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# **TABLE OF CONTENTS**

1	INTRODUCTION	5
1.1	Description and Scale of Development	5
1.2	State Environmental Planning Policy (Infrastructure) 2007	6
1.3	Site Description	6
1.4	Site Context	7
2	EXISTING TRAFFIC AND PARKING CONDITIONS	8
2.1	Road Hierarchy	8
2.2	Existing Traffic Management	
2.3	Existing Parking Environment	8
2.4	Existing Traffic Environment	10
	2.4.1 Intersection Performances	11
2.5	Public Transport	13
2.6	Future Road and Infrastructure Upgrades	
3	PARKING ASSESSMENT	15
3.1	Parking Demand	15
3.2		
	3.2.1 Cinema Survey	
	3.2.2 Cinema Parking Demand	17
3.3	Dual Usage	17
	3.3.1 Alternative Transport	
	3.3.2 <i>TPS Group</i> Response to Alternative Transport	
	3.3.4 Amusement Centre Parking Demand Study	
	3.3.5 Drive-Through Tenancies	21
	3.3.6 Restaurants	
	3.3.7 Gymnasium	
	3.3.9 All Uses	
3.4	Parking Demand Profiles	24
3.5	Cumulative Parking Demand	24
3.6	Friday and Saturday Events	27
3.7	Kmart Car Parking – Event days versus Non-Event days	29
3.8	Car Park Management Plan	30
	3.8.1 Entry/Exit Boom Gates	
	3.8.2 Dynamic Parking Signage	
	3.8.4 Parking Security	
3.9	· ·	
3.10		
3.11		
3.12	_	
3.13	Required Internal Design Changes	33
3.14	4 Car Park Design & Compliance	34



4	TRAF	FIC ASSESSMENT	35
4.1	Traff	fic Generation	35
	4.1.1	Restaurants and drive through take away	
	4.1.2	Cinema	37
	4.1.3	Retail	
	4.1.4	Bowling Alley	
	4.1.5	Amusement Centre	
	4.1.6	Gymnasium	39
	4.1.7	Function Centre	39
	4.1.8	Manager's Residence	39
	4.1.9	Cumulative Trip Generation	40
4.2	Traft	fic Assignment	41
4.3	Traff	fic Impact	41
4.4	Futu	re Warlters Street Upgrade	44
5	CONC	CLUSION	46



### 1 INTRODUCTION

M<sup>C</sup>Laren Traffic Engineering (MTE) was commissioned by MM Atelier Architects to provide a Traffic and Parking Impact Assessment of the Leisure & Entertainment Precinct Port Macquarie at Cnr Warlters Street & Park Street, Port Macquarie (proposed plans reproduced in **Annexure A**).

This report is an amended traffic report which responds to parking and traffic related Port Macquarie-Hastings Council comments on the original MTE Traffic Report dated September 2019 (ref: 190226.03FA). The applicant has made the following amendments to the development scale and dual use considerations.

- Reduction in Cinema seats from 1,343 to 1,191;
- Reduction in Gym area from 1,540m² to 1,531m² (Tenancy 22);
- Reduction in laser tag area from 192m<sup>2</sup> to 162m<sup>2</sup> (Part of Tenancy 21);
- Reduction in Tenancy 1 (Guzman Y Gomez) from 196m<sup>2</sup> to 188m<sup>2</sup>;
- Reduction in Restaurant Floor Area from 1,123m<sup>2</sup> to 1,055m<sup>2</sup> (Tenancies 2-4, 6-10);
- Inclusion of terrace area for restaurants along the Park Street frontage;
- Reduction in Function Centre area from 566m<sup>2</sup> to 486m<sup>2</sup> (Tenancy 41);
- Increase in Drive-Through Queueing area to comply with the DCP.
- No dual use consideration has been given to bowling, gym, amusement centre or function centre uses.

The updated scale is summarised in **Section 1.1**.

#### 1.1 Description and Scale of Development

The scale of the development relevant to traffic and parking impacts includes:

- 1,055m² of ground floor commercial area to be occupied by 8 restaurant tenants (Tenancies 2-4 and 6-10);
  - o 33% of GFA is Back of House Area
  - o 67% of GFA is serviced area
- 162m<sup>2</sup> of restaurant terrace area along the Park Street frontage;
- 30m² of ground floor commercial area to be occupied by a takeaway food/drink tenant (Tenancy 5);
- 302m<sup>2</sup> GLFA of ground floor commercial area to be occupied by 4 retail tenants (Tenancies 11-14);
- 188m<sup>2</sup> Drive-through Restaurant (Tenancy 1 Guzman Y Gomez);
- 185m<sup>2</sup> Drive-through Restaurant (Tenancy 15 Oporto);
- Cinema with 1,191 seats within 9 theatres (Tenancy 31);



- 2,132m<sup>2</sup> of Indoor Recreation area (Tenancy 21) including:
  - Six (6) bowling lanes;
  - o 395m<sup>2</sup> of games area;
  - 162m<sup>2</sup> of laser tag;
  - 192m<sup>2</sup> of dodgem cars;
  - 175m² trampoline room;
  - o 70m<sup>2</sup> of party rooms;
  - o Bar area:
- 1,531m<sup>2</sup> Gymnasium (Tenancy 22);
- 486m<sup>2</sup> Function Centre, 291m<sup>2</sup> excluding back of house areas (Tenancy 41);
- 1 x four-bedroom manager's residence.

The proposal details parking and vehicular access as follows:

 A basement car park with a total of 153 car parking spaces and 12 motorbike spaces with basement access provided via a proposed one-way driveway on an internal access road and left turn only egress from the basement directly onto Warlters Street.

### 1.2 State Environmental Planning Policy (Infrastructure) 2007

**Table 6** shows that the peak parking demand is expected to be over 200 vehicles. It follows that the proposed development qualifies as a development with relevant size and/or capacity under *Clause 104* of the *SEPP (Infrastructure) 2007* with access to any road. Accordingly, the development application must be referred to the Roads and Maritime Services (RMS), now Transport for New South Wales (TfNSW).

### 1.3 Site Description

The site is currently zoned as B3 – Commercial Core Zone according to the Port Macquarie-Hastings Local Environmental Plan 2011. The subject site will have street frontages to both Park Street and Warlters Street. All access to the site will be made via Warlters Street, with the main egress onto Warlters Street, and a singular drive-through exit onto Park Street.

The site is generally surrounded by low to medium density residential dwellings to the south, and commercial businesses in all other directions including Kmart immediately to the west, Port Macquarie Marina directly across Park Street from and Port Macquarie Shops approximately 400m to the north.



### 1.4 Site Context

The site location is shown on aerial imagery and a map in Figure 1 & Figure 2 respectively.



Site Location

FIGURE 1: SITE CONTEXT - AERIAL PHOTO



FIGURE 2: SITE CONTEXT - STREET MAP



# 2 EXISTING TRAFFIC AND PARKING CONDITIONS

# 2.1 Road Hierarchy

The road network surrounding the site has the following characteristics:

### Warlters Street

- Unclassified LOCAL road;
- Approximately 18m in width facilitating one traffic and cycling flow lane in each direction and a 5m width median;
- No speed limit signposted, 50km/hr limit applies;
- Unrestricted kerbside parking available with areas of 'NO STOPPING'.

#### Park Street

- Unclassified LOCAL road;
- Approximately 16m in width facilitating two traffic flow lanes in each direction and a 5m width median;
- Signposted 50km/hr speed limit;
- Areas of unrestricted kerbside parking permitted along both sides of the street.

### Internal Access Road - Kmart Car Park

- Private road within the Kmart car park, which fronts the subject site to the west;
- Approximately 6m in width facilitating one traffic flow lane in each direction;
- Non-sign posted speed limit, 10km/h expected;

#### 2.2 Existing Traffic Management

Signalised Intersection of Warlters Street/ Park Street;

#### 2.3 Existing Parking Environment

Parking counts were completed at the locations shown in **Figure 3** from 3:00pm-10:00pm on Saturday 10<sup>th</sup> November 2018 and Saturday 17<sup>th</sup> August 2019, and 12:00pm-10:00pm on Friday 16<sup>th</sup> August 2019, and therefore encapsulate all parking activity attributed to all developments within the area (including Kmart, the boat ramp, and all other commercial tenancies surrounding the site) during the surveyed times. All surveyed parking areas are located within 200m walking distance to the subject site and are connected by footpaths and pedestrian crossings.





FIGURE 3: PARKING SURVEY LOCATIONS

Results of the parking counts specific to the private Kmart car park is summarised in **Figure 4** and **Figure 5**. These results represent a typical Friday and Saturday. Full parking results are reproduced in **Annexure B**.

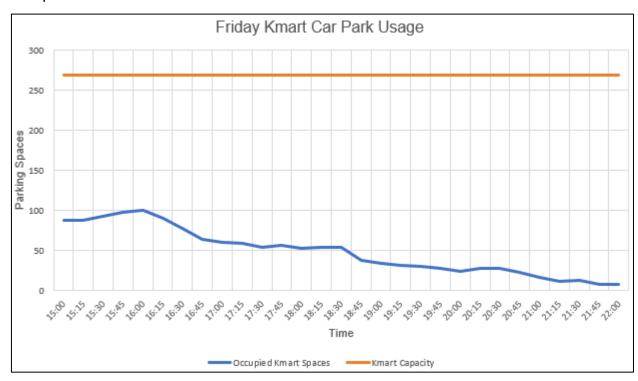


FIGURE 4: FRIDAY KMART CAR PARK OCCUPANCY



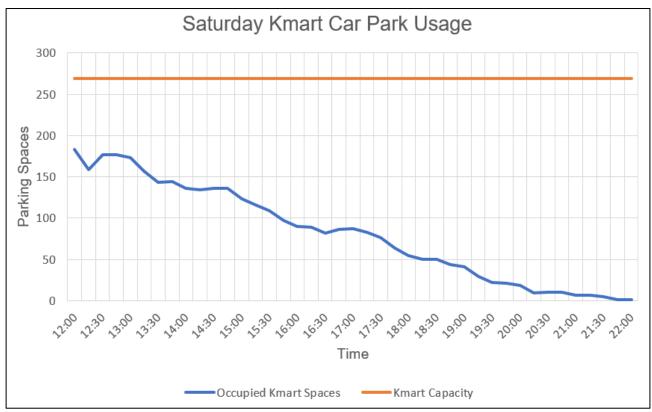


FIGURE 5: SATURDAY KMART CAR PARK OCCUPANCY

The above shows that there is extensive parking available within the nearby Kmart car park in typical operation.

# 2.4 Existing Traffic Environment

Traffic counts were completed at the following intersections of Port Macquarie during the AM and PM peak periods on Friday 2<sup>nd</sup> November 2018, and Saturday 3<sup>rd</sup> November 2018 and therefore encapsulate all traffic movements attributed all developments within the area (including Kmart, the boat ramp, and all other commercial tenancies surrounding the site) during the surveyed times.

- Park Street / Bay Street
- Park Street / Warlters Street
- Warlters Street / Kmart Access Driveway (west)
- Park Street / Kmart Access Driveway
- Warlters Street / Kmart Carpark Driveway (east)



Drive-through traffic counts were completed at the following drive-through locations on a Friday and a Saturday in order to determine the average time spent in a drive-through.

- Guzman Y Gomez Acacia Ridge, QLD
- Oporto Woodbine, NSW

Data is reproduced in its entirety in **Annexure C**, whilst a summary of the data used within this report is shown in **Table 1** below.

**TABLE 1: DRIVE-THROUGH DATA SUMMARY** 

Drive-through Restaurant	Day	Mean Time to Order	Standard Deviation (seconds)
Oporto	Fridov	75 seconds	28 seconds
Guzman Y Gomez	Friday	53 seconds	17 seconds

# 2.4.1 <u>Intersection Performances</u>

Existing intersection performances have been assessed using SIDRA INTERSECTION 8.0, the results of this analysis are summarised in **Table 2**.



# **TABLE 2: INTERSECTION PERFORMANCES (SIDRA INTERSECTION 8.0)**

Intersection	Peak Hour	Degree of Saturation <sup>(1)</sup>	Average Delay (sec/veh) <sup>(2)</sup>	Level of Service <sup>(3)</sup>	Control Type	Worst Movement	95th Percentile Queue
			EXISTING PE	RFORMANC	E		
	Friday PM	0.35	7.8 (Worst 13.5)	<b>A</b> (Worst B)		UT from Park Street	2 veh (13.8m) Park Street
Park Street / Bay Street	Saturday Midday	0.53	8.5 (Worst 15.1)	<b>A</b> (Worst B)	Roundabout	UT from Park Street	3.8 veh (26.7m) Bay Street
	Saturday PM	0.21	7.3 (Worst 12.4)	A (Worst A)		UT from Bay Street	1.3 veh (8.9m) Park Street
	Friday PM	0.36	7.1 (Worst 23.0)	A (Worst B)		RT from Warlters Street	4.3 veh (30.5m) Park Street
Park Street / Warlters Street	Saturday Midday	0.44	7.3 (Worst 23)	<b>A</b> (Worst B)	Signals	RT from Warlters Street	5.6 veh (39.2m) Park Street
	Saturday PM	0.58	12.6 (Worst 18.7)	<b>A</b> (Worst B)		LT from Park Street	3.3 veh (23.3m) Park Street
	Friday PM	0.08	3.5 (Worst 7.2)	<b>N/A</b> (Worst A)	Give Way	UT from Warlters Street	0.2 veh (1.3m) Warlters Street
Warlters Street / Kmart Access Road	Saturday Midday	0.06	4.7 (Worst: 6.9)	<b>N/A</b> (Worst A)		UT from Warlters Street	0.3 veh (2m) Warlters Street
	Saturday PM	0.03	4.6 (Worst 6.8)	<b>N/A</b> (Worst A)		UT from Warlters Street	0.1 veh (0.7m) Warlters Street
	Friday PM	0.18	4.7 (Worst: 6.5)	<b>N/A</b> (Worst A)		LT from Kmart Access Driveway	0.5 veh (3.2m) st: Kmart Access Driveway
Park Street / Kmart Access Road	Saturday Midday	0.23	4.8 (Worst: 6.9)	N/A (Worst A)	Give Way	LT from Kmart Access Driveway	0.7 veh (4.9m) st: Kmart Access Driveway
	Saturday PM	0.11	4.6 (Worst 6.1)	N/A (Worst A)		LT from Kmart Access Driveway	0.3 veh (0.9m) Kmart Access Driveway
Warlters Street / Kmart Carpark Driveway	Friday PM	0.08	0.7 (Worst 6)	N/A (Worst A)		LT from Kmart Carpark Driveway	0 veh (0.3m) Kmart Carpark Driveway
	Saturday Midday	0.06	1.9 (Worst 5.9)	N/A (Worst A)	Give Way	LT from Kmart Carpark Driveway	0.2 veh (1.1m) Kmart Carpark Driveway
NOTES:	Saturday PM	0.04	1.1 (Worst 5.7)	N/A (Worst A)		LT from Kmart Carpark Driveway	0.0 veh (0.3m) Kmart Carpark Driveway

### NOTES:

<sup>(1)</sup> Degree of Saturation is the ratio of demand to capacity for the most disadvantaged movement.

<sup>(2)</sup> The average delay is the delay experienced on average by all vehicles. The value in brackets represents the delay to the most disadvantaged movement.

<sup>(3)</sup> The level of Service is a qualitative measure of performance describing operational conditions. There are six levels of service, designated from A to F, with A representing the best operational condition and level of service F the worst. The LoS of the intersection is shown in bold, and the LoS of the most disadvantaged movement is shown in brackets.

<sup>(4)</sup> NA: Intersection LOS and Major Road Approach LOS values are Not Applicable for two-way sign control since the average delay is not a good LOS measure due to zero delays associated with major road movements.



As shown, the two relevant intersections are currently performing at a high level of efficiency, all with a level of service "A" conditions in both the AM & PM peak hours. The level of service "A" performance is characterised by low approach delays and spare capacity.

## 2.5 Public Transport

The subject site has access to several existing bus routes (Route 322, 324, 325, 334, 334K, 335, 335W, 340, and 341) provided by *Busways* which run along Park Street, with the nearest bus stop located immediately in front of the site. The existing bus routes connect the site to several landmarks within Port Macquarie, as well as the nearby suburbs of Kempsey, Wauchope, Lake Cathie, Bonny Hills, Laurieton and Kendall.

Routes 322, 324, and 325 provide service from the site to Shelly Beach, Lighthouse Plaza and the Ruins Way and run between 7:00am-10:00pm on weekdays and weekends. All other routes terminate by 5:00pm on weekends and/or weekdays.





FIGURE 6: PUBLIC TRANSPORT CONTEXT

# 2.6 Future Road and Infrastructure Upgrades

From Port Macquarie – Hastings City Council's Development Application tracker and website, it appears that there is no future planned road or public transport changes that will affect traffic conditions within the immediate vicinity of the subject.



### 3 PARKING ASSESSMENT

## 3.1 Parking Demand

Reference is made to *Port Macquarie-Hastings Development Control Plan 2013* and *RMS Guide to Traffic Generating Developments 2002* which provide car parking requirements for the subject development. The relevant car parking requirements are reproduced below.

### Take away food and drink premises:

On-site seating & drive through

1 per 3 seats (internal and external) + queuing area for minimum of 8 cars from pickup point

No on-site seating

12 per 100 m<sup>2</sup> GFA + queueing area for minimum if 8 cars from pickup point;

12 per 100m<sup>2</sup> GFA + greater of either;

#### Retail

1 per 30m<sup>2</sup> GLFA or 1.5 spaces per shop, whichever is greater

#### Restaurant

In commercial zones: 1 per 30m<sup>2</sup> serviced floor area

#### Cinema

An application for a major commercial development must be accompanied by a Traffic Impact Study that makes adequate provision for public transport facilities and motorcycle and bicycle parking.

#### Recreation Facilities (indoor)

Bowling Alley: 3 per lane

Gymnasium: 7.5 Per 100m<sup>2</sup> GFA

#### **Gymnasiums**

7.5 spaces per 100m<sup>2</sup>

#### Residential Flat Building

1.5 spaces per 3-4 bedroom unit

The resulting parking requirement for the development scale is summarised in **Table 3**.



#### **TABLE 3: CAR PARKING REQUIREMENT**

Description	Туре	Scale	Rate	Parking Required	Authority
	Cinema	1,191 seats	Subject to Traffic Study	See Section 3.2.1	Traffic Study
Cinema Based Entertainment Complex	Bowling Alley	6 lanes	3 per lane	18 spaces	Council DCP RMS Guide
	Indoor Recreation	2,132m <sup>2</sup>		See Section 3.2.6	Traffic Study
Retail	Retail Shops	302m² GLFA	1 per 30m <sup>2</sup> GLFA or 1.5 per shop	10	Council DCP
	Drive- Through	373m²	1 per 3 seats + queuing for 8 cars from pickup point	See Section 3.2.7	Council DCP
Food and Drink Premises	Take Away	30m²	12 per 100m² GFA	3.6(4)	Council DCP
	Restaurants	869m² serviced area	1 per 30m <sup>2</sup> serviced area	29	Council DCP
Gymnasium	UFC Gym / World Gym	1,531m²	7.5 per 100m² GFA	114.8 (115) See Section 3.2.8	Council DCP
Function Centre		291m²	10 spaces per 100m <sup>2</sup> serviced area	29 See Section 3.2.9	TPS Group Traffic Study
Residential Flat Building	Manager's Residence	One (1) 4-bedroom unit	1.5 spaces per unit	1.5 (2)	Council DCP

Considering that the staffing of the facility is shared between land-uses and that staff parking demand is included in the parking requirements for both the Cinema Complex and Restaurants in **Table 3** (i.e., considered twice), the actual parking demand will be less than that reflected above. *McLaren Traffic Engineering (MTE)* has completed a parking study to determine the appropriate parking demand for the cinema-based entertainment complex. The cinema and amusement centre parking demand studies are in the following sections.

#### 3.2 Cinema Based Entertainment Parking Demand Study

As referenced in **Section 3.1** of this report, *MTE* completed a parking demand study in order to determine the parking demand of the cinema in terms of number of car parking spaces per seats in the cinema.

