

Figure 12: Existing and future primary freight road and rail routes

In the longer term, achieving a better balance between intra-metropolitan road and rail freight is important. This will include further development of intermodal terminals in the Kewdale-Forrestfield area, as well as other locations in the north and south of the metropolitan area, and transporting containers by rail to and from these locations to the inner harbour and a future outer harbour.

In striving to achieve greater integration between transport planning and land use planning, Directions 2031 supports the total freight supply chain and, therefore, mostly multi-modal approach to freight transport. Also, the use of rail over roads is actively and progressively encouraged, where appropriate and feasible. However, it should be recognised that in many instances rail transport will not be practical or efficient and that road transport will continue to transfer the majority of freight within the metropolitan area.

The transportation of large machinery and components from Fremantle Port and industrial locations within the metropolitan area to locations in the regions, principally the major mining regions, necessitates the need to plan for high-wide load corridors. Main Roads WA has in the past undertaken work on certain routes within the metropolitan area; however, further analysis and consideration of additional routes is currently being undertaken by the Department of Transport in conjunction with Main Roads WA, other government agencies and industry.

### Way forward

Directions 2031 recognises the importance of freight movement to the city's economic prosperity. Directions 2031 also acknowledges the critical need to ensure that the freight network is well connected to key industrial areas and a well-balanced system of well-planned intermodal terminals. The WAPC State Planning Policy 5.4 Road and Rail Transport Noise and Freight Considerations in Land Use Planning identifies a freight movement network of road and railway infrastructure. In responding to the increasing demand for various modes of freight transport in the future it will be necessary to:

- **Protect major transport corridors and freight operations from incompatible urban encroachment, particularly those leading to major ports. SPP5.4 Road and Rail Transport Noise and Freight Considerations in Land Use Planning provides a standardised and consistent triple bottom line framework for the consideration and management of the impacts of transport noise and freight operations on new developments, such that transport corridors, freight operations and urban development can co-exist provided that the necessary mitigation treatments are applied**
- **Ensure that future freight corridors are identified early enough to provide sufficient space for the movement network and offsets to adjacent development. The adjacent development also needs to be appropriately zoned and developed to mitigate the potential conflicts between land use and freight corridor use.**
- **Identify appropriate locations for freight intermodal terminals in response to the increasing role of these facilities in the future; and, in recognition that intermodal terminals are required for interstate, intrastate and international trade.**
- **Ensure third party access to any new private freight rail and port facilities, where unused capacity exists, and commercial arrangements can be negotiated for the use of those facilities.**
- **Assess on a continuous basis, industry demand for strategic new freight infrastructure connections and associated facilities such as intermodal terminals. Concurrently, efforts aimed at achieving more efficient usage of existing transport infrastructure must be supported, such as encouraging 24-hour access to the major ports in order to spread the impact of large vehicles accessing the port.**
- **Analyse and identify future high-wide load corridors for the movement of indivisible loads through the metropolitan area.**

Directions 2031 also supports the development of a freight transport strategy for the metropolitan Perth and Peel region to complement the public transport plan currently being developed by the State Government.

## Consider parking in the overall transport picture

Directions 2031 recognises that parking is an important element of the land use and transport systems of Perth and Peel, and that parking supply, demand and rights of parking allocation must be carefully managed to support broader accessibility objectives.

An understanding of parking supply, access criteria and the balance of types of parking is necessary to ensure continued growth of the city and the development of individual centres, and to provide consistency between competing centres as they grow and evolve.

In larger developing activity centres such as Stirling and Cannington, the application of traditional parking provisions is having a significant impact on traffic congestion and local amenity. The application of appropriate standards and a management approach to parking that reflects both individual desire for travel efficiency and convenience and also broader community land use efficiency and amenity objectives, is required.

In addition, there is increasing awareness of the need to determine the role of parking in relation to public transport. This includes parking at transit nodes, the impact of parking on modal choice, congestion and servicing the needs of public transport users.

## Way forward

**The Department of Planning is developing a medium to long-term metropolitan parking framework for centres which will address the appropriate levels of parking, a structure for assessing parking provision and appropriate management and regulatory structures. Prioritised access, pricing and financial support for public transport will be considered along with support for good urban design and amenity, including developing guiding principles for local governments on good parking practices.**

## Access and Parking Strategy for Health Campuses in the Perth Metropolitan Area

Over the next four years, there will be changes to parking and travel access to our metropolitan public hospitals with the introduction of the Access and Parking Strategy for Health Campuses in the Perth Metropolitan Area from 1 January 2011. This strategy aims to:

- address car parking shortages at Perth metropolitan hospitals;
- enable patients, visitors, volunteers and staff who need car parking most to park at each site;
- ensure that access and parking strategies for health care employees is equitable and applied in a consistent manner across all sites;
- encourage staff to car pool, walk, cycle or use public transport to travel to and from work; and
- limit the impact of traffic on the community, encourage economic responsibility towards development, and improve air quality and the physical environment in and around metropolitan hospitals.

The access and parking strategy has been endorsed by the Department of Planning and the WAPC, and is of the result of a joint agreement between the Department of Health and Minister for Health and the Department of Planning and Minister for Planning.

### Way forward

The issue of public transport access and car parking at our metropolitan hospitals has been a concern for some years. Directions 2031 supports the broader application of similar access and parking strategies for private hospitals and other major employers in health precincts.

### Plan and develop urban corridors to accommodate medium-rise, higher density housing development

Medium-rise higher density housing is the preferred form of development along urban corridors linking activity centres, not only to capitalise on access to and maximise use of high-frequency public transport, but also to contribute to the viability of the activity centres. Urban corridors can provide opportunities for increased housing supply, including affordable housing types, and reduce development pressure on existing suburbs and the urban fringe.

Planning for existing and potential activity centres into the future will have an increased focus on transport integration and transit oriented development, agglomeration of economic activities and mixed use development including higher density housing.



### Way forward

The potential for any section of the road network to perform the role of an urban corridor requires detailed planning and policy development, recognising the variable and multi-functional characteristics of each road section. The planning challenge has been described as the “link-place” network concept which means that transport and land use planning must be integrated to properly guide planning and decision-making<sup>12</sup>.

In addition to its strategic role as a link within the overall network, the physical conditions of a road such as reservation width, traffic volumes and type and character of abutting development combine to determine the extent to which it is conducive to a pedestrian-scaled urban place. Following such analysis at both local government and regional network levels, assessments need to be made about the potential or otherwise for parts of the road network to be planned as urban corridors suitable for higher density housing.

For example, roads within the inner part of the city that demonstrate urban corridor attributes with high level of amenity at a pedestrian scale include Albany Highway in Victoria Park, Beaufort Street in Inglewood and Oxford Street in Leederville.

More detailed planning for medium-rise higher density development along urban corridors will also need to consider heritage and other local planning factors and clearly demonstrate how such development can be integrated effectively with lower density suburban areas.

<sup>12</sup> Guide to Traffic Management Austroads 2009

## Plan and develop transit oriented developments to accommodate mixed use and higher density housing development

The Perth and Peel region now has a public transport system that is sufficiently extensive to consistently promote land uses that maximise the opportunities for land use and public transport integrations.

Within existing developed areas, there are clear opportunities to intensify existing activities and to promote new uses that will make better use of transit facilities and services.

There are obvious benefits of Development Control Policy 1.6 Planning to Support Transit Use and Transit Oriented Development that encourage the integration of land use and transit facilities. Higher residential densities and mixed use developments in the walkable catchments of transit facilities have the potential to reduce car dependence; to increase accessibility for those without access to private cars; to reduce congestion on the road network and the demand for new road space; to reduce fuel consumption and air pollution; and to provide quality diverse and affordable forms of housing and development. These benefits combine to produce an attractive and viable alternative to car-based suburban and urban fringe development.



### Way forward

Maximise the benefits to the community of an effective and well-used public transit system by promoting, planning and developing outcomes that will support and sustain public transport use, and will achieve the more effective integration of land use and public transport infrastructure.

The WAPC and Department of Planning will continue to refine the focus of its transit oriented development program to achieve the best outcomes and deliver Directions 2031; and to act on the most effective interventions in partnership with local governments and other major stakeholders. Priorities will be informed by a range of factors including diversity of activity, provision of employment and dwellings; accessibility to more sustainable transport modes; partnership potential; strategic significance; potential patronage; need for infrastructure; social benefits; and development opportunities.



## A sustainable city

*We should grow within the constraints placed on us by the environment we live in.*

**Protect our natural and built environments and scarce resources; respond to social change and optimise the land use and transport conditions that create vibrant, accessible, healthy and adaptable communities**

Long-term sustainability is critical to maintain a high quality of life within the metropolitan area. Sustainability necessitates a holistic approach to planning as it refers to the social, economic and environmental systems that function within the metropolitan area. A sustainable approach to development suggests that a healthy and prosperous society is underpinned, by not only economic strength, but also its regard for the potential impacts on the community and the physical and biological environments that support it.

The WAPC State Planning Policy No. 1: State Planning Framework (SPP1) sets out the key principles relating to environment, community, economy, infrastructure and regional development which should guide the way in which future planning decisions are made. It also provides a range of strategies and actions that support these principles in general and for each of the 10 regions of the state.

The State Planning Strategy provides the overall vision and will be further articulated and applied by policies and plans dealing with particular planning issues or regions of the state.

SPP1 brings together existing state and regional policies and plans including Directions 2031 and the sub-regional strategies, which apply to land use and development in Western Australia, into a state planning framework. It also restates and expands upon the key principles of the State Planning Strategy in planning for sustainable land use and development.

### Way forward

The State Planning Framework unites existing state and regional policies, strategies and guidelines within a central framework which provides a context for decision-making on land use and development in Western Australia. It informs the WAPC, local government and others involved in the planning process on those aspects of state level planning policy which are to be taken into account, and given effect to, in order to ensure integrated decision-making across all spheres of planning.

## Protect and manage significant biodiversity areas

South western Australia is recognised as one of the world's 31 biodiversity hot spots. Biodiversity hot spots are areas that support natural ecosystems which are largely intact, and where native species and communities associated with these ecosystems are well represented. They also have a high diversity of endemic species.

The development and growth of the city is clearly a significant intervention in this highly biodiverse area, and one that regularly places us in conflict with our desire for environmental protection. Directions 2031 acknowledges this conflict, but also recognises that there are things we can do in planning for the growth of the city to help mitigate our impact on the environment, and protect and manage areas that have high conservation and biodiversity value.

## Way forward

Key to maintaining a degree of biodiversity within an intensive urban setting is the identification, protection and management of areas that demonstrate genetic species and ecosystem diversity. Directions 2031 supports the following initiatives aimed at improving the biodiversity of our city:

- Ongoing implementation of **Bush Forever**, a whole-of-government initiative designed to identify, protect and manage regionally significant bushland on the Swan coastal plain. This is a key part of the State Government's contribution to the National Strategy for the Conservation of Australia's Biological Diversity. It is anticipated that this initiative will eventually be expanded into the Peel region through Swan Bioplan, an initiative of the Department of Environment and Conservation.
- Implementation of the **Western Australian Local Government Association Local Government Biodiversity Planning Guidelines**, an initiative aimed at identifying and integrating local biodiversity considerations into land use planning.
- Ongoing preparation and implementation of state planning policies that support the protection of significant environmental attributes in the Perth and Peel region, including State Planning Policy 2.9 Water Resources which recommends that identified significant water resources, such as conservation category wetlands, not be developed.
- Identification, protection and management of environmental assets early in the planning process through the integration of land and water planning in the State Government's Better Urban Water Management framework.

Continued collaboration with the Environment Protection Authority, Department of Environment and Conservation, Department of Water and local governments in identifying significant biodiversity areas is crucial if significant biodiversity areas are to be protected using land use planning mechanisms.

## Protect matters of national environmental significance

Matters of national environmental significance are listed under the *Commonwealth Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act), and, in terms of the metropolitan Perth and Peel region, comprise natural, indigenous and historic places that are of outstanding heritage value to the nation or the Commonwealth; Ramsar wetlands of international importance; listed threatened species and ecological communities and migratory species protected under international agreements. The metropolitan Perth and Peel region contains:

- many species of flora and fauna such as Carnaby's black cockatoo and the graceful sun moth which are endemic to the south-west of Western Australia, as well as ecological communities that are protected under the EPBC Act;
- national heritage places, such as the Fremantle Prison; and
- Ramsar wetlands such as Forrestdale Lake, Thomsons Lake, the Peel-Yalgorup system and Becher Point wetlands.

