UDIA Submission
Perth and Peel @3.5 million

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Urban Development Institute of Australia
WESTERN AUSTRALIA

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Structure of this Submission

Due to the complexity of the draft documents released for consultation, this submission has been structured to capture both high level and detailed comment. It includes extensive reference to both Australian and international comparisons, with the intent of demonstrating that many of the underpinning concepts are flawed. The submission is divided into the following sections:

Part 1- Reframing the Paradigm of Perth
Is designed to highlight the positive aspects of Greater Perth as it is currently structured. This has been included as the Institute does not agree with the negative views about the current structure of Greater Perth which permeate the documentation.

Part 2- A Policy of Constraint
Whilst there has been denial that the frameworks represent an Urban Growth Boundary (UGB), they effectively operate as one. This section unpacks the consequences of UGB's on housing affordability.

Part 3- Assumptions
This section unpacks the assumptions that the Institute believes have been used as the basis of decision making. Given the opaque nature of the criteria used, UDIA has only been able to make an assessment based on feedback from members and analysis of various statements made in the documents.

Part 4- Commercial Realities
This section unpacks the commercial realities of development and the practicalities that sit behind the delivery of residential development.

Part 5- Barriers to: Infill Development
This section looks at the current barriers to infill development from an industry perspective.

Part 6- Precinct Scale Development
This section discusses the value of precinct scale development and key factors that must be considered for its effective implementation.

Part 7- Specific Items
This section unpacks specific concerns identified by the UDIA Policy Committees, Council and members.

Part 8- Leveraging the Future
This section looks forward to technology and social change that is likely over the life of this plan, including projects that can enhance future outcomes for Perth.

Part 9- Next Steps
This section outlines the seven initial steps which UDIA believe must be implemented to effectively manage the growth of Perth going forward.

Executive Summary

UDIA's Council has reviewed the documents that comprise the "Perth and Peel @ 3.5 million and the accompanying Sub-regional Frameworks (The Documents). In doing so, support has been expressed for many of the document aims, including the densification of activity centres to create vibrant walkable catchments for local communities. The strategy for achieving those outcomes, however, is rejected as it will create catastrophic land supply shortages, act to dramatically increase house prices and create a negative drag on the broader economy.

The New Zealand Productivity Commission report into Using Land for Housing (New Zealand Productivity Commission, 2015) identified the negative impacts of restrictive residential land use planning, referencing a study of 300 US cities which showed that those constraints exacerbate the boom - bust cycle of property and were linked to greater price volatility of less constrained cities. In part this is due to the creation of an artificial scarcity in land which incentivises speculation. They also outlined the negative impact that restrictive planning policies had on labour mobility and ultimately on the country's Gross Domestic Product (GDP).

With consequences as grave as these there needs to be transparency of information and strong engagement with the community, as well as industry, which has not been the case in the development of The Documents. Indeed it has been more secretive than any other planning process that UDIA has observed since the institute's establishment in 1972.

In reviewing the document it was clear that assumptions have been made, based on opaque data that was not released as part of the consultation process. Indeed, much of the data quoted in the documents was unreferenced and some, in the opinion of UDIA, was not correct. Further, there was conflicting data in the documents. For example, the Central Subregion framework acknowledges the ABS data showing that 85% of the jobs in Perth are located outside of the CBD, which is then contradicted by a statement in the Perth and Peel @ 3.5 million that "*the vast majority of all workers travelling daily to* the CBD to work" (p.42).

The general tone of the document paints Perth as an unacceptably sprawled, car dependent city. This assumption is not validated by the evidence. The statements in regard to "sprawl" do not take into account the fact that Perth has some of the best master planned communities in the world, including the internationally awarded Ellenbrook development in the Swan Valley. Highly detailed city creation, incorporating diverse housing typologies and local employment should be celebrated.

The assumptions in the document tend to be premised on administrative boundaries rather than the actual urban footprint. In 2014, ABS released density mapping, on a per square kilometre basis, clearly showing that Perth is consistent with the population and is actually less "sprawled" than the urban footprint of Adelaide and considerably smaller than the urban footprint of Sydney. Within the documentations, density appears to be seen as the panacea for many problems, however some of the fundamental data is flawed. London is referenced as a dense city, which it is, however London only returned to the population levels achieved in 1939 this year (2015).

Assumption about car dependency are also now very dated. There was significant latent demand for public transport and, when that demand was met through the extension of the heavy rail network, public transport patronage in Perth increased faster than any other city in Australia or New Zealand. Car only journeys to work have fallen sharply from the mid 1990's when the Fremantle railway line was closed. Research undertaken by Charting Transport, shows that Perth had the highest growth in public transport journeys to work in the five years to 2001 and the lowest car kilometres travelled per person per annum, with the suggestion made that trips are getting shorter or less frequent.

We need to reframe the paradigm of Perth to further support the evolution that is already happening, however this requires currency of data and constant review in a period of rapid change.

UDIA questions why, when things are progressing so rapidly, that a policy of constraint is required when the international experience is of soaring house prices and significant area social disadvantage. A desk top analysis of Urban Growth Boundaries (UGB's) in other parts of Australia and overseas has shown rapid escalation in land and housing prices. Melbourne saw land prices (based on vacant land sales) rise 65% after the announcement of the UGB and existing housing prices rise 56% between 2002 – 2008, after the UGB was implemented (Ball, et al., 2014, p. 3013).

UGB's are often associated with excellent public transport systems, however road congestion is still a major factor with Vancouver, now Canada's most congested city and the 20th most congested city in the world (TomTom International BV, 2014). The Documents appear to assume that congestion is created through people from outlying suburbs travelling to the CBD, however this is not substantiated by the evidence. The Public Transport Authority reports that 60% of commuters travelling to the CBD during peak hour in Perth use public transport. As only 15% of the workforce is located in the CBD, car travel only accounts for a small proportion of those workers.

Another assumption that permeates the documentation is that lower income households are displaced to the outer suburbs. This also cannot be substantiated, based on the ABS data on social advantage and disadvantage. Indeed, even the assumption that lower income families are denied access to public transport due to their location does not stack up under scrutiny and detailed analysis at the suburb level, as further explored in this submission. Whilst there are capital cities which demonstrate the characteristics that are assumed in this document, they are not relevant to Greater Perth.

To overcome the issues created through a UGB, but still facilitate sustainable growth, UDIA has previously supported Directions 2013, which included 1000 hectares of unallocated land set aside for new proposals at the discretion of the WAPC, as well as the opportunity for alternative areas to be pursued in circumstances where it can be demonstrated that the land supply in the sub region cannot be met. In the current proposal there appears to be no option to bring on additional land supply.

It is essential that land/dwelling supply is maintained and this submission provides detailed analysis of price points and the commercial realities of delivering dwelling product of all kinds, including the impediments that density limits can place on their viability. For example, R50 coding does not incentivise development, even though it is a considerable uplift from traditional R20 coding, with a minimum of R80 coding required around train stations and areas of high amenity to stimulate the urban renewal process. Existing barriers to infill are considerable, from the cost of fire-fighting requirements such as pumps and tanks that can add $200,000 to a project and a further $150,000 for a new transformer, to delays and additional cost through inconsistent processes of Design Review Panels. It is not easy, or cheap, to deliver infill. An understanding of commercial reality within planning documents is critically important if the density targets are to be met. As an example, built form housing product tends towards either two; or four storey plus projects, as three storey walk ups are no longer viable as the cost of scaffolding during construction tips most (not all) projects out of commercial consideration. Even simple details such as these can influence product mix and housing affordability.

Even with all of those challenges it is critical that industry and government collaborate to deliver precincts at a scale that delivers the amenity needed to encourage the trade-off of private space for public space. Awareness is required however, about the cohort that chooses to live in activity centres, who are usually young (20's) with a high level of rental tenure. This is an international phenomenon and detailed population profiles are provided, as well as a suburb based analysis of property tenure in Part 3:4 of this submission.

There is also significant concern from industry about the inflexible staging and sequencing requirements in the plans which require demonstration that demand cannot be met elsewhere in the Perth and Peel regions in the same timeframe. This cannot be done given the ten years or more it often takes to bring unzoned land to market. Ironically, cities with UGB's such as Portland have a process of Annexure that allows for proponent driven consideration of lands for inclusion, similar to the Metropolitan Region Scheme amendment process that is currently in place. Further, it makes an assumption of geographical housing liquidity of demand that is simply not evident in Greater Perth. Detailed research in section 7:1 shows that it is common for 30% or more of new residents to have lived in the same suburb, either moving from a rental property to home ownership or upgrading, with many moving within a 15km radius of their previous property.

Assumptions about the use of basic raw materials are also deeply flawed, bringing into question the validity of some of the decisions that have been made, particularly when it comes to excluding certain areas from development. It is estimated by the Cement Concrete and Aggregates Australia (CCAA) that a 20% reduction in fill would only lead to an approximate 3% saving in basic raw materials. Given the capacity of the industry to innovate and the timeframe of the proposed planning frameworks, a proposed reduction of 3% could drive a planning outcome. It is important that we fully utilise our basic raw materials, which means that the policy barriers currently preventing the timely extraction of materials from urban zoned sites, as well as the receipt of fill materials over time, are addressed.

Based on the information available, the documents appear to take an overly restrictive approach to any change in land use associated within the Peel Harvey Catchment area. This appears to be largely based on out of date assumptions about the risk of nutrient export from urban development and urban land uses when lots between 400 – 730sqm were common and were usually accompanied by high nutrient gardens. Modern developments with lots under 400sqm export very small amounts of phosphorous, one of the major risk nutrients for fresh water. Indeed small lot development has the third lowest run off of phosphorus nutrients, behind lifestyle lots and sheep farming. Combining modern development techniques with constructed wetlands, bio swales and other intervention, could see urban development as a method of radically decreasing legacy nutrient flows into waterways, and help to restore critical environments such as the Peel Harvey Catchment.