#### 3.2.1 Cinema Survey

*MTE* commissioned Curtis Traffic Surveys in 2016 to survey a 1,920-seat cinema in Warriewood. Over the three days surveyed (results shown in **Annexure D** for reference), the parking demand showed consistent rates compared to the daily ticket sales of 1 space



per 7.65 daily tickets with an R<sup>2</sup> value of 0.98 which is evidence of a very strong correlation. The 85th percentile occupancy of the cinema is considered the design occupancy, consistent with the RMS guide and standard traffic engineering practice. The previous six months of daily ticket sales for Fridays and Saturdays were collected and are reproduced in **Annexure D** with the 50th/85th percentiles for Friday being 560/1,222 and Saturday being 1058/1,617.

This data is used to project ticket sales for the proposed cinema on the subject site. The proposed cinema's seat capacity is 1,191 seats, which is approximately 62% of the seat capacity of the surveyed cinema at Warriewood. Assuming a direct correlation of ticket sales to seat capacity, the ticket sales of the proposed cinema project to 50<sup>th</sup>/85<sup>th</sup> percentile ticket sales of 347/758 for Friday and 656/1,003 on Saturday evening.

Applying the Warriewood data, as can be seen in **Section 3.2.2**, the maximum calculated peak Saturday evening parking demand for the Port Macquarie cinema is therefore 131 spaces.

#### 3.2.2 Cinema Parking Demand

Based on the ticket sales projection and parking demand rate (spaces per ticket sold) calculated in **Section 3.1.1** above, the parking demand for the proposed 1,191 seat cinema is shown in **Table 4** below.

Land Use	85 <sup>th</sup> Percentile Ticket Sales	Rate (Tickets sold/space)	85 <sup>th</sup> Percentile Parking Demand
Friday Evening	758	7.05	99 spaces
Saturday Evening	1,003	7.65	131 spaces
Minimum Requirement			131 spaces

**TABLE 4: CALCULATED PARKING DEMANDS** 

As shown above, the cinema demands a total of **131** car parking spaces based on the 85<sup>th</sup> percentile demand on Saturday evening.

The 131-space demand represents the peak weekly parking demand for the cinema. It is relevant to note that this peak correlates with increased availability of on-site parking at the Kmart car park, as shown in **Figure 5**.

### 3.3 Dual Usage

The RMS 'Guide to Traffic Generating Developments' notes for shopping centres and alike that "When it can be demonstrated that the time of peak demand for parking associated with the proposed shopping centre and the adjacent land uses do not coincide, or where common usage reduced total demand, a lower level of parking provision may be acceptable". Common usage, or dual use, of the surveyed cinema site in Warriewood was surveyed in 2016 and found after 5pm that 18% of cinema patrons also utilised the restaurant/bar on the site (data reproduced in **Annexure D**).

It is important to note that the Warriewood site is situated near a small variety of restaurants and other retail uses within the area. The Port Macquarie site is located very near the Settlement City Shopping Centre and includes much more retail and restaurant tenancies



than the Warriewood site. Drivers arriving at the subject site will park for longer in one space while they patronise the cinema and any other surrounding business. An example for the subject site would be visiting any of the 16 ground floor tenancies, the indoor recreation centre or the gym on the first floor, the function centre on the third floor or any other use within the Settlement City Precinct.

Given the layout and location of the proposed cinema site in Port Macquarie, it is conservatively assumed that dual usage will be 15% of restaurant and retail patrons. This is a lesser figure than what was surveyed at the Warriewood site despite the subject site's superior opportunity for dual usage given the site surroundings. No dual use consideration has been given to bowling, gym, amusement centre or function centre uses. Further, no specific consideration has been given to dual usage with other places in the town centre. 15% dual usage for restaurants and retail users is therefore a very conservative figure. Dual usage for the site would generally occur after normal business hours.

### 3.3.1 Alternative Transport

The parking demand is further reduced by use of public transport and other modes of transportation that would not require parking spaces. We can assume a small portion of the patrons for the cinema will walk, ride a bike, take a bus or taxi to the site, or get dropped off. The site has access to multiple bus routes which provide access to several areas within Port Macquarie. It can be assumed that a small portion of patrons from Port Macquarie will use the bus to travel to and from the cinema development.

According to 2016 Census Data (data reproduced in **Annexure E**), residential dwellings in Port Macquarie own an average of 1.48 vehicles per household, and 9% of residential dwellings do not own a vehicle. In comparison, residential dwellings in Warriewood own an average of 1.85 vehicles per household, and only 2% of residential dwellings do not own a vehicle. The nearby suburb of Mona Vale has a car ownership rate of 1.78 vehicles per household, while 6% of households do not own a vehicle. Therefore, it is reasonable to assume a higher percentage of public transportation usership in Port Macquarie than in Warriewood.

Further, the site has proposed two (2) pick-up and drop-off zones along the Park Street frontage which will be limited to 5-minute parking. There is also unrestricted kerbside parking available on Park Street adjacent to the site which is likely to be used as a pick-up and drop-off area when available. The location of the pick-up and drop-off zones is shown in **Figure 7**.



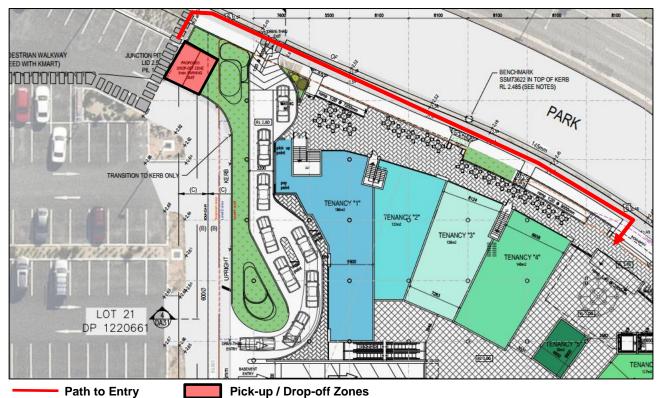


FIGURE 7: PICKUP AND DROPOFF SPACE LOCATION

Based upon the above, we can conservatively assume that 5% of patrons will arrive to the site via alternative transport methods such as riding a bike, public transportation and/or walking.

# 3.3.2 *TPS Group* Response to Alternative Transport

The *TPS Group* peer reviewed the initial DA report and stated the following regarding justifications for a 5% alternative transport rate:

In our view there is no evidence to justify a 5% reduction in car parking requirements for the development as applied by McLaren based on travel via public transport or other non-car modes being higher than implicitly contained with car parking demand rates. In our view, any reduction in parking requirements based on non-car use would be more than negated by the degree to which the DCP parking rates understate probable peak parking requirements in the location of the subject development.

**MTE Response**: For conservativity, the alternative transport rates have only been assessed to the cinema parking requirement, and not also to the other site uses. The site's accessibility for alternative transport methods has been improved since the DCP was published in 2013. Specifically, the following alternative transport infrastructure measures have been implemented within the last six (6) years within close proximity to the site.

- Foreshore Bicycle path extension/widening to connect to the land east of Kooloonbung Creek.
- Formalised bicycle path on Warlters Street.



Additionally, the Council released the Port Macquarie-Hastings Bike Plan in May 2015 whose objective is to *Increase the proportion of all trips – by residents, workers and visitors – that are undertaken by bike.* 

The Plan includes bicycle maps the Port Macquarie Town Centre which are available to all residents. The map of the area surrounding the site (reproduced in **Annexure F**) shows that there is a proposed shared path along Park Street and Bay Street within close proximity to the site and a proposed Road Shoulder bicycle path directly along the site's frontage to Park Street. There are also several proposed shared paths and road shoulder bike paths that will significantly improve the site's connectivity to the Port Macquarie Bicycle network.

Given that the 2015 *Bike Plan* was implemented after the Council DCP parking rates were determined, it is logical to expect a higher level on non-car transport than what is implicitly contained within the DCP rates of 2013.

The King and Campbell submission assumes that the DCP underestimates the parking requirement for a development at this specific location. There is no evidence that the DCP parking rates understate probable peak parking requirements in the location of the subject development.

Additionally, the proposal details two (2) pick-up and drop-off spaces within the ground level car park. These spaces are additional to the existing spaces at ground level. It is expected that these spaces will be used frequently for taxis, rideshare vehicles and/or parents dropping patrons off and picking them up without using any of the Kmart or basement car parking spaces. The increase in popularity for rideshare apps (such as Uber, Taxify and Ola etc.) since Uber's Australian launch date in 2012 is evidence that these spaces will be utilised. The Council DCP does not detail any requirements for pick-up and drop-off spaces, therefore it is reasonable to expect a higher level of drop-off traffic than what is implicitly contained within the 2013 DCP rates.

The assumed percentages of alternative transport will reduce the overall parking demand for the proposed cinema. The resulting car parking requirement is shown in **Table 5** below.

**TABLE 5: CINEMA ALTERNATIVE TRANSPORT PARKING DEMAND REDUCTION** 

Day	85 <sup>th</sup> Percentile Parking Demand	Alternative Transport Reduction*	Resultant Parking Demand
Friday Evening	99 spaces	5%	94 spaces
Saturday Evening	131 spaces		124 spaces
Minimum Requirement			124 spaces

\*Note: Alternative transport reduction percentages are calculated from 85<sup>th</sup> percentile parking demand quantities.



As shown in **Table 5**, the parking demand for the cinema is 124 spaces on Saturday evening after reductions for alternative transport methods. These quantities provide the following parking rates for the 1,191-seat cinema development.

Friday Evening: 1 space per 12.6 seats (94 spaces); Saturday Evening: 1 space per 9.6 seats (124 spaces).

### 3.3.3 Bowling Alley

The RMS Guide and the Council's DCP define parking demand for bowling alleys at 3 spaces per lane. The peak parking requirement has been assessed using these rates, with no reduction for alternative transport of dual use.

Friday Evenings: 3 spaces / lane; Saturday Evenings: 3 spaces / lane.

### 3.3.4 Amusement Centre Parking Demand Study

In terms of parking demand, amusement centres are each unique land uses with primary affecting factors being proximity to complimentary land uses, patronage of each unique isolated activity such as laser tag, children's playground, karaoke rooms, and proximity to public transport. For the purpose of assessment, comparison is drawn to a similar development at Salisbury Road, Asquith which is in the Hornsby LGA and was approved on the basis of the study completed by Lyle Marshall & Associates Pty Ltd (LMA) in November 2010 (relevant extracts reproduced in **Annexure G**). That study found an amusement centre of 1,576sqm GFA, including laser tag, generates weekend midday demand of 53 parking spaces for staff and patrons, including approximately 60 parents, 90 children and 8 staff. Friday evening parking demand was found to be less than 32 spaces or 60% of peak trade.

Scaling these figures to the subject tenancy of approximately 1,018m<sup>2</sup> GFA (Total of all patron generating areas minus the bowling alley area) the peak isolated demand is expected to be 34 spaces on Saturday evening between 5-7pm, given the usage profiles for similar developments in Port Macquarie. As a conservative assessment, the amusement centre is not considered to be a complementary use to the cinema, though it is reasonable to expect that some portion of cinema patrons will also utilise the Amusement centre areas.

Peak Demand – Saturday Evening: 1 space per 30m<sup>2</sup> (34 spaces).

#### 3.3.5 Drive-Through Tenancies

The proposed plans show that Tenancy 1 and Tenancy 15 are restaurant locations that will be serviced by drive throughs. Tenancy 1 will be occupied by a Guzman Y Gomez franchise, and Tenancy 15 will be occupied an Oporto franchise. Parking demand for these land uses cannot be compared accurately to a typical restaurant because a portion of the patrons that will visit these tenancies will be through the drive through, and therefore won't require a parking space.

Reference is made to the RMS Guide Section 5.8.1 which provides parking demand rates for Drive-in take-away food outlets. For developments with on-site seating and drive-through facilities, the parking requirement is the greater of 1 space per 2 seats (internal), or 1 space per 3 seats (internal and external). At this point in time, we do not have seating data for



either the Guzman Y Gomez or Oporto developments. Therefore, the parking requirement must be determined from survey data.

Reference is made to the RTA (now RMS) *Land Use Traffic Generation Data and Analysis 22 Drive Through Restaurants (1992)* which provides survey details for several McDonalds and KFC fast food drive-through restaurants across NSW. It is important to note that the two proposed fast food drive-through tenancies are neither McDonalds nor KFC tenants and are considered to be tenancies which will result in lower peak parking demands. As such, it is considered that the RMS surveys of the KFC developments will be the more accurate portrayal of parking demand as these are considered to have lower peak patronages than McDonalds tenancies. Across all surveyed KFC drive-through developments, the maximum parking demand was 16 spaces on Friday and 18 spaces on Saturday for a 210m<sup>2</sup> GFA restaurant. Assuming a linear relationship between parking demand / GFA and a 15% dual use component, the parking demand for both drive-through fast food tenancies is shown below. It is reasonable to assume that the Saturday lunchtime (Midday) demand is expected to be 85% of the Saturday evening demand:

Friday Evening Demand – 1 space per 15.5m<sup>2</sup> GFA (24 spaces); Saturday Midday Demand – 1 space per 16.2m<sup>2</sup> GFA (23 spaces); Saturday Evening Demand – 1 space per 13.8m<sup>2</sup> GFA (27 spaces).

### 3.3.6 Restaurants

The parking rate of 1 space per 30m<sup>2</sup> for restaurants is provided within the Council's DCP. As discussed, a 15% dual usage component shall be applied to the restaurant users given their likelihood to patronise other uses within the development. The calculated demand is therefore:

Peak parking requirement: 1 space per 34.75m<sup>2</sup> GFA (25 spaces)

#### 3.3.7 Gymnasium

Parking rates for gymnasium premises are provided by the Council DCP as 7.5 spaces per 100m<sup>2</sup>. This rate is taken from the RMS Guide to Traffic Generating Developments, which also notes a minimum requirement of 4.5m spaces per 100m<sup>2</sup>. The peak parking requirement for the 1,531m<sup>2</sup> gym based upon the RMS rates is therefore:

Peak parking requirement: 7.5 spaces per 100m<sup>2</sup> (115 spaces).

The nature and profile of gymnasium develops has significantly changed since these surveys, with class-based exercise and 24-hour gym access becoming the norm progressively since the 2000's. As such, a parking profile based upon patron usage has been developed using data from Anytime Fitness, Port Macquarie. The parking demand is therefore distributed in accordance with **Annexure H** to provide the parking profiles in **Figure 8** and **Figure 10**.



### 3.3.8 Function Centre

Neither the RMS Guide nor the Council's DCP specifies parking rates for function centres. The amended plans have detailed a total Function Centre GFA of 486m², which includes 195m² of Back of House area. Therefore, the net function centre area available for use (or serviced area) is 291m². TPS Group has suggested that a rate of 10 spaces per 100m² serviced area would be acceptable. The application of the suggested rate results in a parking requirement of 29 spaces.

MTE agrees that 29 spaces is adequate for the function room use. The generally accepted car occupancy rate of 3 persons per vehicle for function centres results in a patron capacity of 11 people, or 1 person per 3.3m<sup>2</sup>, which is considered reasonable for function centres.

# 3.3.9 All Uses

The peak parking demands for each of the development's uses is summarised in **Table 6**.

TABLE 6: PEAK CINEMA BASED ENTERTAINMENT COMPLEX PARKING DEMANDS

Use	Peak Parking Period	Scale	Rate	Rate Base	Peak Parking Demand
	Cinem	a Based Enter	tainment Complex	(	
Cinema	Friday and Saturday Night	1,191 seats	1 space per 9.6 seats	Cinema Study	124 spaces
Bowling Alley	Saturday Night	3 lanes	3 spaces per lane	Council DCP and RMS Guide	9 spaces
Amusement Centre	Saturday Midday	1,018m²	1 space per 30m²	Amusement Centre Study	34 spaces
24-Hour Gym	Monday Evening	1,531m²	7.5 spaces per 100m <sup>2</sup>	Council DCP and Maximum RMS Guide	115 spaces
Function Centre (excl. BOH)	Any time	291m²	1 space per 10m <sup>2</sup>	TPS Group	29 spaces
Manager's Unit	Any time	4-bedroom	1.5 per unit	Council DCP	2 spaces
		Ground Floor	Tenancies		
Guzman Y Gomez and Oporto		373m²	1 space per 13.8m² GFA	RMS Guide KFC Rate (incl. 15% dual use)	27 spaces
Take Away Food Premises	Friday Night, Saturday Midday and Saturday	30m <sup>2</sup>	Ancillary <sup>(3)</sup>	Reasonable Estimation	0 spaces
Restaurants (incl. terrace)	Night	869m²	1 per 30m² serviced area	Council DCP (incl. 15% dual use)	25 spaces
Retail		302m²	1 per 30m² GLFA or 1.5 per shop	Council DCP (incl. 15% dual use)	9 spaces



Note:

- (1) Based on a rate of 3.3m<sup>2</sup> per person in the areas excluding Back of House, which is considered reasonable for a function room of this size
- (2) MTE has assumed that all restaurants will be open for lunchtime and will operate at full capacity
- (3) The take away food premises is not a drive through and is therefore not expected to demand any unique trips. All patrons to the take away food premises are expected to be passers by or patrons who are already in the precinct.

#### 3.4 Parking Demand Profiles

It is important to note that the peak parking demands for each use occur at separate times, and as such, it is not logical to use the sum of all individual demands to determine the cumulative car parking requirement. Therefore, MTE has collected usage data from the similar developments to those proposed within the development.

- Bowling: Wave Bowl Port Macquarie
- Gymnasium: Anytime Fitness Port Macquarie
- Amusement Centre: Planet X and Ark Sports Port Macquarie
- Cinema: United Warriewood Cinema Warriewood

MTE has developed parking demand profiles for Fridays and Saturdays for all uses (including the above) as summarised in **Table 7**. Data profiles are provided in **Annexure H** in full for reference.

**TABLE 7: PARKING DEMAND PROFILE BASIS** 

Land Use	Peak Time	Basis	
Cinema	Friday and Saturday Night	United Cinemas - Warriewood	
Bowling Alley	Saturday Night	Wave Bowl – Port Macquarie	
Amusement Centre	Saturday Midday – Saturday Evening	Planet X and Ark Sports Port Macquarie	
24-Hour Gym	Monday and Tuesday Evening	Anytime Fitness - Port Macquarie	
Function Centre	Any Timo	100% Occupied at all times	
Manager's Unit	Any Time		
Guzman Y Gomez and Oporto	Friday Evening		
Restaurants	Saturday Midday	Reasonable Estimation (Open for Lunch and Dinner)	
Retail	Saturday Evening	(Oponior Editori and Diffior)	

#### 3.5 Cumulative Parking Demand

The development's cumulative parking demand has been charted throughout the Friday and Saturday peak periods by applying the peak parking demand in **Table 6** with the parking demand profiles summarised in **Annexure H**. The resultant parking requirements are shown diagrammatically on the following pages. **Figure 8** and **Figure 10** show a breakdown of the parking demands by use for the Friday and Saturday peak periods. It is noted that there is expected to be a basement overflow during these peak periods. Overflow parking would be accommodated in the private Kmart carpark in accordance with a previous agreement between the applicant and the Kmart site owners.



The overflow parking is shown graphically along with the Kmart car parking availability in **Figure 9** and **Figure 11** for Friday and Saturday respectively.

It is noted that there were approximately  $390m^2$  of unoccupied shops within the Kmart precinct. This has the potential to demand an additional 13 car parking spaces in accordance with Council's 1 space per  $30m^2$  rate.

