

MANTA GROUP PTY LTD

TRANSPORT ASPECTS OF
PLANNING PROPOSAL FOR
MIDDLETON GRANGE TOWN
CENTRE

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I. INTRODUCTION

- I.1 Colston Budd Hunt and Kafes Pty Ltd has been commissioned by Manta Group Pty Ltd to review the transport aspects of the planning proposal for the Middleton Grange town centre. The site is some 7.9 hectares and is bounded by Southern Cross Avenue and Hall Circuit to the north, Flynn Avenue to the south and Middleton Grange Primary School to the east. To the west is residential development. The site location is shown in Figure I.
- I.2 Middleton Grange has been rezoned to accommodate urban development. It is anticipated that the area will include more than 2,500 dwellings plus the town centre and community facilities once it is fully developed.
- I.3 The planning proposal seeks to extend the town centre area to 'square up' the site, as well as provide a more regular road and development lot pattern. The scale of development envisaged in the planning proposal includes some 37,000m² retail/commercial plus some 800 to 900 residential apartments.
- I.4 The transport aspects of the planning proposal are reviewed in the following chapter.

2. TRANSPORT ASPECTS OF PLANNING PROPOSAL

2.1 The transport aspects of the planning proposal are reviewed through the following sections:

- site location and road network;
- previous work;
- scale of development;
- policy context;
- public transport, walking and cycling;
- parking provision;
- access, internal circulation and layout;
- traffic generation; and
- summary.

Site Location and Road Network

2.2 Middleton Grange is west of the M7 Motorway and Cowpasture Road. The main access into the area is from Cowpasture Road, via traffic signal controlled intersections at Qantas Boulevard and Fifteenth Avenue.

2.3 The site is some 7.9 hectares and is currently largely undeveloped. It is bounded by Southern Cross Avenue and Hall Circuit to the north, Flynn Avenue to the south and Middleton Grange Primary School to the east. To the west is residential development. The site location is shown in Figure 1.

- 2.4 Flynn Avenue provides a major east-west connection through Middleton Grange. It connects to Qantas Boulevard east of the site. Qantas Boulevard has a signalised intersection with Cowpasture Road. This intersection provides one of the two major access points into Middleton Grange.
- 2.5 North of the site, Southern Cross Avenue is another east-west road through Middleton Grange. It connects to Hall Circuit near the eastern end of the site. Hall Circuit bends south and runs along the eastern side of the primary school where it connects to Qantas Boulevard. Qantas Boulevard, Hall Circuit and Bird Walton Avenue, which runs north from Hall Circuit, currently provide the main connection to residential areas in the northern part of Middleton Grange.
- 2.6 Roads within Middleton Grange are being progressively constructed or upgraded in association with adjacent development. Parts of Flynn Avenue, Southern Cross Avenue and Hall Circuit are yet to be upgraded.

Previous Work

- 2.7 Middleton Grange has been rezoned to accommodate urban development. It is anticipated that the area will include more than 2,500 dwellings plus the town centre and community facilities once it is fully developed.
- 2.8 Part 2.5 of the Liverpool Development Control Plan 2008 applies to Middleton Grange. It includes controls for the road hierarchy and network, road cross sections, open space and buildings.
- 2.9 As discussed in subsequent sections, the planning proposal seeks to amend some parts of the DCP road network and lot layout.
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Scale of Development

- 2.10 The planning proposal seeks to extend the town centre area to 'square up' the site, as well as provide a more regular road and development lot pattern. The scale of development envisaged in the planning proposal includes some 37,000m² retail/commercial plus some 800 to 900 residential apartments. A concept is shown in drawings prepared by Mosca Pserras.
- 2.11 The development would include a town square, restaurants, commercial, retail and community uses, gymnasium, medical centre, child care facilities and areas of open space. Parking would be provided in basement levels. The residential apartments would be provided above the commercial and retail uses.
- 2.12 Two new north-south roads would be constructed, connecting Southern Cross Avenue in the north with Flynn Avenue in the south. Appropriate intersection controls would be provided at the new intersections on these streets.