The future before us will be filled with innovation, technological change and opportunities for making Greater Perth one of the most responsive cities in the world. A highly restrictive planning system will thwart progress and see our community unable to embrace the best that the future has to offer.

UDIA encourages the state government to work with the industry in developing a practical plan for the future that embraces the aims of the documentation without the negative effects of a command and control strategy for urban development.

Recommendations

Recommendation 1: A Responsive, Principles Based Approach to Urban Development

To avoid the negative impact on housing affordability and the broader state economy of a tightly constrained planning system, the supply of land for urban development, (for both brownfields and infill locations) is facilitated through a proponent driven system with transparent, published and regularly reviewed criteria used to assess the merits of individual projects. Performance indicators are established to ensure that more focus is given by the Department of Planning on enabling quality development with, the outcomes independently audited and published, with the Director General as the accountable officer.

Recommendation 2: Steering Group

Consistent with the stated aim of a collaborative process, a Steering Group of government, industry and community representatives is formed to guide a review of the planning for Greater Perth at 3.5 million. The Steering Group will ensure that a practical, principle based approach, consistent with the agreed aims and objectives of the city as a whole, is developed along with a reporting regime that provides transparent information to government, industry and the community on progress.

Recommendation 3: A Costed-Rolling Infrastructure/Capital Works Plan

That the staging and sequencing plans are removed from the document and replaced with a costed rolling five, ten and twenty year comprehensive infrastructure plans with appropriate levels of detail to guide development. These Plans should be developed with industry representatives to validate the assumptions made.

Recommendation 4: A Transport Plan is developed, agreed, costed, funded and implemented

That transport provision is depoliticised, with an agreed 20 year Transport Plan which has regard for social and technological trends, adopted by Government.

Recommendation 5: An Enabling and Facilitating Planning System

That the focus of the planning system reorientates from a position of command and control to enabling and facilitating quality development in both greenfields and brownfields locations for the greater good of the state. This would include a suite of documents that encourages high quality, precinct scale development through the removal of the current policy barriers.

Recommendation 6: Regulatory Impact Process

A Regulatory Impact Statement should be prepared for any major planning documentation, undertaken by either the Department of Premier and Cabinet, or the Economic Regulation Authority, which rigorously tests assumptions through an evidence based review.

Recommendation 7: Facilitate Land Assembly

That clear policy is developed, which maximises and encourages land assembly, with Government commitment to use all mechanisms necessary to deliver development sites at precinct scale, including but not limited to development incentives such as split coding, height or density bonuses, Improvement Plans, compulsory land acquisition and the use of redevelopment authorities. Smarter servicing plans will need to be developed along with strategies to overcome “hold outs” to ensure orderly progression of development in both brownfield and greenfields settings.

Recommendation 8: Projects of State Significance

That projects of state significance are explored to enable investment in urban development to be leveraged to address key economic and legacy matters.

Recommendation 9: Monitoring Disruptive Technology

That the State Government appoints a "Futures Committee" that brings together industry and government stakeholders to monitor impacts that technological change will have on the demand for, and provision of infrastructure, the speed and direction of social change and opportunities for the broader economy in a globally competitive market.

Recommendation 10: Effectively Manage Value Capture to Initiate Development

That the Metropolitan Region Improvement Fund is used to underwrite contribution schemes for strategic developments, to ensure that value capture from development opportunities is managed effectively to unlock precinct scale development.

Summary Statement

UDIA WA Council Statement:

Perth and Peel @ 3.5 million and the Subregional Frameworks

UDIA Council:

1.1. **Does not support** the Frameworks as currently presented as they move away from a proponent driven system through the introduction of a process that automatically rejects projects, which will effectively introduce an Urban Growth Boundary for Greater Perth. In doing so, the frameworks negate the benefits derived through the unique role of the Western Australian Planning Commission in assessing projects on merit and the flexibility to meet demand for land and housing achieved through that process;

1.2. **Supports** a precinct approach to development in both infill and greenfields locations that delivers density where it is deserved, providing amenity and services to residents whilst preserving diversity of dwellings to meet the needs of a multifaceted community;

1.3. **Does not support** the staging and sequencing provisions in the Subregional Frameworks as they do not reflect commercial reality, including lands where there are constraints to land assembly and/or landowners unwilling to take the steps necessary to bring land to the market. Further, decisions based on an assumption of liquidity of demand between corridors and/or price brackets will lead to supply shortages.

1.4. **Supports** a whole of government approach to infrastructure delivery but is cognisant of international experience where strategic plans have failed due to the lack of committed funding for implementation.

2. UDIA Council is deeply concerned about the lack of detail in the document and questions the basis of many of the decisions that have been made. UDIA is concerned that assumptions of a "business as usual" approach, or out of date information may have been used as the basis of decision making. This lack of transparency makes it extremely difficult for landowners to respond, particularly when land has been excluded for what is assumed to be environmental factors. This is particularly true for environmental water quality management where modern development practice can be leveraged to improve areas blighted by legacy issues, and areas are excluded based on an assumption of basic raw materials usage that overlooks opportunities for ongoing innovation.

3. UDIA Council will seek clarification from government in relation to criteria that has been used for the:
   3.1. removal of areas previously included in the Economic and Employment Lands Strategy;
   3.2. under-utilisation of key infrastructure, and the use of infrastructure corridors as development boundaries, which fail to maximise the potential of key infrastructure. E.g. identification of a single side of major arterial roads for urban expansion;
   3.3. exclusion of urban development adjacent to employment land;
   3.4. exclusion of urban land in close proximity to identified activity centres;
   3.5. exclusion of lands in areas that would otherwise provide a logical extension of the existing development footprint;
   3.6. exclusion of land where planning is well advanced.

4. UDIA remains committed to working with the Department of Planning and the Western Australian Planning Commission on a robust approach to Perth's future which:

    4.1. Delivers opportunity for community prosperity by delivering appropriate and affordable housing options to meet the diverse needs of our growing community;
    4.2. Enhances Perth's lifestyle through amenity delivered in higher density urban areas whilst preserving opportunities for a range of lifestyle choices, for people at all stages of life;
    4.3. Provides certainty to all through a principles based approach to planning that leverages technological advances, social change and innovation to deliver sustainable communities;
    4.4. Facilitates economic development through the coordinated location of infrastructure, labour and business investment;
    4.5. Enhances a shared sense of identity that attracts and retains existing and new residents whilst eliciting a sense of pride for future generations.

Part 1 – Reframing the Paradigm of Perth

This section considers the broader macro-economic impact of this policy based on research undertaken by the New Zealand Productivity Commission and then goes on to consider the legacy issues that have shaped Perth.

Those legacy issues are as follows:

- Policy constraints that have limited supply of affordable medium and high density outcomes for nearly three decades;
- The impact on urban form of red tape driven land supply shortages, combined with the booming economy of the last decade;
- Transport planning which led to the closure of the Fremantle line and the latent demand for public transport which is now being addressed;
- The nutrient loads in water ways (which are further detailed in Part 7) impacted by historic land uses.

The intent is to recast Perth as being a highly adaptable, transport responsive city where growth is positively managed to ensure that the lifestyle treasured by many is not lost.

Perth has an opportunity to reframe its identity as a transport responsive, restorative city that by 2050 will be enhanced economically, environmentally and socially through strategic investment in urban development. We will be adaptive by supporting and encouraging innovation and be responsive to technological and social change. This outcome does not require restrictive policy settings, rather a principles based approach to planning that encourages innovation and celebrates excellence.

The direct economic impact of construction relating to urban development is clear in terms of the jobs created, the taxation returned to state and federal governments and rates that are received by Councils. Socially, quality urban development underpins opportunities for people to succeed, regardless of circumstance, as the basic requirement of appropriate shelter is fulfilled.

What is less apparent, however, is the broader risk to macroeconomic stability of overly restrictive planning policies. Residential housing is routinely the largest component of wealth for residents with the total value of dwelling stock owned by households in Western Australia reaching $563b in March 2015. As importantly, a well-functioning, responsive housing market is critical to a strong economy. This was explored by the New Zealand Productivity Commission which examined the risks in the report "Using Land for Housing" (New Zealand Productivity Commission, 2015). Below is an extract from page 61 of that report which covers the key issues:

> *Huang and Tang (2012) in a study of 300 US cities showed that restrictive residential land use regulations and geographic constraints are linked to larger booms and bust in housing prices. Evans and Guthrie (2012) developed a model to determine what fraction of actual price changes observed in 95 US cities over the period 1995–2010 could be explained solely by observed changes in construction costs, disposable income, interest rates and population. A key question is whether cities with constrained development opportunities due to geography and land use regulations experience much greater price volatility than less-constrained cities. They found that, for cities with relatively unconstrained development opportunities, housing prices could be predicted by changes in construction costs, disposable income, interest rates and population. Further, they observed changes in these variables cannot explain the boom and bust pattern observed in many other cities with constrained development opportunities. Importantly, [s]mall reductions in the long-run average level of the short-term interest rate and small increases in the long-run average growth rate in demand during the boom period generate large price swings in cities with constrained development opportunities, while leaving prices in cities with unconstrained development opportunities relatively untouched. For example, a one percentage point reduction in the long-run average level of interest rates raises predicted prices by more than 80% in relatively constrained cities with above-median demand growth rates and below-median property tax rates, and by less than 10% in otherwise identical unconstrained cities. (p. 1)*
>
> *Creating an artificial scarcity in land incentivises speculation, and competition for land creates overly optimistic speculation. Milgrom and Weber (1982) point out that when people with varying beliefs compete for something of uncertain value, the winning bidder will be the person who has made the greatest upward error in estimating its value – what they call "the winner's curse." Tideman (2004) argues that these winning bidders are those least likely to invest in developing land now, because that would mean foregoing the even greater investments that they (wrongly) imagine will be worthwhile when their imagined higher value arrives. Henry George made this point in 1879:*
>
> *The confident expectation of increased prices produces, to a greater or lesser extent, the effects of a combination among landholders, and tends to the withholding of land from use, in expectation of higher prices. (George (1960) [1879] p. 125).*

