City of Armadale

Local Planning Strategy

Endorsed by the
Western Australian Planning Commission

23 December 2016

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Consultation with the respective Local Government Authority should be made to view a current legal version of the Strategy.

Please advise the Department of Planning of any errors or omissions in this document.

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CITY OF Armadale

Contents

Executive Summary 7
Part 1 - Strategy 9
Vision and planning principles 9
Objectives 11
Strategic Plan 12
Strategies and Actions 13
Housing Strategy 10
Urban Development Strategy 13
Heritage Properties Planning Strategy 15
Metropolitan Redevelopment Authority Normalisation Strategy 16
Activity and Retail (Commercial) Centres Strategy 18
Hills Orchard Strategy 20
Rural Hills Visual Landscape Strategy 22
Bushfire Protection Strategy 24
Biodiversity Strategy 26
Implementation, monitoring and review 28
Part 2 - Background 31
Information and Analysis 31
Introduction 31
State and Regional Planning Context 31
Environment 32
Community 32
Economy 33
Infrastructure 33
Local Planning Context 34
Local Profile 36
Major Physical Features 37
Environmental Characteristics 40
Recreation and Open Space 44
Community Facilities 44
Strategically Significant Special Use Sites and Tourism 45
Transport and Access 45
Infrastructure Services 46
Socio-Economic Attributes 46
Economic Objectives 49
Key Issues 53

Housing Strategy 54
1. Introduction 54
2. Recent Development Patterns 54
3. Current and Projected Population 57
4. The Supply of Dwellings 60
5. Forecast Changes to the Population's Age Structure 64
6. Assessment alignment with State Government Policy 66
7. Infrastructure Issues 69
8. Housing Affordability 72
9. Changes to the Residential Design Codes 73
10. Assessment of Existing City Strategies and Policies 75
10.1 Assessment of the success of the 2005 Local Planning Strategy 75
10.2 Review of 2005 Town Planning Scheme provisions relating to housing 75
10.3 Review of Policy Provisions relating to residential development 76
10.4 Analysis of consequences split coding provisions 77
11. Assessment of Potential City Strategies and Policies 80
11.1 Design Controls over Greenfield Development 81
11.2 Other Design Controls 83
11.3 Solar Access Provisions 83
11.4 Potential Impact of SPP 3.6 – Developer Contribution Schemes 84
12. Conclusions 85
13. Proposed Strategic Changes to the City's Scheme 87
Urban Development Strategy 91
Metropolitan Redevelopment Authority Precincts 92
Canning River Precinct Kelmscott 92
Lakes Road Precinct Champion Lakes 93
Conclusion 93
Heritage Properties Planning Strategy 93
Background 93
State Planning Policy 3.5 Historic Heritage Conservation 94
City of Armadale Municipal Heritage Inventory 94
Town Planning Scheme Instruments / Statutory Controls 95
Conclusion 98
Planning Strategy for "normalisation" of Metropolitan Redevelopment Authority areas 99
Introduction 99
State Planning Policy 99
Normalisation Process 100
Town Planning Scheme Instruments / Statutory Controls 101

Conclusion 101
Activity and Retail (Commercial) Centres Strategy.....102
Background 102
State Planning Policy 4.2 Activity Centres for Perth and Peel.....102
City of Armadale Activity Centres 103
Town Planning Scheme Instruments/ Statutory Controls 104
Conclusion 105
Hills Orchards Strategy (Karragullen / Roleystone) 107
Background 107
State Planning Policy.....107
Town Planning Scheme Instruments / Statutory Controls 107
Conclusion 108
Rural Hills Visual Landscape Protection 109
Introduction 109
State Planning Policy No. 2: Environment and Natural Resources 109
Pressures on Hills Landscapes 109
Town Planning Scheme Instruments / Statutory Controls 111
Conclusion 112
Planning Strategy for Bushfire Protection 113
Introduction 113
State Planning Policy 3.7 - Planning for Bushfire Risk Management 114
Planning for Bushfire Risk Management Guidelines (2015) 114
Town Planning Scheme Instruments/ Statutory Controls 115
Keelty Report into the 2011 Hills Bushfires.....116
Areas of Bushfire Hazard 117
Conclusion 117
Planning Strategy for Protection of Biodiversity 118
Introduction 118
Planning Background 120
Areas of Significant Bushland.....120
State Planning Policy 2.8 - Bushland Policy for the Perth Metropolitan Region 121
Planning Assessments in Bush Forever Areas 123
Local Biodiversity Strategy Discussion Paper.....123
Town Planning Scheme Instruments / Statutory Controls 128
Balancing public and private benefits 132
Recommendations for Local Biodiversity 135
Conclusion 155
Attachment – Activity Centres Planning Strategy - Working Paper.....158

Figures

Figure 1 - Local Planning Strategy – Metropolitan Location 8
Figure 2 - Strategic Plan (Whole City) 14
Figure 3 - Strategic Plan (Plan 2) 15
Figure 4 - Public Drinking Water Supply - Priority Areas 38
Figure 5 - Potential Public Transport Routes 39
Figure 6 - Regional District Reservations 41
Figure 7 - District Zoning Scheme - Rural Zoning Areas 42
Figure 8 - Biodiversity Protection Plan 43
Figure 9 - School Sites 44
Figure 10 – Suburbs 48
Figure 11 - Metropolitan Redevelopment Authority Areas 50
Figure 12 - New Dwellings 2000/1 - 2012/13 55
Figure 13 - Dwelling Approvals 2001-2010 56
Figure 14 - Forecast Population - City of Armadale 58
Figure 15 - Forecast Population, Households and Average Household Size - City of Armadale 59
Figure 16 - Forecast Residential Development - City of Armadale 60
Figure 17 - Forecast dwellings and development (change in number) - City of Armadale 2006-2031 63
Figure 18 - Forecast Change in Age Structure 64
Figure 19 - Age Structure 2006 and 2031 64
Figure 20 - Forecast Age Structure 65
Figure 21 - Households by Type - 2006, 2016 and 2031 65
Figure 22 - Forecast Change in Household Types 65
Figure 23 - Unsewered Residential Lots 71
Figure 24 - Local Housing Strategy Strategic Areas 89
Figure 25 - Proposed Density Coding Changes 90
Figure 26 - Primary and Frame Study Areas 161
Figure 27 - Dwelling and Population Projections (Source: City of Armadale) 162
Figure 28 - City of Armadale Strategy Map 171

Tables

Table 1 - Residential Final Lot Approvals 2006/07 - 2011/12.....54
Table 2 - Grouped Dwelling Units 2004/05 - 2011/12 55
Table 3 - Infill Development 2005-2011.....56
Table 4 - Population Growth Projections 58
Table 5 - Summary Results - Population 2006-2031 59
Table 6 - Projected Households 2006 - 2031 60
Table 7 - Summary Projection Data 2006 - 2031 - City of Armadale.....61
Table 8 - Projected Residential Development - City of Armadale.....61
Table 9 - Estimated Additional Dwellings by Locality 2011-2031 62
Table 10 - Achievement of Directions 2031 Dwelling Targets.....67
Table 11 - Potential Dwelling Yield from Future Development.....68
Table 12 - Value of Lots sold, Armadale compared with Metropolitan Average 72
Table 13 - Housing Affordability 72
Table 14 - Relevance of Local Planning Policy Strategy Objectives 75
Table 15 - Possible Amendments to Standard R Code Provisions 82
Table 16 - Solar Access 83
Table 17 - Summary of Detailed Model Results - Future Retail Needs (sqm NLA) 164

Western Australian Planning Commission

CITY OF ARMADALE

LOCAL PLANNING STRATEGY

CERTIFICATION FOR ADVERTISING

Certified for advertising by the Western Australian Planning Commission on 13 May 2014.

Andrew Trevor 23-12-16

COUNCIL RECOMMENDED / SUBMITTED FOR APPROVAL

Supported for submission to the Western Australian Planning Commission for endorsement by resolution of City of Armadale at the Meeting of Council held on 23 March 2015.

MAYOR/SHIRE PRESIDENT

CHIEF EXECUTIVE OFFICER

ENDORSEMENT OF LOCAL PLANNING STRATEGY

Endorsed by the Western Australian Planning Commission on

Andrew Trevor 23-12-16

an officer of the Commission duly authorised by the Commission
(pursuant to the Planning and Development Act 2005)

Executive Summary

This Local Planning Strategy (LPS) reflects the planning intent of the City of Armadale for the next decade 2015-25. It recognises that land use and development for parts of the municipality remain governed by Metropolitan Redevelopment Authority (MRA) under the *Metropolitan Redevelopment Act (2011*), however, land use and development in these areas will also be guided by the LPS which has been prepared with due regard and consistent with the MRA's objectives.

Accordingly, as the Armadale District Zoning Scheme and Metropolitan Region Scheme do not apply to these Metropolitan Redevelopment Authority areas, for more detailed planning of MRA precincts further reference should be made to the Schemes of the Metropolitan Redevelopment Authority.

The Strategy was advertised for public review as a draft for 47 days between 20th October and 5th December 2014. Council adopted the LPS, with modifications, on 23rd March 2015 (D10/3/15).

This Local Planning Strategy makes reference to web-based technologies to direct enquiries to regularly updated data sources maintained by the City. The final LPS has web links to demographic and economic data, current Scheme Maps, aerial photography and spatial information. Reference to more recent and updated data is intended to maintain the relevance and currency of this LPS. Prior to 2025 a further review will be conducted of the LPS and Scheme.

Figure 1 - Local Planning Strategy – Metropolitan Location

Part 1 - Strategy

The City of Armadale is located in the South East Corridor of the Perth Metropolitan Region, approximately 28 kilometres from the Perth Central Business District (Metropolitan Location Figure 1). It is bounded by the City of Gosnells and Shire of Kalamunda to the north, the Shire of Beverley to the east, the Shires of Wandering and Serpentine Jarrahdale to the south and the City of Cockburn to the west.

Land use and development in the City has been guided by the City's Local Planning Strategy since the November 2005 gazettal of Town Planning Scheme No. 4. While TPS No.4 remains largely valid, to retain its focus and currency it is desirable to update the LPS and amend the TPS in specific areas. This update to the Local Planning Strategy is the product of a 2012-15 review undertaken to reflect the City's changing priorities and to respond to emerging issues and contemporary patterns of land development.

The revised Local Planning Strategy has been prepared in accordance with the *Planning and Development Act 2005* and guidelines set out in the Western Australian Planning Commission's Local Planning Manual. Its broad regional context is provided by the State Planning Framework, the Metropolitan Region Scheme and the Redevelopment Schemes of the Metropolitan Redevelopment Authority. LPS/TPS No.4 as revised will focus the City's land use and development controls with appropriate responses to the particular challenges in managing growth, preserving the natural environment and rural landscapes that the City faces over the next decade.

TPS No.4 remains overall a valid and soundly based Scheme, which provides the appropriate tools to manage these new challenges. TPS No.4 does not require full replacement by an entirely new Scheme at the time of this review and the additional costs this would impose on the City.

The context of this local planning strategy is set out in the City's issue-based strategies including a Housing Strategy, Urban Development Strategy, Activity and Retail Centres Strategy, Metropolitan Redevelopment Authority Normalisation Strategy, Rural Hills Visual Landscape Strategy, Biodiversity Strategy, Hills Orchards Strategy, Bushfire Protection Strategy and Heritage Properties Planning Strategy. These strategies together with additional information providing background, analysis and rationale for the planning directions over the next decade form Part 2 of this Local Planning Strategy.

Vision and planning principles

The City of Armadale is undergoing an unprecedented phase in its growth and development. The development of the local economy is associated with the coincidence of strong State population growth and the physical expansion of the Perth metropolitan area.

The geographic location and characteristics of the City of Armadale make the pressures of the strong State economy increasingly felt locally, chiefly by sustained demand for housing but also in rural lifestyle demands and local tourism particularly in the hills locations. It is likely that the strong pace of growth and development will continue over the coming decade 2015-25.

The City of Armadale is recognised for its attractive urban-rural lifestyle, scenic landscape and rich cultural heritage, which includes sites associated with the long period of Aboriginal

occupation and protections under the Aboriginal Heritage Act (1972), in addition to sites linked to the more recent post-European settlement period which dates from 1829.

The City is committed to strengthening and promoting these attributes and its special identity and sense as a place spanning Perth's hills and its coastal plain. There is also a strong desire to see Armadale grow into a vibrant regional centre with its own distinctive character and supported by a strong and resilient local economy. This will be based on a range of industrial, service businesses and government functions which provide employment opportunities to its rapidly growing population and contributing to the liveability and economic sustainability of the region.

The City's strategy for land use and development is of central importance in managing the local economy and the attractive character of local areas and environmental amenities of the district. It will buttress and strengthen the lifestyle opportunities available to the Armadale community as the City grows and develops.

The vision of the City of Armadale's future which underpins the LPS is that by 2030 the City will be a connected, progressive, strategic metropolitan community. Unique in our geographical location with an enviable reputation for choice and opportunity we will have created a liveable city for future generations that values environmental, educational and economic sustainability.

It is also for a community that is recognised as:

- a key Strategic Metropolitan Centre in the South East Corridor
- a clean, green and prosperous place with the advantages of city living and close proximity to natural bushland settings
- a city with ample opportunity offering a great place to live, work and play.

The City's Strategic Community Plan promotes a vision of the City's future and this will be implemented by future planning directions and land use and development that enhances its:

- community wellbeing
- enhanced natural and built environments
- economic growth
- good governance and management.

In addressing the main strategic planning issues facing the City for the period 2015-25 the revised Local Planning Strategy establishes key future planning principles which will be used in decisions on and under the District Zoning Scheme and reflecting the State Planning Strategy's guiding principles including:

- Securing a high quality environment, protecting and enhancing the key natural and cultural assets of the City and delivering a high quality of life based on sound environmentally sustainable principles
- Responding to a changing community and facilitating the creation of a vibrant, accessible, safe and self-reliant community
- Creating a wealthy community and assisting in the creation of wealth by supporting and encouraging economic activity in accordance with sustainable development principles
- Facilitating strategic development by ensuring support and integration between land use, transport and service infrastructure.

Objectives

The overall goals of this strategy are to promote the development of the City as a Strategic Metropolitan Centre and administer the land use and development of the municipality through the Town Planning Scheme, amendments and the policy tools available under the Scheme.

Inclusive within these broad level goals are subordinate goals for the protection of the City's biodiversity, natural environments and its lifestyle attributes, enhancement of its built environments and integration of new development with new and existing access and transport networks.

Policy directions and actions summarised in this section under key strategy headings will provide the key to successful implementation of the Local Planning Strategy.

The aims and objectives of this Local Planning Strategy are to:

- promote and safeguard the public health, safety, livelihood and general welfare and convenience of the people of Armadale and more choices contributing to an improved quality of living
- provide for a variety of development to meet the needs of the community with regard to housing, employment and services, and to facilitate the provision of a wide range of social and cultural facilities and services
- promote the development of a Strategic Metropolitan Centre with a wide range of services, including housing, business, commercial, recreational, leisure, entertainment and community facilities based on a Centre Plan
- improve access and integrate land uses with the available and extended public transport systems throughout the district, encourage extension of rail services to Byford and Mundijong and future use of light rail technologies in public transport
- ensure safe and convenient movement of people, including pedestrians, cyclists, public transport users and motorists
- promote sustainable development that integrates consideration of economic, social and environmental goals including conserving biodiversity and the natural environmental attributes of the district
- support local biodiversity and related processes and involve local landowners and the community in the protection and management of a network of local natural bushland and other natural areas
- preserve and enhance the amenities of the district and promote its sense of identity and distinctive character
- promote a safe and energy-efficient pattern of development
- protect and enhance areas of prime agricultural production to assist in sustaining their use and economic contribution to the district
- facilitate and encourage effective public involvement in significant planning issues.

Strategic Plan

The land use planning framework for future development the City of Armadale' is illustrated on the Strategic Plan in (Strategic Plan (Plan 2) Figure 3). The Plan is structured to feature the following key elements:

- The Armadale Strategic Metropolitan Centre is identified as the central focal point for business, employment, services, transport, entertainment and town centre related activities within the City.
- The Armadale Strategic Metropolitan Centre is supported by a hierarchy of existing and proposed Activity Centres with District Centres at Kelmscott, Harrisdale (Forrestdale) and Hilbert (Wungong), Neighbourhood Centres at Roleystone, Champion Drive, Westfield, Haynes and two at Wungong and range of Local Centres servicing smaller residential precincts.
- Employment centres provide for places of commercial, mixed use, or industrial businesses in a range of sizes and industrial sectors with new strategic sites on Rowley Road (South Armadale) and Ranford Road (the Forrestdale Business Park East and West) established as places suitable for production and employment.
- Urban Development areas are identified to create new residential lifestyle opportunities and are guided by the State government's Southern River Forrestdale Brookdale Wungong District Structure Plan, Wungong Urban Water Master Plan, Champion Lakes and Champion Drive Structure Plans and the City's Canning River and Lake Road precincts.
- Consolidation, infill and refurbishment of housing in established residential areas which are well located in proximity to community facilities, public transport and services.
- An Urban area requiring rationalization of density coding to correspond with metropolitan sewerage policy minimum lot size requirements.
- Rural lifestyle/Landscape Protection and Special Residential areas are located in the Armadale Hills area and also on the coastal plain parts of the City.
- Drinking Water Protection Areas are in the eastern portions of the Armadale Hills area and also on the south western parts of the City's coastal plain.
- Extensive regional parks and reserves will provide for a range of passive outdoor recreation in the Armadale Hills area and also on the coastal plain parts of the City.
- A Regional Sporting Facility is located on Armadale Road to cater for organized active team sports together with district recreation facilities located within Urban Residential and Development areas.
- The Champion Lakes Recreation and Mixed Business precinct between Lake Road and Tonkin Highway will cater for a range of water sports.
- Regional transport routes linking the city with other major centres in the metropolitan region, including Perth and Fremantle, and rural hinterland areas outside the metropolitan area to the south and east of the municipality.
- The Hills Orchard area of Karragullen - Roleystone being protected as prime agricultural land in recognition of its significant contribution to the economy of region.

The principle means of implementing the changes to the Strategic Plan will be by introducing zoning amendments to Town Planning Scheme No 4. State Government planning initiatives such as acquisition of regional reserves, implementation of regional transport proposals and development in Metropolitan Redevelopment Authority areas are also important implementation mechanisms.

Strategies and Actions

This Local Planning Strategy will achieve the goals, objectives and general intent of the spatial strategic plan outlined above by means the following strategies and the specific actions listed under each heading:

- Housing Strategy
- Urban Development Strategy
- Heritage Properties Planning Strategy
- Metropolitan Redevelopment Authority Normalisation Strategy (formerly ARA areas)
- Activity and Retail (Commercial) Centres Strategy
- Hills Orchards (Karragullen/Roleystone) Strategy
- Rural Hills Visual Landscape Strategy
- Bushfire Protection Strategy
- Biodiversity Strategy

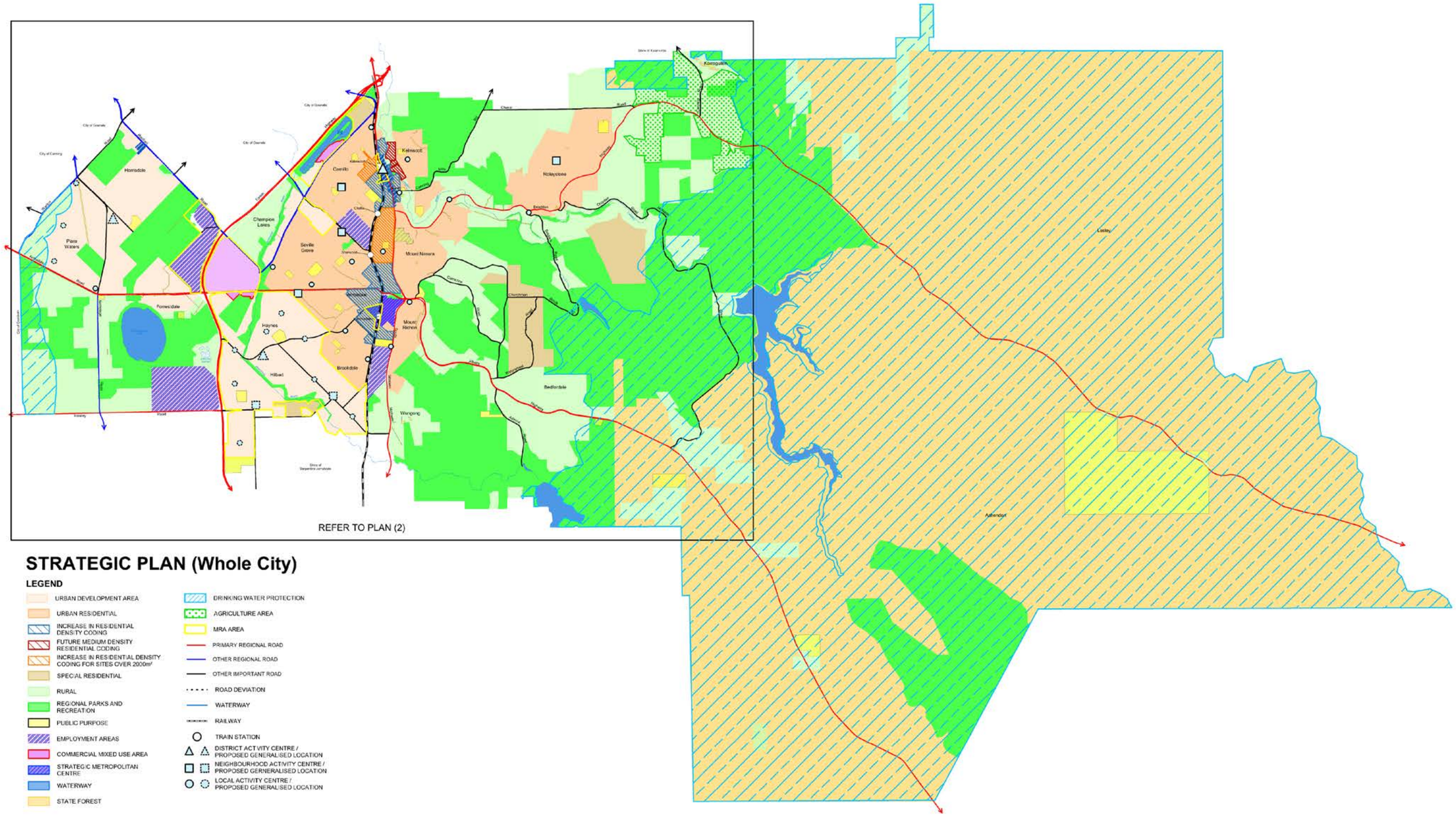


Figure 2 - Strategic Plan (Whole City)

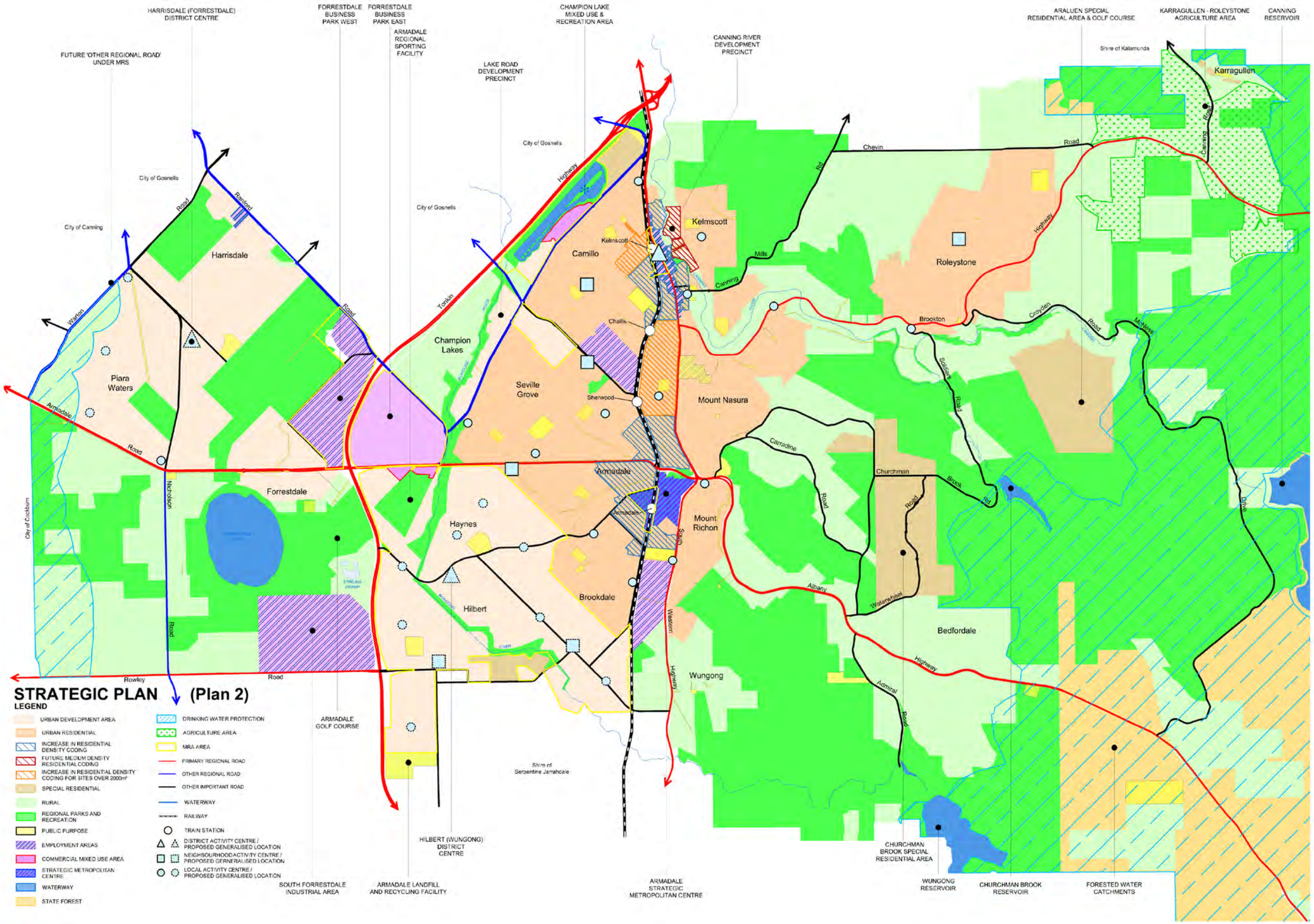


Figure 3 - Strategic Plan (Plan 2)

Housing Strategy

Housing is a critical central management area for the City due to its rapid growth and development which is expected to continue beyond the next decade based on the State government's urban development structure plans and policies for the south-eastern corridor and under the Directions 2031 Strategic Metropolitan Plan. This housing strategy is aligned with Directions 2031 regional objectives and housing production will be monitored in the context of Directions 2031 targets.

It will maintain the City of Armadale as a place where a range of high quality of living environments can be enjoyed with:

- a range of housing and opportunities for home businesses in community neighbourhoods that are developed on good design principles;
- meeting the housing targets as identified in the Directions 2031 Annual Report Card (2012) and influencing the housing mix (particularly for one and two bedroom dwellings) as per Directions 2031 Report Card (2012);
- Greenfields development at increasing density with the aim of achieving the Directions 2031 objective/target of 15 dwellings per hectare;
- future urban growth focussed in and around retail and employment centres, transit-orientated developments and high frequency public transport corridors;
- higher R-codes applied to areas that have close proximity to community facilities and services; and
- new facilities, infrastructure and service provision assisted by appropriate forms of contributions from new developments.

The provision of housing in the City will be guided by the Scheme provisions, codes and supporting policies to provide a wide range of housing types and different types of residential zones to reflect different lifestyle opportunities by instigating changes to facilitate development suiting smaller households.

Increased densities will also be provided around commercial centres at Kelmscott and Armadale, near local centres, proximate to railway stations and in other locations favourable for access to facilities subject to the achievement of high quality design. Planning policy provisions will be included over time to introduce appropriate urban design controls for specific areas by review provisions of PLN3.1.

Urban design and streetscape controls will be used for existing and newly developing residential and rural living zones consistent with the approach adopted by Liveable Neighbourhoods by reviewing existing local planning policies. Structure planning and detailed development area provisions and planning controls will be included for new subdivisions and monitor structure plan and Local Development Plan provisions to ensure City objectives are met.

In liaison with the Ministry for Housing and Works strategies to improve the lifestyle quality of communities in SW Armadale will be identified and implemented and liaison will be established with Department of Housing to ensure that its housing initiatives parallel the City's objectives.

Actions

Housing is probably the single most critical area for most town planning scheme reviews. This is because everyone has a stake in the outcome and because it is the key area where government seeks to influence urban development patterns through policy. This section of the Review will assess the strategic focus on housing and indicate recent patterns and future likely demands.

1. Increase density potential around the main centres (particularly the Strategic Metropolitan Centre) to R60 and R80 or higher subject to design requirements.

2. Review and amend the Scheme Map to categorise portions of the Armadale Strategic Metropolitan Centre as R-AC3 and subject to a Centre Structure Plan.

3. In R40 areas and areas with an upper split code of R40, permit access to R60 density codes for lots with a minimum lot size of 2000m2 and frontage of 25m.

4. Continue to pursue the provision of deep sewerage to the unsewered residential zoned parts of Kelmscott and Forrestdale.

5. *Facilitate ongoing appropriate provisions under clauses 5.2.4 and 5.2.5 that multiple dwellings would be permitted subject to the achievement and implementation of relevant endorsed and/or amended criteria and corresponding Scheme Zoning Table permissibility references to indicate that in the Residential Zone Multiple Dwellings are D (not permitted unless the City has exercised its discretion by granting planning approval).*

6. Amend the Scheme to provide Scheme clauses to give greater incentive to develop specific housing types, such as maisonettes and one and two bedroomed dwellings in residential zones.

7. Introduce local planning policies to reduce front setbacks and open space requirements to reflect prevailing Local Development Plan provisions in designated new suburban development areas.

8. Encourage dwellings designed for the disabled in accordance with AS4299:1995 in large multiple dwelling complexes.

9. Promote more liveable and sustainable accommodation with improved solar access by encouraging Single Houses and Grouped Dwellings with at least one major opening to a living area with access to at least three hours of direct sun between 9am and 5pm on June 21.

Urban Development Strategy

The City is one of the most rapidly growing municipalities in Western Australia with projections for continued population growth. As suitable land is required to accommodate that growth the City will encourage statutory land use zoning changes where supported by appropriate environmental and servicing studies to supply well-located land suitable for Urban residential development purposes. The City's Strategic Plan identifies several suitable areas for Urban development, including those that have been identified through previous regional planning initiatives, in addition to areas suitable for limited extensions of existing Urban residential parts of the City where urban services can be easily extended. These are located in both greenfield and infill locations.

The areas centred on the Wungong River in Haynes and Hilbert and the Forrestdale, Harrisdale and Piara Waters areas to the north west have all been confirmed as potential Urban zone through the 2001 Southern River, Forrestdale, Brookdale and Wungong District Structure Plan. These areas were also previously identified as Urban Expansion Areas in the 2005 LPS Strategic Plan. Together these areas will ultimately accommodate a residential population of over 70,000 which is the bulk of the City's expected population growth to 2031.

A number of the City's Urban Development Areas confirmed as suitable for Urban purposes are under the planning jurisdiction of the Metropolitan Redevelopment Authority (MRA) where the land is subject to the Armadale Redevelopment Scheme or the Wungong Redevelopment Scheme. MRA precincts also include areas in Champion Drive, Champion Lake, Forrestdale and Kelmscott.

Other areas have been endorsed by Council for its District Scheme Area and either have recently completed amendments to the MRS or are proposed as amendments to the MRS. These include Canning River Precinct and Lakes Road Precinct. Zoning amendments where the City's TPS No. 4 applies, usually rezone the land to Urban Development zone, which requires a structure plan. Structure plans may apply urban residential, commercial or related community land uses to land.

Encouragement of urban land supply in the areas suitable for future or continued urban development will support local economic development of the City. It also assists in maintaining a level of housing affordability within reach of the Perth Metropolitan population and the cost effective delivery of public infrastructure and services, such as for utility trunk and public transport services.

Actions

1. Encourage landowners to prepare amendments to the MRS or MRA Redevelopment Scheme requirements in identified Urban Development Precincts and to conduct the environmental and servicing studies required to implement statutory land use zoning changes.

2. Initiate Scheme Amendments to TPS No.4 for the areas where adequate environmental baseline and servicing information has been provided and an Urban zoning has been advanced under the MRS.

3. Coordinate the assessment and processing of Structure Plans prepared by landowners where statutory land use change has been advanced through suitable Scheme Amendments.

4. Liaise with the City of Gosnells on bringing minor anomalies in the respective boundaries of each municipality into concordance with the Gosnells and Armadale Town Planning Schemes.

Heritage Properties Planning Strategy

The City will manage its cultural heritage and protect important sites through a balance of regulatory “control” of development and “facilitation” of investment in restoring and renovating properties. It will protect significant heritage values for the future while also allowing suitable adaptations to fit contemporary social and economic circumstances.

The City’s positive powers of “facilitation” include:

- incentives such Council’s discretion to determine Town Planning development applications to foster protection of heritage values
- financial incentives such as fee reductions
- promotional activities such as plaques and awards.

Discretionary powers over landuse permissibility and development standards also provides a positive tool to facilitate heritage protection and potential for meshing this objective with a landowner’s aspirations for a site. Scheme Provisions supported by Policies dealing with heritage will be linked and operate to maximize public support for heritage protection within the City.

An active list of places with special significance for the cultural heritage and history of the municipality will be maintained in a new policy. The heritage list will be linked to special development control provisions of the Scheme as required by revised Planning Regulations Deemed Provisions. Development proposals for these heritage places will be assessed so that potential impacts on heritage values can be avoided and controlled. TPS No.4 provisions dealing with “Permitted development” will provide that where a proposal is for a property listed as a heritage place, a planning approval is required for any works which may impact on its heritage values. These include:

- any work which would affect the external appearance or interior of a building;
- for signs or advertisements; or for the
- demolition of any building or structure.

Plans and proposals will be formally assessed and developments either refused or approved subject to conditions to protect the significant heritage values of the site.

Actions

1. Adopt a formal Local Planning Policy under TPS No.4 for the list of acknowledged heritage places.

2. Review and revise the Heritage Incentives Policy.

3. Incorporate new places onto the list as Metropolitan Redevelopment Authority precincts are normalised back under the City’s planning jurisdiction.

4. Promote community education on the heritage values and assets of the City.

Metropolitan Redevelopment Authority Normalisation Strategy

On 1st January 2012 the *Armadale Redevelopment Act 2001* was repealed and the Metropolitan Redevelopment Authority was created by the *Metropolitan Redevelopment Act 2011* to inherit the functions of the Armadale Redevelopment Authority. Its general purposes include, to encourage the development of specific precincts and strengthen the City's economic base and the lifestyle opportunities available to its residents.

The MRA has two planning schemes in operation Armadale, the Armadale Redevelopment Scheme (2004) and the Wungong Redevelopment Scheme (2007). Upon gazettal, the MRA schemes extinguished and nullified the Metropolitan Region Scheme and the City's District Planning Scheme (TPS No.4) for the precinct areas under its control.

Over time and as the MRA precincts are planned and developed, the MRA controlled precinct areas can be reverted back under the planning jurisdiction of Metropolitan Region Scheme and the City's District Planning Scheme. This "normalisation" process is governed by provisions of the *Metropolitan Redevelopment Act 2011*.

The formal procedure involves the gazettal of Regulations and Ministerial Orders prepared in liaison between the Metropolitan Redevelopment Authority the local government and WAPC. The preparation of normalisation for specific precincts involves production of maps, and text provisions to the same effect as if incorporated into the Metropolitan Region Scheme and the City's District Planning Scheme.

In the City of Armadale several precincts reverted back to the City's planning jurisdiction in 2011 under the normalisation process. The Metropolitan Redevelopment Authority retains jurisdiction over the Armadale City Centre-West of Commerce Avenue precinct, the Forrestdale Business Park precincts (East and West), the Champion Lakes Mixed Use and Recreational Facility precinct, the Wungong Urban Water precinct, the Champion Drive residential precinct and the Kelmscott Town Centre precinct. Normalisation of these precincts will be initiated when sufficient progress has been made in the planning of the precincts or the MRA and City agree on the desirability of normalisation.

The next precincts proposed for normalisation and further normalisation of precincts will be negotiated in liaison with the MRA and WAPC over the next decade. Some precincts are likely to remain under MRA jurisdiction beyond the 10 year planning horizon of the Local Planning Strategy.

Actions

1. Review, confirm and where appropriate modify the interim land use and development control provisions inserted into TPS No.4 under MRA (& ARA) Act Regulations and Ministerial Orders provisions by Scheme Amendments.

2. Progress consolidation of the District Zoning Scheme to review and confirm or modify the interim land use and development control provisions inserted into TPS No.4 for MRA precincts undergoing normalisation.

3. Prepare maps and text provisions as appropriate to bring normalised precincts under the planning controls of the Metropolitan Region Scheme and the City's District Planning Scheme.

4. Incorporate appropriate land use and development control provisions into the Scheme for subsequent precincts being normalised by the MRA Regulations and Ministerial Orders.

5. Review, confirm and where appropriate modify Local Planning Policies applying to normalised precincts to assist in the exercise of planning controls under the City's District Planning Scheme.

6. Keep under review with the MRA the program agreed between the City and the MRA for the normalisation of the MRA precincts.

Activity and Retail (Commercial) Centres Strategy

The Activity and Retail (Commercial) Centres Strategy provides a clear but flexible planning framework based on the regional activity centres hierarchy of SPP 4.2. It provides mechanisms for setting indicative floorspace and managing growth and change in activity centres while remaining responsive to social and market changes with a degree of flexibility.

The strategy encourages Activity centres based on good planning principles of land use compatibility, good urban design and accessibility, convenience, efficiency and sustainability. It sets parameters for the development of new centres, particularly those planned in western growth areas of the City where the substantial land use change and development underway is anticipated to continue over the next decade. It also encourages and supports the upgrading of existing centres to improve levels of service and contribution to their local neighbourhood.

Actions

1. Prepare and maintain controls over a hierarchy of activity centres and indicative floorspace quantity to ensure the centres hierarchy is maintained, while also allowing a degree of flexibility responsive to changes in community and market preferences for commercial activities and centres.

2. Prepare an Activity Centres Local Planning Policy which includes the centres hierarchy Strategy Map as a guiding policy document, however with flexibility to be responsive to new opportunities and easily updatable.

3. Integrate the Activity Centre and Housing Strategy objectives by supporting compatible mixed uses including zoning for higher density residential development in the locality surrounding the Strategic Metropolitan Centre (Armadale) and District and appropriate Neighbourhood Centres.

4. Discourage significant unplanned development proposals outside of the Strategy hierarchy and if an unplanned proposal is received, prior to any approval being granted, require a Retail Sustainability Assessment (in accordance with SPP 4.2 -Activity Centres for Perth and Peel) to be submitted so that the City can undertake an assessment report for determination of whether the proposal is justified or not. It is acknowledged that SPP 4.2 does not require an RSA for major developments, or scheme amendments and structure plans that provide for major developments, in Strategic Metropolitan Centres

5. Apply SPP 4.2 “mix of land use” provisions in district centres and higher and encourage “mix of land use” in neighbourhood and local activity centres.

6. Prepare a Centre Plan for the Armadale Strategic Regional Centre in accordance with SPP 4.2 and a Plan for Kelmscott District Centre in conjunction with normalisation of the MRA Kelmscott precinct.

7. Liaise with developers and other key stakeholders during new centre development planning and design processes, and exercise development control powers sufficient to ensure that incremental future growth of the centres in subsequent stages is of an acceptable standard in terms of triple-bottom-line sustain ability and urban design principles.

8. Allocate enough land for the long term floorspace potential of planned mixed use centres and ensure that developers comply.

9. Promote adequate public transport in relation to centre locations by liaison with the PTA as required.

10. Support appropriate proposals that would improve the condition, viability or performance of existing local activity centres.

11. Proactively encourage and facilitate where appropriate, improvements to existing activity centres.

Hills Orchard Strategy

The Hills Orchards operate in the localities of Roleystone and Karragullen, to the east of the City Centre. They are located on land zoned General Rural where the Town Planning Scheme indicates a minimum lot size of 40 hectares. However, there is provision in the Scheme to permit a second dwelling on lots in excess of 8 hectares provided it can be demonstrated that the additional accommodation is required for the continued operation of an existing productive rural use of the property.

It is recognised that not all the land within the General Rural zone is fully utilised for commercial agriculture. However, in order to ensure that the operators are able to continue without limitations imposed by conflicting nearby land uses, proposals for land use change have been carefully assessed in the past. It is recognised that commercial agricultural operations can result in noise from machinery and bird scaring, sprays and odours which can cause health and social concerns where residential uses are allowed to intrude. State Environment Protection Policies also require buffers between residential uses and existing operating orchards. For this reason there has been a well-founded policy of restricting the intensification of non-agricultural land uses in the General Rural zone.

The State Government, through its Statement of Planning Policy No. 2.5 Agricultural and Rural Land Use Planning, has identified the Hills Orchards as falling within one of the State's Agricultural Priority Management Areas. The State requires local government to carefully consider the appropriate zoning and permitted uses in these areas to ensure that commercial agriculture can continue. Where land is considered to be an agricultural area of State or regional significance local government is urged to zone the land for 'Priority Agriculture' and for scheme provisions to only permit uses compatible with agricultural activity.

TPS No. 4 included the Hills Orchards area in the General Rural zone and with the additional "Prime Agricultural Land Protection Area" Special Control Area provisions, the permitted and discretionary uses within the zone equate with a Priority Agricultural Zone (which the City does not have within its Scheme).

While it is recognised that many of the State's major orchards are now located outside of the metropolitan region, the Hills Orchards remain important and a significant proportion of the holdings remain in production, particularly in Karragullen. While this situation continues existing operators need to be protected from the introduction of extraneous uses and from the intensification of residential use. This is the purpose of the TPS No. 4 "Prime Agricultural Land Protection Area" Special Control Area map which identifies the area where production from existing orchards is a priority land use.

Accordingly, the strategy for the management of land uses within the Karragullen-Roleystone General Rural zone including the protecting horticultural uses is proposed to be continued and confirmed in this Local Planning Strategy. In the event of the existing operators relocating, a review of appropriate zonings could be undertaken in consultation with the community and following advice from the Western Australian Planning Commission, Environmental Protection Authority and the Department of Agriculture It should be noted that the removal of orchards does not infer an automatic right for further intensification by subdivision or development and any such proposal will be subject to full justification by land suitability and capability assessments and environmental and servicing reports funded by the landowner.

The strategy will provide scope for precinct land owners primarily located outside of the defined the Karragullen-Roleystone “Prime Agricultural Land Protection Area” SCA overlay to review land uses on the basis of planning for orderly precincts and over time provide for a transition of land use to the Rural Living zone.

Actions

1. Maintain active orchards and appropriate buffers in precincts protected by a “Prime Agricultural Land Protection Area” Special Control Area.

2. Review and assess landowner proposals for transition of land under existing operating orchard uses in Karragullen-Roleystone primarily located outside of the SCA overlay area.

3. Consider appropriate zoning amendments in consultation with the community in the event of existing operators of Karragullen-Roleystone Hills Orchards relocating and following advice from the Western Australian Planning Commission, Environmental Protection Authority and the Department of Agriculture.

Rural Hills Visual Landscape Strategy

The Darling Ranges and Scarp (generally located to the east of the north-south axis established by Albany Highway and South Western Highway) is one of the most distinctive geographic features of the City. The Armadale Hills helps define the sense of place and identity of the City and provides the wider regional community with a local tourist destination, recreational opportunities and visual and topographical relief from the more developed coastal plain areas of the Perth Metropolitan Area. Some areas remain under productive horticultural uses however other rural enterprises are generally small in scale.

Over time the extent of the rural zoned land in the City has diminished as land uses changed and lot sizes reduced by rezoning and subdivision from larger rural holdings of between 2ha to 10ha down to 1ha Rural Living lots and Urban Residential or the near to urban Special Residential lot sizes, (2000m^2 to 4000m^2 in the Hills unsewered areas). In 2012 approximately only 10% of the gross land area in the Armadale Hills area remained under the City's Rural Living and General Rural TPS No.4 zones (Figure 7), with the balance area comprising Urban Residential, Special Residential or local and State government reserves of various kinds.

The remaining rural areas of the Armadale Hills will be increasingly valued over time and also face greater development pressures with potential for negative impacts upon the visual landscape values. These values should be protected from patterns of urban settlement and subdivision that cannot maintain or enhance the landscape amenity, or that detract from the landscape amenity, of the Armadale Hills area. Future land capability and servicing assessments of land use and development proposals in the remaining rural hills areas will include special consideration of suitability of the specific site and particularly its impact on the visual landscape values of the surviving bushland and rural landscapes.

Actions

1. Establish the goal of protection of the visual landscape as a high priority in administering land use and development in the Armadale Hills localities.

2. Establish a general presumption against new rezoning proposals that would result in further lot size fragmentation of lots to less than 2ha lot sizes in Rural Hills localities.

3. Conduct a study of landscape values in the Rural Hills localities in accordance with the guidelines of the Western Australian Planning Commission Visual Landscape Planning in Western Australia (2007) manual for evaluation, assessment, siting and design.

4. Base the assessment of rezoning proposals for further subdivision on an analysis of landscape values in addition to the environmental servicing and land-capability/suitability analysis for the lots sizes and development proposed.

5. Review TPS No. 4 Special Control Area mapping for Prime Landscape Protection Areas.

6. Review TPS No. 4 scheme text applicable to protection of the landscape.

7. Prepare a LPP for the Rural Hills parts of the City providing for the above and outlining the level of assessment required for various scale of developments including rezoning proposals and individual buildings in sensitive areas, in addition to potential measures to reduce impacts on landscape which may be imposed as conditions of subdivision or development.

Bushfire Protection Strategy

Large parts of the City, particularly the Darling Scarp and Darling Ranges and some parts of the coastal plain, provide opportunities for a lifestyle living close to bushland. However, the same features of proximity to large parkland and state forest reserves, heavy vegetation and slopes, that provide attractive lifestyle for residents also increase the hazards and risks associated with bushfires.

As the population of Armadale grows and the more sparsely occupied areas of the City come under ever closer scrutiny for more intensive subdivision and development, planning assessments need to ensure that new subdivisions and land developments are protected from elevated risks of bushfire attack. When recommending land use change and closer development, the City needs to take into account the risks of bushfires and ensure that methods to reduce risks are implemented and maintained as part of land planning and development conditions.

This will be achieved consistent with the major reforms for Bushfire risk management and protection, being introduced by the State Government through changes to a number of Acts and Regulations. These changes will be supported by a new State Planning Policy 3.7: Planning for Bushfire Risk Management (SPP 3.7), State Bushfire-Prone Area mapping, revision of the Planning for Bushfire Risk Management Guidelines and Deemed Provisions under the revised Planning and Development (Town Planning Scheme) Regulations 2014-15.

Actions

1. Establish the goal of protection of life and property from bushfire attack as the highest priority in the planning of new land developments in areas with an elevated bushfire risk.

2. At rezoning stages designate areas determined by bushfire hazard analysis as sites of elevated bushfire risk into the TPS No.4 Special Control Area of “Prime Bushfire Hazard Protection Area” to ensure the appropriate Australian Construction Standard is applied to habitable buildings commensurate to the level of bushfire attack.

3. Ensure that bushfire risks and impacts in new areas of closer subdivision and development are reduced and minimised by implementing a Bushfire hazard analysis and preparation of Bushfire Management Plans in risk areas from the earliest stages in planning assessment processes at the rezoning, structure plan, subdivision and development stages.

4. Incorporate mapping information on areas with potential bushfire hazard into the City’s GIS Intramaps mapping tool to assist in operational planning assessments and setting of conditions where risks of bushfire is apparent (i.e. a potential elevated bushfire hazard may exist on sites located within 100 metres of an area of bushland vegetation or similar fuel which is greater than 2,500m^2 in size).

5. Work in co-operation with the State government to implement the planning and building recommendations of the Keelty Report into the Perth Hills Bushfires (2011).

6. Prepare a new local planning policy guided by State Planning Policy 3.7 to reduce bushfire risks in new areas of closer subdivision and development.

Biodiversity Strategy

The City contains many remnant and more extensive areas of native bushland in regional and national parks, nature reserves and state forests or on private rural land or occasionally land that is earmarked for urban purposes. An important objective is to sustain significant areas of bushland and other natural areas which support the biodiversity of the City of Armadale. It is therefore appropriate that decisions in land use and development have regard for the management and protection of biodiversity.

Local planning assessments for closer subdivision and development will consider and have regard to the goal of protecting environmental and biodiversity values for future generations. Decisions and recommendations concerning land use and development will be guided by SPP 2.8 - Bushland Policy for the Perth Metropolitan Region, the whole-of-government Bush Forever policy which identifies regionally significant bushland sites on the Swan Coastal Plain portions of the Perth Metropolitan Region Scheme, in addition to environment-specific legislation at State and Federal levels of government.

Where land use or development is proposed with potential to impact on significant biodiversity values, detailed assessments will be required and where appropriate, decision-making will give special consideration to the protection and management of parts of lots which may be preserved in natural or near-natural condition, in addition to the portions which can accommodate more intensive use and development.

Consideration will be given to resources and staffing levels in relevant functional areas of the City which manage and look after bushland reserves and assist landowners. The City will produce a State of Environment Reporting (SOE) and will update it periodically (latest in 2011) and will consider resourcing matters in annual budget deliberations.

Actions

1. Establish the objectives of supporting local biodiversity and related processes and involving local landowners and the community in the protection and management of a network of local bushland and other natural areas as a high priority for the City.

2. Balance objectives for protection and management of areas of significant local natural bushland and other natural areas with social and economic development objectives in the City's land use and development decisions.

3. Have regard to the management and protection of biodiversity in recommendations and decisions for land use and development, particularly in rezoning, structure plans and subdivisions.

4. Establish a general presumption against rezoning proposals that would result in further lot size fragmentation within the Rural Living zone of the Rural Hills such that proposals that would result in the creation of lots of less than 4ha will not be supported where:
   (i) site development, including bushfire protection, would result in the clearing of substantial native vegetation, however, existing "park land" cleared lots providing suitable areas for development may be acceptable; or
   (ii) resultant lot/s would have a significant proportion of land area susceptible to soil erosion or land instability on slopes of 15% or greater or
   (iii) development which would require the clearing of native vegetation within 100 metres of the outer edge of a watercourse channel as defined on the Special Control Area Maps.

5. Consider the Local Biodiversity Protection Plan aspirational targets for various precincts and integrate biodiversity factors with social and economic objectives in decision making.

6. Amend the TPS No. 4 section which describes the list of "Matters to be considered by the local government" to include a reference to "biodiversity".

7. Amend TPS No. 4 by replacing Section 1.6 Aims of Scheme (j) to include reference to "biodiversity" as follows:
   (j) To conserve and enhance the natural environmental and biodiversity attributes of the district by incorporating environmental principles into public and private decision making;

8. Include appropriate biodiversity definitions for "local natural area/local natural bushland area" in the new Local Planning Policy for natural areas guided by the forthcoming revision on State Planning Policy 2.8 – Bushland for the Perth Metropolitan Region".

9. Amend TPS No. 4 to provide landowners/applicants and the public with guidance that conservation covenants are a legitimate useful tool in the management of biodiversity on private land and may be referenced in Scheme Amendment or Structure Plan proposals submitted to the City for consideration where significant bushland and other natural areas warrant protection over the long term.

10. Prepare a new Local Planning Policy for natural areas guided by SPP 2.8 - Bushland Policy for the Perth Metropolitan Region in conjunction with revision of the existing Local Planning Policy - Environmental Management and Improvement for Development of Constrained Land guided by criteria in SPP 2.8 - Bushland Policy for the Perth Metropolitan Region.

11. Consider the bushland values in assessments of major land use, development and subdivision proposals affecting significant bushland and other natural areas, over rural living lands on the coastal plain.

12. Refer to the Natural Area Initial Assessment templates prepared under the Perth Biodiversity Project in the new/revised planning policies and guidelines and refer to proponents accordingly, following assessment against appropriate industry standards and satisfactory acceptance by environmental agencies.

13. Establish a BushCare Crew to undertake bushland maintenance works.

14. Consider support for landowner stewardship of more than 1ha of high biodiversity value natural bushland area.

15. Incorporate mapping information on vegetated local natural areas, vegetated Resource Enhancement Wetlands mapped by the Department of Environment and Conservation and all additional ecological linkages into the City's GIS Intramaps mapping tool to assist in operational planning assessments and setting of conditions.

16. Review Stirling Swamp's ecological significance from existing information, and its potential for a MRS reservation and a vegetation linkage to the Forrestdale Lake Nature Reserve in discussion with the Department of Planning.

Implementation, monitoring and review

It is proposed to progress the review and update and of the City's revised planning directions in accordance with the Town Planning and Development Act and Regulations by means of a consolidation and advertising of the consolidated Scheme and the revised Local Planning Strategy (LPS). Standard Scheme Amendments will then be advertised and formalised to implement the City's revised planning directions in Scheme provisions and revised mapping.

The update of the LPS provides the first step in a review and update of the TPS No.4 zones and provisions (text and maps) by Scheme Amendment/s.

Changes to the TPS No. 4 zones and provisions (text and maps) are proposed to be implemented in a series of omnibus and Scheme Amendments. These will be supported by new and updated policies. The new and revised planning policies made under the Scheme will

address the key issues and pressures that are summarised in this LPS. The three sets of major planning document (LPS/TPS/Policies) represent three stages or phases in the overall programme of review and update of the LPS/TPS according to the general timeframe:

- LPS Review: 2014-15
- Consolidation and Omnibus Scheme Amendments 2016-17
- New and Revised local planning policies - 2016-17

Specific steps the City will follow are in accordance with key references for the processes described including:

- Local Planning Manual (2010);
- Planning & Development Act (2005) – Part 5;
- Planning and Development (Local Planning Schemes) Regulations 2015;
-

Specific steps the City will follow are:

1. a. Council proposal to adopt revised LPS (TP Regulations 12C & 12B) and referral seeking WAPC approval to advertise the revised LPS (Completed 24 September 2012);

1. b. Council proposal to prepare a consolidation of TPS No.4 and refer this to WAPC (P&D Act S88) to initiate a Scheme Review (Completed 24 September 2012);

2.a. Council advertising of revised LPS (following WAPC approval) seeking public submissions;

2.b. Council request, concurrently with (2a), that the public comment on the effectiveness and operation of the Scheme and whether there is a need to amend the Scheme (by Amendment/s), or, if TPS No.4 should be replaced by an entirely new Scheme (P&D Act S89);

3. Council review of submissions and determination to adopt/modify the revised LPS and accordingly report to the Minister recommending either (P&D Act S90) on either:
   - reviewing the Scheme by Consolidation with Amendments to the Scheme (preferred process); or
   - preparation of a new replacement Scheme for TPS No.4;

4. Council proposals for amendments to the Scheme (P&D Act S92) (following the Minister's endorsement) or preparation of an entirely new Scheme - Council proposes to follow the normal Scheme Amendment process (P&D Act S77-87) noting:
   - Amendment/s or Scheme to have regard to SPPs (S77);
   - Amendment/s or Scheme to be referred to EPA (S81);
   - Amendment/s or Scheme to be advertised to the public and to follow the requirements of the TP Regulations (S84);
   - Submissions and recommendations will be referred to Minister to determine approval of or Amendment/s or Scheme (with any modifications as required);

5. Council publication of the Consolidated (and amended) Scheme or new Scheme in the Government Gazette (P&D Act S92),

At the completion of the whole process the operation of the LPS and Scheme will be monitored and incrementally updated in response to regional strategies, issues and directions as appropriate. A new review process would be commenced 5 years after Step 5.

Part 2 - Background Information and Analysis

Introduction

Land use and development in the City has been guided by the City's Local Planning Strategy since the November 2005 gazettal of Town Planning Scheme No. 4. TPS No.4 remains overall a valid and soundly based Scheme, which provides the appropriate tools to manage new challenges. However, to retain its focus and currency it is desirable to update the LPS and amend the TPS in specific areas.

This update to the Local Planning Strategy is the product of a 2012-15 review undertaken to reflect the City's changing priorities and to respond to emerging issues and contemporary patterns of land development.

LPS/TPS No.4, as revised, will focus the City's land use and development controls with appropriate responses to the particular challenges in managing growth, preserving the natural environment and rural landscapes that the City faces over the next decade. This Local Planning Strategy (LPS) reflects the planning intent of the City of Armadale for the period 2015- 25.

State and Regional Planning Context

The revised Local Planning Strategy has been prepared in accordance with the *Planning and Development Act 2005,* Regulations and guidelines set out in the Western Australian Planning Commission's Local Planning Manual. Its broad regional context is provided by the State Planning Framework, the Metropolitan Region Scheme and the Redevelopment Schemes of the Metropolitan Redevelopment Authority.

The revised Local Planning Strategy addresses the key strategic planning issues facing the City for the period 2015-25. It also establishes principles for land use change and development which reflect the guiding principles of the State Planning Strategy. These principles will be used to guide amendments to the District Zoning Scheme and to guide decisions made under the Scheme. The key principles are:

- Securing a high quality environment, protecting and enhancing the key natural and cultural assets of the City and delivering a high quality of life based on sound environmentally sustainable principles.
- Responding to a changing community and facilitating the creation of a vibrant, accessible, safe and self-reliant community.
- Creating a wealthy community and assisting in the creation of wealth by supporting and encouraging economic activity in accordance with sustainable development principles.
- Facilitating strategic development by ensuring support and integration between land use, transport and service infrastructure.

The revised Local Planning Strategy has been prepared with regard to the more specific principles for land use planning and development set out in the Statement of Planning Policy No.1 - State Planning Framework, under the general headings of the Environment, Community, Economy and Infrastructure.

Environment

The strategy encourages more ecologically sustainable land use and development by:

i. promoting the conservation of ecological systems and the biodiversity they support including ecosystems, habitats, species and genetic diversity;
ii. assisting in the conservation and management of natural resources, including air quality, energy, waterways and water quality, land and agriculture over the long term;
iii. protecting areas and sites with significant historic, architectural, aesthetic, scientific and cultural values from inappropriate land use and development;
iv. adopting a risk-management approach which aims to avoid or minimise environmental degradation and hazards; and
v. preventing environmental problems which might arise as a result of siting incompatible land uses close together.

