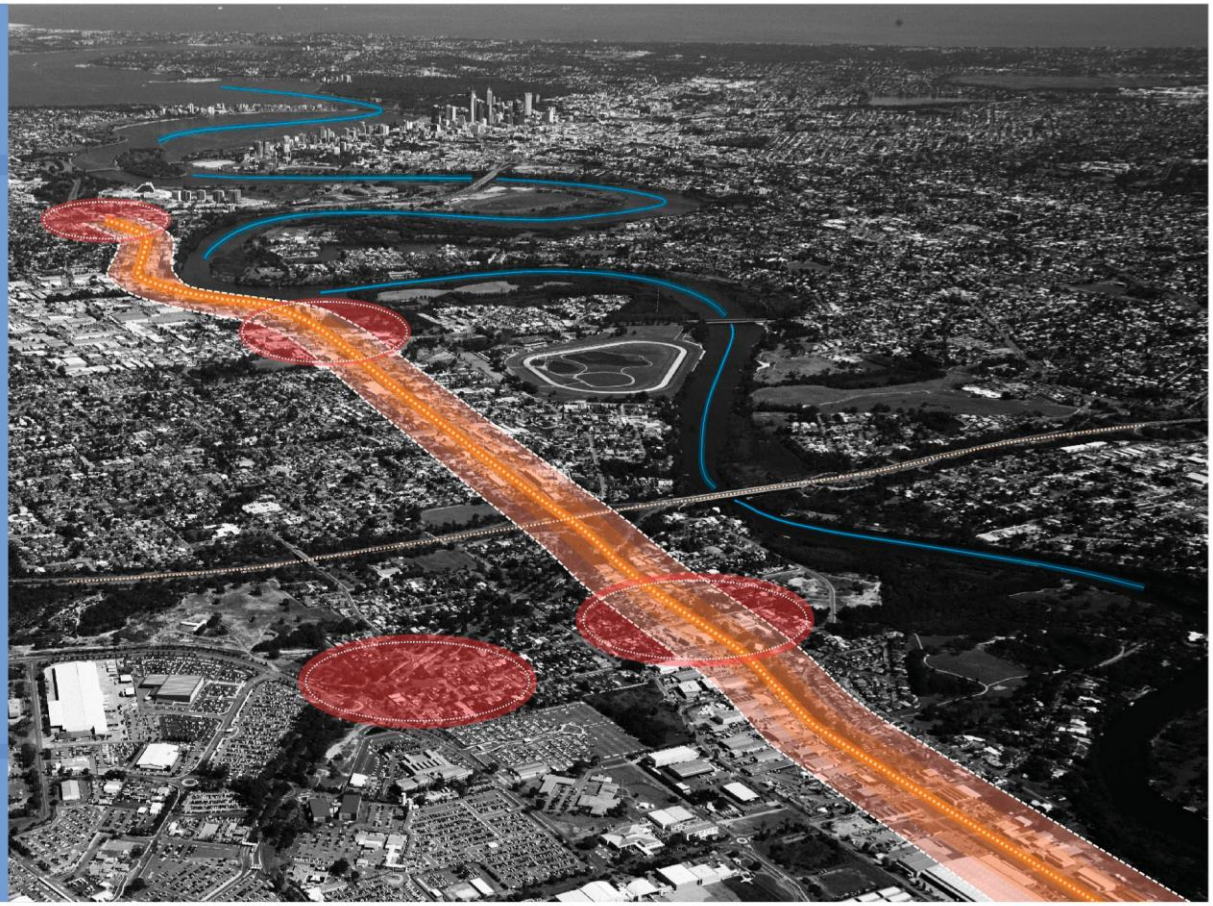
Great Eastern Highway Urban Corridor Strategy

BACKGROUND REPORT



Prepared for **City of Belmont**

Prepared by **Taylor Burrell Barnett**

March 2018

DOCUMENT HISTORY AND STATUS

Great Eastern Highway Corridor Plan
Background Report
Structure Plan

Revision	Reviewer	Date Issued
16/100-0	KH	March 2018

Prepared By:
Taylor Burrell Barnett
Town Planning and Design

Level 7, 160 St Georges Terrace
PO Box 7130 Cloisters Square
PERTH WA 6850
Phone: 9226 4276
Fax: 9322 7879
admin@tbbplanning.com.au

EXECUTIVE SUMMARY

The Great Eastern Highway Urban Corridor Strategy is being prepared to assist in facilitating growth of the Great Eastern Highway Corridor (Corridor) as one of Perth's key Urban Corridors. The Strategy will provide a framework for gradual transformation into a Corridor that will offer a diversity of new homes and new economic opportunities within a growing, changing City.

This Background Report (report) provides the necessary background information to inform the Urban Corridor Strategy.

The report includes an analysis of the study area, including Activity Corridor examples, locational and historical context, planning framework and the socioeconomic summary.

The report considers the physical characteristics of the study area and includes an assessment of the opportunities and constraints of the Corridor in terms of land use, built form, public realm and movement, as well as an assessment of the redevelopment potential of the study area.

An overview of infrastructure funding opportunities is also included which will inform the Implementation Framework in the Great Eastern Highway Urban Corridor Strategy.

An existing landscaped portion of the Great Eastern Highway Corridor.

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1. INTRODUCTION

This report has been prepared to inform the preparation of a comprehensive strategic plan for the redevelopment of the Great Eastern Highway Corridor spanning from the Graham Farmer Freeway in Rivervale and Ivy Street in Ascot.

The proposed plan will guide the preparation of Great Eastern Highway Urban Corridor Strategy, and ultimately the redevelopment of public and private landholdings within the study area as shown in **Figure 1**.

This report provides analysis and information to inform the planning of this area, inclusive of:

- **Activity Corridor Characteristics**, to realise what the Urban Corridor Strategy should be aiming to achieve for the Corridor;
- The **Planning Framework**, including regional and local planning previously undertaken that will inform the future redevelopment of the subject area;
- **Socio-Economic Analysis** of the study area, identifying key trends and forecasts for the population and the likely implications on the Urban Corridor Strategy;
- **Physical Site Description** of the study area;
- An **Opportunities and Constraints Analysis** of the study area, identifying key issues and opportunities that will inform redevelopment potential; and
- The **Infrastructure Funding Options** to be considered in the implementation of the Urban Corridor Strategy.

The ideas included in this report are intended to provide background and context to the **Great Eastern Highway Urban Corridor Strategy.**

1.1 ACTIVITY CORRIDOR CHARACTERISTICS

The ideal activity Corridor would typically be characterised by the following traits:

- High density residential facilities (i.e. townhouses, terraces and apartments), sometimes as a component of mixed use development;
- A variety of non-residential uses, including retail, commercial, food and beverage, health, short-stay accommodation and education facilities, in a fine-grain and street-based built form or series of nodes;
- With major destinations or attractions as anchors at each end;
- Maximum intensity of development along the primary Corridor, with a gradual reduction in intensity behind the Corridor;
- A rail-based form of high frequency public transport along the length of the Corridor;
- Buildings that address the street, with minimal front setbacks and parking excluded from the front setback area;
- On-street parking provided, enabling convenient access to businesses and limiting vehicle traffic speeds to promote safe non-vehicle movement (i.e. walking and cycling);
- Street trees and awnings to provide climatic relief;
- Generous footpaths and cycle paths on both sides of the main Corridor and connecting with the surrounding area to encourage walking;
- Regular, safe and formalised pedestrian crossings;

- Parallel rear laneways and local streets (but not continuous along the length of the Corridor) that provide for efficient vehicle access. Direct vehicle access is ideally not provided to the activity Corridor.

The planning for the future of the Great Eastern Highway provides the opportunity to see these traits and characteristics incorporated as redevelopment occurs.

1.1.1 ACTIVITY CORRIDOR EXAMPLES

The following examples illustrate a number of existing or potential Activity Corridors, which have been drawn upon to highlight the importance of incorporating nodes of activity to create a vibrant urban environment, supported by high quality public realm and a robust public transport network and strong pedestrian and cyclist facilities.

A prime example is Portland Mall, a legacy project and icon for progressive urban planning and design, which has been transformed into a Great Street. Today it extends the entire length of downtown Portland, mixes multiple modes of transportation, stimulates adjacent development and re-establishes itself as Portland's civic spine. A new benchmark in design, placemaking and infrastructure for the 21st century, the design is a formal, powerful order of widened sidewalks, transit lanes, trees, lights and sidewalk. Stainless steel is used in new amenities for its refined surface and highly-durable finish. A comprehensive system of graphic and written information unifies the transit system environment for all users. A highly engineered design for flexible-set brick pavers allows for continuity of the pedestrian system at intersections. Shelter architecture was deliberately designed for openness and transparency. Roof and windscreen elements are minimal. Low-energy, LED lighting is incorporated into column cladding and ridge beam for enhanced night use.

Portland Mall	
Location	Portland, Oregon USA
Length	Approximately 9km
Proximity to CBD	Downtown Portland
Anchor Centres / Nodes	University District, Retail Core, Civic/Office Cultural, Hotel/Financial, Old Town/Chinatown
Key Land Uses	Commercial, residential, offices, retail, ground floor activation, residential campus environment
Residential Density	Pockets of high density in core areas
Public Realm Features	High quality of public realm, including widened sidewalks, transit lanes, street trees, lighting and street furniture to encourage use
Key Transportation Features	Multiple modes of transportation, including bus and light rail, new bus shelters, transit lanes, continuity of flexible set brick pavers allows for continuity of the pedestrian system at intersections

Provision of high quality public realm featuring landscaping, shade and street furniture

Sydney Road	
Location	Brunswick, Victoria Australia
Length	Approximately 2.5km
Proximity to CBD	1km
Anchor Centres / Nodes	Neighbourhood activity centre, core light industrial precincts, residential precinct, civic and cultural precinct
Key Land Uses	Retail, residential, industrial, commercial, active uses on the ground floor.
Residential Density	Precincts of higher density areas 5-8 storeys, other areas 1-3 storeys
Public Realm Features	Public realm improvements include pedestrian priority streets connecting to Corridor, green streets connecting to Corridor, improved pedestrian links, enhanced tram stops, enhanced access to train platforms connecting to crossing streets
Key Transportation Features	Railway line, multiple train stations, tram line.

Active street fronts incorporating public transport and cycle infrastructure.

St Kilda Road	
Location	Melbourne, Australia
Length	Portion of road approximately 3km long
Proximity to CBD	3km
Anchor Centres / Nodes	6 sub-precincts, each with a different function including high density residential, mixed use, public domain, and lower scale residential transitioning into surrounding areas.
Key Land Uses	Residential, mixed use, office
Residential Density	High density
Public Realm Features	Adjacent to major open spaces, formal tree lined landscaped boulevard and avenues which create a 'park like' setting, a variety of street widths which create a range of distinctly difference streetscape experiences.
Key Transportation Features	Tramline, extensive bike paths and pedestrian paths

High quality landscaping to provide shade to cyclists and pedestrians

1.2 PRECINCT ANALYSIS

1.2.1 LOCATION AND EXTENT

The Corridor is centred on the existing Great Eastern Highway road reserve. The portion of the Great Eastern Highway included in the study area is a 6.4 km long, running from the Graham Farmer Freeway in Rivervale to Ivy Street in Ascot and includes the lots fronting or siding onto the Great Eastern Highway as depicted in **Figure 1 – Study Area**.

The centre of the Corridor is located approximately 6km north-east of the Perth CBD and 3.5 km south-west of the Perth Airport. The Belmont Mixed Business Area fronts the southern side of the Great Eastern Highway. The Burswood Activity Centre is located west of the Corridor, on the western side of the Graham Farmer Freeway.

Figure 1 Study Area

1.2.2 LOCAL CONTEXT

The Great Eastern Highway provides a vital connection from the Perth Airport to the Perth Central Business District (CBD) (**Figure 2**). The area also benefits from its proximity to the Belmont Mixed Business Area and connection to the wider road network. Several sites surrounding the Great Eastern Highway are underway significant redevelopment, including Development Area 6 (DA6) to the east, the Springs located in Rivervale on the western end of the Corridor, Golden Gateway located in the middle of the Corridor immediately north of Great Eastern Highway, as well as a number of Development Control areas as identified in the City of Belmont Local Planning Scheme No. 15 located along the Corridor.

The study area is in proximity to several key international attractions including the Crown Casino, Optus Stadium, Ascot Racecourse, the Swan River as well as the Perth CBD and the Perth Airport.

The importance of the Great Eastern Highway as the main east-west Corridor dominates the landscape of the area. Whilst providing good accessibility, the nature of this major traffic route also acts as a barrier for vehicle, pedestrian and cycle linkages to the surrounding areas. Whilst it is important that development along the Great Eastern Highway is optimised to realise the benefit of exposure to significant volumes of traffic, pedestrian and cycle linkages must also be considered and improved.

1.2.3 HISTORICAL CONTEXT

The areas surrounding the Great Eastern Highway were amongst some of the first land grants offered in the newly formed Swan River Colony. In 1830 Captain F. Byrne was allocated Swan Location 34 which he named Belmont Farm after his estate in England. Mark Currie was appointed to survey and allocate parcels of land along the Swan River, managing to reserve Swan Location 28 for himself. The Curries' called their property Red Cliff after the steep red clay banks of the Swan River, clay which was later to be used to make bricks.

The area of Belmont was originally established on 2 December 1898 as a road board with a chairman and councillors under the District Roads Act 1871. It was renamed "Belmont Park Road District" on 4 October 1907. With the passage of the Local Government Act 1960, all road districts became Shires, with a president and councillors, effective July 1961. On 17 February 1979, the Shire of Belmont became a City, with a Mayor and Councillors.

Great Eastern Highway at Belmont 1953 (City of Belmont, 2015)

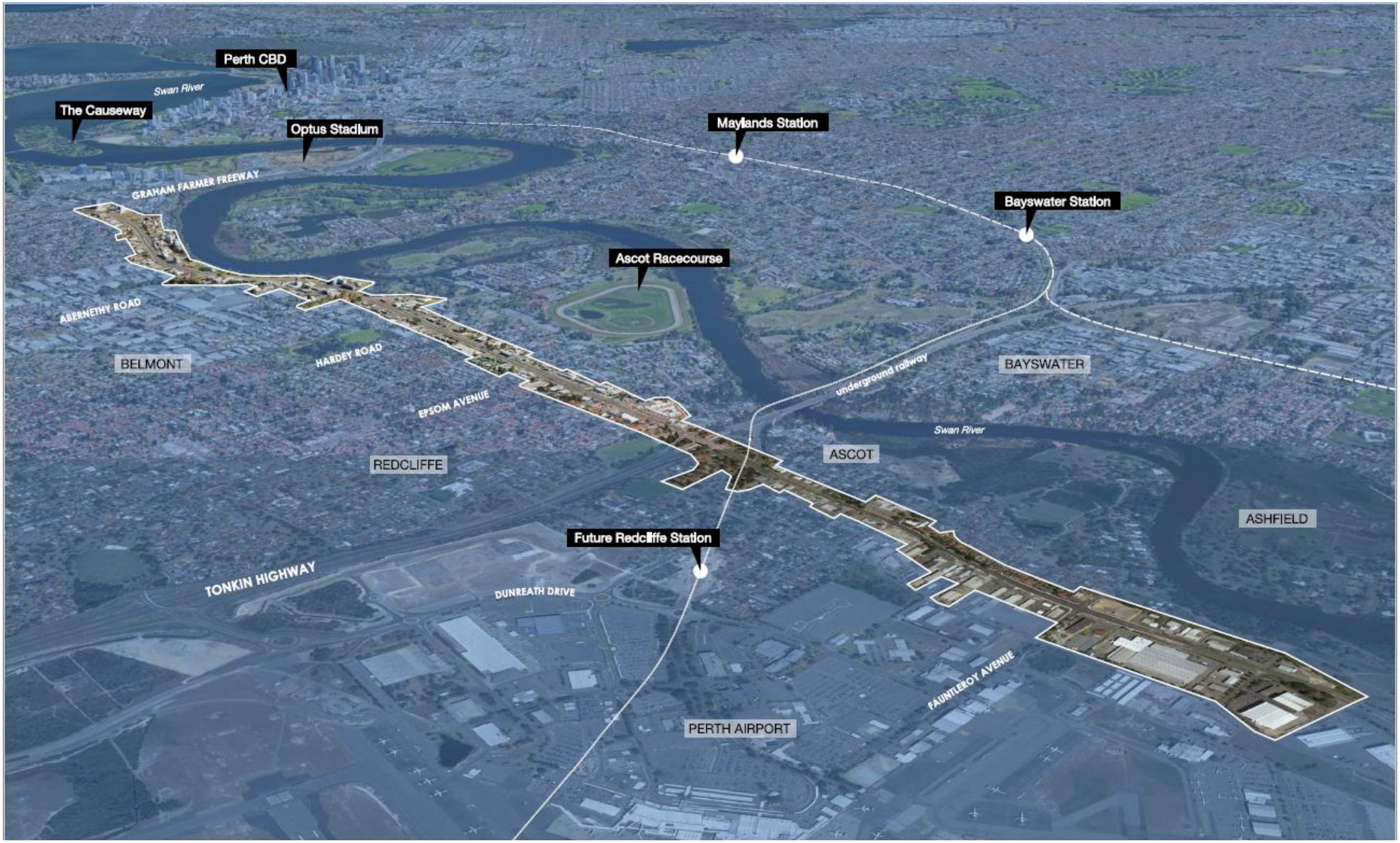


Figure 2 Study Area Context

2. PLANNING CONTEXT

2.1 STRATEGIC PLANNING CONTEXT

2.1.1 PERTH AND PEEL @ 3.5 MILLION, (WAPC, MAY 2015)

The Western Australian Planning Commission's (WAPC) Perth and Peel @ 3.5 Million (draft) Framework is intended as a high level spatial framework and strategic plan for the Perth and Peel Region, establishing a vision for future growth and guiding the planning and delivery of housing, infrastructure and services necessary to accommodate a rapidly expanding population. The Strategy is intended to realise the vision encapsulated in *Directions 2031 and beyond* and the *State Planning Strategy 2050.*

The Great Eastern Highway falls within the Central Sub-region of Perth and Peel @ 3.5 Million Framework. In the context of the Great Eastern Highway, Perth and Peel @ 3.5 Million provides the following guidance:

- The Great Eastern Highway is identified as a Corridor, providing a connection between Burswood Activity Centre and Perth Airport Activity Centre. Corridors are identified as providing significant opportunities to accommodate increased medium-rise higher density residential development.
- Corridors provide connections between activity centres and maximise the use of high-frequency public transport.
- Corridors should be protected from incompatible urban encroachment and avoid buffers to promote a system where land use developments and transport infrastructure are mutually compatible.
- Corridors should be the focus for investigating increased densities and a greater mix of suitable land uses.
- A high quality public transport service is important, where one or more modes of travel are used in combination to:
    - Provide high levels of service frequency at all times of the week and generally high frequency in peak periods;
    - Provide access to a reasonable variety of destinations including through multi-modal links; and
    - Operate with a high level of priority over private vehicles wherever possible.
- Future development should be focused in and around station precincts and these precincts should be promoted as attractive places to live and work by optimising proximity to public transport.

The Framework also identifies a target of an additional 215,000 dwellings to be accommodated within the metro central region, with an allocation of 10,500 dwellings to be accommodated within the City of Belmont.

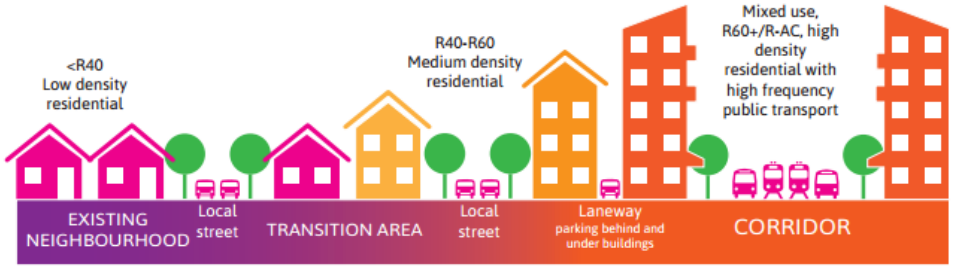


Figure 3 Cross Section Illustrating Proposed Interface from Corridors to Neighbourhood Area (Perth and Peel @ 3.5 Million)

2.1.2 TRANSPORT @ 3.5 MILLION (DEPARTMENT OF TRANSPORT, JULY 2016)

The Transport @ 3.5 Million Strategy (Transport Strategy) was released by the Department of Transport in July 2016 to guide transportation planning and infrastructure investment to coincide with land use and development planning under Perth and Peel @ 3.5 Million. The Transport Strategy is intended to be a vision for generational change of Perth's transport network and aims to achieve maximum efficiency in the way in which people move about the metropolitan area.

Of significant relevant to the Great Eastern Highway, the Transport Strategy identifies:

- The Great Eastern Highway as a High Priority Public Transit Corridor;
- The Great Eastern Highway is classified as a freight road, with the portion east of Tonkin Highway identified as requiring an upgrade to 6 lanes by a population of Perth and Peel @ 2.7 million people;
- A Maylands bus bridge which will connect the Maylands peninsula to Rivervale, opening up opportunities to residents in the growing areas of Rivervale and Belmont will be constructed before Perth and Peel's population reaches 3.5 million;
- The Forrestfield Airport tunnel will cross the Great Eastern Highway at the Tonkin Highway interchange, with a new Belmont Station proposed to the south-east of this interchange; and
- A Light Rail link has been identified to travel from UWA-QEII through the Perth CBD and then connecting to Curtin-Bentley and eventually connecting the Canning Bridge. There is no Light Rail identified along Great Eastern Highway.

2.1.3 PERTH AIRPORT MASTER PLAN (PERTH AIRPORT, 2014)

The Perth Airport Master Plan was prepared in as a blueprint for future development, covering a planning period of 20 years.

The Master Plan details the plans to expand Terminal 1 and a new runway, which is anticipated to be operational by the end of the decade.

The Master Plan divides the Perth Airport into five precincts, two of these which will be solely aviation related, and three which will have a max of aviation and non-aviation uses and commercial development.

Of relevance to the Great Eastern Highway Corridor, the Perth Airport Master Plan notes:

- The Perth Airport welcomes the Forrestfield-Airport-Link, which will service Perth Airport passengers and employees;
- The State Government is working to improve public transport options and accessibility to the airport. Terminals 3 and 4 are currently serviced by public bus services that connect Perth Airport to the city, however there are currently no public transport services to Terminals 1 and 2. The PTA has proposed that a public bus service is planned to commence when Virgin Australia relocates its domestic services in Airport Central; and
- All terminals are serviced by taxis, and Perth Airport's Connect shuttle bus service currently operate between the terminals, and to and from the Perth Airport and the city.

2.1.4 STATE PLANNING POLICIES

State Planning Policy 4.2 - Activity Centres Policy (WAPC, August, 2010)

Activity Centres for Perth and Peel – State Planning Policy 4.2 (SPP 4.2) defines a hierarchy of centres based on the future importance of each centre from a network perspective and the magnitude of development expected for a centre. SPP 4.2 applies to activity centres classified as 'District' and above, and although the Great Eastern Highway is not classified as an activity centre, it provides access to the Perth Airport which is classified as a Specialised Centre, Burswood which is classified as a District Centre and the Belmont Town Centre which is classified as a Secondary Centre. Therefore, many of the activity centre principles are applicable to activity Corridor development.

Development along the Corridor should complement development within each of the centres, which is to be characterised by the following:

- Bus network hub (with buses traversing the Corridor);
- Typical retail types of discount department stores, supermarkets, convenience goods, small-scale comparison shopping, personal services, some speciality stores, district-level office development and local professional services;
- Minimum residential density target per gross hectare of 20, and desirable target of 30; and
- Mix of land uses as a proportion to the centre's total floor space.

The development framework for the Corridor should be cognisant of the development proposed within the adjacent centres.

State Planning Policy 5.1 – Land Use Planning in the Vicinity of Perth Airport (WAPC, July 2015)

The State Planning Policy 5.1 (SPP 5.1) applies to land in proximity to Perth Airport which is, or may be in the future, affected by aircraft noise. The purpose of the policy is to provide guidance to Local Governments in the vicinity of the Perth Airport and the WAPC when considering developments on land adjacent to the airport.

The subject site is predominantly outside of the 20 Australian Noise Exposure Forecast (ANEF), with the exception of the eastern end of the Corridor, east of Fauntleroy Avenue.

There is no restriction on zoning or development within areas below the 20 ANEF.

For the portion of the subject site within the 20 ANEF, development will occur in accordance with the requirements within SPP 5.1.

State Planning Policy 5.4 - Road and Rail Transport Noise and Freight Considerations in Land Use Planning (WAPC, September 2009)

State Planning Policy 5.4 Road and Rail Transport Noise and Freight Considerations in Land Use Planning (SPP 5.4) identifies necessary considerations and measures to mitigate the impacts of the operation of major road and rail infrastructure on noise sensitive development. This is particularly applicable for the Great Eastern Highway, which carries between 43,000 and 70,000 vehicles per day throughout the study area.

The consideration of greater intensification of development, particularly of noise sensitive uses such as residential, immediately adjacent Stirling Highway, will require a range of considerations to mitigate the impact of noise on this development. Some of the measures outlined in the policy include:

- Using distance to separate noise-sensitive land uses from noise sources;
- Construction of noise attenuation barriers such as earth mounds and noise walls;
- Building design, such as locating outdoor living areas and indoor habitable rooms away from noise sources;
- Building construction techniques, such as upgraded glazing, ceiling insulation, sealing of air gaps and mechanical ventilation; and
- Planning and design of the road or rail project such as construction in cut, traffic management or the use of low-noise road surfaces.

2.1.5 CITY OF BELMONT LOCAL PLANNING STRATEGY (CITY OF BELMONT, OCTOBER 2011)

The City of Belmont Local Planning Strategy identifies the Great Eastern Highway as the only major regional road that provides direct access to many individual commercial properties. The strategy recognises that the Corridor's dual role as a traffic mover and access street has resulted in many sections of the Corridor having traffic and amenity problems. In these sections of the Corridor, it is difficult to access properties by car and very hazardous to pedestrians.

The objectives for Great Eastern Highway identified in the Strategy are:

- Limit access points off GEH to minimise traffic conflict
- Encourage the provision of appropriate public transport;
- Facilitate the upgrade of GEH at the earliest opportunity;
- Facilitate promotion of GEH as an activity Corridor Strategy; and
- Work with appropriate State Government agencies to achieve objectives.
- The Corridor Strategy seeks to achieve these objectives.

2.1.6 CITY OF BELMONT LOCAL HOUSING STRATEGY (CITY OF BELMONT, NOVEMBER 2008)

The City of Belmont Local Housing Strategy is intended to provide a direction for the future planning for residential development, densities and housing types within the City, which informed the basis for residential zonings and provisions for the City's current Local Planning Scheme No. 15 (LPS 15). The Strategy aims to promote long term sustainability of the City by encouraging an increase in the City's population through the provision of residential land and housing. The Strategy recognises the importance of providing a range of housing types, which will attract and meet the needs of a diverse range of age groups.

2.2 STATUTORY PLANNING CONTEXT

2.2.1 METROPOLITAN REGION SCHEME

The Metropolitan Region Scheme (MRS) provides the statutory framework for land use in the Metropolitan Region. The Great Eastern Highway road reserve is identified as a 'Primary Regional Road'. There are access roads connecting to the Great Eastern Highway reserved as 'Other Regional Roads'. Land to the immediate north and south of Great Eastern Highway comprises land reserved for 'Parks and Recreation' and land zoned 'Urban', which is land 'in which a range of activities are undertaken, including residential, commercial, recreational and light industry'. Further south of the Corridor is land zoned 'Industrial', which is where the Belmont Business Park is located. The Perth Airport land is a Commonwealth Government Reserve for 'Public Purposes' **Figure 4 – Existing MRS**.

2.2.2 CITY OF BELMONT LOCAL PLANNING SCHEME 15

The 'Primary Regional Road', 'Other Regional Road', 'Public Purposes' and 'Parks and Recreation' reservations under the MRS are reflected in the City of Belmont LPS 15. The land to the north of the Great Eastern Highway comprises land reserved 'Parks and Recreation' and zoned 'Mixed Use', 'Residential and Stables',' Residential R20', 'Residential R100'. The land to the south of the Great Eastern Highway comprises land reserved 'Parks and Recreation: Water Supply Sewerage and Drainage', 'Public purposes – Primary School', and zoned 'Mixed Use', 'Mixed Business', 'Commercial', 'Service Station', 'Industrial', and 'Residential R20 and R20/R40' **Figure 5 – LPS 15.**

Clause 5.19 of LPS 15 identifies matters which the City is require to have regard to in considering applications for multi-storey buildings along Great Eastern Highway, which are:

a) The purpose of the proposed building;
b) The bulk and height of adjoining and nearby buildings;
c) Potential impact of overlooking and/or overshadowing;
d) Potential impact of the proposal on the existing and proposed streetscape; and
e) The effect of the proposed building on the amenity of adjoining and nearby properties.

In addition, Clause 5.19.2 requires the City to have regard to the requirement for a limited number of crossovers to the Highway and shall require any applicant to gain approval of a vehicular access plan by the responsible authority.

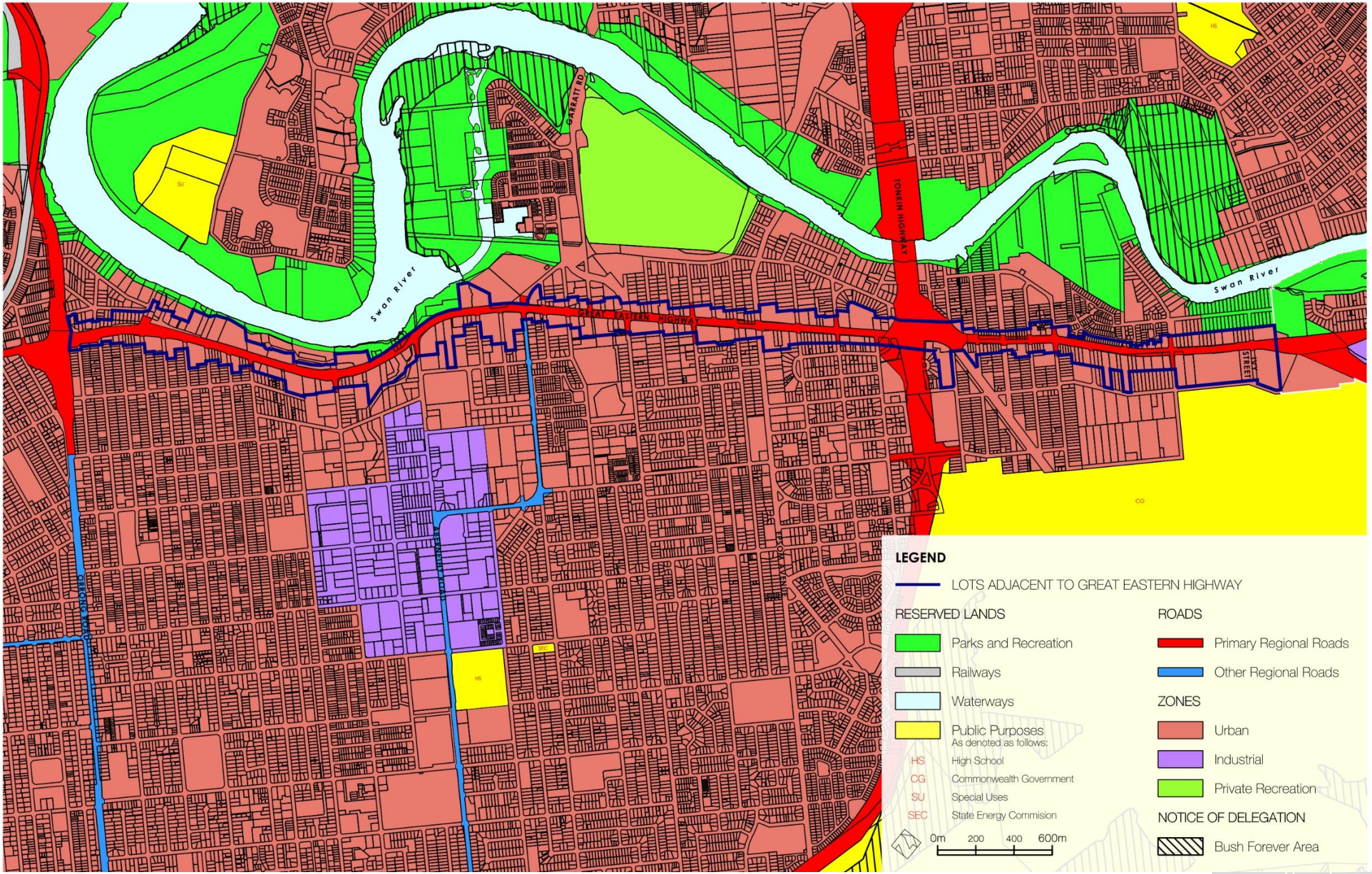


Figure 4 Metropolitan Region Scheme

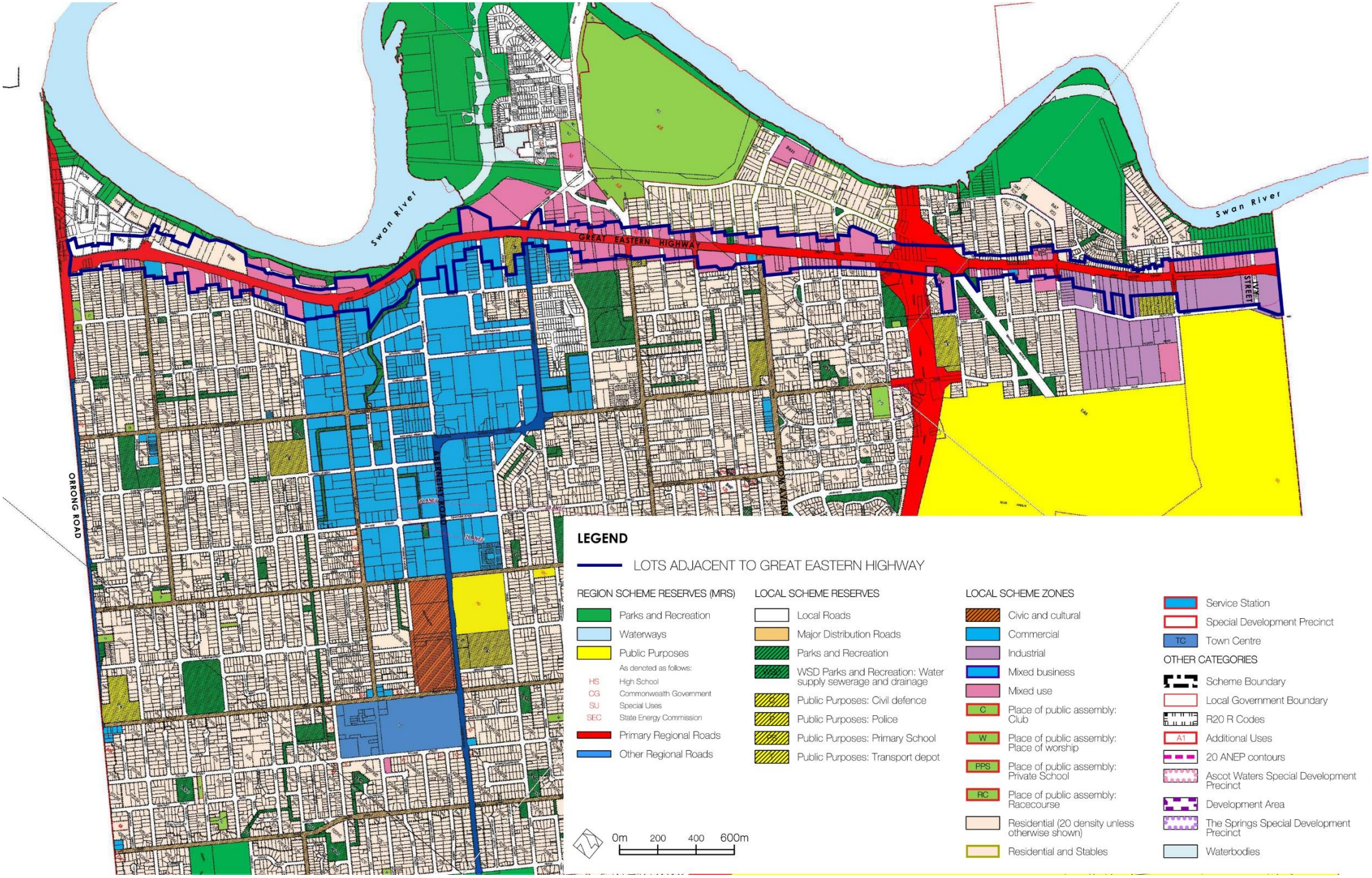


Figure 5 City of Belmont LPS 15

2.2.3 LOCAL PLANNING POLICIES

The following Local Planning Policies (LPPs) are relevant to the subject site:

Local Planning Policy No. 10 Residential Landuses in the 'Mixed Business' Zone (LPP 10)

The basis for LPP 10 is to ensure that residential uses are compatible with existing and future businesses within the 'Mixed Business' zone and stipulates where residential land uses may be considered in the Mixed Business Zone, and the development standards. LPP 10 identifies areas where 'Residential' land uses may be considered appropriate within the 'Mixed Business' zone, and the standard of development which must be adhered to in such instances. There are two portions of land in the study area located between Abernethy Road and Belmont Avenue and between Hehir Street and Abernethy Road which are identified in LPP 10 as being within the 'Mixed Business' zone, though 'Residential' development may be considered appropriate.

Draft Local Planning Policy No. 16 Service Stations (Draft LPP 16)

Draft LPP 16 was prepared to guide future development of Service Stations within the City of Belmont, in responses to a growing number of service station proposals received by the City. The Policy will assist the City in assessing proposals and decision making for service stations development within the City of Belmont Local Government Area.

Local Planning Policy No. 7 The Springs Design Guidelines (LPP 7)

LPP 7 applies to 'The Springs' in Rivervale, approximately 13.6 ha of land bounded by the Graham Farmer Freeway, the Great Eastern Highway, Brighton Road and the Swan River foreshore. The Design Guidelines guide and control development within the Springs locality, which abuts the Great Eastern Highway.

Local Planning Policy No. 13 Vehicle Access for Residential Development (LPP 13)

The purpose of LPP 13 is to ensure that vehicle crossovers for residential development within the City of Belmont do not adversely impact on the neighbourhood safety and amenity while providing appropriate access to residential properties.

This policy applies to all 'Residential' zoned land, or land zoned under LPS 15 on which the Council may approve residential development.

Local Planning Policy No. 14 Development Area 6 Vision (LPP 14)

The objective of LPP 14 is to articulate the City of Belmont and Perth Airport Pty Ltd.'s vision for Development Area 6. Development Area 6 is the area bound by Great Eastern Highway, Tonkin Highway, Fauntleroy Avenue and the Coolgardie Avenue, Redcliffe Road and Perth Airport Precincts 1A and 1B. The Policy will assist in providing direction for the future planning and progressions of detailed structure planning for the precinct.

2.3 PREVIOUS STUDIES

Belmont on the Move (City of Belmont, July 2016)

The City of Belmont prepared an Integrated Movement Network Strategy - Belmont on the Move to set out a framework for how the City will plan ahead over the next 10 years to ensure people can move safely, conveniently and comfortably around the City of Belmont. This document identifies the requirement of a Corridor Study, commencing with Great Eastern Highway to examine the potential outcomes and access arrangements for development with the Corridors identified in Perth and Peel @ 3.5 million.

Branding Strategy (City of Belmont, 2014)

The City of Belmont commissioned a Branding Strategy to be undertaken on the Mixed Business Area on Great Eastern Highway in 2014. The Strategy recommends that this area be renamed 'Belmont Business Park', with the associated identity statement – Gateway to Opportunity. The strategy also suggests a vision statement for the area which is 'Belmont Business Park will be the preferred location for a mix of innovative and successful businesses seeking premises that allow them easy access to the Perth CBD, the Airport and their customers'. The Urban Corridor Concept reflects the vision for the Belmont Business Park.

2.4 COMMUNITY CONSULTATION

Two Vision and Design workshops were held with members of the community in November 2017 to inform and assist in crafting an overall shared Vision and design for the Corridor. Engaging diverse viewpoints, the planning discussions helped to ensure a process that was inclusive, and that incorporated leading edge thinking on the most challenging issues facing the City.

The workshops focused on identifying principles and themes to inform an overall Vision based on the community members desire for specific development outcomes. The Vision and design principles were then used to guide the design scenarios for the Corridor.

A complete copy of the Outcome Summary Report is included in **Appendix 1**.

The community's Vision for the area includes:

- A Corridor which is a gateway to the Perth CBD;
- An improvement to the public realm with better parks and gathering places, more trees and vegetation in the streets, wider, shady footpaths and less impact from car parking and traffic speed;
- Greater connectivity to the river;
- Redevelopment of an appropriate human scale which enables growth of the community;
- Diversity of housing stock to provide an opportunity for older people to retire locally and for young families to settle;
- The opportunity for improved access to community places within the area and growth and diversity in the local centres

Vision and Design Workshop at the City of Belmont Administration Centre

3. SOCIO-ECONOMIC ANALYSIS

To understand the existing community profile along the Great Eastern Highway Corridor, a review and comparison of the Australian Bureau of Statistics (ABS) and .id forecast has been undertaken. This analysis has generally been undertaken at a Local Government Area level and where available, a State Suburb level within the City of Belmont based on the 2011 and 2016-time series and community profiles. Comparisons have then been drawn to the Greater Perth statistical area for context.

The State Suburbs (suburbs) are an ABS approximation of localities gazetted by the Geographical Place Name authority. At this point in time using suburbs to compare data was considered appropriate due to the availability of the census data, as well as the location of suburbs along the study boundary which best represents the study area Boundary. Additionally, ABS data exists for the same suburbs from the 2016 as well as the 2011 Census, allowing comparisons to be undertaken with ease.

Statistical Area Level 2 (SA2) areas have not been analysed due to lack of existing information which has been released from the ABS, as well as the relatively large SA2 areas within Belmont, making it harder to extract specific information relative to the study area boundary.

The topics included in the socio-economic analysis include:

- Population Estimates and Forecasts
- Age Profile
- Ethnicity
- Languages Spoken at Home
- Qualifications
- Household Types
- Household Size
- Need for Assistance
- Housing Stock
    - Distribution of Housing Stock by Suburb
    - Dwelling Size
    - Distribution of Dwelling Size by Suburb
    - Tenure
    - Housing Payments
- Economy and Employment
    - Place of Employment
    - Employment Status
    - Mode of Travel to Work
    - Employment Industry
    - Occupation
    - Household Income

The analysis is summarised and the implications on the Urban Corridor Strategy is outlined at the end of **Section 3.**

The suburbs which have been analysed are Belmont, Ascot, Redcliffe and Rivervale (**Figure 6**).

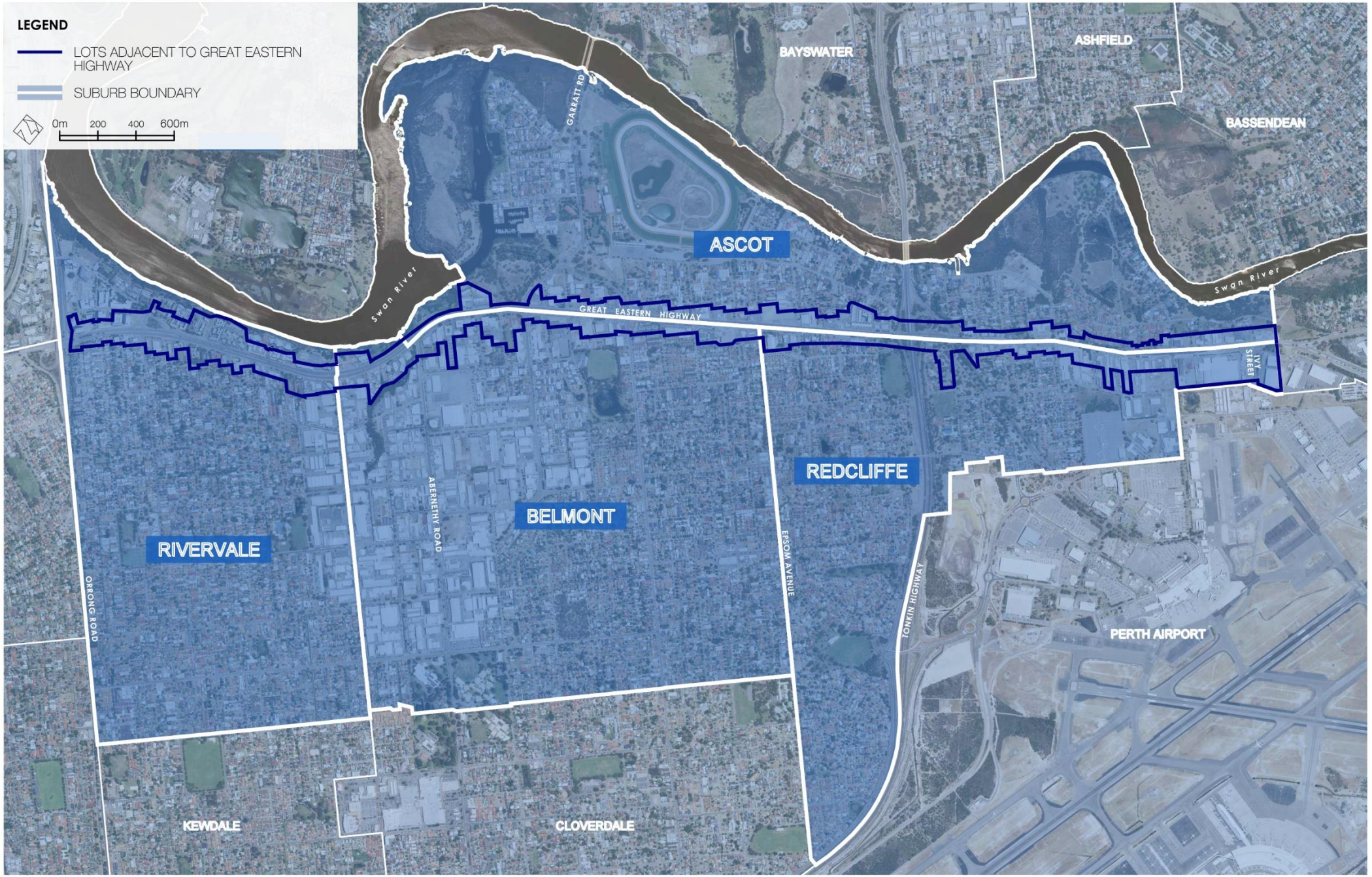


Figure 6 Suburbs within the Study Area

3.1 POPULATION ESTIMATES AND FORECASTS

It is estimated that 41,743 people live in the City of Belmont (ABS ERP 2016). The populations of each of the suburbs identified are:

- Belmont: 6,785 people
- Ascot: 2,572 people
- Rivervale: 10,366 people
- Redcliffe: 4,969 people

Estimations from .id forecast show an increase of 10,183 persons from 2006 to 2016 in the City of Belmont. Rates of growth were relatively steady (albeit a slight dip in 2010) reaching a peak in 2012, then noticeably slowing in 2013 to 2016 (**Figure 7**).
Population growth has generally slowed over last census period with an increase of 4,385 (11.73%) residents between 2011 and 2016, averaging an annual population change of 2.3% per year over that period (**Figure 7** and **Figure 8**).

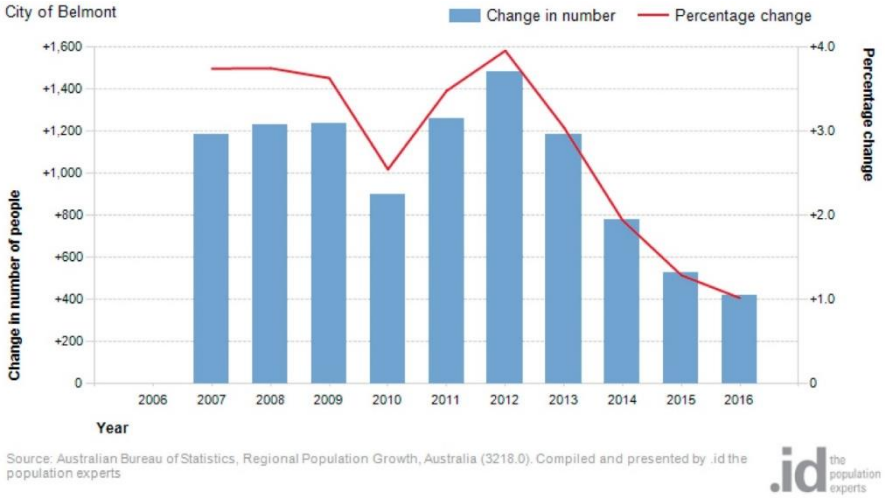


Figure 7 Annual Change in Estimated Resident Population (ERP) (Source: id Forecast)

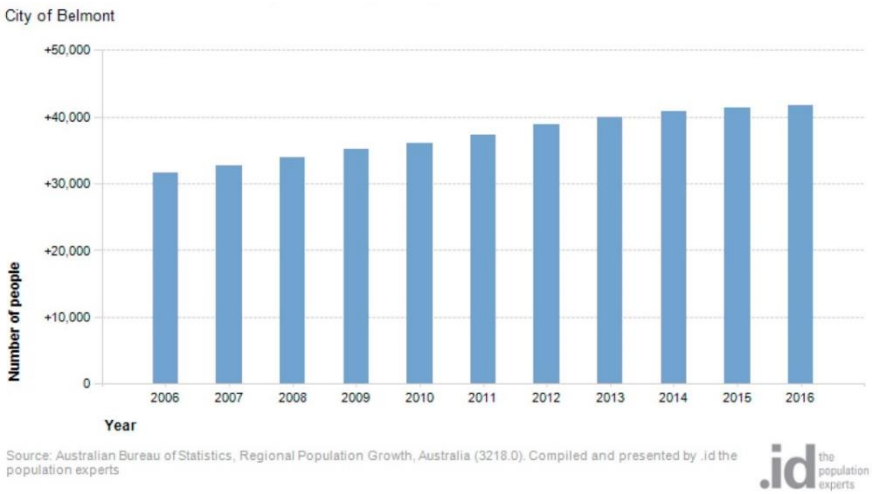


Figure 8 Estimated Resident Population 2006-2016 (ERP) (Source: .id Forecast)

The State Governments Official Population Report No.10 (Western Australia Tomorrow, 2015) forecasts a population of between 44,280 and 52,040 within the City of Belmont by the year 2026, dependant on five different possible growth scenarios. It is generally accepted practice to use Band C for future forecast purposes, giving an anticipated population of 48,060 by 2026 (**Table 1**).

Table 1 City of Belmont Population Forecasts (Source: WA Tomorrow 2015)

Year	Band				
	A	B	C	D	E
2011	37360	37360	**37360**	37360	37360
2016	39630	40690	**41650**	42410	43850
2021	41920	43550	**44880**	46010	48080
2026	44280	46380	**48060**	49530	52040

In all instances, predicted annual growth rates for the City of Belmont are lower than the forecast for Greater Perth and lower than the rate of growth achieved on average annually between 2011-2016. It is reasonable to assume that an increased rate of growth would be dependent upon/responsive to proactive strategies (**Table 2**).

The population by suburbs in the Corridor compared to the City of Belmont is illustrated below in **Table 2:**

Table 2 Population by Suburbs (Source: ABS 2006, 2011, 2016)

Location	Population (2016)	2011 to 2016 % change	Population (2011)	2006 to 2011 % change	Population (2006)
City of Belmont LGA	**41,743**	**11.73%**	**37,358**	**23.2%**	**30,331**
Belmont (Suburb)	6,785	8.3 %	6,263	23.3%	5,079
Ascot (Suburb)	2,572	13.4%	2,268	14.1%	1,987
Rivervale (Suburb)	10,366	23.4%	8,402	18.8%	7,070
Redcliffe (Suburb)	4,969	4.4%	4,759	11.2%	4,280

Rivervale and Ascot had the greatest population increases over recent years, with Rivervale's population growth rate larger than the previous census period. This is likely to reflect the recent development of the Springs in Rivervale, which have results in several new apartment buildings, and will deliver over 1,000 new dwellings once complete.

Ascot's population growth since 2011 has also been relatively higher than the City of Belmont's. The development of Golden Gateway in coming years is also expected to result in an increase in the population of Ascot.

The suburb of Belmont had a large growth rate (23.3%) from 2006 to 2011, in line with the growth of the City of Belmont LGA (23.2%), though slowed down from 2011 to 2016 (8.3%), at a slightly slower rate than the City of Belmont LGA growth rate (11.73%) over the same period.

3.2 AGE PROFILE

The age structure of an area's population is generally indicative of an area's residential role and function and provides key insights into the level of demand for housing, services and facilities.

The City of Belmont has a noticeably lower proportion of 5-19 year olds, a slightly higher proportion of 0-4 year olds and a significantly higher proportion of 20-39 year olds compared with Greater Perth, as evident in **Figure 9** below. The largest age group in the City of Belmont was 25-29 year olds (11.1%). This suggests there are a greater number of young households without children and younger households with babies and pre-schoolers in the area.

There is a relatively high proportion of people aged 75 and older in comparison to Greater Perth, indicating a general aging of the population.

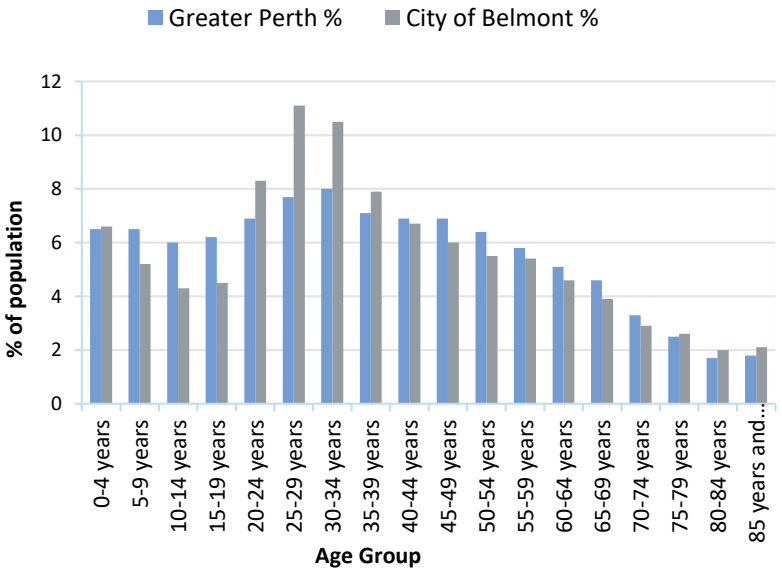


Figure 9 Five year age groups 2016 (Source: ABS Community Profiles 2016)

Land uses along the Corridor should cater to the needs for the high proportion of 20-39 year olds in the City of Belmont

At the suburb level, Rivervale had a higher proportion of 20-24 year olds (10.1%), 25-29 year olds (14.7%) and 30-34 year olds (12.7%) compared to the surrounding suburbs, the City of Belmont and Greater Perth (**Table 3**). This may be a reflection of the availability of affordable housing within Rivervale, accommodating a younger population group.

Redcliffe had the highest proportion of 0-4-year olds (7%) compared to the surrounding suburbs, the City of Belmont and Greater Perth, which may indicate the growing requirements of young families for associated facilities in this suburb.

Ascot had the largest proportion of residents aged between 50 – 79 years, indicating the presence of a more mature population entering into retirement.

Table 3 Population by five year age groups and suburbs 2016

	Greater Perth %	City of Belmont %	Belmont %	Ascot %	Rivervale %	Redcliffe %
0-4 years	6.5	6.6	6.4	5.6	6.3	7.0
5-9 years	6.5	5.2	4.5	4.0	4.3	6.0
10-14 years	6	4.3	3.9	4.3	3.0	4.9
15-19 years	6.2	4.5	4.2	5.2	3.7	4.6
20-24 years	6.9	8.3	9.2	6.5	10.1	6.9
25-29 years	7.7	11.1	11.7	7.5	14.7	8.2
30-34 years	8	10.5	10.8	6.8	12.7	9.3
35-39 years	7.1	7.9	8.4	6.5	8.3	8.2
40-44 years	6.9	6.7	6.5	6.9	6.3	7.2
45-49 years	6.9	6	5.6	7.9	5.1	6.9
50-54 years	6.4	5.5	5.4	7.5	5.4	5.5
55-59 years	5.8	5.4	4.9	8.5	5.2	5.3
60-64 years	5.1	4.6	5.0	7.1	4.3	4.4
65-69 years	4.6	3.9	4.1	6.8	3.2	3.7
70-74 years	3.3	2.9	2.9	4.2	2.4	3.0
75-79 years	2.5	2.6	2.2	2.7	2.2	2.7
80-84 years	1.7	2	2.0	1.2	1.4	2.6
85 years and over	1.8	2.1	2.4	0.7	1.3	3.6

Analysis of the service age groups of the City of Belmont in 2016 compared to Greater Perth shows that there was a lower proportion of people in the younger age groups (0 to 17 years) as well as a lower proportion of people in the older age groups (60+ years) (**Figure 10**).

The biggest difference between the City of Belmont and Greater Perth were:

- A smaller percentage of 'Secondary schoolers' (4.9% compared to 7.2%)
- A smaller percentage of 'Primary schoolers' (7.0% compared to 9.0%)
- A smaller percentage of 'Older workers & pre-retirees' (10.9% compared to 12.2%)
- A larger percentage of 'Babies and pre-schoolers' (6.6% compared to 6.5%)
- A larger percentage of 'Young workforce' (21.6% compared to 15.8%)
- A larger percentage of 'Elderly' (2.1% compared to 1.8%).
- Residents are of all different age groups within the four suburbs along the Corridor, although the suburbs have different proportions of particular age groups.

