

PART 2

BACKGROUND STUDIES

PREFACE

Project Process

The planning and design elements of the project were completed over two phases. Phase 1 created an understanding of Canning City Centre (CCC) as a place before scoping the project methodology for Phase 2.

An initial review of current planning policy, as it applies to the CCC, concluded that previous planning initiatives created a flexible framework for future development. Regardless of the planning effort, many of these initiatives never materialised, leaving the area devoid of investment, quality built form or amenity. The activity in the area is dominated by Carousel Shopping Centre, bulky goods and motor dealerships along Albany Highway.

Any planning efforts to regenerate the area will therefore rely heavily on the ability to market the area as a place of investment and the facilitation of highest and best use outcomes. The Activity Centre Plan establishes the built form requirements and will be supported with a range of investment attraction initiatives including a place brand program.

Management Structure

During the development of early drafts of the Structure Plan, the City of Canning Council established a Councillor Working Group for the CCC Urban Regeneration Strategy. This Councillor Working Group consisted of the Mayor, two Elected Councillors and Executive Management. The group met monthly and also attended some key Project Team meetings. The Project Manager reported monthly to this group in a Project Management Report. The Working Group also

discussed key findings, decisions and project direction at monthly meetings. The full Council received briefings on the process of the plan via forums at regular intervals. The Director of Economic Development assumed direct responsibility for the study and worked closely with the Project Manager in directing the project.

During the preparation and review of this Activity Centre Plan, an internal working group was formed to guide and undertake the review of the Structure Plan Local Planning Policy to become the draft Activity Centre Plan. The focus was on finalising key strategies and plans to feed into the Activity Centre Plan and address any outstanding matters raised by the agencies and authorities during previous consultations on the plan.

Scoping Phase

The City of Canning initiated the Scoping Phase in early 2011 to allow for project planning. The project scoping and initial stakeholder management of the project was completed in the early stages of Phase 1. During this phase, Council also appointed a Project Team to conduct Initial Studies for the CCC and develop a better understanding of the place.

These studies focussed on the following key areas:

- Land use study and user group surveys
- Economic profile of the area
- Real estate performance in terms of growth, land values and rental performance
- Infrastructure due diligence
- An analysis of movements to and within the area for all modes of transport

- A critique of the urban form in terms of the identity of the place, the development of the built form and the public domain.

The above studies were reported to Council staff, State Government representatives, private developers and consultants in a workshop in June 2011. The outputs from this workshop informed the scoping of the CCC Urban Regeneration Strategy, including the Structure Plan Local Planning Policy formulation.

During consultations on the draft Structure Plan Local Planning Policy, additional matters were raised by the relevant agencies and authorities. In response, the City commissioned further detailed modelling for arterial drainage and movement, access and parking to ensure the proposed improvements were supported with necessary information and evidence. The Local Drainage Plan and Movement, Access and Parking Strategy have been developed in close consultation with Water Corporation and the Transport Portfolio respectively.

Planning Phase

Phase 2 of the project is the main planning process and focussed initially on strategy development to underpin the planning and design process. The project team reviewed the current knowledge base of the area to identify critical issues for the CCC's future growth. These were interpreted into an Economic Development Strategy, which included an Economic Growth and Floor Space model for the area and a Place Making Strategy developed to support the Growth Model.

This work enabled the Project Team to focus on objectives and development strategies. The strategies were presented to public

workshops and Government / Utilities Workshop in November 2011, before being presented to the City of Canning in draft format.

The strategic direction established during the strategy development phase provided a sound platform for the plan formulation. A concept Structure Plan Local Planning Policy was developed and tested through technical reviews and a series of discussions with State Government, Council staff and private sector. The design approach was not limited to planning, traffic issues and environmental management, but also sought to resolve, clarify and enhance the existing landscape through the classification of public domain areas and the subsequent development of landscape typologies.

The outcomes of Phase 2 were a Structure Plan Local Planning Policy with supportive strategies and plans.

Since the adoption of the Structure Plan as a Local Planning Policy in 2013, a significant review has been undertaken to satisfy and address the concerns raised by the agencies and authorities. This new Activity Centre Plan addresses those concerns and in conjunction with the Economic Development Strategy, helps to create the following outcomes for the regeneration process:

- Creation of a new sustainable economy
- Establishment of realistic growth targets for residential, commercial and retail growth, including job creation
- Development of a Marketing and Development Strategy to attract and facilitate future redevelopment
- Vibrant, exciting and innovative activity centre.

DRAFT

Phase 3 of the project started in 2015 to make the necessary changes to the Local Planning Policy, according to the New Regulations (Department of Planning) to adopt it as a Activity Centre Plan under the Local Planning Scheme.

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9 Planning background

9.1 Introduction and Purpose

This Activity Centre Plan has been designed as more than a land use planning document. It has been led by economic analysis and informed by a consultation process with a range of key stakeholders in public, private and community sectors. It therefore contains information and strategies about other elements that are required to be addressed if the Activity Centre Planning vision for the regeneration area is to be realised. In addition, in the Implementation section, a series of recommendations are made about specific actions and management structures necessary to implement key parts of the strategy. Without these interventions, the potential of CCC to fulfil stakeholder aspirations and government targets as a significant urban centre, will be compromised.

In preparing the Activity Centre Plan and to achieve the vision, the planning approach taken is based on:

- Establishing design and built form outcomes that support the place values and desirable densities in each precinct.
- Formulating a movement network based on the desirable grid-like pattern to facilitate accessibility and permeability.
- Focussing the bulk of the residential development along Cecil Avenue and near the Train Station to take advantage of the public transport services and to create a transit-oriented form of development.
- Enabling commercial development along Albany Hwy to continue and support the growing population with flexibility for additional uses including office accommodation allowed through redevelopment.
- Protecting the Threatened Ecological Community (TEC) and Canning River Regional Park from undesirable impacts.
- Creating links to key passive and active recreational facilities including Coker Park, Cannington Leisureplex and the Canning River Regional Park through improved access and public realm improvements.

9.2 Land description

9.2.1 Location

It is approximately 12 kilometres from central Perth and four train stops from the CBD along the Armadale line. The location of the CCC is positioned around the Westfield Carousel Shopping Centre. Figure 9.1 describes the location of the CCC.



Figure 9.1: Location of CCC in context to the Perth Central Business District

The boundary for the CCC has been defined in accordance with the principles set out in Section 6.3.1 of the SPP 4.2 - Activity Centres Policy and in line with the proposed Scheme Amendment No. 196. The policy notes (Section 2.2) that “Centre boundaries must match the intended role and function, accommodate sufficient growth and deliver appropriate land use diversity”. An aim of this Activity Centre Plan is to facilitate the long term development of the centre through the provision of capacity to grow. Therefore, the focus is on redevelopment of the Centre Zone area with sympathetic development at the interface to support integration between the CCC and existing development.

9.2.2 Area and Land Use (Centre Context)

The Shopping Centre

Westfield Carousel Shopping Centre dominates development and activity in the area. Built in 1972 and extensively refurbished and expanded in the 1990s to approximately 80,000 m² of floor space, it

is Perth Metropolitan Area's largest shopping complex and by far the largest shopping destination in the South-East metropolitan corridor. The recently approved development application for the Westfield Carousel expansion will increase the floor space to approximately 140,000 square metres of retail/commercial space. It has a significant main trade area that extends beyond the boundaries of the City of Canning, and the dominance of this use therefore also defines the main trade area of the activity centre.



Figure 9.2: Aerial View over Westfield Carousel 1972 looking North-West

Source: Land Use Performance Study for Cannington Activity Centre



Figure 9.3: Aerial View of CCC 2011

Data provided by Westfield suggest that the Carousel currently attracts more than 11.5 million visitations per year to the centre. The profile of visitors includes 15.5% customers ranging from 15-24 years old, 22.7% ranging from 25-39 years old, 26.1% ranging from 40-59 years old and 35.7% other.

Bulky Goods

Land uses along Albany Highway consist mainly of large format retail, bulky goods and car yards where business enjoys exposure to high traffic volumes. The buildings are mostly set back from the street and are surrounded by car parks. This development pattern has a negative impact on the connectivity of uses and pedestrian amenity and achieves little street activation.

Residences

Away from Albany Highway and the outer areas of the CCC land use is more diverse. Land is used for health services, residential, commercial and recreational purposes. These developments remain as isolated developments at a low building scale and land use intensity - Cannington Leisureplex, an eight storey residential development (under development) and the four storey office development along Sevenoaks Street are the only other significant developments in the area.

The vast majority of residences in this subject area are detached single storey houses mainly under a R17.5/40 split coding. Although there are some group housing developments scattered throughout the area and some low rise mixed use development along Cecil Avenue, the plan achieves a low

gross residential density of 4.6 units per hectare compared to current target of 45 dwellings per hectare (as per SPP 4.2).

Cultural and Recreational

The area also includes significant recreational and cultural uses, including Coker Park, Cannington Leisureplex, Canning Agricultural, Horticultural and Recreational Society, Grey Hounds WA and is adjacent to the Civic Centre Park. These activities are spread throughout the regeneration area. The Canning River Regional Park forms the southern boundary of the CCC, Coker Park sport fields and the athletics track are in the north western sector of the study area and the Agricultural Society's land, i.e. Cannington Greyhounds Race Track lies in the south eastern sector of the CCC. The Cannington Leisureplex provides a new sport and recreation facility at the corner of Sevenoaks and Wharf Streets. This facility contains some community infrastructure and is poised to become a new hub.

Power Terminal

The Western Power Terminal to the east of the Carousel Shopping Centre occupies a significant amount of land. The structures associated with this facility have a negative impact both on amenity and the ability for surrounding land use to develop a positive streetscape, especially along Grose Avenue. The transmission lines feeding in and out of this region also impact on urban form and amenity.

Threatened Ecological Community

To the north of the Western Power Terminal is an area that has been identified as a Threatened Ecological Community (TEC) and is listed on both State and Federal protection lists. This area is a seasonable wetland and contains a unique community of plant species, some of which are endangered. However, this TEC area is not currently maintained as a CCC asset to add value to the urban context largely due to existing landownership and management practices.

Vacant Land

Whilst retail is one of the most significant land uses in the centre, underutilised and vacant land consumes a significant amount of the landscape and accounts for approximately 23% of the area. It is estimated that there is more than 15 hectares of vacant land (mostly government owned) within 800 metres of the Cannington railway station, offering substantial opportunity to intensify land use. Most of the vacant land in the area is not landscaped or maintained and detracts from the amenity of the area.

The landscape is dominated by land dedicated for the use of motor vehicles. Research conducted by the Urban Design Centre suggests that land designated for transportation (including car-parks, sidewalks, rights of way, railway easements, loading docks and other hard paved areas) within the CCC exceeds 37% of the site area. This is a significant percentage of the site especially given that a large proportion of the total subject site is vacant.

Research conducted by Curtin University in 2011 concludes that land use efficiency in the CCC is 33%. This efficiency has been calculated on the basis of land occupied by buildings or other active

private uses. This is especially low when compared to other urban areas, i.e. Mt Lawley's land use efficiency is estimated to be 64%. The study also concludes that land use diversity is also low with more than 60% of lots exceeding 1,000sqm. Figure 9.4 shows the current building footprint pattern and intensity in the CCC compared to Mount Lawley.

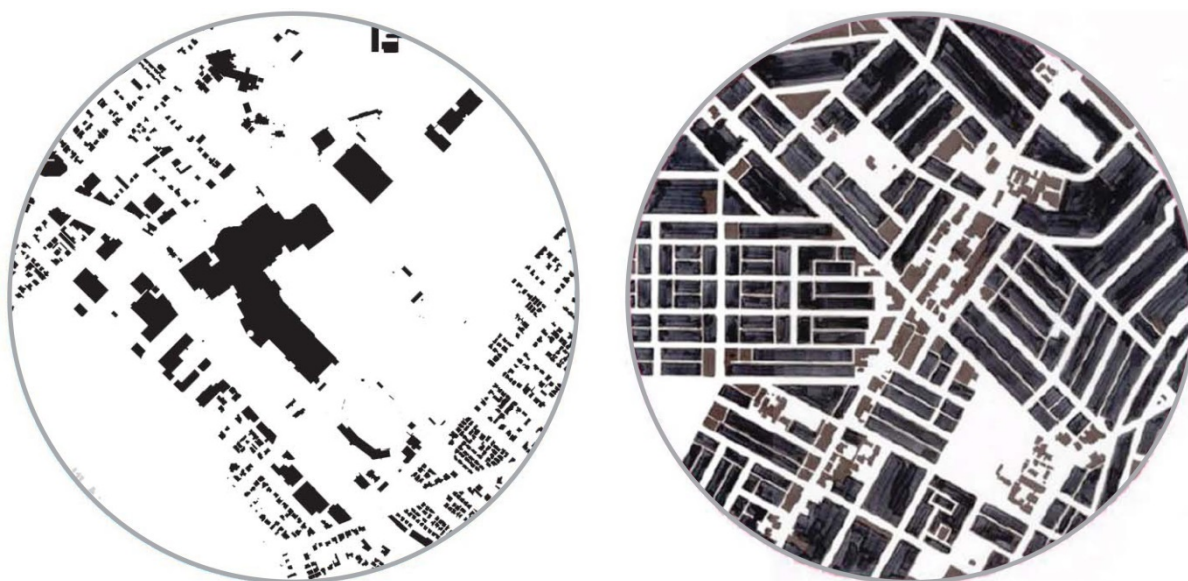


Figure 9.4: Building Footprints in CCC compared to Mount Lawley

Source: Land Use Performance Study for Cannington Activity Centre

9.2.3 Legal Description and Ownership

Figure 9.5 indicates existing ownership patterns within CCC. The large single ownership of Westfield Carousel presents opportunities for future integrated built form and development, while fragmented ownership around the shopping centre presents constraints to increased intensity and changes to urban form. Large parcels of government owned land north of the CCC, close to the train station; provide development opportunities in the short term without the need to compile land into parcels large enough to accommodate significant commercial and other activity. It is widely accepted that the utilities area accommodating the Western Power Substation is required in the long term and is not available for redevelopment. Legal descriptions for all affected landholdings have not been included for the sake of brevity.



Figure 9.5: Existing Ownership

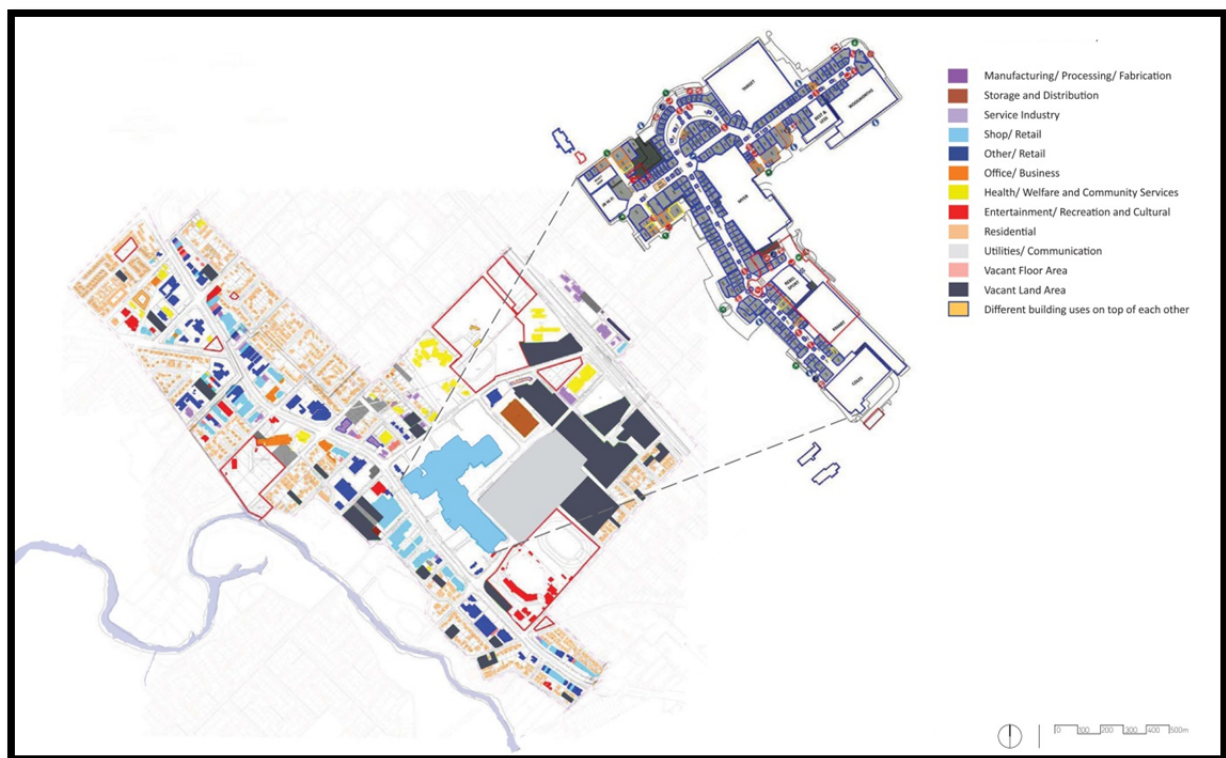


Figure 9.6: Existing Land Use (Land Use Performance Study for Cannington Activity Centre)

9.3 Planning Framework

9.3.1 Zoning and reservations

Current City of Canning Town Planning Scheme No.40 (TPS40)

The majority of the study area is zoned as 'City Centre' local Town Planning Scheme No 40 (TPS 40). The area around the Western Power Substation designated as City Centre deferred with a zoning 'Centre' proposed through a Scheme Amendment. TPS 40 states that the proposed land use is intended to provide a range of retail, commercial, institutional and residential activities. Development within the City Centre Deferred area is to be limited until comprehensive planning is in place although residential development has already occurred in this fringe area. The entire area has been subject to provision of Part IV of TPS 40 and specifically the Canning Regional Centre Structure Plan, which is adopted as policy under the scheme to include an Indicative Development Plan, General Policies and Precinct Policies as adopted in 1995.

Minimum development standards apply including a 15 metre setback requirement tabled within the City of Canning Town Planning Scheme No. 40 Amended 10/12/10. This setback applies not only to Albany Highway but to all streets within the City Centre Zone including Cecil Avenue. This conflicts with advice within the 1995 Canning Regional Centre General Policies adopted by the City of Canning stating that buildings are to address the street and that they be developed to a required alignment, rather than to a prescribed setback in order to emphasise the desired shape and form of public spaces. This requirement is still applicable until the amendment is approved.

An important section of this TPS 40 for the City Centre zone is Section 4.6 Variation of Requirements and Standards. This section of the scheme enables the Council to, at its discretion and in the interests of orderly and proper planning, permit a variation to any of these regulations if it is unreasonable or undesirable. This section enables the City to engage in the correct and proper design for the centre.

The previous Canning Regional Centre Structure Plan was therefore adopted as a Local Planning Policy. Significant amendments to the TPS 40 will be required to incorporate this Activity Centre Plan, when adopted.

Scheme Amendment No. 196 and City of Canning Town Planning Scheme No.40

A range of changes are required to TPS 40 to facilitate the adoption of this Activity Centre Plan. Scheme Amendment No. 196 outlines the key changes required, including redefining the 'Central City Area' to 'Centre' Zone and enabling preferred uses through the adoption of the Activity Centre Plan. Much of the development provisions under Scheme Amendment No. 196 have been deferred to the Activity Centre Plan.

Town Planning Scheme No.21 (Queens Park/ East Cannington Guided Development Scheme) & TPS 39 (Highway West Guided Development Scheme)

Two areas to the north of the study area lie within the City of Canning's guided development scheme areas. These development schemes require that the subdivision of land within the scheme boundaries are subject to payment of a 5% Public Open Space (POS) contribution and may be subject to other scheme costs. As such, land within the development scheme areas are required to comply with the POS cost contribution payments as outlined in the respective schemes.

Town Planning Scheme 38

It is intended that development of land within the Scheme Area should take place only after comprehensive planning has ensured that the Scheme Area and the Canning Regional Centre will derive the maximum possible benefit from:

- the location or relocation of services;
- the location and design of buildings;
- the distribution of land uses; and
- arrangements for vehicular and pedestrian movement.

9.3.2 Planning strategies

Central Metropolitan Perth Sub Regional Strategy and the Central Sub-regional Planning Framework

The *Central Metropolitan Perth Sub-Regional Strategy* (August 2010) has been prepared by the WAPC as a broad framework for delivering the objectives of Directions 2031 and identifies a strategic plan of actions, agency responsibilities and delivery timeframes within the central metropolitan region.

The Strategy notes that "Cannington is predominantly a retail shopping centre with a mix of bulky goods retail, showroom and commercial activity extending north-west and south-west along Albany Highway. Planning is underway to redefine the centre, consolidate and diversify the land use mix and better integrate the centre with Cannington train station."

The *Draft Central Sub-regional Planning Framework* (May 2015) under the Perth and Peel@3.5million aims to establish a long term integrated planning framework for land use and infrastructure to guide infill growth in this region.

The CCC Activity Centre Plan has been aligned to both the *Central Metropolitan Perth Sub-Regional Strategy* and *Draft Central Sub-regional Planning Framework*.

City of Canning Local Housing Strategy

The City of Canning has a target of an additional 11,440 dwellings to be delivered by 2031. The Cannington Strategic Metropolitan Centre is identified as a 'Major Growth Area (yield 1,000 dwellings or greater) by 2031' with the Cannington Train Station being a major Transit Oriented Development site. The Draft Central Metropolitan Perth Sub Regional Strategy indicates an infill

dwelling target of an estimated 1,700 dwelling yield by 2031 within the activity centre to meet future housing needs.

The City of Canning has developed and approved a Local Housing Strategy, which prescribes the future direction of residential development throughout the local government area. The Local Housing Strategy focusses on residential intensification in nodes that are well connected with public transport, commercial facilities and open space, and recognises the CCC as the primary strategic activity centre within the City.

Based on detailed analysis of development potential within the CCC, an estimated 7,500 dwellings are possible by 2031.

City of Canning Environmental Management Strategy

The Environmental Management Strategy was adopted in April 2014 to address four key concern areas: climate change; natural areas, water, heritage and built environments.

The actions outlined and relevant to the CCC included:

- Ensure ecological corridors are provided between natural areas and the River to allow migration of flora and fauna.
- Increase the amount of vegetation in the CCC and along major roads to reduce urban heat island effects.
- Model existing drainage systems and their capacity to manage flood of the planned growth of the City.
- Ensure the preservation of protected flora and fauna including TEC as part of any future planning and/or development, including the incorporation of recreation infrastructure and interpretive signage.
- Develop a Plant Strategy including an incentives program for the planting of locally native plants on verges, support planting and retention of native street tree species. Consider the establishment of a Council nursery and develop a local plant list for use by the community and the City as part of landscaping in public spaces and places.
- Review the Canning River Regional Park Management Plan and develop other environmental management plans and strategies as required.
- Identify opportunities for improvements in the management and treatment of drainage waters including application of water sensitive urban design, creation of urban streams within the City's drainage system, providing water quality treatment of drainage waters through rehabilitation and retrofitting of sumps where possible
- Actively support the installation of greywater systems and rainwater tanks.
- Consider the opportunity to require improved energy performance in public and private buildings (in addition to BCA requirements). Develop educational materials on sustainable building forms and options, continue promotion of the "switch your thinking" program and "Sustainable Canning".