## Way forward

The Commonwealth listed species, communities, areas and places are to be considered in the planning process, and the intent and application of the EPBC Act is to be observed particularly during the structure planning process for greenfield developments.

## Protect water resources

Ongoing water security is a significant issue affecting cities in Australia and around the world. Maintaining adequate drinking water supplies for a growing population presents environmental, social and economic challenges.

### Way forward

**The protection of surface and groundwater supplies and the water catchments will become increasingly important as the city grows. The continued preservation of these resources through the metropolitan Perth and Peel region schemes, and the application of Statement of Planning Policy No. 2.7 Public Drinking Water Source Policy will help to maintain adequate water supplies for a growing population.**

Directions 2031 supports further State Government initiatives aimed at addressing these challenges including:

- protection of surface and groundwater drinking supplies and their water catchments through appropriate strategies, zonings, reservations and special control areas in the metropolitan and Peel region schemes;
- Statement of Planning Policy No. 2.7 Public Drinking Water Source Policy adopted by the WAPC to ensure that land use and development are compatible with the protection and long-term management of water supplies; and
- the 2009 draft Department of Water Perth-Peel Regional Water Plan 2010-2030, which sets out strategic directions for the sustainable management of the region's water resources to 2030.

The continuing expansion of the metropolitan Perth and Peel region will create a need for new areas of public open space. Due to an increased demand on ground water supplies, and a reduction in their availability due to the drying climate, finding water sources to maintain these areas is becoming increasingly problematic.

Alternative sources for irrigation of public open spaces, such as recycled water, will need to be considered in future development. This is of particular importance in the north-west sub-region where future urban areas such as Yanchep-Two Rocks and Alkimos-Eglinton do not have sufficient ground water resources to irrigate important active recreational open space as the majority of the water resource is allocated for future public supply.

Continued collaboration with the Department of Water and private water suppliers will ensure that Perth and Peel will have an adequate supply of water to cater for future growth and that future supplies are appropriately protected. This will require measures to ensure more efficient use and, where appropriate, reuse of water. The quantity and quality of stormwater entering our water resources is a significant management issue in existing urban areas, and will require careful consideration and planning in future development or redevelopment areas.

### Way forward

**Directions 2031 promotes the application of water sensitive urban design principles as the most effective way to manage stormwater in an urban setting, to achieve more efficient and effective use of water and better outcomes for the environment and urban form.**

This approach is based on total water cycle management which recognises the interconnectedness of all water, including water supply, ground water, stormwater, wastewater, flooding, wetlands, watercourses, estuaries and coastal waters. The urban water cycle should be managed as a single system in which all urban water flows are recognised as an important natural asset and potential resource.

The State Government's Better Urban Water Management has been adopted as the preferred policy approach in working towards water sensitive urban design. This approach was collaboratively developed by the Department for Planning and Infrastructure, Department of Water, the Western Australian Local Government Association and the Commonwealth Department of the Environment, Water, Heritage and the Arts. This policy has been designed to ensure an appropriate level of consideration is given to the total water cycle at each stage of the planning system.

The Department of Water Stormwater Management Manual provides a variety of best practice stormwater management options suitable to a range of built environments, and considers stormwater as part of the overall water cycle management picture. It has been produced to provide guidance to all parties involved in the stormwater management process, including developers, environmental consultants, environmental/community groups, industry, local government, water resource suppliers and state government agencies.



## Protect our coastline

The coastal environment is one of the most recognisable and highly valued features of our city and a number of metropolitan attractors are located within it. It forms a significant part of our local identity and is the source of much regional pride. However, our close association with the beach and desire for access to it places significant pressure on the city's coastal environment from residential, recreation, entertainment and tourism development.

## Way forward

Directions 2031 recognises that planning for future growth of the city must manage these increasing pressures on our vulnerable coastal environment by balancing development with the protection, conservation and enhancement of coastal values and the anticipated impacts of climate change, particularly sea level rise. The Perth Coastal Planning Strategy will support this approach by:

- providing guidance and support to decision-making on the future land use, development and conservation of the Perth metropolitan coastline;
- promoting integrated coastal zone management; and
- providing guidance for the location, scale and density of developments appropriate for the Perth coastline over the next 10 to 15 years.



## Mitigate and adapt to climate change

The economy and the physical environment will be impacted by climate change as governments move to reduce carbon emissions and as the changing climate affects food production, water provision and consumption, and infrastructure maintenance and operating costs. Globally, cities account for almost 80 per cent of carbon dioxide emissions, and Perth is among the highest emitting cities per capita in the world, making climate change adaptation and mitigation a major challenge. One of the key planning challenges for the growth of the city is to understand the impact of climate change. One important way to minimise this impact is to influence a change in personal travel patterns, in particular encouraging alternatives to private car use which uses substantial energy and generates significant greenhouse gas emissions.

### Way forward

**A key planning task is to influence a change in personal travel patterns, in particular by encouraging alternatives to private car use which generates more than 50 per cent of total transport emissions. Directions 2031 seeks to address this challenge by:**

- **improving the relationship between land use and alternative transport modes such as cycling and walking, improving urban design and making optimum use of existing infrastructure;**
- **identifying opportunities for new public transport services and encouraging a shift to non-motorised forms of transport, and encouraging higher levels of employment self-sufficiency to reduce travel demand;**
- **recognising and building on the growing preference for non-motorised forms of transport, including walking and cycling; and**
- **promoting higher levels of employment self-sufficiency in sub-regional areas, thereby reducing commuting distances and times.**

## Built form

The planning and development industry, and local government authorities can make a significant contribution to reducing energy use by designing communities to maximise the opportunities to be climate responsive and energy efficient.

### Way forward

**Living Smart has been developed to target behavioural issues by guiding household improvements in the areas of water, energy, waste and travel. This innovative community engagement program has demonstrated the potential to impact on reducing energy use.**

## Coastal vulnerability and sea level rise

The Department of Planning and Department of Transport are jointly undertaking a project to assess coastal vulnerability and prepare for possible sea level rise along the WA coast. The first stage of the project has been completed and includes the preparation of a digital elevation model, which will be the primary data set used to analyse the impacts of climate change on infrastructure and the environment.

The Commonwealth Government is coordinating a national coastal vulnerability assessment, with the aim of identifying coastal environments, communities and infrastructure at risk from the impacts of climate change. The project complements work undertaken by the WA Department of Water which has formulated a digital terrain model of the Swan coastal plain to determine the patterns of flooding, ground water/ surface water interaction and ecological systems.

### Way forward

**The outcomes of these State and Commonwealth Government studies to assess coastal vulnerability and prepare for sea level rise along the WA coast, will inform the development and integration of adaptation responses to climate change into WAPC land use planning policies.**

## Reduce waste generation and encourage reuse and recycling

Waste management is a fundamental issue facing all growing regions and Perth and Peel are no different. Substantial quantities of waste are produced every day from households, businesses and industry.

The 2009 Waste Authority draft Waste Strategy for Western Australia sets out an approach for the coordinated efforts of state and local government, business, the waste industry, and community to reduce the amount of waste being generated in Western Australia by 2015. The final strategy will set out targets and goals for waste reduction to be implemented through producer responsibility, community education, behavioural change, local and regional government plans for waste management and avoidance, and responsible purchasing practices within state government departments.

### Way forward

The Department of Planning will continue to work with the Waste Authority and the Department of Environment and Conservation to provide advice on the suitability of locations for future waste management facilities, their transport routes and any necessary buffers to sensitive land uses, and encourage waste generators and businesses that might use or recycle these wastes to co-locate where possible.

The Living Smart program makes a significant contribution to waste management as it includes guidance to households on minimising waste and promotes reuse and recycling.

## Improve air quality

Air quality can adversely affect human health and the environment. Perth and Peel, like most urban areas in Australia, experience occasional episodes of poor air quality. Air pollution is caused by vehicular emissions, domestic sources such as wood heaters and industrial activity. The main issues affecting our city are photochemical smog in summer and particulate haze during winter.

Although motor vehicles are a significant source of air pollutant emissions in urban areas and reducing their use is likely to improve ambient air quality, Directions 2031 recognises that additional factors that adversely impact on air quality need to be considered in land use planning.

### Way forward

Air quality should be considered with respect to the location of residential development near major transport routes or interchanges as there is likely to be reduced air quality in these locations, and appropriate buffer controls around non-conforming land uses need to be maintained to ensure the compatibility of land uses.

The WAPC is committed to environmentally sustainable development as a participating member of the Department of Environment and Conservation Air Quality Coordinating Committee and a lead agency in the implementation of the Perth Air Quality Management Plan actions.

The Perth Air Quality Management Plan, released in December 2000, was developed to ensure that clean air is achieved and maintained throughout the Perth metropolitan region over the next 30 years. The implementation strategy developed in 2002 details how the actions of the plan are to take place; it consists of 12 initiatives that outline 126 actions aimed at improving Perth's air quality.

## Expand and enhance our open space network

Regional and local open space makes an important contribution to the greening of a city. Through progressive application of the metropolitan Perth and Peel region schemes, the metropolitan region improvement fund and local planning schemes, our city has developed an impressive and enviable network of regional and local open spaces.

### Way forward

Directions 2031 supports the continued identification, acquisition and management of public open space to service a growing population. It also recognises that while the population is growing, its characteristics are changing. What was considered an acceptable provision of open space 20 years ago will need to evolve to cater for a different population composition in 20 years' time. The provision, design and layout of open spaces must reflect the diverse needs of the communities they serve. While some communities may require ready access to large areas of active recreation space for sporting pursuits, other communities, particularly higher density communities, may prefer smaller parks and public places.

Ongoing maintenance and development of a vibrant open space network will require detailed consideration of water supply issues and increasing levels of water efficiency and design innovation into the future.



## Integrate natural resource management into land use planning

Striking a balance between the need to protect our environment and cater for growth, while at the same time providing certainty to the development sector and timely consideration of proposals, is a challenging task. Nevertheless, to achieve more effective, timely and equitable outcomes, it is essential that environmental matters be considered as early as possible in the planning process. This can be achieved by:

- ensuring the alignment of state planning and environmental legislation and policy; and
- providing better environmental information to inform decision-making.

### Way Forward

The WAPC endorsed the Directions Paper on the Integration of Natural Resources Management into Land Use Planning, which included a series of recommendations and actions to improve the integration of environmental matters into land use. This paper is focused on natural resource management, and identifies a number of areas for improvement under the following key themes:

- establishing clear policy direction for integrating natural resource management into the planning framework;
- ensuring whole-of-government involvement in natural resource management and land use planning; and
- promoting local government support for integration of natural resource management into land use planning.

Directions 2031 supports the recommendations of the directions paper to improve regulatory decision-making and reduce the time and cost associated with approvals processes.

## A responsible city

*We have a responsibility to manage urban growth and make the most efficient use of available land and infrastructure.*

### Provide a hierarchy of strategic plans for the metropolitan Perth and Peel region

Since 1955, strategic plans for the Perth metropolitan area have focused primarily on the identification of new urban growth areas to cope with rapid population expansion. Examples include the Stephenson-Hepburn Plan of 1955, the Corridor Plan of 1970 and Metroplan in 1990.

More recently there has been a shift in community attitude toward growth, with greater emphasis being placed on the future sustainability of the city. This was reflected in the aspirational strategies of the draft Network City policy in 2004.

Sustainability principles continue to be built upon and given shape in the spatial framework of Directions 2031, which identifies six sub-regional planning areas and describes a metropolitan structure of activity centres, movement and green networks.

#### Way forward

**Directions 2031 is the highest level spatial framework and strategic plan to manage the growth of the metropolitan Perth and Peel region over the medium to long-term planning horizon of 2031 and beyond.**

**The spatial framework outlines population growth scenarios and land use patterns for a medium to long-term increase of half a million people by 2031, and prepares for a city of 3.5 million people by 2050.**

The strategic plan will guide the development of more detailed sub-regional strategies and plans, and the provision of infrastructure necessary to support growth.

