

5. Planning for a population of 3.5 million



It is inevitable our population will increase over that next 20 years. These increases are significant but they are not unexpected. The Directions 2031 strategic framework has incorporated the flexibility to cope with significant changes in population growth in order to plan for the medium to long term population housing needs to 2031 and beyond.

5.1 Population forecasts

There are a number of growth projections for Western Australia – including the WA Tomorrow (WAPC 2005) forecasts and those produced by the Australian Bureau of Statistics (ABS) (see Figure 8). These are based on different assumptions of mortality, fertility and migration.

The *WA Tomorrow* (2005) report provides population projections for growth up until 2031, which historically indicate an average annual growth rate of 1.5 per cent. WA Tomorrow forecasts that Perth and Peel will grow from the current population of 1.65 million, to more than 2.2 million by 2031. To accommodate this level of growth we will need another 328,000 houses and 353,000 jobs.



| Year | Australian Bureau of Statistics | | | | | | WA Tomorrow | |
|------|---------------------------------|-----------|----------------|-----------|----------------|-----------|----------------|-----------|
| | A High | | B Medium | | C Low | | (WAPC 2005) | |
| | Population (m) | Dwellings | Population (m) | Dwellings | Population (m) | Dwellings | Population (m) | Dwellings |
| 2016 | 2.06 | 307,000 | 2.00 | 298,000 | 1.94 | 289,000 | 1.73 | 258,000 |
| 2021 | 2.32 | 346,000 | 2.20 | 328,000 | 2.10 | 313,000 | 1.86 | 277,000 |
| 2026 | 2.60 | 388,000 | 2.41 | 359,000 | 2.26 | 337,000 | 1.99 | 297,000 |
| 2031 | 2.88 | 429,000 | 2.62 | 391,000 | 2.40 | 358,000 | 2.20 | 328,000 |

Figure 8: Comparison of Australian Bureau of Statistics and WA Tomorrow population growth forecasts and additional housing need

The ABS publishes a series of population forecasts⁷, which suggest that the population of Perth and Peel will be somewhere between 2.40 and 2.88 million people by 2031. This would mean that we would need somewhere between 450,000 and 730,000 additional dwellings and 480,000 and 790,000 extra jobs.

The high, medium and low ABS forecast series assume an annual net migration into Australia of 220,000 for the high series through to 180,000 and 140,000 for the medium and low series. The WA Tomorrow forecasts are based on 125,000 per annum. When compared with the average migration since 1981, which is slightly lower than 120,000, all of the ABS assumptions could be considered high. Prior to 2005 the only period where the annual immigration was greater than the lowest value of 140,000, were the quarters from March 1988 to March 1989.

5.2 Planning beyond 2031

Australia faces significant challenges over the long term to accommodate population growth and ageing, as well as climate change, national productivity and other social, economic and environmental drivers of change.

While Directions 2031 provides a medium term planning horizon for Perth, we must also look beyond 2031 to ensure the city is able to respond to longer term growth pressures in a sustainable way.

The Commonwealth Government, State of Australian Cities 2010 report refers to the ABS population forecasts, which project that the population of Australia will grow to 35.5 million by 2056 and that Perth will reach a city of 3.5 million by 2056⁸. The Commonwealth Government forecasts a slightly higher rate of growth, suggesting that Australia's population will be 35.9 million by 2050⁹.

The connected city medium-growth scenario suggests that the population of Perth will reach 3.5 million around 2050 and is currently considered the most likely medium to long term outcome. Population growth forecast will however, be monitored continuously through ABS data analysis and the WAPC's in order to review land supply requirements.

In response to population growth, Directions 2031 identified the need to plan for urban expansion beyond 2031 and initiated the process by undertaking initial scenario planning. Directions 2031 also identified the need to introduce an urban expansion management program of which ongoing scenario planning will undertaken as part of this program in order to maintain a sufficient supply of land for future growth in the long term.

⁷ ABS 2008. Population Projections Australia, 3222.0.

⁸ Commonwealth of Australia, 2010. *State of Australian Cities 2010*. Major Cities Unit, Infrastructure Australia.

⁹ Commonwealth of Australia, 2010. *Australia to 2050: future challenges*. Attorney-General's Department.



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6. Managing urban expansion



6.1 Urban expansion management program

In order to manage and maintain an urban expansion plan, Directions 2031 identified the need to establish an Urban Expansion Management Program. This program will be responsible for ensuring at least an ongoing 15 year land supply pipeline of current urban and urban deferred zoned land and a 10 year buffer of urban expansion areas.

To ensure the proposed ongoing minimum of fifteen years supply of undeveloped urban and urban deferred zoned land the urban expansion management program will need to:

- identify land ahead of the rezoning process;
- stage the rezoning of that land in response to future growth trends;
- ensure that there is sufficient land available for development at all times, without the need for blanket rezonings;
- identify land for rezoning to take place at the appropriate time in the most suitable locations; and
- complement the Urban Development Program, which coordinates the planning and release of serviced land in response to population growth trends and emerging development and planning opportunities and barriers.