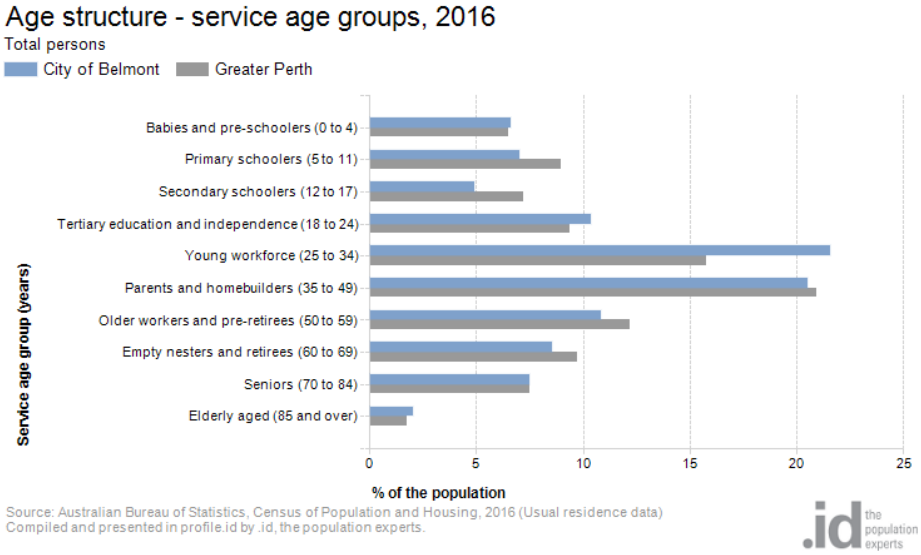


Figure 10 Age Structure - Service Age Groups, 2016 (Source:.id forecast)

Analysis of the Service Age Groups in the suburbs along the Corridor compared to the City of Belmont showed the biggest differences were:

Belmont (refer **Figure 11**)

- Belmont has a larger percentage of 'Tertiary education & independence' (11.3% compared to 10.4%)
- Belmont has a larger percentage of 'Young workforce' (22.4% compared to 21.6%)

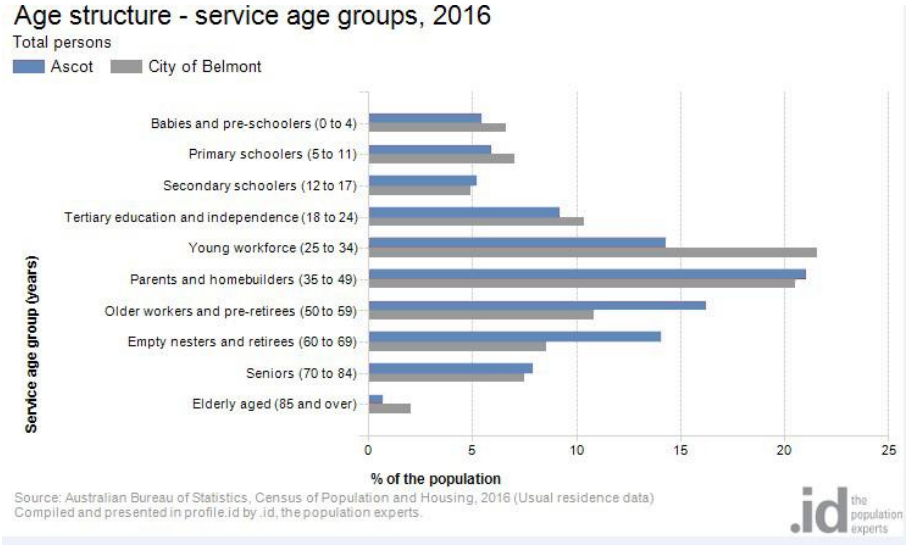


Figure 11 Age Structure - Service Age Groups 2016 Belmont (source: id forecast)

Ascot (refer **Figure 12**)

- Ascot has a larger percentage of 'Empty nesters and retirees' (14.1% compared to 8.5%)
- Ascot has a larger percentage of 'Older workers and pre-retirees' (16.2% compared to 10.9%)
- Ascot has a smaller percentage of 'Young Workforce' (14.3% compared to 21.6%)

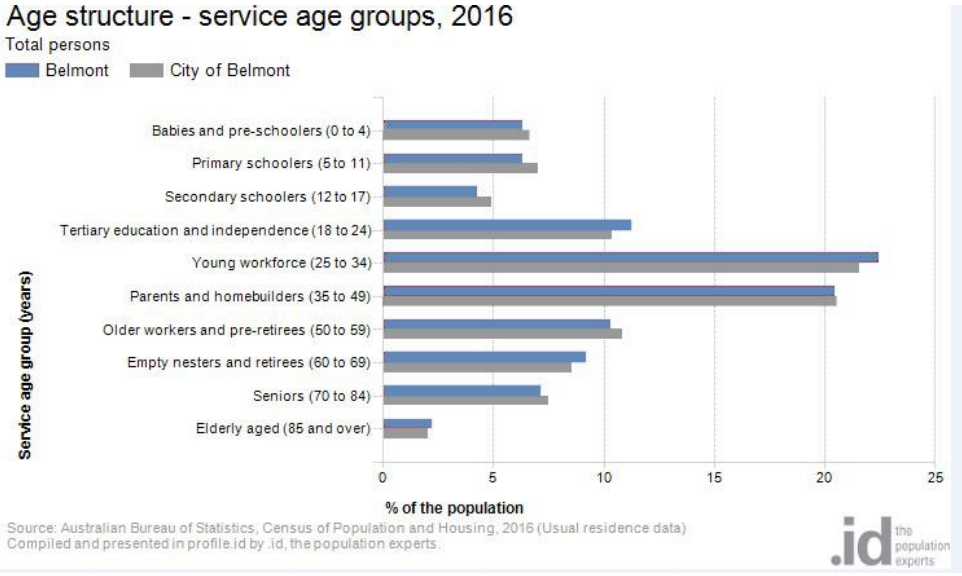


Figure 12 Age Structure - Service Age Groups 2016 Ascot (source: id forecast)

Redcliffe (refer **Figure 13**)

- Redcliffe has a larger percentage of 'Parents and homebuilders' (22.5% compared to 20.5%)
- Redcliffe has a smaller percentage of 'Young workforce' (17.5% compared to 21.6%)
- Redcliffe has a smaller percentage of 'Tertiary education & independence' (8.7% compared to 10.4%)

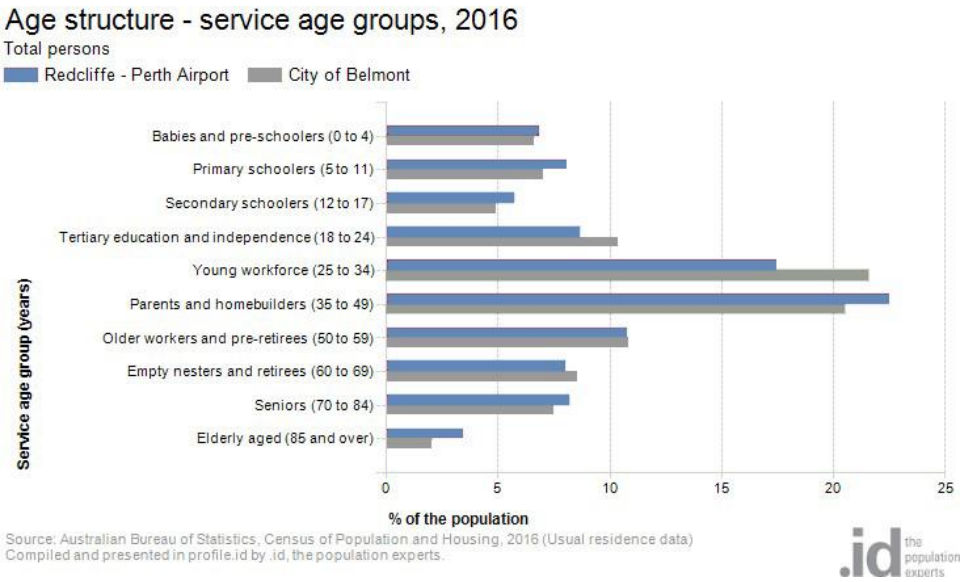


Figure 13 - Age Structure - Service Age Groups 2016 Redcliffe (source: id forecast)

Rivervale (refer **Figure 14**).

- Rivervale has a larger percentage of 'Young workforce' (27.4% compared to 21.6%)
- Rivervale has a larger percentage of 'Tertiary education & independence' (11.9% compared to 10.4%)
- Rivervale has a smaller percentage of 'Seniors' (6.0% compared to 7.5%)
- Rivervale has a smaller percentage of 'Primary schoolers' (5.5% compared to 7.0%)

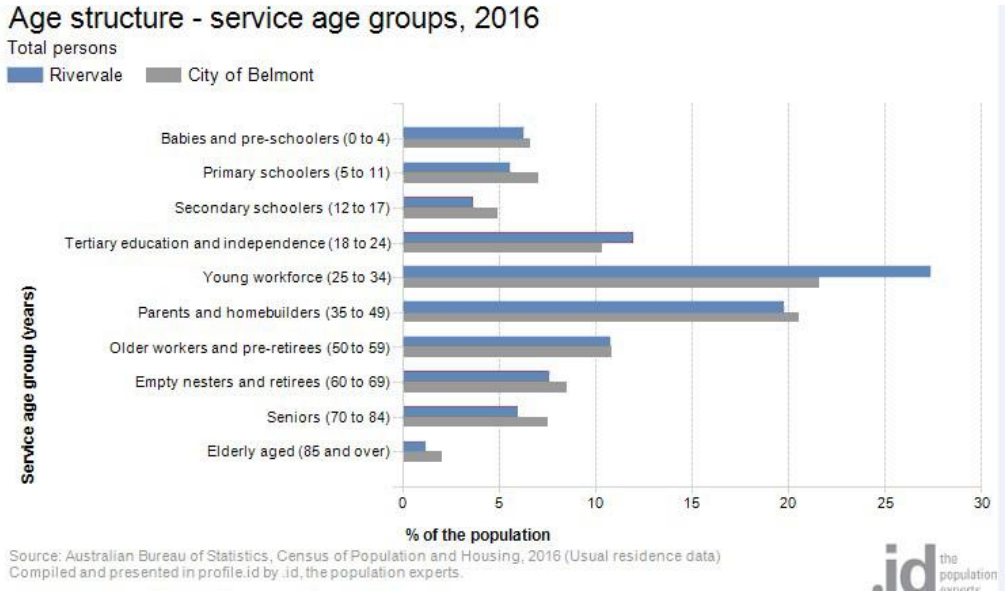


Figure 14 Age Structure - Service Age Groups 2016 Rivervale (source: id forecast)

Growth was experienced between 2011 and 2016 in all of the service age groups in the City of Belmont, apart from Secondary Schoolers. Trends indicate that the population in the City of Belmont will continue to include comparatively higher numbers of tertiary education and independence group; the young workforce; babies and pre-schoolers; parents and homebuilders; empty nesters and retirees (**Figure 15**).

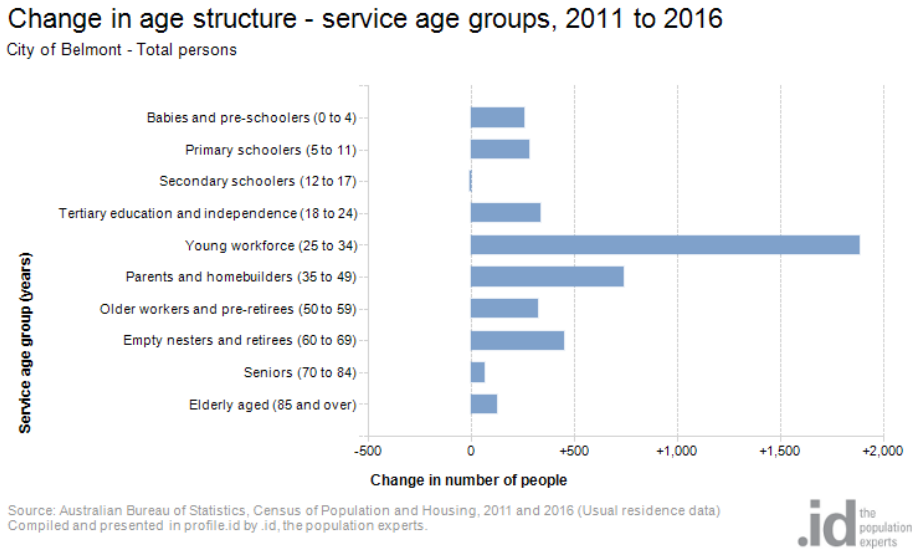


Figure 15 Change in age structure 2011-2016

The largest changes in the age structure in the City of Belmont between 2011 and 2016 were in the age groups:

- Young workforce (25 to 34) (+1,885 people)
- Parents and homebuilders (35 to 49) (+740 people)
- Empty nesters and retirees (60 to 69) (+452 people)
- Tertiary education and independence (18 to 24) (+340 people)

These emerging groups will have a direct impact on forward planning in the Corridor as there will be increased demand for facilities for the younger working force population, as well as the increasing population of parents and young families. This demand will be particularly relevant to hard infrastructure/recreational provisions and training and employment requirements and diversity in the Corridor's housing stock.

3.3 ETHNICITY

Analysis of the country of birth of the population in the City of Belmont in 2016 compared to Greater Perth shows that there was a larger proportion of people born overseas, as well as a larger proportion of people from a non-English speaking background in the City of Belmont (**Figure 16**).

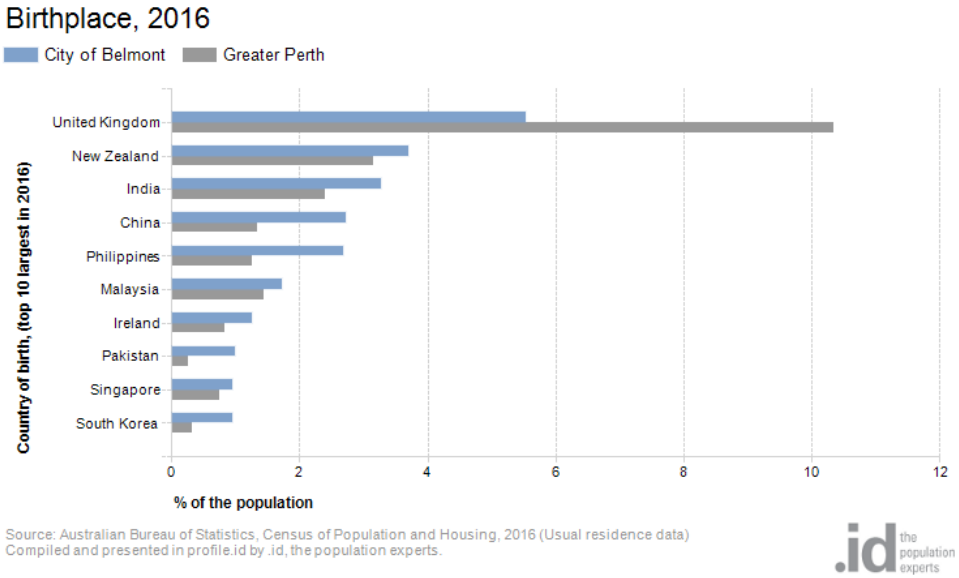


Figure 16 Birthplace 2016 (Source: id. Forecast)

Overall, 40.4% of the population was born overseas, and 28.9% were from a non-English speaking background, compared with 36.1% and 19.3% respectively for Greater Perth.

The largest non-English speaking country of birth in the City of Belmont was India, where 3.3% of the population, or 1,298 people, were born.

Between 2011 and 2016, the number of people born overseas increased by 2,990 (22.9%), and the number of people from a non-English speaking background increased by 2,822 (32.7%).

The major differences between the countries of birth of the population in the City of Belmont and Greater Perth were:

- A larger percentage of people born in Philippines (2.7% compared to 1.3%)
- A larger percentage of people born in China (2.7% compared to 1.3%)
- A smaller percentage of people born in United Kingdom (5.5% compared to 10.4%)

The largest changes in birthplace countries of the population the City of Belmont between 2011 and 2016 were for those born in (**Figure 17**):

- Philippines (+414 persons)
- China (+398 persons)
- India (+285 persons)
- South Korea (+238 persons)
- United Kingdom (- 196 people)

Analysis of the suburbs along the Corridor showed Rivervale had a greater proportion of residents born overseas (42%) compared to the other suburbs, and Ascot had a smaller population born overseas (33%) compared to the other suburbs, the City of Belmont and the Greater Perth (**Table 4**).

The implications for the provisions of community facilities are that a multicultural society may have very diverse preferences for sport and recreation, may require additional assistance locating activities, may require additional community facilities and may require specific communication in languages other than English.

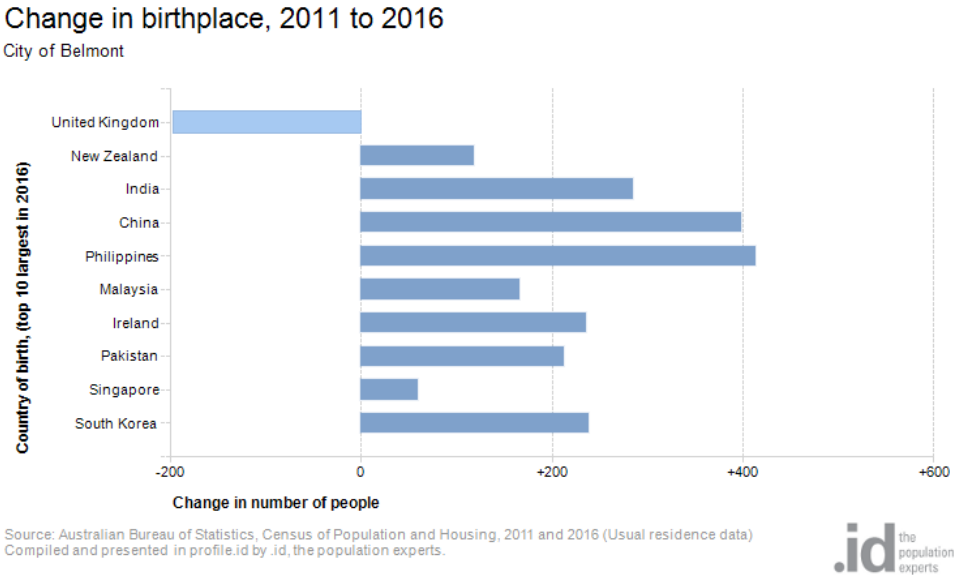


Figure 17 Change in Birthplace, 2011-2016 (Source: id Forecast)

Table 4 Country of Birth by Suburb (2016) (Source: ABS Community Profiles 2016)

Suburb:	Ascot		Belmont		Redcliffe		Rivervale	
	No.	%	No.	%	No.	%	No.	%
Australia(b)	1,485	57%	3,355	49%	2,683	54%	4,712	45%
Country of Birth Not stated	255	10%	675	10%	519	10%	1,316	13%
England	174	7%	315	5%	211	4%	438	4%
New Zealand	89	3%	289	4%	226	5%	335	3%
Born elsewhere(e)	89	3%	225	3%	229	5%	492	5%
China	52	2%	183	3%	64	1%	385	4%
India	40	2%	238	3%	143	3%	365	4%
South Africa	37	1%	35	1%	40	1%	80	1%
Ireland	36	1%	124	2%	59	1%	131	1%
Vietnam	35	1%	50	1%	35	1%	68	1%
Malaysia	31	1%	96	1%	54	1%	257	2%
Singapore	31	1%	80	1%	44	1%	118	1%
Scotland	28	1%	47	1%	54	1%	59	1%
Italy	22	1%	63	1%	24	0%	73	1%
Sri Lanka	20	1%	37	1%	42	1%	67	1%
Indonesia	16	1%	49	1%	33	1%	78	1%
Netherlands	15	1%	17	0%	16	0%	13	0%
Philippines	13	1%	181	3%	116	2%	198	2%
Germany	13	1%	32	0%	17	0%	50	0%
Korea, Republic of (South)	11	0%	55	1%	13	0%	189	2%
Myanmar	11	0%	41	1%	36	1%	60	1%
United States of America	11	0%	8	0%	11	0%	26	0%
Thailand	9	0%	57	1%	28	1%	58	1%
Canada	7	0%	4	0%	5	0%	12	0%
Republic of Macedonia	7	0%	0	0%	0	0%	8	0%
Hong Kong (SAR of China)(c)	6	0%	55	1%	14	0%	90	1%
Iran	5	0%	23	0%	18	0%	73	1%
Mauritius	4	0%	32	0%	10	0%	52	1%
France	4	0%	16	0%	5	0%	25	0%
Northern Ireland	4	0%	13	0%	11	0%	11	0%
Wales	4	0%	7	0%	11	0%	15	0%
Afghanistan	3	0%	65	1%	19	0%	79	1%
Pakistan	3	0%	58	1%	47	1%	108	1%
Poland	3	0%	31	0%	17	0%	33	0%
Zimbabwe	3	0%	30	0%	18	0%	46	0%
Fiji	3	0%	8	0%	5	0%	8	0%
Malta	3	0%	8	0%	3	0%	0	0%
South Eastern Europe, nfd(d)	3	0%	3	0%	3	0%	11	0%
Taiwan	0	0%	42	1%	9	0%	55	1%
Nepal	0	0%	34	0%	21	0%	25	0%
Iraq	0	0%	24	0%	8	0%	27	0%
Papua New Guinea	0	0%	20	0%	0	0%	7	0%

Japan	0	0%	14	0%	9	0%	32	0%
Croatia	0	0%	12	0%	7	0%	11	0%
Turkey	0	0%	12	0%	0	0%	10	0%
Egypt	0	0%	11	0%	7	0%	8	0%
Bangladesh	0	0%	10	0%	16	0%	19	0%
Lebanon	0	0%	6	0%	17	0%	3	0%
Chile	0	0%	3	0%	6	0%	4	0%
Greece	0	0%	3	0%	3	0%	14	0%
Bosnia and Herzegovina	0	0%	3	0%	3	0%	13	0%
Cambodia	0	0%	3	0%	0	0%	7	0%
TOTAL BORN OVERSEAS	845	**33%**	2,772	**41%**	1,787	**36%**	4,346	**42%**

3.4 LANGUAGES SPOKEN AT HOME

Analysis of the language spoken at home by the population of the City of Belmont in 2016 compared to Greater Perth shows that there was a smaller proportion of people who spoke English only, and a larger proportion of those speaking a non-English language (either exclusively, or in addition to English) (**Figure 18**).

Overall, 60.3% of the City of Belmont population spoke English only, and 29.5% spoke a non-English language, compared with 73.5% and 20.1% respectively for Greater Perth.

The dominant language spoken at home, other than English, in the City of Belmont was Mandarin, with 4.2% of the population, or 1,680 people speaking this language at home.

Between 2011 and 2016, the number of people who spoke a language other than English at home increased by 3,304 or 39.4%, and the number of people who spoke English only decreased by 262 or 1.1%.

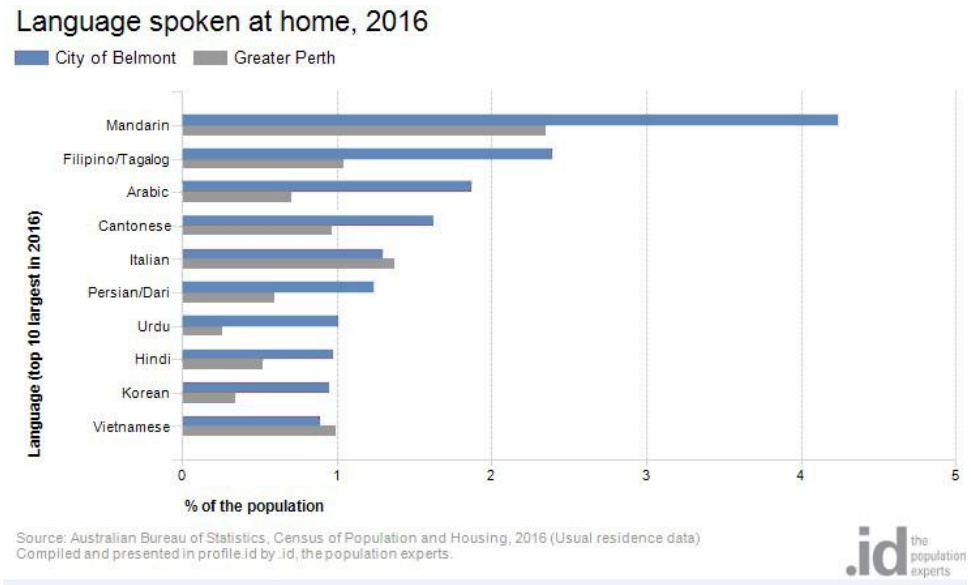


Figure 18 Language Spoken at Home 2016 (source: id forecast)

Analysis of the languages spoken at home of the suburbs along the Corridor compared to the City of Belmont shows Rivervale had a smaller proportion of people who spoke English only, and a larger proportion of those speaking a non-English language. Belmont, Ascot and Redcliffe had a higher proportion of the population who spoke English only at home compared to the City of Belmont.

The dominant language spoken at home, other than English was Mandarin in Rivervale, Belmont and Ascot, and Arabic in Redcliffe.

3.5 QUALIFICATIONS

Analysis of the qualifications of the population in the City of Belmont in 2016 compared to Greater Perth shows that there was a lower proportion of people holding formal qualifications (Bachelor of higher degree; Advanced Diploma; or Vocational qualifications), and a similar proportion of people with no formal qualifications.
Overall, 47.6% of the population aged 15 and over held educational qualifications and 38.3% had no qualifications, compared with 51.7% and 38.1% respectively for Greater Perth.

Analysis of the share of the population attending educational institutions in the City of Belmont in 2016 compared to greater Perth shows that there was a lower proportion attending primary school, a lower proportion attending secondary school and a higher proportion engaged in tertiary level education. Overall, 6.3% of the population were attending primary school, 4.2% were attending secondary school institutions and 7.6% were learning at a tertiary level, compared with 8.4%, 6.5% and 7.1% respectively for Greater Perth.

3.6 HOUSEHOLD TYPES

The study area's household and family structure is one of the most important demographic indicators which reveals an area's role and function and provides insights into demand for services and facilities. The number of households in the City of Belmont grew by 1,709 (11.7%) between 2011 and 2016 **(Table 5).**

Table 5 Household Types 2011, 2016 (Source: id Forecast)

City of Belmont - Total households (Enumerated)	2016			2011			Change
Households by type	**Number**	**%**	**Greater Perth %**	**Number**	**%**	**Greater Perth %**	**2011 to 2016**
Couples with children	3,627	22.2	32.3	3,330	22.8	31.6	+297
Couples without children	3,828	23.4	25.4	3,488	23.8	25.7	+340
One parent families	1,494	9.1	9.8	1,529	10.4	9.9	-35
Other families	310	1.9	1.3	298	2.0	1.4	+12
Group household	1,060	6.5	3.8	958	6.5	4.0	+102
Lone person	4,353	26.6	21.7	4,091	28.0	22.4	+262
Other not classifiable household	1,453	8.9	4.8	735	5.0	3.9	+718
Visitor only households	217	1.3	1.0	204	1.4	1.1	+13
Total households	**16,342**	**100.0**	**100.0**	**14,633**	**100.0**	**100.0**	**+1,709**

Analysis of household/family types in the City of Belmont compared to Greater Perth shows that there was a lower proportion of couple families with child(ren) as well as a lower proportion of one-parent families. Overall, 22.2% of total families were couple families with child(ren), and 9.1% were one-parent families, compared with 32.3% and 9.8% respectively for Greater Perth (**Figure 19).**

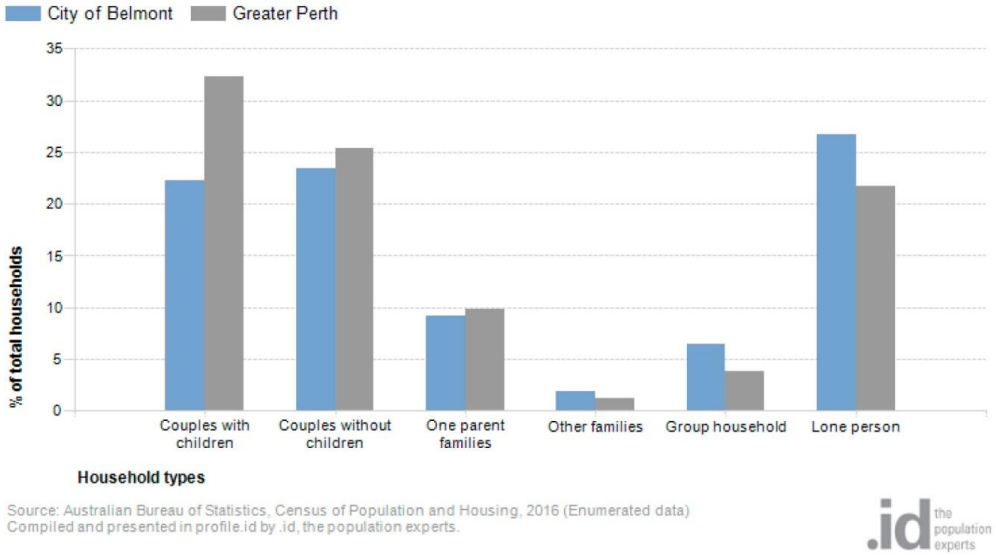


Figure 19 Household Types 2016 (Source: id. Forecast)

There were a higher proportion of lone person households. Overall, the proportion of lone person households was 26.6% compared to 21.7% in Greater Perth. The lone households and couples without children make up 50% of the City of Belmont's households.

The largest changes in /household types in the City of Belmont between 2011 and 2016 were couples without children (+340 households), couples with children (+297 households), lone persons (+262 households) and group households (+102).
The proportion of household types in 2016 is very similar to those in 2011.

Analysis of the household types across the suburbs along the Corridor (**Table 6**) shows Redcliffe has the highest proportion of couple families with child(ren) (25.2%). Rivervale has the highest proportion of lone persons (29.5%) compared to the other suburbs.

Table 6 Household Types by Suburb, 2016 (Source: id forecast)

Suburbs - Total households (Enumerated)	Belmont	Ascot	Rivervale	Redcliffe	City of Belmont	Greater Perth
Households by type	%	%	%	%	%	%
Couples with children	21.9	22.4	17.4	25.2	22.2	32.3
Couples without children	22.3	30.4	24.5	21.9	23.4	25.4
One parent families	9.6	7.7	6.5	10.2	9.1	9.8
Other families	1.9	0.6	2.1	1.9	1.9	1.3
Group household	7.4	6	7.4	5.5	6.5	3.8
Lone person	27.1	20.9	29.5	26.1	26.6	21.7
Other not classifiable household	8.3	7.5	11.8	7.8	8.9	4.8
Visitor only households	1.5	4.6	0.7	1.4	1.3	1
Total households	**100**	100	100	100	100	100

3.7 HOUSEHOLD SIZE

The size of households in general follows the lifecycle of families, from early marriage through to families with children and then smaller households once the children have left home. However, household size can also be influenced through trends such as multi-generational or extended families or the sharing economy/multiple households under one roof. Household size in Australia has gradually declined since the 1970s but remained stable from 2006-2016. An increasing or stable household size can be an indicator of lack of affordable housing but may also reflect the trend towards larger properties.

The profile of household size in the City of Belmont is generally smaller than Greater Perth, with a higher proportion of one (1) person and two (2) person households, and a lower proportion of three (3), four (4) and five (5) person households compared to Greater Perth (**Figure 20**).

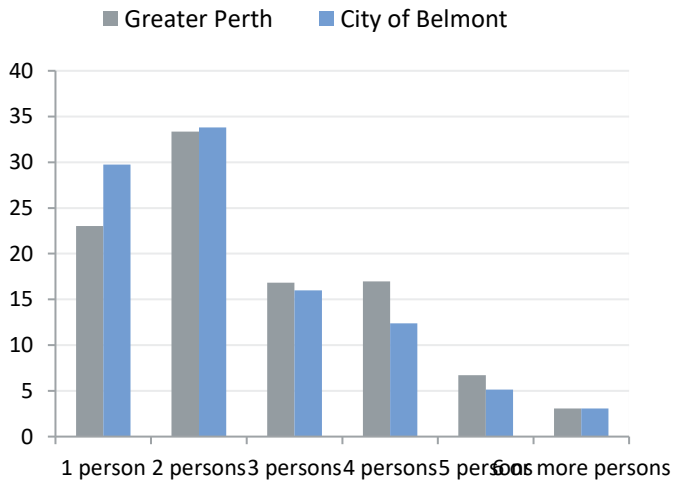


Figure 20 Household Size 2016 (Source: ABS Community Profiles 2016)

Rivervale had the highest proportion of one (1) person households (34%) out of the suburbs in the City of Belmont, reflecting the large number of apartment buildings in this area. Ascot had a large proportion of two (2) person households (43%) compared to the City of Belmont and the other suburbs (**Table 7**).

The distribution of household sizes across the City of Belmont is similar to that across Greater Perth, with the majority of houses consisting of one (1) to two (2) people.

The largest changes in the number of persons usually resident in a household in the City of Belmont between 2011 and 2016 were:

- Increase in 1 person households (+268 households)
- Increase in 2 persons households (+214 households)
- Increase in 4 persons households (+208 households)
- Increase in 3 persons households (+123 households)

Table 7 Household sizes 2016 (Source: ABS Community Profiles 2016)

	% of total households					
Number of persons usually resident	**Belmont**	**Ascot**	**Rivervale**	**Redcliffe**	**City of Belmont**	**Greater Perth**
1 person	30%	23%	34%	29%	30%	23%
2 persons	32%	43%	36%	33%	34%	33%
3 persons	17%	16%	14%	16%	16%	17%
4 persons	13%	13%	10%	14%	12%	17%
5 persons	5%	4%	4%	6%	5%	7%
6 or more persons	3%	1%	2%	3%	3%	3%

3.8 NEED FOR ASSISTANCE

Analysis of the need for assistance of persons in the City of Belmont compared to Greater Perth shows there was a slightly higher proportion of persons who reported needing assistance with core activities living in the City of Belmont.
Overall, 4.4% of residents in the City of Belmont reported needing assistance with core activities, compared with 3.9% for Greater Perth. The largest proportion of age groups requiring assistance was 75 years and above, which aligns with the City of Belmont's higher proportion of people aged 75 years and above compared with Greater Perth.

3.9 HOUSING STOCK

It is important to understand the makeup of the Corridor's housing stock as an indicator of the Corridor's residential role and function and to determine whether the stock is compatible with future forecasts of population and household growth and dynamics.

Analysis of the types of dwellings in the City of Belmont in 2016 shows that 64.2% of all dwellings were separate houses; 26.0% were medium density dwellings, and 9.2% were high density dwellings, compared with 74.6%, 19.6%, and 5.1% in Greater Perth respectively **(Figure 21).**

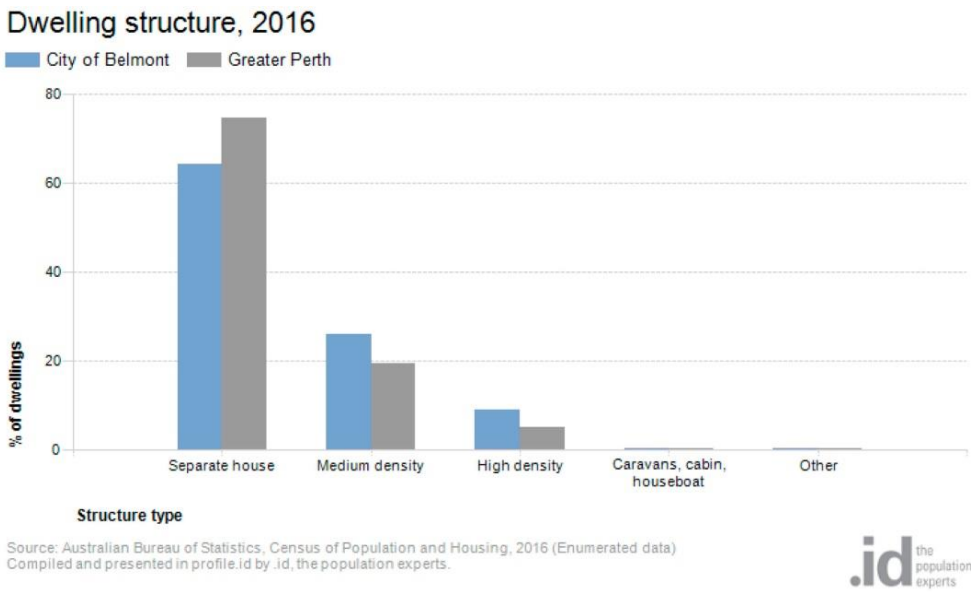


Figure 21 - Dwelling Structure, 2016 (Source: id Forecast)

Since 2011, there been an overall increase in the number of dwellings 2,350 (14.5%) in the City of Belmont. Trends from the 2011 census indicate that the proportion of separate houses has reduced (71.9% to 64.2%), and the proportion of medium and high density housing has increased (22% to 26% and 5.6% to 9.2% respectively) (**Table 8, Figure 22**).

Table 8 - Dwelling Structure (Source: Id Forecast)

City of Belmont – Total Dwellings (Enumerated)	2016			2011			Change
Dwelling type	**Number**	**%**	**Greater Perth %**	**Number**	**%**	**Greater Perth %**	**2011 to 2016**
Separate house	11,827	64.2	74.6	11,560	71.9	76.7	+267
Medium density	4,784	26.0	19.6	3,542	22.0	17.9	+1,242
High density	1,692	9.2	5.1	900	5.6	4.8	+792
Caravans, cabin, houseboat	56	0.3	0.4	51	0.3	0.4	+5
Other	11	0.1	0.1	13	0.1	0.1	-2
Not stated	65	0.4	0.2	19	0.1	0.1	+46
Total Private Dwellings	**18,435**	**100.0**	**100.0**	**16,085**	**100.0**	**100.0**	**+2,350**

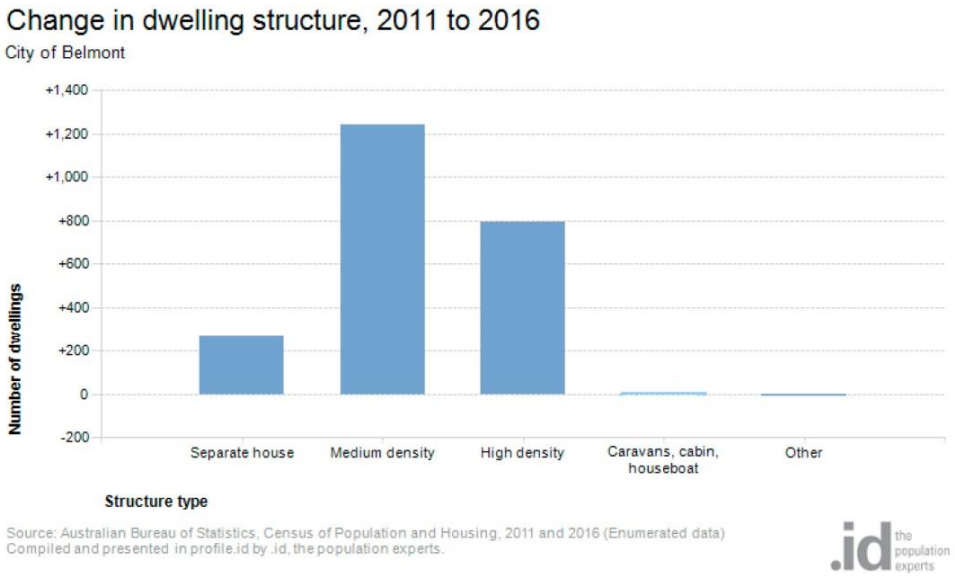


Figure 22 - Change in dwelling structure, 2011 to 2016 (Source: i.d Forecast)

3.9.1 DISTRIBUTION OF HOUSING STOCK BY SUBURB

Over the past decade, there has been steady growth in the number of dwellings in all of the suburbs within the Corridor with a total increase of 17.6% from 2011 to 2016 (**Table 9).** The suburb with the largest increase in number of dwellings was Rivervale, in which there was a 29.6% increase from 2011 to 2016 and 13.4% increase from 2006 to 2011.This is likely to reflect the recent development of the Springs.

The smallest growth was seen in Redcliffe, increasing 5.8% from 2011 to 2016 and 4.2% from 2006 to 2011. This may indicate there is further potential to increase the housing stock in this suburb.

Table 9- Distribution of private dwellings by suburb (Source: ABS Quick Stats 6006, 2011, 2016)

	Number of Private Dwellings (2006)	Number of Private Dwellings (2011)	Number of Private Dwellings (2016)	Percentage Change (2006-2011)	Percentage Change (2011-2016)
Belmont	2525	2859	3176	+13.2%	+11.1%
Ascot	970	1125	1248	+16.0%	+10.9%
Rivervale	3629	4114	5331	+13.4%	+29.6%
Redcliffe	1923	2004	2121	+4.2%	+5.8%
Total	**9047**	**10102**	**11876**	**+11.7%**	**+17.6%**

3.9.2 DWELLING SIZE

Dwelling size within the City of Belmont, in terms of number of bedrooms are generally smaller than those in Greater Perth. The City of Belmont has a higher proportion of zero (0), one (1), two (2) and three (3) bedroom houses, and a smaller proportion of four (4), five (5) and six (6) bedrooms or more houses compared to Greater Perth (**Figure 23**). In the City of Belmont, houses with three (3) bedrooms make up the largest proportion of houses (47.2%), compared to Greater Perth where the largest proportion is four (4) bedroom houses (39%).

This dwelling profile provides an insight into the role the Corridor plays in the housing market. For example, dwellings with one and two bedrooms are likely to attract students, single workers and young couples. Accommodation with two (2) and three (3) bedrooms may attract more families and 'empty nesters'.
The major difference between the number of bedrooms per dwelling in the City of Belmont and Greater Perth were:

- A larger proportion of 0 or 1-bedroom dwellings (5.8% in City of Belmont compared to 3.5% in Greater Perth)
- A larger proportion of 2 bedroom-dwellings (15.7% in City of Belmont compared to 11.7% in Greater Perth)
- A larger proportion of 3 bedroom-dwellings (42.7% in City of Belmont compared to 35.2% in Greater Perth)
- A smaller proportion of 4 bedroom-dwellings (20.9% in City of Belmont compared to 37% in Greater Perth)
- A smaller proportion of 5 or more bedroom-dwellings (2.6% compared to 5.9%).

The largest changes in the number of bedrooms per dwelling in the City of Belmont between 2006 and 2011 were:

- An increase in 4 bedroom-dwellings (+465 dwellings)
- An increase in 0 or 1 bedroom-dwellings (+286 dwellings)
- An increase in 2 bedroom-dwellings (+245 dwellings)
- A decrease in 3 bedroom-dwellings (-266 dwellings)

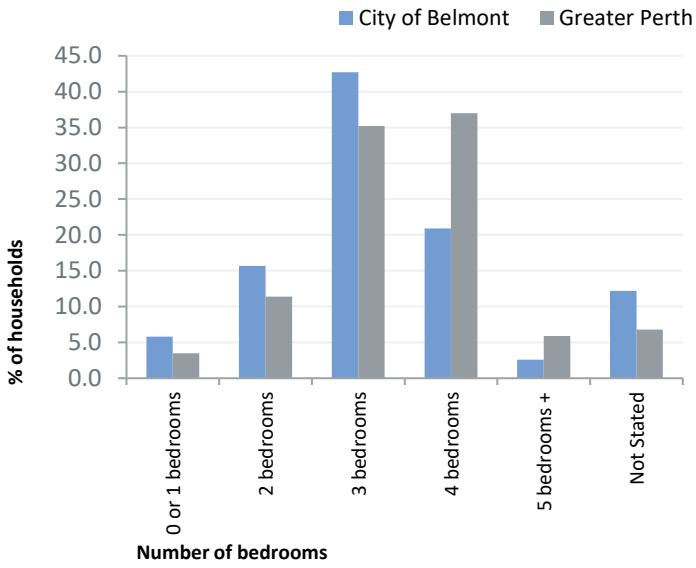


Figure 23 - Dwelling sizes 2016 (Source: id Forecast)

3.9.3 DISTRIBUTION OF DWELLING SIZE BY SUBURB

Analysis of the distribution of dwelling sizes by suburb indicates that Rivervale has the highest proportion of zero (0) or one (1) bedrooms dwellings (13.8%) and two (2) bedroom dwellings (26.2%) out of the suburbs identified and has a larger proportion than the City of Belmont (6.2% and 17.3%) which is reflective of the existing apartment buildings in Rivervale **(Table 10).**

Ascot has the highest proportion of four (4) bedroom dwellings (37.4%) compared to the City of Belmont (23.1%) and the surrounding suburbs identified.
The largest change in the number of bedrooms per dwellings between 2011 and 2016 in each suburb was:

Belmont:

- Increase in 4 bedroom dwellings (+112 dwellings)

Ascot:

- Increase in 4 bedroom dwellings (+70 dwellings)

Rivervale:

- Increase in 2 bedroom dwellings (+241 dwellings);
- Increase in 0 or 1 bedroom dwellings (+239 dwellings);
- Increase in 4 bedroom dwellings (+135 dwellings); and
- Decrease in 3 bedroom dwellings (-55 dwellings)

Redcliffe:

- There were minimal differences in Redcliffe between 2011 and 2016.

The Springs contributes to Rivervale's high proportion of 1 and 2-bedroom dwellings

Table 10 - Distribution of Dwelling Size by Suburb (Source: ABS Community Profiles 2016)

Suburb	2016			
Belmont	**No.**	**%**	**City of Belmont %**	**Greater Perth %**
0 or 1 bedrooms	96	3.8	6.2	3.5
2 bedrooms	408	16.2	17.3	12.2
3 bedrooms	1313	52.0	47.2	37.0
4 bedrooms	540	21.4	23.1	39.0
5 bedrooms	74	2.9	2.5	5.3
6 + bedrooms	15	0.6	0.4	0.9
Not Stated	74	2.9	3.3	2.0
Total Households	2524	100.0	100.0	100.0
Ascot				
0 or 1 bedrooms	39	4.0	6.2	3.5
2 bedrooms	111	11.5	17.3	12.2
3 bedrooms	397	41.1	47.2	37.0
4 bedrooms	362	37.4	23.1	39.0
5 bedrooms	40	4.1	2.5	5.3
6 + bedrooms	4	0.4	0.4	0.9
Not Stated	13	1.3	3.3	2.0
Total Households	967	100.0	100.0	100.0
Rivervale				
0 or 1 bedrooms	564	13.8	6.2	3.5
2 bedrooms	1069	26.2	17.3	12.2
3 bedrooms	1608	39.4	47.2	37.0
4 bedrooms	619	15.2	23.1	39.0
5 bedrooms	68	1.7	2.5	5.3
6 + bedrooms	5	0.1	0.4	0.9
Not Stated	137	3.4	3.3	2.0
Total Households	4080	100.0	100.0	100.0
Redcliffe				
0 or 1 bedrooms	96	5.5	6.2	3.5
2 bedrooms	231	13.4	17.3	12.2
3 bedrooms	742	42.9	47.2	37.0
4 bedrooms	577	33.4	23.1	39.0
5 bedrooms	34	2.0	2.5	5.3
6 + bedrooms	3	0.2	0.4	0.9
Not Stated	47	2.7	3.3	2.0
Total Households	1730	100.0	100.0	100.0

3.9.4 TENURE

Analysis of the housing tenure of the population of the City of Belmont in 2016 compared to Greater Perth shows that there was a smaller proportion of households who owned their dwelling; a smaller proportion purchasing their dwelling; and a larger proportion of rentals (**Figure 24** and **Figure 25**).

In 2016, the majority of dwellings in the City of Belmont were being rented (41%) which is significantly higher than the proportion of rented dwellings in Greater Perth (27%).
At the suburb level, Rivervale had a significantly higher proportion of rented dwellings (52%) compared to the City of Belmont and Greater Perth (**Figure 26**). Ascot was the only suburb along the Corridor which had a higher proportion of dwellings owned outright (33%) compared to Greater Perth (28%). Ascot also had the smallest proportion of dwellings that were rented (28%), and Rivervale had the highest proportion of dwellings that were rented (52%) (**Figure 27, Figure 28** and **Figure 29**).

The City of Belmont has a higher proportion of state housing compared to Greater Perth. Out of the occupied dwellings in the City of Belmont, 7% are being rented from the State Housing Authority, compared with 2.7% in Greater Perth. Out of the total dwellings which were being rented in the City of Belmont, 18% were being rented from the State Housing Authority compared with 11% in Greater Perth.

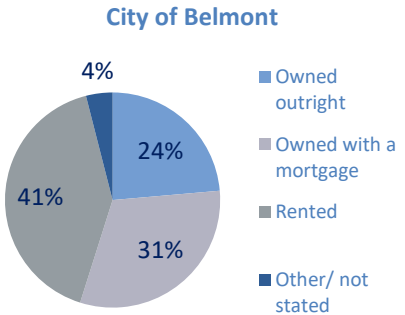


Figure 24 City of Belmont Tenure

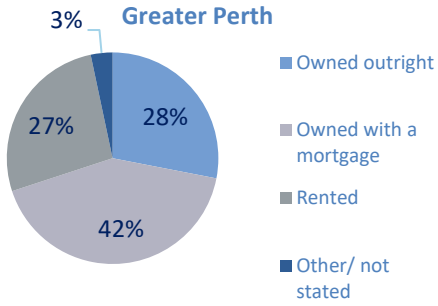


Figure 25 Greater Perth Tenure

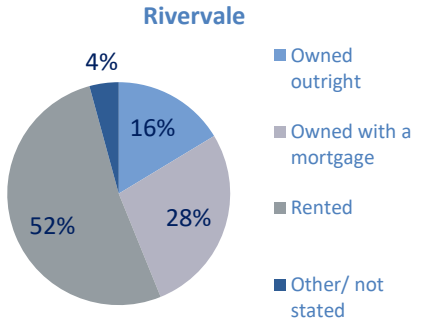


Figure 26 Rivervale Tenure

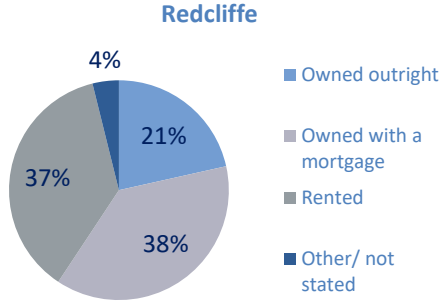


Figure 27 Redcliffe Tenure

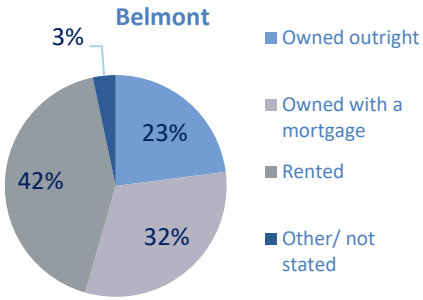


Figure 28 Belmont Tenure

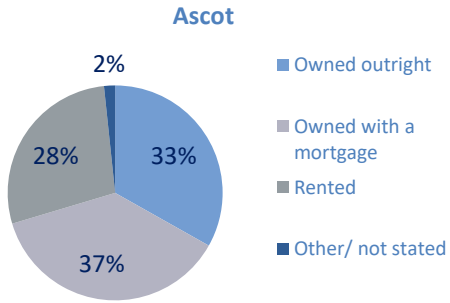


Figure 29 Ascot Tenure

3.9.5 HOUSING PAYMENTS

Analysis of the monthly housing loan repayments within the City of Belmont in 2016 shows that there was a smaller proportion of households paying high mortgage repayments ($2,600 and over per month) and a larger proportion of households paying low mortgage repayments (less than $1,200 a month). Overall, 23.9% of households were paying high mortgage repayments, and 20.4% were paying low repayments, compared with 27.5% and 18.9% respectively in Greater Perth.

Analysis of the weekly housing rental payments of households in the City of Belmont compared to Greater Perth shows that there was a smaller proportion of households paying high rental payments ($450 per week or more), and a larger proportion of households with low rental payments (less than $250 per week). Overall, 19.9% of households were paying high rental payments, and 23.3% were paying low payments, compared with 24.0% and 19.1% respectively in Greater Perth.

3.10 ECONOMY AND EMPLOYMENT

3.10.1 PLACE OF EMPLOYMENT

In 2016, some 44,400 people worked in the City of Belmont. Approximately 4,200 (9.5%) of the workforce resides in Belmont (**Table 11**). A large proportion of the workforce travelling to the City of Belmont from the adjacent Local Government Areas of Swan (8.2%) and Victoria Park (2.5%). The remainder of the workforce travel into Belmont from further Local Government Areas, with the highest proportion travelling from Gosnells (7.4%), Stirling (7.2%), Wanneroo (5.8%) and Kalamunda (5.2%).

Table 11 Residential location of local works (Source: id Forecast)

City of Belmont	2016	
Location	**Number**	**%**
Live and work in the area	4,227	9.5
Work in the area, but live outside	40,195	90.5
Total workers in the area	**44,422**	**100.0**

Of the City of Belmont residents who work, approximately 4,200 (22.8%) work in the City of Belmont, whilst 72.8% travel outside the City of Belmont to work (**Table 12**). The Local Government Areas workers are travelling to include Perth (16.9%), Canning (7.7%), Victoria Park (7.4%), Stirling (5.2%) and Swan (4.9%).

Table 12 Employment location of resident workers (Source: id Forecast)

City of Belmont	2016	
Location	**Number**	**%**
Live and work in the area	4,227	22.8
Live in the area, but work outside	13,474	72.8
No fixed place of work	804	4.3
Total employed residents in the area	**18,505**	**100.0**

This indicates there is a larger proportion of workers travelling into the City to work, compared to residents travelling out of the City to work.

3.10.2 EMPLOYMENT STATUS

Employment status is linked to a number of factors including Age Structure, which influences the number of people in the workforce; the economic base and employment opportunities available in the area; and the education and skill base of the population. The table Employment Status (**Table 13**) illustrates the City's employment profile.

At the time of the 2016 census, the employment rate within the City of Belmont was high with 91.2% of the labour force employed, with 8.8% unemployed and looking for full time or part time work. This compares to 91.9% and 8.1% for Greater Perth respectively.

Table 13 Employment status (Source: id Forecast)

City of Belmont - Persons (Usual residence)	2016			2011			Change
Employment status	**Number**	**%**	**Greater Perth %**	**Number**	**%**	**Greater Perth %**	**2011 to 2016**
Employed	18,591	91.2	91.9	17,315	94.8	95.2	+1,276
Employed full-time	12,089	59.3	56.4	11,717	64.2	60.2	+372
Employed part-time	6,166	30.3	33.9	5,225	28.6	33.1	+941
Hours worked not stated	336	1.6	1.5	373	2.0	1.9	-37
Unemployed (Unemployment rate)	1,792	8.8	8.1	947	5.2	4.8	+845
Looking for full-time work	1,150	5.6	4.8	593	3.2	2.7	+557
Looking for part-time work	642	3.1	3.3	354	1.9	2.0	+288
Total labour force	**20,383**	**100.0**	**100.0**	**18,262**	**100.0**	**100.0**	**+2,121**

3.11 MODE OF TRAVEL TO WORK

The method of travel to work for residents in the City of Belmont is overwhelmingly dominated by the car (as a driver), with a proportion greater than Greater Perth (64.5% compared to 64.1%). **Table 14** demonstrates that a higher proportion of Belmont residents travelled by bus to work, (8.4% compared to 4.1%) and by bicycle (1.1% compared to 1.0%) compared to Greater Perth, though a smaller proportion walked (1.8% compared to 2.1%) or caught the train (2.9% compared to 3.2%). In addition, a smaller proportion of Belmont residents worked at home compared to Greater Perth (2.5% compared to 3.9%).

Method of travel to work has not changed greatly since 2011, however, there was an increase in the proportion of residents driving to work and an increase in the proportion of those catching the bus.

The low proportion of residents travelling by bicycle or walking to work is reflective of the poor cycle and pedestrian environment which exists along the Corridor and improving the cycle and pedestrian environment along and surrounding the Corridor will provide the opportunity for residents to either walk or cycle to work.

Table 14 Method of travel to work 2016, 2011 (Source: id Forecast)

City of Belmont - Employed persons (Usual residence)	2016			2011			Change
Main method of travel	**Number**	**%**	**Greater Perth %**	**Number**	**%**	**Greater Perth %**	**2011 to 2016**
Train	543	2.9	6.1	560	3.2	6.5	-17
Bus	1,559	8.4	4.1	1,413	8.2	4.0	+146
Tram or Ferry	3	0.0	0.0	11	0.1	0.0	-8
Taxi	81	0.4	0.2	64	0.4	0.2	+17
Car - as driver	11,992	64.5	64.1	10,542	60.9	61.5	+1,450
Car - as passenger	992	5.3	4.6	1,029	5.9	5.4	-37
Truck	100	0.5	0.7	147	0.8	0.9	-47
Motorbike	107	0.6	0.5	104	0.6	0.6	+3
Bicycle	207	1.1	1.0	287	1.7	1.1	-80
Walked only	335	1.8	2.1	399	2.3	2.3	-64
Other	389	2.1	1.9	368	2.1	1.8	+21
Worked at home	460	2.5	3.9	394	2.3	3.4	+66
Did not go to work	1,619	8.7	9.9	1,772	10.2	11.0	-153
Not stated	207	1.1	1.0	232	1.3	1.3	-25
Total employed persons aged 15+	**18,594**	**100.0**	**100.0**	**17,322**	**100.0**	**100.0**	**+1,272**

3.12 EMPLOYMENT INDUSTRY

In 2016, the industry sectors of Health Care and Social Assistance (10.7%), Construction (9.7%) and Retail Trade (8.6%) dominated employment within the City of Belmont as highlighted in **Figure 30** below).

