225	2230	2235	2240	2245	2250	2255	2300	2305	2310	2315	2320	2325	2330	2335	2340	2345	2350	2355	2400	2405	2410	2415	2420	2425	2430	2435	2440	2445	2450	2455	2500	2505	2510	2515	2520	2525	2530	2535	2540	2545	2550	2555	2600	2605	2610	2615	2620	2625	2630	2635	2640	2645	2650	2655	2700	2705	2710	2715	2720	2725	2730	2735	2740	2745	2750	2755	2800	2805	2810	2815	2820	2825	2830	2835	2840	2845	2850	2855	2900	2905	2910	2915	2920	2925	2930	2935	2940	2945	2950	2955	3000	3005	3010	3015	3020	3025	3030	3035	3040	3045	3050	3055	3100	3105	3110	3115	3120	3125	3130	3135	3140	3145	3150	3155	3200	3205	3210	3215	3220	3225	3230	3235	3240	3245	3250	3255	3300	3305	3310	3315	3320	3325	3330	3335	3340	3345	3350	3355	3400	3405	3410	3415	3420	3425	3430	3435	3440	3445	3450	3455	3500	3505	3510

Table 10: May 2022									
WED									
10-15 min Period	CH01	CH02	CH03	CH04	CH05	CH06	CH07	CH08	CH09
10:00-10:15	0	0	0	0	0	0	0	0	0
10:15-10:30	0	0	0	0	0	0	0	0	0
10:30-10:45	0	0	0	0	0	0	0	0	0
10:45-11:00	0	0	0	0	0	0	0	0	0
11:00-11:15	0	0	0	0	0	0	0	0	0
11:15-11:30	0	0	0	0	0	0	0	0	0
11:30-11:45	0	0	0	0	0	0	0	0	0
11:45-12:00	0	0	0	0	0	0	0	0	0
12:00-12:15	0	0	0	0	0	0	0	0	0
12:15-12:30	0	0	0	0	0	0	0	0	0
12:30-12:45	0	0	0	0	0	0	0	0	0
12:45-1:00	0	0	0	0	0	0	0	0	0
1:00-1:15	0	0	0	0	0	0	0	0	0
1:15-1:30	0	0	0	0	0	0	0	0	0
1:30-1:45	0	0	0	0	0	0	0	0	0
1:45-2:00	0	0	0	0	0	0	0	0	0
2:00-2:15	0	0	0	0	0	0	0	0	0
2:15-2:30	0	0	0	0	0	0	0	0	0
2:30-2:45	0	0	0	0	0	0	0	0	0
2:45-3:00	0	0	0	0	0	0	0	0	0
3:00-3:15	0	0	0	0	0	0	0	0	0
3:15-3:30	0	0	0	0	0	0	0	0	0
3:30-3:45	0	0	0	0	0	0	0	0	0
3:45-4:00	0	0	0	0	0	0	0	0	0
4:00-4:15	0	0	0	0	0	0	0	0	0
4:15-4:30	0	0	0	0	0	0	0	0	0
4:30-4:45	0	0	0	0	0	0	0	0	0
4:45-5:00	0	0	0	0	0	0	0	0	0
5:00-5:15	0	0	0	0	0	0	0	0	0
5:15-5:30	0	0	0	0	0	0	0	0	0
5:30-5:45	0	0	0	0	0	0	0	0	0
5:45-6:00	0	0	0	0	0	0	0	0	0
6:00-6:15	0	0	0	0	0	0	0	0	0
6:15-6:30	0	0	0	0	0	0	0	0	0
6:30-6:45	0	0	0	0	0	0	0	0	0
6:45-7:00	0	0	0	0	0	0	0	0	0
7:00-7:15	0	0	0	0	0	0	0	0	0
7:15-7:30	0	0	0	0	0	0	0	0	0
7:30-7:45	0	0	0	0	0	0	0	0	0
7:45-8:00	0	0	0	0	0	0	0	0	0
8:00-8:15	0	0	0	0	0	0	0	0	0
8:15-8:30	0	0	0	0	0	0	0	0	0
8:30-8:45	0	0	0	0	0	0	0	0	0
8:45-9:00	0	0	0	0	0	0	0	0	0
9:00-9:15	0	0	0	0	0	0	0	0	0
9:15-9:30	0	0	0	0	0	0	0	0	0
9:30-9:45	0	0	0	0	0	0	0	0	0
9:45-10:00	0	0	0	0	0	0	0	0	0
10:00-10:15	0	0	0	0	0	0	0	0	0
10:15-10:30	0	0	0	0	0	0	0	0	0
10:30-10:45	0	0	0	0	0	0	0	0	0
10:45-11:00	0	0	0	0	0	0	0	0	0
11:00-11:15	0	0	0	0	0	0	0	0	0
11:15-11:30	0	0	0	0	0	0	0	0	0
11:30-11:45	0	0	0	0					

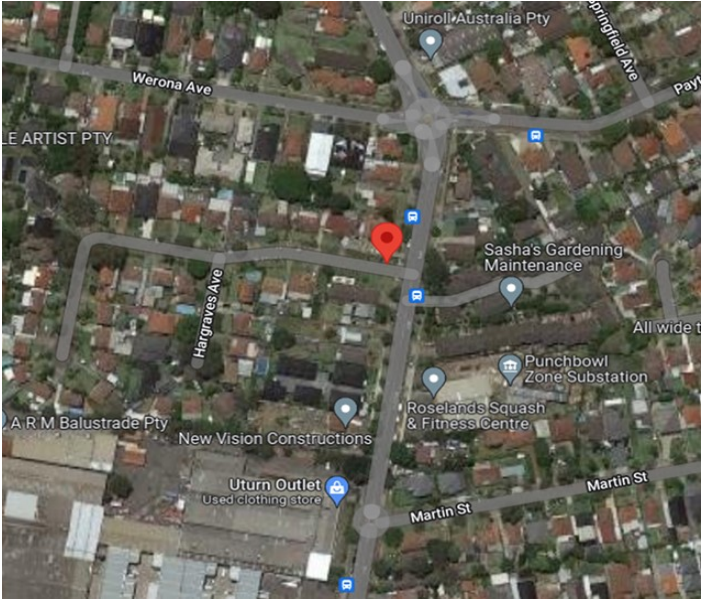
10-14-2014		Sun										Mon										Tue										Wed										Thu										Fri										Sat																																																																																																																																																																																																																																																																																																																																																																																													
		0000	0005	0010	0015	0020	0025	0030	0035	0040	0045	0050	0055	0100	0105	0110	0115	0120	0125	0130	0135	0140	0145	0150	0155	0200	0205	0210	0215	0220	0225	0230	0235	0240	0245	0250	0255	0300	0305	0310	0315	0320	0325	0330	0335	0340	0345	0350	0355	0400	0405	0410	0415	0420	0425	0430	0435	0440	0445	0450	0455	0500	0505	0510	0515	0520	0525	0530	0535	0540	0545	0550	0555	0600	0605	0610	0615	0620	0625	0630	0635	0640	0645	0650	0655	0700	0705	0710	0715	0720	0725	0730	0735	0740	0745	0750	0755	0800	0805	0810	0815	0820	0825	0830	0835	0840	0845	0850	0855	0900	0905	0910	0915	0920	0925	0930	0935	0940	0945	0950	0955	1000	1005	1010	1015	1020	1025	1030	1035	1040	1045	1050	1055	1100	1105	1110	1115	1120	1125	1130	1135	1140	1145	1150	1155	1200	1205	1210	1215	1220	1225	1230	1235	1240	1245	1250	1255	1300	1305	1310	1315	1320	1325	1330	1335	1340	1345	1350	1355	1400	1405	1410	1415	1420	1425	1430	1435	1440	1445	1450	1455	1500	1505	1510	1515	1520	1525	1530	1535	1540	1545	1550	1555	1600	1605	1610	1615	1620	1625	1630	1635	1640	1645	1650	1655	1700	1705	1710	1715	1720	1725	1730	1735	1740	1745	1750	1755	1800	1805	1810	1815	1820	1825	1830	1835	1840	1845	1850	1855	1900	1905	1910	1915	1920	1925	1930	1935	1940	1945	1950	1955	2000	2005	2010	2015	2020	2025	2030	2035	2040	2045	2050	2055	2100	2105	2110	2115	2120	2125	2130	2135	2140	2145	2150	2155	2200	2205	2210	2215	2220	2225	2230	2235	2240	2245	2250	2255	2300	2305	2310	2315	2320	2325	2330	2335	2340	2345	2350	2355	2400	2405	2410	2415	2420	2425	2430	2435	2440	2445	2450	2455	2500	2505	2510	2515	2520	2525	2530	2535	2540	2545	2550	2555	2600	2605	2610	2615	2620	2625	2630	2635	2640	2645	2650	2655	2700	2705	2710	2715	2720	2725	2730	2735	2740	2745	2750	2755	2800	2805	2810	2815	2820	2825	2830	2835	2840	2845	2850	2855	2900	2905	2910	2915	2920	2925	2930	2935	2940	2945	2950	2955	3000	3005	3010	3015	3020	3025	3030	3035	3040	3045	3050	3055	3100	3105	3110	3115	3120	3125	3130	3135	3140	3145	3150	3155	3200	3205	3210	3215	3220	3225	3230	3235	3240	3245	3250	3255	3300	3305	3310	3315	3320	3325	3330	3335	3340	3345	3350	3355	3400	3405	3410	3415	3420	3425	3430	3435	3440	3445	3450	3455	3500	3505	3510	3515	3520	3525	3530	3535	3540	3545	3550	3555	3600	3605	3610	3615	3620	3625	3630	3635	3640	3645

In the Period		Month												Year												Average Year						
		2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030							
2007-01-01	2007-01-01	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
2007-01-02	2007-01-02	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
2007-01-03	2007-01-03	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33
2007-01-04	2007-01-04	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34
2007-01-05	2007-01-05	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35
2007-01-06	2007-01-06	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36
2007-01-07	2007-01-07	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37
2007-01-08	2007-01-08	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38
2007-01-09	2007-01-09	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39
2007-01-10	2007-01-10	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
2007-01-11	2007-01-11	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
2007-01-12	2007-01-12	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42
2007-01-13	2007-01-13	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43
2007-01-14	2007-01-14	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44
2007-01-15	2007-01-15	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45
2007-01-16	2007-01-16	16	17	18	19	20	21	22	23	24	25																					

[illegible]

Low Density Residential Catchment Site Information	
Site Location	Patrick St, Punchbowl
Number of Completed Dwellings	
Number of Bus Stops	
Weather Conditions	Fine
Local Traffic Congestions/Incidents	
Home Based Businesses in Catchment	
Special Events in Vicinity of Site	
Traffic Surveyor Comments (eg. Local issues?, Roadworks?, Closed Areas?, Disability Access?, etc)	

