CATHERINE PARK

Residential Parking Study

December 2013

Development Planning Strategies

CATHERINE PARK RESIDENTIAL PARKING STUDY

DECEMBER 2013

Prepared for: Harrington Estates Pty Ltd on behalf of Hixson Pty Ltd

PO Box 42
NARELLAN NSW 2567

T: 02 4631 3200

Prepared by: Development Planning Strategies

Suite 702, 171 Clarence Street
SYDNEY NSW 2000

T: 9290 3311 F: 9290 3155 E: dpsnsw@dpsnsw.com.au

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Revision 1		DPS	GE	01.07.2013	GE	01.07.2013

CONTENTS

1 INTRODUCTION

The purpose of this document is to determine on street parking for residential streets within the Catherine Fields (Part) Precinct of the South West Growth Centre. This report provides the findings of investigations into the parking pressures in three locations within the Camden LGA: Oran Park, Mt Annan and Gregory Hills. The study of these areas provides an understanding of the parking provision typical within residential streets and any related traffic congestion experienced, and the possible cause. Following consideration of the cause traffic congestion created by on street parking, design solutions are proposed to ensure that on street parking can exist within residential streets without any undue impact to the movement network.

2 METHOD

The study has applied an evidence based research method to ensure that data collected is representative of parking and traffic conditions within typical residential streets found in newer areas of the Camden LGA. The housing typologies within the review areas are representative of the future product expected within Catherine Park.

The study was undertaken on Tuesday 29th May 2013 between 2:30pm and 9:30pm. To ensure that parking demand is accurately recorded, all streets were also visited after 5PM. This time period was selected as it is most representative of when parking pressures, if any, would be experienced within residential streets. The streets surveyed were examined to identify:

- Houses with only single garages;
- Houses with tandem garages;
- The volume of vehicle parking and where congestion was evident; and
- The type of vehicles parked.

The study focuses on understanding the issues relating to those streets "with substantial parking pressure". Plans have been prepared to provide a visual representation of the findings within the investigation areas. Photographs of various streets are also included, with the position and direction of the photographs marked on the included plans.

3 PARKING STUDY AREAS

3.1 Oran Park

Oran Park was visited on 29 May 2013 between2.30 PM and 9.30PM. The site is within the Oran Park Precinct of the South West Growth Centre and is currently undergoing development. There is a mix of compete streets with housing and those currently under construction. The boundaries of the study area are formed by Peter Brock Drive, South Creek Circuit and Perkins Drive.

Housing is predominately a mix of detached single and two storey dwellings. Double garages are most common with a small proportion of single and possible tandem garages.

Local residential streets have varying carriageway widths from 6.5m to 9.7m. The width of the carriageway has been established by either: no on street parking lane, parking on one side and parking on both sides of the street.

A large number of trucks were observed as on street parking. Typically where trucks are parked, the streets have a range of parking pressures from 'some' to 'substantial'. Streets under substantial parking pressures have limited street parking available and parking across verges, driveway and in bin areas was observed. Parking pressures caused by trucks are however relatively unusual occurrence within residential streets and is not considered as typical. The site inspection clearly shows that in areas where trucks are not parking, there is little if any parking pressure.

Typically streets with minimal parking pressure were currently under construction and had few finished and occupied homes. However based on the review of the area, the parking pressure is likely to adequate within all streets. This is because there are at least two off street parking spaces as well as on street parking opportunities.

Figure 1provides site observations for Oran Park.

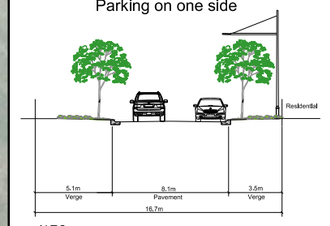
Legend

- Minimal parking pressure
- Adequate parking
- Some parking pressure
- Substantial parking pressure
- Confirmed single garage
- Single width garage (unable to confirm if tandem carpark)
- Heavy/Commercial vehicles occupying street parking.
- Indicative vehicles parking locations (Not all streets surveyed)

VA 0895

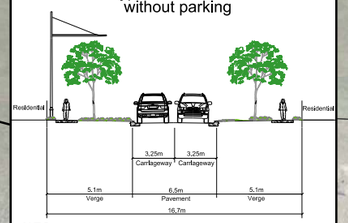
- Area still under construction with few occupied houses.
- 1 Photo location

Typical Local Road
Parking on one side



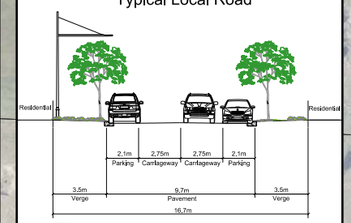
N.T.S

Typical Local Road
without parking



N.T.S

Typical Local Road



N.T.S

Notes: Non marked allotments are assumed to have double or greater parking capacity.
Survey was conducted on 28/05/13 between 6:30pm and 9:30pm

Parking Investigation
ORAN PARK

N

25 0 50 100 150 200 250 metres

Plan No: LANOP-1-035 • Revision: A • Date: 23/05/2013 • Scale 1:2500@A1
Note: All areas and dimensions subject to detailed survey

dps Development Planning Strategies
Suite 702, 171 Clarence St, SYDNEY NSW 2000
T (+612) 9290 3311 F (+612) 9290 3155
E dps@dpsnsw.com.au

3.2 Gregory Hills

Gregory Hills was visited on 29 May 2013 between 5PM and 9.30PM.