Importantly the property market can also impact on labour market mobility, and the issues are outlined in the same report:

> *Mobility of the labour force within and between regions and work locations helps to avoid labour market shortages and reduces the divergence in income levels between regions (Yates, Randolph & Holloway, 2006). Ganong and Shoag (2012) show that the decline in regional convergence in the United States is due to a large increase in housing prices and housing regulation in high-income and high-productivity areas. Regulatory barriers make it harder for people from lower-income areas to move to higher-income areas and enjoy the better employment opportunities available in higher productivity cities.*
>
> *The impact of land use regulation in restricting labour market mobility and the potential for productivity gains in the US economy from the reduction in regulatory barriers has been explored by Hsieh and Moretti (2015). They argue that constraints to housing supply in high-wage cities price out workers who would be more productive by moving to take up the opportunities available. Reducing regulatory barriers would therefore increase a country's GDP.*
>
> *Constraints to housing supply reflect both land availability and deliberate land use regulations. We estimate that holding constant land availability, but lowering regulatory constraints in New York, San Francisco, and San Jose cities to the level of the median city would expand their work force and increase U.S. GDP by 9.5%.* (New Zealand Productivity Commission, 2015, p. 34)

The authors conclude that restricting housing supply in dynamic labour markets imposes significant externalities on a country's economy. It is clear that a planning system that leads to highly constrained outcomes will have significant ramifications for the state economy and this must be considered and understood, particularly if one of the intents is to decrease the economic burden of infrastructure provision to improve economic conditions.

So what is the problem that is trying to be resolved in Perth through, what is likely to become one of the most restrictive approaches to urban planning in the world? Ironically it is legacy policy issues:

- Unintended policy constraint on density development
- Red tape that led to land shortages, increasing average house size
- Provision of public transport
- Nutrient loads in estuarine and river systems, largely from non-residential land-uses

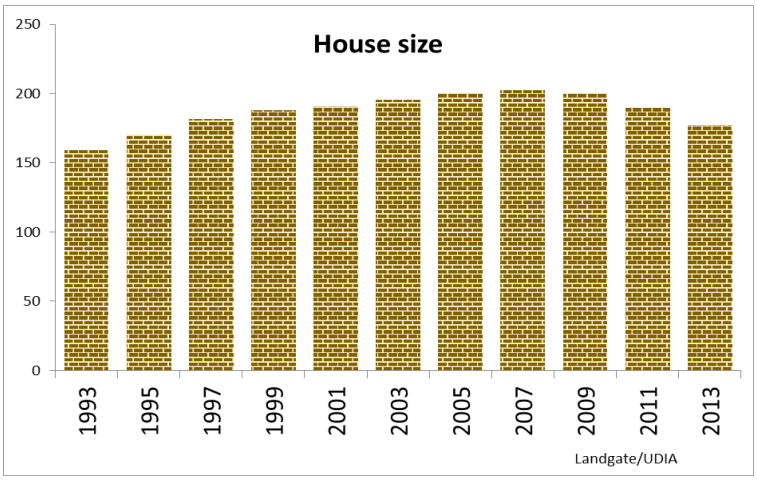
Unintended policy constraint on density development

The Residential Design Codes that were introduced in 1982, whilst positive in many ways, effectively stifled affordable multi-unit development by requiring both density and plot ratio outcomes. Whist normally this market failure should have quickly been evident, it coincided with a period of economic growth and the release of significant parcels of land which kept housing affordable, if somewhat homogeneous.

Red tape that led to land shortages increasing average house size

The second legacy issue is the outcomes of the supply constrains that occurred from 2004 – 2008 that led to significant escalations in the cost of land. Research by the New Zealand Productivity Commission showed that when land becomes scarce and rises in value, then the response is to build larger houses:

Figure 1 Housing Size in Greater Perth 1993 - 2013



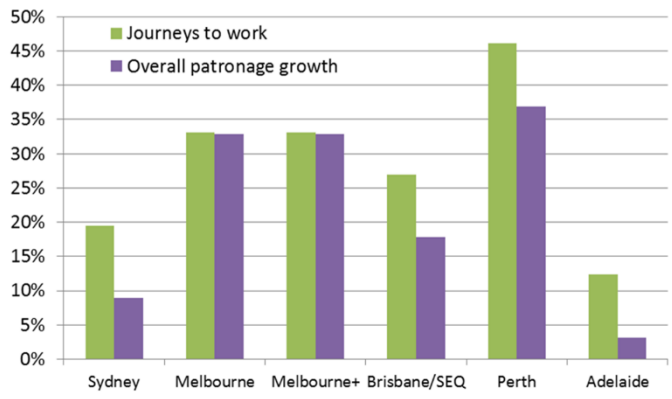
The demand for housing and the impact of local policies that constrain supply is reflected in land values in New Zealand's major cities and high-growth areas. Land values have increased significantly since the middle of the last decade (both in nominal terms and as a share of total property values). High land prices encourage the production of larger and more expensive housing (2015, p. 3).

This is clear when an analysis of housing stock is undertaken in Perth and the increased housing size corresponds to the period of land shortages and significant price rises.

Provision of public transport

The third major legacy policy issue was under investment in public transport including the closure of the Fremantle railway line. The policy setting was understandable at the time. Car ownership was increasing and was seen as a symbol of wealth and the heavy subsidisation by government of public transport made the cost shift to the private sector (public transport – private vehicle) attractive. This market failure was reversed in 1983, but adjustment to increased investment in public transport took longer.

Figure 2 Growth in Public Transport Use (Charting Transport)

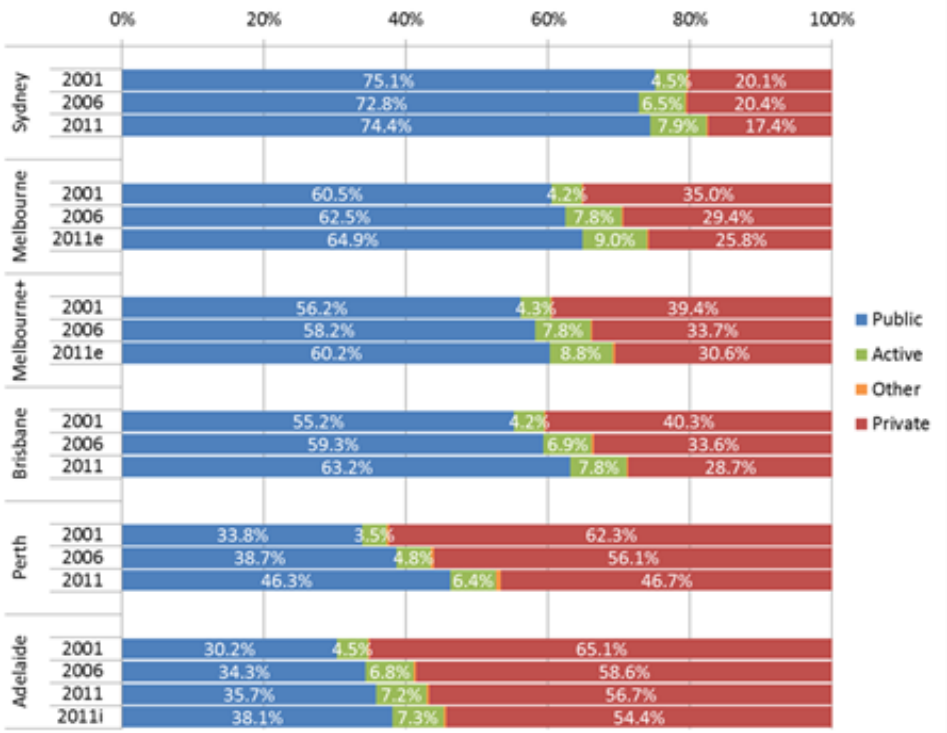


Perth's public transport patronage has increased dramatically over the last fifteen years, stimulated through projects that include:

- 2004, the Clarkson extension
- 2005, Greenwood Station opening
- 2007, Perth Underground and Esplanade Stations opened; opening of the Mandurah line
- 2014, Butler Station opened.