Site Map



LOW DENSITY RESIDENTIAL TRIP GENERATION SURVEY												
Site Location:-		Patrick St, Punchbowl										
Survey Day/Date:-		Wednesday, 1 June 2022										
Survey Period:-		6am-9am & 3:30pm-6:30pm										
Surveyors Name:-		J Li										
Start Time	Cars				Bus				Pedestrians		Cyclists	
	Entering		Exiting		Entering		Exiting					
	Vehicles	Occupancy	Vehicles	Occupancy	Vehicles	Occupancy	Vehicles	Occupancy	Entering	Exiting	Entering	Exiting
6:00 AM	0	0	6	6	0	0	0	0	0	0	0	0
6:15 AM	1	1	1	1	0	0	0	0	0	0	0	0
6:30 AM	3	4	2	2	0	0	0	0	0	0	0	0
6:45 AM	1	1	5	5	0	0	0	0	0	0	0	0
7:00 AM	1	1	2	2	0	0	0	0	0	0	0	0
7:15 AM	1	1	0	0	0	0	0	0	0	0	0	0
7:30 AM	2	2	7	8	0	0	0	0	0	0	0	0
7:45 AM	1	1	2	2	0	0	0	0	0	0	0	0
8:00 AM	1	1	6	8	0	0	0	0	0	0	0	0
8:15 AM	2	2	8	15	0	0	0	0	0	0	0	0
8:30 AM	1	1	6	15	0	0	0	0	0	0	0	0
8:45 AM	5	5	2	4	0	0	0	0	0	0	0	0
3:30 PM	7	11	4	4	0	0	0	0	0	0	0	0
3:45 PM	10	21	1	1	0	0	0	0	0	0	0	0
4:00 PM	3	4	2	2	0	0	0	0	0	0	0	0
4:15 PM	3	3	1	1	0	0	0	0	0	0	0	0
4:30 PM	8	9	3	3	0	0	0	0	0	1	0	0
4:45 PM	4	5	4	4	0	0	0	0	1	1	0	0
5:00 PM	2	3	8	10	0	0	0	0	1	0	0	0
5:15 PM	4	4	4	5	0	0	0	0	0	0	0	0
5:30 PM	4	4	1	2	0	0	0	0	1	0	0	0
5:45 PM	2	2	0	0	0	0	0	0	0	0	0	1
6:00 PM	3	4	6	8	0	0	0	0	0	0	0	0
6:15 PM	7	9	4	4	0	0	0	0	0	0	0	0
AM Total	19	20	47	68	0	0	0	0	0	0	0	0
PM Total	57	79	38	44	0	0	0	0	3	2	0	1
Average Pax per Vehicle	1.05	AM	1.45									
	1.39	PM	1.16									



Low Density Residential Catchment Site Information	
Site Location	Portmadoc Drive, Menai
Number of Completed Dwellings	
Number of Bus Stops	
Weather Conditions	Fine
Local Traffic Congestions/Incidents	
Home Based Businesses in Catchment	
Special Events in Vicinity of Site	
Traffic Surveyor Comments (eg. Local issues?, Roadworks?, Closed Areas?, Disability Access?, etc)	

Site Map



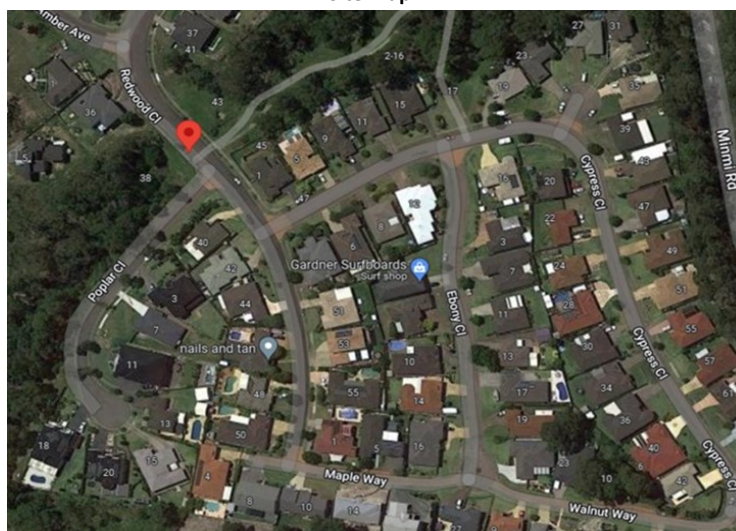
LOW DENSITY RESIDENTIAL TRIP GENERATION SURVEY												
Site Location:-		Portmadoc Dr, Menai										
Survey Day/Date:-		Tuesday 7th June 2022										
Survey Period:-		6am-9am & 3:30pm-6:30pm										
Surveyors Name:-		J Li										
Start Time	Cars				Bus				Pedestrians		Cyclists	
	Entering		Exiting		Entering		Exiting		Entering	Exiting	Entering	Exiting
	Vehicles	Occupancy	Vehicles	Occupancy	Vehicles	Occupancy	Vehicles	Occupancy				
6:00 AM	8	10	7	9	0	0	0	0	1	1	0	0
6:15 AM	4	5	7	10	0	0	0	0	1	3	0	0
6:30 AM	3	4	12	18	0	0	0	0	0	2	0	0
6:45 AM	8	12	42	80	0	0	0	0	4	4	1	0
7:00 AM	8	13	21	35	0	0	0	0	0	3	0	0
7:15 AM	10	17	37	59	0	0	0	0	1	3	0	0
7:30 AM	11	15	48	76	0	0	0	0	1	1	0	0
7:45 AM	12	20	42	76	0	0	0	0	1	1	0	0
8:00 AM	10	14	36	67	0	0	0	0	0	1	0	0
8:15 AM	14	19	49	91	2	15	1	2	0	1	0	0
8:30 AM	17	22	26	46	0	0	1	4	3	0	0	0
8:45 AM	11	14	18	29	0	0	0	0	2	0	0	0
3:30 PM	23	42	22	39	2	18	2	14	6	4	0	0
3:45 PM	23	37	23	39	1	5	1	9	6	2	0	0
4:00 PM	24	43	16	26	0	0	0	0	1	2	0	0
4:15 PM	30	48	24	37	0	0	0	0	3	1	0	0
4:30 PM	44	73	18	26	0	0	0	0	1	3	3	0
4:45 PM	38	60	18	28	0	0	0	0	2	1	0	0
5:00 PM	32	43	20	29	0	0	0	0	1	2	0	0
5:15 PM	32	49	18	24	0	0	0	0	2	4	0	0
5:30 PM	37	53	19	25	0	0	0	0	1	1	0	0
5:45 PM	28	36	16	22	0	0	0	0	1	0	0	0
6:00 PM	38	51	17	26	0	0	0	0	0	2	0	0
6:15 PM	26	35	15	20	0	0	0	0	0	0	0	0
AM Total	116	165	345	596	2	15	2	6	14	20	1	0
PM Total	375	570	226	341	3	23	3	23	24	22	3	0
Average Pax per Vehicle		1.42	AM	1.73	Average Pax per Bus		7.50	AM	3.00			
		1.52	PM	1.51			7.67	PM	7.67			

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Name	Age	Team										Total
		Team 1	Team 2	Team 3	Team 4	Team 5	Team 6	Team 7	Team 8	Team 9	Team 10	
Player 1	25	10	15	20	25	30	35	40	45	50	55	300
Player 2	26	12	18	22	28	32	38	42	48	52	58	310
Player 3	27	14	20	24	30	34	40	44	50	54	60	320
Player 4	28	16	22	26	32	36	42	46	52	56	62	330
Player 5	29	18	24	28	34	38	44	48	54	58	64	340
Player 6	30	20	26	30	36	40	46	50	56	60	66	350
Player 7	31	22	28	32	38	42	48	52	58	62	68	360
Player 8	32	24	30	34	40	44	50	54	60	64	70	370
Player 9	33	26	32	36	42	46	52	56	62	66	72	380
Player 10	34	28	34	38	44	48	54	58	64	68	74	390
Player 11	35	30	36	40	46	50	56	60	66	70	76	400
Player 12	36	32	38	42	48	52	58	62	68	72	78	410
Player 13	37	34	40	44	50	54	60	64	70	74	80	420
Player 14	38	36	42	46	52	56	62	66	72	76	82	430
Player 15	39	38	44	48	54	58	64	68	74	78	84	440
Player 16	40	40	46	50	56	60	66	70	76	80	86	450
Player 17	41	42	48	52	58	62	68	72	78	82	88	460
Player 18	42	44	50	54	60	64	70	74	80	84	90	470
Player 19	43	46	52	56	62	66	72	76	82	86	92	480
Player 20	44	48	54	58	64	68	74	78	84	88	94	490
Player 21	45	50	56	60	66	70	76	80	86	90	96	500
Player 22	46	52	58	62	68	72	78	82	88	92	98	510
Player 23	47	54	60	64	70	74	80	84	90	94	100	520
Player 24	48	56	62	66	72	76	82	86	92	96	102	530
Player 25	49	58	64	68	74	78	84	88	94	98	104	540
Player 26	50	60	66	70	76	80	86	90	96	100	106	550
Player 27	51	62	68	72	78	82	88	92	98	102	108	560
Player 28	52	64	70	74	80	84	90	94	100	104	110	570
Player 29	53	66	72	76	82	86	92	96	102	106	112	580
Player 30	54	68	74	78	84	88	94	98	104	108	114	590
Player 31	55	70	76	80	86	90	96	100	106	110	116	600
Player 32	56	72	78	82	88	92	98	102	108	112	118	610
Player 33	57	74	80	84	90	94	100	104	110	114	120	620
Player 34	58	76	82	86	92	96	102	106	112	116	122	630
Player 35	59	78	84	88	94	98	104	108	114	118	124	640
Player 36	60	80	86	90	96	100	106	110	116	120	126	650
Player 37	61	82	88	92	98	102	108	112	118	122	128	660
Player 38	62	84	90	94	100	104	110	114	120	124	130	670
Player 39	63	86	92	96	102	106	112	116	122	126	132	680
Player 40	6											

Low Density Residential Catchment Site Information	
Site Location	Redwood Cl, Fletcher
Number of Completed Dwellings	
Number of Bus Stops	
Weather Conditions	Fine
Local Traffic Congestions/Incidents	
Home Based Businesses in Catchment	
Special Events in Vicinity of Site	
Traffic Surveyor Comments (eg. Local issues?, Roadworks?, Closed Areas?, Disability Access?, etc)	