City of Canning Local Water Management Strategy

Through the implementation of the Canning Activity Centre Local Water Management Strategy (LWMS) the following actions were suggested:

- Improve water quality within the stormwater system while maintaining the flood protection and conveyance capacity of the drainage system and ecological water requirements of the Liege St wetlands, TEC, Wharf Street (Civic Centre) wetlands and the Canning River;
- Deliver an urban water environment that is reflective of the local identity and celebrates the linkages between the centre and the River through landscaping, green corridors and the development of urban streams;
- Optimise water use efficiencies irrigation and water reuse;
- Achieve water sensitive landscapes (both public and private realm) which incorporate water quality management and reflect the local climate.
- Key opportunities for redevelopment include:
 - Commercial development associated with the Cecil Avenue core and Westfield Carousel including creation of urban streams
 - Creation of landmark parklands and other POS.

City of Canning POS Strategy

The CCC contains a large proportion of POS and recreation areas. The re-landscaping of these areas to provide a more connected and functional network of open spaces have the potential to integrate better urban water management outcomes will be critical to changing the character of the area and promoting future urban renewal.

The POS Strategy (2015) outlines the rationale and objectives for POS provision within the City of Canning. POS is categorised based in its purpose and objectives and role. The POS Strategy intends to:

- Define the value of each area of 'open space' within the City boundaries.
- Facilitate ranking of each space to assist in identifying future works that are required in those spaces.
- Facilitate budget planning for design, development, ongoing management and maintenance of POS areas.
- Address management practices relating to ongoing and future water restrictions and, more generally, climate change.

In the CCC, POS was classified as per the Strategy categories, as:

- Parks/parkland areas
- Natural and conservation areas
- Foreshore areas
- Residual green spaces
- Undeveloped open space

The study area is highly urbanised and apart from the Canning River foreshore and Cannington swamp there is virtually no remnant vegetation.

City of Canning draft Local Biodiversity Strategy (2015, in preparation)

With only 7% of the pre-European extent of native vegetation remaining in the City, the focus of conservation efforts are on establishing adequate mechanisms to protect all high conservation value vegetation and other natural areas, to increase their long term viability by providing buffers, linking them to other natural areas through restoration and revegetation and actively managing threatening processes. Additional biodiversity links are identified and suggested to increase the overall % of natural areas within the City.

For the CCC, high conservation value natural areas remain, including ecosystems associated with the low-lying landscapes and the fringing vegetation along the Canning River. The conservation significance of these ecosystems goes beyond the City of Canning boundaries, representing some of the most important natural areas on the Swan Coastal Plain.

The ecosystems along the Canning River form part of a regional ecological linkage that connects numerous conservation value natural areas across the Swan Coastal Plain. Due to high levels of vegetation clearing across the City of Canning, many remaining natural areas are isolated. To increase their resilience and long term viability, establishment of local ecological linkages between them is recommended. The Strategy identifies opportunities to form two key local linkages ecological linkages. These ecological linkages focus on providing safe access for fauna between the Canning River Regional Park to ecological assets further east via the TEC and drainage basins and urban streams. Road design in particular, is to take into account safe egress for small to medium sized fauna.

Most of the native vegetation in the City is located in the Cannington or Carousel Swamp, is mapped as a conservation category wetland, and contains a TEC and a threatened fauna, listed as Endangered by the Department of Parks and Wildlife and under the *Environmental Protection and Biodiversity Conservation Act 1999*, as well as threatened and priority flora. All remaining native vegetation in the study area is mapped as potential habitat for Quenda (*Isoodon obesulus fusciventer*), a Priority 5 species. Much of the TEC is within the Western Power landholding and is currently fenced off from public access.

The TEC in the Cannington Swamp area has been subject to a flora and fauna investigation undertaken for Western Power (Appendix 2: Local Water Management Strategy).

It was recommended that there be no further clearing within the vegetated areas of the study area and that these areas be rehabilitated where possible.

For details, refer to City of Canning Biodiversity Strategy.

City of Canning Heritage Strategy

Refer to Section 10.5 Heritage.

9.3.3 Planning policies

State Planning Policy 4.2 - Activity Centres For Perth and Peel and Directions 2031

The main purpose of State Planning Policy 4.2 - Activity Centres for Perth and Peel is to specify broad planning requirements for the planning and development of new activity centres and the redevelopment and renewal of existing centres in Perth and Peel. It is mainly concerned with the distribution, function, broad land use and urban design criteria of activity centres, and with coordinating their land use and infrastructure planning.

Other purposes of the policy include the integration of activity centres with public transport; ensuring they contain a range of activities to promote community benefits through infrastructure efficiency and economic benefits of business clusters; and lower transport energy use and associated carbon emissions.

The policy also reflects the Western Australian Planning Commission's (WAPC) intention to encourage and consolidate residential and commercial development in activity centres so that they contribute to a balanced network. The WAPC's view is that activity centres become community focal points including activities such as commercial, retail, higher density housing, entertainment, tourism, civic/community, higher education, and medical services.

Directions 2031 and Beyond

Directions 2031 and Beyond (August 2010) is a high-level spatial framework and strategic plan that establishes a vision for future growth of the metropolitan Perth and Peel region. It sets out figures for population growth and infill targets to be achieved by 2031. Specifically, the planned network of activity centres in Directions 2031 aims to provide an even distribution of jobs, services and amenities throughout Perth and Peel.

The Draft Perth and Peel@3.5million (May 2015) currently being finalised forms a complementary suite of documents to Directions 2031 and Beyond providing further guidance on where and how development should occur in the next 35-40 years beyond 2031.

To achieve the 'Connected City' scenario, Directions 2031 proposes that new growth occur in a more balanced way around a diverse **activity centres network** (Figure 9.7), linked by a robust **movement network** and supported by a **green network** of parks, conservation and biodiversity areas. Activity centres are intended to be hubs with a variety and concentration of activities that provide services, commercial/retail activity, employment, higher density living and be integrated with the public transport network whilst maintaining a local identity and sense of place.

The role and function of the activity centre depends on its catchment and its position in the activity centre hierarchy and greater metropolitan context. The CCC is identified as a Strategic Metropolitan Centre. Strategic Metropolitan centres are promoted to be multi-purpose with diversity to support the community within their broad catchment.

As such, the CCC provides a significant contribution towards meeting the policy objectives set by Directions 2031 for the Central Metropolitan Perth region by 2031.

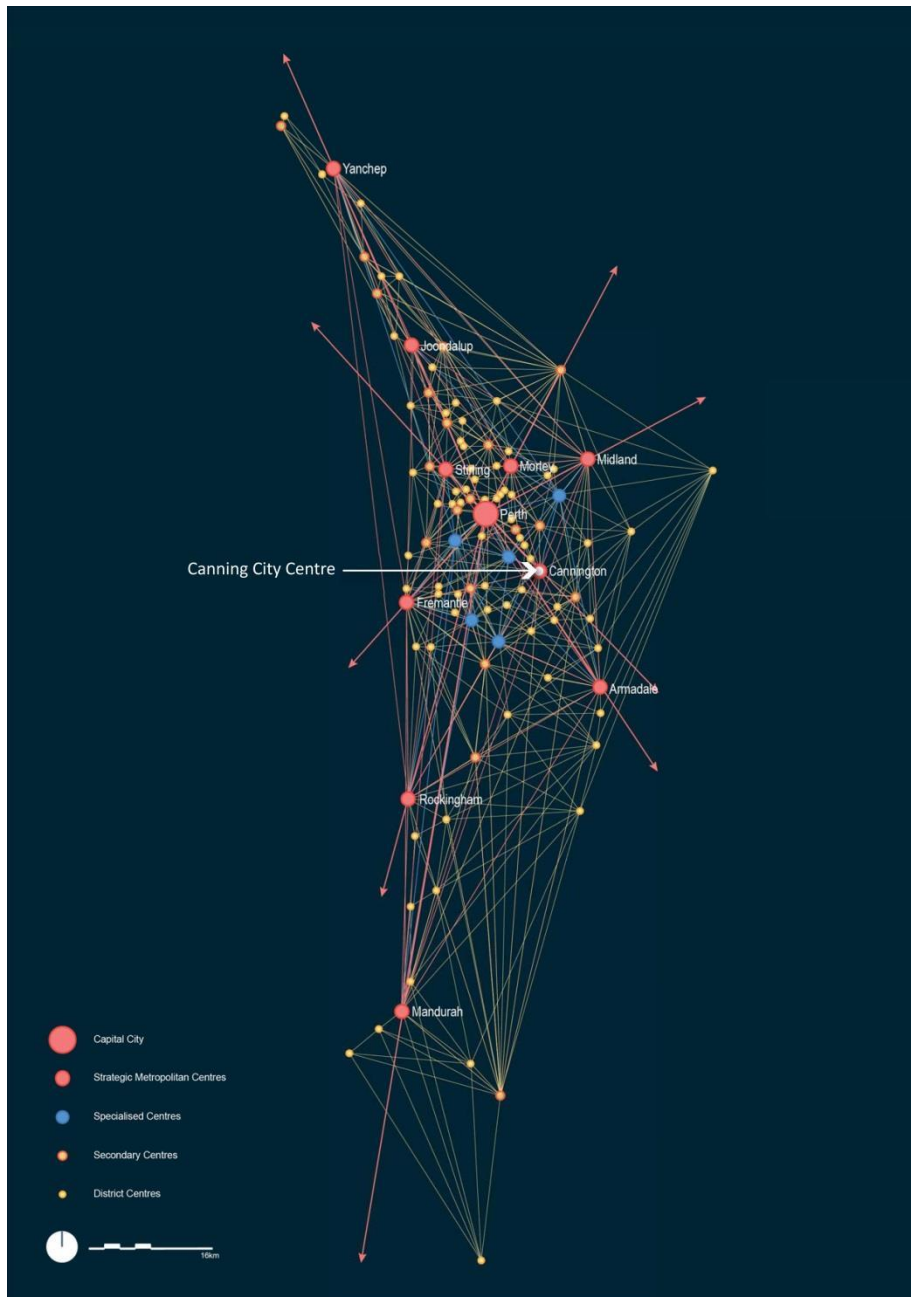


Figure 9.7: Activity Centres within the Metropolitan Area

State Planning Policy 4.2 (SPP4.2) requires that strategic metropolitan centres with retail floorspace over 100,000m² meet a diversity target of 50% shop-retail to other land uses. While this is not representative of true diversity as it does not take into account drivers for non-retail land uses within retail-based centres, it can be used to demonstrate that other activities will contribute to trip generation to an activity centre.

There is potential to improve the diversity of the CCC from 53% non-retail land uses to 62% non-retail land uses by 2031 by ensuring the aspirations and targets of the Activity Centre Plan are met. However, given the centre is currently anchored by Carousel Shopping Centre and the bulky goods

along Albany Highway, it is likely that in the short to medium term there will be an increase in shop-retail land uses and a decrease in current bulky good format land uses (Other Retail). This is to be expected as shop-retail is the most significant competitive advantage currently available to CCC to pursue economic growth and development. Other Retail land uses are assumed to be progressively replaced by residential and other higher intensity land uses, while some of the large format retail and bulky goods retail relocate elsewhere. For details on land use categories and future floorspace, refer to Section 15.

Development Control Policy 1.6 Planning to Support Transit Use and Transit Oriented Development

This policy seeks to maximise the benefits to the community of an effective and well used public transit system by promoting planning and development outcomes that will support and sustain public transport use. DCP 1.6 states that *“Transit Oriented Development [TOD] refers to locating moderate to high-intensity commercial, mixed use, community and residential development close to train stations and/or high-frequency bus routes to encourage public transport use over private vehicles”*.

The Policy defines ‘transit oriented precincts’ through a common ‘threshold’ for walking. This equates to:

- About 10-15 minutes walking time, or an 800m distance, for rail stations, transit interchanges or major bus transfer stations or terminals; and
- About 5-7 minutes walking time, or 400m, for bus stops located on bus routes with multiple bus services that are high frequency of 15 minutes or less during peak periods.

SPP4.2**Summary highlights from SPP 4.2 for CCC are:****Main Role / Function**

Strategic Metropolitan Centres are the main regional activity centres. They are multipurpose centres that provide a diversity of uses. These centres provide the full range of economic and community services necessary for the catchments in their communities.

Transport connectivity and accessibility

Important focus for passenger rail and high frequency bus networks.

Typical Retail Types

Department Stores, Discount Department Stores, Supermarkets, Full Range of Specialty Shops.

Typical Office Development

Major offices, state government agencies

Future indicative service population (trade) area

150,000 – 300,000 persons

Walkable Catchment for Residential Density Target

800m

Liveable Neighbourhoods (2009)

Liveable Neighbourhoods addresses both strategic and operational aspects of Activity Centre Planning and subdivision development in a code framework. Element 7 outlines in some detail the types of mixed use walkable activity centres envisaged under Liveable Neighbourhoods. Liveable Neighbourhoods has been adopted by the WAPC as operational policy, and is to be followed in the design and approval of urban development. It applies to structure planning and subdivision for greenfield sites and for the redevelopment of large brownfield and urban infill sites. The key requirements under Liveable Neighbourhoods the document that have impacts for the CCC redevelopment are amongst others:

- New regional-scale centres should be structured to facilitate development of predominantly multi-storey street frontage-based, mixed use layout buildings, with on-street parking at the rear of buildings.
- The layout and location of land for employment and business uses should seek to be integrated into mixed-use centres and located in walking distance of public transport stops.
- The street and building layout and interface treatments should provide for compatibility between different uses.

- Buildings are to front streets, be multi-storey wherever practical, and parking is to be screened behind buildings.
- State and local government offices, civic and community facilities should be located in centres. They should be designed as urban buildings with good street frontage, and be located and detailed as landmark buildings where appropriate.
- Centres should provide well-located bus stops
- Centres should be provided with an appropriate range and distribution of public spaces, including urban squares, plazas, parks and other incidental public spaces.
- Centres should be detailed to create a high quality street environment with shade, shelter, trees, pavement treatment, street furniture, landscaping and urban art.
- The planning and design of a centre should be informed by the community it is intended to serve.

Other State and Federal Government Strategies and Policies

In addition to the above, the following State strategies and policies have been considered in formulating this Activity Centre Plan:

- Draft State Planning Policy - Activity Centres Parking
- State Planning Policy (SPP) 1 State Planning Framework Policy
- SPP 2.9 Water Resources
- SPP2.10 Swan –Canning River System
- SPP 3 Urban Growth and Settlement
- SPP3.1 Residential Design Codes
- SPP5.1 Land Use Planning in the Vicinity of Perth Airport
- SPP 5.4 Road and Rail Transport Noise and Freight Considerations in Land Use Planning
- DCP 1.1 Subdivision of Land – General Principles
- DCP 1.2 Development Control – General Principles
- DCP 1.5 Bicycle Planning
- DCP 2.2 Residential Subdivision
- DCP 5.3 Use of Land Reserved for Parks and Recreation

The presence of the TEC and the close proximity of the Perth Airport, draws into consideration Federal legislation:

- The *Environmental Protection and Biodiversity Act 1999* applies for the protection of the TEC, and
- *Airports Act 1996* stipulate the requirements and controls for development in close proximity to these protected areas.

Canning Regional Centre Planning Policies

The City of Canning adopted the Canning Regional Centre Planning Policies on 14 February 1995. This Local Planning Policy provided the vision for the CCC and facilitated development through planning controls that would not require further Town Planning Scheme amendments.

The policy facilitated the strategic development of the Canning Regional Centre through the following policy components:

- Structure Plan
- Indicative Development Plan
- General Policies
- Precinct Policies

At that time, Canning was identified as one of eight Strategic Regional Centres to become a major employment centre and hub of activity. The Structure Plan Local Planning Policy was to facilitate the progressive and systematic development of Canning as a Strategic Regional Centre within the Perth Metropolitan Area. It also emphasised the need for landscaping in the centre with extensive tree planting, use of water, consistent paving schemes, advertising guidelines and built form guidelines.

The Indicative Development Plan sought to provide more opportunities for people to reside within walking distance of the city centre to capitalise on the activities, public transport systems and optimise use of services. Higher densities of between R40 and R60 were supported on vacant land, but the massing of development was generally limited to 2 storeys.

The planning approach was prefaced on the relocation of the Western Power electrical transmission site and the creation of a main street along Grose Avenue. The approach was not realised and was further compromised by the expansion of the Westfield Carousel shopping centre over part of this main public corridor.

The approach to the Canning Regional Centre Planning Policies was comprehensive for its time as a planning document. Although the City of Canning constructed several road links and implemented a significant amount of public domain improvements, the development process lacked an implementation strategy through active place management and marketing of the CCC as an attractive place of investment. The development of this city centre has therefore not materialised the vision of this Local Planning Policy. Notwithstanding, these policies provided a background and useful framework for this Activity Centre Plan.

City of Canning Sustainability Policy

The City of Canning adopted the Sustainability Policy in March 2014. The policy defines sustainability as

“...a journey towards development that meets the needs of the present without compromising the ability of future generations to meet their own needs and is achieved by developing policies and practices that ultimately meet the sustainability principles.” The sustainability principles are the means to reduce and eventually eliminate:

1. Fossil fuel dependence and wasteful use of scarce metals and minerals;
2. Reliance upon persistent chemicals and wasteful use of synthetic substances;
3. Encroachment upon nature (eg land, water, wildlife, bushland, soil, ecosystems);
4. Conditions that systematically undermine people’s ability to meet their basic human needs.

In this context, sustainability adherence refers to the degree to which a proposal encompasses the sustainability principles. The application of these principles in this Activity Centre Plan relate to environmental performance through built form controls, protection and enhancement of biodiversity, provision of high quality POS and community services and facilities and ensuring safety and wellbeing as a key design consideration for developments.

9.3.4 Community consultation

Project Communication

As a Strategic Metropolitan Centre, CCC has regional influence extending beyond the boundaries of the City of Canning. The community has not been recently engaged outside formal planning processes for the Structure Plan Local Planning Policy. The consultation process was therefore not focussed only on local residents, but sought to obtain wider input which included users, business operators, community leaders, land owners, developers and the State Government.

The consultation process was conducted as part of project management for the two phases of the regeneration project. It was designed to establish responsible reporting through the project structure, communicating with State Government and Utilities, the community and key stakeholders. A number of processes were formalised to achieve a wider communication strategy.

A Council Officer's Group was established, bringing Council staff from a number of departments to the project. Staff were introduced to Place Making training and assumed responsibility for a number of initiatives to facilitate change and resolve maintenance issues in the CCC. This group met monthly. During the Phase 2 Plan formulation, the Council Officers Group was invited to participate by providing the local future planning direction of the CCC Activity Centre Plan.

Consultation Events - Earlier versions of the Structure Plan Local Planning Policy

- **Community surveys:**

The project appointed Curtin University to conduct community surveys of local residents, users, business owners and staff. A total of 236 surveys were completed and analysed. The results identified concerns about public safety and poor satisfaction with public transport and traffic management as key issues, whereas there seemed to be satisfaction about the commercial content and land use mix of the CCC.

- **Stakeholder Involvement:**

While the project was not able to establish a governance structure that incorporated State Government and Utilities, the Department of Planning remained actively involved especially during Phase 2 Plan formulation.

2011- A formal workshop was held in June to bring Local Government, State Government and Utilities together during two sessions. These sessions allowed the project leadership to discuss findings of the Phase 1 investigation and the methodology for Phase 2.

2011 - A second workshop was held in November to review the Economic Development Strategies and concept ideas for the CCC. The third workshop was held in April 2012 where

participants reviewed and provided input into the Structure Plan Local Planning Policy before it was finalised for internal review. A separate session also offered the Utilities the opportunity to influence sustainability testing and modelling of the plan.

The Project Team also hosted a significant public information session in November 2011. The session targeted local residents, users, business people and community leaders. Almost 40 attendees registered at the event to offer insight into community expectations for CCC. The main issues included an increase in diversity and activity, improvement to public and private transport, maintaining levels of affordability and introducing culture to the CCC. The community were concerned that the area is not well maintained and there was a perception that safety and security should be improved. The workshop also provided the platform to launch the CCC website, which was compiled along with the “Speak Out” sessions of the Community Plan initiative by the City of Canning. The website attracted significant comment on city centre issues and these were incorporated into plan formulation.

- Development Industry:

2013, 2014, 2015 - The City of Canning introduced an urban design improvement program in the CCC through the Local Planning Policy - Site Analysis Design Review Process for Significant Developments. The process allowed developers to consult and agree design principles for development sites within the regeneration boundary. A number of sites, located along Cecil Avenue, Lake Street and Grose Avenue were exposed to this process, including several knowledge sharing opportunities with Westfield, the key retail stakeholder within CCC. The process allowed planning and design principles to be tested and the outcomes informed the economic development strategy and plan formulation for the area. This process is under review with a plan for a new process for design review.

10 Site conditions and constraints

State Planning Policy 4.2 and Directions 2031 both highlight CCC’s geographic importance at a strategic level. Its location on a transportation route, its proximity to the airport, a tertiary education hub and a strategic industrial centre indicate Cannington’s importance as a networked location.

CCC **road** connection to Perth via Albany Highway and the Perth to Armadale passenger **rail** line connects to Canning and ensures that it will retain its strategic importance in the wider metropolitan context. When compared to other strategic centres across the metropolitan area, it is viewed as an important community focal point and is expected to provide activities such as commercial, retail, high density housing, entertainment, civic/community, higher education and medical services as anticipated by SPP 4.2.

10.1 Biodiversity and natural area assets

10.1.1 Biodiversity

A number of studies and strategies have been prepared for the City of Canning and CCC to gain an understanding of the environmental characteristics of both spatial areas, identify issues and suggest recommendations. City-wide strategies and policies include the draft Biodiversity Strategy (2015), draft POS Strategy (2015), Water Management Strategy (2013), Environmental Management Strategy (2013) and Sustainability Policy (2014). CCC specific strategies include the Local Water Management Strategy (2012) and draft Arterial Drainage Plan (2015).

Refer to Planning Strategies in Section 9.3.2.

10.1.2 Resource Conservation and Sustainability

The CCC aspired to demonstrate innovative and best practice sustainable measures to reduce the impact of development on the local, regional and global scale. In doing so, the following objectives will be pursued:

- All buildings will be designed and constructed to improve their environmental performance (energy, water and materials).
- Drainage and other water controls will protect the Canning River Regional Park and TEC from unnecessary and unplanned water quality and quantity events. Water sensitive urban design will be the underlying principle for built form controls and public realm improvements.
- Biodiversity within the area will be enhanced through the creation of links and ecological communities in public and private open space.
 - Protection of conservation assets to preserve biodiversity and enhance their value.
 - Address the impacts of climate change.
 - Improve the performance of buildings through design and operation to reduce fossil fuel dependence and wasteful use of scarce materials.
 - Adoption of renewable or low carbon energy encouraged to reduce the need for fossil fuel.
 - Encourage local and distributed infrastructure to support renewable energy, water harvesting and nutrient recycling from waste to reduce the ecological footprint.

Environmental Characteristics

The redevelopment of the CCC is relatively unconstrained by water resources as it contains existing infrastructure in an already modified environment.

The CCC also contains two significant constructed wetlands; Liege Street and Wharf Street (or Civic Centre) wetlands. These wetlands were constructed in order to reduce nutrient loads to the Lower Canning River. The Liege Street wetland is classified as a Conservation Category Wetland and as such, no development is proposed in the vicinity of these significant water resources that is likely to impact on their values. Whilst they do not perform environmental functions, drainage basins and drains attract a large number of wildlife that is seen to inhabit these areas all year round, primarily due to the persistent water availability. It is unknown if Water Corporation have undertaken any

fauna or flora surveys of these basins, however, in their redesign, habitats for wildlife protection will be provided.

