

Appendix 2 Retail Sustainability Assessment

MGA

Carramar Neighbourhood Activity Centre

Retail Sustainability Assessment

Corner of Joondalup Drive and Cheriton Drive,
Carramar

Prepared for



March 2018

Prepared by:



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Author:	J Malcolm – MGA Town Planners
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MGA
TOWN PLANNERS
PO Box 104,
West Perth 6872
Ph: (08) 9321 3011
mga@global.net.au

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1. Introduction

This retail sustainability assessment (RSA) has been prepared by MGA Town Planners to investigate the impact of an additional 1,000m² of PLUC 5 shopping floorspace potential being identified for the Carramar Neighbourhood Activity Centre (NAC), within the Carramar South / Tapping North Agreed Structure Plan No. 21B (ASP21B).

The RSA describes the impact of the establishment of the additional shop/retail floor space on the subject land, which would comprise speciality shops only. The activity centre is intended to be subject to a new total of 5,500m² net lettable area (nla) of PLUC 5 shop/retail floor space, being a small expansion to the current limit of 4,500m² specified in ASP21B.

The retail modelling identifies the trade impacts on competing activity centres offering PLUC 5 shop/retail goods and services, based on the most recent available census data (2016) and forecast level of population growth within the City of Wanneroo prepared by the WAPC and Forecast ID. The local population within 1km of the subject land will inevitably increase over time through natural incremental population growth, and possibly higher densities consistent with the intent of SPP4.2 in proximity to activity centres.

ASP65 guides the development of the Banksia Grove District Activity Centre (DAC) to the north east, which is currently the subject of an amendment that will ultimately result in a reduction to the extent of the centre core shopping area, where shopping floorspace is to be established. Reduced development potential at this centre has not been assumed in this investigation, although it may well be a likely outcome.

The proposed additional shop/retail floorspace will improve the provision of local convenience goods and services for surrounding residents, and increase local employment opportunities. The type of additional retailing proposed would satisfy daily household needs for goods and services, but would not provide the range of goods and services offered at much larger higher order centres such as the Banksia Grove DAC, Joondalup SMC or Wanneroo Town Centre.

The investigation reveals that there is sufficient capacity for the additional 1,000m² nla in the medium term, with very limited impact on the trading levels of competing centres given the small size of the proposed additional floor space.

The following report describes the model area, the existing and future framework of competing retail facilities, methodology and a summary of results and observations.

2. The Carramar Neighbourhood Activity Centre Site

The Carramar NAC is positioned at the corner of Joondalup Drive and Cheriton Drive, as depicted in **Figure 1**. The subject land is currently zoned 'Centre' under the City of Wanneroo District Planning Scheme No.2. (DPS2).



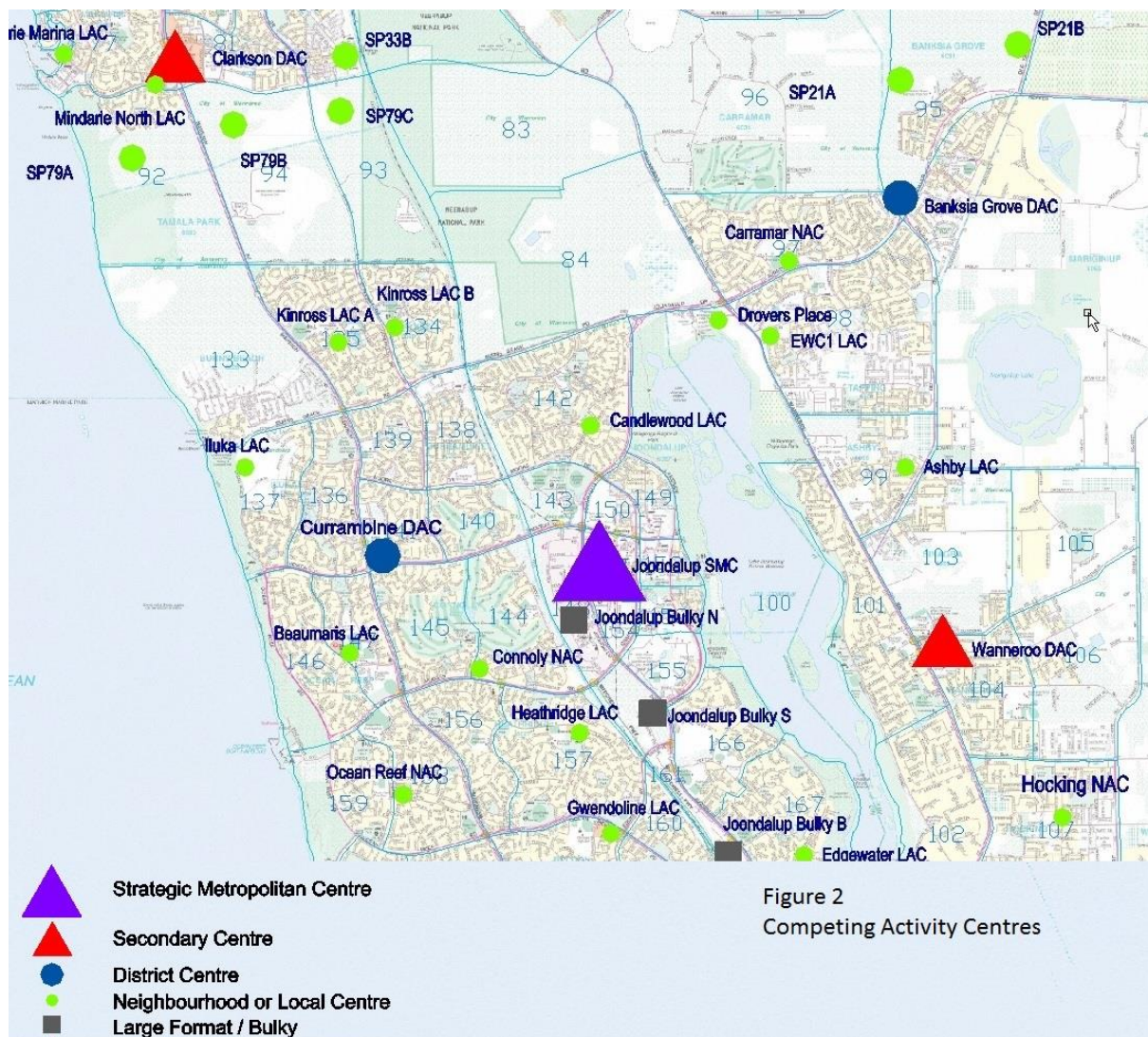
Figure 1 – Carramar Neighbourhood Activity Centre - Subject Land