The sub-regional strategies focus on the detailed planning and infrastructure required to accommodate residential growth in the central and outer metropolitan Perth and Peel sub-regions.

From 1 January 2012, the Commonwealth will link future infrastructure funding to states and territories that meet these national criteria. Directions 2031 provides the appropriate framework to demonstrate how Western Australia will meet the national criteria.

### Maximise essential urban infrastructure efficiency and equity; and develop a coordinated approach to infrastructure and land use planning and development

Land use planning to accommodate future population growth in the Perth and Peel region must carefully consider the provision of infrastructure to support that growth. There may be significant opportunities for infill development where infrastructure is not currently operating at capacity; conversely, the need for significant infrastructure investment could heavily constrain greenfield development.

Essential service infrastructure covers the minimum acceptable standard of utility infrastructure for residential development, which for urbanised areas includes reticulated sewerage, water, drainage, underground electricity and telecommunications.

Part of the rationale for a connected city pattern of growth is to improve the efficiency of existing public infrastructure, reduce the demand for new infrastructure and services, and avoid the spread of development that is not contiguous with the existing urban front and infrastructure network.

## Way forward

Infrastructure agencies have strategic investment plans to provide or upgrade the capacity of existing essential services, networks and social infrastructure throughout the metropolitan Perth and Peel region. Over the next 20 years, it will be necessary to ensure effective coordination between land use and infrastructure planning agencies to facilitate the new infrastructure required to support future urban growth.

The effective delivery of infrastructure will require assessments of existing capacity, future demand, land requirements, funding and a strategic plan within which to operate.

The Urban Development Program is prepared as a statutory function of the WAPC to advise the government on land use planning and the coordination of services and infrastructure provision. The Urban Development Program, through the WAPC Infrastructure Coordinating Committee (ICC) supports inter-agency decision-making about urban development in the region and the provision of services to the community.

The Urban Development Program will:

- identify and monitor past, current and projected residential land development activity and the provision of associated essential services and community infrastructure within a five-year time horizon;
- monitor residential growth and infrastructure development trends to inform urban growth management policy; and
- provide up-to-date data about the likely future development of the urban development program region, as a reference for infrastructure agencies to use when planning their networks and capital works investment.

Current policy settings relating to infrastructure and service provision will be reviewed to ensure the increasing costs of delivery are equitably distributed as the city grows.

## Minimise conflict between land use and key infrastructure assets

SPP1 advocates that planning should:

- provide suitable zoned and serviced land for industry, business and other employment and wealth generating activities;
- avoid land use conflicts by separating sensitive and incompatible uses; and
- promote local employment opportunities in order to reduce the time and cost of travel to work.

In its review of local planning strategies and schemes, the WAPC will give particular regard to the following:

- planning schemes and development controls should recognise contemporary business and industry trends and provide for generic employment zones, in which mixed uses are allowed on the basis of compatibility and performance standards, rather than strict land use classes;
- infrastructure site and corridor needs, land use compatibility and buffer requirements as part of long-term planning for established industrial precincts;
- existing industrial estates need to be protected from the increasing encroachment by inappropriate non-industrial uses and in some cases by residential encroachment;
- economic infrastructure and buffers at the edge of key industrial zones should be protected to minimise land use conflicts; and
- facilitate the more intensive use of the extension of existing industrial sites with high economic value/ location value.

## Way forward

In order to minimise conflict between land use and key infrastructure assets:

- local planning strategies should promote the economic role of key industrial zones in providing employment diversity and support their retention, efficient operations and growth by ensuring compatible land use;
- apply appropriate planning reservations to minimise land use conflicts and maintain the long-term efficiency of the freight network and urban amenity in the context of increasing freight; and
- provide appropriate planning reservations to accommodate the role of transport corridors as general infrastructure corridors (gas, power, water and sewerage, telecommunications).



## Improve the timing and coordination of infrastructure for new areas

The timely roll-out of infrastructure is vital to orderly and effective greenfield development. The complexities of infrastructure roll-out mean that long lead times and significant forward planning are required to service new areas.

## Way forward

### Urban Development Program

The purpose of the Department of Planning's Urban Development Program is to coordinate and promote the development of serviced land in a sustainable manner for the guidance of state infrastructure agencies, public utilities and local governments. The program also includes research on land development, and provides advice on land development.

The Urban Development Program was undertaken to develop a staging plan for infrastructure provision based on the metropolitan sub-regional strategies which are being developed to implement Directions 2031.

### Infrastructure Coordinating Committee

In order to facilitate planning for essential infrastructure throughout the state, the WAPC has established the Infrastructure Coordinating Committee (ICC). Membership of the ICC is sourced from a range of state government infrastructure providers and users to provide an integrated approach to infrastructure and land use planning. The ICC oversees the Department of Planning's Urban Development Program.

## Plan for an efficient and equitable distribution of social infrastructure

Social infrastructure provides the facilities, social services and networks that support communities. This includes education, health, housing, public transport and cultural facilities, services and programs.

Key challenges for social infrastructure planning and provision in Perth and Peel include:

- providing new growth areas with appropriate social infrastructure;
- ensuring that existing social infrastructure has the capacity to meet changing community needs;
- allocating sufficient resources to social infrastructure; and
- ensuring that resources are used efficiently.

### Way forward

Directions 2031 recognises the important role that social infrastructure plays in supporting the growth of the city and attracting business investment and skilled workers. Investigation of social infrastructure requirements will be in the metropolitan sub-regional strategies which implement the objectives of Directions 2031 at the local level.



## Engage with the development industry, state government agencies, local government and the community to implement the strategy

It is essential that the Department of Planning maintain ongoing consultation with stakeholders in the implementation of Directions 2031, the metropolitan sub-regional strategies and the future work to be undertaken by the recently established Department of Planning's Office of Land and Housing Supply.

### Way forward

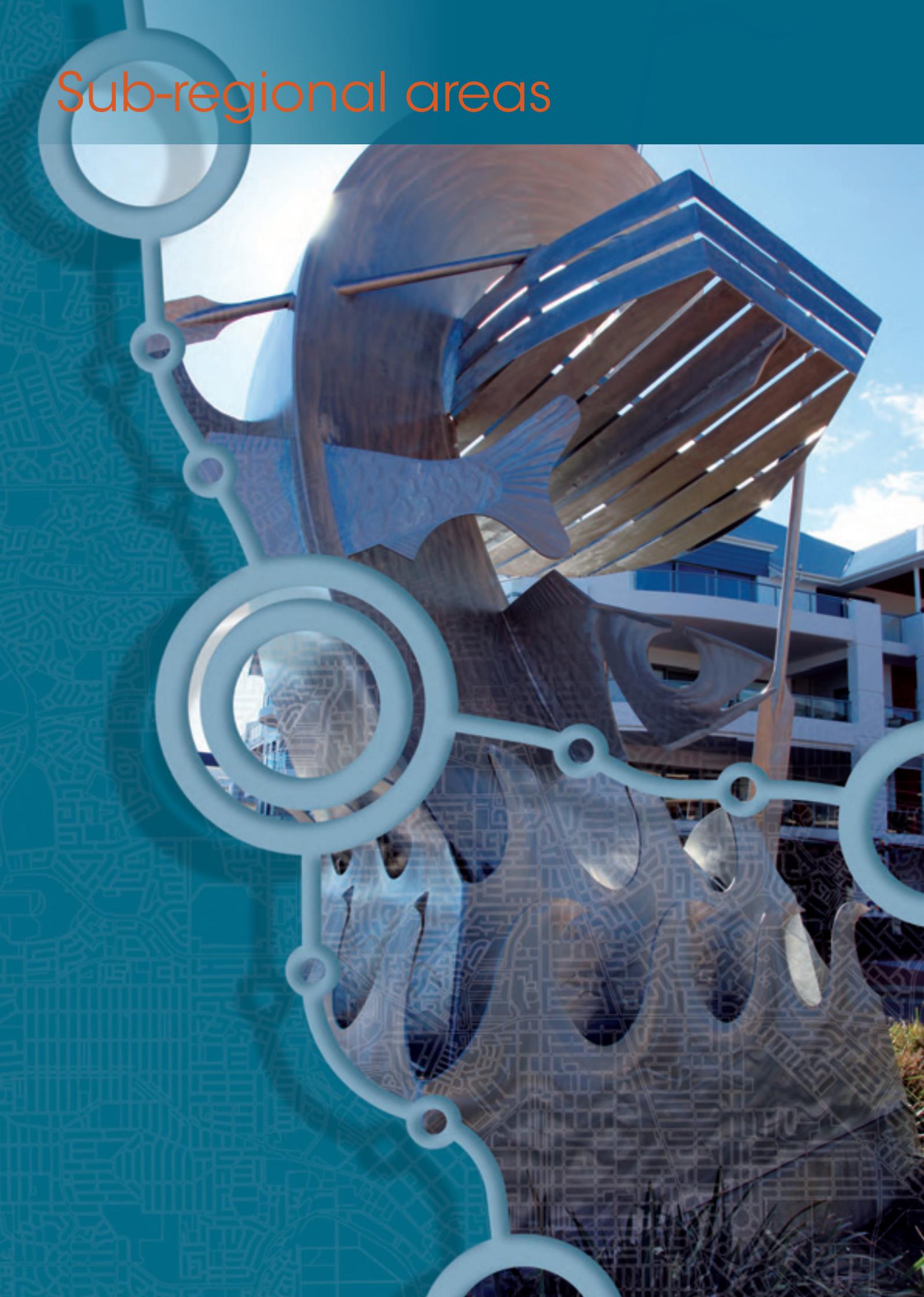
The Department of Planning will establish a stakeholder engagement plan which will guide future consultation on urban growth issues affecting Perth and Peel. The plan will guide the ongoing consultation with key state infrastructure service agencies, public utilities and local government to address:

- new infrastructure projects or upgrades to existing services to support the expected level of growth through infill development;
- the provision of infrastructure to support the development of existing urban and urban deferred zoned land; and
- the medium to long-term requirements of providing essential infrastructure services to future urban expansion areas.

These tasks will be developed over time through the metropolitan sub-regional strategies and the proposed Department of Planning urban expansion management program.

The plan will enable the creation of a stakeholder map and an opportunity to record the raising and resolution of issues in urban growth as identified by stakeholders in state and local government, the development industry and the community.

# Sub-regional areas



Directions 2031 has identified six sub-regional planning areas that will form the basis of future planning and policy development:

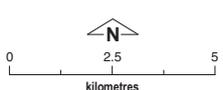
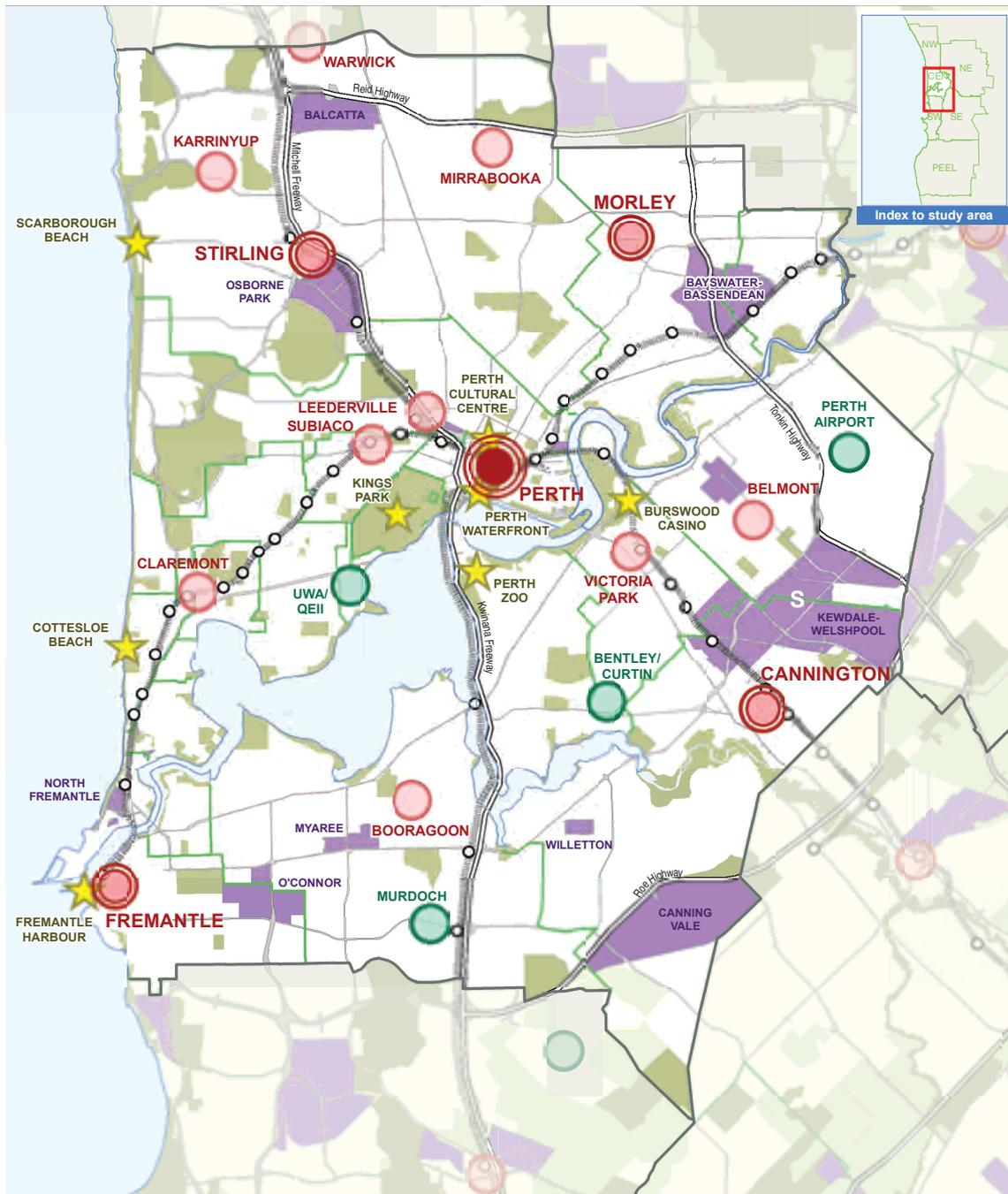
- Central;
- North-west;
- North-east;
- South-east;
- South-west; and
- Peel.

Each sub-region has its own distinctive characteristics. The central metropolitan Perth sub-region exhibits a more mature urban form, particularly in relation to land use type and intensity and infrastructure characteristics. The outer metropolitan Perth and Peel sub-regions are generally less developed and exhibit a patchwork of urban areas interspersed with rural and semi-rural areas. Consequently, each of the sub-regions presents a unique set of challenges and must be planned accordingly.

Two sub-regional strategies will be prepared for the central and outer metropolitan Perth and Peel sub-regions to give clear direction regarding the planning, management and staging of urban growth. These strategies will reinforce the strategic objectives outlined in Directions 2031, and will inform:

- the preparation of strategic and statutory plans and policies, by landowners, land and infrastructure developers and government; and
- the consideration and approval of local planning scheme amendments and structure plans by state government agencies, local governments, the WAPC and the Minister for Planning.





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- Legend**
- capital city
  - strategic metropolitan centre
  - secondary centre
  - specialised centre
  - metropolitan attractor

- strategic industrial centre
- existing industrial centre
- priority industrial site
- urban
- urban deferred
- non-urban
- rural
- passenger railway and stations
- freeways and highways
- local government boundary
- sub-region boundary

Figure 13: Central sub-region

## Central metropolitan Perth sub-region

The central metropolitan Perth sub-region comprises 19 local government authority areas: Perth, Subiaco, Nedlands, Fremantle, Belmont, Stirling, Canning, Bayswater, Melville, South Perth, Victoria Park, Vincent, Cambridge, Bassendean, East Fremantle, Mosman Park, Cottesloe, Claremont and Peppermint Grove.

The central metropolitan sub-region is characterised by some of the state's oldest urban settlement patterns and has a high level of amenity due to its proximity to the river and the coast. The sub-region also features important remnants of the city's pre-urban environment, retained in significant reserves such as Kings Park, Bold Park, Wireless Hill, Lake Monger, Herdsman Lake, the Swan and Canning river system and the coastal foreshore.

A particular characteristic of the sub-region is the dominance of the traditional grid form of neighbourhood subdivision, which provides important opportunities for targeted infill development and redevelopment to meet changing community needs. The "blanket" up-coding of large areas of the inner suburbs is not favoured, as it is unlikely to enhance the character of neighbourhoods.

In addition, challenges associated with heritage, development costs, servicing capacity and the provision of social infrastructure are more likely to influence development in the central sub-region, and must be considered in the planning of new areas to ensure they do not unduly constrain consolidation opportunities.

In recent years there has been an increase in the population of many central suburbs where previously there had been a general decline in growth associated with ageing populations and competition from other land uses. The demand for inner city residential locations is expected to continue for housing forms that can accommodate younger people and those wishing to remain in the neighbourhoods they grew up in. However, there is also a need to introduce greater diversity in the new housing market to accommodate families.

Under the connected city scenario, it is estimated that by 2031 the population of the central metropolitan sub-region will have grown by 29 per cent to 910,000. Due to the concentration of existing commercial and employment centres, the sub-region enjoys a very high level of employment self-sufficiency. This trend is expected to continue, with Perth city remaining the highest order activity centre in the metropolitan region. With high employment self-sufficiency comes the challenge of managing the movement of people and goods into, out of, and around the sub-region. Transport congestion, capacity, and travel time and cost are therefore critical issues to be addressed in future planning.

Characteristics	2008		
Urban and urban deferred area	29,500 ha		
Urban area already developed	29,000 ha		
Growth	2008	2031	Change
Population	705,000	910,000	205,000
Dwellings	319,000	440,000	121,000
Resident labour force	342,000	469,000	127,000
Jobs in the area	423,000	570,000	147,000
Employment self-sufficiency	124%	121%	

## Centres network

### Activity centres

Capital City	
Perth	Northbridge
East Perth	West Perth
Strategic Metropolitan Centres	
Cannington	Morley
Fremantle	Stirling
Secondary Centres	
Belmont	Leederville
Booragoon	Mirrabooka
Claremont	Subiaco
Karrinyup	Victoria Park



District Centres			
Ashfield	East Victoria Park	Main St	Petra St
Bassendean	Fitzgerald St	Maylands	Riseley St
Bentley	Floreat	Melville	Riverton
Bull Creek	Glendalough	Mount Lawley	Scarborough
Burswood	Highgate	Mount Hawthorn	Southlands
Canning Bridge	Inglewood	Noranda	Stirling Central
Cottesloe	Wembley / Jolimont	North Fremantle	West Leederville
Dianella	Kardinya	Northlands	South Perth (Peninsula)
Dog Swamp	Livingston	Oats Street	

### Specialised centres



Specialised Centres	
Murdoch	Perth Airport
Curtin / Bentley	UWA-QEII

## Industrial centres

Existing Industrial Centres	
Bayswater/Bassendean	Osborne Park
Canning Vale	Willetton
Balcatta	Belmont
North Fremantle	Myaree
O'Connor	
Strategic Industrial Centre	
Kewdale / Welshpool	



## Metropolitan attractors

The central metropolitan sub-region contains eight metropolitan attractors identified in Directions 2031:

<b>Burswood</b>	The Burswood Entertainment Complex includes Burswood Casino, Western Australia's only licensed casino; the Burswood Theatre and Dome venues for theatrical and sporting events; nightclubs; restaurants and bars. Outside the entertainment complex is the Burswood Park Public Golf Course, State Tennis Centre and Belmont Racecourse. Burswood Peninsula is located nearby, and is a node of high density living.
<b>Cottesloe Beach</b>	Cottesloe Beach is one of Perth's most popular beaches for swimming and snorkelling. There is also a beachside pub and café culture which provide jobs and economic activity in the area.
<b>Fremantle Harbour</b>	Fremantle Fishing Boat Harbour is an operational fishing port, with a lively array of cafés, restaurants, nightclubs and pubs. The Fremantle Maritime Museum is located nearby.
<b>Kings Park</b>	Kings Park is the most popular visitor destination in Western Australia, covering around 400 hectares in the city. It has spectacular views across the city and out to the Perth Hills, and many facilities such as a major children's park, outdoor cinema and a restaurant and cafés.
<b>Perth Cultural Centre</b>	The Perth Cultural Centre is located in Northbridge and is home to the Western Australian Museum, Art Gallery of Western Australia, Library and Information Service of Western Australia, Perth Institute of Contemporary Arts, the new State Theatre and The Blue Room Theatre. It is currently undergoing redevelopment by the East Perth Redevelopment Authority.
<b>Perth Waterfront</b>	Perth waterfront currently contains a small entertainment precinct. However, state government plans are progressing to create a vibrant, exciting waterfront precinct which will be connected to the city and the Swan River. The plan contains office space, apartment living, hotels and retail space.
<b>Perth Zoo</b>	Perth Zoo is a major tourist attraction located in South Perth and a venue for summer concerts. The zoo runs many programs for the conservation of endangered species. It has been particularly successful with its western swamp tortoise breeding program.
<b>Scarborough Beach</b>	Scarborough Beach is a highly popular swimming and surfing beach, with many restaurants and night-time activity spots located along it. There is also a major hotel at the beach, which supplies jobs to the area.

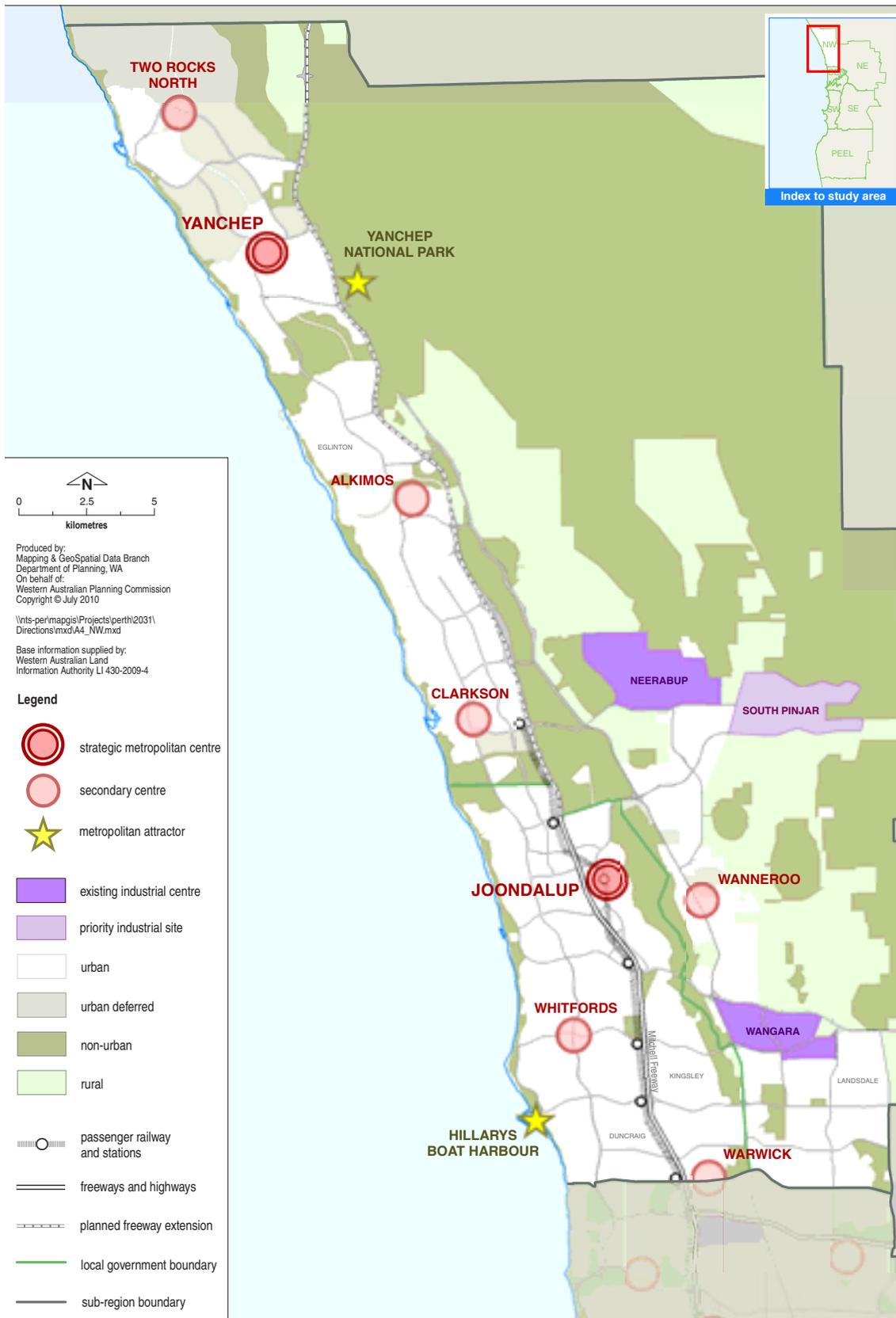


Figure 14: North-west sub-region

## North-west sub-region

The north-west metropolitan sub-region encompasses the local government areas of Joondalup and Wanneroo. The sub-region contains approximately 17 per cent of the total developed land in the Perth metropolitan area.