Site Map



LOW DENSITY RESIDENTIAL TRIP GENERATION SURVEY												
Site Location:-		Redwood Close, Fletcher										
Survey Day/Date:-		Wednesday, 1 June 2022										
Survey Period:-		6am-9am & 3:30pm-6:30pm										
Surveyors Name:-		S Greentree										
Start Time	Cars				Bus				Pedestrians		Cyclists	
	Entering		Exiting		Entering		Exiting					
	Vehicles	Occupancy	Vehicles	Occupancy	Vehicles	Occupancy	Vehicles	Occupancy	Entering	Exiting	Entering	Exiting
6:00 AM	0	0	2	2	0	0	0	0	0	0	0	0
6:15 AM	3	3	6	6	0	0	0	0	0	1	1	0
6:30 AM	1	1	10	11	0	0	0	0	1	2	0	0
6:45 AM	0	0	5	6	0	0	0	0	0	0	0	0
7:00 AM	4	4	6	6	0	0	0	0	0	0	0	0
7:15 AM	3	3	10	11	0	0	0	0	1	1	0	0
7:30 AM	3	3	8	10	0	0	0	0	1	0	0	0
7:45 AM	1	1	10	12	0	0	0	0	0	0	0	0
8:00 AM	4	5	9	11	0	0	0	0	0	0	0	0
8:15 AM	4	4	9	13	0	0	0	0	0	0	0	0
8:30 AM	2	3	13	19	0	0	0	0	1	0	0	0
8:45 AM	8	8	8	11	0	0	0	0	0	0	0	0
3:30 PM	8	11	2	3	0	0	0	0	0	1	0	1
3:45 PM	8	12	5	7	0	0	0	0	0	2	0	0
4:00 PM	6	6	11	13	0	0	0	0	0	0	0	1
4:15 PM	10	13	7	8	0	0	0	0	0	0	0	0
4:30 PM	6	6	3	3	0	0	0	0	0	0	0	0
4:45 PM	11	14	7	9	0	0	0	0	0	0	0	0
5:00 PM	14	17	7	11	0	0	0	0	0	0	0	0
5:15 PM	7	7	3	5	0	0	0	0	0	0	0	0
5:30 PM	15	16	6	7	0	0	0	0	0	0	0	0
5:45 PM	6	7	0	0	0	0	0	0	1	0	0	0
6:00 PM	6	7	4	5	0	0	0	0	0	0	0	0
6:15 PM	6	6	3	4	0	0	0	0	0	1	0	0
AM Total	33	35	96	118	0	0	0	0	4	4	1	0
PM Total	103	122	58	75	0	0	0	0	1	4	0	2
Average Pax per Vehicle	1.06	AM	1.23									
	1.18	PM	1.29									

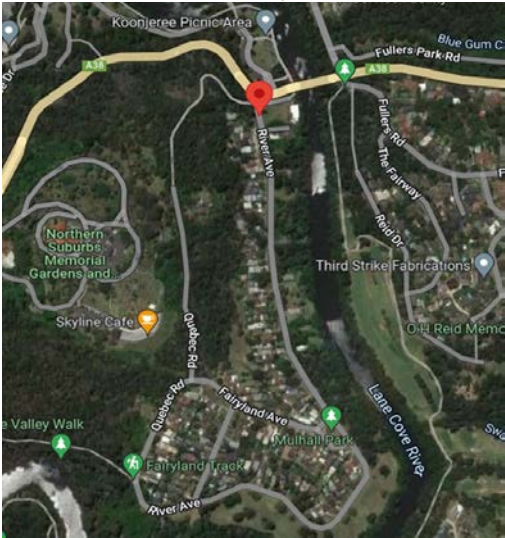


***TDC**
TDC Data & Control

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Low Density Residential Catchment Site Information	
Site Location	River Ave, Chatswood West
Number of Completed Dwellings	
Number of Bus Stops	
Weather Conditions	Fine
Local Traffic Congestions/Incidents	
Home Based Businesses in Catchment	
Special Events in Vicinity of Site	
Traffic Surveyor Comments (eg. Local issues?, Roadworks?, Closed Areas?, Disability Access?, etc)	

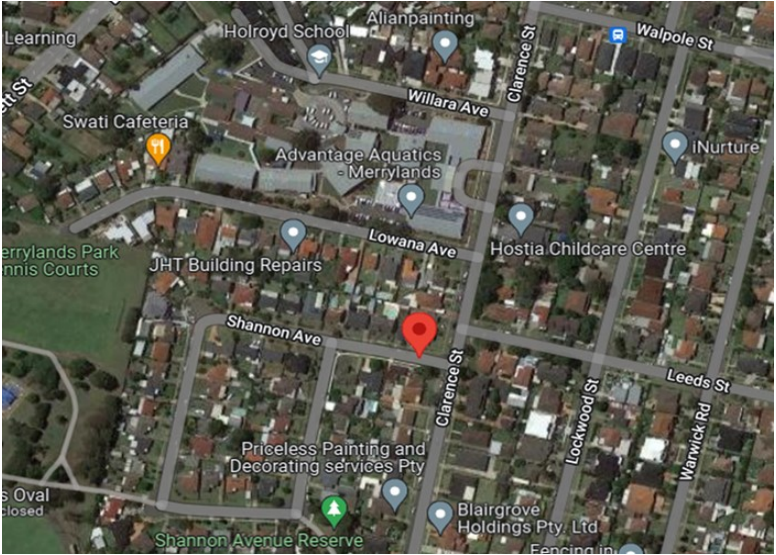
Site Map



LOW DENSITY RESIDENTIAL TRIP GENERATION SURVEY												
Site Location:-		River Ave, Chatswood West										
Survey Day/Date:-		Wednesday, 1 June 2022										
Survey Period:-		6am-9am & 3:30pm-6:30pm										
Surveyors Name:-		T Norman										
Start Time	Cars				Bus				Pedestrians		Cyclists	
	Entering		Exiting		Entering		Exiting					
	Vehicles	Occupancy	Vehicles	Occupancy	Vehicles	Occupancy	Vehicles	Occupancy	Entering	Exiting	Entering	Exiting
6:00 AM	0	0	3	3	0	0	0	0	2	1	0	0
6:15 AM	0	0	1	1	0	0	0	0	0	0	0	0
6:30 AM	0	0	2	3	0	0	0	0	0	0	0	0
6:45 AM	3	4	8	9	0	0	0	0	0	2	0	0
7:00 AM	5	5	4	4	0	0	0	0	1	1	0	0
7:15 AM	2	4	10	10	1	1	1	1	3	1	0	0
7:30 AM	8	8	6	6	0	0	0	0	1	1	0	0
7:45 AM	2	2	10	14	1	1	1	2	1	1	0	0
8:00 AM	4	4	16	20	0	0	0	0	2	1	0	0
8:15 AM	6	7	6	10	1	1	1	1	0	0	0	0
8:30 AM	5	6	14	24	0	0	0	0	0	1	0	0
8:45 AM	6	6	12	16	0	0	0	0	0	3	0	0
3:30 PM	10	11	10	10	1	1	1	1	3	1	1	0
3:45 PM	7	10	11	11	0	0	0	0	1	0	0	0
4:00 PM	5	6	3	4	0	0	0	0	0	3	0	0
4:15 PM	10	11	4	4	0	0	0	0	3	0	0	0
4:30 PM	4	4	3	3	1	1	1	2	1	4	0	0
4:45 PM	6	6	2	2	0	0	0	0	0	1	0	0
5:00 PM	5	7	6	6	0	0	0	0	2	0	0	0
5:15 PM	7	8	3	3	0	0	0	0	0	0	0	0
5:30 PM	8	8	5	5	1	2	1	1	0	0	0	0
5:45 PM	8	8	3	3	0	0	0	0	1	0	0	0
6:00 PM	9	9	1	1	0	0	0	0	1	0	0	0
6:15 PM	10	10	7	7	0	0	0	0	1	1	0	0
AM Total	41	46	92	120	3	3	3	4	10	12	0	0
PM Total	89	98	58	59	3	4	3	4	13	10	1	0
Average Pax per Vehicle	1.12	AM	1.30	Average Pax per Bus	1.00	AM	1.33					
	1.10	PM	1.02		1.33	PM	1.33					

Low Density Residential Catchment Site Information	
Site Location	Shannon Ave, Merrylands
Number of Completed Dwellings	
Number of Bus Stops	
Weather Conditions	Fine
Local Traffic Congestions/Incidents	
Home Based Businesses in Catchment	
Special Events in Vicinity of Site	
Traffic Surveyor Comments (eg. Local issues?, Roadworks?, Closed Areas?, Disability Access?, etc)	

Site Map



LOW DENSITY RESIDENTIAL TRIP GENERATION SURVEY												
Site Location:-		Shannon Ave, Merrylands										
Survey Day/Date:-		Wednesday, 1 June 2022										
Survey Period:-		6am-9am & 3:30pm-6:30pm										
Surveyors Name:-		L Ma										
Start Time	Cars				Bus				Pedestrians		Cyclists	
	Entering		Exiting		Entering		Exiting		Entering	Exiting	Entering	Exiting
	Vehicles	Occupancy	Vehicles	Occupancy	Vehicles	Occupancy	Vehicles	Occupancy				
6:00 AM	0	0	4	4	0	0	0	0	0	0	0	0
6:15 AM	2	2	4	4	0	0	0	0	0	0	0	0
6:30 AM	0	0	1	1	0	0	0	0	0	0	0	0
6:45 AM	0	0	4	4	0	0	0	0	0	0	0	0
7:00 AM	0	0	4	4	0	0	0	0	1	1	0	0
7:15 AM	0	0	4	4	0	0	0	0	0	3	0	0
7:30 AM	2	2	4	6	0	0	0	0	0	0	0	0
7:45 AM	1	1	4	8	0	0	0	0	0	0	0	0
8:00 AM	1	1	2	5	0	0	0	0	0	2	0	0
8:15 AM	2	2	10	11	0	0	0	0	0	0	0	0
8:30 AM	3	3	7	8	0	0	0	0	0	0	0	0
8:45 AM	2	2	3	4	0	0	0	0	0	0	0	0
3:30 PM	7	12	9	12	0	0	0	0	0	0	0	0
3:45 PM	4	5	2	2	0	0	0	0	0	1	0	0
4:00 PM	4	5	4	4	0	0	0	0	0	1	0	0
4:15 PM	3	3	3	4	0	0	0	0	1	1	0	0
4:30 PM	0	0	2	3	0	0	0	0	1	0	0	0
4:45 PM	2	2	4	6	0	0	0	0	1	0	0	0
5:00 PM	3	3	5	5	0	0	0	0	1	2	0	0
5:15 PM	3	3	4	5	0	0	0	0	0	2	0	0
5:30 PM	5	5	5	5	0	0	0	0	1	0	0	0
5:45 PM	1	1	2	2	0	0	0	0	0	1	0	0
6:00 PM	6	6	3	4	0	0	0	0	0	0	0	0
6:15 PM	3	3	3	3	0	0	0	0	1	0	0	0
AM Total	13	13	51	63	0	0	0	0	1	6	0	0
PM Total	41	48	46	55	0	0	0	0	6	8	0	0
Average Pax per Vehicle		1.00	AM	1.24								
		1.17	PM	1.20								



***TDC**
Traffic Data Center

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Low Density Residential Catchment Site Information	
Site Location	Austin St, Illawong
Number of Completed Dwellings	
Number of Bus Stops	
Weather Conditions	Fine
Local Traffic Congestions/Incidents	
Home Based Businesses in Catchment	
Special Events in Vicinity of Site	
Traffic Surveyor Comments (eg. Local issues?, Roadworks?, Closed Areas?, Disability Access?, etc)	