3. Context

The subject land is shown within the context of surrounding competing activity centres in **Figure 2**.

The site is located 5.5km north from the Wanneroo Town Centre and 5.0km east of the Joondalup Strategic Metropolitan Centre by road. The subject activity centre adjoins the northern side of Joondalup Drive.

Joondalup Road is a significant movement corridor connecting residents and commercial traffic between major shopping facilities and residential suburbs, as well as commuters visiting the CBD and other employment centres in the metropolitan region via the Mitchell Freeway, which is located 4.0km to the west.



Residents in suburbs surrounding the subject land are therefore well connected, enabling convenient access to the subject land, competing activity centres and employment nodes throughout the metropolitan area.

The proposed 1,000m² of additional shop / retail floor space will provide for additional local daily household convenience goods and services for residents, supplementing the existing grocery shopping facilities. This will improve the accessibility to daily goods and services on foot or by bicycle for those living in close proximity to the subject land.

In addition to the abovementioned activity centres, other competing activity centres in proximity to the Carramar NAC include:

- The Banksia Grove DAC within 1.8km to the north east by road.
- Drovers marketplace within 1.2km to the west.
- The Ashby LAC, within 5.0km to the south.
- The Candlwood Boulevard LAC in the City of Joondalup, within 3.5km to the south west.
- The Currambine DAC 7.0km to the west.

The Carramar NAC provides a convenient alternative local shopping facility predominantly for residents within Tapping, Carramar, Ashby, Banksia Grove, Kinross and Currambine providing for daily household needs. Given the small size of the expansion, more substantial shopping needs such as the selection found in larger full – scale supermarkets and broader comparison shopping opportunities, will continue to be provided at competing higher order activity centres including the Wanneroo Town Centre, Banksia Grove DAC and Joondalup SMC.

4. Retail Potential Model

4.1 Description

The retail gravity model forecasts customer choice for different retail centres, resulting from the distribution of shopping floor space and the nature of the transport network.

The gravity model assumes that shoppers are more likely to use shopping centres which are located closer to their homes, rather than centres that are further away. However, the model also accommodates the potential for shoppers to travel to other competing centres further away through bypassing smaller shopping centres to visit larger centres. The model determines a trade area for each activity centre simultaneously, based on the probability of visitation to each centre from each origin zone in the study area. That is, the model accommodates the overlapping of catchments for all centres.

$$S_{ij} = O_i \frac{A_j^a (\exp^{-bT_{ij}})}{\sum_j A_j^a (\exp^{-bT_{ij}})}$$

The modelling involves use of the above formula, where:

- S_{ij} = the proportion of population or \$ household expenditure attracted from origin zone i to centre j ;
- ' O_i ' = population or household expenditure in zone i ;
- ' A ' = is a measure of centre j size;
- ' T ' = travel time from each origin zone to each activity centre; and
- ' b ' = the gravity parameter;
- A separate attraction factor ' a ' is applied to an activity centres' floor space ' A ', to calibrate against reported turnover for shopping centres, and retail averages.

In summary, the model estimates the probability of visitation and level of expenditure at each activity centre, based on:

- the size of each activity centre.
- the travel time to all competing activity centres from all origin zones modelled; and
- population / aggregate household expenditure.

The gravity model assumes that the probability of visitation from any given *origin zone* to each activity centre is proportional to a product of the size of centres, and inversely proportional to travel time to each competing activity centre.

4.2 Model Study Area

The retail gravity model has been used to define the trade area for the subject activity centre simultaneously with that of other competing activity centres.

The extent of the study area utilised enables the retail potential model to accommodate the trade area for significant competing higher order centres, with calibration and modelling based on reported turnover for higher order centres. Competing higher order centres include the Joondalup SMC, Banksia Grove DAC and Wanneroo Town Centre. The Whitfords SAC and Karrinyup SAC have a regional level of attraction and impact consumer visitation to the Joondalup SMC. In order to properly define the trade area for the Joondalup SMC, the modelled area included the City of Wanneroo, Joondalup and portion of the Stirling LGA areas.

4.3 Methodology / Data Inputs

4.3.1 PLUC 5 Floorspace Modelled

All activity centres having PLUC 5 shop/retail floor space in the study area were modelled, including small local activity centres and future activity centres identified in current approved structure plans.

The Department of Planning Land Use and Employment Survey (LUES) (2015/17) was reviewed to determine existing PLUC 5 shop/retail floor space for the base modelling year (2016) among all competing activity centres.

4.3.2 Driving Travel Time

Travel time is an important factor impacting on the relative attractiveness of a centre and a measurement taken into account in the retail gravity model. The shortest travel time through the road network from the centroid of each origin zone (Census SA1 boundary) to the location of each shopping centre is provided as an input to the model.