Community

The strategy anticipates and responds to the needs of existing and future communities through the provision of zoned and serviced land for housing, employment, recreation and open space, commercial and community facilities by:

i. accommodating future population growth and providing housing choice and diversity to suit the needs of different households and housing needs, in addition to the services they require;
ii. providing land for a range of accessible community resources, including affordable housing, places of employment, open space, education, health, cultural and community services;
iii. integrating land use and transport planning and promoting patterns of land use which reduce the need for transport, promote the use of public transport and reduce the dependence on private cars;
iv. encouraging safe environments, high standards of urban design and a sense of neighbourhood and community identity;
v. promoting commercial areas as the focus for shopping, employment and community activities; and
vi. providing effective systems of community consultation at appropriate stages in the planning and development process.

Economy

The strategy contributes to the economic well-being and economic development of the local community by:

i. providing suitable zoned and serviced land for industry, business and other employment and wealth generating activities;
ii. protecting agricultural land resources from inappropriate uses;
iii. avoiding land use conflicts by separating sensitive and incompatible uses from industry and other economic activities with off-site impacts;
iv. promoting local employment opportunities in order to reduce the time and cost of travel to work;
v. providing sites for tourism accommodation and facilities taking account of their special location and servicing needs; and
vi. ensuring that plans and policies are clear and decisions are expeditiously made in accordance with plans and policies.

Infrastructure

The strategy ensures that physical and community infrastructure is coordinated and provided in a way that is efficient, equitable, accessible and timely by:

i. planning for land use and development in a manner that allows for the logical and efficient provision and maintenance of infrastructure, including the setting aside of land for the construction of future transport routes and essential services;
ii. protecting key infrastructure, including roads, railways and service corridors, from inappropriate land use and development;
iii. facilitating the efficient use of existing urban infrastructure and human services and preventing development in areas which are not well serviced, where services and facilities are difficult to provide economically; and
iv. encouraging consultation with providers of infrastructure, to ensure they have regard to planning policies and strategic land use planning when making their investment decisions, in order to ensure that land use and development are closely integrated with the provision of infrastructure services.

The Strategy particularly implements a number of State Planning Policies and Regional Strategies including:

- Directions 2031 Spatial Framework for Perth and Peel for the metropolitan Perth and Peel region.
- State Planning Policy 4.2 - Activity Centres for Perth and Peel
- State Planning Policy 3.5 - Historic Heritage Conservation
- State Planning Policies 3.4 and 3.7 - Natural Hazards and Disasters, Bushfire Protection
- State Planning Policy 2.8 - Bushland Policy for the Perth Metropolitan Region
- State Planning Policy 2 - Environment and Natural Resources
- Statement of Planning Policy 11 - Agricultural and Rural Land Use Planning

The Local Planning Strategy also accords with and implements other relevant strategies and policies applicable to the City of Armadale:

- State Planning Policy 2.9 - Water Resources
- Statement of Planning Policy 2.7 - Public Drinking Water Source Policy
- Statement of Planning Policy No. 2.3 - Jandakot Groundwater Protection Policy
- State Planning Policy 2.10 - Swan-Canning River System.
- Statement of Planning Policy No. 3 - Urban Growth and Settlement
- State Planning Policy 3.1 - Residential Design Codes (R-Codes)
- State Planning Policy 3.6 - Development Contributions for Infrastructure
- Statement Of Planning Policy No. 4.1 - State Industrial Buffer Policy
- Statement Of Planning Policy No. 4.3 - Poultry Farms Policy
- Statement Of Planning Policy No. 5.2 - Telecommunications Infrastructure
- State Planning Policy 5.4 - Road and Rail Transport Noise and Freight Considerations in Land Use Planning

The land use and development within this Local Planning Strategy is governed by the Perth Metropolitan Region Scheme and is consistent with it, however recognising that some precincts identified in the Strategic Plan for future Urban Development are still subject to ongoing proposals to amend MRS zoning and upon which implementation in the District Zoning Scheme will be dependent.

The Local Planning Strategy also reflects lands where land use and development control is governed by Redevelopment Schemes under the *Metropolitan Redevelopment Authority Act 2011*, namely the Armadale Redevelopment Scheme (2004) and the Wungong Redevelopment Scheme (2007) which have the effect of nullifying the Metropolitan Region Scheme and the City's District Planning Scheme (TPS No.4) for the relevant precinct areas under those Schemes control.

Local Planning Context

The vision of the City of Armadale's future which underpins the Local Planning Strategy is that by 2030 the City will be a connected, progressive, strategic metropolitan community. Unique in our geographical location with an enviable reputation for choice and opportunity we will have created a liveable city for future generations that values environmental, educational and economic sustainability.

It is also for a community that is recognised as:

- a key Strategic Metropolitan Centre in the South East Corridor
- a clean, green and prosperous place with the advantages of city living and close proximity to natural bushland settings
- a City with ample opportunity offering a great place to live, work and play

The City's vision will be implemented by future land use planning and development in accordance with guiding principles of the State Planning Strategy to support the environment, community, economy and infrastructure provision and that enhances the City's:

- community wellbeing
- natural and built environments
- economic growth and development
- good governance and management

The specific aims and objectives of this Local Planning Strategy are to:

- promote and safeguard the public health, safety, livelihood and general welfare and convenience of the people of Armadale and more choices contributing to an improved quality of living;
- provide for a variety of development to meet the needs of the Armadale community with regard to housing, employment and services, and to facilitate the provision of a wide range of social and cultural facilities and services;
- promote the development of the Armadale Strategic Metropolitan Centre with a wide range of services, including housing, business, commercial, recreational, leisure, entertainment and community facilities based on a Centre Plan;
- improve access and integrate land uses with the available transport systems throughout Armadale to ensure safe and convenient movement of people, including pedestrians, cyclists, public transport users and motorists;
- promote sustainable development that integrates consideration of economic, social and environmental goals including conserving biodiversity and the natural environmental attributes of Armadale;
- preserve and enhance the amenities of Armadale and promote its sense of identity and distinctive character;
- promote a safe and energy-efficient pattern of development;
- protect and enhance areas of prime agricultural production to assist in sustaining their use and economic contribution to Armadale;
- facilitate and encourage effective public involvement in significant planning issues.

The overall process for review and update of the LPS and TPS involves modifications and updates to three major sets of statutory planning documents. The three landuse documents corresponds with the general hierarchy of local planning instruments or tools – from strategy to statutory provisions and from provisions to decision-guiding policies.

The key functions of the planning instrument hierarchy are:

1. The Local Planning Strategy – summarises the key issues and trends affecting the City, identifies Council's strategic or broad land use objectives and states the way the Scheme's planning instruments will be used to achieve strategic objectives for land use and development.

2. The Town Planning Scheme (Text and Maps) – contains the detailed statutory provisions (or rules) which will apply to various land uses and developments. These refer to a series of zones, reservations and special control areas, which need to be consistent with the zones of Metropolitan Region Scheme and the requirements of State Planning Policies. Approvals and conditions of approval often involve Council exercising its discretionary powers to approve or refuse land use proposals made by landowners according to the merits of the proposal and concordance with strategic objectives.

3. Local Planning Policies – contains subordinate provisions (or rules), often detailing the circumstances whereby Council discretion would/would not be exercised by approving or refusing an application (the application of the policy will depend on the specific circumstance or location ie which could for example, be in a specific policy area/structure plan precinct, or which could involve a specific substantive issue such as a property with visual landscape or heritage values).

Overall, these major document sets form the complete suite of rules which the City and Council will use to administer land use and development within the municipality of Armadale (excepting those areas where jurisdiction over land use planning matters falls to the Metropolitan Redevelopment Authority, WAPC or Swan River Trust).

It is proposed to progress the review and update of the Local Planning Strategy (LPS) by means of standard Scheme Amendment/s and in accordance with the Town Planning Regulations. Update of the LPS provides the first step in a review and update of the TPS No.4 zones, provisions (text and maps) and supporting policies.

The three major document sets (LPS/TPS/Policies) represent three distinct stages or phases in the overall programme of review and update of the LPS/TPS.

Local Profile

The City's future planning directions reflect its physical and geographic location as well as the features and character of its environment and the socio-economic attributes of its community.

The City of Armadale is located in the South East Corridor of the Perth Metropolitan Region, approximately 28 kilometres from the Perth Central Business District. It is bounded by the City of Gosnells and Shire of Kalamunda to the north, the Shire of Beverley to the east, the Shires of Wandering and Serpentine Jarrahdale to the south and the City of Cockburn to the west.

The City of Armadale is undergoing an unprecedented phase in its growth and development. The development of the local economy is associated with the coincidence of strong State population growth, the physical expansion of the Perth metropolitan area and the availability of relatively inexpensive land in Armadale.

The geographic location and attractive lifestyle characteristics of the City of Armadale will lead to the pressures of the strong State economy increasingly felt locally, chiefly by sustained demand for housing but also in rural lifestyle demands and local tourism particularly in rural hills locations. It is likely that the recent strong pace of growth and development will continue over the coming decade 2015-25.

The City's strategy for land use and development is of central importance in managing the character and attractive environmental amenities of the district. It will also strongly influence the lifestyle opportunities that are available to the Armadale community.

The land use framework provided by the City's Local Planning Strategy and District Zoning Scheme also provides the critical land use policy component that supports local economic activity given that the production of economic goods and services arises from the creative application of land, labour and capital resources. The Scheme is the central policy document which guides and governs the use and development of land and the economic activities it supports.

Major Physical Features

The City of Armadale comprises of two distinctive land forms which underpin its diverse resources and living environments. The western third of the City comprises of the relatively flat and low lying eastern portion of the Swan Coastal Plain. This area supports over 80% of the City's population.

The balance eastern portion comprises of the Darling Scarp and Darling Ranges provides the vast majority of gross land area, however the sparse population density is mostly confined in discrete urban and rural precincts with vast tracts occupied by vacant Forested Water Catchments which serve water supplies to the greater metropolitan area. The Hills localities have a number of constructed water supply dams principally the Canning Dam, Wungong Dam and Churchman Brook Dam. The western portion of the City overlies the Jandakot Groundwater Mound which also serves water supplies to the greater metropolitan area (Public Drinking Water Supply Priority Areas Figure 4).

Topographically the Swan Coastal Plain is approximately 20-30m AHD and Darling Scarp rises from the Plain from approximately 60m AHD to 240m AHD on the Darling Plateau which incorporates undulating hills and deeply incised valleys. The upper reaches of the Darling Plateau and ranges from 250 to 410m AHD. Slope analysis indicates that the Swan Coastal Plain has slopes less than 3 per cent (%), the foothills of the scarp are 3-5%, and the slopes of the Darling Ranges extend from steep side valleys (over 20%) to moderate slopes on the upper portion of the plateau (10 – 20% slope).

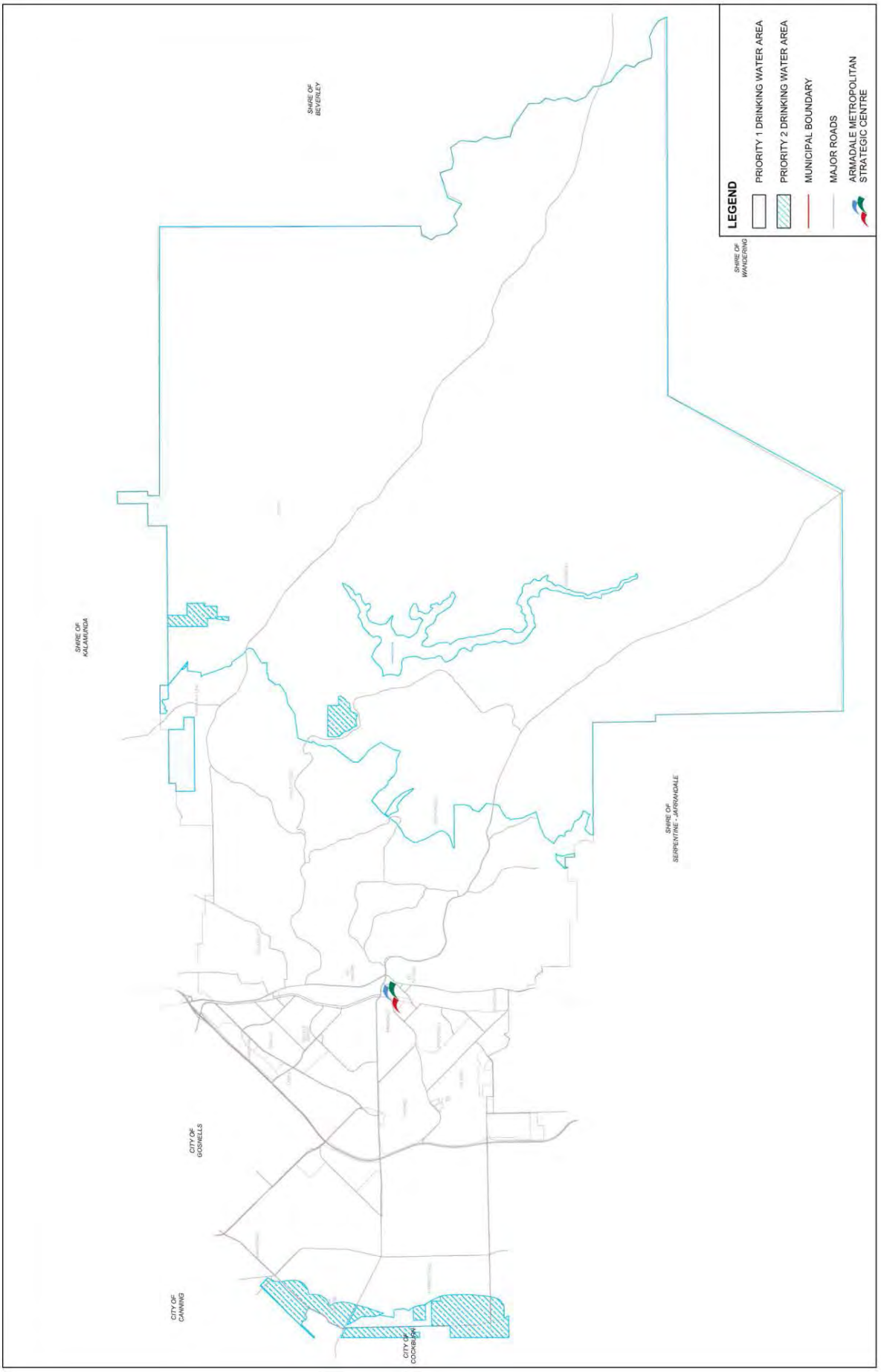


Figure 4 - Public Drinking Water Supply - Priority Areas

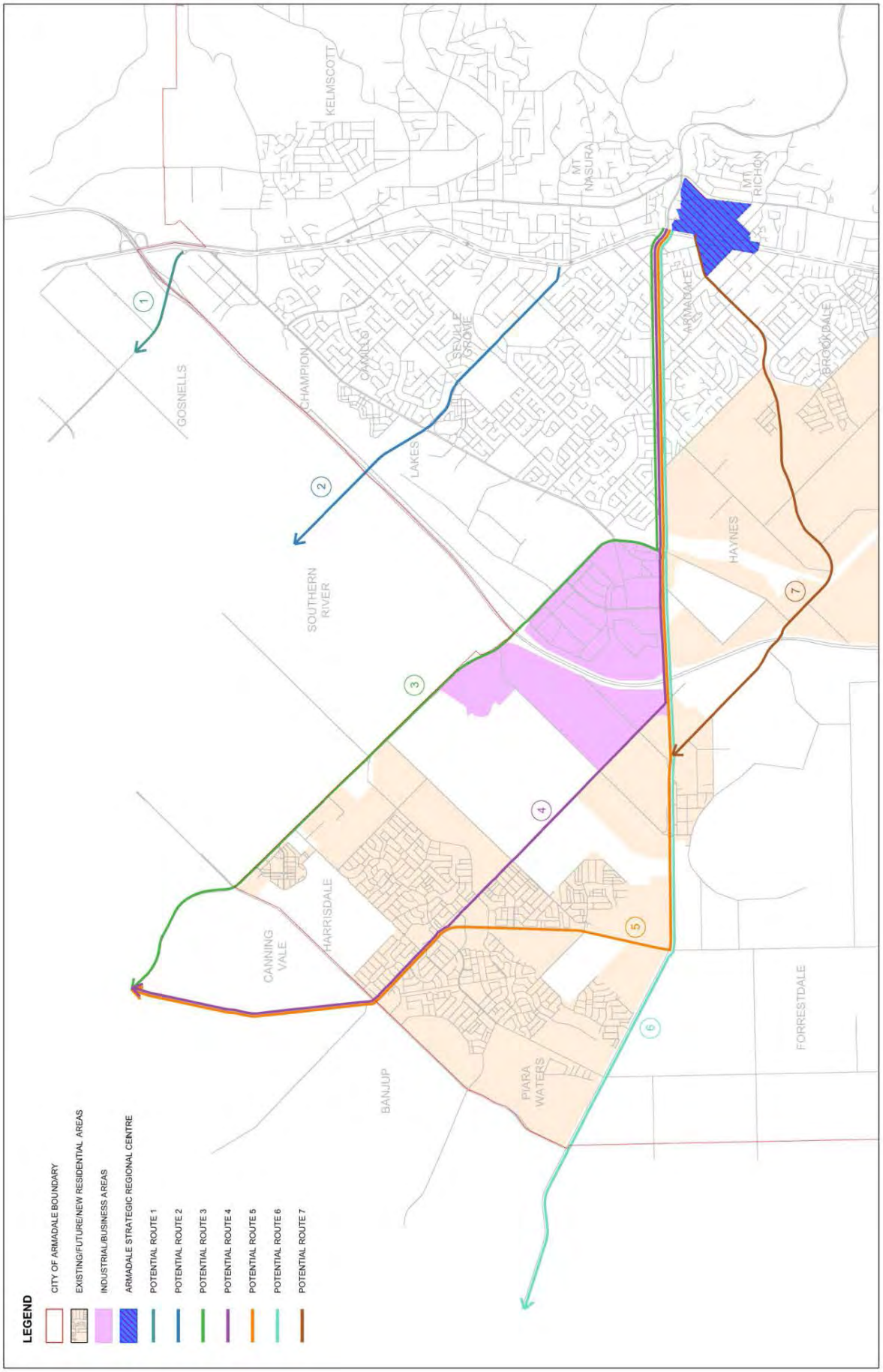


Figure 5 - Potential Public Transport Routes

Environmental Characteristics

Armadale has a Mediterranean climate which is characterised by wet, mild winters and dry, hot summers. The average maximum temperatures range from 18.6 degrees Celsius (°C) to 33.1 degrees whilst the average minimum temperatures range from 8.7°C to 18.7°C. It receives an average annual rainfall of 829 millimetres (mm) with most rainfall occurring between May and October.

Climate and rainfall has a strong influence on native vegetation on Darling Scarp and Darling Ranges and Swan Coastal Plain portions of the City. The total area of native vegetation in the City of Armadale covers 76% (42,600 ha) of the City's total 55,800 hectares. Most of this vegetation is in the Darling Ranges, with 20% (1440 ha) of native vegetation remaining on the City's coastal plain portion (based on 2007 mapping data).

Over 4,880 ha of the City's areas of native vegetation are protected in National Parks, Nature Reserves or Regional Parks. The balance of the City's native vegetation (25,370 ha) is split between two general categories with the greater portion retained in State Forest and proclaimed water catchments (in the hills forested catchments) (Regional District Reservations Figure 6). Approximately 2,340 ha is retained in predominantly rural zoned land under the District Zoning and Redevelopment Schemes (District Zoning Scheme Rural Zoning Areas Figure 7).

The western third of the City is characterised by weathered dune soils of the Swan Coastal Plain and the eastern portion of the Plain is characterised by many wetlands. Two thousand, two-hundred and forty (2,240) hectares of wetlands have been mapped and assessed as Conservation Category Wetlands or Resource Enhancement Wetlands in the City. Of these wetlands approximately 980 ha are non-vegetated either as naturally open water, seasonally inundated mud-flats, or areas that have been cleared of vegetation for rural uses. The balance areas are vegetated. A substantial further area of the Swan Coastal Plain supports wetlands assessed as Multiple Use Wetlands, mostly cleared of vegetation originally for agricultural purposes and in some locations undergoing urban development. Forrestdale Lake is the largest, the most important and protected single wetland area and is protected by a State Nature Reserve and national and international level listings.

The Canning River is a major feature of the of the Darling Scarp and Darling Ranges portion and exits the City to the northern lower reaches at Kelmscott. The Wungong River bisects the Swan Coastal Plain portion of the City and extends from the hills catchments on the City's southern boundary to the west across South West highway where it continues to the north to exits the City at Champion Lakes and joins the Southern River a tributary of the Canning River located in the City of Gosnells. Smaller water courses arise in the Darling Scarp and Darling Ranges and become tributaries of the Wungong and Canning Rivers.

The Local Planning Strategy includes a Biodiversity Strategy. A Biodiversity Protection Plan has been prepared to identify precincts of common generic land uses (Biodiversity Protection Plan Figure 8) and to set broad goals for protecting areas still in a near to natural undisturbed state which can be considered in the future land use and development assessments and decision-making. These include a series of aspirational targets which could be achievable in protecting local natural bushland subject to broader planning considerations and requirements.

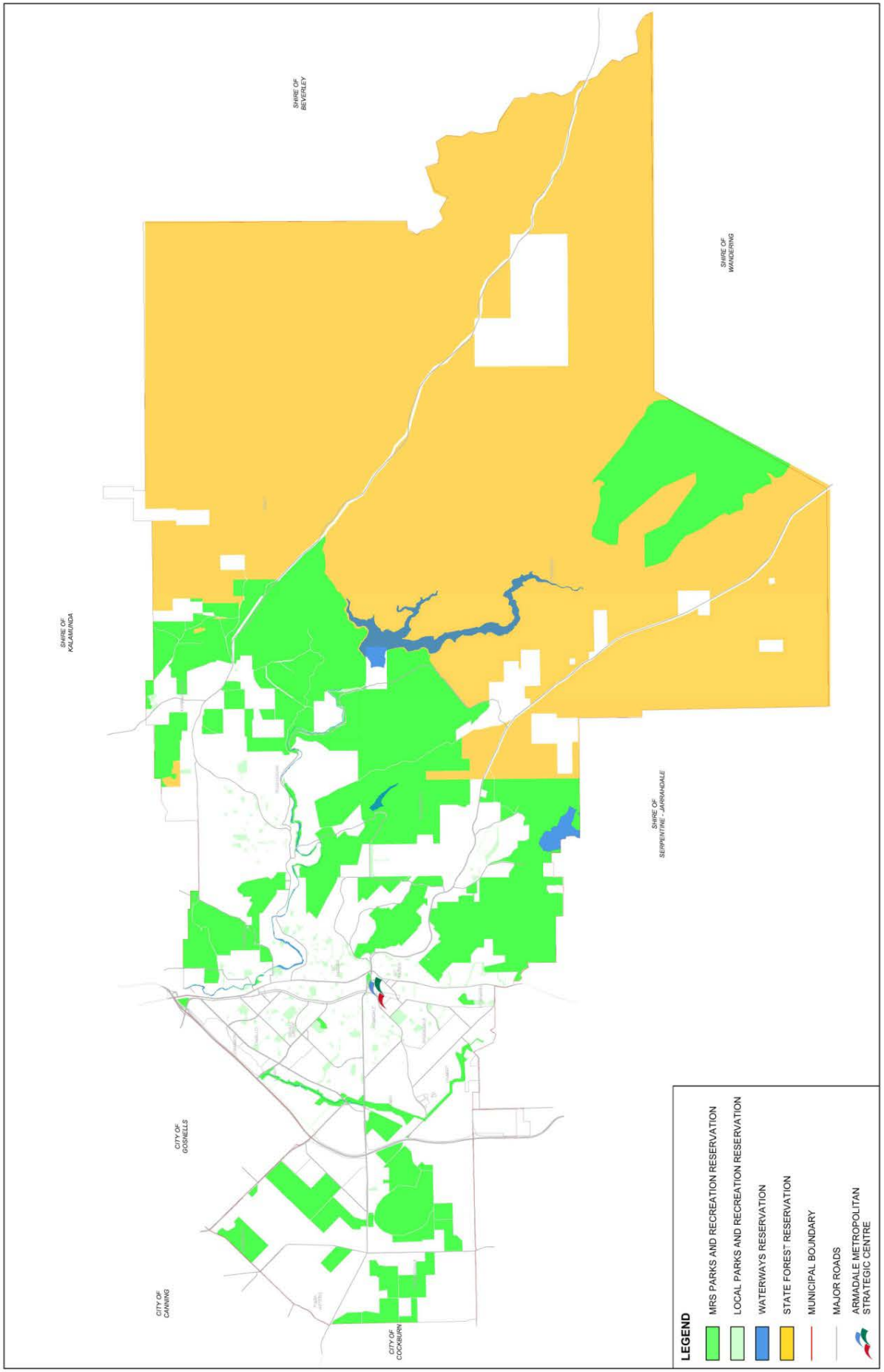


Figure 6 - Regional District Reservations

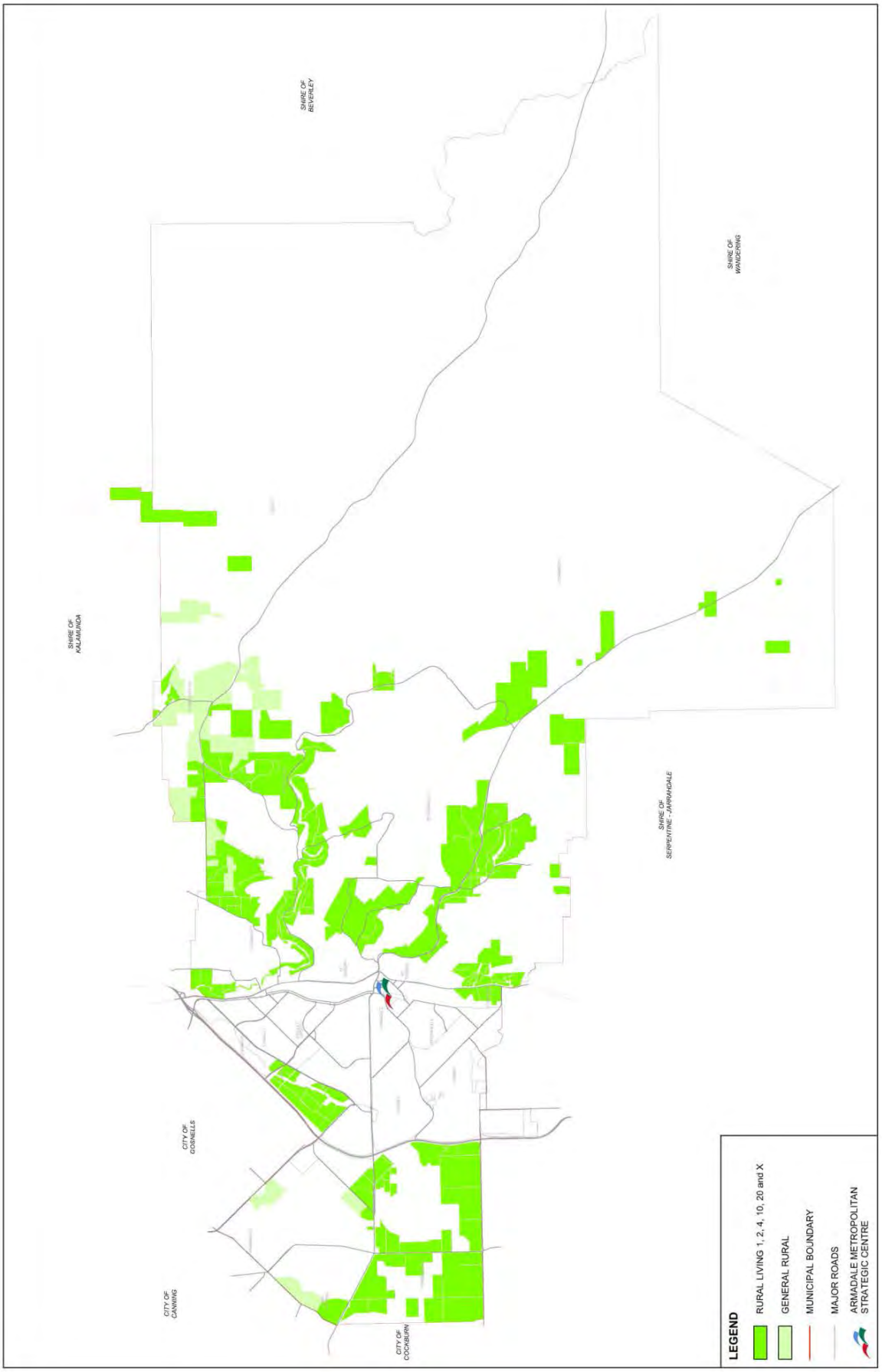


Figure 7 - District Zoning Scheme - Rural Zoning Areas

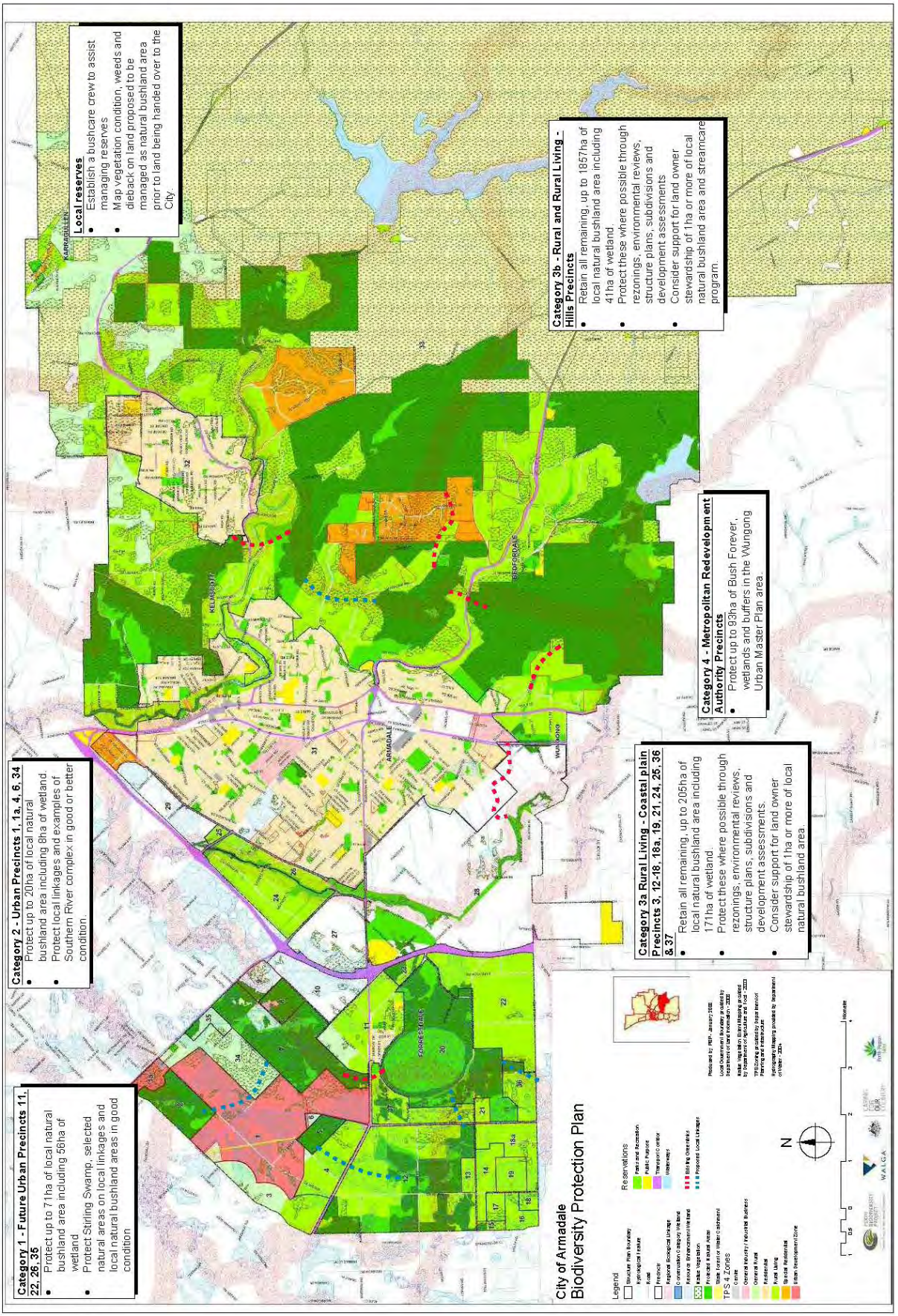


Figure 8 - Biodiversity Protection Plan

Recreation and Open Space

The 2005 LPS noted the predominance of regional bushland within the City and emphasised the importance of the protection and rehabilitation of the natural environment. A Recreation Strategic Plan had been prepared which was being implemented. In addition an Open Space Strategy had been prepared in 2000 which formed the basis of rationalising the large number of small and unusable parcels within the City. Since the 2005 LPS the City has embarked on a program of Master Planning for its major recreational facilities and plans have been prepared for the provision of active open space within the developing areas of Harrisdale, Piara Waters, Hilbert and Haynes.

The main strategic issue that has developed since the 2005 LPS is the finding that developing areas tend to over-allocate open space for passive recreation and drainage leaving little opportunity for active recreation space. Awareness of this tendency has resulted in initiatives to develop a regional recreation facility to contain a number of sporting facilities in Wungong and for the City to enter into negotiations with the Education Department with a view to the establishment of joint use facilities adjacent to schools. In addition, significant allocations towards the development of active recreation facilities have been provided in the North Forrestdale Developer Contribution Scheme and the Wungong Developer Contribution Scheme.

The provision of open space facilities is a significant planning issue, however, the matter is being addressed through a concerted effort through the City's Master Planning program and the contribution schemes. There are no additional statutory scheme requirements related to provision of open space facilities although it would be appropriate to undertake a review of the City's POS Strategy in view of the previous strategy being largely complete.

Community Facilities

The range of community facilities available within the City, and provided by the various levels of government and private agencies, was outlined in the 2005 LPS. It was noted that additional facilities and services would be required for the urban development areas, regarding which the Local Government role was to ensure that there is sufficient land allocation in appropriate locations, including schools (School Sites Figure 9). The City has prepared policies relating to the provision of community facilities and this in conjunction with the WAPC policies relating to infrastructure provision in new areas were referred to as being the basis for future provision.

Since 2005 the provision of community facilities has been furthered by the funds made available from land asset sales (in the case of the community centre at Frye Park) and from developer contribution schemes (in the case of the Bakers House and Piara Waters community centres and the future facilities in Harrisdale, Piara Waters, Hilbert and Haynes). The 2005 LPS aim of continuing "to support opportunities for the establishment of major regional community facilities within and close to the City Centre, in particular tertiary education, cultural, recreational, health, welfare and employment services, and "in planning the location and design of local and district community centres, walkable neighbourhood catchments, safety, amenity and accessibility will be prime determinants" remains current.

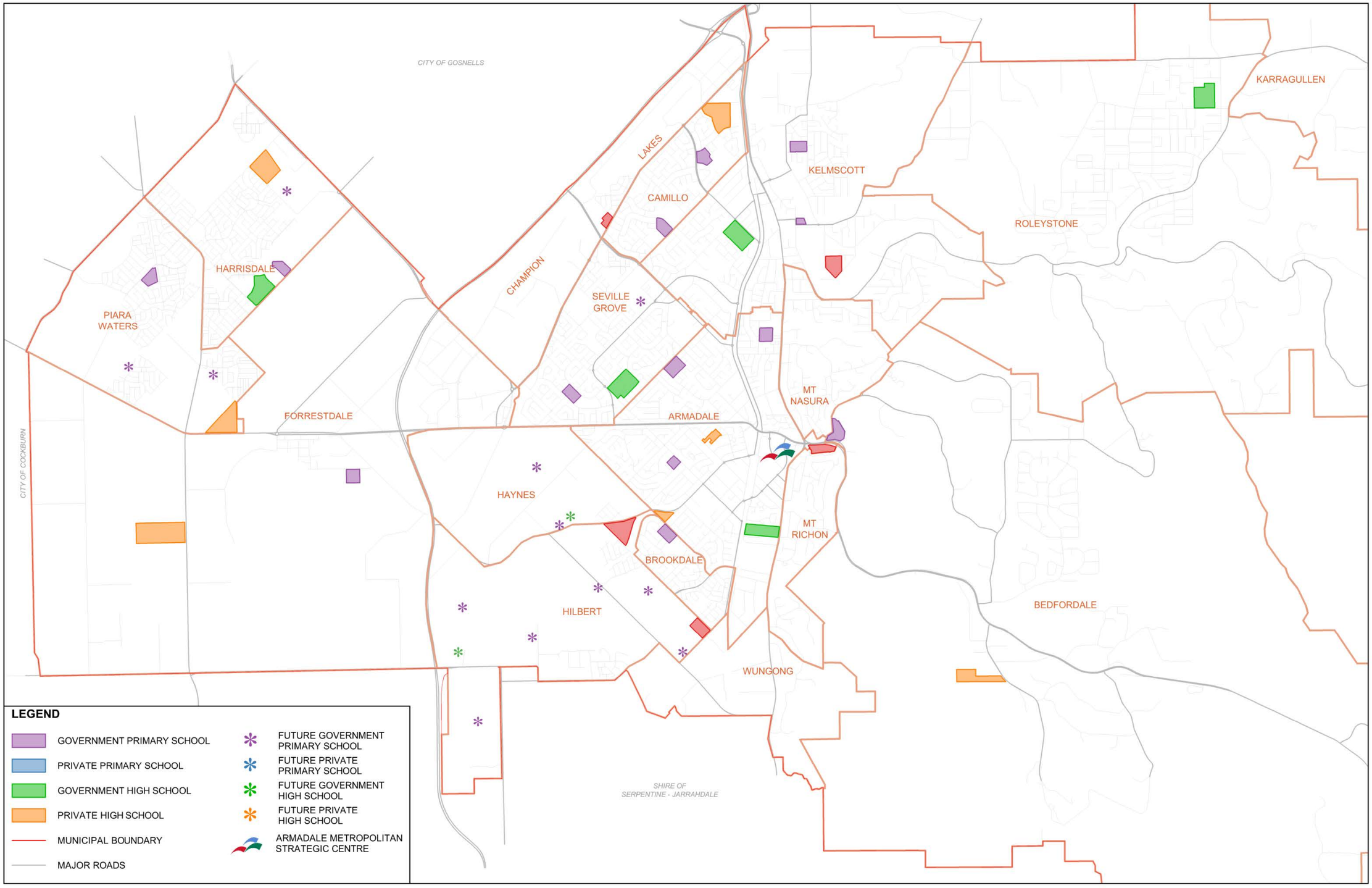


Figure 9 - School Sites

Strategically Significant Special Use Sites and Tourism

Land in the Armadale hills and the Swan Coastal Plain provides the City's sense of place. Regional tourism to these areas is recognised as a growing attracter to the City of Armadale. The City has many tourist destinations, scenic areas and drives comprising of natural environmental areas and developed facilities which provide unique recreational and holiday opportunities within easy driving distance of most of Perth's suburbs. These include Forrestdale Lake, Canning River, Champion Lakes Regatta Centre, Araluen Botanic Park, Canning and Wungong Dams and the Armadale and Araluen Golf Courses. In addition, many bushland areas in National and Regional Parks in the hills and plain provide passive recreational pursuits on nature trails. These are supported by a growing list of accommodation, restaurants and wineries, galleries, heritage sites and tours and a calendar of special events and festivals. The City's Tourism Destination Marketing Strategy is an important component of the City's Economic Development Strategy.

As Perth's population grows to over 3.5 million people in the next 20 years extension of tourism related facilities is an increasingly important objective of the LPS and Scheme. Tourism is particularly strengthened by the strategy and actions in the LPS which focus on protecting the Rural Hills Visual Landscapes and the City's history, natural areas and parks through the Biodiversity and Heritage Strategies. The Scheme will continue to provide opportunities for Bed and Breakfast and other Holiday Accommodation in Rural and appropriate Urban areas and through such land use activities as aquaculture, viticulture and cellar door type wineries.

Transport and Access

The 2005 LPS identified a range of transportation issues, some of which remain while others have been resolved. The extension of the Tonkin Highway has achieved one significant City objective, although heavy traffic on the Albany and Brookton Highways has significant implications for the centres of Armadale and Kelmscott. Improvements to the stations at Kelmscott and Armadale have been achieved although the need to extend the Armadale railway to Byford and Mundijong remains a City objective.

While not mentioned in the 2005 LPS the City has expended considerable effort in the intervening period preparing a Public Environmental Review for the Keane Road link to enable the connection of the new Harrisdale and Piara Waters localities with Forrestdale and Armadale. It remains a high priority of the City to finalise this environmental assessment process. The future construction of the Keane Road link will be dependent on the outcome of the EPA's consideration of the Public Environmental Review.

The City has responded to various strategies prepared by State Government to further public transport planning (Public Transport for Perth in 2031). It has been the City's concern that the servicing of outer suburbs with rapid and frequent public transport is deficient and requires prioritisation. A significant Strategy of the City within its Strategic Community Plan 2013-2028) is to advocate for a flexible and efficient public transport system. As the populations of the developing areas increase away from the Armadale railway line their need for priority to be given to public transport investment will increase.

As a result of development in the western areas there has been a need to modify the arterial road system and in particular amend the heavy haulage routes to divert such traffic from part of Nicholson Road onto Warton Road. The latter road has been substantially upgraded by a $10 million investment financed from the North Forrestdale Contribution Scheme.

Infrastructure Services

The infrastructure services necessary for urban development have been investigated as part of the Housing Strategy. The conclusion has been reached that the estimates of future dwelling provision in new and infill areas can generally be achieved without servicing constraints. However there are certainly some established areas where lack of services will restrict future redevelopment. The City's backlog sewerage areas have been identified, some of which are low density areas with topographic constraints making servicing for higher density difficult. Other future urban areas identified in the Strategic Plan can be provided with services by extension from adjacent and nearby areas including sewer, water, energy and telecommunications services.

The Armadale Landfill & Recycling Facility is estimated to have an extended functional life of more than 20 years. Higher rates of recycling are being achieved; higher landfill compaction and other management practices have extended the estimated closure date to at least 2020. Alternative Waste Treatment processes, are also being investigated which could extend the life of the landfill site by a further 10 years or more. The City has a Site Optimisation Plan which plans future operations of the site and controls the existing site activities and operations according to Department of Environmental Regulation licencing, This plan proposes the progressive transformation of the site over the next 20 years as a waste transfer and processing facility.

Socio-Economic Attributes

The City of Armadale is located in the south-eastern development corridor of the Perth metropolitan area, extending 18-55km from the Perth CBD. It is favourably located on major transport routes connecting Perth's south eastern corridor with the rural hinterlands and highway networks to the north of the State, to the eastern States of Australia and Perth Airport.

The City's passenger transport needs are serviced by metropolitan bus services and the metropolitan electrified passenger rail network, which currently extends only as far south as Armadale, however, which may be extended to Byford and Mundijong in the future. Currently the Perth to Bunbury metropolitan rail line extends on a north-south alignment and it is therefore desirable to indicate possible future east-west public transport routes. Investigation of various potential route options is undertaken at the broad scale City wide level and the City will encourage State government service providers to undertake studies to investigate potential east-west routes and options to extend services (Potential Public Transport Routes Plan).

The City of Armadale forms the urban fringe of the Statistical Division which establishes Perth as Australia's fourth most populous city, and one of the wealthiest areas in Australia. The Gross Regional Product of the Perth Metropolitan Area was $116 billion in 2010-11, which is about 9% of Australia's GDP. Perth is the centre of Australia's mining industries and is the headquarters for some of the largest mining companies in Australia, such as Rio Tinto and Woodside Petroleum. Perth has undergone an economic boom of many years duration which has attracted a growing population and focussed a new momentum to economic development opportunities on former urban fringe areas such as Armadale.

There is substantial industry in Perth's south eastern corridor. The Canning, Gosnells and Armadale areas produced 12% of Perth's total Gross Regional Product of $13.6 billion in 2011.

The largest industrial nodes in the corridor are located in the City of Canning and Gosnells, particularly the large Canning Vale and Welshpool industrial estates to which many Armadale residents travel to work.

The south-eastern corridor has an increasing population. The total population of the 4 LGAs was estimated at 272,141 in 2011, an increase of 40,000 people, or 17.2% over 5 years since 2006. Since 2006, when Armadale's population was estimated at 52,732 Armadale has had a similarly strong population growth.

Armadale has a mix of first homebuyers seeking affordable urban housing, and upgraders looking for larger homes and lifestyle opportunities in some of the well serviced new areas. New suburbs of Piara Waters, Harrisdale, Haynes and Hilbert are currently under development in the western part of the LGA and by 2031 the population of the City is expected to have doubled from the current level to 138,599. Some suburbs, particularly in rural hills locations, are affluent and attractive to educated, mature families in professional employment (Suburbs Figure 10).

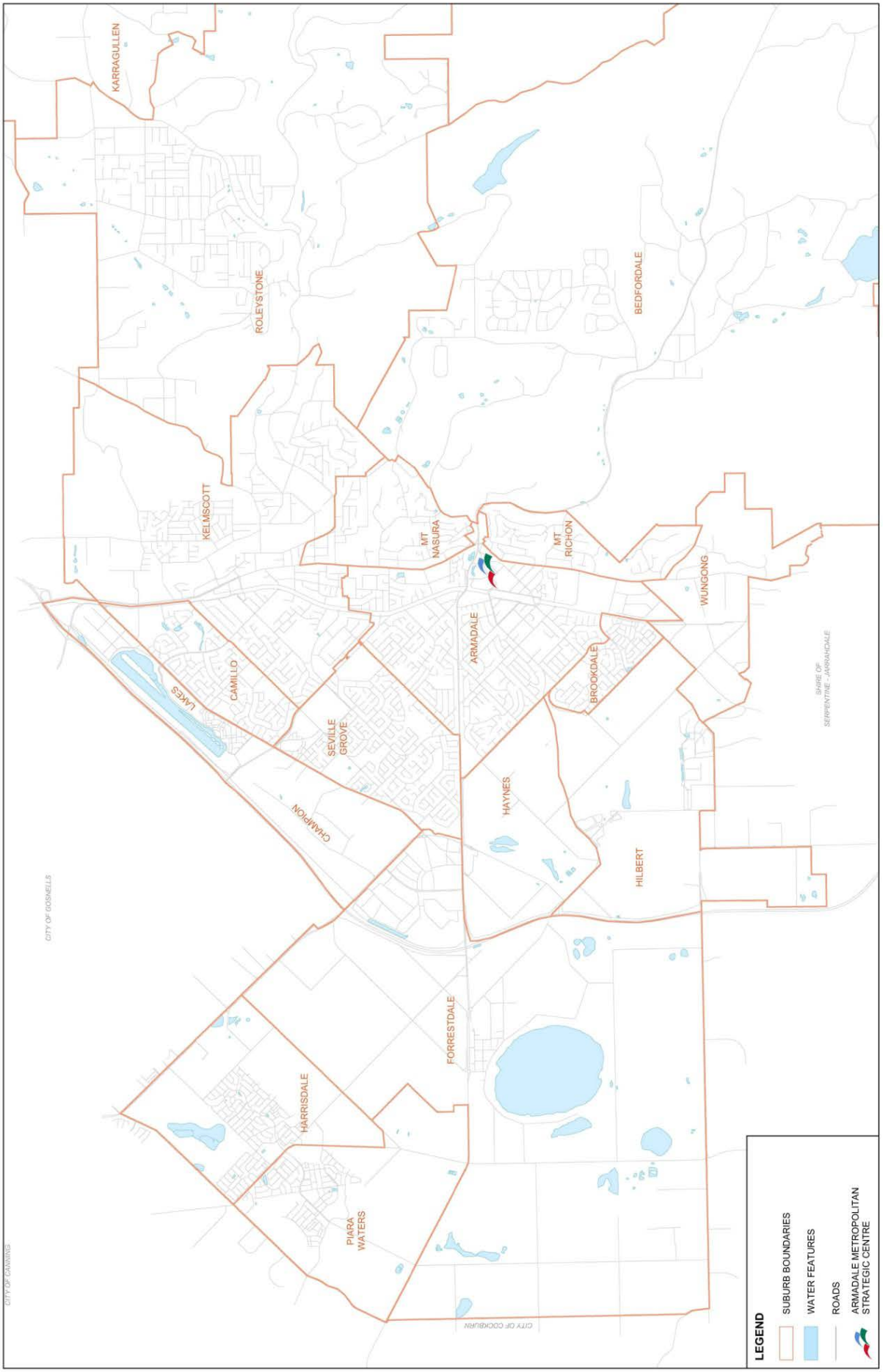


Figure 10 – Suburbs

Economic Objectives

A key economic objective of the Local Planning Strategy is to develop Armadale as a wealthy and sustainable economy based on the interplay between business and industrial activities, the City's growing population and workforce and in the context of its links to the economic development of the wider region and the State. The LPS complements the City's (2013) Corporate Economic Development Strategy 2013 – 2017 which provides an action plan to market the region to prospective business and industry and further develop the Armadale economy.

The Strategy gives a high priority to ensuring that the area remains attractive to businesses so that it can contribute to the prosperity of the community and strengthen the local economy. The siting of new Industrial Business Parks in Forrestdale and the strengthening of the Armadale Strategic Metropolitan Activity Centre located at the junction of the Albany and South Western Highways and on the Perth to Bunbury passenger rail line are particular actions focussed on this objective.

Establishing and upgrading of new and existing District Activity Centres at Kelmscott, Harrisdale (Forrestdale) and Hilbert (Wungong) and a new mixed business area at Champion Lakes and in existing industrial/mixed business areas at Armadale, Kelmscott and Harrisdale are also high priorities. Regional tourism is a sector that is also supported by the particular planning directions outlined in the Strategy.

Another priority is to increase the Employment Self Sufficiency and Employment Self Containment levels of the City of Armadale, through the attraction and development of industries and accompanying employment. The City's economic development accordingly has a focus on attracting higher value industries to the area, particularly those with opportunities to develop a career path. There is a need to diversify the mix of primary and secondary jobs available to the local and regional community. The City also needs to ensure educational opportunities are provided to ensure an appropriately skilled workforce to provide for operating and new industries and businesses attracted to the area.

The City's strategy recognises that land use and development for parts of the municipality remain governed by Metropolitan Redevelopment Authority (MRA) under the *Metropolitan Redevelopment Act (2011),* however, the LPS has been prepared with regard to and consistent with the MRA's objectives (Metropolitan Redevelopment Authority Areas Figure 11).

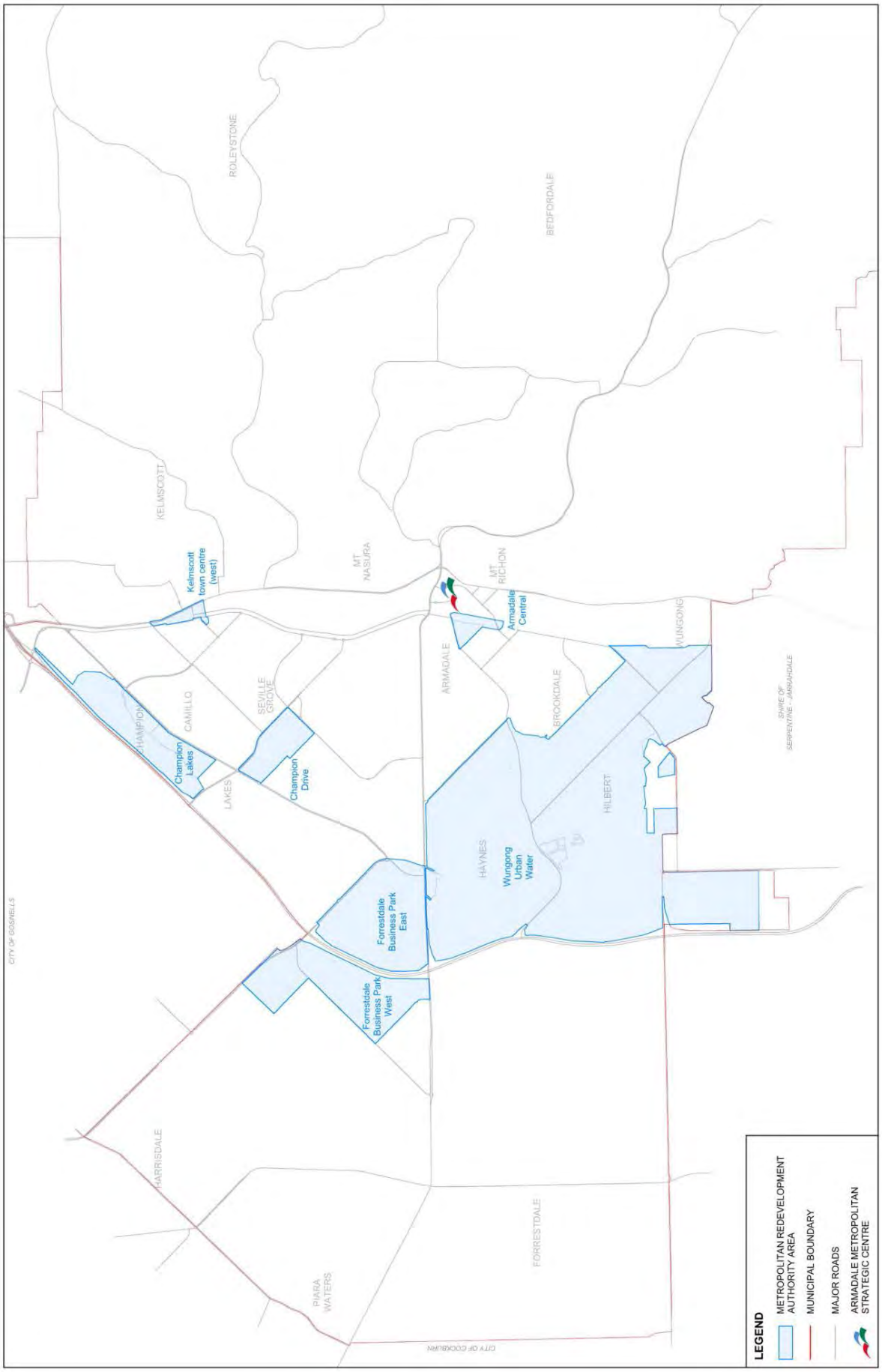


Figure 11 - Metropolitan Redevelopment Authority Areas

A summary of Armadale's current and recent economic characteristics is as follows:

- 3,692 registered businesses had an address in the City of Armadale in June 2009, mainly in small businesses, with 88% having less than 5 employees.
- Businesses headquartered in the City with more than 100 employees in June 2009 totalled 24 businesses.
- Armadale's headline Gross Regional Product was $1.55b in 2011, up sharply from $1.11b in 2006.
- Armadale's GDP growth came from a range of industries but particularly the Construction industry which increased (in value-added terms) by 87% or by $122m over 5 years and which associated with strong growth in new housing.
- Armadale's Gross Local Product (industry) was $1,340m in 2010-11, up by 36% over 5 years. However the Gross Local Product (residents) was much higher, at $2,491m, and up by 54% over 5 years.

- Armadale's largest industries by value-added in 2010-11 were:
  1. Construction ($262m)
  2. Health Care and Social Assistance ($182m)
  3. Retail Trade ($137m)
- Other strong growth industries over 5 years include Retail Trade (+$53m), Health Care and Social Assistance (+$55m), Manufacturing (+$41m) and Education and Training (+$33m).
- Armadale's largest industries by employment in 2010-11 were:
  1. Retail Trade (3,133)
  2. Health Care and Social Assistance (2,843)
  3. Education and Training (2,064)
- Armadale is projected to maintain the strong population growth of around 4-5% pa that has been evident since the 2006 Census.
- Approximately 16,400 people worked in the City of Armadale in 2011.
- 58% of Armadale's workers lived in Armadale in 2006, with self-sufficiency highest for Agriculture and Professional Services, and lowest for Government and Education.
- 14.6% of Armadale's workers had incomes in the top (25%) incomes quartile for Perth in 2006.
- 27.5% of Armadale's residents worked in Armadale with Accommodation and Food Services, and Education the sectors having the highest level of self-containment, while Mining had the lowest (includes FIFO workers).
- Armadale's workforce had a median age of 41.0 years in 2006, slightly higher than the Perth average of 40.0 years.
- Armadale's workforce has a very high part-time component, accounting for 44% of all workers in 2006 (34% across Perth) and likely due to a dominance of industries such as Retail, Health Care and Education.

In conjunction with the continuation of the Metropolitan Redevelopment Authority's project precincts the Local Planning Strategy supports the:

- provision of additional land for economic activities (industrial, commercial and business)
- establishment of home businesses
- continued advocacy, in liaison with the MRA, of greater decentralisation of tertiary employment to the City.

Further and more detailed information may be obtained by following the web links to relevant documents and tools from the City's web site listed below:

Economic profile –
http://economy.id.com.au/Default.aspx?id=293&pg=12000
or at
www.id.com.au/economy/armadale

Community profile –
http://profile.id.com.au/Default.aspx?id=293
or at
www.id.com.au/profile/armadale

Community atlas –
http://atlas.id.com.au/Default.aspx?id=293&pg=2005
or at
www.id.com.au/atlas/armadale

Population forecasts –
http://forecast2.id.com.au/Default.aspx?id=293&pg=5000
or at
www.id.com.au/forecast/armadale

Online Mapping -
http://www.armadale.wa.gov.au/Home/Services_and_Facilities/Online_Mapping

The information and tools listed above, together with information on the City's services, publications and links including the City's (2013) Corporate Economic Development Strategy 2013 – 2017 are all directly accessible from the City's web site address at www.armadale.wa.gov.au

Key Issues

The key issues for future planning directions and the City's goals and objectives are analysed in the individual strategies included in this Local Planning Strategy addressing key issues as follows:

- Housing and Urban Development
- Heritage
- Changes to the Metropolitan Redevelopment Authority jurisdiction
- Activity, commercial and retail centres
- Hills orchards
- Hills rural landscapes
- Bushfire protection
- Biodiversity

The key future planning directions and issues highlighted above have previously been canvassed in a range of surveys commissioned by the City of Armadale or published discussion paper consultation documents. All issues have also been discussed in State government planning strategies and highlighted through Councillor's Armadale community member liaison. Feedback on an initial Local Planning Strategy consolidated discussion paper provided by elected members was also used to refine issues and address future planning directions. Future planning directions have been formulated under the strategy headings as follows:

- Housing Strategy
- Urban Development Strategy
- Heritage Properties Planning Strategy
- Metropolitan Redevelopment Authority Normalisation Strategy (formerly ARA areas)
- Activity and Retail (Commercial) Centres Strategy
- Hills Orchards (Karragullen/Roleystone) Strategy
- Rural Hills Visual Landscape Strategy
- Bushfire Protection Strategy
- Biodiversity Strategy

Housing Strategy
1. Introduction

Housing is probably the single most critical area for most town planning scheme reviews. This is because everyone has a stake in the outcome and because it is the key area where government seeks to influence urban development patterns through policy. This section of the Review will assess the strategic focus on housing and indicate recent patterns and future likely demands.