The urban expansion management program will prepare and regularly review urban expansions plans comprising urban expansion areas and investigation areas. **However, it should not be assumed that urban expansion areas and investigation areas indicated in the draft urban expansion plan will be rezoned for urban or industrial development at anytime.**

6.2 Land use classifications

The urban expansion management program will identify existing urban and urban deferred zoned land; and indicate potential areas for expansion or investigation areas according to the following five land use categories for the Perth Metropolitan Region Scheme and the Peel Region Scheme:

- 1 Urban undeveloped land**
Land currently zoned urban and not yet developed.
- 2 Urban deferred undeveloped land**
Land currently zoned urban deferred and not yet developed.
- 3 Areas in the process of region scheme rezoning**
Areas currently in the process of rezoning to urban and which have been granted WAPC approval to advertise for development in the short term.
- 4 Urban expansion areas**
Areas of rural land identified as potential urban expansion areas for rezoning in the short term (within five years) subject to statutory rezoning processes.
- 5 Investigation areas**
Rural land to be investigated for potential rezoning in the short to medium term (within ten years) subject to statutory rezoning processes.

It is intended that these land use categories are to be used in the preparation of future sub-regional strategies and associated structure plans.

In the metropolitan region there are four separate areas that have been designated for redevelopment under the various redevelopment acts (*East Perth Redevelopment Act 1991, Subiaco Redevelopment Act 1994, Midland Redevelopment Act 1999 and Armadale Redevelopment Act 2001*). These areas generally coincide with land already zoned urban or city centre under the Metropolitan Region Scheme yet they are not taken into account in this draft strategy. Land use forecasting in the outer sub-regional strategy final report will include these redevelopment schemes.

6.3 Sufficient supply of land

The draft urban expansion plan is based on the following definition of sufficient land supply:

Ensure a 25 year supply of undeveloped land comprised of an ongoing land bank of at least 15 years supply of urban and urban deferred zoned land; and, at least a 10 year buffer of rural land identified for future urban expansion or investigation.

Other major Australian cities consider a 15 year land bank sufficient to manage growth¹⁰. Directions 2031 has adopted a similar approach in defining sufficient land supply, particularly given the high growth expectations of Western Australia and the larger metropolitan area.

In order to establish the urban expansion management program this sub-regional strategy has developed a draft urban expansion plan that indicates:

- existing undeveloped urban and urban deferred zoned land;
- expansions areas to be strategically assessed for potential rezoning in the short term of 2011 to 2015; and
- investigation areas to be strategically assessed for potential rezoning in the short to medium term of 2011 to 2020.

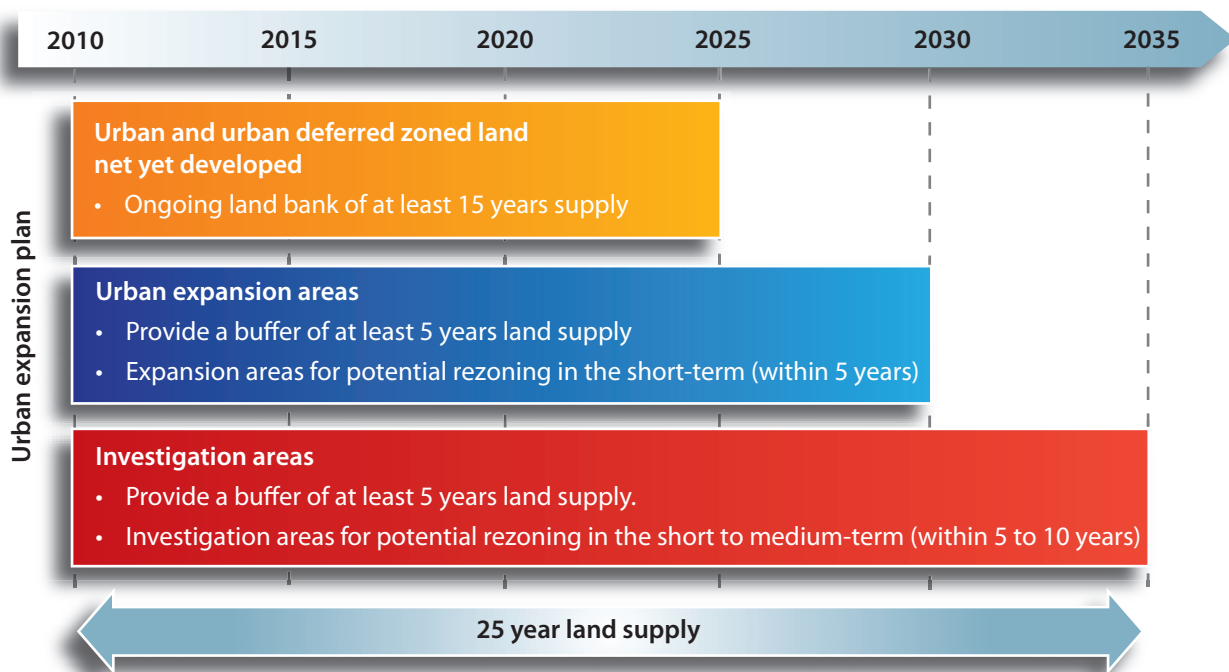


Figure 9: Urban expansion plan – 25 year land supply

¹⁰ See Planning the Adelaide We All Want: Progressing the 30-year Plan for Greater Adelaide: Draft for Consultation June 2009. p.156. Department of Planning and Local Government, Government of South Australia; and, Melbourne 2030: Planning for Sustainable Growth. October 2002. p. 34. State of Victoria.

6.4 Assumptions for determining land required for urban expansion

In determining the amount of land required for urban expansion, assumptions have been applied to the current stock of urban and urban deferred zoned land, and land zoned urban or urban deferred that is currently used for very low-density residential development. These worst-case scenario assumptions combine no change in densities or infill development with the demand for land remaining at boom time levels as a result of extremely high population growth.