The north-west sub-region is serviced by the Mitchell Freeway and Joondalup passenger railway line which provide direct, high-volume transport connections to the capital city. Joondalup city centre is the prominent commercial centre in the sub-region and is located 25 kilometres north of Perth. Average peak hour travel times between Joondalup and Perth are 26 minutes by rail and 60 minutes by car.

The sub-region has attracted significant population growth over the past 20 years, due primarily to its proximity to the ocean and access to high-order transport infrastructure. However, despite significant investment in the Joondalup town centre, the sub-region is yet to develop a strong local employment base. As a result, the majority of residents must travel outside the area for work, placing increasing pressure on transport infrastructure and making the growing population more vulnerable to increases in travel time and associated costs.

Under the connected city scenario it is estimated that by 2031 the population of the north-west sub-region will have grown by 39 per cent to 395,000. To achieve Directions 2031 outcomes employment self-sufficiency must increase from the current level of 41 per cent to at least 60 per cent if the negative impact of a relatively weak local employment base is to be moderated. Attracting the additional 69,000 jobs required to achieve this level of employment self-sufficiency presents a significant challenge for the sub-region in the coming decades.

North-west sub-region characteristics		2008	
Urban and urban deferred area		20,500 ha	
Urban area already developed		13,000 ha	
Growth	2008	2031	Change
Population	285,000	395,000	110,000
Dwellings	107,000	172,000	65,000
Resident labour force	137,000	209,000	72,000
Jobs in the area	56,000	125,000	69,000
Employment self-sufficiency	41%	60%	

### Centres network

#### Activity centres

Strategic Metropolitan Centres	
Joondalup	Yanchep*
Secondary Centres	
Alkimos*	Wanneroo
Clarkson	Warwick
Two Rocks North*	Whitfords
District Centres	
Alexander Heights	Greenwood
Butler (Brighton)*	Madeley
Currambine	Neerabup (Banksia Grove)*
Eglinton*	Sorrento
Girrawheen	Woodvale
Yanchep centres 'C', 'F' and 'K'*	

\*emerging centres



#### Industrial centres

Existing Industrial Centres	
Neerabup	Wangara
Priority Industrial Site*	
South Pinjar	

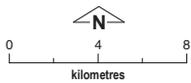
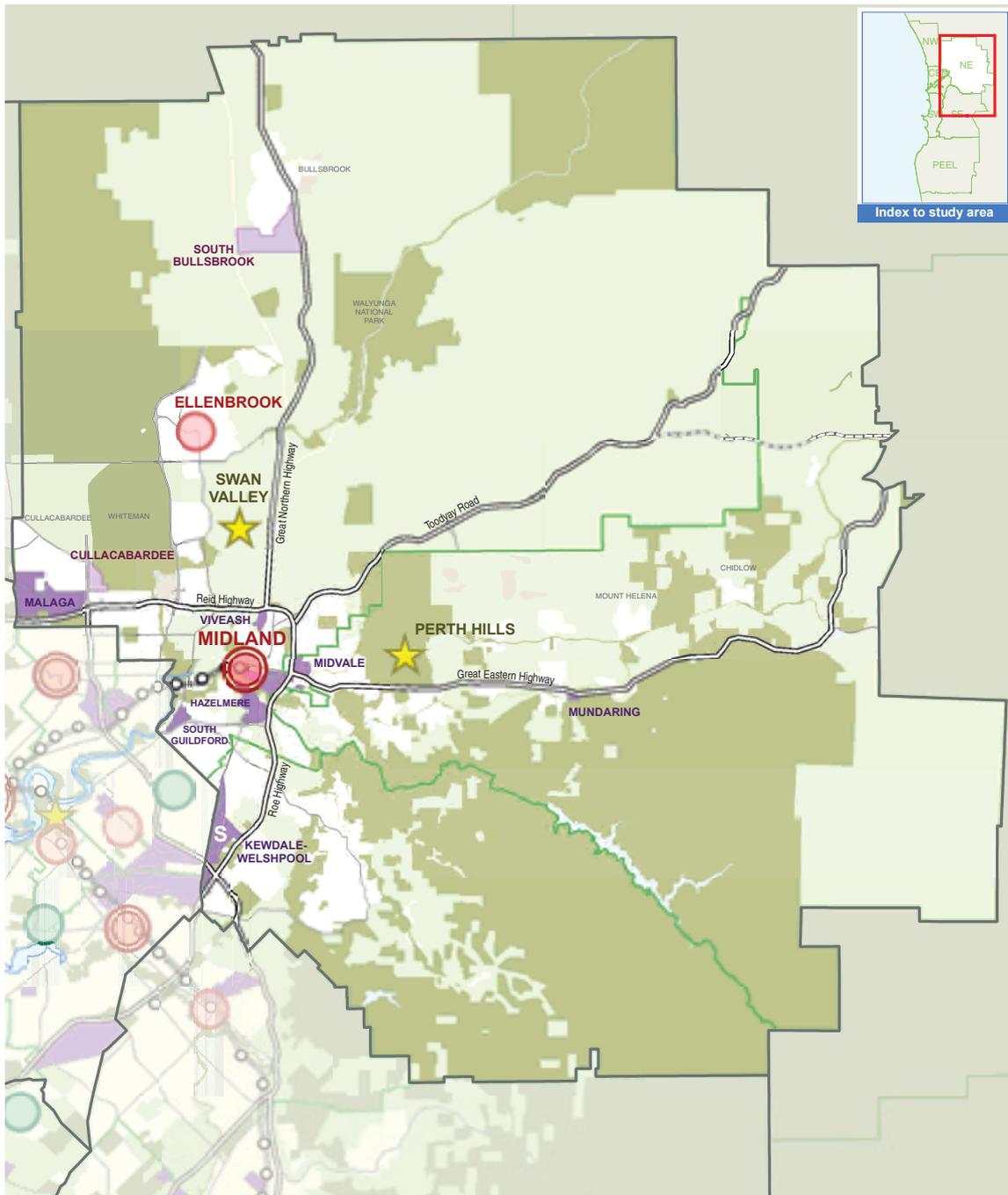
\* Subject to investigation



#### Metropolitan attractors

The north-west sub-region contains two metropolitan attractors:

<b>Hillarys Boat Harbour</b>	Hillarys Boat Harbour is a diverse destination, containing boat pens, shops, bars, clubs, restaurants and accommodation. It also has a combination adventure and water park and is home to the Aquarium of Western Australia.
<b>Yanchep National Park</b>	Yanchep Beach is located near the emerging strategic metropolitan centre of Yanchep and includes a popular lagoonal beach. Inland is the Yanchep National Park, which contains many species of rare flora and fauna, as well as coastal wetlands, lakes and cave systems.



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**Legend**

- strategic metropolitan centre
- secondary centre
- metropolitan attractor

- strategic industrial centre
- existing industrial centre
- priority industrial site
- urban
- urban deferred
- non-urban
- rural

- passenger railway and stations
- freeways and highways
- planned highway extension
- local government boundary
- sub-region boundary

Note:  
Map is based on Region Scheme zones and does not include redevelopment authority areas

Figure 15: North-east sub-region

## North-east sub-region

The north-east metropolitan sub-region encompasses the local government areas of Swan, Kalamunda and Mundaring.

The north-east is predominantly non-urban with only nine per cent of land being zoned for urban purposes. The natural and modified landscapes of the north eastern hills, the Darling and Gingin escarpments and the unique character of the Swan Valley combine to provide an attractive setting for residents and visitors. Midland is the principal centre of activity in the sub-region and is located approximately 16 kilometres east of Perth city. Midland is a diversified centre that acts as a gateway to the Swan Valley and provides a range of services, facilities and employment opportunities to a large hinterland catchment. Midland has benefited from a recent increase in development intensity and also from State Government investment via the Midland Redevelopment Authority.

Under the connected city scenario, the north-east sub-region is forecast to grow to an estimated population of 258,000 by 2031, a 37 per cent increase on current population levels. The additional 40,000 dwellings necessary to accommodate this growth will need to be carefully planned to ensure the natural attributes, built heritage and local character of the area are protected.

The north-east metropolitan sub-region has a diverse local employment base and enjoys a relatively high level of employment self-sufficiency at 63 per cent. Directions 2031 predicts that the trend for increasing levels of local employment are likely to continue and has identified a target of 75 per cent employment self-sufficiency. To achieve this target, it is estimated that the sub-region will need to attract another 42,000 jobs by 2031.

North-east sub-region characteristics		2008	
Urban and urban deferred area		13,600 ha	
Urban area already developed		10,900 ha	
Growth	2008	2031	Change
Population	189,000	258,000	69,000
Dwellings	73,000	113,000	40,000
Resident labour force	89,000	131,000	42,000
Jobs in the area	56,000	98,000	42,000
Employment self-sufficiency	63%	75%	

### Centres network

#### Activity centres

<b>Strategic Metropolitan Centre</b>	
Midland	
<b>Secondary Centre</b>	
Ellenbrook	
<b>District Centres</b>	
Albion*	Kalamunda
Forrestfield	Mundaring

\*emerging centres



### Industrial centres

<b>Strategic Industrial Centres</b>	
Forrestfield portion of Kewdale / Welshpool	
<b>Existing Industrial Centres</b>	
Hazelmere	Malaga
Viveash	South Guildford
Midvale	Mundaring
<b>Priority Industrial Site*</b>	
South Bullsbrook Townsite	Cullacabardee

\* Subject to investigation



### Metropolitan attractors

The north-east sub-region contains two metropolitan attractors:

<b>Swan Valley</b>	The Swan Valley is the oldest wine region in WA, containing an array of restaurants, breweries, wineries, cafés, distilleries and accommodation.
<b>Perth Hills</b>	The Perth Hills run approximately parallel to the coast through the north-east and south-east sub-regions. They consist of the ranges separating the inland Darling Plateau from the Swan Coastal Plain. The hills are largely natural areas, with many reserves, cycle trails and contain part of the Bibbulman Track.  They are a visible landscape feature from areas in the central, north-west and south-west metropolitan sub-regions.