4.3.3 Household and Per Capita Expenditure

Per capita expenditure data was prepared by MDS Market Data Systems at SA1 level, based on the Western Australian PLUC 5 shop/retail goods and services category. The micro-simulation model run by MDS Market Data Systems is based on the ABS Household Expenditure Survey (HES) and census population data, which is updated using data that informs spending behaviour such as Australian National Accounts and Taxation Statistics. The data is provided at SA1 level, allowing the retail gravity model to more accurately represent actual variations in expenditure by residents across the study area.

4.3.4 Calibration

Calibration of the model involves refinement to ensure that centres' turnover outputs accord with values reported by shopping centre owners or metropolitan benchmarks. Publications utilised included *Shopping Centre News*, the Property Council of Australia *Shopping Centre Manual* and *Urbis Retail Averages*.

5. Population and Demographics

Population data utilised to inform the modelling undertaken included the following:

- ABS 2016 Census data for the base calibration year.
- WAPC and ID Forecast Population Projections.

It is intended that additional retail floorspace expansions would occur by or after 2021. Therefore, the timeframe applied to the assessment is 2021, with a longer term assessment by 2031 assuming the floorspace in all current endorsed structure plans and proposals within the City of Joondalup LPS are established. **Table 1** shows total population by year for the suburb of Carramar, City of Wanneroo and City of Joondalup, comparing data sources. The suburb of Carramar is shown individually to identify a discrepancy in the forecast population.

Table 1 – Population by Year and Data Source

Location	ABS 2016	WAPC MLUFS by MTZ 2021	ID Forecast by MTZ 2021
Carramar	7,171	23,442	8,084 (Modelled)
Wanneroo LGA	188,212	226,263	235,746 (Modelled)
Joondalup LGA	154,445	168,239 (Modelled)	164,759

ABS Census 2016, WAPC 2013 and ID Forecast/City of Wanneroo

Table 2 – Income

Characteristics	Carramar	Tapping	Ashby	Banksia Grove	Joondalup (Suburb)	City of Wanneroo	WA	Greater Perth
Weekly Income								
Median Individual (\$)	812	832	691	803	696	709	724	728
% variation from state median	+12	+15	-5	+11	-4	-2	NA	+1
Household (\$)	2197	2108	1417	1713	1584	1696	1595	1643
% variation from state median	+38	+32	-11	+7	-1	+6	NA	+3
Median Family (\$)	2251	2197	1888	1822	1910	1875	1910	1955
% variation from state median	+18	+15	-1	-5	0	-2	NA	+2

Source: ABS Census 2016

Table 3 – PLUC 5 Expenditure

	Carramar	City of Wanneroo	Model Area
Per Capita Expenditure PLUC 5 Goods 2015/16	\$13,114	\$12,179	\$13,601

Source: Marketinfo 2017

Table 2 shows that median individual and family incomes in suburbs within 2km of the subject land. Residents in the suburbs of Carramar, Tapping and Banksia Grove, which immediately surround the subject land, are shown to have incomes higher in comparison to the City of Wanneroo LGA area and Greater Perth.

Table 3 shows the expenditure on PLUC 5 goods and services in the suburb of Carramar, in comparison to the City of Wanneroo and Greater Perth. The variation in expenditure on shop/retail goods in Carramar and the City of Wanneroo LGA area, reflects the differing level of income between these areas, as identified in Table 2.

Table 4 below shows the distribution of population by age group. It reveals that the proportion of children and young people aged 0 – 19 in the suburb of Carramar (24.1%) and City of Wanneroo (23.0%) area, substantially exceeds the proportion throughout Greater Perth (19.0%). Similar variation is shown in the suburbs of Tapping and Banksia Grove in comparison to the Greater Perth area.