The City has engaged consultants to undertake its population and dwellings projections. .id Consulting Pty Ltd (Forecast.id) undertook a detailed assessment in discussion with City officers and landowners to determine the likely capacity and timing of land development in newly developing areas. Estimates have also been factored in relating to established areas. Accordingly the Forecast.id estimates have been used as the main basis for determining the extent to which the City will meet the targets set by Directions 2031 and other State policies. The main focus of this Housing Strategy is therefore directed to an assessment of the Scheme provisions and codes and their suitability.

2. Recent Development Patterns

The 2005 Local Planning Strategy predicted that Armadale would grow due to the greater confidence in the region resulting from the extension of the Tonkin Highway, the lifting of Urban Deferment in Brookdale, development in Forrestdale and development consequent upon the infill sewerage program.

The City has seen the creation of new lots at a faster rate than in the past, although there was a fall in the lots produced within the region compared to those expected under the Metropolitan Development Program. Over the past five years the City has produced 43% of the lots produced in the SE Sector and 8% of those produced in the metropolitan region.

As shown in Table 1 there has been a gradual increase in the number of lots produced each year. This is also reflected in the number of new dwellings approved as illustrated on Figure 12.

Table 1 - Residential Final Lot Approvals 2006/07 - 2011/12

	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12
Armadale	649	912	854	791	833	761
Gosnells	1093	1119	595	406	608	462
S-J	292	353	179	98	321	316
SE Sector	2034	2683	1628	1295	1762	1539
Perth Region	13463	11696	6115	7816	10193	9598

State Lot Activity, WAPC

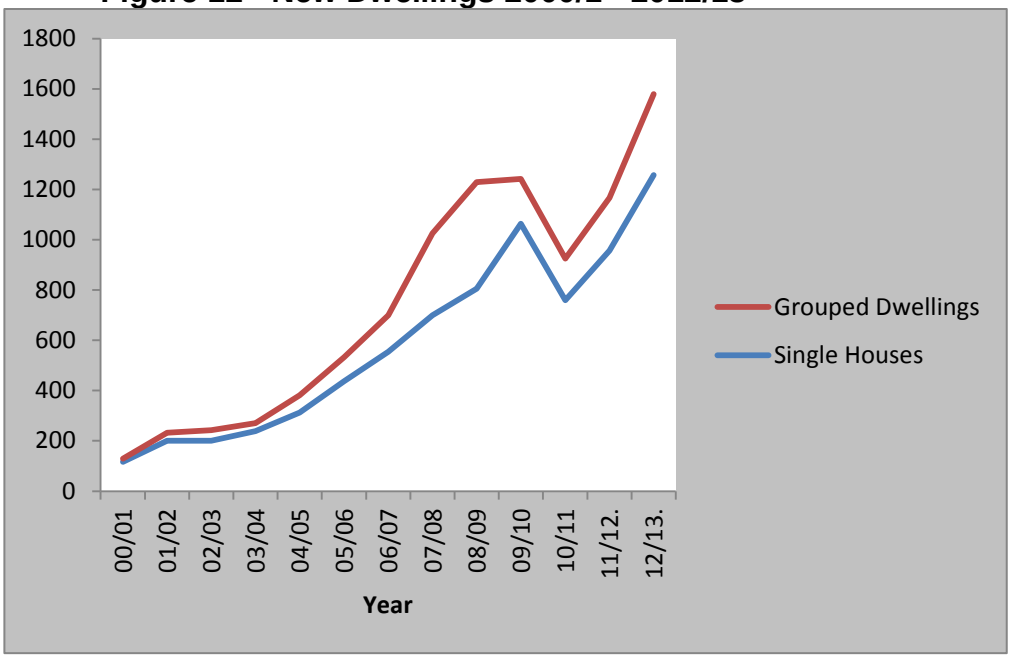
In addition to the creation of new lots, over the past five years the City has seen the creation of an average of over 250 of strata lots a year resulting from the creation of grouped dwelling developments (as shown of Table 2). Taking green title with strata title lots in total over the past five years over 1220 new lots per year have been created in the City of Armadale.

Table 2 - Grouped Dwelling Units 2004/05 - 2011/12

	2006/7	2007/8	2008/9	2009/10	2010/11	2011/12
Group Dwelling Units	146	326	424	200	166	210

City of Armadale 2012

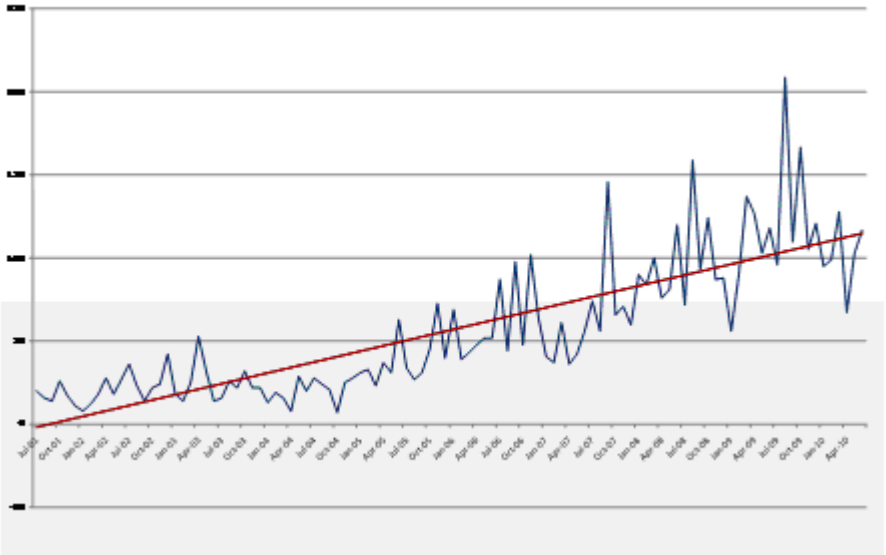
Figure 12 - New Dwellings 2000/1 - 2012/13



City of Armadale 2011

Figure 12 illustrates the total grouped and single housing development that has occurred in the City over recent years indicating a rapid increase from a stagnant situation.

Figure 13 - Dwelling Approvals 2001-2010



Forecast.id 2011

The plotting of building approvals on a quarterly basis on Figure 13 illustrates that notwithstanding the monthly variations there has been a clear upward trend in building approvals over the past decade.

Table 3 provides data from those lots redeveloped over recent years. This indicates that in recent years up to 25% of the City's total new building has been in established areas.

Table 3 - Infill Development 2005-2011

Locality	2005	2006	2007	2008	2009	2010	2011	TOTAL
Seville Grove		16	74		14	2		106
Mt Richon			1					1
Mt Nasura				6	6	4		16
Kelmscott	1	30	38	88	145	26	8	336
Camillo		1	1	17		1	1	21
Armadale	26	79	68	160	83	73	272	761
Piara Waters					4	12	3	19
Harrisdale			2	7	30	27	2	68
Brookdale					3	1		4
TOTAL	27	126	184	278	285	146	286	1332

City of Armadale 2011

3. Current and Projected Population

The 2005 Local Planning Strategy estimated the population of the City to be 50,108 at the 2001 Census and projected forward to 2016 when it was estimated that the City would grow to 66,800. This was seen as a substantial growth, however, it was noted that the City's share of the total SE Corridor population would decline slightly over the period reflecting the City's maturity as land stocks are developed and the urban fringe develops to Byford and Mundijong. Assuming an occupancy rate of 2.7 the projected future additional 16,692 people were expected to require an additional 6,182 new dwellings.

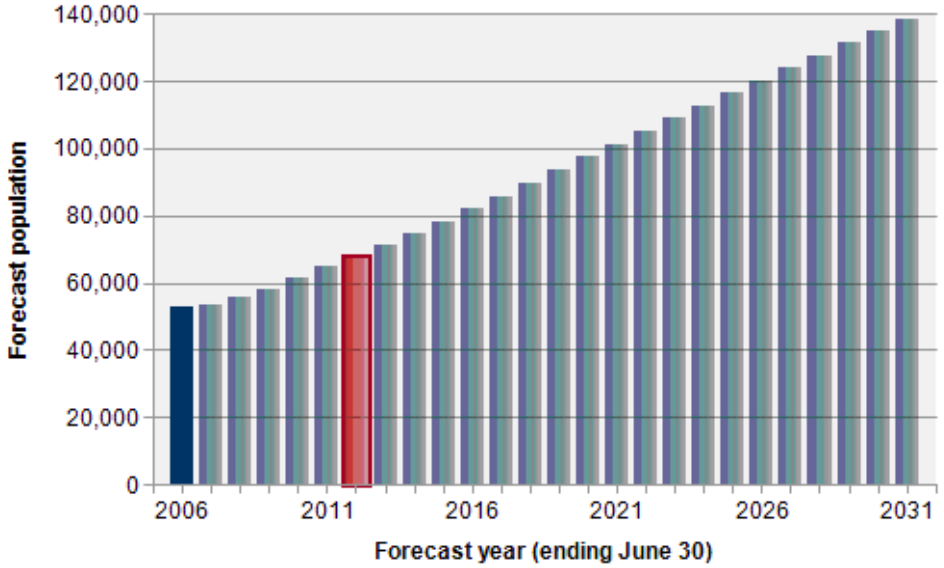
Since 2005 expectations of City growth have been substantially revised upward. The 2005 Strategy underestimated the potential of the City to accommodate significant urban growth. The City's projections are now well in excess of those expected at the time of the 2005 Local Planning Strategy as illustrated on Table 4. Growth in the whole SE Sector is expected to be substantial (it is noted that the revised 2012 WAPC WA Tomorrow middle range (Band C) projections indicate a SE Sector 2021 population of 245,600). It should be noted that the "Band E" WA Tomorrow projections indicate numbers in excess of .id forecasts 2026 projection for the total SE Sector (311,900).

Table 4 - Population Growth Projections

.id forecasts[1]	2006	2011	2021	2026	2031
Armadale	52734	65281	102271	121079	138126
Gosnells	95743	109210	126268	134269	141919
S-J	13353	19825	36030	43480	51094
SE Sector (.id)	161830	194316	264569	298828	331139
WAPC forecasts[2]					
Armadale	52700	63700	83600	93400	
Gosnells	95700	111700	130500	139000	
S-J	13400	18600	31500	38300	
SE Sector (WAPC)	161800	194000	245600	270700	

Source: Id Forecasts 2012[1], WA Tomorrow Band C (WAPC 2012)[2]

Figure 14 - Forecast Population - City of Armadale



It should be recognised that there is a considerable variation in the projections available as shown on Table 4. It is appropriate for the WAPC projections to be generally adopted by the State, however, it is considered that the Forecast.id projections, being based on greater local knowledge, are a better basis for planning in the City of Armadale. At worst, the additional development indicated in these projections would be delayed rather than forestalled.

It is clear that the projection to 2016 made in the 2005 Local Planning Strategy was too conservative in both population growth and housing demand. Instead of a 2001-2016 population growth of 11,480 the expected change is now projected to be 27,315 2001-2016 and a further 55,511 (2031).

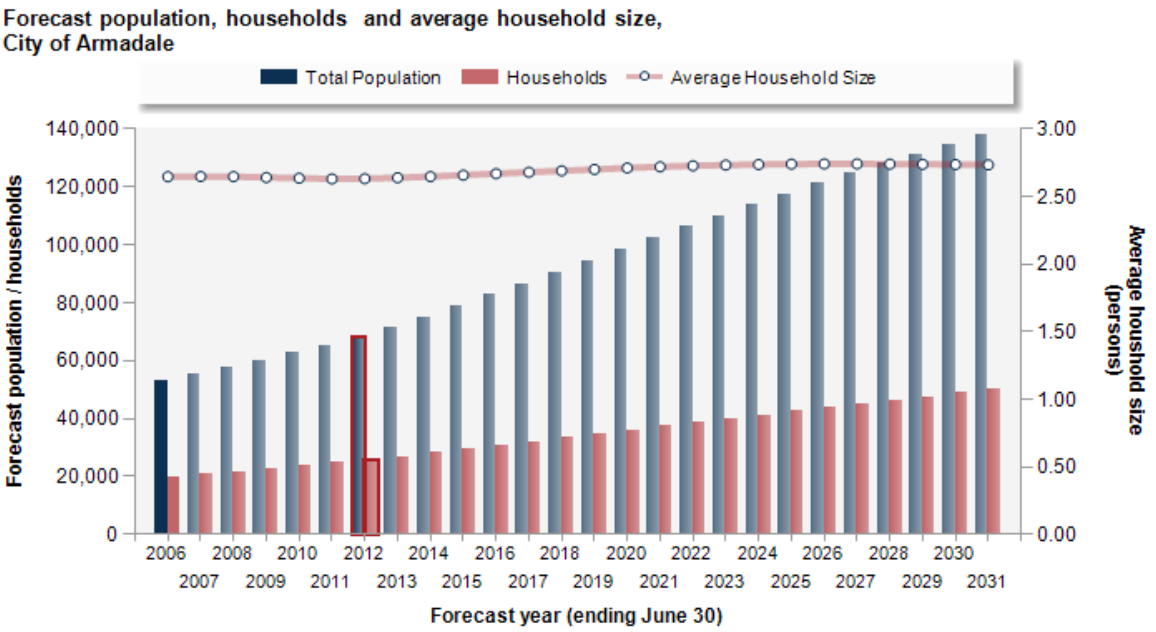
The distribution of this population and households by localities is tabled on Tables 5 and 6. Clearly it is the new suburbs in North Forrestdale (Harrisdale and Piara Waters) and Wungong (Haynes and Hilbert) that account for the most significant future growth.

Table 5 - Summary Results - Population 2006-2031

Area	Pop. 2006	Pop. 2031	Change in Pop.	Av. Annual Change (%)
City of Armadale	52,732	138,126	85,550	3.93
Armadale North	5,200	8,027	2,534	1.75
Armadale South	7,315	10,563	3,489	1.48
Bedfordale-Ashendon-Illawarra	1,867	3,264	1,506	2.26
Brookdale-Wungong	2,579	6,563	3,744	3.81
Camillo	4,748	5,230	448	0.39
Champion Lakes	541	2,274	3,632	5.91
Forrestdale	1,142	1,670	583	1.53
Harrisdale	84	12,049	11,307	21.97
Haynes	150	8,347	8,437	17.44
Hilbert	362	23,681	20,998	18.20
Kelmscott East	5,320	7,203	1,950	1.22
Kelmscott West	4,523	6,873	2,567	1.69
Mount Nasura-Mount Richon	5,041	5,698	675	0.49
Piara Waters	95	16,706	17,963	22.97
Roleystone-Karragullen-Lesley	6,524	7,829	1,267	0.73
Seville Grove	7,242	12,149	4,450	2.09

Forecast.id 2012

Figure 15 - Forecast Population, Households and Average Household Size - City of Armadale



4. The Supply of Dwellings

The expectations in respect of lot production and resulting dwellings are illustrated on Figure 16 and Tables 6-8.

Figure 16 - Forecast Residential Development - City of Armadale

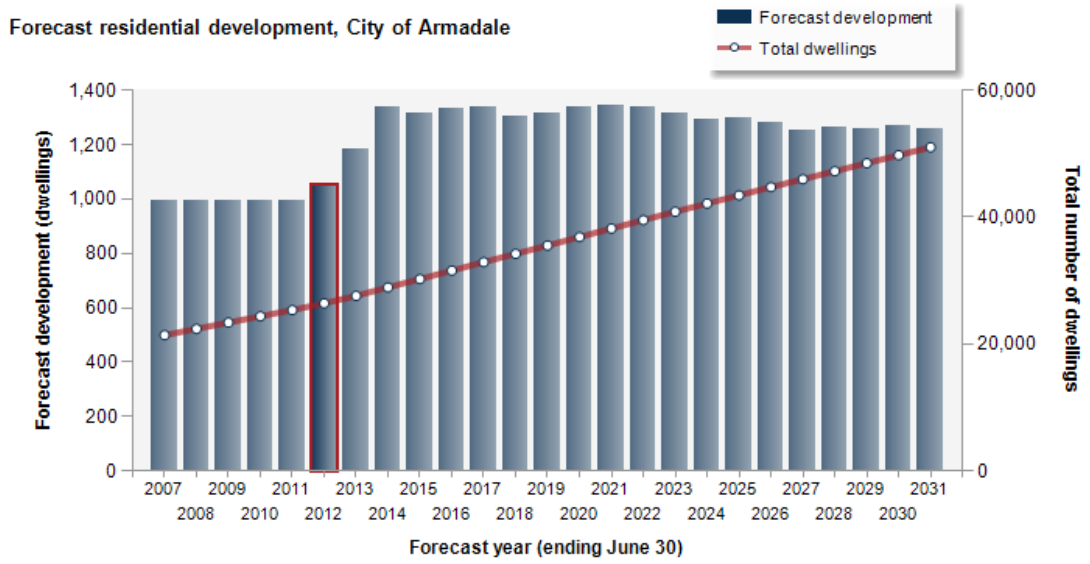


Table 6 - Projected Households 2006 - 2031

Area	Hholds 2006	Hholds 2031	Hholds change	Av. Annual Change (%)
City of Armadale	19,751	50,947	29,284	3.9
Armadale North	2,157	3,377	1,133	1.8
Armadale South	3,043	4,518	1,563	1.8
Bedfordale-Ashendon-Illawarra	632	1,138	540	2.4
Brookdale-Wungong	838	2,199	1,311	3.9
Camillo	1,743	2,015	294	0.6
Champion Lakes	194	821	1,210	5.9
Forrestdale	394	613	217	1.8
Harrisdale	41	3,949	3,765	20.1
Haynes	64	2,778	2,602	16.3
Hilbert	104	7,339	6,283	18.6
Kelmscott East	2,032	2,772	691	1.6
Kelmscott West	1,809	2,840	1,067	1.8
Mount Nasura-Mount Richon	1,922	2,297	314	0.7
Piara Waters	40	6,208	6,022	22.4
Roleystone-Karragullen-Lesley	2,360	2,970	561	0.9
Seville Grove	2,378	4,214	1,710	2.3

Forecast .id 2012

Table 7 - Summary Projection Data 2006 - 2031 - City of Armadale

	2006	2011	2016	2021	2026	2031
Population	52,734	65,281	82,615	102,271	121,079	138,126
Change in Pop (5yrs)		12,547	17,334	19,656	18,808	17,047
Av. Annual change (%)		4.36	4.82	4.36	3.43	2.67
Households	19,754	24,578	30,624	37,206	43,727	50,047
Av.H/H size (persons)	2.65	2.63	2.67	2.72	2.74	2.74
Population in private dwellings	429	598	848	1,028	1,168	1,238
Dwellings	20,398	25,352	31,572	38,210	44,737	51,038
Dwelling occupancy rate	96.84	96.95	97	97.37	97.74	98.06

Forecast.id 2012

Table 8 - Projected Residential Development - City of Armadale

Year	Dwelling Commencements	Structural private dwellings (inc commencements)	% change from previous year
2007	991	21,388	4.9
2008	991	22,379	4.6
2009	991	23,370	4.4
2010	991	24,361	4.2
2011	991	25,352	4.1
2012	1,051	26,403	4.1
2013	1,183	27,586	4.5
2014	1,338	28,924	4.9
2015	1,316	30,240	4.5
2016	1,332	31,572	4.4
2017	1,337	32,909	4.2
2018	1,306	34,214	4.0
2019	1,314	35,529	3.8
2020	1,337	36,866	3.8
2021	1,344	38,210	3.6
2022	1,339	39,549	3.5
2023	1,318	40,867	3.3
2024	1,291	42,158	3.2
2025	1,299	43,457	3.1
2026	1,280	44,737	2.9
2027	1,254	45,991	2.8
2028	1,261	47,252	2.7
2029	1,258	48,510	2.7
2030	1,271	49,781	2.6
2031	1,257	51,038	2.5

Forecast.id 2012

It is expected that the availability of housing will determine (in large part) the households and population of the City. The projection of households is generally used as a proxy for projecting dwellings - which is appropriate in the Armadale geographical situation where the Perth Region's growth demands that such localities cater for the predicted metropolitan demand.

Over the next ten years (2011-2021) it is expected that 12,858 additional dwellings will be built within the City, (an annual average of 1,286) with 12,828 in the following decade.

It is the 1286 dwellings per annum that will be the predominant drivers of population growth because in a City such as Armadale, the cause of population growth is very largely the availability of housing. In this case the focus of the housing strategy should be to identify the implications of the expected growth rather than to argue for a certain housing provision.

From estimates provided by Forecast.id based upon developer intentions and aerial photography (2006-2014) and assumed residential development rates based on Forecast.id capacity assessment, recent development rates and intelligence from major developers (post 2014) the following estimates are provided.

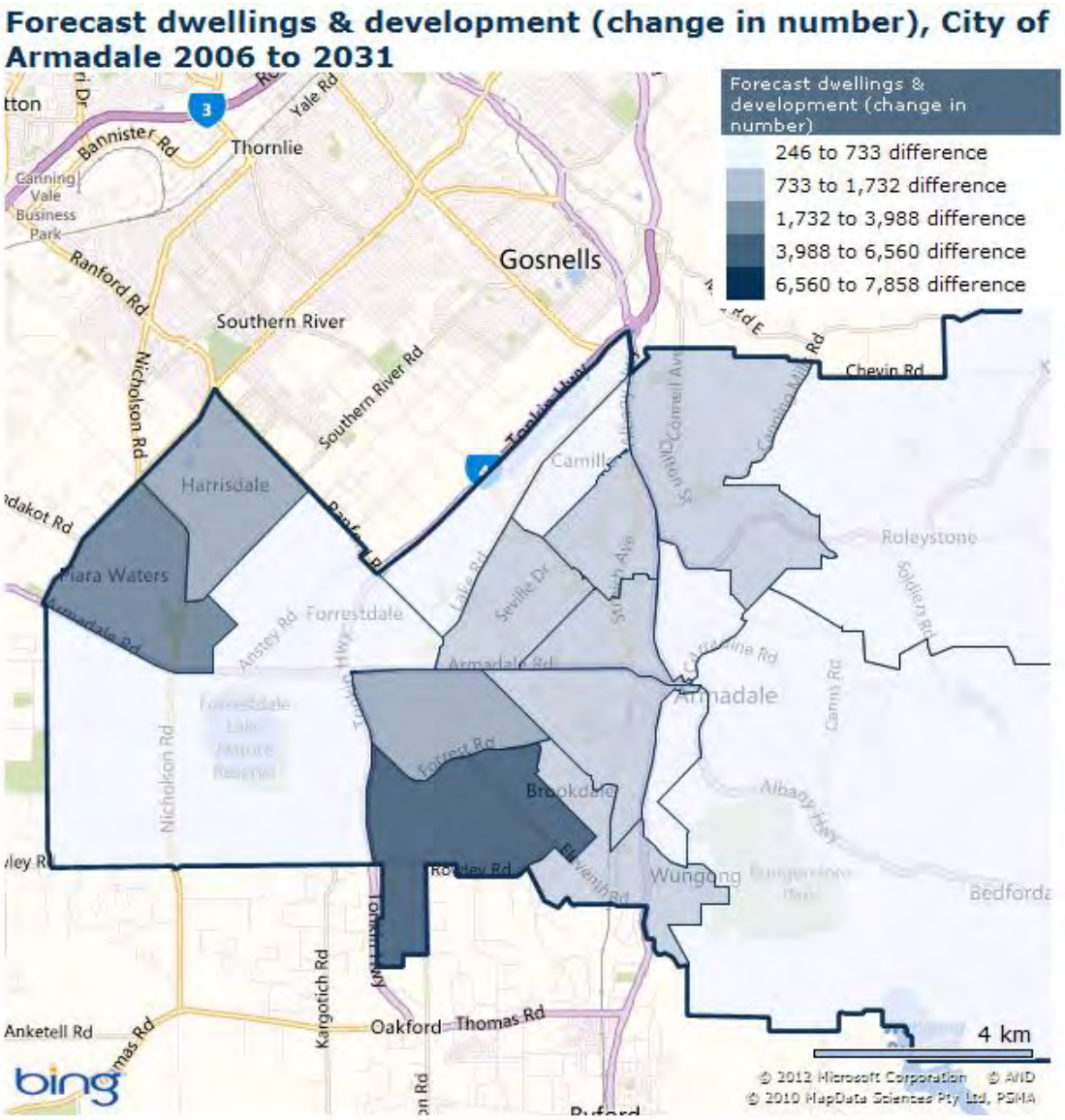
Table 9 - Estimated Additional Dwellings by Locality 2011-2031

Locality	**Additional Dwellings 2011-2031**
Armadale North	905
Armadale South	1261
Bedfordale-Ashendon-Illawarra	355
Camillo	245
Champion Lakes	578
Forrestdale	192
Kelmscott East	669
Kelmscott West	3253
Mount Nasura-Mount Richon	262
Roleystone-Karragullen-Lesley	364
Seville Grove	958
TOTAL INFILL	**6497**
Brookdale-Wungong	1223
Harrisdale	2573
Haynes	2772
Hilbert	7249
Piara Waters	5375
TOTAL GREENFIELD	**19187**
TOTAL 2011-2031	**25684**

Source: Forecast.id 2012

Table 9 indicates that of the total dwellings expected to be built in the City between 2011 and 2031. 25% would be characterised as Infill while 75% would be Greenfield.

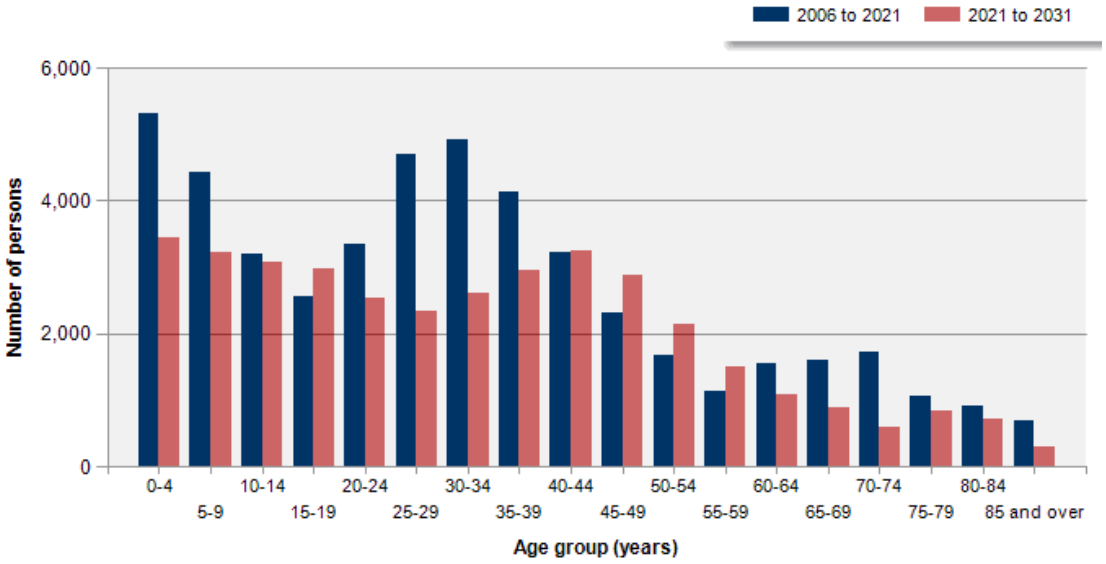
Figure 17 - Forecast dwellings and development (change in number) - City of Armadale 2006-2031



5. Forecast Changes to the Population's Age Structure

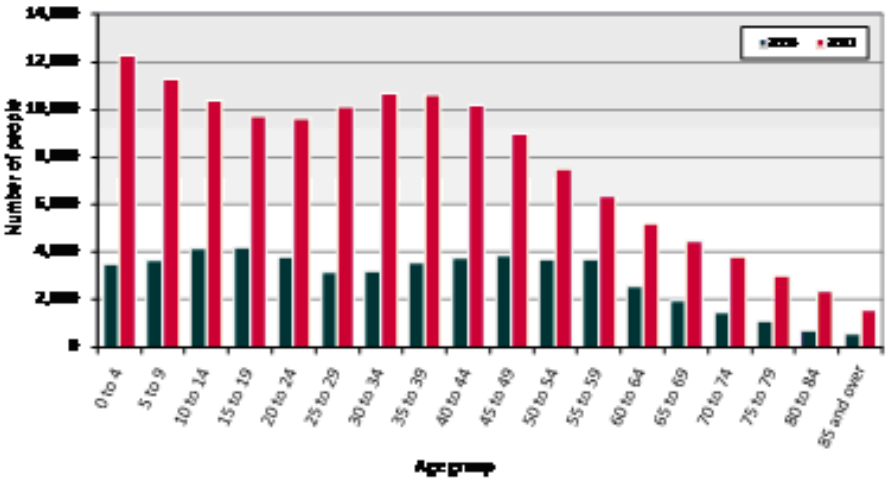
The main growth areas in the age structure will be the under tens (13.6% in 2006 to 15% in 2031) and the over 65s (11.1% in 2006 and 13% in 2031). As illustrated on Figure 18, these trends will be particularly pronounced in the earlier years.

Figure 18 - Forecast Change in Age Structure



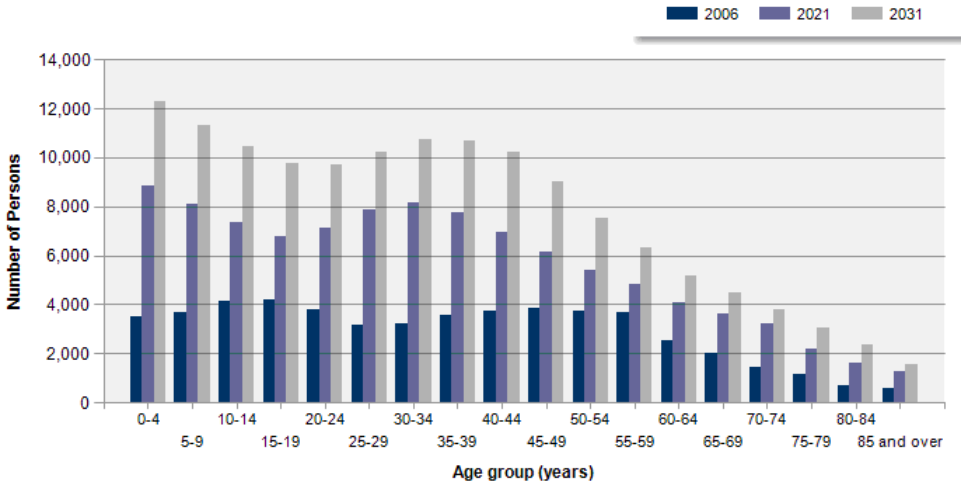
Figures 18 to 20 show the expectations that growth will be most pronounced amongst the young (less than 15 age group) and younger middle aged between 2006 and 2021 and amongst those in their teens and later middle aged between 2021 and 2031.

Figure 19 - Age Structure 2006 and 2031



Forecast.id 2011

Figure 20 - Forecast Age Structure



Interestingly it is not expected that the character of households will change dramatically. The City will continue to be characterised by family-type households. The proportion of both lone parent families and single person households are expected to fall while traditional couple families with dependents is expected to increase (see Figures 21 and 22).

Figure 21 - Households by Type - 2006, 2016 and 2031

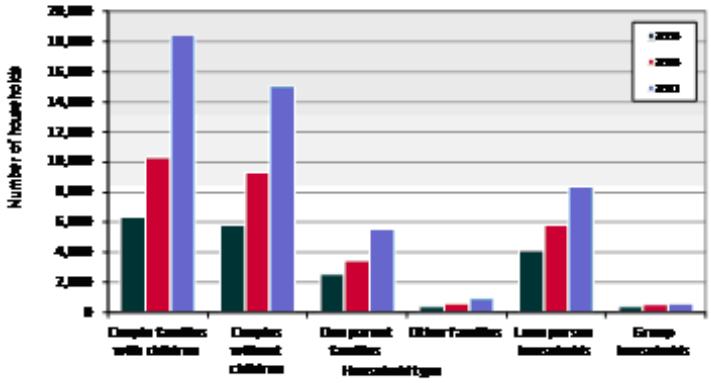
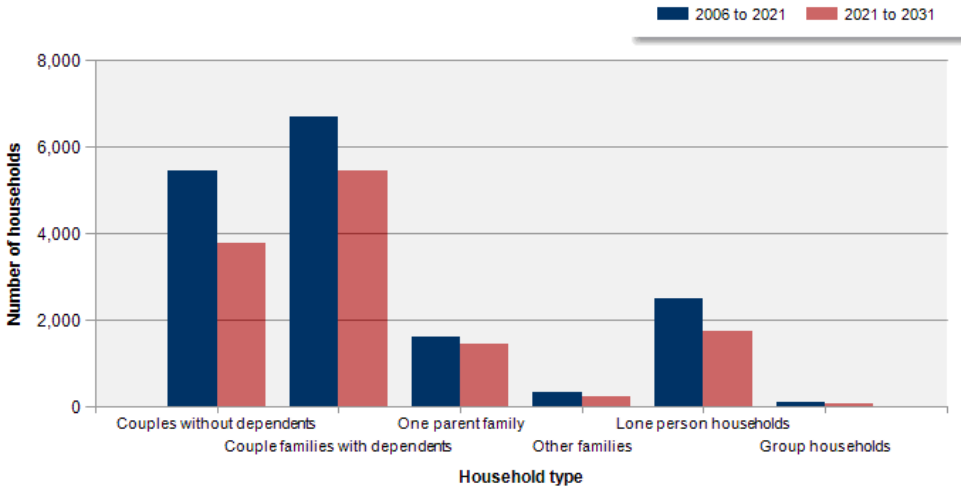


Figure 22 - Forecast Change in Household Types



Demographically the population has continued to mature as predicted with those aged over 65 growing from 9.4% in 2001 to 11.3% in 2006. In addition the number of single person households has continued to grow from 17.9% in 2001 to 22.1% in 2006. The demographic trends identified in the 2005 Local Planning Strategy with the implications for providing a wider range of housing types have been confirmed from the 2006 Census results.

Housing occupancy rates are expected to slightly increase in future years from the 2006 figure of 2.65 to 2.74 in 2031 (Table 7). This is because of the predominance of larger or traditional families moving into the new housing stock. Notwithstanding, it is recognised that there is a need for a greater supply of smaller dwellings with one or two bedrooms and strategies are needed to support this. It is noted that Directions 2031 Report Card establishes a target of 10% of dwellings being one bedroom and 15-20% being for two bedrooms in the outer sub-regions. At the 2011 Census these dwellings only represented 2.5% and 6.4% of the dwelling stock respectively.

6. Assessment alignment with State Government Policy

Directions 2031 and Beyond (WAPC 2010) provides the metropolitan strategic framework within which to review the City's approach to planning for future housing. On pages 22, 46 and 47 of the document it states that there is a need to:

- *Plan for increased housing supply in response to changing population needs.*
  - *Target locations for future urban growth such as in and around retail and employment centres, transit orientated developments and high frequency public transport corridors; and*
  - *Apply higher R-codes in strategies and schemes within areas that have close proximity to educational institutions, community facilities and services such as hospitals, medical centres and libraries.*
  - *It is noted that this does not mean across-the-board increases in density throughout established suburbs.*
- *Promote and increase housing diversity, adaptability, affordability and choice.*
  - *SPP 4.2 requires minimum residential densities to ensure that the benefits of providing affordable and diverse housing will be maximised in activity centres.*
- *Ensure urban expansion occurs in a timely manner in the most suitable locations.*
  - *The urban expansion management program is expected to ensure sufficient supply.*
- *Promote higher densities in Greenfield development.*
  - *As the outer sub-regions mature, infill and redevelopment will become increasingly viable alternatives to new Greenfield development.*

On page 92 of the document under "Implementation" it is proposed that local housing strategies be developed or amended to complement the *Directions 2031 and Beyond* objectives. This Local Housing Strategy review has been undertaken in this context.

Directions 2031 and Beyond requires that the SE Corridor would provide 35,000 additional dwellings up to 2031. This figure (which is the target for the Cities of Gosnells and Armadale and the Shire of Serpentine-Jarrahdale together) is likely to be easily met even if as much as 50% of the sector total was allocated to Armadale. Later estimates published in the *Outer metropolitan Perth and Peel sub-regional strategy* (WAPC 2010) indicates an expected supply of new dwellings in the City of Armadale of between 24,600 and 32,800 depending on the Business as Usual or Connected City scenario. The ratio of Greenfields to Infill development was between 70:30 and 75:25 in the scenarios.

More specific targets have been more recently set by Delivering Directions 2031, Annual Report Card, DoP 2012 (listed on Table 10). Under these targets the City's growth in dwellings is projected to exceed the targets by 125%.

Table 10 - Achievement of Directions 2031 Dwelling Targets

	2011-2016	2026-2021	2021-2026	2026-2031	Total 2011-2031
DoP Targets*	3980	2790	2560	2070	11400
CoA Projections	6220	6638	6527	6327	25686
Excess over target	2240	3848	3967	4257	14286

*Directions 2031 Annual Report Card 2012, DoP 2012

The projected additional dwellings exceed those targets established in the DoP document, wherein the City's housing target for 2011 – 2031 was set at 11,400 dwellings of which 30% (3420) should be infill. It is expected that the Directions 2031 Infill target number will be exceeded by 90% based on current codings, although this will not represent 30% of the absolute total in view of the much greater total development occurring within the City than has been predicted by DoP. The Strategy has indicated some raised codings in areas lending themselves to Transport Orientated Development (TOD) which will, if implemented, raise the infill proportion. Specific TOD areas within 400m of the Challis and Sherwood railway stations are proposed to be upcoded to R15/40.

It is concluded from the future dwelling targets set out in the Annual Report Card and summarised on Table 10, that the estimated dwellings expected within the City will be met (and in terms of the *Directions 2031* and subsequent publications) exceeded.

Achievement of the *Directions 2031* objectives has been the focus of the City for the past five years. The earlier strategies (Metroplan, Future Perth and Network City) included similar approaches towards infill development, matching population with housing supply and generally promoting higher density housing. The Housing Strategy has provided confirmation that the targets set for the SE Sector will be met by the City of Armadale.

The actual capacity of the City to accommodate more houses than projected to be provided by 2031 is quite large and will depend upon whether historical density or higher rates are achieved. Estimates provided on Table 11 use the density scenarios provided in the DoP Urban Growth Monitor 2011 to estimate the City's capacity. While recent developments in Harrisdale have achieved 12 dwellings per hectare the Directions 2031 greenfields target density of 15 dwellings per hectare is proving difficult to achieve despite significant falls in lot sizes. Constraints (which are detailed below) such as powerlines, drainage and environmental buffers lower the achieved densities even where lots are predominantly less than 400m2.

The early Harrisdale and Piara Waters estates provided over 14% Public Open Space which was largely due to land intensive water sensitive design initiatives which receive reduced POS credits. The early estates produced a density of 11.2 lots per ha. Comparatively if the estates could have only provided 10% POS they potentially would have produced higher densities in the order of 12.4 lots per ha based on the additional developable land area. Since then lot sizes have fallen however other constraints are limiting the degree to which higher densities can be achieved.

As the development area has matured, seasonal variations observed and practicalities realised, the constraints on available and useable open space areas from the encroachment of drainage are being greater understood. Stricter landscaping and public open space crediting is occurring as a result which could cause minor encumbrances to the developable area of an estate further increasing the percentage of developable land required for drainage restricted POS. With this also comes further refinement at the design stage to reduce the significant maintenance and renewal burdens the City is experiencing as a result of additional and higher specification POS.

The significant land fragmentation and ownership is a considerable burden to development in Harrisdale and Piara Waters. The larger centrally coordinated developments produce higher densities as the developer has more flexibility to concentrate land take, whether for POS, drainage or servicing.

Reduced road reserves have in some situations facilitated higher development densities. However, the method in which the reduced road reserves are achieved is undesirable and the occurrence of such development methods may be restricted in future stages. Reduced road reserves are achieved by retaining batter rather than battering the fill within the road reserve which burdens the City with significant asset management and renewal costs. In addition, certain forms of median swale treatments reduced to restrict the land requirement results in additional ongoing maintenance costs to the City, the funding of which is unsustainable. In particular, the new estates in Harrisdale and Piara Waters are generally encompassed by Bush Forever sites which prohibit the battering of fill within the sites. Due to the asset renewal cost, the City cannot accept retaining of the batter along the Bush Forever site, therefore, the developer is required to cede additional land as road reserve to accommodate the batter.

The City has also found that its traffic volume predictions have significantly increased from when modelling was first undertaken by developers. The smaller lot product has been factored in to the later modelling which is compounded by a low level of public transport servicing, and this has considerably increased traffic volumes and as a result wider road reserves are necessary which would have some impact gross densities.

Table 11 - Potential Dwelling Yield from Future Development

	Area (Ha)	Directions 2031 15dph	Historical 10dph	UDIA Scenario 12dph	Comment
Harrisdale/Piara Waters (Urban Development)	806	12,090	8,060	9,672	Likely to be mostly developed by 2031.
Wungong (Urban 196ha, Suburban 635ha)	831	12,465	8,310	9,972	Two thirds expected to be developed by 2031.
Potentially suitable*	450	6,750	4500	5400	Development likely to be advanced on some projects.
TOTAL	2,087	31,305	20,870	25,044	

*Includes land within Southern River/Forrestdale/Brookdale/Wungong Structure Plan (WAPC 2000) and where rezoning processes have commenced or are likely to commence over the next 5 years.

State Planning Policy 4.2, *Activity Centres for Perth and Peel*, was updated and published in August 2010. The policy has some implications for the City's Housing Strategy in view of the additional emphasis being placed on higher residential density within 800m of the Strategic Metropolitan Centre (at R60-R100) and within 400m of the District Centre (at R40-R60).

The Policy also emphasises the need to encourage mixed land uses within the centres. TPS No.4 coded land proximate to the Armadale CBD and the Kelmscott District Centre for up to R40. It is necessary to consider the increase of potential residential density within walking distance of these centres.

The planning control over the Strategic Regional Centre was returned to the City from the Armadale Redevelopment Authority in late 2011. As part of this process the Scheme was amended to provide for the Strategic Regional Centre, Mixed Business/Residential zoning of the centre and the designation of Restricted Use areas with guidelines for development set out in Schedule 3 of the Scheme. Scheme clauses to guide development were provided under Part 5C of the Scheme and zone objectives were provided for the Strategic Regional Centre to promote mixed uses and residential development up to R80 in accordance with the R-AC3 Code. The Scheme clauses refer to the possible adoption of Design Guidelines and a Centre Plan which may be prepared to guide development. The City will prepare a Centre Plan for the centre and this will address residential density issues.

Additional state government policies of relevance to the City's housing strategy include Liveable Neighbourhoods (which will continue to guide the design of new greenfields development) and the Government Sewerage Policy – referenced in the following section.

7. Infrastructure Issues

The estimates of future dwelling provision are expected to be achieved without servicing constraints. However, there are certainly constraints that will need to be taken into account and it would be desirable to overcome.

The low density Hills suburbs such as Roleystone, Mount Richon and Mount Nasura are zoned R5 and R2.5. These areas offer low density living environments and at this stage no argument is presented for the provision of deep sewerage and resulting increase in density potential.

However, there are a number of unsewered areas in the foothills where the base coding is R10. In these areas the lack of deep sewerage is a significant constraint to further infill development.

As illustrated on Figure 23 – Unsewered Residential Lots – portions of Mt Richon, Mt Nasura and Kelmscott (Clifton Hills) remain unsewered. The Government Sewerage Policy prohibits development at a density exceeding R12.5 or where there is a greater density than one dwelling per 700m^2 where land does not have access to deep sewerage. The zoning (coding) requirements of the town planning scheme provide for split coding but limit the access to the higher code to lots connected to deep sewer. Provisions are set out under clause 5.2.5 of the town planning scheme and clause 4.1 of the local planning policy PLN3.4.

The only areas coded under the town planning scheme for a density in excess of that allowed by the Government Sewerage policy are those north of Martin Street and east of Clifton Street in Kelmscott coded R15/25. Advice from the Water Corporation is that these unsewered areas are unlikely to be included in any foreseeable backlog sewerage program and accordingly the amendment to the coding to limit development to R12.5 would be supported. On the other hand there may be merit in retaining the codings and to continually advocate backlog sewerage, thereby keeping options open for the future.

The Forrestdale townsite (zoned Residential R12.5/25) is also unsewered and the high water table and proximity to Forrestdale Lake (a Ramsar wetland) strongly suggests prioritisation for inclusion in the backlog sewerage program.

The Water Corporation has advised the City that:

- Higher density infill development in the identified higher coded areas of Armadale and Kelmscott can be accommodated within the existing water mains and sewerage infrastructure.

- The extension of the urban zone to accommodate future residential development west of Lake Road, north of Forrestdale, within the Ranford Road precinct and within the Canning River precinct can be accommodated within the Water Corporation's water and sewerage planning.

- Pries Park Road - Water would need to be serviced from the north where Connell Ave turns away from Tonkin Highway (near Broadhurst Road). In view of Lot 33 being used for recreation there is no current plan to service the area with sewerage.

- Champion Lakes Special Residential area. Water is planned for and only reticulated mains would be required. While wastewater is planned for, no sewerage service currently exists. A Pump Station would be required.

- South of Champion Lakes (between Lake Road and Wungong River). Water is planned for but DN300 headworks water mains would be required to service the area. Wastewater is planned for but DN300 headworks sewer mains and reticulated sewers would be required to service the area.

- Land between Warton Road and the current urban zone in Piara Waters. Neither water or wastewater are currently planned for although it is possible that the area could be broadly serviced by extensions of the current Piara Waters services in the event of the land being rezoned (subject to the provision of a new sewerage pump station).

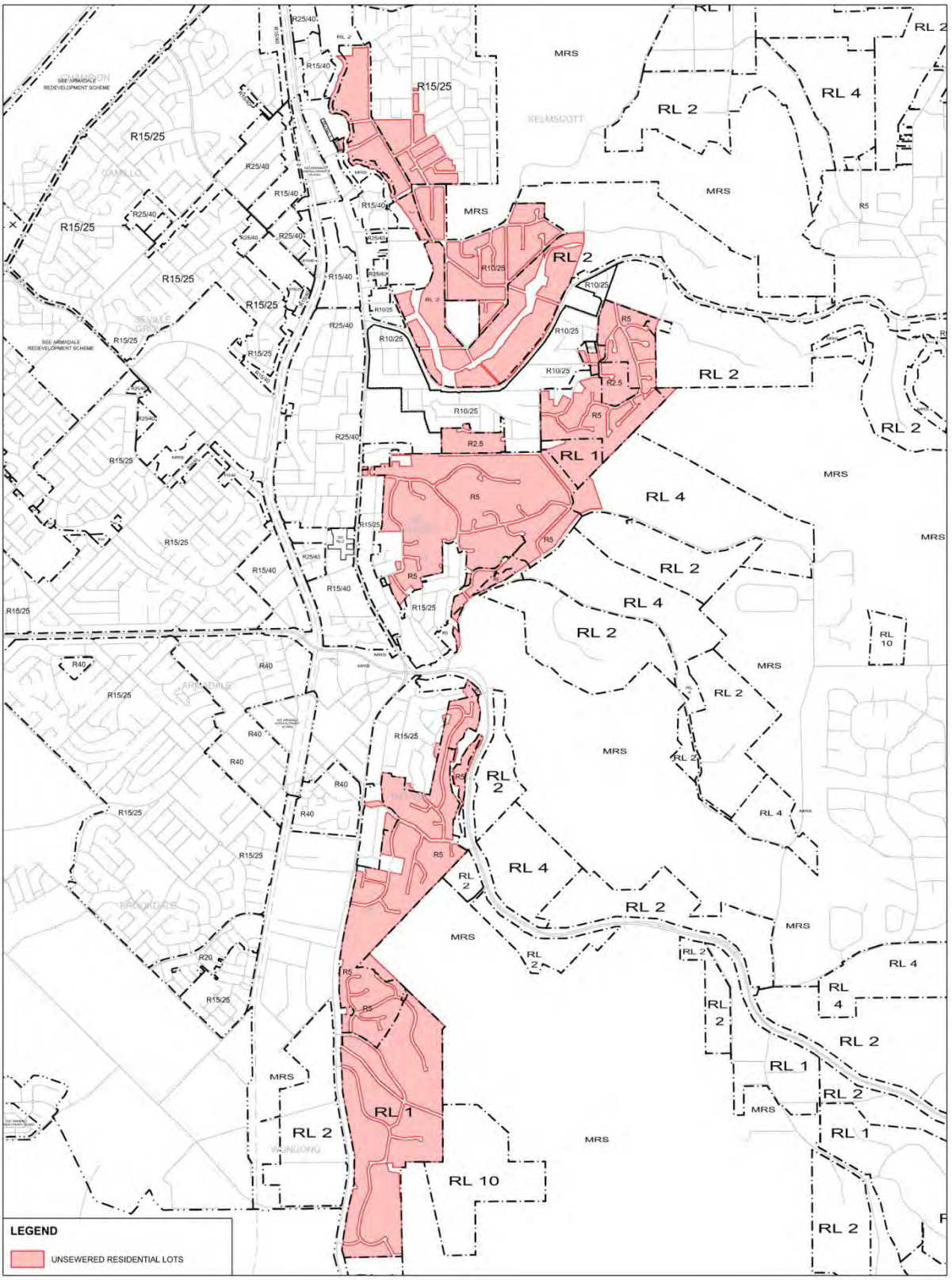


Figure 23 - Unsewered Residential Lots

8. Housing Affordability

There is growing concern regarding the affordability of housing. In the past the City of Armadale has tended to provide housing at the more affordable end of the spectrum. The recent releases in Harrisdale in particular have been less aimed at the first time home buyer and indeed the City believes that such developments will provide a better balance in the housing offered within the City. Notwithstanding this, from the information available it is clear that the cost of lots and houses sold within the City is substantially below the metropolitan average. The following Table 12 draws information from the UDIA's recent publications.

Table 12 - Value of Lots sold, Armadale compared with Metropolitan Average

	$ September Quarter 2011	$ December Quarter 2011
Armadale lots sold	233,084	207,011
Metropolitan lots sold	240,537	226,584
Armadale lots on market	220,356	221,844
Metropolitan lots on market	273,910	277,716
Armadale new and existing medium density	317,833	
Metropolitan new and existing medium density	494,706	

UDIA Colliers International Urban Development Index September and December Quarters 2011

Bankwest (March 2011) reports that there are three LGAs in Perth where the median house price is affordable for any key worker occupation. The most affordable LGA is Kwinana, followed by Armadale and Gosnells (Table 13). Notwithstanding, the South East Corridor is still ranked as "seriously unaffordable" to "severely unaffordable" according to Demographia Housing Affordability Rating Categories which only considers a house price to earnings ratio of 3.0 or below to be affordable.

Table 13 - Housing Affordability

	House Price to Earnings Ratio 2010	Median House Price 2010
Armadale	4.2	$342,000
Gosnells	4.9	$399,500
S-J	5.4	$439,500
Rockingham	4.7	$378,500
Wanneroo	5.5	$442,000

Bankwest 3rd Key Worker Housing Affordability Report, March 2011

The City is not proposing that it become directly involved in the provision of, or promotion of, affordable housing. However, the City does support measures to reduce the administrative costs of Planning and Building approvals through appropriate policy measures where appropriate and has facilitated the construction of housing on smaller land parcels through zoning changes in the past. In addition, recent changes to the R Codes have facilitated the potential greater use of ancillary accommodation which will also have a beneficial effect on housing affordability.

9. Changes to the Residential Design Codes

Significant changes were made to the RD Codes in November 2010 to introduce the multi-unit code. These changes have provided incentives to the development of multi-unit housing by providing the possibility of a greater number of units where a proposal was designed for smaller units.

While the City's Scheme's Zoning Table permits Council to approve Multiple Dwellings in higher density codes it does not allow for Multiple Dwellings in areas coded R30 and below.

Within split-coded areas the application of the multi-unit code does not apply because that code would only apply to areas where the base code exceeded R30 – and in no case does this apply. There is a need to amend the Scheme provisions to ensure that the higher codes in the Split-coded areas also apply to multiple dwellings.

The following questions need to be addressed:

- Should Multiple Dwellings be permitted in low density areas?
- Should Multiple Dwellings be permitted in split coded areas where the criteria are met?
- Are there additional criteria that should apply to Multiple Dwellings in Split codes areas?
- Does the scheme require amendment to reflect the Multi-unit code?

Multiple Dwellings in low density areas

It is not unusual for Multiple Dwellings to be prohibited in low density areas. However there does not appear to be a sound reason for this. While such dwellings may have an historical stigma attached, this relates to over-building and high density. A Multiple Dwelling within an area coded R 20 (for instance) would only be able to develop at the density of one unit per 500m2. At worst this could occur from a limited number of large horizontally strata units on a large lot surrounded by ample open space, in any event there would be no greater density than for other housing forms.

The Scheme gives an incentive in split-coded areas to develop corner lots, lots with dual frontage, those abutting open space, and PAWs to R30 and R40. However the incentive only applies to the development of grouped dwellings. There is no reason to restrict the development to grouped dwellings as multiple dwellings may be appropriate, although it should be noted that such dwellings at R30 and R40 would potentially result in a larger number of units where the units were small in size.

Multiple Dwellings in Split-Coded areas

One of the main concerns arising from higher density housing forms has been the tendency to over-build, leaving little communal or private open space. The multi-unit code through the plot ratio provisions encourages the construction of smaller units with a smaller footprint. Amendments to the City's policies resulted in requirements to provide two storey or two bedroomed units – the multi-unit code would be effective in achieving the same outcome.

In addition to the Scheme, Policy PLN3.1 provides criteria for determining whether the higher code of the split code should apply. The criteria are equally appropriate for multiple dwellings, indeed, in the drafting of the policy such dwellings have been catered for (in error in view of their prohibition under the Scheme).

Multiple Dwellings, like Grouped Dwellings, can only be approved at the discretion of Council which enables appropriate conditions to be applied (unlike in the case of single dwellings).

In view of the recent introduction of the Multi-unit code with its application of plot ratio controls to ensure that overbuilding is avoided, the City has already amended Clause 5.2.4 and 5.2.5 of the Scheme to include this form of housing within the split coded areas of the scheme. The City will continue to facilitate ongoing appropriate provisions in the Scheme where required to ensure that high quality residential development is encouraged.

The application of additional criteria for Multiple Dwellings.

The criteria applying to grouped dwellings set out in Policy PLN3.1 would be appropriate for multiple dwellings. Additional criteria may be appropriate relating to:

- The provision of a minimum lot width of (say) 25m; and
- The encouragement given for mixed use development.

R Code Provisions in Developing Areas

In Harrisdale and Piara Waters some R Code provisions have been found to be too restrictive in view of the pattern of falling lot sizes. As a result Detailed Area Plans have authorised standards less than the R Codes in a number of categories, notably:

- Front setbacks – normally reduced to between 2 and 4 metres;
- Setbacks to laneways – normally 1m;
- Open space – reduced from 50% to 45% and from 45% to 40%;
- Outdoor living area – occasionally increased to compensate for lesser open space generally;
- Boundary walls – greater allowance for building to boundaries is provided in some LDPs.

While it is noted that the 2013 changes to the R Codes have reduced some standards, it would be appropriate to consider standard scheme or policy provisions to reflect the most commonly requested variations in greenfield estates.

10. Assessment of Existing City Strategies and Policies

10.1 Assessment of the success of the 2005 Local Planning Strategy

The strategic approach to planning for residential development was set out in the 2005 Local Planning Strategy (summarised on pages 19 and 73).

The analysis drew the conclusion that the City would need to manage its growth through the following strategies:

Table 14 - Relevance of Local Planning Policy Strategy Objectives

2005 LPS Objectives	Current relevance
Provide a wide range of housing types and different types of residential zones to reflect different lifestyle opportunities.	Remains relevant
Provide increased densities around commercial centres at Kelmscott and Armadale, near local centres, proximate to railway stations and in other locations favourable for access to facilities.	Remains relevant
Introduce a mixed business/residential precinct adjacent to the Armadale City Centre.	Remains relevant but has probably been subsumed within some of the ARA Redevelopment areas
Include planning policy provisions over time to introduce appropriate urban design controls for specific areas.	Remains relevant but has probably been subsumed within some of the ARA Redevelopment areas
Use urban design and streetscape controls for existing and newly developing residential and rural living zones consistent with the approach adopted by Liveable Neighbourhoods.	Remains relevant
Include structure planning and detailed development area provisions and planning controls for new subdivisions.	Remains relevant
In liaison with the Ministry for Housing and Works identify and implement strategies to improve the lifestyle quality of communities in SW Armadale.	Merits a review
Introduce a mix of public and private housing in the Brookdale urban development areas to achieve a balanced socio-economic profile in the area.	This has been subsumed within the ARA Wungong Urban project

10.2 Review of 2005 Town Planning Scheme provisions relating to housing

Following the approach outlined in the 2005 Local Planning Strategy, TPS No.4 identified a number of areas for increased density. Areas of R15/40 and R40 were identified in the advertised scheme adjacent to the Armadale and Kelmscott centres and close to the railway. A large area was identified as R25 between Albany Highway and the Railway and west of Kelmscott. In addition, a provision was included in the scheme text to reflect the historic

privilege to develop high quality grouped dwellings that met Council requirements up to R40 in any Residential zone.

This “historic privilege” was included on the scheme maps prior to scheme finalisation as one of the Minister’s required modifications which resulted in the scheme maps showing most areas as a split coding whereby the higher coding could only by met by achieving the requirements of the scheme text and local planning policy. Accordingly the Scheme that has been in operation also included a range of areas coded R10/25, R15/25 and R17.5/25 and areas coded R 25/40. The City advised the Minister of the concern that this required modification would result in there being an expectation that the upper code was a right rather than a privilege to apply in special circumstances. Notwithstanding, the Minister’s requirements were met by the scheme maps being amended and in parallel scheme provisions included to make more explicit reference to criteria that had to be met to qualify for grouped dwelling development under the higher code.

The Scheme text also provided for higher density grouped dwellings up to R30 where lots fronted more than one street or an open space reserve and up to R40 where properties abutted a public access way. These provisions were designed to provide an incentive for development to address public spaces and provide improved surveillance.

It is appropriate for the review to assess the merit of the higher density and split coding measures introduced under TPS No.4.

The consequence of the inclusion of split coding over much of the residential area was that the intended focus of redevelopment on the key centres and transport corridors was lost. Moreover, the expectation from landowners has been that there is a right to develop to the upper code without recognition of the Scheme and policy requirements that have to be met. A more appropriate strategic approach would be to distinguish between the general suburban areas and areas where redevelopment should be focussed. To do this it may be desirable to even increase the upper range of permissible density to R 60 and R80 while limiting some of the less central areas to a lower code. In addition it would be desirable to include the discretion of the City to consider applications for a higher density (subject to the achievement of certain design requirements) within the Scheme rather than through split codings on the Scheme Map (this is discussed in detail under 10.4 below).