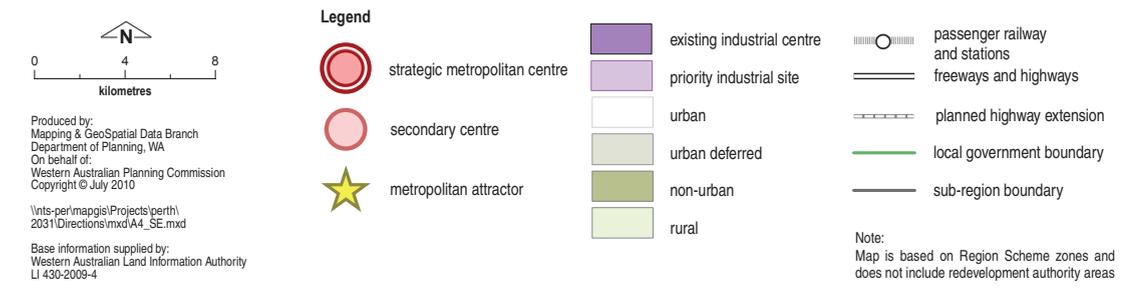
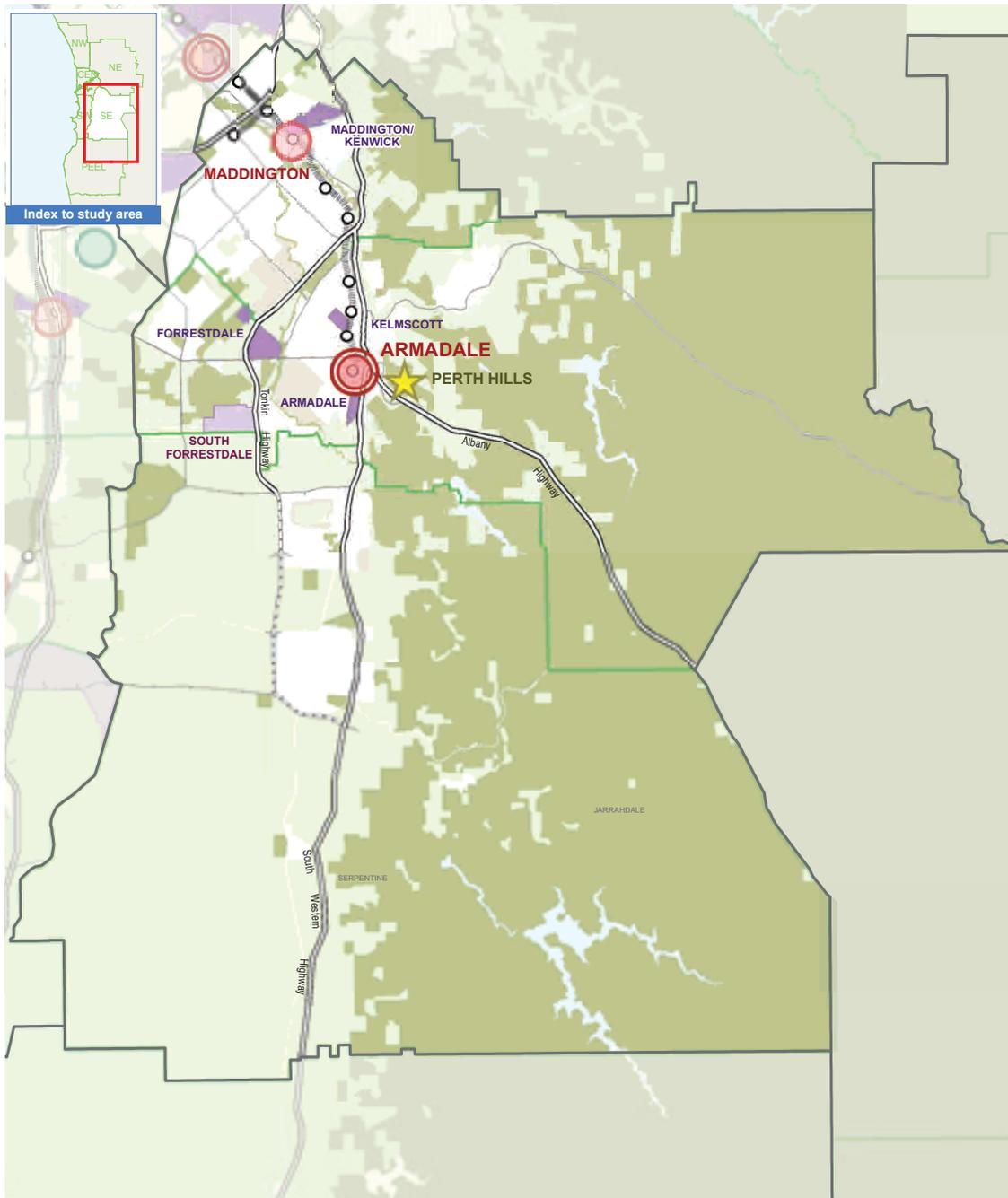


Figure 16: South-east sub-region

## South-east sub-region

The south-east metropolitan sub-region encompasses the local government areas of Gosnells, Armadale and Serpentine-Jarrahdale. It includes a variety of landscapes, ranging from highly urbanised areas to semi-rural, rural and state forest. The topography is generally characterised by relatively low-lying coastal plains to the west and elevated hill country to the east, dominated by the Darling Escarpment.

The south-east is serviced by the Armadale railway line, Albany Highway and Tonkin Highway, which provide high volume connections to the Perth CBD, Perth Airport and the wider metropolitan area. Albany Highway and the South West Highway also provide important regional connections to the south and south-west of the state.

Armadale is the principal centre of activity within the sub-region and, with the benefit of State Government investment in the Armadale Redevelopment Authority, is evolving into a diverse centre offering a range of services and facilities to its catchment.

Notwithstanding this investment, the south-east sub-region has a relatively low level of employment self-sufficiency, which means that a significant number of residents must travel outside the area for work.

Under the connected city scenario it is estimated that by 2031 the population of the sub-region will have grown to 228,000, a 34 per cent increase on current population levels. Directions 2031 has identified an employment self-sufficiency target of 55 per cent for the sub-region, which will require 31,000 new jobs by 2031. This is a significant increase on current employment levels and will require concerted action over the next two decades if it is to be achieved.

Based on these growth estimates, the south-east sub-region will also need to accommodate an additional 35,000 dwellings.

North-east sub-region characteristics		2008	
Urban and urban deferred area		14,000 ha	
Urban area already developed		10,600 ha	
Growth	2008	2031	Change
Population	170,000	228,000	58,000
Dwellings	65,000	100,000	35,000
Resident labour force	76,000	114,000	38,000
Jobs in the area	32,000	63,000	31,000
Employment self-sufficiency	42%	55%	

### Centres network

#### Activity centres

Strategic Metropolitan Centre	
Armadale	
Secondary Centre	
Maddington	
District Centres	
Byford	Mundijong*
Forrest Lakes	North Forrestdale (Newhaven)*
Gosnells	Thornlie
Kelmscott	Wungong*

\*emerging centres



#### Industrial centres

Strategic Industrial Centres	
Kewdale / Welshpool	
Existing Industrial Centres	
Forrestdale	Maddington / Kenwick
Armadale	Kelmscott
Priority Industrial Site*	
South Forrestdale	

\* Subject to investigation



#### Metropolitan attractors

The Perth hills run through the south-east sub-region, as well as the north-east sub-region. They are largely natural areas, with many reserves and cycle trails, and they contain part of the Bibbulmun Track.

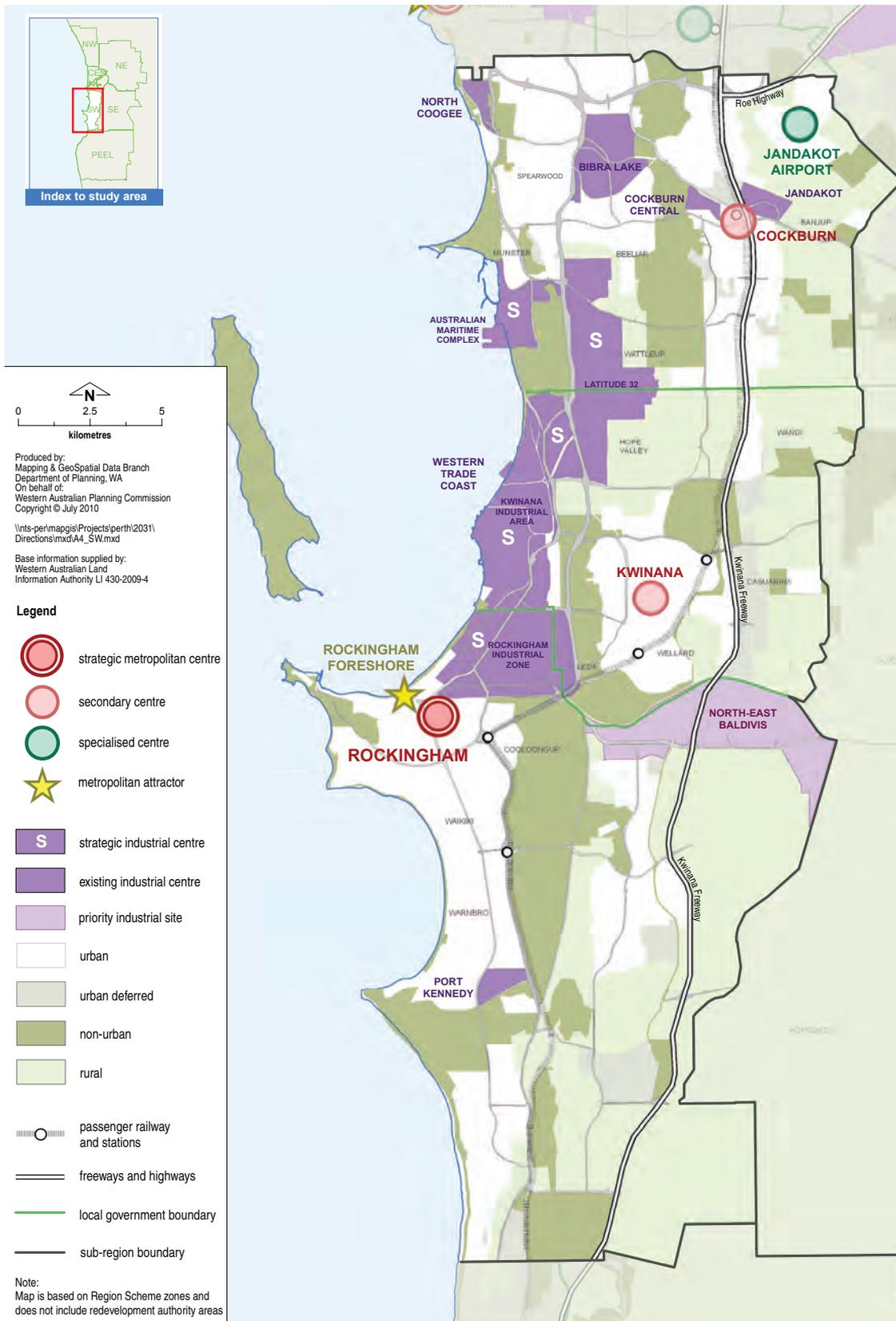


Figure 17: South-west sub-region

## South-west sub-region

The south-west metropolitan sub-region encompasses the local government areas of Cockburn, Rockingham and Kwinana. The sub-region has experienced considerable economic and population growth driven by continued high demand for coastal locations, historically strong demand for lower density suburban development and a consistently high level of industrial activity.

The sub-region is serviced by primary road and rail infrastructure including the Kwinana Freeway and the Mandurah passenger railway line, which provide high-volume and high-frequency connections to Perth city and enable the effective movement of people, goods and services throughout the sub-region. Rockingham is the principal centre of mixed use activity and is classified under Directions 2031 as a strategic metropolitan centre. The sub-region is also home to the Kwinana strategic industrial centre and the Henderson industrial area, which are a major focus of heavy industrial and export-oriented industry that employs more than 10,000 workers.

Under the connected city scenario it is estimated that by 2031 the population of the south-west sub-region will have grown by 34 per cent to 278,000. The sub-region currently enjoys a relatively strong employment self-sufficiency rate of 60 per cent; however, with the intensification of Rockingham and progressive development of the Latitude 32 industrial area, Directions 2031 expects the sub-region to increase its employment self-sufficiency rate to 70 per cent, which will require 41,000 new jobs by 2031.