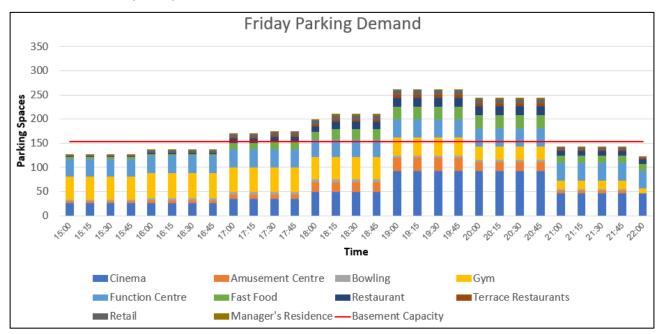


FIGURE 8: FRIDAY PARKING DEMANDS

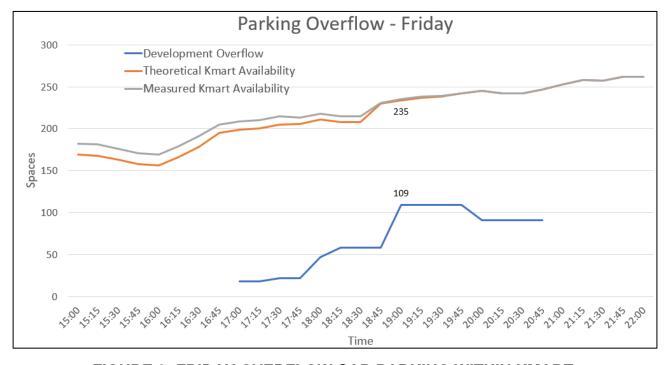


FIGURE 9: FRIDAY OVERFLOW CAR PARKING WITHIN KMART

As shown, the basement carpark is expected to overflow a maximum of **109** spaces between 5:00pm-9:00pm. It is noted that the minimum overflow capacity during this period is **235** spaces, which is more than sufficient to satisfy the overflow parking demand.



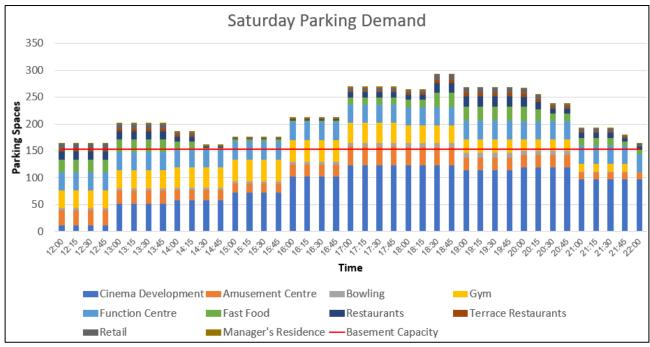


FIGURE 10: SATURDAY PARKING DEMANDS

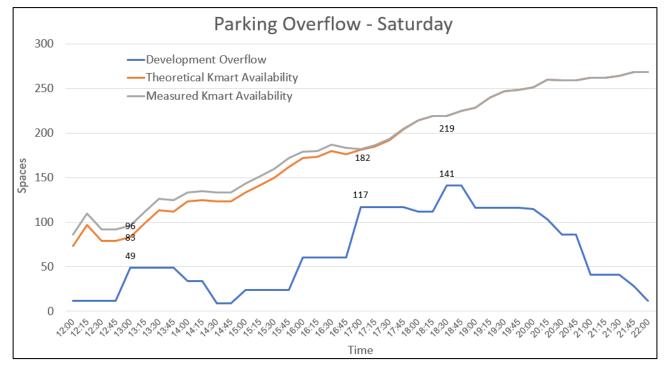


FIGURE 11: SATURDAY OVERFLOW CAR PARKING WITHIN KMART

As shown, the basement carpark is expected to overflow a maximum of **141** spaces at 6:30pm. It is noted that the minimum overflow capacity during this period is **219** spaces, which is more than sufficient to satisfy the overflow parking demand. The most constrained time is 1:00pm on Saturday when parking associated with the Kmart site is at its peak. Even still, there is expected to be a surplus of **47** (96-49) spaces at this time, or **34** (83-49) spaces if the vacant tenancies were to operate at their potential.

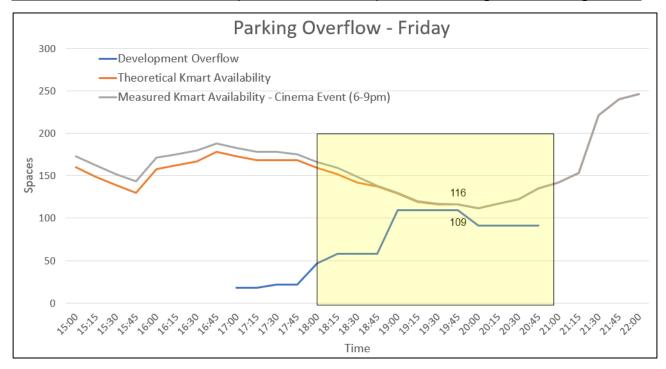


# 3.6 Friday and Saturday Events

It was observed during the surveys on 9<sup>th</sup>-10<sup>th</sup> August 2018 that Westport Park hosts events throughout the year such as the Cinema Under the Stars and the Foreshore Markets. These public events rely on public parking within the area such as on-street parking, the Westport Park Car Park and the Boat Ramp car park.

The survey results showed, however, that visitors to the Westport Park public events utilise the private Kmart car park as well as the public car parking. This is evidence that there is not enough public car parking in the area to support public events occurring at their current rate and scale.

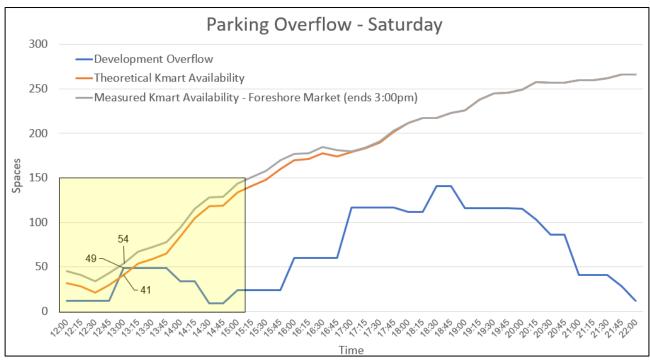
The parking overflow during these events are provided in **Figure 12** and **Figure 13**. It is noted that the areas highlighted in yellow will not be the actual parking conditions after implementation of the Car Park Management Plan. The typical parking conditions within the Kmart Car Park on which this report is based are represented in **Figure 9** and **Figure 11**.



Kmart Parking Data affected by a public event

FIGURE 12: FRIDAY PARKING OVERFLOW - CINEMA UNDER THE STARS





Kmart Parking Data affected by a public event

FIGURE 13: SATURDAY PARKING OVERFLOW – FORESHORE MARKETS

As shown, there is sufficient available parking on Friday to accommodate the development overflow despite additional overflow parking from the public Cinema Under the Stars event. On Saturday, the measured Kmart availability at 1:00pm (54 spaces) is sufficient to satisfy the development overflow (49 spaces). However, if the vacant tenancies were to be occupied at full capacity, there would only be 41 available spaces. This is discussed in **Sections 3.7** and **Section 3.8**.

The above assessment is considered a worst-case result due to the following factors:

- MTE has not counted the motorbike parking spaces toward parking demand. The provision of 12 motorbike spaces would theoretically reduce the parking shortfall by 12 spaces;
- The assessment assumes that the function centre operates at full capacity (29 spaces) during all peaks;
- The assessment assumes that the manager's residence will be fully occupied (2 spaces) during all three peaks. The manager's residence is intended for use by the site's owner and will only be occasionally occupied when the owner is in town.

From **Figure 8** through **Figure 11**, it is evident that the Kmart car park has sufficient spare capacity to accommodate the development's overflow during a typical Friday and Saturday. The proposed development is not expected to operate at or near peak capacity on Sundays or during the weekdays. Therefore, it is highly likely that there will be no shortfall of parking on Sunday or other weekday mornings/early afternoons, and all parking demand can be accommodated within the basement.



It is noted that **Figure 12** and **Figure 13** are affected by illegal public parking associated with events at the nearby Westport Park. There is evidence that the Council does not provide sufficient parking for these events. The Car Park Management Plan will seek to mitigate illegal parking such that the parking quantities in **Figure 9** and **Figure 11** are the accepted and typical parking values on which this assessment is based.

Therefore, the proposed basement car park of **153** car spaces is therefore supported, subject to the ability to use up to **141** car spaces within the Kmart Car Park, which has a total capacity of **269** spaces (excluding disabled).

#### 3.7 Kmart Car Parking – Event days versus Non-Event days

During one-off events and monthly markets, inappropriate public parking occurs within the Kmart car park which minimises the car park's available capacity. The parking comparison between event days and non-event days is summarised in **Figure 14** and **Figure 15**.

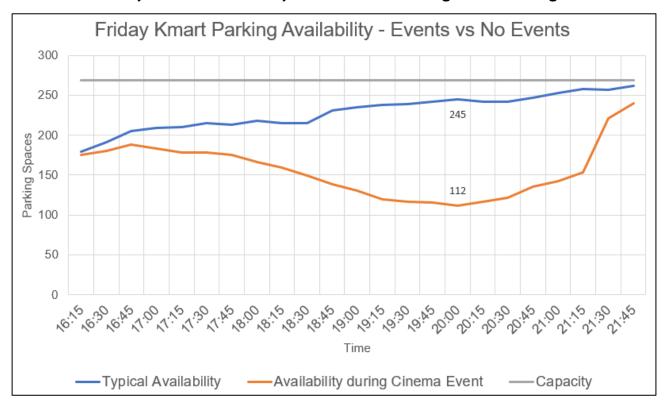


FIGURE 14: KMART CAR PARK AVAILABILITY – OUTDOOR CINEMA VS TYPICAL



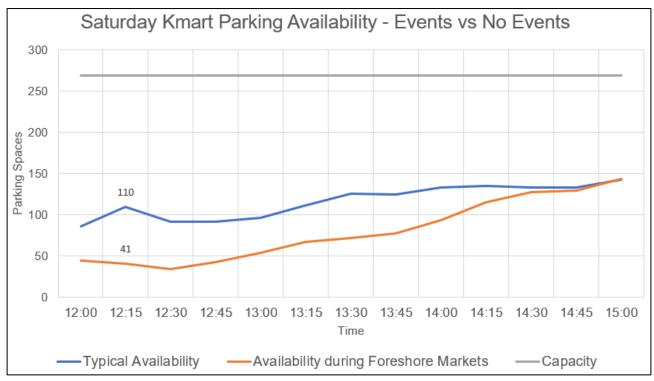


FIGURE 15: KMART CAR PARK AVAILABILITY - OUTDOOR MARKETS VS TYPICAL

As shown, there is a significantly higher availability during a typical Friday and Saturday than when an event is planned. This is evidence that the private Kmart car park is utilised by vehicles attending the public events at the neighbouring Westport Park.

### 3.8 Car Park Management Plan

Though **Figure 12** and **Figure 13** show that the development overflow can be accommodated within the measured Kmart capacity, even during events, a *Car Park Management Plan* should be implemented to ensure that the Kmart car park is utilised only by patrons to the Kmart, the subject development, and the surrounding privately owned tenancies. Therefore, the parking conditions in **Figure 9** and **Figure 11** are the realistic car parking availabilities for the Kmart site.

The Car Park Management Plan recommends that the following items be installed within the proposed basement as well as within the existing Kmart car park.

### 3.8.1 Entry/Exit Boom Gates

Each entry and exit to the basement car park should be implemented with a number plate reader and a boom gate. Entering vehicles will temporarily slow while the number plate reader records the number late of the vehicle entering the private car park. Patrons of the subject development will validate their parking should the patron stay longer than a specified short-term period. The purpose of this exercise is to prohibit vehicles not associated with the development from entering the carpark.

If necessary, these boom gates can be implemented in the Kmart car parking area as well, with similar measures to prohibit vehicles not associated with the Kmart development from entering the carpark.



# 3.8.2 Dynamic Parking Signage

A dynamic parking sign shall be included near the basement entry to notify drivers of the available parking capacity within the basement. The basement car park offers covered and secure parking and is therefore desirable for development users. Once inside the basement, additionally dynamic parking systems should be provided within the basement to ensure efficient traffic flows within the basement. It is noted that the basement is designed for one-way flows, which is a superior outcome for traffic flow efficiency.

#### 3.8.3 Directional Signage

With the addition of several retail and restaurant tenancies, directional signage shall be provided within the Kmart car park showing the best parking locations for certain uses, such as the cinema, gym, and Kmart tenancies. A sign should be provided upon entry to the Kmart Car Park both from Park Street and Warlters Street. Additionally, signage should direct gym and cinema patrons into the basement as the best parking location. These two uses are the largest individual traffic generators of the proposed development. Directing gym and cinema users into the basement for the best parking location will limit overflow parking on weekday evenings when the gym operates at its peak capacity.

#### 3.8.4 Parking Security

Multiple parking security agents should be employed to monitor the Kmart car park during Westport Park events to ensure that vehicles utilising the Kmart car park are associated with the Kmart tenancies or the subject development. Signage shall be posted around the car park stating that parking is not permitted for vehicles solely attending the Westport Park events, or any other purpose that does not include patronising the Kmart developments or the subject development.

#### 3.9 Bicycle & Motorcycle Parking Requirements

The Council's DCP requires that bicycle and motorcycle parking must be considered for all developments however, it does not specifically state or require the provision of bicycle or motorcycle parking for the proposed uses. Data from the *Australian Bureau of Statistics Motor Vehicle Census 2017* indicates that 4.5% of all registered vehicles in Australia are motorcycles. As a result, it is considered that some provision for motorcycle parking should be made. Applying the above rate to the amount of car parking available to the development (264 spaces) results in 12 motorcycle spaces to be used. 12 motorcycle parking spaces have been provided on site.

The site is located within the city centre and has access via flat terrain to the CBD and surrounding residential localities, therefore some percentage of trips are expected to be via bicycle. Further, the site is located very near to the Foreshore shared path, which provides safe and convenient access to the boat ramp, which is directly across Park Street from the site. It is therefore recommended that a bicycle parking area with lockable rails be provided in a convenient location on the ground floor, where space is permitting.

The provision of bicycle and car parking on the site will theoretically reduce the development's car parking demand. The site's capability to attract alternative transport methods including bicycles is summarised in detail in **Section 3.3.2**.



### 3.10 Servicing & Loading

Table 5.1 of the RMS Guide has the following minimum requirements for the provision of service and loading bays for specific development types:

Supermarkets, shops, and restaurants: 1 space per 400m<sup>2</sup> GFA

Other Uses: 1 space per 2,000m<sup>2</sup>

The ground floor of the development contains eleven (11) food and drink tenancies, all of which have less than 400m<sup>2</sup> GFA. Therefore, the RMS Guide does not require that any of these tenancies provide a service and loading bay. Further, as these tenancies are not supermarkets, they are not expected to receive a large amount of deliveries throughout the day.

Similarly, the Gym, the Amusement centre and the Cinema are not expected to receive a large amount of deliveries. Further, the Gym has less than 2,000m<sup>2</sup> GFA and therefore does not require a service and loading bay as per the RMS requirements.

The proposed plans provide two (2) service and loading bays, one of adequate in size for two HRVs within the development. These loading bays should be shared between the all uses within the development and should operate under a plan of management to ensure efficiency of use.

Swept path analysis has been undertaken (with results reproduced in **Annexure I**) showing an HRV and an MRV entering and exiting the respective loading areas. It is relevant to note that any heavy delivery vehicle (HRV or MRV) cannot access the western loading bay whilst the eastern loading bay is occupied. The use of the loading bays should operate under a plan of management such that the western loading bay is the first bay occupied, and that the western bay need not be occupied whilst a delivery vehicle is in the eastern loading bay. Given that the site shares an access from Warlters Street with Kmart, it is proposed that the loading dock for the subject development should restrict access for HRVs between 10am-5pm. The site can be serviced by smaller trucks within these hours, and all trucks outside of these hours.

### 3.11 Disabled Parking

The Council DCP does not specify disabled parking rates. The proportion of spaces to be allocated as disabled spaces must be in accordance with AS2890.6-2009 (disabled) and the *Building Code of Australia (BCA)*. A restaurant is a Class 6 building under the BCA. All other uses within the development are considered Class 5 under the BCA. Class 5 and Class 6 buildings have the following requirements for disabled parking provision:

Class 5 buildings are office buildings that are used for professional or commercial purposes, excluding Class 6, 7, 8 or 9 buildings.

1 space for every 100 carparking spaces or part thereof.



Class 6 buildings are typically shops, restaurants and cafés. They are a place for the sale of retail goods or the supply of services direct to the public.

1 space for every 50 carparking spaces or part thereof.

The above parking requirements result in a total requirement for four (4) disabled parking spaces to be provided on site. A total of four (4) disabled spaces are provided, satisfying the BCA requirement.

# 3.12 Drive-Through Exit Sightlines

The proposed development consists of a drive-through exit at ground floor level, which is a left out only drive-through onto Park Street. Pedestrian sight triangles which comply with *Figure 3.3* of *AS2890.1:2004* must be maintained at all drive-through exits to increase pedestrian safety within the corridor. In addition to the pedestrian sight triangles, it is recommended that a stop line, stop sign, and speed hump be installed at the end of the drive-through and priority be given to pedestrians at all times. These measures will further improve pedestrian safety near the drive-through exits.

In addition to providing compliant pedestrian sightlines, the drive-through exit must provide sufficient sightlines to approaching vehicles on Park Street. *Figure 3.2* of *AS2890.1:2004* provides sight distance requirements for access driveways. Park Street has a speed limit of 50km/h, which gives a minimum required stopping sight distance (SSD) of 45 metres for vehicles approaching the drive-through exits from the frontage road. Vehicles which exit onto Park Street via the drive-through exit have unrestricted sight distance to the intersection for approximately 50 metres to the east on Park Street, which complies with *AS2890.1:2004*. The Park Street verge for 15 metres immediately to the east of the drive-through exit must be free of any sightline obstructions such as street trees, or anything that would restrict driver sightlines along Park Street.

#### 3.13 Required Internal Design Changes

The proposed plans provide one basement level containing 153 car spaces and 12 motorbike spaces and is accessed by two (2) separate one-way ramps. Swept path testing has been undertaken showing circulation within the basements, with results reproduced in **Annexure I**, demonstrating the following compliance issues with the internal carpark:

- The loading arrangements support two HRVs simultaneously. However, the western bay is only accessible when the eastern bay is vacant. Appropriate signage should be placed at the loading bay entry and a plan of management must be followed to accommodate this arrangement;
- A minimum of 2.2m of headroom must be provided at all points within the basement, except for above disabled and shared spaces, where 2.5m is required;
- All parking spaces shall provide 300mm clearance to high obstructions such as walls and stairwells. Standard visitor parking spaces are required to be 2.6m in width. Rows of parking which are adjacent to a wall should be reduced to the minimum width requirement such that 300mm clearance is provided to all high obstructions;



• Visitor car parking spaces to be 2.6m in width, with the exception of small car spaces, which can be 2.3m in width;

The above required changes can be resolved after DA approval.

### 3.14 Car Park Design & Compliance

The proposed car parking layout has been assessed to generally achieve the relevant objectives and requirements of AS2890.1, AS2890.2 and AS2890.6 subject to the required changes described in **Section 3.8**. The carpark has the following features relevant to traffic and parking impact:

- 5.8m parking aisles;
- 300mm clearance must be provided to all high obstruction such as walls and stairwells;
- Disabled spaces 2.6m x 5.4m with adjacent 2.6m x 5.4m shared space;
- Maximum ramp grade of 20%;
- Kerb to kerb ramp width of 4.0m for exit ramp;
- Wall to wall ramp with of 4.8 for entry ramp.

It is usual and expected that a design certificate be required at the Construction Certificate stage to account for any design changes during the Development Application process.



### 4 TRAFFIC ASSESSMENT

The impact of the expected traffic generation levels associated with the subject proposal is discussed in the following sub-sections.

#### 4.1 Traffic Generation

The estimated traffic generation for the proposed development must follow a similar procedure to that of the parking demand in that each land use must be calculated separately in terms of traffic generation, then combined to provide the total traffic generation for the entire site. The general procedure will align in order of priority with: the RMS guide, empirical survey data and first principle assessments.

# 4.1.1 Restaurants and drive through take away

Traffic generation rates for the relevant land uses are provided in the Roads and Maritime Services (RMS) Guide to Traffic Generating Developments (2002) and recent supplements and are as follows:

Restaurants

Evening peak hour vehicle trips = 5 per 100m<sup>2</sup> gross floor area

Drive-in take away food outlets

Rates - Kentucky Fried Chicken

100 veh/hr for average development

The proportion of passing trade is typically at least 50%. This discount should be taken into account in assessing external traffic impact

It is reasonable to assume that restaurants will experience the same evening peak hour trip volumes on Friday and Saturday evenings. The total ground floor area of restaurants that do not have drive-throughs is 1,217m<sup>2</sup>. The resultant traffic generation is 61 evening peak hour vehicle trips.