Site Map

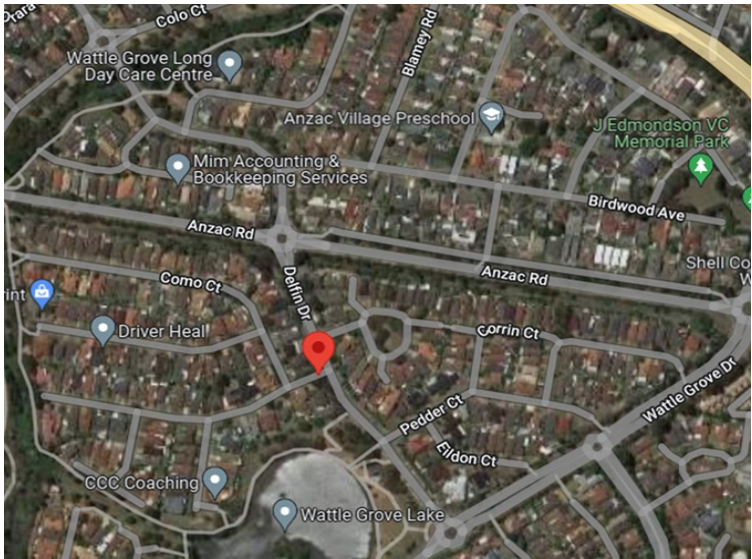


LOW DENSITY RESIDENTIAL TRIP GENERATION SURVEY												
Site Location:-		Austin St, Illawong										
Survey Day/Date:-		Thursday 2nd June 2022										
Survey Period:-		6am - 9am & 3:30pm - 6:30pm										
Surveyors Name:-		M Fletcher										
Start Time	Cars				Bus				Pedestrians		Cyclists	
	Entering		Exiting		Entering		Exiting		Entering	Exiting	Entering	Exiting
	Vehicles	Occupancy	Vehicles	Occupancy	Vehicles	Occupancy	Vehicles	Occupancy				
6:00 AM	0	0	7	7	0	0	0	0	0	0	0	0
6:15 AM	0	0	12	12	0	0	0	0	0	0	0	0
6:30 AM	3	3	15	15	0	0	0	0	0	4	0	0
6:45 AM	7	8	23	25	0	0	0	0	0	0	0	0
7:00 AM	9	9	15	17	0	0	0	0	1	0	0	0
7:15 AM	6	7	21	24	0	0	0	0	0	1	0	0
7:30 AM	3	3	25	32	0	0	0	0	1	1	0	0
7:45 AM	12	12	32	51	0	0	0	0	0	2	0	0
8:00 AM	8	11	25	39	0	0	0	0	2	3	0	0
8:15 AM	16	16	19	26	0	0	0	0	1	7	0	0
8:30 AM	20	21	34	47	0	0	0	0	1	2	0	0
8:45 AM	11	12	24	47	0	0	0	0	4	5	0	0
3:30 PM	24	32	20	20	0	0	0	0	4	1	0	0
3:45 PM	28	35	19	21	0	0	0	0	0	4	0	0
4:00 PM	16	19	11	12	0	0	0	0	0	2	0	0
4:15 PM	26	31	7	11	0	0	0	0	2	6	0	0
4:30 PM	24	29	11	11	0	0	0	0	1	2	0	0
4:45 PM	21	24	19	20	0	0	0	0	6	0	0	0
5:00 PM	23	23	14	14	0	0	0	0	0	0	0	0
5:15 PM	27	27	14	14	0	0	0	0	1	0	0	0
5:30 PM	22	22	13	13	0	0	0	0	0	0	0	0
5:45 PM	22	22	13	13	0	0	0	0	0	0	0	0
6:00 PM	22	22	18	18	0	0	0	0	0	0	0	0
6:15 PM	26	26	17	17	0	0	0	0	0	0	0	0
AM Total	95	102	252	342	0	0	0	0	10	25	0	0
PM Total	281	312	176	184	0	0	0	0	14	15	0	0
Average Pax per Vehicle												
		1.07	AM	1.36								
		1.11	PM	1.05								



Low Density Residential Catchment Site Information	
Site Location	Castle Rock Court, Wattle Grove
Number of Completed Dwellings	
Number of Bus Stops	
Weather Conditions	Fine
Local Traffic Congestions/Incidents	
Home Based Businesses in Catchment	
Special Events in Vicinity of Site	
Traffic Surveyor Comments (eg. Local issues?, Roadworks?, Closed Areas?, Disability Access?, etc)	

Site Map



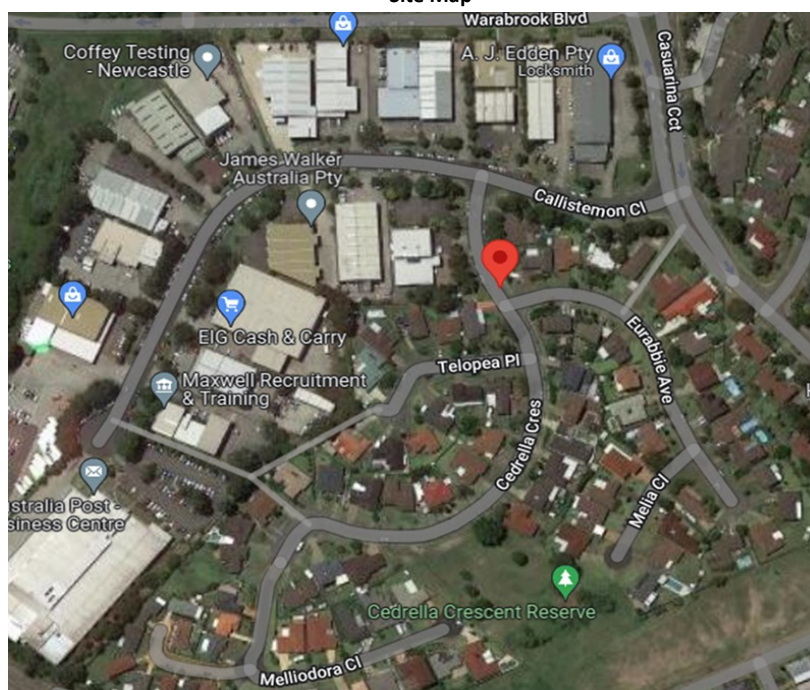
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[illegible]

Low Density Residential Catchment Site Information	
Site Location	Cedrella Crescent, Warabrook
Number of Completed Dwellings	
Number of Bus Stops	
Weather Conditions	Fine
Local Traffic Congestions/Incidents	
Home Based Businesses in Catchment	
Special Events in Vicinity of Site	
Traffic Surveyor Comments (eg. Local issues?, Roadworks?, Closed Areas?, Disability Access?, etc)	

Site Map



[illegible]

TDC
Traffic Data & Control

[illegible]

Category	Region A										Region B										Total
	Sub-A1	Sub-A2	Sub-A3	Sub-A4	Sub-A5	Sub-A6	Sub-A7	Sub-A8	Sub-A9	Sub-A10	Sub-B1	Sub-B2	Sub-B3	Sub-B4	Sub-B5	Sub-B6	Sub-B7	Sub-B8	Sub-B9	Sub-B10	
Category 1	10	20	30	40	50	60	70	80	90	100	110	120	130	140	150	160	170	180	190	200	1000
Category 2	15	25	35	45	55	65	75	85	95	105	115	125	135	145	155	165	175	185	195	205	1050
Category 3	20	30	40	50	60	70	80	90	100	110	120	130	140	150	160	170	180	190	200	210	1100
Category 4	25	35	45	55	65	75	85	95	105	115	125	135	145	155	165	175	185	195	205	215	1150
Category 5	30	40	50	60	70	80	90	100	110	120	130	140	150	160	170	180	190	200	210	220	1200
Category 6	35	45	55	65	75	85	95	105	115	125	135	145	155	165	175	185	195	205	215	225	1250
Category 7	40	50	60	70	80	90	100	110	120	130	140	150	160	170	180	190	200	210	220	230	1300
Category 8	45	55	65	75	85	95	105	115	125	135	145	155	165	175	185	195	205	215	225	235	1350
Category 9	50	60	70	80	90	100	110	120	130	140	150	160	170	180	190	200	210	220	230	240	1400
Category 10	55	65	75	85	95	105	115	125	135	145	155	165	175	185	195	205	215	225	235	245	1450
Category 11	60	70	80	90	100	110	120	130	140	150	160	170	180	190	200	210	220	230	240	250	1500
Category 12	65	75	85	95	105	115	125	135	145	155	165	175	185	195	205	215	225	235	245	255	1550
Category 13	70	80	90	100	110	120	130	140	150	160	170	180	190	200	210	220	230	240	250	260	1600
Category 14	75	85	95	105	115	125	135	145	155	165	175	185	195	205	215	225	235	245	255	265	1650
Category 15	80	90	100	110	120	130	140	150	160	170	180	190	200	210	220	230	240	250	260	270	1700
Category 16	85	95	105	115	125	135	145	155	165	175	185	195	205	215	225	235	245	255	265	275	1750
Category 17	90	100	110	120	130	140	150	160	170	180	190	200	210	220	230	240	250	260	270	280	1800
Category 18	95	105	115	125	135	145	155	165	175	185	195	205	215	225	235	245	255	265	275	285	1850
Category 19	100	110	120	130	140	150	160	170	180	190	200	210	220	230	240	250	260	270	280	290	1900
Category 20	105	115	125	135	145	155	165	175	185	195	205	215	225	235	245	255	265	275	285	295	1950
Category 21	110	120	130	140	150	160	170	180	190	200	210	220	230	240	250	260	270	280	290	300	2000
Category 22	115	125	135	145	155	165	175	185	195	205	215	225	235	245	255	265	275	285	295	305	2050
Category 23	120	130	140	150	160	170	180	190	200	210	220	230	240	250	260	270	280	290	300	310	2100
Category 24	125	135	145	155	165	175	185	195	205	215	225	235	245	255	265	275	285	295	305	315	2150
Category 25	130	140	150	160	170	180	190	200	210	220	230	240	250	260	270	280	290	300	310	320	2200
Category 26	135	145	155	165	175	185	195	205	215	225	235	245	255	265	275	285	295	305	315	325	2250
Category 27	140	150	160	170	180	190	200	210	220	230	240	250	260	270	280	290	300	310	320	330	2300
Category 28	145	155	165	175	185	195	205	215	225	235	245	255	265	275	285	295	305	315	325	335	2350
Category 29	150	160	170	180	190	200	210	220	230	240	250	260	270	280	290	300	310	320	330	340	2400
Category 30	155	165	175	185	195	205	215	225	235	245	255	265	275	285	295	305	315	325	335	345	2450
Category 31	160	170	180	190	200	210	220	230	240	250	260	270	280	290	300	310	320	330	340	350	2500
Category 32	165	175	185	195	205	215	225	235	245	255	265	275	285	295	305	315	325	335	345	355	2550
Category 33	170	180	190	200	210	220	230	240	250	260	270	280	290	300	310	320	330	340	350	360	2600
Category 34	175	185	195	205	215	225	235	245	255	265	275	285	295	305	315	325	335	345	355	365	2650
Category 35	180	190	200	210	220	230	240	250	260	270	280	290	300	310	320	330	340	350	360	370	2700
Category 36	185	195	205	215	225	235	245	255	265	275	285	295	305	315	325	335	345	355	365	375	2750
Category 37	190	200	210	220	230	240	250	260	270	280	290	300	310	320	330	340	350	360	370	380	2800
Category 38	195	205	215	225	235	245	255	265	275	285	295	305	315	325	335	345	355	365	375	385	2850
Category 39	200	210	220	230	240	250	260	270	280	290	300	310	320	330	340	350	360	370	380	390	2900
Category 40	205	215	225	235	245	255	265	275	285	295	305	315	325	335	345	355	365	375	385	395	2950
Category 41	210	220	230	240	250	260	270	280	290	300	310	320	330	340	350	360	370	380	390	400	3000
Category 42	215	225	235	245	255	265	275	285	295	305	315	325	335	345	355	365	375	385	395	405	3050
Category 43	220	230	240	250	260	270	280	290	300	310	320	330	340	350	360	370	380	390	400	410	3100
Category 44	225	235	245	255	265	275	285	295	305	315	325	335	345	355	365	375	385	395	405	415	3150
Category 45	230	240	250	260	270	280	290	300	310	320	330	340	350	360	370	380	390	400	410	420	3200
Category 46	235	245	255	265	275	285	295	305	315	325	335	345	355	365	375	385	395	405	415	425	3250
Category 47	240	250	260	270	280	290	300	310	320	330	340	350	360	370	380	390	400	410	420	430	3300
Category 48	245	255	265	275	285	295	305	315	325	335	345	355	365	375	385	395	405	415	425	435	3350
Category 49	250	260	270	280	290	300	310	320	330	340	350	360	370	380	390	400	410	420	430	440	3400
Category 50	255	265	275	285	295	305	315	325	335	345	355	365	375	385	395	405	415	425	435	445	3450
Category 51	260	270	280	290	300	310	320	330	340	350	360	370	380	390	400	410	420	430	440	450	3500
Category 52	265	275	285	295	305	315	325	335	345	355	365	375	385	395	405	415	425	435	445	455	3550
Category 53	270	280	290	300	310	320	330	340	350	360	370	380	390	400	410	420	430	440	450	460	3600
Category 54	275	285	295	305	315	325	335	345	355	365	375	385	395	405	415	425	435	445	455	465	3650
Category 55	280	290	300	310	320	330	340	350	360	370	380	390	400	410	420	430	440	450	460	470	3700
Category 56	285	295	305	315	325	335	345	355	365	375	385	395	405	415	425	435	445	455	465	475	3750
Category 57	290	300	310	320	330	340	350	360	370	380	390	400	410	420	430	440	450	460	470	480	3800
Category 58	295	305	315	325	335	345	355	365	375	385	395	405	415	425	435	445	455	465	475	485	3850
Category 59	300	310	320	330	340	350	360	370	380	390	400	410	420	430	440	450	460	470	480	490	3900
Category 60	305	315	325	335	345	355	365	375	385	395	405	415	425	435	445	455	465	475	485	495	3950
Category 61	310	320	330	340	350	360	370	380	390	400	410	420	430	440	450	460	470	480	490	500	4000
Category 62	315	325	335	345	355	365	375	385	395	405	415	425	435	445	455	465	475	485	495	505	4050
Category 63	320	330	340	350	360	370	380	390	400	410	420	430	440	450	460	470	480	490	500	510	4100
Category 64	325	335	345	355	365	375	385	395	405	415	425	435	445	455	465	475	485	495	505	515	4150
Category 65	330	340	350	360	370	380	390	400	410	420	430	440	450	460	470	480	490	500	510	520	4200
Category 66	335	345	355	365	375	385	395	405	415	425	435	445	455	465	475	485	495	505	515	525	4250
Category 67	340	350	360	370	380	390	400	410	420	430	440	450	460	470	480	490	500	510	520	530	4300
Category 68	345	355	365	375	385	395	405	415													