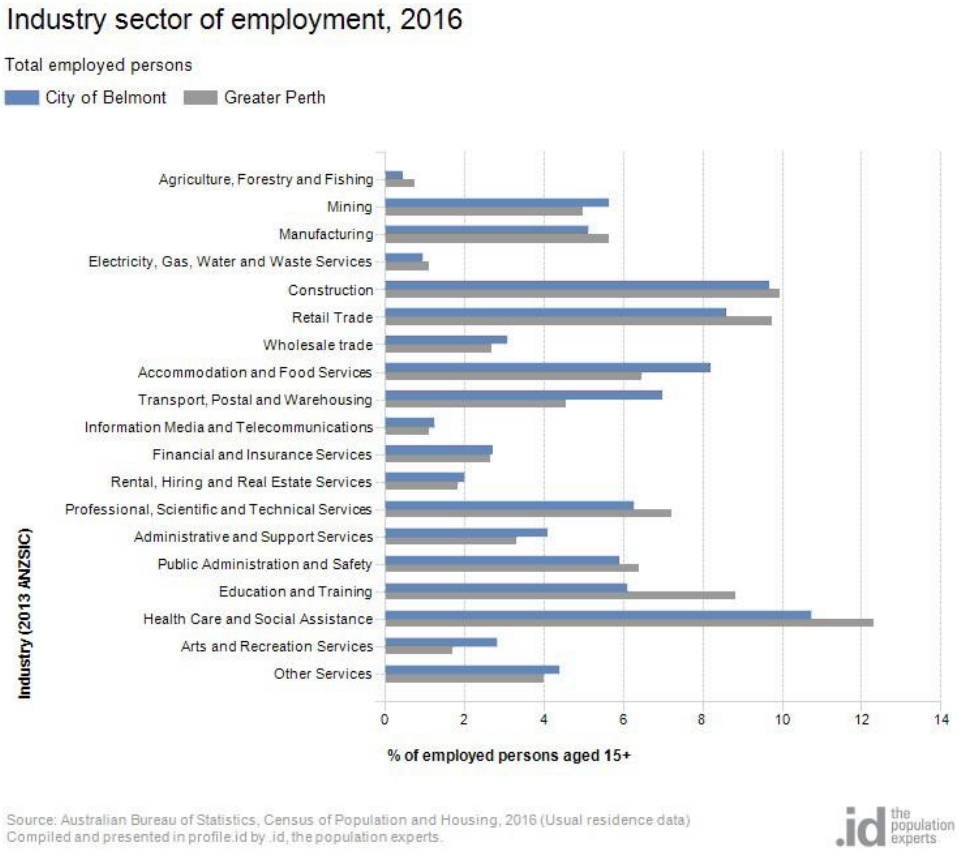


Figure 30 Industry Sector of Employment, 2016 (Source: id Forecast)

From the previous census in 2011, most growth was experienced in Health Care and Social Assistance services, Construction and Accommodation and Food Services sectors with some decline being experienced in the Manufacturing, Wholesale trade and Professional, Scientific and Technical Services sectors (refer **Figure 31** below).

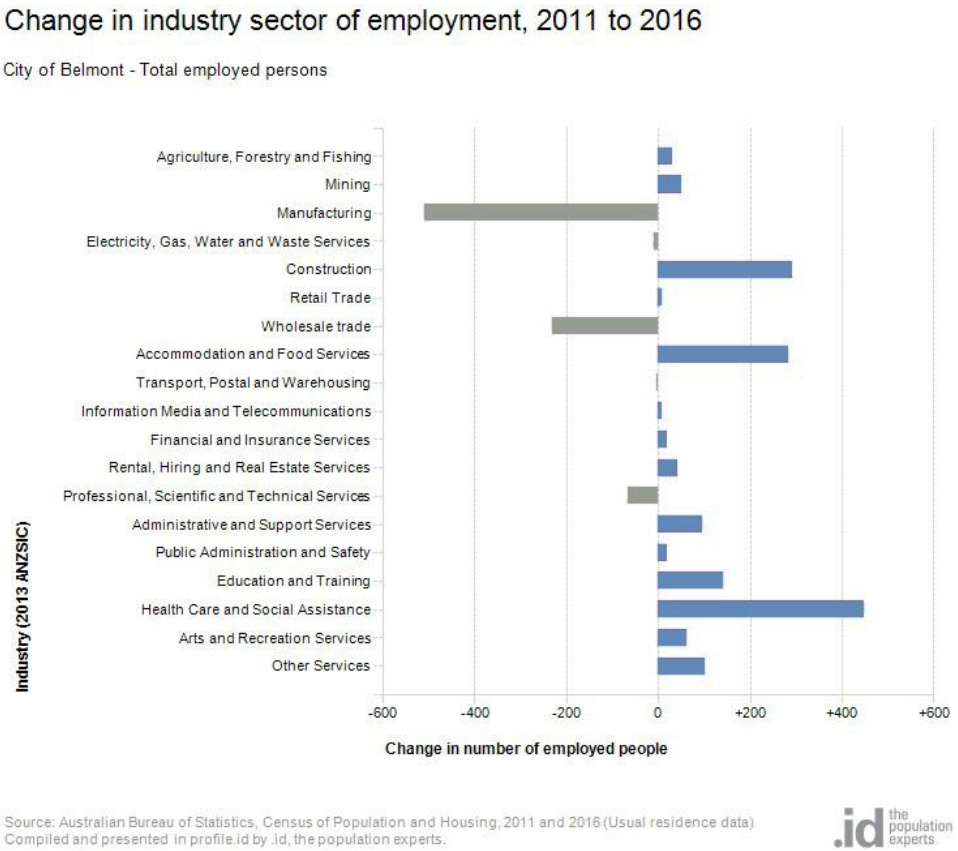


Figure 31 Change in industry sector of employment, 2011 to 2016 (Source: id Forecast)

3.13 OCCUPATION

Professionals (19%), Technicians and Trade Workers (17%) and Clerical and Administrative Workers (14%) accounted for the bulk of the workforce occupations in 2016. The proportions of Machinery Operators and Drivers and Labourers compared to Greater Perth are significantly higher; (8.3% and 10.5% compared to 6.5% and 9.0% in Greater Perth).

A smaller proportion of persons are employed as Professionals and Managers (19% and 9.8% compared to 22.2% and 11.5% in Greater Perth), as can be seen in **Figure 32** below.

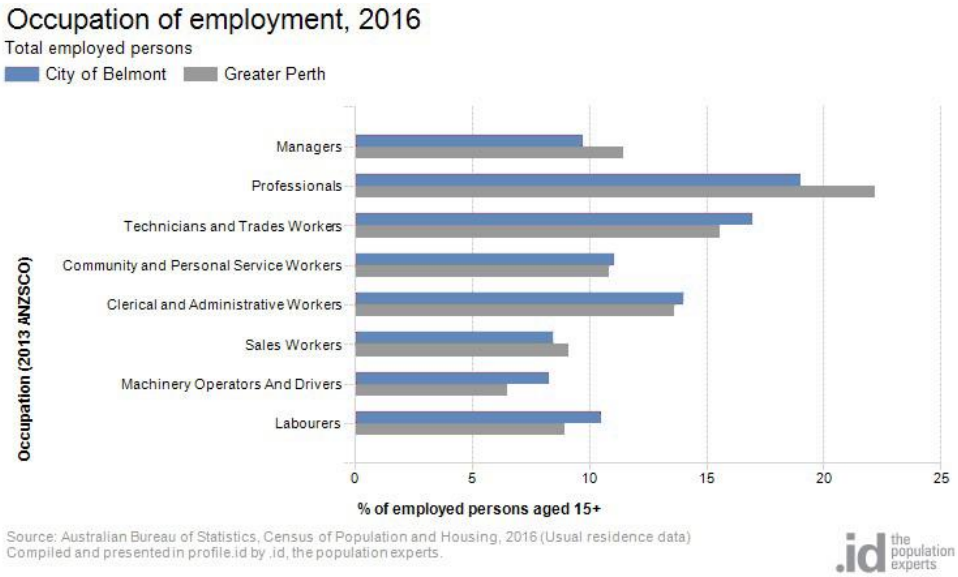


Figure 32 Occupation of Employment, 2016 (Source: id Forecast)

Over the period 2016 – 2011 shows that the greatest change in occupation of employment was growth in Community and Personal Service Works, Professionals and Labourers, and a decline in Clerical and Administrative Workers and Machinery Operators and Drivers, as shown in **Figure 33** below**.**

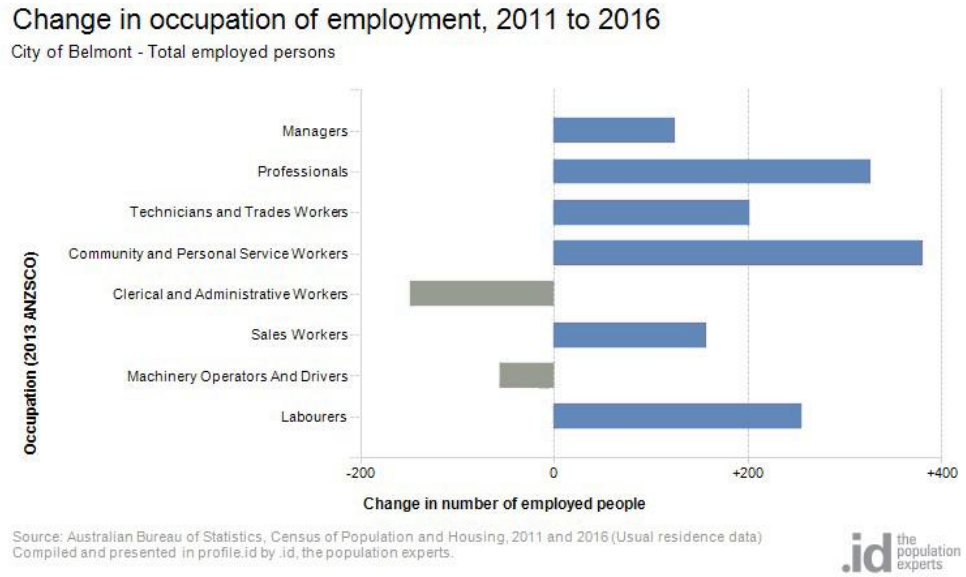


Figure 33 Change in Occupation of Employment 2011 to 2016

3.14 HOUSEHOLD INCOME

Analysis of household income levels across the City of Belmont shows that there were a greater proportion of households in the lowest income quartile, and a lesser proportion of households in the highest income quartile compared to Greater Perth (**Figure 34).** The City of Belmont has 27.9% of households earning in the lowest income group compared to 23.9% in Greater Perth. 20.4% of households the City of Belmont earned in the highest group, compared to 26.2% of households earning in the highest group in Greater Perth.

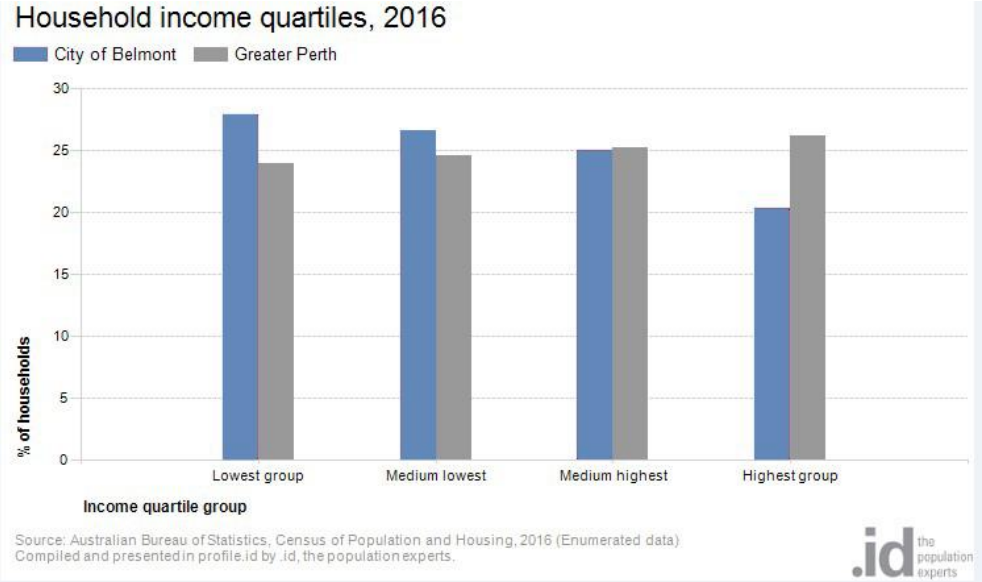


Figure 34 Household income quartiles, 2016 (Source: id Forecast)

Analysis of household income levels across the suburbs along the Corridor shows Redcliffe has the highest proportion of households in the lowest income group (28.3%), which is a larger proportion compared to the City of Belmont and Greater Perth. Ascot has the largest proportion of households in the highest income group (28.9%) which is a higher proportion than the City of Belmont and Greater Perth (**Table 15**).

The most significant change in the City of Belmont between 2011 and 2016 was the medium lowest quartile which showed an increase of 507 households (**Figure 35**).

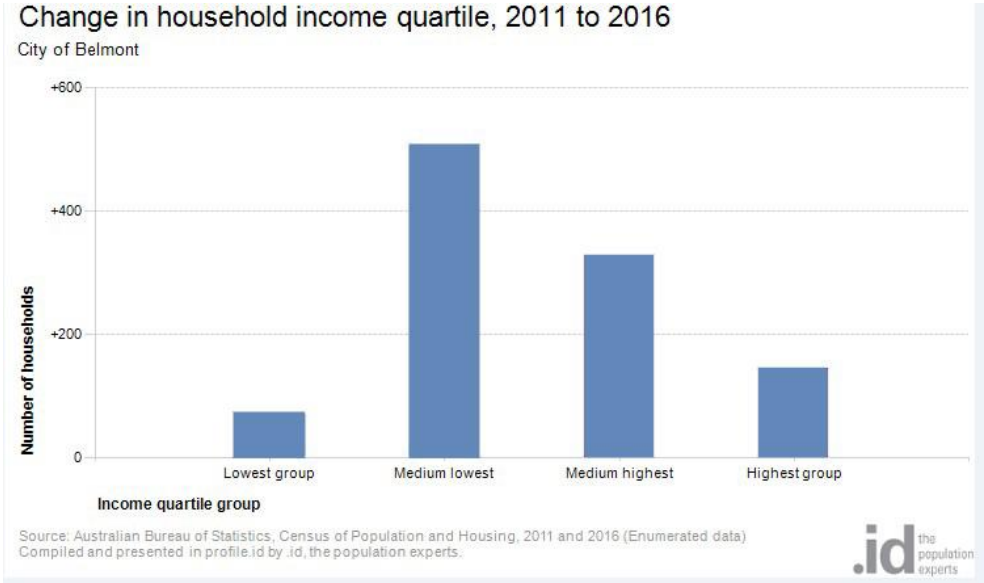


Figure 35 Change in household income quartile, 2011-2016 (source: id Forecast)

Analysis of the household income of the suburbs along the Corridor show:

- Ascot had a higher proportion of high income households (26.9%) and a lower proportion of low income households (12.2%) compared to the City of Belmont.
- Belmont had a similar proportion of high income households (19.4%) and a lower proportion of low income households (18.1%) compared to the City of Belmont.
- Redcliffe had a smaller proportion of high income households (18.1%) and a higher proportion of low income households (19.3%) compared to the City of Belmont
- Rivervale had a higher proportion of high income households (20.1%) and higher proportion of low income households (19.6%) compared to the City of Belmont.

The household income quartiles are depicted in **Table 15.**

Table 15 Household income quartiles 2016 (Source: id Forecast)

	% of households					
Quartile Group	Belmont	Ascot	Redcliffe	Rivervale	City of Belmont	Greater Perth
Lowest group	27.9%	21.4%	28.3%	27.7%	27.9%	23.9%
Medium lowest	25.3%	24.4%	26.6%	26.1%	26.7%	24.6%
Medium highest	26.1%	25.2%	26.6%	25.3%	25.1%	25.2%
Highest group	20.3%	28.9%	18.6%	20.3%	20.4%	26.2%

3.15 SUMMARY AND IMPLICATIONS

A summary of the key statistics outlined in this section is included below in Figure 36.

		City of Belmont	Greater Perth	Western Australia	Australia
AGE	median age	34	36	36	38
INCOME	median weekly household Income	$1,431	$1,643	$1,595	$1,438
CHILDREN	couples with children	22%	32%	31%	30%
	older couples without children	6.2%	9%	9%	10%
DWELLING TYPES	medium and high density housing	35%	25%	21%	27%
COST OF HOUSING	households with a mortgage	28%	40%	36%	33%
	median weekly rent	$350	$360	$347	$335
	households renting	37%	27%	28%	31%
ETHNICITY	non-english speaking households	29%	20%	17%	20%
SCHOOL / EDUCATION	university attendance	5%	5%	4%	5%
	bachelor or higher degree	21%	23%	20%	22%
	vocational	18%	19%	20%	19%

Figure 36 Summary of Statistics

Without more area specific analysis being undertaken the following impactions are noted:

Additional housing and infrastructure provision required for growing population and expected future population growth

The City's population increased approximately 18% over the 2006 to 2011 period and 11.7% in the period 2011 to 2016. This follows a period of population stagnation over the 1990's. The City's population is expected to increase by approximately a further 15% to 48,060 people by 2026 from 2015 levels (WAPC Band C forecast).

Growing proportions of young professionals, parents and homebuilders, empty nesters and retirees and elderly population

- There is a high proportion of the young workforce population within the suburbs along the Corridor.
- Trend of the increasing number of couples with children and couples without children is likely to evolve to a higher proportion of families with children over the next 10 years.
- The existing high proportions of babies and pre-schoolers is likely to result in a growth in primary schoolers and secondary schoolers over the next 10 years.
- Relatively higher proportion of people ages 75 and older in comparison to Greater Perth.

Demand for a diverse housing stock

- The growing, diverse population will require increased housing diversity options along the Corridor, including:
    - Smaller households for the high proportion of lone residents.
    - Medium-larger size households for the growing population of parents, and couples with children.
    - Aged housing and retirement housing and services for the large proportion of elderly and nearing retirement population.
    - Need to consider the robustness of housing stock so as to accommodate changing household structure and tenures, as the family cycle evolves.

Need to consider affordable housing options

- Need to consider affordable housing options to accommodate large proportion of young professionals, in addition to the higher proportion of lower income households in the City of Belmont. Indicators of the demand for affordable housing include:
    - High proportion of young professionals in the City of Belmont.
    - Lower household incomes compared to the Greater Perth.
    - Significantly higher proportion of the community renting in the City of Belmont.
    - Lower rental repayments and lower mortgage repayments compared to the City of Belmont.
    - The City of Belmont has a larger proportion of smaller houses, with a large proportion of 1, 2 and 3 bedroom dwellings compared to Greater Perth.
- Affordable housing options should be considered in appropriate locations along the Corridor, which are easily accessible to public transport, and are in proximity to areas of amenity. Pedestrian and cyclist connections to surrounding areas of amenity should be enhanced so residents can easily access shops, cafes and open space, reducing car dependency.

Community facilities required to accommodate the greater mix of ethnicities along the Corridor

- The City of Belmont has a larger proportion of non-English speaking households, people born overseas and people from non-English speaking backgrounds, indicating the need to provide for a range of community facilities to cater for the community members' needs, which will allow different people to meet and interact, gain support and create a sense of belonging. Such uses may include a range of sporting clubs, community halls, family support centres, health services and a range of meeting spaces.

Need to increase opportunities for City of Belmont residents to work within the City of Belmont

- A large proportion of City of Belmont residents travel outside the City of Belmont to work, as well as a large number of the Greater Perth population travelling into the City of Belmont. This increases the demand on infrastructure such as roads and public transport.
- Providing opportunities for jobs within the City of Belmont will improve the opportunities for residents to live, work and play within the City, allowing people to travel shorter distances to work, whilst activating Belmont's local economy.
- Need to accommodate the growing industries of Health Care and Social Assistance, Accommodation and Food Services and Construction, whilst recognising the decline in Manufacturing and Wholesale Trade being experienced in the City of Belmont.

Improvements to pedestrian, cyclists and public transport facilities required

- The method to travel to work for residents in the City of Belmont is overwhelmingly donated by car, with few residents cycling and walking to work. Improved pedestrian and cyclist networks and amenity will encourage residents to cycle or walk to work.
- The City has a relatively high proportion of residents who travel to work by bus, though with improved facilities such as sheltered bus stops, accessible bus stops, and convenient bus routes, supported by a robust pedestrian path network, will contribute to greater usage of busses, utilising the Corridors access to the Priority Rapid Public Transport Route.
- The City has a relatively low proportion of residents who travel to work by train so it is essential the Corridor has safe and convenient connections to the future Redcliffe Train Station.

4. PHYSICAL SITE DESCRIPTION

4.1 LAND USE AND LOT CHARACTERISTICS

4.1.1 LAND USE

The majority of the land along the Corridor currently comprises a variety of non-residential land uses including fast food outlets, liquor stores, motels, motor vehicle hire, motor vehicle repairs, offices, restaurants, cafes, taverns, massage parlours, service stations, shops, industrial, showrooms and warehouses as depicted in (**Figure 37, 38 and 39**). It is noted that Figure 38 is sequential to Figure 37, and the location of the images on Figure 39 are identified on Figure 37 and 38.

Some existing land uses are inconsistent with the zoning in LPS 15; particularly in areas zoned Mixed Business, Mixed Use, with several non-conforming uses which have been approved under old planning legislation. Examples included service stations, motor vehicle hire, vehicle sales and industry located within in the Mixed Use zone.

The majority of the non-residential land uses are located in the vicinity of the Belmont Mixed Business Area in the centre of the Corridor and the Redcliffe Industrial area at the eastern end of the Corridor.

A number of tourist accommodation sites are scattered along the Corridor capitalising on the close proximity to both the Perth Airport, Crown Casino and greater entertainment precinct.

The Corridor also accommodates different forms of residential development in the form of single, grouped and multiple dwellings. It is noted in conjunction with the recent upgrade of Great Eastern Highway the majority of existing residential development abutting the Corridor have had noise walls constructed between as to provide noise amelioration.

There is only a small number of health care and sporting facilities along the Corridor and one School, being the Belmont Primary School. It is highlighted the Department of Education are currently investigating the existing site to determine the requirements for the future.

There are also a number of public open space areas along both sides of and abutting the Corridor. There are more areas located to the northern side as the Swan River meanders along in parallel and particularly in the places in close proximity to the Corridor i.e. mid-section.

A small number of sites also appear to be vacant along the Corridor.

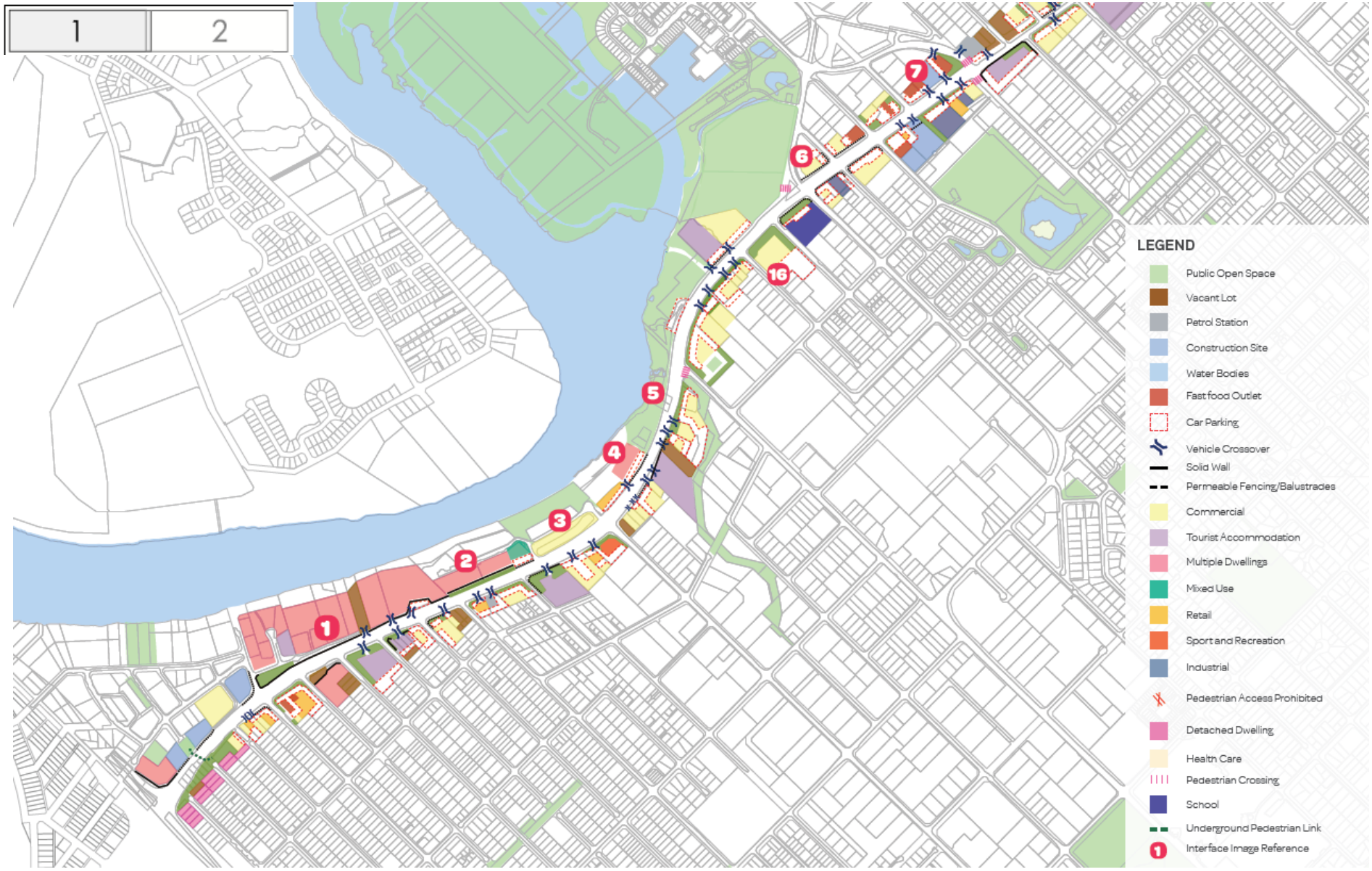


Figure 37 Great Eastern Highway Corridor Edge Interface 1

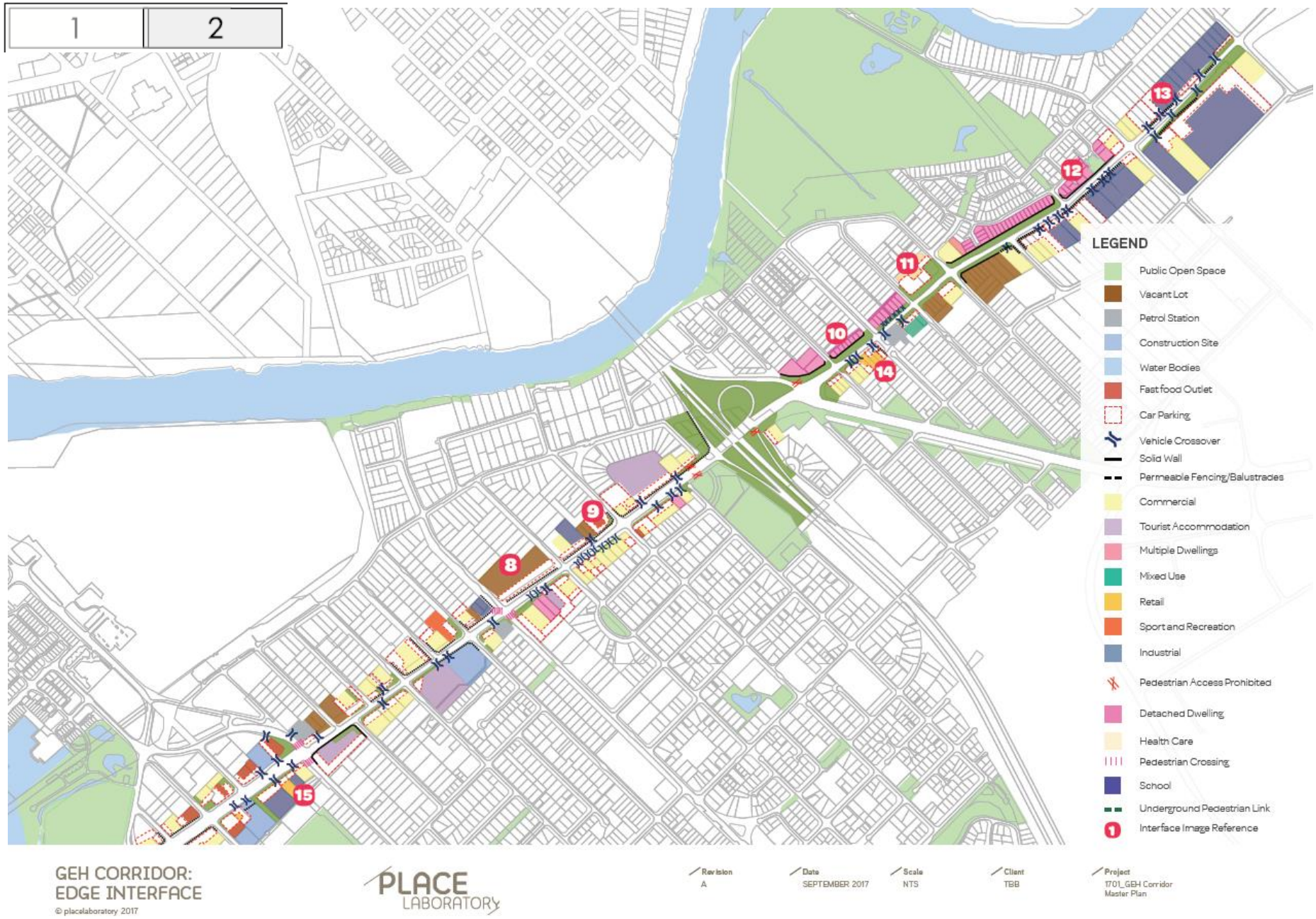


Figure 38 Great Eastern Highway Corridor Edge Interface 2

GEH CORRIDOR:
INTERFACE IMAGES

PLACE LABORATORY

Revision	Date	Scale	Client	Project
A	SEPTEMBER 2017	NTS	TBB	1701_GEH Corridor Master Plan

Figure 39 Great Eastern Highway Corridor Interface Images

4.1.2 LOT SIZES

Figure 40 - Lot Sizes Plan identifies the spatial distribution of lot sizes and includes a statistical breakdown of different lot sizes within the study area. The study area has been broken into two segments in Figure 40 for legibility purposes. There are 266 lots included within the study area, and a total lot area of 75.32 hectares. The average lot size is 2831m², with the majority of lots being between 1001m² - 3000m² (37.9%).

4.1.3 LAND OWNERSHIP

The majority of the lots along the are privately owned freehold lots. There are multiple strata lots, predominantly located on the northern edge of the Corridor between the Graham Farmer Freeway and Belgravia Street. There are also various government freehold lots along the Corridor (refer **Figure 41 – Land Ownership Plan).** The study area has been broken into two segments in Figure 41 for legibility purposes.

4.1.4 HERITAGE

European

A review of the Heritage Council's Heritage inherit database identified the following site within the study area which is included on the State Heritage Register:

- Tampina – 517 Great Eastern Highway, Redcliffe (Place number 03123). The site is single-storey brick and iron residence constructed in 1906 in the Federation Queen Anne style, and has cultural significance for the following reasons:
    - the construction of the place was as a direct result of the growth and development of the horse racing industry in Perth and in Belmont in particular in the 1890s and early 1900s;
    - the place displays aesthetic qualities characteristic of the Federation period and exhibits some fine decorative design detailing, particularly the joinery, tuck-pointing and richly varied roof form;
    - the place has associations with the horse racing industry and prominent racing identity, J. F. G. Robinson;
    - the place has associations with the RAAF during World War Two, including fighter pilot and war hero, 'Bluey' Truscott;
    - the place was used as a hostel for mentally and physically disabled children; and,
    - the place contributes to the local community's sense of place as one of the few large residences remaining from the turn of the century development of the Redcliffe/Belmont area.

Aboriginal Heritage

A review of the Department of Planning, Lands and Heritage Inquiry System identified the following sites within the subject site registered under the *Aboriginal Heritage Act 1972*;

- Site ID: 3753, Site Name: 'Perth', Type: Historical, Mythological, Hunting Place, Named Place, Natural Feature
- Site ID: 17061, Site Name: 'Old Campsite 1', Type: Camp

The following registered sites are located adjacent to the subject site:

- Site ID: 16694, Site Name: 'Redcliffe Wetland', Type: Historical, Mythological, Camp, Meeting Place, Natural Feature, Water Source
- Site ID: 3536, Site Name: 'Swan River', Type: Mythological

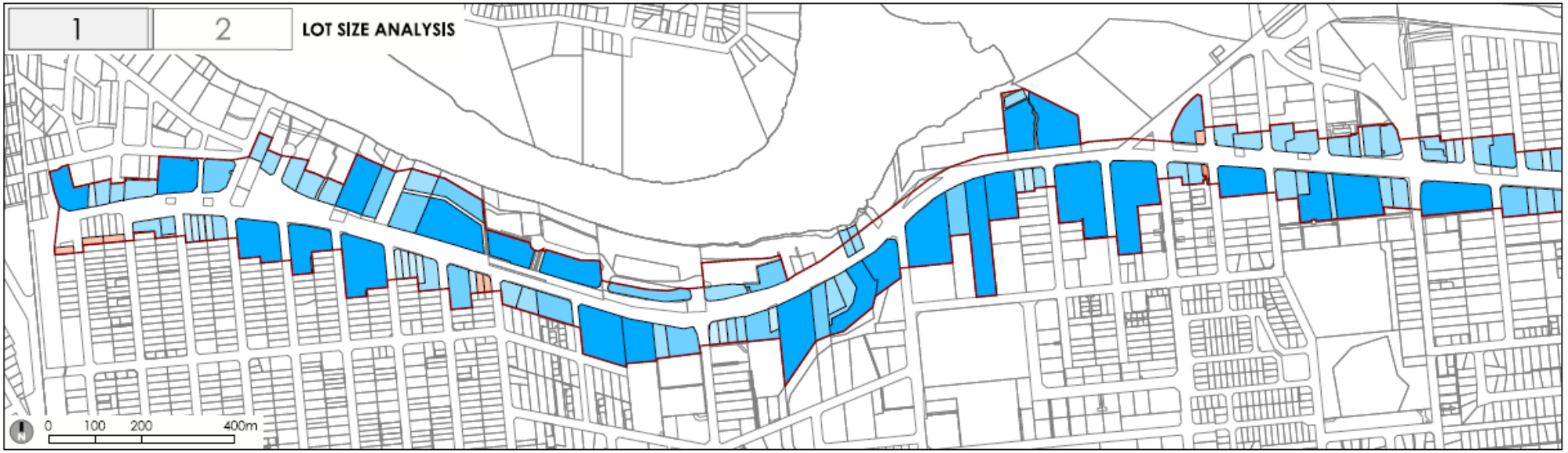
City of Belmont Heritage Inventory

A review of the City of Belmont's Heritage Inventory identified the following sites with some level of heritage significance within the study area:

- Old Well and Store – 2 Great Eastern Highway, Belmont (Place number 8658)
- Congregational Church (former) – 13 Great Eastern Highway, Rivervale (Place number 139)
- Riverside Hall (site only) – 33-35 Great Eastern Highway, Rivervale (Place number 8649)
- Wooden paved road remnants – 143 Great Eastern Highway, Rivervale (Place number 24367)
- Hardey Park & Moreton Bay Fig – 78-82 Great Eastern Highway, Belmont (Place number 8641)
- Moreton Bay Fig Tree – 78-82 Great Eastern Highway, Belmont (Place number 23677)

- Cellars – 88 Great Eastern Highway, Rivervale (Place number 8646)
- Brisbane & Wunderlich Park Buildings – Devils Elbow, Great Eastern Highway, Belmont (Place number 8653)
- Courtland Pottery (site only) – 203-205 Great Eastern Highway, Belmont (Place number 8640)
- Belmont Primary School – 213 Great Eastern Highway, Belmont (Place number 6124)
- Corlett's Bakery (demolished) – 223A Great Eastern Highway, Belmont (Place number 8644)
- Rowlands Stockfeed Depot (demolished) – 214 & 216 Great Eastern Highway, Ascot (Place number 8651)
- Residence – 218-220 Great Eastern Highway (demolished), Ascot (Place number 8650)
- Redcliffe Hall site (former) – 357 Great Eastern Highway, Redcliffe (Place number 16539)
- Invercloy Park – 11A Wedderburn Place, Ascot (Place number 25910)
- Tampina – 517 Great Eastern Highway, Redcliffe (Place number 3123)

Heritage sites have been considered in the Redevelopment Potential Analysis Plan.



STUDY AREA

LOT YIELD			LOT AREA		
Size	No. Lots	% Total Lots	Average Size	% of Total Area	Area
160m² – 300m²	17	6.39%	291m²	0.66%	4947m²
301m² – 500m²	13	4.89%	360m²	0.62%	4681m²
501m² – 700m²	29	10.90%	626m²	2.41%	18165m²
701m² – 1000m²	35	13.16%	867m²	4.03%	30355m²
1001m² – 3000m²	101	37.97%	1804m²	24.20%	182288m²
3001m² – 5000m²	30	11.28%	3791m²	15.10%	113749m²
5001m²+	41	15.41%	9732m²	52.98%	399051m²
Total Number of Lots	266				

Minimum Lot Size 264m²
Maximum Lot Size 38281m²

Average Lot Size 2831m²
Total Lot Area 753236m²

Figure 40 Study Area Lot Sizes

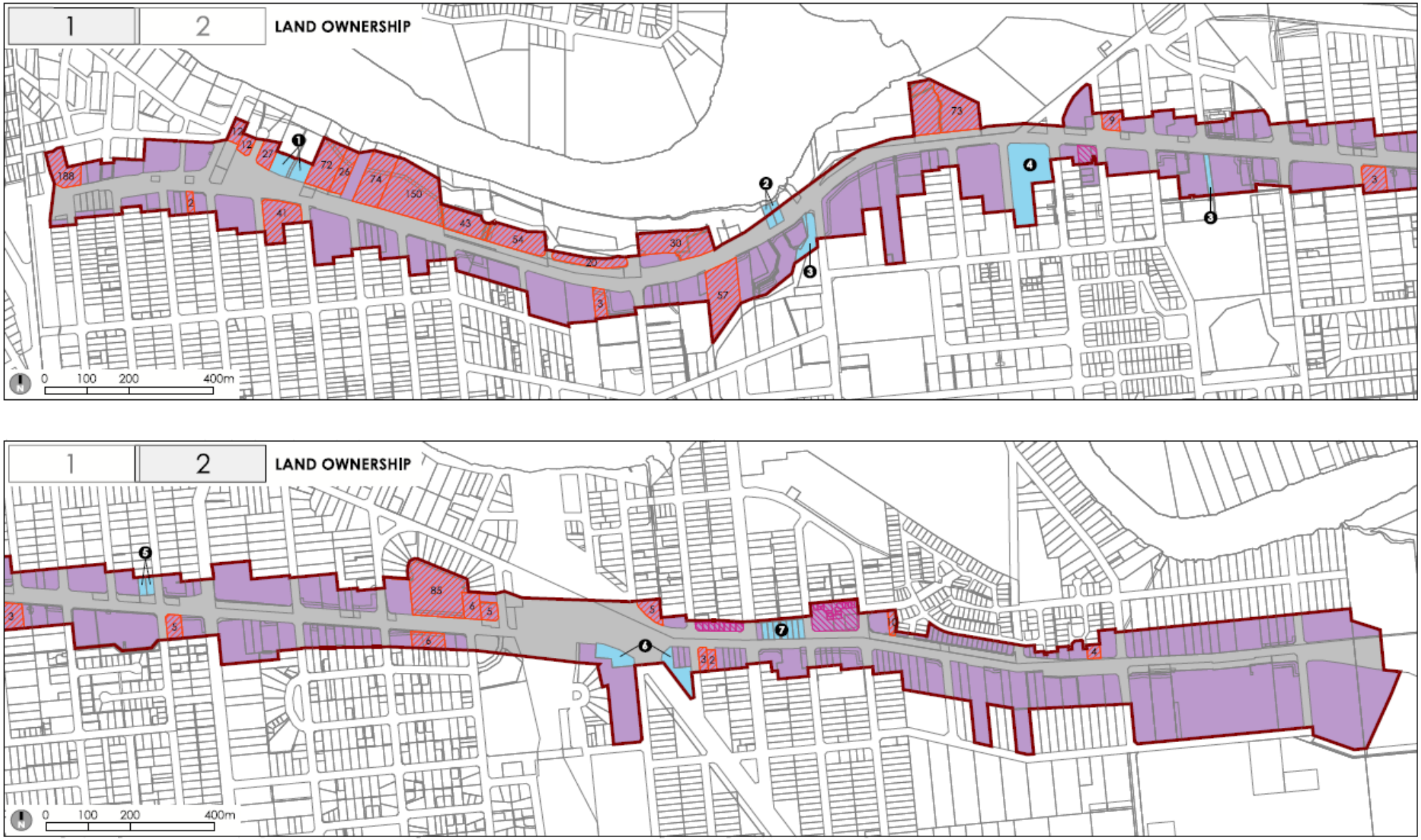


Figure 41 Land Ownership Plan

4.2 BUILT FORM

The built form of the area comprises a variety of single storey industrial buildings, commercial buildings, offices, multiple dwellings, grouped dwellings and single storey housing. The height of buildings ranges from single storey dwellings and commercial uses with apartment and office buildings ranging from 2-4, 4-6, 6-8 storeys, up to 14-16 storeys.

- **Residential**

The residential development is predominately multiple and grouped dwellings. Majority of the residential development is separated from Great Eastern Highway by noise amelioration walls. The majority of the multiple dwellings are 4-6 storeys, with the grouped dwellings predominantly 1-2 storeys. There are also several single storey single dwellings on the eastern end of the Corridor with the majority to the north side east of Tonkin Highway.

There are several modern apartment buildings constructed in the last 10 years, ranging from 14-16 storeys, located on the western end of the Corridor closer to the Graham Farmer Freeway.

The material of the residential buildings includes brick veneer, concrete and glass, with roofing predominantly tiles and colorbond.

- **Commercial and & Non-Residential**

The commercial and non-residential built form varies in age and style. There are some recently constructed developments, consisting of 2-3 storey concrete offices. A number of building are tourist accommodation and area far ranging in both age and aesthetics. Several non-residential buildings are set back from Great Eastern Highway, with car parking located in front of buildings.

4.3 PUBLIC REALM

The public realm within the area can be described by the following:

- Lack of pedestrian amenity – pedestrian paths are constructed to varied quality and width. There is a lack of regular safe crossing points, and the paths offer little sense of safety from the high traffic volumes
- There is a general lack of street vegetation and trees resulting in pedestrians and properties having little protection from the sun and busy road
- Poor connectivity of public realm network to surrounding Public Open Space
- The variety of existing built form results in an inconsistent streetscape
- Inconsistent building setbacks result in an inconsistent streetscape with no uniform character.
- Facilities for busses are not consistent the whole way though, with a lack of bus shelters at all bus stops.

4.3.1 STREETSCAPES

The existing streetscape within the area can be described by the following:

- **Physical Condition**
  - Verge clutter, minimal vegetation, lack of street furniture.
  - Some paving has been upgraded and is in good condition, other parts of pavement are older, degraded and in need of repair.
  - There are several different footpath types and widths. Some areas without footpaths.
  - A number of footpaths are not well connected to the greater pedestrian network system.

- **Character and Sense of Place**
    - Corridor is orientated towards cars and is a hostile environment for pedestrians.
    - No uniform character and lacking a sense of place.
- **Connectivity and Legibility**
    - Lacks connection to the river, with poor connectivity and legibility especially for pedestrians.
    - Minimal way-finding markers along Corridor.
- **Pedestrian Environment and Visual Amenity**
    - Lack of harmonious streetscape and elements.
    - Lack of shelter and shade especially along footpaths/shared paths directly abutting the Corridor for pedestrians.
    - There is a limited amount of crossing points across the Corridor forcing unnecessary lengthy walking distances for pedestrians.
- **Public/Private Interface**
    - Some parking on verge of residential lots and a small number of decked parking structures provided.
    - Generally, the car parking areas are poorly landscaped and are simply bitumised areas only.
- **Infrastructure and Servicing Integration Issues**
    - Featureless road with minimal landscaping within median and/or verges. Lighting is provided generally in the central median with minimal lighting provided on verges and/or along footpaths/shared paths.
    - Underground power is generally provided.
- **Designing Out Crime (CPTED)**
    - High noise amelioration walls in close proximity to Graham Farmer Freeway creating long barricaded sections of verge.
    - Buildings set back from street front with car park interface between.
    - Poor lighting along verges, footpaths/shard paths and in areas of open space particularly, where the Swan River is in close proximity to the Corridor i.e. mid-section.
    - Single residential lots closer to Ivy street generally have untidy verges with overgrown vegetation and no fences.
    - Residential area in Ascot is setback from Great Eastern Highway with noise amelioration walls, with no interface.
- **Management and Maintenance Issues**
    - Minimal public realm landscape to maintain.

4.4 MOVEMENT NETWORK

4.4.1 GREAT EASTERN HIGHWAY

The Great Eastern Highway ranges from four to six lanes and is classified as a Primary Distributor under the Main Roads WA hierarchy, carrying between 43,000 and 69,200 vehicles per day between the Graham Farmer Freeway and Ivy Street. This is forecast to increase to between 50,700 and 82,900 vehicles per day by 2031.

4.4.2 SURROUNDING STREET NETWORK

The street network surrounding Great Eastern Highway comprises the Graham Farmer Freeway, Tonkin Highway and Brearley Ave which are classified as Primary Distributors, as well as a mix of Distributor A, Distributor B, Local Distributor and Access Roads in the Main Roads WA Road Hierarchy. The use of rear laneways surrounding the site is minimal. The network is generally a traditional grid pattern.

There are signalised intersections along the Highway at the following intersections:

- Graham Farmer Freeway
- Kooyong Road
- Belmont Avenue
- Abernethy Road
- Belgravia Street
- Hardey Road
- Epsom Avenue
- Tonkin Highway
- Brearley Avenue
- Coolgardie Avenue
- Fauntleroy Avenue

Many of the remaining intersections along the Highway consist of left-in, left-out access arrangements.

4.4.3 PEDESTRIANS NETWORK

As part of the 2011 – 2013 upgrade works along the Corridor between Kooyong Road and Tonkin Highway, 3.0 metre footpaths were installed on both sides of the Corridor. The footpaths are located adjacent to the on-road bike lanes with no buffer between the footpath and the on-road bike facility, creating an unpleasant environment for pedestrians.

Along the southern side of the Corridor between Orrong Road and Tonkin Highway there is typically a planted buffer between the footpath and property boundary.

Along the norther side of the Corridor between Orrong Road and Tonkin Highway there is typically no buffer between the footpath and the property boundary, and the footpath typically runs adjacent to a property fence, wall or sound wall.

Along the northern and southern sides of the Corridor between Tonkin Highway and Ivy Street the footpath is older and narrower – typically 1.5m wide. For the majority of this section of the Corridor there is a planted buffer between the footpath and the road.

There are at-grade pedestrian crossing facilities at traffic signal-controlled intersections, and grade-separated pedestrian underpasses. Some signalised intersections require pedestrians to make three crossings in order to cross from one side of the Highway to the other. Pedestrian connection to the river is minimal in most locations.

4.4.4 BICYCLE NETWORK

Dedicated on-road cycling facilities are located from the Graham Farmer Freeway to the Tonkin Highway. Typically, the cycle lanes are 1.5 metres wide, adjacent to the kerb and the bus lanes.

Bicycle connection to the Swan River is poor. The cycle path adjacent to the Swan River is disconnected in some locations.

4.4.5 PUBLIC TRANSPORT

The Great Eastern Highway has multiple bus routes that travel along the length of the Corridor or travel along parts of Corridor in the study area, in addition to the Circle Route bus that crosses the Corridor between Resolution Drive to Hardey Road. The bus network provides access to the Perth CBD, the Perth Airport, Belmont Forum, Midland, Maida Vale, Forrestfiled, Kewdale, Walliston and Kalamunda.

The weekday AM Peak period frequencies towards the Perth CBD and the PM peak period frequencies towards Perth Airport are 1 bus every 3 minutes at the western end of the Corridor, 1 bus every 5 minutes along the centre of the Corridor and 1 bus every 6 minutes at the eastern end of the Corridor.

Not all of the bus stops have existing bus shelters.

5. OPPORTUNITIES AND ISSUES ANALYSIS

5.1 REDEVELOPMENT POTENTIAL

A redevelopment potential analysis has been undertaken based on a subjective assessment of the development potential for land parcels within the subject area and is outlined included below in **Figure 42.**
This analysis applies a redevelopment grade to the site in accordance with the following category description:

- **Very Low:** Primarily heritage sites and/or land uses unlikely to change unless a redevelopment outcome that includes retention of heritage features can be found, or demolition/relocation is considered acceptable. Existing buildings have been constructed relatively recently.
- **Low:** Existing residential strata developments with greater than three landowners and newer commercial buildings unlikely to be redeveloped in the medium term. The potential to redevelop will be dependent on willingness to dissolve strata agreements and / or age adaptability of buildings
- **Moderate:** Smaller green titled residential lots (~1000m^2) with equal or less than three landowners. The potential to redevelop will be dependent on land assembly and/or acceptable built form design.
- **High:** Medium sized commercial and residential lots fronting major roads or in close proximity to centres. The potential to redevelop will be dependent on landowner interest and agreement on built form outcomes.
- **Very High:** Generally larger lots (>2000m^2) (or those adjacent to larger lots) that front major roads or are in close proximity to centres. The potential to redevelop will be dependent on landowner interest and agreement on built form outcomes.

5.1.1 ASSUMPTIONS OF REDEVELOPMENT POTENTIAL

The assumptions which have been made when considering the redevelopment potential and resulting yield analysis include:

- **Age of development:** it is considered that buildings which have been constructed relatively recently and are considered to be of good condition will have a reduced potential to be redeveloped, whereas buildings which are of an older nature and dilapidated condition are more likely to be redeveloped.
- **Level of capital investment:** it is considered that buildings with higher levels of capital investment are less likely to be redeveloped as opposed to buildings with a relatively lower level of capital investment.
- **Strata reform:** proposed strata reforms aim to provide more flexibility to dissolve strata agreements, increasing the potential to redevelop lots with a large number of strata owners.
- **Downturn in business economy:** downturns in the business economy provide a difficult environment to sustain business which in turn is likely to lead to sales and facilitate redevelopment
- **Public-Sector lead projects:** various public-sector lead projects in proximity to the study area such as the Forrestfield Airport Link and Optus Stadium are likely to act as a catalyst for redevelopment in the area on potential sites.

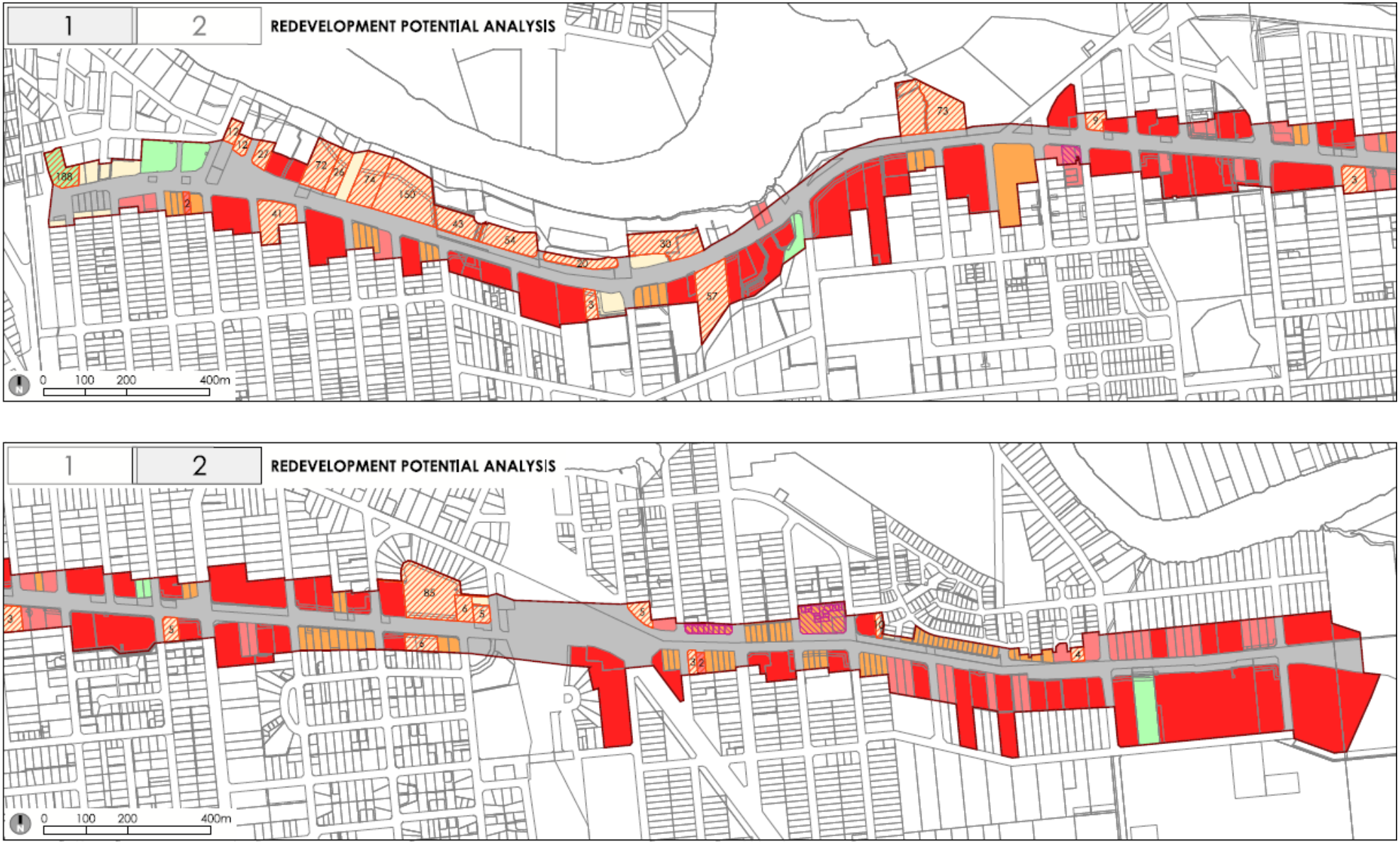


Figure 42 Redevelopment Potential Analysis

5.2 LAND USE

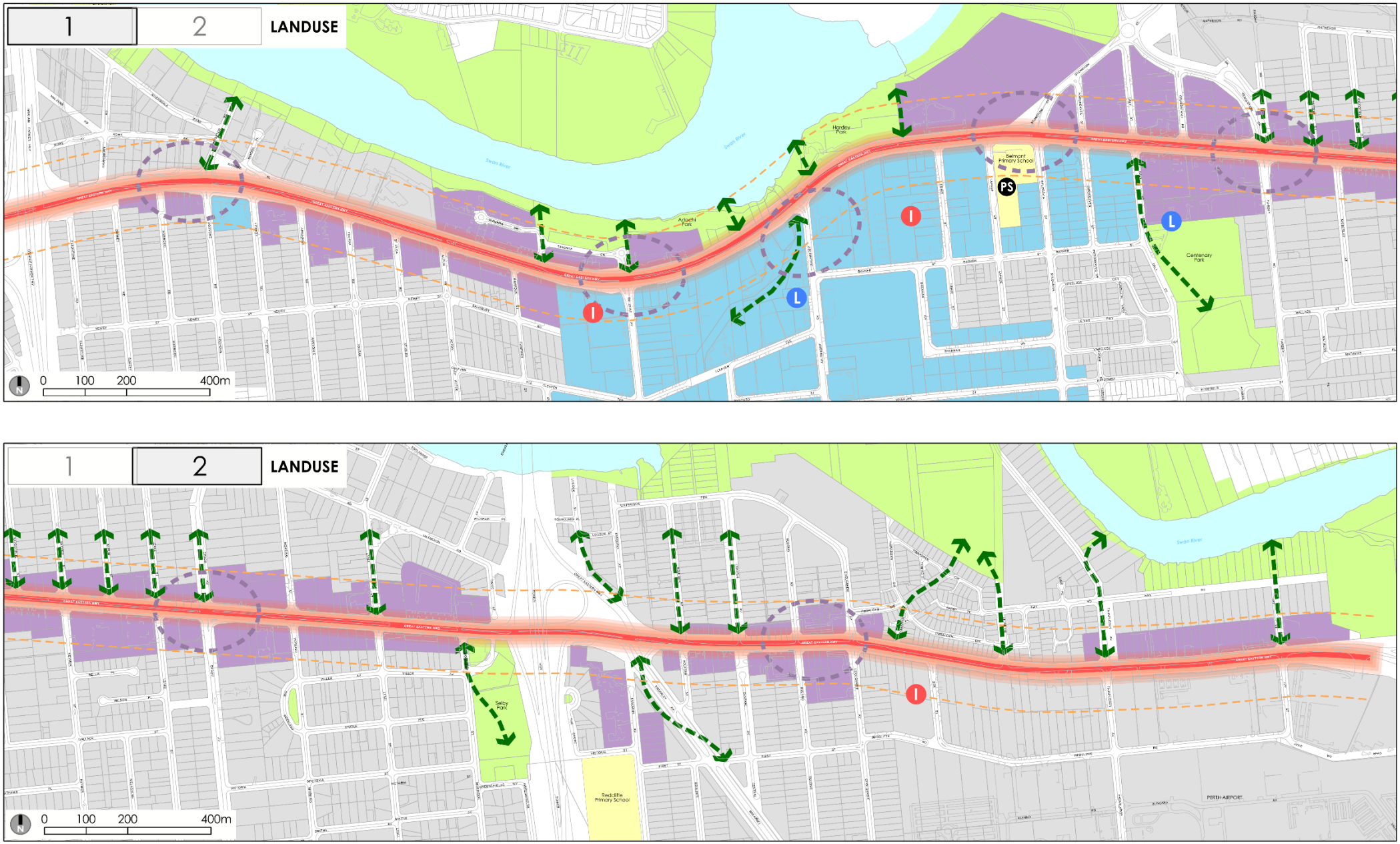
5.2.1 LAND USE PRINCIPLES

- Enhance and intensify existing centres along the Corridor to ensure they maintain their function in providing goods, services, employment and amenity.
- Acknowledge the highway as a major artery that acts a strategic trade route and gateway linking Perth Airport through to the City Centre

5.2.2 LAND USE OPPORTUNITIES AND ISSUES

An analysis of the land use opportunities and issues has been undertaken and is summarised as follows, with spatial depictions of some of these matters outlined in **Figure 43.**

- There is the opportunity to promote Local Mixed Use nodes which will support an intensity of land uses.
- There is the opportunity to promote Mixed Use Land uses within existing Mixed Use zoned areas.
- There is the opportunity to promote Mixed Use Land uses within existing Mixed Business zoned areas.
- There is the opportunity to increase residential density in certain locations along the Great Eastern Highway and within 400m of existing activity centre nodes to support the activation of the Great Eastern Highway.
- Non-residential land use intensification will be influenced by considerations including land parcel size, fragmented ownership, traffic volume and access limitations.
- There is a need to consider the extent and scale for transition of land use and development intensity from the activity Corridor to low-density residential land uses.
- There is a need to create and enhance activity nodes on both sides of the Corridor.
- Opportunities should be considered to enhance connections between the Corridor and key attractions such as Ascot Racecourse, the Swan River and Garvey Park.
- Consider opportunities to reduce the physical impact of the highway and the barrier it creates.
- Consider the role, function and relationship of land uses along the Corridor with other nearby centres such as the Belmont Business Park, Redcliffe Industrial Area, and Belmont Forum.
- Laneways provide the opportunity to consider alternate land uses, laneway interface and activation of laneways.



acknowledge the highway as a major artery that acts a strategic trade route and gateway linking perth airport through to the city centre

consider opportunities to reduce the physical impact of the highway and the barrier it creates.

consider extent and scale for transition of land use and development intensity from activity corridors to low-density residential

promote mixed uses within existing mixed business zoned areas

promote local mixed use nodes supporting an intensity of land uses

opportunity to improve amenity and infrastructure within existing parks and recreation areas

foster land use intensity and redevelopment that can take advantage of proximity to key pos areas and linkages

consider suitability of different residential density along great eastern highway and within proximity of activity nodes to support activation of great eastern highway

I non-residential land use intensification will be influenced by considerations including land parcel size, fragmented ownership, traffic volume and access limitations

L laneways provide opportunity to consider alternate land uses, laneway interface and activation of laneways

PS consider merits of relocating belmont primary school to better serve the catchment and redevelop school site for high-order uses

Figure 43 Land Use Opportunities and Constraints

5.3 BUILT FORM

5.3.1 BUILT FORM PRINCIPLES

- Height and scale of new mixed-use buildings should have an appropriate relationship with the surrounding area and transition from the activity Corridor to the existing suburban areas.
- Built form along the Great Eastern Highway needs to be designed so that it embraces the street and is not barricaded from it to the detriment of the public realm.
- Taller buildings along Great Eastern Highway should have an appropriate relationship with adjacent residences.