10.3 Review of Policy Provisions relating to residential development

Policy PLN 3.1 (Residential Density Development) was reviewed in conjunction with the Scheme review and introduced in 2005. However, in response to the need to consider additional issues and concern that development was being approved of an indifferent quality, the policy was reviewed in 2006, 2007 and 2010. In particular the policy provisions were amended to give greater guidance in the operation of the discretion to approve grouped dwellings at the higher end of the split coding. A summary of the main introduced policy provisions is provided below.

In July 2006 an amendment was made to the policy to take account of the issues relating to waste disposal for density development. The policy amendments ensured that grouped dwellings accommodated waste services needs and that this was a consideration in granting approval for development at the higher code.

In July 2007, following discussion with Councillors and a tour around medium density development in the South East Corridor, amendments were made to the policy to address a range of design requirements in dual coded areas. The policy amendments addressed the following:

- clarification of the footpath contribution expenditure arrangements;
- building design to offer greater variety in house designs, colours and fenestrations;
- two storey development to be encouraged;
- eaves of at least 300mm to be encouraged;
- the entrance of dwellings to be orientated to the primary street;
- grouped dwellings should be staggered to give a better view from the street;
- blank walls viewed from the street to be discouraged;
- anti-graffiti finishes to be provided on walls;
- communal streets to be central within a development;
- entrances to be visible from a communal street;
- fencing to achieve a standard when abutting POS;
- existing dwelling retention is encouraged with design improvements relating to roofing, walls, fencing and landscaping;
- for 12 or more units a community focus should be considered;
- existing trees to be retained wherever possible and specifically where there are over six units;
- a contribution towards the construction of footpaths on the basis of the cost of 5m of footpath charged for every additional unit.

Further amendments to the policy were introduced in August 2010 to require a higher standard of design by requiring:

- One third of the units within a development to be comprised of two storey units; or
- 50% of the units within a development to have a total plot ratio floor area no greater than 110m² and include an outdoor living area of at least 24m²; or
- The density of development shall not be in excess of R30.
- Fencing over 1.2m in height to be permeable for at least 50% of the interface between development and open space where communal open space is provided.
- Proposals with 12 or more grouped or multiple dwellings, to include an area of communal open space.
- The provision of a verge tree for each unit adjacent to a public street, unless verge trees already exist and are considered adequate.
- The planting of, or retention of, one low maintenance native tree species for every six units at strategic locations within common property.

10.4 Analysis of consequences split coding provisions

As a result of the above described amendments to the policy, there is a greater degree of guidance provided in the operation of the split coding. But the key questions to be answered relate to whether:

- landowners and developers have responded to the changes introduced in 2005 to provide a greater range of housing of benefit to the community;
- infrastructure has been better utilised by development in key areas;
- any expectations of higher density have been inappropriate.

The 2005 Scheme provided for development up to R40 in strategic locations and up to R25 throughout most of the remaining residential areas. In simple terms this meant that to support two dwellings a lot of 440m^2 was required in R40 areas and a lot of 700m^2 was required in R25.

The key scheme controls are set out under clause 5.2.4 and 5.2.5. These will be discussed in detail to determine their success (in conjunction with the City's Residential Density Development Policy) in achieving desired development. A survey of development has been undertaken from which the following conclusions have been drawn.

Scheme Clause 5.2.4 a) Where land is identified on the Scheme Map as R10/25, R12.5/25, R15/25 or R17.5/25, development at the higher density is limited to grouped dwellings up to a density of R25.

While the number of landowners taking advantage of this clause to provide an additional dwelling on-site has not been large, there has been a scattering of such developments particularly in Kelmscott. Much of Camillo, Seville Grove and West Armadale is comprised of lots of over 700m^2 which would enable them to be developed into two dwellings, however there are a number of reasons accounting for a relatively slow take-up of such opportunities. The reasons are likely to include:

- Existing development is generally placed too centrally on the lot precluding easy intensification without demolition of the original dwelling.
- Land values have not sufficiently risen to make development attractive.
- The limitation regarding the need for the resultant dwellings to be grouped has discouraged some applicants.
- Landowners are not prepared to sacrifice their spacious environment for the financial advantages of redevelopment.
- Some areas in the foothills coded R10/25 are unsewered and therefore unable to support additional development in any event.

Notwithstanding the lack of rapid take-up of the incentive, a case is not made for its deletion (except possibly for those unsewered areas) as the above circumstances may change over time for individual landowners. Examples have emerged of battleaxe lots or lots at the rear of a corner lot where an additional dwelling has been inserted. These have been generally appropriate with more issues associated with unattractive fencing than any other issue. It is apparent that nearly all the developments undertaken provide a relatively large family dwelling which is often an overbuilding of a constrained site. More modest accommodation for one or two persons does not appear to be provided, and indeed there is no incentive to provide it.

In comparison with the incentives to permit R40 development, it is considered from the examples developed within the City that grouped dwellings on one level to R25 densities are generally acceptable in comparison to R40 where such development can result in over-building on limited sites.

Possibly an additional strategy to give greater encouragement to single bedroom dwellings or ancillary dwellings on smaller land parcels would have merit. Ancillary dwellings are self-contained living accommodation units on the same lot as a single dwelling however it has been inhibited in the past by being required to be occupied by members of the same family as the main dwelling and by floor area being limited to 60m^2. The relaxation of the occupancy requirements and the floor area maximums under the 2013 R Codes will facilitate the provision of additional modest housing stock to accommodate a range of housing needs not sufficiently provided for currently.

It is expected that the revised R Codes provisions for Ancillary Dwellings will be utilized by many landowners with lot sizes in the 700-900m^2 range (which applies to a high proportion of lots within established parts of the City).

Scheme Clause 5.2.4 b) Where land is identified on the Scheme Map as R25/40 development at the higher density is limited to grouped dwellings up to a density of R40.

The R25/40 Code was provided for the areas between Albany Highway and Streich Avenue, and Clarence Road and Foster Road, although some smaller pockets were provided in Camillo near the Railway and north of Turner Place on Albany Highway. In these areas considerable development has occurred, but this has largely been limited to the historically larger lots of over 2000m^2. While there may not be a need to significantly modify the development conditions, it has been found that development to R40 on narrow frontage lots is inappropriate and a specified minimum frontage may be required.

Undoubtedly the resulting larger developments have provided the market with a significant number of grouped dwelling units – although these are generally of the three bedroom family house variety rather than single and two bedroom product. In terms of satisfying a market need, the policy provision has been successful, although there may remain some concerns about the tendency to over-build on sites. Moreover the larger developments have responded to the City's changing policy requirements in providing some amenity to residents (for instance open space).

The limitation of proposals to grouped dwellings arose as a reflection of the historic circumstances whereby development up to R40 could be considered by Council under TPS No. 2 in all residential areas for grouped dwelling development. While there may not be design benefits of grouped dwelling developments, the City has greater control on the design of such development and accordingly the case is made for the continued emphasis on grouped dwellings with the addition of multiple dwellings.

It has been found that to achieve a better range of housing types and sizes that the R60 Code has greater merit than R40. The City has continually advocated two storey development with little success. It may be appropriate to modify clause 5.2.4(b) to establish that for lots in excess of 2000m^2 with a minimum frontage of 25m, two storey development up to and including R60 would be permitted.

Scheme clause 5.2.4 c) In the case of properties fronting more than one street or an open space reserve, and where land is identified on the Scheme Map as R10/25, R12.5/25, R15/25 or R17.5/25, grouped dwellings up to R40.

The purpose of this provision was to take advantage of existing road access (noting that frontage to road space is a critical element in densification) and frontage to open space (noting that surveillance of open space is desirable). The provision has not been widely used, although it remains appropriate for the special circumstances identified. The main use of the provision has been in the case of corner lots where development potential could be doubled. It needs to be recognised that where the incentive is taken advantage of for corner lots – comprehensive redevelopment of street blocks tends to be more complicated or even prevented.

It is recognised that residential development fronting public open space can assist surveillance and from an urban design view point is encouraged. The current scheme provision to allow R40 development in such cases should be given greater prominence as an option for future development.

Scheme clause 5.2.4 d) In the case of properties abutting public access ways (PAWs) and where land is identified on the Scheme Map as R10/25, R12.5/25, R15,25 or R17.5/25, grouped dwellings up to R40.

The City has a large number of PAWs which are frequently regarded as problematic and reputedly a haven for anti-social behaviour. This provision was intended to facilitate better surveillance of PAWs for which a development bonus was provided. However, the bonus has not been taken advantage of in any case to date.

Scheme clause 5.2.5 Where land is identified on the Scheme Map as R15/R40, development is to be limited to the lower code, except the City may permit grouped dwellings or support subdivision up to a density of R40:

a) where the property is provided with reticulated sewerage, adequate drainage and a footpath/cycleway system; and
b) where the City has given consideration to the application in the context of compliance with the City's Residential Density Development Policy and the extent to which the proposal is located in close proximity to the following facilities:
    (i) A public transport stop or station;
    (ii) A convenience shopping site;
    (iii) A recreational open space or other recreational facility; and
    (iv) A community facility.

The areas coded R15/40 are those areas close to the Armadale and Kelmscott centres where all the stated criteria (relating to the provision of facilities and services) would apply. In these areas it was not intended to necessarily limit the development to grouped dwellings, the proposals could include green title lots (provided there was a mechanism available to ensure that conditions aimed at improving the amenity within a development could be secured). Developers taking up the opportunity to develop in these areas have largely been those with larger lots. The development of smaller lots to R40 density has generally proven to be inappropriate and, as noted above, some minimum lot frontage requirement should be considered.

It has been found that better designed medium density development is more likely to be achieved under the R60 code than R40 (subject to design requirements under the City's local planning policy).

Modification of the codings of those areas currently coded R15/40 to R25/60 with associated Scheme provisions similar to those currently stated under clause 5.2.5 would be appropriate for the areas proximate to the main centres and transport routes.

The localities identified under TPS No. 4 as being most suited for higher density development were coded R15/40. These areas remain most suitable on account of their location proximate to the main centres and public transport, the condition of the housing stock and lot size. It is proposed that these areas be confirmed as the main focus of future redevelopment with the potential for development to R60.

11. Assessment of Potential City Strategies and Policies

11.1 Design Controls over Greenfield Development

Development in the City's new western suburbs is reflective of a wider pattern of recent development. State policies, such as Directions 2031, have advocated higher densities for subdivision in Greenfield areas. A target of 15 dwellings per gross urban zoned hectare has been indicated in Directions 2031 – to achieve this requires average lot sizes of 400m² or less.

Over the past 20 years the median lot size within the Metropolitan Region has fallen from 698m² to 419m² (a fall of 40%). From a time when 70% of new lots were in the 600-999m² category only 8% are in this category now. The most recent figures for the metropolitan region indicate that 70% of new lots are less than 500m². (Department of Planning's State Lot Activity quarterly reports).

The R Codes were designed to ensure that the majority of dwellings would comply and accordingly there would be no need for an RD Code variation and the consequential administrative process to complicate building approval. From an analysis of recent developments it is apparent that RD Code variations are sought for a large number of new dwellings or relaxations of the Codes are provided through Detailed Area Plans.

The 2002 Codes relied on side setbacks and open space requirements to address building bulk and for this reason plot ratio controls were dispensed with. These provisions are no longer suitable where placing a standard project home on the smaller standard lot. While some owners have responded to the smaller lots with smaller or two storey dwellings, for the majority the expectation is that the dream home should be allowed to fit.

Detailed Area Plans have provided a useful mechanism to enable the City to use the structure plan provisions of its scheme to vary the acceptable development provisions of the R Codes. They are normally drafted by the planning consultants for a particular estate and confirmed and adopted by the City. Local Development Plans (LDPs which were previously known at DAPs) have served a vital administrative function in new areas, without them a separate planning application (or R Codes Variation application) would have been required for large numbers of dwellings.

80 LDPs have been prepared to cover new development predominantly in the localities of Harrisdale and Piara Waters.

These LDPs have generally been designed to reduce the open space requirement from 50% (R25) and 45% (R40) to 45% and 40% (or even 30%), and reduce the front setbacks from 6m (R25) and 4m (R40) to 4m and 2m or 3m minimum (with a 4.5m average). Additional measures have also been included to specify allowable setbacks from laneways, the manner in which certain lots should address public open space areas and set out how corner lots should address the secondary street. Some LDPs also require designs to provide winter sun to north facing rooms, although some builders and owners are reluctant to comply in some instances.

Given the preference of developers and purchasers for smaller lots, lots within the R25 coded areas are becoming closer to the 320m² minimum and 350m² average permitted. The result is that the desired project home is becoming more difficult to place on the lot, resulting in the need for concessions particularly on site coverage and boundary setbacks. These concessions have recently been facilitated by the LDPs, although it is timely for the matter to either be recognised in the R Codes themselves or in specific scheme provisions.

Certainly there does not appear to be any objection to reducing the front setbacks. Large front setbacks provide minimal utility or privacy and, with the added concern of water restrictions, can be a liability. It is reasonable to permit building to some degree on the boundary. In higher codes there may be merit in permitting building to each boundary. There have been practical difficulties arising when an applicant has to decide between the two boundaries – if it is acceptable to building on the boundary, it is presumably equally acceptable to build on either.

The general open space standard is the most significant impediment to the development of small lots. For instance in the R25 zone it is necessary to achieve 50% open space (which is defined comprehensively to include outdoor living areas, driveways, areas beneath eves, and pergolas but ends up being comprised largely of land within the side setbacks which serves minimal "open space" function). The response through LDPs has been to reduce the open space requirement, however, for some codes it could be eliminated entirely as a separate requirement. The critical amenity aspects are protected by the need to provide an outdoor living area of a minimum size rather than open space per se.

An emphasis on providing a sufficiently large outdoor living area, rather than the general open space requirement, which has become excessively complex to measure and is usually comprised of an amalgam of unusable narrow side setbacks, would be more appropriate.

Table 15 - Possible Amendments to Standard R Code Provisions

R Code Provision	R25 Current	R25 Proposed	R40 Current	R40 Proposed
Front setback (m)	6	4	4	2
Side setback (m)	Sliding scale	No change	Sliding scale	No change
Boundary walls	Up to 9m on one side, 3m high	No change	2/3 of one boundary, 3.5m high	2/3 of both boundaries, 3.5 high
Open space (%)	50	45 (or delete)	45	40 (or delete)
Outdoor living area (m2)	30	36	24	30

Of the above possible amendments, reduced setbacks could be introduced by local planning policy, while changes to the R Code open space provisions would require inclusion in a local planning policy after demonstration to the satisfaction of the WAPC that there is a need for the variation.

11.2 Other Design Controls

The policy provisions of Policy PLN 3.1 have generally assisted with the management of infill development as described in section 10 above, and have been reviewed and modified by Council on three occasions since the split coding provisions were introduced in 2005.

An additional provision to consider relates to housing for people with disabilities or aged person housing. Policy PLN 3.1 could be extended to require certain developments (perhaps those will in excess of four units) to include at least one dwelling to be designed in accordance with AS4299:1995. The R Codes do require compliance with the AS4299 standard for Aged and Dependent Dwellings.

11.3 Solar Access Provisions

For many years dwellings have been protected from excessive overshadowing from neighbouring properties by provisions within the R Codes. These provisions have not in the past required that new dwellings be so designed to ensure a minimum degree of solar access from key living areas. It is relevant to consider the extent to which it is reasonable to impose additional solar access requirements to those currently within the R Codes. Possibly it should be mandatory for new dwellings to have at least a single north-facing window positioned so as to be able to receive winter sun – within a habitable room.

As lot sizes fall solar access becomes more problematic. Also not all lots can be designed with solar orientation primarily in mind suggesting that at least in new Greenfield sites implementation via LDPs may be more appropriate where it can be assured that the provision can apply to specified appropriately orientated lots. Provisions requiring specified minimum openings to a living area to have at least three hours of sun, have been proposed in the past, however they have generally not been pursued due to objections from the building industry, the view that not everyone has a similar desire for solar access and the difficulty of measuring compliance. Notwithstanding this the following provision could be considered for adoption with the aim of delivering more liveable and sustainable accommodation.

Table 16 - Solar Access

Possible scheme provision
In the case of Single Houses and Grouped Dwellings on sites coded R30 or lower: • At least one major opening to a living area with access to at least three hours of direct sun between 9am and 5pm on June 21. Or • At least two habitable rooms with major openings with access to at least three hours of direct sun between 9am and 5pm on June 21.

The above provision could only be included in the town planning scheme or in a local planning policy following its justification to and approval by the WAPC.

While it was expected that the 2013 R Codes would contain a provision such as that above, this was deleted prior to gazettal due to concerns of the development industry regarding the ability to implement the provision.

(It is noted that the Building Code of Australia 2009 (BCA) mandates (via Part 3.8.4.2- Natural Lighting) that any habitable room must have access to adequate natural light. The placement of windows needs to be carefully balanced by the need to also comply with other energy efficiency provisions of the BCA (such as Part 3.12.2- External Glazing, which determines the acceptable level of overall solar heat gain into a dwelling). Solar heat gain will be an even more influential factor affecting the design of dwellings once the new stricter energy efficiency (6 Star) BCA standards are introduced in May 2012).

11.4 Potential Impact of SPP 3.6 – Developer Contribution Schemes

Since 2006 the City has managed a scheme for the developments within the Harrisdale and Piara Waters localities. The Scheme has successfully coordinated timely infrastructure provision and equitable contributions from developing landowners. The Scheme has facilitated the urban development of the area to a high design and environmental standard in a timely and effective manner that would not have been achieved without the DCS. The Scheme has incrementally grown with additional urban zonings and currently embraces over $80 million in project costs. The Scheme is authorised through provisions of the City's TPS No. 4 however, interpretations are guided by WAPC SPP 3.6 which was adopted after the City's TPS.

Developer Contribution Schemes are a mechanism designed to ensure the timely provision of infrastructure which historically tended to be provided over a long time period with some facilities being provided ten or twenty years after first settlement. There is a strong logic in those benefitting from infrastructure should directly pay for its provision. This logic has recently been extended to apply district-wide whereby all development pays a contribution. The extension of DCS provisions to all development in the City would assist in improving community infrastructure by reducing reliance on rates and grants for the provision of community infrastructure. This is not directly a housing issue (and thereby related to the Housing Strategy) however, there are cost implications which would be reflected in house prices to some extent so it is relevant to raise the matter within this Strategy.

According to SPP 3.6 development contribution plans for community infrastructure must be supported by:

- a community infrastructure plan for the area, identifying the services and facilities required over the next five to 10 years (supported by demand analysis and identification of service catchments);
- a capital expenditure plan (with at least five out years) which identifies the capital costs of facilities and the revenue sources (including capital grants) and programs for provision;
- projected growth figures including the number of new dwellings to be created at catchment level (suburb or district); and
- a methodology for determining the proportion of costs of community infrastructure to be attributed to growth and the proportion to be attributed to existing areas.

The City will consider the full ramifications of extending DCS provisions to the whole City in the near future in the context of its community infrastructure plan which is in preparation.

12. Conclusions

Housing is a complex area which would require a long treatise to do justice to. However, the main matters to focus on in this Local Housing Strategy review relate to the extent to which future housing provision fits in with regional requirements, the degree to which the housing product meets the needs of the population and the success of redevelopment.

The Strategy has found that the City will supply a considerable amount of new housing over the next 20 years, largely from the Western suburbs of Harrisdale, Piara Waters, Hilbert and Haynes. In addition established areas are expected to accommodate over a quarter of new housing development as landowners respond to higher density opportunities and the undercapitalization of large lots. In order to ensure that the quality of development remains high and the housing product reflects the needs of the community and future household structures it is proposed that some policy modifications be initiated. These specifically would anticipate greater encouragement of ancillary dwellings and smaller dwellings provide multi-unit opportunities and introduce additional urban design requirements.

The split coding introduced under TPS No. 4 has been reviewed and some modifications suggested. There are concerns that the publication of the split codes on the scheme map has raised landowner expectations and land values without necessarily achieving the desired development outcome. Two alternative approaches could be considered – either to target areas where redevelopment is considered to be strategically most important and retain split codes elsewhere, or, generally increase the base codes across the City while deleting the upper level split code while including scheme text provisions to enable the Council to approve higher density development where specific criteria are met. The second option would deliver a better outcome but would entail greater consultation with landowners prior to affecting the associated scheme changes.

SPECIFIC CONCLUSIONS

- The City is expected to meet the *Directions 2031* required target of 11,400 dwellings. Indeed this figure will be substantially exceeded.
- The *Directions 2031* designated target of 3420 infill dwellings will be met although on account of the greater than expected development within the City this will represent a proportion of total dwellings of less than 30%.
- The Directions 2031 target greenfields density of 15 dwellings per hectare is proving difficult to achieve due to the constraints of developing greenfield land, although the City will continue to support a range of lot sizes in greenfield areas with a growing emphasis on small lots.
- It is likely that additional areas will also be available for residential development which will ensure that the targets are comfortably met (see Figure 24).
- Higher density on narrow frontage lots can result in unattractive streetscape. Policy amendment may be appropriate to provide a density bonus for proposals with a minimum lot width and a minimum area.
- There is a continuing sound argument to discourage R40 development on one level – and to prefer R25 or R30 density development.
- There is continual logic in preferring bonuses to generally not apply to green title development as the City is only able to appropriately condition approvals to Grouped and Multiple Dwellings to deliver built form and landscaping outcomes.
- There are few examples of owners taking advantage of provisions giving bonus for surveillance of parks, PAWs or with dual road frontage – however the objectives remain appropriate and therefore the provisions should remain and indeed, greater encouragement be given to utilising them.
- The City should continue to petition State Government for the provision of deep sewerage to the Forrestdale townsite (on environmental and health grounds) and unsewered areas coded R10/25 in Clifton Hills (see Plan 3).
- The changes to the 2013 R Codes regarding Ancillary Dwellings in conjunction with incentives to provide one and two bedroom dwellings in the split coded areas should assist the City in meeting the Directions 2031 targets for 10% of dwellings to be one bedroom and 15-20% to be two bedroom dwellings by 2031.
- Split coding provisions have resulted in landowners expecting that the higher coding would be achieved by-right rather than by the achievement of high quality design.
- Some modification to R Code provisions relating to front setbacks, open space and outdoor living areas would be appropriate particularly when applying to the newly developing areas, noting that such variations would require WAPC approval.
- Clauses 5.2.4 and 5.2.5 of the Scheme will be reviewed where necessary to ensure high-quality Multiple Dwelling development outcomes where the higher coding is applied in split-coded areas.
- It would be appropriate to encourage dwellings designed for the disabled in accordance with AS4299:1995 in large multiple dwelling complexes.
- The City's policy provisions have otherwise been generally successful in achieving a higher standard of development.

- It remains an appropriate strategic objective to advocate higher density residential development in support of designated centres and strategic transport routes (see Figure 25).

- A significant portion of the City's future housing growth will occur within the MRA's Wungong project. The City needs to be continually engaged with the MRA to ensure that the City's objectives are met through this project.

13. Proposed Strategic Changes to the City's Scheme

1. Promote the increase in development potential in key established areas in accordance with Figure 25 to:
    i. Increase density potential around the main centres (particularly the Strategic Regional Centre) to R60 and R80 or higher subject to design requirements.
    ii. Increase the density potential in the vicinity of the Challis and Sherwood railway stations.

    iii. Amend the Scheme to permit development in areas coded R40 or with an upper split code of R40 to be developed at the R60 density code where a lot is over 2000m2 in areas and has a frontage of 25m.

2. Amend the Scheme Map to categorise portions of the Armadale Strategic Regional Centre as R-AC3 and subject to a Centre Structure Plan.

3. Introduce the following changes to the split-coding provisions of TPS No. 4:

    i) Generally limit access to higher density codes to lots with a minimum lot size of 2000m2 and frontage of 25m. The Scheme should be amended to specify the circumstances whereby higher density development would be limited to specified lot widths.
    ii) Modify the scheme provisions for land coded R25/40 to establish Scheme provisions to specify where development up to R60 would be permitted for suitable sites.
    iii) Modify the coding of those areas coded R15/40 to increase the potential density to R60 with associated Scheme provisions to establish where development up to R60 would be permitted for suitable sites.
    iv) *Facilitate ongoing appropriate provisions under clauses 5.2.4 and 5.2.5 that multiple dwellings would be permitted subject to the achievement and implementation of relevant endorsed and/or amended criteria and corresponding Scheme Zoning Table permissibility references to indicate that in the Residential Zone Multiple Dwellings are D (not permitted unless the City has exercised its discretion by granting planning approval).*

4. Continue to pursue the provision of deep sewerage to the unsewered residential zoned parts of Kelmscott and Forrestdale.

5. Provide Scheme clauses to give greater incentive to develop specific housing types, such as maisonettes and one and two bedroom dwellings.

6. Encourage dwellings designed for the disabled in accordance with AS4299:1995 in large multiple dwelling complexes and consider policy revisions to achieve this.

7. Promote more liveable and sustainable accommodation with improved solar access by encouraging Single Houses and Grouped Dwellings with at least one major opening to a

living area with access to at least three hours of direct sun between 9am and 5pm on June 21.

8. Introduce local planning policies to reduce front setbacks and open space requirements to reflect prevailing Local Development Plan provisions in designated new suburban development areas.

9. Review Local Planning Strategy housing objectives:

Proposed 2012 LHS Objectives	**Specific Initiative**
Provide a wide range of housing types and different types of residential zones to reflect different lifestyle opportunities.	Provide for housing suiting smaller households.
Provide increased densities around commercial centres at Kelmscott and Armadale, near local centres, proximate to railway stations and in other locations favourable for access to facilities.	Consider higher density zoning subject to the achievement of high quality design.
Align housing strategies with *Directions 2031* regional objectives	Monitor housing production in the context of *Directions 2031* targets.
Include planning policy provisions over time to introduce appropriate urban design controls for specific areas.	Review provisions of PLN3.1.
Use urban design and streetscape controls for existing and newly developing residential and rural living zones consistent with the approach adopted by Liveable Neighbourhoods.	Review existing local planning policies.
Include structure planning and detailed development area provisions and planning controls for new subdivisions.	Monitor structure plan and DAP provisions to ensure City objectives are met.
In liaison with the Ministry for Housing and Works identify and implement strategies to improve the lifestyle quality of communities in SW Armadale.	Establish liaison with Department of Housing to ensure that Housing initiatives parallel City objectives.
Ensure that the MRA Wungong precinct develops in accordance with the City's objectives and achieves a balanced socio-economic profile in the area.	Establish on-going liaison with the MRA to monitor development in the Wungong precinct.

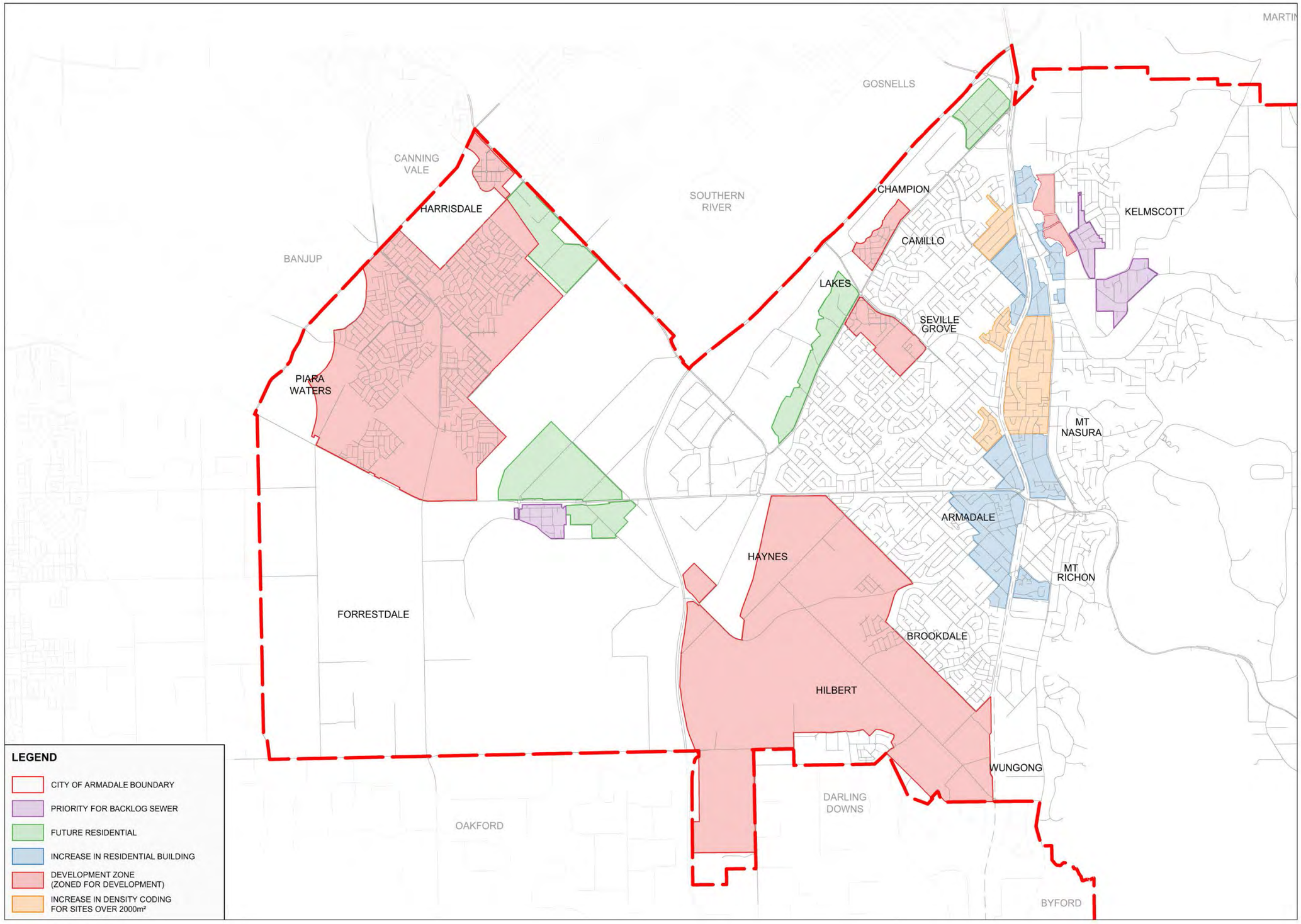
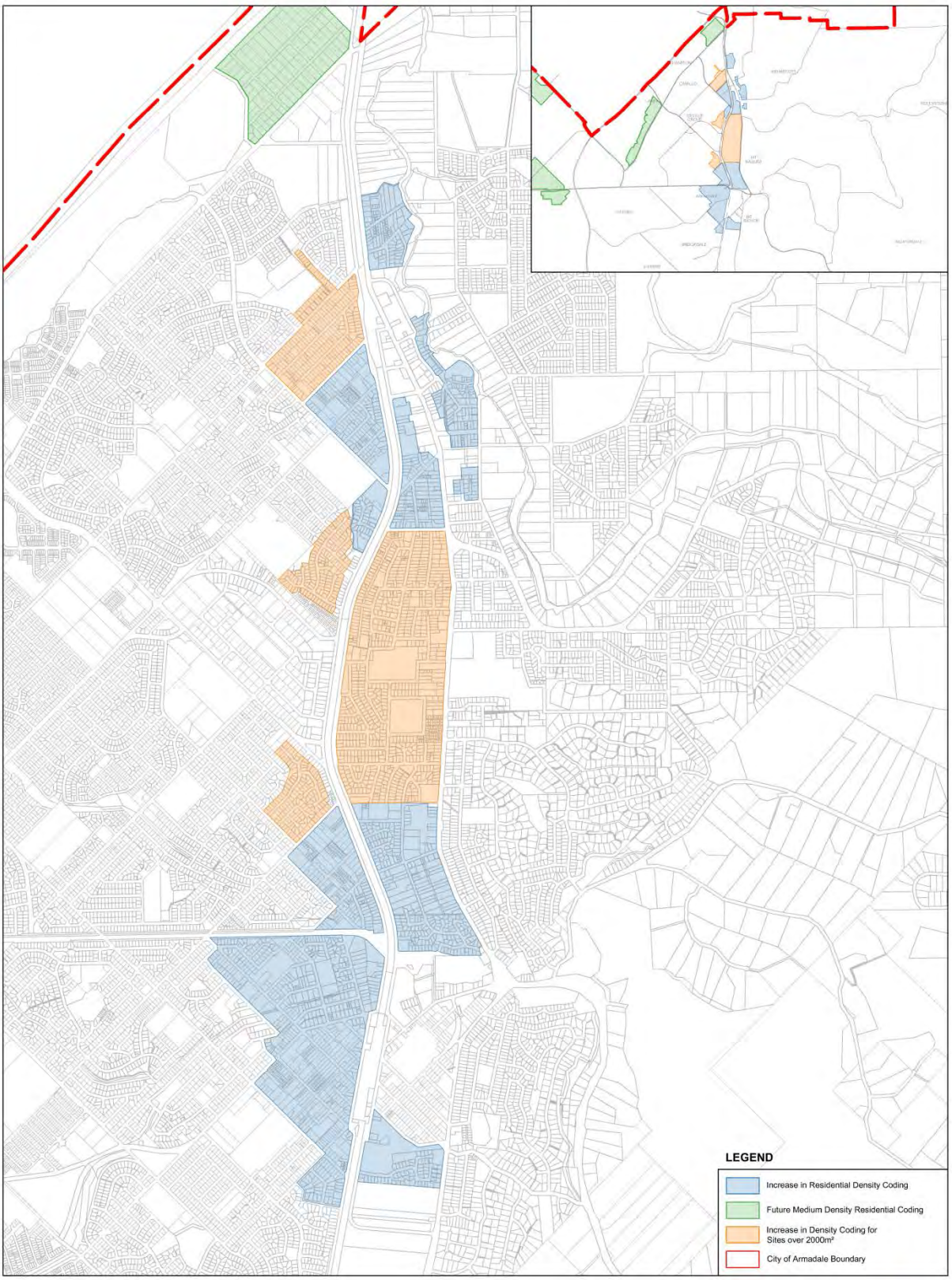


Figure 24 - Local Housing Strategy Strategic Areas



LOCAL HOUSING STRATEGY

200 0 200 400m

SCALE 1 : 20 000

Based on information provided by and with the permission of the Western Australian Land Information Authority trading as Landgate (2012). Aerial photograph supplied by Landgate, Photomaps by NearMap.

CITY OF Armadale

DATE 15 October 2015 - REVISION 1501

Figure 25 - Proposed Density Coding Changes

Urban Development Strategy

The efficient use of well-located land for suitable urban purposes is an important factor in cost effective infrastructure and service delivery including utility trunk services and public transport. It is also a major factor in maintaining a level of housing affordability that is within reach of the Perth Metropolitan population. The City will accordingly promote and encourage the supply of new land and opportunities for urban residential development where land is well located in terms of opportunities for urban servicing and the environmental constraints are able to be easily managed through standard planning processes. These areas are located in greenfield locations identified through regional planning initiatives in addition to suitable limited extensions of existing urban residential parts of the City where urban services are in close proximity or can be easily extended.

The City's Strategic Plan identifies areas planned to undergo future or continued urban development and based on the State government's urban development structure plans and policies for the south-eastern corridor and under the Directions 2031 Strategic Metropolitan Plan. A number of the City's Urban Development Areas are under the jurisdiction of the Metropolitan Redevelopment Authority (MRA) where the land is subject to the Armadale Redevelopment Scheme or the Wungong Redevelopment Scheme.

After incorporation of the land into the Planning Schemes applicable within the City of Armadale (MRS and TPS No. 4, or the Armadale Redevelopment Scheme or Wungong Redevelopment Scheme) detailed land use and subdivision and development is governed by structure plans endorsed by the respective relevant authority (WAPC or MRA). Zoning amendments in areas where the City's TPS No. 4 applies, usually zone the land to Urban Development zone, which requires a structure plan. Structure plans may apply urban residential, commercial or related community land uses to land.

The potential of the City's Urban Development Precincts for land use change from Rural to Urban has been confirmed by extensive land suitability, servicing and environmental studies undertaken by the State government and/or the City of Armadale. The Wungong, Forrestdale and areas north in Harrisdale and Piara Waters, have been confirmed as potential Urban zone through the Southern River, Forrestdale, Brookdale and Wungong District Structure Plan and these were identified as Urban Expansion Areas in the 2005 LPS Strategic Plan. Other areas have recent completed amendments to the MRS or draft amendments to the MRS that have been endorsed by Council for its District Scheme Area. These include Canning River Precinct and Lakes Road Precinct.

Metropolitan Redevelopment Authority Precincts

The MRA has planning responsibility for a considerable land area within the City including a number of the urban development areas identified in the Strategic Plan. The Wungong precinct which is located to the south west of the Armadale Strategic Regional Centre is one of the City's two major residential expansion areas. Together with the Forrestdale locality and former parts thereof that have recently been renamed as Harrisdale and Piara Waters, the Wungong Precinct will ultimately accommodate a residential population of approximately 70,000 which is the bulk of the City's expected population growth to 2031. MRA precincts also include areas in Champion Drive, Champion Lake, Forrestdale and Kelmscott.

Other locations identified for Urban Development are under the planning jurisdiction of the City through its LPS and TPS No.4.

Canning River Precinct Kelmscott

The Canning River Precinct was identified as an Urban Expansion Area in the 2005 LPS Strategic Plan by virtue of its location adjacent to the Kelmscott Town Centre and suitability for urban purposes. The opportunity for infill urban developments close to the Kelmscott Town Centre had been identified as a planning objective in the Kelmscott Enquiry By Design Workshop (2003) and the detailed opportunities and constraints in the precinct were further refined in the Community Consultation and Planning Study of the Canning River Precinct (2005).

After a further (2009) environmental assessment study was jointly completed by the WAPC and City to define a future foreshore reserve, Metropolitan Region Scheme (MRS) Urban zone Amendment 1202/41 became effective in the MRS on 25 May 2012. The environmentally constrained land south of Martin Street was excluded from the revised Urban Development precinct for the Kelmscott Canning River Urban Development area. In 2013 the City initiated Amendment No.70 to bring TPS No.4 into conformity with the defined MRS Urban zone. The Urban Development zone aims to support the Town Centre and Kelmscott station by a larger residential population catchment and to facilitate new foreshore parklands to enhance the management of the Canning River environment. Landowners will be required to prepare Structure Plans prior to urban development of Urban zoned land.

Lakes Road Precinct Champion Lakes

The Lakes Road Precinct is a land development precinct pursued by the landowners and confirmed by gazettal of a MRS amendment. It comprises landholdings located between Lakes Road and the Wungong River which were incorporated into the Metropolitan Region Scheme (MRS) Urban zone by Amendment 1140/57 (effective in the MRS since 27 May 2008).

The City's Amendment No.62 aims to bring TPS No.4 into conformity with the MRS Urban zone for the first sub-precinct land for which landowners have undertaken the necessary environmental investigations. It is envisaged there would be 3 sub-precincts of more detailed planning within the Lake Road Precinct Urban area. Landowners will be required to undertake further environmental assessment/s prior to a Scheme Amendment/s for the balance of land in the Lakes Road Precinct and all landowners will be required to prepare Structure Plans for sub-precincts prior to development. Structure Plans will result in local POS additions abutting the existing foreshore reserve along the Wungong River to further buffer protection of the river environment from the private Urban land uses that will be established.

Conclusion

The City will endeavour to support landowners carrying out investigations in support of amendments to the MRS or MRA Redevelopment Scheme requirements in identified Urban Development Precincts and to conduct the environmental and servicing studies required to implement statutory land use zoning changes. Where adequate environmental baseline and servicing information has been provided and an Urban zoning has been advanced under the MRS the City will consider initiating Scheme Amendments to TPS No.4 for the areas. The assessment and processing of Structure Plans prepared by landowners will subsequently be coordinated where statutory land use change has been advanced through suitable Scheme Amendments.

Heritage Properties Planning Strategy

Background

The City of Armadale has a proud history associated with its early settlement and contributions to the economy of the Swan River Colony and its subsequent development as a regional centre for the south eastern corridor in Perth's metropolitan development.

The City's cultural heritage and protection of important sites is therefore an important consideration in land use and development. The City's cultural heritage includes sites related to the post-European settlement period, which dates from 1829, however, also includes sites associated with the long period of Aboriginal occupation and site-protection mechanisms under the Aboriginal Heritage Act (1972). Information on Aboriginal Heritage places protected under the Aboriginal Heritage Act (1972) are a standard input required for planning assessments and is one of the relevant "Matters to be considered by the City" in planning applications and proposals, which are listed in 10.2 of TPS No.4. However, formal processes of registration and clearance to develop land affected by the Aboriginal Heritage Act are dealt with by that separate legislation.

The list of places registered under the Aboriginal Heritage Act (1972) is maintained and administered by the State Government's Department of Aboriginal Affairs. Locations and sites may be searched under the Department's Inquiry System and information obtained from that authority which then becomes a planning factor considered through administration of TPS No.4.

The City maintains a list of heritage places and currently has a direct link between the Municipal Heritage Inventory (MHI list) it was required to produce under *Heritage Act of WA (1990)* and its assessments of development and building applications under Town Planning Scheme No.4..

As part of a major legislative review of heritage issues, the State government is currently considering mandating that local heritage sites for all local governments be identified and controlled under the *Planning and Development Act (2005)* by means of a "Heritage List" referenced in a local town planning scheme. This instrument for heritage properties in a list adopted under the TPS is similar to the direct relationship the City established between the MHI and Town Planning Scheme No.4 in the 2005 gazettal of TPS No.4 (the MHI document can be accessed on the City's web site in the Publications section). The new Regulations would not represent a significant change to the City's current practices.

State Planning Policy 3.5 Historic Heritage Conservation

State Planning Policy 3.5 Historic Heritage Conservation provides a framework for incorporating heritage into local planning strategies and town planning schemes. The WAPC's generic/model scheme text provide for heritage protection by means of policies, heritage areas and heritage lists adopted under local planning strategies and town planning schemes.

In 2011 the State government adopted a State Cultural Heritage Policy and also announced a review of the *Heritage Act of WA (1990*) and is in the process of preparing a green bill for a new Heritage Act for WA. One of the features of the current discussion or the new Heritage Act which is relevant to local governments is a proposal to bring lists of local heritage directly into the jurisdiction of the Town Planning and Development Act.

Another aspect of the new Heritage Act proposal of relevance to local government is the provision of conservation incentives for properties with significant heritage value aimed particularly at discouraging the neglect of heritage places. These features are also part of the revised Planning and Development (Local Planning Scheme) Regulations (2014-15) which as a draft, were subject to a concurrent public review period partly overlapping the review period for this LPS. The City had already anticipated some of these innovations in its TPS No.4 and local planning policies. The Deemed Provisions for Heritage Protection which the revised Regulations are introducing will automatically modify TPS No.4, however, this will not bring about major changes to the City's existing practices.

City of Armadale Municipal Heritage Inventory

The City has 87 properties and sites identified and described in its Municipal Heritage Inventory (MHI) with further sites listed in the Metropolitan Redevelopment Authority (MRA) Cultural Heritage Policy which covers the MRA planned parts of the municipality. The MHI is essentially a list of properties which the City has acknowledged have special significance for the cultural and development history of the municipality.

The MHI is regularly reviewed and added to as new sites and properties are identified as having cultural heritage significance to the City. A major review was undertaken in 2008 with an additional 37 sites added to the active list. Since then 20 sites have been or are in the process of being added. Sites within MRA areas are also incorporated into MHI updates when areas are normalised back under Council's planning jurisdiction.

Town Planning Scheme Instruments / Statutory Controls

Since 2005 the way the Scheme and the list of places which forms the MHI have worked together has served the City well. As a consequence heritage issues have a level of public acceptance in Armadale which is of envy to other communities. The City's management of heritage through TPS No.4 is already well positioned in terms of possible changes proposed in discussions for the new Heritage Act and the revised Planning and Development (Local Planning Scheme) Regulations. It is appropriate to make further improvements to the Local Planning Strategy and Town Planning Scheme No. 4 even though the review of the LPS/TPS is likely to be completed before a new Heritage Act is formally legislated.

The way TPS No.4 currently treats heritage places listed in the MHI is effective in ensuring heritage values within the City are assessed when redevelopment proposals come forward so that potential impacts can be controlled. Council's discretion over landuse permissibility and development standards also provides a positive tool to facilitate heritage protection and potential for meshing this objective with a landowner's aspirations for a site.

Section 8.2 of TPS No.4 deals with "Permitted development" and provides that where any property is listed in the MHI a planning approval is required for works which may impact on heritage values. These include:

- any work which would affect the external appearance or interior of a building;
- for signs or advertisements; or for the
- demolition of any building or structure.

These requirements mean that plans and proposals are formally assessed and developments either refused or approved subject to conditions to protect the significant heritage values of the site.

Part 9 of TPS No.4 deals with "Applications for planning approval" and states that applicants can be called upon to provide "Additional material for heritage matters". Council can accordingly substantiate the merits of any proposal which may impact on heritage values with the assistance of appropriate expert advice. Section 9.3 requires that where an application for planning approval relates to a place included in the adopted MHI, the City may require the applicant to provide one or more of the following to assist the City in its determination of the application:

- street elevations showing the proposed development and the whole of the existing development on each lot immediately adjoining the site;
- a detailed schedule of all finishes, including materials and colours of the proposed development and the finishes of the existing developments on the subject lot and on each lot immediately adjoining the subject lot;
- an assessment of the cultural significance of any existing buildings and the development site itself according to policy guidelines adopted by the City in relation to the precinct or place which may be affected.

While the revised Planning and Development (Local Planning Scheme) Regulation Deemed Provisions will modify the existing TPS provisions the changes are minimal in effect. The Regulations allow for additionally supplementary provisions in Schemes providing that these do not conflict with Regulation's Deemed Provisions. Council's Heritage Management Incentive

Policy also assists in recognising and conserving heritage values by conveying to affected landowners the more positive implications of having their property entered on a Heritage List.

The City's approach to managing its cultural heritage and protection of important sites incorporates a balance of regulatory "control" of development and "facilitation" of investment in restoring and renovating properties such that they embody significant values while also fitting with contemporary social and economic circumstances.

Council's positive powers of "facilitation" include:

- incentives such Council's discretion to determine Town Planning development applications to foster protection of heritage values;
- financial incentives such as fee waivers and/or the WALGA/HCWA loan interest subsidy scheme (provides interest subsidy on loans for heritage conservation works to MHI listed properties); and
- promotional activities such as plaques and awards.

These are a part of a wider strategy which involves:

- educating the community about heritage and its values;
- expanding the community's civic pride in its heritage achievements and assets over the longer term; and
- encouraging sympathetic improvements to heritage elements in Armadale.

The proposed new Heritage Act is considering a requirement for local heritage places to be listed in a "Heritage List" referenced under the Scheme, which is also part of the revised Planning Regulation Deemed Provisions. The City's adoption of the MHI list as the "Heritage List" referred to in the revised Planning Regulation Deemed Provisions would effectively be a continuation of the practice for heritage listed properties, which the City already established by referencing the MHI in the TPS as the relevant "list" of heritage places.

The chief benefit of a "Heritage List" endorsed under the Town Planning Scheme is that the law courts (particularly the SAT) and generally by State government (WAPC and service agencies) are required to give legal "weight" to protections under the Town Planning Scheme when adjudicating on the appropriate the balance between landowner property rights and land use or development restrictions imposed through planning controls.

The City's approach to maintaining consistency between the "Heritage List" referred to in the Town Planning Scheme and the MHI assists community acceptance and minimises the potential for negative publicity which has a detrimental effect on the primary objective of valuing heritage.

The advantage of adopting the MHI as the "Heritage List" referred to in Part 3 of the revised Planning Regulations Deemed Provisions include that:

- it generally covers all sites with different management categories;
- it offers immediate protection of heritage values upon Council's adoption of the MHI as the City's "Heritage List" under the revised Planning Regulations Deemed Provisions;
- it has a level of public acceptability.

The identification of all MHI Management Category Places in the “Heritage List” provides maximum level of legal weight or “standing” to the heritage issues when decision makers are faced with making a decision on the place. For example, where the State Administrative Tribunal or the WAPC is reviewing a Council decision it may give more weight to a place in a “Heritage List” adopted under the Scheme and in accordance with the revised Planning Regulations Deemed Provisions.

The central state government also maintains a State heritage list which provides additional protection for these places of State heritage value. Local government’s emphasis is on matters of local importance and this is supported by the current MHI heritage list with development control powers referred in Scheme provisions which are also the model in the revised Planning Regulation Deemed Provisions.

The City considers that protecting local heritage values will be most assisted where a local government maintains the maximum degree of goodwill with the affected landowners. This is because a landowner’s rights of private ownership ultimately exerts as much, if not more control over the future outcome for a property and heritage values than can be provided by development regulations alone. For example, the degree of building maintenance and security applied to a MHI property are matters that are primarily under the landowners control, as is the amount of capital funds that a landowner expends on renovations and repairs necessary to protect heritage values from the normal ravages of time, the elements and acts of vandalism. The proposal for the new Act and the revised Planning Regulations Deemed Provisions acknowledge these problems, while strengthening the model of a heritage list linked to the Scheme, a model which Council originally adopted in 2005.

Armadale Council has already taken a balanced approach in overall heritage protection that it achieves by a combination of seeking a cooperative relationship with affected landowners and regulatory controls through the TPS, now incorporating the revised Planning Regulations Deemed Provisions. In 2005, Council saw advantages of linking the TPS No.4 procedures for heritage list to the publically acknowledged list endorsed by the Council as the MHI. The MHI was linked into Scheme’s development assessments process and this will be reinforced by revised Planning Regulation Deemed Provisions and a subsequent formal adoption of a Heritage List with or without further update and /or modifications. Heritage protection will remain underpinned by maintaining a full range of places in the MHI adopted as the Scheme Heritage List, which is then subject to specific provisions that require a Planning Applications for substantial changes affecting the heritage values of a property.

The City’s Scheme with Deemed Provisions incorporated together with the policy on Heritage Incentives for conservation provides a multifaceted approach to enhancing and protecting the City’s heritage values, which include both regulatory “control” and a cooperative “facilitation”. The appropriate weight to be given to “facilitation” will depend on the circumstances of the particular site but potentially allows for “win-win” outcomes.

Conclusion

The LPS anticipates the likely outcomes of the new State Heritage Act and revised Planning Regulation Deemed Provisions which strengthens the regulatory control of heritage places. The formal list or updated MHI document, once formally adopted by Council at the next review opportunity as the Heritage List required by the Deemed Provisions, will add to the City's package of measures to value and protect the heritage of the City.

It is proposed to also review the TPS No.4. Local Planning Policies which include Incentives and Heritage Areas Places and properties listed in the updated MHI or List would be periodically updated to incorporate any new heritage sites identified.

The list would also be updated as Metropolitan Redevelopment Authority (MRA) (formerly Armadale Redevelopment Authority) sites are normalised back under the Council's planning jurisdiction.

Planning Strategy for “normalisation” of Metropolitan Redevelopment Authority areas

Introduction

A number of major project development sites within the City of Armadale are under planning controls and the jurisdiction of the State government’s redevelopment authority. In 2001 the State government enacted the Armadale Redevelopment Act to create the Armadale Redevelopment Authority (ARA) and assist the City in the economic and social development of Armadale.

The Armadale Redevelopment Authority subsequently gazetted a series of separate Town Planning Schemes commencing with the 29th August 2003 gazettal of the Armadale Redevelopment Scheme 2003, prepared under the Armadale Redevelopment Act. The ARA’s redevelopment Schemes had the effect of extinguishing the previous planning controls under the City’s Town Planning Schemes and the Metropolitan Region Scheme. The initial Armadale Redevelopment Scheme was followed by the Armadale Redevelopment Scheme 2004 and the Wungong Urban Water Redevelopment Scheme 2007.

The City’s Town Planning Scheme Maps do not therefore zone or reserve land under the development authority’s jurisdiction and the provisions of the Scheme Text and local planning policies do not apply to the land. Notwithstanding, the City’s Local Planning Strategy Strategic Plan indicates for illustrative purposes only, the general planning intent for the redevelopment authority areas. In Armadale, there continues to be a shared vision and close cooperation between the City and the redevelopment authority in the planning, project management and implementation of development within redevelopment areas.

State Planning Policy

On 1st January 2012 the State government enacted the *Metropolitan Redevelopment Act 2011* to inter alia, repeal the *Armadale Redevelopment Act 200*1 and create the Metropolitan Redevelopment Authority, which from that date assumed the functions of the former Armadale Redevelopment Authority. The Metropolitan Redevelopment Authority (MRA) is an SES organisation under the *Public Sector Management Act 1994* and operates as an agent of the State to implement the State government’s planning policies for areas under the MRA’s jurisdiction.

The planning framework the MRA applies in planning and managing the development of places, subdividing land and performing other strategic and statutory planning functions within its Armadale redevelopment project areas is headed by its legislative tools, including its 2011 Act, Regulations and the series of redevelopment schemes made under the Act or its predecessors. The principal statutory planning tools the MRA puts in place under its redevelopment schemes includes planning policies, design guidelines, heritage strategies, structure plans and development contribution plans. All such tools have applied to the redevelopment project sites in Armadale while they have remained under MRA jurisdiction.

Over time, as the ARA did between 2001 and 2011, the MRA will progress and implement the planning and project management for the MRA project sites. As planning and redevelopment for each site reaches agreed milestones the MRA will progressively divest itself or “normalise” the redevelopment project areas located within the City of Armadale. Normalisation will be implemented in consultation with the City of Armadale and the Western Australian Planning

Commission and will be achieved by bringing planning and development controls and responsibilities for the relevant project sites back into Council and WAPC jurisdictions under the District and Metropolitan Region Planning Schemes.

Normalisation Process

The normalisation process for MRA project redevelopment areas is implemented by amendments to TPS No.4 and the Metropolitan Region Planning Scheme which have a similar outcome to a conventional scheme amendment in that it provides zoning and/or reservation over land and implements related planning tools such as Special Control Areas and Development Contribution Areas. However, rather than implemented by the standard *Planning and Development Act* provisions and regulations the normalisation process is implemented under the *Metropolitan Redevelopment Act 2011*.

The normalisation process for State government redevelopment Scheme areas is relatively new, not well documented and may not be well understood by the public. Landowners, the land development industry and members of the public may therefore be unfamiliar with the legal transition process whereby planning control powers of the MRA are rescinded and transferred back to the local government and the WAPC.

Zoning controls implemented by normalisation of redevelopment areas are similar to the controls that formerly applied under the previous Scheme/s which in preparation had the normal phases of public consultation provided under the PAD Act and the AR and MR Acts. However, it is of particular note, that the transition processes which incorporate the former redevelopment areas back into TPS No.4 and the Metropolitan Region Scheme do not involve a new stage for public review and public submissions,. These are the familiar although time consuming feature of the conventional method of amending the TPS and MRS, which is governed by the *Planning and Development Act 2005* and the TP Regulations and which includes preparation of new and revised Local Planning Strategies and preparation of new and revised Town Planning Schemes and amendments.

In effect, the MRA normalisation process is a foreshortened legal process which enables the speedy transfer of planning powers from the redevelopment authority to the local government and WAPC. In contrast to conventional Scheme amendment processes, which take a minimum of in excess of 6 months to formally gazette, the MRA normalisation process can be formally implemented over a period of a few days and without a break in the continuity or status of planning controls.

The MRA currently has planning controls for the large areas of the City (2036 ha or over 20 square kilometres). As future normalisations would be a significant change to the land subject it is desirable to provide an outline of this process in the context of reviewing and preparing a revised LPS for the City of Armadale.

A number of redevelopment areas have previously been normalised back into Council and WAPC jurisdictions under the District and Metropolitan Region Planning Schemes.

In late 2011 the ARA gazetted Regulations and Ministerial Orders effectively amended the City's District Planning Scheme (TPS No.4) through the AR Act.

The Redevelopment Act amendments to TPS No.4 in effect apply transitionary planning and development control provisions to the Scheme as though they were made as actual changes to the Scheme. This occurred for the following areas in late 2011:

- Armadale Strategic Regional Centre precinct east of Commerce Avenue – Jull Street & Orchard Avenue Armadale;
- South Armadale High School and Industrial Area precinct – South Western Highway Armadale;
- CALM former depot precinct – Albany Hwy Mt Nasura;
- Brookwood Estate – Rowley Road Forrestdale.

Town Planning Scheme Instruments / Statutory Controls

The transitionary zonings and planning and development control provisions put in place by MRA regulations will subsequently be confirmed or modified via a formal amendment to the Scheme under the TP & D Act.

Over 2013 to 15 ongoing normalisations are likely to be gazetted for the MRA's Champion Drive and the Champion Lakes Residential and Regatta Centre project areas. This may be followed during the next decade by normalisation of the Kelmscott and Forrestdale Business Park projects. Some precincts are likely to remain under MRA jurisdiction beyond the 10 year planning horizon of the Local Planning Strategy.

Conclusion

Normalisations have and will continue to be implemented by MRA and ARA regulations amending TPS No.4 and the MRS. The MRA normalisation process accordingly needs to be documented in the revised LPS for transparency and information purposes. The formalisation of transitionary amendments to TPS No.4 also needs to be outlined in any subsequent amendments to the Scheme.

The processes for adopting a new LPS and any subsequent amendments to the Scheme will provide an opportunity for the public to make submissions which will be considered prior to finalisation of final Scheme provisions applying to the land.

Proposed modifications to the LPS and TPS No.4 include:

- Incrementally normalise MRA Armadale project areas by incorporating planning controls into the TPS No.4 by means of Regulations and Ministerial Orders formulated in liaison with the MRA.
- Describing the MRA "normalisation" process and the strategy to progress formal amendments to the District Zoning Scheme to confirm or modify the interim planning and development control provisions inserted into TPS No.4 by the MRA for areas undergoing "Normalisation" in the Local Planning Strategy.
- Reviewing the adequacy of interim planning and development control provisions inserted into TPS No.4 under MRA (& ARA) Acts and where appropriate inserting modified provisions.

Activity and Retail (Commercial) Centres Strategy Background

The Armadale Strategic Metropolitan Centre is one of only 10 Strategic Regional Centres in Perth Metropolitan area. This site has only recently reverted from the Armadale Redevelopment Authority back to the Council's planning jurisdiction under the LPS and TPS No.4.

The City also has a growing number of activity centres of different sizes and functions. These provide for the consumption and service needs of the community, nodes for development of economic and social infrastructure and articulate the urban structure. Importantly, activity centres serve as community focal points and centres for local employment.

Depending on size and status, activity centres also encompass diverse activities such as commercial and retail and medical services or entertainment, tourism, civic/community and higher education uses. Activity centres locations are a focus for higher density housing in walkable catchments and facilitating local trips by non-motorised pedestrian and bicycle and or gopher forms of transport. Larger centres also generally feature on public transport routes.