These projects saw public transport patronage increase sharply with the highest rate of growth of any city in Australia and New Zealand (Fig 2) and modal share in Perth improve rapidly as latent demand for transport is satisfied (Fig 3)

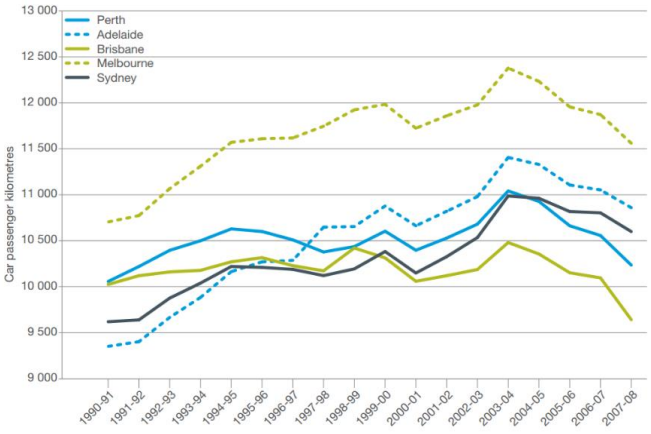
Figure 3 Journey to Work Mode Split to City Centres (source: Charting Transport)



The modal share is only part of the story of transport in Perth. There has also been a rapid decline in the estimated car passenger km per capita since the 2004 extension to Clarkson and subsequent infrastructure projects (Fig 4). Perth has the second lowest car passenger kms per capita, with the current data, likely to be even better as the chart only shows the data to 2007-08 (Perth is the solid blue line). Total car passenger kilometres travelled in Perth have risen 5.4 percent (BTRE) whilst the population has risen 19.2 per cent (ABS Regional Population Growth).

By understanding that the community wants to utilise public transport, while maintaining current lifestyles will help to frame the future and leverage emerging technologies. Indeed, the international perception of Perth is so much different than our own with the Auckland Regional Transport Authority identifying Perth as a city with a high level of public transport trips per capita for a lower density city. (Huang & Vale, 2010):

Figure 4 Estimated Car Passenger kms per Capita by Financial Year

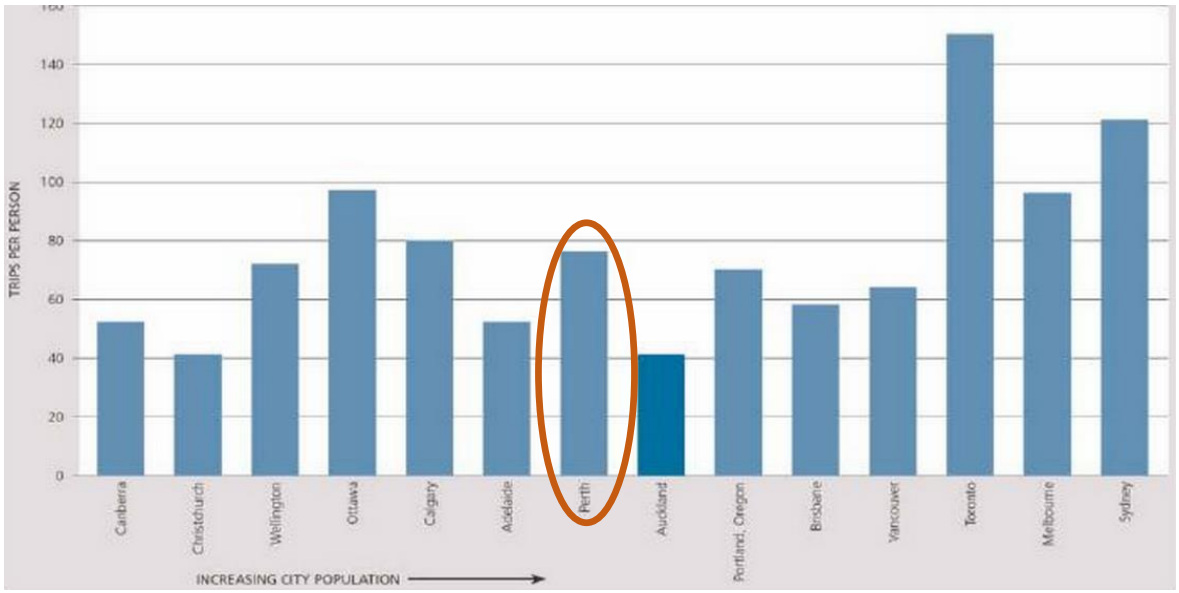


Source: BITRE, Australian Transport Statistics Yearbook 2009 and ABS 2010 Regional Population Growth, cat. no. 3218.0, cited in Stanley and Barrett 2010

> *"Indeed, our [Auckland] per-capita use of public transport is amongst the lowest in the world, and there's no inherent reason why this should be the case. While people often point to lower population densities in Auckland, our densities are twice that of Perth and Brisbane, and yet their public transport use is much higher than Auckland."*

It should be noted that this analysis, undertaken in 2005, pre dates the construction of the Mandurah railway line which has resulted in significant growth in public transport trips so the performance identified in Fig 5 could be significantly better.

Figure 5 Public Transport Trips (per capita) in Selected Cities



(Huang & Vale, 2010)

The opportunity to reframe Perth as a transport responsive city (rather than a narrower concept of Transport Orientated Development - TOD) has not been explored in the frameworks. Nor do the plans have due regard for the technological changes that are likely to revolutionise transport throughout the world.

The automated vehicle will become common place within the life of these frameworks and can, with appropriate forethought, leverage Perth's current urban form. Rather than focusing on Perth's linear form as a barrier, it should be seen as an opportunity for highly focused transport corridors for those that work in the CBD or have jobs within walkable catchments of the current heavy (and future light) rail network. Achieving the outcomes would include commitment to Activity Centres which are well co-located with transport hubs where the land use justifies the density.

Whilst it could be argued that the intent of the document is to increase density and public transport patronage, the restrictive process that has been identified will not deliver this outcome. These outcomes requires courage not constraint.

It would also entail the gradual transition of existing Park and Ride train stations to automated vehicle interchanges. The automated vehicles in the future have the potential to travel without passengers (although this is not within the current legal framework) so therefore could potentially be shared, or at least not require parking at the station. This would release land for another round of intensification through TOD development into the future – potentially around 2035 when the second round of vehicle replacement, post the introduction of the technology, is occurring. (Based on a 10 year vehicle replacement cycle with initial uptake early in the decade commencing 2020).

With this concept in mind, it is practical to consider the retention of some existing suburban areas to ensure the urban canopy is retained (through backyard trees), that urban renewal projects are undertaken at precinct scale to enable better use of areas with degenerated stock, combined with well-located intensification near amenity and services.

Nutrient loads in estuarine and river systems

The opportunity to leverage urban investment to address legacy environmental issues is also not contemplated. The South Metropolitan Framework states that:

> "Where urban development is proposed within the catchment of the Peel-Harvey waterways, drainage management programs utilising best practice to minimise nutrient export and ensure the maintenance and sustainability of the ecosystems will be required" *(p18, South Metro Framework).*

This is a minimum standard, however the vision could be so much more dynamic. The documents released for consultation appear not to recognise modern development techniques as being able to resolve some of the legacy nutrient issues, including those threatening the future health of the Peel Harvey estuary. Best practices urban development, at scale, could be used to create a protective barrier from the nutrient intense agricultural inflows. A more detailed look at the management of nutrient flows is included in Part Three of this submission.

UDIA acknowledges that there is a shared vision between government, industry and the community for some of the outcomes being sought in the documents however, the flawed data (or lack of publicly available data) brings into question the validity of many of the decisions that have been made. This submission details research undertaken by UDIA which demonstrates that some of the assumptions cannot be substantiated.

Part 2 – Policy of Constraint

In this section of the submission the consequences of a highly constraining policy framework are considered with reference to data from international cities that have employed Urban Growth Boundaries (UGBs) to curtail expansion of the city limits. In some instances the UGBs are administrative boundaries used to define responsibility for infrastructure, others were introduced to protect surrounding agricultural land.

UDIA looked initially at the intent of the industry supported Directions 2031 which had an allocation of 1000 hectares of unallocated land, plus the capacity for proponents to have land considered which was consistent with the principles of the plan.

This section then looks in some detail at UGB's including:

- The requirement for a transparent infrastructure plan and the role of "servicing boundaries."
- The findings of a desk top analysis of the consequences of an urban growth boundary on housing affordability
- The process of Annexure which is similar to the proponent driven process of an amendment to the Metropolitan Region Scheme

Beyond an Urban Growth Boundary

UDIA is firmly of the belief that the frameworks, in their current form, represent an Urban Growth Boundary (UGB) as they preclude additional land (outside of those designated for urban use) from being considered on merit. UDIA is strongly opposed to UGB's as they unnecessarily constrain supply, impede market responsiveness, limit purchaser choice and have a range of unintended consequences such as reduced affordability and increased congestion. There are also significant macroeconomic impacts that go well beyond the housing sector.

Ironically, based on the desk top analysis undertaken by UDIA, the document represents a far more draconian approach to planning than many UGBs throughout the world. For example, the draft "Seattle 2035" states that:

> *"This Plan is a framework with a strong purpose.* ***Yet since it provides guidance for a 20 year timespan, it does not prescribe specific solutions for the most part.*** *The City carries the Plan forward more specifically through development regulation and functional plans. For instance, the City's Land Use Code is a compilation of development regulations that guide how land in the city can be used"* (City of Seattle, 2015, p. 15).

Importantly the plan in Seattle is reviewed every twelve months with the capacity to amend aspects in the interim. The process of annexure is common in many UGBs and for most there is a proponent driven opportunity, unlike the proposed process for Greater Perth.

The original Directions 2031 took a more pragmatic approach, attempting to balance the need for certainty for both developers and infrastructure providers with the need to be responsive in balancing housing affordability (supply) with environmental imperatives.

The extract (below) from the "*Frequently Asked Questions*" document that supported the release of the original Directions 2031 provides the quantum shift between the original document, which was supported by the industry, and the Perth and Peel @ 3.5 million and Subregional Frameworks (The Documents), which are not.