5.3.2 BUILT FORM OPPORTUNITIES AND ISSUES

An analysis of the built form opportunities and issues has been undertaken and is summarised as follows, with spatial depictions of some of these matters outlined in **Figure 44.**

- The transition of building height and scale from the key roads to lower density residential areas needs to address matters such as dwelling diversity, residential amenity, overshadowing, streetscape and privacy.
- Identify sites and key 'gateway locations' that would be worth considering for development bonuses, subject to performance criteria.
- Large sites provide scope for comprehensive built form and land use outcomes.
- The separation between activity centre nodes enables transition between lower and higher building heights and scale.
- Buildings along Great Eastern Highway need to create a positive ground-level experience, particularly for pedestrians, and ameliorate the traffic-dominated nature of the road.
- A flexible approach to ground level land uses outside of key activity centres should be incorporated in building and site design.

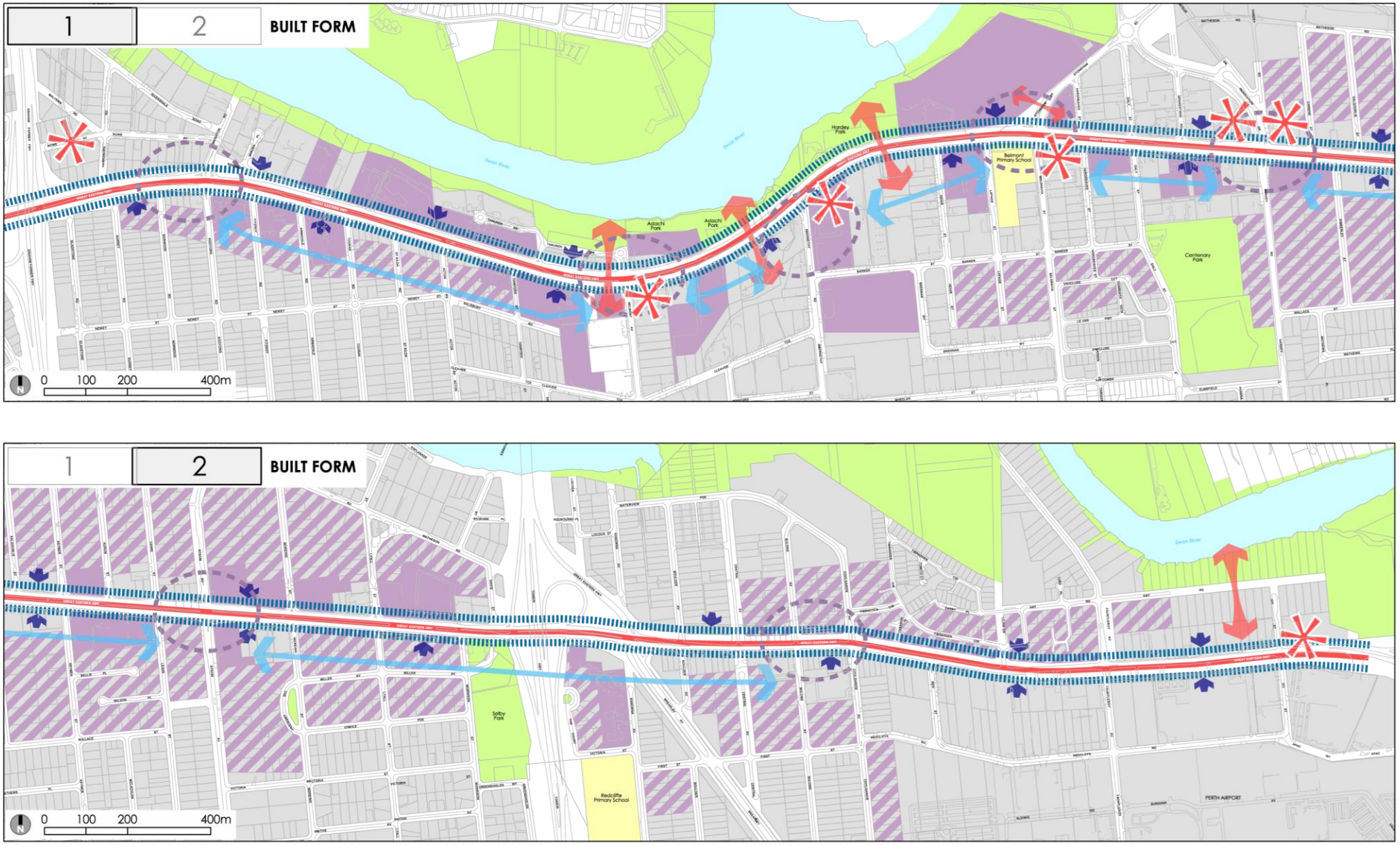


Figure 44 Built Form Opportunities and Constraints

5.4 PUBLIC REALM

5.4.1 PUBLIC REALM PRINCIPLES

- Create attractive, enjoyable places to live and work, through amenity in parks and streets.
- Diversity of spaces for active and passive recreation.
- Expand upon the tree canopy within streets and parks to offset the loss of canopy within private landholdings.

5.4.2 PUBLIC REALM OPPORTUNITIES AND ISSUES

An analysis of the public realm opportunities and issues has been undertaken and is summarised as follows, with spatial depictions of some of these matters outlined in **Figure 45**.

- There is the opportunity to emphasise the distinct qualities of neighbourhoods on each side of the Corridor.
- Pedestrian and cycle linkages to the Swan River should be enhanced.
- There is the opportunity to influence the landscaping of Great Eastern Highway to ensure that there are greater opportunities for mature trees, landscaping and public realm improvements.
- Consider opportunities to enhance connections between the Corridor and key attractions such as Ascot Racecourse, the Swan River and Garvey Park.
- There is the opportunity to improve key pedestrian crossings throughout the Corridor and the surrounding street network.
- There is currently insufficient existing street tree planting within Great Eastern Highway, and the establishment of more trees should coincide with pedestrian crossing points to provide shade and shelter to pedestrians.
- Pedestrian crossing points should be clearly visible to pedestrians and traffic.
- There is the opportunity to enhance and upgrade the existing stream and Severin Walk.
- There is the opportunity to improve the open space and foreshore reserves adjacent the Corridor.
- Rear access via future laneways allows for greater landscaping opportunities within the verge area.

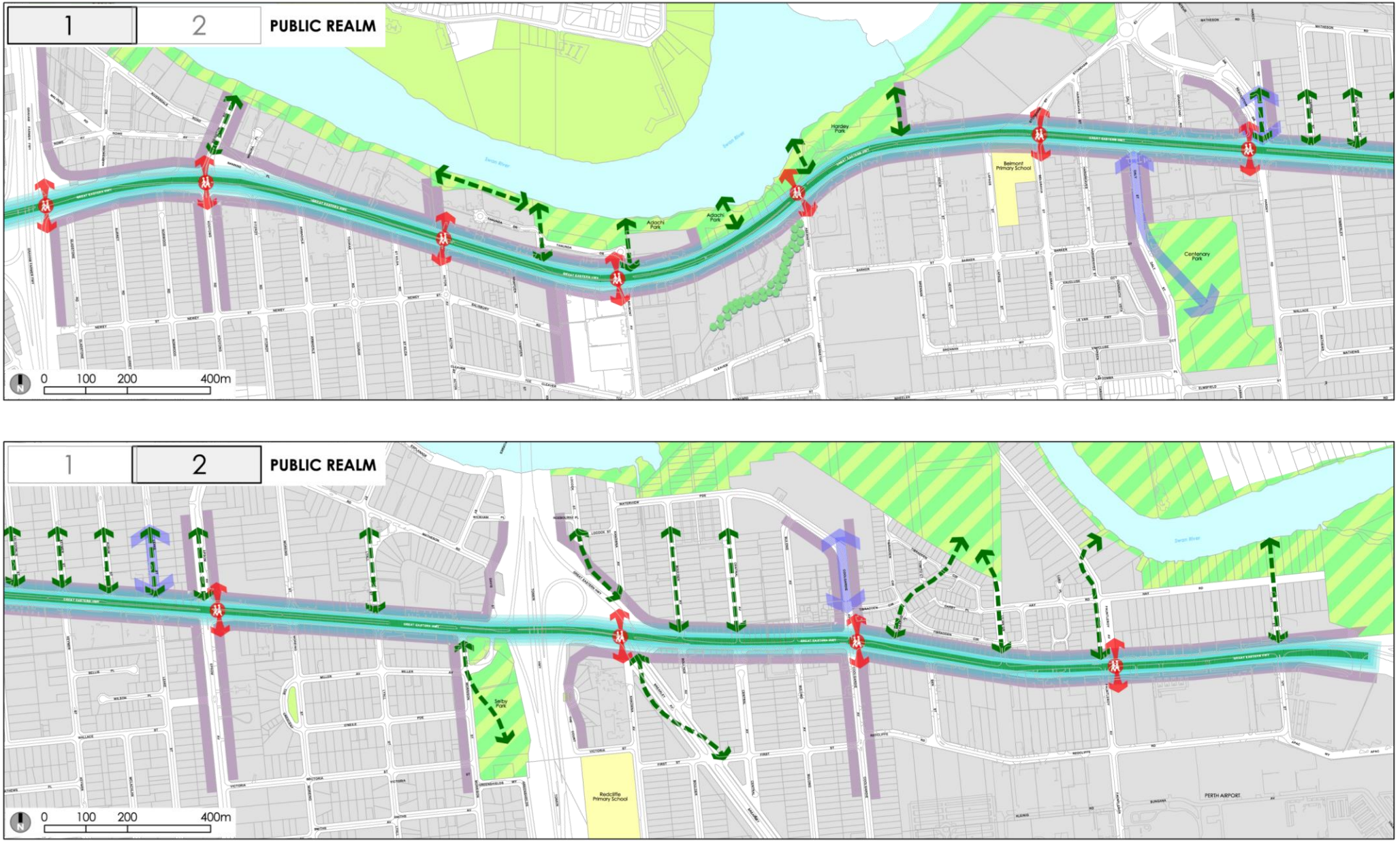


Figure 45 Public Realm Opportunities and Constraints

5.5 MOVEMENT NETWORK

5.5.1 MOVEMENT NETWORK PRINCIPLES

- Acknowledge the highway as a major artery for through traffic.
- The movement of pedestrians and cyclists along and across Great Eastern Highway is to be a greater priority in future upgrades.
- Public transport connectivity, particularly between the Airport and the City should be enhanced.
- Parking should be managed throughout the precinct to encourage commuters to walk, ride and use public transport.

5.5.2 MOVEMENT NETWORK OPPORTUNITIES AND ISSUES

An analysis of the movement network opportunities and issues has been undertaken and is summarised as follows, with spatial depictions of some of these matters outlined in **Figure 46**.

- The opportunity to capture local trade and economic interaction should be considered given the highways function as a major artery for through traffic.
- The Great Eastern Highway is a very inhospitable environment for pedestrians and cyclists. Opportunity to improve pedestrian and cyclist environment, connections and crossing opportunities.
- There is strong public transport availability along Great Eastern Highway Corridor, though opportunities exist to improve the public transport facilities such as sheltered bus stops.
- There is the opportunity to create numerous appealing, popular pedestrian/cyclist linkages to the Swan River.
- There is the opportunity to promote access to mixed use, mixed business and residential development (along Great Eastern Highway) to be via secondary streets or laneways.
- Promote parking for mixed use, mixed business and residential development (along Great Eastern Highway) to be at the rear of development.

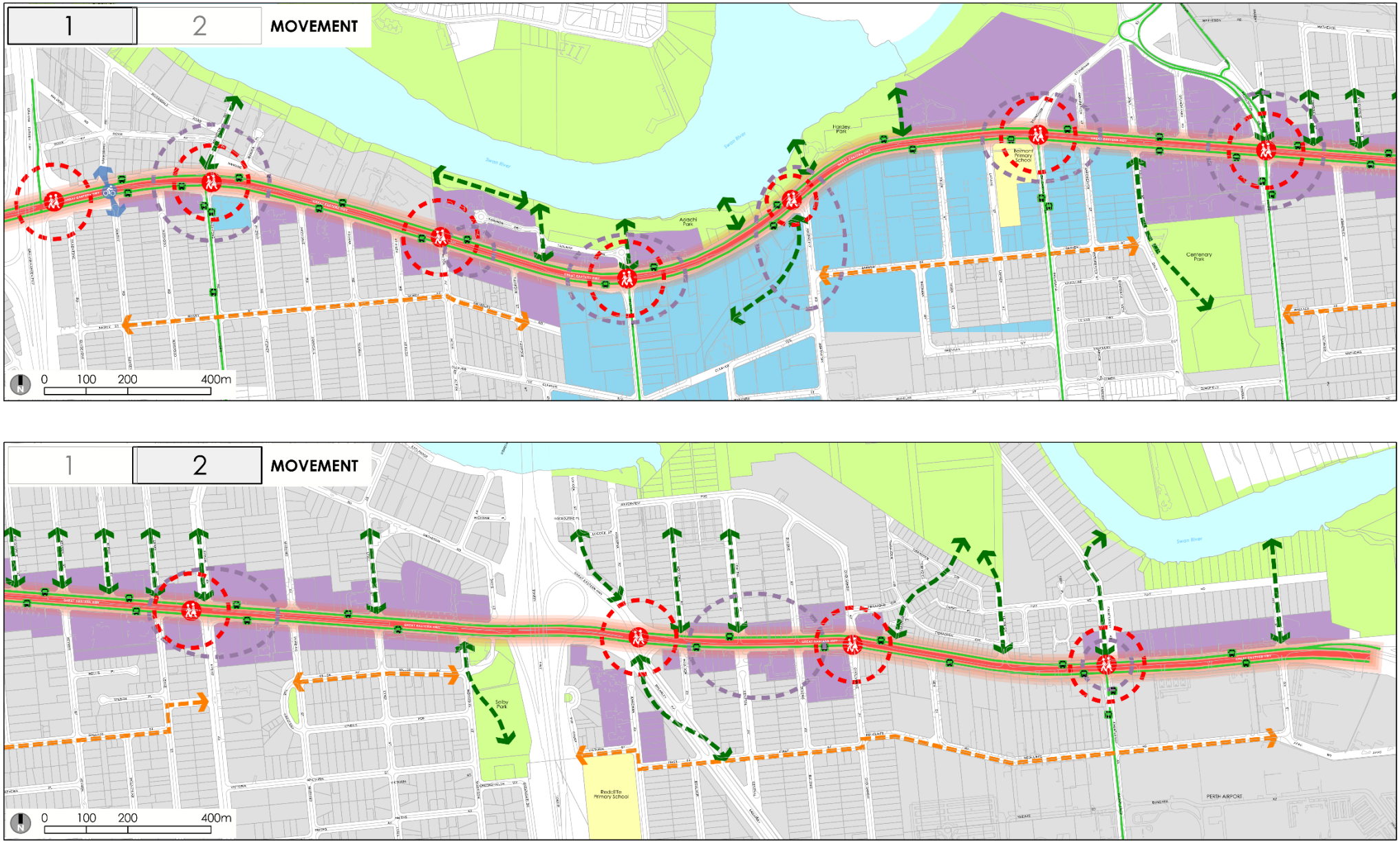


Figure 46 Movement Opportunities and Constraints

6. INFRASTRUCTURE FUNDING

The funding of infrastructure will be a critical component of achieving development under the Corridor Plan, as increased intensity and diversity of use will create increased demands on a wide range of infrastructure, including:

- Additional land for laneways, road widening, public spaces and parking bays;
- Construction and upgrade of laneways, existing streets, public spaces and transport infrastructure;
- New landscaping and public realm treatments, including tree planting, public art and street furniture; and
- Upgrades and expansion of service infrastructure, including utility services and drainage.

This source of funding for infrastructure will likely be as diverse as the infrastructure required, with a multitude of sources available depending on the demand profile and likely benefits derived from infrastructure provision.

Some of the more common infrastructure funding sources available are outlined as follows for consideration in the preparation of the Corridor Plan. The Corridor Plan will detail the infrastructure funding mechanisms required.

6.1 GOVERNMENT INVESTMENT

The most common form of infrastructure funding is government investment, either through:

- Local Government municipal funds, which would generally cover costs of maintenance and upgrade of local roads, drainage, public open space, community facilities and other localised infrastructure;
- State Government expenditure, which is generally applicable to core infrastructure associated with major roads, public transport and utility infrastructure, and will likely be made available to support growth within the study area as development progresses; and
- Commonwealth Government grants, which may be available to the City depending on the type of infrastructure required and the justification for this infrastructure to be partially funded under a grants programme.

It is anticipated that a mixture of all three of the above investments may support redevelopment within the Great Eastern Highway Corridor.

6.2 DEVELOPMENT CONTRIBUTIONS SCHEME

A Development Contributions Scheme is an infrastructure funding mechanism governed by the *Planning and Development (Local Planning Scheme) Regulations 2015* and guided by *State Planning Policy 3.6: Development Contributions for Infrastructure*, which creates a statutory requirement for a specified financial contribution from landowners due payable upon subdivision or development of land within a specified development contribution area.

The principles underpinning the use of Development Contribution requirements are outlined as follows:

1. Need and the nexus

The need for the infrastructure included in the development contribution plan must be clearly demonstrated (need) and the connection between the development and the demand created should be clearly established (nexus).

2. Transparency

Both the method for calculating the development contribution and the manner in which it is applied should be clear, transparent and simple to understand and administer.

3. Equity

Development contributions should be levied from all developments within a development contribution area, based on their relative contribution to need.

4. Certainty

All development contributions should be clearly identified and methods of accounting for escalation agreed upon at the commencement of a development.

5. Efficiency

Development contributions should be justified on a whole of life capital cost basis consistent with maintaining financial discipline on service providers by precluding over recovery of costs.

6. Consistency

Development contributions should be applied uniformly across a Development Contribution Area and the methodology for applying contributions should be consistent.

7. Right of consultation and arbitration

Land owners and developers have the right to be consulted on the manner in which development contributions are determined. They also have the opportunity to seek a review by an independent third party if they believe that the calculation of the contributions is not reasonable in accordance with the procedures set out in the Model Scheme Text.

8. Accountable

There must be accountability in the manner in which development contributions are determined and expended.

A Development Contributions Scheme is an increasingly common method of infrastructure funding for development estates throughout Western Australia and is particularly well catered for funding infrastructure within Greenfield estates where a development timeframe is well understood and the infrastructure delivery schedule is more easily established.

The use of Development Contribution Schemes in 'Brownfield' or infill development areas is less common, as there is generally not a single entity available willing to pre-fund the infrastructure provision due to the significant capital investment required. There is also a lack of certainty associated with the return of the funds given the unknown development timeframes for the development area.
In addition, the upgrade and improvement of services and access could be regarded as general maintenance and provision of service which improves the quality of services to all residents and businesses and not just those landowners who seek to redevelop.

The use of a Development Contributions Scheme for the study area requires careful consideration based on an assessment of the infrastructure items required and comparison of funding options available for each item.

6.3 INCENTIVE BASED CONTRIBUTIONS

Incentive based contributions for infrastructure are generally governed by a local planning scheme, whereby a landowner will receive a density or development bonus in exchange for the provision of specified infrastructure or land which contributes to the public benefit.

Items applicable to such arrangements may include:

- The ceding of private land for a public purpose, including land for the widening of roads or the creation of laneways (where not otherwise reserved), or the creation of public spaces;
- The improvement of land ceded for a public purpose, including the construction of roads or laneways or the development of public spaces;
- Provision of public realm improvements such as landscaping, on-street parking, public art or street furniture, or cash in lieu of such provision; and
- Private development which has a community purpose or allows community access, such as internal floor space or external open space which is privately developed and maintained but accessible to the general public.

In exchange for the specified works or land required, the City may offer development bonuses including but not limited to height, plot ratio or residential density coding bonuses, or reduced requirements for onsite parking or setbacks.

Whilst incentive based contributions are a very useful and practical tool in providing infrastructure within an infill setting, they need to be carefully considered to ensure that:

- The provisions of a Scheme are well constructed and enforceable upon developers, and not subject to unreasonable variation or set aside by a determining authority;
- The incentives provided are genuinely desired by land developers, as if they do not provide additional developable yield they are unlikely to be taken up;
- The cumulative addition of bonuses is understood and any provisions are well tested against development scenarios prior to advertising and adoption:
- The incremental provision of infrastructure and land is understood by the City of Nedlands, and the potential need to compulsorily acquire land and invest municipal funds to complete a partially constructed public infrastructure project may be required in the future.

6.4 SPECIFIED AREA RATE (SAR)

The *Local Government Act 1995* (LG Act) allows the Shire to impose a Specified Area Rate on rateable land within a portion of its district for the purpose of meeting the cost of a specific work, service or facility, provided that certain conditions are met.

These conditions are that the local government must consider that the ratepayers or residents within that area:

- have benefited or will benefit from;
- have access to or will have to; or
- have contributed to or will contribute to the need for,
- that specific work, service or facility.

The funds that are raised via the Specified Area Rate must be either:

(a) used for the purpose for which the SAR is imposed in the financial year in which the rate is imposed; or

(b) placed in a reserve account established in accordance with the Local Government Act in order to be expended for that purpose in a later financial year.

A Specified Area Rate is particularly relevant to immediate, short term funding requirements. It may not be appropriate for projects identified some way into the future and as yet undefined and programmed. It may also not be acceptable to use this in conjunction with the application of a Differential General Rate.
One of the disadvantages with a Specified Area Rate is that the rate of revenue collection can be slow, and it is imposed on all landowners regardless of whether or not they have any redevelopment aspirations in the short to medium term. The slow rate of collection means that there can be a substantial time lag between people paying the levy and the infrastructure being delivered, unless the works can be pre-funded and then repaid over time.

6.5 DIFFERENTIAL GENERAL RATE (DGR)

This option involves the City imposing a higher general rate on certain rateable land within the City's district in order to make up a budget deficiency.

The Policy of the Department of Local Government and Communities, which is applied by the Minister in considering whether to approve a DGR (DG Rates Policy), indicates that the imposition of DGR's "*represents a conscious decision by a council to redistribute the rate burden in its district by imposing a higher impost on some ratepayers and a lower impost on others*".

As a result, the imposition of a DGR should follow the 'benefit principle' (i.e. that there is a relationship between the rates received by the City from rates from that type of land and the benefits received by the relevant ratepayers from the City's activities).

The Differential General Rates Policy also contains other principles which should be taken into account when implementing a DGR. These relate to the objective of the DGR (i.e. what is the basis for imposing the DG Rate), fairness and equity, consistency, transparency and administrative efficiency.

The LG Act does not limit how moneys raised through DGRs must be expended; therefore, this revenue may be applied to funding the construction, operation and maintenance of infrastructure. The DGR may be appropriate for infrastructure funding, however, the impost can only make up a budget deficiency. The DGR is not usually associated with specific infrastructure items but rather is allocated across the local government's service portfolio.

TABLE 16 INFRASTRUCTURE FUNDING COMPARISON TABLE

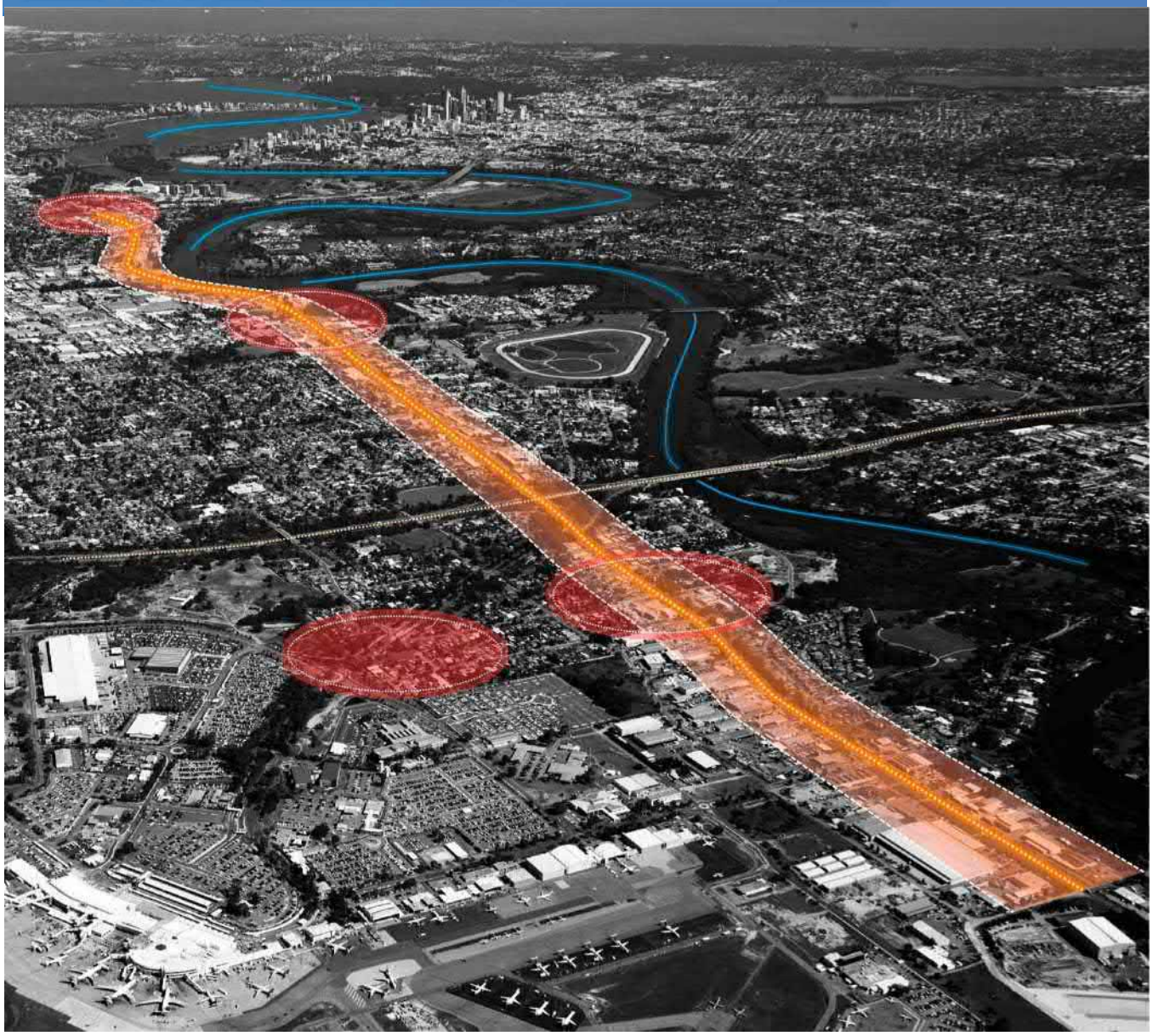
Mechanism	Advantages	Disadvantages	Conclusion and Recommendations
Government Investment **(Local, State and Commonwealth)**	• More politically palatable to rate payers. • No statutory or policy changes are required. • Puts emphasis back on State Government and the Commonwealth to contribute funding to support infill development.	• Reassigns existing rate or tax revenue from local or State government. • The timing of funds being made available may not coincide with development pressures, and as such pre-funding may be required. • Funding may be reduced or discontinued over time depending on political will. • Commonwealth grants often short-term only, and would not be suitable for ongoing funding.	• Potentially viable funding mechanism for State Government owned service infrastructure including water, sewerage, electricity, gas and telecommunications, depending on the timing of planned upgrades by servicing authorities. • Potentially viable funding mechanism for upgrade of Stirling Highway provided that desired improvements can be agreed with the State Government and incorporated into the approved capital works budget for the upgrade. • Potentially viable funding mechanism for local government infrastructure depending on timing of upgrades and consistency with planned maintenance, replacement or redesign of local streets, drainage and public realm features. • Investigation of Commonwealth Grants available for infrastructure upgrade/provision should be undertaken on an ongoing basis to support the project.
Development Contributions Scheme	• Provides equitable sharing of infrastructure costs across all landowners who have gained a benefit from increased development potential.	• Likely requires substantial pre-funding by the local government with money to be returned as development occurs over time. • Schemes can become overly complex and often take large amounts of time and money to prepare and finalise. • Are ultimately controlled by the Western Australian Planning Commission rather than the City, which puts the City at risk if the WAPC does not support a Scheme and capital investment has already occurred.	• Potentially viable funding mechanism, but requires careful consideration based on the infrastructure items required and the alternative funding sources available. • Ultimately a DCP may not be the optimal tool due to its complexity and lack of local government control.
Incentive Based Infrastructure Provision	• Provides an immediate improvement to the public realm.	• Dependent on incentives appealing to developers. • May be interpreted differently depending on the flexibility of provisions and the determining authority (Council, JDAP, WAPC)	• Potentially viable funding mechanism for local infrastructure items that can reasonably be delivered in a piecemeal approach by individual

	• Not dependent on political will and support of the State Government.		developers. • Not suitable for broader trunk infrastructure upgrades. • Requires careful consideration and construction to ensure that provisions are enforceable, appeal to developers and are properly implementable based on the broader infrastructure requirements. • Requires further consultation with developers and the Department of Planning.
Specified Area Rate Option	• Suited to 'brownfield' development; • Potential ongoing funding source; • Enforcement mechanisms are available; • Funds may be raised in advance; • Not dependent on political will and support of the State government; and • No statutory or policy changes are required.	• Possible adverse political reactions from ratepayers; • May be challenged within the SAT by ratepayers; • Imposition and approval process will need to be repeated each financial year; • May not provide upfront a significant pool of funds for capital investment; • May not be viable if the SA Rate is to be imposed many years in advance of the RTS becoming operational; • May prove inflexible if the 'purpose' is not carefully scoped before the imposition of the SA Rate; • If surplus funds are raised via a SA Rate, the City is obliged to provide refunds or credits to affected ratepayers; and	• Potentially viable funding mechanism, however, may need to be used in conjunction with other funding mechanisms; • May not be able to be justified if a DG Rate is imposed on the same rateable land; • City should consider the area in which the SA Rate could be imposed, possible quantum and timing of the SA Rate; and • City should undertake consultation with affected ratepayers.
DG Rate Option	• Suited to 'brownfield' development; • Source of funding in financial years before construction; • Potential ongoing funding source; • Enforcement mechanisms are available; • No statutory or policy changes are required.	• May only be imposed to make up a budget deficiency, therefore, funds raised in each financial year must be expended or allocated in that financial year; • Possible adverse political reactions from ratepayers; • Ratepayers can object and basis of DG Rate may be challenged in the SAT; • Imposition and approval process will need to be repeated each financial year; • May not provide upfront a significant pool of funds for capital investment; • Possibly limited scope for further or additional DG Rates.	• Potentially viable funding mechanism, however, may need to be used in conjunction with other funding mechanisms; • May not be able to be justified if a SA Rate is imposed on the same rateable land; and • City should consider the rateable land which could be subject to a DG Rate, possible quantum and timing of the DG Rate.

APPENDIX 1 COMMUNITY WORKSHOPS OUTCOMES REPORT

Great Eastern Highway Corridor Strategy

COMMUNITY VISIONING AND DESIGN WORKSHOP OUTCOMES REPORT



Prepared for the City of Belmont
Prepared by Taylor Burrell Barnett

December 2017

DOCUMENT HISTORY AND STATUS

Revision	Reviewer	Date Issued
0	KH	Dec 2017

Prepared By:
Taylor Burrell Barnett
Town Planning and Design

Level 7, 160 St Georges Terrace
PO Box 7130 Cloisters Square
PERTH WA 6850
Phone: 9226 4276
Fax: 9322 7879
admin@tbbplanning.com.au

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EXECUTIVE SUMMARY

The Great Eastern Highway Corridor Strategy is being prepared to address the lots fronting onto the Great Eastern Highway between the Graham Farmer Freeway in Rivervale to Ivy street in Redcliffe. The Strategy will consider all relevant opportunities and constraints impacting upon future development, and ensure that future land use and built form outcomes provide the highest and best use of available land, provide high quality public space and amenity and promote economic development.

Community Visioning and Design Workshops were recently held. The Workshops involved two exercises; the first which involved a values analysis, review of draft design principles and the preparation of a vision statement. Exercise 2 required attendees to provide feedback in relation to their 'place'; and in relation to the Corridor in terms of land use, public realm, movement and built form aspects to inform draft design scenarios.

A summary of the key findings from the exercises is included below:

Exercise 1 – Values Analysis

The first exercise focused on ascertaining key considerations for the future of the Corridor and required participants to identify key community values, concerns, issues and opportunities to assist in shaping the vision of the Corridor, and to provide feedback on a set of draft design principles. The vision and design principles identified will be used to guide the design scenarios for the Great Eastern Highway Corridor.

Participants valued the location of the Corridor in terms of the access it has to the Swan River, the City, the Perth Airport, the Swan Valley, surrounding parks, public transport, the regional road network and employment.

Participants expressed a desire to take advantage of the Corridor's proximity to the Swan River, and improving the access and connections to the Swan River would provide greater amenity for the Corridor.

Landscaping was a major element which was identified as being valued though requires significant improvement along the Corridor. Participants expressed the need to improve the pedestrian and cycle network on and surrounding the Corridor.

The pedestrian environment was valued though required improvements in terms of crossing points, walkability, shade and connection to the Swan River. Similarly, the cycle network required improvements, with a preference for better cycle paths parallel to the Corridor.

Participants expressed the desire to improve the land uses along the Corridor to increase the vitality of the area.

Exercise 1 – Design Principles

In general, the draft design principles presented to the community were supported, though some of the principles were considered too vague, with modification required to provide clarity and parameters for these.

Exercise 1 – Vision Statement

Multiple vision statements were produced, the common features of each include:

- Gateway location to Belmont and Perth
- Proximity to the Swan River
- High quality landscaped, garden city
- Connections to the City, Swan River, Airport
- Place to live, work and play

Exercise 2 – Design Scenarios

Exercise two focused on scenario development, design and place making initiatives and require the community to identify aspects they would like to see at both their 'place' (their residence, business or place of employment), as well as along Corridor relating to land use, built form, movement and public realm.

My Place

Participants were supportive of density along the Corridor in suitable locations such as close to public transport, if extensive amenity was also provided. Appropriate transitioning of density from the Corridor into the surrounding residential areas was also an important element which needs to be considered.

Participants supported active uses on the ground floor of apartment buildings, especially an increase in the range of cafes and restaurants.

Participants indicated a preference for parking to be underneath buildings, and if this was not possible, for parking to be behind buildings. If parking is to be behind buildings the amenity of adjacent residents is not to be impacted.

Participants supported improving landscaping and trees at their place.

My Corridor

A concept plan has been prepared which represents a summary of the draft concept plans prepared in the workshops (refer **Figure 1**). The plan includes the following features:

Land Use

Generally, participants indicated support for the location of the nodes presented, with the addition of a node on Belmont Avenue and/or the expansion of the Abernethy Road node possibly including the Belmont Avenue node to form one larger consolidated node. In addition, the participants generally supported the expansion in size of most of the nodes presented however, there was not a consistent view regarding the Epsom Avenue node, with some groups supporting the node, some supporting expansion of the node and others requesting removal. Overall the participants agreed that nodes were required to create active hubs and increase the vitality of the area, whilst also providing local convenience.

Land uses such as cafes, restaurants, shops, residential and offices were preferred in the nodes, whilst tourist accommodation, small scale showrooms, offices and integrated shops were preferred outside of the nodes along the Corridor, and parks and playgrounds preferred surrounding the Corridor. Participants preferred the industrial land uses to be phased out, and did not want to see any more petrol stations or fast food stores along the Corridor. Some tables also expressed the preference for the stable land uses to also be phased out over time.

Built Form

In terms of building heights, participants generally agreed that building heights of 12+ storeys should be closest to the City, 10-12 storeys between Kooyong Road and the Tonkin Highway, tapering down to 4-8 storeys from the Tonkin Highway to Ivy Street. It was generally accepted that building heights in nodes could be taller, ranging from 10-12+ storeys.

Participants felt the architectural quality of buildings along the Highway needed to be improved, and additional, modern and landmark built form outcomes were needed especially within the nodes. The transition area adjacent to the Corridor was also carefully considered by most noting that this area needed to be reviewed as development was proposed as not to be adversely affected.

Public Realm

Participants preferred lower scale buildings closer to the pedestrian environment, and activated uses on the ground floor. Promoting passive surveillance was also a key item raised by the participants as to deter criminal behaviour and improve safety for all. Participants expressed the need to improve the landscaping along the Corridor, with a strong preference for the requirement of additional trees. Additionally, participants expressed their preference for key nodal developments to form green links between the 'Corridor' and the Swan River either physically and/or visually. Some groups also suggested jetties be included along the Swan river within Precinct 1 adjacent Orrong Road and within Precinct 4.

Movement

In terms of car parking, participants had a strong preference for parking either underneath or behind buildings as opposed to in front of buildings. The majority of participants also commented that generally the amount of car parking currently did not seem sufficient. The majority of participants expressed the need to improve the pedestrian amenity along the Corridor and in the surrounding street networks, particularly an improvement to the landscaping.

Participants expressed the need for better pedestrian connection to both sides of the Corridor and preferred overpasses to provide this connection. Green links to the Swan River where also strongly supported especially from key nodal development sites.

Participants expressed their concern for the safety of cyclists within the Corridor and felt they would be safer separated from motorists. Participants also noted the cycle route along the Swan River was disconnected in portions and should be rectified to provide a complete and seamless pathway.

The Corridor and surrounding network was regarded as being well serviced by public transport however, participants felt every bus stop should have a shelter, and indented bus bays at each bus stop along the Corridor needed to be provided to not impede traffic flow. Some participants believed light rail would be beneficial.

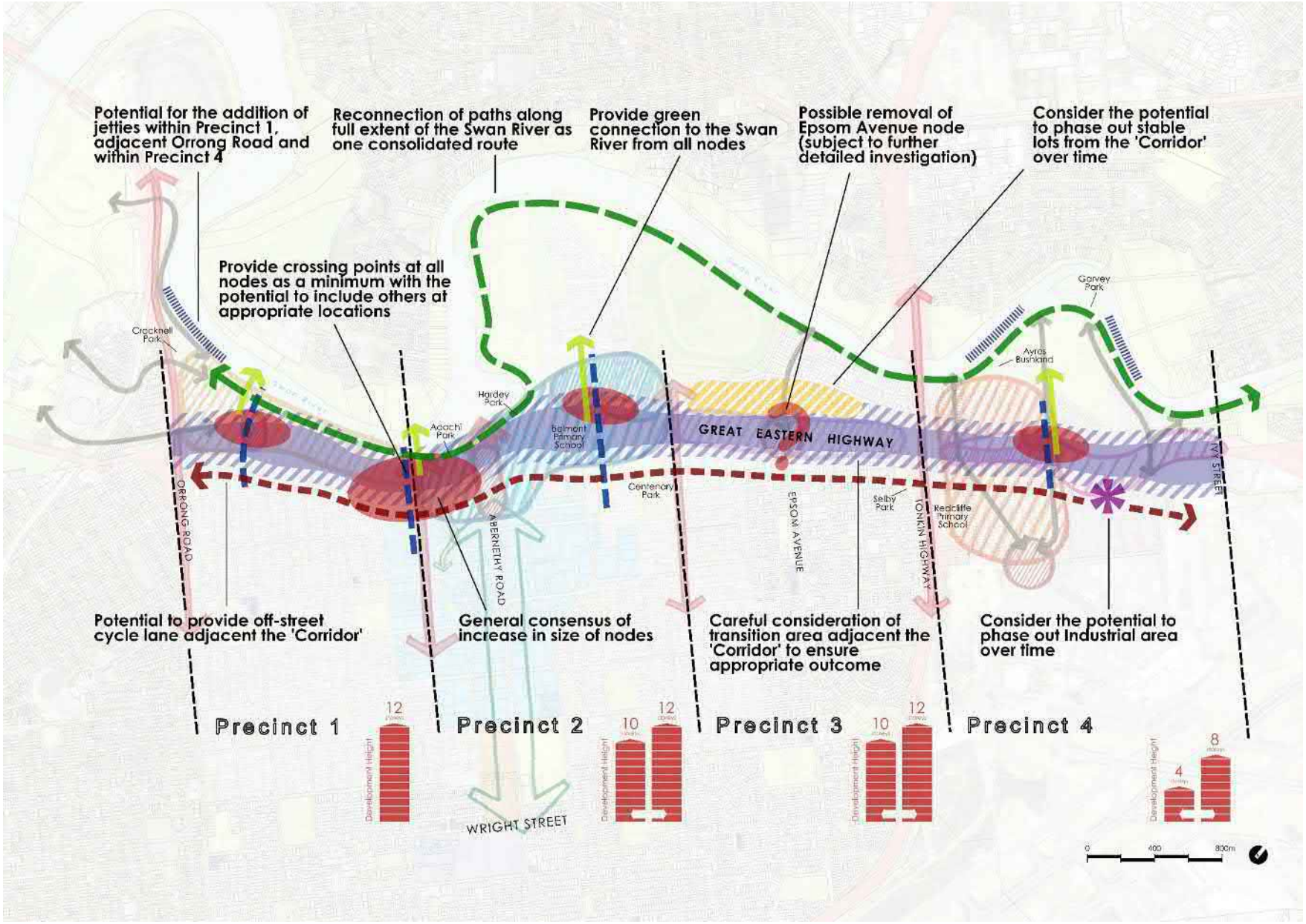


Figure 1 - Summary Concept Plan

1 INTRODUCTION

1.1 BACKGROUND

The Great Eastern Highway Corridor Strategy is being prepared to guide development of the lots fronting onto the Great Eastern Highway between the Graham Farmer Freeway in Rivervale to Ivy street in Redcliffe (refer **Figure 2** below).

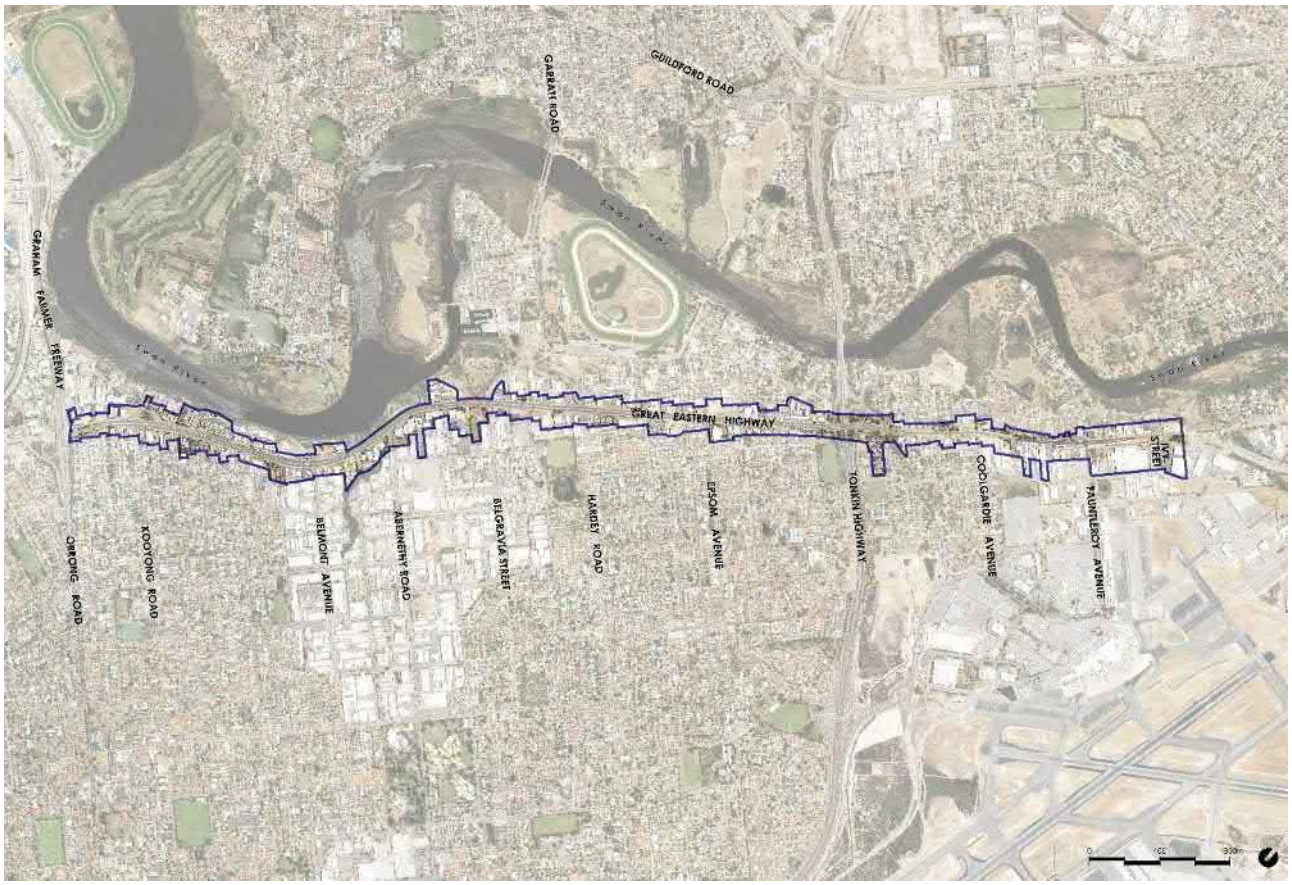


Figure 2 - Great Eastern Highway Corridor Study Area

The Strategy will consider all relevant opportunities and constraints impacting upon future development and ensure that future land use and built form outcomes provide the highest and best use of available land, provide high quality public space and amenity and promote economic development. The Strategy will consider various aspects for future development along the Great Eastern Highway Corridor including the range of acceptable land uses, the range of acceptable building heights, the interface with the Highway and adjacent properties, access and car parking arrangements, trees and landscaping in the public realm and on redevelopment sites.

1.2 VISIONING AND DESIGN WORKSHOP PURPOSE

The Visioning and Design Workshops were the first key step of the community's involvement in the preparation of the Great Eastern Highway Corridor Strategy. The purpose of the Visioning and Design Workshops was to identify the community's key values of the site, and engage the community to inform and assist in creating draft design principles and an overall shared vision which were used to inform design scenarios for the Great Eastern Highway Corridor Strategy.

1.3 VISIONING AND DESIGN WORKSHOPS

Two Visioning and Design Workshops were held, one on the 18 November 2017 and one on the 20 November 2017 in the City of Belmont Civic Centre, to identify key considerations for development along the Corridor and consider design principles to inform the Great Eastern Highway Corridor Strategy.

Taylor Burrell Barnett facilitated the Visioning Workshop on behalf of the City of Belmont.

1.4 PROJECT TEAM

The project team attended and participated in the Visioning and Design Workshops included the following consultants:

- Taylor Burrell Barnett (Town Planning and Urban Design);
- Flyt (Transport Planning); and
- Place Laboratory (Place Making).

1.5 COMMUNICATIONS PROGRAM

The communications program undertaken for the Visioning and Design Workshops included:

- An Expression of Interest advertised in the Southern Gazette on the 12th and 19th of September;
- An Expression of Interest advertised on the City of Belmont website;
- An Expression of Interest mailed to approximately 2,700 landowners with lots adjacent to the Corridor as well as Belmont Business Advisory Group members; and
- A formal invitation sent to 80 community members who responded to the Expression of Interest.

Furthermore, this Workshop Outcomes Report will be uploaded onto City of Belmont's website which includes the Workshop Presentation

Additional Community workshops will be held in March 2018 to present the draft Great Eastern Highway Corridor Strategy.

2 VISIONING AND DESIGN WORKSHOP

2.1 WORKSHOP FORMAT

The format of the Visioning and Design Workshops was:

1. Welcome
2. Introduction and Agenda
3. Project History, Background and Context
4. Workshop Purpose
5. Issues and Opportunities Analysis
    - Public Realm
    - Movement / Traffic Intersections
    - Land Use
    - Built Form
6. Role of Corridor
    - Urbanisation
    - Infrastructure
    - Knowledge/Economy
    - Corridor Precinct Themes
7. **Workshop Exercise 1** – Vision and Design Principles
8. **Workshop Exercise 2** – Design Scenarios
9. Next Steps

The agendas can be found in **Appendix C.**

2.2 WORKSHOP ATTENDEES

The list of community members who attended the Visioning and Design Workshops is included in **Appendix D**. In total, 48 members of the community attended over both workshops held. Staff from the City of Belmont and the project team, comprising Taylor Burrell Barnett, Flyt and Place Laboratory also attended the workshops.

2.3 PRESENTATION

A complete copy of the PowerPoint presentation delivered at the Workshop is included in **Appendix E**. A summary of the presentation is provided below.

Troy Cappellucci from the City of Belmont opened the Workshop by providing an overview of the agenda and introducing the project team.

Karen Hyde of Taylor Burrell Barnett presented background information on to the Great Eastern Highway Corridor and the requirements of the Great Eastern Highway Corridor Strategy. Karen provided an overview of the Government Strategies relating to the project, identified the study area applicable to the project and presented some images of the existing nature of the Corridor to provide context.

Karen explained the purpose of the workshop, and provided an outline of the structure of the workshop and the different exercises required to be completed.

Ben De Marchi of Taylor Burrell Barnett presented the issues and opportunities analysis of the Great Eastern Highway Corridor, including public realm, movement, land use and built form.

Ben provided an overview of three case studies of comparable Corridors to the Great Eastern Highway Corridor to demonstrate different built form outcomes of Corridors with similar number of vehicles to the Great Eastern Highway.

Karen explained the role of the Corridor in terms of urbanisation, infrastructure and knowledge / economy. Karen presented the possible Corridor Precinct Themes, which included Tourism, Belmont City Centre (North), Highway Mixed Use and Transit – River Mixed Use.

Workshop Exercises 1 and 2 followed, where group feedback was provided, which is explained in **Appendix A and B**.

2.4 WORKSHOP PROCESSS

The attendees were divided into groups of approximately 7-9 community members and seated at separate tables. Each table had a facilitator from the project team. Attendees participated in two exercises. In Exercise 1, attendees were asked to provide feedback on what assets they valued in their local area, and what aspects of the Corridor they wanted to enhance or improve. Attendees then indicated their support of the draft design principles. Each group then worked together to form a vision/theme for the Great Eastern Highway Corridor. Each facilitator provided feedback from each of the groups discussions on Exercise 1.

Exercise 2 required attendees to provide feedback; firstly, in relation to their 'place'; and, secondly in relation to the Corridor in terms of land use, public realm, movement and built form aspects. The facilitator on each table ensured the groups answers were captured in a master exercise booklet for each table, and participants were also invited to respond individually within their own exercise booklet if they desired. Each group had an aerial photograph of the Great Eastern Highway Corridor, and formulated a design scenario capturing the outcomes of Exercise 1 and Exercise 2. These plans are included in **Appendix B**.

The responses are summarised and includes **Appendix A and B**. The summary includes the key messages which were received by attendees based on discussions at each of the tables and workshops notes which are taken directly from the workshops completed by each group as well as individuals.

3 CONCLUSION AND NEXT STEPS

Karen Hyde closed the workshop thanking all participants for their contribution. Karen confirmed that the workshops outcomes report would be available on the City's website in the forthcoming weeks.

Karen also reminded attendees of the stages in the processes occurring in the future. The outcomes of the workshop will be incorporated into the draft Strategy which will be presented to the community in March 2018 and provide additional opportunities for community involvement and feedback.

Figure 3 - Participants at the Workshop

APPENDIX A
EXERCISE 1

EXERCISE 1 – VISION AND DESIGN PRINCIPLES

The first exercise focused on ascertaining key considerations for the future of the Corridor and required participants to identify key community values, concerns, issues and opportunities to assist in shaping the vision of the Corridor, and to provide feedback on a set of draft design principles. The vision and design principles identified will be used to guide the design scenarios for the Great Eastern Highway Corridor.

The following table outlines the general response to questions by participants within in both workshop sessions. Where a **prevalent theme** was identified, the comment will be in bold, while *emerging themes* will be in italics. All remaining comments are general comments.

1a – Values Analysis
Exercise Outcomes

Summary

Participants valued the location of the Corridor in terms of the access it has to the Swan River, the City, the Perth Airport, the Swan Valley, surrounding parks, public transport, the regional road network and employment.

Participants expressed a desire to take advantage of the Corridor's proximity to the Swan River, and improving the access and connections to the Swan River would provide greater amenity for the Corridor.

Landscaping was a major element which was identified as being valued though requires significant improvement along the Corridor. Participants expressed the need to improve the pedestrian and cycle network on and surrounding the Corridor.

The pedestrian environment was valued though required improvements in terms of crossing points, walkability, shade and connection to the Swan River. Similarly, the cycle network required improvements, with a preference for better cycle paths parallel to the Corridor.

Participants expressed the desire to improve the land uses along the Corridor to increase the vitality of the area.

Figure 4 - Participants at the Workshop

Question 1a

What assets do we value in our local area?

- Characteristics
- Facilities
- Clubs and meeting places
- Events

NOTE: *Responses to this question include assets that are valued which already exist along the Corridor, and assets which are valued in general, which may need improving.*

Response

- **Gateway to Perth**
- **Access /Location**
    - Access to everywhere
    - Access to airport
    - Access to Perth
    - Access to the Swan Valley
    - Access to regional road network
    - Transport links very useful and convenient
    - Proximity and access to employment and facilities
    - Good access to public transport
    - Good exposure for business
- **Swan River**
- **Parklands**
    - Adachi Park
    - Parks / green spaces
    - Garvey Park
    - Baseball Park
- **Trees**
- **Road**
    - Recent road improvements
    - *Role as a highway, transporting large number of vehicles*
- *Personal connections*
- *Ease of access for pedestrians / walkability*
- Good places for young families
- A connected community
- Working class for the residents
- High quality aesthetics of buildings
- Good development
- Safety
- Alfesco food and beverage

Question 1a continued

What do we want to enhance or improve?

- **Improving first impression for visitors to Perth and Belmont from people travelling from the Swan Valley and the airport**
- **Connection to the Swan River**
  - Leverage on views and exposure
  - Open up views
  - Access along Adachi Park
  - River walks
  - Increase use of the river
- **Landscaping and trees**
  - Landscaping
  - Street trees
  - *Continue theme of landscaping at the Casino*
  - Trees in the median
- **Parklands**
  - Improve parklands
  - Connection between parks, river and island
- **Pedestrian Environment**
  - Pedestrian realm / crossing / walkability along corridor
  - Pedestrian access to stadium
  - More pedestrian overpasses
  - Wider footpaths
  - Separate pedestrians from road
  - Shade
  - Improve pedestrian access not at the expense of traffic flows
- **Cyclist Environment**
  - Access and environment and cyclists
  - Separate cyclists from the road
  - Better cycle paths that are parallel to, but not on the Highway
  - Improve cycle path along the Swan River
- **Public Transport**
  - Access to public transport stops on both journeys
  - Public transport
  - Improve bus connections to local hubs
  - Slip lanes so busses can pull over without holding up traffic
- **Encouraging people to stay in area**
  - *Tourist attraction potential, draw people through*
  - Jetties to attract ferries and encourage people to stop and stay in area
- **More hubs for community connection**
- **Family friendliness of area**
- **Built form**
  - Quality of building architecture
  - Interface between mixed use and residential
- Planning controls for built form/ height outcomes
- **Visual appeal of buildings**
- *Appropriate implementation of art work contribution*
- **Improve land uses to increase vitality**
  - Grocery stores
  - Shopping for day to day needs
  - coffee shops
  - Small bars
  - Restaurants
  - Skydiving
- **Reduce traffic noise**
  - Avoid noise walls
  - Reduce traffic noise through landscaping and density closer to the street
- **Traffic**
  - Traffic flows, particularly in peak hour
  - Control of access into suburbs
  - Epsom Avenue, only westbound access into area. Overloaded, traffic calming needed
  - Movement and safety
  - Traffic lights all to have U-turns
- **Parking**
  - Parking management of mixed use
  - Parking outside of GEH- i.e. slow speed on side streets
- Incentivises to amalgamate land to achieve better development outcomes
- Urbanism – grossly underdeveloped
- RSL is looking tired, needs support to keep relevant
- The opportunity and incentive to amalgamate land into bigger lots.
- Upgrade GEH east of Tonkin Highway
- Disjointed, improve connections

  Stop window cleaners

1b – Vision and Design Principles.