1. **Assume a business as usual approach to greenfields development achieving an average density of 10 dwellings per gross urban zoned hectare.**

Although Directions 2031 has set a target of 15 dwellings per gross urban zoned hectare, the draft urban expansion plan assumes a business as usual approach to development and has estimated the amount of land required to provide a 10 year buffer based on 10 dwelling units per gross urban zoned hectare. It is still desirable that future development will aspire to the Directions 2031 target of 15 dwellings per gross urban zoned hectare or higher.

2. **Assume that the higher levels of land consumption experienced during the 2006 and 2007 property boom continue indefinitely at an average rate of 1120 hectares per annum.**

The *Urban Growth Monitor (WAPC 2009)* indicated that the current supply of land in the Perth Metropolitan Region Scheme and Peel Region Scheme includes more than 18,600 hectares of land that is zoned either urban or urban deferred, which is yet to be developed. Based on urbanisation rates achieved between 1991 and 2007, the average annual rate of consumption of developable land reported in the 2009 Urban Growth Monitor was approximately 880 hectares.

This historic trend implies that the approximate 18,600 hectares of urban and urban deferred zoned land as at December 2008 is sufficient to provide a land supply for approximately 21 years, although the future rate of annual consumption is likely to be highly variable depending upon the adopted planning approach and rates of population growth. In addition approximately 4900 hectares of land zoned either urban or urban deferred is identified as currently being used for very low-density residential development which, if intensified, could provide a further five years land supply bringing the total land supply to approximately 26 years.

The rate of consumption of urban zoned land increased steeply between 2001 and 2006, before levelling in 2007. This increase is consistent with the boom in property development in the same period with an average of 1120 ha of land being developed annually in 2006 and 2007¹¹. Similar levels of land consumption

| Assumption: The rate of urbanisation will remain at the higher levels experienced during 2006 and 2007 at an average rate of 1120 hectares per annum | Average annual rate of urbanisation |
|--|-------------------------------------|
| Average annual rate of development of urban and urban deferred zoned land between 1991 and 2007 (Urban Growth Monitor WAPC 2009) | 880 ha |
| Boom time peak rate of development of urban and urban deferred zoned land during 2006 and 2007 (Urban Growth Monitor WAPC 2009) | 1120 ha |

Figure 10: Average annual rate of urbanisation

¹¹ Urban Growth Monitor. p 23. (WAPC 2009).

occurred in the mid 1990s where a peak of 1200 ha was reached in 1994. However in contrast a low of 560 ha was recorded in 1997 reflecting the cyclical nature of residential development.

Based on the assumed inflated average rate of urbanisation of developable land at 1120 hectares per annum, the amount of land required to provide a 10 year buffer of urban expansion and investigation areas will be approximately 11,200 hectares.

The draft urban expansion plan includes provision for the WAPC to consider new applications for rezoning under the Perth Metropolitan Region Scheme and Peel Region Scheme for areas not currently indicated as urban expansion areas or investigation areas. This provision will also compensate for urban expansion areas or investigation areas which may not be rezoned within the identified timeframe or that are deemed unsuitable for development for various reasons.

While this approach identifies additional growth areas over and above land zoned urban and urban deferred and not yet developed, existing urban and urban deferred zoned areas should be prioritised for urban development, where appropriate.

6.5 Scenario planning for a city of 3.5 million people

In recognition of higher population growth rates scenario planning has been undertaken to determine the land supply needed to accommodate a city of 3.5 million people. Three growth scenarios for different rates of infill and greenfields development have been modelled on high, medium and low density scenarios.

The outcomes of the scenario-based planning method has informed the development of the draft urban expansion plan by indicating a range for the amount of additional greenfields land that would be required to accommodate more than double the current population – whenever that will occur.

The scenario planning method provides a systematic approach to future urban growth management. It provides an opportunity to take stock of current conditions and identify the drivers that may operate in the future. Rather than providing a prescriptive outcome, the scenario method makes assumptions about likely future conditions to predict alternative outcomes.

6.5.1 Scenario planning assumptions

In order to understand how a doubling of the population may impact on the growth of the metropolitan and Peel region the initial scenario planning used the following basic assumptions:

Assumption 1: Model three scenarios namely -

- Business as usual scenario;
- Directions 2031 connected city medium-density scenario; and
- High-density scenario.

The three scenarios are based on a business as usual low-density approach; the Directions 2031 connected city scenario is the preferred medium-density pattern of urban growth; and a high density scenario.

Assumption 2: Plan for the population to grow by at least 1.85 million people.

In anticipation of the population reaching a city of 3.5 million it will be necessary to plan for the population to grow by at least an additional 1.85 million people in the metropolitan Perth and Peel regions.

Assumption 3: At least 925,000 new dwellings will be required to accommodate an additional 1.85 million people – assuming a household occupancy of 2.0 persons per household.

Assumption 4: Assume infill take-up in the central and outer sub-regions based on (see Figure 11):

- High density scenario infill take-up rate in the central sub-region of 250,000 new dwellings; and a 15 per cent infill take-up rate of the of the total 925,000 dwellings required to accommodate 1.85 million people.
- Connected city medium density scenario infill take-up rate in the central sub-region of 225,000 new dwellings and a 12.5 per cent infill take-up rate of the of the total 925,000 dwellings required to accommodate 1.85 million people.

- Business as usual infill take-up rate in the central sub-region of 200,000 new dwellings in the central sub-region and 10 per cent infill take-up rate of the of the total 925,000 dwellings required to accommodate 1.85 million people.