> ***If land can be serviced but not included in Directions 2031, does that mean it has no immediate development potential?***
>
> *The land that meets the basic strategic priorities of Directions 2031 can be pursued for development even if it has not been specifically identified. There are two avenues available to allow for flexibility namely:*
>
> *a) Approximately 1,000 hectares of unallocated land has been set aside for new proposals to be considered in the future at the discretion of the WAPC; and*
>
> *b) Alternative areas could be pursued in circumstances in which it can be demonstrated that land supply in a sub-region* is not met and a proposal can meet a set of WAPC adopted criteria.

The development of Directions 2031 acknowledged the need for flexibility and recognised that needs would change over time. Greater certainty was required by infrastructure providers, but not to the extent of risking land supply shortages created through overly restrictive land release policies.

The current documentation attempts to map 35 years of supply with detailed staging and sequencing provisions. Unfortunately this is not linked to commercial realities or the practices of industry. There is no opportunity to bring land in through an amendment to the Metropolitan Region Scheme, which makes it a far more restrictive approach than the Urban Growth Boundaries (UGBs) in Seattle, Vancouver and Portland that have been assessed by UDIA. The timeframe and period of review are also significantly different, adding to the high possibility of failure through inflexible approaches.

Urban Growth Boundaries are not a new concept with the first emerging in pre-war London and later, expanded in the 1947 Town and Country Planning Act. The first UGB's appeared in the USA in 1958 to protect horse farms in Lexington Kentucky. Whilst the merits of growth boundaries are exalted by many, the negative effects are rarely discussed and are creating significant issues in those communities as outlined on the following pages. Much more importantly, however, is that UGB's are normally accompanied by requirements for transparent infrastructure planning, which is missing in this planning framework.

One of the high levels of concern that has come through from discussions (rather than overtly stated in the documents) is the increasing burden of recurrent infrastructure costs and the commitment of capital to new projects. When you unpack UGBs, these drivers also become apparent.

The Washington State Growth Management Act (GMA) requires that

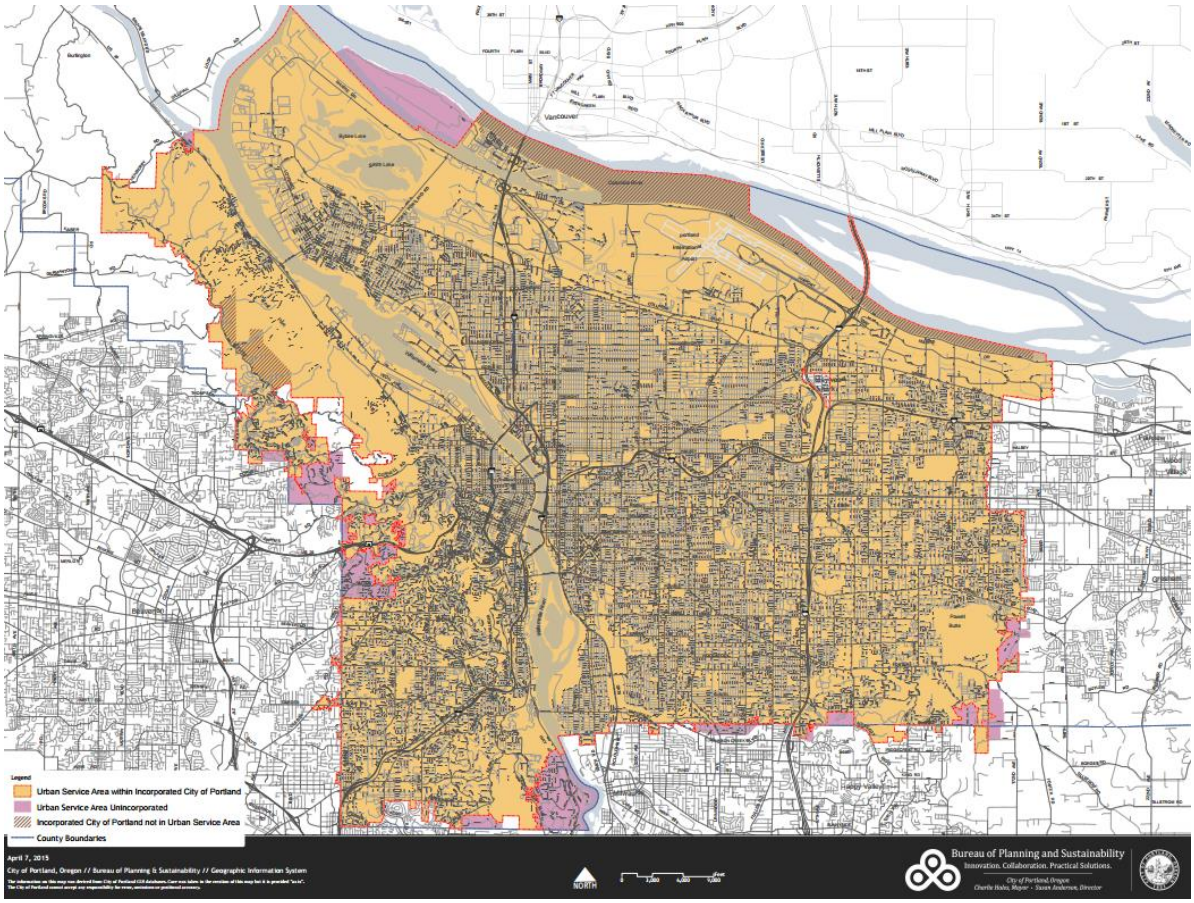
> "*all cities and counties above a certain size prepare comprehensive plans and update those plans at certain intervals*" (City of Seattle, 2015). The document goes on to say that the "*comprehensive plans must show that each city has enough land in appropriate zoning categories to absorb the expected level of growth for twenty years into the future, along with the transportation, water and sewer facilities to serve that growth*" (City of Seattle, 2015).

Based on that measure the document fails, as there is no clear indication of any of these services will be provided, rather there are statements about adequacy of supply and a quantitative look at land supply in infill vs greenfield rather than adequacy of land in appropriate zoning categories. The level of detail for the highly prescriptive approach that is taken in The Documents is totally inadequate and potentially cause for alarm.

An alternative approach for Perth is to consider a "*servicing boundary*" that reflects the State Government's commitment to infrastructure. Projects outside of this "*servicing boundary*" are not guaranteed service infrastructure, however that criterion alone should not prevent the development being put forward in a proponent driven system. This becomes increasingly important with the rise of distributed systems for energy, water and waste water.

Figure 6 indicates the Portland UGB and the servicing boundary. This servicing boundary does not mean that there is no associated urban development outside of it, rather it indicates which entity is responsible for the provision of infrastructure. This may be a more effective approach for Perth if infrastructure costs are a major driver.

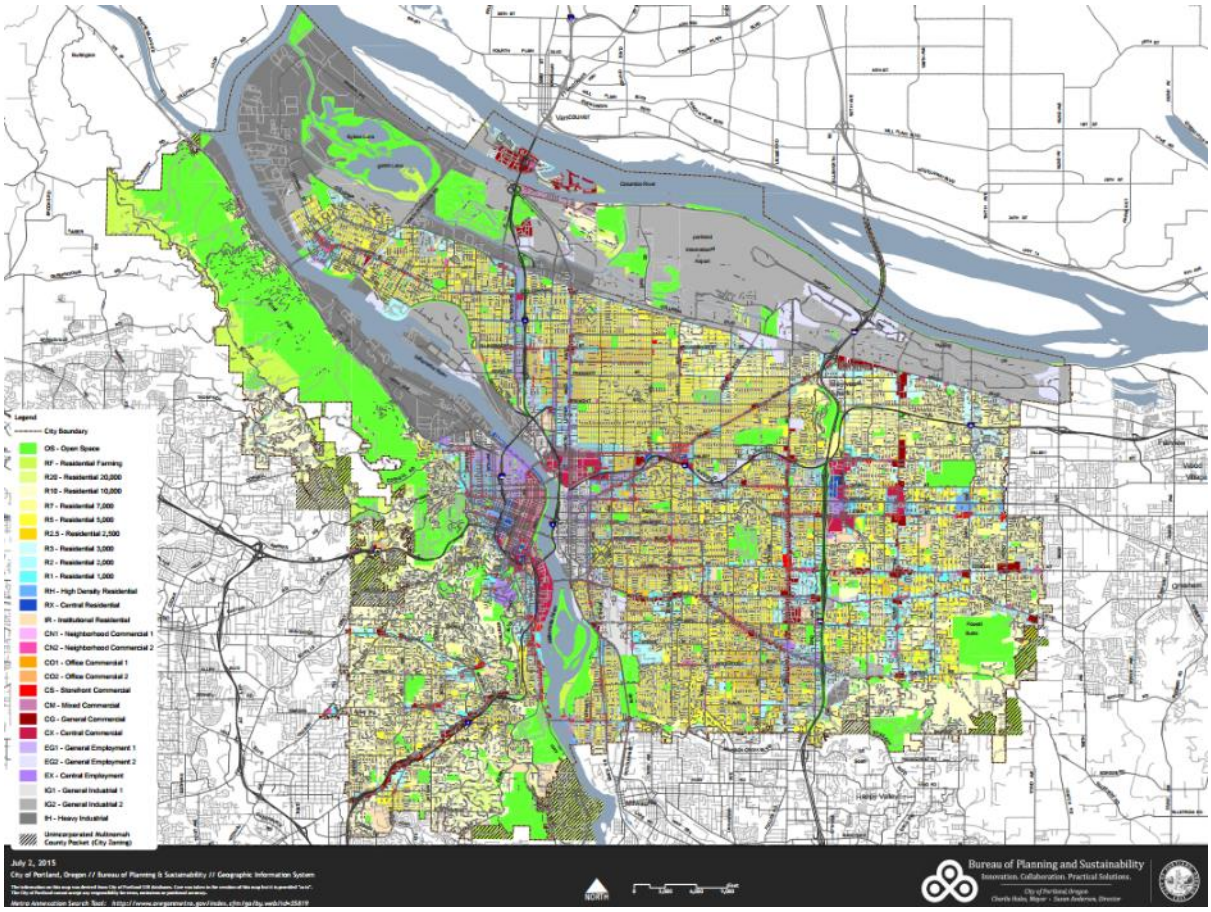
Figure 6 City of Portland Urban Services Area



It is critically important to note that the UGB in Portland has **adjoining urban land** – the UGB represents an administrative boundary rather than a footprint boundary, which is common with many UGB's. The unique role of the Western Australian Planning Commission (WAPC) gives them the capacity to shut down compensating market responses to policy failure such as commuter villages (although this response is not desirable, it does prevent catastrophic failure of housing supply). Unfortunately critical failures are likely in the short to medium term if this policy approach is implemented. The economic and social impacts could be felt for a considerable period of time. Worse, the potential for environmental restorative projects funded through leveraging urban development will be lost as some of the most fragile areas will be potentially degraded beyond reasonable expectation of restoration.