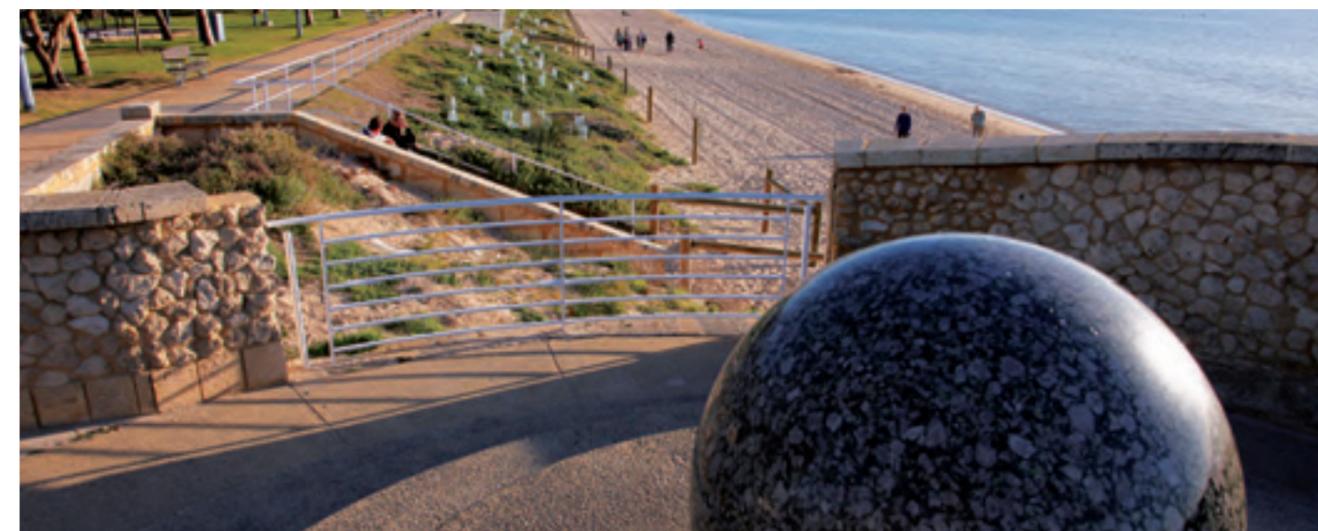
South-west sub-region characteristics		2008	
Urban and urban deferred area		14,100 ha	
Urban area already developed		10,700 ha	
Growth	2008	2031	Change
Population	208,000	278,000	70,000
Dwellings	82,000	123,000	41,000
Resident labour force	86,000	133,000	47,000
Jobs in the area	52,000	93,000	41,000
Employment self-sufficiency	60%	70%	

### Centres network

#### Activity centres

Strategic Metropolitan Centre	
Rockingham	
Secondary Centres	
Cockburn	Kwinana
District Centres	
Baldivis	Secret Harbour
Cockburn Coast*	Spearwood
Karnup*	Warnbro
Wandi*	

\*emerging centres



#### Specialised centres

Specialised Centre
Jandakot Airport

#### Industrial centres

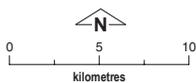
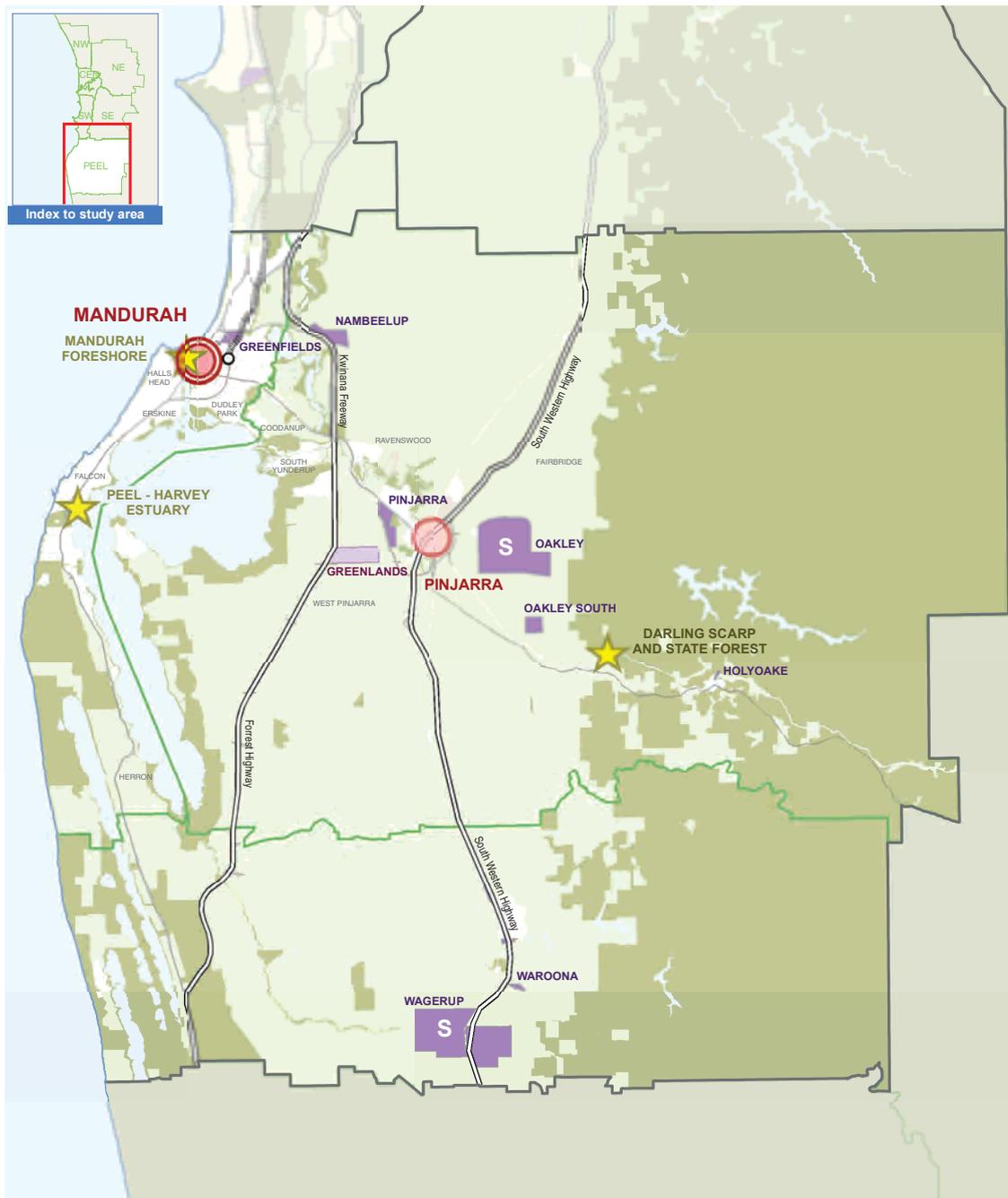
Strategic Industrial Centres	
Western Trade Coast	
Existing Industrial Centres	
Bibra Lake	O'Connor
North Coogee	Cockburn Central
Jandakot	Port Kennedy
Priority Industrial Site*	
North-east Baldivis	

\* Subject to investigation



#### Metropolitan attractors

Rockingham Beach is a popular beach for swimming, sailing, snorkelling and dolphin watching.



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**Legend**

- strategic metropolitan centre
- secondary centre
- metropolitan attractor

- strategic industrial centre
- existing industrial centre
- priority industrial site
- urban
- urban deferred
- non-urban
- rural

- passenger railway and stations
- freeways and highways
- local government boundary
- sub-region boundary

Figure 18: Peel sub-region

## Peel sub-region

The Peel sub-region is situated immediately south of the Perth metropolitan region boundary, and comprises the local government areas of Mandurah, Murray and Waroona.

The area is characterised by an extensive coastal plain stretching from the Indian Ocean in the west to the Darling Escarpment in the east. The coastal plain contains the Serpentine, Murray and Harvey major river systems that drain into the Peel-Harvey Estuary and a system of interconnected wetlands (including the internationally recognised and Ramsar registered Peel-Yalgorup system), which contribute to the complex hydrology of the area. Beyond the Darling Escarpment are significant tracts of state forest and important surface water catchment areas that feed the north and south Dandalup rivers and dams.

The sub-region has experienced significant population growth over the past decade, with much of this growth occurring in the coastal local government area of Mandurah. Under the connected city scenario it is estimated that by 2031 the population of the Peel sub-region will have grown by 50 per cent to 133,000 generating demand for an additional 26,000 dwellings. This level of growth will place significant pressure on existing infrastructure and will need to be carefully planned to ensure it does not unduly impact on the sensitive environmental features of the area.

High population growth has been accompanied by strong growth in retail, consumer service and producer service activities, which has enabled the sub-region to sustain a relatively high level of employment self-sufficiency at 71 per cent. Directions 2031 has identified a future employment self-sufficiency target of 80 per cent for the sub-region, which will require the creation of an additional 23,000 jobs.

Peel sub-region characteristics		2008
Urban and urban deferred area		8,800 ha
Urban area already developed		5,700 ha

Growth	2008	2031	Change
Population	88,000	133,000	45,000
Dwellings	38,000	64,000	26,000
Residential labour force	29,000	55,000	26,000
Jobs in the area	21,000	44,000	23,000
Employment self-sufficiency	71%	80%	

### Centres network

#### Activity centres

Strategic Metropolitan Centre	
Mandurah	
Secondary Centre	
Pinjarra	
District Centres	
Falcon	Ravenswood (Riverfront)*
Halls Head	Waroona
Lakelands	

\*emerging centres



#### Industrial centres

Strategic Industrial Centres	
Oakley (Alcoa)	Wagerup (Alcoa)
Existing Industrial Centres	
Pinjarra	Nambeelup
Greenfields	Oakley South
Holyoake	Waroona
Pinjarra	
Priority Industrial Site*	
Greenlands	

\* Subject to investigation



#### Metropolitan attractors

Mandurah foreshore and the Peel-Harvey Estuary are popular for swimming, boating, and recreational activities and dining in waterfront restaurants.

# Implementation





Directions 2031 provides the framework for the future growth and development of Perth and Peel within which more detailed policies and programs will be progressively developed and refined. It is important to recognise that this is not a statutory plan, but rather a long-term strategic guide to decision-making.

The metropolitan Perth and Peel region schemes are perhaps the most visible aspect of regional planning, but there is a need for supporting implementation measures to provide the specific direction and coordination necessary to plan for anticipated growth.

The aim of the spatial framework is to align regional, sub-regional and local planning for the:

- development of activity centres;
- roll-out of infrastructure;
- development of greenfield land ;
- facilitation of infill development; and the
- development of transport networks.

Directions 2031 also responds directly to several of the tasks identified in the WAPC Statement of Planning Policy No. 1 State Planning Framework Policy (Variation No. 2) including detailing the metropolitan structure, determining local population housing and job targets, managing growth and developing the activity centre concept.

In order to achieve the objectives of Directions 2031 a series of key next steps and initiatives have been identified and grouped according to the five Directions 2031 themes.

The implementation plan identifies state agencies, local government authorities and other stakeholders that will lead or partner the delivery of these initiatives which will be commenced or completed as part of an ongoing program across four time frames:

- short term of 1 to 2 years;
- medium term of 3 to 5 years;
- long term of 6 or more years; and
- ongoing.

Some of the actions are already being addressed through the review or development of policies and plans, while others will be prioritised to ensure the objectives outlined in Directions 2031 are achieved.

It is intended that the Department of Planning, the WAPC and other state government stakeholders will have an ongoing role in facilitating the implementation of a number of the actions in this metropolitan strategy over the short to medium term. State government will also provide advice and assistance to local governments responsible for implementing a number of these initiatives and achieving the Directions 2031 housing and employment targets.

Cooperation between local authorities is critical and will be encouraged in the achievement of the targets. Local governments need to be responsible for developing realistic, market-oriented plans and strategies for encouraging innovative infill and greenfield development. As part of this, they need to be the advocates for the housing needs of future generations and to take ownership of their community's part of a larger regional infill obligation.

Equally, targets will be achieved only if the private sector developers are willing and able to invest in higher density housing projects. Investment must be seen as an attractive proposition which meets the expectations of the market in terms of the buyer's preference.

Private sector and government leadership is required to overcome the barriers to achieving the housing targets. A much greater level of certainty about approval outcomes must be provided along with the provision of supportive infrastructure. A cultural and attitudinal shift towards infill is also needed.

The State Government plays an important role in strategic land use planning and development regulation. The WAPC provides government leadership in planning, supported by a range of new legislative reforms which will strengthen its ability to ensure that plans and strategies are implemented.