As stated previously in this report, MTE has undertaken drive-through surveys for an Oporto Restaurant in Woodbine, NSW, and a Guzman Y Gomez in Acacia Ridge, QLD, which are of similar size and in similar locations as the proposed Oporto and Guzman Y Gomez tenancies within the precinct. Relevant results of the survey are shown in **Table 1** and reproduced in full in **Annexure C**.



**TABLE 8: OPORTO AND GUZMAN Y GOMEZ SURVEY RESULTS** 

Foot Food Bootouront	Peak Drive-Through Traffic			
Fast Food Restaurant	Friday Evening	Saturday Evening		
Guzman Y Gomez	44 trips (22 in, 22 out) from 4-5pm	38 trips (19 in, 19 out) from 4-5pm		
Oporto	80 trips (40 in, 40 out) from 6-7pm	46 trips (23 in, 23 out) from 7-8pm		
Total	124 trips (62 in, 62 out)	84 trips (42 in, 42 out)		

As shown above, the surveyed fast food tenancies generate a maximum of 124 trips (62 in, 62 out) on Friday evening and 84 trips (42 in, 42 out) trips on Saturday evening. It is relevant to note that the peak periods of each tenancy differ. It is therefore a conservative assumption that all peak generated traffic volumes occur during the same 1-hour period.

*MTE* has been advised that Guzman Y Gomez and Oporto complete approximately 48% and 60% of sales through the drive-throughs, respectively. The total traffic generation of the drive-throughs have been calculated based on this distribution and are shown in **Table 9** below.

TABLE 9: TOTAL DRIVE-THROUGH TAKE AWAY GENERATED TRAFFIC

Fact Food	Peak Drive-Through Traffic		Drive-	Total Generated Traffic		
Fast Food Restaurant	Friday Evening	Saturday Evening	through Sales Rate	Friday Evening	Saturday Evening	
Guzman Y Gomez	44 trips	38 trips	48%	92 trips	79 trips	
Oporto	80 trips	46 trips	60%	133 trips	77 trips	
				225 trips	156 trips	
Total				(112 in, 113 out)	(78 in, 78 out)	

As shown above, the two drive-through fast food tenancies are expected to generate a total of **225 trips (112 in, 113 out)** on Friday evening and **156 trips (78 in, 78 out)** on Saturday evening.

With regard for Saturday midday peak traffic generation, it is considered reasonable that the peak traffic generation during this time will be equivalent to the Friday evening peak traffic generations of **92** trips and **133** trips for the Guzman Y Gomez and Oporto tenancies respectively. Reference is made to *RTA*'s (now Transport for NSW) *Land Use Traffic Generation Data and Analysis 22: Drive-Through Restaurants 1992* which provides traffic



generations rates based upon extensive surveys of McDonalds and KFC restaurants. With regard for both McDonalds and KFC tenancies, the report states:

Peak site visitation rates...generally occurring during the weekend early evening and weekend lunchtime.

Therefore, the use of the Friday evening peak traffic generation as the weekend midday peak traffic is considered acceptable.

It is important to note that passing trade can be assumed to be a minimum of 50% of trips. Passing trade represents trips that are already going through the road network system which stop off quickly at the tenancy whilst en-route to another destination, then continue on their way afterwards. Thus, they will not be counted as new generated trips within the surrounding intersections. The resultant vehicle trips for the ground floor restaurant developments is shown below. Trips are assumed to be 50% IN and 50% OUT.

### Restaurants (no passing trade):

Friday Evening: 61 trips / hour (31 in, 30 out); Saturday Midday: 61 trips/hour (31 in, 30 out); Saturday Evening: 61 trips / hour (31 in, 30 out);

#### Drive Through Take Aways:

Friday Evening: 225 trips / hour (112 in, 113 out); 113 trips / hour (57 in, 56 out) after reduction for passing trade; Saturday Midday: 225 trips / hour (112 in, 113 out)

113 trips / hour (57 in, 56 out) after reduction for passing trade;

Saturday Evening: 156 trips / hour (78 in, 78 out);

78 trips / hour (39 in, 39 out) after reduction for passing trade.

#### 4.1.2 Cinema

The RMS Guide does not specify trip generation for a cinema. The best approximation is the TSA survey (reproduced in **Annexure D**) which shows the evening peak of 127 trips on Friday and 94 trips on Saturday for the 7-screen development at Warriewood. The TSA survey also noted that the Saturday midday ticket sales were 26% of the evening peak. For the subject 9-screen development, this scales to 17.2 trips per screen on Fridays, 12.8 trips per screen on Saturday evenings and 3.3 trips per screen on Saturday middays including the 5% alternative transport discount. The TSA surveys shows approximately a 70% IN and 30% OUT distribution during both the Friday evening peak hour and the Saturday midday peak hour.

The proposed cinema has 9 screens. Based on the rates calculated above, the cinema will generate 155 trips and 115 trips in the Friday evening and Saturday evening peak hours, respectively. *MTE* assumes these generated volumes will occur in conjunction with the peak traffic hour of the surrounding network. This represents a worst-case scenario analysis. Peak hour in/out distributions for the proposed development are assumed to be the same as the surveyed Warriewood cinema. The resulting trips generated in the Friday and Saturday peak hours are shown below.



Friday Evening: 155 trips / hour (109 in, 46 out)
Saturday Midday: 30 trips / hour (21 in, 9 out)
Saturday Evening: 115 trips / hour (81 in, 34 out)

#### 4.1.3 Retail

The RMS Guide provides the following traffic generation rates for retail premises:

Friday Peak - 5.6 trips per 100m<sup>2</sup>

Saturday Peak (midday) – 10.7 trips per 100m<sup>2</sup>.

The subject site has a total of 302m<sup>2</sup> retail area, which results in a total trip generation of 14 trips on Friday evening and 26 trips on Saturday midday after reductions for dual use. It is assumed that retail trips are split evenly between entering and exiting trips during the peaks. The peak Saturday trip generation occurs midday with generation reducing significantly in the evening. It is conservatively assumed that the Saturday evening peak generation is equivalent to Friday evening. The following trips generated in the Friday and Saturday peak hours are shown below.

Friday Evening:14 trips (7 in, 7 out)
Saturday Midday: 27 trips (13 in; 14 out)
Saturday Evening: 14 trips (7 in, 7 out)

### 4.1.4 Bowling Alley

While the RMS does not specify a trip generation rate and relevant detailed survey data is not available, it is assumed that the average duration of stay for patrons would be approximately 90 minutes. The parking demand is 3 spaces per lane This suggests a demand of 3.0 cars per bowling lane. Each lane will have an entry and exit trip in 90 minutes, or generation of 12 trips per hour for the whole bowling alley. Traffic distribution is assumed to be 75% IN and 25% OUT in the evening peak hour. This is conservative given that bowling patrons are likely to stay and patronise other uses within the development.

Friday Evening: 12 trips / hour (9 in, 3 out)
Saturday Midday: 12 trips / hour (9 in, 3 out)
Saturday Evening: 12 trips / hour (9 in, 3 out)

#### 4.1.5 Amusement Centre

The RMS does not specify a trip generation rate for amusement centres, and relevant detailed survey data is not available. Therefore, the trip generation rate for amusement centres must be calculated through a first principle assessment.

It is assumed that the average duration of stay for patrons would be approximately one hour. The Saturday midday peak parking demand for the amusement centre outlined in *Section 3.2.6* of this report are 1 space per 30m<sup>2</sup> GFA. The parking profiles show that the amusement centre experiences 81% of its peak on Saturday midday and 79% of its peak on Friday evening. The amusement centre area is considered to be 1,018m<sup>2</sup>, which includes all of the patron generating areas, excluding the bowling lanes. Therefore, 34 spaces will be



used during an hour within the peak Saturday evening period, and 27 spaces will be used during the Friday PM and Saturday midday peaks. Given this, the following trip generation rates apply. Trips are assumed to be 50% IN and 50% OUT during all peak periods.

Friday Evening: 54 trips / hour (27 in, 27 out); Saturday Midday: 68 trips / hour (34 in, 34 out); Saturday Evening: 54 trips / hour (27 in, 27 out).

#### 4.1.6 Gymnasium

The data profiles show the Port Macquarie gyms are 44% occupied in the Friday evening (at 5pm), 29% occupied on Saturday midday (at 12:00pm) and 22% occupied on Saturday evening (at 7pm). The gymnasium will to use up to 51 spaces during the Friday evening period, 33 spaces in the Saturday midday period and 25 spaces in the Saturday evening period. It is assumed that the average rate of stay at a gym is approximately 1 hour. Given this, the following trip generation rates apply. Trips are assumed to be 50% IN and 50% OUT during both peak periods.

Friday Evening: 102 trips / hour (51 in, 51 out); Saturday Midday: 66 trips / hour (33 in, 33 out); Saturday Evening: 50 trips / hour (25 in, 25 out).

#### 4.1.7 Function Centre

The RMS guide does not provide traffic generation rates for multi-purpose venues and as such, a traffic generation based on first principles has been adopted for the multi-purpose venue. The function centre is expected to use 29 spaces. As a worst case, it is assumed that when a function finishes 90% of the cars arrive / depart within one hour resulting in a traffic generation of 26 vehicle trips for both arrival and departure. Further, if one function finishes and another begins, one can expect a total of 52 vehicle trips (26 vehicles departing the completed function and 26 vehicles arriving for the function which is about to begin).

The proposed development is therefore expected to generate a total of **52** additional peak hour vehicle trips arriving/departing during each peak period.

Friday Evening: 52 trips / hour (26 in, 26 out); Saturday Midday: 52 trips / hour (26 in, 26 out); Saturday Evening: 52 trips / hour (26 in, 26 out).

#### 4.1.8 Manager's Residence

Though the manager's residence is a unit, it will be assessed as a low-density residential dwelling given that it is the only residence on site. Reference is made to the RMS Guide to Traffic Generating Developments, specifically the supplementary Technical Direction 2013, which provides traffic generation rates for Low density residential dwellings.

Low-density Residential Dwelling: 0.71 trips per dwelling (in Regional areas)



The manager's residence is expected to generate a maximum of one (1) trip in any one peak hour. It is important to note that the residence will be unoccupied for the majority of the year.

### 4.1.9 <u>Cumulative Trip Generation</u>

The cumulative trip generation for all uses within the cinema-based development is summarised in **Table 10** below.

**TABLE 10: CUMULATIVE TRAFFIC GENERATION** 

Use	Peak Period	Trips Generated	In	Out
	CINEMA BASED ENTERT	AINMENT COMPLEX		
	Friday Evening	155 trips	109	46
Cinema	Saturday Midday	30 trips	21	9
	Saturday Evening	115 trips	81	34
	Friday Evening	12 trips	9	3
Bowling Alley	Saturday Midday	12 trips	9	3
	Saturday Evening	12 trips	9	3
	Friday Evening	54 trips	27	27
Amusement Centre	Saturday Midday	68 trips	34	34
	Saturday Evening	54 trips	27	27
	Friday Evening	102 trips	51	51
Gymnasium	Saturday Midday	66 trips	33	33
	Saturday Evening	50 trips	25	25
Function Centre	All Peaks	52 trips	26	26
Manager's Residence	All Peaks	1 trip	0	1
	GROUND FLOOR	TENANCIES		
	Friday Evening	113 trips	57	56
Drive Through Restaurants	Saturday Midday	113 trips	57	56
	Saturday Evening	78 trips	39	39
Take Away Food Premises	All Peaks	Ancillary <sup>(1)</sup>	0	0
	Friday Evening	61 trips	31	30
Restaurants	Saturday Midday	61 trips	31	30
	Saturday Evening	61 trips	31	30
	Friday Evening	14 trips	7	7
Retail	Saturday Midday	27 trips	13	14
	Saturday Evening	14 trips	7	7
	Friday Evening	564 trips	317 trips	247 trips
Total Trip Generation	Saturday Midday	430 trips	224 trips	206 trips
	Saturday Evening	437 trips	245 trips	192 trips

Note (1) The take away food premises is not a drive through and is therefore not expected to demand any unique trips.

All patrons to the take away food premises are expected to be passers-by or patrons who are already in the precinct.

As shown in **Table 9** above, the total traffic generated by the development is **564** trips (317 in, 247 out) on Friday evening, 430 trips (224 in, 206 out) on Saturday midday and **437** trips (245 in, 192 out) on Saturday evenings.



The above traffic generation assessments are conservative given the following:

- Each land use is expected to peak at the same time, whereas they are expected to be spread out over a few hours. For example, the amusement centre peaks at around 5pm, whilst the cinema peaks around 7pm. Their traffic generation is assessed within the same PM peak hour;
- The function centre is not likely to consistently have back-to-back bookings during the peak period;
- The network Friday PM peak hour period is between 3:15-4:15pm. The site peak is considerably later;
- Dual use with the surrounding town centre has not been considered for the cinema parking demand.

#### 4.2 Traffic Assignment

The road network and the locations of residential areas surrounding the site have been assessed and the following traffic assignment has been assumed for all traffic to and from the site:

- 5% to/from the north via the Bay Street / Park Street intersection;
- 25% to/from the northwest via the Bay Street / Park Street intersection;
- 70% to/from the south via the Warlters Street / Park Street intersection;

### 4.3 Traffic Impact

The traffic generation outlined in **Section 4.1 & 4.2** above has been added to the existing traffic volumes recorded. The intersections' performances have been assessed using SIDRA INTERSECTION 8.0. The purpose of these assessments is to compare the existing operations to the future scenario under the increased traffic load. The SIDRA results show the traffic impact on the surrounding road network during the following peak periods:

- Friday Evening: 3:15pm-4:15pm;
- Saturday Midday: 12pm-1pm;
- Saturday Evening: 5pm-6pm.

It is noted that the peak hours for the proposed uses will be offset slightly from one another. As a worst-case scenario, the peak generated traffic has been assumed to coincide with the peak traffic volumes above, with all generated traffic occurring within the one hour.

The future SIDRA results are shown in **Table 12** below, whilst the existing SIDRA results are shown in **Table 11**.



# **TABLE 11: EXISTING INTERSECTION PERFORMANCES (SIDRA 8)**

Intersection	Peak Hour	Degree of Saturation <sup>(1)</sup>	Average Delay (sec/veh) <sup>(2)</sup>	Level of Service <sup>(3)</sup>	Control Type	Worst Movement	95th Percentile Queue
			EXISTING PE	RFORMANC	E		
	Friday PM	0.35	7.8 (Worst 13.5)	<b>A</b> (Worst B)		UT from Park Street	2 veh (13.8m) Park Street
Park Street / Bay Street	Saturday Midday	0.53	8.5 (Worst 15.1)	<b>A</b> (Worst B)	Roundabout	UT from Park Street	3.8 veh (26.7m) Bay Street
	Saturday PM	0.21	7.3 (Worst 12.4)	<b>A</b> (Worst A)		UT from Bay Street	1.3 veh (8.9m) Park Street
	Friday PM	0.36	7.1 (Worst 23.0)	<b>A</b> (Worst B)		RT from Warlters Street	4.3 veh (30.5m) Park Street
Park Street / Warlters Street	Saturday Midday	0.44	7.3 (Worst 23)	<b>A</b> (Worst B)	Signals	RT from Warlters Street	5.6 veh (39.2m) Park Street
	Saturday PM	0.21	6.3 (Worst 18.7)	<b>A</b> (Worst B)		T from Park Street	2.3 veh (16.0m) Park Street
	Friday PM	0.08	3.5 (Worst 7.2)	<b>N/A</b> (Worst A)		UT from Warlters Street	0.2 veh (1.3m) Warlters Street
Warlters Street / Kmart Access Road	Saturday Midday	0.06	4.7 (Worst: 6.9)	<b>N/A</b> (Worst A)	Give Way	UT from Warlters Street	0.3 veh (2m) Warlters Street
	Saturday PM	0.03	4.6 (Worst 6.8)	<b>N/A</b> (Worst A)		UT from Warlters Street	0.1 veh (0.7m) Warlters Street
	Friday PM	0.18	4.7 (Worst: 6.5)	<b>N/A</b> (Worst A)		LT from Kmart Access Driveway	0.5 veh (3.2m) st: Kmart Access Driveway
Park Street / Kmart Access Road	Saturday Midday	0.23	4.8 (Worst: 6.9)	N/A (Worst A)	Give Way	LT from Kmart Access Driveway	0.7 veh (4.9m) st: Kmart Access Driveway
	Saturday PM	0.11	4.6 (Worst 6.1)	N/A (Worst A)		LT from Kmart Access Driveway	0.3 veh (0.9m) Kmart Access Driveway
	Friday PM	0.08	0.7 (Worst 6)	<b>N/A</b> (Worst A)		LT from Kmart Carpark Driveway	0 veh (0.3m) Kmart Carpark Driveway
Warlters Street / Kmart Carpark Driveway	Saturday Midday	0.06	1.9 (Worst 5.9)	<b>N/A</b> (Worst A)	Give Way	LT from Kmart Carpark Driveway	0.2 veh (1.1m) Kmart Carpark Driveway
	Saturday PM	0.04	1.1 (Worst 5.7)	N/A (Worst A)		LT from Kmart Carpark Driveway	1.0 veh (0.3m) Kmart Carpark Driveway

Notes: See notes from Table 2



# **TABLE 12: FUTURE INTERSECTION PERFORMANCES (SIDRA 8)**

Intersection	Peak Hour	Degree of Saturation <sup>(1)</sup>	Average Delay (sec/veh) <sup>(2)</sup>	Level of Service <sup>(3)</sup>	Control Type	Worst Movement	95th Percentile Queue	
			EXISTING PE	RFORMANC	E			
	Friday PM	0.43	8.0 (Worst: 14.1)	<b>A</b> (Worst A)		UT from Park Street	2.6 veh (18m) Bay Street	
Park Street / Bay Street	Saturday Midday	0.60	8.9 (Worst 15.1)	A (Worst B)	Roundabout	UT from Park Street	5.1 veh (36m) Bay Street	
	Saturday PM	0.25	7.4 (Worst 12.4)	A (Worst A)		UT from Park Street	1.3 veh (9.3) Park Street	
	Friday PM	0.51	9.5 (Worst 22.8)	<b>A</b> (Worst B)		RT from Warlters Street	6.7 veh (47.3m) Park Street	
Park Street / Warlters Street	Saturday Midday	0.56	9.3 (Worst 24.2)	<b>A</b> (Worst B)	Signals	RT from Warlters Street	7.8 veh (54.7m) Park Street	
	Saturday PM	0.56	11 (Worst 17.8)	A (Worst B)		RT from Park Street	4 veh (28m) Park Street	
	Friday PM	0.08	3.5 (Worst 7.2)	<b>N/A</b> (Worst A)		UT from Warlters Street	0.2 veh (1.3m) Warlters Street	
Warlters Street / Kmart Access Road	Saturday Midday	0.06	4.7 (Worst: 6.9)	<b>N/A</b> (Worst A)	Give Way	UT from Warlters Street	0.3 veh (2m) Warlters Street	
	Saturday PM	0.03	4.6 (Worst 6.8)	<b>N/A</b> (Worst A)		UT from Warlters Street	0.1 veh (0.7m) Warlters Street	
	Friday PM	0.18	4.9 (Worst: 6.6)	N/A (Worst A)		LT from Kmart Access Driveway	0.7 veh (5.1m) st: Kmart Access Driveway	
Park Street / Kmart Access Road	Saturday Midday	0.23	4.9 (Worst: 7)	<b>N/A</b> (Worst A)	Give Way	LT from Kmart Access Driveway	1 veh (6.9m) st: Kmart Access Driveway	
	Saturday PM	0.11	4.6 (Worst 6.1)	<b>N/A</b> (Worst A)		LT from Kmart Access Driveway	0.3 veh (1.9m) Kmart Access Driveway	
	Friday PM	0.20	3.4 (Worst 6)	<b>N/A</b> (Worst A)		RT from Warlters Street	1 veh (7.2m) Warlters Street	
Warlters Street / Kmart Carpark Driveway	Saturday Midday	0.16	3.3 (Worst 5.9)	<b>N/A</b> (Worst A)	Give Way	RT from Warlters Street	0.8 veh (5.5m) Warlters Street	
	Saturday PM	0.13	3.8 (Worst 5.7)	<b>N/A</b> (Worst A)		RT from Warlters Street	0.6 veh (4.4m) Warlters Street	
	Friday PM	0.17	4.2 (Worst 5.9)	<b>N/A</b> (Worst A)		LT from Basement Exit	0.7 veh (5.2m) Basement Exit	
Basement Carpark Exit / Warlters Street	Saturday Midday	0.12	2.9 (Worst 6.1)	<b>N/A</b> (Worst A)	Give Way	LT from Basement Exit	0.5 veh (3.5m) Basement Exit	
Notes: See notes f	Saturday PM	0.11	3.9 (Worst 5.8)	<b>N/A</b> (Worst A)		LT from Basement Exit	0.5 veh (3.3m) Basement Exit	

Notes: See notes from Table 2



As shown in **Table 11** and **Table 12**, the surrounding intersections remain unaltered under the future scenario. The existing LoS has been retained with minimal delays and additional capacity maintained.