Participants were asked if they supported the following set of draft design principles, if there were any changes to the wording of the principles, or if there were any additional design principles they believed were appropriate to guide development along the Great Eastern Highway Corridor.

The below table indicates the level of support for the draft design principles from the majority of the participants. Comments have been included where changes have been suggested. Additional design principles suggested have been added beneath each category of design principles.

Summary

In general, the draft design principles presented to the community were supported, though some of the principles were considered too vague, with modification required to provide clarity and parameters for these.

Draft Public Realm Principles	*Level of Support*	*Comments*
Improve built form outcomes along Great Eastern Highway	**Supported, though requires clarification**	**Too vague, requires parameters for clarity**
Improve public amenity and streetscape along Great Eastern Highway	**Supported**	• Especially trees
Well integrated public transport into future development framework	**Supported**	• Happy with existing
Ensure appropriate extent and scale for transitioning of land use and development intensity from Great Eastern Highway to surrounding residential areas	**Supported**	
Provide a diversity of green spaces for passive recreation	**Supported**	• And enhance *existing* green spaces • active recreation
Promote local mixed use nodes supporting an intensity of land uses	**Supported**	• On both sides of the road • Too vague • Transition of use / zone and green spaces • nodes that encourage walkability • Don't include industrial uses in corridor
Foster land use intensity and redevelopment that can take advantage of proximity to key Public Open Space areas and linkages including the Swan River.	**Supported**	• Having regard to its strategic location to the Perth CBD

Draft Movement Principles	*Level of Support*	*Comments*
Support dedicated public transport lanes along the Corridor	**Supported**	• All the way down GEH • providing have sufficient lanes for through traffic • multi- use transit-only lanes • happy with existing public transport
Ensure safe access and movement through the Precinct for cyclists	**Supported**	
Ensure safe access and movement through the Precinct for pedestrians High quality pedestrian environment Safe crossing points	**Supported**	• Overpass crossings as underpass dangerous • Particularly across the GEH near the school.
Effectively manage vehicular traffic flow along Great Eastern Highway and side streets, acknowledging the highway is a major artery that acts as a strategic trade route and gateway linking Perth Airport through to the city centre	**Supported**	• Effectively manage the impact of vehicular traffic on/through side streets… • Safety at key intersections • Investigate alternative routes for cross suburb traffic • Improve programming of signals • Need to recognise the importance
Promote parking for mixed use, mixed business and residential development (along Great Eastern Highway) to be at the rear of the development. Where parking is required to be at the front of buildings, ensure it has an appropriate interface with the Corridor.	**Supported**	• Promote basement parking where possible • If parking is in front of buildings ensure it is appropriately landscaped. Provide development bonuses where big trees can be kept
Remove crossovers from Great Eastern Highway to only provide access to mixed use, mixed business	**Supported**	• Difficult for middle lots, if amalgamated this can be achieved.

and residential development (along Great Eastern Highway) from secondary streets or laneways (Main Roads WA Strategic Access Plan requirement)		• Prefer laneways integrated into transition. • Incorporate transition/ laneway density and medium / lower residential • Supported if it leads to better landscaping and better pedestrian movements

Draft Land Use Principles	*Level of Support*	*Comments*
Enhance the growth of mixed uses at mixed-use nodes to improve local convenience, amenity, sense of community and local employment	**Supported**	• Include retail in mixed use
Provide residential densities and permissible land uses that have regard for the amenity of existing residents.	**Supported**	• Sell it well, help people understand potential • Support, though overriding vision and objectives are paramount and should take precedence.
Facilitate residential development that responds to the amenity of mixed-use nodes and public transport.	**Supported**	• Reliant on good public transport opportunities
Widen the range of accommodation choice and dwelling diversity	**Supported**	• Not convinced • Support, make it interesting, apartments with views over the river

Draft Built Form Principles	*Level of Support*	*Comments*
The height and scale of new buildings should have an appropriate relationship with existing built fabric.	**Supported**	• With aspirational built fabric. • Contextual support but get rid of the bad stuff - subjective: need to enable new development to fit the vision • Widen the corridor where it is too narrow to enable better outcomes • Depending on context/ location • Can't rely on existing buildings to create new fabric
Allow appropriate built form height to take advantage of views towards the river.	**Supported**	• Where not obstructing the public • Be mindful of view corridors – try not to be so high as to block off river.
Consider transition of building height and scale from the corridor to lower density residential areas, addressing: Dwelling diversity Residential amenity; Overshadowing streetscape; Streetscape; and Privacy	**Supported**	
Provide architectural qualities that contribute to the attractiveness of the Precinct.	**Supported**	• Requires parameters to measure against it • Focus on design • Focus on quality
Minimise the visual impact of surface parking on public domain amenity.	**Supported**	
Built Form to create a well-defined and appealing public domain and positive ground-level experience, particularly for pedestrians and ameliorate the traffic dominated nature of the road.	**Supported**	

Additional design principles suggested by community members include:

- Priority is public access to environment rather than people in high rise getting a good view.
- A Garden City.
- Expand study area where it is narrow to enable better redevelopment outcomes.
- Investigate innovation in rates/ density trade off.
- Need flexible taxation arrangements (negative gearing) to promote distribution of housing options across Australia.
- Managing residential access (i.e. not through traffic).
- Ensure universal access is occurs.

1c – Vision Statement

Participants were asked to produce a Vision Statement.

'The Great Eastern Highway Corridor is...'

The following vision statements/ themes were produced from the tables over both of the workshops:

Summary

Multiple vision statements were produced, the common features of each include:

- Gateway location to Belmont and Perth
- Proximity to the Swan River
- High quality landscaped, garden city
- Connections to the City, Swan River, Airport
- Place to live, work and play
- Link different places in a way that gives comfort to pedestrians and cyclists.

The following were the prevalent themes and aspects which particpants wanted to incorporate into the Vision Statement:

Connection to the River

- Relate to river
- Increase use of Swan River to increase life to and along the River

Nature

- City of Belmont your natural choice / Belmont… naturally your natural choice
- Country surrounds in a city setting
- Landscaping, trees, shrubs
- Garden route
- Landscaped frontage
- The garden welcome to Perth
- Softer with landscape
- High quality landscaped and amenity

Gateway to the City

- A gateway welcome to a fun and adventurous Belmont
- Gateway
- Welcoming to the City

Land Uses

- Cafes and parks
- Hotels
- Restaurants
- Mixed use along the Corridor – no industrial

Entertainment / Tourism

- Natural and built playground
- Fun – stadium, casino, kayaking, horses
- Tourism precinct
- Dynamic and vibrant
- Bold and bright … 'Vegas strip'.
- Fun / movement
- Ferry
- Cohesive, trendy
- Attract people from the stadium

Family / Community

- Live, work and play
- Local community, families

Public Transport

- Public transport

Different precincts / components

- Separate precincts, however integrated site
- Synergy 'Corridor' and the playground
- Beauty of the highway, dignity, built form, architecture
- Business and excitement hub

Overall Statements

'The Great Eastern Highway is exciting, human friendly, integrated with public transport and is a mixed use gateway to the City'

'The Great Eastern Highway is a gateway to brilliant Belmont'

'The Great Eastern Highway is the welcoming Corridor to the City'

'The Great Eastern Highway is a high quality, landscaped, entrance'

'The Great Eastern Highway- the Saint Kilda Road of Perth – trees and gardens, mixed land uses, high capacity offices'

'The Great Eastern Highway Belmont's green connection to the City and the river'

'The Great Eastern Highway is the corridor to Perth / the paths to the corridor'

'The Great Eastern Highway is a quality, connected place for people to live, work and play'

'The Great Eastern Highway is a gateway welcome to a fun and adventurous Belmont – naturally'

'The Great Eastern Highway is the garden welcome to Perth / the Garden Route / the garden within a city'

APPENDIX B
EXERCISE 2

EXERCISE 2 – DESIGN SCENARIOS

Exercise two focused on scenario development, design and place making initiatives and require the community to identify aspects they would like to see at both their 'place' (their residence, business or place of employment), as well as along Corridor relating to land use, built form, movement and public realm.

Attendees were advised that Questions 1 – 8 are specifically for landowners, tenants, business owners and residents with a lot adjacent to the Great Eastern Highway.

The following table outlines the general response to questions by participants within in both workshop sessions. Where a **prevalent theme** was identified, the comment will be in bold, while *emerging themes* will be in italics. All remaining comments are general comments.

My Place – Questions 1 -8

Summary

Participants were supportive of density along the Corridor in suitable locations such as close to public transport, if extensive amenity was also provided. Appropriate transitioning of density from the Corridor into the surrounding residential areas was also an important element which needs to be considered.

Participants supported active uses on the ground floor of apartment buildings, especially an increase in the range of cafes and restaurants.

Participants indicated a preference for parking to be underneath buildings, and if this was not possible, for parking to be behind buildings. If parking is to be behind buildings the amenity of adjacent residents is not to be impacted.

Participants supported improving landscaping and trees at their place.

Figure 5 - Example of Development on Great Eastern Highway

Question

1. Please indicate the approximate location of your ‘place’.

Comments

Attendees discussed the location of their places and most of the attendees were located between Orrong Street and Belmont Avenue and between Epsom Avenue and Ivy Street.

Question

2. What is your ‘place’?

- My home
- My business
- Other

Type of Home	Proportion
My home	Majority
My business	Small portion
Other	Small portion

Comments

Of the attendees who answered Question 2, the majority selected their place was their ‘home’, and a small portion selected their place is their ‘business’. The ‘other’ types of places attendees selected were investment properties and the RSL club

Question

2a. If your place is your business, what type?

The types of businesses attendees identified were:

- Bed and breakfast
- Accounting and financial planning
- Retail
- RSL Club

Question

2b. If your place is your home, what type of dwelling is it?

The types of homes attendees identified were:

- Single storey home
- Two storey home
- Single dwelling with stable
- Duplex
- Family home
- Townhouse

Question

3. What types of homes do you think are suitable at or near your place?

Type of Home	Support
A home shared with friends or other people	*Medium support*
Apartments	**High support**
Shop-house	*Medium support*
Houses in groups	**High support**
Townhouses	**High support**
Other	Family houses

Comments:

Privacy

- Overshadowing needs to be considered
- Building fence to fence is ludicrous

Parking

- Privacy of existing residences need to be considered
- Current design standards are not meeting the real parking requirements, need to keep parking contained within the property
- Lack of parking for shared houses

Density

- This location lends itself to increased density to take advantage of public transport and change in the offerings close to the Highway.
- Want to encourage increased density but not create a soul-less area
- Don't want the nasty concrete structure built with the sole purpose of maximising the number of homes for the pure financial benefit of the developer. Need adequate parking for whatever development occurs
- Corner of Kooyong Road and Great Eastern Highway is very near to Crown Casino so it should have high density apartments where people can enjoy the resources and facilities near the Casino.
- Support rezoning and development of R20 blocks, however the main concerns around development are environmental as we are close to the river. Drainage and sewerage requirements are considered and impact on river is a priority.
- Re zoning of R10 lots immediately adjacent to mixed use lots only to R20/R40 would provide acceptable increased density and better transition in height and built form
- Newey street – density should reflect more family sized dwellings and lot sizes
- Houses in groups are ok for lots immediately adjacent to Mixed Use lots

Consideration of Stables Zone

- The transition between the highway and the horse zone should be thoroughly considered. The tall buildings on the highway should be sensitive in built form and noise / landscaping buffer to residences
- Very important to keep the density low in stables zone to not introduce conflict between more residents/cars and horse husbandry and horse walking within the suburb
- Developer to be considerate with existing area and racing industry
- Potential transitioning out of stables zone

Apartments

- Apartments should have mixed use on lower levels
- Apartments should be small developments
- To keep the feel of the area, would not like to see tall blocks of apartments, enough of these near the freeway.

General

- No AirBnB
- Not high rises
- Don't like 2 storey residential designs – eye sores through the suburbs
- A mix of two/three storey villas so single dwellings are not built out. Don't want to see today's yuppies tomorrows slums.

Question

4. What types of business would you like at your place?

Type of Business	Support / Comments
Offices	**High support**
Retail	**High support**
Light industrial	Low support
Showrooms	*Medium support*
Restaurants	**High support**
Entertainment	*Medium support*
Tourist accommodation	*Medium support*
Other	**Small bars** **Cafés** Pubs Microbreweries Medical centre Small supermarket Clothes shops

Comments

Active uses

- Having activity near the Corridor means people will access and exit the Corridor and not back through the suburbs
- Any uses which will increase the vibrancy of area
- Support businesses which encourage pedestrians lingering in the area, exploring and relaxing

Light industrial

- Needs to be buried in the suburb

Restaurants

- Not fast food
- Nice ones
- Ensure parking dealt with

Entertainment

- Recreational
-

Fuel stations

- No fuel stations near homes
- No fuel stations on Corridor

General

- No car sales yards
- Hotel and business already exist, nothing more
- Local retail area as is

Question

5. What should the height of buildings be at your place?

Building Height	Support / Comments
2-3 storeys	*Medium support*
4-6 storeys	*Medium support*
6-8 storeys	Low support
8-10 storeys	**High support**
10-12 storeys	Low support
12 + storeys	Low support
Other	1-2 storeys (low support)
Building Height	Support / Comments

Comments

2-3 storeys

- set back from the Corridor
- immediately adjacent to mixed use lots within Ascot R10 zone

4-6 storey

- on Great Eastern Highway through Ascot

8-10 storeys

- to be mixed use

12+ storeys

- next to Corridor

General

- Careful consideration of height next to stables area
- Building heights need to be assessed on a case by case basis depending on their particular location

Question

6. What would you like your place to include?

Element	Support / Comments
Buildings with active edges	**High support**
Good commercial exposure that contributes to an attractive Corridor	**High support**
Trees	**High support**
Spaces that contribute to the public enjoyment of the Corridor	**High support**

Comments

- What happened to Council's canopy policy?
- Car bays can be reduced if streetscape improved. Also keep mature trees over car bays if necessary

Question

7. In terms of parking locations, what would you like your interface with the Corridor to be?

Parking	Support / Comments
Residential – parking within private land in front of buildings	Low support
Residential – parking is not in front of buildings	**High support**
Commercial – parking within private land in front of buildings	Low support
Commercial – parking is not in front of buildings	**High support**

Comments

- Parking should be under buildings
- If parking is behind buildings, ensure amenity of adjacent residents is not impacted

Question

8. Given restricted access from Great Eastern Highway are you prepared to allow reciprocal access at the front or rear of your property?

No: Medium support

Yes: Medium support

Comments

- Want residentials streets to be quiet
- Plan for streetscape not parking outcome
- As long as the boundary has a decent, sound restrictive barrier
- Egress from Great Eastern Highway should be restricted to side streets and ROW, this should not be at the expense of privately owned residential lots being forced to cede land free of cost to the council. Side streets access for these commercial businesses fronting Great Eastern Highway should be very carefully monitored and no impact forced on residential streets.
- Needs to be a definitive separation of commercial and residential

My Corridor – Questions 9 - 18

Summary

Land Use

Generally, participants indicated support for the location of the nodes presented, with the addition of a node on Belmont Avenue, and the expansion of the size of some of the nodes. Participants agreed that nodes were required to create active hubs and increase the vitality of the area, whilst also providing local convenience.

Land uses such as cafes, restaurants, shops, residential and offices were preferred in the nodes, whilst tourist accommodation, small scale showrooms, offices and integrated shops were preferred outside of the nodes along the Corridor, and parks and playgrounds preferred surrounding the Corridor. Participants preferred the industrial land uses to be phased out, and did not want to see any more petrol stations or fast food stores along the Corridor.

Built Form

In terms of building heights, participants generally agreed that building heights of 12+ storeys should be closest to the City, 10-12 storeys between Kooyong Road and the Tonkin Highway, tapering down to 4-8 storeys from the Tonkin Highway to Ivy Street. It was generally accepted that building heights in nodes could be taller, ranging from 10-12+ storeys.

Participants felt the architectural quality of buildings along the Highway needed to be improved, and additional, modern and landmark built form outcomes were needed.

Public Realm

Participants preferred lower scale buildings closer to the pedestrian environment, and activated uses on the ground floor.
Participants expressed the need to improve the landscaping along the Corridor, with a strong preference for the requirement of additional trees.

Movement

In terms of car parking, participants had a strong preference for parking either underneath or behind buildings as opposed to in front of buildings.

All participants expressed the need to improve the pedestrian amenity along the Corridor and in the surrounding street networks, particularly an improvement to the landscaping. Participants preferred overpasses to provide connections to both sides of the Corridor.

Participants expressed their concern for the safety of cyclists within the Corridor and felt they would be safer separated from motorists. Participants also noted the cycle route along the Swan River was disconnected in portions and should be rectified to provide a complete and seamless pathway.

The Corridor and surrounding network was regarded as being well serviced by public transport however, participants felt every bus stop should have a shelter, and indented bus bays at each bus stop along the Corridor needed to be provided to not impede traffic flow. Some participants believed light rail would be beneficial.

Question

9. Would you support mixed use nodes along the Corridor, if so please indicate where?

The majority of attendees supported Mixed Use nodes being located along the Corridor. Generally, attendees agreed with the location of the nodes presented on the Location Plan. Some tables suggested to increase the size of some of these nodes, the additon of more nodes, or to reduce the number of nodes. Majority of attendees supported an additional node on the Belmont Avenue/ Great Eastern Highway intersection.

Please refer to **Appendix B** to view the plans from each table.

Comments

- Mixed use nodes that connect people with places of activity and attraction
- Need to make sure the mixed use nodes don't aggrevate the function of GEH

Figure 6 - Location Plan

Question

10. Which land uses would you like to see and where?

In Nodes	Immediately adjacent to the Corridor	In close proximity to the Corridor
Restaurants/cafes	**Tourist accommodation**	**Parks**
Office	**Office**	**Playgrounds**
Permanent residential	**Showroom - small scale**	*Permanent residential*
Integrated shops	**Integrated shops**	*Office*
Indoor markets	*Retirement home*	*Retirement home*
Creche	*Restaurant /café*	*Showrooms - large scale*
Plaza	*Showroom – large scale*	Clubrooms
Cinema	Outdoor market	Tourist accommdoation
Tourist accommodation	Fast food	Sporting facility
Retirement home	Permanent residential	
Parks	Petrol stations	
Library	Clubrooms	
	Parks	
	Playground	
	Library	

Comments:

Indoor market

- Integrate with mixed use

Outdoor market

- Integrate with river

Cinema

- Next to DFO

Clubrooms

- Adjacent to parks

Parks

- Next to river

Fast food

- Only if intergrated

Apartments for families and children:

- Close to park

Stables and Industrial zones

- Possible transition to other uses over time

Do not want any:

- **Industrial**
- **Petrol stations**
- Showrooms
- Library
- Training spaces

Question

11. Please indicate on the plan the type of residential dwellings and where you would like to see these located?

Type of Home	Support – Location
Townhouses	**In proximity to the Corridor**
Houses in groups	**In proximity to the Corridor**
Apartments for families with children	Nodes In proximity to the Corridor Adjacent to the Corridor Near parks
Apartments – small developments	**Nodes** Overlooking river In proximity to the Corridor

Comments

No residential development should occur along the Corridor

Question

12. What minimum and maximum building heights do you support?

Location	Minimum Height	Maximum Height
Nodes	4-6	**12+**
Precinct 1	4-6 / 6-8	6-8 / 12+
Precinct 2	4-6	10-12 +
Precinct 3	2-3/4-6	12+

Comments

- Greater height on southern side of the river, with reduced height adjacent to river to protect river views
- Greater height should be located from closest to the City from Graham Farmer Freeway to Kooyong Street.
- Reduced height tapering down from Tonkin Highway to Ivy Street
- Majority of groups supported 12+ storeys in nodes

Figure 7 - Location Plan

Question

13. What building interface treatment do you support?

Element	Interface treatment	Support
Scale	Scale of building does not respond to pedestrian environment	No support
	Lower scale of building closer to pedestrian environment, taller portion of building set back	**High support**
Activation	Activated uses on ground floor	**High support**
	Non-activated uses on ground floor	No support

Comments

- Variance in building design required
- Pedestrian environment to be considered in buildings design
- Greenery use

Figure 8 - Excerpt of Images included in Exercise 2 relating to Building Interface Treatment

Question

14. What would you like your Corridor to include?

Element	Support / Comment
Active building edges	**High support**
Buildings presenting to the street	No support
Green existing noise walls	**High support**
Street trees in median	**High support**
Street trees in verge	**High support**
Rooftop gardens	**High support**
Green facade	**High support**
Buildings with light features, creating a gateway with an evening experience	**High support**
Other	Public art

Comments

Buildings presenting to the street

- If can achieve then yes, landscaping buffer maybe between building to soften interface

Buildings setback from street

- Green façade / green existing noise walls

Species selection important

- Must be maintained

Buildings with light features

- Must be quality

General

- Reduce parking in front of buildings

Question

15. What would you like to see for pedestrians along the Corridor?

Element	Support / Comment
Landscaping in verges including trees	**High support**
Landscaping that supports the "Wildflower Way" initiative	**High support**
Pedestrian Crossing	**High support**
Grade separated pedestrian crossing	**High support**
Seating	**High support**
Shaded footpath	**High support**
Improve pedestrian paths and linkages outside the Corridor	**High support**
Other	Artwork Interactive features

Comments

Landscaping

- More verge and landscape especially at nodes for food and beverage outlets

Seating

- **In active spaces/ near public transport**

Pedestrian Crossing

- At street lights need countdown timer

Wildflower Way

- **High support though only if maintained**

Grade separated pedestrian crossing

- **Overpass not underpass**
- Make them nice, not the standard type
- Improve pedestrian paths and linkages outside the Corridor Not on Great Eastern Highway,

Question

16. What would you like to see for cyclists along the Corridor?

Element	Support
Bicycle facilities	**High support**
On-road cycling	Low support
Bicycle paths connection into Corridor from side streets	**High support**
Bicycle paths located along Corridor but seperated from the road	**High support**

Comments:

Bicycle paths located along Corridor but separated from the road

- **If there is space for this this is preferred**
- Not if mixed with pedestrians

Bicycle facilities

- At nodes

Question

17. What public transport would you like to see along the surrounding Corridor?

Element	Support
Light rail	*Medium support*
More frequent bus services along the Corridor	*Medium support*
More frequent bus routes in surrounding street network	*Medium support*

Comments:

- **Happy with existing public transport along Great Eastern Highway Corridor**

Light Rail

- **Not needed as strong bus network and future train station near Airport**
- Not with current volumes of traffic
- Too late to implement now

Bus stops

- Every bus stop should have a shelter

Question

18. Where would you like public parking to be located along Great Eastern Highway Corridor?

Element	Support
Parking at edge of Corridor	No support
Multi Storey Parking	**High support**
Parking in front of buildings accessed from Great Eastern Highway	Low support
Parking behind buildings accessed from Great Eastern Highway	**High support**

Comments:

Multi Storey Parking

- Where architecturally integrated

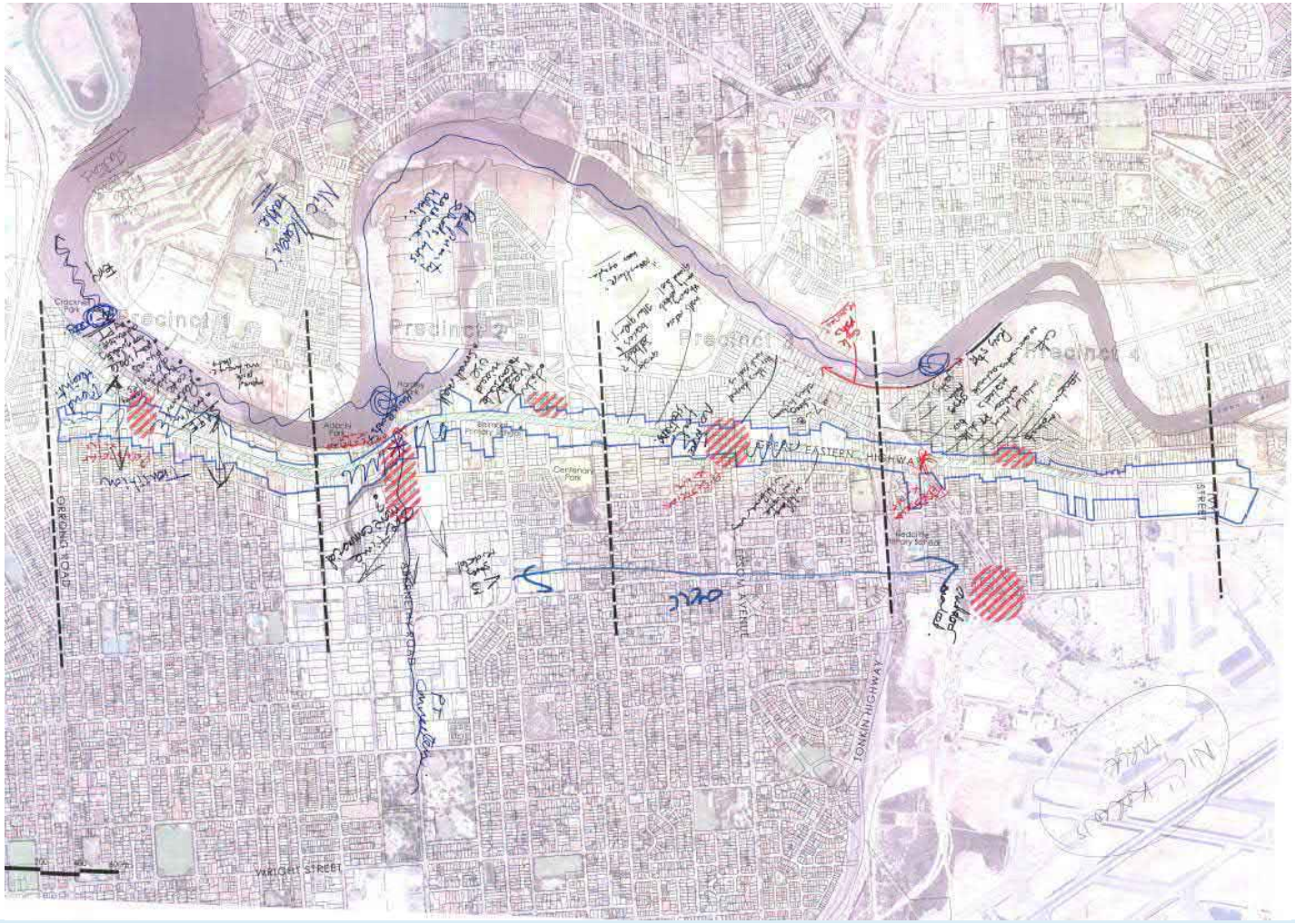
Parking in front of buildings accessed from Great Eastern Highway

- Williams Road in Cannington good example of this

Parking behind buildings accessed from Great Eastern Highway

- **Consider basement parking**
- Controlled for transition to residential
- Shade in car parking
- As much parking as possible
- Get people to catch public transport
- Free bus services to use the Corridor

DRAFT DESIGN SCENARIOS



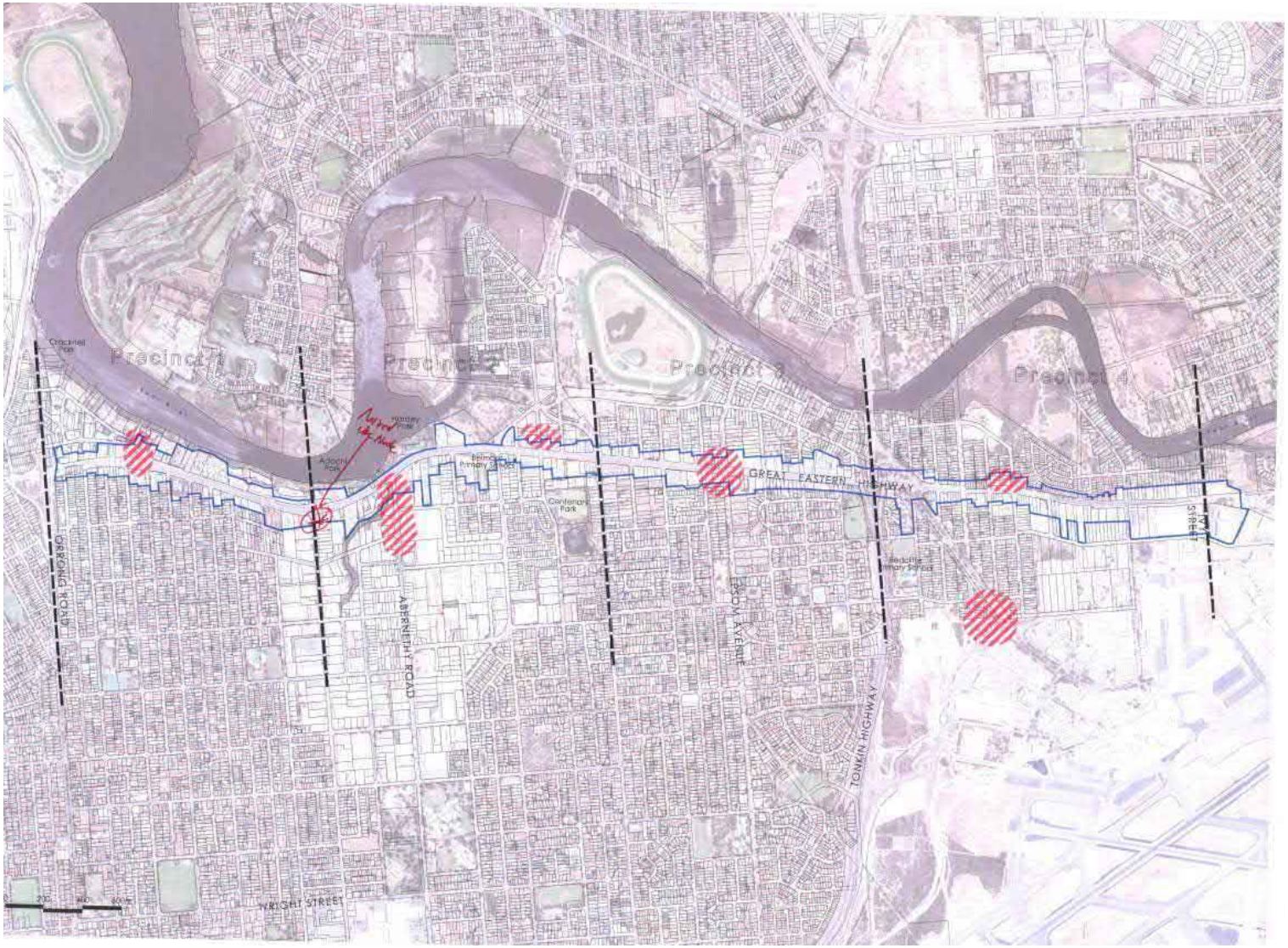
NODES
- Keep nodes in 'Precinct Plan'

MOVEMENT
- Pedestrian crossing at Brearley Ave/GEH intersection and at all nodes
- Reconnect cycle paths along the river
- Jetties located adjacent to Orrong Road and in Precinct 4

LAND USE
- Restaurants, cafes, play spaces in Precinct 1
- Mixed use/ small mall in Precinct 2

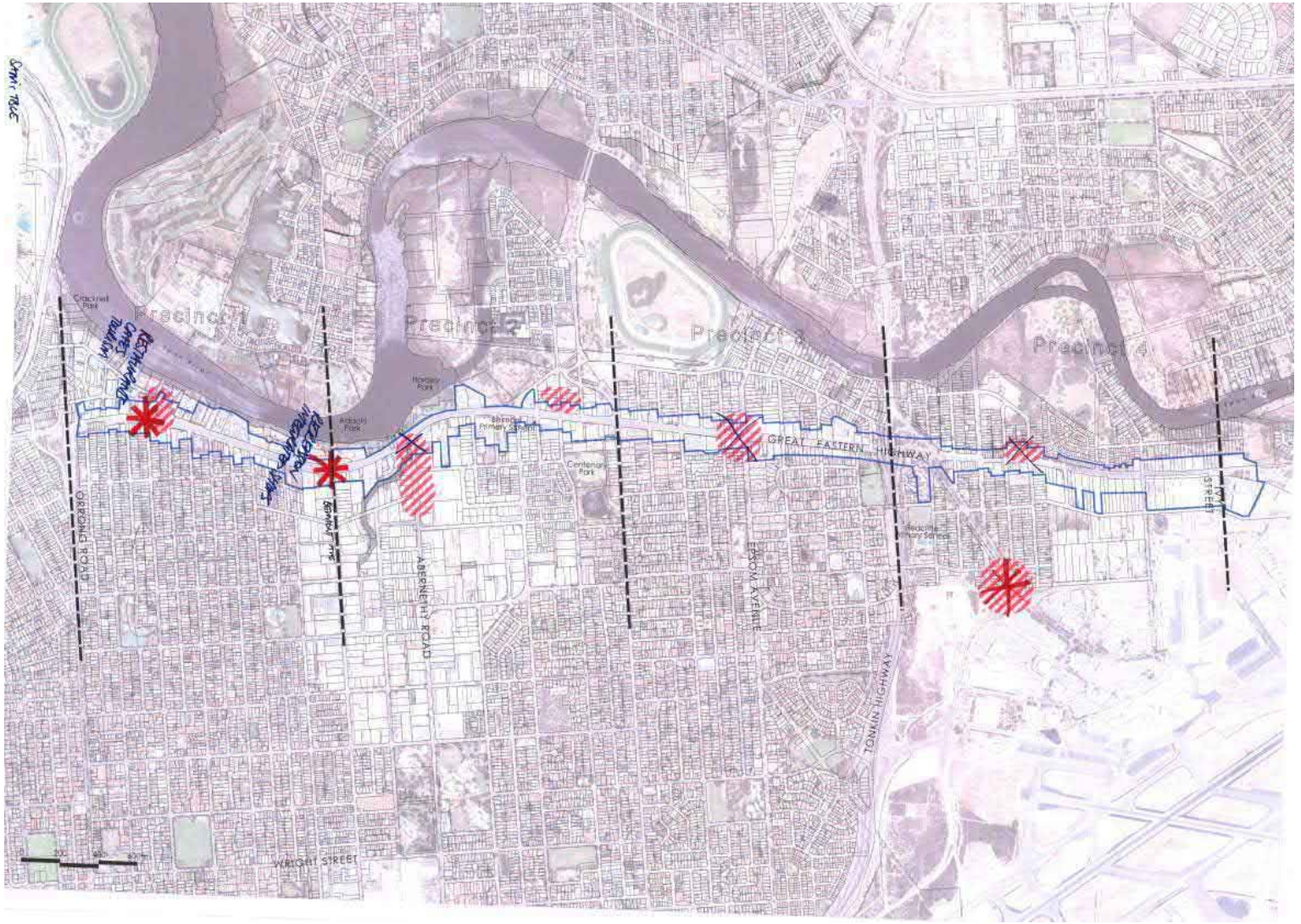
LANDSCAPING
- Wildflower way initiative along GEH

BUILT FORM
- Building heights transition from 7-8 storey along GEH to 2-3 storey in residential areas



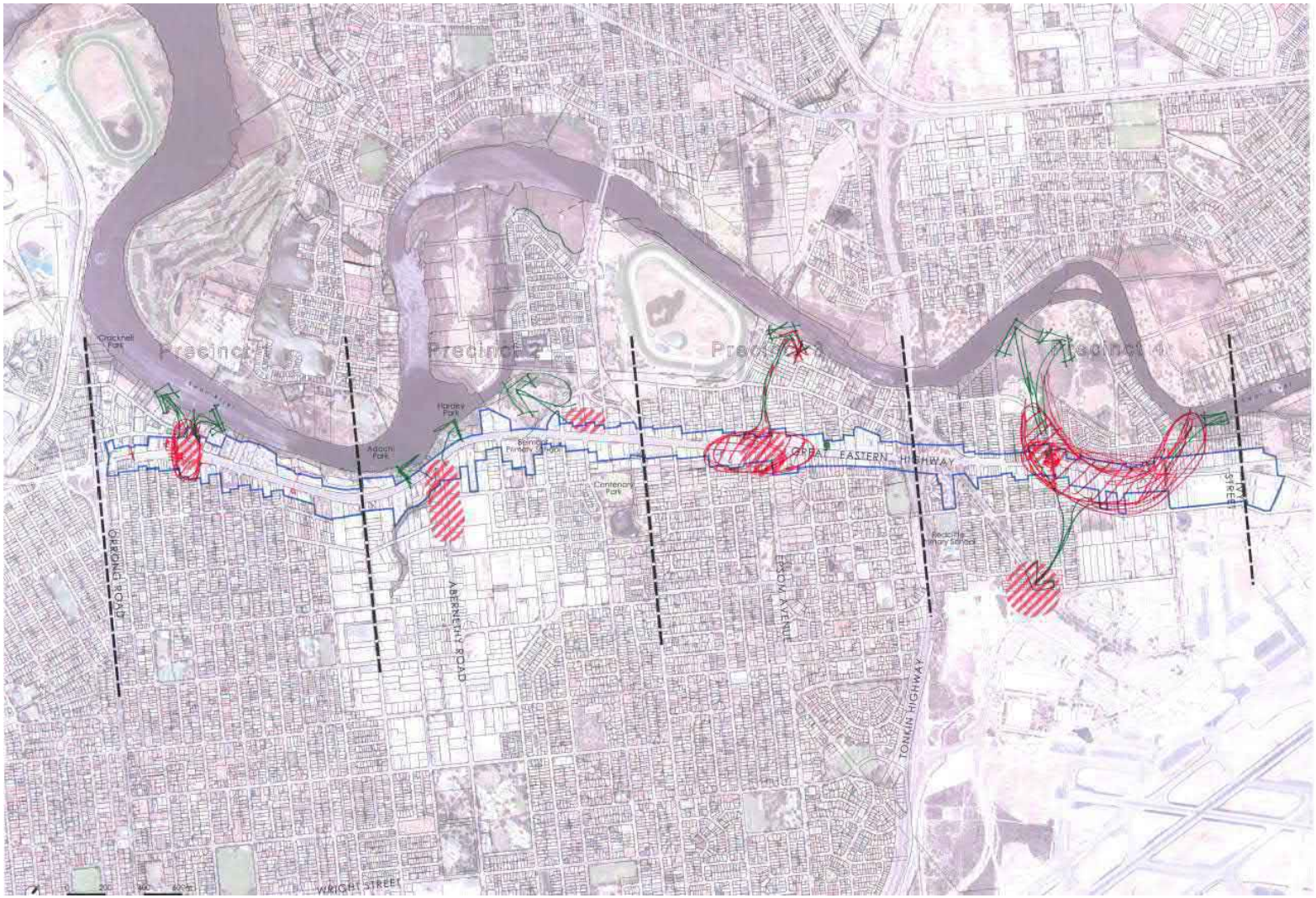
NODES

- Keep nodes in 'Precinct Plan'
- Add node on Belmont Avenue



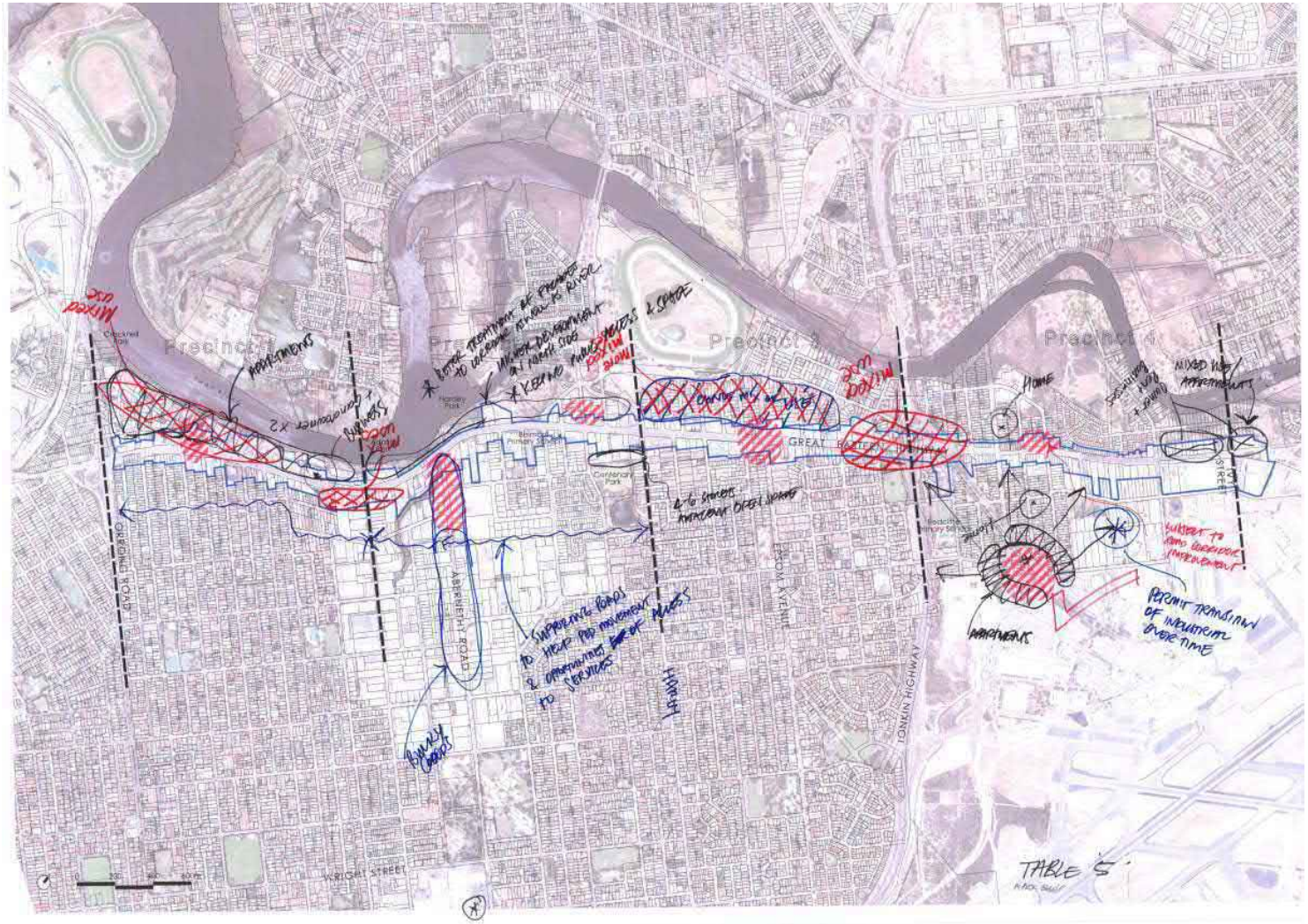
NODES

- Alter nodes in precinct plan to:
  - Remove node on Abernethy Road, Epsom Avenue and Coolgardie Avenue
  - Add node on Belmont Avenue



NODES

- Keep location of nodes in 'Precinct Plan', though expand size of node on Epsom Ave and Coolgardie Avenue
- Connect all nodes to the Swan River



NODES

- Keep nodes in 'Precinct Plan'
- Additional node on Belmont Avenue

LAND USE

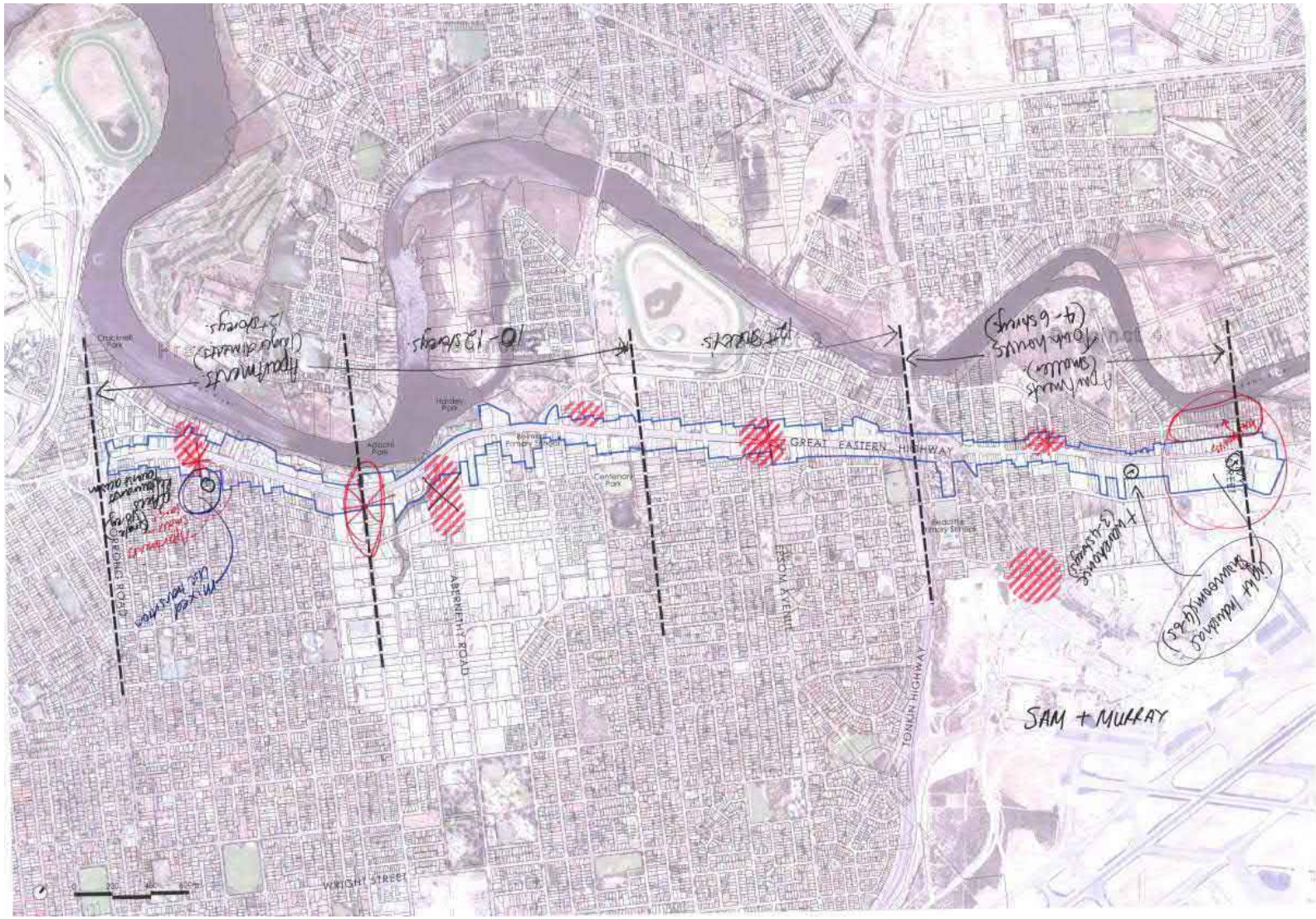
- Apartments and mixed use development located in Precinct 1
- Mixed use in all nodes
- Permit transition of industrial precinct over time
- Apartments in node near airport

MOVEMENT

- Additional supporting roads to help pedestrian movement and opportunities of access to services within Business Park
- Keep public access and space to river

BUILT FORM

- Better treatment of facades to Corridor as well as river
- Higher development on northern side of GEH
- Higher development opposite parks



NODES

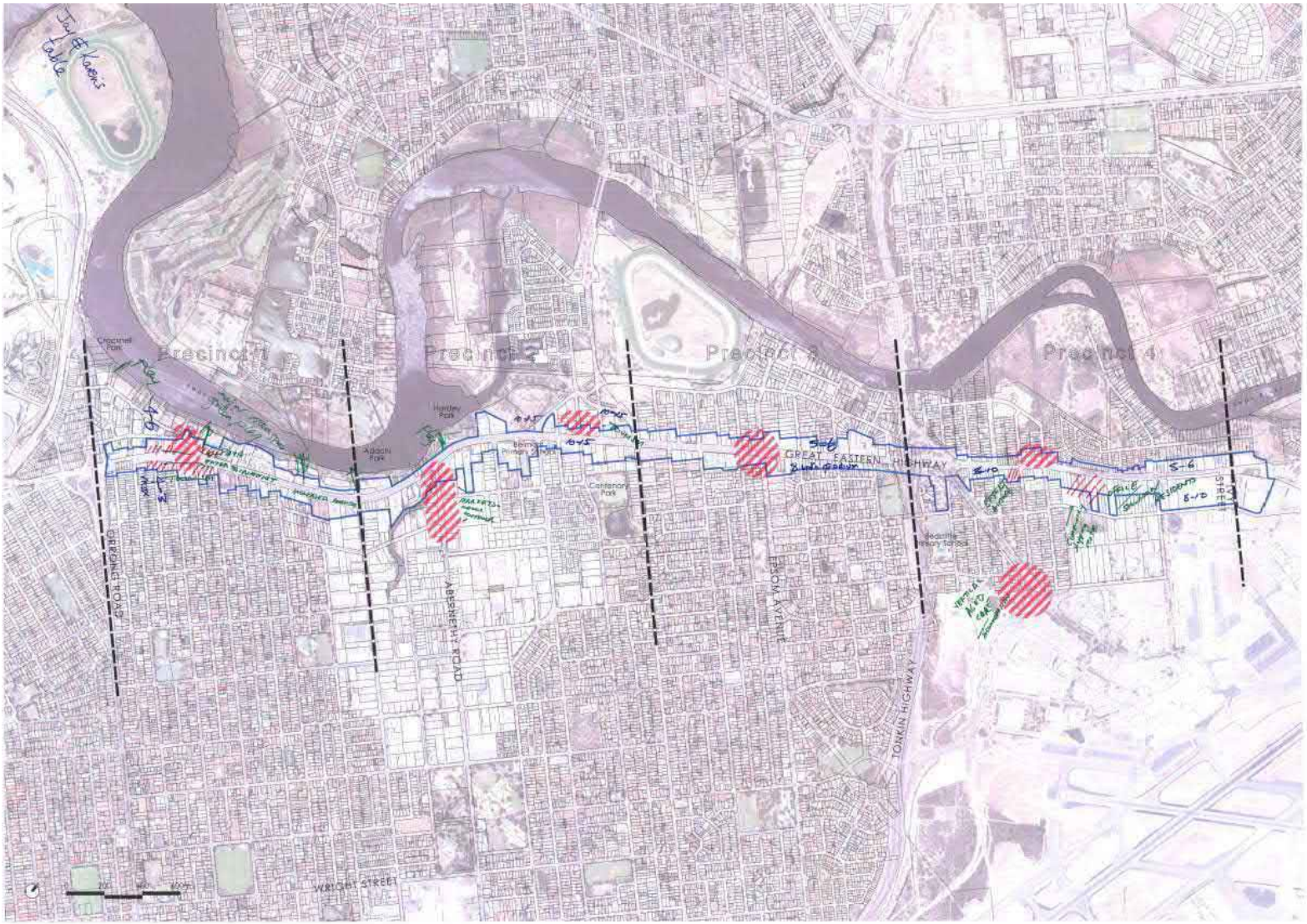
- Keep most in 'Precinct Plan' though move node from Abernethy Road to Belmont Avenue

LAND USE

- Light industrial/showroom/warehouse in precinct 4
- Mixed use/ apartments on Precinct 1

BUILT FORM

- 12+ storeys in Precinct 1
- 10-12 storeys in Precinct 1
- 12+ storeys in Precinct 3
- 4-6 storeys in in Precinct 4



NODES

- Keep nodes in 'Precinct Plan'
- Increase size of node near Orrong Road
- Additional node comprising shopping centre in Precinct 4

BUILT FORM

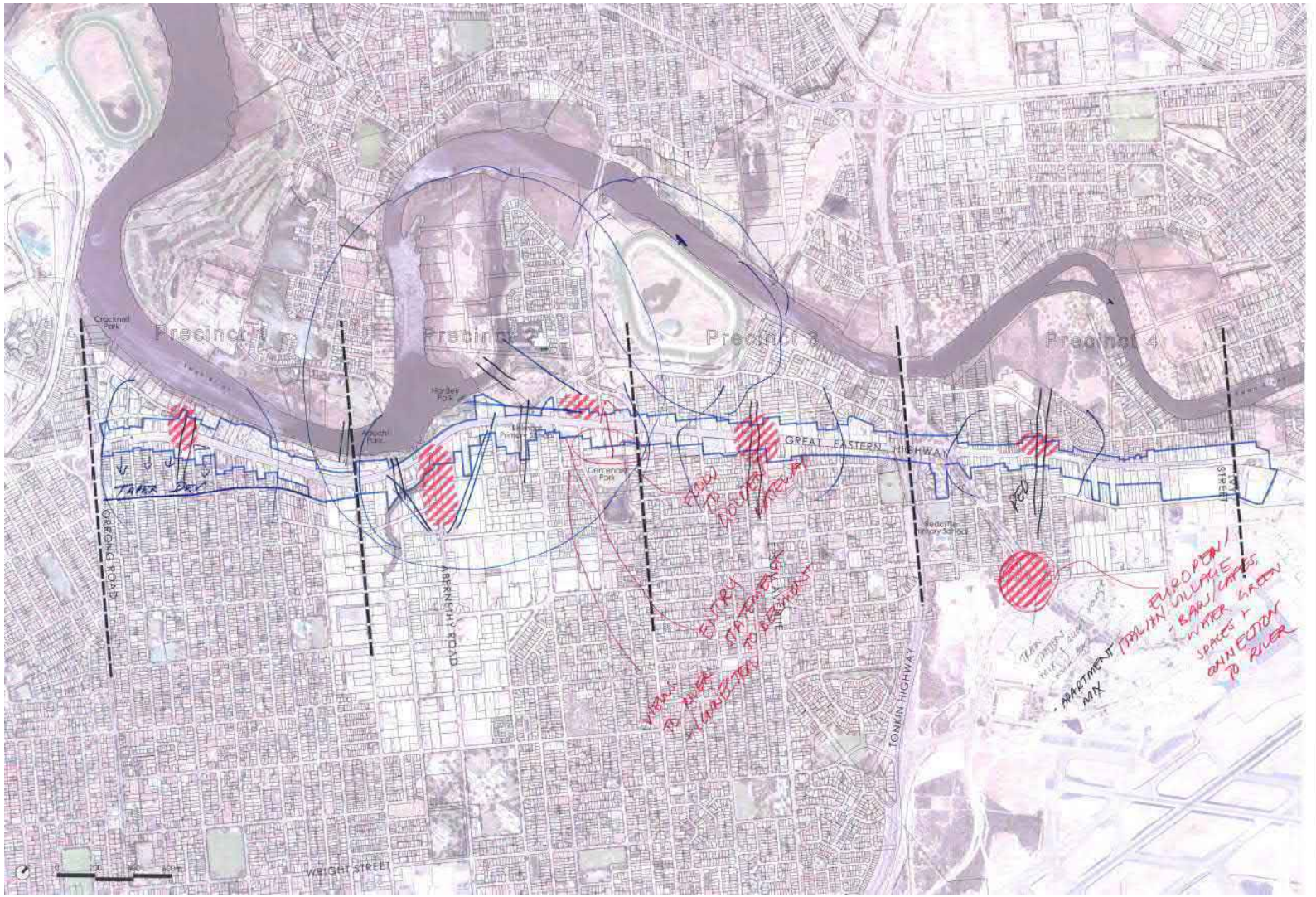
- 10-15 storeys in nodes in precinct 2, tapering down to 8 in precinct 3 and 5-6 in precinct 1 and 2.

PUBLIC OPEN SPACE

- Major green space along foreshore in Precinct 1

LAND USE

- Entertainment/plaza in precinct 1
- Markets and tourism in Precinct 2
- Vertical aged care near airport
- Office/ showroom / shopping and entertainment in precinct 4



NODES

- Increase size of nodes in 'Precinct Plan'
- Nodes on Abernethy Road and in Golden Gateway embrace views to river
- Node near apartment to become European village with bars, cafes, water, open spaces and connection to the river

MOVEMENT

- Locate pedestrian overpass at every node
- Overpasses to connect to Maylands peninsula and Ascot island
- Jetties located along river to attract tourists to stay in precinct

BUILT FORM

- Higher buildings adjacent to Corridor, taper down transitioning into surrounding suburbs
- Higher buildings where adjacent to River.