Since the time of the last review large additional urban areas have been planned for the North Forrestdale (Piara Waters and Harrisdale) Development Area, the MRA Wungong project and other areas throughout the City. These were not all fully accommodated in the current Commercial Strategy that forms part of the LPS. In future more and/or larger activity centres will be created throughout the City and the management of these developments requires a logical planning framework and strategy.

State Planning Policy 4.2 Activity Centres for Perth and Peel

State Planning Policy 4.2 Activity Centres for Perth and Peel sets out requirements for local land use planning and decision-making for activity centres. Its fundamental aim is to establish a hierarchy of spatially distributed activity centres which meet different levels of community need and enable employment, goods and services to be accessed efficiently and equitably by the community.

SPP 4.2 specifies the broad planning requirements for the development of new activity centres and the redevelopment and renewal of existing centres with a particular focus on principles of urban design and streetscape, pedestrian access, public transport and co-locating centres with a mix of supporting and compatible land uses. SPP 4.2 requires these be formulated and adopted in a local Activity Centres Strategy incorporated into a Town Planning Scheme. It also encourages the preparation of a Centre Plan for larger Activity Centres.

City of Armadale Activity Centres

The City engaged a consultant (Shrapnel Urban Planning) to prepare an Activity Centres Planning Strategy - Working Paper. The consultant has carried out modelling based on up to date population growth forecasts for. A draft paper has been submitted (Appendix). The document proposes that Strategies and Actions be progressed through programmes of actions to implement over time the development of new centres and facilitate upgrades to existing centres.

The paper includes a Retail Needs Assessment and presents a set of strategy recommendations for possible inclusion in the City's Activity Centres Strategy and inclusion in the Local Planning Strategy. The Activity Centres Planning Strategy discussion paper will be subject to a separate report and recommendations to Council, however, is summarised herewith as it is also an integral update requirement for the Local Planning Strategy.

The Activity Centres strategy recommends different approaches to the planning and development/redevelopment of:

1. well-established centres in older suburbs; and
2. newer-planned centres in future or developing suburbs (generally these are not yet developed).

With the exception of the large main centres at Armadale and Kelmscott and the Champion Drive and the Roleystone neighbourhood centres, some of the older well-established activity centres appear to under-perform and the modelling indicates they have limited scope to increase their trading levels in the future. It recommends a focus on the older and smaller centres based on facilitating marginal improvements to the centre where possible. In contrast, population modelling indicates that the future trade potential for all currently planned centres is good.

The Retail Needs Assessment (RNA), assessing the future retail needs of the community, is the basis for showing a hierarchy in the Local Planning Strategy laying out the planned distribution and size (retail floorspace) of activity centres across the municipality. The RNA identifies sufficient sites for activity centres in appropriate locations throughout the City, so that the shopping and other commercial/ community needs of the population can be conveniently satisfied to the maximum practicable extent.

The RNA results indicate that retail floorspace in the City of Armadale is projected to increase very significantly between 2012 and 2031. In summary "Shop/ Retail "floorspace is projected to increase from 91,200 m2 to 200,300 m^2, and Other Retail floorspace potential is projected to increase from 41,600 m^2 to 140,600 m^2. This level of potential expansion, results from a combination of catering for population growth (both within and outside the City's boundaries) and also from redressing the existing under-provision of retail floorspace in all centres, except Armadale and Kelmscott.

The Activity Centres Planning Strategy - Working Paper proposes a strong framework comprising a hierarchy of centres while also recognising the need for flexibility in responding to unforeseen opportunities in the form of unplanned development proposals which should be determined by application of core planning principles including:

- land use compatibility and compatibility;
- good urban design;
- urban accessibility; and
- convenience, efficiency and sustainability.

It recommends that where necessary unplanned development proposals should require the support of a Retail Sustainability Assessment.

The centrepiece of SPP 4.2 and the proposed local Activity Centres Planning Strategy is the Strategy Map (attached) showing the recommended retail hierarchy as follows:

- Strategic Metropolitan Centre (Armadale)
- District Centres
- Neighbourhood Centres
- Local Centres
- Other Centres/ Mixed Business/ Industrial Areas

Town Planning Scheme Instruments/ Statutory Controls

TPS No. 4 currently has a Local Commercial Strategy – Retail Hierarchy Review (October 2004) as Appendix 4 of the LPS. Activity centres in the City are subject to a range of commercial zones in TPS No.4 including the Strategic Regional Centre, District Centre, Local Centre and some Industrial Business and Mixed Business zones. Provisions in the Scheme Text set the zone objectives and address specific development requirements for each zone. It is proposed the current Strategy document be superseded by the new Activity Centres Planning Strategy.

Conclusion

Given the need to give comprehensive direction and guidance for the development of new centres the Activity Centres Planning Strategy - Working Paper document is integrated with planning for the City's and the MRA's developing areas. However, formal land use and development approvals jurisdiction within the areas under MRA Schemes will remain with the MRA until areas are normalised (refer to for the discussion on "normalisation" of Metropolitan Redevelopment Authority areas).

In summary the LPS/TPS review proposes to:

- Include the Activity Centres Planning Strategy - Working Paper (Shrapnel Urban Planning) as an appendix to the Local Planning Strategy replacing the existing Local Commercial Strategy – Retail Hierarchy Review.

- Prepare a Centre Plan for the Armadale Strategic Regional Centre in accordance with SPP 4.2.

- Prepare an Activity Centres Local Planning Policy which includes the centres hierarchy Strategy Map as a guiding policy document that is easily updated and modified in response to new opportunities.

- Integrate the Activity Centreand Housing strategy objectives by supporting compatible mixed uses including zoning for higher density residential development in the locality surrounding the Strategic Metropolitan Centre (Armadale) and District and Neighbourhood Centres.

- , Discourage significant unplanned development proposals outside of the Strategy hierarchy and if an unplanned proposal is received, prior to any approval being granted, require a Retail Sustainability Assessment (in accordance with SPP 4.2 – Activity Centres for Perth and Peel) to be submitted so that the City can undertake an assessment report for determination of whether the proposal is justified or not. It is acknowledged that SPP 4.2 also provides exemptions for the preparation of Retail Sustainability Assessments, including major developments in Strategic Metropolitan Centres.

Armadale

Hills Orchards Strategy (Karragullen / Roleystone)

Background

The Hills Orchards are located on land zoned General Rural in the localities of Roleystone and Karragullen to the east of the City Centre. Commercial agricultural operations can result in noise from machinery and bird scaring, sprays and odours, which can cause health concerns and complaints where residential uses are allowed to intrude too close to commercial orchards. State Environment Protection Policies also require buffers between residential uses and existing operating orchards. For this reason there has been a well-founded policy of restricting the intensification of non-agricultural land uses in the General Rural zone.

In order to ensure that commercial orchard operators are able to continue without limitations imposed by conflicting nearby land uses, proposals for land use change by zoning, subdivision or development have been carefully assessed in the past. The operation of the planning scheme is based on protecting the existing commercial orchard uses from intrusion by incompatible land uses.

State Planning Policy

The State Government, through its Statement of Planning Policy No. 2.5 Agricultural and Rural Land Use Planning, has identified the Hills Orchards as falling within one of the State's Agricultural Priority Management Areas. The State requires local government to carefully consider the appropriate zoning and permitted uses in these areas to ensure that commercial agriculture can continue to operate effectively and with minimum impact on other occupiers.

Where land is considered to be an agricultural area of State or regional significance local governments are urged to zone the land for 'Priority Agriculture' and to provide for scheme provisions to only permit uses compatible with agricultural activity. While it is recognised that many of the State's major orchards are now located outside of the metropolitan region, the Hills Orchards remain important and a significant proportion of the holdings remain in production, particularly in Karragullen.

While this situation continues existing operators need to be protected from the introduction of extraneous uses and from the intensification of residential use which can create conflicts between different land uses. This is the chief purpose of the TPS No. 4 Special Control Area map overlay which identifies the area where production from existing orchards is a priority land use. The General Rural zone combined with a "Prime Agricultural Land Protection Area" Special Control Area overlay equates with the permitted and discretionary uses of a Priority Agricultural Zone.

Town Planning Scheme Instruments / Statutory Controls

In the City of Armadale the Hills Orchards operate in the General Rural zone where the existing Town Planning Scheme indicates a minimum lot size of 40 hectares. While no Hills Orchard properties currently have the 80ha of land that would be required to subdivide in the General Rural zone, an existing Scheme provision provides discretion to allow a second dwelling on lots in excess of 8 hectares. Such approvals are conditional on that it can be demonstrated that the additional accommodation is required for the continued operation of an existing productive rural use of the property.

Not all the land within the General Rural zone is fully utilised for commercial agriculture as there have been many historical subdivisions which have led to diverse land uses. Given the need for special protection from incompatible land uses intruding into the defined orchard areas of the General Rural zone they have been provided with the additional provisions under the “Prime Agricultural Land Protection Area” SCA overlay. The Scheme text provisions are linked to the Scheme maps by the designated Special Control Area overlay on the Hills Orchards areas.

Conclusion

The Special Control Area for the Hills Orchards area in Karragullen is identified on the Scheme maps as “Prime Agricultural Land Protection Area”. It is considered appropriate for the strategy for the management of land uses and changes thereto within the Roleystone and Karragullen General Rural zone to be maintained by protecting horticultural uses within the Special Control Area from intrusion by incompatible uses. Therefore the Special Control Area is proposed to be continued and confirmed in the revised Local Planning Strategy.

In the event of existing commercial orchard operators relocating, a review of appropriate zonings could be undertaken in consultation with the community and following advice from the Western Australian Planning Commission, Environmental Protection Authority and the Department of Agriculture. It should be noted that the removal of orchards should not infer an automatic right for further intensification by subdivision or development as any such proposal would need to be full justified by land suitability and capability assessments and environmental and servicing reports that would need to be prepared by consultants funded by the landowners/applicants and such should primarily be located outside of the defined “Prime Agricultural Land Protection Area” SCA overlay.

In conclusion the strategy for the Karragullen-Roleystone Hills Orchards area should provide for continued protection of existing commercial operators while also providing scope for the landowners within the General Rural zone to review land uses over the longer term. The LPS discourages applications in the SCA Prime Agricultural Land Protection Area unless land use change is planned within large rational precincts with buffers to any existing continuing orchards acceptable to environmental health authorities. The basis for planning of any land use change should be to provide orderly defined precincts of compatible landuses. Over time in the Karragullen-Roleystone Hills Orchards area there could be an appropriate transition of land uses. This would need to be accompanied by a change in zoning from the General Rural zone to the Rural Living zone.

Rural Hills Visual Landscape Protection

Introduction

The City of Armadale is experiencing expansion of urban development and pressures for more intensive land use and settlement resulting from Perth's burgeoning economy. The hills locations in Armadale's Darling Scarp and Ranges are locations of distinctive character and have many places of landscape interest. The rural areas in the Armadale hills help define the sense of place and identity of Armadale. It also provides the wider regional community with a local tourist destination, recreational opportunities and visual relief from the built up suburban parts of the Perth Metropolitan Area.

The City continues to experience significant growth, placing pressure on land in the hills which is perceived as still available for development and intensification. This includes continued demand for further subdivision and development of rural hills land. The iconic Armadale hills areas are sure to be increasingly valued over time and it is therefore important that new development proposals are considered and measured against the value of remaining rural and bushland landscapes.

State Planning Policy No. 2: Environment and Natural Resources

State Planning Policy No 2: Environment and Natural Resources and WAPC landscape guidelines recommend that a community's valued landscapes be identified and protected by appropriate planning, including landscapes valued for their ecological and their aesthetic qualities. The policy and guidelines encourage careful planning of new developments, including siting and design which is sensitive to both the character of the area's landscape and its capacity to absorb new developments.

The WAPC landscape guidelines recommend that local governments, particularly those with areas of significant landscape value, review and incorporate appropriate landscape policies in their planning strategy. They identify as most important the prominent elevated landscapes and undulating rural landscapes which are both valued by the community and under pressure for change. The highest areas of landscape value are therefore found in areas which have both varying topography and bushland vegetation features. In Armadale this is the character of the Darling Scarp and Ranges.

Pressures on Hills Landscapes

Over time, the extent of the MRS Rural zone tends to diminish as land uses and lot sizes change from larger rural holdings of between 2ha to 10ha by zoning and subdivision down to Urban Residential or the near-to-urban Special Residential lot sizes, which range from 2000m^2 to 4000m^2 in the unsewered hills areas. Some of these hills locations are already zoned, subdivided and developed for urban residential or special residential purposes. Special Residential zones are commonly controlled by Structure Plans, zoning and additional provisions for subdivision and development. Notwithstanding, over the longer term additional locations have also been set aside for Parks and Recreation Reserves, national and regional parks, water catchments and local conservation and recreation reserves it is the remaining rural land which fills the gaps or separations between the areas of closer development which require careful consideration in future.

However, it is also the same larger MRS Rural zone holdings, which provide the resource areas targeted by landowner/developers for closer development. Some areas have already been subdivided down to a 1ha minimum in the form of Rural Living zones or for Special Residential lots down to 2-3000m^2. Subdivision and development often also involves some clearing of remnant vegetation, particularly for bushfire protection purposes and the construction of housing and infrastructure also has an impact on the landscape.

Lot sizes are perhaps the single most important factor in maintaining rural landscape values. While it is necessary to maintain a supply of various sized lots to suit particular rural lifestyles, lots subdivided down to smaller than 2ha minimum size tend to become more urban in nature with the percentage of land required for outbuildings houses and structures, making it more difficult to preserve landscape amenity values on the smaller lots than on lots of 2ha or greater.

A number of reinforcing trends accentuate the potential impacts of development on the hills landscape, including that houses and outbuildings have tended to become larger and lifestyle factors such as the desire to capture significant views and outlooks are more important factors in site selection than in earlier times. Community safety concerns over bushfire threats require fuel reduction and vegetation removal surrounding habitations and infrastructure. If inappropriately planned, such developments therefore have the potential to compromise the rural character and over time diminish the landscape values of hills locations.

In early 2012 approximately 4,754 ha of the Scarp and Darling Range “hills” components of the Armadale municipality remained within the Rural Living and General Rural TPS No.4 zones (excluding the Special Residential zoned areas which are considered close to unsewered urban-residential in nature). This area is located generally to the east of the north-south axis established by Albany Highway and South Western Highway.

Town Planning Scheme Instruments / Statutory Controls

The City of Armadale's Strategic Plan recognises the way physical infrastructure is planned, provided and maintained and the level of care afforded to the natural environment has a major impact on the quality of life of all citizens. Its strategies for planning and development therefore are guided by achieving a balance between the economic, social and environmental objectives of the community. It aims to integrate development with the City's distinctive character and preserve its places of interest. The Rural Hills areas are one of the special places of interest in Armadale.

As other land is developed or constrained in various reserves, over time the MRS Rural zone land is subject to increasing intensification of land uses. Unchecked intensification risks a general diminishing of the land's rural characteristics. The geographic extent of Rural zoned land has steadily reduced with fragmentation into smaller lot sizes and more intensive built construction in new Rural Living, Special Residential or Urban Residential zones.

In the City's remaining rural hills locations changes in landuse and the approval of new developments are largely based on the assessment of the suitability of a site or location for a proposed development. The notion of land suitability includes consideration of a wide range of factors including matters such as environmental impacts, amenity impacts and the availability of services. Land capability assessment is an important tool that involves a technical analysis of land in terms of its ability to support road and house construction and on site effluent disposal, amongst other matters.

Technical information on land capability is readily available for the hills area from a range of State agencies including departments of Food and Agriculture, Environment and Conservation and Planning. Unlike the technical aspects of soil, topography and vegetation, ready-made analyses and interpretations for the Armadale hills landscapes are not readily available to the landowner or planning regulators such as Council and the WAPC.

In the past land suitability assessment including information essential to considering the landscape has been largely based on professional judgements and decisions of Council. It is recognised that good decision-making on development proposals requires a comprehensive knowledge base. The current lack of readily accessible information on landscape values therefore represents a gap in the total information requirements for sound and comprehensive planning.

A site's landscape and its value is of no less importance than the elements associated with a more technical land capability assessment when determining the appropriateness of a site for a particularly proposed development. In addition, landscape values are important considerations for any major new rural subdivision areas and to a lesser extent small scale developments such as constructing a new house or outbuilding in a geographically sensitive location.

Assessing the importance of a landscape involves understanding some of the tangible elements familiar in land capability methods, however, perhaps more importantly, landscape assessment also involves understanding cultural, social and other less tangible factors which determine how a community engages and identifies with a place. Together these factors help determine how a community values a particular site or area.

While landscape analysis can never be an exact science, to protect future land use and development in the rural hills areas a Landscape Policy can be prepared to provide guidelines for assessing land capability and land suitability, which takes account of the landscape in addition to the conventional socio-economic and environmental factors.

Conclusion

It is desirable to set landscape policy benchmarks against which development proposals in the rural hills areas can be measured.

The City is preparing a landscape policy for the rural hills area of Armadale which incorporates consideration of both ecological and visual aspects. The new planning policy and complementary updates to the Scheme will guide assessment of new development proposals and encourage sympathetic siting of development. The policy will also be useful in the assessment of zoning or structure plan applications for new areas of closer settlement. It will identify elements that contribute to landscape value and factors for consideration in the assessment. Notwithstanding such policy measures, the landscape impact of smaller lots below 2ha in size is such that the City no longer encourages this form of subdivision in the rural hills area.

The policy is also intended to guide the site selection and preparation of detailed development proposals with a view to minimising impacts on landscape values and also by conditions of approval such as vegetation screening and selection of construction materials for factors such as size and colour schemes that can mitigate and soften the visual effect of a development in terms of the response to its surrounding landscape.

The policy may also guide identifying areas suitable for local tourist drive routes or provision of future local walking trail paths. While it will focus particularly on the iconic hills areas the policy outcomes may be also useful in assessing applications for sensitive landscapes on the flat Swan Coastal Plain western parts of the City.

The LPS/TPS review does not currently propose to zone new hills areas for subdivision and closer development. However, the City needs to consider additional planning tools which can assist in assessing and managing areas where landowners are proposing subdivision and closer development. Appropriate provisions and conditions of development can then be imposed as part of the planning assessments and recommendations.

The LPS/TPS review will jointly establish aims and objectives for protection of the hills visual landscape and undertake a review of the TPS No. 4 Special Control Area mapping for Prime Landscape Protection Areas. It should provide scheme text and planning policy provisions for protection of the rural hills landscape areas of Armadale.

Planning Strategy for Bushfire Protection

Introduction

Fire is a regular and natural occurrence in the Western Australian landscape and many plants and animals have adaptations that allow them to survive in an environment that is periodically subject to bushfires. Where human settlements are located among or in close proximity to bushland areas, bushfires represent a potential threat to life and property for people living in the rural and urban fringe areas of the City of Armadale.

Over the past 170 years of human settlement, many bushland areas of the City have been set aside by the state government for public purposes such as water catchments, forests, national and regional parks. These bushland areas are highly valued assets contributing much to the biodiversity, character and diversity of lifestyle opportunities available to residents of the City of Armadale. Historical subdivisions have often occurred in close proximity to these bushland features and there are also many areas where land cleared for development has seen regrowth and additional planting of native trees and vegetation. The discrete rural communities that have developed in these areas have become a part of Armadale's culture and lifestyle.

Large parts of the City and the Darling Scarp and Darling Ranges in particular, provide opportunities for a lifestyle living close to bushland, however, the same character and features of slope, vegetation and proximity to large parkland and state forest reserves that attract residents also increase the hazards and risks associated with bushfires. Locations on the Swan Coastal Plain in proximity to bushland vegetation can also have significant bushfire risks. In recommending and managing land use change and closer development the risks of bush fires needs to be taken into account.

As the population of Armadale grows and the more sparsely occupied areas of the City come under ever closer scrutiny for more intensive subdivision and development, it is important to ensure that due consideration is given to protection of new subdivisions and land developments from the threat of bushfire attack. TPS No.4 was formulated with special provisions to ensure that the goals of protection of life and property from bushfire attack are a high priority in the planning of new land developments.

These have been added to by the 2015 major State government initiative to declare vast areas of the State including the majority of land in the City of Armadale as Bushfire-Prone. Together with related legislative changes, a new suite of WAPC regulations, policies and guidelines from State government agencies provide guidance to local governments and landowners planning development in areas that are potentially affected by bushfires. The assessment of all proposals for human habitation and/or occupation in these areas will require analysis of bushfire hazards and/or bushfire attack levels.

These requirements will come into play from the level of strategic planning of new sites or landuses and down to the level of a statutory application for a Building Permit sought for a single house on an existing plot of land, in some circumstances.

In recent years, areas of closer settlement have been planned according to the State government's bushfire protection planning guidelines and areas of new development have incorporated design and management features so that risks and hazards of bushfire attack are reduced. However, despite this precautionary approach the majority of rural and urban

properties in the City pre-date the time when the new bushfire planning requirements were applied to new subdivision and development.

In contrast to the newer subdivided areas, the consideration given to bush fire hazards on legacy lots approved by the State government in earlier times is often inadequate. Consequently, with the opportunity to live amongst areas of native bushland which is one of the major attractions of the area, many of Perth's hills suburbs also have an elevated level of risk of experiencing bush fires. However, a landowner responsibility for land management, hazard reduction and bushfire safety goes with the choice to take up the lifestyle offered, particularly on larger rural blocks or in areas near locations of bushland or elevated bush fire hazard. In that regard the City also undertakes extensive awareness campaigns to ensure residents are aware of bush fire issues and encourage them to be bush fire ready.

The State government applies stringent planning controls on land development and protection from for bushfire which the City now has to apply to all new subdivision and developments proposals. These matters are a direct outcome of the Keelty Report recommendations on the 2011 Hills Bushfires which are supported through the update of LPS and TPS. No.4. These include a consistent implementation of bushfire risk assessment / mitigation / management measures in all local government areas; elevating bushfire risk and amelioration to be addressed from the highest level of planning down to building permit stage; and requiring development and building permit applications to assess and impose bushfire risk management measures prior to approval, particularly through applying AS3959: construction standards for habitable buildings in bushfire-prone areas.

State Planning Policy 3.7 - Planning for Bushfire Risk Management

The WAPC's State Planning Policy 3.7: Planning for Bushfire Risk Management (SPP 3.7) builds upon the earlier State Planning Policy 3.4 - Natural Hazards and Disasters (2006) to address prevention and protection from bushfires through landuse planning and development where areas are determined as being at an elevated risk.

Planning for Bushfire Risk Management Guidelines (2015)

In 2015 updated Planning for Bushfire Risk Management Guidelines are being gazetted by the WAPC to replace the former 2010 Interim Planning Guidelines for Bushfire Protection (Edition 2). The new guidelines set out a range of matters that need to be addressed at various stages of the planning process to establish an appropriate level of protection to life and property from bushfires and assist in avoiding inappropriately located subdivision and land developments. Through incorporation of provisions of these matters in TPS No.4, together with complementary State Bushfire-Prone Area Maps and Building legislation, bushfire risk becomes a priority consideration that will be applied to assessment processes for all relevant developments including in many cases for new single dwellings.

Town Planning Scheme Instruments/ Statutory Controls

TPS No.4 was formulated so that planning areas of new development where risk of bush fires is of concern could be subject to provisions and conditions to address the fire risk and provide mitigation measures as part of any approval. TPS No.4 incorporated the WAPC's Model Scheme Text provisions dealing with bush fire risk. TPS No.4 provisions addressing bush fire risk includes the following:

- Clause 10.2 Matters to be considered in determining an application for planning approval, states that the City is to have due regard to whether the land to which the application relates is unsuitable for the proposal by reason of it being, or being likely to be, subject to bush fire risk (where for example a site is subject to a bush fire risk, the City can require a Fire Management Plan as Scheme or Structure Plan provision, a condition of subdivision or development approval, or it can refuse to approve applications if the risk is excessively severe).

- Part 6A provides mechanisms for Structure Plans to be prepared for new areas earmarked for more intensive subdivision and development ("Development (Structure Plan) Areas"). Any special conditions and/or requirements for bushfire prevention and/or protection that need to be addressed by the Structure Plan, or in subsequent subdivision or development approval, are specified for the subject land and incorporated into Schedule 12.

Further provisions and modifications dealing with Bushfire risks including Deemed Provisions are being introduced into TPS No.4 by the revised Planning and Development Regulations (Town Planning Schemes) 2014-15.These will ensure the issue of bushfire protection is considered as early as possible in the planning process. The rezoning/Scheme Amendment process is usually the first step in the planning process and it is the principal means of incorporating place-based requirements and conditions into the Town Planning Scheme Text. Rezoning proposals in areas of potential bushfire risk need to be accompanied by an assessment of the bushfire risk level and recommendations for measures to reduce the level of hazard. These are prepared by a fire planning specialist and put in place as part of the rezoning, structure planning, subdivision and development of the land as part of implementation of the Fire Management Plan and/or conditions of subdivision/development (if an Additional Use is proposed theses are incorporated into Schedule 2).

Where the assessment of bushfire risk accompanying a rezoning identifies an elevated level of fire risk, the Scheme Amendment will also identify the land on the Special Control Area Maps as a "Prime Bushfire Hazard Protection Area" and the provisions of the Scheme Text including the Deemed Provisions of the revised Regulations will also apply.

Clause 6.7 allows new prime bushfire hazard protection areas being rezoned for future subdivision or development to have specific conditions and requirements under the Scheme, such as Fire Management Plans and/or the application of design standards of AS 3959 for new buildings and related matters such as caveats on the titles of new lots advising of the fire hazard and/or existence of the Fire Management Plan. Many areas will be identified as Bushfire-Prone in the State Map or updates thereto, as reported to State Government by the City and other agencies in periodic review processes.

Existing or any new areas defined as a "Development Area" require a Structure Plan to be prepared which can have bushfire protection provisions, or in any area subject to a subdivision proposal a Structure Plan can be required. In these cases the fire hazard assessment would

need to accompany the Structure Plan application and recommendations made to address and mitigate fire risk. These may be adopted as “Specified Conditions and Requirements” and annotated on the final Structure Plan.

Areas of existing residential or rural smallholdings which are legacy lots created by earlier WAPC subdivision approvals prior to new bushfire protection mechanisms coming into place may also be affected by the 2015 Maps of State Bushfire-Prone land. When new development applications are received within defined areas, such as for a single house construction, assessment of the Bushfire Attack Level will be required prior to issue of a Building Permit and construction to AS3959 may be required as part of development of the site.

Keelty Report into the 2011 Hills Bushfires

As a result of the 2011 Hills Bush Fires the Keelty Report was undertaken for the Department of Premier and Cabinet with terms of reference which included land use planning and bush fire protection related matters. Accordingly the Keelty recommendations relevant to planning and development including the review and update of the LPS and TPS are:

> Recommendation 3 - The State Government transfer responsibility for declaring bushfire prone areas from local government to the Western Australian Planning Commission (WAPC). The Western Australian Planning Commission should urgently assess those areas that should be declared bushfire prone.
>
> Recommendation 4 - The State Government give legislative effect to the Planning for Bush Fire Protection Guidelines.

These recommendations are both intended to be implemented in 2015 with the Office of Bushfire Risk Management (OBRM) and Commissioner for Fire and Emergency Services declaring the Bushfire-Prone Area which includes Bushfire-Prone Vegetation plus a 100 metre buffer area around areas of vegetation generally larger than 2,500m^2.

The more stringent planning and building controls that are intended to apply in late 2015 will minimise bushfire risks in inhabited locations. They include controls on the building of single houses on legacy lots created by the State government in earlier periods where those lots fall within the Bushfire-Prone Area.

Areas of Bushfire Hazard

The new 2015 State government regulations and policies arising from the Keelty report makes the Commissioner for Fire and Emergency Services responsible for declaring areas which are potentially bushfire prone.

In the City of Armadale, development in bushfire-prone areas incorporated into the Scheme Special Control Area maps as “Prime bushfire Hazard Protection Area” will also apply the provisions of the new State government instruments in addition to any Scheme requirements. The State provisions have precedence in the event of any discrepancy.

The new State Bushfire-Prone mapping will be accessible via the City’s website and/or Intramaps GIS tool and considered in all relevant planning and building permit assessments. When these areas are subject to proposals for a change of use or closer subdivision and development they will be assessed in detail by suitably qualified personnel which in most cases will be a fire planning consultant engaged by the applicant.

Conclusion

The LPS/TPS review does not currently propose to zone new rural areas for new subdivision and closer development as all such areas in the LPS have previously been identified by State Government Structure Plans and Strategic Planning documents. However, the City will publicise the new State bushfire protection documents and resources to reduce bushfire risks in areas subject to proposals for subdivision and closer development. The conditions of development approval will be imposed as part of planning applications and/or building permit assessments.

The City has supported the Department of Premier and Cabinet’s coordination and implementation of the Keelty recommendations. The City will continue to exercise a monitoring-brief on any matters arising from the stricter requirements of the State government’s 2015 major new bushfire protection initiatives, including periodically advising of updates to the State Bushfire-Prone Area Maps and suggestions for policy and practice improvements.

Changes currently proposed to reduce bushfire risk in planning land use and development through the LPS/TPS review process include:

- Adding a new aims and objective to the Local Planning Strategy – to reduce and minimise bushfire risks and impacts in new areas of closer subdivision and development.

- Preparing a new local planning policy guided by State Planning Policy 3.7: Planning for Bushfire Risk Management and the 2015 updated Planning for Bushfire Risk Management Guidelines to reduce bushfire risks in closer subdivision and development including implementation of AS3959 Construction Standards on existing lots subject to an application for a building permit.

- Using the City’s GIS Intramaps mapping tool to incorporate information on mapping of potential bushfire hazard, bushfire-prone land and to assist in operational planning and building permit assessments.

Mapping and documents will be updated periodically and in liaison with State Government agencies.

Planning Strategy for Protection of Biodiversity

Introduction

The location of the City of Armadale is characterised by two distinctive land forms which define its diverse living environments and natural resources. The western-most third of the City, which supports over 80% of the City's population, comprises of the relatively flat and low lying eastern portion of the Swan Coastal Plain. The weathered soils of the eastern portion of the Swan Coastal Plain are characterised by many wetlands and areas of low lying seasonal damplands.

The eastern portion of the Swan Coastal Plain supports wetlands assessed as Conservation Category Wetlands, Resource Enhancement Wetlands or Multiple Use Wetlands which comprise of vegetated wetlands or areas where there is little vegetation. The latter may be naturally open water, seasonally inundated mud-flats, or areas that have been cleared of original vegetation for agricultural and rural production purposes. Forrestdale Lake is the largest, most important and most protected single wetland area and is protected by a State Nature Reserve and national and international level listings.

The balance eastern portion of the City comprises of the Darling Scarp and Darling Ranges which contain the vast majority of the City's gross land area and the largest bushland and forest reserves. The City's hills locations are characterised by a sparse population density, mostly confined in discrete urban and rural precincts bounded by vast tracts of uninhabited forests and bushland water catchments in the eastern most part of the municipality. Several surface water catchment dams provide drinking water supplies to the greater Perth metropolitan area.

The Canning River traverses the Darling Scarp and Darling Ranges and exits the City to the north at Kelmscott. The Wungong River transects the Swan Coastal Plain portion of the City and extends from the hills catchments on the City's southern boundary and drains westwards to the Swan Coastal Plain where it traverses to the north to join the Southern River tributary of the Canning River. Smaller water courses arising in the Darling Scarp and Darling Ranges feed the main tributaries of the Wungong and Canning Rivers.

In the hills and coastal plain areas of the City of Armadale there are many areas of native bushland, forests and other natural areas, which support the natural processes and the rich biological diversity found in these environments. Many natural bushland areas are located in existing regional and national parks, nature reserves, state forests and also on private rural lands. Armadale has a settlement history of nearly 2 centuries and many areas have been used for productive use of land in private landholdings of various sizes. All privately owned land in the City has been zoned for productive use of land in rural and urban zonings under local town planning schemes which have been continuously in place since the early 1970's. Public land is often subject to a Reservation under the Perth Metropolitan and local planning schemes.

Armadale provides its community with a healthy lifestyle, affordable housing and range of amenities and access opportunities for employment, recreation and social engagement. It also provides for a lifestyle which has easy access to natural areas in both coastal plain and hills locations. The City is also currently undergoing an unprecedented phase in the growth and development of its population and local economy, which is associated with a strong State population growth and the physical expansion of the Perth metropolitan area. New areas for residential development are being developed in Armadale to meet the needs of Perth's growing population.

The majority of urban growth is focussed in new urban areas located on the degraded rural farmlands of the coastal plain or infill housing in existing urban areas. Demand for small rural holdings, or lifestyle blocks, is also catered for by infill development in the remaining rural portions of the City in the hills and coastal plain areas.

Perth regional planning has a key objective of achieving productive use of land balanced with areas set aside for conservation of biological diversity. Conservation objectives have accordingly been secured by the creation of State reserves, Parks and Recreation Reservations and Bush Forever Overlay areas in the Metropolitan Region Scheme, which are primarily dedicated to the retention of these bushland and other natural areas over the longer term.

Given the City of Armadale's growth and development, land use planning at the local level also needs to consider how to balance the City's economic development with the preservation of native bushland and other high conservation value natural areas. An important planning objective of the Armadale community is therefore to assess land attributes including values for conservation of biological diversity or biodiversity where property is being considered for land use change or development.

The setting of land use priorities and options for particular sites requires decisions to be based on available information not only about the land in terms of its social and infrastructure contexts, but also for any potential natural values that may be present on the land. Where a site is identified by a regional policy such as Bush Forever, information on natural values and guidelines for infrastructure or development is generally available in the Bush Forever Implementation Guidelines. Decision making is also taken out of the hands of the City and falls under the responsibility of the Western Australian Planning Commission (WAPC) on reserved lands. However, where private properties are not identified as having regional conservation or biodiversity values but some natural values remain, Council has a primary role in determining local priorities and in decision-making on discretionary land uses or major land use change.

Significant land use change or development proposals will have the priorities and options determined by the elected Council of the City. The Council's adopted Local Planning Strategy and a range of policies provide guidelines for decisions for both major and lesser scale and significance, the latter which are generally determined by authority delegated by Council to a subordinate committee or Senior Officer. Council's Strategic Plans and policies are informed and guided by the policies and strategies of the State and Commonwealth governments, including those for conservation and biodiversity.

To assist Council in achieving a balance between conservation on the one hand and productive uses and development on the other, a strategic environmental discussion paper on local biodiversity was prepared for public comment in June 2009. The Local Biodiversity Strategy discussion paper (LBS) was prepared by a consultant and based on the environmental strategies and priorities outlined by the national strategy and international conventions concerning biodiversity and with assistance by Commonwealth funded officers in the Western Australian Local Government Association (WALGA) and State government Departments of Planning (DOP) and Parks and Wildlife DPaW), formerly the Department of Environment and Conservation.

Planning Background

Land use planning at the local level is regulated by State legislation and policies of the Western Australian Planning Commission. It encompasses broad community goals or objectives at the level of strategic planning and set in spatial frameworks and a system of regulatory approvals at the statutory planning level. The paramount objective of land use planning legislation is to facilitate social and economic development and to balance these objectives with management and protection of the environment including those areas which contain significant remnant bushland vegetation, wetlands and other natural areas that exist on private property and on State and Commonwealth government lands. Town Planning Schemes are the principal tool a local government uses to integrate its long term vision for conservation, land use and development in the whole municipality with appropriate consideration of the aspirations of the City's private landowners and the applications they put forward for the use and development of private landholdings in rural or urban zones.

The Environmental Protection Authority undertakes environmental assessment of land use change and development through the assessment of the Town Planning Scheme, its zones and provisions and amendments thereto under provisions of the *Environmental Protection Act (1986)*. The City of Armadale's TPS No.4 is an "Assessed Scheme" under the *Environmental Protection Act*. An "Assessed Scheme" means that developments which comply with TPS No.4 generally do not require to be referred to the EPA for assessment under part IV of the *Environmental Protection Act 1986* and that environmental issues raised by land use or development proposals are generally capable of being managed through normal planning processes. However, the City may refer and the EPA can "call in" any proposal that it considers requires environmental assessment or which raises new environmental issues which the EPA considers have not been previously dealt with in the environmental assessment undertaken prior to the gazettal of the Assessed Scheme (or any amendments thereto).

Related legislation also deals with specific biodiversity and environmental conservation issues at a much more detailed level, including the *Wildlife Conservation Act (1957)* and an array of Environment Protection Policies under *the Environment Protection Act (1986*). These deal with matters such as for Declared Rare Flora, conservation wetlands and protected fauna.

Bushland, vegetation or habitats in various categories deemed to be nationally environmentally significant are also protected under the Commonwealth government's *Environmental Protection and Biodiversity Conservation Act (1999*) and objectives are supported by a suite of related Commonwealth policies/strategies. Assessments of environmental issues at a micro-level are often routinely required through the assessment and passage of planning proposals through the land use approvals system.

Areas of Significant Bushland

Regionally significant bushland and natural area sites on the Swan Coastal Plain portion of the Perth Metropolitan Region are identified in the Bush Forever Policy (2000), which is the whole-of-government policy for the conservation of regionally significant bushland. Bush Forever resulted from a major inter-agency research project which spanned over a decade of work. Bush Forever identifies 51,200 hectares of bushland in the metropolitan area as regionally significant, most of which is on the Swan Coastal Plain. Classifying land as Bush Forever areas used criteria relating to the land's conservation values. Bush Forever makes recommendations for protection of regional bushland on both private and public lands and covering 26 vegetation complexes.

System 6, Conservation Reserves for Western Australia (Department of Conservation and Environment and the Conservation Commission of WA, 1983), also identifies and makes recommendations for the regional significant bushland areas. System 6 areas have been undergoing reservation for parks and recreation reserves in the Metropolitan Region since the 1980's. In the City of Armadale System 6 includes lands in the Darling Ranges.

Bush Forever areas were introduced onto the Metropolitan Region Scheme (MRS Maps) on 15th September 2010 by Metropolitan Region Scheme Amendment 1082/33. The Bush Forever areas of regionally significant bushland are a policy overlay and do not affect the current MRS or TPS zoning or reservation of land. The overlay highlights the need for special consideration where developments or actions may impact upon the Bush Forever area.

Much of the regionally significant Bush Forever MRS overlay in Armadale is also Reserved as 'Parks and Recreation' in the MRS and TPS No.4. Some land with regional significance which forms part of a Bush Forever area is also private land owned in fee simple (i.e. a lot). The City of Armadale is blessed with extensive natural bushland areas protected by Bush Forever, MRS 'Parks and Recreation' Reserves which include Department of Parks and Wildlife managed Regional Parks, National Parks, Nature Reserves and the drinking water catchment/ State Forest reserves.

The local planning strategy needs to integrate appropriate land use and development for bushlands and natural areas of regional or local significance. Armadale's residents and local user community groups will perceive the local significance of regionally significant bushland and natural areas in their local area as a greater relevance to local planning than any consideration of regional significance.

State Planning Policy 2.8 - Bushland Policy for the Perth Metropolitan Region

Planning guidance for areas of bushland and other natural areas is provided by the WAPC's State Planning Policy 2.8 - Bushland Policy for the Perth Metropolitan Region. Together with the range of issue-specific WAPC policies and local priorities and objectives set out in the Local Planning Strategy and Town Planning Scheme SPP 2.8 must be considered in decision making at the various stages of the multi-staged planning approvals process.

The state government's Bush Forever Policy (2000) is the principal regulatory control which protects biodiversity in regionally significant bushland areas on Perth's Swan Coastal Plain (SCP). SPP 2.8 describes planning requirements for land affected by Bush Forever. In the City of Armadale the SCP is the primary locus of new urban development and large tracts of Armadale's SCP area have been protected by the Bush Forever Policy (2000), which is therefore very important in protecting the biodiversity of Armadale.

State Planning Policy 2.8 - Bushland Policy for the Perth Metropolitan Region outlines 5 implementation categories for Bush Forever areas. The implementation categories provide an outline of the issues and principles and issues to be considered when determining proposals in specific locations.

The implementation categories for regionally significant bushland are based on the intended use or zoning of the land:

- Bush Forever Reserves (existing or proposed) have the highest value, and there is a presumption against clearing of any native vegetation in this category (eg Piara Nature Reserves or Harrisdale Swamp);

- Urban, Industrial or Resource Development zoned land is where the land is recognised as being constrained by existing planning commitments, approvals and policies. The objective for these zoned areas is to seek a reasonable outcome between conservation and development or resource extraction (the Landcorp MRS Industry zoning on Anstey Road is an example);

- Government Lands and Public Infrastructure is where there is the acknowledgement that some public essential infrastructure may need to be located within Bush Forever areas (the objective for a reasonable balance between conservation and development also applies to these public land areas) (eg dedicated road reserves are an example of public infrastructure land);

- Rural Lands which are privately owned are assessed on a case by case basis and will generally be supported for one building envelope on the property, however, proposals need to be in accordance with other planning and environmental legislation and policy eg the Development (Structure Plan) Area for Lot 431 Oxley Rd on Gibbs Road in Forrestdale is an example of development on rural lands in Bush Forever and in this case a Conservation Covenant was implemented by the City for protection of native vegetation through statutory planning conditions); and,

- Regional Creeklines are natural features traversing the landscape where the aim is to support the protection and management of regionally significant bushland along regional creeklines (eg the natural corridors provided by the Wungong River and Canning River are examples in Armadale).

Planning Assessments in Bush Forever Areas

Where land is identified as a Bush Forever area, land owners or managers who wish to pursue a land use change would follow the same planning process as any other development proposal, however, the portion of land subject to the Bush Forever overlay is given special consideration by State government decision makers (WAPC and DEC/EPA). The WAPC recommends that landowners of property affected by the Bush Forever overlay commence discussion with the Department of Parks and Wildlife and the Department of Environment Regulation at the very early stages of formulating an application so that the landowners can obtain appropriate advice.

It is noted that the State government has over recent years prioritised regionally significant bushland in Bush Forever areas as priorities for MRS Parks and Recreation Reservations and the acquisition of land from the pool of available public funds in the Metropolitan Improvement Fund. The Department of Sports and Recreation Studies (2012) and the City's Active Sporting Reserves Study (2009) have confirmed this has led to a shortfall in land reserved for active sporting activities in major recreation nodes that were previously provided by the State government in new areas of rapid population and housing growth. While the rapidly growing municipalities and districts on Perth's growing periphery such as Armadale are consequently provided with regionally significant vegetation reserves they are no longer being provided with adequate regional open space for active recreation and sports grounds. This has contributed to a shortfall in land and facilities available for active recreation and sports grounds in these areas. The State's priority for bushland protection has accordingly created a new reliance on local governments to provide active recreation areas through the standard 10% POS contributions from urban development.

The City has determined for its projected population that there will be a significant shortfall in the required area of active recreation sites particularly in the western growth-localities on Perth's Coastal Plain where the bulk of MRS reserves have been dedicated to land protected by Bush Forever. The City has accordingly highlighted the provision of areas of active sports and recreation in new urban areas and where the 10% local Public Open Space requirement can be consolidated to provide suitable sites.

SPP 2.8 states that a land use or development proposal with a Bush Forever area that achieves a reasonable conservation outcome in compliance with State Planning Policy 2.8: Bushland Policy for the Perth Metropolitan Region is unlikely to be formally assessed under part IV of the *Environmental Protection Act 1986*.

Local Biodiversity Strategy Discussion Paper

One of the recommendations of SPP 2.8 is that local governments should prepare a local bushland protection plan (also called a local biodiversity strategy) to make recommendations for considering bushland and biodiversity protection as part of local land use planning. The City accordingly prepared a Local Biodiversity Strategy (LBS) discussion paper in 2009 prepared by consultants Ironbark Environmental & Ecological Australia in liaison with a working group of state government agency representatives assisted by some staff and elected member representatives. The Local Biodiversity Strategy discussion paper is available on the City's web site Services and Facilities/Environment section:
http://www.armadale.wa.gov.au/environmental-initiatives.

The November 2009 LBS identifies areas of privately owned zoned land (lots) which may potentially be of local significance or it assumes which may be regionally significant but overlooked by the Bush Forever study.

The LBS discussion paper recommends that consideration and assessment of local biodiversity be incorporated into the land use planning proposals and the applications put forward by land owners for the use and development of their private landholdings. The LBS also makes recommendations for increased resources and staffing levels in relevant functional areas of the City to manage and look after crown reserves with bushland and to where possible assist landowners management of biodiversity and conservation on private land. These are matters generally covered by the City's State of Environment Reporting (SOE) (produced periodically - latest in 2011) and also considered in Council's annual budget deliberations and while not the particular focus of the Local Planning Strategy, are nevertheless an important component in the City's approach to the management of conservation and biodiversity in bushland and other natural areas on the various types of land tenure found in the City of Armadale.

The Local Biodiversity Strategy acknowledges the role of the TPS in supporting biodiversity and related processes on public and private land and in involving landowners and the community in protecting and managing biodiversity. Key recommendations of the LBS in respect of the Local Planning Strategy are those for new policies and modifications to the TPS aimed at strengthening the approach to conservation and biodiversity issues in local strategic and statutory planning assessments and in decision-making considerations. A number of LBS actions recommend changes to the Local Planning Strategy/Town Planning Scheme (LPS/TPS) together with related changes to policy and/or administrative practice. These are being implemented through the current review of the LPS and subsequent amendments to TPS No.4.

This LPS discussion paper accordingly deals with land use planning-related matters applying to the LPS and TPS No.4. Other SOE reporting, resource and staffing issues will be addressed in processes and reports to Council undertaken within functional areas of the City addressing the environmental services and parks and facilities.

Many key terms used in the Local Biodiversity discussion paper may be unfamiliar to landowners and many are new terms (neologisms) which are not based on conventional statutory land use planning terminology. While TPS No.4 currently recognises biodiversity and conservation as a planning consideration some preliminary explanation of the terminology used will assist in understanding the particular emphasis of the biodiversity discussion paper into a statutory planning framework.

In a land use planning context, "biodiversity", or biological diversity is the generic term that encompasses:

- the variety of all natural life forms – the different plants, animals and micro-organisms and the genes they contain;
- the ecosystems of which all life form a part.

Biodiversity is constantly changing and not static. It is recognised that the biodiversity of an ecosystem is increased by genetic change and evolutionary processes and can be reduced by processes such as habitat degradation, species population declines and extinctions (Commonwealth of Australia 1996).

Biodiversity can be considered to have two key aspects:

- its intrinsic value at the genetic level, at the individual species level, and in species assemblages (community) levels; and
- its functional values at the level of ecosystems (ie the role it performs in natural environmental processes).

The Planning Strategy "vision" or goal recommended for biodiversity is to support local biological diversity and related processes by involving local landowners and the community in the protection and management of local bushland and other natural areas within the City.

A "natural area" is land that contains native species or communities in a relatively natural state (a natural area could include land with native bushland vegetation or other habitats such as open water bodies or watercourses including lakes, swamps, rivers, streams, creeks, springs or rock outcrops which may be vegetated or not vegetated in a natural state). For simplicity this paper will use the term "natural bushland area" as an inclusive generic term cover the various LBS's categories of natural area (listed above).

Examples of "natural bushland area" can be found on all types of land tenure including:

- Bush Forever areas;
- public land such as Regional Parks and Recreation Reservations and other public reserves;
- lands managed by DEC; and also on
- lots that are owned privately.

The LBS recommends a suite of land use policy prescriptions and requirements to be considered where natural or near-natural bushland areas are identified on lots that are owned privately when the lot is subject to a proposal for land use or development. The subset of near-natural bushland areas not generally subject to Bush Forever or other regional controls over land use or development are described as potentially having "local" significance. The LBS specifically targets areas of "local" significance for attention in proposing more local land use planning policy controls and development assessment requirements.

The LBS used existing regional data to identify and map natural areas potentially significant to the Armadale community but which were not considered significant or overlooked by Bush Forever. These primarily concern the subset of natural bushland and other natural areas which comprise of privately owned lots where the land is not within a Bush Forever area, a Regional Park or other parts of the DEC managed estate. In the discussion paper these lots or parts thereof in a near-natural state are described as "local" natural bushland areas. The LBS notes that due to the substantial changes which have occurred since the 1829 pre-settlement "natural state", areas such as parkland cleared areas, areas of isolated trees in cleared settings, ovals, turfed and similar areas, are not considered natural bushland areas.

Where Bush Forever identifies areas and habitat of significance, by definition it is of "regional" importance to the Perth region. While these areas are also of local significance, they are not defined as "local" natural bushland areas in the LBS.

The LBS identifies natural bushland and habitat that is potentially of "local" significance to the Armadale community. This needs to be confirmed by detailed survey and Council decisions on community priorities so that statutory controls can be applied such as through Structure Plan provisions, or subdivision or planning conditions. Once the detailed assessment and Council decision confirms a site is in a near to natural condition and a priority for protection, suitable

statutory controls can be applied. While statutory controls have implicit powers of enforcement and prosecution of private landowners under the Scheme, it is considered that outcomes for the conservation of biological diversity negotiated through planning assessments are a preferred approach.

The majority of land (in lots) the LBS describes as potentially a “local” natural bushland area is land privately owned (in fee simple) and used by landowners for a variety of rural or urban purposes for which has been zoned. In planning terminology this land is generally referred to as “zoned” land (ie it is zoned for a particular private purpose such as Rural Living or Urban Development/Residential). This contrasts with “reserved” land which is identified for a public purpose and which is usually acquired (purchased) by a public agency or by the landowner ceding land to the crown as Parks and Recreation, a Nature Conservation or Foreshore Reserve or ceded (usually without compensation) through conditions of subdivision under Planning and Development Act Regulations.

The LBS recommends that where land use or development proposals are being considered and the land potentially contains natural bushland area of local significance, a detailed assessment should be required. This would assess which parts of a lot are significant “local” natural bushland areas so that any decision-making processes can give special consideration to protection and on-going management of the near-natural areas and which parts can accommodate more intensive use and development (ie parts which are not local considered significant “natural bushland areas” which may include for example existing cleared, degraded or other non-natural or previously developed areas).

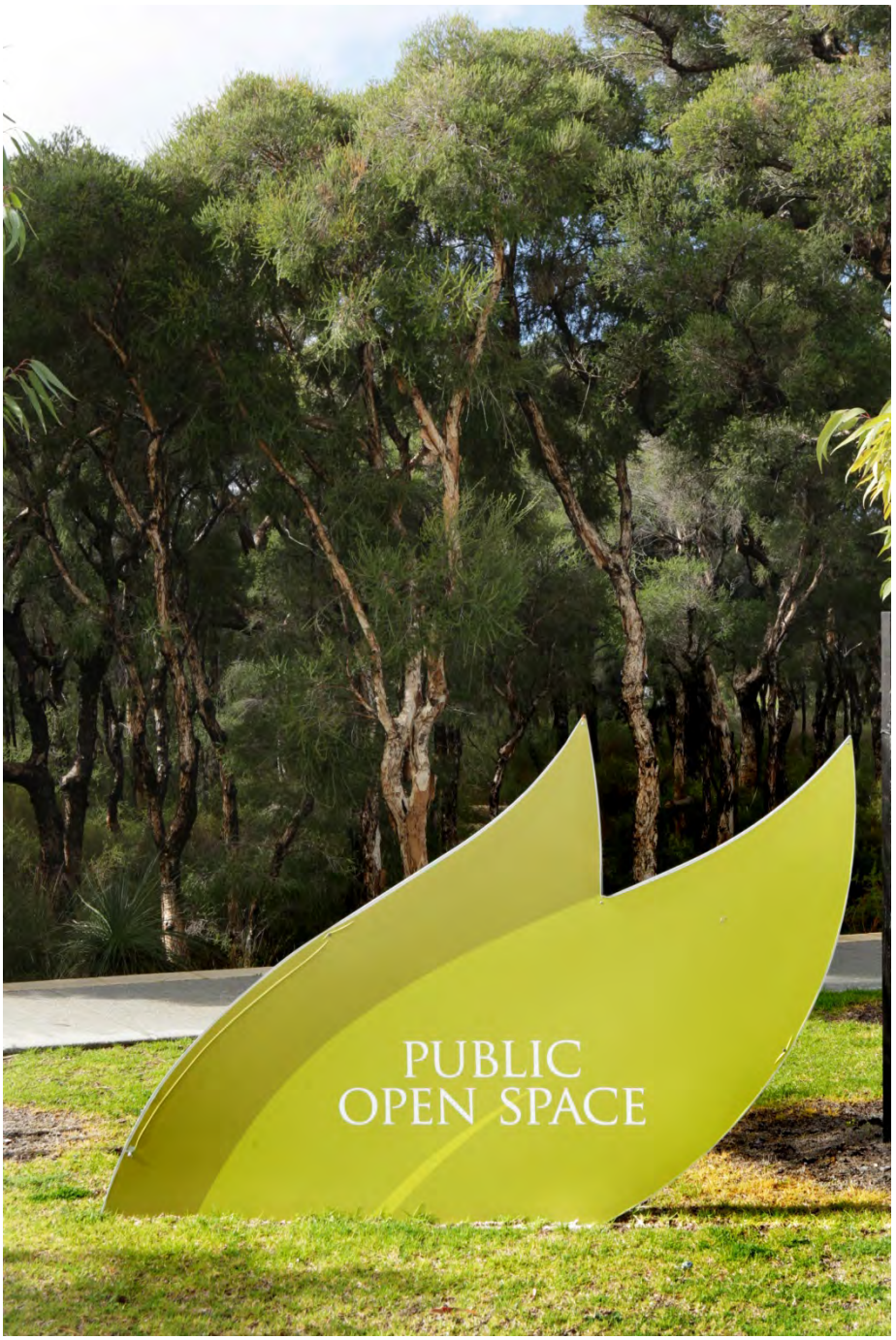
The LBS discussed paper mapped the sites with potential for local significance. The vegetation mapping information used in the LBS to identify potentially “local” natural bushland areas is the result of a broad scale regional assessment using aerial photograph interpretations conducted several years ago. As part of a planning assessment the LBS mapping and information therefore requires to be updated and certified by appropriate ground survey methods. Where local significance and priority is “confirmed” the outcome will be a “local” natural bushland area that is “certified”. Certified “local” natural bushland areas can then be mapped on Intramaps and tracked for future monitoring and consideration in land use approvals.

Ground-truthing vegetation surveys should be required where a land owner proposes a change of land use or development on land with potential local significance. This will map the lots or parts of a lot identified as local natural bushland and where use and development should be prescribed or subject to control and regulation. Contemporary vegetation surveys would provide certified information which to substantiate planning controls and conditions which can be imposed where appropriate through the statutory planning process. It will also support the defence of Council’s decisions against landowner appeals through the State Administrative Tribunal for example where Council refused a development because of local biodiversity issues. Environmental consultants can be required to undertake such work and as these can be funded by proponents for land use and development proposals such tasks will not generally be an impost on public funds.

The key feature of the discussion paper on local biodiversity is that it also seeks to preserve a greater extent of bushland or other natural areas in the urbanising western growth areas than those areas already set aside as Bush Forever and in crown reserves for Parks and Recreation and Forests etc. The LBS has therefore used the mapping of the sites with potential for local significance to set aspirational cumulative target allocations for private land, which Council

could potentially achieve where Council determines allocations of land to the conservation of biodiversity is one of the key priorities for that particular site or precinct.

It is important to note that the quantity of local Public Open Space (POS) which can be requisitioned in urban residential type developments is generally limited to 10%. In rural zones, POS contributions are discretionary and cannot usually be mandated by a Scheme, however, there can be some planning negotiations where major land use change is proposed. Land in urban residential type developments such as occurring on the Swan Coastal Plain western growth areas of the City is also required for active recreation and for The State government has also set a priority for multiple use corridors in a network of constructed “living streams” as one of the key primary objectives for public space provided via subdivision of former rural lands.



Town Planning Scheme Instruments / Statutory Controls

The practice of land use planning in the City involves balancing the objectives of individual private landowners for land use with long term broader social, economic and/or environmental considerations and objectives of the Armadale community. Local land use planning under the TPS is primarily governed by MRS zoning which involves determining appropriate productive land uses for land allocated into local zones which are consistent with the overarching MRS zone. Where a sites' biological diversity value to the local community has been certified (confirmed) as near-natural bushland areas by detailed survey local land use planning controls can also include appropriate protection and management. A range of mechanisms are available through planning legislation to protect near-natural bushland areas that have been certified.

Land use planning involves making choices between potential alternative uses or alternative development of land and how these fit with broad social, economic and environmental objectives of the Armadale community. This involves consideration of the suitability of the site location for various purposes, its spatial relationship to activity centres and other land uses, the availability of infrastructure as well as the ability for the site to be serviced and provided with access. Council's determination of proposals for all land, including land mapped as potentially near-natural bushland, requires consideration of both private and public benefits in the context of the City's priorities for the site or location in terms of opportunities for a good mix and variety of land uses.

Administering land use and development for any site or in any precinct requires balancing the City's social, economic and environmental objectives. The LBS recommendations are an important input to the decision making process. Strategies for economic development, social or recreational provision are other inputs that also need to be considered in planning processes and Council's final decisions.

The final land use or development outcomes approved by Council for any property or location is the result of balancing the several individual single issues to achieve an outcome within the bounds imposed by environmental considerations which is acceptable to government decision-makers and as far as possible also takes into consideration the rights of the individual private landowner. The framework for this assessment is usually defined in terms of environmental, social and economic dimensions, which in the theoretical framework of sustainable development, is sometimes referred to as triple-bottom-line assessment.

Exemplary sustainable development achieves objectives in all three dimensions and represents a theoretical highest goal for planning and managing the use of land. It betters the local economy, betters social functions and betters the natural environment, however, land use decision-making for a particular site or location often involves finding a "best fit" or balance of outcomes fitting into community priorities, taking into consideration the alternative opportunities available for the subject land and the potential costs/relative efficiency of minimising unintended consequences as far as is practically possible.

The diverse array of constraints and opportunities for any property or site often requires consideration of trade-offs in benefits or costs in one or more dimension. The assessment of values (costs and opportunities) requires political choices to be made. For example, different people may view land being developed for housing as socially desirable as it provides for a basic need for shelter in addition to the lifestyle opportunity from the benefits of home ownership and economically it supports the development of the local economy. Other people

may consider the same land being developed for housing as undesirable if it changes an area at all.

Political choices and decisions are moderated by representative democracy and decision-making processes including local and State governance, planning processes and appeal mechanisms where priorities and rights can be debated and resolved. Disputes that arise from the choices made are therefore resolved through many checks and balances built into the land use planning and development approvals systems and related environmental legislation such as the Commonwealth and State government environmental impact assessment mechanisms.

Planning decision-makers including Council or State or Commonwealth or environment protection agencies may consider land or some portions of a lot has vegetation/habitat worthy of protection and management and require creation of a crown reserve, Reservation for Parks and Recreation via a Scheme Amendment or in a Structure Plan, thereby allowing the land to be ceded to the Crown for recreation or conservation as Public Open Space (POS). Alternatively, if bushland is in a near-natural state and is valued at the local level it may be protected by Scheme/or Structure Plan provisions including the allocation of covenants for bushland management and locating development envelopes or portions of a lot suitable for more intensive or productive uses such as keeping of livestock to degraded areas. Complementary measures such as requiring bushland management plans etc to be prepared through conditions of subdivision/development can also be required through statutory planning processes.