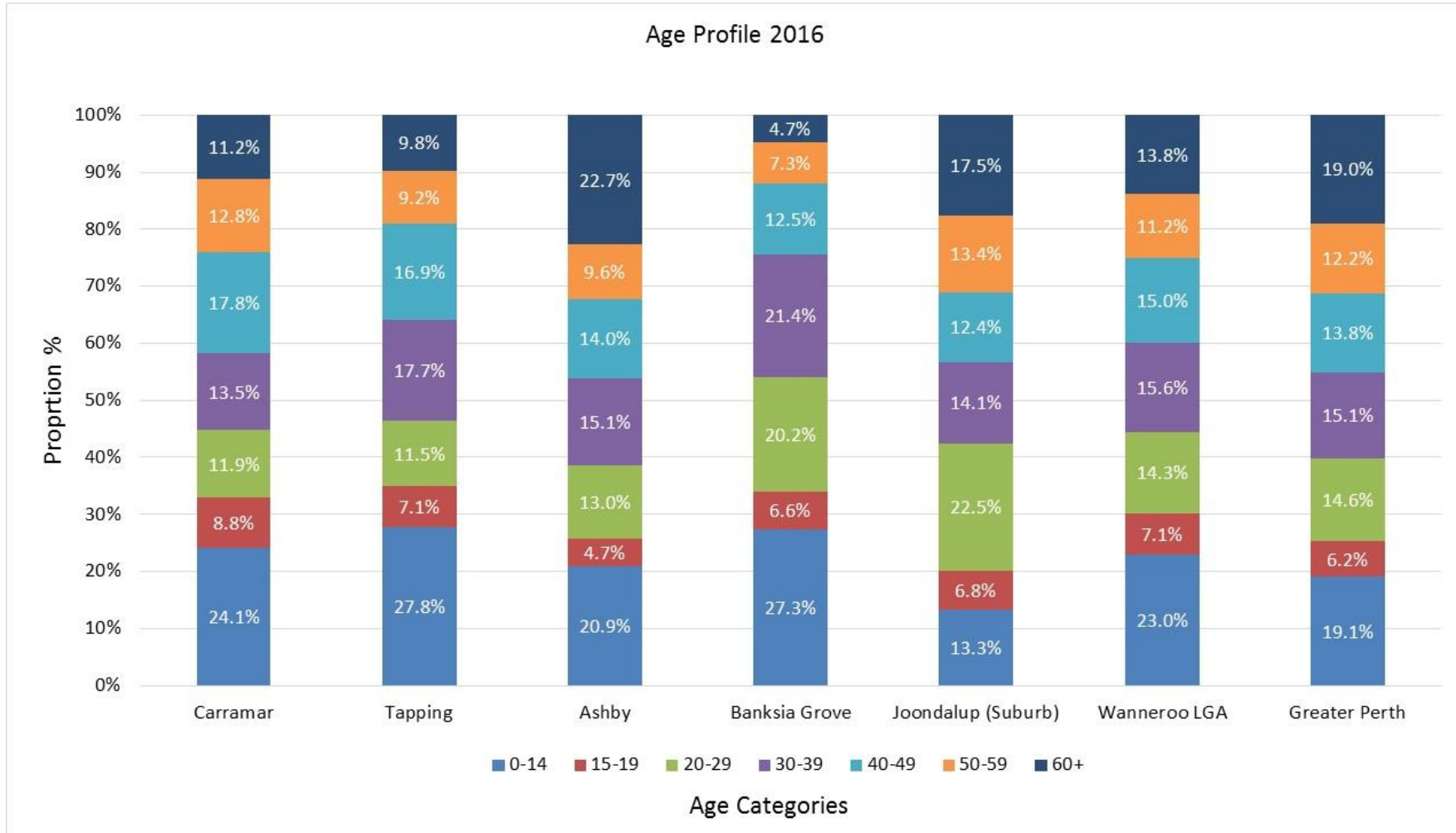
The suburbs of Tapping, Ashby and Banksia Grove make up the majority of the resident population within 2km, and are shown to be relatively youthful, similar to the City of Wanneroo LGA area. The longer established suburbs of Joondalup and Ashby have a more aged community profile, similar to the profile across the entire Greater Perth area.

The higher proportion of children and young people in the City of Wanneroo and suburbs immediately surrounding the subject land lends to a higher demand for retail goods and services within households.

Table 4 – Age Distribution

Age	Carramar		Tapping		Ashby		Banksia Grove		Joondalup (suburb)		City of Wanneroo		Greater Perth
	Years	#	%	#	%	#	%	#	%	#	%	#	%
0-14	1727	24.1%	2631	27.8%	556	20.9%	2556	27.3%	1205	13.3%	43207	23.0%	19.1%
15-19	627	8.8%	673	7.1%	126	4.7%	614	6.6%	616	6.8%	13436	7.1%	6.2%
20-29	850	11.9%	1084	11.5%	345	13.0%	1887	20.2%	2042	22.5%	26978	14.3%	14.6%
30-39	963	13.5%	1679	17.7%	402	15.1%	2003	21.4%	1284	14.1%	29328	15.6%	15.1%
40-49	1270	17.8%	1599	16.9%	372	14.0%	1166	12.5%	1129	12.4%	28180	15.0%	13.8%
50-59	915	12.8%	873	9.2%	254	9.6%	685	7.3%	1222	13.4%	21073	11.2%	12.2%
60+	802	11.2%	924	9.8%	602	22.7%	438	4.7%	1595	17.5%	26012	13.8%	19.0%
Total	7154	100.0%	9463	100.0%	2657	100.0%	9349	100.0%	9093	100.0%	188214	100.0%	100.0%

Graph 1: Age Cohort - Proportion of Total Population



Source ABS Census 2016

6. Retail Potential Model Outputs

6.1 Calibration and Testing

The following outputs were generated using the retail gravity model:

- **1** – The base year for calibration purposes, as at 2016.
- **2** – The identification of trade impacts associated with an additional 1,000m² nla established at the Carramar NAC, as at 2021 and 2031.

6.2 Calibration Year

Table 5 below shows the floorspace and turnover for centres in the Wanneroo and Joondalup LGA areas as at 2016, being the calibration year.