The site is located within the Turner Road Precinct of the South West Growth Centre within the Camden LGA. Like Oran Park, the area is newly developed and is a mix of completed development stages, and stages under construction with few occupied homes. The boundaries of the study area are formed by Gregory Hills Drive, McKenzie Boulevard, Explorer Avenue and Pioneer Street.

The housing typology is typically detached residential dwellings with a mix single and two storeys. Most dwellings have double garages and parking within front setback area. Single garages may be 'stacked' providing two internal off street spaces, plus parking on the driveway.

The typical local street carriageway width is 8.5m.

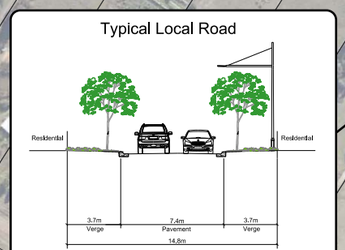
No streets were identified as under substantial parking pressure.

The majority of streets had minimal parking pressures and a number with adequate on-street parking available. Trucks were not a dominant feature of the local street parking environment. This suggests that trucks directly influence parking pressures within streets due to their large size.

Legend

- Minimal parking pressure
- Adequate parking
- Some parking pressure
- Substantial parking pressure
- Confirmed single garage
- Single width garage (unable to confirm if tandem carpark)
- Heavy/Commercial vehicles occupying street parking.
- Indicative vehicles parking locations (Not all streets surveyed)
- Area still under construction with few occupied houses.
- Photo location

Typical Local Road



N.T.S

Notes: Non marked allotments are assumed to have double or greater parking capacity.
Survey was conducted on 28/05/13 between 6:30pm and 9:30pm

Parking Investigation
GREGORY HILLS

25 0 50 100 150 200 250 metres

Plan No: DARGH-1-014 • Revision: A • Date: 23/05/2013 • Scale 1:2500@A1
Note: All areas and dimensions subject to detailed survey

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Suite 702, 171 Clarence St, SYDNEY NSW 2000
T (+612) 9290 3311 F (+612) 9290 3155
E dps@dpsnsw.com.au

3.3 Mount Annan

Mount Annan was visited between 6.30PM and 9.30PM on 29 May 2013. Mount Annan is an established residential community within the Camden LGA. The majority of the estate has been developed. The study area is bounded by Laurina Street, Aristida Circuit, Mount Annan Drive and Adriana Lane.

Housing is a mix of single and two storey detached dwellings. Detached compact housing is also provided, creating a medium density character within part of the precinct. Double garages are predominant in the streetscape. All properties generally have at least one additional off street parking space in the front setback. Double garages also front Stipa Lane on both sides. Additional off street parking exists in the rear setback to the laneway.

As with Oran Park and Gregory Hills, the parking review identified that most streets had little or no parking pressures. This is largely due to the availability of off street car parking.

The only street section with parking pressure was a small portion of Arista Circuit (western entry). This is relatively minor occurrence and did not impact on the wider movement network.

Site observations are recorded In Figure 3.

Legend

- Minimal parking pressure
- Adequate parking
- Some parking pressure
- Substantial parking pressure
- Single width garage (unable to confirm if tandem carpark)
- Indicative vehicles parking locations (Not all streets surveyed)

Parking Investigation
MT ANNAN

N

5 0 10 20 30 40 50 metres

Plan No: HARCF-5-002 • Revision: A • Date: 29/05/2013 • Scale 1:500@A1
Note: All areas and dimensions subject to detailed survey

dps Development Planning Strategies
Suite 702, 171 Clarence St, SYDNEY NSW 2000
T (+612) 9290 3311 F (+612) 9290 3155
E dps@dpsnsw.com.au