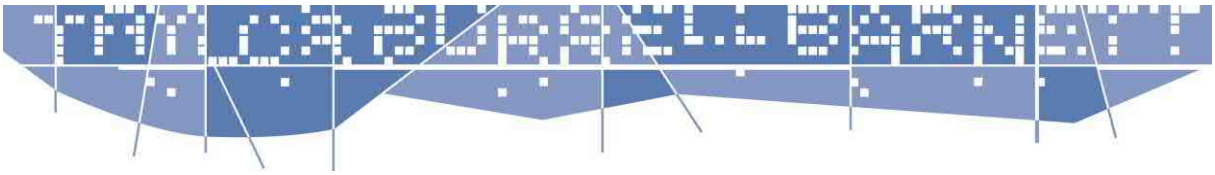
APPENDIX C – WORSKHOP AGENDA

AGENDA

GREAT EASTERN HIGHWAY CORRIDOR PLAN
Vision and Design Workshop
Saturday 18th November 9am
Venue: City of Belmont

AGENDA

No.	Item	Responsibility	Time
1	Welcome, Introduction and Agenda	Troy Cappellucci, Coordinator Planning Services - City of Belmont	9:00 - 9:05am (5 mins)
2	Project History, Background and Context • Government Strategies • Context Analysis • Study Area	Taylor Burrell Barnett	9:05 – 9:10am (5 mins)
4	Workshop Purpose • My Place (Residence/Business) • My Corridor • Vision and Design Principles • Design Scenarios	Taylor Burrell Barnett	9:10 – 9:15am (5 mins)
5	Issues and Opportunities Analysis • Public Realm • Movement and Traffic Intersections • Land Use • Built Form	Taylor Burrell Barnett	9:15 – 9:35am (20 mins)
6	Role of Corridor • Urbanisation	Taylor Burrell Barnett	9:35-9:45am (10 mins)



	• Infrastructure • Knowledge/ Economy • Corridor Precinct Themes		
7	Workshop Exercise 1 – Explanation of Design Principles (5 mins) a. Values analysis (10mins) b. Consideration of Principles (15mins) c. Vision / theme statement/s (15mins) • Feedback (All) (15 mins)	Taylor Burrell Barnett	9:45 – 10:45am (60 mins)
	Short Break		10 minutes
8	Workshop Exercise 2 – Design Scenarios • My Place o Public Realm, Movement, Land Use and Built Form • My Corridor o Public Realm, Movement, Land Use and Built Form • Feedback (All) (15 mins)	Taylor Burrell Barnett	10:55 – 11:55am (60 mins)
9	Next Steps, Thanks and Close	Troy Cappellucci, Coordinator Planning Services - City of Belmont	11:55 – 12pm (5 mins)

APPENDIX D – ATTENDEE LIST

No.	Visioning Workshop Attendees
Saturday 18th November	
1.	Chris Collins
2.	Carolyn Martin
3.	Christopher Borg
4.	Jeffrey Haby
5.	Karen Irving
6.	Margaret Winterson
7.	Peter Winter
8.	Peter Walkemeyer
9.	Paul Denny
10.	Ian Denny
11.	Ryan Falconer
12.	Maryanne White
13.	Loan Nguyen
14.	Alan Richardson
15.	Amos Machlin
16.	Connie de Koning
17.	Harry D'Cruze
18.	Nathan Watts
19.	Alison Balfour
20.	Chantal Charbonneau
21.	Julius Solomans
22.	Jim Ong

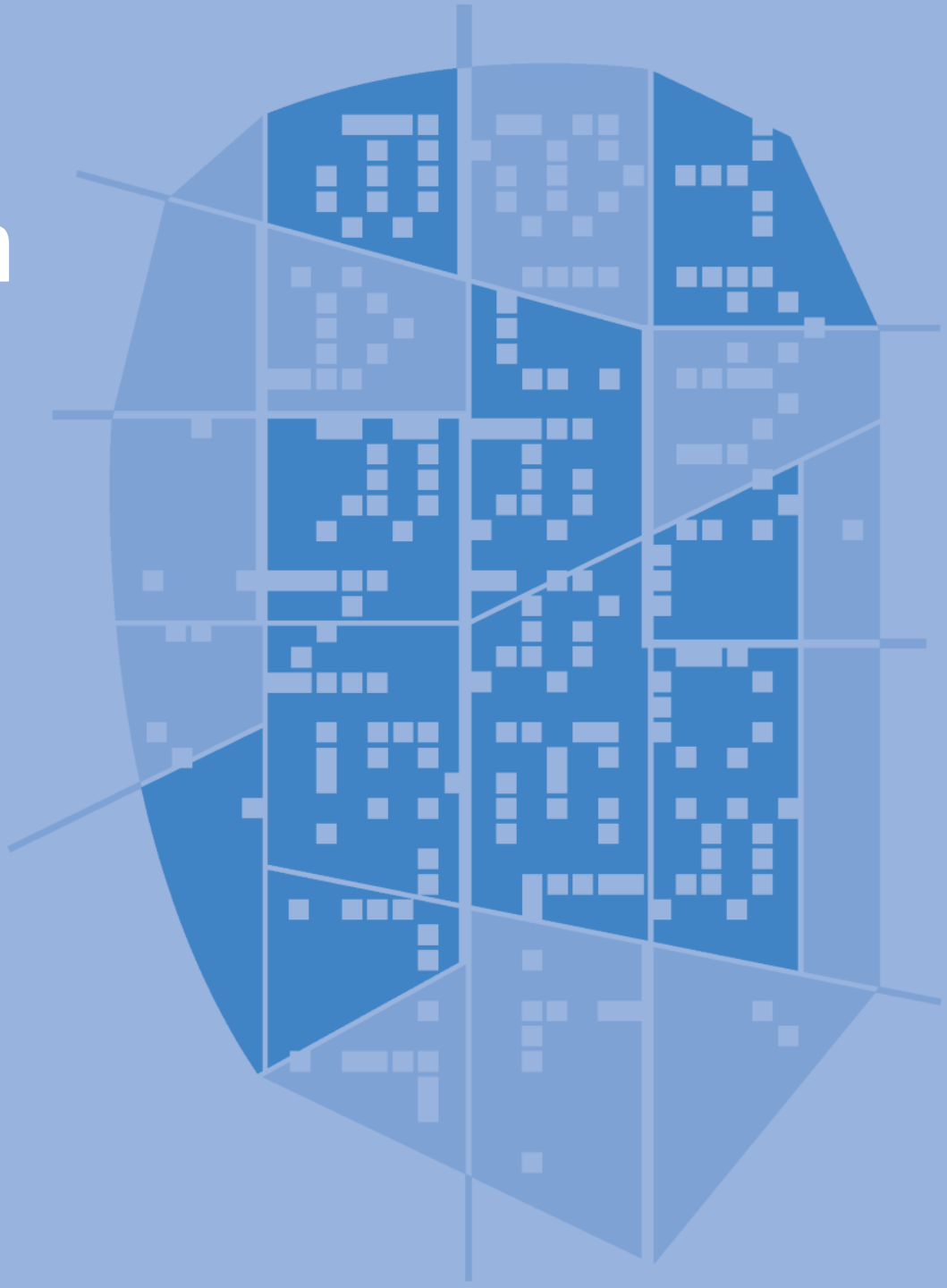
No.	Visioning Workshop Attendees
Monday 20th November	
1.	Jason Wong
2.	Tze Soh
3.	Ben Killigrew
4.	David Quadros
5.	Gary Brown
6.	Kareena May - SITE Planning & Design on behalf of DEMOL INVESTMENTS PTY LTD
7.	Mike Fitzgerald - SITE Planning & Design on behalf of DEMOL INVESTMENTS PTY LTD
8.	Gene Koltasz on behalf of DUVALIA CORPORATION PTY LTD
9.	Vic Parin on behalf of DUVALIA CORPORATION PTY LTD
10.	Giuseppe Arielli
11.	Graham Downs
12.	James Farquhar
13.	Lana Moncur
14.	Adrian Lester for LESTER GROUP
15.	Stuart McIntosh
16.	Paul Davies
17.	Paul Mason
18.	Steven Hill
19.	Alan Lazarus
20.	Ian Humphrey
21.	Joshua Wong
22.	Bella Scharfenstein
23.	Dean Pettit on behalf of Perth Airport
24.	David Hayes
25.	Elizabeth Hayes
26.	Bill Warner
Total	
48 Attendees	

APPENDIX E - VISIONING WORKSHOP POWERPOINT PRESENTATION

Great Eastern Highway Corridor Plan and Strategy

Community Vision and Design Workshop

20th November 2017



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Town Planning & Design

Introduction and Agenda

1. Welcome

2. Introduction and Agenda

3. Project History, Background and Context

4. Workshop Purpose

5. Issues and Opportunities Analysis
    - Public Realm
    - Movement
    - Land Use
    - Built Form
    - Traffic Intersections

6. Role of Corridor
    - Urbanisation
    - Infrastructure
    - Knowledge/Economy
    - Corridor Precinct Themes

7. Workshop Exercise 1 – Vision and Design Principles

    10 minute break

8. Workshop Exercise 2 – Design Scenarios

9. Next Steps

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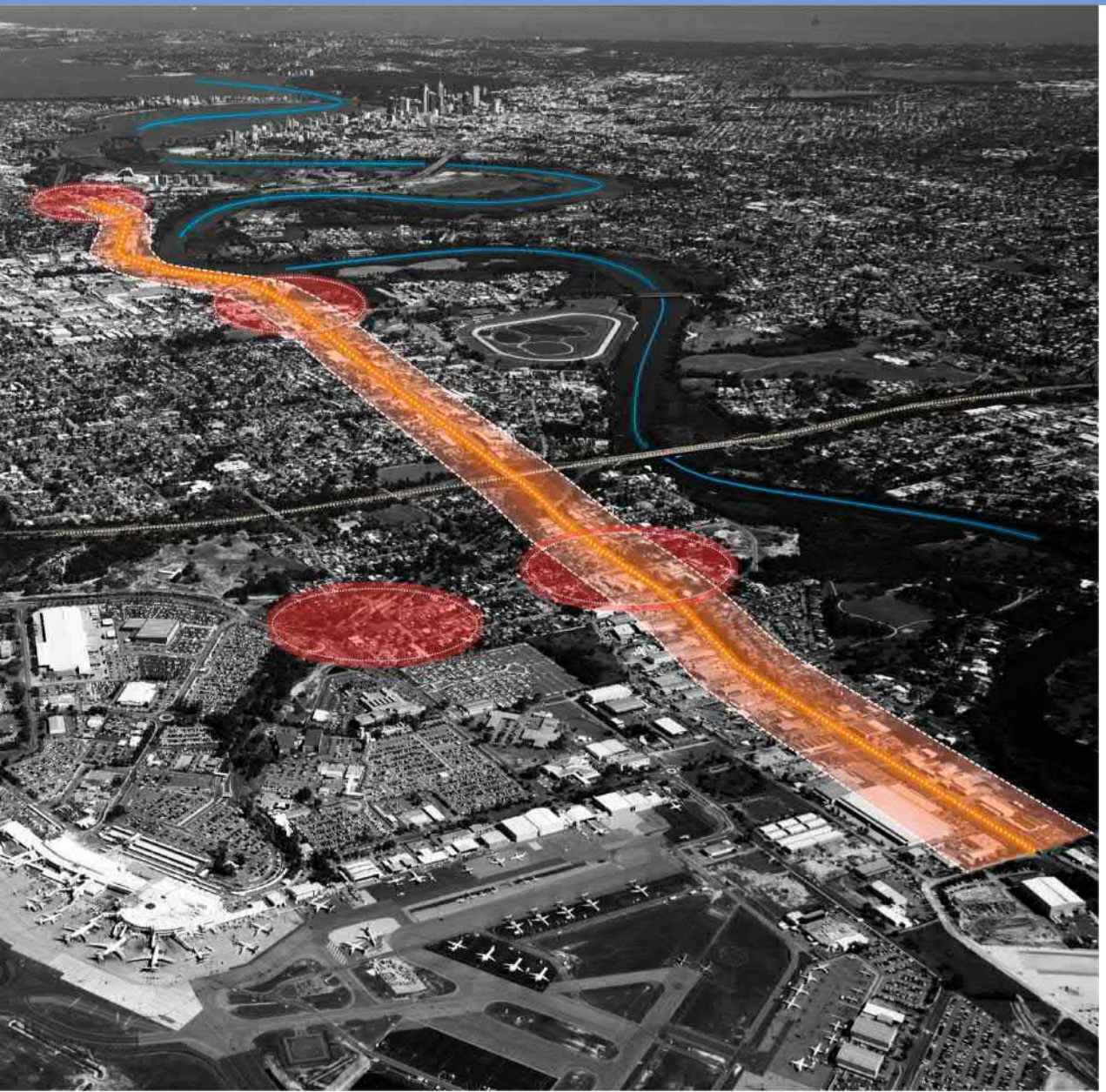
Project History and Background



- Introduction of *Local Planning Scheme No.15* has resulted in land use conflict along the corridor
- GEH is lacking a shared vision amongst the City, State Government and local community
- Lack of policy guidance provided to built form within the 'Mixed Use' zone
- Public Realm dominated by hard scaping and traffic movements

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Government Strategies

Perth and Peel @ 3.5 million

- 215,000 dwellings to be accommodated within metro-central region
- 10,500 dwellings to be accommodated within the City of Belmont

Transport @ 3.5 million

- Great Eastern Highway a High Priority Public Transit Corridor
- Metronet : Forrestfield line, Airport West Station

Activity Centres Policy (SPP 4.2)

- Perth Airport – Specialised Centre
- Burswood – District Centre
- Belmont Town Centre – Secondary Centre

City of Belmont TPS 15

- Lack of policy guidance for ‘Mixed Use’ land

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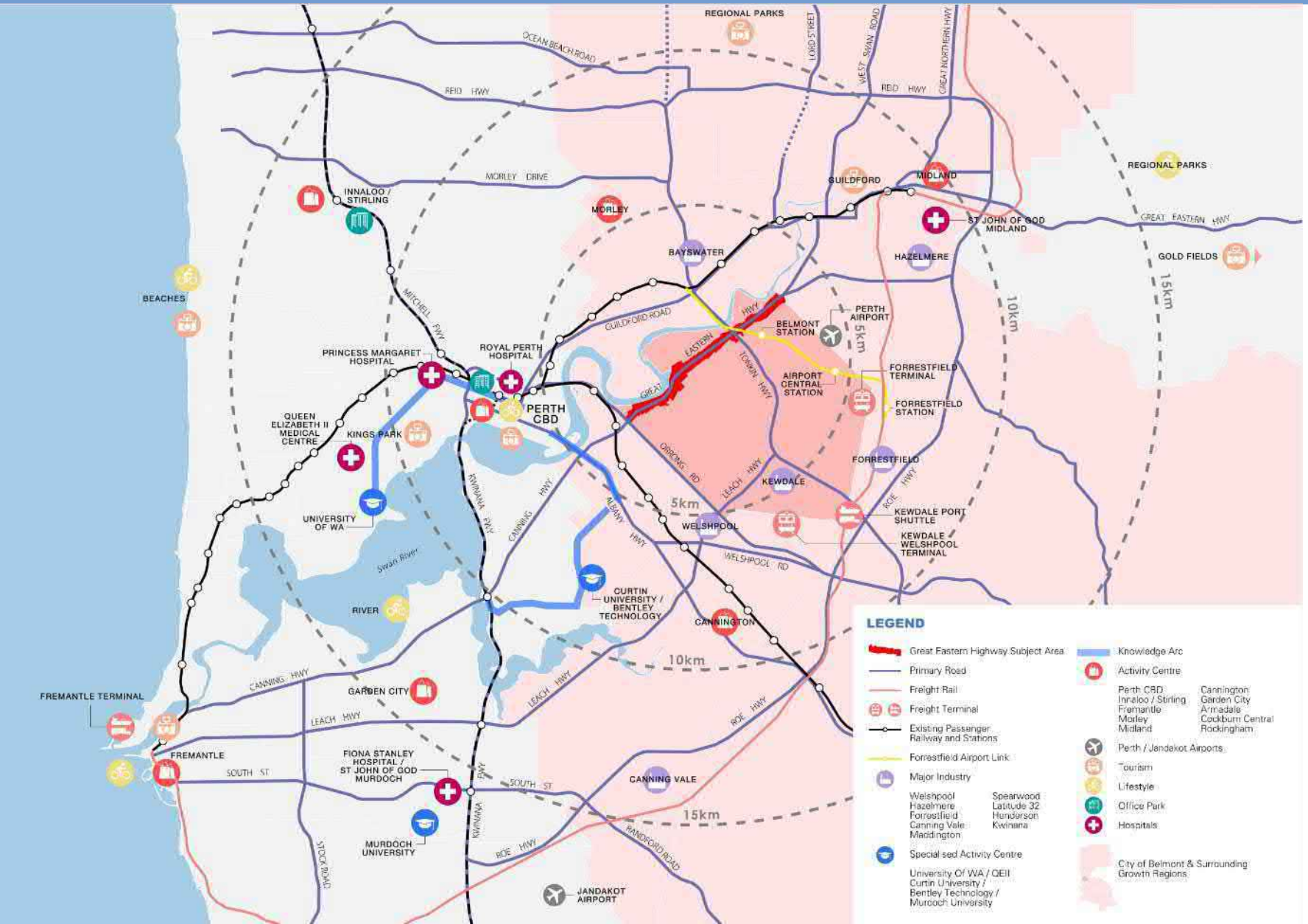
Context Analysis



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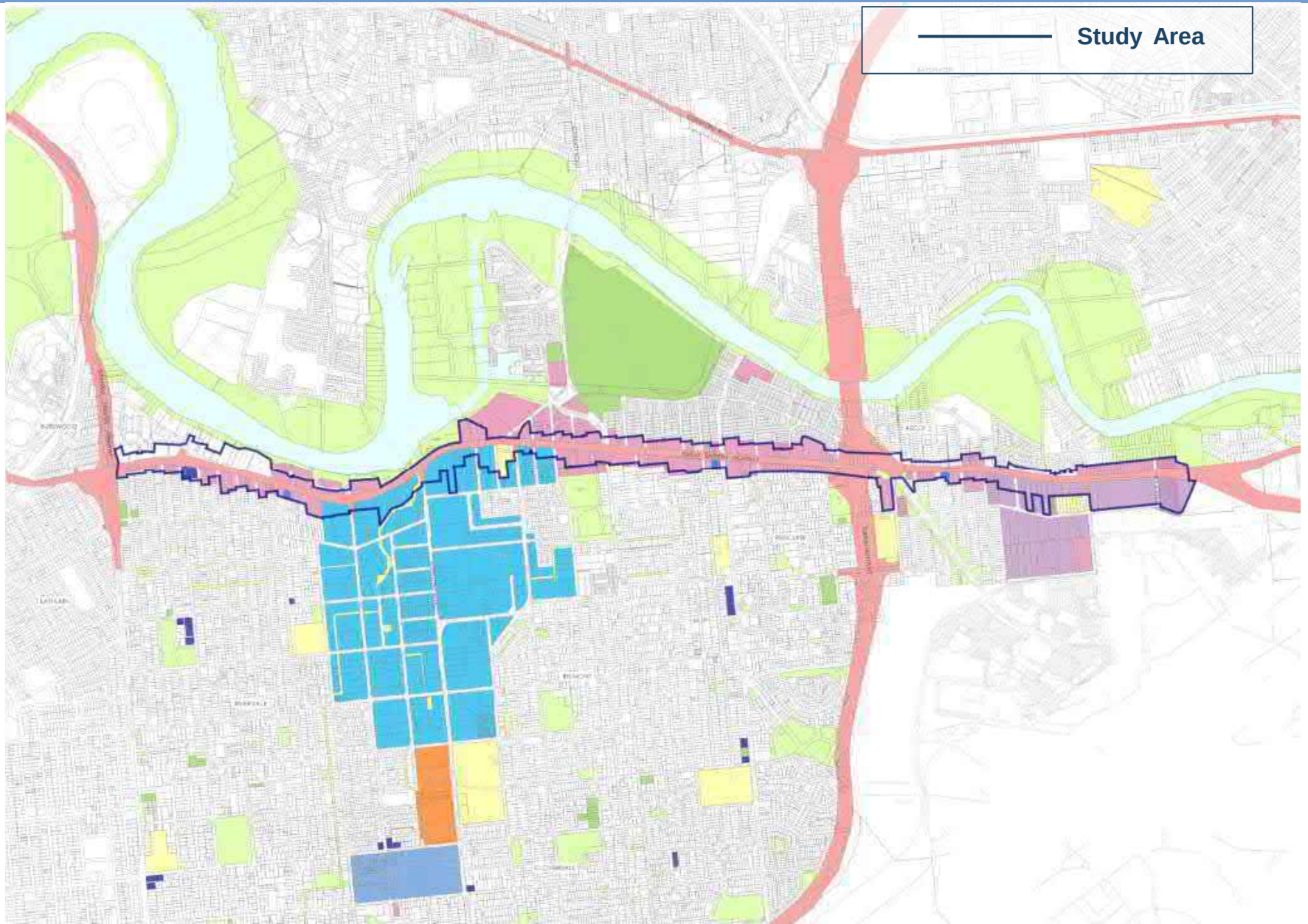
Study Area



Taylor
Burrell
Barnett

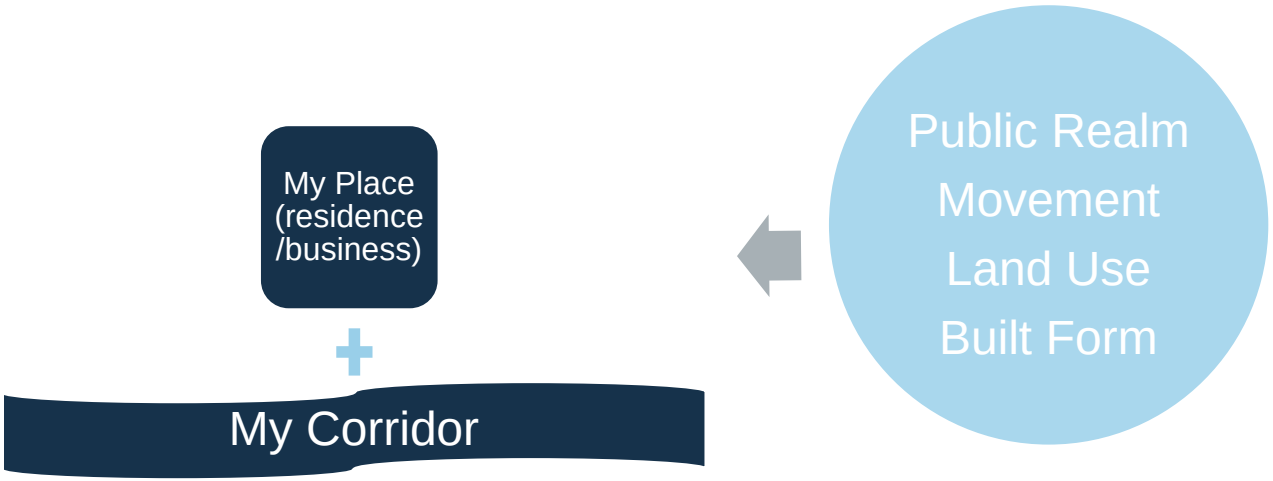
Study Area

Taylor Burrell Barnett

Workshop Purpose

- Exercise 1: Vision and Design Principles
- Exercise 2: Design Scenarios

Outcome of workshops will inform a draft Strategy, which will be presented to the community again at workshops in March 2018.



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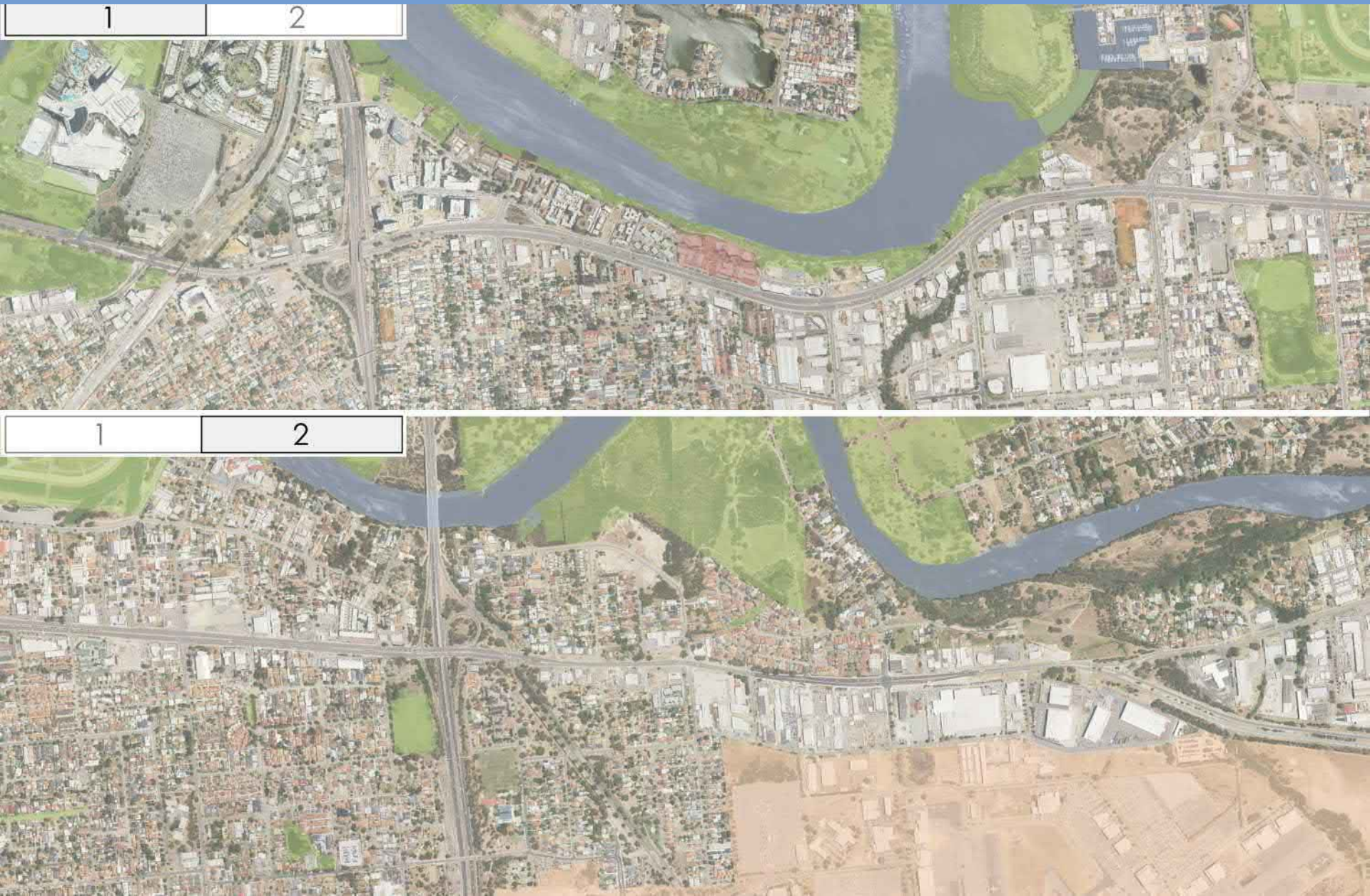
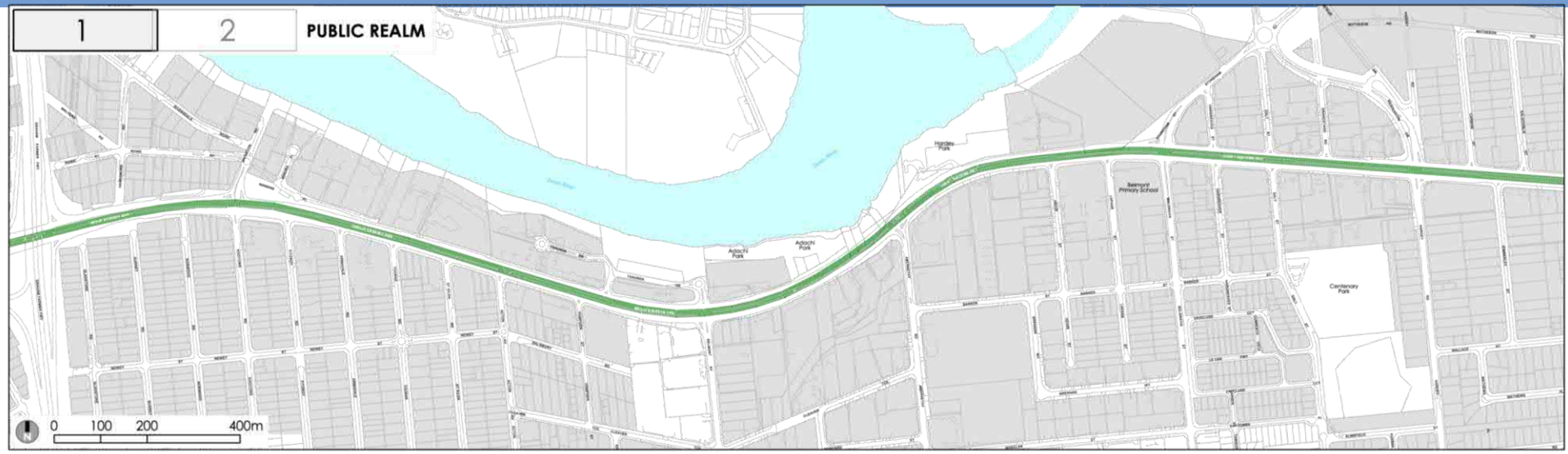
Issues and Opportunities Analysis



Public Realm



no/insufficient existing street tree planting within great eastern highway

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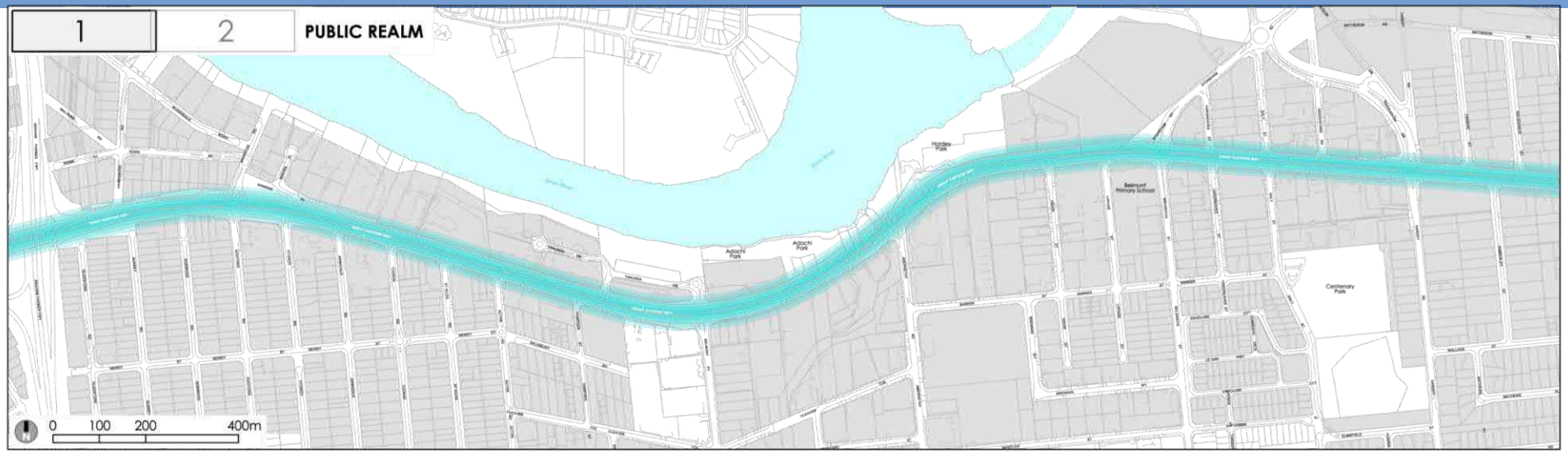
Public Realm



opportunity to influence the landscaping of great eastern highway to ensure that there are greater opportunities for mature trees, landscaping and public realm improvements

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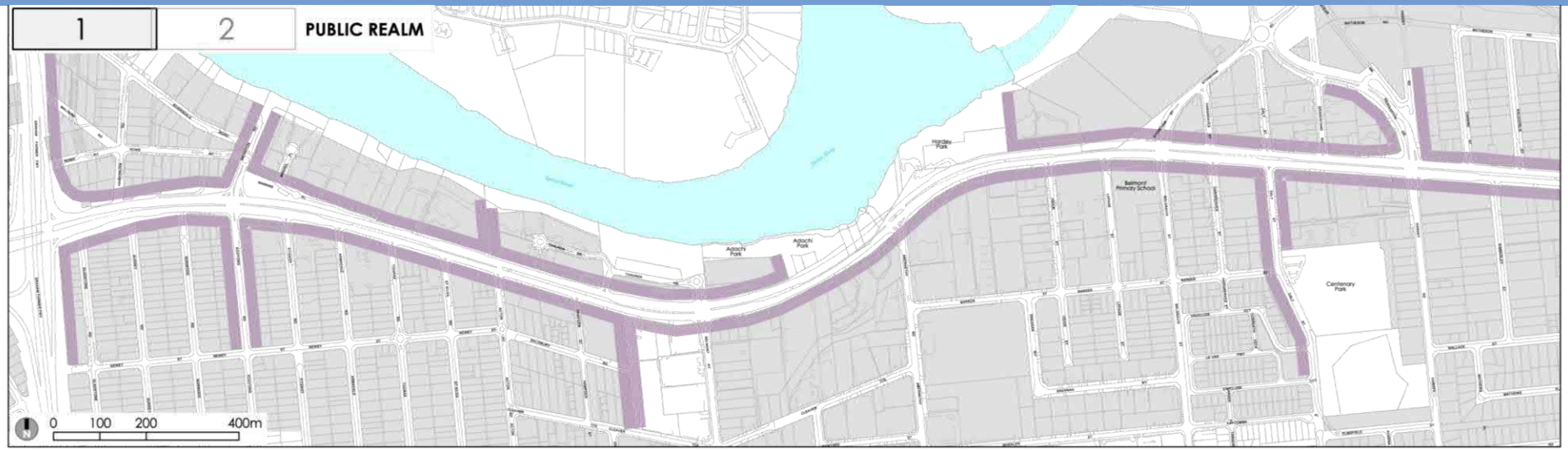
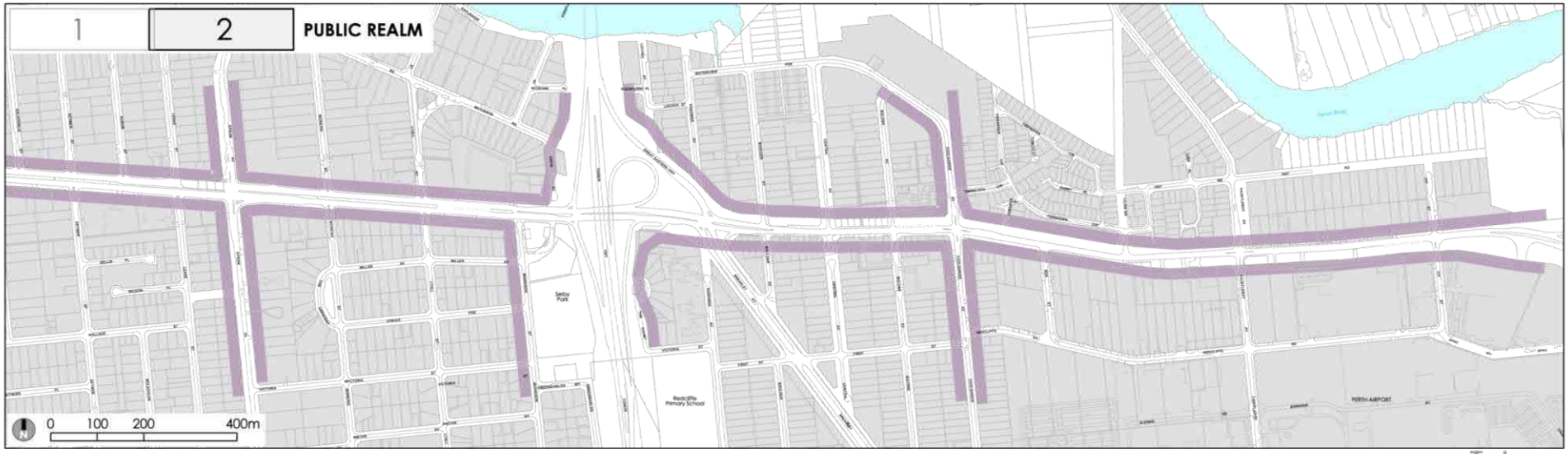
Public Realm





opportunity to emphasise the distinct qualities of neighbourhoods on each side of the corridor

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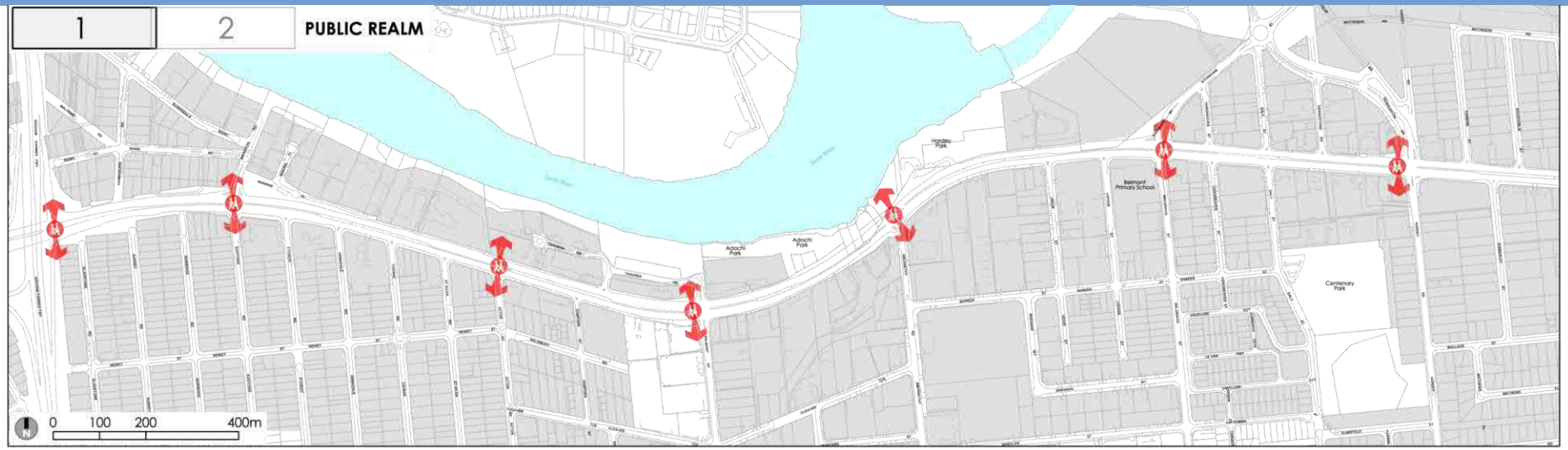
Public Realm

consider opportunities to enhance connections between the Corridor and key attractions such as Ascot Racecourse, the Swan River and Garvey Park

Taylor Burrell Barnett

Public Realm



opportunity to improve key pedestrian crossings

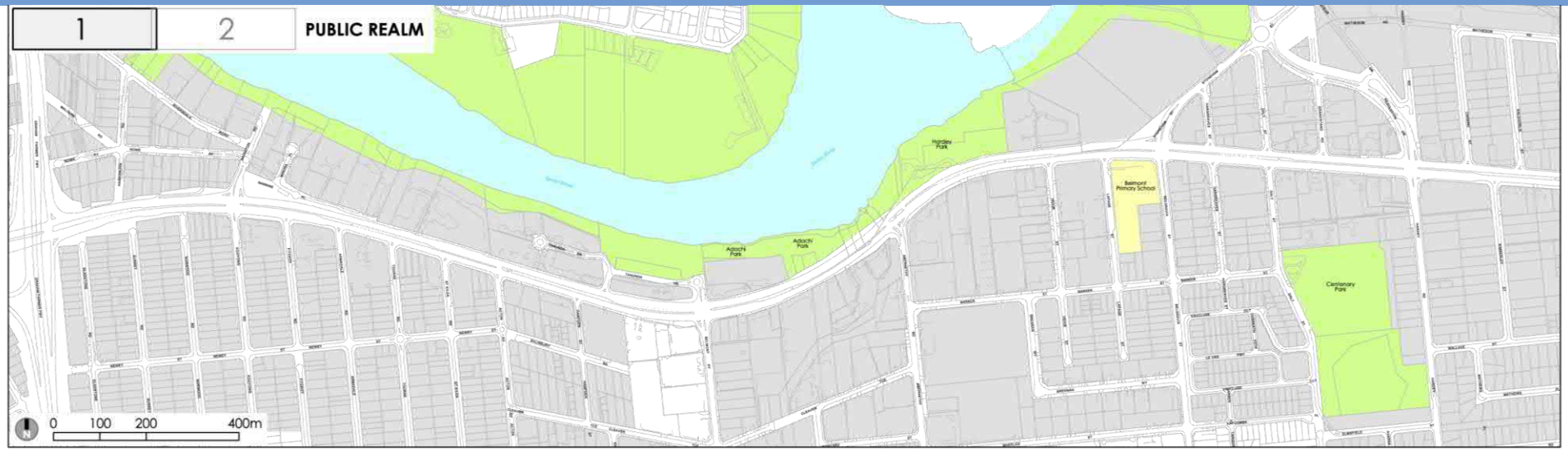
Taylor Burrell Barnett

Public Realm

opportunity to improve open space and foreshore reserves adjacent the corridor

Taylor Burrell Barnett

Public Realm



opportunity to improve amenity and connections to existing parks and recreation areas and schools

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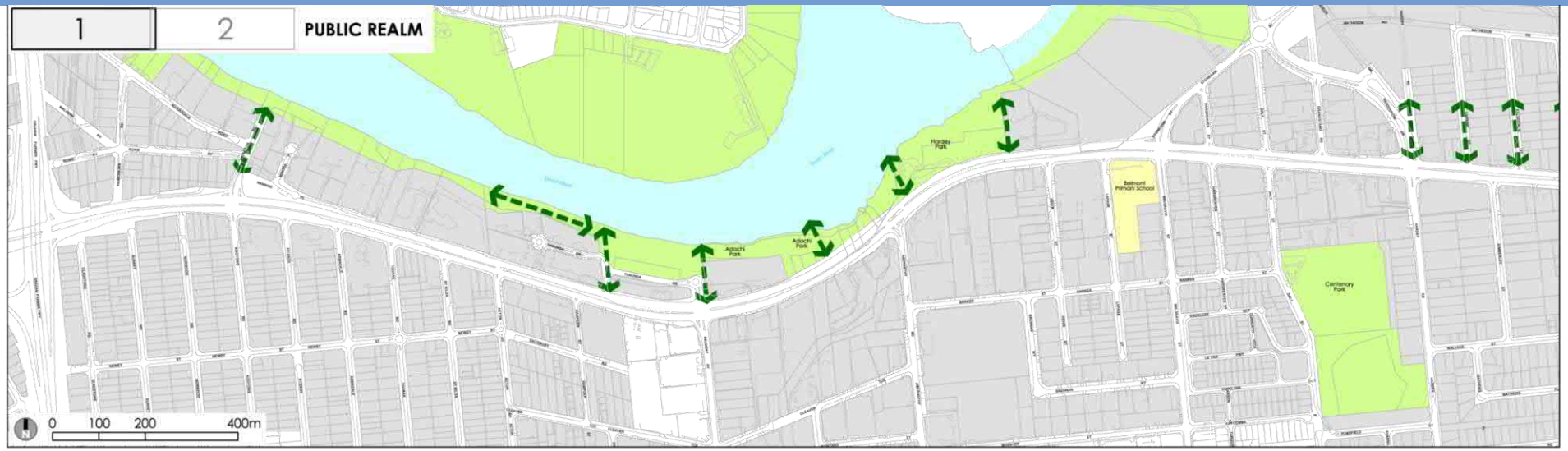
Public Realm



enhance popular pedestrian/cyclist linkages to the Swan River

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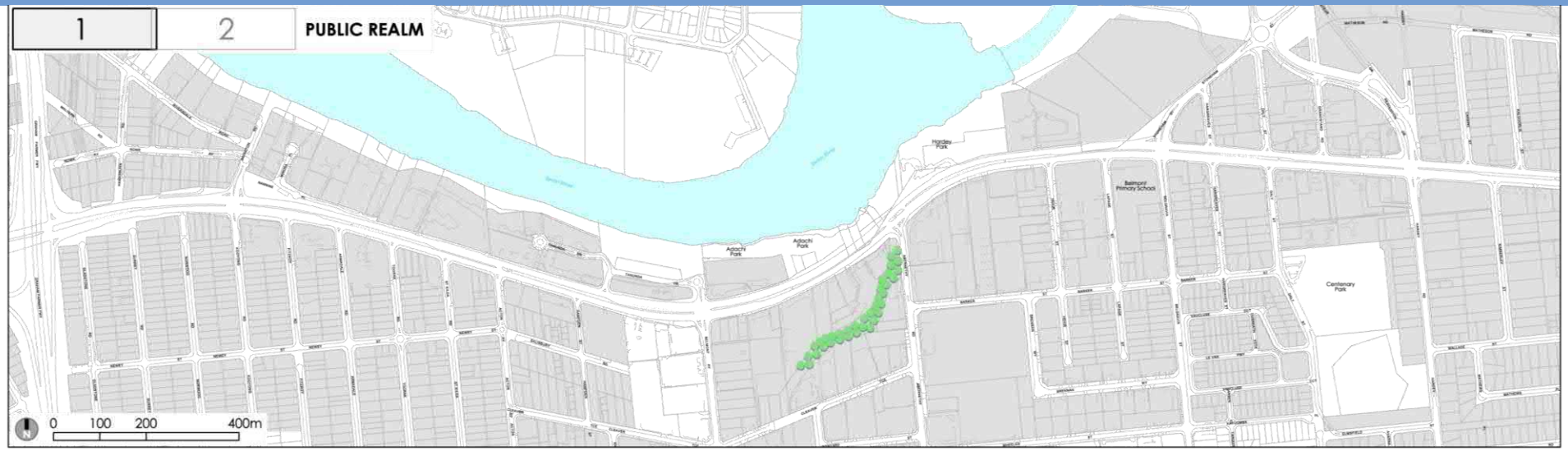
Public Realm



opportunity to enhance and upgrade
the existing stream and severin walk

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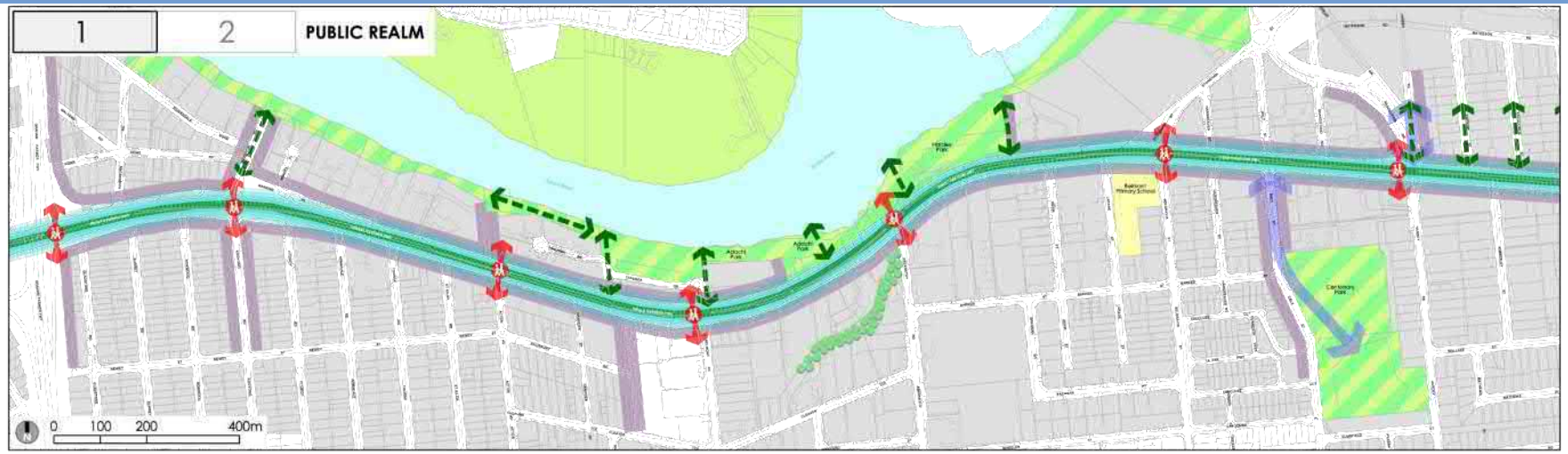
Barnett

Public Realm



no/insufficient existing street tree planting within great eastern highway

opportunity to influence the landscaping of great eastern highway to ensure that there are greater opportunities for mature trees, landscaping and public realm improvements

opportunity to emphasise the distinct qualities of neighbourhoods on each side of the corridor

consider opportunities to enhance connections between the Corridor and key attractions such as Ascot Racecourse, the Swan River and Garvey Park

opportunity to improve key pedestrian crossings

opportunity to improve open space and foreshore reserves adjacent the corridor

opportunity to improve amenity and connections to existing parks and recreation areas and schools

enhance popular pedestrian/cyclist linkages to the Swan River

opportunity to enhance and upgrade the existing stream and severin walk

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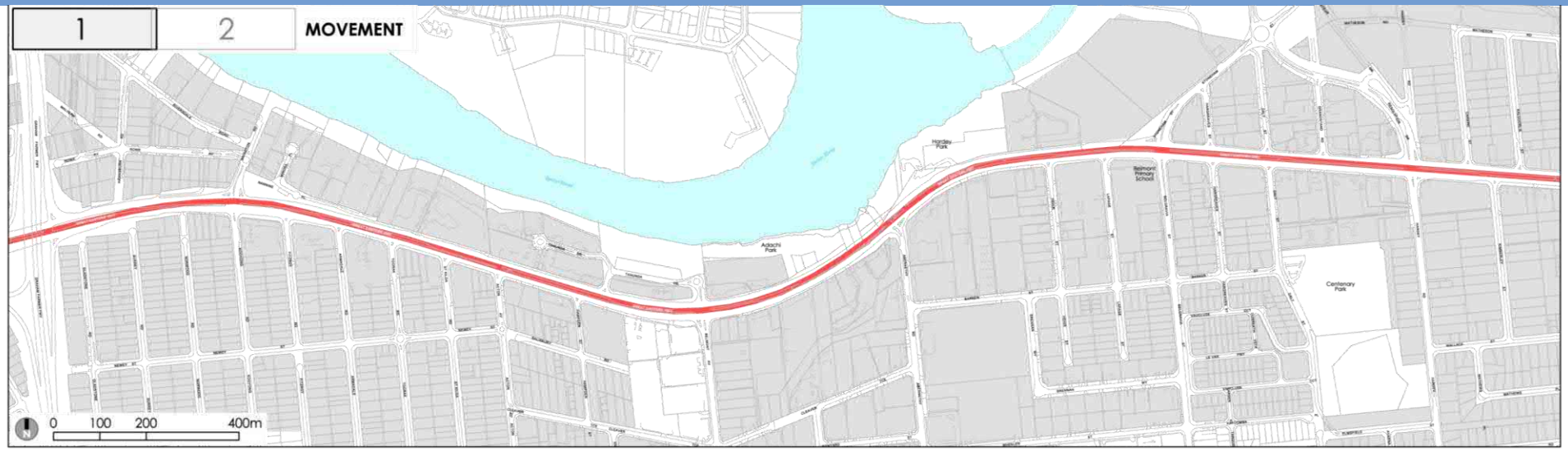
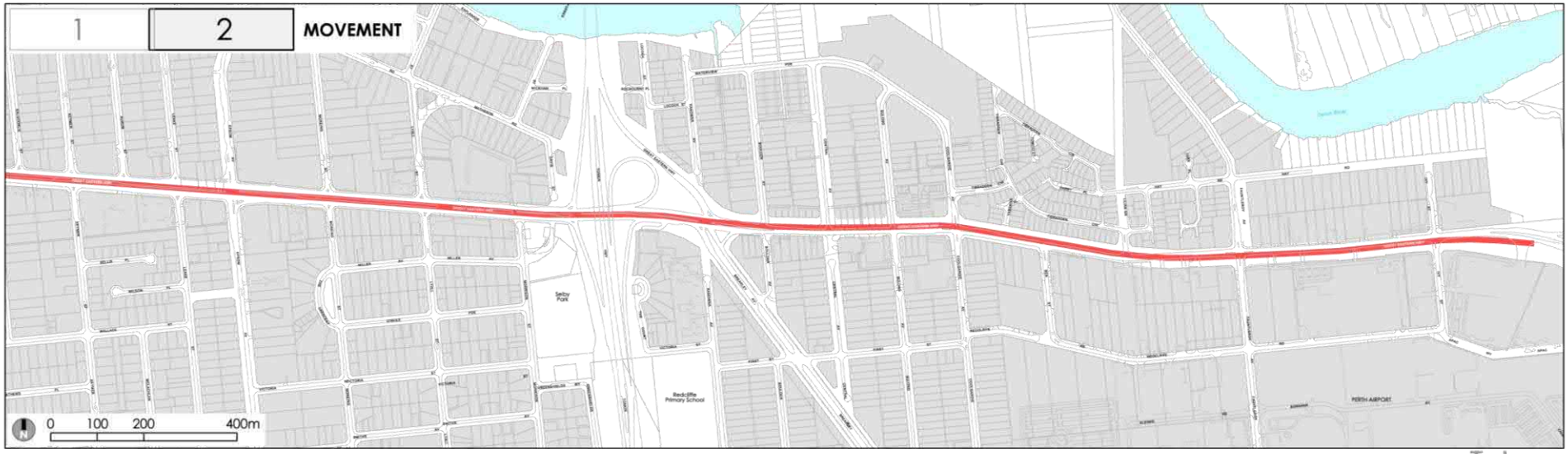
Movement





acknowledge the highway as a major artery for through traffic

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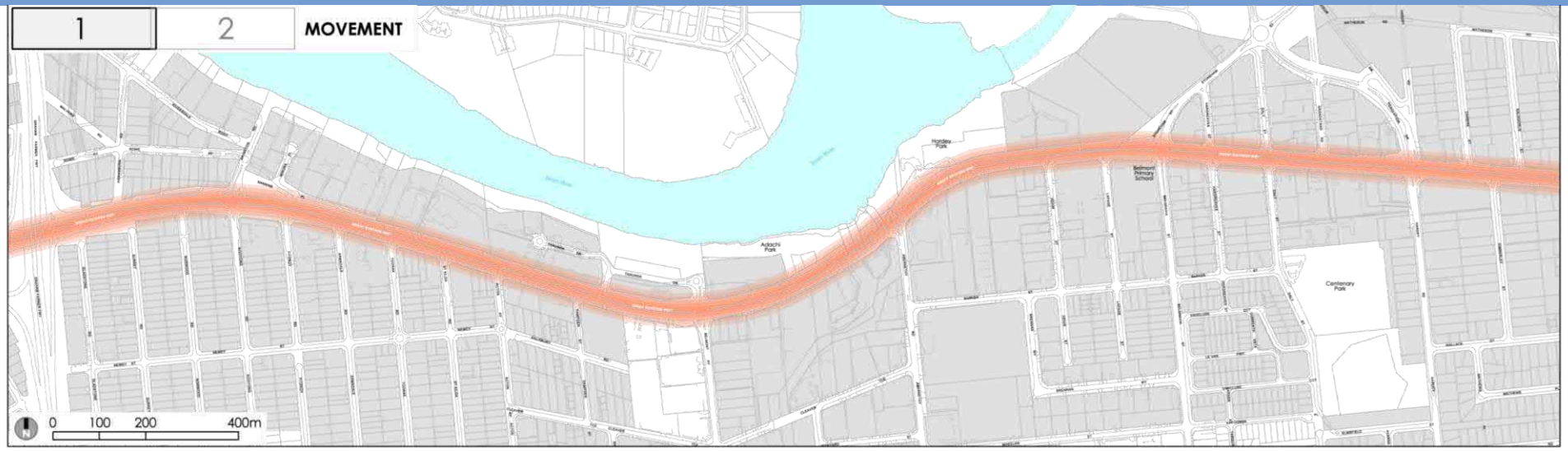
Movement



mostly inhospitable environment for pedestrians and cyclists - lack of: shade; safe paths; active land use edges; interesting built form and landscape

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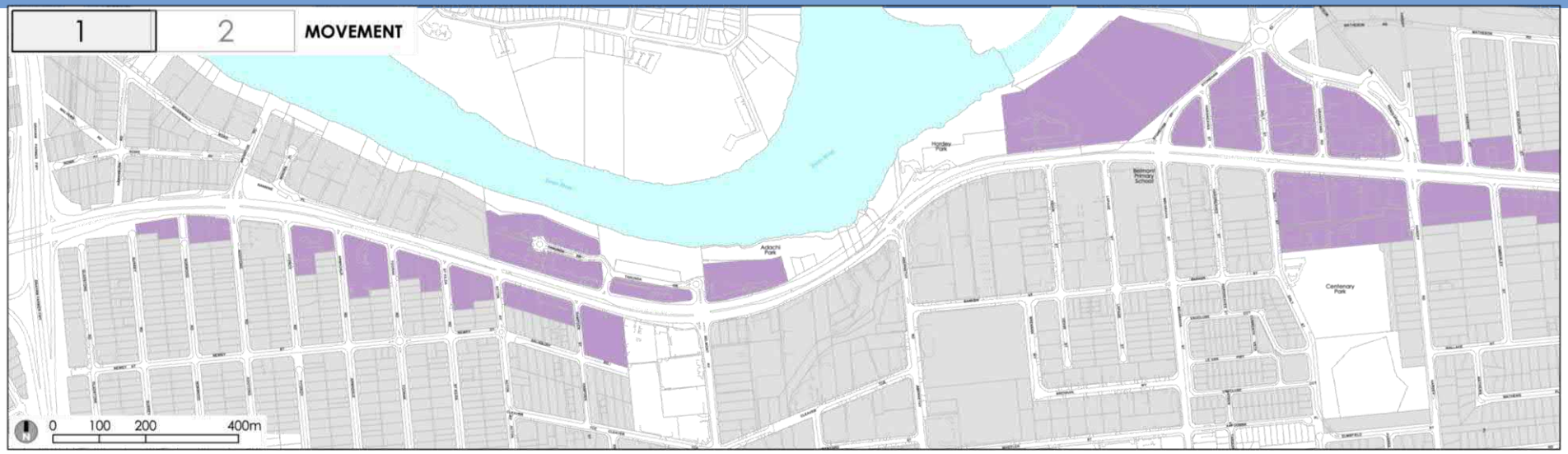
Movement



promote parking for mixed use, mixed business and residential development (along Great Eastern Highway) to be at the rear of development

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Movement

promote access to mixed use, mixed business and residential development (along Great Eastern Highway) to be via secondary streets or laneways