Policy Context

- 2.13 There are a number of strategic state policies which are relevant to future development in the Sydney metropolitan area. The policies include NSW 2021, A Plan for Growing Sydney and The NSW Long Term Transport Master Plan. These policies are discussed below.
- NSW 2021
- 2.14 NSW 2021: A Plan to Make NSW Number One sets targets to increase the proportion of commuter trips made by public transport for various areas within Sydney by 2016, including:
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- 80 per cent in the Sydney CBD;
- 50 per cent in the Parramatta CBD;
- 20 per cent in the Liverpool CBD; and
- 25 per cent in the Penrith CBD.

2.15 It also has targets to:

- improve road safety, reduce fatalities to 4.3 per 100,000 population by 2016;
- double the mode share of bicycle trips made in the metropolitan area by 2016; and
- increase the proportion of the population living within 30 minutes by public transport of a city or major centre in the metropolitan area.

□ A Plan for Growing Sydney

2.16 A Plan for Growing Sydney provides a strategic plan to accommodate an additional 1.6 million people, 664,000 houses and 689,000 jobs.

2.17 The plan includes the following goals and actions to achieve them:

- Goal 1: a competitive economy with world class services and transport
Actions:
 - grow a more internationally competitive Sydney CBD;
 - grow Greater Parramatta – Sydney's second CBD;
 - establish a new priority growth area – Greater Parramatta to the Olympic Peninsula;
 - transform the productivity of western Sydney through growth and investment;

- enhance capacity at Sydney's gateways and freight networks;
 - expand the Global Economic Corridor;
 - grow strategic centres – providing more jobs closer to home;
 - enhance linkages to regional NSW;
 - support priority economic sectors;
 - plan for education and health services to meet Sydney's growing needs;
and
 - deliver infrastructure.
- Goal 2: a city of housing choice, with homes that meet our needs and lifestyles
- Actions:
- accelerate housing supply across Sydney;
 - accelerate urban renewal across Sydney – providing homes closer to jobs;
 - improve housing choice to suit different needs and lifestyles; and
 - deliver timely and well planned greenfield precincts and housing.
- Goal 3: a great place to live with communities that are strong, healthy and well balanced
- Actions:
- revitalize existing suburbs;
 - create a network of interlinked, multipurpose open and green spaces across Sydney;
 - create built environments; and
 - promote Sydney's heritage, arts and culture.
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- Goal 4: a sustainable and resilient city that protects the natural environment and has a balanced approach to the use of land and resources

Actions:

- protect our natural environment and biodiversity;
- build Sydney's resilience to natural hazards; and
- manage the impacts of development on the environment.

- NSW Long Term Transport Master Plan

2.18 The NSW Long Term Transport Master Plan has been developed, in association with A Plan for Growing Sydney and State Infrastructure Strategy, to support NSW 2021. The key measures identified are as follows:

- providing a fully integrated transport system;
 - providing a modern railway system and increase capacity by 60 per cent;
 - providing a modern light rail system in the CBD;
 - providing a modern bus system to complement the rail networks;
 - connect the motorway network, including WestConnex, F3/M2 link and F6;
 - reduce congestion in the CBD, including removing the monorail, increasing light rail, improving pedestrian links, increasing ferry use, providing increased capacity on the rail system and improved walking and cycling infrastructure;
 - support the growth of new economic centres including the north west and south west rail links, new roads in growth areas and new bus infrastructure;
 - connect regional communities through major highway upgrades, and improved rail, bus and air services;
 - improve freight efficiency and productivity;
 - improve access to Sydney Airport and Port Botany;
 - boost walking, cycling and its integration with public transport; and
 - preserve future transport corridors.
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Public Transport, Walking and Cycling

- 2.19 Middleton Grange is currently served by bus route 853, which connects Carnes Hill and Liverpool via Middleton Grange and Hoxton Park Road. It operates along Flynn Avenue, adjacent to the site.
- 2.20 The DCP identifies further potential bus routes to serve the northern part of Middleton Grange, as well as possible bus stop locations.
- 2.21 Roads within the area, including adjacent to the site, will include pedestrian footpaths once they are upgraded. The DCP nominates bicycle routes and shared pedestrian/cycle paths, including along Flynn Avenue.
- 2.22 The site of the future town centre is therefore accessible by bus services, with potential for improved services, as well as pedestrian and cycle facilities. The opportunity exists to provide for buses through the town centre, using the proposed new road network.
- 2.23 The proposed commercial, retail and residential on the site will therefore be readily accessible by public transport, walking and cycling. The proposed development would increase residential densities close to existing public transport services.
- 2.24 To support accessibility by bicycles, appropriate bicycle parking, in accordance with council's controls, should be provided.
- 2.25 The proposed development will therefore satisfy the objectives of NSW 2021, A Plan for Growing Sydney and the NSW Long Term Transport Master Plan policy package as follows:
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- ❑ enabling residents to readily access buses close to the site;
- ❑ providing an appropriate level of on-site parking, with reference to appropriate council and RMS requirements, to encourage greater public transport use and increase the proportion of trips by public transport;
- ❑ providing increased residential uses close to the hospital to reduce the need for private car travel; and
- ❑ providing for an increase in the proportion of the population living within 30 minutes by public transport of a city or major centre in the metropolitan area.