The Washington State GMA also requires clarity around zonings to ensure balance of dwelling stock. The challenge for Perth is that we have a two tiered system where local governments are actively engaged with planning and zoning requirements. To effectively introduce a prescriptive system at state level there would need to be a single authority or there will effectively be a gap between planning and implementation as no single agency has carriage of the zoning and policies that underpin the policy settings. A map of the zoning for Portland (2015) is included on the following page (Fig 7). *Please note that UDIA ACTIVELY SUPPORTS THE ROLE OF LOCAL GOVERNMENT and this comment is included to highlight the difference between the processes used overseas and the application to Greater Perth which has two levels of government actively engaged with the process.*

Figure 7 Portland Zoning Map 2015



International Experience of Urban Growth Boundaries

Urban Growth Boundaries (UGBs) have long been a popular tool for increasing density in major cities, by constraining fringe development. However, they carry with them several negative long and short term effects, especially when implemented without an integrated suite of policies and underpinned by significant funding. Some of the negative effects can include high housing and land prices, overcrowding, loss of open space and infrastructure strain (Gerber & Phillips, 2005, p. 316).

UDIA has a position of supporting the intensification of land use with the goal of delivering well located housing options for our expanding community. The Institute is disappointed that the documentation does not adequately unpack the negative aspects of density/UGBs, which by default, precludes consideration of mitigation strategies. This section unpacks some of the challenges with UGBs as the document appears to be underpinned with the same philosophical basis of constraint

Impacts: Land and Housing Prices

Melbourne, Portland (Oregon) and many cities across California, Tennessee and Washington State all reported significant increases in housing and land prices in the ten years following implementation of their UGBs, with some experiencing increases within twelve months. Scarcity of land, or even the anticipation of an imminent shortage in supply, causes quick decrease of housing markets and rapid increase of housing and land prices (Ball, et al., 2014, p. 3010)

Melbourne's UGB, implemented in 2002/03, caused a surge in land prices for parcels lying within the UGB, even just one-year after the UGB preannouncement was made (Ball, et al., 2014, p. 3016). A study by the University of Melbourne of UGBs and their impact on land prices (using Melbourne as a case study), tracked vacant land sales made between 1996 & 2007 to demonstrate the potential change when a UGB is implemented. Their results showed an increase of 65% in the price of vacant land lying at the fringe of the UGB, which would raise the price of a dwelling on an average sized lot by 21% (Ball, et al., 2014, p. 3011). They also noted a high rate of post-UGB house price inflation, with second-hand house price rates increasing by 56% from 2002 – 2008 after the boundary was introduced (Ball, et al., 2014, p. 3013). On top of this was the observation of prices within the UGB accelerating ahead of prices outside the UGB after implementation (Ball, et al., 2014, p. 3022). They concluded that '*substitution effects caused by the UGB's effect of restricting the supply of land remain the most likely explanation of the divergence in vacant land prices inside and outside of the boundary*' (Ball, et al., 2014, p. 3017).

A report released by AHURI in November 2010 included a series of interviews with local planners and developers on how effective they thought the Melbourne 2030 UGB was. All interviewees accepted that the price of land had risen and one developer stated that farmers and owners within the boundary viewed their land as 'liquid gold'. Some even retained their land, thinking that in time land would get scarcer and said that the UGB had 'imposed that expectation' (Goodman, et al., 2010, p. 67). They also agreed that the UGB had not led to '*higher densities…around activity centres in growth corridors*' (Goodman, et al., 2010, p. 68).

Policy 2.1, 2.2 and 2.3 of Melbourne's 2030 policy aimed to '*set clear limits to metropolitan Melbourne's outward development*', '*concentrate urban expansion into growth areas*' and '*manage the sequence of development in growth areas*' (Department of Infrastructure, Victoria, 2002, p. 2), yet these growth areas have not seen a regular occurrence of higher densities (Goodman, et al., 2010, p. 68). Considering that the boundary has now been extended four times (Millar, 2012) and developers are still building suburban-style estates in towns outside the border labelled as 'country' (Dobbin, 2010), many are questioning if the Melbourne's UGB has achieved anything other than increasing housing prices.

Melbourne is not the only reported case of having an ineffective UGB, examples can be found all over the world including China, where an assessment of urban control boundaries in Beijing found that they 'were not successful in containing urban growth' (Han, et al., 2009, p. 1292).

Internationally UGBs are having significant effects on prices of land and houses within them. Studies on growth control measures in California found that '*growth control can raise housing prices from 8% to nearly 40%*' (Franciosi, 2000) and economists stated that '*scarcity increases prices. A growth boundary creates an artificial scarcity of land, thus by all logic, theory and experience it should cause housing prices to rise'* (Franciosi, 2000). Of the effect of Portland's UGB on their housing prices, Rudy Kadlub, President of Costa Pacific Homes in Beaverton, Oregon said:

'*Land prices in Portland have increased 300% since 1993, causing the sale price of new homes to rise as much as 35% - 40%. Once one of the most affordable housing markets in the U.S., Portland is now one of the least affordable*' (Bady, 1998, p. 14).

This pattern of high housing and/or land prices, coupled with housing shortages in many places, is also documented in Napa County, California, where housing production fell by 74.2% with the implementation of growth controls. Housing prices also rocketed in rural areas as supply failed to meet demand (Staley & Mildner, 1999, p. 1).

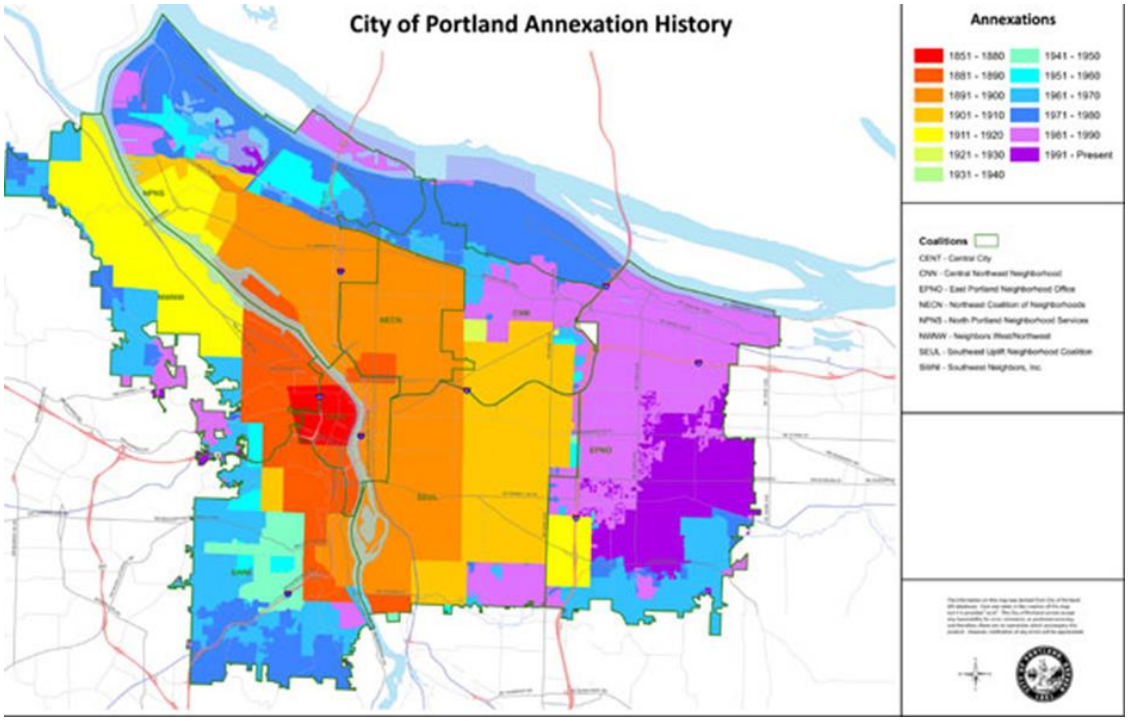
The Process of Annexure

Unlike the Perth Frameworks, UGBs in other cities are not static. Melbourne has increased their boundary three times and Portland has a proponent system of annexation, which is the process of changing municipal boundaries to bring adjacent unincorporated areas into the city.