Assumption 5: Assume the number of additional dwellings required in greenfields development based on infill take-up rates in the central and outer sub-regions (see Figure 12).

| Assumption 4: Infill take up rates for the central and outer sub-regions | | | | | | |
|--|-----------------------|-------------------------------|---|---------------------------------|---|------------------------------|
| | High density scenario | | Connected city Medium density scenario | | Business as usual Low density scenario | |
| | Population | Dwellings | Population | Dwellings | Population | Dwellings |
| Central sub-region infill | 500,000 | 250,000* | 450,000 | 225,000* | 400,000 | 200,000* |
| Outer sub-regional infill | 278,000 | 139,000 (15% take-up rate) | 232,000 | 116,000 (12.5% take-up rate) | 186,000 | 93,000 (10% take-up rate) |
| Total infill | 778,000 | 389,000 | 682,000 | 341,000 | 586,000 | 293,000 |

* Number of infill dwellings in the central sub-region includes the 121,000 dwellings identified by Directions 2031.

Figure 11: Additional dwellings required from low, medium and high density infill development (numbers rounded to the nearest thousand)

| Assumption 5: Assumed number of additional dwellings required in greenfields development based on infill take up rates in the central and outer sub-regions | | | | | | |
|---|---|----------------|--|----------------|---|----------------|
| | High density scenario (17 du/gross urban zoned ha) | | Connected city (15 du/gross urban zoned ha) | | Business as usual (10 du/gross urban zoned ha) | |
| | Population | Dwellings | Population | Dwellings | Population | Dwellings |
| City of 3.5 million | 1,850,000 | 925,000 | 1,850,000 | 925,000 | 1,850,000 | 925,000 |
| Less infill development | 778,000 | 389,000 | 682,000 | 341,000 | 586,000 | 293,000 |
| Total greenfield development | 1,072,000 | 536,000 | 1,168,000 | 584,000 | 1,264,000 | 632,000 |

Figure 12: Additional dwellings required from low, medium and high density greenfields development (numbers rounded to the nearest thousand)

Assumption 6: The range of densities achieved in greenfields development will vary from:

- High density scenario achieving 17 dwelling units per gross urban zoned hectare.
- Connected city scenario achieving the Directions 2031 target of 15 dwelling units per gross urban zoned hectare.
- Business as usual scenario achieving 10 dwelling units per gross urban zoned hectare.

Scenario planning outcomes

In addition to the current stock of 18,600 hectares of developable land, the scenario modelling indicates that the amount of land required to accommodate population growth through greenfields development will range from:

- high density scenario requiring approximately 12,900 hectares of additional greenfields land;
- connected city scenario requiring approximately 20,300 hectares of additional greenfields land; to
- business as usual scenario requiring approximately 44,600 hectares of additional greenfields land.

See Figure 13 and 14.

| Assumption 6: The range of densities achieved in greenfields development | High density scenario | Connected city scenario | Business as usual scenario |
|--|------------------------------|--------------------------------|-----------------------------------|
| Population – city of 3.5 million people greenfield development | 1,072,000 | 1,168,000 | 1,264,000 |
| Additional dwellings required from greenfields development | 536,000 | 584,000 | 632,000 |
| Density per gross urban zoned hectare | 17 du/ Gu Ha | 15 du/ Gu Ha | 10 du/ Gu Ha |
| Total greenfields land required to accommodate growth | 31,500 Ha | 38,900 Ha | 63,200 Ha |
| Current stock of developable urban and urban deferred zoned land - 2008 | 18,600 Ha | 18,600 Ha | 18,600 Ha |
| Approximate amount of land required to accommodate a city of 3.5 million people | 12,900 Ha | 20,300 Ha | 44,600 Ha |

Figure 13: Approximate amount of land required to accommodate a city of 3.5 million people (numbers rounded to the nearest hundred)