4 PARKING STUDY FINDINGS

The key findings from the study are as follows:

a) The majority of streets surveyed, parking and parking congestion in streets was not an issue.
b) In the areas where parking congestion was observed a normal sedan could still comfortably and safely travel down the street. However, a large commercial vehicle could only traverse the streets slowly and with care.
c) Overall the number of streets with parking issues across all three suburbs was very small.
d) The limited number of streets where parking congestion was observed there were numerous commercial and larger vehicles parked in the street. These streets in Oran Park did visually convey a feeling of parking congestion due to those larger vehicles. This is however not reflective of a typical residential street.
e) It was noted that in a number of houses 'wheelie garage bins' were located in front of one side of a double garage, perhaps indicating that one side of the garage was utilised for storage and not parking.
f) There were a small number of houses with single or tandem housing.
g) During the survey, there did not appear to be a direct correlation between single garages and parking congestion observed.
h) Houses with double garages with a >5.5m setback provide for additional parking within the respective allotment (i.e. 4 onsite parking spots per house) and parking congestion on the street would not be an issue.
i) The survey of the Decora Street medium density site at Mt Annan indicated that the only portion with parking pressure was a section of Arista Circuit (western entry), which was confined to small section of this street. The balance of the area appeared to have adequate parking available, including unused dedicated parking bays.
j) Photos 3, 4 and 5 over-page are of parking immediately adjacent to the Decora Street Project in Arista Circuit and illustrate that with parking either side of that street the throughway portion of the street is visually tight but navigation remains possible. It is noted some cars have a wheel on the verge indicating their owners are aware of the tightness.

The parking analysis has shown that where a 7.4m carriageway is proposed adjacent to medium density housing, and where less than two onsite parking is provided, street parking is necessary. This can create congestion issues if parking is intended on both sides of the carriageway.