Parking Provision

2.26 Section 20 of Part I of the Liverpool Development Control Plan 2008 includes the following car parking requirements:

- one space per one bedroom dwelling;
 - 1.5 spaces per two bedroom dwelling;
 - two spaces per dwelling with three or more bedrooms;
 - one space per four dwellings for visitors;
 - one space per 35m² LFA for child care centres in business zones;
 - one space per 25m² LFA for medical centres;
 - one space per 35m² for offices;
 - one space per 20m² LFA for restaurants in business zones; and
 - one space per 25m² LFA for retail premises between 12,000m² and 30,000m².
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2.27 By comparison, the RMS “Guide to Traffic Generating Developments” suggests the following parking requirements:

- one spaces per one bedroom apartment;
- 1.2 spaces per two bedroom apartment;
- 1.5 spaces per three bedroom apartment;
- one space per five apartments for visitors;
- one space per four children for child care centres;
- four spaces per 100m² GFA for medical centres;
- one space per 40m² for offices;
- one space per three seats for restaurants; and
- 4.3 spaces per 100m² for retail centres between 20,000m² and 30,000m².

2.28 Appropriate car parking would be provided at the development application stage, having regard to the above rates and the objective of reducing traffic generation.

2.29 It would also be appropriate, given the mix of uses within the town centre and the fact that the times of peak use will not coincide, to share parking between relevant parts of the development. For example, restaurant and visitor parking will be busier in the evening when many of the commercial uses will not be open.

Access, Internal Circulation and Layout

2.30 For access to the site and connectivity to and through the town centre, two new north-south roads (road 3 and road 4) will be provided between Southern Cross Avenue and Flynn Avenue, through the site.

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- 2.31 Another road, road 9, will connect to road 3 and run east, south of the primary school, before bending south to also connect with Flynn Avenue. Road 9 will use part of the existing alignment of Hall Circuit, and will be realigned to intersect Flynn Avenue at right angles.
- 2.32 The proposed locations and alignment of roads 3, 4 and 9 vary the DCP identified road layout through the town centre. This is to provide a more orderly lot layout and provide a more regular road pattern.
- 2.33 The intersection of Flynn Avenue with road 3 would be appropriately controlled by traffic signals, with all turns permitted. The DCP identifies Flynn Avenue as a “neighbourhood centre street”, with a 26.7 metre reserve, including four traffic lanes, a two metre median, and 4.5 – 5 metre verges on each side. A right turn bay would be provided in Flynn Avenue at the traffic signals.
- 2.34 Traffic signals at Flynn Avenue/road 3 would provide for pedestrian connectivity between the town centre and areas to the south.
- 2.35 A right turn bay would also be appropriate in Flynn Avenue at its intersection with road 4. Turns at the intersection between Flynn Avenue and road 4 would be left in/left out, plus right turns from Flynn Avenue.
- 2.36 Road 3 would appropriately be provided in a similar configuration to the “southern or northern connector streets” identified in the DCP. These streets have 21.6 - 22.6 metre reserves, with four traffic lanes and 4 - 4.5 metre verges on each side. Clear of intersections and access points, road 3 could provide on-street parking. The opportunity exists to provide for buses through the town centre, along road 3.
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- 2.37 A roundabout would be appropriate at the intersection of road 3 with Southern Cross Avenue, subject to ensuring that appropriate pedestrian access is provided across Southern Cross Avenue, between the town centre and areas to the north.
- 2.38 Road 4 would be appropriate as a “local access street type 2”, with a 17.4 metre reserve, 9.4 metre carriageway and four metre verges.
- 2.39 Road 9, connecting between road 3 and Flynn Avenue, would be appropriate as a “local access street type 1”, with a 15.2 metre reserve, 7.2 metre carriageway and four metre verges. The intersection of road 9 with Flynn Avenue could be controlled by a roundabout.
- 2.40 Bravo Avenue on the western side of the primary school and the eastern side of the site, would connect between Southern Cross Avenue/Hall Circuit and road 9. It would provide a 13 metre reserve, with a six metre carriageway and 3.5 metre verges.
- 2.41 An east-west oriented town square would be appropriate through the centre of the site, connecting areas of open space on the eastern and western sides of the town centre. Appropriate pedestrian facilities should be included to connect these areas, across roads 3 and 4.
- 2.42 Parking for the development would be provided within basement parking levels, under the buildings. Access points to parking and loading areas would be appropriately provided from roads 3 and 4, and potentially from Bravo Avenue. Access to mixed use development on the south-eastern part of the site would be appropriately provided from road 9.
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- 2.43 Within parking areas, parking space dimensions, aisle widths, ramp grades, transitions, column locations, height clearances and service vehicle areas would be provided in accordance with the Australian Standard for Parking Facilities (Part 1: Off-street car parking and Part 2: Off-street commercial vehicle facilities), AS 2890.1:2004 and AS 2890.2 – 2002.