In parts of the CCC, a large number of mature trees exist. However, environmental studies and tree surveys have not been undertaken to determine their value or significance. Notwithstanding, the protection of mature trees will be supported through the Activity Centre Plan and development provisions to maintain amenity and reduce urban heat island effect. Landscape Plans will be required to identify the location of mature trees, their status and health and how they will be protected through development.

There are no current development controls within the City of Canning to control and address climate change. The development requirements outlined in Part 1 attempt to respond to the changing climate projected by the Bureau of Meteorology (BoM) and CSIRO. The objective is to reduce climate change risks and to improve resilience of CCC. In order to do this, the suggested adaptation measures in the table below will be pursued.

Table 10.1: Climate Change Risk

Risk	Example adaptation measure(s)
Increased Heat	Buildings – avoid excessive air conditioning demand through: <ul style="list-style-type: none"> • Passive cooling – cross ventilation, shading, building orientation • Heat load management - improved insulation (building thermal envelope) • Mechanical heat exchange – e.g. heat pumps Public Realm <ul style="list-style-type: none"> • Shaded streets – trees, verandas, awnings • Increased vegetation to mitigate against urban heat island effect
Decreased overall rainfall	Water harvesting, for example: <ul style="list-style-type: none"> • Storm and roof water harvesting • On-site and district water retention basins • Water recovery from grey water or black water (subject to health requirements) • Climate appropriate planting (e.g. source native species from hotter dryer climates)
Extreme rainfall events	Water Sensitive Urban Design to capture and manage high rainfall events
Infrastructure	Risk assessment to be undertaken to assess and determine the impacts of climate change on infrastructure and potential adaptation measures.

10.2 Landform and soils

The environmental characteristics of the CCC study area are similar to much of the Canning Plain, having flat topography, clayey soils overlain by sand (Figure 10.1) and largely a moderate risk of acid sulfate soils (Figure 10.2). There are a small number of contaminated sites identified in the Activity Centre Plan area, which are classified as remediated for restricted use and are not expected to be a significant constraint to redevelopment (Figure 10.2).

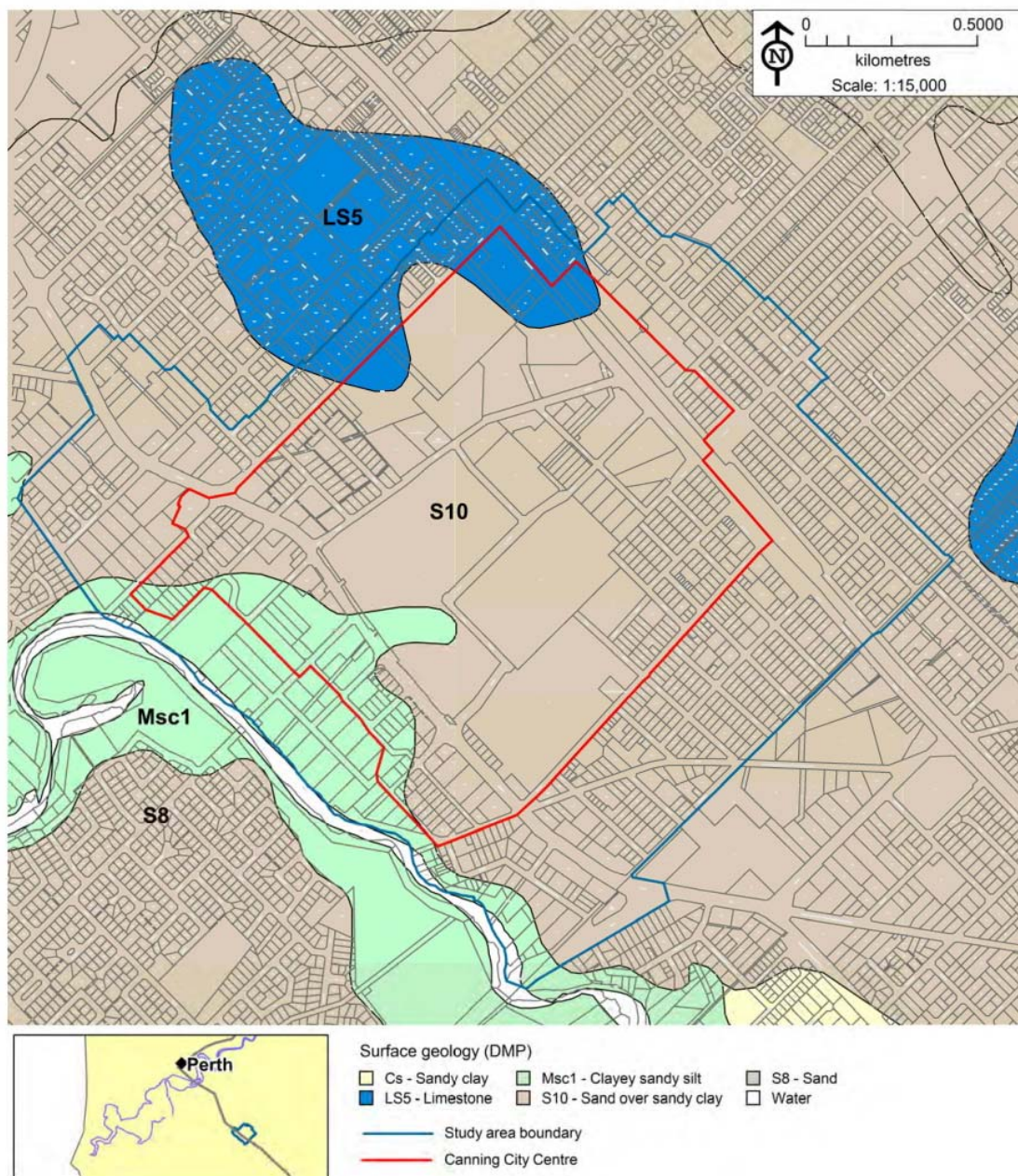


Figure 10.1: Soil Types (CCC Local Water Management Strategy, Essential Environmental, 2012)

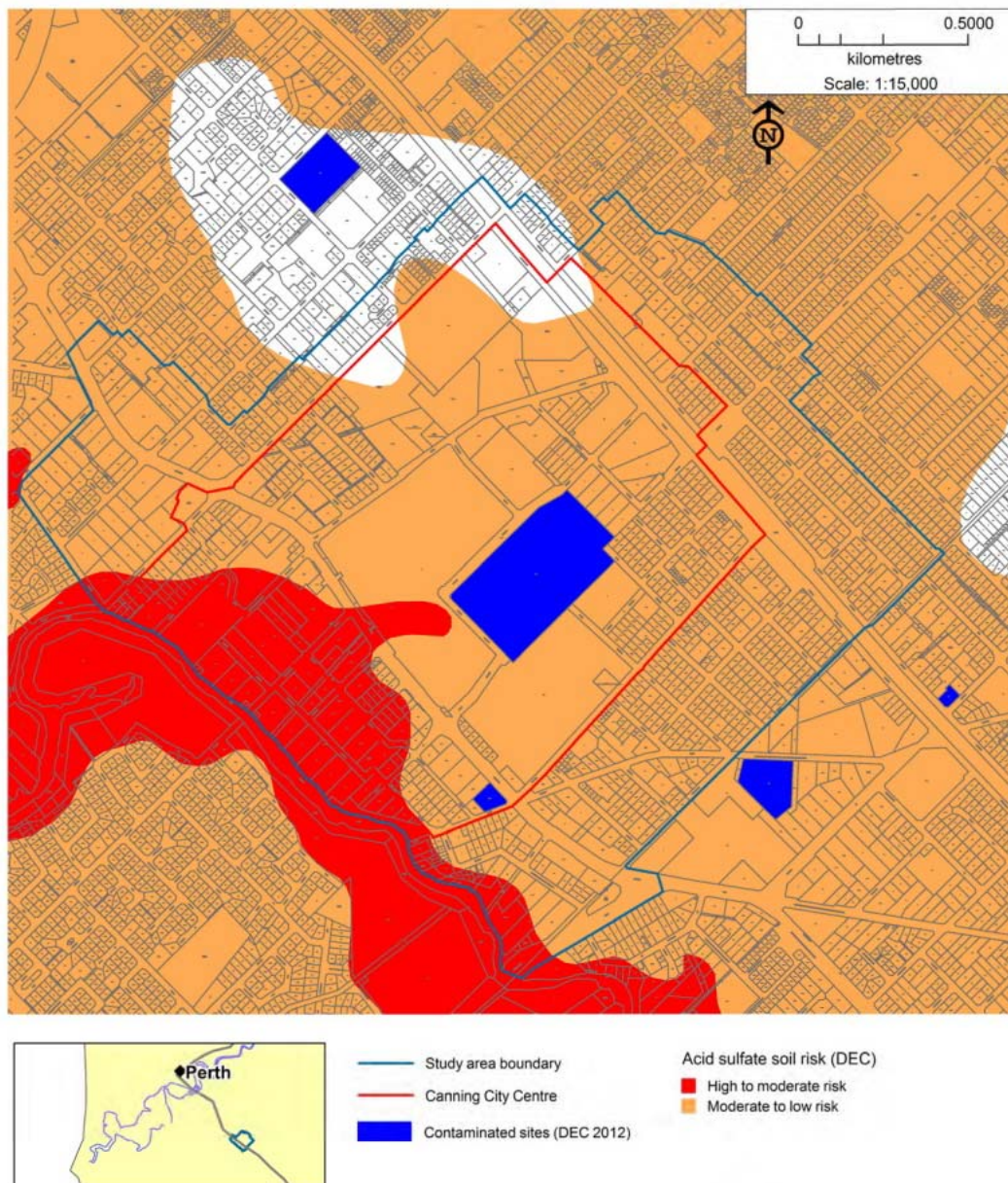


Figure 10.2: Acid Sulfate Soil Risk and Registered Contaminated Sites (CCC Local Water Management Strategy, Essential Environmental, 2012)

10.3 Groundwater and surface water

Groundwater is shallow across the CCC area and a combination of surface and subsurface drainage is used throughout the area to manage groundwater levels. There are three Water Corporation drainage catchments and one City of Canning drainage catchments that intersect the study area. These are:

- Cockram Street Main Drain (Water Corporation)
- Wharf Street Main Drain (Water Corporation)

- Lacey Street Main Drain (Water Corporation)
- River Road Drain (City of Canning)

The Water Corporation has proposed a number of upgrades to the Cockram Street main drainage system within the boundary of the study area. Any development proposals will need to incorporate these upgrades or make alternative provisions to ensure that the capacity of the main drains is sufficient to meet the conditions of the Water Corporation's operating license.

There are two locations within the CCC where significant modifications to the existing main drainage system are proposed for the creation of urban streams. These are the Cockram Street Main Drain from Sevenoaks Street to Cecil Avenue Design and the section of existing open drain from Wharf Street to Pattie Street. These are discussed further in the Local Drainage Plan which is an Appendix of this Activity Centre Plan.

Groundwater is used by the City for irrigation of Public Open Space (POS) and water efficient landscape design and irrigation practices will be used to limit future POS irrigation demand to current licensed volumes.

10.4 Bushfire hazard

Very little bush and in turn, bush fire hazards are present within the area. The proximity of the Canning River Regional Park to the Riverside precinct has the potential to create risks. Carden Drive is a 13m road reserve and acts as a firebreak. However, further studies will need to be undertaken to ensure buildings within the Riverside Precinct are protected from bushfire's and associated hazards.

10.5 Heritage

The City of Canning has developed and adopted a Heritage Strategy in 2015. Key themes were identified through the heritage context analysis that includes a comprehensive historical overview of key elements in the history and development of the City of Canning and identifies important sites within the Activity Centre Plan area. Refer to Figure 10.3.

Prior to the colonial settlement of the area, the Canning River wetlands provided an important source of food and shelter to the Nyoongar people. Artefacts in the area have been dated back at least 5,000 to 6,000 years. The Canning River retains its intrinsic value to the Nyoongar people and is a significant Aboriginal site.

As one of the earliest settled areas in the Swan Colony, Canning is associated with the convict period of Western Australian history, the development of Western Australia's timber industry and the river transport system of the 19th century. Over time, the once rural and agricultural based landscape evolved into a metropolis with an urban, commercial and industrial blend. This history and significance is not immediately recognisable in the CCC as almost all of its early buildings have been demolished, development has oriented away from the river and evidence of this history is hidden.



Figure 10.3: Heritage Sites

CULTURAL HERITAGE

Strategies to protect and enhance cultural heritage include:

- Protect and interpret remaining historical places, particularly Canning River Regional Park, Woodloes Homestead, Canning Town Hall and Canning War Memorial as part of the Canning Regeneration Strategy.
- The Regeneration Strategy should encourage interpretation through public art depicting the history of Canning in all significant private and public sector developments across the area.
- A collaborative approach between the City and Aboriginal community should be adopted to develop specific interpretation proposals to celebrate the Aboriginal association with the Canning area. Opportunities for interpretation along the Canning River could be explored in this regard.
- Opportunities to interpret and enhance the Aboriginal association with the Canning area through the naming of new plazas, streets, walkways, parks, bridges after local aborigines or associations should be undertaken in consultation with the aboriginal community.
- Image and information resources highlighting the significance of the history of the study area should be prepared for use in print and electronic promotional materials associated with the Regeneration Project.
- Improved signage should be installed along Albany Highway to maximise exposure of and assist wayfinding to, the Canning River Regional Park, Mason's Landing and Woodloes Homestead.
- Opportunities to create new and improve existing, pedestrian and cycle path linkages to the Canning River Regional Park should be explored.

10.6 River and foreshores

The Canning River Regional Park forms the southern boundary to the CCC. It is protected from development through reservations and is under the ownership of the State of Western Australia. It provides a sanctuary for many and is widely regarded as a 'hidden gem' within the CCC. Visual connections through to the Canning River Regional Park are proposed through Richmond, Greenfield, Cockram, Oak and Liege Streets from Albany Hwy via landscaped ribbons of parks and paths. These paths, well designed and landscaped, will draw residents, workers and visitors to the River. As previously mentioned, it has got historical and aboriginal significance.

10.7 Context and other land use and development constraints

A key constraint is that the CCC has no easily discernible nucleus and the prevailing urban form is a result of a car dominated suburban culture. It currently incorporates a number of large land uses with single use functions that add to the disparate nature of the 'centre'.

In summary the Activity Centre Plan area is:

- Identified as a Strategic Metropolitan Centre under SPP 4.2;
- Primarily zoned City Centre under the local Town Planning Scheme No. 40;
- Dominated by large single use land functions as a result of a car dominated suburban culture and includes Westfield Carousel Shopping Centre, Coker Park, Cannington Leisureplex, Cannington Agricultural, Horticultural and Recreational Society, Greyhounds WA, Civic Centre Park, Western Power Terminal and a Threatened Ecological Community;
- Dominated by Westfield Carousel consisting of approximately 80,000 square metres of retail floor space with plans to expand to approximately 140,000 square metres of retail floor space
- Approximately 15% occupied by housing;
- Approximately 23% underutilised and/or vacant;
- Achieving a residential density of more than units per hectare;
- Formed by Canning River Regional Park along the southern boundary;
- Well serviced by public transport and has a high level of accessibility by various modes of transport.
- It has got a retail character, especially along Albany Highway, for historic and accessibility purposes. This character is reflected in the current built form (bulky goods)
- lack of integration of this retail node into the surrounding area has been exacerbated by additional large single function uses (Greyhounds, Schools and Government Offices) and utilities (Western Power Substation)

10.7.1 Challenge to achieving the vision

The significant challenges to achieving the future vision of a Strategic Metropolitan Centre at the CCC include how to:

- Facilitate activity centre maturation from a foundation of lower-order population-driven activity
- Develop genuine competitive advantages to attract strategic activity to the centre
- Attract sustained investment and commercial buy-in
- Engender a compact dense urban culture, active day and night, in a vehicle based suburban location
- Deliver residential intensity and affordable urban housing within the conditions of the Perth property market
- Deliver a high quality public realm to support the desired aspirations for activity within the centre, from a low quality, fragmented existing public realm
- Induce a step change in public transport patronage and active walking and cycling in a car dominant environment

10.7.2 Opportunities

Background analysis of current conditions and opportunities for the CCC reveal a number of significant challenges to the overall vision of a Strategic Metropolitan Centre at Canning. These include how to:

- Bring retail back to the street to create a main street. Give more importance to pedestrian scale built form and related activities;
- Achieve true diversity of use within a predominantly single-use urban area;
- Attract investment and commercial buy-in including State and Federal Government investment;
- Engender a compact dense urban culture, active day and night, in a vehicle based suburban location;
- Deliver high quality residential intensity and affordable urban housing within the conditions of the Perth property market;
- Deliver a high quality public realm which is appropriate to the Canning location and the WA climate;
- Induce a step change in public transport patronage and active walking and cycling in a car dominant environment;
- Responsibly conserve and integrate the natural habitat within an intense urban context;
- Foster resource conservation in the CCC with respect to water, energy, waste and transport;
- Achieve a more balanced level access for various transport modes;
- Significantly increase the potential mode share of public transport, cycling and walking;
- Increase connectivity to the south-west of the river and north-east of the railway line; and
- Celebrate water in the urban design of the new city and the interaction of urban streams and the built form as suggested by the Arterial Drainage Plan.
- Use the potential of the 15 to 25 hectares of vacant or easily redevelopable land (much of which is government owned) adjacent to the railway station, offering substantial opportunity to intensify land use.

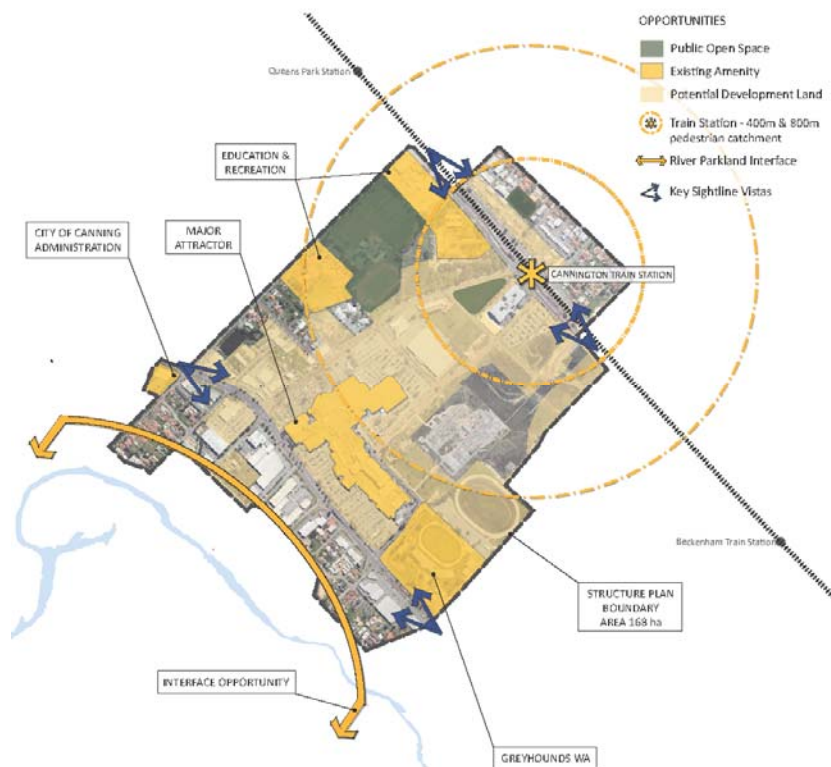


Figure 10.4: Opportunities for CCC to Evolve to a Strategic Metropolitan Centre

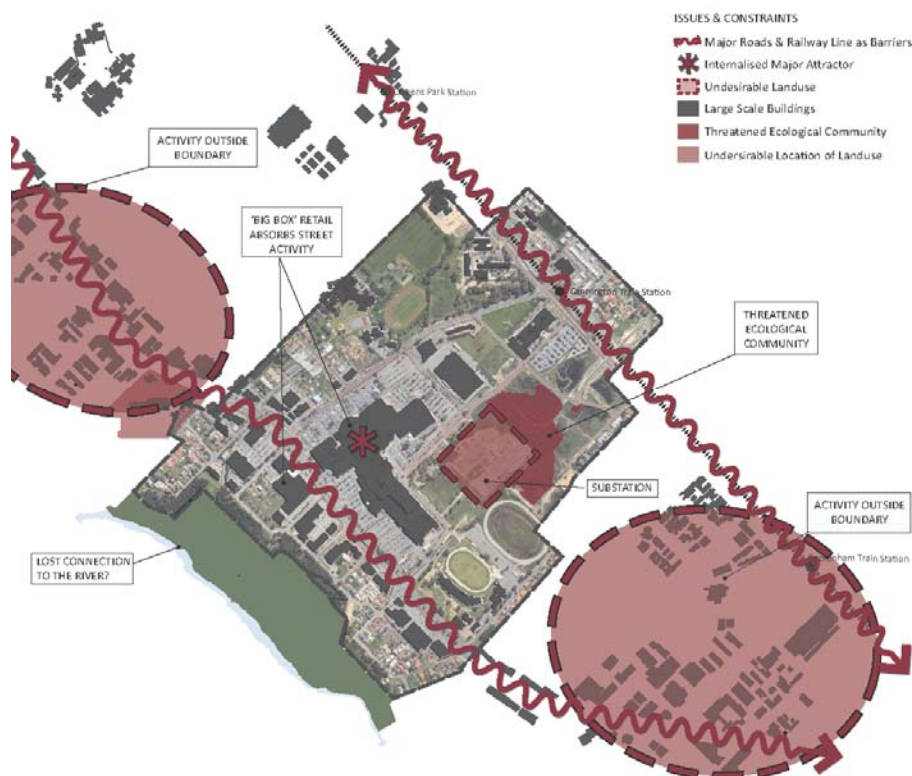


Figure 10.5: Constraints for CCC to evolve to a Strategic Metropolitan Centre

11 Land use and subdivision requirements

Towards an articulated urban structure

The urban structure of CCC is typified by large land holdings dedicated to commercial purposes in a coarse grain structure with large areas of parking and access roads. There is a significant disconnection between the shopping centre and surrounding residential areas due to the lack of intense development, interface treatments and lack of linkages.

The Activity Centre Plan Map (Part 1) illustrates how the urban structure will evolve towards an articulated urban structure. To set the new linkages, existing ROW's have been widened and lengthened (in certain sections) and new roads created based on a 100x100m grid pattern to facilitate access and finer grain urban structure. Finer grid patterns can be considered where possible and where the built form outcomes support the objectives and proposed land uses for the relevant Precinct.

11.1 Land use

The land use permissibility for each precinct has been derived from the areas of floorspace generated in the Growth Model as per the draft Economic Development Strategy (2015) and the desired built form and forms of ground floor activation.

The Preferred Land Uses per Precinct table (Part 1 Table 4) allocates the land uses required to achieve the intensity and diversity targets as desirable locations for specific ground floor uses. The aim being to intensify Cecil Avenue Main as much as possible, while allowing the flexibility of uses to occur in the upper floors. Generally single use development should be discouraged.

The list of preferred land uses has taken the following objectives into consideration:

- Delivery of a multipurpose strategic metropolitan centre that maximises synergies between housing, jobs and transit.
- Increased range and diversity of employment opportunities within the activity centre.
- Creation of a 'place-led' regeneration of the CCC with a vibrant main street along Cecil Avenue as the activity focal point.
- Support the creation of a vibrant city centre.

11.2 Urban Form

The provisions of this Activity Centre Plan have been guided by the protection of the ecological assets within the CCC and contemporary best practice for the delivery of sustainable mixed use communities within an urban context. As such, how the urban and built form develop is critical to the success of the CCC in meeting this overarching objective.