Photo Board 1

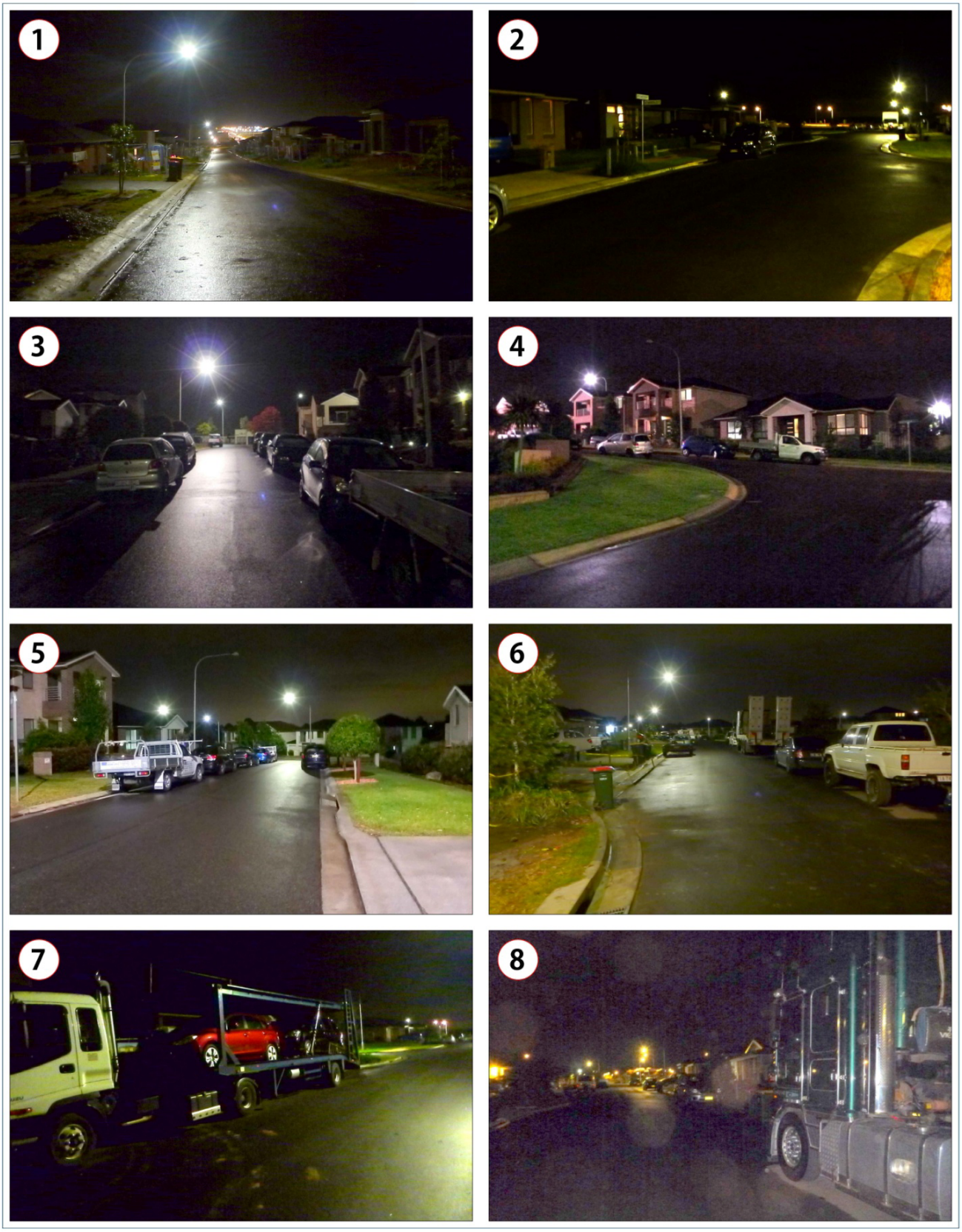


Photo Board 2

5 CATHERINE PARK

In respect to development and street types being proposed at Catherine Park, there is a perceived concern that certain forms of residential development, in particular medium density housing, will generate parking loadings that will inhibit the movement of traffic in residential streets. Standard residential allotments will typically contain a double garage with addition parking between the garage and front lot boundary, and therefore, are not considered to present an issue in creating pressure on street parking.

To address any perceived issues with congested parking in residential streets, it is proposed to consider the provision of parking, both within the allotment and on the street, more comprehensively to ensure adequate parking is provided for every new dwelling.

5.1 Street Hierarchy

Catherine Park applies a street hierarchy consisting of collector streets, local streets, and access streets. A description of each street is detailed below and shown in Figure 4:

- Collector streets provide access to houses and collect traffic from smaller residential streets, and distribute traffic to sub-arterials (Oran Park Drive) and arterials (Camden Valley Way).
- Local streets provide access to Access Streets and houses in larger streets.
- Access streets provide access to house in small streets and cul-de-sacs.

Together this logical and efficient network contributes to the creation of a high quality living environment in new residential estates. Importantly, the clearly defined street hierarchy ensures that streets will function as designed. In addition, it also creates areas of high amenity and safety for pedestrian and cyclists within local and access streets as there is no through traffic. The low traffic volume allows for the widths of local and access streets to be narrowed which in addition to slowing vehicles to a speed appropriate for residential areas, encourages other trip modes such as walking and cycling.