The map below (Figure 8) shows the annexation history for Portland, which is currently processing an annexure for a further 746 hectares to the west and north-west (City of Portland, n.d.). In neighbouring Vancouver (Washington) over forty annexations have been processed since 2004, bringing nearly 1000 hectares of additional land into the city limits (City of Vancouver (Washington), n.d.). Interestingly the original Directions 2031, set aside an initial amount of 1000 hectares of unallocated land for discretionary inclusion. This was identified in the Frequently Asked Questions when the policy document was released (Department of Planning, 2009).

The new Frameworks for Greater Perth, do not appear to have this level of flexibility with locked in supply and staging for around 35 years. Ironically the annexure process used in some UGBs appears to reflect the Metropolitan Region Scheme Amendment process and includes proponent driven applications. It seems that the policy of constraint, proposed for adoption by the WA State Government could be one of the most restrictive approaches in the world and is likely to have disastrous consequences not only for housing affordability but also for the state economy as outlined earlier in this submission.

Figure 8 City of Portland Annexation History



We urge the State Government to conduct an economic review of the proposed approach with a particular emphasis of the impact on housing affordability and the state economy.

Part 3 – Assumptions

It is clear that the documents are a well-intentioned attempt to create a sustainable city. Unfortunately many of the ideas are predicated on outdated data and a philosophically driven position which does not take account of changes in built form, culture and the recent removal of some of the policy barriers which had stifled the market response to challenging legacy issues.

With such limited available data on why decisions are made, the process can only be described as being opaque. The lack of information denies natural justice, creating procedural inequity for not only current landowners, but for future generations that will seek to understand the rationale behind what is likely to be seen as one of the most draconian planning systems in the world as it embraces a UGB approach without the compensating commitment to infrastructure investment and an enabling policy framework. We need a flexible, responsive system if we are to meet the challenges in front of us.

This section seeks to unpack the assumptions that UDIA believes underpin the decisions that have been made, however this is by deduction rather than a clear policy framework that could be assessed. These assumptions are summarised on the following page.

Assumption Summary

UDIA has premised this submission on what the Institute believes were the key assumptions. These are summarised below.

Assumption 1: Footprint
The documents seem to be underpinned by the concept that Perth's footprint is too large and that is the cause of congestion and social disadvantage

Assumption 2: Density
The documents overtly say that Perth lacks density compared to other cities and implies that developers have been overly focused on the delivery of greenfields detached housing, and therefore change needs to be forced through significant infill targets and preventing any new land being considered for development.

Assumption 3: Centralisation of Employment
The documents are underpinned by a centralist approach that does not stack up under scrutiny. It is noted that this is not throughout all of the documents, as they appear to have been written in isolation, with slightly different viewpoints.

Assumption 4: Demographically Relevant Dwelling Stock
The document considers that the dwelling stock is not demographically appropriate but does not elaborate on what is required. There appears to be confusion between built form outcomes (ie number of bedrooms) with infill. It is essential that there is an understanding of the dwelling stock, and who lives in the different forms of housing.

Assumption 5: Nutrient Management
The document does not appear to be based on the most recent analysis of development standards and the associated management of nutrient loads. Modern development can have a net benefit to water quality and can be part of the solution rather than the problem.

Assumption 6: Use of Basic Raw Materials
The document makes several assumptions in relation to basic raw materials including that it is the only solution to development issues such as separation distances from water table. The documentations also appear to imply that densification minimises the use of basic raw materials. This is flawed and not based on evidence.

Assumption 7: Availability of Infrastructure
The documents make a number of assumptions with regard to availability of infrastructure, such as a continued business-as-usual approach to construction, delivery and the network; as well as capacity within existing service areas.

UDIA strongly recommends the State Government acknowledging the level of quantitative research that underpins this report and recommends it as a MINIMUM STANDARD for any assumptions that underpin critical documents.

Assumption 1: Footprint

The geographical footprint of Perth is seen as negative, being labelled “sprawl.”

The assumption of sprawl is based on administrative boundaries rather than a comparison of the urban footprint. This is not to imply that Perth should not be seeking density where it is deserved, rather, that the position put within the documents of a “sprawling city” is out of balance in a comparative analysis of Australian Cities.

Core to the argument about “sprawling cities” is the assumption that congestion is a factor of the socially disadvantaged worker forced to travel long distances to the CBD to work. That position is not evidence based and in this section the submission looks at:

- Comparison of congestion in cities around the world including those with long term Urban Growth Boundaries such as Vancouver and Seattle which are both more congested than Perth, with Vancouver rated as the most congested city in Canada and ranked 20th in the world.

- Social advantage and disadvantage through a comparison of Perth and Portland to demonstrate that disadvantage has little or no correlation to distance from the CBD in Perth.

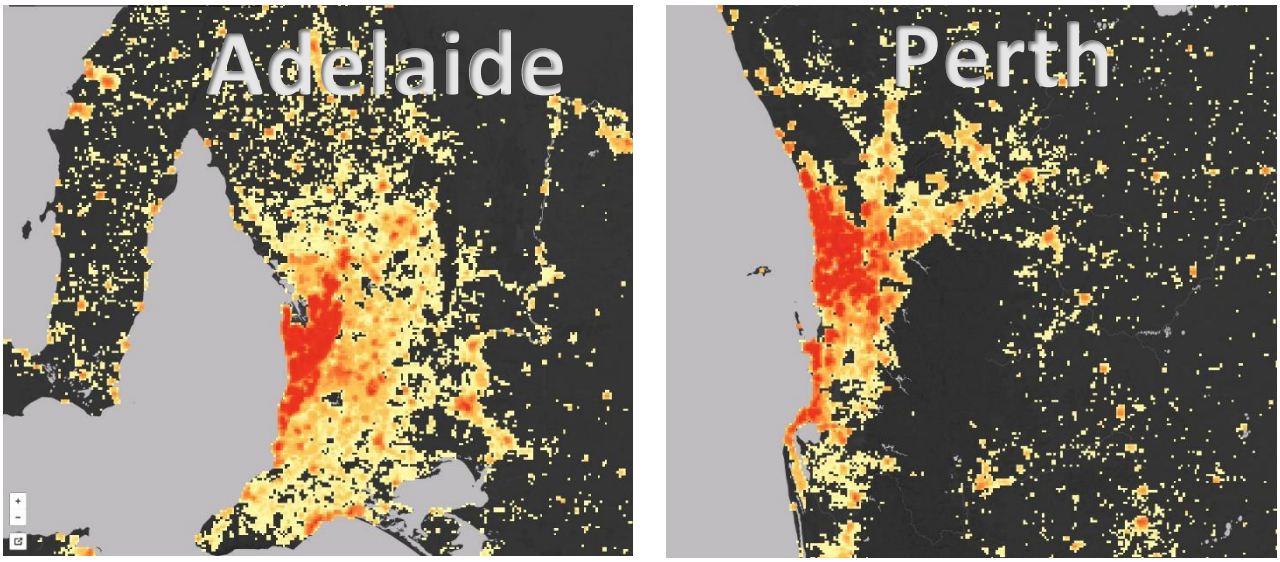
Introduction

There are many assumptions that seem to be inherent in the documentation for Perth and Peel @ 3.5 million, some stated overtly with others more subtlety included. This section unpacks the concept that Perth's footprint is the most unreasonably sprawled, with negative consequences that include traffic congestion and social disadvantage for people in the outer suburbs.

Perth has been labelled as the most "sprawled" in Australia however that is a reflection of the administrative boundaries rather than the urban footprint. Up until late 2014, ABS analysis was based on administrative boundaries, however an intensive one square kilometre grid study reveals a very different pattern of urban settlement. Sydney, similar to Perth, is very linear along the coast with Sydney experiencing almost contiguous urban development of greater than 500 persons per km^2 from Newcastle to Wollongong. This attraction to the coast is shared with Perth, both having a long lineal profile. The comparison with Adelaide (below) is even more telling with a far greater footprint visible, at lower density.

To resolve problems we must clearly define them, based on fact rather than assumption.

Figure 9 Footprint of Perth and Adelaide at the Same Scale



The following pages consider some the issues identified in the documents that we believe associated with a perception of a large urban footprint.

Congestion

UDIA does not agree, with the statement that "*One of the key consequences of a low density expansive city with a dominant CBD is traffic congestion*" (*P16, Central Metro Framework)* as evidence shows that congestion is more complex, indeed many cities, including those that are renowned for the density achieved via an Urban Growth Boundary (UGB), experience congestion levels higher than those in Perth.

When considering a restrictive approach to planning as the proposed frameworks for Perth, it is essential to understand both the benefits that may be derived and the consequences. One of the little recognised issues with an urban growth boundary is congestion. Density, without extensive public transport infrastructure, compounds congestion.

An international study of data collected from millions of GPS devices by the manufacturer Tom Tom provided a ranking system which identified the most congested cities in the world. Perth is ranked as the 73rd most congested city in the world with the highest level of congestion being experienced in Istanbul, Mexico City and Rio de Janeiro. Los Angeles is ranked 10th, whilst London came in as the 16th most congested city in the world.

What is surprising to many who consider Vancouver, Seattle and Portland to be highly liveable cities, is the level of congestion being experienced. Vancouver is ranked as the most congested city in Canada, with a world ranking of 20. Seattle is less congested, with a world ranking of 46. Indeed the evening peak in Portland is significantly higher than in Perth which we understand to be impacted by non-commuter traffic (TomTom International BV, 2014).