The urban and built form requirements aim to fulfil the following objectives:

- Security of safety and wellbeing for all through the application of CPTED principles for all developments and public realm projects.
- Accessibility, connection, vibrancy and support for positive activity through a grid pattern of movement networks and intensification of development in the Cecil Avenue Main precincts.
- Captivating fun and attractive environs through the provision of a range of POS including active play areas for all ages. Green (vegetated) and blue (urban streams) corridors will frame the urban form and create attractive environs for all to access.
- Comfortable, interesting and engaging urban form through diversity in built form and uses.
- Adaptable, flexible and resilient built form designed to last and change over time to meet needs at a given point in time.
- High quality attractive urban and built form that excites all senses for all.
- Landmark buildings at strategic locations that define the key entry points to the CCC.
- Protection and enhancement of the key view lines to the Canning River Regional Park and TEC.
- Enhancement of TEC as an asset for recreational and ecological protection purposes.
- Integrating built form designs with the public realm in a way that is interesting and attractive for all.
- Ensuring built form designs support the desired land uses and activities in each Precinct.
- Facilitation of an urban structure through subdivision of larger blocks into a legible, permeable, walkable street network and quality public spaces to create an attractive and appealing City Centre.
- Concentration of development within a short (5 minutes) walk of Cannington Train Station and other key transit nodes along Cecil Avenue to create a Transit Oriented Development (TOD) comprising a compact urban form within the City Centre.
- Increased overall density adjacent the major public open spaces including the Canning River Regional Reserve, Coker Park and Cannington Swamp to maximise access and use of these significant assets.

Key nodes

The key nodes for the area include:

- Cannington Train Station,
- Cecil Square and the shopping centre; and
- Canning River.

The Activity Centre Plan and built form requirements have been developed accordingly to bring density and intensity to specific areas while linking these key nodes (Figure 11.1).

Landmarks and view lines

Carousel Shopping Centre is the dominant landmark in CCC. It will need to be augmented by a series of buildings which assist to signify that the visitor has arrived at the centre. These include landmarks

at the Cecil Avenue/Albany Highway intersection, buildings abutting the squares and main corners, and on the termination of view lines.

Sense of Arrival

The existing sense of arrival is typical of a suburban regional shopping centre with a clear transition between surrounding roads, car parks and building entries. The existing road hierarchy provides orientation cues to the shopping centre at a vehicle scale. There are no other signals of arrival at the 'centre of town' and limited sense of arrival at the train station.

Arrival points through the use of landscape and built form will need to be created, particularly along Albany Highway.

Landscaping and public realm

This Activity Centre Plan has been developed with the following objectives for landscaping and public realm:

- Ensure all public spaces meet accessibility standards for all levels of ability.
- Provide a range of open space types including passive uses and active uses such as children's play, sport and urban agriculture.
- Maximise opportunities for ecosystem services within the CCC to provide amenity, biodiversity, water management, and cooling benefits to mitigate against urban heat island effect in a hot and warming climate.
- Develop a network of attractive 'urban steams' and basins that create amenity and biodiversity corridors as well as performing a water management role.
- Facilitate the improvement and enhancement of biodiversity across the CCC through the creation of ecological corridor's linking the TEC and Canning River Regional Park to other key environmental assets.

11.3 Spatial Framework

Activities have been located in an incremental, ad hoc or opportunistic matter which results in the centre having no semblance of connection between activities. At best the centre can be typified by the spatial dislocation of activities which create minimal beneficial effects of being located within proximity to each other. This limits the activity potential of the centre due to the inability of people using it to undertake multipurpose visits, a vital aspect of successful activity centres.

The new spatial framework proposes creating a logical structure and spatial relationships which exploit the benefit of co-location. This will be achieved through the development of two nodes, the Train Station and Cecil Square, of intense and diverse activity which will be the 'stepping stones between the station and the river' (see Figure 11.1).

The existing spaces between buildings will need to be bridged by integrated urban form which will wrap around the anchor activities to create an urbanisation economy, bringing meaning and purpose to the place.

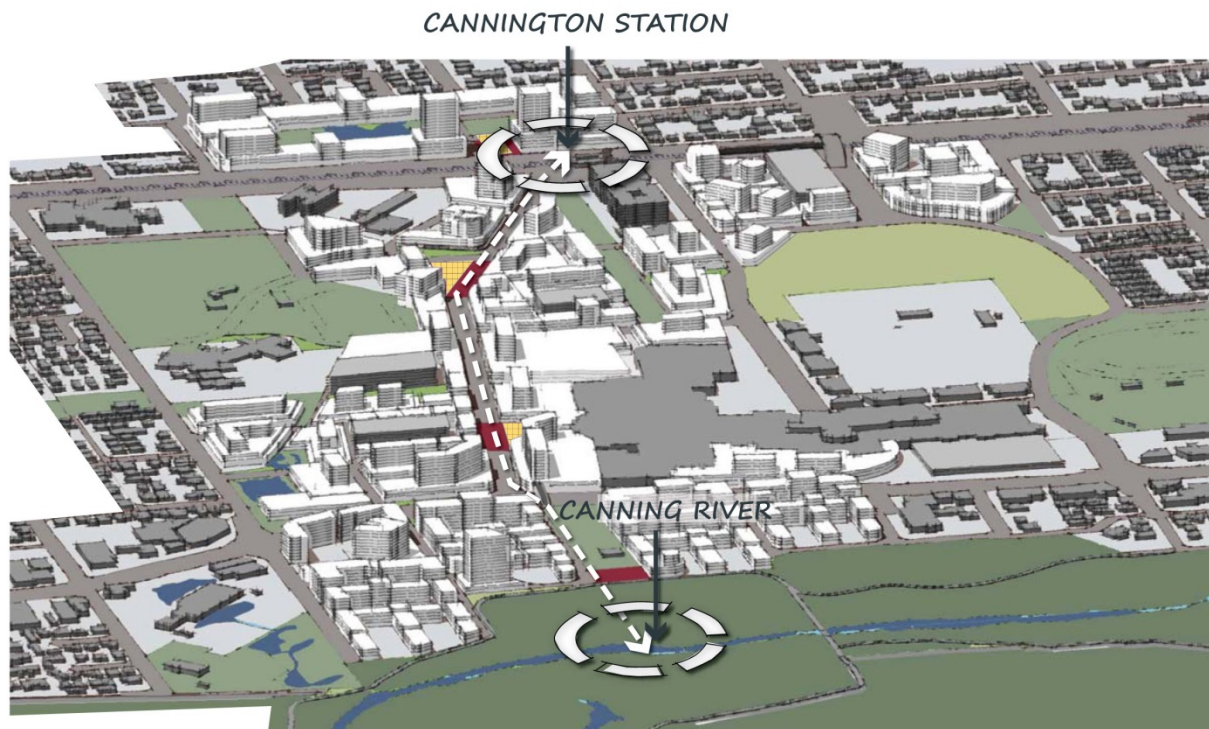


Figure 11.1: CCC Indicative Future Development - 'Connecting' Cannington Station to Canning River

11.4 Precincts

The CCC is defined by 12 precincts (Figure 4 in Part 1). Precinct-specific development requirements have been established for:

- The distribution of land uses and residential density;
- Building types, form, scale and placement;
- The design and composition of movement networks; and
- The design and composition of parks and civic spaces.

The boundaries of the precincts are defined by opportunities and constraints and to ensure seamless transition between the intense development along Cecil Avenue to the edges of the Activity Centre Plan area, bounded by predominantly lower density residential development. Development controls for each precinct are detailed later in this Part of the Activity Centre Plan to guide development.

Each precinct's character and activity is intended to support the following principles:

- Security of safety and wellbeing for all
- Accessibility, connection, vibrancy and support for positive activity
- Captivating, fun and attractive built form
- Comfort, interest and engaging urban form

- Adaptability, flexibility and resilience within the built and urban form
- Respect for heritage and the environment

11.4.1 Cecil Avenue Main and Other

The CCC Activity Centre Plan proposes 'Cecil Avenue Main' and 'Cecil Avenue Other' precincts along Cecil Avenue. While Westfield Carousel Shopping Centre forms the focus of existing activity, the new Cecil Avenue Main will be formed along the Cecil Avenue to create a 'main street' connecting to the Cannington Railway Station. The urban structure and character of the 'Main' and the 'Other' areas will differ with a greater intensity of activity and built form anticipated in the core area.

Cecil Avenue Main

The Cecil Avenue Main will be an urban environment characterised by a wide range of intense and diverse activities in close proximity. Retail and commercial uses that contribute to an evening life and provide active street frontages will be located at ground level with predominately residential and/or office above. Taller residential buildings fronting the street with the higher elements setback to provide solar access and appropriate street scale are expected for these precincts. A four storey street wall will be required with upper levels set back to reduce visual bulk on the streetscape and to maximise sunlight on the street.

Generous ground level floor to floor height and continuous awnings are envisaged along the Cecil Avenue frontage. This will engender an elegant city scale in response to the adjacent Carousel buildings and enable adaptation to a range of uses.

The land use for this precinct predominantly retail ground floor with mixed uses above. Development in this precinct will be intense to support a main street function in these two key locations. The future buildings will support alfresco dining and other entertainment uses as well as high density retail and residential development.

Cecil Avenue Other

Adjacent to the intensely developed 'Main' area will be the 'Cecil Avenue Other' area which enable a variety of ground floor uses to be accommodated with upper floor residential, commercial and office uses. Over time Council will need to review the status of this area in consideration of market demand for development in the Main and the overall maturity of the centre to ensure adequate supply of residential, office and retail space.

This precinct allows for residential on the ground floor but is also flexible enough to accommodate activated uses as Cecil Avenue transitions to a main street.

11.4.2 Pattie Street Precinct

Pattie Street Precinct focuses on mixed use development and will provide flexibility for a variety of activities and uses to take shape. It will feature high quality, attractive built form that is capable of adaptation to meet changing needs. Offices, residential uses and other appropriate commercial activity will enhance the liveliness of the Precinct, connected through a series of urban streams and green corridors.

The precinct will consist predominately of office/commercial with some community and food and beverage uses which along with Cecil Avenue will be a counterpoint to the retail activity within Carousel. This diversity of activity will re-balance the centre as it evolves into a mature city centre.

The ideal built form for this area will be flexible warehouse or loft style buildings robust structures that have the potential to accommodate a range of land uses over time, adaptable to the changing needs of the CCC community.

This precinct will be mixed use with ground and upper floor retail, office or residential uses allowed. This will enable this precinct to offer a range of opportunities for office development with small pockets of retail and residential.

11.4.3 Retail Precinct

The retail precinct is naturally located at Carousel Shopping Centre and will develop in the future in accordance with a Local Development Plan. It is envisaged that the shopping centre will expand north towards Cecil Avenue and will improve cross-site pedestrian movement from the centre across Cecil Avenue, increasing street activation and contributing to the success and vibrancy of the 'main street environment.

Buildings will form a minimum height of 12m (4 storeys) with taller buildings fronting Cecil Avenue. The shopping centre will have improved pedestrian connections and sleeved active frontages on Cecil Avenue and Carousel Road. The Albany Highway and Liege Street frontages will have an enhanced sense of arrival and address with artistic frontages to support high quality architectural built form.

Uses for this precinct will largely be retail and/or support retail uses. The shopping centre will have improved pedestrian and cycling connections and sleeved active frontages on Cecil Avenue and Carousel Road.

11.4.4 Railway Precinct

It will be a predominantly a residential precinct with the intent of providing a range of housing, designed for people who choose to live in a lively urban environment close to amenity and transport. It is intended to optimise the number of apartments developed around the train line within a walkable distance of the railway station, to maximise the dwellings within the city centre which have a high level of local amenity and activity.

A new land mark station building will improve east-west connections across the train line and act as the gateway and entry statement to this new centre. The building will be unique but still reflect the character of the centre and will be activated at ground level.

Buildings fronting Railway Parade will form a continuous 12m (4 storeys) high frontage with taller elements set back behind. Awnings and shade trees will shelter pedestrians as they pass apartment entrances and businesses on their way home or to work in the city centre and beyond.

Although largely a residential precinct, the Railway Precinct will include mixed-use, office, food and beverage, POS and small convenience retail. A variety of small restaurants, cafes and entertainment is also accommodated to support activation of the station.

When the Cannington Train station is redeveloped, a station forecourt will be redeveloped as a Square with a user friendly interchange between various nodes of transport to offer various public transport options to connect the City Centre with the region. In itself, Cannington Station will become a landmark building, providing visual clues and wayfinding abilities and in turn, enabling all to navigate safely to and from the station and through the City Centre.

11.4.5 City Residential Precinct

This predominantly residential precinct will provide a range of housing, designed for people who choose to live in a lively urban environment close to amenity and transport. It is intended to optimise the number of apartments developed around the train line within a walkable distance of the railway station and to maximise the number of dwellings within the CCC which have a high level of local amenity and activity.

Larger blocks will be subdivided into blocks approximately 100m by 100m or less, the desirable built form will be perimeter block with public fronts and private courtyards.

The City Residential Precinct will exude high quality architecturally designed residential development. It will be the premier residential offer in the CCC, offering a range of dwelling types and options for those wishing to live, work and play in the City. Surrounded by natural assets such as the TEC and recreational facilities such as Coker Park and the Cannington Leisureplex, options for active living will be greater in the City Residential Precinct. Opportunities for home based businesses are also greater in this Precinct, being in close proximity to high frequency public transport and direct connections to the Perth CBD, Curtin University and Perth Airport.

This precinct is focussed on high density and high quality residential development. Ground floor uses may include residential, retail or office, however, this will be at the discretion of the landowner.

11.4.6 Riverside Commercial Precinct

This precinct will continue to function as a highway commercial environment with vehicle based trading and showroom type buildings. Office accommodation will be provided on upper floors of this precinct to take advantage of the access and public transport opportunities provided by Albany Highway. The precinct is 'interrupted' by the Riverside Residential Precinct to the south which supports residential development close to the Canning River Regional Park.

Over time, transitions from single-storey large format showroom type buildings to mixed use multi-storey development is expected to maximise yields and returns from highly valuable land. The future desired character for the Riverside Commercial Precinct will be defined by finer grained commercial development, designed by architects with a flair for innovative design and high quality finishes. Offices above ground floor commercial will feature in strategic locations, designed to support a booming entrepreneurial spirit in the CCC and take advantage of its close proximity to Curtin University, Welshpool and the International and domestic airports.

The streetscape fronting Albany Highway is to work together as a visually cohesive edge that advertises the City Centre. As such new built form is to differentiate itself from conventional highway retail found to the east and west of the city centre through finer grained commercial development that is of high quality. Architecturally designed commercial and office development is required.

The precinct will consist primarily of commercial uses with office uses above the ground floor. Existing residential in this precinct is a non-conforming use and will not be permitted in the future.

Vehicle access from Albany Highway will comply with the City of Canning Albany Highway Policy, unless variations are sought after and approved by Main Roads WA and the Local Authority.

11.4.7 Riverside Residential Precinct

This precinct will 'connect' the new Centre across Albany Highway to Canning River. It will be predominantly residential development with variations to built form to ensure optimal, compatible and desirable development. This is to support the existing form of development and to avoid undue impact on existing residents.

The Riverside Precinct responds to its proximity to Canning River and associated biodiversity rich conservation landscape. In response, built forms will be required to accommodate larger areas of on-plot open space. Front setbacks will encourage planted privacy strips and to add to the green amenity that prevails in the precinct. A greater deep rooted planting area will encourage mature trees as a transition between Canning River Regional Park and the more urban environment along Cecil Avenue.

Buildings will be of varying heights and step down toward the river parklands. Improved pedestrian and cycle links across Albany Highway will be essential to enable integration of the Riverside Residential Precinct into the main developments within the City Centre and beyond. This may be in the form of a pedestrian bridge which could also act as a signifying element in the city landscape announcing arrival at the City Centre and/or through improved pedestrian links via signalised intersections. Pedestrians and cyclists will have the opportunity to move from the southern end of Cecil Avenue, over the bridge and along a linear open space which will lead them from the highway down to the river.

The precinct will consist largely of higher density residential and in parts, integrated mixed use at ground level with some associated food and leisure activities, where demand supports such uses. This variation in uses is to ensure compatible development with the existing residential built form.

11.4.8 Civic and Educational Precinct

The Civic and Educational Precinct protects the rich community assets of Coker Park, Cannington Leisureplex and educational facilities of Sevenoaks College and Cannington Community College. These facilities provide a range of important open spaces, recreational and educational opportunities within the CCC and more broadly and are critical to the success in creating a City for all.

The education and community areas of the Civic and Educational Precinct will continue to be characterised by campus style buildings set in landscape with building heights up to 3 storeys. Active recreational uses will be enhanced through the addition of passive recreation opportunities to support all to participate in exercise and physical activity.

Amenity through urban streams and landscaped improvements with enhanced access and permeability through a grid-like network of lanes and paths will make this Precinct a premier attraction location for physical activity. In particular, better connections linking Wharf Street to Cecil Avenue are important in this precinct to enhance legibility and will be provided through extensions of Lake Street and Carousel Road when the need arises.

The precinct will predominantly consist of Civic, Community, Health, Recreation and Educational uses with the exception of a small parcel of land to the north-east of the precinct which is considered suitable for mixed-use development.

11.4.9 Civic and Recreational Precinct

The Civic and Recreational Precinct celebrates the variety of community uses and activities that have a long history and connection to Cannington and beyond. The activities and uses held in this precinct will not compete with the remaining parts of the CCC.

The Precinct is intended to act as an attractor activity and provide diversity and entertainment functions for the City Centre as it has done so in the past. It will embody not only aspects of its past but also its future in an integrated and engaging manner. Recreational activities will be complemented with community uses and linked to residential, office and commercial developments within and adjacent to the Precinct. In total, the broad range of uses will attract people to stay, linger and enjoy the opportunities present. Connection to activities and facilities will be supported through an internal network of paths and lanes linked to the broader movement network within the CCC.

This precinct is historically associated with community purposes and recreational activities. The permitted uses will be civic and recreational in nature with residential, office and commercial uses supported at the discretion of Council. The final configuration of uses and their location, however, is subject to an approved Local Development Plan by the Local Authority.

11.4.10 Regional Reserve and Conservation Precinct

Much of the Canning River parkland is in a pristine condition and is to be conserved through subtle access control such as paths, low-key fences and boardwalks. Areas of passive recreation will be restricted to some key areas that are degraded. Similarly for the TEC, this precinct is to be retained as conservation and is not suitable for any additional uses or development.

The Regional Reserve and TEC will be celebrated in the CCC. They will feature as important environmental assets and will be made accessible through sensitive planning and location of paths, low-key fences and boardwalks. In making these truly unique assets accessible and available to enjoy, it is anticipated that they will be protected by all for generations to come. Conservation and education programs will be delivered to support this vision.

No development (other than for the purposes of enhancing these assets) will be allowed. Structures such as viewing platforms, walkways may be supported with approval from the relevant authorities.

11.4.11 Utilities Precinct

The Cannington Terminal Substation and associated powerlines form a significant part of the electricity network for the South West Interconnected Network. From this substation, electricity is provided for the south eastern corridor of the metropolitan area (bordered by the Swan and Canning Rivers) and extends east from the CBD to Mundaring via a network of substations connected in the 132 kV and 66 kV sub-transmission networks.

The Utilities Precinct will become a demonstration facility, showcasing innovative methods for reducing visual impact on neighbouring properties from large Terminal Substations. This acknowledges the high costs involved in relocation and as such, any plans for improvements and/or expansion will be required to incorporate screening and other methods to reduce visual impacts on neighbouring properties.

Similarly, all future line entries to the Western Power Terminal Substation will be required to be undergrounded, at the expense of the utility provider and owner of the network.

Rather than have development turn its back on the site due to its visual presence, Western Power will be encouraged to explore innovative methods for reducing the visual impact of the Terminal Substation and line entries to support the creation of the CCC. The Cannington Terminal Substation will become an exemplar demonstration in the reduction of visual impacts through innovative practice.

Western Power currently own and operate the Terminal Substation and will continue to do so in the near future. Activities related to utilities will only be allowed in this Precinct.

The substation does not occupy the entire lot. There is opportunity for future buildings facing the street. However, future development is subject to a buffer requested by Western Power and its approval is required to all future developments within the buffer.

11.5 Built Form

11.5.1 Overarching building design objectives

The overarching building design objectives include:

- Design excellence in all buildings, providing lasting outcomes for future generations.
- Individuality in buildings by only defining key design requirements for a site. This will provide for distinctiveness and interest whilst maintaining consistent design philosophies.
- All lower level building facades will require a high level of fine grain articulation and detail to provide the necessary richness and sense of place for the CCC.
- The built form compactness and appearance will vary between the development core (Cecil Avenue Main and Other) and edge precincts where it meets a primarily residential area. This may result in a more solid appearance to the core and a lower scale response at the edges of the CCC.

- Increase dwelling density and diversity throughout the City Centre (a minimum target of 40 dwellings per net hectare within Riverside Precinct and more than 70 dwellings per net hectare for the remaining Precincts).
- Reinforce a complementary mix of land use activities and encourage and facilitate innovation and excellence in urban design.
- Reduced building setbacks (including zero lot lines in several precincts), combined with zero side setbacks will create an urban perimeter block built form throughout much of the area to create an urban character of well-defined streets.
- Increased perception of safety by ensuring all buildings maximise surveillance opportunities of streets and open spaces.
- Ensure pedestrian comfort in all streets and public spaces is essential to the success of the City Centre. This is critically important along key pedestrian routes, commercial frontage along Cecil Avenue must offer protection from wind and rain in the form of verandas, awnings and canopies.

11.5.2 Building Configuration and Typologies

Site coverage of existing buildings is currently low. This Activity Centre Plan aims to improve the utilisation of the available land to maximise the potential capacity of the activity centre. It also aims to create avenues of trees and adequate provision of open space to provide for recreational opportunities and address the urban heat island effect.

In order to facilitate these objectives, new development within the Activity Centre Plan will therefore have a maximum site coverage of 80% of the total area of the allotment. Plot ratios have been applied to ensure suitable and desirable development with minimum plot ratio's varying from 1.5m² of floor space to every 1m² of land to of 2m² of floor space to every 1m² of land (2:1). The remaining 20% of the total area of allotment is to be allocated to a mix of landscaped green private and/or POS as well as deep rooted vegetation zones. Land for access and parking is calculated within the 80% site coverage allocation. Part 1 provides more specific guidance for each of the Precincts.

The existing building types are predominantly large format, "big box" retail based. These are generally inward looking or provide little activation to the street. They are also often surrounded by vast areas of car parking separating them from the street edge.

The Activity Centre Plan intends to remedy this domination of big box types, introducing a finer grain to the urban fabric and a more intense street interface which is akin to an activity centre. Many new typologies will be employed over the life of this Activity Centre Plan however the general principles of the below shall be applied to new developments as appropriate.

11.5.3 Solar Access

The design requirements of Part 1 aim to maximise solar access to all residential dwellings and the public realm to ensure a high level of amenity for these areas and ensure apartments have maximum opportunity to warm and cool through controlled solar access through building design.

11.5.4 Podium

The podium form of development (Figure 11.2) will be encouraged to allow taller buildings to fit within the urban context without becoming physically imposing to the street. This allows a good street interface and opportunities for rooftop activation. The podium typology should be employed in landmark locations where higher buildings are desired.