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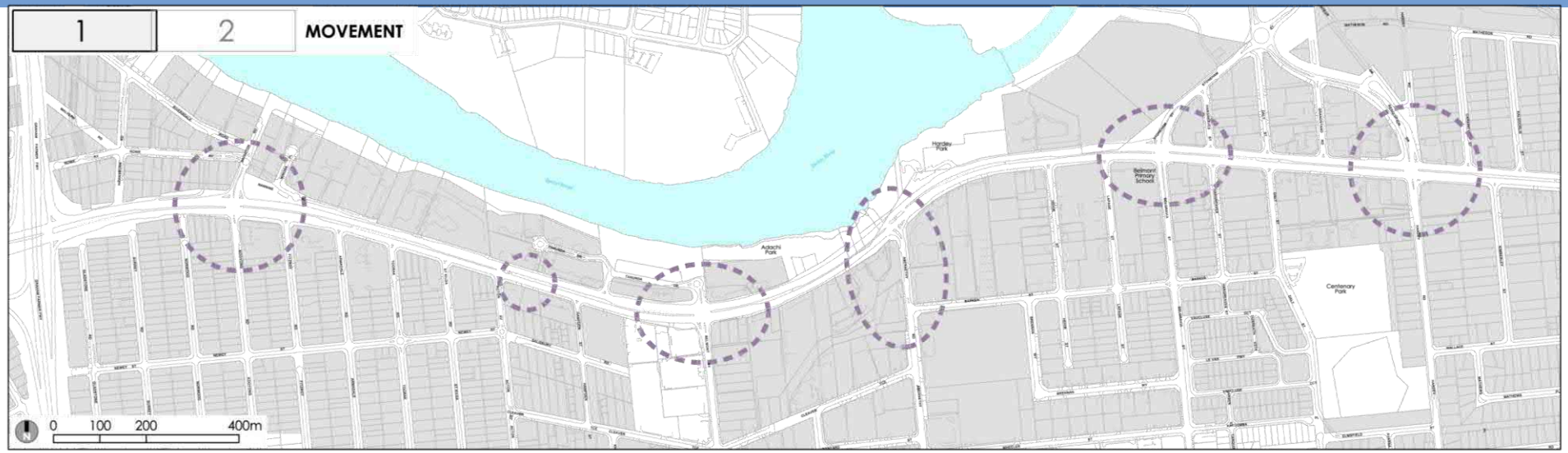
Movement



consider opportunities to capture local trade and economic interaction

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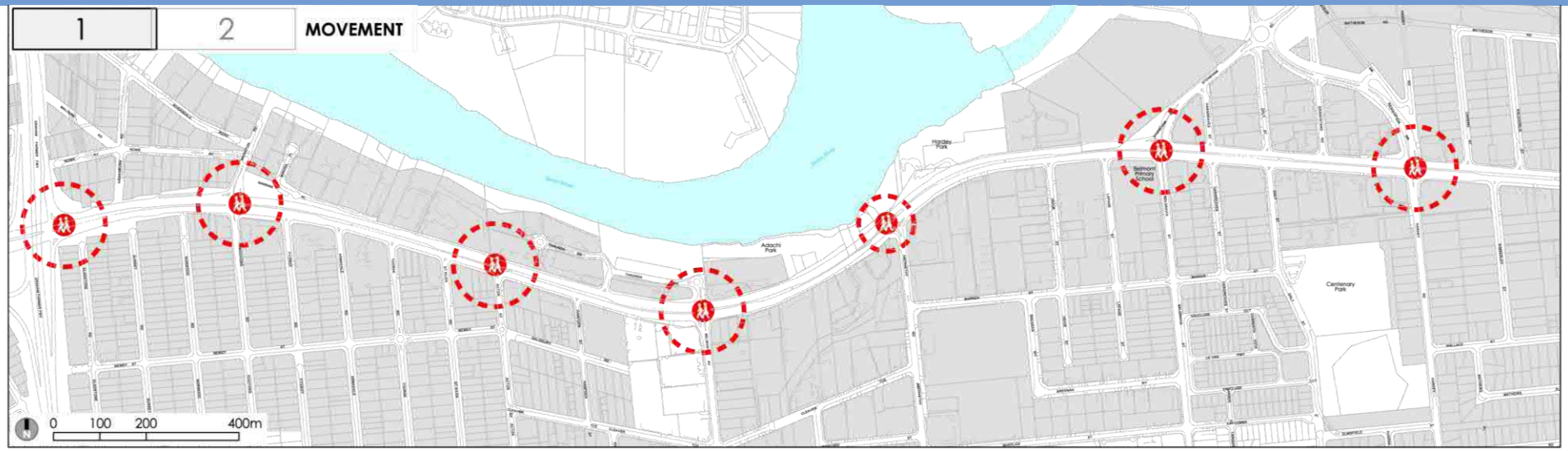
Movement



opportunities to improve pedestrian connectivity at key intersections/attractors

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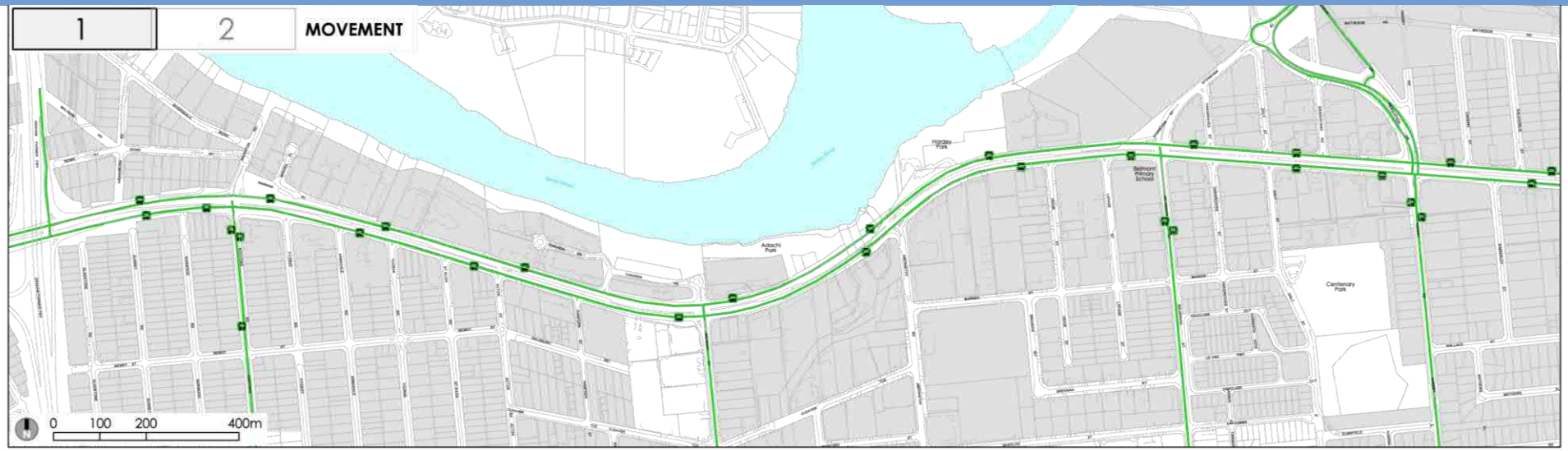
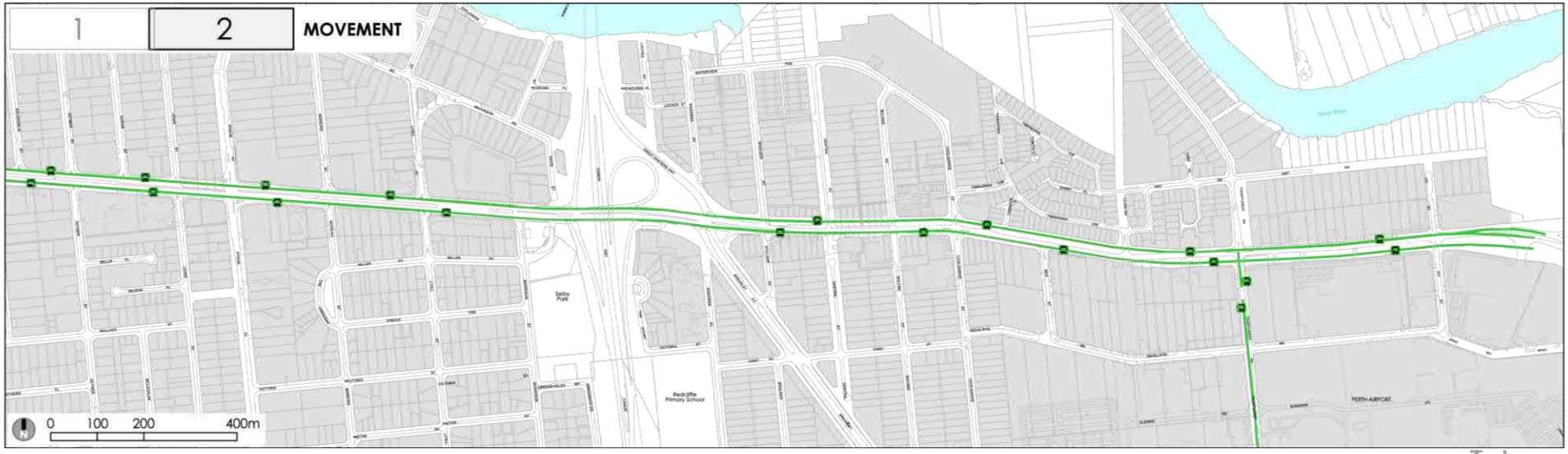
Movement





strong public transport availability along Great Eastern Highway corridor

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Movement

underpass - tourist cycle route

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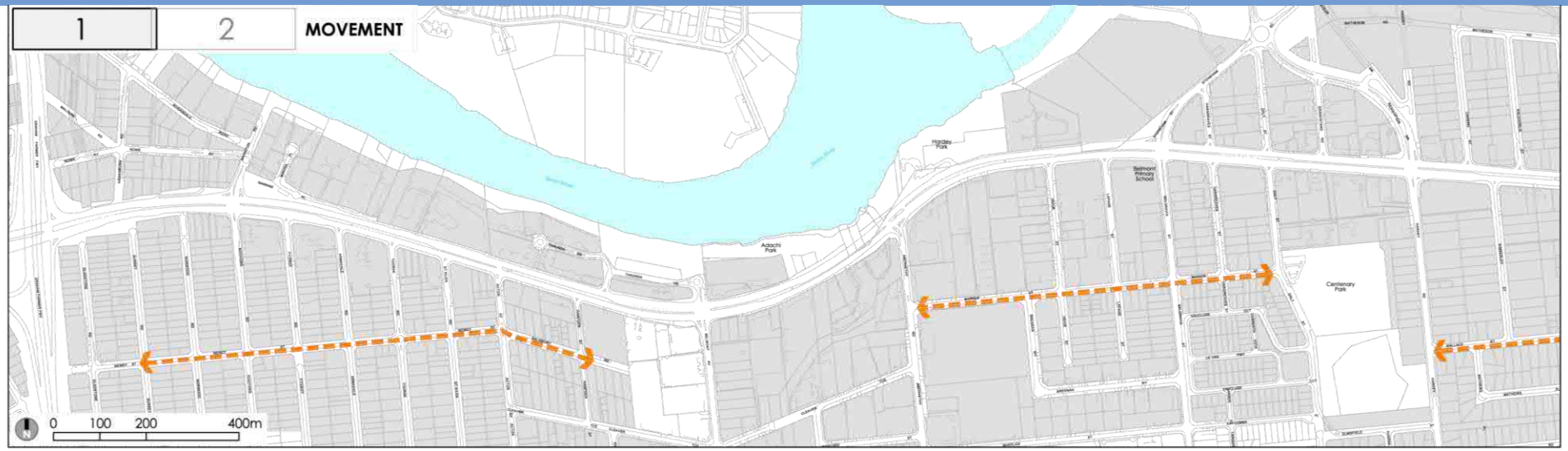
Movement



supporting east-west movement system for local traffic

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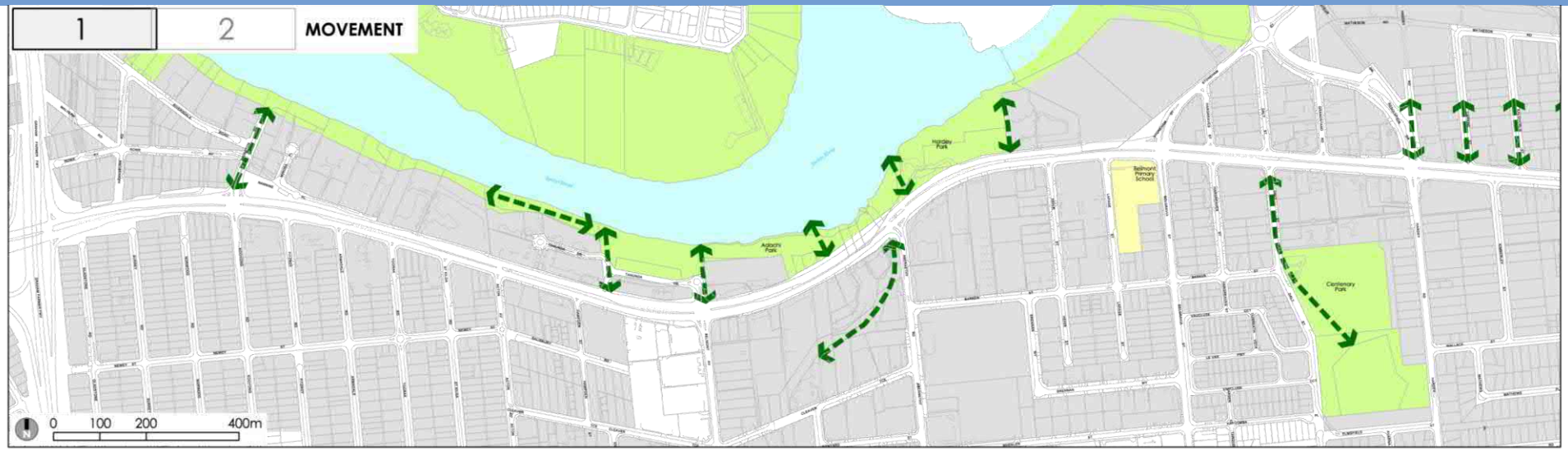
Movement



create numerous appealing, popular pedestrian / cyclist linkages to the Swan River

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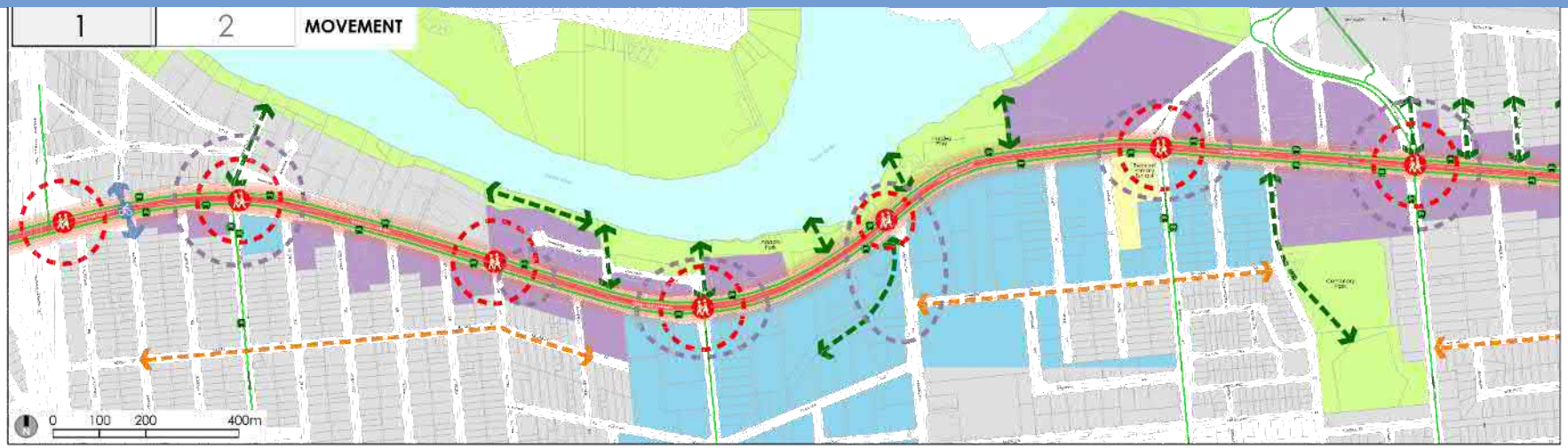
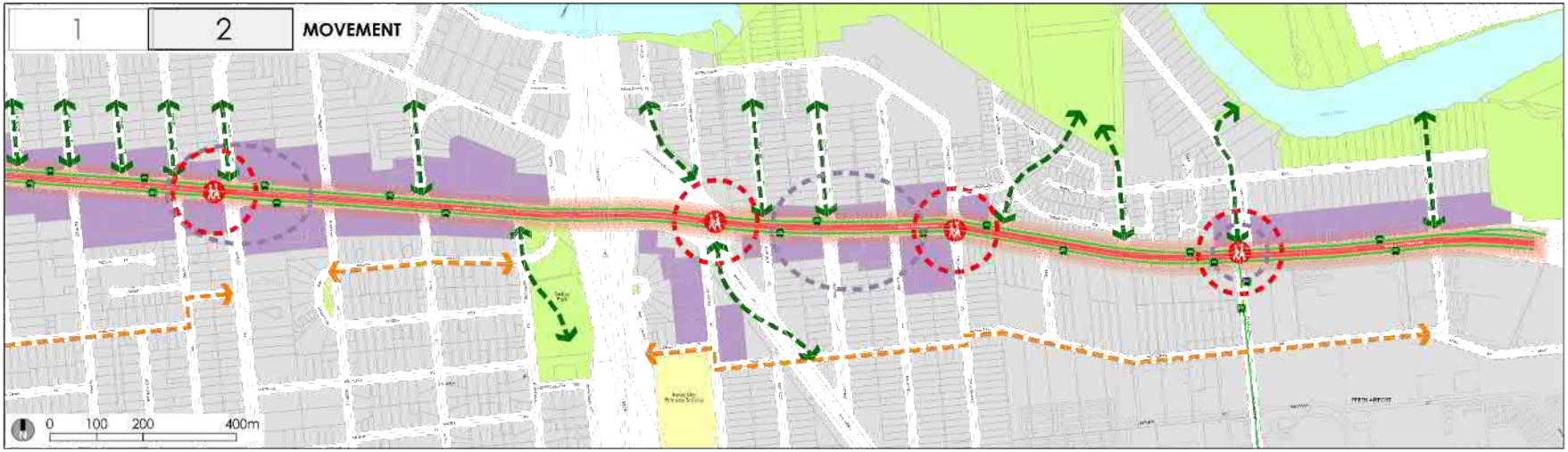
Movement





acknowledge the highway as a major artery for through traffic

mostly inhospitable environment for pedestrians and cyclists - lack of: shade; safe paths; active land use edges; interesting built form and landscape

promote parking for mixed use, mixed business and residential development (along Great Eastern Highway) to be at the rear of development

promote access to mixed use, mixed business and residential development (along Great Eastern Highway) to be via secondary streets or laneways

consider opportunities to capture local trade and economic interaction

opportunities to improve pedestrian connectivity at key intersections/attractors

strong public transport availability along Great Eastern Highway corridor

underpass - tourist cycle route

supporting east-west movement system for local traffic

opportunity to improve pedestrian connections of existing parks and recreation areas and schools

create numerous appealing, popular pedestrian / cyclist linkages to the Swan River

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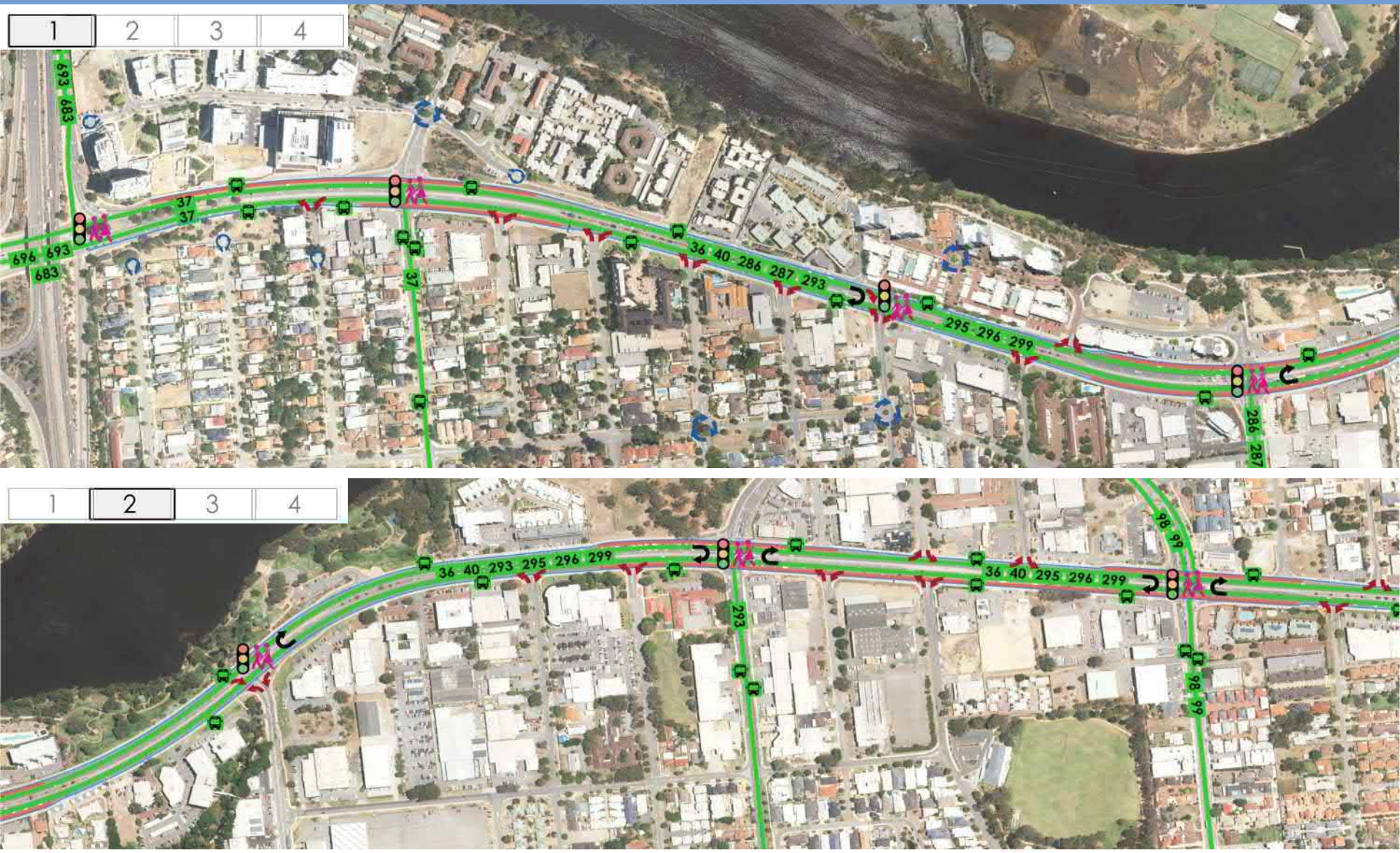
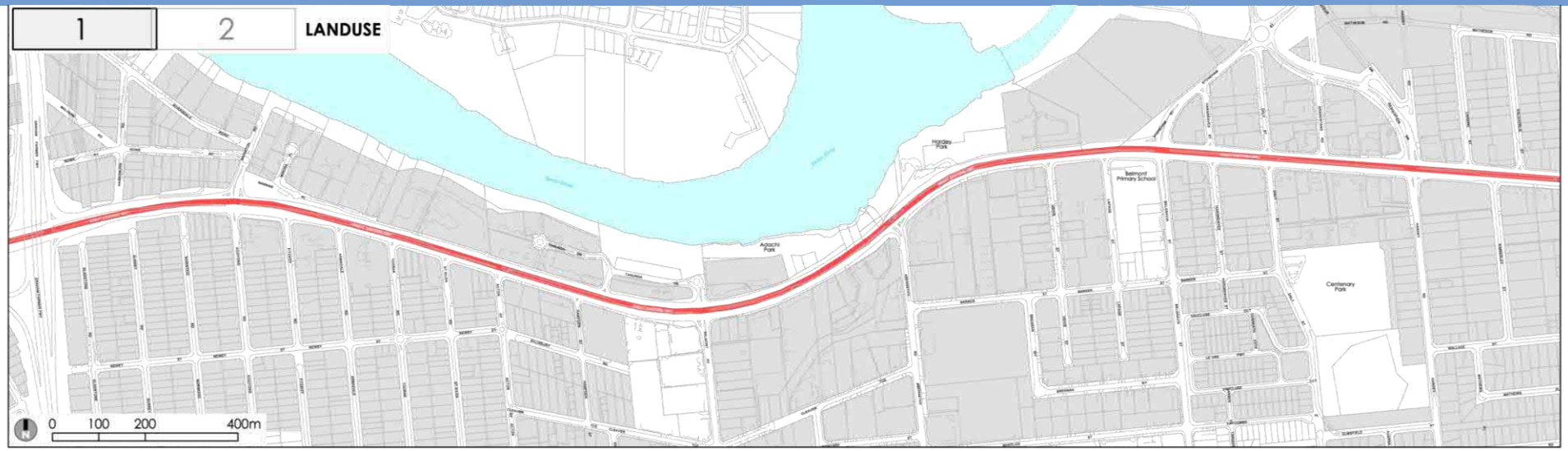
Traffic Intersections



Traffic Intersections

Land Use



acknowledge the highway as a major artery that acts a strategic trade route and gateway linking perth airport through to the city centre

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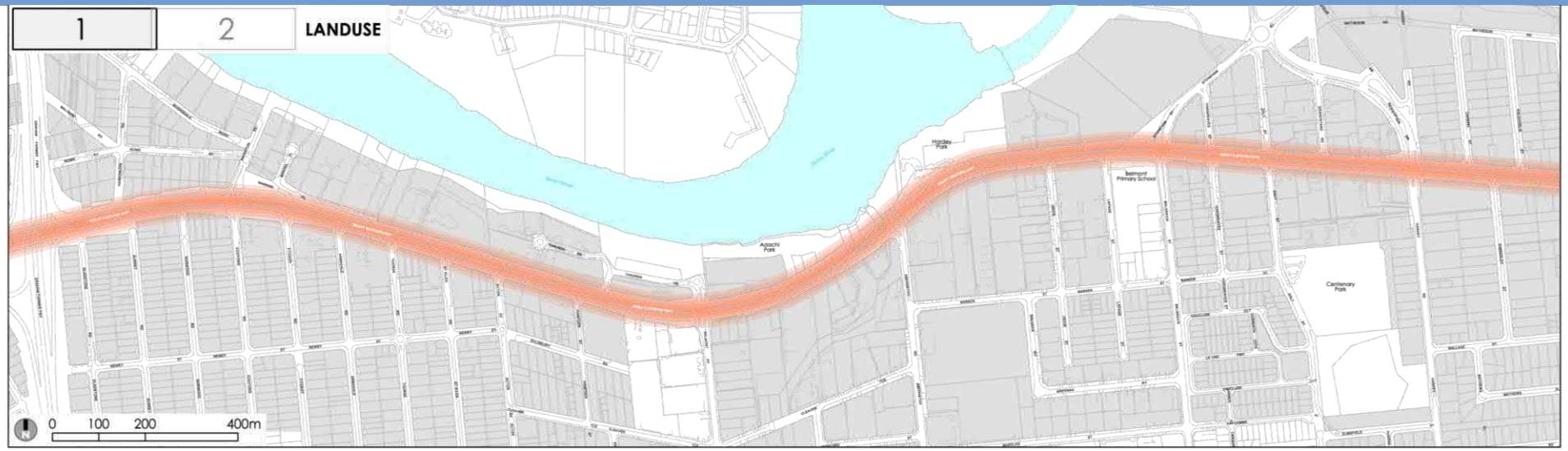
Land Use



consider opportunities to reduce the physical impact of the highway and the barrier it creates.

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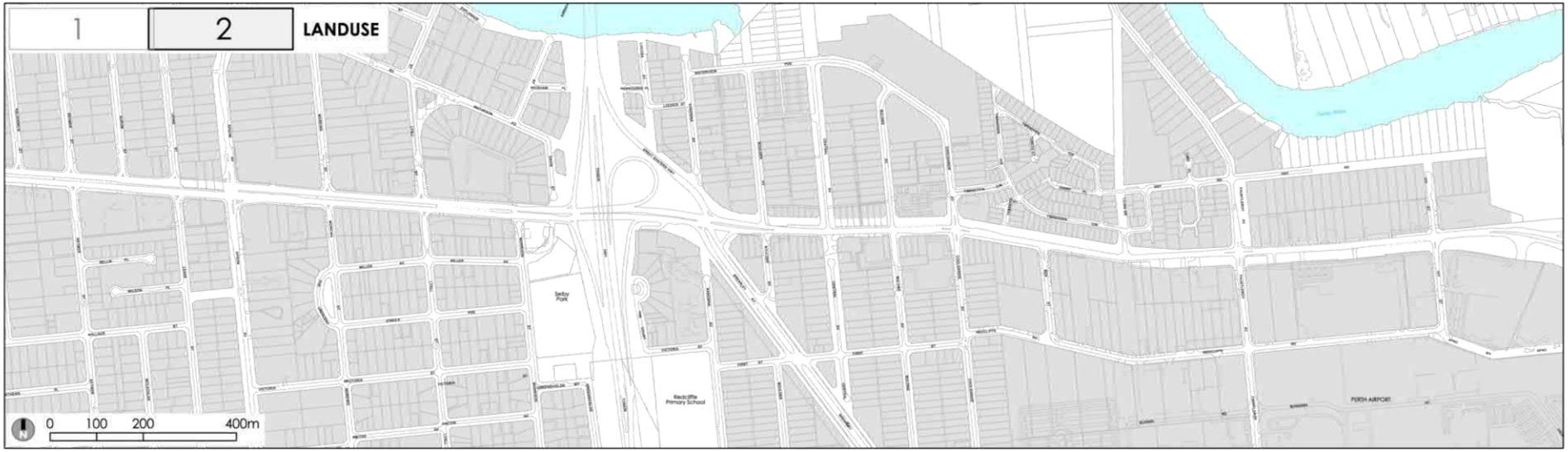
Land Use



promote mixed uses within existing mixed business zoned areas

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Land Use

promote local mixed use nodes supporting an intensity of land uses

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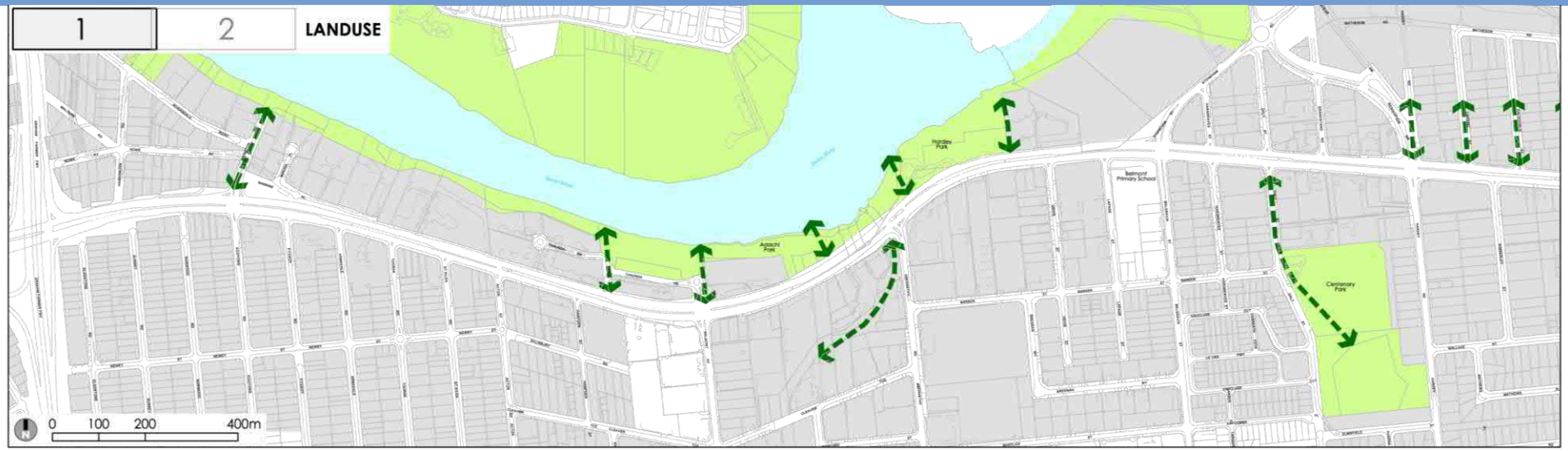
Land Use



foster land use intensity and redevelopment that can take advantage of proximity to key pos areas and linkages

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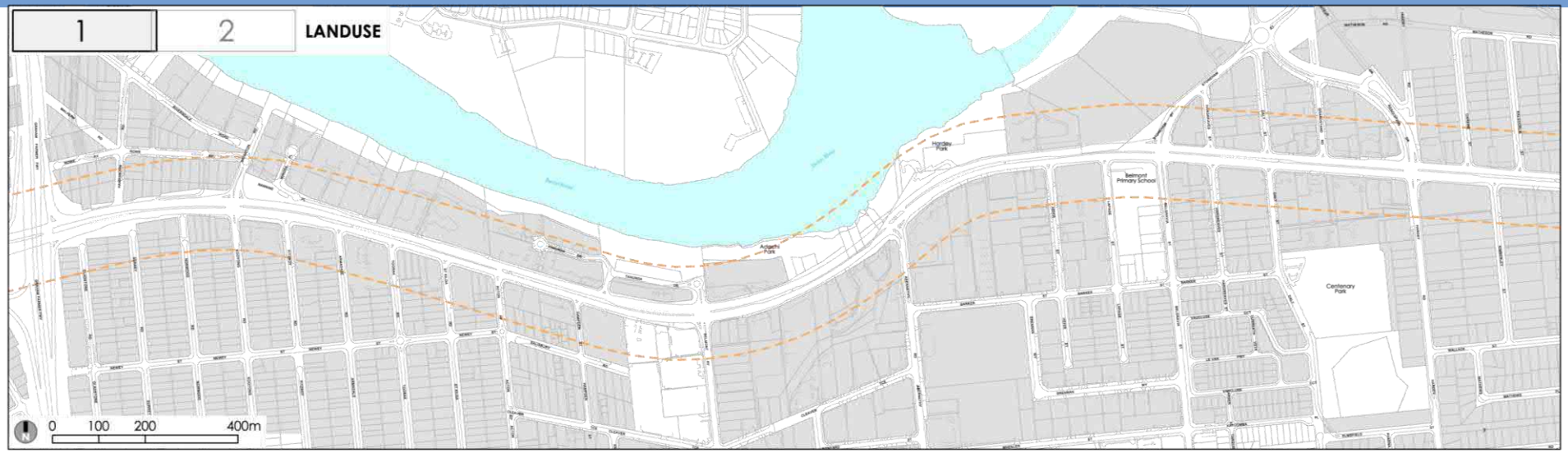
Land Use



consider suitability of different residential density along great eastern highway and within proximity of activity nodes to support activation of great eastern highway

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Land Use

PS consider merits of relocating belmont primary school to better serve the catchment and redevelop school site for high-order uses

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Land Use

acknowledge the highway as a major artery that acts a strategic trade route and gateway linking perth airport through to the city centre

consider opportunities to reduce the physical impact of the highway and the barrier it creates.

consider extent and scale for transition of land use and development intensity from activity corridors to low-density residential

promote mixed uses within existing mixed business zoned areas

promote local mixed use nodes supporting an intensity of land uses

opportunity to improve amenity and infrastructure within existing parks and recreation areas

foster land use intensity and redevelopment that can take advantage of proximity to key pos areas and linkages

consider suitability of different residential density along great eastern highway and within proximity of activity nodes to support activation of great eastern highway

I non-residential land use intensification will be influenced by considerations including land parcel size, fragmented ownership, traffic volume and access limitations

L laneways provide opportunity to consider alternate land uses, laneway interface and activation of laneways

PS consider merits of relocating belmont primary school to better serve the catchment and redevelop school site for high-order uses

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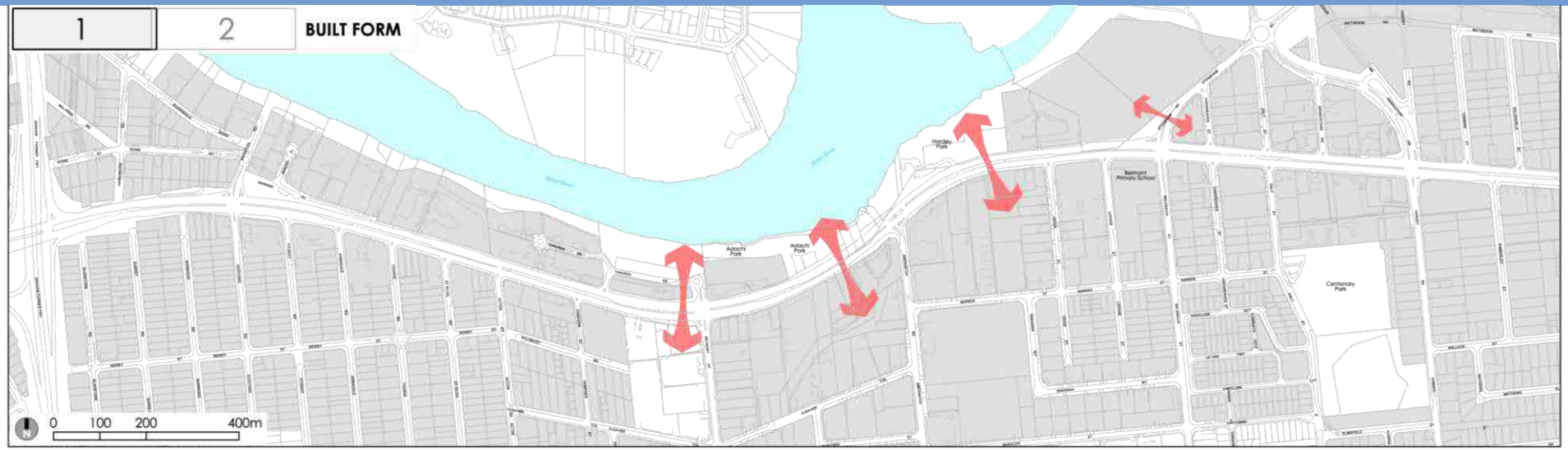
Built Form



consider suitable building heights that may take advantage of river views

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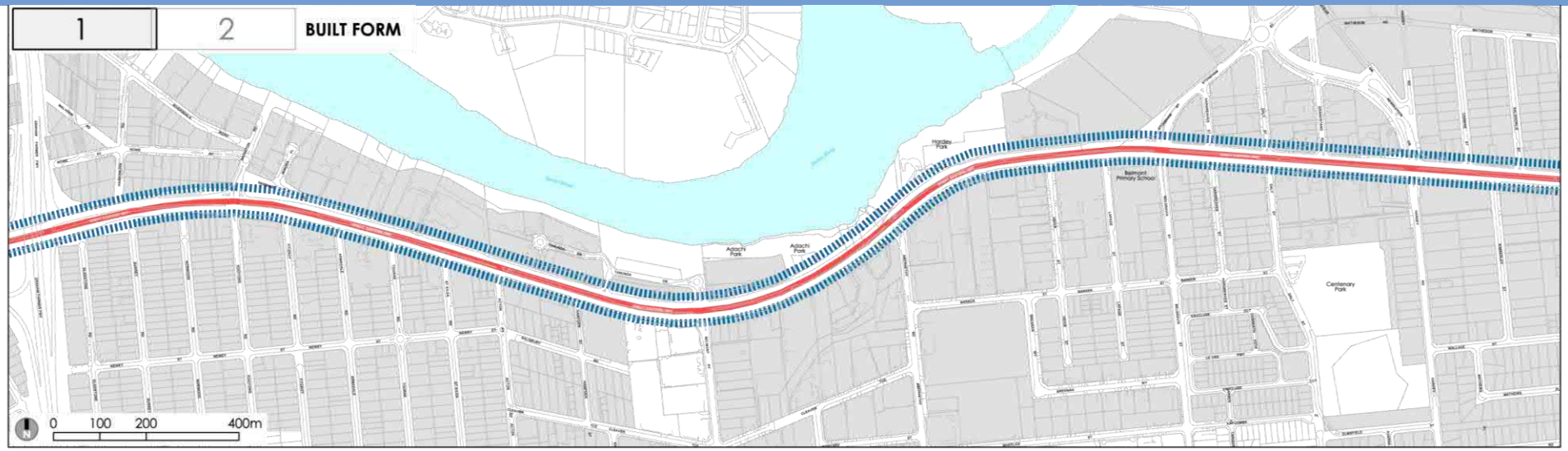
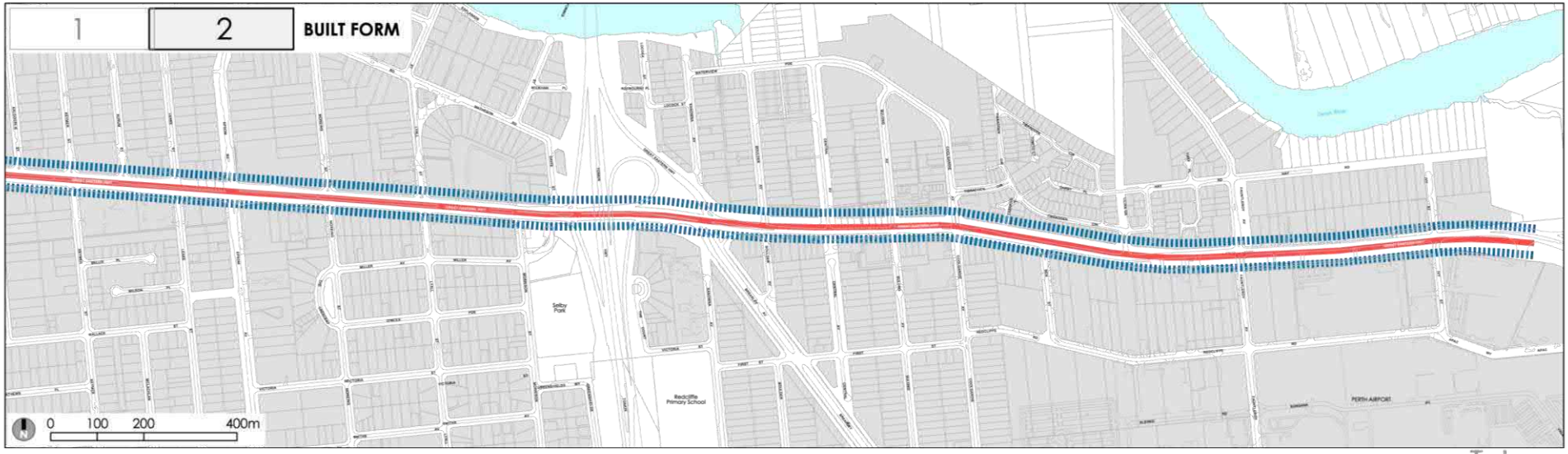
Built Form





buildings along great eastern highway need to create a positive ground-level experience, particularly for pedestrians, and ameliorate the traffic-dominated nature of the road

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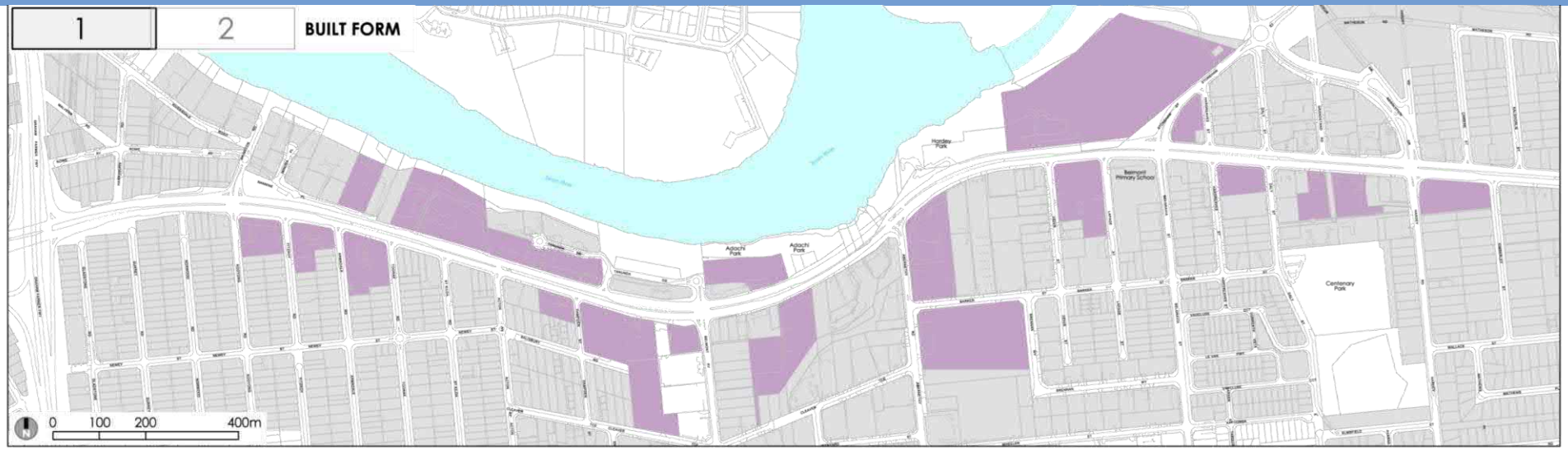
Built Form



large sites provide scope for comprehensive built form and land use outcomes

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Built Form

consider the transition of building height and scale from the key roads to lower density residential areas (needs to address matters such as dwelling diversity, residential amenity, overshadowing, streetscape and privacy)

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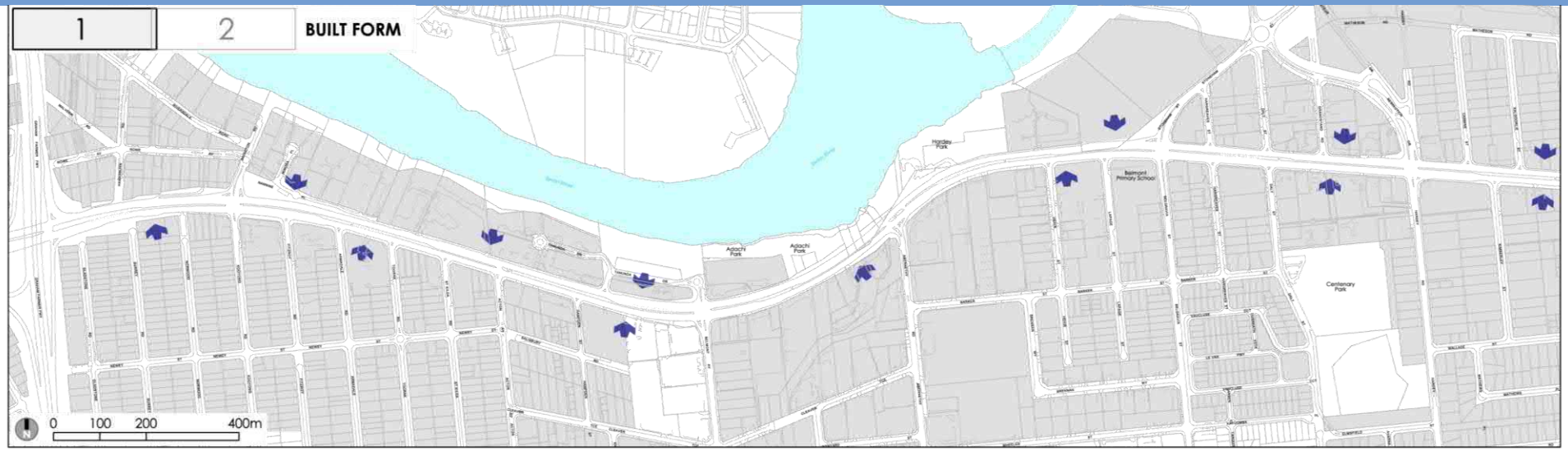
Built Form



a flexible approach to ground level land uses outside of key activity centres should be incorporated in building and site design

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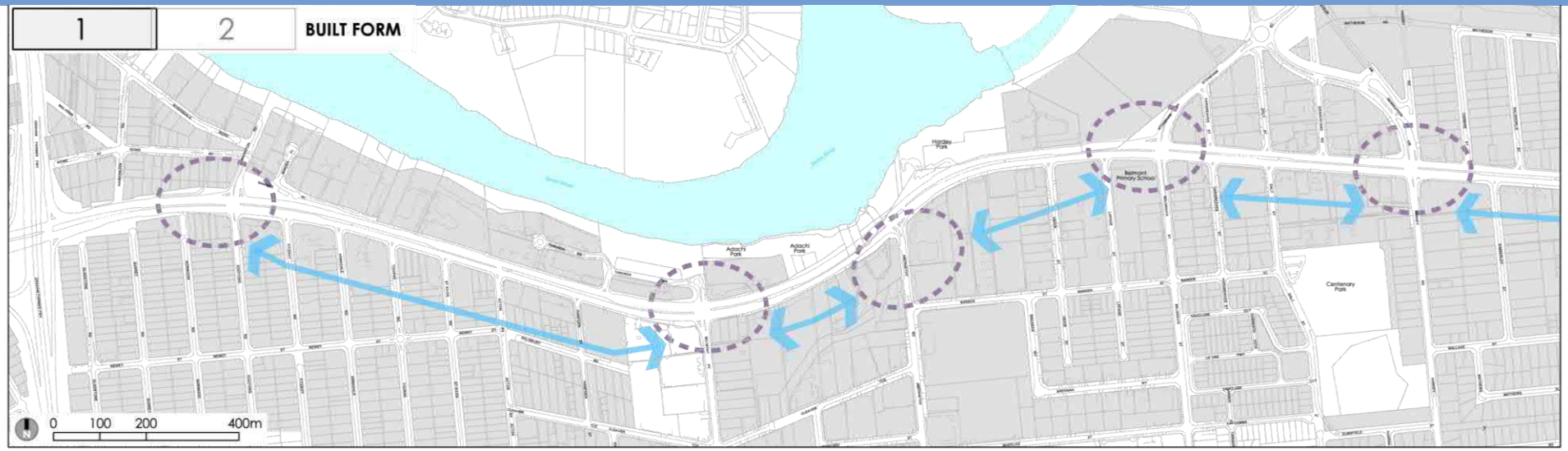
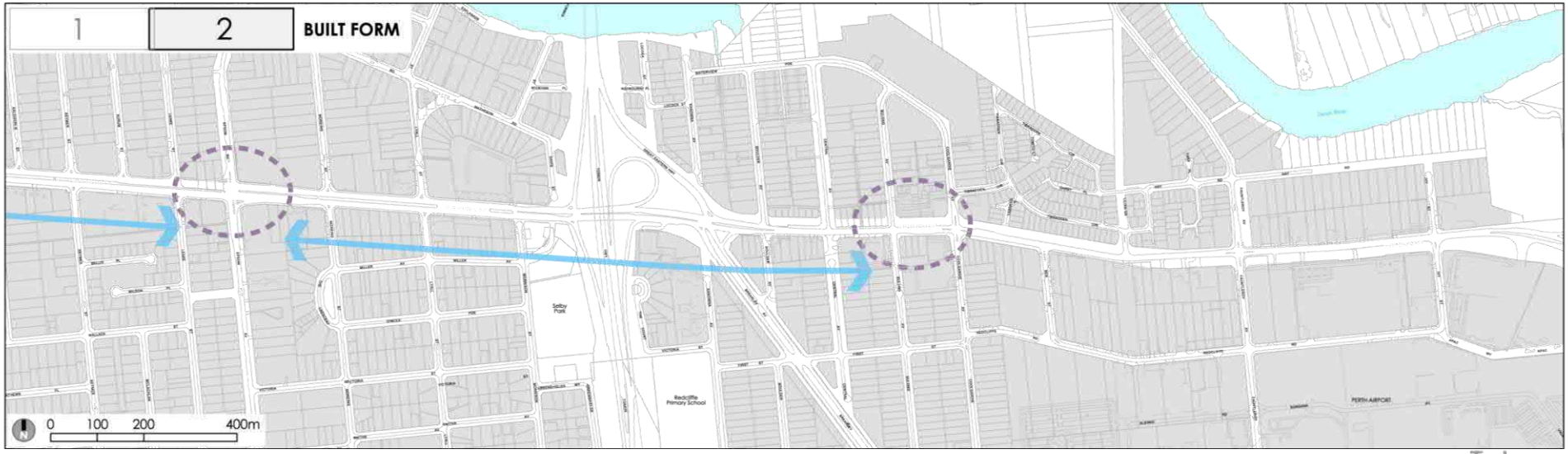
Built Form





the separation between activity centre nodes enables transition between lower and higher building heights and scale

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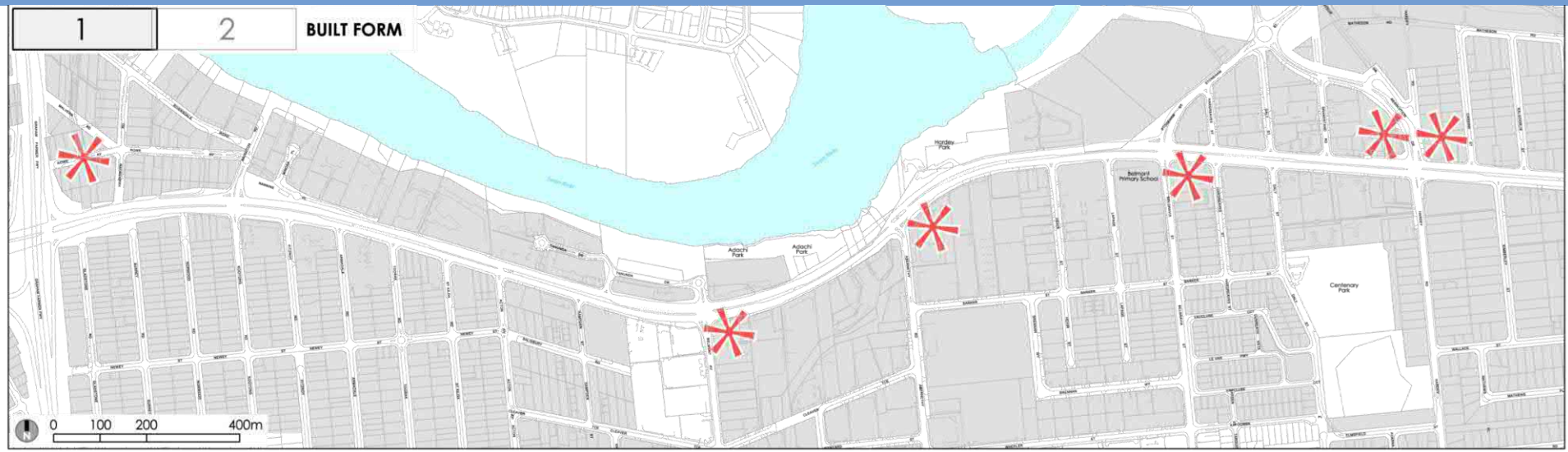
Built Form



consider sites and key 'gateway' locations that would be worth considering for development bonuses, subject to performance criteria

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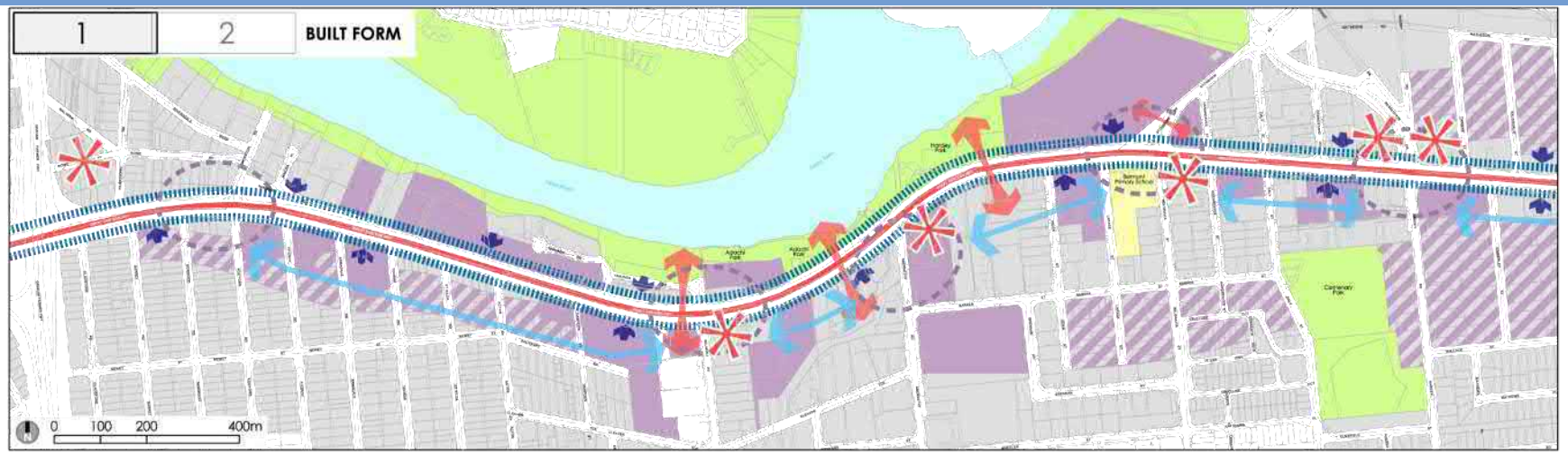
Built Form



consider suitable building heights that may take advantage of river views

buildings along great eastern highway need to create a positive ground-level experience, particularly for pedestrians, and ameliorate the traffic-dominated nature of the road

large sites provide scope for comprehensive built form and land use outcomes

consider the transition of building height and scale from the key roads to lower density residential areas (needs to address matters such as dwelling diversity, residential amenity, overshadowing, streetscape and privacy)

a flexible approach to ground level land uses outside of key activity centres should be incorporated in building and site design

the separation between activity centre nodes enables transition between lower and higher building heights and scale

consider sites and key 'gateway' locations that would be worth considering for development bonuses, subject to performance criteria

promote appropriate built form outcomes in close proximity to existing parks and recreation areas and schools