Table 5 – Centre Floorspace and Turnover, 2016

LGA	Centre Name	PLUC 5 Floorspace 2016 (m ²)	Turnover 2016 (\$/m ²)
Wanneroo	Baltimore LAC	983	\$8,881
Wanneroo	Carramar NAC	4500	\$8,136
Wanneroo	Drovers LAC	3855	\$8,538
Wanneroo	Merriwa NAC	2784	\$10,286
Wanneroo	Brighton NAC	4570	\$11,340
Wanneroo	Mindarie North LAC	1794	\$9,199
Wanneroo	Clarkson SAC	42786	\$7,893
Wanneroo	Mindarie East LAC	1511	\$7,921
Wanneroo	Kingsway DAC	18149	\$6,320
Wanneroo	Alexander Heights DAC	9416	\$7,772
Wanneroo	Wanneroo DAC	22064	\$6,882
Wanneroo	Girrawheen DAC	9689	\$7,008
Wanneroo	Brighton DAC	4200	\$11,765
Wanneroo	SP27C Kingsbridge LAC	1200	\$11,262
Wanneroo	Banksia Grove DAC	3744	\$7,307
Wanneroo	Wangara Industrial Area	30721	\$6,245
Wanneroo	Quinns Rocks NAC	1891	\$9,612
Wanneroo	Quinns Rocks Beach LAC	215	\$5,321
Wanneroo	Clarkson LAC	693	\$8,609
Wanneroo	Mindarie Marina LAC	1359	\$7,424
Wanneroo	Wanneroo/Hester LAC	1092	\$5,576
Wanneroo	ECW1 Clarkson Ave LAC	0	\$0
Wanneroo	Ashby NAC	1500	\$8,173
Wanneroo	Hocking LAC	0	\$0
Wanneroo	Broadview NAC	1679	\$6,679
Wanneroo	Summerfield NAC	4572	\$6,459
Wanneroo	Alinjarra LAC	520	\$6,143
Wanneroo	Marangaroo LAC	574	\$5,717
Wanneroo	Koondoola NAC	2087	\$6,860
Wanneroo	Hainsworth LAC	662	\$6,437
Wanneroo	Darch Plaza	1480	\$6,096
Wanneroo	SP21A	0	\$0
Joondalup	Whitfords SAC	51191	\$7,654
Joondalup	Warwick Grove SAC	25841	\$7,086
Joondalup	Gwendoline NAC	2752	\$8,058
Joondalup	Kinross LAC W	690	\$7,663
Joondalup	Carine Glades NAC	3911	\$8,167
Joondalup	Kingsley NAC	3269	\$7,432