Figure 4: Street Hierarchy

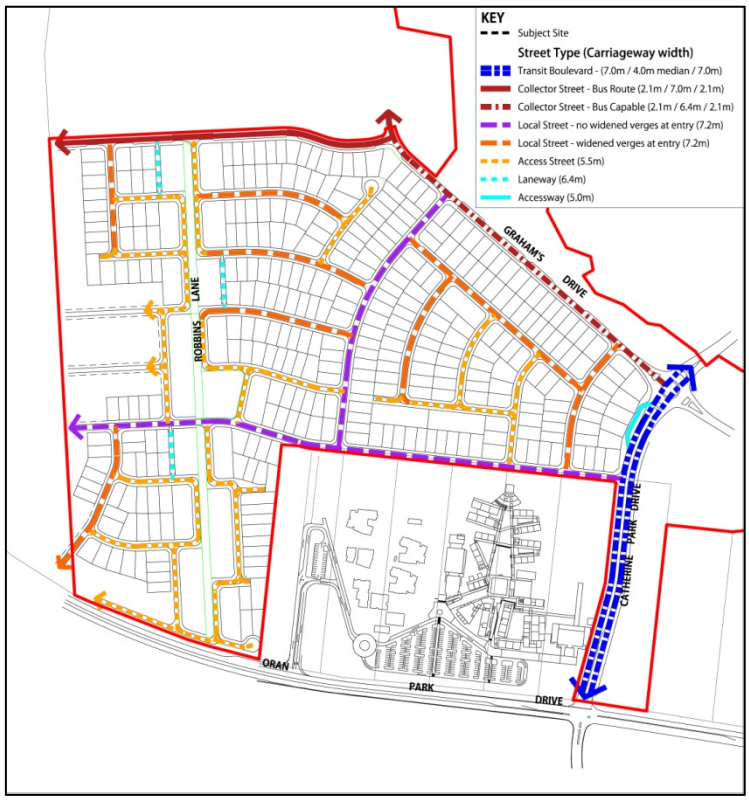
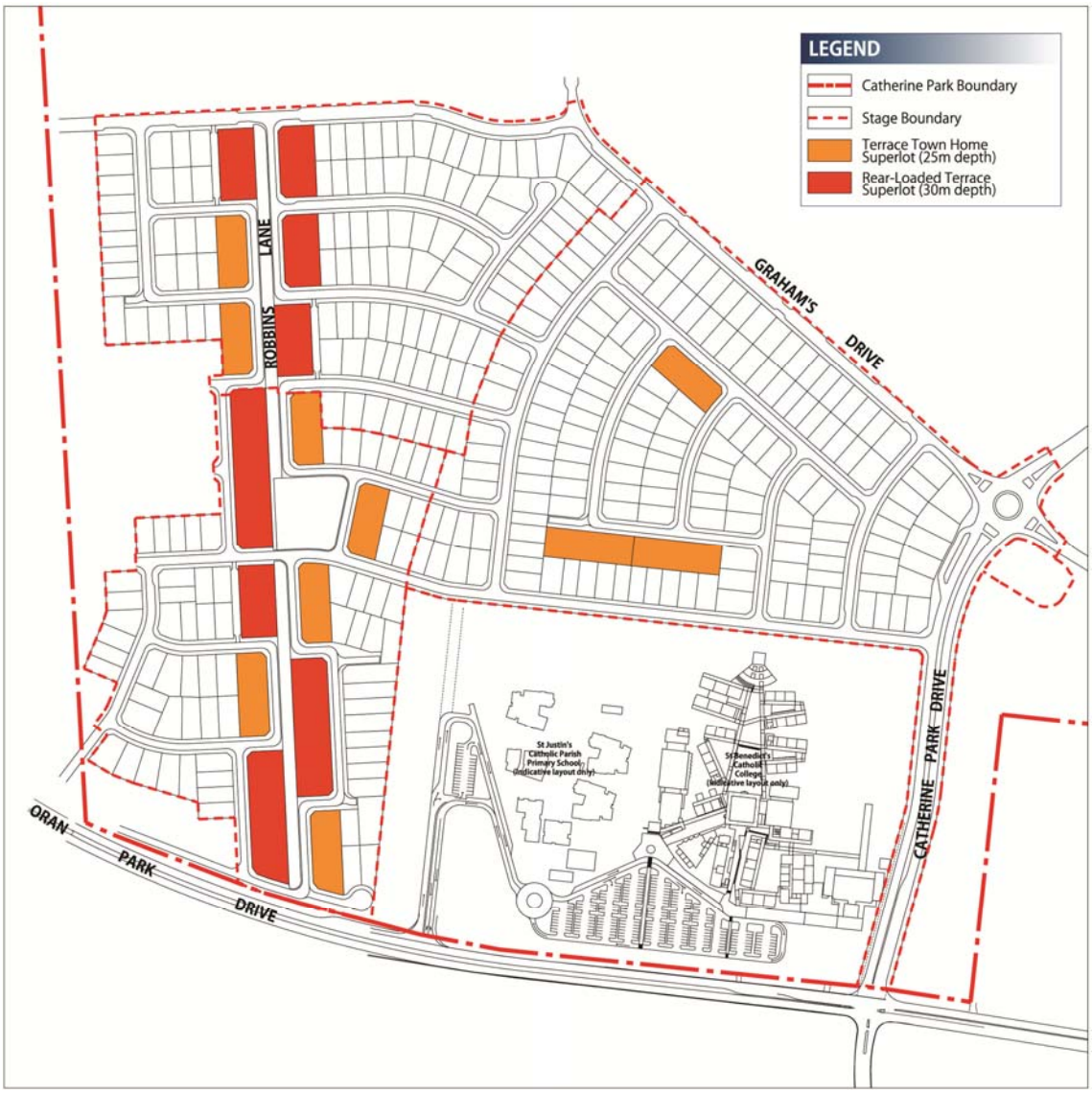


Figure 4 clearly displays the street hierarchy within Stages 1 and 2 of Catherine Park. This diagram shows that narrower access streets are only used in non through route areas. The above network also shows that access streets retain a permeable network connecting to a local or collector street. This ensures that the total number of vehicles using access streets is reduced, and that there is efficient access to the wider street network. Further information on the street hierarchy within Catherine Park is found within the 'Catherine Park Residential Street Review'.

5.2 Parking in the vicinity of Medium Density Dwellings

The current plans for the first development stages in Catherine Park provide 'medium density' sites (Figure 6). This section of the report describes the medium density housing typologies and demonstrates that an unimpeded vehicle movement network can be achieved because of the supply of both on and off street parking.

FIGURE 6: Medium Density Dwelling Locations



Indicative sketches that represent the intended approach to delivering medium density development are included in this report. They describe the following medium density dwelling typologies:

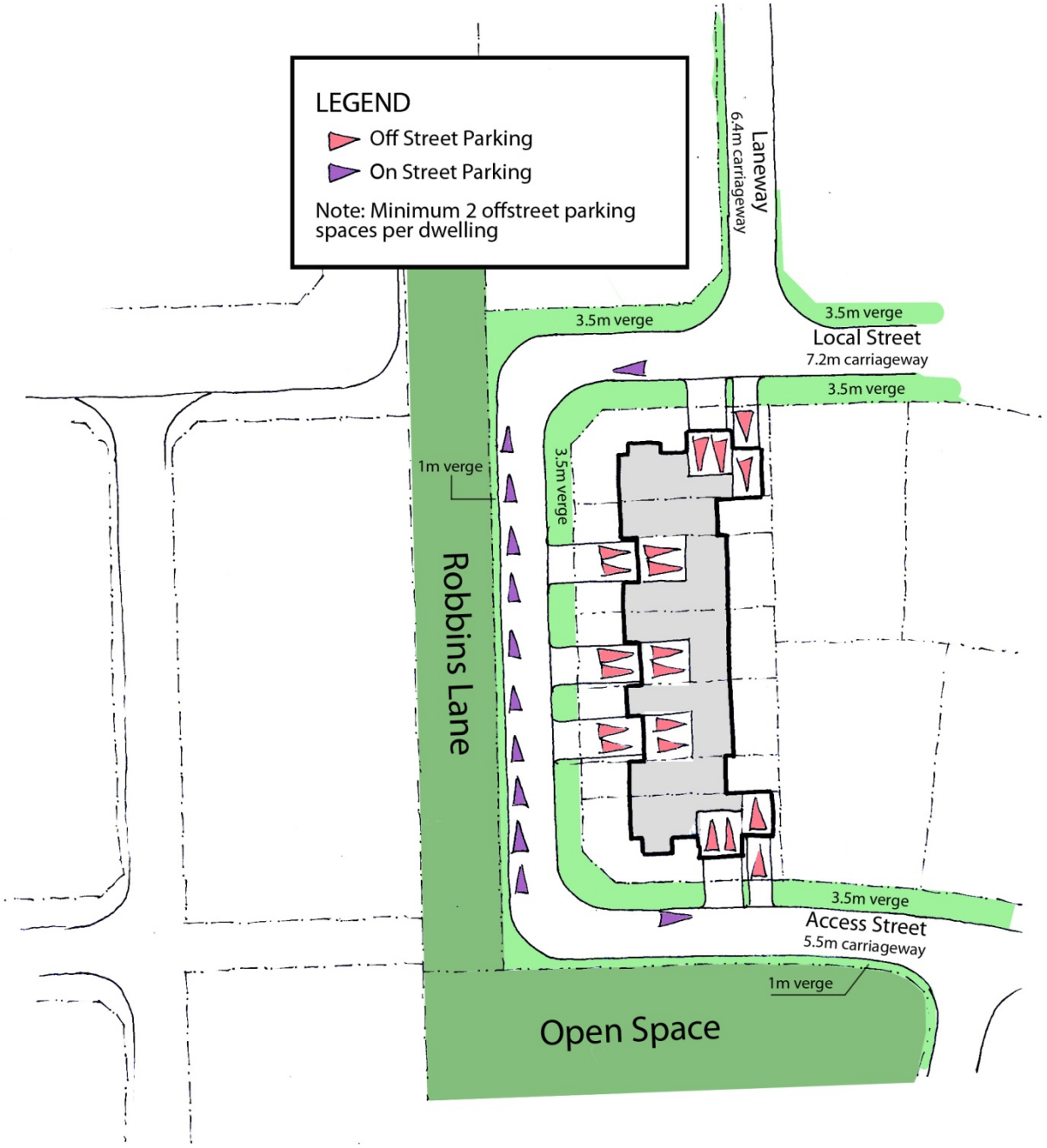
- Terrace Town Homes;
- Cul-de-sac Terrace Homes; and
- Rear Loaded Terrace Homes.

The provision of parking for residents and visitors has been comprehensively considered for each of these development types. This includes the provision of off-street parking (covered and uncovered) and on-street parking. Each of these parking types is identified in the sketches corresponding with the respective forms for medium density development.

5.2.1 Terrace Town Homes

Terrace Town Homes are proposed to be located in the areas identified in Figure 1. The Terrace Town Homes will contain up to seven dwellings ranging between 2-3 bedrooms in each unit and a minimum of two off street car parking spaces. Figure 7 provides a plan view of the Terrace Town Home parking arrangement. Three dwellings within the terrace row will have a total of four off street parking spaces within the respective allotment. The total group of seven dwellings will have 20 off-street parking spaces provided. This ensures that on street parking is minimised, or not necessary due to the availability of parking within each allotment.