As discussed above, planning decisions and political choices sometimes require trade-offs between competing or mutually exclusive objectives, for example maximising active recreation opportunities and maximising protection of remnant local natural bushland in the POS provisions under State subdivision policy. These are both outcomes which may only be separately possible in some instances. However, in other cases, particularly where sites have been identified as not of regional significance and where the assessed bushland values fall short of the near to natural state potential potentially indicated in the local biodiversity discussion paper mapping, decisions to provide satisfactory provision of POS for active recreation ovals and facilities for example, may conflict with objectives to conserve the remnants of bushland or other natural areas. It is in the planning and development decision-making processes, which include decisions by Council, overseen and adjudicated upon by the WAPC, EPA and the law courts in the form of the State Administrative Tribunal (SAT) that choices and trade-offs can be made.

The City's Local Biodiversity Strategy discussion paper identifies bushland/wetland/other natural or habitat areas in various precincts which potentially have local significance but not the regional significance recognised in Bush Forever areas. Council is the authority for determining local priorities including the identification and certification of natural areas warranting retention and protection through statutory plans. SPP 2.8 and the LBS recommend that landowners proposing new development where bushland or other natural areas may be present follow a similar process to that for the regional Bush Forever areas.

The City therefore recommends and encourages landowners to commence discussion at the very early stages of formulating a planning application or proposal so that the landowner can obtain the appropriate advice from the City (and where required from the Department of Planning, the EPA and the Department of Environment and Conservation). The resolution of objectives which are competing or conflicting or mutually exclusive may require negotiation and

on occasions adjudication by a higher authority such as the EPC, WAPC or SAT. In all cases the concept of reasonableness will be one of the key criteria in determining final outcomes.

The management of private land is the responsibility of the landowner and this includes managing any protected native plant species, communities or fauna on the land. A landowner's choices and actions about how the land is used and managed over time will strongly influence biodiversity outcomes and arguably, it has potential for as much or more influence than regulation by the Commonwealth, State or a local government. A landowner's decision to run stock (sheep, cattle horses) for example, will influence vegetation habitat and biodiversity retention and therefore protection, in addition to related factors such as weeds, water-logging and fire frequency. Education and information available to landowners about the environmental values of their land is therefore a major tool in protecting biodiversity. Planning policies play a role in educating landowners about biodiversity matters in addition to providing regulatory controls on a private land owners land management practices.

In managing their land and vegetation, private landowners are required to comply with relevant legislation, which includes inter alia, both environmental and planning legislation. In WA Planning and State environmental legislation are linked, however, each domain has antecedents and purposes with differing objectives. However, both domains rely on objective assessments and statutory implementation processes.

Environmental legislation (including both State and Commonwealth legislation) deals specifically with environmental issues and is the primary legislation a landowner has to comply with in regard to protecting the environment in his/her day to day activities. This includes presumptions against doing "environmental harm", both generally and against protected species and communities. It includes clearing above certain land area limits and matters such as conserving soils, preventing pollution and contaminating the land.

Private land in the City is allocated by the Town Planning Scheme (TPS) to a "zone" which designates the land use/development controls (and also provides land use/development opportunities) intended by the City to apply to that land within the broad zone categories set the State government through the MRS. The City's first zoning Scheme was in 1972 and over the 40 years since land use and development has tended to increase in intensity as the State's population grew and Perth metropolitan area grew. In addition to providing land use controls zones also confer a "right" to use or develop private property for particular purposes. The certainty entailed in a zoning is why most people are comfortable to spend what is often lifetime savings on land. In rural residential type zones (Rural Living) they can use land for a variety of particular purposes ie for a hobby farm, to keep horses, to have lots of
machines, enjoy space and relative peace or to live close to nature in a bushland setting. Some land has specific productive uses, such as horticulture or agistment or grazing or poultry.

Zones in the City of Armadale include Rural Living, General Rural, various forms of Urban Development/Residential, various forms of Commercial/Industrial and some land that is Reserved for purposes such as local Parks and Recreation and Public Purposes, or is dedicated in crown road reserves as road links which are then constructed to form the district road network. Zones are established over land in broad-area and location-based precincts and not on the basis of individual properties. These are founded on a principle of balancing diverse objectives and considerations including environmental, social and economic criteria.

Some zoned land supports native species or communities in a relatively natural state and hence once certified could qualify as a local bushland natural areas which supports and sustains

biodiversity (in accordance with LBS definitions these may include native vegetation, vegetated or open water bodies or watercourses such as lakes, swamps, rivers, streams, creeks, springs or rock outcrops). It is the nature of environmental physiography that these features generally cross property/lot boundaries and may also cross different zones or municipal planning jurisdictions.

The right of any landowner to use his/her land for a particular purpose is prescribed by the TPS zones and land use/development control provisions. The TPS is subsidiary legislation under the TP&D Act. All zones have land use and development categories which are permitted (P) by the Scheme and land use and development categories which are prohibited (X). The TPS also provides a range of land use and development categories which require special approval, (ie discretionary A or D uses). Conditions may be imposed on a land use or development approval issued by the City or the WAPC (which includes subdivision or building or a new activity such as house construction or land clearing for a rural type purpose such as keeping livestock). Discretionary uses/developments (A or D) are more amendable to conditions imposed such as for local bushland management than are P (permitted) uses as it involves a greater potential to negotiate outcomes. The WAPC and the courts ensure that conditions imposed on a landowner are not onerous.

A range of issues or factors may be used to determine the acceptability of conditions imposed on a particular use/activity and development or whether a particular proposal should be refused approval. These are broadly the environmental, social and economic considerations and criteria listed in the Scheme. Issues of biodiversity are an example of the environmental category, but are only one of the range factors considered in any specific proposal.

Balancing public and private benefits

The Australian legal and property system which includes the field of planning law is founded in common law principles and the rights claimed through private ownership. Planning legislation including the zones and controls of Town Planning Schemes protect a private landowner's rights to obtain an economic/productive benefit from their land asset. This is a fundamental consideration in planning and is regularly upheld by the courts when land use regulations or development conditions are extended to beyond what the courts consider as reasonable.

To most landowners their ownership of land, be it a large rural holding or small residential lot, is the single largest financial asset and investment they will make in their lives. Planning interventions have to be justifiable to the courts of law as any landowner who feels aggrieved by a planning intervention by a decision or condition of approval has a right to exercise an appeal to a "higher" authority, usually the SAT.

The planning system provides that land with over-riding public benefits should be identified for public acquisition by the Crown. This is the process of reservation (either under the MRS or the TPS) or of ceding POS as a condition of subdivision/development. Reservation indicates an intention for purchase or compensation paid to the landowner for the loss of rights implied by reserving the land. Where private rights are extinguished, for example by restricting the use or development of land because a local government considers the vegetation should be protected, the outcomes must have a reasonable balance of public and private costs and benefits. Where onerous private costs are suffered and confirmed by the courts, there may be a liability for compensation payable to the landowner.

Accordingly, what is "reasonable" is a fundamental consideration in planning and of any decision which makes an explicit or implicit distribution of private and public costs and benefits. This can be tested in the SAT. Reasonableness is also the primary test cited in SPP 2.8 to support of planning interventions which aim to protect biodiversity values (local or regional) on private land. Therefore decision-making in land use planning requires a pragmatic balancing of sometimes competing or conflicting considerations and interests.

Existing zoning provisions under TPS No.4 already restrict some activities in bushland or other natural areas eg clearing vegetation in Rural Living zones. Planning interventions which provide opportunities for conditions of approval to be applied only generally occur at certain thresholds such as applications for rezoning and subdivision, changes in landuse that require Council to exercise its discretion. At these thresholds there are opportunities to apply extra requirements for land management specifically for biodiversity conservation by means of conditions of approval.

Administrative law requires planning conditions to have a direct nexus/link with the nature or scale of the proposal/application to which the conditions are attached. A proposal to develop land (including subdivision) has to clearly give rise to the need for the condition or it can be appealed and overturned by the WAPC, the Minister or the tribunal (SAT) according to the specific circumstances.

Far reaching or onerous land management conditions cannot be imposed on an application of a minor nature, such as conditions attached for example to build a single house on a rural property and requiring the protection of natural areas of native vegetation or wetland over a large area of land purported to be of local significance only. However, if it was proposed to create a number of lots by subdivision of an existing lot, conditions requiring management plans

to be prepared over vegetation or wetlands identified as of local (biodiversity) value and worthy of retention for example, could be imposed. If there is a measure of balance or equality between the development rights granted by an approval and the scale of constraint imposed on the private rights to use other parts of the land, by protecting bushland located on the lot, such a case example should be able to withstand judicial scrutiny on appeal, which any landowner who feels aggrieved has a right to exercise.

Conditions of approval requiring a landowner's land or some portions thereof to be maintained and managed specifically to support biodiversity and its related natural processes can therefore be attached primarily to more significant development proposals. This can be done through special Scheme provisions in the case of rezonings (Scheme Amendments imposing a need for a Structure Plan and providing a list of "Additional provisions applicable to subdivision and development" of a site through Schedule 12), or directly as Structure Plan design requirement provisions or subdivision conditions in the case of subdivision.

The types of biodiversity issues which justify planning interventions and the principles and exclusions that should be applied in local planning and decision-making for conservation and biodiversity are outlined in State Planning Policy 2.8 - Bushland Policy for the Perth Metropolitan Region as follows. It applies to both vegetation indicated as of regional significance (Bush Forever) and vegetation which Council may have identified as being of local significance.
Excepting in situations 1 where a proposal or decision accords (i.e. is consistent/in accordance) with the following existing controls there is a general presumption 2 against clearing or other degrading activities in bushland:

(a) existing approved uses or existing planning/environmental commitments or approvals or
(b) a management plan approved under the *Conservation and Land Management Act 1984*; or
(c) compatible operations or necessary operations carried out under the *Conservation and Land Management Act 1984;* or
(d) a management plan, or similar, which has been endorsed by the WAPC and has appropriately considered bushland protection requirements; or
(e) the overall purpose and intent of an existing Crown reserve or can be reasonably justified with regard to wider environmental, social, economic or recreational needs, and all reasonable alternatives have been considered in order to avoid or minimise any direct loss of regionally significant bushland, and reasonable offset strategies are secured to offset any loss of regionally significant bushland, where appropriate and practical.

Footnote 1 these are exemptions identified in SPP 2.8 policy measure 5.1.2.1 (i).

Footnote 2 the general presumption against clearing or other degrading activities is subject to:

- on-site verification of the values, presence, condition and boundaries of bushland and wetland areas;
- where required (to be prepared as part of the statement of environmental effects, where required, and consistent with guidelines prepared by the Environment Protection Authority (2003b and 2003c), where appropriate);
- an assessment of the bushland's long-term viability, such as size, shape, connectivity and key threatening processes;

- consideration of other impact assessment criteria in appendix 2 of SPP 2.8 and other relevant policy measures in this policy (SPP 2.8); and
- any advice received from key State government agencies with regard to other statutory requirements and policies.

Except where the existing controls as described above apply, proposals and decision making for land containing bushland which Council considers may potentially be of local value (but where it is not a regionally significant Bush Forever area) should:

1. Have regard to the protection of significant bushland sites recommended for protection and management in the endorsed local bushland protection strategy (ie Local Biodiversity Strategy) or through other planning processes or studies that have been formally endorsed by Council and the WAPC; and
2. Have regard to the following conservation and design considerations:
   A. the conservation values of the subject site and seeking to protect the core (highest) conservation values while avoiding unacceptable losses, which includes a general presumption 2 against clearing or other degrading activities in bushland, area's containing:
      I. System 6 recommendation areas (Department of Conservation and Environment (1983), Conservation Reserves for Western Australia), the Conservation Commission of WA conservation estate and parks and recreation reserves in the Metropolitan Region Scheme outside the Swan Coastal Plain portion of the Perth Metropolitan Region;
      II. threatened ecological communities and species listed under the Commonwealth's *Environmental Protection and Biodiversity Act 1999*;
      III. an ecological community that has been determined by the Minister for the Environment to be a threatened ecological community, and is referred to in the list of threatened ecological communities maintained by the Chief Executive of the Department principally assisting in the administration of the Conservation and Land Management Act 1984;
      IV. threatened and poorly reserved plant communities (preliminary maps, Environmental Protection Authority, 1994);
      V. declared rare flora or specially protected fauna; and, where possible, priority or significant flora or fauna;
      VI. lakes or wetlands listed in the Environmental Protection (Swan Coastal Plain Lakes) Policy 1992 and the Revised Draft Environmental Protection (Swan Coastal Plain Wetlands) Policy and Regulations 2004, and other significant vegetated wetlands (most notably conservation category wetlands as identified by the Department of Environment's Geomorphic Wetlands Swan Coastal Plain dataset and recognised Aboriginal sites), and appropriate buffer and foreshore requirements consistent with other relevant government policies;
      VII. vegetation complexes where less than 10 per cent of the original (1829) extent currently remains (this generally correlates with vegetation on the eastern side of the Swan Coastal Plain portion of the Perth Metropolitan Region); and
      VIII. wetland dependent vegetation fringing creeks, rivers and estuaries and appropriate buffer and foreshore requirements in accordance with other relevant government policies and initiatives.

Footnote 2 – refer to previous page.

Recommendations for Local Biodiversity

The published 2009 discussion paper was prepared to assist Council in planning the use and development of private freehold land to achieve a balance between conservation of biodiversity and the productive land uses. The study was based on archival aerial photo-interpretation and historical records of landform and vegetation community associations which provided a snapshot overview of the City's native bushland and other natural areas at approximately 2007. Advertising of the Local Biodiversity Strategy discussion paper was limited primarily to Friends of the bushland groups and relevant government agencies. Notices were and published in the local newspaper and on the City's website. Landowners with potential local natural areas and land use industry stakeholders were not specifically advised or invited to comment.

Further public input will be provided through the incorporation of the key LBS recommendations relevant to land use planning into the LPS which will undergo a formal public comments stage. Subsequent Scheme Amendments and Structure Plans will provide the decisions of Council transposing the vision and objectives for conservation of biodiversity into statutory policies and where appropriate, into controls on land use, will also be advertised for public comments prior to final decisions..

The LBS recommended provisions for incorporation into the LPS, TPS No.4 and relevant planning policies. These are intended to promote the conservation of biodiversity and provide a balance of land uses with the City's the need to sustain economic development and through Council's land use planning controls and decision making to provide for population growth.

The LBS recommendations support a long term vision for the City of Armadale to sustain significant areas of bushland and other natural areas which support the City's biodiversity and natural processes and to balance this with various land use allocations promoting the ongoing economic and social development of the municipality. A key tool in achieving this balance is the assessment process whereby Council, in considering a decision on land use or development which may affect a local bushland or other natural area on private property, is to consider the area's natural attributes or typology including its condition/degradation rating details. This provides a mechanism where the role and function and values of the land in sustaining natural process and biodiversity can be assessed.

The above assessments should be based on flora and fauna information which is more up to date and detailed. The circa 2007 discussion paper data on potential local natural bushland areas provides a location guide to where such assessments will be required. The LBS data was collected at the regional level so that Council's planning priorities and socio-economic factors also need to be taken into account. The Council's decision making can therefore have regard to not only the economic and social development of the Armadale community, but also the protection of land with high biodiversity and importance in the management of natural processes in the City over the long term.

The LPS provides high level guidance for further assessment in decision making related to the ongoing land use and development of the City. It is therefore appropriate to reiterate the broad vision and objectives for the conservation of bushland and other natural areas of high biodiversity value in the LPS discussion paper recommendations. The 31 specific recommendations of LBS discussion paper are accordingly discussed in the following section.

1. The City's Local Planning Strategy should include the vision for biodiversity conservation.

Decisions on land use and development affecting remnant or more extensive areas of local natural bushland or other natural areas should be based on consideration of opportunities and constraints comprehensively assessed and taking into account the full array of relevant social, economic and environmental factors. The scale of decision may range from relatively minor matters such as a landowner erecting a new garden shed to larger scale proposals such as a major rezoning of a large area for urban development or structure planning for major subdivisions.

Including the vision for biodiversity conservation as one of the key objectives of the Local Planning Strategy is a way to ensure that biodiversity conservation is addressed at the appropriate phase of land use planning. Planning processes and decisions affecting individual landowners should always involve the landowner. Where a significant change is proposed particularly where Council is considering making a decision on land use and development with potential to affect biodiversity values or the role of the land in sustaining natural processes, the planning process should also offer opportunities for the wider Armadale community to have input into the decision making process. This may occur through general processes of strategy and policy development and also in major proposals for specific sites, through public review and comment periods of Schemes and Amendments, Structure Plans and major Development Applications.

The Local Planning Strategy can express the key objective for biodiversity conservation as a vision "to support local biodiversity and related processes and involve local landowners and the community in the protection and management of a network of local bushland and other natural areas".

2. The City's Local Planning Strategy should provide for a strategy or district structure plan to guide future subdivision of rural living lands on the coastal plain, in conjunction with a review of PLN 2.7 Environmental Management and Improvement Policy for Development of Constrained Land to achieve, among other objectives, the protection of natural areas.

Rural living lands on the coastal plain are predominantly confined to areas south and west of Forrestdale Lake and it is the land in this locale where PLN 2.7 was primarily formulated to be applied (further discussion of PLN 2.7 is provided below). The productive use and development of the RL lands in south western parts of Forrestdale is also generally constrained by a range of factors including high water tables, soils with low nutrient retention capacity, native vegetation and bushland, wetlands and the Jandakot Groundwater Mound Public Water Supply Control Area.

In 2005 the City rezoned the entire southern part of Forrestdale from the previous "General Rural" zoning to the "Rural Living" zoning. Prior to November 2005 when this change occurred, the "General Rural" zoning was based on an assumption of land use for broad scale agriculture and rural production. As an agricultural zoning, general vegetation clearing was permitted by the Scheme (subject to the area limits of regulatory approvals for agricultural clearing required by the State government).

Since 2005, however the “Rural Living” zoning has significantly expanded the planning controls to include control over land clearing of vegetation and restrictions on the permitted range of land uses that are statutorily available in respect to private land as a right. The previous “General Rural” zoning had few land management or environmental protection controls relevant to biodiversity and conservation.

TPS No.4 provides for a range of lot sizes by Rural Living zone suffixes ranging from RL 2 to RL 20 and RL X, where the suffix 2 equates with a minimum lot size for subdivided lots of 2ha, the suffix 20 equates with a minimum subdivided lot size of 20ha and the suffix X equates with no further subdivision below the existing lot size. Subject to detailed assessments, zoning and compliance with policies including the Jandakot Groundwater Protection Policy SPP 2.3, lot sizes for land in the JGMPWSA may be permitted to 2ha minimum. A significant policy change was therefore made at the landscape level pursuant to the gazettal of Town Planning Scheme No.4 in November 2005.

Preparation of a district structure plan would require significant time and resources and public funding contributions. Opportunities and constraints, environmental and servicing studies would have to be carried out over a large area and involve extensive coordination of private landowners, government and public stakeholders. In the absence of significant pressures for land use change the preparation of a district structure plan may risk pre-emptive vegetation clearing and promote ad hoc landowner rezoning requests and lobbying for urban residential subdivision which would likely be a counter-productive for the area south west of Forrestdale Lake.

Nevertheless a strategy is defined as having “a plan of action or policy” to achieve the outcomes Council decides upon. There are no relevant current applications or proposals before Council, however, proposals for rezoning or structure plans following the Town Planning Regulations, State Planning Policy and Scheme provisions provide the appropriate direction to implement LBS action 2. In any strategy or district structure plan to guide further subdivision, the private landowners would be the beneficiaries of development potentials provided by subdivision. The necessary detailed studies can therefore be undertaken in association with any landowner proposals for rezoning or structure plans that come forward and without the need for public funding by the City or State government. The assessments recommended in the Perth Bushland Policy SPP 2.8 would be applied.

The revision of PLN 2.7 in conjunction with the new natural areas policy (see in LBS action 9) can also include an outline of this general strategy which can be applied for future coastal plain subdivision proposals. Where they are supported by Council the more detailed provisions and guidelines such proposals can be incorporated into TPS No.4 as “Additional Requirements for subdivision and development”. These Schedule 12 provisions and Structure Plan provisions can trigger subdivision conditions, such as requiring flora/fauna studies, POS to be ceded and/or management plans to be prepared for valued vegetation, wetlands, land covenanting etc.

3. Consider an environmental review and strategy to guide assessment of development applications and subdivision applications over rural living lands on the coastal plain. One of the primary objectives of the review is to implement State level environmental and planning policy, assess environmental values and make recommendations on the protection of these values. This should also lead to a review of PLN 2.7.

All Scheme Amendments leading to subdivision and development must comply with the EP Act S48A environmental review requirements and all subdivision are based on Structure Plans and/or Scheme Amendments that have undergone environmental assessments to guide subsequent planning and development. In WA the major planning and environmental legislation are fully integrated so that all development under assessed Schemes has received endorsement under environmental legislation at the planning stage and prior to on ground development (TPS No.4 became an Assessed Scheme under the WA *Environment Protection Act* upon its gazettal in 2005). The Commonwealth environmental legislation, however, is not integrated with WA planning legislation so that environmental assessments under Commonwealth environmental legislation only occur at the stage of on-ground Implementation, rather than at the planning stages which is the case for State environmental assessments. The responsibility for referrals to the Commonwealth falls to proponent developers rather than being automatically referred by planning authorities as is the case under State legislation.

A major Strategic Assessment of the Swan Coastal Plain is being undertaken 2012-14 by the State and Commonwealth government environmental and planning agencies. These assessments provide for the implementation of State and Commonwealth environmental and planning policies.

Major developments not requiring a Scheme Amendment and the S48A environmental review which Scheme Amendments are linked to should be referred for environmental and agency scrutiny and S38 formal environmental assessment if required. Council's Environmental staff can provide technical advice on smaller proposals under current policy local and State environmental and planning policies. Significant applications or proposals can also be referred to Council for wider scrutiny. There is little potential for broad scale subdivision in these areas without either first preparing a Structure Plan or undertaking a Scheme Amendment.

Schedule 12 provisions can be included in the TPS for scheme amendments to set "Additional Requirements for subdivision and development" and Structure Plan provisions for projects not formally assessed by the EPA. These will trigger subdivision conditions, such as requiring flora/fauna studies, POS to be ceded and/or management plans to be prepared for locally valued bushland and natural areas (vegetation, wetlands etc).

Reviewing PLN 2.7 is considered appropriate and major environmental reviews are supported where they are funded by a proponent or applicant. A separate environmental review study of the SCP is not necessary for reasons outlined above and particularly given that a major Strategic Assessment of the Swan Coastal Plain is being undertaken 2012-14 by the State and Commonwealth governments.

4. Consider amending the City's Local Planning Strategy to include a Local Biodiversity Protection Plan.

The Local Biodiversity Protection Plan developed for the 2009 discussion paper provides aspirational targets for notional planning precincts e.g. Structure Plans not yet adopted, Rural Living coastal plan areas etc. In the context of current or future zonings, these targets were estimated to be potentially achievable, assuming subsequent bushland assessments were consistent with the circa 2007 Perth Biodiversity project regional vegetation information available from State agencies. In 2009 the zonings and strategic forward plans for future land use at the time were used to construct notional precincts to which aspirational targets could be attached.

Planning assessments of sites identified by the LBS as potentially of local significance will require detailed surveys and assessments to verify the bushland condition and typology and relevant policy criteria to determine local priorities and options. Where appropriate the possible contribution the site can make towards biodiversity and natural process or in achieving the aspirational quantitative targets indicated in the relevant Local Biodiversity Protection Plan precinct can be assessed. Consideration will also have to be given to changes in boundaries of the original notional precincts which subsequently ensue as the scope of forward planning advances through Council's decisions and strategic plans for the South East Corridor and Peel Region are released by the Department of Planning.

The LPS section which deals with the environment should therefore refer to the Local Biodiversity Protection Plan and key objectives for biodiversity conservation. The Local Biodiversity Protection Plan including the aspirational target information to be included in the LPS will assist Council taking biodiversity factors into consideration together with social and economic objectives and accordingly making integrated decisions on land use and development.

5. Consider adding the targets for protection of natural areas in Precinct Categories 1 (Future Urban Structure Plans) and 3 (Coastal Plain Rural Living zones) into the City's LPS.

The Local Biodiversity Protection Plan including the aspirational target information should be incorporated into the LPS for the Future Urban precincts with Structure Plans in place (Category 1 precincts and Category 3, Coastal Plain Rural Living precincts. This will assist in identifying potential local natural bushland areas for detailed assessments and practical determination of areas that are confirmed as near natural bushland areas capable and appropriate for protection and management of vegetation and habitat over the long term, in addition to determining areas that can be used and developed for economically productive uses associated with rural and urban development.

6. Consider amending the City's Intramaps GIS mapping and database system to include all vegetated local natural areas and all additional ecological linkages proposed.

The Intramaps GIS is used on a daily basis for planning and land management assessments and identification of potential areas in a natural or near to natural state at the preliminary assessment stage can ensure the appropriate detail of environmental study is required before decision making occurs. Where detailed on-site assessments and / or Council decisions have confirmed the status of local natural areas or ecological linkages these can be tagged to continuously improve the quality of data available from the Intramaps GIS to manage and protect the City's biodiversity and natural processes.

7. Consider amending the City's Intramaps to include all vegetated Resource Enhancement Wetlands mapped by the Department of Environment and Conservation.

Wetlands in a near natural state are landforms with particularly high biodiversity and conservation values arising from richness in flora and fauna species diversity and the functional roles they perform in ecological processes. Wetland classifications and mapping undertaken by the Department of Environmental Regulations (DER) is used in land use planning and land management assessments. In many cases, additional information is needed to determine or update the appropriate wetland management category. Wetland assessments are undertaken as part of broader environmental assessments for major developments and land use change. The DER has assessment processes to determine and update the appropriate wetland management category applicable in the relevant development scenario.

In land use change and development Conservation Category Wetlands are given a general level of protection by State environmental planning policies and are often ceded to the crown as conservation reserves or public open space. Resource Enhancement Wetlands are those wetlands that have some attributes and values that can contribute to the City's biodiversity and conservation objectives. While these characteristics are greater than those of the Multiple Use category they are not as significant as wetlands identified as Conservation Category Wetlands.

Where wetlands have been classified as Resource Enhancement category consideration should be given to whether land use planning controls and environmental policy can contribute to their future rehabilitation and protection, particularly if they support an area of substantial native vegetation that can be protected or rehabilitated. The Intramaps GIS can assist planning and land management decisions for ongoing protection. It can also assist in determining where a reclassification process should be considered.

8. Consider amending the scheme to formally protect local natural bushland areas where required on new developments/subdivisions by introducing a “Conservation Zone”, or alternatively, a mechanism of Scheme recognition of conservation covenants which are an outcome from a planning decision.

TPS No.4 has incorporated the Rural Living zone as a broad based zone for rural living in rural or bushland settings within the broad-brush MRS rural zoned areas. The majority of MRS rural lands in the City are covered by the Rural Living zone with only a relatively small proportion in a General Rural zone specifically created for more intensive agricultural and horticultural lots and buffer areas.

The Rural Living zone encompasses a range of rural land uses on properties with some natural areas and with uses extending from rural enterprises on relatively small rural landholdings (less than 20ha), hobby farms and rural living properties of various sizes. Many properties in the Rural Living zone support areas with natural attributes including native vegetation, wetlands and other relatively natural landforms and it is likely that all Rural Living lots make some contribution to the City’s biodiversity on landholdings of various sizes. More importantly the Rural Living land management provisions being applied over the City’s wide area has potential for future decisions and provides a mechanism to highlight biodiversity and conservation factors. This can serve to educate and inform landowners on biodiversity values and the objective of enhancing protection and management over the long term.

The Rural Living zone has been specially formulated with the objectives and provisions suitable for the land management of natural areas where these are identified (protection of native vegetation etc). Where a site subject to new proposals for major development, landuse change or subdivision is assessed as containing natural bushland of high significance which is local in nature, rather than regional (State or Commonwealth) significance, conservation covenants can be considered to require future management and protection of the local biodiversity and conservation values of the property. It is noted that in major land use changes such as rural to urban transitions, the land with regional environmental values (natural areas) will usually have State policies for public acquisition / ceding applied to create conservation or public open space reserves.

In more local circumstances special protection measures can sometimes be applied in planning approvals and decisions, which may include additional requirements for subdivision and development listed in Schedule 12 of the Scheme by amendments, provisions of Structure Plans, conditions of development or subdivision approvals and the identification of Development Envelopes and the natural areas or features which require special management and ongoing protection. The additional requirement for conservation covenants would most often be imposed on land undergoing rezoning to permit the creation of rural living lots above the 2ha minimum lot size supported by this planning strategy through inserting the “Additional Requirements for subdivision and development” into Schedule 12 provisions for a particular site and subsequently reinforced with Structure Plan provisions and appropriate subdivision conditions.

Proposals for closer subdivision or development can be assessed for locally significant bushland or other natural area and conservation covenants can be negotiated or incorporated into planning decisions / conditions on Rural Living zoned land. Conservation covenants can also be used for regionally significant bushland areas such as Bush Forever areas which extend

over rural land and while there are examples where these have already been applied previously under TPS No.4 the appropriate recognition should be provided for covenant mechanisms through suitable amendment of the Scheme

As the Rural Living zone currently addresses conservation objectives and this can be supported by conservation covenants the recognition of this mechanism is generally preferred. A new “conservation” zone could also be given further consideration in the context of a future rezoning amendment if considered desirable and a specific future circumstance warrant the creation of such a new zone. However, such a classification may also tend to diminish the importance of maintaining biodiversity via existing Rural Living zone land management provisions. These are effectively applied over the City’s wide area which has both smaller and more extensive areas of native vegetation and other landforms and natural attributes of value to the City’s biodiversity located on landholdings of various sizes. Changes to the Scheme objectives for the Rural Living zone should be considered to highlight the important objective of biodiversity conservation in this zone.

9. Introduce a Local Planning Policy to support a local bushland protection plan for natural bushland areas according to State Planning Policy and biodiversity discussion paper guidelines with Council's final adoption following advertising for public comment.

Guidance for planning in areas of significant bushland is provided by the WAPC's State Planning Policy 2.8 - Bushland Policy for the Perth Metropolitan Region. SPP 2.8 for significant bushland must be considered together with the wide range of issue-specific WAPC policies applying at the various stages of the multi-staged planning approvals process.

The state government's Bush Forever Policy (2000) is the principal regulatory control which protects biodiversity in significant bushland areas on the Swan Coastal Plain. The SCP is the primary locus of development in the City of Armadale and Bush Forever Policy (2000) is therefore very important in protecting biodiversity in Armadale. SPP 2.8 describes planning requirements for land affected by Bush Forever for regionally significant bushland on the SCP.

State Planning Policy 2.8 - Bushland Policy for the Perth Metropolitan Region outlines 5 implementation categories for Bush Forever areas. The implementation categories provide an outline of the issues and principles to be considered when determining proposals in specific locations.

The implementation categories are based on the intended use or zoning of the land:

- Bush Forever Reserves (existing or proposed) have the highest value, and there is the presumption against clearing of any native vegetation in this category (eg Piara Nature Reserves or Harrisdale Swamp);
- Urban, Industrial or Resource Development zoned land is where the land is recognised as being constrained by existing commitments, approvals and policies, so that the objective is to seek a reasonable outcome between conservation and development or resource extraction (the Landcorp MRS Industry zoning on Anstey Road is an example);
- Government Lands and Public Infrastructure where there is the acknowledgement that some public essential infrastructure may need to be located within Bush Forever areas (with a similar objective for a reasonable balance between conservation and development) (eg the unmade portions of dedicated road reserves are an example of public infrastructure land where Bush Forever policy acknowledges that some vegetation clearing cannot be avoided);
- Rural Lands which are privately owned will generally be supported for one building envelope on the property, however, proposals need to be in accordance with other planning and environmental legislation and policy, assessed on a case by case basis eg the Structure Plan for Lot 431 Oxley Rd on Gibbs Road in Forrestdale is an example where a Conservation Covenant was implemented by the City for protection of native vegetation by a planning condition); and
- Regional creeklines where the aim is to support the protection and management of regionally significant bushland a long regional creeklines (the Wungong River is an example).

Where a land holding is identified as a Bush Forever area, land owners/managers who wishes to pursue a land use change would follow the same process as any other development proposal, however the land subject to Bush Forever classification is given special consideration

by State government decision makers (WAPC, and DPAW/EPA). The WAPC recommends and encourages landowners to commence discussion with the Department of Planning and / or the Department of Parks and Wildlife at the very early stages of formulating an application so that the landowners can obtain appropriate advice.

The State government has over recent years prioritised the acquisition of regionally significant bushland in Bush Forever areas reserved for MRS Parks and Recreation from the pool of available public funds in the Metropolitan Improvement Fund. Consequently the major recreation nodes previously provided by the WAPC for active sporting activities in rapidly growing municipalities and districts is no longer being provided as regional open space and this has contributed to a shortfall in land and facilities available in these areas.

This has been confirmed through the City's Active Sporting Reserves and Department of Sports and Recreation Studies and the City has determined for its population projections that there will be a significant shortfall in active recreation sites particularly in the western growth-localities, where a significant area of bushland has been protected in Bush Forever Reserves managed under the Forrestdale Lake and Jandakot Regional Park Management Plans. There are opportunities to rectify the active recreation shortfall through local POS contributions, however, these are limited and need to be balanced with provision of local natural bushland areas and Multiple Use Living Stream corridors which also provide habitat supporting biodiversity.

SPP 2.8 states that a land use or development proposal that achieves a reasonable conservation outcome in compliance with State Planning Policy 2.8: Bushland Policy for the Perth Metropolitan Region is unlikely to be formally assessed under part IV of the *Environmental Protection Act 1986.*

One of the recommendations of SPP 2.8 is that local governments should also prepare a local bushland protection plan (also called a local biodiversity strategy) to make recommendations for consideration of bushland and biodiversity protection as part of local land use planning. The City accordingly prepared a Local Biodiversity Strategy discussion paper (LBS) in 2009 through consultants Ironbark Environmental & Ecological Australia in conjunction with a working group of state government agencies, staff and elected member representatives. The Local Biodiversity Strategy Discussion Paper is available on the City's web site Services and Facilities / Environment section:
http://www.armadale.wa.gov.au/environmental-initiatives.

The November 2009 LBS discussion paper focuses particularly on land not identified and included in Bush Forever areas as regionally significant, which mostly comprises of private lots. It indicates that bushland and the other natural areas (wetlands etc) located on these of private lots which while not regionally significant, may nevertheless potentially be of local significance (it also notes that these may be of regional significance which, while not recognised by Bush Forever, still requires consideration).

Appropriate guidance on the formulation of Local Planning Policy for bushland and other natural areas is therefore provided by State Planning Policy (SPP) 2.8 - Bushland Policy for the Perth Metropolitan Region, in addition to environment-specific matters protected by State and Federal levels of government.

SPP 2.8 will allow the City's local bushland policy to have consistency with the whole-of-government Bush Forever policy which identifies regionally significant bushland areas on the Swan Coastal Plain portions of the Perth Metropolitan Region Scheme.

The City's local bushland policy should provide that where land use or development is proposed on private lots or public land which is indicated in the 2009 LBS discussion paper as potentially a local natural bushland or other natural area and there is potential to impact on significant biodiversity or conservation values, more detailed assessments will be required. Decision-making on the development should give appropriate consideration to the protection and management of any lots or parts of lots in a natural or near-natural condition which can be managed and conserved over the long term, in addition to the portions of lots capable of accommodating more intensive use and development without significant detriment to biodiversity values.

In accordance with the Environment Protection Authority Bulletin 1007 (Environmental Protection Authority 2001, 2003a), it is expected that if a proposal achieves a reasonable conservation outcome in compliance with the guidelines under SPP 2.8, it is unlikely to be formally assessed under part IV of the *Environmental Protection Act 1986*. If there are other significant environmental factors requiring assessment the proposal may be referred for State and / or Commonwealth impact assessment under the respective legislation of each level of government.

10. Review Local Planning Policy PLN 2.7 Environmental Management and Improvement Policy for Development of Constrained Land to collect ecological information using the Perth Biodiversity Project templates for initial assessment of natural areas and to facilitate protection of the natural bushland areas on Rural Living zoned lands on the coastal plain in future possible amendments to the Scheme.

In conjunction with the new natural bushland areas policy (described above under action 9), once it is revised, the PLN 2.7 Environmental Management and Improvement Policy can require proposals for future coastal plain subdivisions to incorporate "Additional Requirements for subdivision and development" into TPS No.4 as (Schedule 12 provisions) and Structure Plan provisions that will trigger subdivision conditions, such as requiring flora/fauna studies, POS to be ceded and/or restoration and management plans to be prepared for valued vegetation, wetlands etc. PLN 2.7 Environmental Management and Improvement Policy should be revised guided by the criteria in SPP 2.8 - Bushland Policy for the Perth Metropolitan Region.

11. Consider creating an offsetting policy in the longer term to offset the unavoidable loss of local natural bushland areas as part of development approvals.

The City undertakes many environmental initiatives and has a team of Environmental and BushCare Officers engaged in protecting and managing the natural environment in the City. The BushCare crew will undertake qualitative improvements and management of biodiversity and conservation areas in the City. Qualitative improvements to local reserves and management for biodiversity over the long term are relevant factors that need to be considered alongside any proposed change in land use or development.

Due to the growth area status of the City of Armadale there may be some loss of bushland in degraded condition which may be unavoidable. However, in most cases development approvals will impact on former rural or urban zoned land in which any remnant vegetation or other natural

area has been degraded by historical uses such as grazing, pastures and previous clearing. In these cases the land coming under development is not in the natural or near natural benchmark required to consider protecting a natural bushland area as significant at the local level and the direct and opportunity costs that would impose on landowners and/or public agencies. Decisions on development are carefully weighed and the outcomes reflect the choices made by governing bodies including Council, the WAPC and EPA in fostering the social and economic development of the City while also protecting the more significant environmental matters.

The term offset contributions usually refers to environmental initiatives of a significant nature or value. Under the State and Commonwealth government policies they can comprise of land where a purpose involving active use or development, which may be degrading to the environment over the long term, is rededicated to conservation and the protection of biodiversity values.

Alternatively they may involve actions or programmes that directly or indirectly lead to a net environmental gain over the longer term. The latter could involve replanting and revegetation, fencing, providing better connection of natural bushland areas for terrestrial fauna movement across landscapes developed for rural and urban purposes by means of vegetated corridors or fauna culverts, or research projects addressing knowledge gaps in environmental management.

Offset contributions comprising of some form of environmental initiative therefore can support conservation and biodiversity and may be appropriate in some situations. Environmental initiatives funded by a developer can offset negative impacts such as the clearing of native vegetation, which is also sometimes unavoidably associated with the City's provision of public infrastructure needs such as for providing a practical district road network and community facilities.

The City's present practice is to consider environmental initiatives to offset vegetation or natural area losses due to infrastructure provision on specific proposals. The City's practice as an infrastructure provider or land developer could in future be incorporated into a Technical Services engineering policy or management practice. The City will support consideration of use the offset contributions and environmental initiatives by other infrastructure providers governed by State and Commonwealth legislation to similarly support conservation and biodiversity where appropriate.

Creating a policy for offsets for development approval on private land is not considered currently viable in view of the absence of a State Planning Policy on offsets and the attitude of the WAPC and State Administrative Tribunal to development conditions which are considered to impose an onerous cost burden on developers, or which lacks a clear nexus with the proposal. Notwithstanding, planning assessments and conditions of development approval can directly foster biodiversity conservation matters such as by requiring management plans, landscape and revegetation and replacement of trees removed, directly related to the development at hand but only if these are not of an onerous or excessive nature. For larger developments contributions to public amenities and facilities are negotiated through planning approvals and via conditions of development, however, the requirement that imposts be reasonable and have a clear nexus are paramount in property planning law.

It is also noted that private land use and development proposals are subject to State and Commonwealth environmental laws and policies which can require offsets through formal assessments if the circumstances and impacts on State or National Protected environmental matters warrant. Public agencies and infrastructure providers are similarly affected. The City

supports consideration of use the offset contributions and environmental initiatives by other infrastructure providers governed by State and Commonwealth legislation to similarly support conservation and biodiversity where appropriate.

12. In planning precincts identified for future structure plans for urban subdivision and development (Category 1) consider discussion paper target 11 to protect up to 71 ha of local bushland and other natural areas including a maximum wetland area of 54 ha.

It is noted that in addressing recommendations for the conservation and biodiversity the LBS discussion paper concerns only one of many State government land use planning issues which nevertheless all have to be considered in decision-making. It is also noted that the City's objectives for the social and productive economic development of particular locations can also sometimes having competing environmental objectives, which requires careful decision-making and up to date assessments of the suitability of sites for particular uses or development, including protection of natural values, where appropriate.

While approval provisions/conditions can generally be applied to land use decisions to achieve Council's preferred balance of outcomes for a particular location, the LBS paper was not based on any detailed planning assessments which would include assessment of land opportunities and constraints and assessment of land capability and suitability in the context of the City's strategic priorities (including assessment of Council priorities (eg for Active Recreation, infrastructure servicing and school sites which may compete with remnants of degraded bushland). It is also noted that the LBS vegetation information supplied by the Perth Biodiversity Project is several years old, based primarily on aerial photographic interpretation and not ground-truthed by detailed ecological survey.

Planning assessments and environmental ground truth surveys are costly exercises and not usually funded by planning authorities such as the City or landowners. Environmental consultants required to undertake such work are generally funded by land owners (usually in association with land use and development proposals).

It is considered appropriate for the City to require assessment of the local significance of natural bushland and other natural areas as part of opportunity and constraints assessments and structure planning processes for precincts 11, 22, 26 and 35 in Category 1 precincts set out in the Biodiversity Protection Plan.

Scheme and Structure Plan provisions are enforceable standards and where locally significant bushland and other natural areas are confirmed to occur by planning assessments these sites can be subjected to Scheme or Structure Plans provisions (note that statutory requirements must be based on valid detailed assessments of bushland condition, significance and structure (the aspirational targets of the LBS discussion paper were based on State government regional mapping which will be required to be verified by detailed assessment before final decision making or confirmation that an area is of local significance and warrants consideration for future protection and management).

13. In areas of land use change and major development consider maximizing protection of local natural bushland and other natural areas through the detailed design of proposed Public Open Space (POS) areas and the vesting of new reserves.

Council has a wide variety of sometimes competing objectives and planning assessments and development decisions for the use of particular sites need to consider these holistically in their local social and economic context rather than as single issues consideration in isolation. This defines the task and challenge of land use planning and all land use proposals have to undergo planning assessments which include social and economic consideration as well as environmental aspects. These also need to take into account the quantity of nearby open space reservations and the type of use for bushland or recreation. Where there is an imbalance in either bushland or active recreation land, decision making should attempt to address and foster a better balance in use of land. In that regard it is noted that regional reservations with bushland of regional significance is also bushland of local significance and distinctions are largely an artificial construct. The aim of decision-making in land use planning needs to be a socially sanctioned balance between competing objectives rather than achieving targets based on artificial constructs.

While targets can be set for environmental outcomes in isolation of other issues (as has been done for the LBS discussion paper), it is considered more appropriate for the City to require assessment of bushland vegetation and other natural areas for consideration of local significance as part of opportunity and constraints assessments and in rezoning and structure planning assessment processes. Also see 12 above and 29 below.

The merits of competing priorities and alternative options for the use and development of land ceded as POS would need to be assessed and consider wider planning issues as well as biodiversity issues. Other Council objectives such as the need for active recreation facilities or multiple use corridors associated with water management objectives have been particularly highlighted in the north Forrestdale area and need to be considered.

The final allocations and use of POS land can be determined on a balance of considerations and according to the outcomes of detailed planning assessments and outcomes determined by the relevant decision makers. POS allocations and use cannot be predetermined by rigid application of targets set for single issues in isolation of the structure of the local neighbourhood. The discussion paper targets provide only general objectives and guidelines which need to be considered in the context of other land use requirements of the specific site or location.

The LBS discussion paper targets 1 to 10 and 12 applies to Category 1 and 2 (urbanising) precincts, and may be achieved through subdivision conditions recommended to the WA Planning Commission.

The target for ecological assessment is to ensure all proposed developments which may impact on local bushland and other natural areas on the coastal plain carry out ecological surveys of sufficient standards to identify TECs, DRF, SPF and Priority 1 and 2 flora.

The target for Threatened communities and species is to protect, regenerate and restore all remaining TEC vegetation and the habitat of threatened species (DRF, SPF and Priority 1 and 2

flora) in the City (target 2) and where possible within the site's physical constraints, to restore or revegetate buffers to local natural bushland areas (target 3).

The target for Wetlands in urban zones is to retain all CCWs, EPP Lakes and all vegetated or high value habitat REWs and protect, restore and manage these in Category 1 and 2 (urbanising) precinct categories and where possible within the site's physical constraints, to restore or revegetate buffers to local natural bushland areas (target 4). The target for Wetlands in Rural Living and General Rural zones in category 3 precincts is to protect, restore and manage all CCWs, EPP Lakes and all vegetated or high-habitat REWs as opportunities arise through rezoning, structure planning, subdivision and / or development where possible within the site's physical constraints (target 5).

The target for buffers to Wetlands is to protect and where possible, within the site's physical constraints, restore buffer areas to all protected CCW, vegetated or high-habitat REWs, and EPP lakes guided by the draft guideline for the determination of wetland buffer requirements (WAPC 2005) (target 6).

The target for riparian vegetation is to protect existing vegetation remnants in riparian corridors where they occur in category 1 or 2 (urbanising) precincts, or are on lands where significant development is proposed (target 7A).
It is also to:

- restore or regenerate degraded or cleared vegetation in riparian corridors protected under Target 7A to at least 15 metres on either side of major waterways where possible within the site's physical constraints (target 7B);
- actively manage 75% of the riparian reserves vested in the City on the coastal plan for biodiversity by 2020, (including Canning River, Wungong Brook, Southern River) (target 8); and
- increase the length of watercourse managed in Precinct 33 (hills areas) to 50% through the StreamCare Program or similar by 2020 (target 9).

The target for ecological linkages is to maximise the number of protected natural bushland areas (public lands) and actively managed revegetated areas (public and private lands) on the 10 linkages identified in the Biodiversity Protection Plan (target 10).

14. Consider recommending conditions on subdivisions to restore or regenerate foreshore vegetation in riparian corridors to achieve Target 7B, where appropriate.

Multiple use corridors are strongly advocated in State government water management guidelines and in District Structure Plans on the Swan Coastal Plain portion of the City. Land ceded for water management (referred to as riparian corridor in the LBS discussion paper) should be assessed in subdivision applications and structure plans. The use of a multiple use corridor and its landscaping treatment is determined on a balance of wider considerations in addition to biodiversity conservation objectives.

Multiple use corridors are usually based on the existing constructed private farm drains which don't qualify under WAPC policies for subdivision conditions to require a Foreshore Reserve to be ceded (Foreshore Reserves are required for larger natural waterways such as rivers or major tributaries and the standard 30 metre wide reserve requirement is not counted towards the standard residential contribution to POS of 10%).

Water management conduits are accordingly often accommodated in multiple use corridors of linear POS ceded under the standard 10% POS requirement. These accommodate pedestrian pathways, local nodes for passive recreation and there is considerable competition in allocating the 10% POS contribution to specific and shared uses. Linear POS multiple use corridors support biodiversity considerably by linking or providing stepping stones between larger bushland areas particularly for aquatic and avian fauna, notwithstanding that they also serve other functions and facilities. It should be noted that the drainage channel in linear POS multiple use corridors is not part of the 10% POS contribution but is additional land.

Landscaping plans can be required for POS multiple use corridors and drains as conditions of subdivision. Council's Parks and Reserves team assesses re-vegetation plans which are usually referred to as landscaping plans. Vegetation plantings can involve restoration or regeneration of remnant vegetation in appropriate sites, however often major earthworks, extensive land fill or drain realignments are involved with urban development sites and this may negate any pre-existing remnants of native vegetation where such exists. A goal of restoring natural vegetation remnants will not suit all locations and circumstances as there has to be a balance of functions in multiple use corridors (Also see 9 and 13 above).

15. Consider recommending conditions on subdivisions to revegetate areas or restore natural bush land and other natural areas on the Greenlinks and to maximise the number of protected natural areas (public lands) and actively managed revegetated areas (public and private lands) on regional ecological linkages (target 10).

Where subdivision occurs on land identified in green links and regional ecological linkages mapping, conditions to revegetate or restore natural bushland areas can be considered and requested where appropriate (it is noted that landowner goodwill in achieving ecological links over private land is likely to be more successful than reliance of rigid regulation through statutory controls and / or action through the courts). See 13 above which is also relevant.

16. Investigate the need for a stewardship program for local natural bushland and other natural areas.

The City maintains an Environmental Services team which can provide general environmental advice and information to landowners. The provision of advice on biodiversity management to landowners and land managers should be investigated. The City's environmental officers will research issues and reports and recommendations on potential programmes and initiatives will be done in conjunction with SOE and budget reporting.

17. Investigate and consult with potential service providers for stewardship programs for local natural bushland and other natural areas.

The provision of potential service providers for stewardship programs for biodiversity management by landowners and land managers should be investigated. The City's environmental officers research issues and reports and recommendations can be done in conjunction with SOE and budget reporting. In association with more significant planning proposals such as rezoning and Structure Plans, various planning instruments can be applied such as conservation covenants to promote landowner stewardship of areas of biodiversity and conservation value on private lots.

18. Consider establishing a stewardship program for local natural bushland when possible.

The City will maintain an Environmental Services team which can provide general environmental advice and information to landowners. An initial stewardship phase will be implemented from 2013 with a BushCare Crew team bushland management officers with primary objectives of managing bushland owned or managed by the City. Qualitative improvements to local reserves and management for biodiversity over the long term are relevant factors that need to be considered in tracking biodiversity targets for notional precincts set in advance of detailed assessments and statutory planning. The City's environmental officers will report on outcomes in conjunction with SOE and budget reporting.

19. Consider short-term projects to assist natural area landowners or landowners on designated Greenlinks/Ecolinks to undertaken revegetation or natural area management.

The provision of advice on biodiversity management to landowners and land managers should be investigated. The City's environmental officers will research issues and reports and recommendations on potential programmes and initiatives will be done in conjunction with SOE and budget reporting.

20. Consider funding and support to the StreamCare Program.

The funding and support of the StreamCare Program should be considered and reports and recommendations will be done in conjunction with SOE and budget reporting.

21. Consider establishing a BushCare Crew to undertake bushland maintenance works consistent with priorities through the natural area survey program and with works undertaken by friends groups.

A BushCare Crew team of bushland management officers with primary objectives of managing bushland owned or managed by the City will be implemented from 2013.

22. Ensure developers conduct adequate mapping of vegetation structural communities, vegetation condition, weeds and dieback over reserves which are being transferred to the City to manage.

The transfer of new reserves to the City for management by developers results from major subdivisions which are based on structure planning and prior rezoning. These may indicate a range of ultimate end use outcomes for reserves which have to be balanced among competing uses such as multiple use corridors, active sports grounds and recreation, community infrastructure or local bushland reserves. General environmental and vegetation mapping is provided under current rezoning requirements. If reserves are to be managed as bushland over the long term a finer level of environmental technical information should be required in the form of a management plan recommended as a condition of subdivision. This can be referenced in the bushland management policy for local bushland and other natural areas and the Environment section may consider preparing a practice guideline if required to ensure adequate condition assessments accompany POS reserves ceded to the City and prior to handover for management by the City's Technical Services directorate. However reserves to be developed

for active recreation, community facilities or multiple use corridors to be extensively modified will not generally require detailed vegetation information.

23. Consider budget proposals to introduce a 3-person BushCare Crew.

A BushCare Crew team of bushland management officers with primary objectives of managing bushland owned or managed by the City will be implemented under the 2012-13 budget.

24. Consider budget proposals to provide stewardship support to private landowners with high conservation natural areas.

The City maintains an Environmental Services team through budget processes which can provide general environmental advice and information to landowners. The provision of advice on biodiversity management to landowners and land managers should be investigated. The City's environmental officers will research issues and reports and recommendations on potential programmes and initiatives will be done in conjunction with SOE and budget reporting.

25. Consider time and resource allocations required to monitor and report on achievement and implementation of biodiversity targets.

The City will maintain an Environmental Services team to research and report on biodiversity objectives and the aspirational targets from the discussion paper in conjunction with SOE and budget reporting. As noted above qualitative improvements to local reserves and management for biodiversity over the long term are relevant factors that need to be considered and monitored alongside any change in land use or development perceived as a quantitative loss in terms of gross uncertified land area scoped as potentially in a near natural state and of local value in 2007-09 mapping.

26. Consider a more accurate determination of the conservation significance of Stirling Swamp by collecting existing ecological information such as surveys of waterbird usage and consider potential for MRS reservation in discussion with the Department of Planning. The assessment should also include the linkage of vegetation between Stirling Swamp and the Forrestdale Lake Nature Reserve.

The City maintains an Environmental Services team to research and report on environmental matters including biodiversity and conservation issues and existing ecological information. Stirling Swamp can be referred to the Department of Planning for its consideration in the regional and district assessments and land use plans it is preparing for the MRS. The City's Environmental Services team will be requested to comment on any land use change or development proposals impacting on Stirling Swamp.

27. Promote the Local Biodiversity Strategy to residents.

The City's Environmental Services team can provide general environmental and biodiversity conservation advice and information to landowners. The Local Biodiversity Strategy discussion paper and policy documents subsequently prepared will be made available to landowners on the City's website.

28. Refer development proponents (who are required to do initial ecological assessments of their land) to the initial assessment templates for natural areas prepared for the Perth Biodiversity Project to ensure information is collected and presented to the standard set by the PBP across the Perth Metropolitan Region. Develop a set of guidelines for those required to collect ecological information, focusing on any specific survey requirements.

The PBP's natural area initial assessment templates should be assessed against industry standards and acceptance of environmental agencies and if the templates meet appropriate standards they can be referenced in the planning policies (see 9 above). The guidelines can then be referred to proponents accordingly. The City will maintain an Environmental Services team which can provide general environmental advice and information to landowners and scope potential programmes and initiatives such as new survey guidelines.

29. Consider updating mapping of native vegetation in the City at regular intervals to track achievement of biodiversity objectives and aspirational targets.

In a rapidly developing municipality such as Armadale vegetation confirmed as bushland or other natural areas having local significance should be measured for qualitative improvements management for biodiversity over the long term. Land under degraded vegetation or land or vegetation not meeting the near-natural requirements for confirmation as a local bushland or other natural area will usually not require planning control interventions or protection. Often native vegetation in poor condition will be replaced by other forms of land use and development or replaced with vegetation such as turf for active recreation or rain garden swales or multiple use corridors in accordance with community objectives for development.

The aspirational quantitative targets are founded on broad scale assessments and earlier regional mapping and should be revised regularly as more detailed information comes to hand through environmental planning assessments and Council's decision-making and determinations. Decision making should strike a balance between priorities for social and economic development in the context of environmental management of the location so that certified information can only be provided through comprehensive planning assessments in view of the Armadale community's broad objectives. See 13 above which is also relevant.

30. Consider reporting progress towards implementing biodiversity objectives and aspirational targets to the public as part of State of the Environment reports.

The City will maintain an Environmental Services team and an initial BushCare Crew team of bushland management officers with primary objectives of managing bushland owned or managed by the City will be implemented from 2013. The City's environmental officers will report on outcomes for qualitative improvements to local reserves and management for biodiversity over the long term in conjunction with periodic SOE reporting.

31. Consider the need for preparation of a separate policy to address the clearing of native vegetation on road verges and road reserves.

Clearing of native vegetation on road verges and road reserves is already subject to extensive existing State environmental regulations and Commonwealth legislation in specific circumstances affecting matters of national environmental significance. Clearing for local roads and associated infrastructure are carefully assessed and considered through regulatory processes. Notwithstanding, the need for a formal practice guideline should be considered by the Environment section.

Conclusion

The City's LPS and the zones and provisions of the TPS play an important role in the use of land for productive purposes and also in sustaining significant bushland and other natural areas which support the biodiversity of the City of Armadale. It is therefore appropriate that decisions in land use and development have regard for the management and protection of biodiversity.

The discussion paper on biodiversity recommends a series of modifications to the LPS and recommends new and revised planning policies to assist these objectives. Many recommendations of the discussion paper are for new policies and practices in land use and planning assessments while other recommendations will be addressed through the City's environmental services and parks and facilities teams, particularly through the new bushland management team and in SOE and budget reporting. Elected member input subsequent to the discussion paper resulted in an additional biodiversity action such that support for rezoning proposals that would create lots of less than 4ha may not be considered where a substantial amount of the land's native vegetation or vegetation within 100 metres of a water course channel on the Special Control Area Maps would be cleared or where the land has excessive slopes of 15% or greater.

It is proposed to incorporate these considerations and assessments into local planning policies and procedures under the Local Planning Strategy and TPS No.4 recommended in the LBS as follows:

1. Establish the objectives of supporting local biodiversity and related processes and involving local landowners and the community in the protection and management of a network of local natural bushland and other natural areas as a high priority for the City.

2. Balance objectives for protection and management of areas of significant local natural bushland and other natural areas with social and economic development objectives in the City's land use and development decisions.

3. Have regard to the management and protection of biodiversity in recommendations and decisions for land use and development, particularly in rezoning, structure plans and subdivisions.

4. Establish a general presumption against rezoning proposals that would result in further lot size fragmentation within the Rural Living zone of the Rural Hills such that proposals that would result in the creation of lots of less than 4ha will not be supported where:
    i. site development, including bushfire protection, would result in the clearing of substantial native vegetation, however, existing "park land" cleared lots providing suitable areas for development may be acceptable; or
    ii. (ii) resultant lot/s would have a significant proportion of land area susceptible to soil erosion or land instability on slopes of 15% or greater or
    iii. (iii) development which would require the clearing of native vegetation within 100 metres of the outer edge of a watercourse channel as defined on the Special Control Area Maps ."

5. Consider the Local Biodiversity Protection Plan aspirational targets for various precincts and integrate biodiversity factors with social and economic objectives in decision making.

6. Amend the TPS No. 4 section which describes the list of “Matters to be considered by local government” to include a reference to “biodiversity”.

7. Amend TPS No. 4 by replacing Section 1.6 Aims of Scheme (j) to include reference to “biodiversity” as follows:

   (j) To conserve and enhance the natural environmental and biodiversity attributes of the district by incorporating environmental principles into public and private decision making

8. Include appropriate biodiversity definitions for ”local natural area/local natural bushland area” in the new Local Planning Policy for natural areas guided by the forthcoming revision on State Planning Policy 2.8 – Bushland Policy for the Perth Metropolitan Region.”