Joondalup	Beldon NAC	573	\$7,877
Joondalup	Hillary's LAC	3109	\$8,173
Joondalup	Beaumaris LAC	2621	\$8,376
Joondalup	Duncraig NAC	2938	\$8,757

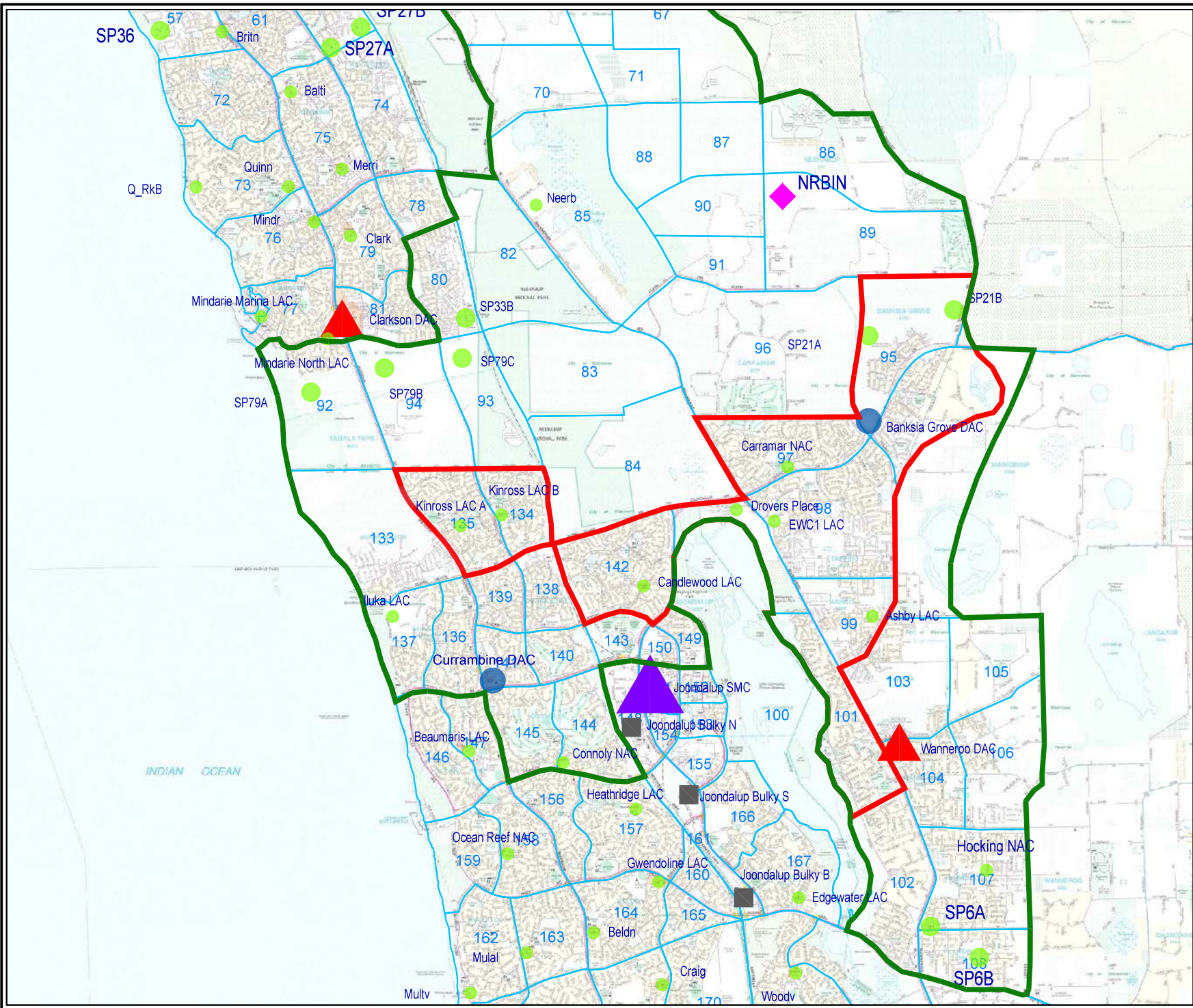
LGA	Centre Name	PLUC 5 Floorspace 2016 (m ²)	Turnover 2016 (\$/m ²)
Joondalup	Heathridge NAC	2477	\$8,035
Joondalup	Padbry LAC	1214	\$8,732
Joondalup	Hepburn LAC	1346	\$6,403
Joondalup	Ocean Reef LAC	1649	\$7,502
Joondalup	Mulaloo LAC	854	\$8,112
Joondalup	Sheppard Way LAC	1530	\$8,307
Joondalup	Candlewood Blvd LAC	1838	\$7,382
Joondalup	Glengarry NAC	2644	\$8,703
Joondalup	Sorrento LAC	1238	\$5,977
Joondalup	Edgewater LAC	1411	\$8,205
Joondalup	Forest Plaza LAC	510	\$9,309
Joondalup	Duncraig Village LAC	678	\$7,473
Joondalup	Coolibah Plaza	908	\$8,138
Joondalup	Springfird LAC	675	\$7,571
Joondalup	Seacrest Harman Rd LAC	680	\$8,116
Joondalup	Mullaloo Tavern LAC	1180	\$5,364
Joondalup	Moolanda South LAC	493	\$8,265
Joondalup	Moolanda North LAC	224	\$7,759
Joondalup	Kinross LAC East	4285	\$7,226
Joondalup	Lilburne Road LAC	550	\$7,564
Joondalup	Woodvale DAC	6684	\$9,136
Joondalup	Currambine DAC	18186	\$10,020
Joondalup	Greenwood Village NAC	3765	\$9,714
Joondalup	Craigie Plaza NAC	2284	\$9,205
Joondalup	Iluka LAC	0	\$0
Joondalup	Joondalup South 1 (LFR)	18953	\$6,521
Joondalup	Waldecks LAC	240	\$7,346
Joondalup	Joondalup South 2 (LFR)	11000	\$7,668
Joondalup	Joondalup SMC	98615	\$7,827
Joondalup	Joondalup SMC - (LFR)	20159	\$6,977
Joondalup	Woodvale NAC	2958	\$6,362
Joondalup	Connolly NAC	3005	\$6,808