FIGURE 7 Parking Arrangements for Terrace Town Homes



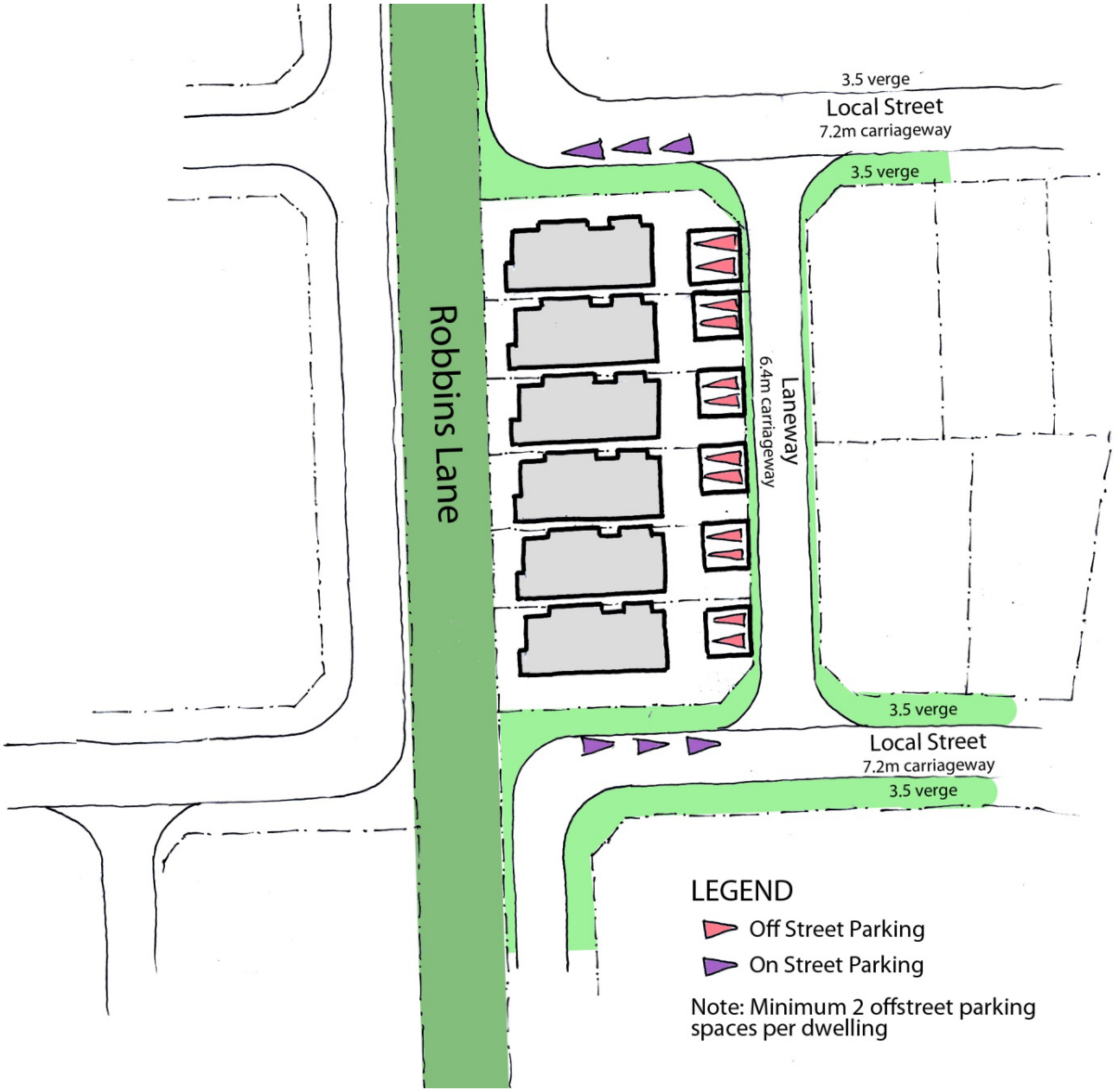
The above concept along Robbins Lane also shows that there is 12 available parking on one side of the carriage way opposite the proposed town house homes. In this area, parking demands would be on one side of the carriageway only thus ensuring an uninterrupted movement network is achieved. This results in up to 32 parking spaces being provided for 7 dwellings. Therefore the quantity of off street parking will ensure that on street parking is minimised, and therefore, residents can access their homes and the wider street network safely, efficiently and without interruption.

5.2.2 Rear Loaded Terrace Homes

Rear Loaded Terrace Homes is proposed fronting Robbins Lane. This dwelling type will have two-three bedrooms and a detached double garage fronting the rear lane, providing two off street parking spaces. This provides a total of 12 off street parking spaces for six dwellings. Additional on street parking is easily accommodated along the adjacent side streets to the development site, providing an additional six car spaces. As the parking is on one side of the street the remaining street thoroughfare is considered more than adequate for efficient and safe circulation of vehicles.

This concept provides a minimum of 3 parking spaces per dwelling which is more than adequate for this housing product.