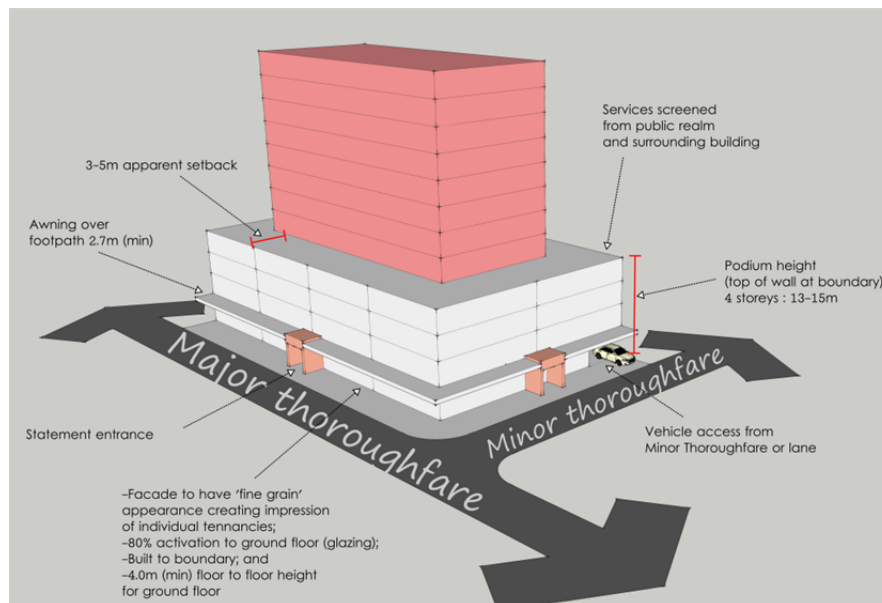


Figure 11.2: Podium Building Typology

11.5.5 Perimeter

Perimeter type development requires many of the same controls as podium development however it allows the building to occur at a smaller scale while achieving the desired intensity standards. This is suitable for midrise development.

11.5.6 Setbacks

Much of the existing built form is substantially setback from the street. Indeed previous policies for the CCC have required this. In order to achieve the desired urban and built form, setbacks will be set at a maximum distance not a minimum distance.

Within the Cecil Avenue Precincts, buildings will be required to span the full width of the allotment requiring the building to be built to the boundary. Exemptions will be considered where access roads and other public infrastructure have been identified in the Activity Centre Plan or an approved LDP supports variation in the building spans and setbacks. Exemptions will also be considered if the ground floor uses are residential and a setback is desired for CPTED or other amenity purposes.

In other Precincts, buildings are not required to be built to boundary but must be setback a sufficient distance to provide functional use of space such as a pedestrian access way (1.5m) or a vehicle access way (2.7m + landscaping).

11.5.7 Building Heights

The CCC requires greater sense of enclosure to the street and provide for overlooking of the public realm (for safety). Higher building forms are encouraged, particularly in landmark locations. Heights within the Cecil Avenue Main Precinct will be required to have a minimum height of 6 storeys.

Height minimums and maximums have also been established in the other Precincts to compliment the Cecil Avenue Main Precincts. Building height bonuses are offered for developments meeting sustainability measures and performance targets.

11.5.8 Building Staging in the Core

In order to allow an intense form to occur, but not to inhibit future development of a particular allotment, building staging is an acceptable means to delivering desired intensity of the Activity Centre Plan. This allows developers to respond effectively to the current market but enshrines the future development of the allotment. Two methods for this have been considered:

- Ground Level Build Out: this allows the first stage of development to build out the lower levels of the building with the structure being designed to support further development at a later date.
- Frontage Build Out: this allows the developer to leave the rear of the allotment to a later date when market forces support further development providing that the front of the lot is fully built out.

These mechanisms can be applied if:

- The governance structure of the body corporate is setup in a way which will allow and encourage future development to occur
- Working drawings for the ultimate design of the building are lodged with Council
- There is a minimum uptake of half of the dwelling target required
- The building is constructed to structurally support the additional development

11.5.9 Adaptability

Over time, buildings often change their function and readapt to market forces. However adaption is sometimes inhibited by the form of the building and the practicality of the original architectural design. The long term ambition of the Activity Centre Plan is to provide vast areas of activated main street however this is unlikely to be achieved in the short term. Therefore, all buildings in the Core designated with activated ground floor spaces must be designed with 4.0m ceiling heights to the ground floor to allow for retail type uses to be a viable use in the future.

11.5.10 Activation and Street Interface – Streetscape character, frontages, cohesion with adjacent buildings

The area generally has poor passive surveillance and has few active edges. To facilitate a safe CCC, the form of the existing and new buildings will need to reflect a more urban character with primary and active frontages. Further, a range of frontages are necessary to support diversity in form and function throughout the CCC. In this regard, primary frontages have been designated for areas

where high levels of activation are required. Secondary frontages supplement primary frontages but afford greater variation in ground floor uses and greater access (vehicle).

Each building is to align to the street to ensure a strong urban streetscape and associated benefits such as overlooking of the public realm (CPTED).

Frontage requirements in Part 1, such as uses and glazing, are determined as per the activation of each land use.

11.5.11 Public art

Public art is a valuable contribution to the CCC. The objectives for public art are to:

- foster a sense of place and enhance public enjoyment, engagement and understanding of places through the integration of high quality public art that responds to the context of its location;
- enhance the appearance, character and value of places through the inclusion of high quality public art and to encourage animated and lively public spaces; and
- establish best practice in the commissioning of public art in the development process.

All public art must make reference to relevant site-related ecological or cultural themes or themes which represent the future with respect to the vision of the CCC. Themes supported by the City include:

- Modern, contemporary, innovative design and thought
- Play, active and engaging forms and spaces
- Aboriginal history, stories and language recognised and featured
- Celebration of the unique water and environment features of the CCC

11.6 Public Open Space (POS)

11.6.1 Objectives

CCC's rail to river connection is currently framed by large areas of car parking and two significant traffic corridors, Albany Highway and the railway. To reconnect the area a series of integrated public open spaces are defined and allocated across the centre, based on developing a pedestrian oriented environment and a physical environment conducive for physical activity.

In defining the requirements for open space within the CCC, the following objectives were taken into consideration:

- Plan an integrated network of open space which supports the needs of the residents, visitors and workers throughout the CCC.
- Provide a network of safe, convenient cycling and pedestrian access routes throughout the CCC that are linked to opportunities for physical activity.
- Support for initiatives which reduce the urban heat island effect including water sensitive urban design throughout the CCC, tree-lined streets for shade and weather protection and places for respite.



Figure 11.3: Current Public Open Space Deficit Areas



Figure 11.4: New Activity Centre Plan POS Deficit Areas

11.6.2 POS functionality

This Activity Centre Plan will result in intensification of the urban area mainly along the main street, Cecil Avenue. While this process will increase accommodation for residential and business activity it will also reduce open space within the Activity Centre Plan area. To provide for the expanded population it will be necessary to get more out of the remaining POS. POS will need to be highly accessible and maintained to a higher level than is typical elsewhere in the municipal area.

The Government of Western Australia (2014) Public Parkland Planning and Design Guide WA (Department of Sport and Recreation) describes the various functional roles parks play including:

- Sport and recreation: providing for a range of formal (organised sport and structured activity) and informal (exercise, play and socialising) recreation activities.
- Culture and heritage: preserving places with significant heritage or cultural connections (both colonial and Aboriginal).
- Environmental conservation: protecting wildlife habitat and maintaining ecological linkages.
- Landscape and buffer zones: enhancing the visual appeal of urban landscapes, providing green buffers and softening of the built environment.
- Physical linkages: linking larger areas of open space, natural features and community facilities through walkable corridors and greenways.
- Environmental quality: ameliorating the impact of urban heat island effect and improving air quality.
- Water quality: filtering stormwater and run-off and providing buffer zones for watercourses and wetlands.

Within the Classification Framework for POS (2012), the Government of Western Australia defines the three primary functions of open space as:

- Recreation space:

Provides a setting for informal play and physical activity, relaxation and social interaction. This includes open parkland and gardens, community gardens, corridor links, amenity spaces, community use facilities, civic commons or squares.
- Sport space

Provides a setting for formal structured sporting activities. This includes playing surfaces, buffer zones and supporting infrastructure such as clubrooms.
- Nature space

Provides a setting where people can enjoy nearby nature. This includes sites managed to encourage recreational access while protecting local ecological and biodiversity values. In addition nature space can also provide 'ecosystem services' such as mitigating Urban Heat Island (UHI) effect (using the cooling benefits of plants – to reduce the heat load in hot urban areas of high thermal mass such as the future CCC) and accommodating Water Sensitive Urban

Design (WSUD) measures (e.g. stormwater basins/urban streams important for areas with a low water table such as CCC).

Given the difficulty of land ownership and the need for highly accessible POS within the highly urban CCC, accessibility requirements for the provision of POS within the areas are higher than the broader city area.

The regeneration is well served by POS. This plan envisions celebration and enhancement of existing POS as all as implementation of urban streams that will connect existing open spaces.



Figure 11.5: Current and Indicative New Public Open Space

Table 11.1: Calculations - Current and Indicative New Public Open Space

ID	Area	POS Type
1	7.16	Public Open Space
2	0.24	Public Open Space - Indicative (New)
3	0.5	Public Open Space - Indicative (New)
4	0.12	Public Open Space - Indicative (New)
5	1.02	Public Open Space - Indicative (New)
6	0.11	Public Open Space - Indicative (New)
7	0.1	Public Open Space - Indicative (New)
8	0.61	Public Open Space - Indicative (New)
9	0.73	Public Open Space - Indicative (New)
10	1.13	Public Open Space - Indicative (New)
11	0.55	Public Open Space - Indicative (New)
12	0.05	Public Open Space - Indicative (New)
13	0.07	Public Open Space - Indicative (New)
14	0.22	Public Open Space - Indicative (New)
15	6.14	Regional Open Space
16	0.05	Regional Open Space
17	0.17	Regional Open Space
18	0.23	Public Open Space - Indicative (New)
19	0.06	Public Open Space - Indicative (New)
20	0.15	Cecil Square
Total	19.41	

Table 11.2: Three broad typologies of POS identified to achieve the POS framework.

REGIONAL	LOCAL	CENTRAL CORE
<ul style="list-style-type: none"> • Canning River Corridor • Regional Open Space • Threatened Ecological Community (TEC) • Regional Major Traffic Corridor 	<ul style="list-style-type: none"> • Active Recreational Spaces • Linear & Pocket parks • Youth Spaces • Community Gardens • Stormwater Basins & Rain Gardens 	<ul style="list-style-type: none"> • Civic Squares • Alfresco • Markets • Urban streams

Each typology hosts its own functions and therefore its own identity. Within the broader POS typologies exists sub-typologies covering the different types of spaces located within each. Together, these form the open space framework. This framework identifies streets as places and allocates a streetscape typology to each in order to better connect the CCC and form an integrated landscape which helps to reinstate the river to rail connection.

A Public Realm Style Guide was prepared in conjunction with this Activity Centre Plan which identifies how these spaces might be used and provides a guide as to how this will be achieved. (Reference: CCC Public Realm Style Guide, Blackwell & Associates 2012).

11.6.3 Squares

The Structure Plan adopted as a Local Planning Policy in 2013 proposed three public squares: Station Square (abutting Cannington Train Station), Market Square (half way between the train station and Albany Highway) and Cecil Square, near Carousel Shopping Centre food court.

Since 2013 when the Structure Plan was adopted as a Local Planning Policy, a number of development applications have been approved. While liaising with developers during the preparation of the present Activity Centre Plan, Cecil Square has been relocated to half way between the train station and Albany Highway. Thus, the need for Market Square has been diminished. Furthermore, in the process of developing the City's land near the train station, the opportunity of providing a public space near the station and the future urban stream has arisen. Users that will get to the area by train could easily walk through the public space and the urban stream to get to the centre of Cecil Main Precinct.

Cecil Square

Cecil Square will be the focus of entertainment and festival activity for the area and surrounding region. Hinged off the anchor land use, Carousel, the square will provide space for formal and informal events, passive recreation and will support hospitality related activities and alfresco dining. There will be a Bus Rapid Transit / Light Rail Transit stop adjacent to the square on Cecil Avenue. The square will be wrapped by entertainment retail with a strong connection to the retail within Carousel as well as the main street along Cecil Avenue.

11.7 Residential

11.7.1 Population and Dwellings

There are currently 1,530 dwellings within the study area of CCC and an approximate population of 4,600. This equates to a density of 4.6 dwellings per gross hectare. This represents significant under development of the area. However, the availability of underutilised land enables substantial and high quality redevelopment opportunities to increase the residential dwelling numbers to the estimated range of 7,500 to 10,000 dwellings (depending on the market and development patterns achieved) based on a minimum density more than 35 dwellings per hectare for the entire area.

This is well and truly above the figures outlined in Directions 2031. Under Directions 2031, approximately 37% of the expected population increase would be accommodated within the Central Metropolitan Area which CCC is situated. The policy states that there is a requirement for 121,000 new infill dwellings in the Central Metropolitan Area and that there is to be 1,700 new dwellings specifically within CCC. This results in the area achieving a mere 9.7 dwellings per gross hectare which does not effectively change the diversity mix of the centre.

Further, SPP4.2 requires a minimum of 30 dwellings per hectare and a desirable 45 dwellings per hectare. This is based on areas such as Metropolitan Region Scheme Public Purposes, Transport Corridors and POS, etc being removed from the calculation of the overall area of the centre. However, preliminary analysis indicates that this density is too low and may result in significant underdevelopment within the CCC. The minimum density required by this plan would result in a

dwelling target of between 7,500 and 10,000 dwellings whilst enabling an attractive built form and public realm.

In summary, the CCC can adequately meet the targets set by the State Government and in most cases, exceed them without impacting on the quality and form of the urban development.

11.7.2 Residential Drivers

The CCC area is very particular. It is not comparable to the areas that surround it. The area consists of a large amount of vacant land surrounded by bulky goods, a shopping centre and some barriers (the River, the railway and Albany Highway). There is a lack of residence in the area. This gap would be key to activate retail on a main street.

The key is diversity of dwelling sizes.

The relationship between the future demographic profile of CCC and house type is intended to support the creation of a family friendly City with provision of dwellings also suited for students and workers due to the proximity to Curtin University and access to the Perth CBD via train.

It is acknowledged that housing transitions (upshifting and downshifting) are driven by:

- Consumption (desire to occupy a better dwelling or live in a better neighbourhood)
- Relationship formation/dissolution
- Birth of children
- Aging

Affordability is the biggest barrier to entry to home purchase (21st Century Housing Careers and Australia's Future, AHURI 2009). Therefore it is envisaged that a large proportion of the development within the centre will be geared towards student accommodation, singles and couples households with a reasonable number of development catering for families.

In order to establish residential development as a viable proposition to the market, significant investment will be required in public realm amenity and provision of entertainment choices to help create CCC as an attractive place to live. This will take time and as such, opportunities for temporary and easy forms of place activation initiatives will be supported.

11.7.3 Potential Market Segments – Dwelling Types

There are a range of demographic profiles which will be particularly suited to the location of the activity centre. In particular these are:

- Single and Young Couples – good access to the Perth CBD, Bentley Technology Park, Welshpool and Canning Vale Industrial areas and Westfield Carousel without a premium price for land;
- Empty Nesters – older people who want to age in place and be close to younger generations of their family who live within the surrounding suburbs;
- “Fly In Fly Out” (FIFO) workers – good proximity to the airport;
- Students – good proximity to Curtin University with high frequency bus transport options;
- Families wishing to live in the area but not require substantial maintenance burdens associated with traditional housing options; and

- Those wishing to be part of a future new city.

These demographic profiles trend towards 1 and 2 bedroom households which can be accommodated in apartment type living arrangements located within the Core of the activity centre. This change in household structure means that the area is likely to have a lower number of occupants per household (in the order of 1.9) in comparison to surrounding suburbs.

Targets have been set for developments to achieve a minimum number of dwellings per type. It is expected that each multi-storey development will include a mix of 1, 2 and 3 bedroom dwellings to cater for the changing population and their needs.

12 Movement Network

12.1 Objectives

Cities which are safe, permeable and accessible become attractive Cities for all. To plan for the movement network within the CCC, the City targeted the following objectives:

- Plan an integrated transport system for the area based on mixed use development that maximizes accessibility by all modes.
- Provide a network of safe, convenient cycling and pedestrian access routes throughout the CCC.
- Plan an ultimate level of car parking for the area that is compatible with improved capacity of the road network within and around the area.
- Develop an easy to comprehend network of public transport routes that links the train station with the different precincts and with the surrounding centres and neighbourhoods.
- Provide a legible, connected, low speed network of streets within the area to provide multiple access options for motorists to car parking.
- All developments must limit car usage and ensure car parking and infrastructure has a minimal impact on the CCC amenity.
- Encourage a transport mode shift from private car use through the provision of a street network and facilities that promote public and active transport such as walking and cycling.
- Develop a parking approach that reduces automobile dependence within the CCC and frees up land for development and green space.

12.2 Background

The CCC enjoys a high level of access by various modes of transport. **Private car access** is very good due to the proximity of Albany Highway and Sevenoaks Street, both major through movement routes. **Bus access** is also good with 19 services passing through or terminating within the CCC, at a high frequency during peak times. **Rail access** is via the Perth-Armadale line and service is reliable and frequent, especially in peak times. Cannington Station is located within the CCC and both Beckenham and Queens Park Stations directly adjacent. In terms of the prescribed 400 metre catchment for bus stations and 800 metre catchment for train stations, CCC has a 70% public transport coverage.

To create a better understanding on the movement patterns and associated issues as well as associated strategies to change modal share, the draft Movement Strategy (2013) was updated with modelling to prepare the Movement, Access and Parking Strategy (draft 2015). The draft Movement, Access and Parking Strategy (2015) for the CCC supports the Integrated Transport Strategy (ITS, 2015) for the City of Canning. The ITS for the City of Canning has been prepared to identify a range of interrelated transport strategies to assist the City in managing the sustained urban growth and maintaining the community's high quality of life. A multi-criteria assessment (MCA) exercise was undertaken with the Transport Portfolio and other key agencies, as part of the development of the ITS. The purpose of the MCA exercise was to assess the potential scenarios for each ITS theme and prioritise recommendations for improvements including for the CCC.

12.3 Current Movement Context

The CCC is well served by regional connector roads, train and bus services, which provide convenient access to locations throughout the Perth Metropolitan region. It is strategically located near Manning Road, Leach Highway and Albany Highway, adjacent to the South-East Train Line route (Armadale and Thornlie Line) and is also part of the Perth Bicycle Network.

Due to the strategic nature of the area, it attracts a considerable level of movement through the site. Overall, while car access is excellent and public transport access is fairly good, cycling and walking access is comparatively very limited. The existing mode imbalance in CCC will be a significant barrier to the general movement system and will require significant initiatives to change. Currently, the mode share is heavily dominated by vehicle movements and in part, creates barriers for safe access and movement within and across the CCC.

12.3.1 Regional Context

Public Transport

The CCC is serviced by the Armadale railway line which links the south-east of the Perth metropolitan area with the Perth CBD. The main activity centres on the line include Armadale, Cannington, Perth and to a lesser extent Burswood. Rail access is reasonably good with the Cannington Station located within the area precinct and both Beckenham and Queens Park Stations directly adjacent. Train services along this line tend to be reliable and frequent, especially in the busier peak times.

Bus access is also good with 19 services passing through or terminating within the area, at a high frequency of roughly a bus/minute during peak times and on average every 5 minutes throughout week days. On weekends services are slightly less frequent at 10 to 15 minute headways.

In general, the public transport services within the CCC operate at a combined high frequency of 60 services per hour during the weekday peak periods, reduced to 49 services per hour during the weekday off-peak period and 28 services per hour on a Saturday.

Whilst bus frequencies and patronage figures are quite good during weekdays, frequencies drop considerably on weekends. This drop in service is subsequently reflected in the reduced weekend patronage.

Notwithstanding, in terms of the prescribed 400m catchment for bus stops and 800m catchment for train stations, the CCC enjoys over 70% public transport coverage.

Private Vehicles

Private vehicle access and mobility in the area in and around the CCC is of a high standard, to the extent that it is threatening the future vibrancy of the area due to increasing levels of congestion. The main thoroughfares directly applicable to the CCC include Albany Highway to the south of the CCC, which is a main link between the Perth CBD and the south-eastern side of the metropolitan area. Albany Highway carries vehicle volumes in excess of 60,000 vehicles per day and its width creates a significant barrier to movement across the CCC. The other main thoroughfare is Sevenoaks Street, which runs parallel to Albany Highway to the north of the CCC. Sevenoaks Street abuts the Armadale railway line and together act as another barrier to movement across the CCC.

While north-west/south-east movement is made easy by the Albany Highway and Sevenoaks Street, the north-east/south-west movement is somewhat difficult due to limited river crossings to the south-west and limited railway line crossings to the north-east.

Cycling

The cycling network consists mainly of the Perth Bike Network (PBN) route running along the railway line, the shared path adjacent to the river and the shared path along Albany Highway. The limited local connectivity to this network makes it mainly appropriate for use by longer distance commuter cyclists that pass through the area. However, recreational cyclists access the area primarily on shared paths along Albany Highway.

12.3.2 Local Networks

Private Vehicles

Many of the roads within the study area are already at capacity or fast approaching it. Complaints are raised regarding the congestion, especially along Albany Highway, and on any given Saturday significant queues develop as vehicles attempt to access Carousel Shopping Centre. It is acknowledged that the high volumes of traffic and significant congestion are major threats to the regeneration and redevelopment of the area.

The main route through the area, which follows a north-east/south-west alignment between the Albany Highway and Sevenoaks Street is Cecil Avenue. Cecil Avenue is supported by parallel streets including Wharf Street to the north-west and Liege/Grose Street and Station Street to the south-east.

Cycling

Cycling is currently not an attractive transport mode in the CCC, primarily due to poor connectivity to surrounding residential areas, most notably north-east of the railway line and south-west of the river. The general width of Albany Highway and long traffic signal cycle times, which provide priority to traffic along Albany Highway also inhibits cycling mobility. The car-dominated environment with

limited dedicated cycling infrastructure and facilities also significantly decreases the attractiveness of the mode. Cyclists compete with others for access.

Although the Perth Bicycle Network (PBN) routes are located along the Armadale rail line and there are paths along Albany Highway, Wharf Street, Grose Avenue and Liege Street, cycling access is limited. Connectivity to the south-west across the Canning River and north-east across the railway line is poor, with only a few crossing locations.

Improvement of the crossing facilities along Albany Highway, particularly at Cecil Avenue/Richmond Street will encourage more people to walk and cycle across Albany Highway and assist in the activation of the western side of Albany Highway and the Canning River area.

Pedestrian movement

Pedestrian access is the poorest of all modes of transport, predominantly due to an inhospitable pedestrian environment. There are indeed footpaths and shared paths throughout most of the area. However, the activity areas are sparsely placed within a sprawling residential and large format retail environment.

While there are footpaths and shared paths throughout most of the CCC, destinations and activity areas are sparsely placed within a sprawling residential and large format retail and parking lot environment.

Pedestrian movement is limited due to lacking desire lines and poor amenity. Many of the paths are also not developed to the currently prescribed design standard for pedestrian and cycling facilities, especially where these facilities are shared. Limited shade also prevents significant walking throughout the area.

12.4 Approach to Movement Network

12.4.1 Approach to Planning and Mobility

The role of the future transport system is to provide a high level of accessibility for all to jobs, education, shops and other activities as the city grows. Importantly, improvements to accessibility should not overly detract from the attractiveness of the place. The City believes that by doing that, it will create an area that is attractive to business and visitors and is a great place to live.