Traffic Generation

- 2.44 Traffic generated by the proposed development would have its greatest effects during weekday afternoon and Saturday lunchtime peak periods when it combines with other traffic on the surrounding road network.
- 2.45 Surveys undertaken by RMS include the following traffic generation rates for development:
- 0.15 vehicles per hour per apartment for high density residential apartments in town centres;
 - 1.2 vehicles per hour per 100m² for commercial uses during weekday afternoons;
 - 4.6 and 6.1 vehicles per hour per 100m² for centres greater than 30,000m² on weekday afternoons and Saturdays respectively;
 - 0.7 – 0.8 vehicles per hour per child for child care centres during weekday afternoons;
 - five vehicles per hour per 100m² for restaurants;
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- three vehicles per hour per 100m² for gymnasia in town centres during evening peak hours;
- 8.8 vehicles per hour per 100m² for medical centres.

2.46 Given the mix of uses (which reduces traffic generation rates, as people visit more than one facility on one trip), and the residential development proposed in the town centre (which reduces traffic generation as people already living in the centre would not need to drive), traffic generation of the scale of development envisaged could be some 1,200 to 1,500 vehicles per hour two-way during weekday afternoon and Saturday peak hours.

2.47 The measures identified (new road network through the town centre, traffic signals at Flynn Avenue/road 3 and roundabouts at Southern Cross Avenue/road 3 and Flynn Avenue/road 9, intersection treatment at Flynn Avenue/road 4) should be able to cater for this traffic, as well as traffic from other future development in Middleton Grange. The effects of the additional development traffic would be assessed at the development application stage, following traffic counts and analysis.