[illegible]

Low Density Residential Catchment Site Information	
Site Location	Chancellors Drive, Thrumster
Number of Completed Dwellings	
Number of Bus Stops	
Weather Conditions	Fine
Local Traffic Congestions/Incidents	
Home Based Businesses in Catchment	
Special Events in Vicinity of Site	
Traffic Surveyor Comments (eg. Local issues?, Roadworks?, Closed Areas?, Disability Access?, etc)	

Site Map



LOW DENSITY RESIDENTIAL TRIP GENERATION SURVEY												
Site Location:-		Chancellors Dr, Thrumster										
Survey Day/Date:-		Thursday, 2 June 2022										
Survey Period:-		6am-9am & 3:30pm-6:30pm										
Surveyors Name:-		L Sanders										
Start Time	Cars				Bus				Pedestrians		Cyclists	
	Entering		Exiting		Entering		Exiting					
	Vehicles	Occupancy	Vehicles	Occupancy	Vehicles	Occupancy	Vehicles	Occupancy	Entering	Exiting	Entering	Exiting
6:00 AM	0	0	10	12	0	0	0	0	0	1	0	0
6:15 AM	0	0	12	13	0	0	0	0	0	1	0	0
6:30 AM	2	2	11	11	0	0	0	0	1	0	3	3
6:45 AM	2	2	6	6	0	0	0	0	0	0	0	0
7:00 AM	5	5	7	7	0	0	0	0	1	2	0	0
7:15 AM	4	5	11	17	1	1	1	1	1	0	0	0
7:30 AM	7	7	24	34	0	0	0	0	0	2	1	0
7:45 AM	3	3	36	54	0	0	0	0	1	8	0	0
8:00 AM	12	13	29	47	0	0	0	0	1	0	0	1
8:15 AM	7	8	21	29	0	0	0	0	0	3	0	0
8:30 AM	10	10	11	14	1	8	0	0	1	2	0	0
8:45 AM	6	6	13	17	0	0	1	12	0	1	0	0
3:30 PM	23	27	12	16	0	0	0	0	0	1	1	0
3:45 PM	24	24	11	13	1	10	1	8	0	1	0	0
4:00 PM	24	24	9	11	0	0	0	0	1	1	0	0
4:15 PM	20	20	16	20	0	0	0	0	7	0	0	0
4:30 PM	10	10	2	2	0	0	0	0	0	0	0	0
4:45 PM	20	20	14	17	0	0	0	0	1	1	0	0
5:00 PM	19	19	13	14	0	0	0	0	0	0	0	0
5:15 PM	10	10	6	7	0	0	0	0	1	0	0	1
5:30 PM	16	17	11	11	0	0	0	0	0	0	0	0
5:45 PM	16	18	4	5	0	0	0	0	1	0	0	0
6:00 PM	17	23	7	8	0	0	0	0	0	1	0	0
6:15 PM	6	6	4	6	0	0	0	0	0	0	1	0
AM Total	58	61	191	261	2	9	2	13	6	20	4	4
PM Total	205	218	109	130	1	10	1	8	11	5	2	1
Average Pax per Vehicle	1.05	AM	1.37	Average Pax per Bus	4.50	AM	6.50					
	1.06	PM	1.19		10.00	PM	8.00					

Low Density Residential Catchment Site Information	
Site Location	Charlotte Harrison Drive, Woonona
Number of Completed Dwellings	
Number of Bus Stops	
Weather Conditions	Fine
Local Traffic Congestions/Incidents	
Home Based Businesses in Catchment	
Special Events in Vicinity of Site	
Traffic Surveyor Comments (eg. Local issues?, Roadworks?, Closed Areas?, Disability Access?, etc)	

Site Map

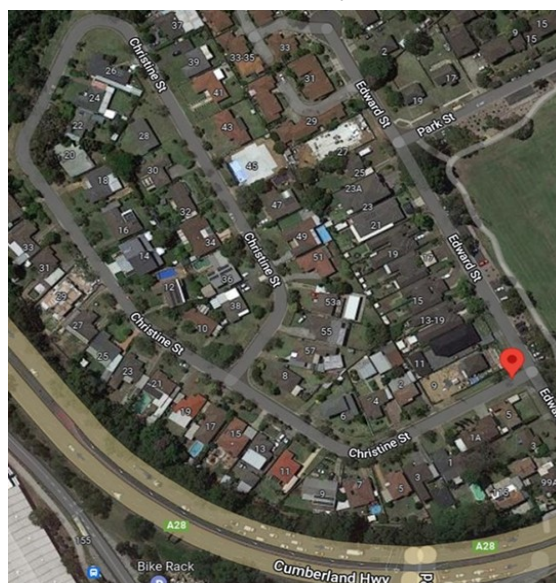


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[illegible][illegible]

Low Density Residential Catchment Site Information	
Site Location	Christine St, Northmead
Number of Completed Dwellings	
Number of Bus Stops	
Weather Conditions	Fine
Local Traffic Congestions/Incidents	
Home Based Businesses in Catchment	
Special Events in Vicinity of Site	
Traffic Surveyor Comments (eg. Local issues?, Roadworks?, Closed Areas?, Disability Access?, etc)	

Site Map



LOW DENSITY RESIDENTIAL TRIP GENERATION SURVEY												
Site Location:-		Christine St, Northmead										
Survey Day/Date:-		Tuesday, 31 May 2022										
Survey Period:-		6am-9am & 3:30pm-6:30pm										
Surveyors Name:-		S Greentree										
Start Time	Cars				Bus				Pedestrians		Cyclists	
	Entering		Exiting		Entering		Exiting		Entering	Exiting	Entering	Exiting
	Vehicles	Occupancy	Vehicles	Occupancy	Vehicles	Occupancy	Vehicles	Occupancy				
6:00 AM	1	1	2	2	0	0	0	0	2	0	0	0
6:15 AM	2	3	2	2	0	0	0	0	0	3	0	0
6:30 AM	1	1	4	4	0	0	0	0	0	0	0	0
6:45 AM	3	3	2	2	0	0	0	0	3	1	0	0
7:00 AM	3	3	3	5	0	0	0	0	0	0	0	0
7:15 AM	2	4	3	6	0	0	0	0	0	0	0	0
7:30 AM	5	5	6	8	0	0	0	0	0	0	0	0
7:45 AM	2	2	6	8	0	0	0	0	0	2	0	0
8:00 AM	5	5	8	13	0	0	0	0	0	0	0	0
8:15 AM	3	4	6	6	0	0	0	0	1	0	0	0
8:30 AM	1	1	4	4	0	0	0	0	0	3	0	0
8:45 AM	2	2	3	3	0	0	0	0	0	2	0	0
3:30 PM	11	13	3	5	0	0	0	0	2	0	0	0
3:45 PM	5	7	5	6	0	0	0	0	0	1	0	0
4:00 PM	6	7	6	7	0	0	0	0	1	0	0	0
4:15 PM	4	4	4	5	0	0	0	0	0	0	0	0
4:30 PM	2	2	2	3	0	0	0	0	1	0	0	0
4:45 PM	1	1	0	0	0	0	0	0	2	5	0	0
5:00 PM	4	5	4	6	0	0	0	0	1	0	0	0
5:15 PM	4	4	2	2	0	0	0	0	0	0	0	0
5:30 PM	4	4	0	0	0	0	0	0	0	0	0	0
5:45 PM	1	1	1	1	0	0	0	0	0	0	0	0
6:00 PM	6	6	3	3	0	0	0	0	2	0	0	0
6:15 PM	1	1	1	1	0	0	0	0	0	0	0	0
AM Total	30	34	49	63	0	0	0	0	6	11	0	0
PM Total	49	55	31	39	0	0	0	0	9	6	0	0
Average Pax per Vehicle		1.13	AM	1.29								
		1.12	PM	1.26								