It is noted that the Right Turn bay from Warlters Street into the Kmart carpark driveway will experience a 98<sup>th</sup> percentile queue of 7.2m. The right turn bay is designed to be 35m in length, which satisfies the 98<sup>th</sup> percentile queue.

Additionally, the right turn bay into the Kmart Access Road from Warlters Street has been shortened to 45m from its existing length of 60m. The 98<sup>th</sup> percentile queue for this right turn is 2m. Therefore, the redesigned right turn bay will satisfy the 98<sup>th</sup> percentile queue comfortably under the future conditions.

### 4.4 Future Warlters Street Upgrade

The subject site is zoned B3 – Commercial Core and has a permissible floor space ratio of 2:1 in accordance with the *Port Macquarie* – *Hastings Local Environmental Plan 2011*. Based upon the lot size of 5,771m<sup>2</sup>, a commercial development of 11,542m<sup>2</sup> GFA would be permissible.

Reference is made to the RMS Guide 2002 and the underpinning *Data and Analysis Report Shopping Centres* prepared by *Christopher Hallam & Associates*, which provides shopping centre traffic generation data. The report provides data from a vast range of shopping centres ranging from 1,774m<sup>2</sup> to 99,800m<sup>2</sup> GFA in both regional and Sydney City areas. Relevant data has been taken from similar sized locations and has been summarised in **Table 13** below.

**TABLE 13: SHOPPING CENTRE TRAFFIC GENERATION DATA** 

Site	GFA	Trip Gei	neration		our trips lm² GFA
		Friday	Saturday	Friday	Saturday
Port Macquarie	15,791m <sup>2</sup>	1,282veh/hr	Not Available	8.12	Not Available
Castle Hill	9,148m <sup>2</sup>	631veh/hr	682veh/hr	6.90	7.46
Eastlakes	10,648m2	612veh/hr	704veh/hr	5.75	6.61
Gosford	15,367m <sup>2</sup>	351veh/hr	470veh/hr	2.28	3.06
Albury	13,323m <sup>2</sup>	949veh/hr	1,249veh/hr	7.12	9.37
Total	64,277m <sup>2</sup>			5.95	6.40

The above rates have been applied to the subject development to estimate the traffic generation potential of a shopping centre on the subject site. The comparison of the potential traffic generation and the proposed development' traffic generation is provided in **Table 14**.



#### TABLE 14: POTENTIAL VS PROPOSED TRAFFIC GENERATION DATA

Si	te	Scale		ate er 100m²)	Peak Traffic Generation			
			Friday	Saturday	Friday	Saturday		
Proposed Development					564 trips	437 trips		
Potential	All Relevant Sites	11,542m²	5.95	6.40	687 trips	739 trips		
Traffic Generation	Port Macquarie	GFA	8.12	Not Available	937 trips	Not Available		

As shown, the proposal is expected to generate fewer **-123** trips and **-302** trips than the development's potential traffic generation on Friday and Saturday respectively, based upon the site's permissible floor area and land uses. Compared to the Port Macquarie-specific data, the development is expected to generate fewer **-373** trips on a Friday than its potential, or, 60% to 73% of its potential.

The site's potential traffic generation was been assessed as a part of TTM Group's Settlement City Precinct Road Network Study. The network traffic studies completed by TTM resulted in a list of required upgrades, of which includes the signalisation of Park Street / Warlters Street. Port Macquarie is currently implementing the required road infrastructure upgrades to support the potential increase in daily traffic due to the city's development. Given that the proposed traffic generation is less than the site's traffic generation potential, the proposal is supportable in terms of its traffic generation impact.



#### 5 CONCLUSION

The traffic and parking impacts of the proposed cinema-based entertainment centre and restaurant facilities at Cnr Warlters Street & Park Street, Port Macquarie, as shown in reduced plans in **Annexure A** to this report, have been assessed.

The proposed design includes some **153** car parking spaces and 12 motorbike spaces. An empirical study of survey data shows that the development will generate a peak parking requirement of 262 spaces on Friday evenings, 202 spaces on Saturday midday and 294 spaces on Saturday evenings, representing overflow parking demands of **109**, **49** and **141** spaces on Friday evenings, Saturday midday and Saturday evenings, respectively.

Parking surveys were undertaken showing **235**, **96** (or **83** when vacant tenancies are occupied), and **219** available public parking spaces within the neighbouring Kmart car park during the Friday PM, Saturday midday and Saturday PM peak periods. The basement provision of 153 car parking spaces and 12 motorbike spaces is sufficient to satisfy the calculated demand, with occasional overflow into the Kmart car park during peak operating periods.

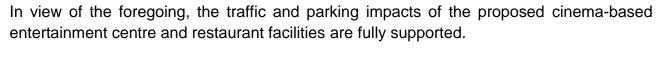
The surveys were undertaken in concurrence with the monthly *Foreshore Markets* on Saturday, which demanded a significant amount of parking. Therefore, the available parking volumes are very conservative. A Car Park Management Plan shall be implemented to ensure that no inappropriate public car parking occurs within the private Kmart car parking area.

The site provides two (2) service and loading bays for HRVs. The land uses within the development are not expected to have a large scale of deliveries, thus the loading bays are should be shared between the land uses under a plan of management.

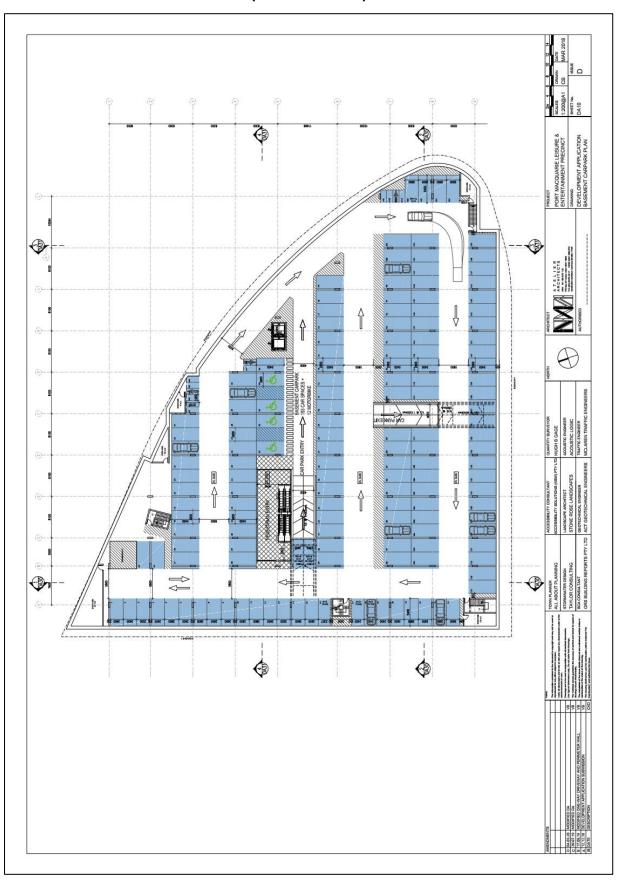
The car parking and access areas have been assessed to generally comply with the relevant objectives and requirements of *AS2890.1*, *AS2890.2* and *AS2890.6*; subject to the required changes described in **Section 3.8**. Additionally, it is required that a minimum of 2.2m height clearance will be necessary at all points of travel within the basement (2.5m for disabled parking spaces and adjacent shared spaces).

The peak traffic generation of the site, estimated at some **564** trips on the Friday PM peak period (317 IN/247 OUT), **430** trips on the Saturday Midday peak period (224 IN, 206 OUT) and **437** trips in the Saturday PM peak period (245 IN, 192 OUT) has been shown to have no noticeable impact on the surrounding road network in terms of traffic flow efficiency. The assessment assumed that the peak generated volumes coincide with the network peak periods and is therefore a conservative assessment. The traffic is within the site's potential traffic generation based on the maximum FSR and permissible uses for a B3 – Commercial Core zone.

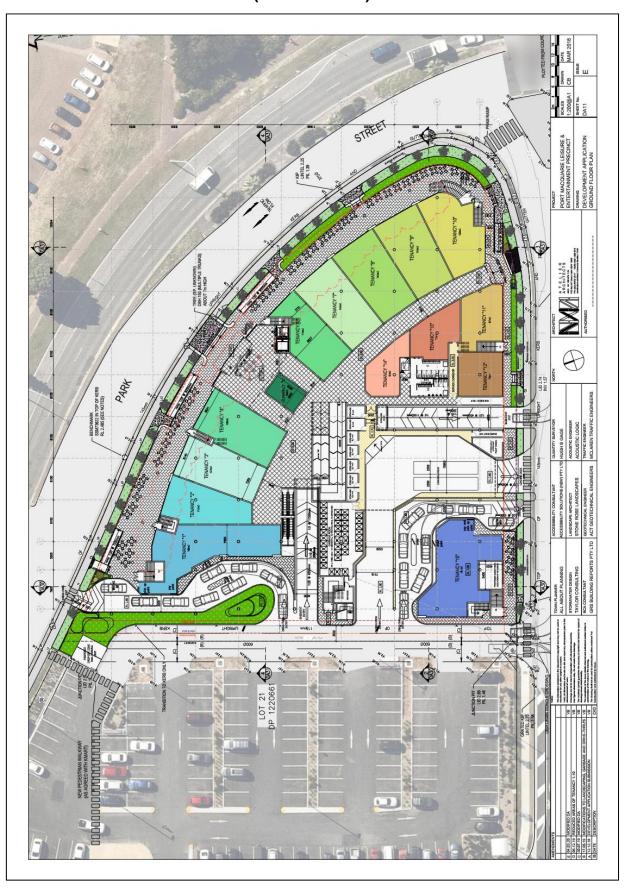




# ANNEXURE A: REDUCED PLANS (SHEET 1 OF 2)



# ANNEXURE A: REDUCED PLANS (SHEET 2 OF 2)



# ANNEXURE B: PARKING SURVEYS (SHEET 1 OF 2)

Curtis Tr	affic Surveys															
Job:	190806mcl(18	8_138)														
Client:	McLaren Traff	fic Enginee	ring													
Day, date	16/08/19		-													
Location:	Port Macquar	ie														
Weather:	Fine															
Surveyor	MC															
		Parking r	ound comm	encing	<b>;</b>											
Zone	Street	15:00	15:15	15:30	15:45	16:00	16:15	16:30	16:45	17:00	17:15	17:30	17:45	18:00	18:15	18:30
a	Boat ramp c.p.	30	30	32	33	33	30	27	21	18	14	12	10	9	8	8
b	K-Mart east	26	26	28	29	28	25	21	14	14	16	14	12	10	9	7
С	K-Mart north	61	62	65	69	72	65	57	50	46	43	40	44	42	45	47
dn	Warlters St	6	6	7	7	6	6	7	7	5	3	3	3	3	2	2
ds	Warlters St	16	16	15	17	17	17	17	17	19	20	19	18	17	15	15
е	Park St	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
f	Park St	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		18:45	19:00	19:15	19:30	19:45	20:00	20:15	20:30	20:45	21:00	21:15	21:30	21:45	22:00	
a	Boat ramp c.p.	8	8	8	8	6	5	5	6	5	6	7	6	6	5	
b	K-Mart east	6	3	3	3	4	4	5	4	4	4	3	3	2	2	
С	K-Mart north	32	31	28	27	23	20	22	23	18	12	8	9	5	5	
dn	Warlters St	I	1	6	I	I	I	I	0	0	0	0	0	0	0	
ds	Warlters St	14	13	13	13	13	14	14	15	15	15	14	14	14	14	
е	Park St	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
f	Park St	0	0	0	0	0	0	0	0	0	0	0	0	0	0	

FRIDAY 16<sup>TH</sup> AUGUST 2019 (3PM-10PM)

# ANNEXURE B: PARKING SURVEYS (SHEET 2 OF 2)

Curtis T	raffic Surveys																					
Job:	181101mcl (1	8_13	8)																			
Client	McLaren Traff	ic En	ginee	ring																		
Day, date	10/11/18																					
Location:	Port Macquar	ie																				
Weather:	Occasional sho	ower	5																			
Surveyor	MC																					
		Park	ing r	ound	com	men	cing															
Zone	Street	12:00	12:15	12:30	12:45	13:00	13:15	13:30	13:45	14:00	14:15	14:30	14:45	15:00	15:15	15:30	15:45	16:00	16:15	16:30	16:45	17:00
a	Boat ramp c.p	10	108	87	75	56	43	35	30	23	21	17	16	15	12	П	9	7	7	7	8	7
Ь	K-Mart east	120	121	123	113	104	97	95	92	80	65	59	57	47	43	38	35	31	29	25	23	21
С	K-Mart north	102	105	110	Ш	109	103	100	97	93	87	80	81	76	73	71	62	59	60	57	63	66
dn	Warlters St	0	0	0	0	0	0	0	-1	- 1	0	0	0	0	0	0	- 1	- 1	-	- 1	-	- 1
ds	Warlters St	22	20	19	19	20	19	17	17	16	16	16	16	15	10	Ш	13	15	14	14	12	13
e	Park St	12	12	10	8	6	6	5	2	0	0	0	0	0	0	0	0	0	0	0	0	0
f	Park St	16	15	14	12	8	4	3	3	2	2	2	2	- 1	0	0	0	0	0	0	0	0
					18:00									20:15							22:00	
a	Boat ramp c.p		5	2	- 1	0	-	0	2	3	2	4	5	3	3	3	3	2	- 1	-		
Ь	K-Mart east	18	15	П	8	5	3	3	4	4	3	3	2	2	2	2	2	2	0	0	0	
С	K-Mart north	65	61	53	47	45	47	41	37	25	19	18	16	7	8	8	5	5	5	- 1	- 1	
dn	Warlters St	-	-	- 1	- 1	- 1	- 1	- 1	- 1	- 1	- 1	- 1	-	- 1	- 1	- 1	- 1	- 1	- 1	- 1	- 1	
ds	Warlters St	13	14	14	14	15	16	16	15	15	15	15	15	15	14	13	13	14	14	14	14	
e	Park St	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
f	Park St	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	

SATURDAY 10<sup>TH</sup> NOVEMBER 2018 (12PM-10PM)



(SHEET 1 OF 12)

								NACHACION.	SALLIN (SALAR	Name of Street		
TRA	NS.	TR/	4FF	FIC.	SU	RV	EY(	DNVGL	DNVGL	DNV-GL		
TURNII	NG MO	VEME	NT SI	JRVE	traff	icsurvey.c	om.au	50 MI	ASACS HIS	BO 16001		
	tion of E					/acqua	arie					
GPS .	-3142736, 1	_				•						
Date: Veather:	Fri 02/11/18				Park St N/A				Surv	AM: PM:	3:00 PM-3 3:00 PM-1	
	Port Macqu	Jarie			Park St				Traffi	AM:	N/A	0:00   -   14
Custome.				Vest:	BaySt				c	PM:	3:15 PM-4	15 PM
All Yehici	lec											
Tir	ne	North A	pproach	Park S	outh A	pproach	Park S	Vest A	pproach	Bay St	Hourly	Total
	Period End		R	SB	U	NB	L	U	R	L	Hour	Peak
15:00	15:15	0	15	54	29	58	89	3	78	25	1510	
15:15	15:30	1	23	63	38	64	91	14	87	33	1513	Peak
15:30	15:45	0	17	63	42	62	71	8	64	30	1429	
15:45	16:00	1	28	58	41	77	71	3	83	26	1432	
16:00	16:15	1	19	59	37	63	71	7	70	27	1407	
16:15	16:30	0	9	43	40	64	73	7	69	25	1408	
16:30	16:45	2	22	50	31	70	77	8	79	21	1412	
16:45	17:00	0	19	57	22	64	83	5	91	22	1362	
17:00	17:15	0	17	60	32	57	65	8	93	23	1299	
17:15	17:30	1	10	59	26	57	67	10	81	23	1212	
17:30	17:45	2	23	51	24	56	47	5	76	26	1093	
17:45	18:00	0	17	46	35	52	51	8	72	19	982	
18:00	18:15	1	12	40	31	50	50	4	67	13	873	
18:15	18:30	0	13	26	31	42	30	9	44	20	788	
18:30	18:45	0	12	32	31	38	32	5	32	17	761	
18:45	19:00	1	8	36	25	37	30	7	33	14	741	
19:00	19:15	0	6	33	33	22	33	16	28	12	705	
19:15	19:30	0	10	23	25	34	44	10	26	16	693	
19:30	19:45	0	12	29	33	35	28	9	29	4	633	
19:45	20:00	0	12	17	25	19	39	6	28	9	553	
20:00	20:15	0	5	50	27	21	31	5	17	15	497	
20:15	20:30	0	8	28	17	29	19	8	12	7	435	
20:30	20:45	0	5	23	18	17	20	3	9	4	402	
20:45	21:00	0	7	15	26	17	10	6	11	7	393	
21:00	21:15	0	5	13	22	25	29	3	10	2	367	
21:15	21:30	0	5	26	14	17	18	5	9	1		
21:30	21:45	0	6	14	15	20	15	4	11	5		
21:45	22:00	0	4	14	10	9	13	9	10	4		
21.70	22.00		, †	17	10	,	10	,	10	_ T		
Peak		North A										
eriod Star 15:15	Period End 16:15	3	87	SB 243	U 158	NB 266	304	U 32	304	116	<b>total</b> 1513	

(SHEET 2 OF 12)

								PATER CENT	SALLAN (SPA)	Marion Car		
TRA	NS.	FR/	4FF	FIC	SU	RV	EY	DNV-GL /	DNVGL	DNV-GL		
TURNII	NG MO	/EME	NT SI	JRVE	traff	icsurvey.c	om.au	100 MOST	ASACS HET	80 1601		
Intersec	tion of V	/arlter	s Star	nd Par	k St. P	ort Ma	cauar					
GPS .	-31,4302, 152											
Date:	Fri 02/11/18				Park St				Surv	AM:	3:00 PM-3	
Weather: Suburban	Port Macqu	arie			N/A Park St				Traffi	PM: AM:	3:00 PM-1	0:00 PM
Custome.					Warlters	St			c	PM:	3:15 PM-4	:15 PM
AD 0-17-1	P											
<i>All Yehici</i> Tir		North A	pproach	Park S	outh A	pproach	Park S	est App	roach V	/arlters	Hourly	Total
eriod Star	Period End		R	SB	U	NB	L	U	R	L	Hour	Peak
15:00	15:15	0	10	154	0	147	22	0	30	3	1547	
15:15	15:30	0	5	167	0	176	23	0	40	13	1554	Peak
15:30	15:45	0	2	167	0	152	20	0	34	8	1477	
15:45	16:00	0	3	157	0	163	19	0	25	7	1435	
16:00	16:15	0	1	157	0	159	26	0	24	6	1397	
16:15	16:30	0	2	134	0	155	22	0	29	5	1377	
16:30	16:45	0	3	139	0	156	11	0	27	5	1360	
16:45	17:00	0	1	150	0	142	12	0	28	3	1330	
17:00	17:15	0	5	172	0	132	17	0	25	2	1298	
17:15	17:30	0	3	155	0	135	11	0	24	2	1220	
17:30	17:45	0	4	138	0	130	16	0	17	6	1112	
17:45	18:00	0	1	144	0	128	15	0	14	2	993	
18:00	18:15	1	0	128	0	111	12	0	20	3	874	
18:15	18:30	0	1	104	0	90	8	2	16	1	780	
18:30	18:45	0	2	88	0	72	11	0	18	1	736	
18:45	19:00	0	2	85	0	79	6	0	12	1	722	
19:00	19:15	0	1	88	0	70	6	0	13	3	671	
19:15	19:30	0	2	75	0	75	7	0	16	3	655	
19:30	19:45	0	2	78	0	77	6	0	13	2	607	
19:45	20:00	0	0	58	0	55	7	0	11	3	535	
20:00	20:15	0	1	90	0	61	5	0	6	2	497	
20:15	20:30	0	1	53	0	61	7	0	8	0	438	
20:30	20:45	0	1	55	0	41	3	0	6	0	396	
20:45	21:00	0	1	51	0	36	2	0	4	2	382	
21:00	21:15	0	1	41	0	52	3	0	9	0	353	
21:15	21:30	0	2	47	0	37	0	0	1	1		
21:30	21:45	0	1	41	0	40	2	0	8	0		
21:45	22:00	0	1	34	0	28	1	0	3	0		
Peak eriod Star	Time Period End		pproach R	Park S SB	South A	pproach NB	Park S	est App U	roach V	/ariters L	Peak total	
15:15	16:15	0	11	648	0	650	88	0	123	34	1554	