If people are to be attracted to live, work and invest in the area, the streets and public spaces must be safe, lively and comfortable.

Figure 12.1: Gehl Architects in their Public Space and Public Life report for Seattle (2009) list the following attributes of lively cities:



12.4.2 Approach to Streets

TransPriority

While facing population growth, increasing congestion and limited ability to develop new infrastructure, Perth has adopted a TransPriority approach (developed by VicRoads as SmartRoads and rebranded in WA by the Department of Transport) as a basis for decision-making for managing

and improving the arterial road network. The plan allocates a mode-based road use hierarchy that assists with making trade-offs between modes and acknowledges the activity spaces that abut the road network.

TransPriority recognises that road space cannot be everything for all road users and sets out an approach for managing the many competing demands for limited road space. Depending on the time of day, some roads will be given priority to public transport, while other roads provide an alternative route for through traffic. Whilst a TransPriority plan is yet to be established for Canning, in putting together the Movement, Access and Parking Strategy, TransPriority principles have been considered in coming up with strategies that change the environment across the area from one dominated by the private motor vehicle, to one that encourages and embraces the use of sustainable modes. Consideration has also been given to the requirements of existing and proposed land uses in respect to parking, loading and the overall movement of goods and people to support these industries.

Legibility

The existing structural legibility of CCC is generally poor due to a lack of logical connections in the street network and a defining, cohesive character in the urban form. The urban form and street network do not provide clear navigation around the centre and local landmarks are random and irregular. The prominence of the shopping centre provides the primary reference point for visitors.

The road hierarchy is clear however, impermeable areas of landscape and infrastructure make navigation ambiguous and intentionally limit connection between commercial and residential areas. Disconnection between internal and external pedestrian movement at Carousel shopping centre and the barrier of Albany Highway also contributes to poor legibility. The Activity Centre Plan has provided a more permeable structure of thoroughfares to assist with legibility.

Streets as Places

Streets are an essential part of the urban fabric of an activity centre and their quality is a key to its success. Good streets are the key public places in the area as they articulate a sense of place and are formed through successful combination of good building design and high quality streetscape treatments. The roads around and within CCC will be designed to reduce vehicle speeds down to 40km/hr and in certain areas, even less with significant tree lined verges, shared paths and on-street parking. Public art will be integrated in the design of the streets to create interest and engage all.

Mode Share

The trend to lower levels of car driving and higher levels of travel by public and active transport (walking and cycling) is supported by the Australian Bureau of Statistics (ABS) data for journey to work.

Car driving to work in Canning has declined at a faster rate than the average for middle councils, but at a slower rate than inner councils. The car driver mode share in Canning remains 14% higher than the average for inner councils. Public transport mode share in Canning has grown almost 50% more than the average for Perth. It is now 14% higher than the middle council average, but still 18% below

the inner council average. There has been no growth in the cycling mode share in Canning compared to a 25% increase for middle councils and a 50% increase in inner councils. Cycling mode share in inner councils in 2011 was 2.7 times that in Canning.

The implications for these trends is that Canning has performed well in the last decade in reducing travel to work per person by car and increasing use of public transport when compared to like councils. However, Canning lags well behind other councils in increasing travel by bicycle.

To create the CCC that achieves a more balanced level access for the various transport modes, strategies will be employed to:

- Significantly increase the potential mode share of public transport, cycling and walking by:
 - allowing residential infill development in the area to a population of approximately 25,000 people
 - increasing cycling coverage tenfold to 100,000 people by providing good access through the improvement of connectivity to the south-west of the river and north-east of the railway line
 - supporting cycling with proper facilities, infrastructure and priority
- Increase public transport mode share by increasing the level of coverage.
- Manage vehicle movements through a parking strategy that would reduce vehicle movements along certain roads to create a CCC as a people space.

Furthermore, given current congestion levels and potential growth under the Activity Centre Plan, a significant mode shift for movement is critical in the future regeneration of the CCC. To achieve this, the following mode share targets have been adopted for the CCC to be achieved for 2031.

Table 12.1: Long Term Mode Share Targets

Mode	Long Term Mode Share
Car Driver	40%
Car Passenger	15%
Public Transport	16%
Cycling	12%
Walking	15%
Other	2%

The draft Movement, Access and Parking Strategy has been prepared to achieve these ambitious mode share targets.

12.5 Movement, Access and Parking Strategy

Public Transport

In response to Perth Transport Plan 2031, the City of Canning undertook a review of the proposals within the plan and identified other proposals, which could improve public transport within the CCC.

Amongst a number of other recommendations, the study concluded that the proposed Light Rail Transit (LRT) from Perth CBD to Curtin University could be extended to Cannington Station using the proposed Bus Rapid Transit (BRT) route on Manning Road. Whilst a preferred option is yet to be fully assessed and selected, both of these options are proposed to operate along Cecil Avenue.

In addition to the LRT/BRT route, to drive improvements to Public Transport and ridership figures, it is recommended that:

- Additional bus frequencies which correspond with commercial shopping opening hours, particularly on weekends, to further reduce the car dependency of shopping trips are provided.
- In the short to medium term, provide a Bus Rapid Transit (BRT) link from Curtin University, Victoria Park, Perth City Southern River (Ranford Road and South Street). Bus queue jumps at signalised intersections in the short term as well as improved frequency will be required.
- Provide a Central Area Transit (CAT) bus service linking key activities within the area including the rail station, main retail centre and council offices and other activities south of Albany Highway.
- Increase the frequency of service along the Armadale and Thornlie Rail Lines to increase patronage levels.
- Upgrade Cecil Avenue to provide for priority movement for buses in the short term but designed such that it provides the potential to upgrade to light rail in the long term. Cecil Avenue is to be designed to accommodate a Bus Rapid Transit Lane (BRT) to link the Cannington Station to the Core Area via Albany Highway with the proposed route on Manning Road. The design will accommodate the future conversion of these lanes and associated infrastructure to Light Rail Transit (LRT). BRT and LRT schemes require a high level of priority in order to minimise travel time and increase the attractiveness of the service to patrons. Accordingly, it is proposed that part-time bus lanes are provided along Cecil Avenue, allowing vehicles to park within these lanes during off-peak periods. These bus lanes will be converted to light rail lanes if and when required, removing the ability to park along the length of Cecil Avenue. Two bus stops are proposed along Cecil Avenue with the potential for a third (Lake Street/Cecil Avenue) if the need arises.
- Provision of a rail connection from Cannington to Cockburn Central and Rockingham by the way of an extension of the Thornlie line. This upgrade will require service improvements and the provision of additional room to accommodate these, possibly on Sevenoaks Street. The Activity Centre Plan provisions ensure such upgrades and ensure that any interface with the station shall be designed to address this.
- Improvements to the secure bicycle facilities and modal interchange to support an increase in bus services and cyclists accessing the Cannington Train Station. The modal interchange will need to be well designed to enable clear interchange between all modes of transport and clear and safe access to the area via Cecil Avenue.

To support these initiatives, a scheme or arrangement for public transport contributions or special area rates to assist in paying for additional public transport usage resulting from reduced driving and

parking, needs to be prepared. This public transport contribution should be no less than 1% of the development cost of all residential and non-residential development.



Figure 12.2: Public Transport Network

Pedestrian Movement

Attractive and inviting pedestrian footpaths that link key uses and interest points support walking. Shade also has a significant impact on the walkability of footpaths. For the CCC, all paths will be designed to provide continuous connectivity with key uses and interest points, be on all streets on both sides with suitable trees for shading to provide for pedestrian amenity and enjoyment. Trees will be planted according to the street typology but at no less than 10m apart to achieve at least 60% shade at midday.

In addition to the continuous connectivity of footpaths, they will be designed to ensure a high level of legibility with few conflict points. This is intended to be achieved through the appropriate signing of both infrastructure and destinations. A Wayfinding Strategy for the CCC will be prepared to guide legibility.

Pedestrian paths will be provided as per the standard given in Austroads Guide to Road Design Part 6a, at a minimum. This Guide stipulates that paths which are shared with cyclists must be at least 3m wide and signed appropriately, while pedestrian only paths should be 2.4m wide. Where alfresco dining and entertainment uses are proposed, wider paths will be required.

Cycling

The CCC will develop as an “exemplar” opportunity for cycling. To achieve this, improvements will include:

- Require secure and accessible cycle parking facilities across the area, including within Carousel Shopping Centre and other key locations. Cycle parking facilities to be provided for all developments within the area, of which a significant portion is provided for the public.
- End of trip facilities to be provided for all developments within the area at the prescribed rates.
- Improved lighting for cycling at night.
- Provision of an additional crossing of Canning River to link to the recreational paths.
- Separated cycle lanes along Cecil Avenue, at a minimum 1.5m wide on both sides.
- 3.1m shared paths along key roads in the area.
- Extending the existing shared paths along the Railway Line and River and connecting them to the cycle lanes to provide an integrated network.
- A shared foot/cycle bridge across Albany Highway, improvements to the intersection of Albany Highway and Cecil Avenue to Richmond Street to link the CCC to the Riverside Precinct.

Apart from the standard Perth Bicycle Network signs the main destinations within the CCC will also be indicated by general way finding signs.



Figure 12.3: Shared Path and Cycle Network

Vehicle Movement and Access

All streets within the area have been allocated a hierarchy and function to support TransPriority principles. Key roads are prioritised for use by cars to provide good car access around the area. Albany Highway is the highest order road (Primary Distributor) fulfilling mainly a mobility function. Wharf Street, Lake Street, Carousel Road and their extensions and the Southern Link Road also perform a mobility function. They will be designed to keep the bulk of the general traffic off Cecil Avenue and out of the area and slow speeds will be encouraged through reduction of geometric freedom. Other roads within the area will be considered local access roads or laneways where accessibility for vulnerable users will be given priority and speed limits will be set at 40km/hour or lower. In addition, public shared parking facilities and streets with on-street parking are located within convenient access from the priority car routes to limit congestion through the area, especially on Cecil Avenue.



Figure 12.4: Road Hierarchy

Cecil Avenue will function as the CCC Boulevard catering for all modes of transport but giving priority to public transport, bicycles and greater amenity to pedestrians including entertainment and alfresco dining.

Street Typologies

Cecil Avenue will be the focus point of the CCC. This street will be a vibrant retail strip with alfresco dining, entertainment uses and commercial uses. The street will be associated with high intensity pedestrian movement and a public transport spine to provide increased access to all the activities the CCC has to offer. Accordingly Cecil Avenue will be a priority pedestrian, cycling, and public transport route. While general traffic will have access to the road they will typically be faced with high levels of delay along the road and at intersections. Cecil Avenue will have a maximum street speed limit of 30km/hr to provide safety, comfort and good amenity for pedestrians, cyclists and PT uses. It is also planned to support light rail in the future.

Cross sections for key street in the regeneration area have been prepared to firstly accommodate the prioritised modes and secondly to psychologically influence the behaviour of the various road users.

Figure 12.5 depicts Cecil Avenue cross-sections and street reserves at the intersections and mid-block. These preferred options represent indicative maximum widths and have been refined through the draft Movement, Access and Parking Strategy and discussions with the Transport Portfolio.

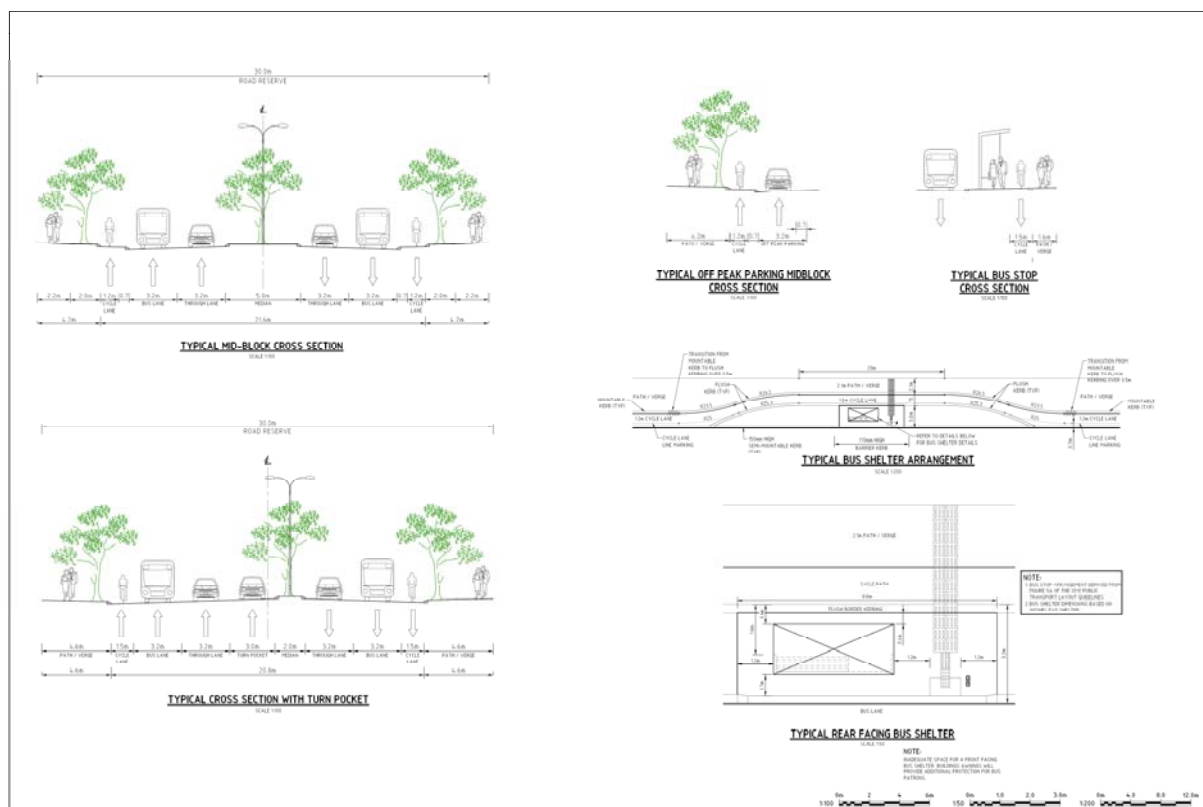


Figure 12.5: Cecil Ave Cross Section (Ref: Movement, Access and Parking Strategy)

Portions of Lake Street, Carousel Road, Pattie Street and Leila Street will provide on-street parking. Given these streets' proximity to the activity areas along Cecil Avenue, and their limited mobility function, a larger number of on-street parking and higher level of mobility disruption is justified.

These streets will also allow proper pedestrian movement through approximately 4.1m shared paths along either side.



Figure 12.6: Indicative Cross-Sections for Portions of Lake Street, Carousel Road, Pattie Street and Leila Street

The remainder of streets in the CCC will mainly function as access roads or laneways and thus all modes will be accommodated with equal priority.

Parking

Careful management of parking supply and user behaviour will be critical to safe access to the area. Congestion is generated by the vast number of free parking bays which are available, predominantly focussed around Carousel Shopping Centre, and accessed by few entries. Initial investigations have indicated that there are approximately 8,000 car parking bays available in and directly around the area. This is largely driven because of this unmanaged parking system. The ability for car parking to induce trips is well documented but in most cases underestimated. For example, high activity areas like the Carousel Shopping Centre requires car parking but less parking will not necessarily result in less activity. To achieve a balance between parking provision and proper access by other modes of transport including public transport, cycling and walking, parking rates have been prepared for the different land uses.

These rates are based on SPP 4.2 for Activity Centres prescribing that parking should be reduced as far as possible through the use of maximum parking rates for centres. They are also based on the Movement, Access and Parking Strategy that progressively manages parking within the centre as a shared resource. Shifting to lower parking rates is also in line with achieving the goal of a more balanced travel mode distribution.

Detailed traffic modelling for 2016 and 2026 horizon has also been used to the level of reduction of traffic generation per land use and hence the maximum rates that should be targeted. Minimum rates are also retained for the purposes of assessing cash in lieu requirement, and a target of parking that is either public or in some manner shared for other uses has been identified in Part 1.

If developers wish to provide less than the minimum parking requirement stipulated, then they would be required to pay cash-in-lieu for the development of public car parking. The location of public car parking has broadly been identified as being:

- Grose Avenue on-street
- Station Street on-street
- Pattie Street on-street
- Leila Street on-street
- Carousel Road on-street
- Off Street locations in the locations shown in the Activity Centre Plan Map.

In addition, the City will investigate introducing a parking licence fee or levy for all non-residential parking (with limited exceptions) within the CCC by 2020. This policy will be based on the Perth Parking Policy and should target a starting licence fee at 2020 of around \$200 per bay.

The high water table within CCC means that basement car parking is unlikely to be viable in many locations. The location of car parking will therefore be dependent on the size of the lot and the number of bays required.

To avoid large areas of at grade carparking, multi-deck car parking should be used (Figure 12.5). Parking decks are to be wrapped by built form screening them from the public realm. Vehicle access is preferable from a minor thoroughfare and access from major roads should be discouraged. This will assist in creating a pleasant pedestrian realm.

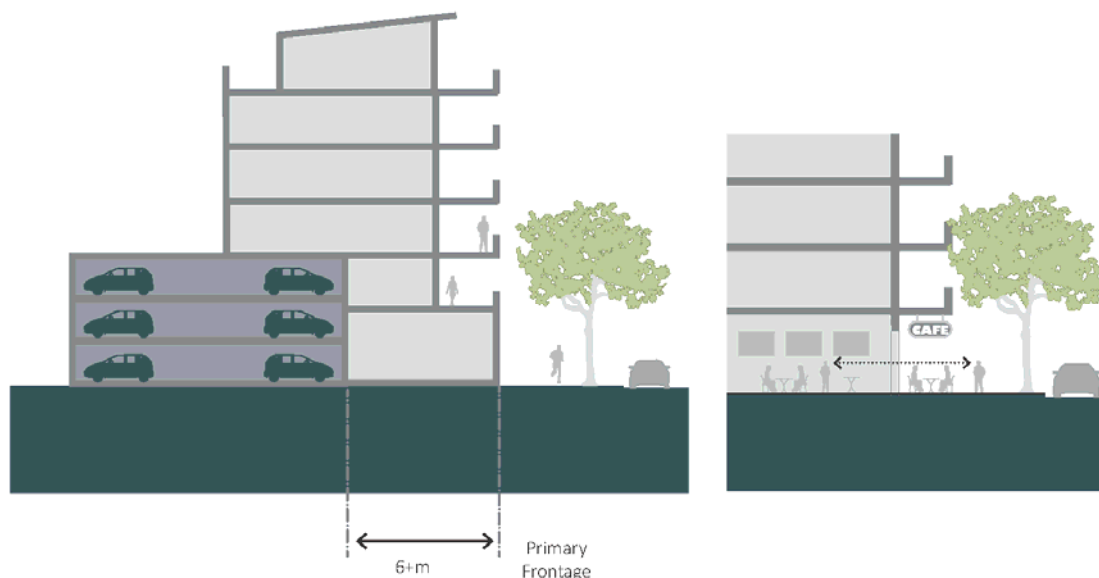


Figure 12.7: Multi-Deck Parking Typology

Taxis and Motorcycles

Taxis have the potential to create significant congestion in smaller order, higher activity roads. Dedicated taxi stop bays will be provided close to high activity areas within the area. Taxi stopping, especially along Cecil Avenue and at Cannington Station, will be restricted to a small number of bays.

Emergency vehicles will be allowed on all streets in the CCC and all road geometries will be designed to accommodate fire trucks and ambulances of various sizes.

Motorcycles also offer an opportunity to shift from private vehicle use to more efficient forms of travel.

Freight Movement

The CCC is not an appropriate environment for freight movement. Through moving freight should be restricted to the Albany Highway. Trips which require loading and unloading within the area are admissible on most roads, with the exception of Cecil Avenue which will be kept free of freight vehicles in order to minimise disruptions to public transport services. Service vehicles and deliveries for Westfield Carousel will be restricted approved access points and roads.

Accessibility

Although the connectivity of CCC in terms of physical proximity to employment nodes (including the Perth CBD) cannot be altered, it is possible to improve links through public transport and a shift to alternate modes of transport. The CCC is at a strategic advantage compared to other strategic metropolitan centres around Perth due to the existing heavy rail passenger line with frequent bus services. The addition of a regional bus interchange and a rapid internal transit system would give CCC a strong advantage that cannot be easily replicated due to the necessary infrastructure

investment. As previously discussed, specific actions include rapid transit system; a CAT bus; improvements to regional bus frequency and routes and future proofing of key routes to facilitate adaptation to light rail.

13 Water management

13.1 Local Water Management Strategy

The Water Management Strategy was adopted by the City in February 2014. The strategy aims to reduce the impact of water use and water quality throughout the City of Canning. Further, the *Canning Activity Centre Local Water Management Strategy* proposes that the redevelopment of the area will:

- Improve water quality within the stormwater system while maintaining the flood protection and conveyance capacity of the drainage system and ecological water requirements of the Liege St wetlands, Cannington Swamp threatened ecological community, Wharf Street (Civic Centre) wetlands and the Canning River.
- Deliver an urban water environment that is reflective of the local identity and celebrates the linkages between the centre and the River through landscaping, green corridors and the development of urban streams.
- Optimise water use efficiencies including for irrigation and increase water reuse.
- Achieve water sensitive landscapes (both public and private realm) which incorporate water quality management and reflect the Western Australian climate.

These objectives are to be achieved through the implementation of strategies and design criteria for stormwater and groundwater management; water resource use; and landscaping which have been developed in response to the proposed redevelopment and the local site conditions.

The Local Water Management Strategy, prepared specifically to support the CCC Activity Centre Plan, proposes improved stormwater quality while maintaining flood protection, drainage capacity and ecological requirements of the wetlands and Canning River. The strategy envisages an urban water environment reflective of local identity and celebrating linkages between the urban centre and the river through landscaping, green corridors and the development of urban streams.

In addition, the draft Local Drainage Plan (2015) details the surface water management status and requirements for the CCC. Detailed modelling was undertaken with Water Corporation to address arterial drainage. A coordinated approach is required across town planning, capital works, drainage planning and emergency services within the City and the Water Corporation in order to ensure that there is an appropriate response to the findings and recommendations of the draft Local Drainage Plan.

As previously mentioned, groundwater is shallow across the area and a combination of surface and subsurface drainage is used throughout the area to manage groundwater levels.

The existing drainage network through the CCC discharges to the Canning River via the Liege Street and Wharf Street (civic centre) wetlands. Modelling of the drainage network, with the support of Water Corporation, identified a range of issues. Issues such as capacity limitations, protection of drainage paths away from the TEC and approvals were identified. Capacity limitations relate to the pre and post development scenarios that have been modelled and the infrastructure installed based on the 2003 development scenario (Water Corporation Planning Schemes for both Cockram and Wharf Street main drains). As the CCC anticipates substantial growth in residential dwelling yields and floor space for retail and other uses, improvements to the drainage capacity and management is required.

In particular, Water Corporation have proposed a number of upgrades to the Cockram Street main drainage system within the boundary of the CCC. Development proposals will need to incorporate these upgrades or make alternative provisions to ensure that the capacity of the main drains is sufficient to meet the conditions of the Water Corporation's operating license. Additional conditions are required (outlined in Part One) for developments to manage drainage.

Further, key outcomes that must be sought through development control include:

- Reservation and/or access to land to facilitate upgrades and new infrastructure identified in the Arterial Drainage Plan.
- Identification of developments which provide for retention of stormwater on-site to assist with water quality management.
- Ensuring developments manage and/or enhance hydrologic interactions with the Cannington Swamp (and associated TEC).
- Provision of infrastructure that will provide standard levels of service during minor floods.
- Protection of development from predicted flood levels during major events.
- Relevant contribution toward upgrade of local and arterial drainage systems.