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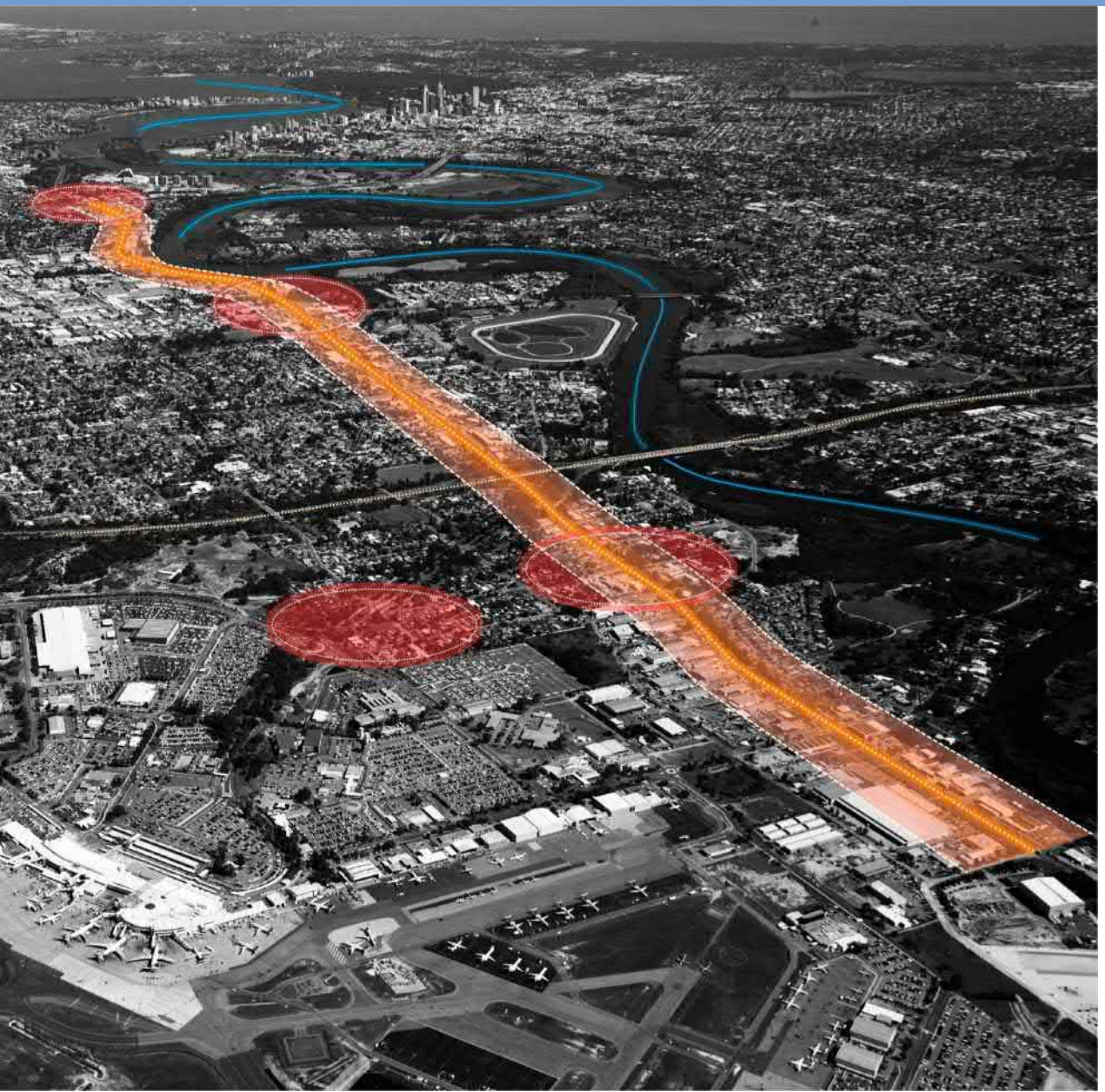
Role of Corridor

Case Study – San Francisco
(~45,000vpd, 37m)



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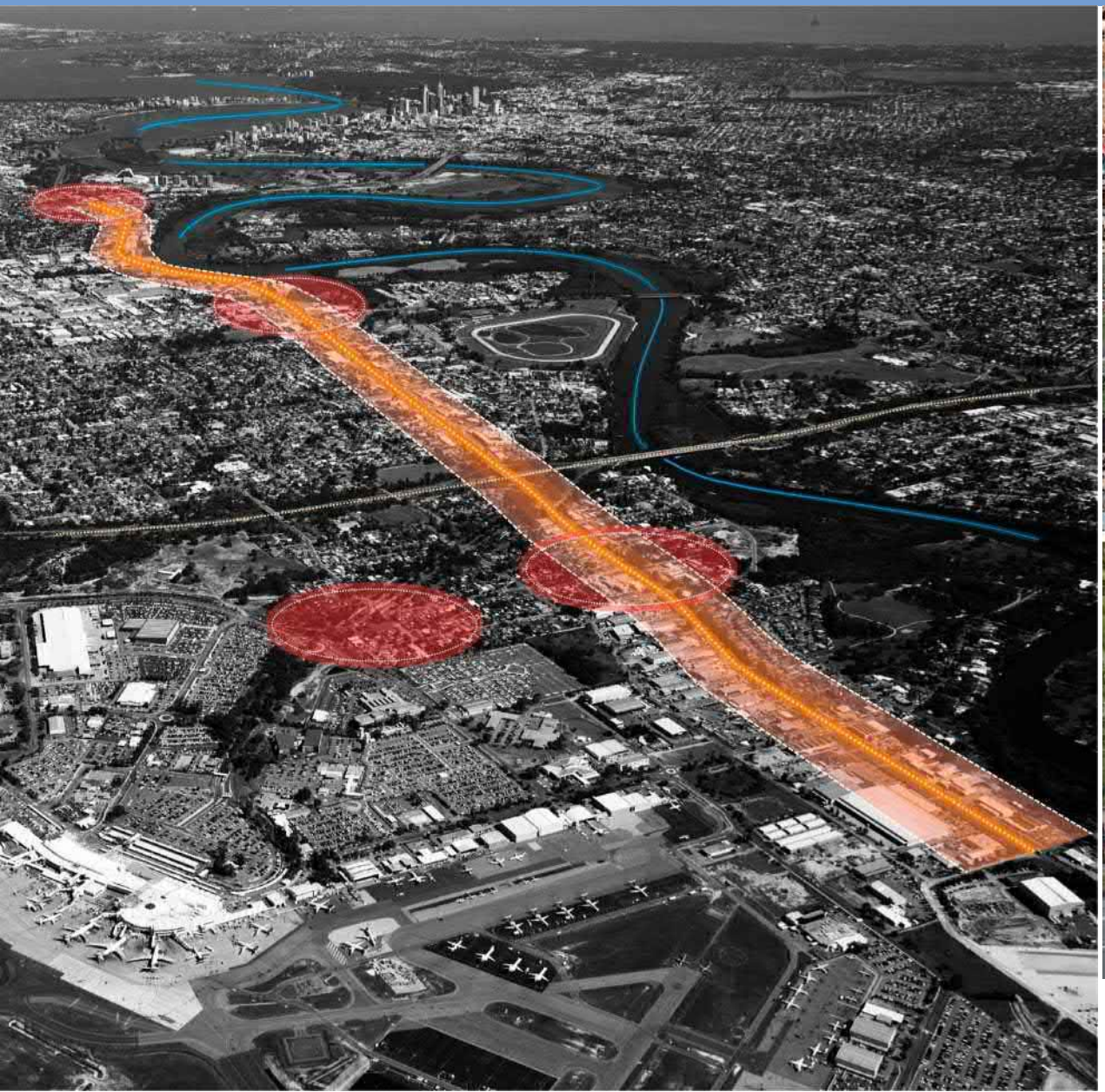
Role of Corridor

Case Study – Barcelona
(~40,000vpd, 50m)



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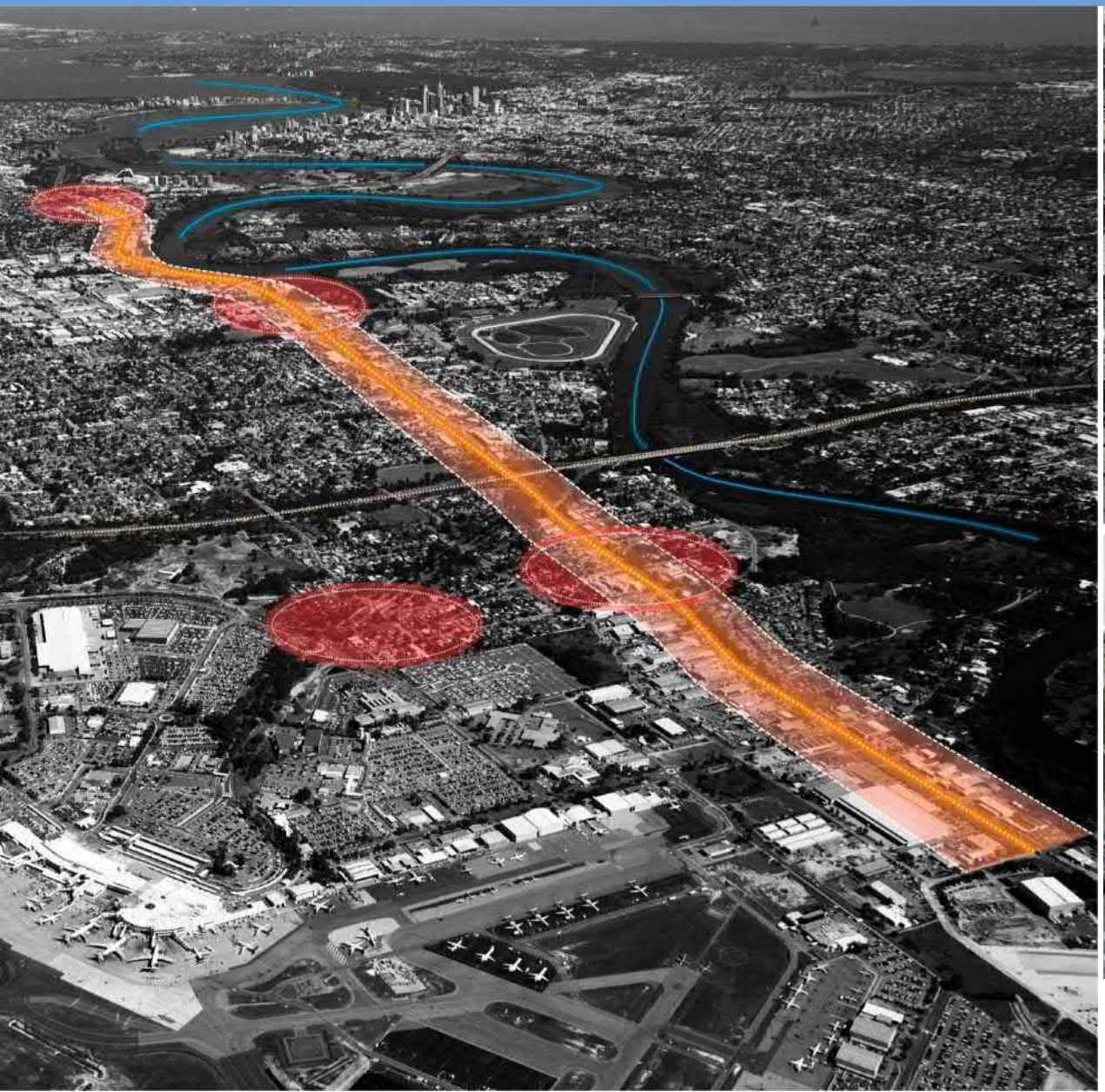
Role of Corridor

Case Study – Paris
(~69,000vpd, 60m)



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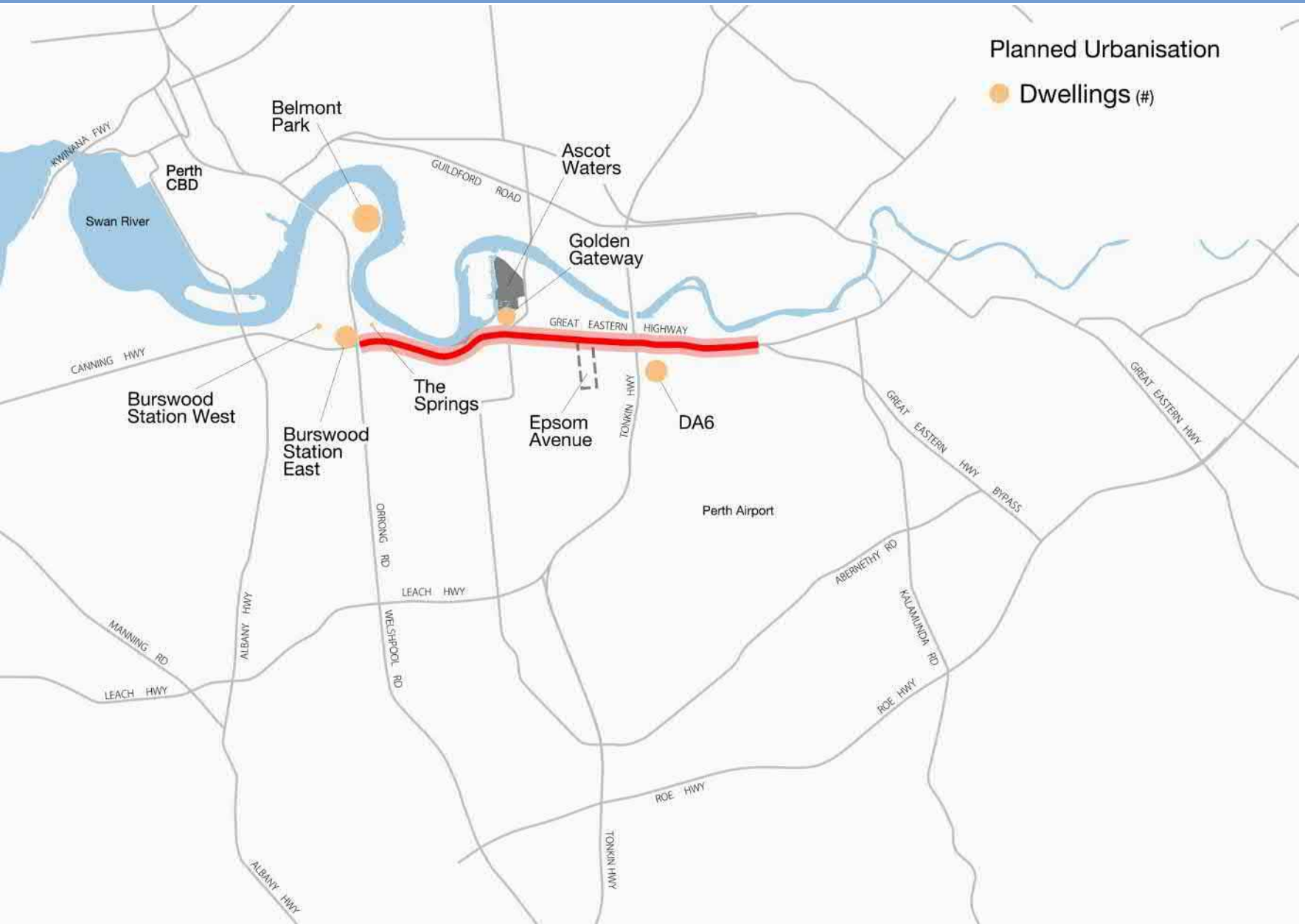
Urbanisation



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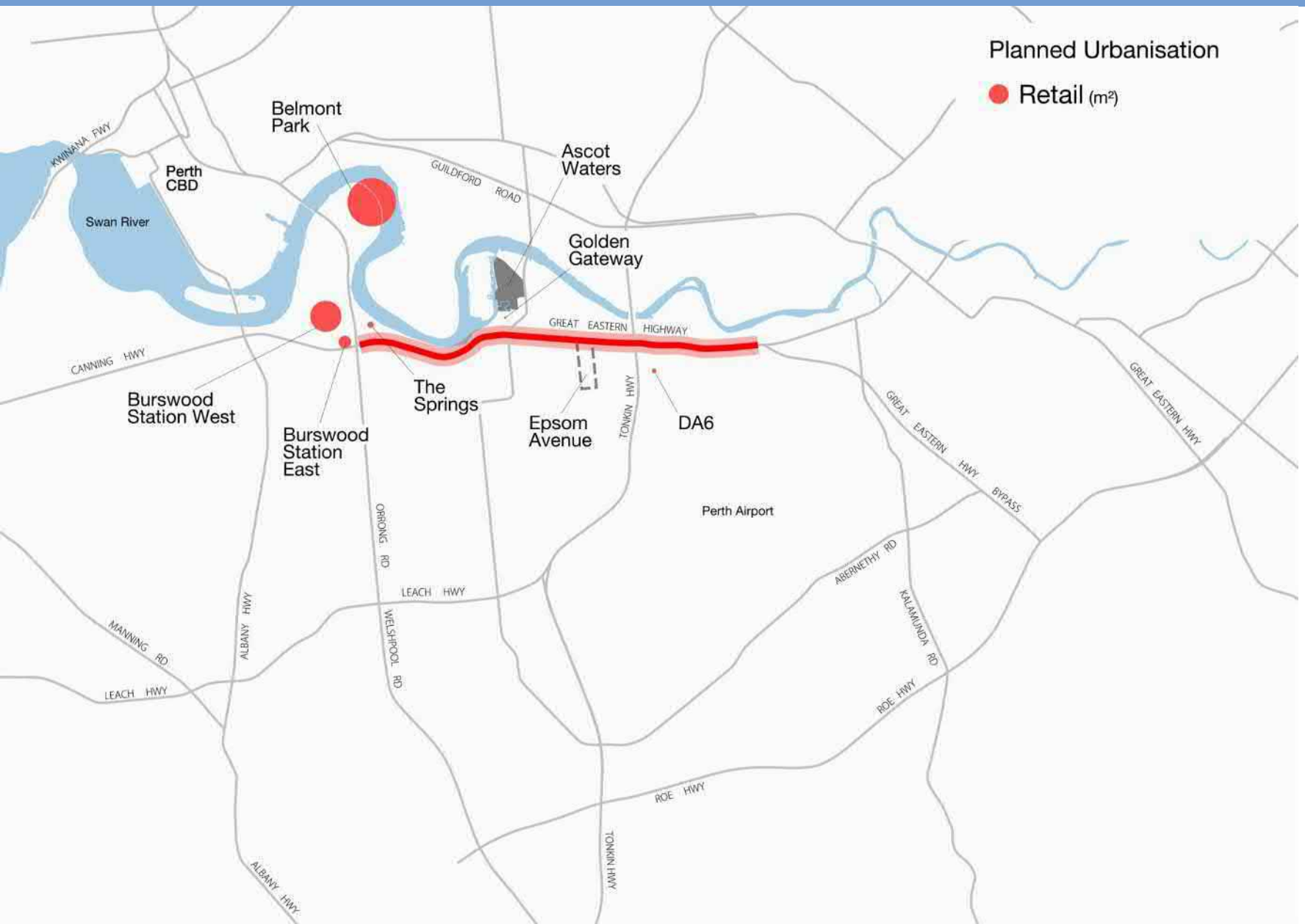
Urbanisation



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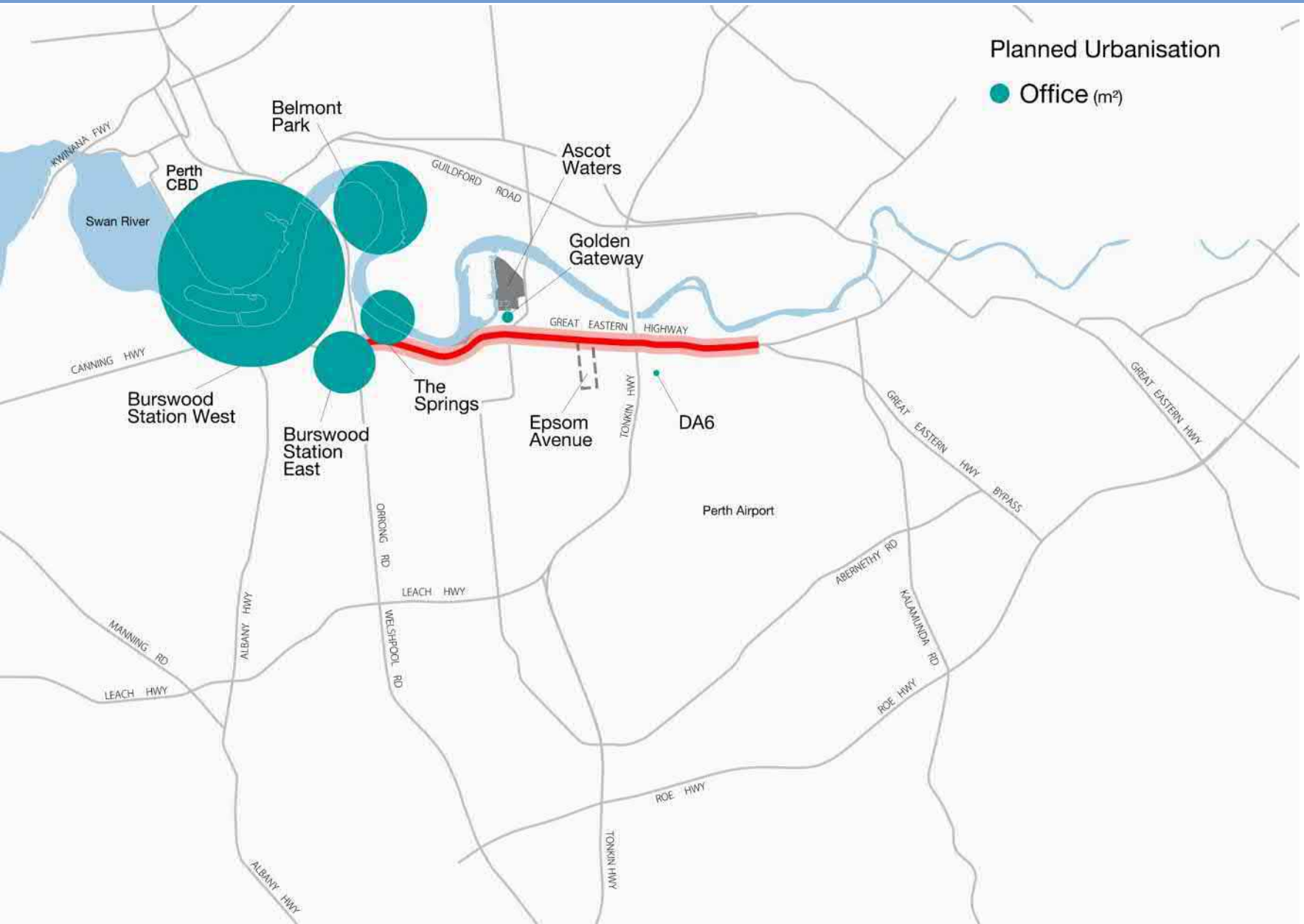
Urbanisation



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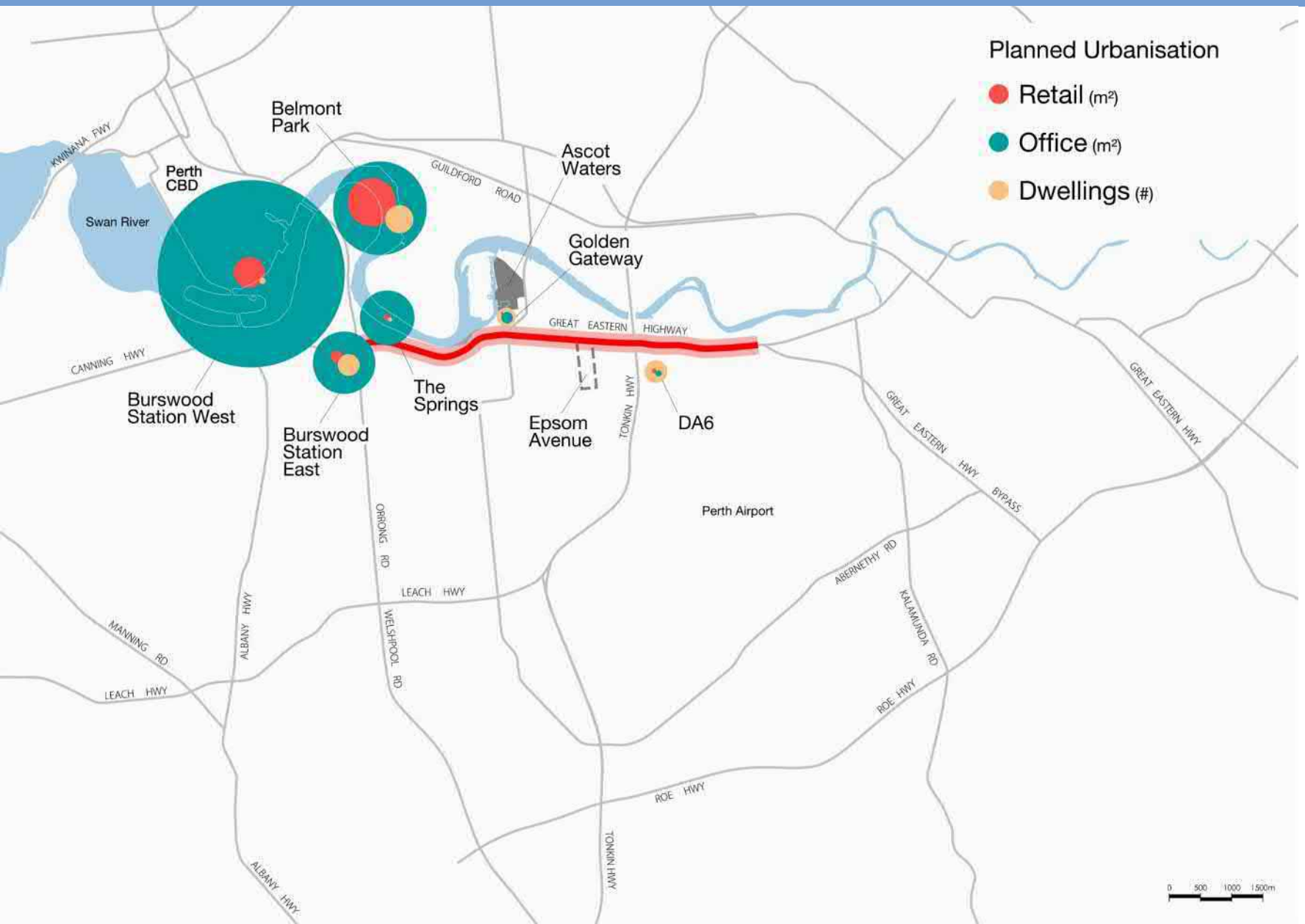
Urbanisation



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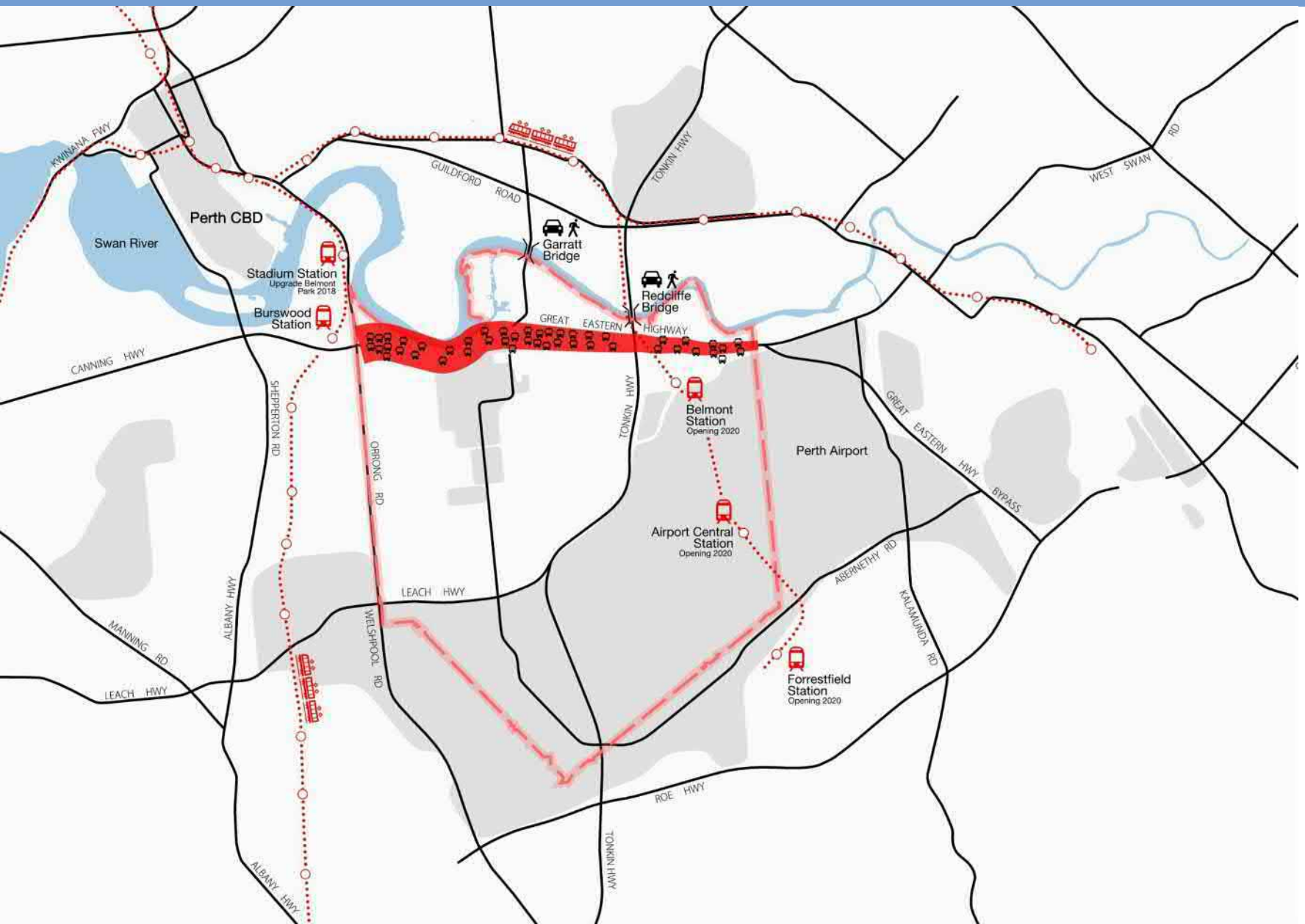
Infrastructure – Railway



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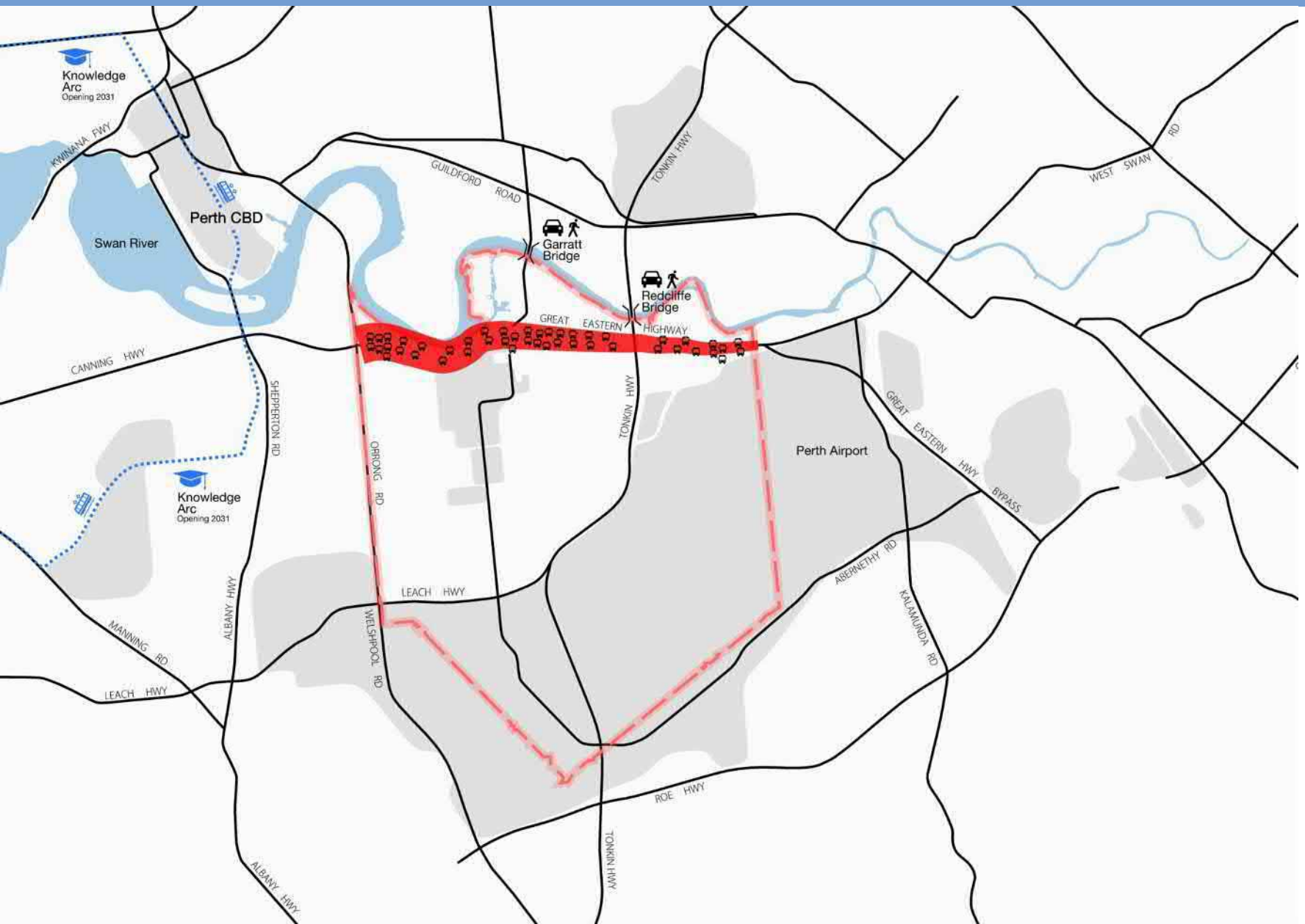
Infrastructure – Light Rail



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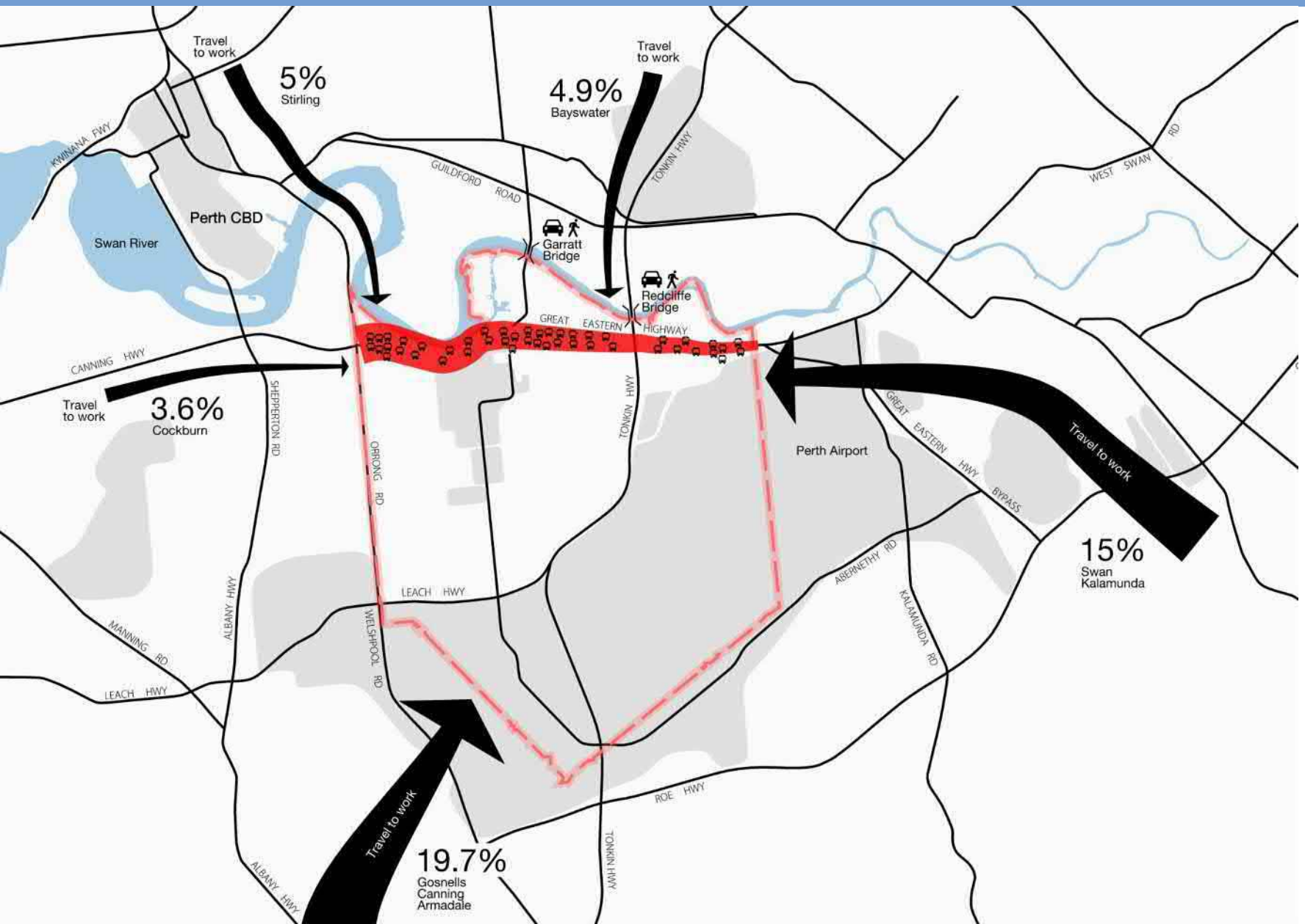
Infrastructure - Traffic



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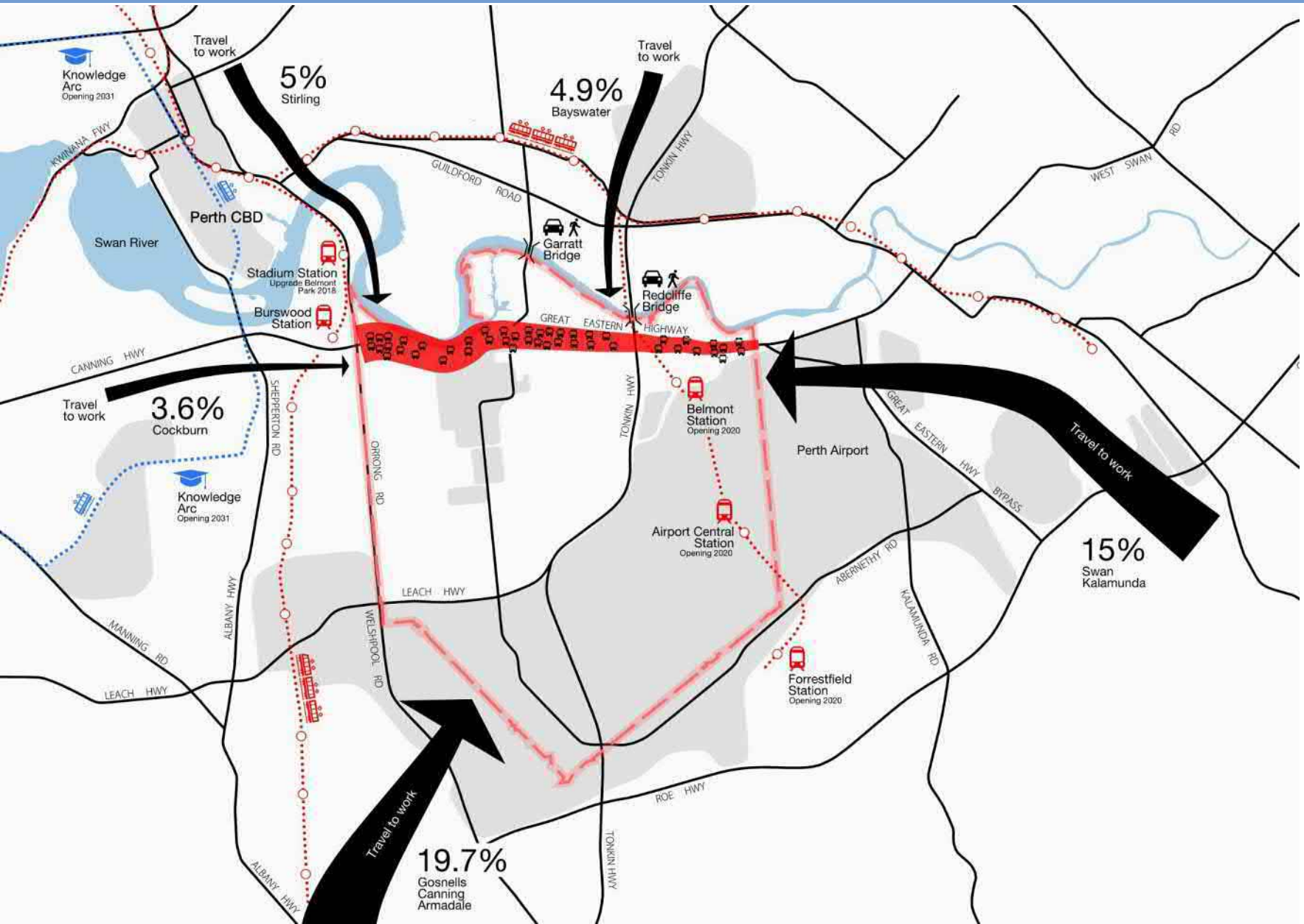
Infrastructure



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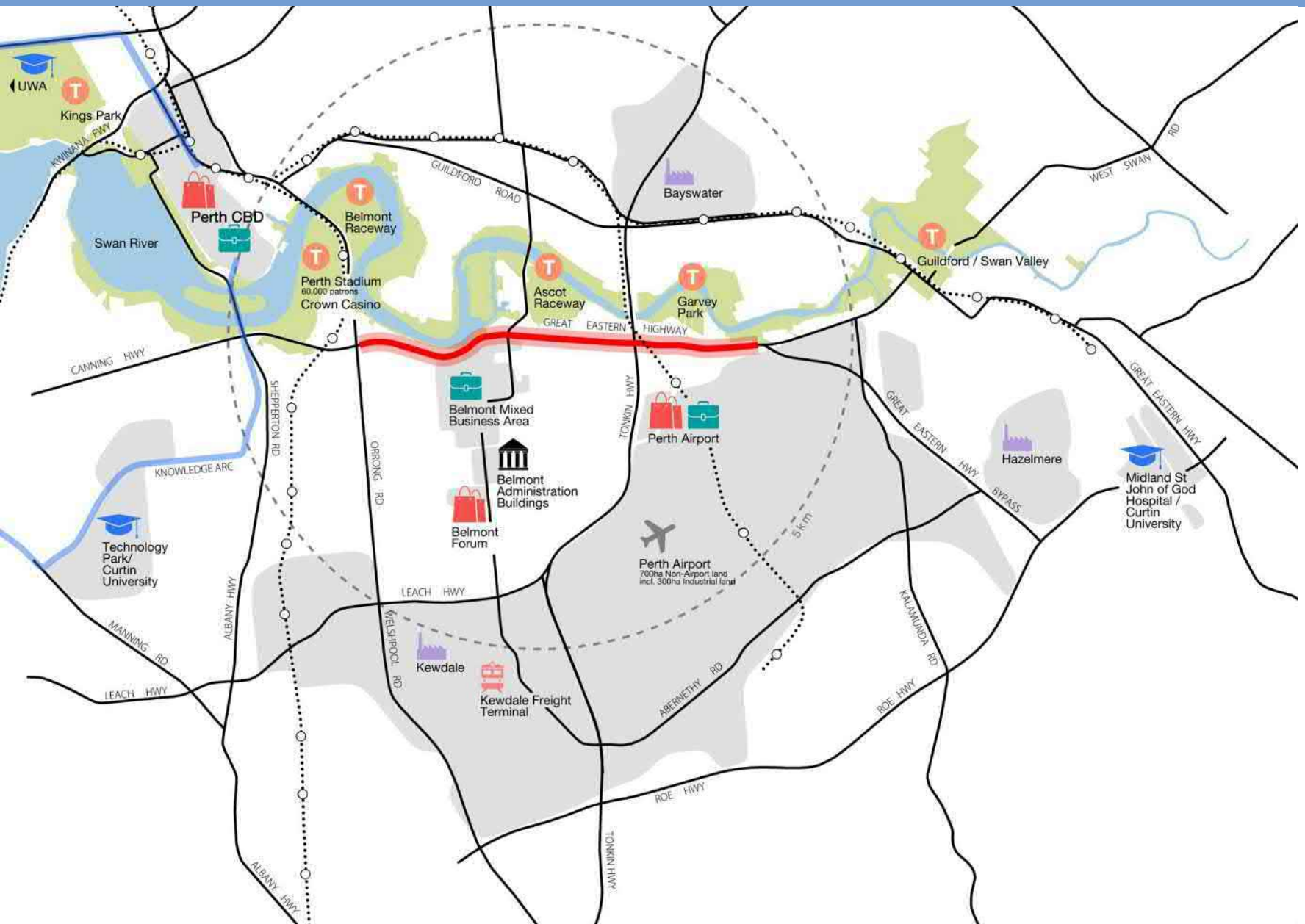
Knowledge/Economy



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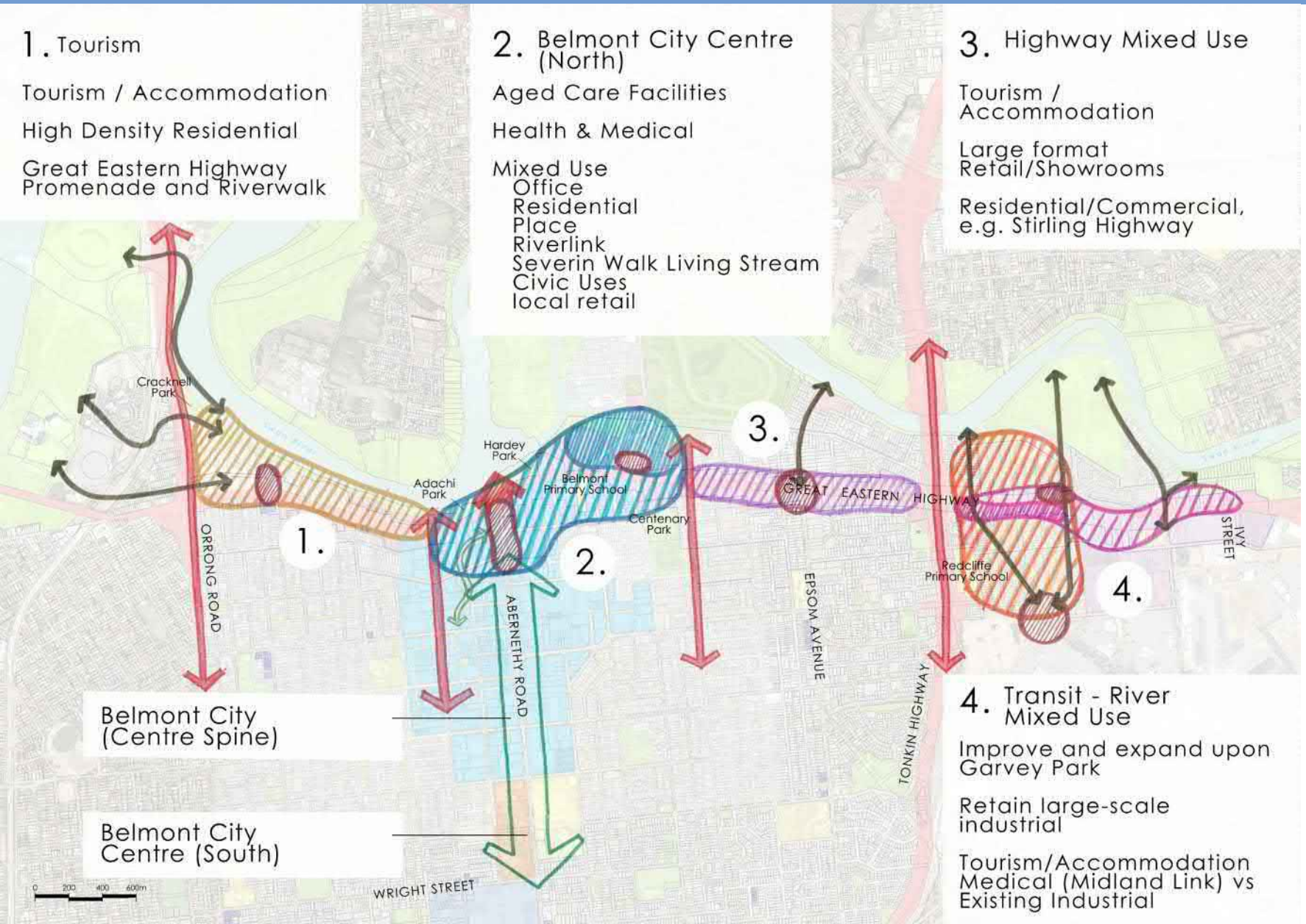
Corridor Precinct Themes



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Exercise 1 – Vision and Design Principles

- Overview of Design Principles

- Values Analysis

- Design Principles

Please indicate your support of the draft design principles

- Vision / Themes

"The Great Eastern Highway Corridor is..."

For example, the DA6 Vision is:

"to create an Urban Village in a Landscaped Setting"

- Feedback

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Draft Design Principles

Draft Public Realm Principles

- Improve built form outcomes along Great Eastern Highway
- Improve public amenity and streetscape along Great Eastern Highway
- Well integrated public transport into future development framework
- Ensure appropriate extent and scale for transitioning of land use and development intensity from Great Eastern Highway to surrounding residential uses.
- Enhance and create a sense of place/community
- Provide a diversity of green spaces for passive recreation
- Promote local mixed use nodes supporting an intensity of land uses
- Foster land use intensity and redevelopment that can take advantage of proximity to key Public Open Space areas and linkages including the Swan River.

Draft Movement and Access Principles

- Support dedicated public transport lanes along the Corridor
- Ensure safe access and movement through the Precinct for cyclists
- Ensure safe access and movement through the Precinct for pedestrians
  - High quality pedestrian environment
  - Safe crossing points
- Effectively manage vehicular traffic flow along Great Eastern Highway and side streets, acknowledging the highway is a major artery that acts as a strategic trade route and gateway linking Perth Airport through to the city centre
- Promote parking for mixed use, mixed business and residential development (along Great Eastern Highway) to be at the rear of the development
- Promote access to mixed use, mixed business and residential development (along Great Eastern Highway) to be via secondary streets or laneways (Main Roads WA Strategic Access Plan requirement)

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Draft Design Principles

Draft Land Use Principles

- Enhance the growth of mixed uses at mixed-use nodes to improve local convenience, amenity , sense of community and local employment
- Provide residential densities and permissible land uses that have regard for the amenity of existing residents.
- Facilitate residential development that responds to the amenity of mixed-use nodes and public transport.
- Widen the range of accommodation choice and dwelling diversity

Draft Built Form Principles

- The height and scale of new buildings should have an appropriate relationship with existing built fabric.
- Allow appropriate built form height to take advantage of views towards the river
- Consider transition of building height and scale from the corridor to lower density residential areas, addressing:
  - Dwelling diversity
  - Residential amenity;
  - Overshadowing streetscape;
  - Streetscape; and
  - Privacy
- Provide architectural qualities that contribute to the attractiveness of the Precinct.
- Minimise the visual impact of surface parking on public domain amenity.
- Built Form to create a well-defined and appealing public domain and positive ground-level experience, particularly for pedestrians and ameliorate the traffic dominated nature of the road.

Exercise 1 – Values Analysis

- What assets do we value in our local area?
  - Characteristics
  - Facilities
  - Clubs and meeting places
  - Events
- What do we want to enhance or improve?

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Exercise 1 – Design Principles

Please indicate your support of the draft design principles

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Exercise 1 – Vision / Theme

- Vision / Themes

"The Great Eastern Highway Corridor is..."

For example, the DA6 Vision is:

"to create an Urban Village in a Landscaped Setting"

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Exercise 1 – Feedback

Lets discuss your feedback on exercise 1

Break time

Exercise 2 starting in 10 minutes

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Exercise 2 – Design Scenarios

- Explanation
- My Place
- My Corridor
- Feedback

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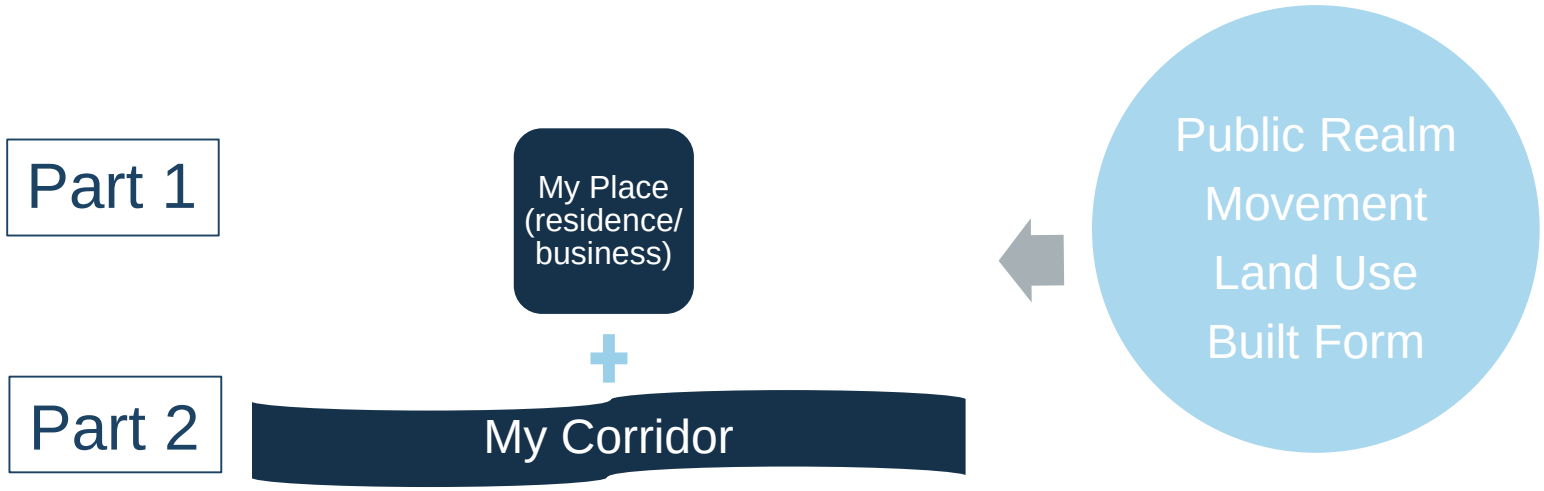
Exercise 2 – Design Scenarios



- Types of homes/businesses
- Location of homes/businesses (nodes)
- Building heights
- Building interface
- Parking
- Trees
- Pedestrian, cyclist and public transport facilities

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Exercise 2 – Feedback

Lets discuss your feedback on exercise 2

Next steps from here?

- Collation and analysis of responses
- Workshop Outcomes Report
- Preparation of draft Strategy
- Presentation of draft Strategy to community in March 2018

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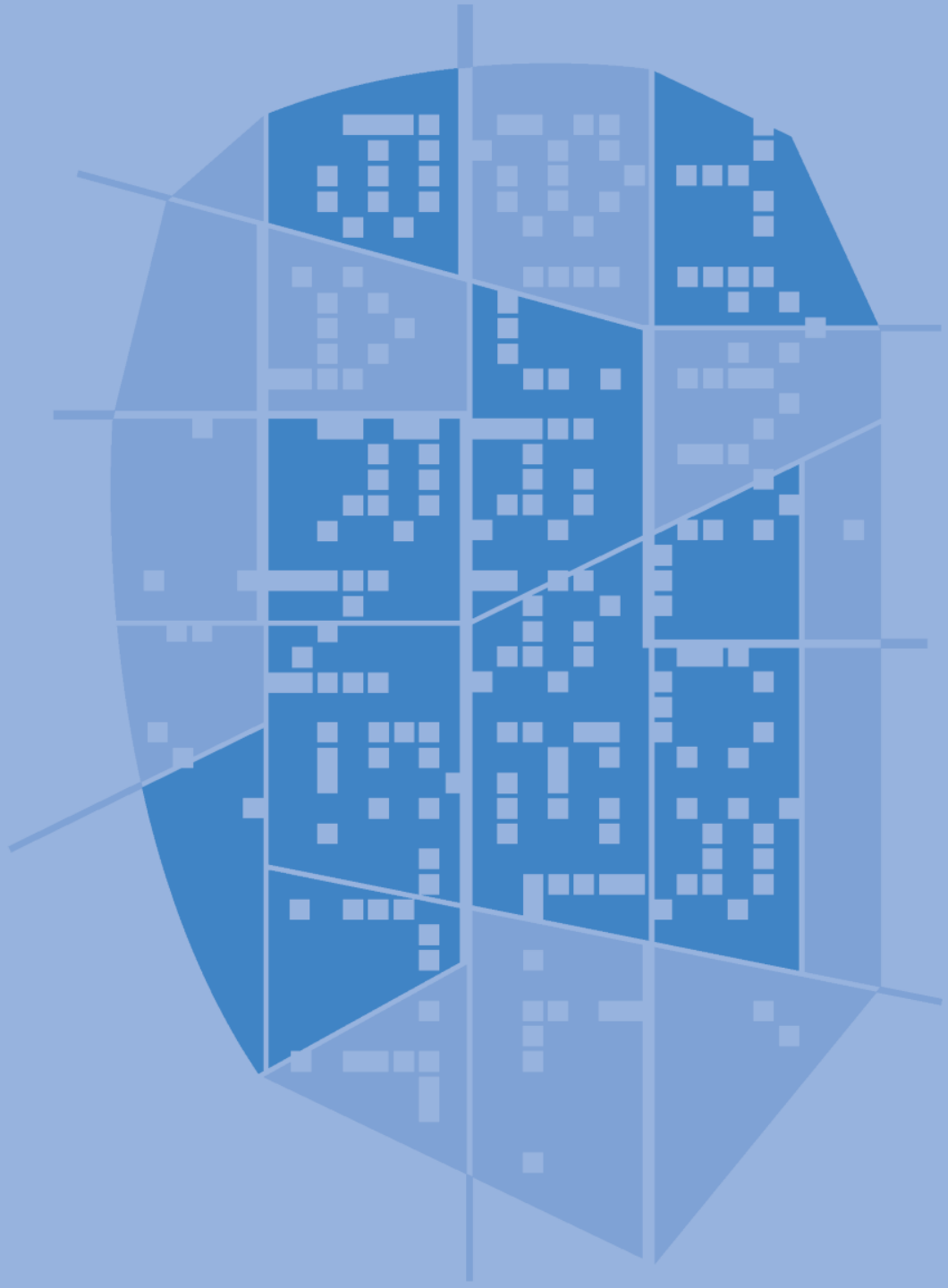

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