- Lead agency
- Partners / stakeholders

Initiatives	Time frame
-------------	------------

### Initiatives for a liveable city

1. Develop a toolbox which features best practice examples to provide local governments with a resource to help create more high quality places of dense development. It will provide examples of sensitive infill, innovation and world class design in residential developments, mixed use developments and public spaces.	Short term
2. Review Liveable Neighbourhoods to update and incorporate contemporary approaches to structure planning and subdivision design. Priority issues include public open space, school sites, road standards and urban water management.	Short term
3. Implement demography and indicators program to provide: <ul style="list-style-type: none"> <li>• population, dwelling and employment projections;</li> <li>• demographic and economic expertise and advice on land use planning and transport projects and developments; and</li> <li>• knowledge and understanding of demographic trends and their future impacts on population, dwellings and employment.</li> </ul>	Short term
4. Review State Planning Policy 3.1 Residential Design Codes through: <ul style="list-style-type: none"> <li>• adoption of a multi-unit housing design code that will focus on multiple and grouped dwellings and the residential component of mixed use developments; and</li> <li>• review of the existing codes relating to the control of ancillary accommodation.</li> </ul>	Short term
5. Develop local housing strategies to complement or be incorporated in local planning strategies.	Medium term

### Initiatives for a prosperous city

1. Implement the activity centres network by: <ul style="list-style-type: none"> <li>• implementing the activity centres policy for Perth and Peel that aligns with and supports the strategic directions outlined in the spatial framework; and</li> <li>• preparing and regularly reviewing growth management strategies and structure plans for sub-regional areas to ensure staging of new development and investment in infrastructure supports and reinforces the spatial distribution of centres.</li> </ul>	Ongoing
2. Undertake an activity centres planning program in collaboration with local governments, key stakeholders and the community, to plan for the continued development and diversification of priority activity centres which will be reviewed every five years. This will include: <ul style="list-style-type: none"> <li>• <b>Activity centres audit:</b> the Department of Planning will carry out an audit of the identified activity centres in collaboration with local governments.</li> <li>• <b>Activity centre model framework:</b> the preparation of a set of guidelines to be adopted as a model framework for the future planning and design of activity centres.</li> <li>• <b>Activity centre plans:</b> where necessary the State Government will work in partnership with local governments, key stakeholders and the community to prepare plans for activity centres and develop strategies for their implementation.</li> </ul>	Ongoing

	Department of Planning	WAPC	Local government	Industry groups / private industry	Department of Transport	Commonwealth government	Main Roads WA	Public Transport Authority	Planning and Transport Research Centre	Academic institutions	Health Facilities	WALGA	Landcorp	Westnet Rail	Fremantle Ports	Dept Env and Conservation	Department of Water	Committee for Perth
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- Lead agency
- Partners / stakeholders

Initiatives	Time frame
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### Initiatives for a prosperous city continued

3. Produce an economic development strategy for Perth and Peel to address productivity and global competitiveness, as well as the need for new, or upgrading of old, economic infrastructure. This strategy will: <ul style="list-style-type: none"> <li>• facilitate sustainable business growth and investment;</li> <li>• foster innovation, entrepreneurship and collaboration;</li> <li>• further develop the hierarchy of centres, particularly the notion of developing primary centres;</li> <li>• identify retail and commercial floor space requirements;</li> <li>• promote employment generation; and</li> <li>• identify enabling infrastructure.</li> </ul>	Short term
4. Implement the industrial land development program to identify and monitor general industrial land in Perth and Peel.	Ongoing
5. Review the State Planning Policy 2.4 Basic Raw Materials and prepare a basic raw materials strategy.	Short term
6. Undertake a comprehensive survey of land use, employment and floor space information in commercial and industrial centres and public purpose and recreational complexes, to add to departmental information for guiding policy development.	Ongoing – every 5 years
7. Evaluate rationale for the construction of a third airport to service the metropolitan region. A process is urgently required to enable suitable sites to be identified now so that buffer zones may be included in future planning projects for establishing the type of airports required.	Medium term
8. Review of State Planning Policy 4.1 State Industrial Buffer Policy to ensure that essential industrial land is protected.	Short term
9. Finalise the capital city planning framework to guide the future development of the Perth central area.	Short term

### Initiatives for an accessible city

1. The Department of Transport, in conjunction with its portfolio partners, is preparing a Western Australian transport plan. The objective of the transport plan is to address the state's transport needs for the medium and long term. It is envisaged that the transport plan will consist of three principal documents: <ul style="list-style-type: none"> <li>• A high level policy document to articulate a long-term vision for Western Australia's transport system together with the objectives, targets and strategic policy principles required to deliver the vision.</li> <li>• A high level integrated transport network strategy comprising two separately themed, but interrelated documents covering metropolitan Perth and Peel transport and regional transport.</li> </ul>	Short term
2. Prepare a public transport plan for Perth that will build on the strengths of the current integrated public transport system, and focus on: <ul style="list-style-type: none"> <li>• enhancing the capacity of the public transport system;</li> <li>• addressing current gaps in service provision;</li> <li>• connecting centres;</li> <li>• supporting future urban growth; and</li> <li>• supporting the Perth central area.</li> </ul>	Short term

	Department of Planning	WAPC	Local government	Industry groups / private industry	Department of Transport	Commonwealth government	Main Roads WA	Public Transport Authority	Planning and Transport Research Centre	Academic institutions	Health Facilities	WALGA	Landcorp	Westnet Rail	Fremantle Ports	Dept Env and Conservation	Department of Water	Committee for Perth
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- Lead agency
- Partners / stakeholders

Initiatives	Time frame
<b>Initiatives for an accessible city</b> <i>continued</i>	
3. Investigate the development of a transport continuum that addresses the transport and planning requirements of regionally significant transport routes. This work will consider the needs of pedestrians as well as motorists, and aim to achieve a more balanced outcome for all types of users.	Short term
4. Prepare a metropolitan parking framework for centres that includes: <ul style="list-style-type: none"> <li>• appropriate levels of parking relative to the capacity of the transport system;</li> <li>• a structure for assessing parking provision;</li> <li>• management and regulatory structures;</li> <li>• prioritised access, pricing and funding for public transport, cycling and pedestrian facilities;</li> <li>• support for good urban design and amenity; and</li> <li>• guiding principles for local governments on good parking practices.</li> </ul>	Medium term
5. Review road reservation requirements for major road network links.	Short term
6. Review and identify primary regional road reservations in the MRS that are surplus to requirements to progress their sale, improve the statutory process for approvals along these roads and create landowner certainty.	Medium term
7. Develop a policy approach to deliver a more accessible built environment which better meets the needs of pedestrians, cyclists, seniors and people with disabilities.	Medium term
8. Finalise and subsequently implement the Perth bicycle network plan to create a strategic bicycle network and develop policy support for state and local government initiatives to increase cycling activity.	Short term
9. Develop an urban corridor policy informed by the outcomes of two pilot projects on Stirling Highway and Scarborough Beach Road and other related studies.	Short term
10. Expand the existing Fremantle Port by establishing a port in Cockburn Sound, including associated road and rail infrastructure, in conjunction with the Fremantle Ports (Fremantle Outer Harbour) Project.	Long term
11. Continue to promote and implement the Living Smart program including measures to reduce car dependency and promote alternative modes of travel.	Ongoing
12. Develop a freight transport strategy for the metropolitan Perth and Peel region to complement the public transport plan currently being developed by the State Government.	Short term

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- Lead agency
- Partners / stakeholders

Initiatives	Time frame	
<b>Initiatives for a sustainable city</b>		
1. Establish a policy direction for integration of natural resource management into the planning framework in accordance with the Directions Paper on the Integration of Natural Resources Management into Land Use Planning.	Ongoing	
2. Review and finalise the interim revised Planning for Bush Fire Protection Guidelines (Edition 2)	Short term	
3. Develop a climate change planning policy.	Short term	
4. Implement a biodiversity protection plan to: <ul style="list-style-type: none"> <li>• protect regionally significant vegetation;</li> <li>• support Swan Bioplan to identify significant natural areas on the Swan coastal plain;</li> <li>• support the implementation of WALGA's local government biodiversity planning guidelines to identify and integrate local biodiversity considerations into land use planning;</li> <li>• prepare and review state planning policies that consider the protection of significant environmental assets in Perth and Peel; and</li> <li>• finalise guidelines for the determination of wetland buffer requirements.</li> </ul>	Ongoing	
5. Finalise and implement the Perth Coastal Planning Strategy.	Short term	
6. Finalise the coastal planning guidelines to provide supplementary guidance to State Planning Policy 2.6 State Coastal Planning Policy.	Short term	
7. Develop a geographic information system tool for use in the consideration of matters of national environmental significance.	Short term	
8. Prepare and review water supply protection strategies and policies, particularly the Gnangara land use and water management strategy and the Jandakot Gnangara land use and water management strategy.	Short term	
9. Better Urban Water Management: <ul style="list-style-type: none"> <li>• Implement better urban water management as the preferred methodology for water sensitive urban design.</li> <li>• Review Statement of Planning Policy 2.7 Public Drinking Water Source Policy to better facilitate reuse of treated wastewater.</li> </ul>		
10. Implement land use and transport planning actions of the Perth air quality management plan implementation strategy.	Ongoing	

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- Lead agency
- Partners / stakeholders

Initiatives	Time frame
<b>Initiatives for a responsible city</b>	
1. Update the state planning framework and statement of planning policy 1 to include the new hierarchy of plans – Directions 2031 as the overarching strategic plan for the metropolitan Perth and Peel region, and the metropolitan sub-regional strategies as the next level of strategic planning for the central metropolitan Perth and outer metropolitan Perth and Peel sub-regions.	Short term
2. Review the State Planning Strategy in the context of Directions 2031.	Short term
3. Develop and implement metropolitan sub-regional strategies to support the implementation of Directions 2031 in the: <ul style="list-style-type: none"> <li>• central metropolitan Perth sub-region; and</li> <li>• outer metropolitan Perth and Peel sub-regions.</li> </ul>	Short term
4. Develop a series of sub-regional structure plans to support the implementation of the outer sub-regional strategy. The structure plans will provide more detailed spatial information than that provided in the sub-regional strategy.	Short term
5. Establish an alliance working group of key organisations and individuals to develop a Vision for Perth project that will be collaboratively implemented across government agencies and private organisations by undertaking the following key tasks: <ul style="list-style-type: none"> <li>• Formation of a vision statement and implementation plan based on a collective review of various stakeholder initiatives, strategies and plans.</li> <li>• Assistance with the development of a public discussion paper on the issues and options for the future development of Perth and Peel to accommodate 3.5 million people.</li> <li>• Advising and assisting with the engagement of the community in a dialogue process on the Vision for Perth project.</li> </ul>	Short term
6. Review sub-regional strategies based on information provided by the Office of Land and Housing and Supply which was recently established by the Department of Planning.	Short term
7. Implement the initiatives identified in the State Government’s Planning Makes it Happen: A Blueprint for Planning Reform including: <ul style="list-style-type: none"> <li>• simplifying planning approvals;</li> <li>• developing more effective planning instruments;</li> <li>• prioritising major projects;</li> <li>• coordinating infrastructure and land use planning;</li> <li>• developing comprehensive regional planning framework; and</li> <li>• strengthening governance and institutional arrangements.</li> </ul>	Ongoing
8. Establish a land coordination delivery unit between the Department of Planning and key service agencies to map and plan the short to medium-term infrastructure coordination task.	Short term
9. Establish and implement an urban expansion management program responsible for identifying and ensuring a sufficient supply of urban expansion areas to meet medium to long-term residential housing needs.	Short term Ongoing
10. Update guidelines for lifting urban deferment to ensure consistency with Directions 2031 in dealing with future residential development.	Short term



# Monitoring



To ensure that Directions 2031 remains aligned to the growth of the city, a process of monitoring and review will be established by the Department of Planning, which will include:

- benchmarking for Directions 2031 for the purposes of a five-yearly performance review, undertaken in line with the release of census data;
- regular reviews to ensure alignment with contemporary policy settings; and
- periodic reporting against key elements of the framework.

## Urban Development Program

The Department of Planning's Urban Development Program will serve as an evaluation tool to measure the delivery of the key aims of Directions 2031 and the sub-regional strategies.

The program aims to deliver:

- a more effective use of urban land;
- better staging of development; and
- prioritisation of infrastructure spending to support priority urban development.

The Department of Planning, Urban Growth Monitor, will provide regular tracking and monitoring of development in Western Australia's most urbanised areas including:

- urban zoned land supply;
- consumption of urban zoned land;
- subdivision activity;
- selected MRS amendments and their status;
- vacant lot stock; and
- strategic planning in progress.

The delivery of the Urban Development Program through the WAPC's Infrastructure Coordinating Committee is under way and is intended to be substantially completed by the end of 2010.