Groundwater is used by the City for irrigation of POS and water efficient landscape design and irrigation practices will be used to limit future POS irrigation demand to current licensed volumes. These requirements will extend to all new developments within the CCC.

13.2 Urban Streams

Urban streams represent an opportunity for the CCC to celebrate the abundance of water in the City. Based on the drainage modelling and the capacity requirements (post-development), current drains will be expanded to create urban streams and new urban streams will be facilitated in key locations to support drainage as well as amenity improvements. The two main locations within the CCC where significant modifications to the existing main drainage system will be undertaken for the creation of urban streams include the Cockram Street Main Drain from Sevenoaks Street to Cecil Avenue and the section of existing open drain from Wharf Street to Pattie Street. Other urban streams include Lake Street to Wharf Street (through the Department of Housing landholdings) and through Lake Street to Carousel Road.

Water Sensitive Urban Design (WSUD) treatment is expected along Cecil Avenue in the shape of bio filters, swales, etc.

The minimum width for the urban streams is 30 metres requiring land to be subdivided during the approvals phase to transfer the appropriate land to the City and Water Corporation to create and maintain the streams. The City will manage and maintain the urban streams under agreement with the Water Corporation.

For these new urban streams detailed plans and designs will be required from proponents and supported by an Urban Water Management Plan which will include detailed designs for the modified drainage infrastructure. Designs will satisfy the standards and guidelines appropriate to urban main drainage infrastructure as defined by the Water Corporation's main drainage manual and the *Stormwater Management Manual for WA*. Amenity, biodiversity and drainage considerations need to be factored in the designs. Safety and CPTED principles will also need to apply to the design as urban streams will be considered as POS.

13.3 Potable Water

As the study area is largely developed, there are extensive networks of all major services and it is unlikely that significant upgrades will be required to provide for the water and wastewater needs of the proposed redevelopment. This also means that widespread development of a fit-for-purpose water supply scheme is likely to be impractical and unnecessary. However, there are significant opportunities for large format retail, retail, high density residential dwellings and commercial sites to incorporate rainwater tanks or greywater recycling systems on an individual basis and contribute to reducing the demand for potable water from the Water Corporation's integrated water supply system.

As such, a minimum requirement for improvement on water efficiency is set for all developments in the CCC. Excess water to required needs can be diverted for landscaping purposes.

Where Local Development Plans are prepared to guide subdivision, they will need to be supported by an Urban Water Management Plan that provides further detailed design and demonstrates how the objectives contained in this Activity Centre Plan and associated Strategies and Plans are to be achieved.

For developments, the following matters must be addressed as part of the development application (Local Water Management Strategy 2012 and draft Local Drainage Plan 2015).

DRAFT



Figure 13.1: Proposed Modifications to Existing Drainage System - Source: CCC Local Drainage Plan, Essential Environment 2016

14 Education, Health, Welfare and Community Services and Facilities

CCC and its main trade area are currently deficient in the supply of Education, Health, Welfare and Community Services relative to the average for the Perth Metropolitan Area. The major Education, Health, Welfare and Community Services anchors currently in the centre include:

- Sevenoaks College;
- CommuniCare;
- Cannington Leisureplex;
- Healthscope Pathology; and
- Cannington Community College.

There may be a demand to increase the number of Health, Welfare and Community Services providers which may be convenient for the current and future population. These include general and allied health services. The addition of these uses, which are consistent with those provided at a Strategic Metropolitan Centre, would add diversity to the offer for catchment area residents. Provision of this type of floorspace is also critical in providing the support infrastructure for higher density living.

Beyond this, growth in the Health, Welfare and Community Services including Education provision may need to increase significantly in line with population growth envisaged for the area. Department of Education modelling indicates that additional primary schools are not needed for the CCC. Also, there may be a need for additional childcare facilities and advanced adult education services (e.g. TAFE, language schools, apprenticeship training centres etc.), and may require the expansion of secondary schools.

The future buildings are expected to provide a large and flexible amount of floorspace to accommodate all sorts of uses, including the ones described above. The Land Use Table (in Part 1) reflects the adequate flexibility to enable those uses to take place. The City and/or State Government agencies may take lead in the process of attracting the uses needed in the future.

Other higher order uses such as hospitals and tertiary education are considered to be better suited to other regional locations, including Curtin University, Bentley Technology Park and the Murdoch Activity Centre. The CCC can offer satellite services to these higher order uses by providing shared space for budding entrepreneurs or support for new hubs to be created to serve the higher order uses.

15 Activity centres and employment (Economic Strategy)

15.1 Objectives

Based on the vision for the CCC, the key principles as defined in the Economic Development Strategy (EDS) are:

- Achievement of the economic function envisaged by the designation of Canning as a Strategic Metropolitan Centre with Directions 2031 and SPP 4.2
- Integration of CCC into the broader inner south-east strategic economy
- Capture of a full-range of economic transactions from residents from within the activity centre's population catchment
- Strong interrelationships between activity centre uses to encourage the overlapping of localisation and urbanisation economies, and to encourage expenditure capture through multi-purpose trips

It is acknowledged that for CCC to become a premier activity centre, investment is required.

15.2 Current CCC Economic Profile

In order to establish an understanding of the current and future CCC economic profile, an Economic Development Strategy was prepared in 2012 and updated in 2015 with retail modelling analysis. This Strategy sits within the broader Local, Commercial and Activity Centres Strategy (LCACS, adopted in 2015) which has been prepared for the City of Canning to provide a strategic, comprehensive guide to decision-making on economic and social activity within the City. The ultimate purpose of a LCACS is to optimise activity centre performance.

15.3 User Mix

The existing user mix of an activity centre is a profile of residents, workers, enterprises and visitors that interact with the centre now and in the future. The population and expenditure base of each group forms the economic base and drives the commercial vitality of the activity centre. The existing user mix of the CCC is typical of many large mall-based activity centres. Overall, the residential users from an expansive catchment dominate the mix. However in terms of the user groups based within the centre boundary, the user mix is dominated by local workers.

The main trade area is the principal geographic catchment served by the activity centre. Carousel is the primary anchor of the centre, and it is unlikely that the catchment of any other single current or future tenants will extend beyond this. As such the trade area of Carousel is assumed to broadly reflect the trade area of the activity centre as a whole.

Based on ABS Census 2011 there are approximately 276,100 residents living within the main trade area. The population residing within this area has a median weekly household income of \$1,440 per household. This compares with the average for the Perth Metropolitan Region of \$1,459 per household. This is largely due to the relative affluence of the centre secondary catchment. The

visitors segment for CCC is defined as the tertiary trade area. According to the ABS Census 2011 there are approximately 100,275 residents living within the tertiary trade area.

15.4 Activity and urban form performance

Analysis of current activity includes measures of activity intensity, diversity, employment and accessibility showing the overall economic performance. Measures of economic performance have been compared with average scores achieved by a group of 16 case study centres from around Australia, performing at an equivalent level within their respective activity centre hierarchies.

Table 15.1: CCC Urban Form Performance

Category	Score out of 10	Comment
Activity intensity	3	underperforming
Jobs per hectare	5.50	underperforming
Activity diversity (employment per sector)	3	underperforming
Urban form quality (attractive features)	7.81	Performing well due to numbers of parks, reserves, street trees and landscaped areas
Urban form quality (unattractive features)	0.32	underperforming due to very high number of car parks visible from almost all parts of the public realm
Urban amenity	2.80	underperforming
Leisure and recreation (under urban amenity)	7.50	Performing well due to high concentration of green spaces, playgrounds and sports grounds
Pedestrian comfort	0.9	Underperforming due to lack of shade or shelter

15.5 Aspirations and Future Performance Targets

15.5.1 User Mix

An activity centre's ultimate urban form and structure stems from the ways in which users (residents, workers, visitors and firms) interact with the centre. Based upon the articulated vision for the CCC, the following future user mix has been identified, shown next to the current user mix (see Table 15.2).

Table 15.2: CCC User Mix Change

User Group	Current Users	Additional Users	Future Users
Centre Residents	4,600	19,800	24,400
Main Trade Area Residents	276,000	73,800	349,800
Visitors	100,275	54,025	154,300
Workers	5,600	4,872	10,472
Enterprises	584	516	1,100

15.5.2 Commercial Activity Performance

As a Strategic Metropolitan centre within the Perth and Peel activity centre hierarchy, CCC must be responsible for a significant proportion of the growing catchment's employment and services. The centre will actively seek to accommodate regional services (such as health, community and commercial services) and population-driven activity for local and regional residents, while also linking to and providing opportunities for footloose, temporary (pop-up) and knowledge-intensive businesses associated with the region's industrial nodes.

15.5.3 Intensity and diversity

The employment target of 10,472 jobs will increase the future intensity of the centre, as measured by employment density (jobs per hectare). This equates to almost 57 jobs per hectare, up from the current 30 jobs per hectare.

The employment target is to provide a diversity of local jobs, services and amenities as befits its role within the activity centres hierarchy.

The future minimum residential density target specified in Part 1 is required to achieve the potential development of 10,000 dwellings. This meets the target density suggested by SPP 4.2. In addition, in key locations higher dwellings per hectare (gross) is required to ensure appropriate development

The Growth Model calculates that Canning has the potential to increase its future proportion of mixed-use employment from 46% to 72%, reflecting a greater focus on entertainment uses, office-based activities and community services such as health.

In addition to a greater proportion of non-retail employment, CCC's future jobs are expected to be spread more evenly across land use categories, with retail in particular becoming less dominant. Jobs within the knowledge sector and service sectors are likely to increase.

15.5.4 Growth Model

The Industry Growth Model provides evidence for targeting specific industries for location at CCC to increase the non-retail commercial floor-space and diversity of uses within the centre. Industries have been identified as they are currently located within the activity centre due to a recognised

competitive advantage, or locating the industry in the centre and forming agglomerations which will have a competitive advantage.

The growth model outlines a potential scenario for future land use development at CCC, based on an understanding of the opportunities, constraints, risks and vision. The results are only indicative, and do not predicate investment decisions by the City or other public or private stakeholders. They do provide an indication of the potential of the site to deliver on the vision of the CCC. The results are summarised in Table 15.3.

Table 15.3: CCC Final Floorspace Summary

Planning Land Use Category	2007/2008 (m ²)	2016 (m ²)	2021 (m ²)	2026 (m ²)	2031 (m ²)	Change (m ²)
Manufacturing/Processing/ Fabrication	5,424	6,006	6,162	6,320	6,320	896
Storage/Distribution	44,379	48,913	50,125	51,357	51,357	6,978
Service Industry	22,940	28,314	29,751	31,212	31,212	8,272
Shop/Retail	116,736	146,736	161,736	176,736	176,736	60,000
Other Retail	48,449	61,204	64,614	68,081	68,081	19,632
Office/Business	62,434	79,497	97,622	129,382	142,944	80,510
Health/Welfare/Community Services	8,754	17,225	37,078	44,083	48,863	40,109
Entertainment/Recreation/ Culture	11,134	18,432	25,425	28,756	30,126	18,992
Residential	2,525	2,525	2,525	6,316	10,108	7,583
Utilities/Communications	8,555	9,208	9,383	9,561	9,561	1,006
Total	331,330	418,061	484,420	551,805	575,308	243,978
Diversity Ratio	Current 47% shop retail 53% other uses				2031: 38% shop retail 62% other uses	

Growth in CCC's main trade area, and in particular the growth within the centre boundary, will drive demand for population-driven office-based activity. This will include the full range of office-based consumer services such as medical consulting rooms, real estate agents, lawyers, accountants, banking and finance services. This will also include any potential relocation of other State

Government Departments to the centre. Provision of population-driven office is critical to the performance of CCC in facilitating multi-purpose trips for the resident and worker population.

The growth for each category is related to the land use table, location, and will have a great impact of an increased resident population. These are individually described in the CCCEDS

Opportunities exist for the following businesses and activities to be integrated and attracted to the CCC:

- Medical Services - General Practice Medical Services and Specialist Medical Services
- Allied Health Services - Dental, Optometry, Physiotherapy, Chiropractic, etc
- Professional services - Architectural Services, Surveying and mapping, Engineering design and consulting, scientific testing and analysis services
- Management and Related Consulting Services - Corporate Head Office Management Services, Management advice and related consulting services
- Adult, Community and other Education - Sport and Physical Recreation instruction, Arts education study skills, Career development and job search training, parental education etc
- Tertiary Education - Higher education, technical and vocational education and training

Entertainment, Recreation and Culture

Currently the major entertainment recreation and cultural anchors in the centre include:

- Hoyts Cinemas
- Greyhounds WA
- City of Canning Council facilities (Town Hall)
- Cannington Leisureplex

Due to its growth in the entertainment, retail and cultural services is expected to increase in line with population growth and diversify to meet the changing needs and preferences of the catchment population. Particularly in the context of the residential density envisaged in the Activity Centre Plan, provision of high quality Entertainment, Recreation and Culture activities will be necessary to encourage uptake of higher densities. For example, increasing and diversifying the range of small bars, hotel and taverns to meet emerging niche markets.

'Hotel', 'Serviced Apartments' and 'Retirement Village'

These uses are significantly under-developed in and around CCC. As the centre matures, it is expected that the demand for hotel and serviced apartment accommodation will emerge in response to growing demand from local businesses as well as a genuine tourism sector. A Hotel Feasibility Study commissioned by the City indicates that hotel development is more likely in the 3 star or serviced apartment market, preferably located within close proximity to Cecil Avenue and the Train Station (AEC 2015).

As mentioned previously, the expansion of health services activity may also support the development of age care facilities within the centre. This would be an important contributor to the

development of balanced demographic within the Centre and also support aging in place for many local residents.

CCC AND EMPLOYMENT SUMMARY

The CCC:

- Is currently an immature, population driven centre characterised by low diversity and retail-focused activity
- Has the potential to accommodate over 250,000 residents in over 10,000 new dwellings and workers in over 140,000sqm of new commercial and retail space
- Is expected to accommodate regional services (such as health, community and commercial services), population-driven activity for local and regional residents, and provide opportunities for footloose and knowledge-intensive businesses associated with the region's industrial nodes under SPP 4.2
- Has a minimum density target of 35 dwellings per hectare (up from the current 4.6 dwellings) for the general boundary area (lot by lot density is identified in Part 1)
- Has the potential to increase its future proportion of mixed-use employment from 64% to 69%
- Has an employment quality target of 16% of total employment (up from the current 12%)
- Can support between 30,000 and 60,000 square metres NLA and more of additional Shop Retail floorspace (which does not represent a notional floor space cap).

This Activity Centre Plan has been prepared to reflect all the expected changes in amenity, POS, footpaths, a shift in mode share and car usage, the creation of a main street etc. In that way, it is expected that a future scenario will have enhanced urban and performance, intensity, diversity, employment and accessibility. To get there, this plan comprises:

- Co-location of activities to get the vibrancy, intensity, ensures walkability, social interaction and economic activation,
- Reduction in transport and communication costs, improved links to suppliers and markets and the ability to learn from others and share knowledge.
- Enable users to access multiple needs with fewer trips and retain users in the centre for

15.6 Recommendations and Strategies of the Economic Strategy (CCCEDS)

This section outlines the key recommendations and strategies to achieve economic maturity and diversity. The CCCEDS defines the six principles of economic activation as:

1. Defining the purpose of the place clearly and for the target users (residents, workers, visitors, firms).
2. Ensuring safe and adequate access and arrival points that engage and invite people into the Centre.
3. Supplying adequate car parking and transport nodes to access the Centre.

4. Maximising exposure to pedestrians through clearly and accessible pedestrian paths.
5. Creation of destinations with major attractions to entice and invite people into the Centre.
6. Control of strategic sites including corner sites to ensure desirable uses and tenancies.

16 Infrastructure coordination, servicing and staging

Canning City Centre Servicing Report, done by Cardno in 2015 through close liaison with the City and relevant service providers, Cardno has researched and reported on the current capacity of the infrastructure and services within the CCC area.

The report provides detailed findings and recommendations regarding the future infrastructure and servicing requirements that are needed to accommodate the redevelopment of the centre as proposed by this Activity Centre Plan.

In summary, the required infrastructure for the CCC Activity Centre Plan area is as follows:

- The CCC is well serviced by current infrastructure although significant upgrades to accommodate the increase in residential and commercial activity.
- The CCC Activity Centre Plan area faces a shortage in wastewater and gas infrastructure to service the proposed increase in residential and commercial activity.
- Upgrades other than the required major infrastructure upgrades as outlined in this report infrastructure will be rolled out over time in response to new development within the centre.
- The widening of the Civil Avenue and Lake Street road reserves will require significant service relocation and will have staging implication for carrying out infrastructure upgrades. It is recommended that a working group between the City of Canning and Water Corporation is set up in order to help plan and coordinate precinct development and staging with any Water Corporation trunk infrastructure capital works.
- The City of Canning could implement a minimum green star, NABERS or Waterwise accreditation requirement for any new developments within the CCC. Minimum energy conservation requirements can help reduce peak electricity demand, reduce water demand, increase load diversity and reduce greenhouse gas emissions. These measures may delay to onset of the medium-long term infrastructure requirements.
- Although the National Broadband Network (NBN) has not identified that a rollout is to occur in the CCC. The report recommends that the City of Canning prepares plans for such an event. The City of Canning should review NBN's "Best practice guide for councils when initially dealing with NBN Co".

In conclusion, based on advice received by Cardno from the relevant service authorities, there should be no reason from a servicing point of view that this Activity Centre Plan could not be implemented with the proposed infrastructure upgrades outlined in this report.

16.1 Power lines and impacts to development

Restriction zones have been developed based on the relevant Australian Standards and Occupational Health and Safety compliance requirements for transmission power lines. Restriction zones are reviewed and updated on a regular basis.

Any development application being lodged likely to be affected by overhead power lines should be referred to Western Power for preliminary advice prior to further work being undertaken on preliminary plans. A certain clearance need to be kept from the transmissions lines. Any parts of the development within the clearance zone, need to be liaised with Western Power for approval.

17 Implementation

17.1 Objectives

In implementing the Activity Centre Plan and the associated Strategies and Plans, the key objectives to be pursued are to:

- Ensure a Place-Led approach is employed in the design, planning and delivery of strategic projects and key initiatives.
- Allocate responsibilities and accountabilities to key stakeholders to support the implementation of the Activity Centre Plan through a collaborative process.
- Create a Developer Contribution Scheme or Arrangement to fund necessary works to improve and facilitate development.
- Establish a clear and logical performance evaluation framework to measure the progress of the Activity Centre Plan and its associated vision, objectives and requirements.
- Guide further investigations and projects to support the vision of the CCC.

17.2 A Place Led Approach

This Activity Centre Plan establishes the enabling and planning mechanisms required to guide private and public investment in the CCC. This plan also sits within the context of a wider Economic Development Strategy developed to provide guidance regarding how to transform the centre beyond its present condition.

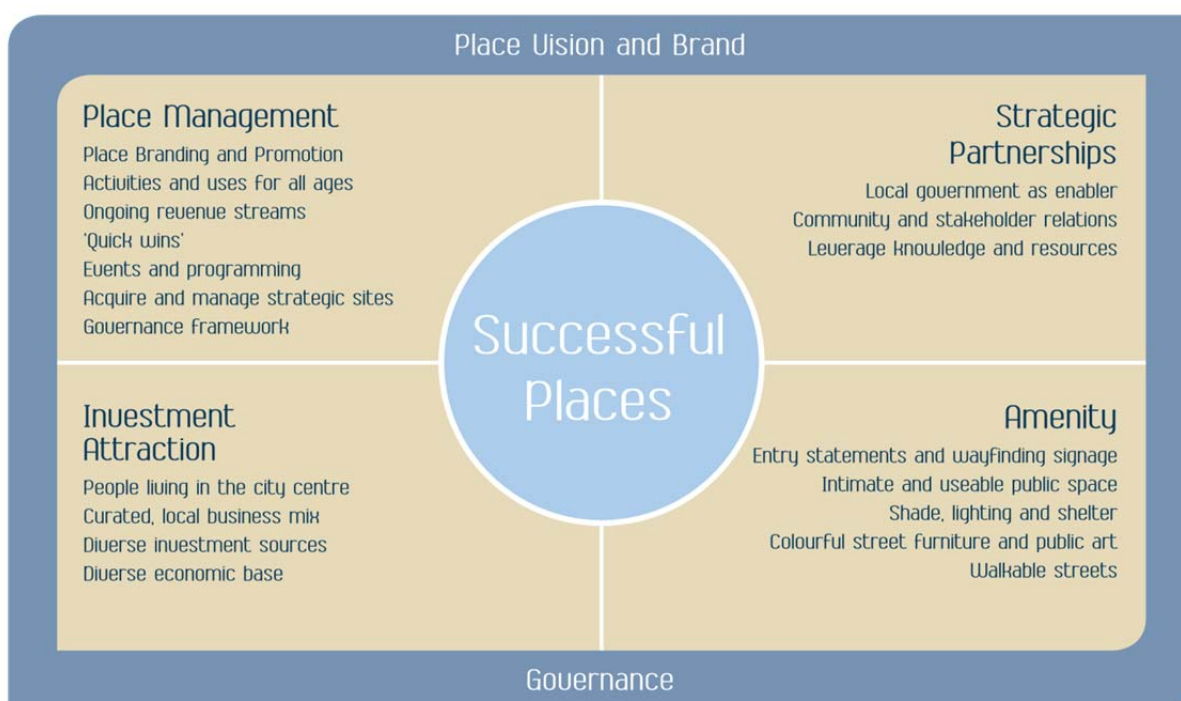
The CCCEDS and Place Activation Strategy provide a detailed framework of guiding principles and recommended actions. Importantly they establish a “**Place Led**” approach, where the City of Canning will work with other public partners and the private sector to help realise a progressive improvement to the CCC. The overall approach to implementation involves positioning the centre in a way that attracts public and private investment and is based around the elements in Figure 17.1.

For key initiatives, place making and place led approaches will be employed to guide their design, planning and development to ensure the needs and desires of the community are effectively integrated.