(SHEET 3 OF 12)

								STATES CO.	SALES AND THE PARTY OF THE PART	No. Section Co.		
TRA	NS.	TR/	AFF	:IC	SU	RV	EY!	DNVGL				
THENH	NG MO	/FMF	NT SI	IDVE	<b>V</b> traff	icsurvey.c	om.au	DNV-GL NO NOT	DNV-GL ADAZEMEN	DNV-GL S		
	tion of V											
GPS	-31.42994. N		s St ai	IG IGIII	art Act	Jess, 1	OTC IVIC					
Date:	Fri 02/11/18				Kmart A				Surv	AM:	3:00 PM-3	
Weather:				East: South:	Warlters	St			Traffi	PM: AM:	3:00 PM-1 N/A	0:00 PM
Custome.	Port Macqu McLaren	iarie		Vest:	Warlters	St			c	PM:	3:15 PM-4	:15 PM
All Yehici Tir		th Appr	oach Kn	nart Acc	ast App	roach V	ariters :	est App	roach V	/arlters	Hourl	Total
	Period End		R	L	U	B	VB	U	EB	L	Hour	Peak
15:00	15:15	0	1	9	1	11	9	0	16	9	282	
15:15	15:30	1	2	11	2	12	15	0	37	18	290	Peak
15:30	15:45	0	1	15	3	12	7	0	11	12	246	
15:45	16:00	0	0	15	1	8	12	0	15	16	241	
16:00	16:15	0	3	9	4	16	6	0	13	13	224	
16:15	16:30	0	1	15	2	18	4	0	10	4	209	
16:30	16:45	0	1	20	1	10	4	0	8	12	195	
16:45	17:00	1	0	19	0	10	4	0	8	8	187	
17:00	17:15	0	2	13	3	13	6	0	7	5	183	
17:15	17:30	0	2	17	1	4	2	0	7	7	173	
17:30	17:45	0	1	12	0	10	7	0	5	13	165	
17:45	18:00	0	5	7	3	11	5	1	7	7	147	
18:00	18:15	0	3	14	0	6	3	0	6	7	127	
18:15	18:30	0	1	13	2	6	3	0	1	6	116	
18:30	18:45	0	1	10	1	8	3	0	4	3	117	
18:45	19:00	0	2	11	1	2	5	0	2	3	114	
19:00	19:15	0	0	11	2	4	2	0	2	7	110	
19:15	19:30	0	0	14	1	5	3	0	4	6	98	
19:30	19:45	0	3	10	0	4	5	0	3	2	84	
19:45	20:00	0	0	9	1	4	1	0	3	4	70	
20:00	20:15	0	1	6	0	2	3	0	2	2	57	
20:15	20:30	0	2	8	1	4	1	1	0	2	60	
20:30	20:45	0	1	3	0	0	3	0	2	4	44	
20:45	21:00	0	1	3	0	1	1	0	3	0	45	
21:00		0	3	9	0	1	3	0	1	2	38	
	21:15										36	
21:15	21:30	0	0	0	1	0	1	0	1	0		
21:30	21:45	0	2	5	0	0	2	0	3	2		
21:45	22:00	0	0	0	0	0	1	0	1	0		
Peak	Time	th Appr	oach Kn	nart Acc	ast App	roach V	arlters :	est App	roach V	arlters	Peak	
	Period End		R	L	U	R	VB	U	EB	L	total	
15:15	16:15	1	6	50	10	48	40	0	76	59	290	

(SHEET 4 OF 12)

TRA	NIC .	TD	ΔE	10	CII	DΜ	EVÍ		- N			
						icsurvey.c	om.au	DNV·GL	DNV-GL	DNV-GL S		
	NG MO					_		100	ALC: NO	10010017		
	tion of P		and K	mart A	Access	, Port	Macqu					
GPS Date:	- <i>314287版 /</i> Fri 02/11/18	52.89845		North:	N/A				Surv	AM:	3:00 PM-3	3:00 PM
Veather:					Park St				eg	PM:	3:00 PM-1	
	Port Macqu	ıarie			Kmart A	ccess			Traffi	AM:	N/A	
Custome.	McLaren			Vest:	Park St				c	PM:	3:15 PM-4	:15 PM
All Vehici												
							nart Acc					Total
eriod Stai 15:00	Period End 15:15	0	<b>∀B</b> 127	L 12	0	<b>R</b>	39	0	<b>R</b>	EB 163	Hour 1424	Peak
15:15	15:30	0	165	20	0	0	34	0	0	179	1430	Peak
					<u> </u>	<u> </u>			<u> </u>			Lear
15:30 15:45	15:45 16:00	0	133	19 18	0	0	31 34	0	0	153 148	1359 1330	
16:00	16:00	0	146	13	0	0	36	0	0	152	1310	
16:15	16:30	0	150	13	0	0	31	0	0	133	1291	
16:30	16:45	0	128	14	0	0	29	0	0	136	1269	
16:45	17:00	0	139	13	0	0	29	0	0	148	1230	
17:00	17:15	0	127	9	0	0	21	0	0	171	1190	
17:15	17:30	0	124	6	0	0	18	0	0	157	1120	
17:30	17:45	0	114	11	0	0	14	0	0	129	1031	
17:45	18:00	0	114	15	0	0	22	0	0	138	948	
18:00	18:15	0	102	13	0	0	20	0	0	123	839	
18:15	18:30	0	88	11	0	0	17	0	0	100	731	
18:30	18:45	0	67	8	0	0	19	0	0	91	689	
18:45	19:00	0	81	4	0	0	12	0	0	83	672	
19:00	19:15	0	57	3	0	0	10	0	0	80	637	
19:15	19:30	0	78	8	0	0	12	0	0	76	648	
19:30	19:45	0	72	8	0	0	9	0	0	79	592	
19:45	20:00	0	56	10	0	0	12	0	0	67	525	
20:00	20:15	0	53	7	0	0	15	0	0	86	483	
20:15	20:30 20:45	0	57 42	2	0	0	5	0	0	55 52	424 392	
20:30	21:00	0	35	5	0	0	11	0	0	52	382	
21:00	21:15	0	46	3	0	0	12	0	0	41	341	
21:15	21:30	0	38	4	0	0	2	0	0	42		
21:30	21:45	0	40	1	0	0	7	0	0	43		
21:45	22:00	0	27	1	0	0	1	0	0	33		
D	Time	C		Dark Cr	.L. A	V		Var. 1		Dark C	Б	
	Time Period End		pproach WB	Park St	th Appr	oach Kr R	nart Acc	West A	pproach R	EB	Peak total	
15:15	16:15	0	593	70	0	0	135	0	0	632	1430	

(SHEET 5 OF 12)

								SALLIN CHANGE	RACTER COMPANY	No. Section Co.		
TRA	NS .	TR/	4 F F	FIC	SU	RV	EY(	DNV-GL /	DNVGL			
TURNII	NG MO	/FMF	NT SI	IRVE	<b>√</b> M traff	icsurvey.c	om.au	mome.	ADAD SET	DNV-GL		
Intersec												
GPS	-3143, 1528		3 St ui	id idiii	ure cu	park,	ort ii					
Date:	Fri 02/11/18				Kmart C				Surv	AM:	3:00 PM-3	
Weather:	Overcast Port Macqu	ario		East: South:	Warlters Nuo	St			Traffi	PM: AM:	3:00 PM-1 N/A	0:00 PM
Custome.		latte		Vest:	Warlters	St			G	PM:	3:15 PM-4	:15 PM
All Yehici Tir		th Appro	oach Km	art Car	ast App	roach V	arlters :	est App	roach V	/arlters	Hourl	Total
eriod Star			R	L	U	R	¥B	U	EB	L	Hour	Peak
15:00	15:15	0	0	8	0	0	22	0	23	0	249	
15:15	15:30	0	0	2	0	0	27	0	52	0	253	Peak
15:30	15:45	0	0	9	0	0	23	0	31	0	230	
15:45	16:00	0	0	2	0	0	20	0	30	0	214	
16:00	16:15	0	0	4	0	0	27	0	26	0	208	
16:15	16:30	0	0	9	0	0	24	0	24	1	199	
16:30	16:45	0	0	3	0	0	15	0	29	0	175	
16:45	17:00	0	0	3	0	0	14	0	29	0	169	
17:00	17:15	0	0	4	0	0	22	0	22	0	158	
17:15	17:30	0	0	3	0	0	7	0	24	0	143	
17:30	17:45	0	0	4	0	0	18	0	19	0	137	
17:45	18:00	0	0	2	0	0	18	0	15	0	127	
18:00	18:15	0	0	1	0	0	10	0	22	0	112	
18:15	18:30	0	0	4	0	0	9	0	15	0	104	
18:30	18:45	0	0	2	0	0	13	0	16	0	104	
18:45	19:00	0	0	0	0	0	7	0	12	1	97	
19:00	19:15	0	0	2	0	0	9	0	14	0	97	
19:15	19:30	0	0	0	0	0	9	0	19	0	85	
19:30	19:45	0	0	1	0	0	9	0	14	0	72	
19:45	20:00	0	0	1	0	0	6	0	13	0	57	
20:00	20:15	0	0	0	0	0	5	0	8	0	45	
20:15	20:30	0	0	0	0	0	6	0	9	0	46	
20:30	20:45	0	0	0	0	0	4	0	5	0	35	
20:45	21:00	0	0	0	0	0	2	0	6	0	36	
21:00	21:15	0	0	0	0	0	4	0	9	1	32	
21:15	21:30	0	0	0	0	0	2	0	2	0	32	
21:30	21:45	0	0	0	0	0	2	0	8	0		
21:45	22:00	0	0	2	0	0	1	0	1	0		
21:40	22:00	U	U	۷	, °	0	'	, °	_ '	, °		
Peak			oach Km								Peak	
eriod Star 15:15	Period End 16:15	0	B 0	L 17	0	B 0	97	0	EB 139	L 0	total 253	
10:10	(6:10	U	U	If	Ů	U U	ar	Ů	133	, ,	203	

(SHEET 6 OF 12)

								-	1000			
TRA	N2	FR/	<b>AF</b> F	-IC	SU	RV	EY(	DNV GL	ONVGL	DNY-9L	-	
TURNIN	IG MOV	EMEN	IT SUF	RVEY	traff	icsurvey.c	om.au	AC MO	16505.001			
	ction of	Bay S	St and	l Park	St, P	ort Ma	cqua					
6PS Bete:	-38 <b>42</b> 736, 7 Sat 03/11/18		1	Harth:	Park St				Sure	AM:	12:00 PM-	12:00 PM
Boother:	Overcart			Eart:	N/A				27	PM:	12:00 PM-	
Suburbas	Port Macqu Malaron	ario		South:	Park St Bay St				Traff	AM: PM:	N/A 12:00 PM-	1-00 PM
				2201.	,						12.77777	
All Fabic	lar Be	larth A	pprmack	Park S	auth A	praeck	Park S	Wast A	pprmack	Bay St	Hearl	Total
orind Star	orind End	U	R	SB	U	MB	L	U	R	Ĺ	Heer	Peak
12:00	12:15	0	26	71	46	87	120	9	135	20	1881	Poak
12:15	12:30	1	17	66	50	76	135	11	110	25	1805	
12:30	12:45	0	19	59	40	69	104	14	89	18	1742	
12:45	13:00	2	22	77	50	73	107	11	103	19	1753	
13:00	13:15	0	19	53	57	60	105	5	122	17	1723	$\vdash$
13:15	13:30	1	25	68	34	57	112	6	115	10	1681	
13:30	13:45	1	24	54	45	71	95	13	93	27	1642	
13:45	14:00	2	25	55	59	47	101	5	119	21	1578	
14:00	14:15	0	25	70	47	45	94	4	94	17	1555	
14:15	14:30	0	19	83	41	64	75	9	84	14	1553	
14:30	14:45	0	21	58	40	71	68	5	75	21	1557	
14:45	15:00	0	22	69	43	57	85	5	107	23	1511	
15:00	15:15	0	19	76	45	53	79	2	93	27	1423	
15:15	15:30	0	18	59	32	59	87	5	110	23	1354	
15:30	15:45	1	16	52	34	60	71	4	68	7	1295	
15:45	16:00	1	15	58	35	51	54	10	81	18	1255	
16:00	16:15	0	28	54	42	35	57	2	84	23	1199	
16:15	16:30	1	19	54	34	41	79	3	81	22	1164	
16:30	16:45	1	23	50	28	32	57	3	59	20	1067	
16:45	17:00	0	23	44	27	41	44	3	62	23	1017	
17:00	17:15	0	19	35	38	49	60	7	57	25	989	
17:15	17:30	0	12	43	30	49	46 36	4	41	12	915	
17:30	17:45	0	11	35	34	43		*	47		878	
17:45	18:00	1	16	56	29	48	33	3	40	13	847	
18:00	18:15 18:30	0	15 14	42 36	28 29	44 36	28	6	40 23	13	793 777	$\vdash \vdash \vdash$
18:30	18:45	0	13	38	24	35	33	2	38	18	751	$\vdash \vdash \vdash$
18:30	19:00	0	16	28	29	38	29	7	33	5	731	$\vdash \vdash \vdash$
19:00	19:15	0	13	25	42	41	40	2	29	*	685	$\vdash$
19:00	19:19	1	12	25	23	40	32	4	27	10	617	$\vdash$
19:30	19:45	,	6	30	30	29	35	5	28	9	563	$\vdash$
19:45	20:00	0	10	21	20	23	30	5	20	10	518	
20:00	20:15	0	10	22	26	27	26	4	*	9	508	$\vdash \vdash \vdash$
20:15	20:30	0	6	12	25	19	25	*	18	7	497	$\vdash \vdash \vdash$
20:30	20:45	0	5	25	35	22	21	2	12	5	485	$\vdash \vdash \vdash$
20:45	21:00	0	7	20	27	22	28	9	11	5	453	$\vdash$
21:00	21:15	0	11	25	24	19	17	4	14	7	401	$\vdash$
21:15	21:30	0	3	21	25	23	15	5	12	4		$\vdash \vdash \vdash$
21:30	21:45	0	1	20	27	18	18	1	*	2		$\vdash$
21:45	22:00	0	1	14	16	15	17	6	4	4		$\vdash$
	Time Period En-		pprmack R	Perk S	uuth A	p <b>rmack</b> NB	Perk S	Wast A	pprmack R	Bay St	Peak total	
12:00	13:00	3	84	273	186	305	466	45	437	82	1881	

(SHEET 7 OF 12)

TRΔ	NS .	TR	ΔE	EIC	CII	RΜ	FV/					
					₩ traff	icsurvey.c	omau	DNV GL	ONV-GL	ONVOL		
	IG MOV											
	ction of		ers 5	t and I	Park S	it, Po	rt Mac					
6PS Bete:	-0% 40%2; 45 Siak 03711718			Harris.	ParkSt				Sure	AM:	12:00 PM-	12:00 PM
Vootber:				Eart:					47	PM:	12:00 PM-	
	Part Macqu	ario		South		_			Traff		N/A	=
Gartone.	McLaren			Fart:	Warltors	Sŧ			ic	PM:	12:00 PM-	1:00 PM
All Fabic												
Tio Fried Star		larth A	proach R	Perk S SB	uuth A	proach MB	Park S	urt Appr	raach W R	arit <i>ers</i> L	Hourly Hour	Tutal Peak
12:00	12:15	0	*	227	0	207	31	0	34	8	1887	Peak
12:15	12:30	0	3	189	0	215	18	0	38	12	1827	
12:30	12:45	0	7	169	0	191	25	0	31	1	1764	
12:45	13:00	0			0	185		0	34	16		
		<u> </u>	1	210			27				1714	
13:00	13:15	0	4	197	0	185	26	0	35	*	1664	
13:15	13:30	0	5	190	0	170	21	0	21	5	1611	
13:30	13:45	0	2	156	0	172	15	0	25	4	1602	
13:45	14:00	0	4	200	0	168	21	0	28	2	1578	
14:00	14:15	0	7	184	0	139	19	0	49	4	1549	
14:15	14:30	0	3	177	0	159	27	0	35	2	1532	
14:30	14:45	0	7	142	٥	144	25	٥	30	Ν	1485	
14:45	15:00	0	4	186	0	149	22	0	30	3	1472	
15:00	15:15	0	5	189	0	140	14	0	29	*	1394	
15:15	15:30	0	1	180	0	121	14	0	32	*	1326	
15:30	15:45	0	1	139	0	158	14	0	25	0	1271	
15:45	16:00	0	1	173	0	110	13	0	15	4	1181	
16:00	16:15	0	0	157	0	117	13	0	28	2	1133	
16:15	16:30	0	6	145	0	119	12	0	18	1	1070	
16:30	16:45	0	2	126	0	99	10	0	10	0	997	
16:45	17:00	0	5	117	0	114	16	0	16	0	967	
	17:15	0	3	_	0		10	0				
17:00				113		104			20	4	931	
17:15	17:30	0	2	99	0	95	9	0	20	3	871	
17:30	17:45	0	0	97	0	89	12	0	15	4	824	
17:45	18:00	0	2	106	0	103	*	0	11	2	803	
18:00	18:15	0	0	95	0	83	6	0	10	0	738	
18:15	18:30	0	2	77	0	80	8	0	11	3	744	
18:30	18:45	0	3	84	0	92	5	0	12	0	727	
18:45	19:00	0	2	71	0	79	4	0	9	2	703	
19:00	19:15	0	1	92	٥	93	4	٥	7	Μ	687	
19:15	19:30	0	3	74	0	78	3	0	5	1	612	
19:30	19:45	0	з	73	0	84	3	0	7	2	560	
19:45	20:00	0	2	61	0	65	5	0	11	7	532	
20:00	20:15	0	2	52	0	58	7	0	4	2	492	
20:15	20:30	0	0	53	0	53	3	0	3	0	483	
20:30	20:45	0	3	71	0	59	2	0	9	0	485	
20:45	21:00	0	2	58	0	43	1	0	5	2	439	
21:00	21:15	0	0	53	0	55	3	0	5	0	410	
21:15	21:30	0	0	64	0	42	3	0	4	1		
21:30	21:45	0	2	51	0	41	2	0	1	1		
	22:00	0	1	37	0	35	5	0	4	0		
21:45	22:00	, °	1	31	0	35	,	ø	4	0		
							Perk S			ariters	Peak	
ried Ster	Pariod End	U	R	SB	U	NB	L	U	R	L	tetal	

(SHEET 8 OF 12)