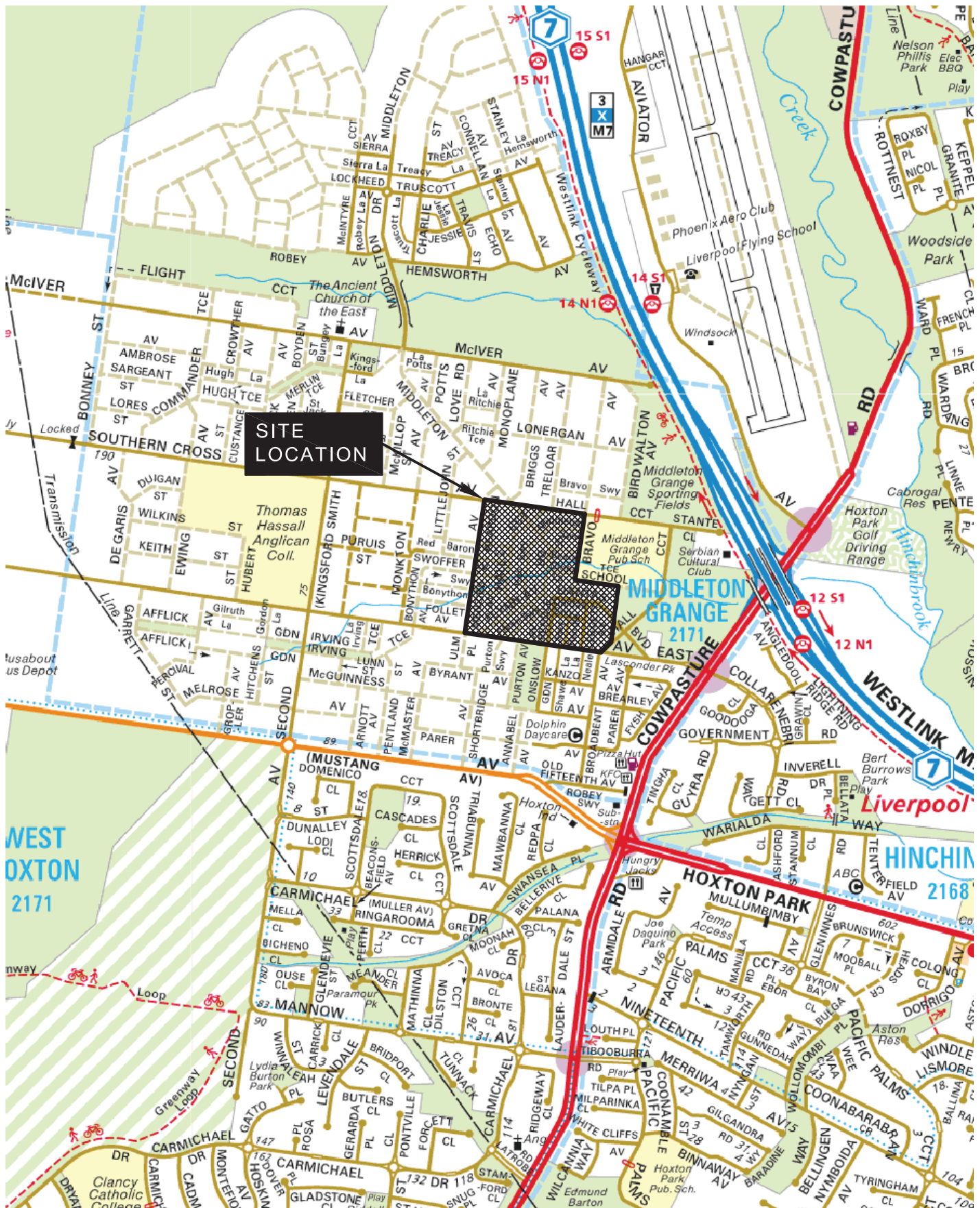
Summary

2.48 In summary, the main points relating to the transport aspects of the planning proposal for the Middleton Grange town centre are as follows:

- i) the development would provide for some 37,000m² retail, commercial, restaurants and other mixed uses plus some 900 residential apartments;

- ii) the development would provide the new town centre in Middleton Grange. The planning proposal seeks to amend the zoning and DCP controls to 'square up' the centre, provide a more orderly lot layout and regular road pattern;
 - iii) the development would provide services and facilities for the surrounding area, reducing the need for residents to travel further afield;
 - iv) the development would increase residential densities close to existing public transport services. The proposed road network provides an opportunity to provide for buses to and through the town centre;
 - v) the proposed development is consistent with government objectives to reduce private car travel and encourage public transport use;
 - vi) appropriate on-site parking for cars and bicycles would be provided, consistent with reduced parking provision in town centres with public transport access;
 - vii) appropriate provision for pedestrian access to and through the town centre will be included;
 - viii) road widths and cross sections will be provided in accordance with the principles identified in the DCP for Middleton Grange;
 - ix) access, internal circulation and layout would be provided in accordance with Australian Standards;
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- x) the town centre development would have the potential to generate some 1,200 to 1,500 vehicles per hour two-way during peak periods on weekday afternoons and Saturdays;
- xi) appropriate intersection controls will be provided along Flynn Avenue and Southern Cross Avenue, including traffic signals at Flynn Avenue/road 3 and roundabouts at Flynn Avenue/road 9 and Southern Cross Avenue/road 3. A right turn bay would be provided on Flynn Avenue for turns into road 4;
- xii) these road works should be able to cater for the development traffic, plus traffic from other future development in Middleton Grange; and
- xiii) the effects of the additional development traffic would be assessed at the development application stage, following traffic counts and analysis.



Location Plan