FIGURE 8 Parking Arrangements for Rear Loaded Terrace Homes



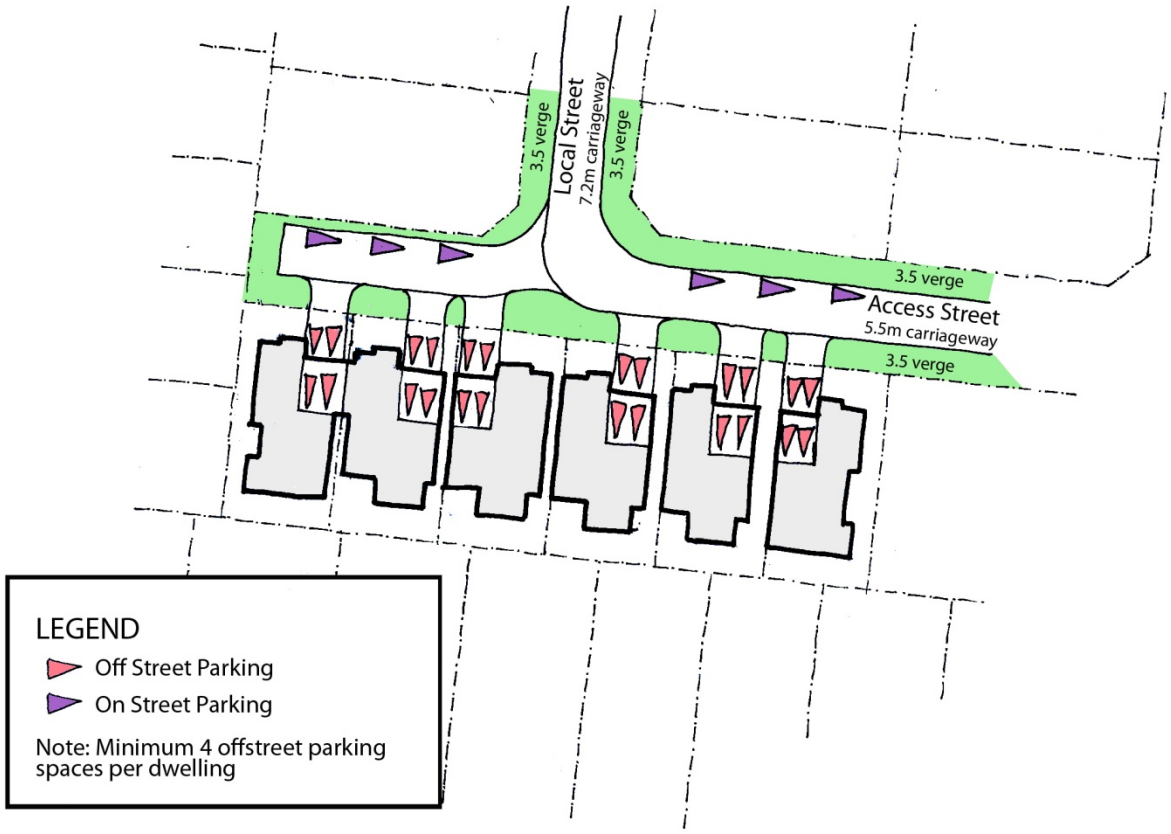
5.2.3 Cul-de-sac Terrace Homes

The proposed Cul-de-sac Terrace Homes are an attached dwelling product that incorporates six dwellings. This dwelling product is envisaged to be provided in the location shown in Figure 9.

Each cul-de-sac terrace home a total of four off street parking spaces. Two spaces are provided in the double garage and a further 2 spaces between the garage door and the front boundary. Off street parking is envisaged to be provided within the street carriageway, providing one additional off street parking space per dwelling. This ensures that for each 6 cul-de-sac terrace homes a total of 30 parking spaces are provided.

This is more than adequate for residents and their respective visitors.

FIGURE 9 Parking Arrangements for Cul-de-sac Terrace Tomes



6 CONCLUSION

In May 2013, a study was prepared that reviewed and analysed the parking pressures in three locations within the Camden LGA: Oran Park, Mt Annan and Gregory Hills. The parking study found that the majority of streets did not have a parking or congestion issue as there was an abundance of off street and on street parking. Where parking congestion was observed a normal sedan could still comfortably and safely travel down the street. Where parking pressures were identified this was due to the unusually large number of commercial and larger vehicles parked in the street which is not reflective of a typical residential street. The study also suggests that there is no correlation between single garages and parking congestion observed.

Parking within Catherine Park is therefore anticipated to be similar to Oran Park, Gregory Hills and Mount Annan. Standard residential allotments will typically contain a double garage with addition parking between the garage and front lot boundary, and therefore, are not considered to present an issue in creating pressure on street parking. Likewise, the majority of medium density dwellings will have double garages and in most instances, additional parking within the development lot.

The provision of off street parking, on street parking opportunities and the paired driveway requirements in Catherine Park will therefore ensure that vehicular circulation is achieved in a safe and efficient manner.

Suite 702 / 171 Clarence Street

SYDNEY NSW 2000

PO Box 2819 SYDNEY NSW 2001

P (02) 9290 3311 | F (02) 9290 3155