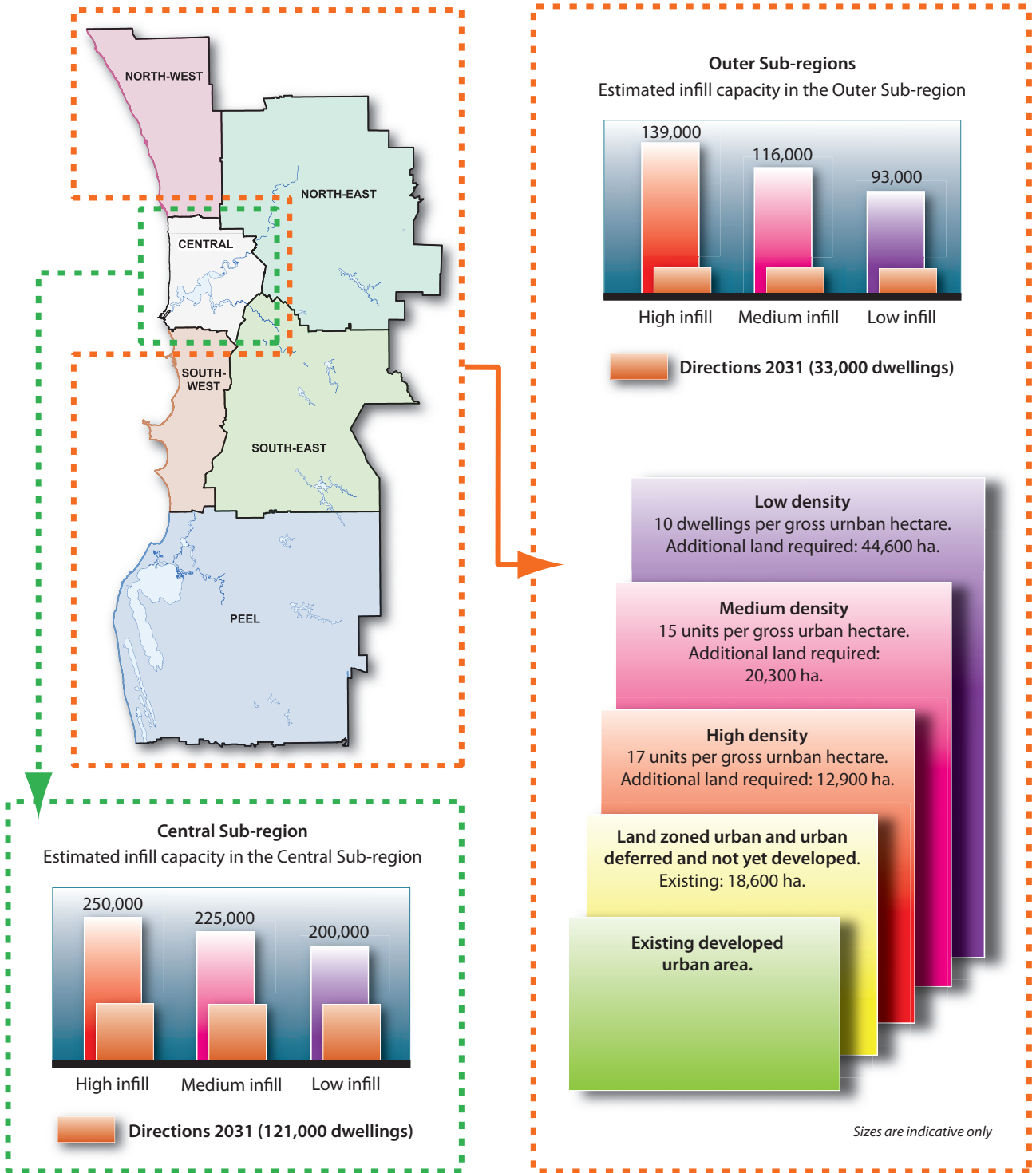


Figure 14: Scenario planning outcomes for additional land requirements to accommodate a city of 3.5 million people

6.6 Opportunities and constraints mapping

A process of analysing and mapping indicators of areas with most potential for future urban expansion and areas that were highly constrained and unsuitable for urban expansion, was undertaken on a metropolitan-wide scale to identify the relative suitability of undeveloped rural land.

Opportunities and constraints were mapped to:

- help identify land for future urban growth;
- inform decision-making for any region scheme amendment applications; and
- guide long-term strategic urban growth planning.

The opportunities and constraints mapping is not intended to be applied at a site-specific scale nor does it provide criteria for planning decisions at a micro level.

| Opportunities and constraints index | | |
|-------------------------------------|----------------------|--|
| Environmental index | Fauna and flora | Presence of areas in the Metropolitan Region Scheme (MRS): Parks and recreation Presence of areas in the Peel Region Scheme (PRS): Regional open spaces Presence of relevant areas in Swan Valley Planning Act Presence of Bush Forever sites All areas within a 1km buffer radius from declared rare flora locations All areas within a 1km buffer radius from declared threatened fauna locations All areas within a 1km buffer radius of threatened priority ecological communities Presence of Environmental Protection Authority System 6 Red Book conservation reserves Presence of potentially significant local natural areas Presence of ecological linkages |
| | Water | Presence of waterways areas Presence of geomorphic wetlands areas (excluded conservation areas) All public drinking water source areas (ie. Jandakot and Gnangara water mounds and Middle Helena catchment area – priority areas) |
| | Land capability | Areas with mid slopes All flood risk areas (excluded flood prone areas) All priority agricultural land All areas with high susceptibility to water logging All relevant areas within the Australian noise exposure forecast (eg. Murray, Jandakot, Perth Airports) All basic raw material resources areas (excluded licensed areas) All areas with acid sulfate soils with moderate to high risks All areas with high to severe physical limitations for the provision of septic tanks |
| Social and cultural index | Community facilities | Access to existing public transportation Access to existing regional health infrastructure Access to educational infrastructure Access to Aboriginal sites Access to existing police stations Adjacency to existing built up area and future urban zoned land |
| Economic index | Movement | Distance to activity centres Distance to Perth central business district Distance to major existing industrial precincts Distance to future Industrial Land Strategy (WAPC 2009) areas |

Figure 15: Opportunities and constraints index

The opportunities and constraints mapping analysis is based on a broad sustainability framework of environmental, economic, social and cultural factors to create a rated index of the extent to which land is constrained or provides opportunities for urban expansion in the metropolitan and Peel region (see Figure 15).

Severely environmentally constrained areas and other areas unsuitable for development were excluded from the mapping. These areas included Bush Forever sites, national and regional parks, Ramsar Convention listed wetlands, State forests, water protection areas, Aboriginal heritage sites, primary roads and railways, major port operations, portions of the Swan Valley, flood prone areas, areas with steep slopes, raw mineral resource extraction areas, waste water treatment plant buffer areas and major gas-pipeline corridors.