6.3 Impacts as at 2021 and 2031

Table 6 shows the model outputs and trade impacts for the year 2021 and 2031 assuming establishment of an additional 1,000m² nla of shopping floorspace at the Carramar NAC above the current limit of 4,500m² nla at each of these years.

For the year 2031, it is assumed that all floor space proposals contained in the Joondalup Local Planning Strategy and endorsed local structure plans within the City of Wanneroo LGA area are established by this time, to provide the most conservative assessment.

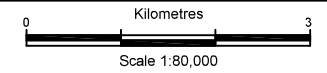
Figure 3 depicts the modelled trade area for the Carramar NAC.



25mm at scale

LEGEND

- Primary Trade Area
- Secondary Trade Area



Date: 21 November 2017
 Ref: 2885/Retail Base Mapping/Trade Area

All dimensions and areas subject to survey

MGA
 TOWN PLANNERS

A4

Ph: (08) 9321 3011
 Fax: (08) 9324 1961
 email: mga@global.net.au



FIGURE 3
TRADE AREA CARRAMAR NAC

Table 6 – Trade Impacts of Proposal 2021 and 2031

LGA	Centre Name	PLUC 5 NLA 2021 (m ²)	Turnover 2021 (2016\$/m ²)	Turnover 2021 (2016\$/m ²) Post	Impact	PLUC 5 NLA 2031 (m ²)	Turnover 2031 (2016\$/m ²)	Turnover 2031 (2016\$/m ²) Post	Impact
Wanneroo	Baltimore LAC	983	\$10,266	\$10,251	-0.15%	983	\$7,979	\$7,970	-0.11%
Wanneroo	Carramar NAC	4500/5500	\$8,644	\$8,591	-0.62%	4500/5500	\$7,674	\$7,638	-0.47%
Wanneroo	Drovers LAC	3855	\$8,792	\$8,751	-0.47%	3855	\$8,017	\$7,989	-0.34%
Wanneroo	Merriwa NAC	2784	\$12,105	\$12,080	-0.21%	2784	\$9,337	\$9,323	-0.15%
Wanneroo	Brighton NAC	4570	\$12,863	\$12,846	-0.13%	4570	\$9,890	\$9,881	-0.09%
Wanneroo	Mindarie North LAC	1794	\$10,855	\$10,833	-0.20%	1794	\$8,619	\$8,606	-0.15%
Wanneroo	Clarkson SAC	42786	\$9,373	\$9,357	-0.17%	50000	\$7,767	\$7,757	-0.13%
Wanneroo	Mindarie East LAC	1511	\$9,400	\$9,384	-0.17%	1597	\$7,788	\$7,778	-0.13%
Wanneroo	Kingsway DAC	30000	\$6,815	\$6,810	-0.08%	32000	\$6,573	\$6,568	-0.07%
Wanneroo	Alexander Heights DAC	9416	\$8,690	\$8,687	-0.04%	9416	\$8,107	\$8,104	-0.04%
Wanneroo	Wanneroo DAC	22064	\$7,452	\$7,425	-0.36%	30000	\$8,316	\$8,295	-0.26%
Wanneroo	Girrawheen DAC	9689	\$7,422	\$7,420	-0.04%	9689	\$6,969	\$6,967	-0.03%
Wanneroo	Brighton DAC	10000	\$12,529	\$12,518	-0.08%	25000	\$8,699	\$8,694	-0.06%
Wanneroo	SP27C Kingsbridge LAC	1200	\$11,782	\$11,772	-0.09%	1200	\$8,252	\$8,247	-0.06%
Wanneroo	Banksia Grove DAC	11000	\$7,742	\$7,691	-0.65%	22000	\$7,408	\$7,373	-0.47%
Wanneroo	Wangara Industrial Area	30721	\$6,912	\$6,904	-0.12%	30721	\$7,265	\$7,257	-0.10%
Wanneroo	Quinns Rocks NAC	1891	\$11,670	\$11,650	-0.18%	1891	\$9,251	\$9,239	-0.13%
Wanneroo	Quinns Rocks Beach LAC	215	\$6,917	\$6,905	-0.17%	215	\$5,600	\$5,593	-0.13%
Wanneroo	Clarkson LAC	693	\$10,243	\$10,222	-0.21%	693	\$8,232	\$8,219	-0.15%
Wanneroo	Mindarie Marina LAC	1359	\$8,577	\$8,562	-0.18%	1129	\$6,925	\$6,916	-0.14%
Wanneroo	Wanneroo/Hester LAC	390	\$6,525	\$6,505	-0.30%	390	\$5,329	\$5,317	-0.22%
Wanneroo	ECW1 Clarkson Ave LAC	1900	\$7,812	\$7,800	-0.15%	1900	\$7,925	\$7,916	-0.12%
Wanneroo	Ashby NAC	7100	\$8,853	\$8,815	-0.43%	7100	\$8,390	\$8,363	-0.32%
Wanneroo	Hocking LAC	0	\$0	\$0	0.00%	4250	\$9,805	\$9,792	-0.13%
Wanneroo	Broadview NAC	1679	\$8,655	\$8,649	-0.06%	3063	\$8,518	\$8,513	-0.06%
Wanneroo	Summerfield NAC	4572	\$6,868	\$6,865	-0.04%	4572	\$6,538	\$6,536	-0.04%
Wanneroo	Alinjarra LAC	520	\$6,932	\$6,928	-0.04%	520	\$6,443	\$6,440	-0.04%
Wanneroo	Marangaroo LAC	574	\$6,113	\$6,110	-0.05%	574	\$5,726	\$5,724	-0.04%
Wanneroo	Koondoola NAC	2087	\$7,427	\$7,425	-0.03%	2087	\$7,014	\$7,012	-0.03%
Wanneroo	Hainsworth LAC	662	\$6,838	\$6,836	-0.03%	662	\$6,567	\$6,565	-0.03%
Wanneroo	Darch Plaza	3550	\$7,046	\$7,040	-0.08%	3550	\$6,801	\$6,796	-0.07%
Wanneroo	SP21A	1100	\$6,840	\$6,800	-0.58%	1100	\$6,235	\$6,207	-0.44%
Joondalup	Whitfords SAC	75000	\$7,300	\$7,296	-0.06%	75000	\$6,618	\$6,616	-0.04%
Joondalup	Warwick Grove SAC	25841	\$6,954	\$6,952	-0.03%	40000	\$6,617	\$6,615	-0.02%
Joondalup	Gwendoline NAC	6000	\$7,931	\$7,924	-0.09%	10000	\$7,345	\$7,340	-0.07%
Joondalup	Kinross LAC W	690	\$8,198	\$8,181	-0.22%	1000	\$7,000	\$6,988	-0.17%
Joondalup	Carine Glades NAC	3911	\$8,003	\$8,000	-0.05%	4500	\$7,568	\$7,565	-0.04%