TRA	NS '	TR	AFF	ic.	SU	RV	EY/	DWGL	DNVGL			
TURNIN					🚺 traff	icsurvey.c	om.au	NO SEC.	DAV-GL	ONVOL		
Interse					Kmart	Acce	ee Pr					
6P.5	-31 <b>42994</b> 1			dila	Villar C	HOUL	33,1 (					
Bete:	Sat 03/11/18				Kmart A				Sure	AM:	12:00 PM-	
Boother:	Overcart Part Macqu	ario		Eart: South:	Warltors N/A	Sŧ			7,011	PM: AM:	12:00 PM-	10:00 PM
Curtama		4110			Warltors	Sŧ			ie	PM:	12:00 PM-	1:00 PM
All Fabic.	<b>.</b>											
Tie		th Appr	nach Ka	sert Ac	urt Appr	nach W	aritors	ert App	raech W	ariters	Hearly	Total
	Parind End	U	R	L	U	R	WB	U	EB	L	Heer	Peak
12:00	12:15	0	1	16	1	31	7	0	4	17	283	Peak
12:15	12:30	0	1	28	5	13	3	1	9	7	282	
12:30	12:45	0	1	17	3	21	7	1	2	7	279	
12:45	13:00	0	2	21	1	21	6	0	11	18	266	
13:00	13:15	0	3	28	1	22	6	0	7	9	238	
13:15	13:30	0	2	14	0	21	4	0	6	17	245	
13:30	13:45	0	2	16	0	12	3	0	4	9	249	
13:45	14:00	0	0	13	1	20	3	0	5	10	263	
14:00	14:15	0	5	34	3	15	9	0	3	14	275	
14:15	14:30	0	0	27	0	23	10	0	3	5	256	
14:30	14:45	0	2	22	0	21	*	0	1	6	231	
14:45	15:00	1	2	22	1	16	7	2	5	*	213	
15:00	15:15	0	3	21	2	16	3	0	9	10	185	
15:15	15:30	0	0	15	4	*	2	0	*	6	170	
15:30	15:45	0	2	14	0	14	3	0	3	6	172	
15:45	16:00	0	1	11	0	10	3	0	5	6	154	
16:00	16:15	1	3	25	0	7	1	0	1	11	156	
16:15	16:30	0	3	14	1	14	*	1	2	2	141	
16:30	16:45	0	1	7	0	9	2	0	1	4	127	
16:45	17:00	0	3	11	2	13	5	0	0	4	138	
17:00	17:15	0	1	10	4	6	6	0	3	4	128	
17:15	17:30	0	1	13	1	6	4	0	3	3	111	
17:30	17:45	0	1	13	0	*	1	0	3	9	109	
17:45	18:00	0	1	11	1	8	1	0	2	4	96	
18:00	18:15	0		4	2	3	2	0	2	4	85	
18:15	18:30	0	1	7	1	6	2	0	5	7	83	
18:30	18:45	0	2	7		4	2	0	4	3	70	
18:45	19:00	0	0	7	2 1	1 4	0	0	2	2	67	
19:00	19:00	0	1	7	┼╣	<u>,                                    </u>	1	0	2	1	73	
19:00	19:19	0	1	5	0	3	2	0	1	4	74	
19:19			0	9		3		0				$\vdash$
	19:45	0			1		2		2	2	65	
19:45	20:00	0	2	3	1	5	3	0	*	1	58	
20:00	20:15	0	0	4	1	1	*	0	1	1	46	
20:15	20:30	0	0	1 -	0	1	2	0	2	1	35	
20:30	20:45	0	0	5	1	0	2	0	1	3	36	
20:45	21:00	0	1	4	0	1	3	0	2	0	31	
21:00	21:15	0	0	4	0	0	1	0	0	0	26	
21:15	21:30	0	0	1	1	1	1	0	2	2		
21:30	21:45	0	0	0	2	1	2	0	1	1		
21:45	22:00	0	0	0	0	0	3	0	2	1		
Paak	Time	th Appr	mach Ka	sart Ac-	ut Assi	mack W	ariters	st App	raeck W	ariters	Peak	
rind Star	Parind End	U	R	L	U	R	WB	U	EB	L	tetal	
12:00	13:00	0	5	82	10	86	23	2	26	49	283	

(SHEET 9 OF 12)

TUDANA	NS.									3		
	IO BEON	ENACA	T CIT	10	M traffi	csurvey.c	om.au	DWY GL	ONV-GL	DNY-BL Á		
	IG MOV					_						
	ction of			d Kma	irt Acc	cess,	Port M					
6PS Boto:	-38 <b>42</b> 9355 8 Sak 03 <b>41141</b> 8			Harth	N/A				Sure	AM:	12:00 PM-	12:00 PM
Boother:				Eart:	ParkSt				47	PM:	12:00 PM-	
	Port Macqu	ario			Kmart A	ccoss			Traff	AM:	N/A	
Curtame.	McLaron			Fart:	ParkSt				ie	PM:	12:00 PM-	1:00 PM
All Fabic	lar											
Tio	eried En	Eart Ap U	proock WB	Park St	th Appr U	nach Ki	mert Ac	Wast Ap	prooch R	Park St	Hourly Hour	Tutal Peak
12:00	12:15	0	195	25	0	0	41	0	0	222	1800	Poak
12:15	12:30	0	204	25	0	0	55	0	0	189	1754	
12:30	12:45	0	162	22	0	0	40	0	0	167	1692	
12:45	13:00	0	183	14	0	0	51	0	0	205	1669	
13:00	13:15	0	158	31	0	0	50	0	0	198	1624	
13:15	13:30	0	152	27	0	0	47	0	0	185	1553	
13:30	13:45	0	156	25	0	0	38	0	0	149	1521	
13:45	14:00	0	143	23	0	0	40	0	0	202	1473	
14:00	14:15	0	123	21	0	0	42	0	0	180	1449	
14:15	14:30	0	150	19	0	0	35	0	0	175	1449	
14:30 14:45	14:45 15:00	0	126	15	0	0	31 40	0	0	148	1436	
14:45	15:00	0	194	18	0	0	35	0	0	182	1358	
15:00	15:30	0	128	17	0	0	46	0	0	175	1283	
15:30	15:45	0	137	*	0	0	22	0	0	142	1218	
15:45	16:00	0	111	14	0	0	24	0	0	168	1150	
16:00	16:15	0	86	14	0	0	26	0	0	165	1076	
16:15	16:30	0	115	17	0	0	23	0	0	146	1031	
16:30	16:45	0	84	14	0	0	16	0	0	127	946	
16:45	17:00	0	87	21	0	0	19	0	0	116	910	
17:00	17:15	0	99	7	0	0	29	0	0	111	885	
17:15	17:30	0	92	*	0	0	20	0	0	96	831	
17:30	17:45	0	**	6	0	0	20	0	0	91	787	
17:45	18:00	0	85	5	0	0	19	0	0	109	775	
18:00	18:15 18:30	0	86 74	4	0	0	11	0	0	91 74	722 744	
18:30	18:45	0	78	16	0	0	13	0	0	86	743	
18:45	19:00	0	75	*	0	0	14	0	0	68	720	
19:00	19:15	0	82	9	0	0	29	0	0	94	688	
19:15	19:30	0	80	3	0	0	13	0	0	75	605	
19:30	19:45	0	81	6	0	0	11	0	0	72	545	
19:45	20:00	0	65	5	0	0	9	0	0	54	510	
20:00	20:15	0	56	6	0	0	7	0	0	62	496	
20:15	20:30	0	59	6	0	0	6	0	0	40	468	
20:30	20:45	0	52	1	0	0	12	0	0	70	463	
20:45	21:00	0	46	1	0	0	9	0	0	63	430	
21:00	21:15	0	49	1	0	0	4	0	0	49	378	
21:15	21:30	0	39	0	0	0	3	0	0	64		
21:30 21:45	21:45 22:00	0	46 39	0	0	0	1	0	0	53 27		
21:45	22:00	٧	37	٧	٧	- "	<del>_ '</del>	,	٧	61		
							mert Ac				1	
12:00	**************************************	0	WB 744	86	0	0 0	187	0	0 0	783	1800	
12:00	15:00	. 0	144	00	. 0		191			165	1600	

**SATURDAY SURVEYS** 

(SHEET 10 OF 12)

TD A	NIC '	TD	A E I	-16	CII	D\/	EV/					
	NS.				3 U	icsurvey.c	om.au	DNV GL	ONVGL	ONVOL		
	IG MOV								1000 100	10.00		
	ction of		ters 5	t and I	Kmart	Carpa	ark, P					
GPS Doto:	500 403 2520 Side 03711718			Harth:	Kmart C	arpark			Sure	AM:	12:00 PM-	12:00 PM
Vootbor:				Eart:	Warltors	St			*7	PM:	12:00 PM-	10:00 PM
Suburba. Gurtama	Port Macqu McLaren	ario		South:	N/A Warltors	St			Treff	AM: PM:	N/A 12:00 PM-	1:00 PM
				2201.		-						
<i>All Fabic</i> Tie		L Gaar	reck Km	art Car	rt Assi	aack W	arltarr	ert Ann	raach W	arltarr	Heerla	Tetal
ried Ste		U	R	L	U	R	₩B	U	EB	L	Heer	Peak
12:00	12:15	0	0	19	0	0	39	0	21	0	294	Peak
12:15	12:30	0	0	7	0	0	22	0	43	0	285	
12:30	12:45	٥	0	14	0	0	30	0	19	0	264	
12:45	13:00	0	0	16	0	0	30	0	34	0	247	
13:00	13:15	0	0	4	0	0	29	0	37	0	221	
13:15	13:30	0	0	6	0	0	25	0	20	0	236	
13:30	13:45	0	0	10	0	0	16	0	20	0	254	
13:45	14:00	0	0	11	0	0	24	0	19	0	266	
14:00	14:15	0	0	18	0	0	26	0	41	0	273	
14:15	14:30	0	0	6	0	0	34	0	29	0	244	
14:30	14:45	0	0	6	0	0	29	0	23	0	227	
14:45	15:00	0	0	5	0	0	26	0	30	0	212	
15:00	15:15	0	0	*	0	0	20	0	28	0	183	
15:15	15:30		0	10	0	0	13	0	29	0	168	
15:30	15:45		0	*	0	0	18	0	17	0	154	
15:45	16:00	0	0	4	0	0	12	0	16	0	133	
16:00	16:15	0	0	5	0	0	10	0	26	0	135	
16:15	16:30	0	0	0	0	0	21	0	17	0	134	
16:30	16:45	0	0	2	0	0	12	0	*	0	129	
16:45	17:00	0	0	3	0	0	19	0	12	,	135	
17:00	17:15	0	0	6	0	0	16	0	18	0	125	
17:15	17:30	-	0	6	0	0	10	0	17	0	100	
		<u> </u>	<u> </u>		<u> </u>	-		<u> </u>		<u> </u>		
17:30	17:45	0	0	2	0	0	9	0	17	0	92	
17:45	18:00	0	0	0	0	0	10	0	14	0	84	
18:00	18:15	0	0	1	0	0	6	0	*	0	78	
18:15	18:30	0	0	0	0	0	- 11	0	14	0	78	
18:30	18:45	0	0	2	0	0	*	0	10	0	64	
18:45	19:00	0	0	2	0	0	6	0	10	0	61	
19:00	19:15	0	0	0	0	0	5	0	10	0	68	
19:15	19:30	0	0	0	0	0	5	0	6	0	68	
19:30	19:45	0	0	0	0	0	6	0	11	0	63	
19:45	20:00	0	0	4	0	0	*	0	13	0	59	
20:00	20:15	0	0	0	0	0	9	0	6	0	44	
20:15	20:30	0	0	0	0	0	3	0	3	0	37	
20:30	20:45	0	0	2	0	0	4	0	7	0	39	
20:45	21:00	0	0	1	0	0	3	0	6	0	30	
21:00	21:15	0	0	2	0	0	2	0	4	0	29	
21:15	21:30	0	0	1	0	0	3	0	4	0		
21:30	21:45	0	0	0	0	0	3	0	1	0		
21:45	22:00	0	0	0	0	0	5	0	4	0		
Park	Time	L 0	ech Ke	art Ca-	er Asses	L M	arlt	A		arlter	D	
	Parind En-		R	L	U U	R	WB	U U	EB	L	Peak tutal	
12:00	13:00	0	0	56	0	0	121	0	117	0	294	

**SATURDAY SURVEYS** 

# **ANNEXURE C: TRAFFIC SURVEYS** (SHEET 11 OF 12)

Oporto: 2/4 Rennie R	oad, Woodbine	NSW 2560			Friday
Time spent Orderin	g				
Mean	Std Dev Pop	Std Dev Sa	mple		
75.17435897	29.53450837	29.59423			
	29.53	29.59			
Time spent Orderin	g- 6-8pm				
Mean	Std Dev Pop	Std Dev Sa	mple		
78.96	29.66768837	29.86747			
	29.67	29.87			
	Time		nber of veh	Average	
	From	То			
	08:00	09:00	0	N/A	
	09:00	10:00	2	0:02:44	
	10:00	11:00	2	0:02:37	
	11:00	12:00	15	0:02:54	
	12:00	13:00	31	0:03:36	
	13:00	14:00	34	0:04:01	
	14:00	15:00	30	0:06:02	
	15:00	16:00	18	0:03:28	
	16:00	17:00	21	0:03:12	
	17:00	18:00	18	0:04:17	
	18:00	19:00	40	0:05:28	
	19:00	20:00	31	0:05:24	

			OPOF	RTO – FI	RIDAY				
TRANS	TR	AFI	FIC	SUR M traffics	VE urvey.com.a	DNV-GL	DNV-GL	DNV-GL	
TURNING MOVEMEN	T SURVEY								
Oporto: 2/4 Rennie R	load, Woodl	bine NSW 2	560		Saturday				
Time spent Ordering	g G								
Mean	Std Dev Po	Std Dev Sa	mple		Tii	me	nber of veh	Average	
75.89340102	28.96425	29.03804			From	То	ibel of ven	Duration	
	28.96	29.04			08:00	09:00	1	0:02:47	
Time spent Ordering	g- 6-8pm				09:00	10:00	2	0:02:16	
Mean	Std Dev Po	Std Dev Sa	mple		10:00	11:00	6	0:01:47	
71.88095238	28.14436	28.48551			11:00	12:00	22	0:03:39	
	28.14	28.49			12:00	13:00	28	0:04:43	
					13:00	14:00	29	0:04:16	
					14:00	15:00	26	0:05:34	
					15:00	16:00	16	0:04:09	
					16:00	17:00	11	0:02:36	
					17:00	18:00	14	0:03:33	
					18:00	19:00	16	0:03:31	
					19:00	20:00	23	0:04:32	

**OPORTO - SATURDAY** 

(SHEET 12 OF 12)

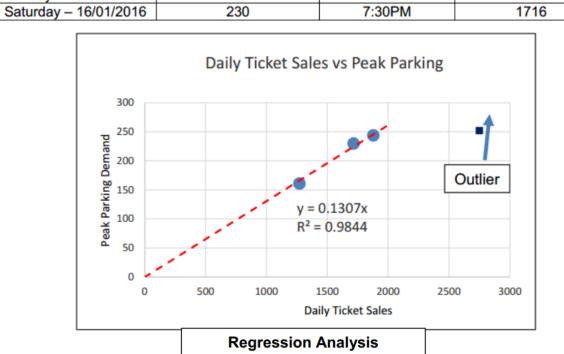
TRAN	S TI	RAF	FIC	SUI N traffic	RVE survey.com.	au Sprace TEM CEA	DNV-GL	
TURNING MOVEMEN	T SURVEY							
Guzman: 1439 Beauc	desert Road	, Acacia Rid	ge QLD 41	10	Friday			
					,			
Time spent Ordering	3							
Mean	Std Dev Po	Std Dev Sa	Ti	me	nber of veh	Average		
0:00:59	17.1685	17.21269	From	То	nber of ven	Duration		
58.57435897	17.17	17.21	08:00	09:00	0	N/A		
			09:00	10:00	11	0:01:19		
Time spent Ordering	g- 6-8pm		10:00	11:00	20	0:01:12		
Mean	Std Dev Po	Std Dev Sa	11:00	12:00	14	0:01:16		
53	17.33826	17.56492	12:00	13:00	23	0:01:17		
	17.34	17.56	13:00	14:00	17	0:01:13		
			14:00	15:00	14	0:01:07		
			15:00	16:00	18	0:01:07		
			16:00	17:00	22	0:01:13		
			17:00	18:00	18	0:01:13		
			18:00	19:00	18	0:01:07		
			19:00	20:00	20	0:01:06		

		GUZI	MAN Y	GOME	Z – FRI	DAY		
						46	STEM CENTRAL LATER STEM CENTRAL	WITH SYSTER
<b>TRAI</b>	NS 1	<b>TRA</b>	FFI	C SI	<b>JRV</b>	EY		
				₩ tr	afficsurvey.	.com.au	NV-GL DNV-GL	5 DNV-GI
	TURNING N	OVEMENT :	SURVEY					
-	Guzman: 1	439 Beaude	sert Road.	Acacia Ridg	e QLD 4110	Saturday		
			,			- 200,007		
Time spent	Ordering							
							Average	
				Time	Nur	mber of veh	Duration	
Mean	Std Dev Po	Std Dev Sar	mple				of Stay	
58.47126	16.76603	16.81442		From	To			
	16.77	16.81		08:00	09:00	0	N/A	
				09:00	10:00	10	0:01:15	
Time spent	Ordering-	6-8pm		10:00	11:00	17	0:01:12	
Mean	Std Dev Po	Std Dev Sar	nple	11:00	12:00	17	0:01:13	
56.9375	17.40858	17.68713		12:00	13:00	14	0:01:14	
	17.41	17.69		13:00	14:00	19	0:01:09	
				14:00	15:00	15	0:01:09	
				15:00	16:00	17	0:01:13	
				16:00	17:00	19	0:01:08	
				17:00	18:00	13	0:01:14	
				18:00	19:00	18	0:01:12	

**OPORTO - SATURDAY** 

# ANNEXURE D: WARRIEWOOD SURVEYS (SHEET 1 OF 3)

Day/Date	Maximum Parking Demand	Time Of Maximum Parking	Daily Ticket Sales
Friday – 08/01/2016	161	9:00PM	1271
Saturday - 09/01/2016	244	7:00PM	1879
Friday - 15/01/2016	252	7:30PM	2750



Day/Date	Tickets sold after 5pm	Restaurant Patrons after 5pm	Dual Use
Friday – 08/01/2016	530	95	18%

# ANNEXURE D: WARRIEWOOD SURVEYS (SHEET 2 OF 3)

Curtis Traffic Surv	reys	Patrons in venue	Carse Traffic S		Patrons in venue
Job:	160101mcl		Job: Day date	160101mcl 09/01/16	
			Day, date	United Cinema	ns d Modes Bil
Day, date	08/01/16		Weather:	Fine	as 4 voice F1
Location:	United Cinema	s 4 Vuko PI	Client:		c Engineering
Weather:	Fine		1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		
	The Control of the Co	Contaction			
alent:	McLaren Traffic	Engineering	Time	Baroccober	Funtair
			09:00		Contraction of the Contraction o
			09:15		
			09:30		
Time	Baroccobar	Funfair	09:45		
17:00	Grey denotes no	headcount	10:00		
and the same of th		100000000000000000000000000000000000000	10:15		
17:15	0	7	10:30	,	
17:30	0	3	10:45		1
1000			11:00	0	
17:45	2	0	11:15		i.
18:00	10	1	11:30		
18:15	14	2	11:45	2	
10000000			12:00		
18:30	9	0	12:15	0	
18:45	13	4	12:30	- 0	
10000000			12:45	0	
19:00	8	4	13:00	- 6	
19:15	8	3	12:30	- 5	
19:30	8	2	12:45		
THE REAL PROPERTY.			14:00		
19:45	10	0	14:15	10	
20:00	10	0	14:30	4	
20:15	12	0	14:45	3	
			15:00	- 5	
20:30	14	2	15:15	3	
20:45	10	2	15:30	5	
21:00	4	9	16:00	7	
		15	16:15	9	
21:15	4		16:30	14	
21:30	4	5	16:45	15	i.
21:45	4	0	17:00		
22:00	2	0	17:15	8	
22.00	-	U	17:30	7	
			17:45	13	
			18:00	21	
			18:30	28	
			16:45	20	
			19:00	17	
			19:15	10	
			19:30	9	
			19:45	9	
			20:00	8	
			20:15	5	
			20:30 20:45	6	
			21:00	7	
			21:15	11	
			21:30	12	
			21:45	9	ķ
			22:00	5	