Areas affected by future sea level rise is based on a dataset consisting of contour lines which are derived from high resolution LiDAR data produced by the Department of Water. It represents possible water levels in the Swan and Canning rivers and these levels are based on Intergovernmental Panel on Climate Change projections. Water levels are mapped for 1990 (benchmark figures), 2030 (0.16m rise from 1990 water levels), 2070 (0.5m rise), 2100 (0.88m rise) and 2100 (1m – updated projection). The updated projected water levels mapped for 1m sea level rise are considered to be constrained areas and deemed unsuitable for development as part of this analysis. Notably, the modelling does not take into account underlying geology or geomorphology, any existing hard protection works or the physical processes that drive sediment and water movement and hence erosion and accretion.

Environmentally sensitive areas were analysed and a cumulative index was assigned to determine land that was constrained such as areas within a 1 kilometre radius of a declared rare or threatened fauna site. The lower the cumulative rating the less constrained the area is by environmental sensitive factors.

Social, cultural and economic indicators considered accessibility to and from places that contain employment opportunities and access to public transport; and distance of all properties to community facilities such as hospitals, schools, and police stations.

A cumulative index is assigned to areas relative to their distance from these locations. A lower cumulative rating is indicative of an area having better accessibility to socio-economic opportunities.

The constraints and opportunities analysis produces a combined index of all the environmental, social, cultural and economic indicators and ranges from highly constrained to the least constrained. Areas indicated as being moderately or the least constrained, may be considered for future urban expansion subject to proponents demonstrating how these areas will meet certain performance indicators and that proposals will have to undergo statutory rezoning processes.

Future suitable areas with potential for rezoning could be identified with increasing accuracy as more rigour is applied to the elements of the constraints and opportunities analysis.

The opportunities and constraints mapping informs the development of urban expansion plans by indicating the most suitable areas within each outer sub-regional planning area ranging from small-scale developments through to major new urban areas (see Figure 16).

The indices used to undertake opportunities and constraints analysis will be continually reviewed and updated as the quality of data improves or where there are significant changes in the social, economic and natural environment.

6.7 Stakeholder engagement

During the development of the draft urban expansion plan, input was sought from key infrastructure agencies and public utilities to provide a desktop analysis of the feasibility of the areas identified for urban expansion or further investigation. This work will continue as part of the Urban Expansion Management Program to identify strategies, constraints and forward work programs for the delivery of necessary infrastructure associated with specific expansion areas.

6.8 Performance indicators

The WAPC considers agricultural land and the resources that sustain it to be finite State resources that must be conserved and managed for the future. Farming and agricultural land needs to be protected from rural-residential development and urban development that leads to alienation or fragmentation of this land resulting in diminished productivity.

A set of draft performance indicators has been developed to determine the suitability of areas for future urban development.

1. The proposal demonstrates compliance with the WAPC's planning framework, including any relevant policies and endorsed strategies.
2. The proposed area represents a logical expansion of the urban area and does not result in land use conflict.
3. The land is capable of being provided with essential services and that the expansion of the servicing infrastructure is logical and economically efficient and has the agreement of the service providers with regard to the staging and financing of the infrastructure.
4. The development of the area will not have significant impacts on the environment and natural resources which cannot be appropriately managed.
5. The proposal is able to integrate and provide for regional needs; for example movement networks such as road, rail and public transport, and regional social infrastructure such as hospitals and tertiary institutions.
6. The proposed area satisfactorily demonstrates through an employment strategy where the resulting community's employment will be located and the degree of self sufficiency that could be achieved.

All areas identified in the draft urban expansion plan as well as new proposals for rezoning rural land to urban or urban deferred, will need to specifically address how they will meet the draft performance indicators above.