LGA	Centre Name	PLUC 5 NLA 2021 (m ²)	Turnover 2021 (2016\$/m ²)	Turnover 2021 (2016\$/m ²) Post	Impact	PLUC 5 NLA 2031 (m ²)	Turnover 2031 (2016\$/m ²)	Turnover 2031 (2016\$/m ²) Post	Impact
Joondalup	Kingsley NAC	3269	\$7,192	\$7,188	-0.06%	5000	\$6,615	\$6,611	-0.05%
Joondalup	Beldon NAC	3768	\$7,488	\$7,481	-0.09%	4500	\$6,745	\$6,740	-0.07%
Joondalup	Hillary's LAC	3109	\$7,718	\$7,715	-0.04%	3109	\$6,979	\$6,977	-0.03%
Joondalup	Beaumaris LAC	2621	\$8,454	\$8,444	-0.13%	3000	\$7,426	\$7,419	-0.10%
Joondalup	Duncraig NAC	2938	\$8,429	\$8,426	-0.03%	3000	\$7,842	\$7,840	-0.03%
Joondalup	Heathridge NAC	2477	\$8,163	\$8,153	-0.12%	2500	\$7,389	\$7,382	-0.09%
Joondalup	Padbry LAC	1214	\$8,247	\$8,243	-0.05%	3000	\$7,852	\$7,849	-0.04%
Joondalup	Hepburn LAC	1346	\$6,095	\$6,092	-0.04%	4000	\$5,587	\$5,585	-0.03%
Joondalup	Ocean Reef LAC	1649	\$7,397	\$7,388	-0.12%	4000	\$6,814	\$6,808	-0.09%
Joondalup	Mulaloo LAC	854	\$7,750	\$7,744	-0.08%	2000	\$7,330	\$7,326	-0.06%
Joondalup	Sheppard Way LAC	1530	\$7,735	\$7,733	-0.03%	2000	\$7,532	\$7,530	-0.02%
Joondalup	Candlewood Blvd LAC	1838	\$7,686	\$7,663	-0.30%	3000	\$7,047	\$7,031	-0.23%
Joondalup	Glengarry NAC	2644	\$8,202	\$8,199	-0.03%	4000	\$7,821	\$7,819	-0.03%
Joondalup	Sorrento LAC	1238	\$5,556	\$5,555	-0.03%	1500	\$5,317	\$5,316	-0.02%
Joondalup	Edgewater LAC	1411	\$8,494	\$8,483	-0.13%	3000	\$8,340	\$8,331	-0.10%
Joondalup	Forest Plaza LAC	1000	\$9,418	\$9,414	-0.05%	1500	\$8,918	\$8,915	-0.04%
Joondalup	Duncraig Village LAC	678	\$6,978	\$6,976	-0.03%	1500	\$6,586	\$6,585	-0.02%
Joondalup	Coolibah Plaza	908	\$7,879	\$7,876	-0.04%	1500	\$7,315	\$7,313	-0.03%
Joondalup	Springfird LAC	675	\$7,171	\$7,166	-0.07%	1000	\$6,477	\$6,473	-0.06%
Joondalup	Seacrest Harman Rd LAC	680	\$7,602	\$7,599	-0.04%	1000	\$7,015	\$7,013	-0.03%
Joondalup	Mullaloo Tavern LAC	1180	\$5,121	\$5,117	-0.08%	1180	\$4,651	\$4,648	-0.06%
Joondalup	Moolanda South LAC	493	\$8,159	\$8,155	-0.05%	1000	\$7,742	\$7,739	-0.05%
Joondalup	Moolanda North LAC	224	\$7,578	\$7,572	-0.07%	1000	\$7,001	\$6,997	-0.06%
Joondalup	Kinross LAC East	4285	\$7,790	\$7,770	-0.26%	6000	\$6,685	\$6,672	-0.20%
Joondalup	Lilburne Road LAC	550	\$7,151	\$7,148	-0.04%	1000	\$6,558	\$6,556	-0.03%
Joondalup	Woodvale DAC	6684	\$9,345	\$9,336	-0.09%	15000	\$9,180	\$9,173	-0.08%
Joondalup	Currambine DAC	18186	\$10,604	\$10,582	-0.21%	22000	\$9,118	\$9,103	-0.16%
Joondalup	Greenwood Village NAC	3765	\$9,486	\$9,482	-0.04%	10000	\$9,056	\$9,054	-0.03%
Joondalup	Craigie Plaza NAC	2284	\$8,866	\$8,859	-0.09%	2500	\$8,052	\$8,047	-0.07%
Joondalup	Iluka LAC	0	\$0	\$0	0.00%	3500	\$6,586	\$6,575	-0.17%
Joondalup	Joondalup South 1 (LFR)	18953	\$6,633	\$6,624	-0.14%	18953	\$6,186	\$6,179	-0.11%
Joondalup	Waldecks LAC	240	\$7,452	\$7,448	-0.05%	80	\$7,410	\$7,407	-0.04%
Joondalup	Joondalup South 2 (LFR)	11000	\$7,786	\$7,777	-0.12%	11000	\$7,368	\$7,361	-0.10%
Joondalup	Joondalup SMC	110000	\$8,018	\$8,001	-0.21%	120000	\$7,138	\$7,126	-0.16%
Joondalup	Joondalup SMC - (LFR)	20159	\$7,139	\$7,124	-0.21%	20159	\$6,350	\$6,340	-0.16%
Joondalup	Woodvale NAC	2958	\$6,657	\$6,650	-0.12%	4000	\$6,552	\$6,545	-0.10%
Joondalup	Connolly NAC	3005	\$7,084	\$7,074	-0.14%	3500	\$6,329	\$6,322	-0.11%

7. Summary and Observations

The impact of the proposal is minor, being less than 1.0% on the network of competing centres, as would be expected given the small size of the proposed expansion. The highest impacts are on the Carramar NAC itself, and the Banksia Grove DAC, at less than 0.7%.

Without the proposed development, Table 6 (column 4) shows that the turnover per square metre at all centres are generally higher in 2021 than in 2016 (Table 5 column 4). This indicates there is unrealised capacity and scope for expansions to shopping floorspace in the locality by this time, based on the extent of forecast population growth as at 2021.

Column 8 of Table 6 shows the turnover as at 2031, and demonstrates that turnover on a \$ per m² basis would achieve viable levels following a minor expansion at the Carramar NAC, and assuming all future planned floorspace is established, including expansion of the urban front in Butler and Alkimos.

Table 6 shows that impacts arising solely from a proposed additional 1,000m² nla by 2021 are small. Trade impacts on activity centres reduce with greater distance from the Carramar NAC, and the percentage impacts on a \$ per m² basis (columns 6 and 10) are minor with no centre expected to be impacted by more than 0.7%.

The modelling shows that the proposed additional floorspace can be readily accommodated within the existing and future planned hierarchy of activity centres, as contained in endorsed structure plans.

The proposed 1,000m² of additional shop / retail floor space will provide additional local daily household convenience goods and services supplementing the existing grocery shopping facilities at the Carramar NAC. This will improve the accessibility to a range of retail goods and services on foot or by bicycle for those living in close proximity to the centre.

Individual and family incomes in suburbs within 2.0km of the centre were shown to meet or exceed the average across the City of Wanneroo and Greater Perth areas, along with per capita expenditure on PLUC 5 shop/retail goods.

The resident population in suburbs immediately surrounding the centre and City of Wanneroo overall contain a higher proportion of children and young people aged 0 – 19 in comparison to Greater Perth. The high proportion of children and young people lends to a higher demand for retail goods and services.

The Carramar NAC provides a convenient alternative local shopping facility predominantly for residents within Tapping, Carramar, Ashby, Banksia Grove, along with Kinross and Currambine, servicing daily household needs. Given the small size of the expansion, more substantial shopping needs such as the selection found in larger full – scale supermarkets and broader comparison shopping opportunities, will continue to be provided at surrounding competing higher order centres including the Wanneroo Town Centre, Banksia Grove DAC and Joondalup SMC.