   •

9. Amend TPS No. 4 to provide landowners/applicants and the public with guidance that conservation covenants are a legitimate useful tool in the management of biodiversity on private land and may be referenced in Scheme Amendment or Structure Plan proposals submitted to the City for consideration where significant bushland and other natural areas warrant protection over the long term.

10. Prepare a new Local Planning Policy for natural areas guided by SPP 2.8 - Bushland Policy for the Perth Metropolitan Region in conjunction with revision of the existing Local Planning Policy - Environmental Management and Improvement for Development of Constrained Land guided by criteria in SPP 2.8 - Bushland Policy for the Perth Metropolitan Region.

11. Consider the bushland values in assessments of major land use, development and subdivision proposals affecting significant bushland and other natural areas, over rural living lands on the coastal plain.

12. Refer to the Natural Area Initial Assessment templates prepared under the Perth Biodiversity Project in the new/revised planning policies and guidelines and refer to proponents accordingly, following assessment against appropriate industry standards and satisfactory acceptance by environmental agencies.

13. Establish a BushCare Crew to undertake bushland maintenance works.

14. Consider support for landowner stewardship of more than 1ha of high biodiversity value natural bushland area.

15. Incorporate mapping information on vegetated local natural areas, vegetated Resource Enhancement Wetlands mapped by the Department of Environment and Conservation and all additional ecological linkages into the City's GIS Intramaps mapping tool to assist in operational planning assessments and setting of conditions.

16. Review Stirling Swamp's ecological significance from existing information, and its potential for a MRS reservation and a vegetation linkage to the Forrestdale Lake Nature Reserve in discussion with the Department of Planning.

City of Armadale Activity Centres Planning Strategy

Working Paper

Prepared for the City of Armadale
August 2012

Land Use Design Research Strategy Economics

SHRAPNEL URBAN PLANNING

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INTRODUCTION

SHRAPNEL URBAN PLANNING has been engaged by the City of Armadale to prepare this working paper as an input to a Local Planning Strategy (LPS) that the City is preparing in-house. The working paper follows on from a considerable amount of analysis and discussion with Council staff, most of which was documented in, and based on, a Discussion Paper produced in November 2011.

The main purposes of this working paper are to document the findings and conclusions of a Retail Needs Assessment (RNA) for the City of Armadale; and to present a set of strategy recommendations for possible inclusion in the LPS. For ease of expression these recommendations
are described as if they were in fact accepted strategy, however, at this stage they are no more than
recommendations or suggestions for Council officers to consider during preparation of the actual
LPS.

Terminology

The following terms are used throughout this working paper:

Retail in its non-technical, common sense meaning is used frequently in the interests of general readability.

Shop/ Retail specifically refers to one of two Retail categories defined by the WAPC (see SPP 4.2 for details) and includes virtually all retail activities normally found within shopping centres. It excludes most of the activities normally referred to as “bulky goods” retail.

Other Retail is the other specific Retail category defined in detail by the WAPC. It mostly includes those retail activities normally referred to as “bulky goods” (e.g. furniture, floor coverings, etc), but also includes hardware.

Total Retail specifically refers to Shop/ Retail plus Other Retail.

Net Lettable Area (NLA) in square metres is the unit of measurement for all retail and other commercial floorspace. It includes all internal floorspace except stairs, toilets, lift shafts and motor rooms, escalators, tea rooms and other service areas, lobbies, and areas used for public spaces or thoroughfares. Note that non-public storerooms within large shops (such as supermarkets) are not classified as “Shop/ Retail” NLA, but as “Storage” NLA.

Retail Needs Assessment (RNA): The study required under Clause 6.2.2 of SPP 4.2 to estimate the retail needs and indicative distribution of floorspace across the activity centres in a local government area; and to guide the preparation of district and activity centre structure plans. This working paper includes an RNA.

Retail Sustainability Assessment (RSA): The study required under Clause 6.5 of SPP 4.2 to assess the potential economic and related effects of a significant retail expansion on the network of activity centres in a locality. RSA's are not required where the proposed development is in accordance with an endorsed planning strategy or structure plan that has been based on an RNA.

RETAIL NEEDS ASSESSMENT

According to SPP 4.2 a Retail Needs Assessment (RNA) is "...an assessment of projected retail needs of communities in a local government area and its surrounds." They are required in order that local planning strategies can "...show the estimated retail need and indicative distribution of floorspace across activity centres in the local government area, consistent with the activity centre hierarchy." RNAs are also intended to guide district and activity centre structure plans. This section of the working paper describes the RNA that has been undertaken for the City of Armadale ACPS.

The RNA is intended to assist in the identification of sufficient sites for activity centres in appropriate locations throughout the City, so that the shopping and other commercial/ community needs of the population can be conveniently satisfied to the maximum practicable extent. It is important to note that the retail needs and floorspace figures estimated through the RNA are not intended to become rigid "caps" on each centre to be implemented through development control and policy. Rather,
they are intended as an indicator of market potential and a guide for the strategic planning of the
City's activity centres.

Development of many urban areas in the City is more or less "complete" and a pattern of activity centres has already been established to serve the resident population. In several well-established older areas, some new residential and commercial redevelopment opportunities have arisen and will continue to arise, potentially increasing the population of these areas, and thus retail floorspace demand, over time. One aim of the RNA is to assess the extent of any such future demand and the opportunities it might present.

In addition to established areas, there are extensive developing and future urban areas in the south and west of the City that are far from complete. A significant number of future centres are planned for these areas. Another key aim of the RNA is to indicate the potential retail floorspace demand for these centres to help ensure that sufficient land is allocated for their long term development.

Gravity Model

The main tool used for the purposes of the RNA is a mathematical retail gravity model. A detailed description of the model in provided in the Appendix to this working paper. The main purpose of the modelling project is to quantify the extent of existing and future retail needs and investigate ways in which these could potentially be satisfied. The model is a tool to assist in defining/ confirming an appropriate activity centres hierarchy, and then demonstrating that retail needs can potentially be satisfied from within the various levels of the hierarchy that has been defined.

The results of the modelling also serve as a guide for the market in relation to the retail floorspace development potential of individual centres. As stated above, however, it is not intended that the detailed results of the modelling (i.e. centre by centre floorspace estimates) be implemented as firm policy. There are in fact many different but satisfactory ways that the hierarchy of centres could be developed in practice. The modelling results presented in this section demonstrate just one of these ways.

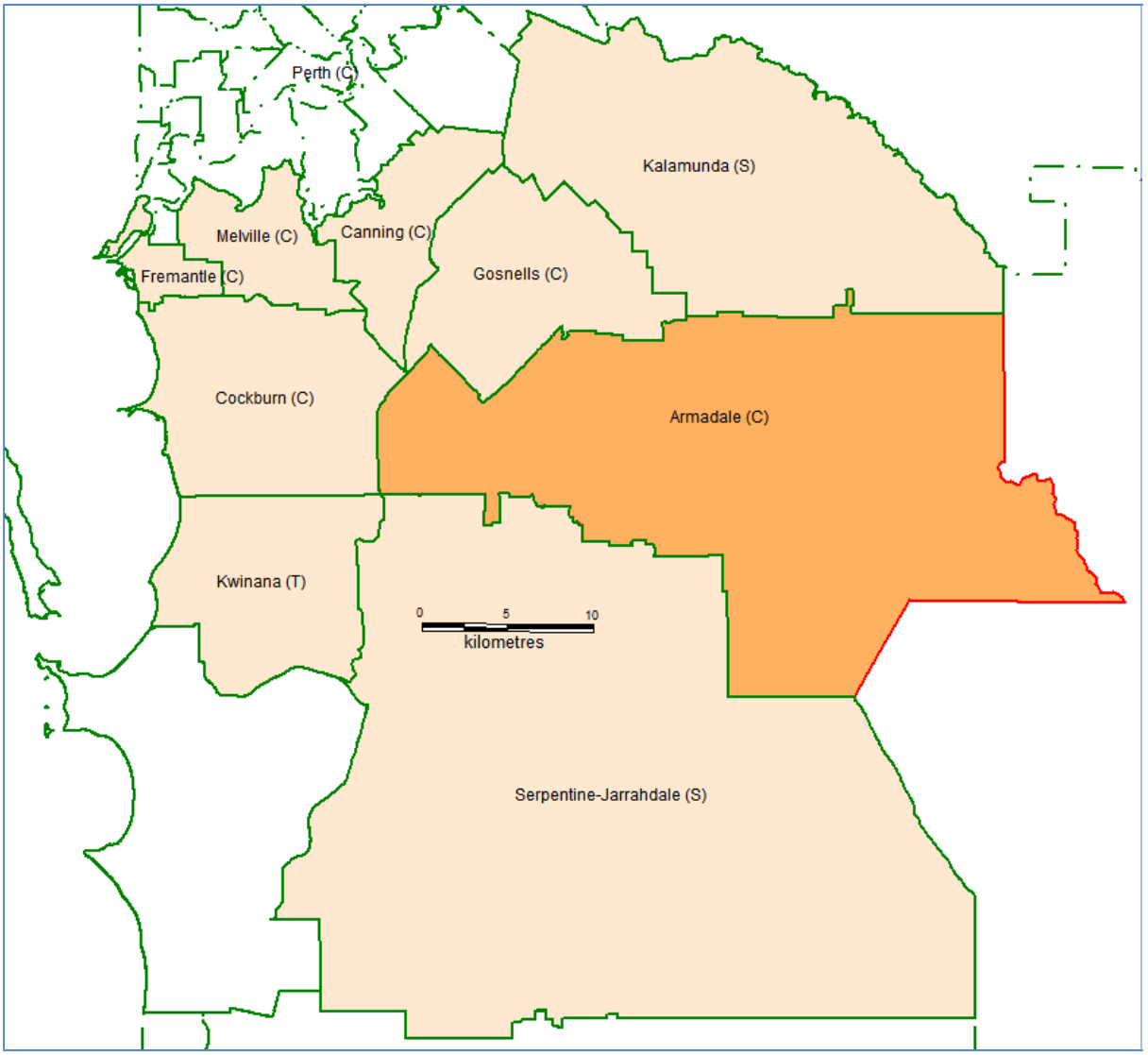
Study Area

The study area has two parts: a primary area and a frame area. The primary area is the Armadale Local Government Area (LGA). Within this area the results of the modelling are considered to be accurate and reliable enough to form the basis of an RNA. The frame area comprises those LGA's which immediately surround the City of Armadale, and therefore have most influence on the trading potential of the City's activity centres, as well as some LGA's and individual centres (notably thePerth CBD) that are further from the City of Armadale, but are nevertheless considered to be ofsome significance. The inclusion of a frame area is necessary to ensure that the model's results for the primary study area are accurate. It should be noted, however, that results for centres within the frame area, particularly near its periphery, are not accurate, so are not listed in the tables of results for this application of the model. The LGA's included within the frame area are:

- Cockburn
- Canning
- Gosnells
- Kalamunda
- Serpentine-Jarrahdale
- Fremantle
- Melville
- Kwinana

The extent of the study area covered by the model is shown in Figure 26.

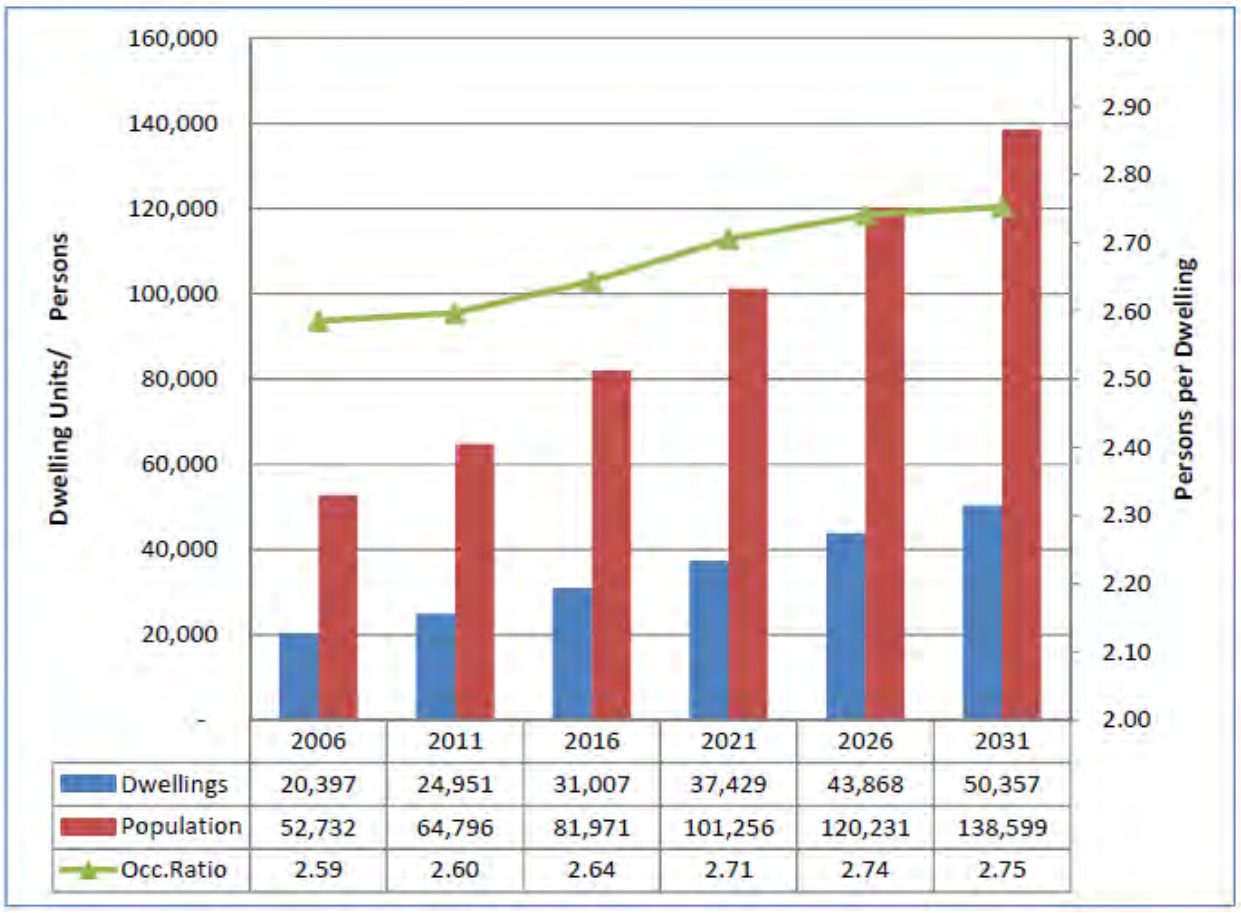
Figure 26 - Primary and Frame Study Areas



Population

The Discussion Paper considered various population and dwelling unit projections for the City of Armadale that were available at the time. Since then, however, the projections have been significantly modified to reflect updated projections produced for the City by consultants Forecast id. The recently updated projections for the City as a whole are presented in Figure 27.

Figure 27 - Dwelling and Population Projections (Source: City of Armadale)



	2006	2011	2016	2021	2026	2031
Dwellings	20,397	24,951	31,007	37,429	43,868	50,357
Population	52,732	64,796	81,971	101,256	120,231	138,599
Occ.Ratio	2.59	2.60	2.64	2.71	2.74	2.75

As indicated in Figure 27, for the purposes of the ACPS, it is now projected that by 2031 the City of Armadale population will have increased to about 138,600 persons occupying some 50,360 dwelling units. The anticipated increase between 2006 and 2031 is 29,960 dwelling units. This estimate exceeds the WAPC's 2031 “business as usual” dwellings target for the City of Armadale of an additional 24,600 dwelling units, but falls somewhat short of the preferred “connected city” target of an additional 32,800 dwelling units.

Modelling Process

The mathematical activity centres model independently and simultaneously calculates the economic performance of all Shop/ Retail floorspace and Other Retail floorspace within all DoP Commercial and Industrial complexes in the Study Area. In addition to the existing complexes, the model includes the location of known future (planned) activity centres, and their proposed status in the centres hierarchy.

In the base year (in this case 2011) existing retail floorspace data obtained from DoP has been used in the model; and the existing performance level for each existing activity centre has been calculated. These performance levels form a general benchmark, or basis for

comparison with the equivalent calculations for future years, which are modelled on the 5-yearly Census cycle through to 2031.

In future years, population growth will obviously require additional retail floorspace to be provided in future planned centres and, in several cases, existing centres. The modelling project involved an iterative process of calculating, for each 5-yearly period, the amount of retail floorspace required in each activity centre. The various quantities were adjusted until, for the year being modelled, a reasonable balance was found between increasing retail floorspace in the centres that could support it, whilst ensuring that the performance of competing centres, particularly existing centres with a below-average performance, was not unreasonably impacted upon.

Results

The data in the model is as accurate and up-to-date as possible, and the results may be regarded as a reasonable estimate of the potential economic performance of each centre, however, they do not purport to represent the *actual* performance of each centre. This is because other factors outside the model have a significant bearing on the economic performance of an activity centre. A case in point is the Westfield shopping centre. The model results indicate that this centre has a reasonably good trade area potential, yet the centre in fact under-performs significantly. A physical inspection explains why – it is poorly designed and physically unattractive.

During the modelling process, consideration was also given to the identification of activity centres actually suitable for planning and promotion as such in the future. Not all existing DoP commercial and industrial complexes are suitable for planning and promotion as *activity centres* in the future. For example, several existing commercial complexes are relatively isolated and contain minimal or no Shop/ Retail floorspace. For this reason, although all complexes have been included in the main modelling process, and are listed on the detailed model output sheets in the Appendix, only those that currently contain retail floorspace or are considered to have a reasonable prospect of being promoted as some type of activity centre in the future have been illustrated on the Strategy Map and listed in the following summary table. In utilising the model results for both the summary table and the Strategy Map, several other insignificant anomalies in the original DoP Complex definitions have also been rectified.

Summary of Results

The full set of output summary sheets is presented in the Appendix to this working paper. The results of the modelling in terms of retail floorspace estimated for each activity centre are summarised in Table 17. It is noted that, although the main policy focus of the RNA is Shop/ Retail floorspace, Other Retail floorspace has also been modelled for general planning purposes and as a guide to the market.

As indicated in Table 17, retail floorspace in the City of Armadale is projected to increase very significantly between now and 2031. Overall, Shop/ Retail floorspace will increase from 91,200 sqm to 200,300 sqm, while Other Retail floorspace potential is projected to increase from 41,600 sqm to 140,600 sqm. This level of expansion potential results from a combination of catering for population growth (both within and outside the City's boundaries), and redressing an existing under-provision of retail floorspace in all centres except Armadale and Kelmscott.

Table 17 - Summary of Detailed Model Results - Future Retail Needs (sqm NLA)

ID	Centre	Shop/Retail					Other Retail				
	Year:	2011	2016	2021	2026	2031	2011	2016	2021	2026	203
1	Armadale	53000	55000	60000	70000	70000	1900	5000	7000	8000	1000
2	Kelmscott DC	18400	18400	18400	18400	18400	6000	6000	6000	7000	700
3	Harrisdale	0	7500	20000	25000	31000	0	500	2000	2500	300
4	Wungong DC	0	0	15000	20000	35000	0	0	1000	2500	500
Total District		18400	25900	53400	63400	84400	6000	6500	9000	12000	1500
5	Westfield	1962	2000	2000	2000	2000	0	0	0	0	0
6	Haynes	0	4500	4500	4500	4500	0	250	250	250	250
7	Roleystone	1841	2000	2000	2000	2000	130	150	150	150	150
9	Champion	4195	4195	4195	4195	4195	300	300	300	300	300
10	Wungong-02	0	550	5900	5900	5900	0	0	300	300	300
11	Wungong-03	0	0	0	2500	3500	0	0	0	0	0
Total Neighbourhood		7998	13245	18595	21095	22095	430	700	1000	1000	100
8	River Rd (frontage)	600	600	600	600	600	0	0	0	0	0
12	Connell Ave	100	100	100	100	100	0	0	0	0	0
13	Armstrong Rd	200	200	200	200	200	0	0	0	0	0
14	Schruth Street	300	300	300	300	300	0	0	0	0	0
15	Challis	400	400	400	400	400	0	0	0	0	0
16	Narrogin Inn	937	937	937	937	937	260	260	260	260	260
17	Gwynne Park	143	143	143	143	143	40	40	40	40	40
18	Seventh Ave	345	345	345	345	345	0	0	0	0	0
19	Nicholson Rd Nth	155	155	155	155	155	65	65	65	65	65
21	Brookton/Soldiers	490	490	490	490	490	0	0	0	0	0
23	Forrestdale	0	500	500	500	500	0	0	0	0	0
24	Tudor Road	801	801	801	801	801	800	800	800	800	800
25	Railway Ave	600	600	600	600	600	0	0	0	0	0
26	Harber Drive	300	300	300	300	300	0	0	0	0	0
27	Strawberry Drive	150	150	150	150	150	0	0	0	0	0
28	Seville Drive	360	360	360	360	360	0	0	0	0	0
29	Erade Village	0	2000	2000	2000	2000	0	0	500	500	500
30	Piara Waters-01	0	0	1500	1500	1500	0	0	100	100	100
31	Piara Waters-02	0	0	900	900	900	0	0	100	100	100
32	Wungong-04	0	0	0	0	450	0	0	0	0	0
33	Wungong-05	0	0	700	700	700	0	0	0	0	0
34	Wungong-06	0	1000	1000	1000	1000	0	0	0	0	0
35	Wungong-07	0	1500	1500	1500	1500	0	0	0	0	0
36	Wungong-08	0	0	0	700	700	0	0	0	0	0
37	Wungong-09	0	650	650	1200	1200	0	0	0	0	0
38	Wungong-10	0	0	0	0	400	0	0	0	0	0
39	Wungong-11	0	0	0	0	400	0	0	0	0	0
45	Armadale High Sch.	0	200	200	200	200	190	190	190	190	190
Total Local		5881	11731	14831	16081	17331	1355	1355	2055	2055	205
40	Bunnings-	0	0	0	0	0	0	15000	15000	15000	1500
50	Forrestdale Bus Pk	0	500	500	500	500	0	5000	10000	30000	5000
52	Kelmscott	6637	6637	6637	6637	6637	30000	30000	30000	30000	3000
53	Armadale	125	125	125	125	125	1909	2000	4000	6000	1000
54	Sth Forrestdale	0	0	0	0	0	0	0	2500	5000	750
Total Mixed Business/		6762	7262	7262	7262	7262	31909	52000	61500	86000	11250
GRAND TOTAL		**92041**	**11313**	**15408**	**17783**	**201088**	**41594**	**65555**	**80555**	**10905**	**14055**

Some brief comments on the model results are presented in the following subsections.

Armadale Strategic Metropolitan Centre (SMC)

The modelling indicates that the largest and most important centre in the City has the potential to expand significantly over time to a maximum of 70,000 sqm of Shop/ Retail floorspace. This future potential is very useful as it represents an economic incentive for continued incremental improvement and expansion of Armadale, without significant adverse impact on the continued viability of other centres, including the Kelmscott Town Centre. In addition to Shop/ Retail floorspace, it is estimated that there is potential for up to 10,000 sqm of Other Retail floorspace in the Armadale SMC.

District Centres

Very significant expansion of district centres is projected by the modelling – from a single district centre (Kelmscott) of 18,400 sqm[1] in 2011 to three centres totalling 84,400 sqm in 2031.

Kelmscott Town Centre

The performance of the Kelmscott Town Centre is, and will remain, slightly below average for a larger centre, although the modelling indicates that it will remain viable despite major centre development and expansions proposed elsewhere within the City.

Harrisdale District Centre

Harrisdale is expected to perform very well. Modelling indicates that an initial stage of between 7,500 sqm and 10,000 sqm of Shop/ Retail floorspace would be viable by 2016. After that its potential increases considerably to 20,000 sqm by 2021 and a very large (for a district centre[2]) 31,000 sqm by 2031. These floorspace potential estimates exceed previous estimates mainly due to upward revisions of primary catchment area population projections both within the City of Armadale and neighbouring City of Gosnells.

Wungong District Centre

The modelling indicates that the Wungong District Centre has very significant future potential provided, of course, that the dwelling and population projections underpinning the modelling in the Wungong area match current expectations. The modelling indicates that 15,000 sqm of Shop/ Retail floorspace could be viable in Wungong by 2021, increasing to 35,000 sqm by 2031. These figures considerably exceed previous estimates for this centre due to revised dwelling and population projections not only for the Brookdale-Wungong district itself, but for the City of Armadale as whole.

The Neighbourhood Centres

The various old and newer neighbourhood centres are a mixed bag in terms of potential performance. The already established centres seem to have the trade area potential to perform at viable levels at their existing sizes, with the possible exception of Roleystone. Unlike most areas of the City, not a great deal of additional population is forecast for Roleystone and, in the model, significantly increased centre development in the more populous parts of the City has the effect of attracting more people away from the existing Roleystone centre. Local loyalty and the pleasant character of the Roleystone centre (subjective factors that are not accounted for in the model) could, however, potentially keep this calculated leakage in check.

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[1] The original 15,000 sqm for Kelmscott has been adjusted by inclusion of the “Kelmscott Hotel” and Albany Highway component of the “River Road” complexes within Kelmscott.

[2] This is not unprecedented in Perth. Kingsway City is a district centre with approval for 32,000 sqm of Shop/Retail floorspace.

According to the modelling, the new Haynes neighbourhood centre will become viable between 2011 and 2016[3]. The larger Wungong neighbourhood centre (Wungong-02) has the potential to be viable at 5,900 sqm by 2021, with the smaller one (Wungong-03) being viable by 2026.

The Local Centres

The most recent version of SPP 4.2 states that a local centre is "any centre with a Shop/ Retail floorspace under 1,500 sqm" (SPP 4.2, bottom of Table 2). This is quite clear and it is therefore reasonable to assume that any activity centre with Shop/ Retail floorspace in excess of 1,500 sqm is something other than a local centre, i.e, a neighbourhood centre or above. In the City of Armadale the only exception to this rule is Centre 26 – The Erade Village. Although planned to have Shop/ Retail floorspace of 2,000 sqm, the Shop/ Retail uses proposed are planned to be local in nature.

The modelling indicates that all of the existing “Local” centres in the City have virtually no expansion potential and that, for some, continued survival will be an issue. In the planned newer urban areas, however, this is not the case with planned new local centres in Piara Waters and Wungong- Brookdale showing potentially viable, if not startling, trade performance in the longer term.

Mixed Business/ Light Industrial Areas

In the modelling, Shop/ Retail floorspace has not been expanded in the existing mixed business/ light industrial areas because the primary aim should be to make the commercial activity centres the main focus for Shop/ Retail floorspace uses. Forrestdale Business Park is an exception where an indicative 500 sqm of local convenience shopping has been assumed in accordance with Clause 5.6.2 of SPP 4.2. This has been accounted for in the modelling.

There is clearly good additional potential for mixed business development (for the establishment of Other Retail floorspace) in the Southern River area of the City of Gosnells, and this has also been accounted for in the modelling. However, the extent of this potential will to some extent be kept in check by the very large mixed business area planned for the nearby Forrestdale Business Park – up to 50,000 sqm by 2031.

[3] The centre opened in May 2012

THE STRATEGIC PLAN

Key Strategic Approach

The recommended key approach to this ACPS is to adopt a planning principles-based but otherwise open-minded attitude towards managing growth and change in activity centres by acknowledging inevitable uncertainty, while positively seeking to create activity centre development opportunities and satisfactory outcomes.

> "*However high the level of ambition entertained it is wise to remember that the sheer complexity of a town, in terms not only of its physical structure but also of its social groupings and activities, commercial, industrial and administrative complexes, is so great that accurate detailed prediction of its needs is hardly possible. The Planner must be prepared either to leave many things open and undecided or else frequently to change his plan." (Professor Lewis Keeble, 1968)*

In the past, the approach to the preparation and implementation of commercial strategies has tended to be the opposite of the above quote – i.e. one of *not* leaving many things open and undecided, resulting in a general reluctance to change the plan. This approach has proved to be unsatisfactory and in most cases has resulted over time in worthwhile development proposals being refused due to non-compliance with the plan; and/ or the strategy itself being undermined and rendered obsolete too early, as unforeseen development proposals are in fact approved, albeit inconsistently and in an ad hoc manner.

There are numerous potentially satisfactory future outcomes for development of activity centres in the City of Armadale (and virtually everywhere else). Rather than preparing and seeking to implement a rigid plan or "vision", this strategy is more about creating a clear but flexible planning framework based on the ***activity centres hierarchy***, which remains the centrepiece of SPP 4.2. The strategy is also about ***process***. The framework has within it a lot of flexibility, so in order to ensure satisfactory outcomes, ongoing management must embrace a ***principles-based*** readiness to respond positively to unexpected opportunities.

The adoption of a principles-based approach and a complementary flexible planning framework is necessary to ensure that the results on the ground are satisfactory. Urban planners know, ***in principle***, what is appropriate in terms of ***land use relationships/ compatibility.*** They also know what constitutes ***good urban design***, and what contributes most to ***urban accessibility and convenience, efficiency and sustainability***. Accordingly, there is no reason why, within a generalised framework, hitherto unplanned development proposals cannot simply be evaluated on their merits using the basic principles that are at the core of the planner's professional expertise.

This does not mean that the strategy should be ill-defined or weak. On the contrary, it should provide clear intent and guidance to all stakeholders. It can reasonably be anticipated that in many cases, actual development will be in straightforward accordance with the strategy. However, the difference to past practice will be that, within the framework, ***appropriate consideration of alternative proposals to those expressed in the strategy will be recognised as part of the strategy itself – a valid part of an on-going implementation process, rather than a conflict or threat potentially undermining the strategy.***

The degree of flexibility within the proposed framework justifies it having fairly strong boundaries. Maintenance of a hierarchy of centres does certainly require some careful monitoring and control. For this reason, where development proposals seek to go beyond the generous boundaries established by the framework, there will then be a need for proposals to be fully justified, in most cases by a Retail Sustainability Assessment (RSA).

This working paper envisages that through embracing this principles and process-based approach, the strategy should remain "alive" during its currency. Why is this important? It is widely recognised that practical day-to-day planning activity should take place within a strategic context or framework that provides its rationale. Strategic plans are, however, normally produced relatively infrequently, while day-to-day planning activity is constant. With the passage of time a strategy can lose relevance and, as a result, day-to-day planning activity can come adrift from an underlying rationale. While the current system of periodic strategic review and update is all very well, these are often delayed longer than they should be, and an update invariably requires a major new study.

The proposed approach is intended to keep day-to-day planning focussed on and guided by the big picture with the option of, if necessary, deliberately changing the big picture itself (rather than ignoring it) where this can be justified. The basic principle to be enforced is that ***every planning decision or initiative should be in pursuit of a specific relevant strategy or strategic intention.*** This approach should provide greater discipline in decision-making by insisting on ***some recognition/resolution*** with the strategic framework, albeit an appropriately flexible strategic framework.

Planning Framework

The proposed strategic planning framework is basically comprised of:

- Intentions (***what*** is planned to be achieved, and (***why***));
- Strategies (***generally how*** it is proposed to go about realising the intentions); and
- Actions/ Action Plans (***specific implementation tasks***/ projects/ products, both "active" and "passive", required to implement the strategies).

This top-down list is for descriptive purposes only – the intentions, strategies and actions themselves are not always amenable to organising into straightforward hierarchical trees. For example, more than one intention may be realised, in whole or part, by a single strategy and vice-versa; specific actions may serve to implement more than one strategy or intention, or only partially serve a particular strategy (etc.).

In addition, it is intended that the Strategies and Actions – but particularly the Actions – remain ***a work in constant progress***. A programme of actions is not included in this working paper – it will need to be created and maintained by the City's planning department as part of its implementation management processes.

Intentions

Intentions are grouped according to their main purpose, either:

- Mainly related to a desired physical, social or environmental outcome; or
- Satisfaction of administrative/ statutory requirements or processes.

Physical, Social & Environmental Outcomes

- Facilitate the provision and responsive evolution of a ***viable and conveniently accessible network*** of attractive activity centres (to serve the shopping, other commercial and socio/ cultural needs of the population).
- Encourage and facilitate any improvement of ***existing activity centres***, particularly local centres (to improve convenience shopping and other service needs/ opportunities of local communities).
- Require that development of ***new activity centres*** is of high quality and designed in accordance with relevant State-level policies (to create high amenity and avoid problems such as those currently associated with many of the older local centres).
- Encourage and facilitate establishment of ***compatible non-retail uses*** in activity centres (in order to improve their urbanity, convenience, security and robustness).
- Encourage and facilitate development of ***Medium and high density housing*** in the vicinity of activity centres (to enhance the viability of centres while furthering wider sustainability objectives such as housing choice, and reduced car dependence).

Administrative/ Statutory/ Processes

- Contribute towards the implementation of ***Directions 2031 and State Planning Policy 4.2*** – Activity Centres for Perth and Peel.
- Inform and guide preparation and implementation of the City of Armadale's new ***Local Planning Strategy and Scheme***, including the nature of the various commercial and mixed- use zones and related provisions in the City's town planning scheme.
- Inform the preparation and rationalisation of ***local planning policies*** relating to activity centres.
- Inform the consideration and determination of commercial ***development applications***.
- Inform the preparation of local government ***action and action plans*** aimed at implementing the strategy.

Strategies

The following list is a brief summary of each of the proposed strategies. These strategies are selectively discussed and, where appropriate, elaborated upon in the sub-sections that follow.

- Define a hierarchy of mixed use activity centres and floorspace quantity controls aimed at ensuring that the centres hierarchy is maintained, while nevertheless allowing a significant degree of flexibility for the commercial operation of the market.
- Illustrate the centres hierarchy on a Strategy Map, to be regularly updated.
- Assess the future retail needs of the population and provide guidance to the market in relation to the estimated future trade potential of centres.
- Liaise, or require liaison with, the PTA as required to ensure that activity centres are served by adequate public transport.
- Differentiate between approaches to the planning of existing and planned activity centres.
- Be willing to allow virtually any proposal that would improve the condition or performance of an existing local activity centre.
- Where appropriate, take a pro-active role in encouraging and facilitating improvements to existing activity centres. In the first instance, prioritise energetic continuation of current initiatives aimed at improvement of the Westfield centre and various aspects of the Armadale SMC (e.g. Jull Street mall and new statutory planning provisions).

- Ensure that developers allocate enough land for the long term floorspace potential of planned mixed use centres.
- Liaise with developers and other key stakeholders during the planning and design process, and exercise development control powers sufficient to ensure that new centre development, and incremental future growth of the centres in subsequent stages, is of an acceptable standard in terms of triple-bottom-line sustainability and urban design principles.
- Enforce SPP 4.2 “mix of land use” provisions in district centres and higher.
- Encourage “mix of land use” provisions in neighbourhood and local activity centres, where practicable.
- Zone land for medium and high density residential development in the immediate vicinity of activity centres.
- Integrate the recommendations of this Working Paper within the City’s Local Planning Strategy.
- Create Scheme provisions that provide a statutory basis for the process of modifying the ACPS, including the Strategy Map, without the need for formal amendment.

Centres Hierarchy & Strategy Map

The activity centres hierarchy and centres within each level of the hierarchy are illustrated on the ***Strategy Map***. Centres are numbered and listed on the strategy map using the “Lookup” numbers in the first column of the model output and summary sheets. Whilst in theory there are no retail floorspace caps applicable to any centre in the City, the maintenance of a retail hierarchy, which is still the centrepiece of SPP 4.2, does in fact require some effective mechanism to limit centre size. Maintenance of a retail hierarchy is important to ensure that appropriate levels of retail and other community services are conveniently provided, and to optimise the return on public investment in infrastructure, particularly transport infrastructure. The recommended retail hierarchy is as follows:

- Strategic Metropolitan Centre (Armadale)
- District Centres
- Neighbourhood Centres
- Local Centres
- Other Centres/ Mixed Business/ Industrial Areas

This strategy requires that the following criteria for controlling the size of centres at the various levels within the defined retail hierarchy should apply. The criteria are, for the most part, very generous and provide a lot of room within which the market can manoeuvre to deliver floorspace in response to commercial market demand, while still ensuring the hierarchy of centres is maintained. Indeed, it is anticipated that most centres will ***not*** be developed to the extent potentially permitted by this strategy. Should a developer wish to develop a centre larger than specified by the criteria, then a persuasive Retail Sustainability Assessment (RSA) will be required prior to any such consideration by the Council.

The RNA modelling carried out for this strategy, together with the hierarchy criteria, are intended to serve as an RSA for all retail floorspace increases that either accord with the modelling, or the following controlling criteria. Thus, if a developer wishes to develop or increase a centre to a size within the thresholds specified by the criteria, an RSA will not be required.

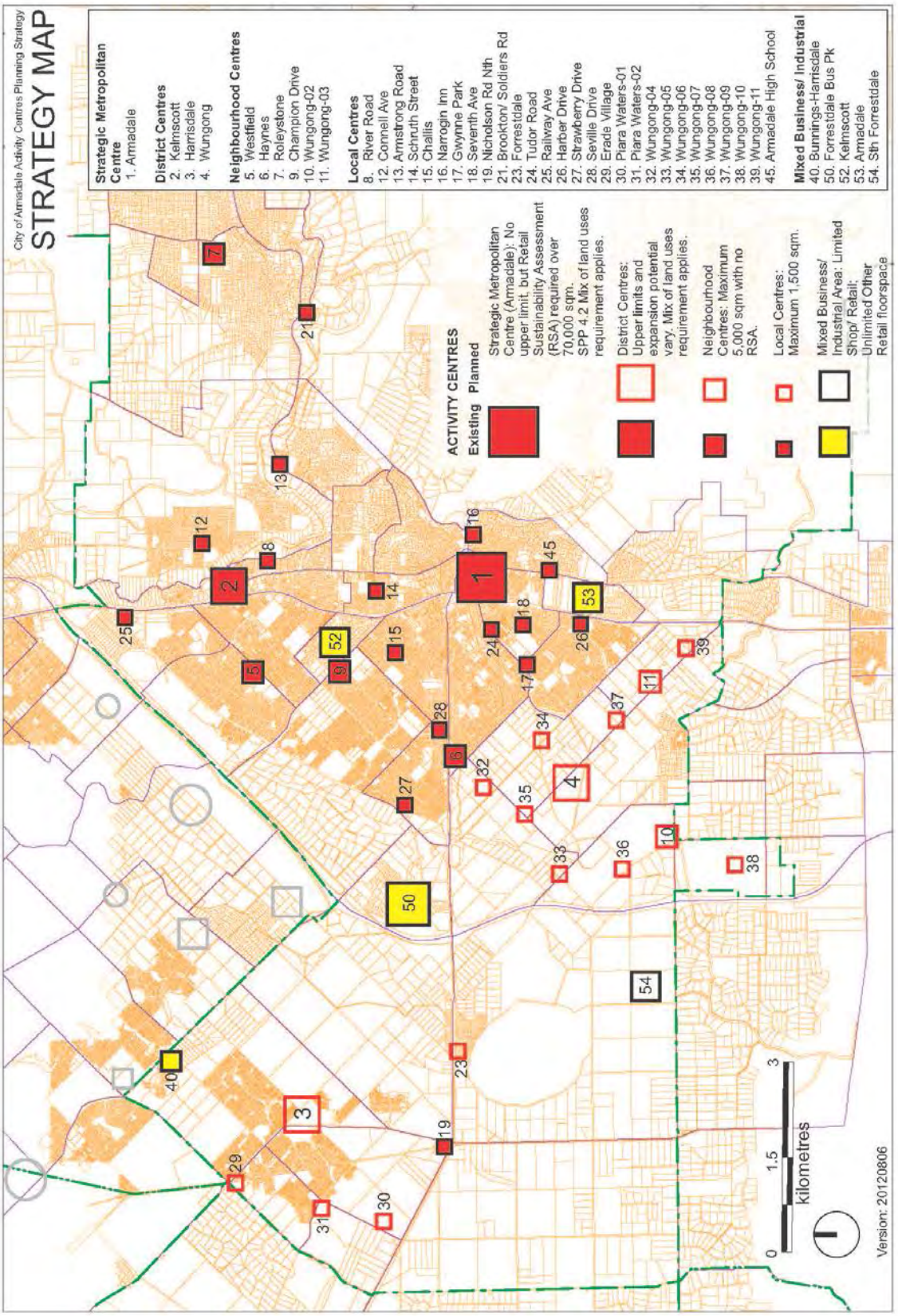


Figure 28 - City of Armadale Strategy Map

The criteria for centres at each level in the hierarchy are as follows (all floorspace figures are for ***Shop/ Retail NLA*** unless otherwise specified; where relevant, bracketed numbers are the centre reference numbers on the model output sheets and Strategy Map):

Regional Centre

- **Armadale Strategic Metropolitan Centre (1)**: No upper retail floorspace limit, but RSA required for major development/s that would result in Shop/ Retail floorspace exceeding 70,000 sqm.
- SPP 4.2 centre plan and mix of land use requirements apply.

District Centres

Given the projected size of the district centres and the potential for their premature development (in immediate catchment terms) to adversely impact upon other centres, some control over their staging is recommended. The intention is to strike a reasonable balance between facilitating development in response to market demand, yet avoiding premature development that might prevent more timely and appropriate development of other centres. The thresholds planned to achieve this are regarded as very reasonable and unlikely to thwart or limit a centre's development where this is aimed at catering for the legitimate needs of its own primary catchment area.

- **Kelmscott Town Centre (2)**: No upper retail floorspace limit, but an RSA required before Shop/ Retail floorspace can exceed 20,000 sqm.
- SPP 4.2 centre plan/ major development and mix of land use requirements apply to all significant increases in Shop/ Retail floorspace above current levels.
- **Harrisdale (3)**: Maximum 20,000 sqm without RSA for centre development scheduled for completion prior to 2021.
- Maximum 31,000 sqm without RSA; but with an RSA being required if this maximum is proposed to be realised on the ground prior to 2026.
- SPP 4.2 centre plan and mix of land use requirements apply.
- **Wungong (4)**: Maximum 20,000 sqm without RSA for centre development scheduled for completion prior to 2021.
- Maximum 35,000 sqm without RSA; but with an RSA being required if this maximum is proposed to be realised on the ground prior to 2026.
- SPP 4.2 centre plan and mix of land use requirements apply.

Neighbourhood Centres

- **All – Existing and Planned:** Maximum 5,000 sqm without RSA. (This strategy serves as RSA for Wungong-02).
- Mix of land use requirements need not apply to neighbourhood centres, but local offices, community services, and adjacent or integrated higher density residential development should be encouraged wherever practicable.
- Subject to detailed structure planning, the exact location of as yet undeveloped neighbourhood centres is flexible.

Local centres:

- **All – Existing and Planned:** Maximum 1,500 sqm provided no individual tenancy, other than a supermarket or similar, exceeds 250 sqm.
- Single large-format Shop/ Retail activities (e.g. a chain liquor store) are not considered appropriate in local centres.
- Mix of land use requirements do not apply to local centres, but local offices and adjacent or integrated higher density residential development should be encouraged wherever practicable.
- Subject to detailed structure planning, the exact location of as yet undeveloped local centres is flexible.

Other Centres/ Mixed Business/ Industrial Areas

- **All – Existing and Planned:** Limited additional Shop/ Retail floorspace beyond that currently existing or approved (Clause 5.6.2 of SPP 4.2 applies).
- Unlimited Other Retail and general service commercial floorspace.

It should be noted that, in the City of Armadale, mixed business/ industrial areas play a significant role, not only in providing some Shop/ Retail and a large variety of Other Retail activities within some large precincts, but in providing a considerable amount of employment. These areas, particularly the Forrestdale Business Park, will contribute to the City being able to significantly increase opportunities for employment self-sufficiency and self-containment.

Two Categories of Centre

As indicated in the Discussion Paper, a reasonably clear distinction can be drawn in the City of Armadale between well-established centres in older suburbs; and newer, and planned but in most cases not yet developed centres in future or developing suburbs. This strategy recommends a different approach to the planning and development of each of these main categories of activity centre.

Well Established Centres

With the exception of the large main centres – Armadale and Kelmscott – and the Champion Drive and Roleystone neighbourhood centres, the well-established activity centres, appear to under- perform to varying degrees. The vast majority of these are small and local-serving, look rather shabby and are in need of redevelopment/ refurbishment. The RNA modelling indicates, however, that most of the older/ well-established centres do not have much scope to increase their trading levels in the future, so the extent to which refurbishment might be economically feasible is in all likelihood limited.

The general strategic approach for older/ well-established centres, particularly the small ones, should therefore be to encourage and facilitate any development at all which would result in some improvement to a centre, even though it may not represent an "ideal" outcome. Whilst high standards of urban design and development should always be encouraged and preferred over more "ordinary" development, this strategy envisages specifically foregoing higher standards, ***if necessary***, in order to facilitate some physical and/ or social improvement over an existing unsatisfactory situation.

This approach does not apply to the Armadale SMC or the Kelmscott district centre, the relative size and importance of which warrant a high standard of development.

Westfield Neighbourhood Centres

The Westfield centre is unique in the City of Armadale because it is a neighbourhood centre quite a bit larger than the other struggling small local centres. Westfield clearly struggles, yet the RNA modelling indicates that its trade potential on a square metre basis is on a par with the much more successful Champion Drive. This suggests that, notwithstanding the obvious attraction of a major chain supermarket at Champion Drive, there is definitely adequate market potential in Westfield's immediate catchment. It may reasonably be concluded that the centre's relatively poor performance can be attributed to its lack of visual appeal and the uncomfortable atmosphere associated with it.

It is understood that the City has liaised with the centre's owners with a view to encouraging some redevelopment/ refurbishment, but without success to date. Such efforts should be persisted with because there is clearly a potential to redevelop the site with a smaller, more intensive retail centre combined with some medium or even high density residential development. Such redevelopment may not be feasible at the present time, but its potential can only increase as dwelling and population growth pressures in the City increase rapidly in the short to medium term, as they are projected to do.

Planned Centres

There are a considerable number of new centres – district, neighbourhood and local – planned for development over the next 10 years and beyond. The RNA modelling indicates that the future trade area potential for all currently planned future centres is very good at the times presented in Table 17 and the Appendix. However, the population projections for the Southern River area in the City of Gosnells are fairly optimistic in terms of timing, as are the City of Armadale's own population and dwellings projections. Thus, while the long term potential for the planned centres is not in doubt, the appropriate *timing* of centre development will depend on the rate of population growth actually experienced.

Development/ redevelopment of all district level and higher centres (old and new) will need to accord with the requirements of SPP 4.2, particularly in relation to the preparation of activity centre structure plans prior to any *major development* (Clause 6.4) and the "mix of land uses" requirement (Table 3). The Armadale SMC and district centres will therefore require more detailed planning activity and interaction with development proponents prior to development/ redevelopment than will be the case with most of the neighbourhood and local centres falling within this category.

The general strategy for implementing development of these centres is to liaise as closely as possible with developers and other key stakeholders during the centre planning and design process, and exercise development control powers to whatever extent may be necessary to ensure that new centre development, and incremental future growth of the centres in subsequent stages, is of an acceptable standard in terms of triple-bottom-line sustainability and urban design principles. In some cases this could require activity centre plans, even for neighbourhood centres. While SPP 4.2 does not require such plans, Table 6 of that document recognises that "Local Government may require a detailed area plan" for neighbourhood centres.

The need to achieve significantly improved outcomes in new centres is the primary reason for identifying the two different strategic approaches to centre development. While a flexible, pragmatic, responsive approach can reasonably be taken to development proposals in the older centres in order to facilitate much needed improvements; a somewhat more demanding, principled, outcomes-focussed approach is recommended for the new centres. This approach will bring long term benefits to the City as the serious mistakes of the past (which are clearly reflected in the appearance and performance of many of the older centres) are avoided, and more positive future outcomes are enabled.

Management Processes

As previously stated, the basic principle that should be enforced in the implementation of this strategy is that ***every planning decision or initiative should be in pursuit of a specific relevant strategy or strategic intention.*** Such an approach is intended to provide greater discipline to decision-making by always requiring that it is based on ***some recognition, response or reconciliation*** with the strategic framework, albeit an appropriately flexible strategic framework. Such an approach is essential if the City is to take an effective strategic approach to the planning and development of its activity centres. Any other approach would be ad hoc.

The same principle could potentially be extended throughout Council administration to facilitate improved coordination between departments. The proposed Integrated Planning Framework provides an opportunity to pursue this challenging goal.

Establishing the internal processes required to enforce this discipline will require some effort, and maintaining the system will require ongoing commitment. The ***essential requirements*** to practically keep the ACPS alive and relevant throughout the currency of the Local Planning Strategy are:

- An active/ on-going commitment by management to implementing the strategy as intended;
- Establishing a process of relating all specific actions/ decisions pertaining to activity centres to a specific stated intention and/ or other provision of the strategy; and
- Establishing an in-house procedural ability to responsibly modify the strategy in response to altered circumstances, ***without*** the need for a formal amendment.

This last point is arguably the most important. Without it, the valued “strategic approach” can become a blinkered straightjacket or, and this is more likely, simply be dropped in favour of the more pragmatic ad hoc approach. However, it will be readily understood that arbitrary and ill-considered modification to the strategy simply in order to keep it alive would also be, in effect, non-strategic and ad hoc. This is where a conscientious adherence to planning principle is the main tool. Such committed adherence is the only guarantee the community will have that the strategic but flexible approach being advocated is safe.

Accordingly, the key strategy is for the Council to maintain an active readiness to ***responsively and responsibly change*** any existing intention, strategy and/ or action plan provided:

- It is clearly necessary and appropriate under the circumstances to effect the proposed change;
- Such change is in accordance with, or (as a minimum) is not contrary to, sound planning principles; and
- The change would not unduly compromise or negate any other intention, strategy or action plan.

APPENDIX

Activity Centres (Gravity) Model

Explained, together with

Detailed Output Summary
Sheets

THE RETAIL MODEL

The retail model used in this study is a form of gravity model which has been used in retail analysis for many years. The term "gravity" model is derived from an early analogy, formed in the late 1950's and early 1960's, between physics and social behaviour. In the same manner that the attraction between physical bodies is related to their mass and distance between them, so too (it was hypothesized) is the attraction between certain social phenomena such as commercial centres and populations.

Though there is no true parallel between the physical and social sciences, this phenomenon of "social gravity" has been clearly demonstrated by numerous overseas and local researchers. The name "gravity model" has therefore persisted, and many useful models derived from this concept have been produced and used in various parts of the world, particularly in the United States of America and England.

SHRAPNEL URBAN PLANNING has used gravity models for retail analysis since 1982, and has produced a significant body of work for various public and private sector clients. The form of the gravity model which SHRAPNEL URBAN PLANNING has adapted for local use was originally developed by Lakshmanan and Hansen[1] to aid in the location of large new shopping centres in the Baltimore region. The model is expressed mathematically as follows:

$$P_{ij} = T_i \frac{A^a{}_j \big/ d_{ij}{}^b}{\sum_{j=1}^{n} A^a{}_j \big/ d_{ij}{}^b}$$

Where:

P_{ij} = The number of people living in zone *i* who are attracted to centre *j*
T_i = The total number of people living in zone *i*
A_j = A measure of the relative attractiveness of centre *j*
d_{ij} = A measure of the distance between zone *i* and centre *j*
a = An exponent applied to the attraction variable.
b = An exponent applied to the distance variable.

The basic premise of this model is that people are more likely, on the whole, to use shopping centres which are located close to where they live than they are to use centres which are located further away. This is not always the case, however, and some people will travel further to shop than they really need, sometimes passing one centre to visit a preferred one further away. Often this by-passing will be the by-passing of a smaller centre to visit a larger one. This "real world" situation is reflected in the results of the model. The older method

[1] Lakshmanan T.R. and Hansen W.G. (1965). A Retail Market Potential Model, AIP Journal, May 1965.

of describing a centre's "catchment area" by a single line around the centre, and assuming that all persons or dwellings on the inside of the line are "in" the catchment and all those outside the line are "out" of the catchment is clearly artificial.

The basic data unit (P) is usually population grouped into identifiable zones, such as suburbs. Population counts and forecasts are reasonably easily obtained. Other data units can, however, be used. It may be decided to use households rather than population, or household income or estimates of household retail expenditure. Whichever data unit is used, the way it is processed is the same. When estimates of household expenditure are used, however, the total amount of retail dollars attracted to the centre can then be divided by the floor area of the centre to provide a calculation of the annual turnover per square metre of the centre.

The measure of attractiveness of each centre (A) which is used is normally the size of the centre in square metres of net lettable floor area. This most significant of inputs can be easily measured and kept up-to-date. Other measures of attractiveness can be included in the model as well (such as values representing relative "image", ease of car parking, etc); but these factors are much more difficult to reliably quantify. Unless the results of detailed empirical research are available to clearly demonstrate the reliability of measuring these types of additional variables, the model provides more useful results without them. Where such research can be done, then these additional factors will increase the sophistication of the model.

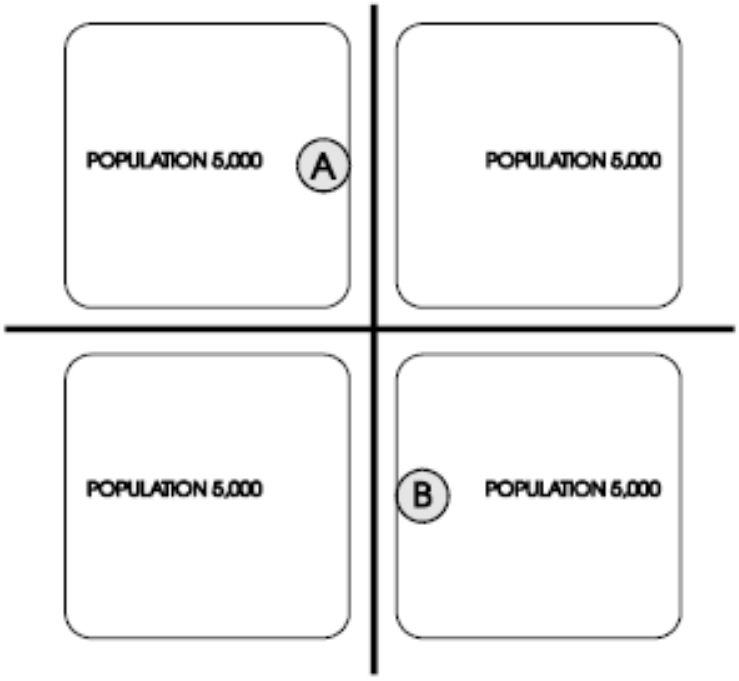
The measure of the distance between each residential zone and each shopping centre (d) is usually an estimate of the driving time in minutes. This estimate may be derived from measures of the straight line distances involved, or by distances along traffic routes. There is little difference in the model's results between straight line measures and road network measures where major physical impediments to direct travel are absent. A measure which takes account of the structure of the road network is superior to the straight line distance measure, however, where major geographic features (such as lakes or rivers for example) make straight line distance measures less accurate.

Thus the model relates all the shopping centres in a study area with all the people (grouped into zones) within the area. The relationship between these two sets of data is determined by the set of driving times - a separate measurement between each shopping centre and each residential zone. The model's main use is to estimate the future relative performance of a shopping centre given the future size and distribution of the population and all other shopping centres. The impact of creating or expanding any shopping centre, or even the effects of changing the road network, can also be estimated using the model.

It must always be remembered that the model results are a calculation, based on a mathematical formula and certain selected data inputs. When the results are presented in a way which has real meaning to a shopping centre

developer, such as dollar turnover per square metre, it is tempting to assume that the model is actually predicting the future financial performance of the centre. This is not the case, and is why other considerations must always also be taken into account by decision makers. The model is therefore an aid to decision making - not a "black box" which spits out the "right" answer.

For example, in a hypothetical urban area of 20,000 people, there might be two centres of exactly equal size - Centre A and Centre B, spaced evenly in relation to the population. The situation might be as illustrated in the following diagram:



HYPOTHETICAL URBAN AREA

In this simple hypothetical situation, as common sense itself dictates, the model would distribute half the total population to Centre A and half to Centre B (though a higher proportion of the population living near Centre A would be distributed to Centre A and vice versa). This is because the two centres are equal in size, and are located equally in relation to an evenly distributed population. But if "in reality" Centre A was a clean, well-managed centre containing many excellent shops; while Centre B was run down, had poor car parking and an uninteresting array of shops, Centre A would out-perform Centre B easily. The model would not indicate this difference unless the research was available to quantify the additional relative attraction factors. Thus the results of the model are a function of the inputs. They only represent the real world partially. This does not detract from the model's usefulness as an analytical tool, but it illustrates its limitations and the need for the use of sound judgment as well.