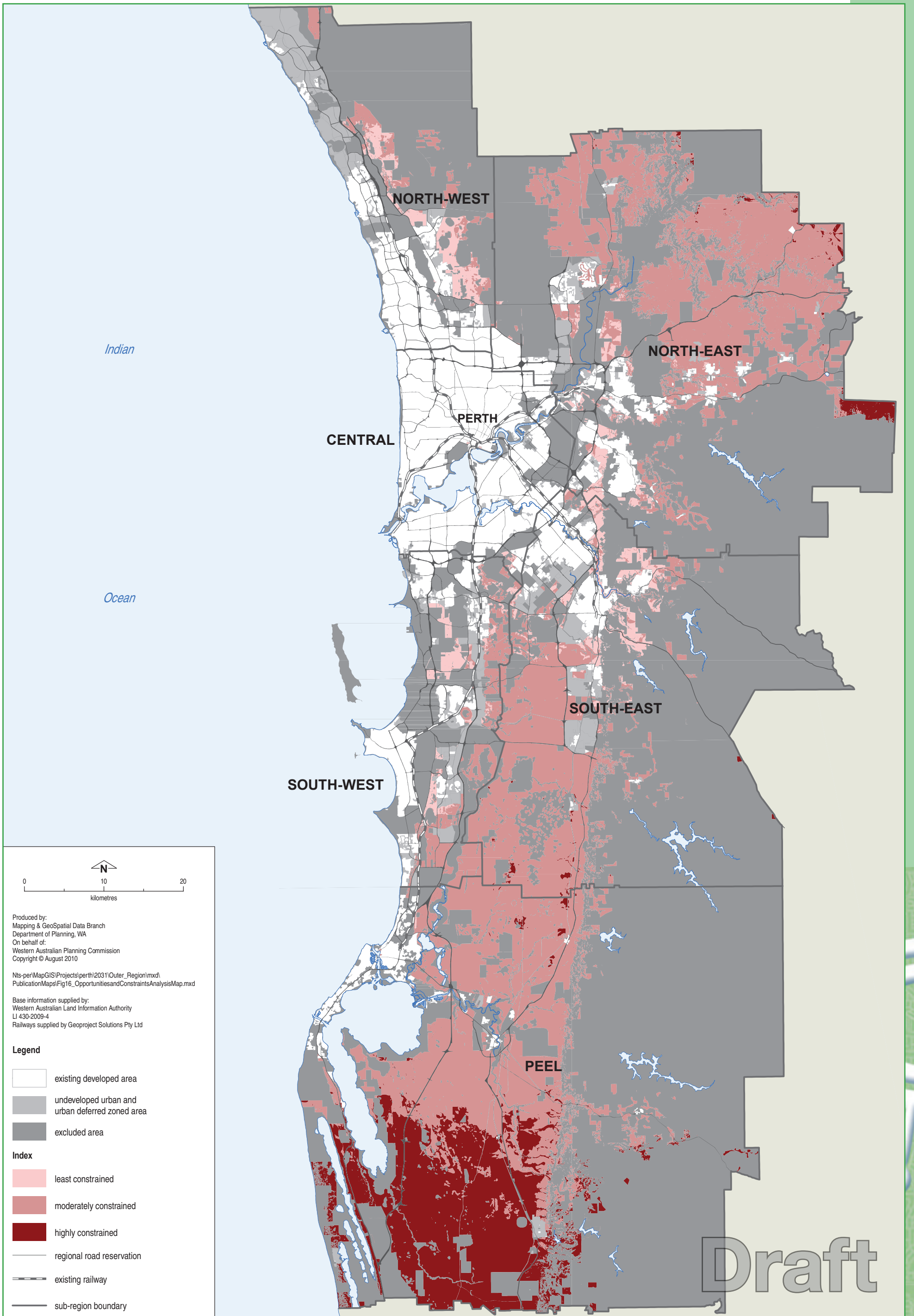
6.8.1 Statutory rezoning process

Urban expansion areas and new proposals for rezoning rural land to urban or urban deferred, that clearly demonstrate how the development of the area will address the performance indicators for urban expansion, will still be subject to formal statutory rezoning processes.

The Urban Expansion Plan is a strategic plan identifying land for urban growth. The areas currently identified as urban expansion or investigation areas are still subject to all relevant statutory planning processes. In addition, the status of urban expansion areas and investigation areas will only be valid until such time as the urban expansion plan is reviewed, which will be at least every five years.

It should not be assumed that urban expansion areas and investigation areas indicated in the draft urban expansion plan will be rezoned for urban or industrial development at anytime.

Figure 16: Opportunities and constraints analysis map



6.9 Monitoring and review

Land supply will be monitored annually through the Department of Planning's Urban Development Program.

This sub-regional strategy and the urban expansion plan will be reviewed at least every five years. These reviews will be informed by the work undertaken by the Department of Planning's Office of Land and Housing Supply. This office was recently established by the State Government to provide Government with timely information on land and housing supply and clarification on key impediments to supply.

The Office of Land and Housing Supply will provide up-to-date data to inform the review of the urban expansion plan, which will ensure that each successive expansion plan identifies land sufficient to cater for a 10 year buffer to ensure an ongoing pipeline of 15 years land supply.

Land identified in the urban expansion plan will provide guidance for the preparation or revision of structure plans and will inform the planning and coordination of infrastructure in the long term.



7. Urban expansion plan



7.1 Urban expansion and investigation areas

This sub-regional strategy proposes a draft urban expansion plan which indicates a spread of urban expansion or investigation areas across the north-west, north-east, south-east and south-west metropolitan Perth and Peel sub-regions (see Figure 17). These areas have been identified based on:

1. Opportunities and constraints index rating

The opportunities and constraints mapping provides a rating for each area indicated on the draft urban expansion plan. Only those areas that have an index of being moderately or the least constrained will be considered for inclusion as future expansion areas.

Areas indicated in the draft urban expansion plan are currently constrained but have the potential to become available for urbanisation once the constraints have been satisfactorily resolved and subject to undergoing the formal assessment required by statutory rezoning processes (see Figure 18).

2. Performance indicators

All areas identified in the draft urban expansion plan as well as new proposals for rezoning rural land to urban or urban deferred, will need to demonstrate how they will meet certain performance indicators.

The draft urban expansion plan has been developed on the basis that it is desirable that all areas of developable urban and urban deferred zoned land should be developed first.

The total amount of land currently indicated in the urban expansion plan is 32,300 hectares of which approximately 22,000 hectares of land is undeveloped urban or urban deferred zoned land¹³. Approximately 3,800 hectares of land is indicated for urban expansion and approximately 6,500 hectares is indicated for investigation (see Figure 19).

The draft urban expansion plan identifies the most appropriate land for possible future rezoning across the five sub-regions of the outer growth area.

| Sub-region | Land in undeveloped urban zoned areas | Land in undeveloped urban deferred zoned areas | Rural land in the process of region scheme rezoning | Urban expansion areas 2011-2015 | Investigation areas 2011-2020 | Totals |
|--------------|---------------------------------------|--|---|---------------------------------|-------------------------------|------------------|
| North-west | 5,900 ha | 1,700 ha | - | 1,600 ha | 400 ha | 9,600 ha |
| North-east | 2,000 ha | 600 ha | 100 ha | 400 ha | 600 ha | 3,700 ha |
| South-east | 4,400 ha | 600 ha | - | 400 ha | - | 5,400 ha |
| South-west | 2,300 ha | 2,300 ha | - | 1,200 ha | 3,100 ha | 8,700 ha |
| Peel | 1,900 ha | 100 ha | 100 ha | 400 ha | 2,400 ha | 4,900 ha |
| Sub-total | 16,500 ha | 5,300 ha | 200 ha | | | |
| Total | 22,000 ha | | | 3,800 ha | 6,500 ha | 32,300 ha |

Figure 17: Total land supply indicated on the draft urban expansion plan
(numbers rounded to the nearest hundred)

¹³ The *Urban Growth Monitor* (WAPC 2009) identified approximately 18,600 hectares of urban and urban deferred zoned land not yet developed; and approximately 4900 hectares of land zoned urban or urban deferred that is currently used for very low-density residential development, making the total stock of potentially developable land approximately 23,500 hectares. The difference of approximately 1500 hectares is a matter of timing of the data capture between 2009 and 2010 whereby the data used in this strategy has excluded recent development or changes to land use classifications as a result of rezonings.