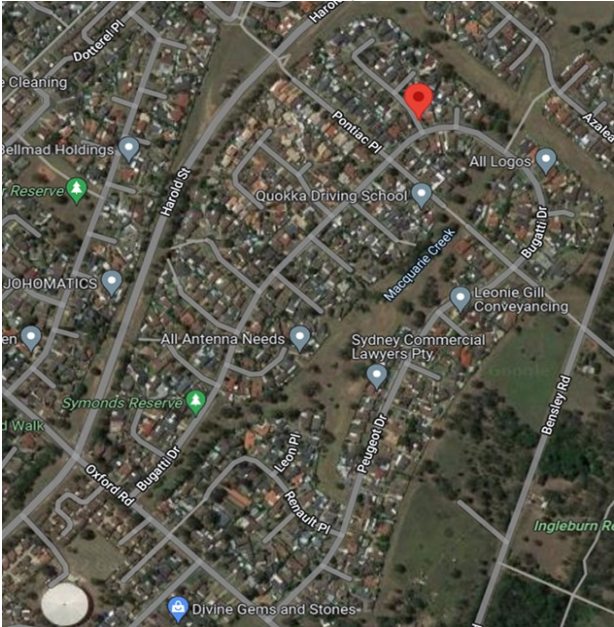


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BIBLIOGRAPHY (1970-1979)																													
1970-1974														1975-1979															
Author	Title	Year	Journal	Volume	Page	Author	Title	Year	Journal	Volume	Page	Author	Title	Year	Journal	Volume	Page	Author	Title	Year	Journal	Volume	Page	Author	Title	Year	Journal	Volume	Page
1. Smith, J.	1970	1	1	1	1	1. Smith, J.	1975	1	1	1	1	1. Smith, J.	1975	1	1	1	1	1. Smith, J.	1975	1	1	1	1	1. Smith, J.	1975	1	1	1	1
2. Jones, A.	1971	2	2	2	2	2. Jones, A.	1976	2	2	2	2	2. Jones, A.	1976	2	2	2	2	2. Jones, A.	1976	2	2	2	2	2. Jones, A.	1976	2	2	2	2
3. Brown, C.	1972	3	3	3	3	3. Brown, C.	1977	3	3	3	3	3. Brown, C.	1977	3	3	3	3	3. Brown, C.	1977	3	3	3	3	3. Brown, C.	1977	3	3	3	3
4. White, D.	1973	4	4	4	4	4. White, D.	1978	4	4	4	4	4. White, D.	1978	4	4	4	4	4. White, D.	1978	4	4	4	4	4. White, D.	1978	4	4	4	4
5. Black, E.	1974	5	5	5	5	5. Black, E.	1979	5	5	5	5	5. Black, E.	1979	5	5	5	5	5. Black, E.	1979	5	5	5	5	5. Black, E.	1979	5	5	5	5
6. Green, F.	1975	6	6	6	6	6. Green, F.	1980	6	6	6	6	6. Green, F.	1980	6	6	6	6	6. Green, F.	1980	6	6	6	6	6. Green, F.	1980	6	6	6	6
7. Hall, G.	1976	7	7	7	7	7. Hall, G.	1981	7	7	7	7	7. Hall, G.	1981	7	7	7	7	7. Hall, G.	1981	7	7	7	7	7. Hall, G.	1981	7	7	7	7
8. King, H.	1977	8	8	8	8	8. King, H.	1982	8	8	8	8	8. King, H.	1982	8	8	8	8	8. King, H.	1982	8	8	8	8	8. King, H.	1982	8	8	8	8
9. Lee, I.	1978	9	9	9	9	9. Lee, I.	1983	9	9	9	9	9. Lee, I.	1983	9	9	9	9	9. Lee, I.	1983	9	9	9	9	9. Lee, I.	1983	9	9	9	9
10. Martin, K.	1979	10	10	10	10	10. Martin, K.	1984	10	10	10	10	10. Martin, K.	1984	10	10	10	10	10. Martin, K.	1984	10	10	10	10	10. Martin, K.	1984	10	10	10	10
11. Nelson, L.	1980	11	11	11	11	11. Nelson, L.	1985	11	11	11	11	11. Nelson, L.	1985	11	11	11	11	11. Nelson, L.	1985	11	11	11	11	11. Nelson, L.	1985	11	11	11	11
12. Owen, M.	1981	12	12	12	12	12. Owen, M.	1986	12	12	12	12	12. Owen, M.	1986	12	12	12	12	12. Owen, M.	1986	12	12	12	12	12. Owen, M.	1986	12	12	12	12
13. Parker, N.	1982	13	13	13	13	13. Parker, N.	1987	13	13	13	13	13. Parker, N.	1987	13	13	13	13	13. Parker, N.	1987	13	13	13	13	13. Parker, N.	1987	13	13	13	13
14. Quinn, O.	1983	14	14	14	14	14. Quinn, O.	1988	14	14	14	14	14. Quinn, O.	1988	14	14	14	14	14. Quinn, O.	1988	14	14	14	14	14. Quinn, O.	1988	14	14	14	14
15. Roberts, P.	1984	15	15	15	15	15. Roberts, P.	1989	15	15	15	15	15. Roberts, P.	1989	15	15	15	15	15. Roberts, P.	1989	15	15	15	15	15. Roberts, P.	1989	15	15	15	15
16. Scott, R.	1985	16	16	16	16	16. Scott, R.	1990	16	16	16	16	16. Scott, R.	1990	16	16	16	16	16. Scott, R.	1990	16	16	16	16	16. Scott, R.	1990	16	16	16	16
17. Taylor, S.	1986	17	17	17	17	17. Taylor, S.	1991	17	17	17	17	17. Taylor, S.	1991	17	17	17	17	17. Taylor, S.	1991	17	17	17	17	17. Taylor, S.	1991	17	17	17	17
18. Turner, T.	1987	18	18	18	18	18. Turner, T.	1992	18	18	18	18	18. Turner, T.	1992	18	18	18	18	18. Turner, T.	1992	18	18	18	18	18. Turner, T.	1992	18	18	18	18
19. Walker, U.	1988	19	19	19	19	19. Walker, U.	1993	19	19	19	19	19. Walker, U.	1993	19	19	19	19	19. Walker, U.	1993	19	19	19	19	19. Walker, U.	1993	19	19	19	19
20. Young, V.	1989	20	20	20	20	20. Young, V.	1994	20	20	20	20	20. Young, V.	1994	20	20	20	20	20. Young, V.	1994	20	20	20	20	20. Young, V.	1994	20	20	20	20
21. Adams, W.	1990	21	21	21	21	21. Adams, W.	1995	21	21	21	21	21. Adams, W.	1995	21	21	21	21	21. Adams, W.	1995	21	21	21	21	21. Adams, W.	1995	21	21	21	21
22. Baker, X.	1991	22	22	22	22	22. Baker, X.	1996	22	22	22	22	22. Baker, X.	1996	22	22	22	22	22. Baker, X.	1996	22	22	22	22	22. Baker, X.	1996	22	22	22	22
23. Carter, Y.	1992	23	23	23	23	23. Carter, Y.	1997	23	23	23	23	23. Carter, Y.	1997	23	23	23	23	23. Carter, Y.	1997	23	23	23	23	23. Carter, Y.	1997	23	23	23	23
24. Evans, Z.	1993	24	24	24	24	24. Evans, Z.	1998	24	24	24	24	24. Evans, Z.	1998	24	24	24	24	24. Evans, Z.	1998	24	24	24	24	24. Evans, Z.	1998	24	24	24	24
25. Fisher, A.	1994	25	25	25	25	25. Fisher, A.	1999	25	25	25	25	25. Fisher, A.	1999	25	25	25	25	25. Fisher, A.	1999	25	25	25	25	25. Fisher, A.	1999	25	25	25	25
26. Grant, B.	1995	26	26	26	26	26. Grant, B.	2000	26	26	26	26	26. Grant, B.	2000	26	26	26	26	26. Grant, B.	2000	26	26	26	26	26. Grant, B.	2000	26	26	26	26
27. Harris, C.	1996	27	27	27	27	27. Harris, C.	2001	27	27	27	27	27. Harris, C.	2001	27	27	27	27	27. Harris, C.	2001	27	27	27	27	27. Harris, C.	2001	27	27	27	27
28. Irvine, D.	1997	28	28	28	28	28. Irvine, D.	2002	28	28	28	28	28. Irvine, D.	2002	28	28	28	28	28. Irvine, D.	2002	28	28	28	28	28. Irvine, D.	2002	28	28	28	28
29. Kelly, E.	1998	29	29	29	29	29. Kelly, E.	2003	29	29	29	29	29. Kelly, E.	2003	29	29	29	29	29. Kelly, E.	2003	29	29	29	29	29. Kelly, E.	2003	29	29	29	29
30. Lamb, F.	1999	30	30	30	30	30. Lamb, F.	2004	30	30	30	30	30. Lamb, F.	2004	30	30	30	30	30. Lamb, F.	2004	30	30	30	30	30. Lamb, F.	2004	30	30	30	30
31. Mitchell, G.	2000	31	31	31	31	31. Mitchell, G.	2005	31	31	31	31	31. Mitchell, G.	2005	31	31	31	31	31. Mitchell, G.	2005	31	31	31	31	31. Mitchell, G.	2005	31	31	31	31
32. Norman, H.	2001	32	32	32	32	32. Norman, H.	2006	32	32	32	32	32. Norman, H.	2006	32	32	32	32	32. Norman, H.	2006	32	32	32	32	32. Norman, H.	2006	32	32	32	32
33. Phillips, I.	2002	33	33	33	33	33. Phillips, I.	2007	33	33	33	33	33. Phillips, I.	2007	33	33	33	33	33. Phillips, I.	2007	33	33	33	33	33. Phillips, I.	2007	33	33	33	33
34. Quinn, J.	2003	34	34	34	34	34. Quinn, J.	2008	34	34	34	34	34. Quinn, J.	2008	34	34	34	34	34. Quinn, J.	2008	34	34	34	34	34. Quinn, J.	2008	34	34	34	34
35. Roberts, K.	2004	35	35	35	35	35. Roberts, K.	2009	35	35	35	35	35. Roberts, K.	2009	35	35	35	35	35. Roberts, K.	2009	35	35	35	35	35. Roberts, K.	2009	35	35	35	35
36. Scott, L.	2005	36	36	36	36	36. Scott, L.	2010	36	36	36	36	36. Scott, L.	2010	36	36	36	36	36. Scott, L.	2010	36	36	36	36	36. Scott, L.	2010	36	36	36	36
37. Taylor, M.	2006	37	37	37	37	37. Taylor, M.	2011	37	37	37	37	37. Taylor, M.	2011	37	37	37	37	37. Taylor, M.	2011	37	37	37	37	37. Taylor, M.	2011	37	37	37	37
38. Turner, N.	2007	38	38	38	38	38. Turner, N.	2012	38	38	38	38	38. Turner, N.	2012	38	38	38	38	38. Turner, N.	2012	38	38	38	38	38. Turner, N.	2012	38	38	38	38
39. Walker, O.	2008	39	39	39	39	39. Walker, O.	2013	39	39	39	39	39. Walker, O.	2013	39	39	39	39	39. Walker, O.	2013	39	39	39	39	39. Walker, O.	2013	39	39	39	39
40. Young, P.	2009	40	40	40	40	40. Young, P.	2014	40	40	40	40	40. Young, P.	2014	40	40	40	40	40. Young, P.	2014	40	40	40	40	40. Young, P.	2014	40	40	40	40
41. Adams, Q.	2010	41	41	41	41	41. Adams, Q.	2015	41	41	41	41	41. Adams, Q.	2015	41	41	41	41	41. Adams, Q.	2015	41	41	41	41	41. Adams, Q.	2015	41	41	41	41
42. Baker, R.	2011	42	42	42	42	42. Baker, R.	2016	42	42	42	42	42. Baker, R.	2016	42	42	42	42	42. Baker, R.	2016	42	42	42	42	42. Baker, R.	2016	42	42	42	42
43. Carter, S.	2012	43	43	43	43	43. Carter, S.	2017	43	43	43	43	43. Carter, S.	2017	43	43	43	43	43. Carter, S.	2017	43	43	43	43	43. Carter, S.	2017	43	43	43	43
44. Evans, T.	2013	44	44	44	44	44. Evans, T.	2018	44	44	44	44	44. Evans, T.	2018	44	44	44	44	44. Evans, T.	2018	44	44	44	44	44. Evans, T.	2018	44	44	44	44
45. Fisher, U.	2014	45	45	45	45	45. Fisher, U.	2019	45	45	45	45	45. Fisher, U.	2019	45	45	45	45	45. Fisher, U.	2019	45	45	45	45	45. Fisher, U.	2019	45	45	45	45
46. Grant, V.	2015	46	46	46	46	46. Grant, V.	2020	46	46	46	46	46. Grant, V.	2020	46	46	46	46	46. Grant, V.	2020	46	46	46	46	46. Grant, V.	2020	46	46	46	46
47. Harris, W.	2016	47	47	47	47	47. Harris, W.	2021	47	47	47	47	47. Harris, W.	2021	47	47	47	47	47. Harris, W.	2021	47	47	47	47	47. Harris, W.	2021	47	47	47	47
48. Irvine, X.	2017	48	48	48	48	48. Irvine, X.	2022	48	48	48	48	48. Irvine, X.	2022	48	48	48	48	48. Irvine, X.	2022	48	48	48	48	48. Irvine, X.	2022	48	48	48	48
49. Kelly, Y.	2018	49	49	49	49	49. Kelly, Y.	2023	49	49	49	49	49. Kelly, Y.	2023	49	49	49	49	49. Kelly, Y.	2023	49	49	49	49	49. Kelly, Y.	2023	49	49	49	49
50. Lamb, Z.	2019	50	50	50	50	50. Lamb, Z.	2024	50	50	50	50	50. Lamb, Z.	2024	50	50	50	50	5											