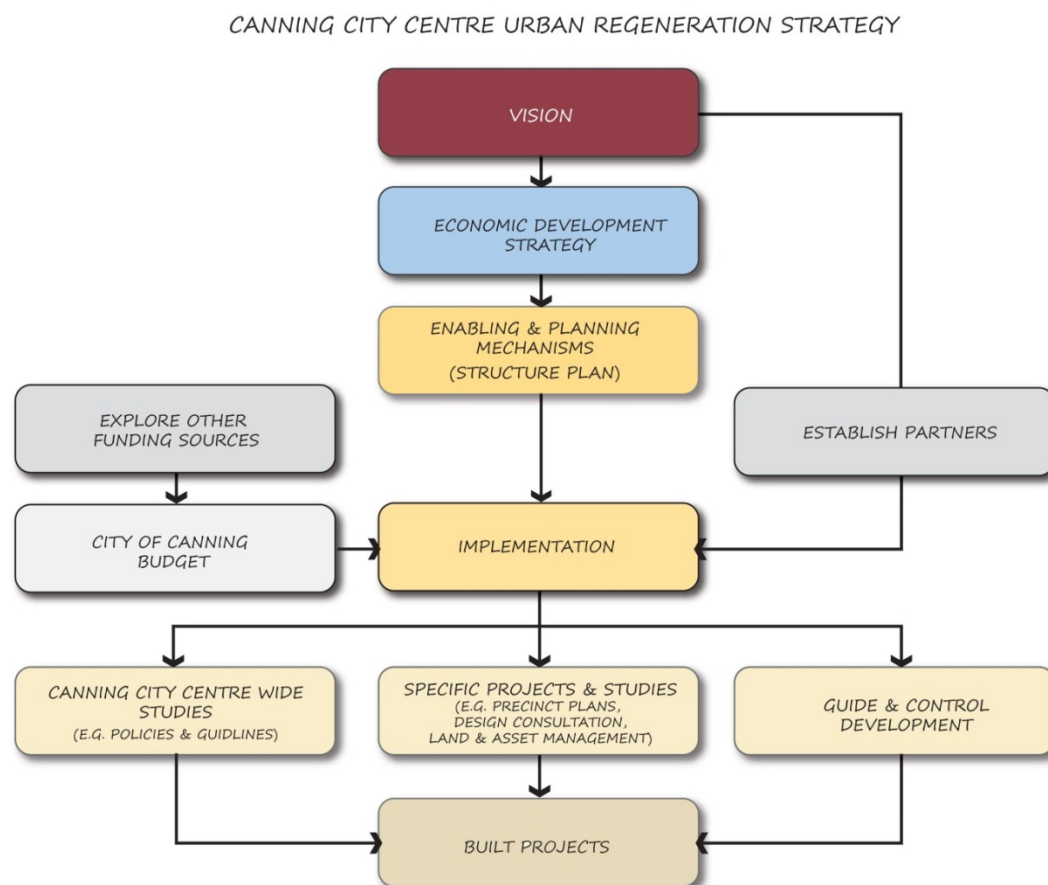
17.3 Collaboration and Implementation Process

Collaboration will underpin all of the City-led initiatives to implement this Activity Centre Plan. In this context, stakeholders will be drawn together from the initiation phase of projects and programs to guide their design, planning and development. Key stakeholders will be identified by their interests in the CCC as well as their ability to implement programs and initiatives. Memorandums of Understanding and Collaboration Agreements will be also be applied to plan, fund, manage and co-ordinate projects and programs that meet both the City's needs as well as the joint party.

Figure 17.1: Attributes of Successful Places



As part of the implementation of this overall approach, the Figure 17.2 illustrates the framework of steps and processes that need to be followed to guide the implementation of the Activity Centre Plan components.

Figure 17.2: CCC Urban Regeneration

17.4 Staging and Monitoring

Development within the CCC will be staged either due to the landowner preferences or needs for expansion and improvement. The City of Canning will lead the development front through the delivery of catalyst projects and will support other developers to initiate redevelopment of their sites and landholdings. Expansion of the Westfield Carousel Shopping Centre will on its accord, trigger development in the surrounding precincts.

The City of Canning will stage infrastructure projects according to need, nexus and available funding. It is envisioned that road upgrades and improvements will be undertaken to support redevelopment and manage traffic impacts. Public realm improvements will also be undertaken either by the City or the developer to ensure supportive amenity and recreation opportunities.

17.5 Design Review Process

As mentioned in Part 1 Sub-section 6.4.3, developments identified by the City's Local Planning Policy regarding the design advisory committee and assessments of significant developments will require assessment by a design advisory committee in accordance with this policy.

17.6 Infrastructure coordination, servicing and staging

A range of infrastructure improvements are required to support the CCC. They have been split into four categories and identified as either enabling or catalyst projects:

1. Road Upgrades
2. Drainage Upgrades
3. Service Upgrades
4. Public Realm Improvements
5. Community facilities, transport and affordable housing

Table 17.1: Catalyst Infrastructure

Infrastructure	Description of Works
Roads - Cecil Avenue	Widening and improvements to Cecil Avenue to enable it to function as a Main Street.
Roads - Southern Link Road	Stage 1 constructed between Grose Avenue/Liege Street to Grey Street to provide safe access to the proposed expansion of Westfield Carousel and adjacent development.
Service – Undergrounding of the dual circuit 132kV line from Cannington Terminal to Wharf Street.	Scoping the potential for undergrounding the powerline in partnership with other agencies and landowners and if determined feasible, underground the powerline.

Table 17.2: Enabling Projects

Infrastructure	Description of Works
Drainage – upgrades to the existing basins and drains to constructed wetlands and urban streams.	Refer to Appendix 3: Local Arterial Drainage Plan (Essential Environmental, 2016)

17.7 Developer Contribution Scheme/Arrangements

A Developer Contribution Scheme or Arrangement will be prepared to fund and deliver key infrastructure requirements that are shared amongst a range of stakeholders. The Scheme or Arrangement will be designed based on needs and to support development. It will be based on the general intent of this Activity Centre Plan and designed to be fair and equitable. The Scheme or Arrangement will either take the form of a traditional developer contribution scheme or through agreements with developers to fund necessary infrastructure. A Specified Area Rate may also be considered to fund infrastructure and public realm improvements within the CCC.

17.8 Competitive Advantages

The CCC has a number of clear competitive advantages when compared with other Strategic Metropolitan Centres in Perth. These include:

- High level of transport accessibility being 20 minutes for the Perth CBD by road and less than 15 minutes by train.
- Strategically located between other high intensity activity centres (or destinations) such as Curtin University, Perth Airport, Jandakot Airport, Welshpool and Canning Vale industrial areas.
- Well serviced infrastructure provision enabling development to occur without significant barriers.
- Incorporating a highly attractive Westfield Carousel Shopping Centre, attracting more than 20 million visitations per year. The proposed expansion will most likely increase this figure in the future. This high level of visitation provides a substantial catalyst to transform the centre with a more diverse set of uses and to attract a broader range of visitors, workers and residents to access the CCC.
- Having significant vacant or prime redevelopment land (estimates vary of between 15 and 25 Ha) with a number of key sites controlled by either state or local government. This enables the City to initiate catalyst projects and set the standard for future private investment and development.

Collectively, these advantages combined with the vision and enabling planning framework provided by this Activity Centre Plan, represent an attractive option for investment by both the public and private sectors. This investment will help realise the CCC as one of Perth's most significant and attractive strategic metropolitan centres.

17.9 Measuring Success

A performance evaluation framework will be developed for the CCC to track progress against the targets established in the Activity Centre Plan. Aspects of the CCC that would be appropriate to measure include:

- Safety – lighting, pedestrian crossings, footpaths, accidents and incidents
- Enjoyment and City life - Sunday activity, evening activity, diversity of activity, satisfaction, return trips

- Public transport – alternative transport, patronage, car use, walkable streets, cycle use
- Environment - landscape and trees, green buildings, energy and water consumption
- Jobs - employees, strategic jobs, employment density
- Homes - number of residents, number of dwellings
- Diversity – number and type of uses, floorspace increase per use
- Investment - \$ invested in development

The Activity Centre Plan establishes some targets however, for some the existing situation needs to be measured to set a baseline and target. Key success measures and targets will help gauge the intensity, diversity, employment and accessibility outcomes for CCC as a strategic metropolitan city centre under Directions 2031 and SPP 4.2 as well as those set in this Activity Centre Plan.

Measures will have clear metrics defined with a baseline position established by an audit of the existing situation and a target or goal. Measures will be related to specific outcomes and/or locations. Census data (2011 census as base) recorded every 4 years, can be used for some measures and state government surveys (e.g. Planning and Land Use Categories, PLUC, survey) and Council databases can provide others.

17.10 Risks and Limitations

Beyond the economic uncertainties, environmental challenges and travel demands of developing this strategic metropolitan centre, questions may remain about the ability of CCC to become a competitive and successful centre within the context of the Perth Metropolitan region. The challenges to be overcome are universal and not necessarily exclusive to CCC, but include factors and trends such as:

- The need for collaborative ideas, opportunities and agreements between CCC stakeholders.
- The shift to an urban life and culture where sharing of facilities (car parks, public spaces, buildings, recreation facilities, health services and other amenities) is common place.
- The limited success of recent urban regeneration projects in WA to engender compact dense urban places, activities and public transport.
- The expected need to incentivise the market e.g. subsidies, land leases, to develop in an alternative integrated way.
- Increasing need for conservation of water, food and energy supplies.
- The lack of common goal setting and decision making across public and private sector organisations.

All of these challenges point to the overall challenge at CCC and the importance of strong leadership if the unique opportunity, ambitions of stakeholders and aspirations of the local community, are to be realised.

17.11 Review

The Activity Centre Plan has been prepared within an indicative 20 year planning horizon. Much of the visioning and conceptualising is based on forward estimates of growth which will need to be monitored for continued relevance. Unexpected events are a feature of urban development, particularly at the scales being considered at CCC.

The approval of the Activity Centre Plan will have effect for 10 years in accordance with the deemed provisions of the Planning and Development (Local Planning Scheme) Regulations 2015. However; at a minimum, this Activity Centre Plan will be reviewed every 5 years to ensure applicability and relevance. A major review is proposed towards the end of the 10 year period and the WAPC may be requested to extend the period of the Activity Centre Plan if necessary. The City of Canning will initiate this review with the support of key stakeholders.

17.12 Further Investigations and Initiating Projects

As well as adopting a “place led” approach there is a need to undertake further detailed investigations and initiating projects into realising the **“Supportive Infrastructure”** necessary to provide certainty to delivering real change. The key “supportive infrastructure” investigations and initiating projects include all elements listed in Table 17.1 below. A comprehensive program of on-going work will be required and staged over time.

As well as the on-going process of place making there is a recognised need for a “business case” that clearly informs the investment decisions for all stakeholders. This Business Case will be prepared based on Social Return on Investment principles, highlighting:

- Return on investment of intensifying development and their benefits to the broader community.
- Economic incentives and funding mechanisms available to fund key initiatives.
- The value of public sector infrastructure investment opportunities
- Staging and delivery options beyond the initial project focus
- The level of funding obligations of State and Commonwealth government to realise CCC’s role in the metropolitan context as required by SPP 4.2.

Table 17.3: Further Investigations and Initiating Projects

	Study	Priority/ Timeframe	Responsibility
Activity	Economic Development Strategy	Completed	City of Canning
	Place Activation Strategy	Completed	City of Canning
Movement	Movement, Access and Parking Strategy - Draft	Completed	Revitalisation Project Team
	Finalise the Movement, Access and Parking Strategy with input from State Government and agencies	High (Year 1)	City of Canning DoT MRWA
	Formalise the car parking strategy and cash-in-lieu policy, including cost contribution plan	High (Year 1)	City of Canning
	Canning Train Station surrounds upgrade and design	Low (Years 5 -10)	City of Canning PTA
	Rapid transit feasibility for Canning including the CCC – including light rail connection from Canning Bridge via Curtin	Medium (Years 3 - 5)	City of Canning
Resource Conservation	Local Water Management Strategy	Completed	City of Canning
	Local Drainage Plan (incorporating stormwater modelling) agreed with Water Corporation to provide adequate draining for future growth and improve amenity through urban streams	High (Year 1)	City of Canning Water Corporation
	Threatened Ecological Community Management Plan and Landscape Plan and Design prepared with Western Power, Department of Parks and Wildlife and other relevant authorities	Low (Years 5 - 10)	City of Canning, Western Power & Environmental Protection Authority
	Investigate alternate infrastructure for local water and energy supply	High (Year 2)	City of Canning & Utilities
Urban	Cecil Avenue Geometric Design	High (Year 1)	City of Canning

	Study	Priority/ Timeframe	Responsibility
Structure			Landowners
	Integrated Infrastructure Delivery Plan with Capital Forward Works Plan and Budget	High (Year 1)	City of Canning Utility Companies
	Detailed design for other streets and access lanes to feed into Cecil Avenue and other key movement networks	High (Year 2)	City of Canning
Urban Form	Design guidelines for Alfresco Dining	Medium (Years 3 - 5)	
	Signage Policy	Completed	
	Public Realm Enhancement Program developed and budget adopted for implementation	Medium (Years 3-5)	City of Canning
Implementa- tion	Create project awareness and develop a branding and marketing strategy for CCC as a place of investment	Completed	City of Canning
	Development business case based on social return on investment to inform investment decisions and seek funding.	High (Year 2)	City of Canning & Department of Planning
	Place Activation Program developed and in place.	Completed and further work deferred.	City of Canning
	Amend the Town Planning Scheme and MRS to enable adoption of the Activity Centre Plan.	High (Years 1 & 2)	City of Canning
	Develop and implement investment attraction strategy to meet growth targets and priorities.	High (Years 1 – 2)	City of Canning
	Facilitate private sector projects to achieve the CCC vision and objectives.	High (On-going)	City of Canning
	Establish an asset management program for continued maintenance and upgrading of the public realm and	Medium (Years 3- 5)	City of Canning

Study		Priority/ Timeframe	Responsibility
	infrastructure within the CCC.		
	Develop and adopt a governance model with State Government and other key agencies and stakeholders to deliver shared and joint initiatives.	High (Year 1)	City of Canning & Private Sector
	Develop a Developer Contributions Scheme or Arrangement for provision of shared and necessary infrastructure.	High (Year 2)	City of Canning & Department of Planning
	Prepare a performance evaluation framework to measure the success and progress of key initiatives outlined in the Activity Centre Plan.	High (Year 1)	City of Canning

18 Glossary of Terms/ Definitions

The following glossary outlines the intended meaning of some terms as used in this document. The meanings in as simple language as possible without diluting the meaning, and are not intended to be comprehensive or to define every technical dimension of the terms.

Activation	To make a place full of life. To facilitate, stimulate and accelerate creation of activity and liveliness, such as in terms of economic, social and physical activity.
Activity Centre	Community focal points, including activities such as commercial, retail, higher density housing, entertainment, tourism, civic/community, higher education, and medical services.
Accessible housing	Construction of housing to enable independent living for persons with disabilities.
Activated Use	Businesses such as shops and cafes with visible entrances, glazing etc that promote integration with the public realm
Affordable housing	Housing which low income households can afford. Housing cost (e.g. rent) that can be paid from a household's income in addition to also meeting the cost of other basic needs such as food, clothing, transport, medical care and education. Affordable housing is typically targeted at low income households which are most sensitive to housing costs.
At grade	At the same level as surrounding ground levels.
Building envelope	A defined area within which a building should be contained. A building envelope may be 2 or 3 dimensional.
Built Form	The position, shape, size, height, style and appearance of buildings.
CBD	Central Business District, usually of the capital city.
Collaboration	Working together to produce or create something, especially in a joint intellectual effort.
Commercialisation	To take action intended to generate financial profit.
Consumer Services	Services to help non-business people with products they have. The formulation, technical consulting, repair and testing of any tangible personal property for sale and that is used for personal, family, or household for non-business purposes.
Corner Element	An architectural feature or element which is only part of the building that addresses the corner and has a special or distinctive character or treatment that is visually distinguishable from the main facades of the building. The element is only part of a building and not the entire building

	itself.
CPTED principles	Crime prevention through environmental design (development or building design) principles.
Governance	A system to control and have power over something. The act, process, or power of consistent leadership, exercise of power, management, cohesive policies, guidance, processes and accountability for a given area of responsibility.
Green Building	Buildings that have reduced environmental impact. Buildings including measures to reduce the use of resources such as energy and water use, and waste production. The Green Building Council of Australia has a comprehensive, national, voluntary environmental rating system that evaluates the environmental design and construction of buildings and communities.
Greenfield areas	Areas not previously developed for urban purposes.
'heat island' effect	Where a land area is significantly warmer than its surrounds, usually due to urban development that removes natural shade, uses materials which effectively retain heat and generates heat.
Heavy rail	Passenger rail cars that are the heaviest weight, carry the most passengers, can travel fast speeds and, compared too light rail, accelerate and decelerate slowly due to their weight. Always segregated from vehicles and pedestrians.
Improvement Plans and Schemes	Legal documents the Western Australian Planning Commission can create to plan for, control and establish development and land use instead of Local Planning Schemes.
Incentivisation	The practise of building a system or an arrangement of good reasons, promotion, motivation and/or inducements for desired action.
Integrated Transport Strategy - ITS	A transport plan prepared by a single local government or groupings of local governments to address local or sub-regional transport issues in their areas of jurisdiction. Integrated transport plans are useful tools for the comprehensive analysis of existing and future transport system requirements within an area.
Knowledge intensive	Businesses that use or produce great amounts of knowledge. Enterprises which require a significant input of highly intellectual labour or knowledge to produce their output, product or service, and/or enterprises that's output, product or service is highly intellectual labour or knowledge.
Legibility	The ability for people clearly to find their way around a place,

Local Planning Schemes, Local Schemes, Town Planning Schemes 'TPS', Local Structure Plan 'LSP', Activity Centre Plan	A legal document administered by local governments to manage land use and development within a defined scheme area.
Local Planning Strategy	A document created by local governments setting out the future land use planning intentions for a local government area.
Localisation economy	(Also known as Agglomeration economies) The benefits to businesses of locating close to similar businesses. The advantages to a collective system of the same type of enterprises of being located together in a densely populated area. Advantages may include completion between multiple local suppliers, greater labour specialisation, proximity to a large market, lower transport costs and functional linkages to other related enterprises.
Masterplanning	The process of formulating a comprehensive long term plan.
Metropolitan Region Scheme 'MRS'	A legal document setting out the broad land use zones and reserves for the entire Perth metropolitan region.
Mobility	The ability to move from one location to another.
Modal split	The division of journeys according to the means of travel.
Modal Shift	A change in the modal split.
Place	An area with definite or indefinite boundaries, usually in urban design terms referring to a distinct identifiable area.
Place making	A system for making a place better. The organisation of actions to improve the quality of a place to the benefit of its residents and visitors, usually concerned with public spaces. Often involves ongoing management until the place and its community are self-sustaining.
Plot Ratio	Plot ratio for developments is assessed based on the definition of plot ratio in the Residential Design Codes.
Public Open Space 'POS'	POS Tool defines public open space (POS) as all land reserved for the provision of green space and natural environments (e.g. parks, reserves, bushland) that is freely accessible and intended for use for recreation purposes (active or passive) by the general public
Public realm	Any areas and buildings that are open to access by the general public, and include areas which are visible to the public from such areas.

Rapid transit	Public transport services and routes designed to carry high volumes of passengers over short to medium distances in a short time.
R-Codes - Residential Design Codes	The R-Codes provide the basis for controlling the siting and design of residential development throughout Western Australia.
Sense of place	An identifiable set of traits of a place which define the place and its uniqueness
Setbacks	The distance between a building and a lot boundary, usually measures at right angles to the boundary.
‘shoulder’ bike lanes	Cycle lanes located on the outer extremities of a road pavement.
Spatial	Of, relating to, involving, or having the nature of space.
Special Control Area - SCA	Mechanism of town planning schemes to deal with a wide range of planning and environmental issues has been proposed by many local governments and state government agencies.
Specialised Centre	Centres focused primarily on regionally significant economic or institutional activities that generate many work and visitor trips, which therefore require a high level of transport accessibility. These centres may also include other activities, particularly knowledge-based businesses that complement the primary function.
Statutory Planning	<p>The making of legal land use plans and approval of subdivision and development.</p> <p>Processes concerned with fulfilling legal requirements of land use planning laws such as the creation and amendment of Local Planning Schemes, structure plans. Activity Centre Plans, and approvals to subdivision and development applications.</p>
Strategic	Careful focus on achieving favourable results for the essential or highly important overall long term interests and aims.
Street Interface	The meeting of and relationship between a public street and a building or development.
Suburban	Traits of a suburb, usually being low density residential development in the outer areas of a city that is largely reliant of private car use.
‘Town and gown’	The relationship between the two distinct populations with a university town; "town" being the non-academic population/residents and "gown" being the students and university staff.
Transit Oriented	Development around train stations that increases use of public transport.

Development (TOD)	Locating moderate to high-intensity commercial, mixed use, community and residential development close to train stations and/or high-frequency bus routes to encourage public transport use over private vehicles.
Travel Management, Travel Plan	Actions to reduce car use and increase alternatives to car use. A package of measures, initiatives and promotions aimed at reducing single occupant travel by car (and associated emissions) by developing and encouraging alternatives and more travel choices like teleworking, walking, cycling, public transport and carpooling.
Typology, Typologies	A logical grouping of types, according to common elements, form, character and/or arrangement of those elements. A typology may serve as a model, such as models for urban form.
Urban design	The practice of arranging the elements of urban areas to create places with distinct beauty and identity that are functional, attractive, and sustainable. Urban design principally addresses the public realm and relationships between people and places, movement and urban form, and nature and buildings at the scale of groups of buildings and streets but also extends to whole neighbourhoods and districts, and even entire cities.
Urban fabric, Urban form	The design and layout of the structural elements of an urban area or city. The structural elements include natural features, open spaces, transport/road systems, infrastructure, streets, land uses, built form, and the like.
Townscape	<p>The arrangement of built forms and interstitial space; the appearance of a town or city; an urban scene.</p> <p>Perhaps we change this term for Urban Form or Urban Fabric.. they have about the same meaning.</p>
Urbanisation economy	The advantages to a collective system of enterprises of being located in an concentrated urban area. Advantages may include proximity to a market, labour supply, good communications, and financial and commercial services.
Walkability	A measure of how suitable, attractive and pleasant a place or route is for walking. Hence an alternative term is “pedestrian friendly”. Factors influencing walkability include the presence or absence and quality of footpaths, protection from the weather, shade, landscaping, physical and personal safety, wayfinding, interesting activities along routes, safe road crossings and the like.
Walkable catchment	The area within a specified walking distance along publicly accessible pedestrian routes from a given place. The distances are usually 400m or

800m from an activity centre or a public transport stop or station.

Water Sensitive Urban Design (WSUD)	Water Sensitive Urban Design is a land planning and engineering design approach which integrates the urban water cycle, including stormwater, groundwater and wastewater management and water supply, into urban design to minimise environmental degradation and improve aesthetic and recreational appeal. The WSUD measures include but are not limited to: stormwater basins/urban, bio-filters, swales, porous paving, infiltration trench systems, etc.
Western Australian Planning Commission - WAPC	The WAPC is the statutory authority with state-wide responsibilities for urban, rural and regional land use planning and land development matters. The WAPC responds to the strategic direction of government and is responsible for the strategic planning of the State.
Way finding	Sensory cues to help people know where to go through a place to get from where they are to their desired destination. Wayfinding is assisted by maps, signage, graphical clues, landmarks, objects, pathways, landscaping, arrangement of spaces and other similar sensory cues.
Grain	The arrangement, direction, texture or pattern of fibres or small parts.
Elevation	A scale drawing of the side, front, rear or one vertical plane of something such as a building.
Feeder ... Bus, transit	A public transport service which is primarily intended to bring passengers to a railway station from surrounding areas.
High Frequency (transport)	A public transport service which departs every 15 minutes or less.
Multiplier effect	Where an increase in one thing leads to a greater increase in something else. For example, where a job is created, it leads to the creation of multiple other jobs.
Amenity	The things about a place that make it desirable, pleasant, enjoyable, useful, convenient, comfortable and valuable. Amenity can be tangible such as a facility, or intangible such as the sense of security, proximity to something, sense of community, or climate.
Regeneration, Transformation	The action of renewing a place, usually involving a change for improvement, and includes physical elements such as roads and buildings and intangible elements such as community.
Intensity, Intensification	In relation to development, usually translates to higher density residential development and more economic activity in the same space or place.

19 Appendices list

1. Design Guidance (City of Canning, 2016)
2. Local Water Management Strategy (Essential Environmental, 2012)
3. Local Arterial Drainage Plan (Essential Environmental, 2016)
4. Economic Development Strategy (Pracsys, 2015)
5. Canning City Centre Servicing Report (Cardno, 2015)
6. Movement, Access and Parking Strategy (Jacobs, 2016)

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