# ANNEXURE D: WARRIEWOOD SURVEYS (SHEET 3 OF 3)

Friday Tickets	Friday Percentile	Saturday tickets	Saturday Percentile
385	4	752	4
432	8	812	8
433	12	832	12
435	16	846	15
438	20	882	19
444	24	893	23
482	28	907	27
488	32	916	31
501	36	926	35
530	40	927	38
531	44	977	42
539	48	1050	46
580	52	1055	50
594	56	1061	54
598	60	1133	58
641	64	1152	62
676	68	1200	65
825	72	1233	69
1104	76	1250	73
1204	80	1345	77
1218	84	1490	81
1234	88	1607	85
1325	92	1630	88
1443	96	1664	92
1589	100	1783	96
	1	2916	100

# ANNEXURE E: 2016 CAR OWNERSHIP CENSUS DATA (SHEET 1 OF 2)

Australian Bureau of Statistics	Australian Bureau of	Statistics					
2011 Censu	s - Dwelling Characterist	tics					
	Motor Vehicles (ranges)		C and Numbe	r of Bedroom	e in Private D	welling (rang	ec) (BEDDD)
			oc and Number	or Bearoon	is iii Fiivate D	weiling (rang	es) (BEDKD)
Counting: D	wellings, Location on Ce	ensus Night					
Filters:							
Default Summatio	on Dwellings, Location on Census N	Night					
SSC				Mona	a Vale		
Number of Red	 Irooms in Private Dwelling			Three			Six bedrooms
(ranges) (BEDR		One bedroom	Two bedrooms	bedrooms	Four bedrooms	Five bedrooms	or more
ranges) (DEDR	Number of Motor Vehicles			Deditoonis			or more
	(ranges) (VEHRD)						
	No motor vehicles	58	81	55	5	0	1
	One motor vehicle	150					
	Two motor vehicles	34					
	Three motor vehicles	3					
	Four or more motor	3					
	Total	244					
Data Source: Ce	nsus of Population and Housing, 20						
		.,,					
NFO	Cells in this table have been rand	domly adjusted to av	oid the release of c	onfidential data. No	reliance should be	placed on small cells	3.
	nmonwealth of Australia, 2018, see		ht				
ABS data license	ed under Creative Commons, see ab	s.gov.au/ccby					
	T-1-10	Mona Vale	Narrabeen	Warriewood	Port Macquarie		
	Total Cars Total Households	6275 3533		3601 1947			
	Cars per Household	1.78					
	% of Households with No Cars	6%		2%			
	76 OT HOUSEHOUS WILLI NO Cars	0.76	1270	270	370		
		Mona Vale	Warriewood	Port Macquarie			
	Total Cars	6275	3601	24417			
	Total Households	3533	1947	16547			
	Cars per Household	1.78	1.85	1.48			
	cars per medacinola						

# ANNEXURE E: 2016 CAR OWNERSHIP CENSUS DATA (SHEET 2 OF 2)

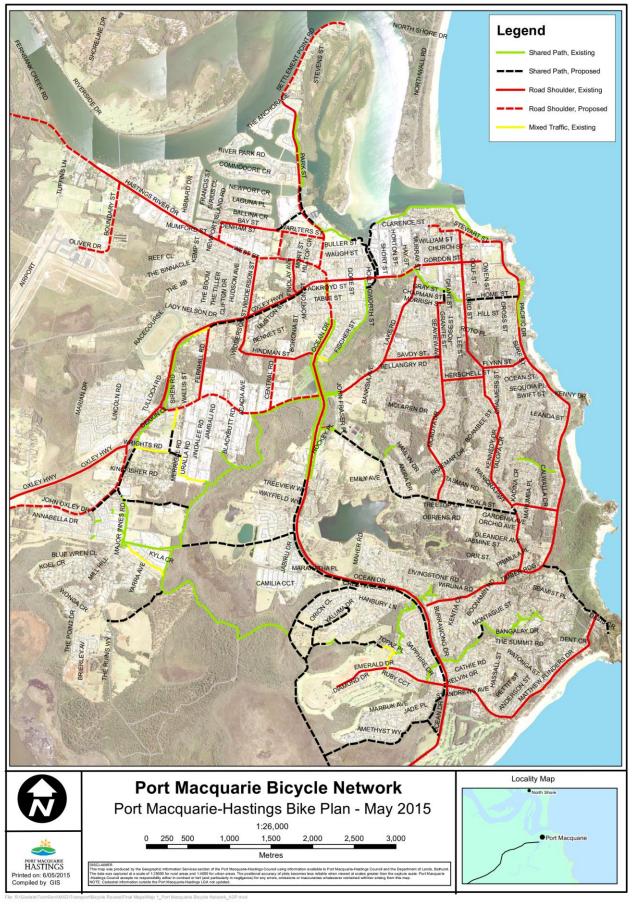
	,	Narra	been	,	
One bedroom	Two bedrooms	Three bedrooms	Four bedrooms	Five bedrooms	Six bedrooms or more
181	174	23	4	0	0
311	906	184	41	8	6
91	585	191	97	23	4
4	50	57	50	19	3
3	21	11	20	9	6
583	1727	468	211	66	18

		Port Ma	cquarie		
One bedroom	Two bedrooms	Three bedrooms	Four bedrooms	Five bedrooms	Six bedrooms or more
319	741	389	51	7	4
375	2530	3732	1011	105	17
38	585	2663	1917	329	39
6	76	521	497	148	27
13	26	127	165	66	23
754	3957	7429	3647	653	107

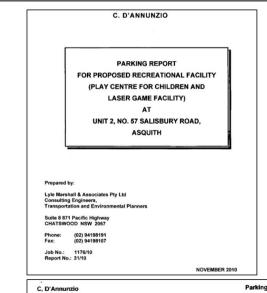
	'	Warrie	ewood		
One bedroom	Two bedrooms	Three bedrooms	Four bedrooms	Five bedrooms	Six bedrooms or more
6	16	21	0	0	0
26	154	274	117	14	7
0	96	420	363	81	9
0	13	70	107	36	11
0	0	26	39	20	5
42	280	810	629	152	34

		То	tal		
One bedroom	Two bedrooms	Three bedrooms	Four bedrooms	Five bedrooms	Six bedrooms or more
563	1004	487	62	8	8
863	3999	4650	1325	162	38
162	1559	3914	2803	533	70
17	157	784	802	272	49
23	58	204	328	136	43
1630	6779	10047	5313	1117	210

#### **ANNEXURE F: PORT MACQUARIE BIKE ROUTE PLANS 2015**



# ANNEXURE G: AMUSEMENT CENTRE REPORT EXTRACTS (SHEET 1 OF 1)



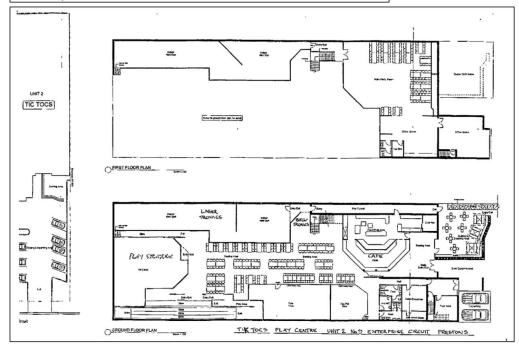
C, D'Annunzio

Parking Report for Proposed Recreational Facility
At Unit 2, 57 Salisbury Road, Asquith

Table 3.3 Peak Patronage and Parking Demand

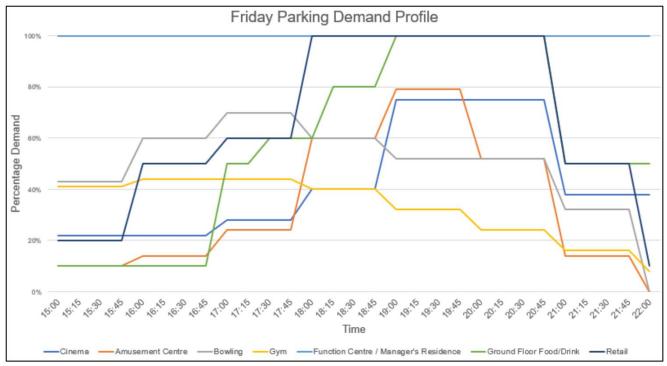
Time	Number of		Staff	Patrons	Total
	Adults	Children	Cars	Cars	Cars
1.00pm	58	95	8	43	51
2.00pm	59	79	8	45	53

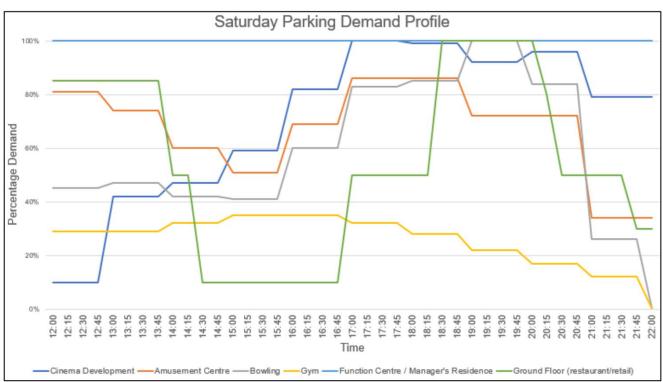
The peak parking demand was  $\bf 0.75$  cars per adult for patrons and  $\bf 1$  per staff on duty.



Mixed Use - Cinema, Food, Recreation, Retail, Hotel 8 Groves Avenue, Mulgrave 15403.02FA - 27th October 2015 Page 32 of 32

#### **ANNEXURE H: PARKING DEMAND PROFILES**



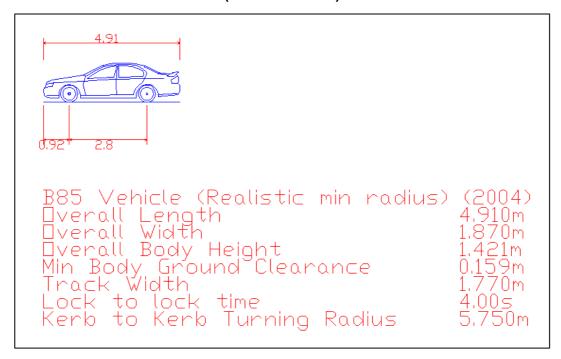


FRIDAY AND SATURDAY PARKING DEMAND PROFILES

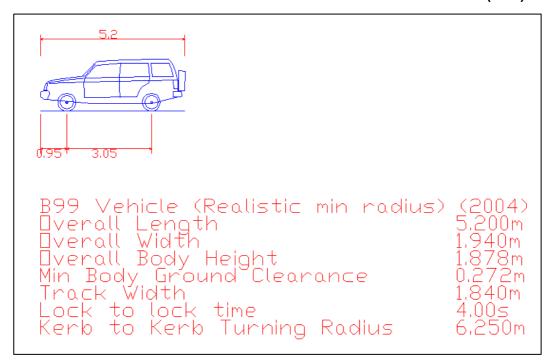


**ANNEXURE I: SWEPT PATH ANALYSIS** 

# ANNEXURE G: REQUIRED CHANGES AND SWEPT PATH ANALYSIS (SHEET 1 OF 8)



### **AUSTRALIAN STANDARD 85<sup>TH</sup> PERCENTILE SIZE VEHICLE (B85)**

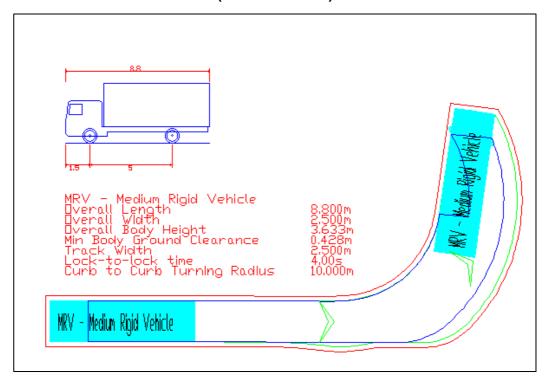


### **AUSTRALIAN STANDARD 99<sup>TH</sup> PERCENTILE VEHICLE (B99)**

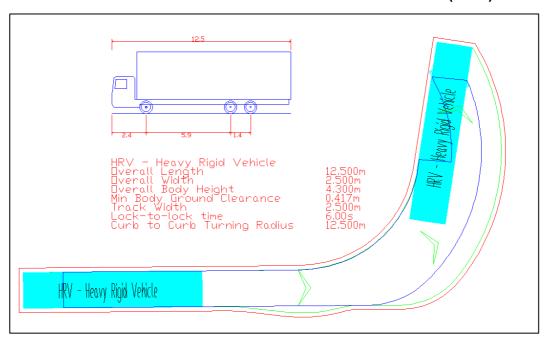
Blue – Tyre Path Green – Vehicle Body Red – 300mm Clearance

ALL TESTS PERFORMED AT 5 KM/H FORWARDS, 2.5KM/H REVERSE

ANNEXURE B: REQUIRED CHANGES AND SWEPT PATH ANALYSIS
(SHEET 2 OF 8)



### AUSTRALIAN STANDARD MEDIUM RIGID VEHICLE (MRV)

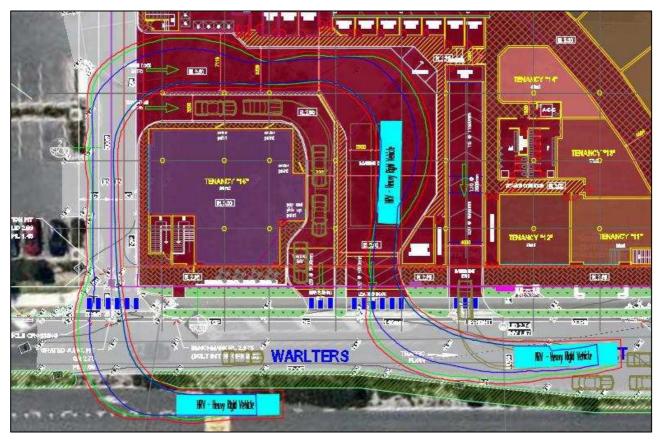


**AUSTRALIAN STANDARD HEAVY RIGID VEHICLE (HRV)** 

Blue – Tyre Path Green – Vehicle Body Red – 500mm Clearance

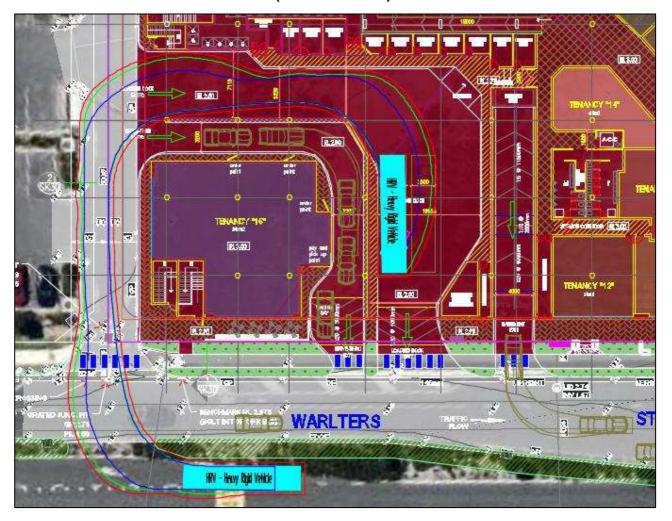
ALL TESTS PERFORMED AT 5 KM/H FORWARDS AND 2.5KM/H REVERSE

# ANNEXURE G: REQUIRED CHANGES AND SWEPT PATH ANALYSIS (SHEET 3 OF 8)



**HRV ENTRY AND EXIT** 

# ANNEXURE G: REQUIRED CHANGES AND SWEPT PATH ANALYSIS (SHEET 4 OF 8)

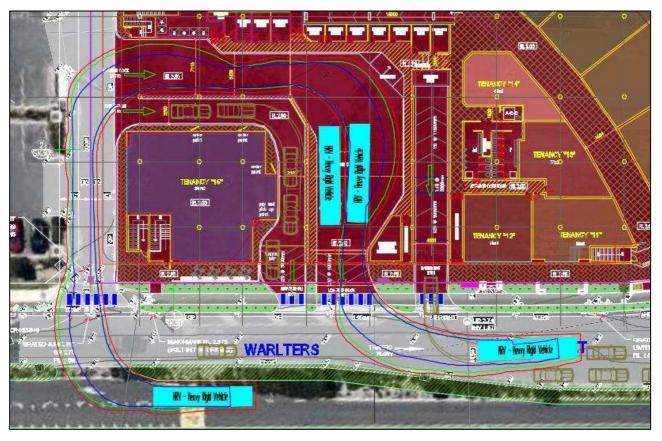


### **HRV ENTERING LOADING BAY**

Successful

Note— The HRV entering the loading zone is only achievable when the other loading bay is empty. This should be managed under a plan of management between the tenancies.

# ANNEXURE G: REQUIRED CHANGES AND SWEPT PATH ANALYSIS (SHEET 5 OF 8)



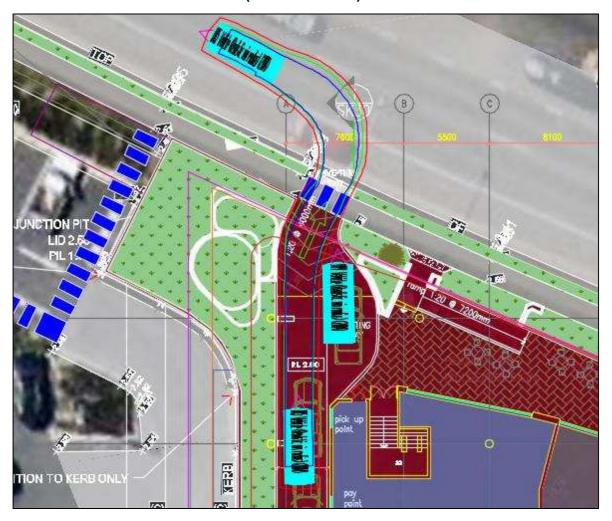
**HRV ENTERING LOADING BAY** 

ANNEXURE G: REQUIRED CHANGES AND SWEPT PATH ANALYSIS (SHEET 6 OF 8)



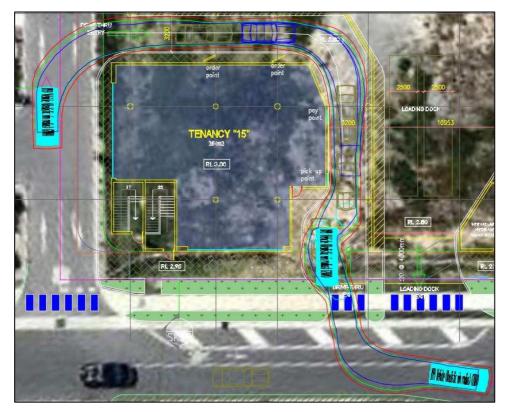
**B99 TRAVELING THROUGH DRIVE-THROUGH** 

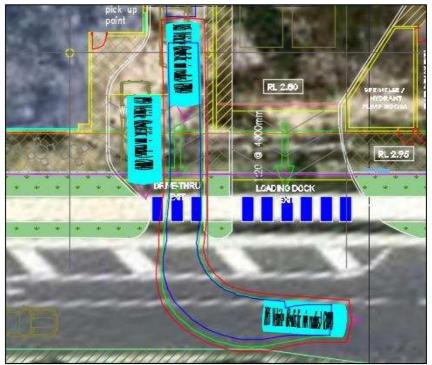
ANNEXURE G: REQUIRED CHANGES AND SWEPT PATH ANALYSIS (SHEET 7 OF 8)



**B85 PASSING B99 IN WAITING BAY** 

ANNEXURE G: REQUIRED CHANGES AND SWEPT PATH ANALYSIS (SHEET 8 OF 8)





**B85 AND B99 PASSING ALONG WAITING BAY** 

# ANNEXURE G: REQUIRED CHANGES AND SWEPT PATH ANALYSIS (SHEET 10 OF 10)