Low Density Residential Catchment Site Information	
Site Location	Delage Pl, Ingleburn
Number of Completed Dwellings	
Number of Bus Stops	
Weather Conditions	Fine
Local Traffic Congestions/Incidents	
Home Based Businesses in Catchment	
Special Events in Vicinity of Site	
Traffic Surveyor Comments (eg. Local issues?, Roadworks?, Closed Areas?, Disability Access?, etc)	

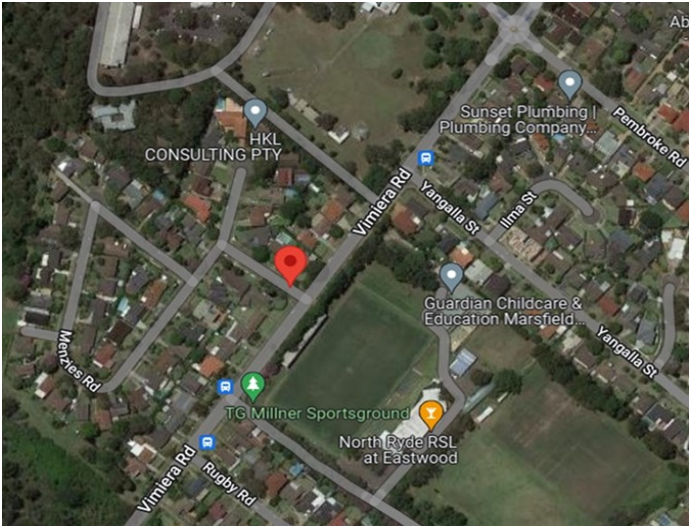
Site Map



[illegible]

Low Density Residential Catchment Site Information	
Site Location	Elk St, Marsfield
Number of Completed Dwellings	
Number of Bus Stops	
Weather Conditions	Fine
Local Traffic Congestions/Incidents	
Home Based Businesses in Catchment	
Special Events in Vicinity of Site	
Traffic Surveyor Comments (eg. Local issues?, Roadworks?, Closed Areas?, Disability Access?, etc)	

Site Map



[illegible]

[illegible][illegible]

Low Density Residential Catchment Site Information	
Site Location	Golden Links, Murwillumbah
Number of Completed Dwellings	
Number of Bus Stops	
Weather Conditions	Fine
Local Traffic Congestions/Incidents	
Home Based Businesses in Catchment	
Special Events in Vicinity of Site	
Traffic Surveyor Comments (eg. Local issues?, Roadworks?, Closed Areas?, Disability Access?, etc)	

Site Map



LOW DENSITY RESIDENTIAL TRIP GENERATION SURVEY												
Site Location:-		Golden Links, Murwillumbah										
Survey Day/Date:-		Tuesday, 7 June 2022										
Survey Period:-		6am-9am & 3:30pm-6:30pm										
Surveyors Name:-		H Lowe										
Start Time	Cars				Bus				Pedestrians		Cyclists	
	Entering		Exiting		Entering		Exiting					
	Vehicles	Occupancy	Vehicles	Occupancy	Vehicles	Occupancy	Vehicles	Occupancy	Entering	Exiting	Entering	Exiting
6:00 AM	1	1	3	3	0	0	0	0	0	0	0	0
6:15 AM	0	0	5	5	0	0	0	0	0	0	0	0
6:30 AM	1	1	7	7	0	0	0	0	0	0	0	0
6:45 AM	4	4	7	7	0	0	0	0	0	0	0	1
7:00 AM	0	0	6	6	0	0	0	0	0	0	0	0
7:15 AM	3	3	8	8	0	0	0	0	0	0	0	0
7:30 AM	4	4	10	13	0	0	0	0	0	2	0	0
7:45 AM	6	8	12	14	0	0	0	0	2	0	0	0
8:00 AM	7	9	12	13	0	0	0	0	0	0	1	2
8:15 AM	5	5	12	20	1	3	1	5	0	0	0	0
8:30 AM	5	6	11	15	0	0	0	0	0	5	0	0
8:45 AM	3	4	8	8	0	0	0	0	0	1	0	0
3:30 PM	14	18	6	8	0	0	0	0	0	0	0	0
3:45 PM	10	13	13	19	0	0	0	0	0	0	0	0
4:00 PM	17	20	10	12	0	0	0	0	0	1	0	0
4:15 PM	12	13	3	3	0	0	0	0	1	0	0	0
4:30 PM	6	8	3	3	0	0	0	0	0	0	0	0
4:45 PM	13	16	6	7	0	0	0	0	0	0	0	0
5:00 PM	11	13	6	7	1	1	1	1	1	1	0	0
5:15 PM	19	19	11	12	0	0	0	0	0	0	0	0
5:30 PM	13	13	7	7	0	0	0	0	0	0	0	0
5:45 PM	6	6	8	8	0	0	0	0	0	0	0	0
6:00 PM	11	11	4	4	0	0	0	0	0	0	0	0
6:15 PM	5	5	5	5	0	0	0	0	0	0	0	0
AM Total	39	45	101	119	1	3	1	5	2	8	1	3
PM Total	137	155	82	95	1	1	1	1	2	2	0	0
Average Pax per Vehicle	1.15	AM	1.18	Average Pax per Bus	3.00	AM	5.00					
	1.13	PM	1.16		1.00	PM	1.00					

Low Density Residential Catchment Site Information	
Site Location	Hawthorne Circuit, Harrington Park
Number of Completed Dwellings	
Number of Bus Stops	
Weather Conditions	Fine
Local Traffic Congestions/Incidents	
Home Based Businesses in Catchment	
Special Events in Vicinity of Site	
Traffic Surveyor Comments (eg. Local issues?, Roadworks?, Closed Areas?, Disability Access?, etc)	

Site Map



LOW DENSITY RESIDENTIAL TRIP GENERATION SURVEY												
Site Location:-		Hawthorne Cct, Harrington Park										
Survey Day/Date:-		Tuesday, 31 May 2022										
Survey Period:-		6am-9am & 3:30pm-6:30pm										
Surveyors Name:-		N Ofamooni										
Start Time	Cars				Bus				Pedestrians		Cyclists	
	Entering		Exiting		Entering		Exiting		Entering	Exiting	Entering	Exiting
	Vehicles	Occupancy	Vehicles	Occupancy	Vehicles	Occupancy	Vehicles	Occupancy				
6:00 AM	4	5	12	14	0	0	0	0	0	0	0	0
6:15 AM	1	1	6	7	0	0	0	0	0	0	0	0
6:30 AM	2	2	5	6	0	0	0	0	0	1	0	0
6:45 AM	3	3	9	10	0	0	0	0	1	0	0	0
7:00 AM	1	1	8	9	0	0	0	0	0	0	0	0
7:15 AM	3	3	10	11	0	0	0	0	0	0	0	0
7:30 AM	1	1	15	27	0	0	0	0	0	1	0	0
7:45 AM	3	4	16	26	0	0	0	0	0	1	0	0
8:00 AM	2	2	4	6	0	0	0	0	0	0	0	0
8:15 AM	3	3	19	36	0	0	0	0	0	1	0	0
8:30 AM	12	12	9	13	1	10	0	0	0	0	0	0
8:45 AM	16	19	20	34	0	0	1	11	0	0	0	0
3:30 PM	10	18	6	9	0	0	0	0	0	0	0	0
3:45 PM	14	22	7	10	0	0	0	0	2	0	0	0
4:00 PM	8	10	10	17	0	0	0	0	0	0	0	0
4:15 PM	9	15	4	6	0	0	0	0	1	0	0	0
4:30 PM	10	11	8	9	0	0	0	0	0	1	0	0
4:45 PM	10	13	4	6	0	0	0	0	0	0	0	0
5:00 PM	12	16	7	8	0	0	0	0	0	3	0	0
5:15 PM	11	15	9	13	0	0	0	0	0	1	0	0
5:30 PM	12	14	4	5	0	0	0	0	1	0	0	0
5:45 PM	9	10	6	9	0	0	0	0	0	0	0	0
6:00 PM	9	11	8	9	0	0	0	0	0	0	0	0
6:15 PM	15	16	9	12	0	0	0	0	0	0	0	0
AM Total	51	56	133	199	1	10	1	11	1	4	0	0
PM Total	129	171	82	113	0	0	0	0	4	5	0	0
Average Pax per Vehicle	1.10	AM	1.50	Average Pax per Vehicle	10.00	AM	11.00					
	1.33	PM	1.38			PM						