ARMADALE ACTIVITY CENTRES

Lookup	ID	Type	Name	Hierarchy	SHP nla	RET nla	TOT nla	SHP-$Mil	PerSqm	RET-$Mil	PerSqm	TOT-$Mil	PerSqm	SHP-Pers	Sqm/Cap	RET-Pers	Sqm/Cap
1	925	C	ARMADALE S/C	3 STR	53,000	1,900	54,900	$350.5	$6,613	$11.6	$6,100	$362.1	$6,595	33,603	1.58	2,677	0.71
2	900	C	KELM/SCOTT	5 DIS	15,000	4,000	19,000	$80.8	$5,386	$22.9	$5,736	$103.7	$5,460	7,902	1.90	5,195	0.77
3	FO-01	P	HARRISDALE DC	5 DIS	-			$0.0	$0	$0.0	$0	$0.0	$0	-	-	-	-
4	WU-01	P	WUNGONG DC	5 DIS	-			$0.0	$0	$0.0	$0	$0.0	$0				
5	902	C	WESTFIELD	6 NHD	1,962	-	1,962	$8.0	$4,608	$0.0	$0	$8.0	$4,608	893	2.20	-	-
6	903	C	HAYNES	6 NHD	-	-	-	$0.0	$0	$0.0	$0	$0.0	$0	-	-	-	-
7	915	C	ROLEYSTONE	6 NHD	1,841	130	1,971	$6.2	$3,369	$0.6	$4,984	$6.9	$3,476	538	3.42	133	0.98
8	932	C	RIVER RD	6 NHD	3,140	2,000	5,140	$12.3	$3,908	$11.4	$5,708	$23.7	$4,608	1,196	2.63	2,574	0.78
9	933	C	CHAMPION DRIVE	6 NHD	4,195	300	4,495	$18.8	$4,487	$1.9	$6,224	$20.7	$4,603	1,823	2.30	420	0.71
10	WU-02	P	WUNGONG-02	6 NHD	-	-	-	$0.0	$0	$0.0	$0	$0.0	$0	-	-	-	-
11	WU-03	P	WUNGONG-03	6 NHD	-			$0.0	$0	$0.0	$0	$0.0	$0	-	-	-	-
12	901	C	CONNELL AVE	7 LOC	100	-	100	$0.4	$3,828	$0.0	$0	$0.4	$3,928	38	2.61	-	-
13	904	C	ARMSTRONG RD	7 LOC	200	-	200	$0.7	$3,401	$0.0	$0	$0.7	$3,401	65	3.09	-	-
14	906	C	SCHRUTH ST	7 LOC	300	-	300	$1.2	$3,981	$0.0	$0	$1.2	$3,981	115	2.61	-	-
15	907	C	CHALLIS	7 LOC	400	-	400	$2.0	$4,937	$0.0	$0	$2.0	$4,937	191	2.09	-	-
16	910	C	NARROGIN INN	7 LOC	937	260	1,197	$2.9	$3,089	$1.4	$5,518	$4.3	$3,617	273	3.43	322	0.81
17	911	C	GWYNNE PARK	7 LOC	143	40	183	$0.5	$3,631	$0.2	$6,221	$0.8	$4,197	50	2.84	58	0.69
18	913	C	SEVENTH AVE	7 LOC	345	-	345	$1.2	$3,600	$0.0	$0	$1.2	$3,600	121	2.86	-	-
19	914	C	NICHOLSON RD NTH	7 LOC	155	65	220	$0.4	$2,580	$0.3	$4,723	$0.7	$3,199	38	4.12	68	0.96
20	924	C	BROOKTON HWY	7 LOC	230	-	230	$0.6	$2,691	$0.0	$0	$0.6	$2,691	55	4.17	-	-
21	928	C	SOLDIERS RD	7 LOC	260	-	260	$0.7	$2,719	$0.0	$0	$0.7	$2,719	63	4.12	-	-
22	929	C	KELM/SCOTT HOTEL	7 LOC	850	-	850	$3.2	$3,779	$0.0	$0	$3.2	$3,779	320	2.65	-	-
23	933	C	FORRESTDALE	7 LOC	-	-	-	$0.0	$0	$0.0	$0	$0.0	$0	-	-	-	-
24	939	C	TUDOR RD	7 LOC	801	800	1,601	$2.9	$3,670	$5.2	$6,492	$8.1	$5,080	287	2.79	1,224	0.65
25	968	C	RAILWAY AVE	7 LOC	600	-	600	$2.3	$3,793	$0.0	$0	$2.3	$3,793	231	2.60	-	-
26	BD-01	C	HARBER DRIVE	7 LOC	300	-	300	$1.1	$3,697	$0.0	$0	$1.1	$3,697	107	2.79	-	-
27	SG-01	C	STRAWBERRY DRIVE	7 LOC	150		150	$0.7	$4,352	$0.0	$0	$0.7	$4,352	63	2.37	-	-
28	SG-02	C	SEVILLE DRIVE	7 LOC	360		360	$1.5	$4,097	$0.0	$0	$1.5	$4,097	143	2.51	-	-
29	FO-03	P	EDADE VILLAGE	7 LOC	-		-	$0.0	$0	$0.0	$0	$0.0	$0	-	-	-	
30	PW-01	P	PIARA WATERS-01	7 LOC	-			$0.0	$0	$0.0	$0	$0.0	$0	-	-	-	-
31	PW-02	P	PIARA WATERS-02	7 LOC	-			$0.0	$0	$0.0	$0	$0.0	$0	-	-	-	-
32	WU-04	P	WUNGONG-04	7 LOC	-			$0.0	$0	$0.0	$0	$0.0	$0	-	-	-	-
33	WU-05	P	WUNGONG-05	7 LOC	-			$0.0	$0	$0.0	$0	$0.0	$0	-	-	-	-
34	WU-06	P	WUNGONG-06	7 LOC	-		-	$0.0	$0	$0.0	$0	$0.0	$0	-	-		
35	WU-07	P	WUNGONG-07	7 LOC	-		-	$0.0	$0	$0.0	$0	$0.0	$0	-	-	-	-
36	WU-08	P	WUNGONG-08	7 LOC	-		-	$0.0	$0	$0.0	$0	$0.0	$0	-	-	-	-
37	WU-09	P	WUNGONG-09	7 LOC	-	-	-	$0.0	$0	$0.0	$0	$0.0	$0	-	-	-	-
38	WU-10	P	WUNGONG-10	7 LOC	-	-	-	$0.0	$0	$0.0	$0	$0.0	$0	-	-	-	-
39	WU-11	P	WUNGONG-11	7 LOC	-	-	-	$0.0	$0	$0.0	$0	$0.0	$0	-	-	-	-
40	385	C	BUNNINGS - HARRISDALE	8 OTH C	-		-	$0.0	$0	$0.0	$0	$0.0	$0	-	-	-	-
41	387	C	ARMADALE - WILLIAM ST	8 OTH C	-		-	$0.0	$0	$0.0	$0	$0.0	$0	-	-	-	-
42	909	C	FIFTH RD	8 OTH C	-	-	-	$0.0	$0	$0.0	$0	$0.0	$0	-	-	-	-
43	926	C	MOUNTAIN VIEW	8 OTH C	-	-	-	$0.0	$0	$0.0	$0	$0.0	$0	-	-	-	-
44	930	C	ROCK INN TAVERN	8 OTH C	-	-	-	$0.0	$0	$0.0	$0	$0.0	$0	-	-	-	-
45	931	C	ARMADALE HIGH SCHOOL	8 OTH C	-	190	190	$0.0	$0	$1.2	$6,267	$1.2	$6,267	-	-	273	0.69
46	935	C	FARM EQUIPMENT	8 OTH C	-		-	$0.0	$0	$0.0	$0	$0.0	$0	-	-		
47	936	C	TURNER	8 OTH C	-		-	$0.0	$0	$0.0	$0	$0.0	$0	-	-		
48	937	C	ARMATAGE	8 OTH C	-		-	$0.0	$0	$0.0	$0	$0.0	$0	-	-		
49	941	C	SEAFORTH AVE	8 OTH C	-	-	-	$0.0	$0	$0.0	$0	$0.0	$0	-	-	-	-
50	108	I	FORRESTDALE BP	9 IND	-	-	-	$0.0	$0	$0.0	$0	$0.0	$0	-	-	-	-
51	62	I	FORRESTDALE	9 IND	-	-	-	$0.0	$0	$0.0	$0	$0.0	$0	-	-	-	-
52	63	I	KELM/SCOTT	9 IND	6,637	30,000	36,637	$45.7	$6,882	$185.4	$6,180	$231.1	$6,307	4,415	1.50	41,820	0.72
53	66	I	ARMADALE	9 IND	125	1,909	2,034	$0.7	$5,555	$11.9	$6,223	$12.6	$6,181	67	1.88	2,785	0.69
54	SF-01	I	STH FORRESTDALE	9 IND	-	-	-	$0.0	$0	$0.0	$0	$0.0	$0	-	-	-	-
55																	
56																	
57																	
58																	
District & Higher Only					68,000	5,900	73,900	$431.3	$6,342	$34.5	$5,853	$465.8	$6,303	41,505	1.64	7,872	0.75
TOTAL (This Page)					92,031	41,594	133,625	$548.3	$5,936	$254.1	$6,109	$800.4	$5,990	52,596	1.75	57,548	0.72

Dwelling Unit/ Population Projections...
City of Armadale

Year	2011	2016	2021	2026	2,031
Dwellings	24,951	31,007	37,429	43,868	50,357
Population	64,796	81,971	101,256	120,231	138,599

Data Sets (this sheet)

DW2011	SHP11	RET11

Model Run Stats (this sheet)

Shop/Retail	*NLA (sqm)*	*$million /annum*	*$/sqm /annum*	*Person (Equiv.)*	*Sqm/ Capita*
Regional	53,000	$350.5	$6,613	33,603	1.58
District	15,000	$80.8	$5,386	7,902	1.90
N'hood	11,138	$46.3	$4,160	4,449	2.50
Local	6,131	$22.3	$3,633	2,160	2.84
Other Com	-	$0.0	$0		-
Industrial	6,762	$46.4	$6,858	4,482	1.51
Total SHP	***92,031***	***$546.3***	***$5,936***	***52,596***	***1.75***
Cross Check	OK	OK		OK	

Other Retail	*NLA (sqm)*	*$million /annum*	*$/sqm /annum*	*Person (Equiv.)*	*Sqm/ Capita*
Regional	1,900	$11.6	$6,100	2,677	0.71
District	4,000	$22.9	$5,736	5,195	0.77
N'hood	2,430	$13.9	$5,733	3,127	0.78
Local	1,185	$7.2	$6,167	1,871	0.70
Other Com	190	$1.2	$6,267	273	0.69
Industrial	31,909	$197.3	$6,182	44,605	0.72
Total RET	***41,594***	***$254.1***	***$6,109***	***57,548***	***0.72***
Cross Check	OK	OK		OK	

TOTAL Retail	*NLA (sqm)*	*$million /annum*	*$/sqm /annum*
Regional	54,900	$362.1	$6,595
District	19,000	$103.7	$5,460
N'hood	13,568	$60.3	$4,442
Local	7,296	$29.5	$4,038
Other Com	190	$1.2	$6,267
Industrial	38,671	$243.6	$6,300
Total RET	***133,625***	***$800.4***	***$5,990***
Cross Check	OK	OK	

NOTE:
Totalling of Person Equivalents for Total Retail is a double-count of population and therefore not valid.

NOTE:

Centre names are a combination of DoP Complex names, LGA local names, and SUP database reference names. They may or may not accord with their commercial trading names.

NOTE:

This page displays the calculations of a mathematical "Retail Floorspace Potential" model , which is used to estimate retail floorspace needs and impacts for urban planning purposes.

Various qualitative aspects of centres are not fully accounted for in the model, and the actual economic performance of a centre will not necessarily accord with its theoretical potential as calculated by the model.

ARMADALE ACTIVITY CENTRES

Lookup	ID	Type	Name	Hierarchy	SHP nla	RET nla	TOT nla	SHP-$Mil	PerSqm	RET-$Mil	PerSqm	TOT-$Mil	PerSqm	SHP-Pers	Sqm/Cap	RET-Pers	Sqm/Cap
1	925	C	ARMADALE SMC	3 STR	55,000	5,000	60,000	$391.5	$7,119	$30.0	$6,000	$421.5	$7,025	37,101	1.48	6,812	0.73
2	900	C	KELMSCOTT	5 DIS	15,000	4,000	19,000	$85.5	$5,697	$23.2	$5,796	$108.6	$5,718	8,285	1.81	5,192	0.77
3	FO-01	P	HARRISDALE DC	5 DIS	7,500	500	8,000	$45.3	$6,039	$3.2	$6,306	$48.4	$6,056	4,365	1.72	705	0.71
4	WU-01	P	WUNGONG DC	5 DIS	-	-	-	$0.0	$0	$0.0	$0	$0.0	$0	-	-	-	-
5	902	C	WESTFIELD	6 NHD	2,000	-	2,000	$9.7	$4,870	$0.0	$0	$9.7	$4,870	951	2.10	-	-
6	903	C	HAYNES	6 NHD	4,500	250	4,750	$19.5	$4,326	$1.6	$6,245	$21.0	$4,427	1,870	2.41	347	0.72
7	915	C	ROLEYSTONE	6 NHD	2,000	150	2,150	$6.9	$3,451	$0.7	$4,915	$7.6	$3,553	595	3.36	150	1.00
8	932	C	RIVER RD	6 NHD	3,140	2,000	5,140	$13.0	$4,127	$11.5	$5,763	$24.5	$4,764	1,254	2.50	2,572	0.78
9	933	C	CHAMPION DRIVE	6 NHD	4,195	300	4,495	$20.0	$4,771	$1.9	$6,298	$21.9	$4,873	1,919	2.19	420	0.71
10	WU-02	P	WUNGONG-02	6 NHD	550	-	550	$1.7	$3,117	$0.0	$0	$1.7	$3,117	154	3.57	-	-
11	WU-03	P	WUNGONG-03	6 NHD	-	-	-	$0.0	$0	$0.0	$0	$0.0	$0	-	-	-	-
12	901	C	CONNELL AVE	7 LOC	100	-	100	$0.4	$4,043	$0.0	$0	$0.4	$4,043	40	2.48	-	-
13	904	C	ARMSTRONG RD	7 LOC	200	-	200	$0.7	$3,581	$0.0	$0	$0.7	$3,581	68	2.94	-	-
14	906	C	SCHRUTH ST	7 LOC	300	-	300	$1.3	$4,231	$0.0	$0	$1.3	$4,231	121	2.48	-	-
15	907	C	CHALLIS	7 LOC	400	-	400	$2.1	$5,273	$0.0	$0	$2.1	$5,273	202	1.98	-	-
16	910	C	NARROGIN INN	7 LOC	937	260	1,197	$3.1	$3,292	$1.4	$5,451	$4.5	$3,761	288	3.25	314	0.83
17	911	C	GWYNNE PARK	7 LOC	143	40	183	$0.6	$3,969	$0.3	$6,299	$0.8	$4,478	54	2.64	57	0.70
18	913	C	SEVENTH AVE	7 LOC	345	-	345	$1.3	$3,891	$0.0	$0	$1.3	$3,991	129	2.68	-	-
19	914	C	NICHOLSON RD NTH	7 LOC	155	65	220	$0.5	$3,056	$0.3	$5,156	$0.8	$3,676	45	3.47	73	0.88
20	924	C	BROOKTON HWY	7 LOC	230	-	230	$0.6	$2,795	$0.0	$0	$0.6	$2,795	57	4.04	-	-
21	928	C	SOLDIERS RD	7 LOC	260	-	260	$0.7	$2,826	$0.0	$0	$0.7	$2,826	65	3.99	-	-
22	929	C	KELMSCOTT HOTEL	7 LOC	850	-	850	$3.4	$3,997	$0.0	$0	$3.4	$3,997	335	2.53	-	-
23	933	C	FORRESTDALE	7 LOC	500	-	500	$1.6	$3,112	$0.0	$0	$1.6	$3,112	148	3.38	-	-
24	939	C	TUDOR RD	7 LOC	801	800	1,601	$3.2	$3,946	$5.1	$6,397	$8.3	$5,171	305	2.63	1,152	0.68
25	968	C	RAILWAY AVE	7 LOC	800	-	800	$2.4	$4,016	$0.0	$0	$2.4	$4,016	241	2.49	-	-
26	BD-01	C	HARBER DRIVE	7 LOC	300	-	300	$1.2	$4,024	$0.0	$0	$1.2	$4,024	115	2.61	-	-
27	SG-01	C	STRAWBERRY DRIVE	7 LOC	150	-	150	$0.7	$4,653	$0.0	$0	$0.7	$4,653	67	2.24	-	-
28	SG-02	C	SEVILLE DRIVE	7 LOC	360	-	360	$1.6	$4,394	$0.0	$0	$1.6	$4,394	152	2.37	-	-
29	FO-03	P	EDADE VILLAGE	7 LOC	2,000	-	2,000	$8.4	$4,188	$0.0	$0	$8.4	$4,188	793	2.52	-	-
30	PW-01	P	PIARA WATERS-01	7 LOC	-	-	-	$0.0	$0	$0.0	$0	$0.0	$0	-	-	-	-
31	PW-02	P	PIARA WATERS-02	7 LOC	-	-	-	$0.0	$0	$0.0	$0	$0.0	$0	-	-	-	-
32	WU-04	P	WUNGONG-04	7 LOC	-	-	-	$0.0	$0	$0.0	$0	$0.0	$0	-	-	-	-
33	WU-05	P	WUNGONG-05	7 LOC	-	-	-	$0.0	$0	$0.0	$0	$0.0	$0	-	-	-	-
34	WU-06	P	WUNGONG-06	7 LOC	1,000	-	1,000	$3.8	$3,795	$0.0	$0	$3.8	$3,795	360	2.75	-	-
35	WU-07	P	WUNGONG-07	7 LOC	1,500	-	1,500	$5.1	$3,420	$0.0	$0	$5.1	$3,420	482	3.11	-	-
36	WU-08	P	WUNGONG-08	7 LOC	-	-	-	$0.0	$0	$0.0	$0	$0.0	$0	-	-	-	-
37	WU-09	P	WUNGONG-09	7 LOC	850	-	850	$2.6	$4,033	$0.0	$0	$2.6	$4,033	240	2.71	-	-
38	WU-10	P	WUNGONG-10	7 LOC	-	-	-	$0.0	$0	$0.0	$0	$0.0	$0	-	-	-	-
39	WU-11	P	WUNGONG-11	7 LOC	-	-	-	$0.0	$0	$0.0	$0	$0.0	$0	-	-	-	-
40	385	C	BUNNINGS - HARRISDALE	8 OTH C	-	15,000	15,000	$0.0	$0	$99.3	$6,621	$99.3	$6,621	-	-	21,350	0.70
41	387	C	ARMADALE - WILLIAM ST	8 OTH C	-	-	-	$0.0	$0	$0.0	$0	$0.0	$0	-	-	-	-
42	909	C	FIFTH RD	8 OTH C	-	-	-	$0.0	$0	$0.0	$0	$0.0	$0	-	-	-	-
43	926	C	MOUNTAIN VIEW	8 OTH C	-	-	-	$0.0	$0	$0.0	$0	$0.0	$0	-	-	-	-
44	930	C	ROCK INN TAVERN	8 OTH C	-	-	-	$0.0	$0	$0.0	$0	$0.0	$0	-	-	-	-
45	931	C	ARMADALE HIGH SCHOOL	8 OTH C	-	190	190	$0.0	$0	$1.2	$6,121	$1.2	$6,121	-	-	263	0.72
46	935	C	FARM EQUIPMENT	8 OTH C	-	-	-	$0.0	$0	$0.0	$0	$0.0	$0	-	-	-	-
47	936	C	TURNER	8 OTH C	-	-	-	$0.0	$0	$0.0	$0	$0.0	$0	-	-	-	-
48	937	C	ARMATAGE	8 OTH C	-	-	-	$0.0	$0	$0.0	$0	$0.0	$0	-	-	-	-
49	941	C	SEAFORTH AVE	8 OTH C	-	-	-	$0.0	$0	$0.0	$0	$0.0	$0	-	-	-	-
50	108	I	FORRESTDALE BP	9 IND	500	5,000	5,500	$2.9	$5,868	$27.6	$5,521	$30.5	$5,552	277	1.81	6,023	0.83
51	62	I	FORRESTDALE	9 IND	-	-	-	$0.0	$0	$0.0	$0	$0.0	$0	-	-	-	-
52	63	I	KELMSCOTT	9 IND	6,637	30,000	36,637	$45.6	$7,323	$187.5	$6,251	$236.1	$6,446	4,650	1.43	41,790	0.72
53	66	I	ARMADALE	9 IND	125	2,000	2,125	$0.8	$6,065	$12.5	$6,245	$13.2	$6,235	72	1.75	2,885	0.70
54	SF-01	I	STH FORRESTDALE	9 IND	-	-	-	$0.0	$0	$0.0	$0	$0.0	$0	-	-	-	-
55																	
56																	
57																	
58																	
District & Higher Only					77,500	9,500	87,000	$522.3	$6,739	$56.3	$5,931	$578.6	$6,651	49,752	1.56	12,709	0.75
TOTAL (This Page)					112,928	65,555	178,483	$690.6	$6,116	$407.3	$6,213	$1,097.9	$6,151	65,801	1.72	90,116	0.73

Dwelling Unit/ Population Projections...

City of Armadale

Year	2011	2016	2021	2026	2,031
Dwellings	24,951	31,007	37,429	43,868	50,357
Population	64,796	81,971	101,256	120,231	138,599

Data Sets (this sheet)

DW2016 SHP16 RET16

Model Run Stats (this sheet)

Shop/Retail	*NLA (sqm)*	*$million /annum*	*$/sqm /annum*	*Person (Equiv.)*	*Sqm/ Capita*
Regional	55,000	$391.5	$7,119	37,101	1.48
District	22,500	$130.8	$5,811	12,851	1.78
N'hood	16,385	$70.8	$4,321	6,743	2.43
Local	11,781	$45.3	$3,843	4,307	2.74
Other Com	-	$0.0	$0	-	-
Industrial	7,262	$52.3	$7,201	4,998	1.45
Total SHP	***112,928***	***$690.6***	***$6,116***	***65,801***	***1.72***
Cross Check	*OK*	*OK*		*OK*	

Other Retail	*NLA (sqm)*	*$million /annum*	*$/sqm /annum*	*Person (Equiv.)*	*Sqm/ Capita*
Regional	5,000	$30.0	$6,001	6,812	0.73
District	4,500	$26.3	$5,853	5,897	0.76
N'hood	2,700	$15.7	$5,820	3,489	0.77
Local	1,185	$7.1	$6,115	1,626	0.72
Other Com	15,190	$100.5	$6,615	21,633	0.70
Industrial	37,000	$227.6	$6,152	50,679	0.73
Total RET	***65,555***	***$407.3***	***$6,213***	***90,116***	***0.73***
Cross Check	*OK*	*OK*		*OK*	

TOTAL Retail	*NLA (sqm)*	*$million /annum*	*$/sqm /annum*
Regional	60,000	$421.5	$7,025
District	27,000	$157.1	$5,818
N'hood	19,085	$86.5	$4,533
Local	12,966	$52.4	$4,048
Other Com	15,190	$100.5	$6,615
Industrial	44,262	$279.9	$6,324
Total RET	***178,483***	***$1,097.9***	***$6,151***
Cross Check	*OK*	*OK*	

NOTE:
Totalling of Person Equivalents for Total Retail is a double-count of population and therefore not valid.

NOTE:

Centre names are a combination of DoP Complex names, LGA local names, and SUP database reference names. They may or may not accord with their commercial trading names.

NOTE:

This page displays the calculations of a mathematical "Retail Floorspace Potential" model, which is used to estimate retail floorspace needs and impacts for urban planning purposes.

Various qualitative aspects of centres are not fully accounted for in the model, and the actual economic performance of a centre will not necessarily accord with its theoretical potential as calculated by the model.

ARMADALE ACTIVITY CENTRES

Lookup	ID	Type	Name	Hierarchy	SHP nla	RET nla	TOT nla	SHP-$Mil	PerSqm	RET-$Mil	PerSqm	TOT-$Mil	PerSqm	SHP-Pers	Sqm/Cap	RET-Pers	Sqm/Cap
1	925	C	ARMADALE SMC	3 STR	60,000	7,000	67,000	$433.4	$7,224	$42.7	$6,096	$476.1	$7,106	40,788	1.47	9,565	0.73
2	900	C	KELMSCOTT	5 DIS	15,000	4,000	19,000	$85.4	$5,693	$23.8	$5,945	$109.2	$5,746	8,206	1.83	5,265	0.76
3	FO-01	P	HARRISDALE DC	5 DIS	20,000	2,000	22,000	$125.1	$6,405	$13.6	$6,785	$141.7	$6,440	12,197	1.64	3,016	0.66
4	WU-01	P	WUNGONG DC	5 DIS	15,000	1,000	16,000	$85.5	$5,699	$6.9	$6,876	$92.4	$5,773	7,999	1.88	1,494	0.67
5	902	C	WESTFIELD	6 NHD	2,000	-	2,000	$9.7	$4,871	$0.0	$0	$9.7	$4,871	942	2.12	-	-
6	903	C	HAYNES	6 NHD	4,500	250	4,750	$20.2	$4,486	$1.7	$6,723	$21.9	$4,603	1,935	2.33	371	0.67
7	915	C	ROLEYSTONE	6 NHD	2,000	150	2,150	$6.7	$3,348	$0.7	$4,847	$7.4	$3,452	572	3.49	147	1.02
8	932	C	RIVER RD	6 NHD	3,140	2,000	5,140	$12.9	$4,105	$11.8	$5,889	$24.7	$4,799	1,238	2.54	2,601	0.77
9	933	C	CHAMPION DRIVE	6 NHD	4,195	300	4,495	$20.0	$4,761	$2.0	$6,503	$21.9	$4,877	1,904	2.20	429	0.70
10	WU-02	P	WUNGONG-02	6 NHD	5,900	300	6,200	$22.0	$3,725	$1.9	$6,257	$23.9	$3,848	1,959	3.01	395	0.76
11	WU-03	P	WUNGONG-03	6 NHD	-			$0.0	$0	$0.0	$0	$0.0	$0	-	-	-	-
12	901	C	CONNELL AVE	7 LOC	100	-	100	$0.4	$4,010	$0.0	$0	$0.4	$4,010	40	2.53	-	-
13	904	C	ARMSTRONG RD	7 LOC	200	-	200	$0.7	$3,527	$0.0	$0	$0.7	$3,527	66	3.01	-	-
14	906	C	SCHRUTH ST	7 LOC	300	-	300	$1.3	$4,203	$0.0	$0	$1.3	$4,203	120	2.51	-	-
15	907	C	CHALLIS	7 LOC	400	-	400	$2.1	$5,214	$0.0	$0	$2.1	$5,214	199	2.01	-	-
16	910	C	NARROGIN INN	7 LOC	937	260	1,197	$3.1	$3,296	$1.4	$5,520	$4.5	$3,779	287	3.26	314	0.83
17	911	C	GWYNNE PARK	7 LOC	143	40	183	$0.6	$4,139	$0.3	$6,708	$0.9	$4,700	56	2.54	60	0.67
18	913	C	SEVENTH AVE	7 LOC	345	-	345	$1.4	$3,979	$0.0	$0	$1.4	$3,979	131	2.63	-	-
19	914	C	NICHOLSON RD NTH	7 LOC	155	65	220	$0.5	$3,232	$0.4	$5,582	$0.9	$3,927	47	3.31	79	0.82
20	924	C	BROOKTON HWY	7 LOC	230	-	230	$0.6	$2,739	$0.0	$0	$0.6	$2,739	55	4.18	-	-
21	928	C	SOLDIERS RD	7 LOC	260	-	260	$0.7	$2,769	$0.0	$0	$0.7	$2,769	63	4.11	-	-
22	929	C	KELMSCOTT HOTEL	7 LOC	850	-	850	$3.4	$4,004	$0.0	$0	$3.4	$4,004	332	2.56	-	-
23	933	C	FORRESTDALE	7 LOC	500	-	500	$1.6	$3,299	$0.0	$0	$1.6	$3,299	155	3.22	-	-
24	939	C	TUDOR RD	7 LOC	801	800	1,601	$3.2	$4,005	$5.2	$6,556	$8.5	$5,280	307	2.60	1,193	0.67
25	968	C	RAILWAY AVE	7 LOC	600	-	600	$2.4	$4,085	$0.0	$0	$2.4	$4,085	240	2.50	-	-
26	BD-01	C	HARBER DRIVE	7 LOC	300	-	300	$1.2	$4,142	$0.0	$0	$1.2	$4,142	118	2.55	-	-
27	SG-01	C	STRAWBERRY DRIVE	7 LOC	150	-	150	$0.7	$4,740	$0.0	$0	$0.7	$4,740	68	2.21	-	-
28	SG-02	C	SEVILLE DRIVE	7 LOC	360	-	360	$1.6	$4,488	$0.0	$0	$1.6	$4,488	154	2.33	-	-
29	FO-03	P	EDADE VILLAGE	7 LOC	2,000	500	2,500	$8.8	$4,381	$3.3	$6,630	$12.1	$4,841	817	2.45	725	0.69
30	PW-01	P	PIARA WATERS-01	7 LOC	1,500	100	1,600	$6.1	$4,063	$0.6	$6,467	$6.7	$4,213	574	2.62	143	0.70
31	PW-02	P	PIARA WATERS-02	7 LOC	900	100	1,000	$4.4	$4,843	$0.7	$7,112	$5.1	$5,070	414	2.18	160	0.63
32	WU-04	P	WUNGONG-04	7 LOC	-	-	-	$0.0	$0	$0.0	$0	$0.0	$0	-	-	-	-
33	WU-05	P	WUNGONG-05	7 LOC	700	-	700	$2.6	$3,729	$0.0	$0	$2.6	$3,729	243	2.88	-	-
34	WU-06	P	WUNGONG-06	7 LOC	1,000	-	1,000	$4.4	$4,418	$0.0	$0	$4.4	$4,418	425	2.35	-	-
35	WU-07	P	WUNGONG-07	7 LOC	1,500	-	1,500	$6.1	$4,053	$0.0	$0	$6.1	$4,053	580	2.58	-	-
36	WU-08	P	WUNGONG-08	7 LOC	-	-	-	$0.0	$0	$0.0	$0	$0.0	$0	-	-	-	-
37	WU-09	P	WUNGONG-09	7 LOC	650	-	650	$3.1	$4,838	$0.0	$0	$3.1	$4,838	286	2.26	-	-
38	WU-10	P	WUNGONG-10	7 LOC	-	-	-	$0.0	$0	$0.0	$0	$0.0	$0	-	-	-	-
39	WU-11	P	WUNGONG-11	7 LOC	-	-	-	$0.0	$0	$0.0	$0	$0.0	$0	-	-	-	-
40	385	C	BUNNINGS - HARRISDALE	8 OTH C	-	15,000	15,000	$0.0	$0	$102.9	$6,858	$102.9	$6,858	-	-	21,773	0.69
41	387	C	ARMADALE - WILLIAM ST	8 OTH C	-	-	-	$0.0	$0	$0.0	$0	$0.0	$0	-	-		-
42	909	C	FIFTH RD	8 OTH C	-	-	-	$0.0	$0	$0.0	$0	$0.0	$0	-	-		-
43	926	C	MOUNTAIN VIEW	8 OTH C	-	-	-	$0.0	$0	$0.0	$0	$0.0	$0	-	-	-	-
44	930	C	ROCK INN TAVERN	8 OTH C	-	-	-	$0.0	$0	$0.0	$0	$0.0	$0	-	-	-	-
45	931	C	ARMADALE HIGH SCHOOL	8 OTH C	-	190	190	$0.0	$0	$1.2	$6,175	$1.2	$6,175	-	-	261	0.73
46	935	C	FARM EQUIPMENT	8 OTH C	-	-	-	$0.0	$0	$0.0	$0	$0.0	$0	-	-	-	-
47	936	C	TURNER	8 OTH C	-	-	-	$0.0	$0	$0.0	$0	$0.0	$0	-	-	-	-
48	937	C	ARMATAGE	8 OTH C	-	-	-	$0.0	$0	$0.0	$0	$0.0	$0	-	-	-	-
49	941	C	SEAFORTH AVE	8 OTH C	-	-	-	$0.0	$0	$0.0	$0	$0.0	$0	-	-	-	-
50	108	I	FORRESTDALE BP	9 IND	500	10,000	10,500	$3.1	$6,184	$59.7	$5,975	$62.8	$5,985	289	1.73	12,918	0.77
51	62	I	FORRESTDALE	9 IND	-	-	-	$0.0	$0	$0.0	$0	$0.0	$0	-	-	-	-
52	63	I	KELMSCOTT	9 IND	6,637	30,000	36,637	$45.7	$7,340	$193.2	$6,442	$242.0	$6,604	4,628	1.43	42,649	0.70
53	66	I	ARMADALE	9 IND	125	4,000	4,125	$0.8	$6,240	$25.7	$6,423	$26.5	$6,418	73	1.71	5,776	0.69
54	SF-01	I	STH FORRESTDALE	9 IND	-	2,500	2,500	$0.0	$0	$12.9	$5,148	$12.9	$5,148	-	-	2,709	0.92
55																	
56																	
57																	
58																	
District & Higher Only					110,000	14,000	124,000	$732.4	$6,658	$86.9	$6,206	$819.3	$6,607	69,190	1.59	19,341	0.72
TOTAL (This Page)					153,878	80,555	234,433	$937.6	$6,095	$512.5	$6,362	$1,450.1	$6,185	88,511	1.74	112,044	0.72

Dwelling Unit/ Population Projections...
City of Armadale

Year	2011	2016	2021	2026	2,031
Dwellings	24,951	31,007	37,429	43,868	50,357
Population	64,796	81,971	101,256	120,231	138,599

Data Sets (this sheet)

DW2021	SHP21	RET21

Model Run Stats (this sheet)

Shop/Retail	*NLA (sqm)*	*$million /annum*	*$/sqm /annum*	*Person (Equiv.)*	*Sqm/ Capita*
Regional	60,000	$433.4	$7,224	40,788	1.47
District	50,000	$299.0	$5,980	28,401	1.76
N'hood	21,735	$91.5	$4,208	8,551	2.54
Total	14,381	$61.1	$4,105	5,780	2.57
Other Com	-	$0.0	$0	-	-
Industrial	7,262	$52.6	$7,242	4,990	1.46
Total SHP	***153,878***	***$937.6***	***$6,093***	***88,511***	***1.74***
Cross Check	OK	OK		OK	

Other Retail	*NLA (sqm)*	*$million /annum*	*$/sqm /annum*	*Person (Equiv.)*	*Sqm/ Capita*
Regional	7,000	$42.7	$6,096	9,565	0.73
District	7,000	$44.2	$6,317	9,776	0.72
N'hood	3,000	$18.0	$6,004	3,942	0.76
Total	1,865	$12.0	$6,439	2,875	0.70
Other Com	15,190	$104.0	$6,849	22,035	0.69
Industrial	46,500	$291.6	$6,270	64,051	0.73
Total RET	***80,555***	***$512.5***	***$6,362***	***112,044***	***0.72***
Cross Check	OK	OK		OK	

TOTAL Retail	*NLA (sqm)*	*$million /annum*	*$/sqm /annum*
Regional	67,000	$476.1	$7,106
District	57,000	$343.2	$6,021
N'hood	24,735	$109.5	$4,426
Total	16,746	$73.1	$4,365
Other Com	15,190	$104.0	$6,849
Industrial	53,762	$344.1	$6,401
Total RET	***234,433***	***$1,450.1***	***$6,185***
Cross Check	OK	OK	

NOTE:
Totalling of Person Equivalents for Total Retail is a double-count of population and therefore not valid.

NOTE:

Centre names are a combination of DoP Complex names, LGA local names, and SUP database reference names. They may or may not accord with their commercial trading names.

NOTE:

This page displays the calculations of a mathematical "Retail Floorspace Potential" model , which is used to estimate retail floorspace needs and impacts for urban planning purposes.

Various qualitative aspects of centres are not fully accounted for in the model, and the actual economic performance of a centre will not necessarily accord with its theoretical potential as calculated by the model.

ARMADALE ACTIVITY CENTRES

Lookup	ID	Type	Name	Hierarchy	SHP n/a	RET n/a	TOT n/a	SHP-$Mil	PerSqm	RET-$Mil	PerSqm	TOT-$Mil	PerSqm	SHP-Pers	Sqm/Cap	RET-Pers	Sqm/Cap
1	925	C	ARMADALE SMC	3 STR	70,000	8,000	78,000	$520.2	$7,432	$47.5	$5,941	$567.7	$7,279	48,575	1.44	10,526	0.76
2	900	C	KELMSCOTT	5 DIS	15,000	4,000	19,000	$86.5	$5,764	$23.4	$5,853	$109.9	$5,793	8,247	1.82	5,134	0.78
3	FO-01	P	HARRISDALE DC	5 DIS	25,000	2,500	27,500	$171.0	$6,840	$16.8	$6,706	$187.8	$6,828	16,007	1.56	3,653	0.68
4	WU-01	P	WUNGONG DC	5 DIS	20,000	2,500	22,500	$137.3	$6,866	$18.6	$7,457	$155.9	$6,931	12,836	1.56	4,019	0.62
5	902	C	WESTFIELD	6 NHD	2,000	-	2,000	$9.9	$4,954	$0.0	$0	$9.9	$4,954	950	2.11	-	-
6	903	C	HAYNES	6 NHD	4,500	250	4,750	$21.3	$4,744	$1.7	$6,619	$23.0	$4,843	2,035	2.21	350	0.69
7	915	C	ROLEYSTONE	6 NHD	2,000	150	2,150	$6.5	$3,239	$0.7	$4,628	$7.2	$3,336	552	3.62	139	1.08
8	932	C	RIVER RD	6 NHD	3,140	2,000	5,140	$13.0	$4,133	$11.6	$5,783	$24.5	$4,775	1,240	2.53	2,530	0.79
9	933	C	CHAMPION DRIVE	6 NHD	4,195	300	4,495	$20.2	$4,811	$1.9	$6,332	$22.1	$4,912	1,911	2.19	414	0.73
10	WU-02	P	WUNGONG-02	6 NHD	5,900	300	6,200	$26.9	$4,558	$2.0	$6,730	$28.9	$4,663	2,374	2.49	419	0.72
11	WU-03	P	WUNGONG-03	6 NHD	2,500	-	2,500	$12.7	$5,095	$0.0	$0	$12.7	$5,095	1,138	2.20	-	-
12	901	C	CONNELL AVE	7 LOC	100	-	100	$0.4	$4,034	$0.0	$0	$0.4	$4,034	40	2.53	-	-
13	904	C	ARMSTRONG RD	7 LOC	200	-	200	$0.7	$3,503	$0.0	$0	$0.7	$3,503	66	3.04	-	-
14	906	C	SCHRUTH ST	7 LOC	300	-	300	$1.3	$4,222	$0.0	$0	$1.3	$4,222	120	2.51	-	-
15	907	C	CHALLIS	7 LOC	400	-	400	$2.1	$5,235	$0.0	$0	$2.1	$5,235	199	2.01	-	-
16	910	C	NARROGIN INN	7 LOC	937	260	1,197	$3.1	$3,334	$1.4	$5,364	$4.5	$3,775	289	3.24	302	0.86
17	911	C	GWYNNE PARK	7 LOC	143	40	183	$0.6	$4,432	$0.3	$6,725	$0.9	$4,933	60	2.38	60	0.67
18	913	C	SEVENTH AVE	7 LOC	500	-	500	$2.1	$4,152	$0.0	$0	$2.1	$4,152	197	2.54	-	-
19	914	C	NICHOLSON RD NTH	7 LOC	155	65	220	$0.5	$3,448	$0.4	$5,473	$0.9	$4,046	49	3.15	76	0.86
20	924	C	BROOKTON HWY	7 LOC	230	-	230	$0.6	$2,687	$0.0	$0	$0.6	$2,687	54	4.25	-	-
21	928	C	SOLDIERS RD	7 LOC	260	-	260	$0.7	$2,718	$0.0	$0	$0.7	$2,718	62	4.20	-	-
22	929	C	KELMSCOTT HOTEL	7 LOC	850	-	850	$3.5	$4,083	$0.0	$0	$3.5	$4,083	336	2.53	-	-
23	933	C	FORRESTDALE	7 LOC	500	-	500	$1.8	$3,541	$0.0	$0	$1.8	$3,541	164	3.04	-	-
24	939	C	TUDOR RD	7 LOC	801	800	1,601	$3.3	$4,135	$5.1	$6,424	$8.5	$5,279	315	2.54	1,154	0.69
25	968	C	RAILWAY AVE	7 LOC	600	-	600	$2.5	$4,210	$0.0	$0	$2.5	$4,210	246	2.44	-	-
26	BD-01	C	HARBER DRIVE	7 LOC	300	-	300	$1.3	$4,376	$0.0	$0	$1.3	$4,376	123	2.43	-	-
27	SG-01	C	STRAWBERRY DRIVE	7 LOC	150	-	150	$0.7	$4,900	$0.0	$0	$0.7	$4,900	69	2.16	-	-
28	SG-02	C	SEVILLE DRIVE	7 LOC	360	-	360	$1.7	$4,672	$0.0	$0	$1.7	$4,672	160	2.25	-	-
29	FO-03	P	EDADE VILLAGE	7 LOC	2,000	500	2,500	$9.2	$4,618	$3.3	$6,592	$12.5	$5,013	845	2.37	701	0.71
30	PW-01	P	PIARA WATERS-01	7 LOC	1,500	100	1,600	$6.5	$4,330	$0.6	$6,350	$7.1	$4,456	600	2.50	138	0.73
31	PW-02	P	PIARA WATERS-02	7 LOC	900	100	1,000	$4.6	$5,166	$0.7	$7,011	$5.4	$5,351	433	2.08	154	0.65
32	WU-04	P	WUNGONG-04	7 LOC	-	-	-	$0.0	$0	$0.0	$0	$0.0	$0	-	-	-	-
33	WU-05	P	WUNGONG-05	7 LOC	700	-	700	$3.2	$4,545	$0.0	$0	$3.2	$4,545	295	2.37		
34	WU-06	P	WUNGONG-06	7 LOC	1,000	-	1,000	$5.2	$5,239	$0.0	$0	$5.2	$5,239	537	1.97	-	-
35	WU-07	P	WUNGONG-07	7 LOC	1,500	-	1,500	$7.2	$4,824	$0.0	$0	$7.2	$4,824	894	2.16	-	-
36	WU-08	P	WUNGONG-08	7 LOC	700	-	700	$3.5	$5,048	$0.0	$0	$3.5	$5,048	316	2.21	-	-
37	WU-09	P	WUNGONG-09	7 LOC	1,200	-	1,200	$7.1	$5,957	$0.0	$0	$7.1	$5,957	650	1.84	-	-
38	WU-10	P	WUNGONG-10	7 LOC	-	-	-	$0.0	$0	$0.0	$0	$0.0	$0	-	-	-	-
39	WU-11	P	WUNGONG-11	7 LOC	-	-	-	$0.0	$0	$0.0	$0	$0.0	$0	-	-	-	-
40	385	C	BUNNINGS - HARRISDALE	8 OTH C	-	15,000	15,000	$0.0	$0	$101.8	$6,790	$101.8	$6,790	-	-	21,105	0.71
41	387	C	ARMADALE - WILLIAM ST	8 OTH C	-	-	-	$0.0	$0	$0.0	$0	$0.0	$0	-	-	-	-
42	909	C	FIFTH RD	8 OTH C	-	-	-	$0.0	$0	$0.0	$0	$0.0	$0	-	-	-	-
43	926	C	MOUNTAIN VIEW	8 OTH C	-	-	-	$0.0	$0	$0.0	$0	$0.0	$0	-	-	-	-
44	930	C	ROCK INN TAVERN	8 OTH C	-	-	-	$0.0	$0	$0.0	$0	$0.0	$0	-	-	-	-
45	931	C	ARMADALE HIGH SCHOOL	8 OTH C	-	190	190	$0.0	$0	$1.1	$6,012	$1.1	$6,012	-	-	250	0.76
46	935	C	FARM EQUIPMENT	8 OTH C	-	-	-	$0.0	$0	$0.0	$0	$0.0	$0	-	-	-	-
47	936	C	TURNER	8 OTH C	-	-	-	$0.0	$0	$0.0	$0	$0.0	$0	-	-	-	-
48	937	C	ARMATAGE	8 OTH C	-	-	-	$0.0	$0	$0.0	$0	$0.0	$0	-	-	-	-
49	941	C	SEAFORTH AVE	8 OTH C	-	-	-	$0.0	$0	$0.0	$0	$0.0	$0	-	-	-	-
50	108	I	FORRESTDALE BP	9 IND	500	30,000	30,500	$3.3	$6,598	$176.8	$5,895	$180.1	$5,906	305	1.64	37,668	0.80
51	62	I	FORRESTDALE	9 IND	-	-	-	$0.0	$0	$0.0	$0	$0.0	$0	-	-	-	-
52	63	I	KELMSCOTT	9 IND	6,637	30,000	36,637	$49.4	$7,444	$198.7	$6,295	$238.1	$6,500	4,660	1.42	41,250	0.73
53	66	I	ARMADALE	9 IND	125	6,000	6,125	$0.8	$6,553	$38.2	$6,359	$39.0	$6,363	76	1.64	8,436	0.72
54	SF-01	I	STH FORRESTDALE	9 IND	-	5,000	5,000	$0.0	$0	$26.0	$5,207	$26.0	$5,207	-	-	5,388	0.93
55																	
56																	
57																	
58																	
District & Higher Only					170,000	17,000	187,000	$915.0	$7,038	$106.3	$6,256	$1,021.3	$6,948	85,665	1.52	23,332	0.73
TOTAL (This Page)					177,753	108,055	285,838	$1,152.7	$6,484	$668.7	$6,189	$1,821.4	$6,372	107,795	1.65	143,876	0.75

Dwelling Unit/ Population Projections...
City of Armadale

Year	2011	2016	2021	2026	2,031
Dwellings	24,951	31,007	37,429	43,868	50,357
Population	64,796	81,971	101,256	120,231	138,599

Data Sets (this sheet)

DW2026	SHP26	RET26

Model Run Stats (this sheet)

Shop/Retail	*NLA (sqm)*	*$million /annum*	*$/sqm /annum*	*Person (Equiv.)*	*Sqm/ Capita*
Regional	70,000	$520.2	$7,432	48,575	1.44
District	60,000	$394.8	$6,580	37,091	1.62
N'hood	24,235	$110.5	$4,560	10,200	2.38
Local	16,286	$73.7	$4,524	6,889	2.36
Other Com	-	$0.0	$0	-	-
Industrial	7,262	$53.5	$7,371	5,041	1.44
Total SHP	***177,783***	***$1,152.7***	***$6,484***	***107,795***	***1.65***
Cross Check	OK	OK		OK	

Other Retail	*NLA (sqm)*	*$million /annum*	*$/sqm /annum*	*Person (Equiv.)*	*Sqm/ Capita*
Regional	8,000	$47.5	$5,941	10,526	0.76
District	9,000	$58.8	$6,535	12,806	0.70
N'hood	3,000	$17.8	$5,945	3,862	0.78
Local	1,865	$11.8	$6,322	2,585	0.72
Other Com	15,190	$103.0	$6,780	21,356	0.71
Industrial	71,000	$429.8	$6,053	92,742	0.77
Total RET	***108,055***	***$668.7***	***$6,189***	***143,876***	***0.75***
Cross Check	OK	OK		OK	

TOTAL Retail	*NLA (sqm)*	*$million /annum*	*$/sqm /annum*
Regional	78,000	$567.7	$7,279
District	69,000	$453.6	$6,574
N'hood	27,235	$128.4	$4,713
Local	18,151	$85.5	$4,709
Other Com	15,190	$103.0	$6,780
Industrial	78,262	$483.3	$6,175
Total RET	***285,838***	***$1,821.4***	***$6,372***
Cross Check	OK	OK	

NOTE:
Totalling of Person Equivalents for Total Retail is a double-count of population and therefore not valid.

NOTE:

Centre names are a combination of DoP Complex names, LGA local names, and SUP database reference names. They may or may not accord with their commercial trading names.

NOTE:

This page displays the calculations of a mathematical "Retail Floorspace Potential" model, which is used to estimate retail floorspace needs and impacts for urban planning purposes.

Various qualitative aspects of centres are not fully accounted for in the model, and the actual economic performance of a centre will not necessarily accord with its theoretical potential as calculated by the model.

ARMADALE ACTIVITY CENTRES

Lookup	ID	Type	Name	Hierarchy	SHP nla	RET nla	TOT nla	SHP-$Mil	PerSqm	RET-$Mil	PerSqm	TOT-$Mil	PerSqm	SHP-Pers	Sqm/Cap	RET-Pers	Sqm/Cap
1	925	C	ARMADALE SMC	3 STR	70,000	8,000	78,000	$534.9	$7,641	$46.4	$5,799	$581.3	$7,452	49,375	1.42	10,108	0.79
2	900	C	KELMSCOTT	5 DIS	35,000	4,000	39,000	$87.1	$5,804	$22.9	$5,725	$109.9	$5,787	8,234	1.83	4,937	0.81
3	FO-01	P	HARRISDALE DC	5 DIS	31,000	3,000	34,000	$218.3	$7,043	$20.1	$6,695	$238.4	$7,012	19,966	1.55	4,268	0.70
4	WU-01	P	WUNGONG DC	5 DIS	35,000	5,000	40,000	$263.6	$7,531	$38.6	$7,715	$302.1	$7,554	24,334	1.44	8,178	0.61
5	902	C	WESTFIELD	6 NHD	2,000	-	2,000	$8.9	$4,936	$0.0	$0	$8.9	$4,936	933	2.14	-	-
6	903	C	HAYNES	6 NHD	4,500	250	4,750	$21.9	$4,858	$1.6	$6,509	$23.5	$4,945	2,058	2.19	348	0.72
7	915	C	ROLEYSTONE	6 NHD	2,000	150	2,150	$6.4	$3,202	$0.7	$4,451	$7.1	$3,289	542	3.69	132	1.13
8	932	C	RIVER RD	6 NHD	3,140	2,000	5,140	$13.1	$4,165	$11.3	$5,652	$24.4	$4,743	1,238	2.54	2,434	0.82
9	933	C	CHAMPION DRIVE	6 NHD	4,195	300	4,495	$20.2	$4,826	$1.8	$6,154	$22.1	$4,915	1,895	2.21	395	0.76
10	WU-02	P	WUNGONG-02	6 NHD	5,900	300	6,200	$29.7	$5,026	$2.1	$6,979	$31.7	$5,120	7,575	2.29	426	0.70
11	WU-03	P	WUNGONG-03	6 NHD	3,500	-	3,500	$19.5	$5,577	$0.0	$0	$19.5	$5,577	1,721	2.03	-	-
12	901	C	CONNELL AVE	7 LOC	100	-	100	$0.4	$4,060	$0.0	$0	$0.4	$4,060	39	2.54	-	-
13	904	C	ARMSTRONG RD	7 LOC	200	-	200	$0.7	$3,529	$0.0	$0	$0.7	$3,529	66	3.05	-	-
14	906	C	SCHRUTH ST	7 LOC	300	-	300	$1.3	$4,277	$0.0	$0	$1.3	$4,277	120	2.50	-	-
15	907	C	CHALLIS	7 LOC	400	-	400	$2.1	$5,296	$0.0	$0	$2.1	$5,296	200	2.00	-	-
16	910	C	NARROGIN INN	7 LOC	937	260	1,197	$3.2	$3,409	$1.4	$5,230	$4.6	$3,805	292	3.20	290	0.90
17	911	C	GWYNNE PARK	7 LOC	143	40	183	$0.7	$4,641	$0.3	$6,668	$0.9	$5,084	62	2.30	58	0.69
18	913	C	SEVENTH AVE	7 LOC	345	-	345	$1.5	$4,317	$0.0	$0	$1.5	$4,317	140	2.47	-	-
19	914	C	NICHOLSON RD NTH	7 LOC	155	65	220	$0.6	$3,611	$0.4	$5,516	$0.9	$4,173	50	3.09	75	0.87
20	924	C	BROOKTON HWY	7 LOC	230	-	230	$0.6	$2,679	$0.0	$0	$0.6	$2,679	53	4.30	-	-
21	928	C	SOLDIERS RD	7 LOC	260	-	260	$0.7	$2,711	$0.0	$0	$0.7	$2,711	61	4.25	-	-
22	929	C	KELMSCOTT HOTEL	7 LOC	850	-	850	$3.5	$4,098	$0.0	$0	$3.5	$4,098	337	2.56	-	-
23	933	C	FORRESTDALE	7 LOC	500	-	500	$1.9	$3,715	$0.0	$0	$1.9	$3,715	169	2.96	-	-
24	939	C	TUDOR RD	7 LOC	801	800	1,601	$3.4	$4,278	$5.0	$6,291	$8.5	$5,284	323	2.48	1,112	0.72
25	968	C	RAILWAY AVE	7 LOC	800	-	800	$2.5	$4,222	$0.0	$0	$2.5	$4,222	242	2.48	-	-
26	BD-01	C	HARBER DRIVE	7 LOC	300	-	300	$1.4	$4,594	$0.0	$0	$1.4	$4,594	128	2.34	-	-
27	SG-01	C	STRAWBERRY DRIVE	7 LOC	150	-	150	$0.7	$4,923	$0.0	$0	$0.7	$4,923	69	2.18	-	-
28	SG-02	C	SEVILLE DRIVE	7 LOC	360	-	360	$1.7	$4,756	$0.0	$0	$1.7	$4,756	161	2.24	-	-
29	FO-03	P	EDADE VILLAGE	7 LOC	2,000	500	2,500	$9.5	$4,749	$3.3	$6,600	$12.8	$5,119	847	2.36	684	0.73
30	PW-01	P	PIARA WATERS-01	7 LOC	1,500	100	1,600	$6.8	$4,550	$0.6	$6,417	$7.5	$4,666	615	2.44	136	0.74
31	PW-02	P	PIARA WATERS-02	7 LOC	900	100	1,000	$4.9	$5,424	$0.7	$7,085	$5.6	$5,590	444	2.03	152	0.66
32	WU-04	P	WUNGONG-04	7 LOC	450	-	450	$2.2	$4,858	$0.0	$0	$2.2	$4,858	236	2.18	-	-
33	WU-05	P	WUNGONG-05	7 LOC	700	-	700	$3.5	$5,003	$0.0	$0	$3.5	$5,003	320	2.19	-	-
34	WU-06	P	WUNGONG-06	7 LOC	1,000	-	1,000	$5.7	$5,670	$0.0	$0	$5.7	$5,670	543	1.84	-	-
35	WU-07	P	WUNGONG-07	7 LOC	1,500	-	1,500	$7.9	$5,246	$0.0	$0	$7.9	$5,246	747	2.01	-	-
36	WU-08	P	WUNGONG-08	7 LOC	700	-	700	$4.0	$5,648	$0.0	$0	$4.0	$5,648	348	2.01	-	-
37	WU-09	P	WUNGONG-09	7 LOC	1,200	-	1,200	$7.9	$6,592	$0.0	$0	$7.9	$6,592	711	1.69	-	-
38	WU-10	P	WUNGONG-10	7 LOC	400	-	400	$2.2	$5,472	$0.0	$0	$2.2	$5,472	186	2.15	-	-
39	WU-11	P	WUNGONG-11	7 LOC	400	-	400	$1.8	$4,517	$0.0	$0	$1.8	$4,517	158	2.53	-	-
40	385	C	BUNNINGS - HARRISDALE	8 OTH C	-	15,000	15,000	$0.0	$0	$100.8	$6,718	$100.8	$6,718	-	-	20,320	0.74
41	387	C	ARMADALE - WILLIAM ST	8 OTH C	-	-	-	$0.0	$0	$0.0	$0	$0.0	$0	-	-	-	-
42	909	C	FIFTH RD	8 OTH C	-	-	-	$0.0	$0	$0.0	$0	$0.0	$0	-	-	-	-
43	926	C	MOUNTAIN VIEW	8 OTH C	-	-	-	$0.0	$0	$0.0	$0	$0.0	$0	-	-	-	-
44	930	C	ROCK INN TAVERN	8 OTH C	-	-	-	$0.0	$0	$0.0	$0	$0.0	$0	-	-	-	-
45	931	C	ARMADALE HIGH SCHOOL	8 OTH C	-	190	190	$0.0	$0	$1.1	$5,855	$1.1	$5,855	-	-	240	0.79
46	935	C	FARM EQUIPMENT	8 OTH C	-	-	-	$0.0	$0	$0.0	$0	$0.0	$0	-	-	-	-
47	936	C	TURNER	8 OTH C	-	-	-	$0.0	$0	$0.0	$0	$0.0	$0	-	-	-	-
48	937	C	ARMATAGE	8 OTH C	-	-	-	$0.0	$0	$0.0	$0	$0.0	$0	-	-	-	-
49	941	C	SEAFORTH AVE	8 OTH C	-	-	-	$0.0	$0	$0.0	$0	$0.0	$0	-	-	-	-
50	108	I	FORRESTDALE BP	9 IND	500	50,000	50,500	$3.4	$6,777	$291.0	$5,820	$294.4	$5,829	308	1.62	60,686	0.82
51	62	I	FORRESTDALE	9 IND	-	-	-	$0.0	$0	$0.0	$0	$0.0	$0	-	-	-	-
52	63	I	KELMSCOTT	9 IND	6,637	30,000	36,637	$49.8	$7,506	$183.9	$6,129	$233.7	$6,378	4,642	1.43	39,546	0.76
53	66	I	ARMADALE	9 IND	125	10,000	10,125	$0.9	$6,856	$82.5	$8,246	$83.3	$8,253	79	1.59	13,522	0.74
54	SF-01	I	STH FORRESTDALE	9 IND	-	7,500	7,500	$0.0	$0	$39.9	$5,325	$39.9	$5,325	-	-	8,070	0.93
55																	
56																	
57																	
58																	
District & Higher Only					151,000	20,000	171,000	$1,103.9	$7,310	$127.9	$6,396	$1,231.8	$7,203	101,880	1.48	27,481	0.73
TOTAL (This Page)					200,878	137,555	338,433	$1,361.7	$6,779	$836.3	$6,080	$2,198.0	$6,495	125,504	1.60	176,117	0.78

Dwelling Unit/ Population Projections...

City of Armadale

Year	2011	2016	2021	2026	2,031
Dwellings	24,951	31,007	37,429	43,868	50,357
Population	64,796	81,971	101,256	120,231	138,599

Data Sets (this sheet)

DW2031	SHPULT	RETULT

Model Run Stats (this sheet)

Shop/Retail	*NLA (sqm)*	*$million /annum*	*$/sqm /annum*	*Person (Equiv.)*	*Sqm/ Capita*
Regional	70,000	$534.9	$7,641	49,375	1.42
District	81,000	$569.0	$7,024	52,505	1.54
N'hood	25,235	$120.6	$4,780	10,960	2.30
Local	17,381	$83.2	$4,784	7,635	2.28
Other Com	-	$0.0	$0		-
Industrial	7,262	$54.1	$7,445	5,029	1.44
Total SHP	***200,878***	***$1,361.7***	***$6,779***	***125,504***	***1.60***
Cross Check	OK	OK		OK	

Other Retail	*NLA (sqm)*	*$million /annum*	*$/sqm /annum*	*Person (Equiv.)*	*Sqm/ Capita*
Regional	8,000	$46.4	$5,799	10,108	0.79
District	12,000	$81.5	$6,794	17,383	0.69
N'hood	3,000	$17.5	$5,846	3,736	0.80
Local	1,865	$11.7	$6,256	2,506	0.74
Other Com	15,190	$101.9	$6,708	20,563	0.74
Industrial	97,500	$577.3	$5,921	121,823	0.80
Total RET	***137,555***	***$836.3***	***$6,080***	***176,117***	***0.78***
Cross Check	OK	OK		OK	

TOTAL Retail	*NLA (sqm)*	*$million /annum*	*$/sqm /annum*
Regional	78,000	$581.3	$7,452
District	93,000	$650.5	$6,995
N'hood	28,235	$138.2	$4,894
Local	19,246	$94.8	$4,927
Other Com	15,190	$101.9	$6,708
Industrial	104,762	$631.3	$6,026
Total RET	***338,433***	***$2,198.0***	***$6,495***
Cross Check	OK	OK	

NOTE:
Totalling of Person Equivalents for Total Retail is a double-count of population and therefore not valid.

NOTE:

Centre names are a combination of DoP Complex names, LGA local names, and SUP database reference names. They may or may not accord with their commercial trading names.

NOTE:

This page displays the calculations of a mathematical "Retail Floorspace Potential" model , which is used to estimate retail floorspace needs and impacts for urban planning purposes.

Various qualitative aspects of centres are not fully accounted for in the model, and the actual economic performance of a centre will not necessarily accord with its theoretical potential as calculated by the model.