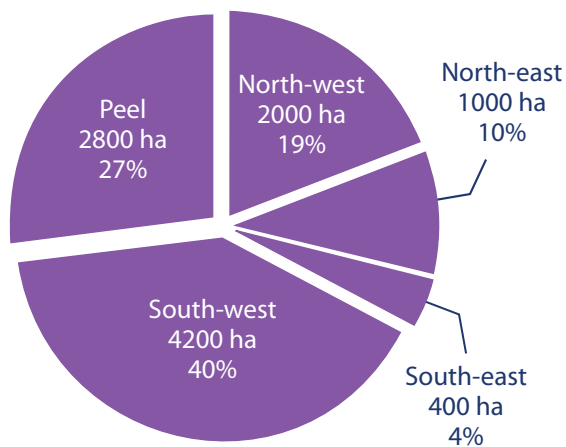


Figure 18: Draft sub-regional urban expansion areas and investigation areas

Consideration has been given to the appropriate allocation of urban expansion and investigation areas between the sub-regions. The likely future demand for housing and the existing developing popularity of the sub-regions are key factors.

The **north-west** sub-region has approximately 7,600 hectares of urban and urban deferred zoned land. The only additional area included in the sub-region for the short to medium term urban expansion and investigation is the East Wanneroo Structure Plan area of approximately 2,000 hectares. A number of studies and investigations have advanced the process of structure planning showing that the bulk of the land has the potential to be rezoned in the next five years.

The **north-east** sub-region has approximately 2,800 hectares of urban and urban deferred zoned land. The region has a number of urban growth challenges due to the nature of its topography and, in particular, the need to protect the Swan Valley, the Gnangara Mound and the Middle Helena catchment area.

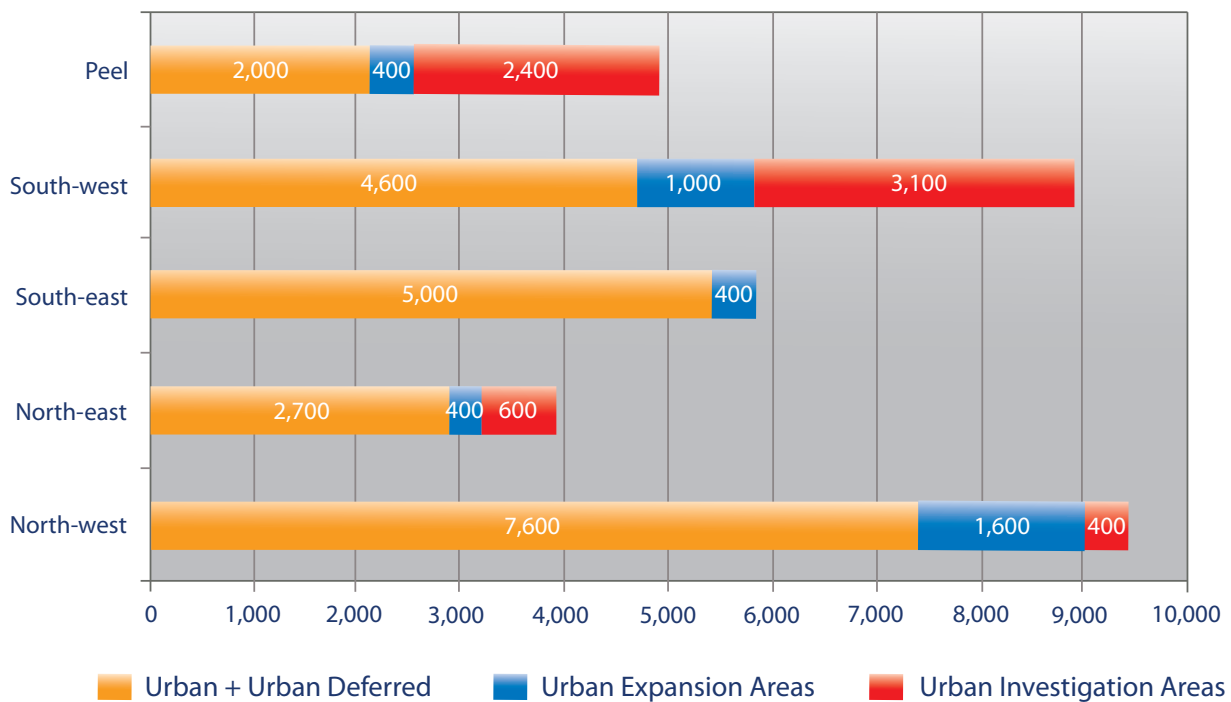


Figure 19: 25 year land supply – existing urban and urban deferred zoned land, draft urban expansion areas and investigation areas by sub-region