Name		Minimum 10 km/h										200'										Party
		CHY1	CHY2	CHY3	CHY4	CHY5	CHY6	CHY7	CHY8	CHY9	CHY10	CHY11	CHY12	CHY13	CHY14	CHY15	CHY16	CHY17	CHY18	CHY19	CHY20	
1:00:00	1:00:00	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
1:00:00	1:00:00	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
1:00:00	1:00:00	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
1:00:00	1:00:00	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
1:00:00	1:00:00	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
1:00:00	1:00:00	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
1:00:00	1:00:00	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
1:00:00	1:00:00	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
1:00:00	1:00:00	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
1:00:00	1:00:00	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
1:00:00	1:00:00	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
1:00:00	1:00:00	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
1:00:00	1:00:00	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
1:00:00	1:00:00	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
1:00:00	1:00:00	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
1:00:00	1:00:00	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
1:00:00	1:00:00	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
1:00:00	1:00:00	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
1:00:00	1:00:00	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
1:00:00	1:00:00	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
1:00:00	1:00:00	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
1:00:00	1:00:00	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
1:00:00	1:00:00	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
1:00:00	1:00:00	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
1:00:00	1:00:00	1	2	3	4																	

[illegible][illegible]

Low Density Residential Catchment Site Information	
Site Location	Henderson Dr, Lennox Head
Number of Completed Dwellings	
Number of Bus Stops	
Weather Conditions	Fine
Local Traffic Congestions/Incidents	
Home Based Businesses in Catchment	
Special Events in Vicinity of Site	
Traffic Surveyor Comments (eg. Local issues?, Roadworks?, Closed Areas?, Disability Access?, etc)	

Site Map



LOW DENSITY RESIDENTIAL TRIP GENERATION SURVEY												
Site Location:-		Henderson Drive, Lennox Head										
Survey Day/Date:-		Tuesday, 7 June 2022										
Survey Period:-		6am-9am & 3:30pm-6:30pm										
Surveyors Name:-		I Pentleton										
Start Time	Cars				Bus				Pedestrians		Cyclists	
	Entering		Exiting		Entering		Exiting					
	Vehicles	Occupancy	Vehicles	Occupancy	Vehicles	Occupancy	Vehicles	Occupancy	Entering	Exiting	Entering	Exiting
6:00 AM	0	0	4	4	0	0	0	0	0	0	0	0
6:15 AM	2	3	4	5	0	0	0	0	0	1	0	0
6:30 AM	0	0	6	6	0	0	0	0	0	1	0	0
6:45 AM	5	8	3	5	0	0	0	0	0	1	0	0
7:00 AM	5	6	3	4	0	0	0	0	1	0	0	0
7:15 AM	6	11	2	3	0	0	0	0	2	1	0	0
7:30 AM	2	3	9	12	0	0	0	0	0	0	0	0
7:45 AM	4	5	15	19	0	0	0	0	0	0	0	0
8:00 AM	2	3	11	19	0	0	0	0	1	1	0	0
8:15 AM	6	8	10	23	0	0	0	0	0	0	0	0
8:30 AM	18	31	24	42	0	0	0	0	0	0	0	0
8:45 AM	16	21	15	22	0	0	0	0	0	0	0	0
3:30 PM	14	21	23	38	0	0	0	0	0	2	0	0
3:45 PM	8	9	9	11	0	0	0	0	1	0	0	0
4:00 PM	3	5	2	2	0	0	0	0	0	0	0	0
4:15 PM	17	29	11	17	0	0	0	0	0	0	0	0
4:30 PM	11	15	12	19	0	0	0	0	3	0	0	0
4:45 PM	11	15	6	8	0	0	0	0	1	0	1	0
5:00 PM	15	19	13	23	0	0	0	0	0	0	0	0
5:15 PM	8	11	7	9	0	0	0	0	0	0	0	0
5:30 PM	9	12	5	6	0	0	0	0	0	0	0	0
5:45 PM	5	7	5	8	0	0	0	0	0	0	0	0
6:00 PM	4	5	4	4	0	0	0	0	0	0	0	0
6:15 PM	5	6	8	12	0	0	0	0	0	0	0	0
AM Total	66	99	106	164	0	0	0	0	4	5	0	0
PM Total	110	154	105	157	0	0	0	0	5	2	1	0
Average Pax per Vehicle	1.50	AM	1.55	PM	1.50							

Low Density Residential Catchment Site Information	
Site Location	Hospital Rd, Buli
Number of Completed Dwellings	
Number of Bus Stops	
Weather Conditions	Fine
Local Traffic Congestions/Incidents	
Home Based Businesses in Catchment	
Special Events in Vicinity of Site	
Traffic Surveyor Comments (eg. Local issues?, Roadworks?, Closed Areas?, Disability Access?, etc)	

Site Map



LOW DENSITY RESIDENTIAL TRIP GENERATION SURVEY												
Site Location:-		Hospital Rd, Buli										
Survey Day/Date:-		Wednesday, 1 June 2022										
Survey Period:-		6am-9am & 3:30pm-6:30pm										
Surveyors Name:-		S Charlton										
Start Time	Cars				Bus				Pedestrians		Cyclists	
	Entering		Exiting		Entering		Exiting		Entering	Exiting	Entering	Exiting
	Vehicles	Occupancy	Vehicles	Occupancy	Vehicles	Occupancy	Vehicles	Occupancy				
6:00 AM	0	0	5	8	0	0	0	0	0	0	0	0
6:15 AM	0	0	11	13	0	0	0	0	3	1	0	0
6:30 AM	2	2	11	12	0	0	0	0	0	1	0	0
6:45 AM	6	7	18	20	0	0	0	0	0	1	0	0
7:00 AM	12	12	12	12	0	0	0	0	0	0	0	0
7:15 AM	6	6	14	17	0	0	0	0	1	0	0	0
7:30 AM	9	10	27	32	0	0	0	0	0	0	0	0
7:45 AM	11	11	12	18	1	1	1	26	0	2	0	0
8:00 AM	9	10	27	43	0	0	0	0	0	3	0	0
8:15 AM	11	11	33	43	0	0	0	0	1	0	0	0
8:30 AM	15	17	28	40	0	0	0	0	1	0	0	0
8:45 AM	20	21	20	27	0	0	0	0	0	0	0	0
3:30 PM	19	28	14	18	0	0	0	0	1	0	0	0
3:45 PM	14	20	18	26	1	6	0	0	2	1	0	0
4:00 PM	22	25	16	21	0	0	0	0	2	0	0	0
4:15 PM	20	26	15	19	0	0	0	0	0	0	0	0
4:30 PM	31	37	11	17	0	0	0	0	0	1	0	0
4:45 PM	13	15	7	7	0	0	0	0	1	0	0	0
5:00 PM	17	18	10	11	0	0	0	0	2	0	1	0
5:15 PM	29	34	15	17	0	0	0	0	2	0	0	0
5:30 PM	12	13	13	14	0	0	0	0	2	0	1	0
5:45 PM	20	24	9	13	0	0	0	0	0	0	0	0
6:00 PM	16	19	19	22	0	0	0	0	0	0	0	0
6:15 PM	23	28	9	10	0	0	0	0	1	0	0	0
AM Total	101	107	218	285	1	1	1	26	6	8	0	0
PM Total	236	287	156	195	1	6	0	0	13	2	2	0
Average Pax per Vehicle	1.06	AM	1.31	Average Pax per Vehicle	1.00	AM	26.00					
	1.22	PM	1.25		6.00	PM						

[illegible][illegible]

Low Density Residential Catchment Site Information	
Site Location	Wategos St, Greenhills Beach
Number of Completed Dwellings	
Number of Bus Stops	
Weather Conditions	Fine
Local Traffic Congestions/Incidents	
Home Based Businesses in Catchment	
Special Events in Vicinity of Site	
Traffic Surveyor Comments (eg. Local issues?, Roadworks?, Closed Areas?, Disability Access?, etc)	

Site Map



LOW DENSITY RESIDENTIAL TRIP GENERATION SURVEY												
Site Location:-		Wategos St, Greenhills Beach										
Survey Day/Date:-		Tuesday, 14 June 2022										
Survey Period:-		6am-9am & 3:30pm-6:30pm										
Surveyors Name:-		J Li										
Start Time	Cars				Bus				Pedestrians		Cyclists	
	Entering		Exiting		Entering		Exiting		Entering	Exiting	Entering	Exiting
	Vehicles	Occupancy	Vehicles	Occupancy	Vehicles	Occupancy	Vehicles	Occupancy				
6:00 AM	5	5	8	9	0	0	0	0	2	1	1	1
6:15 AM	1	1	14	15	0	0	0	0	5	0	2	4
6:30 AM	2	2	19	24	0	0	0	0	0	0	0	0
6:45 AM	4	5	17	22	0	0	0	0	0	0	5	6
7:00 AM	13	18	20	26	0	0	0	0	2	4	0	0
7:15 AM	8	11	25	32	0	0	0	0	1	0	3	0
7:30 AM	8	9	32	42	0	0	0	0	0	0	2	1
7:45 AM	8	10	27	46	0	0	0	0	3	2	0	1
8:00 AM	15	19	22	39	0	0	0	0	0	2	1	0
8:15 AM	12	13	41	60	0	0	0	0	3	4	2	2
8:30 AM	7	8	37	57	0	0	0	0	0	10	0	3
8:45 AM	26	31	24	37	0	0	0	0	0	2	1	2
3:30 PM	48	88	16	23	0	0	0	0	7	2	1	3
3:45 PM	32	48	12	17	0	0	0	0	1	1	4	0
4:00 PM	30	42	25	34	0	0	0	0	8	8	0	0
4:15 PM	23	36	19	26	0	0	0	0	0	4	0	1
4:30 PM	26	38	17	23	0	0	0	0	5	0	0	0
4:45 PM	25	39	24	37	0	0	0	0	40	27	0	0
5:00 PM	21	26	15	22	0	0	0	0	32	0	0	0
5:15 PM	35	56	18	24	0	0	0	0	2	3	0	0
5:30 PM	37	47	19	34	0	0	0	0	2	4	0	0
5:45 PM	32	41	15	18	0	0	0	0	0	2	0	0
6:00 PM	30	44	16	23	0	0	0	0	2	1	1	0
6:15 PM	29	43	9	13	0	0	0	0	1	0	0	0
AM Total	109	132	286	409	0	0	0	0	16	25	17	20
PM Total	368	548	205	294	0	0	0	0	100	52	6	4
Average Pax per Vehicle												
		1.21	AM	1.43								
		1.49	PM	1.43								



[illegible]

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