Figure 10 International Congestion Comparison

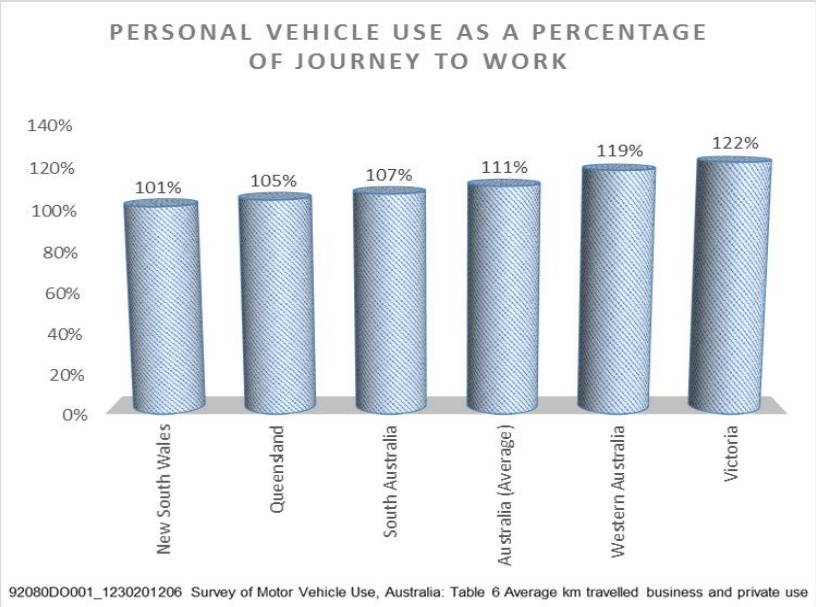
World Rank	City	Country	Congestion Level	Morning Peak	Evening Peak	Highways	Non-Highways
10	Los Angeles	USA	39%	60%	80%	36%	42%
16	London	UK	37%	65%	67%	22%	43%
20	Vancouver	Canada	35%	53%	66%	13%	41%
21	Sydney	Australia	35%	66%	64%	31%	37%
46	Seattle	USA	31%	51%	74%	26%	35%
60	Melbourne	Australia	28%	52%	51%	21%	35%
73	Perth	Australia	27%	46%	46%	20%	29%
79	Portland	USA	26%	35%	61%	20%	29%

(TomTom International BV, 2014)

Road transport, even with arguably the best public transport system in the world, is still a fundamental component of mobility in Vancouver. Congestion and a deteriorating road network underpinned a referendum in Vancouver this year to determine how the upgrades were to be funded. After sales tax increases were rejected in the referendum, road charging is being investigated to raise revenue. The current and projected cost of congestion in Metro Vancouver was quantified in a report released by the Council of Mayors in February 2015 and identified $487 million in delay, vehicle operating, and related costs; $592 million in lost business revenue; $340 million in lost regional GDP. If no remedial action is taken those figures will rise to $1 billion, $1.8 billion, and $1 billion respectively (TransLink, 2015).

The key issues are those that are engaged in non CBD employment, or are travelling for reasons other than journey to work. In Western Australia personal journeys have a greater share of trips and represent 119% of the journey-to-work kilometres travelled. In all capital cities the personal vehicle use outweighs commuter use and many of those journeys cannot be readily accommodated through public transport such as school/child care drop off/collection, which has a narrow band of operating hours to highly discrete locations, exacerbated by time poor families juggling work and family commitments. It is these trips which often cannot be addressed through modal shift. If we are to plan correctly we must not make assumptions about what causes congestion, rather unpack the drivers behind the trips by motor vehicle.

Figure 11 Personal Vehicle Use Comparison as a Percentage of Journey to Work



If Perth is to effectively mitigate the negative aspects of population growth, the issue of congestion and mobility must be more nuanced than the current debate which fails to take on board both positive and negative experiences from around the world. We need an evidence based discussion, inclusive of projected technological change, to determine the pathway forward for Perth.

An article released recently by Professor Peter Newman stated that:

> *"The congestion trends being used to scare us are not based on actual data but on projections. They come from a model that is now discredited. In reality Australian cities peaked n car use per person in 2004, like all developed cities across the globe." He goes on to say that: "Rail patronage is booming way beyond predictions."*

Whilst the Institute does not agree with all points made by Professor Newman we are in full agreement that the dynamics have changed in post-GFC Perth and urge the government to revisit the data that is assumed to underpin the documents so that informed decisions can be made going forward.

Social Disadvantage

One of the strongest perceived benefits of a UGB is the achievement of a more inclusive society through the provision of well-located affordable housing. This is predicated on assumptions that the less advantaged are being "forced" to live in outer suburbs. This section unpacks social advantage and disadvantage in Perth based on the ABS data which considers a broad range of factors and compares it to the experience of social disadvantage in Portland.

The Perth Experience

> *The Central Subregion offers better access to quality public transport and close proximity to the CBD, which can make transport and other living costs lower than they are for households in outer lying suburbs however the higher cost of renting or buying in the Central Subregion means that many lower income households do not have the option of living in the area and may be displaced to the outer suburbs.* *Page 17. Central Sub-Regional Framework*

The statement above is true in some respects, there is greater intensity of public transport in the Central Subregion, it makes many assumptions which cannot be backed up with fact, particularly that lower income households are displaced to the outer suburbs. The Index of Relative Socio-Economic Advantage and Disadvantage (IRSAD) prepared by the Australian Bureau of Census and Statistics (ABS) summarises information about the economic and social conditions of people and households within an area, including both relative advantage and disadvantage measures. A low score indicates a relatively greater disadvantage such as many households with low incomes or people in unskilled occupations and few households with high incomes. Far from being concentric rings of disadvantage, Greater Perth has areas of significant advantage across the urban footprint, driven mainly by proximity to the amenity of the coast and the river. In Greater Perth, scores of 9/100 are recorded within 18km of Perth with scores of 100/100 being recorded over 30km away from the CBD but adjacent to the coast as can be seen in Figure 12.

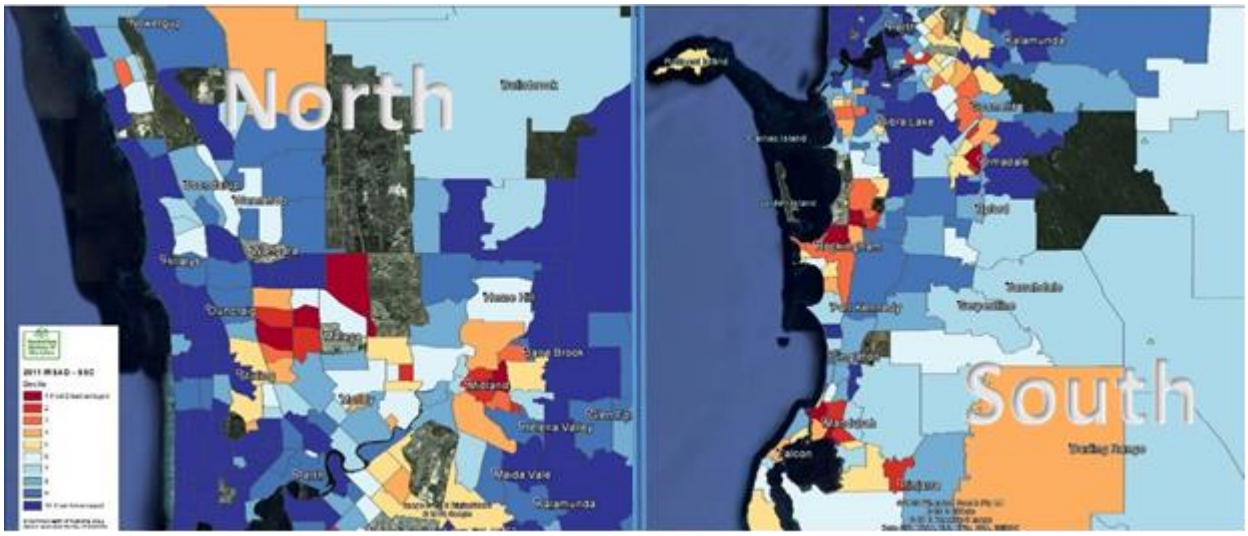
Figure 12 ABS Highest Ranked Locations in Perth - Social Advantage

100/100	99/100	98/100	97/100	96/100	95/100
North Coogee	Piara Waters	Karlkurla	The Vines	Wembley Downs	Connolly
Dalkeith	Aubin Grove	Brigadoon	Gooseberry Hill	Belhus	Marmion
Burns Beach	Jindalee (WA)	Applecross	Coolbinia	Leeming	Bickley
City Beach	Cottesloe	Carine	Gwelup	Attadale	Darlington (WA)
Broadwood	Harrisdale	Sorrento	Churchlands	Ocean Reef	Aveley
Iluka (WA)	Swanbourne	Hammond Park	Jandakot	Duncraig	Salter Point
Floreat	Nedlands	Hillarys	Hilbert	Mount Claremont	Bedfordale
Peppermint Grove	Winthrop	Trigg	Waterford (WA)	Mount Pleasant	Bateman
		Mindarie			

.. the higher cost of renting or buying in the Central sub-region means that many lower income households do not have the option of living in the area and may be displaced to outer suburbs. Central Metro Framework Pg 17.

UDIA questions the terminology that lower income households are "displaced" to the outer suburbs, implying that this is an unreasonable outcome. The fact that many households choose to live away from the CBD to enjoy the lifestyle, which is a critical factor to take into consideration when considering the future planning of Greater Perth. The map below in Figure 13 shows the ABS data for social advantage and disadvantage north and south of the river with the most advantaged areas in blue, the least advantaged shown in red. The most advantaged areas in Perth are located along the river and the coast, with areas of disadvantage located way from those two areas of amenity, but coastal of the more lifestyle lots toward the scarp. There are also areas of social disadvantage which have been influenced by their original establishment as worker accommodation for the industrial precinct.

Figure 13 Map of Social Advantage (blue) and Disadvantage (Red)

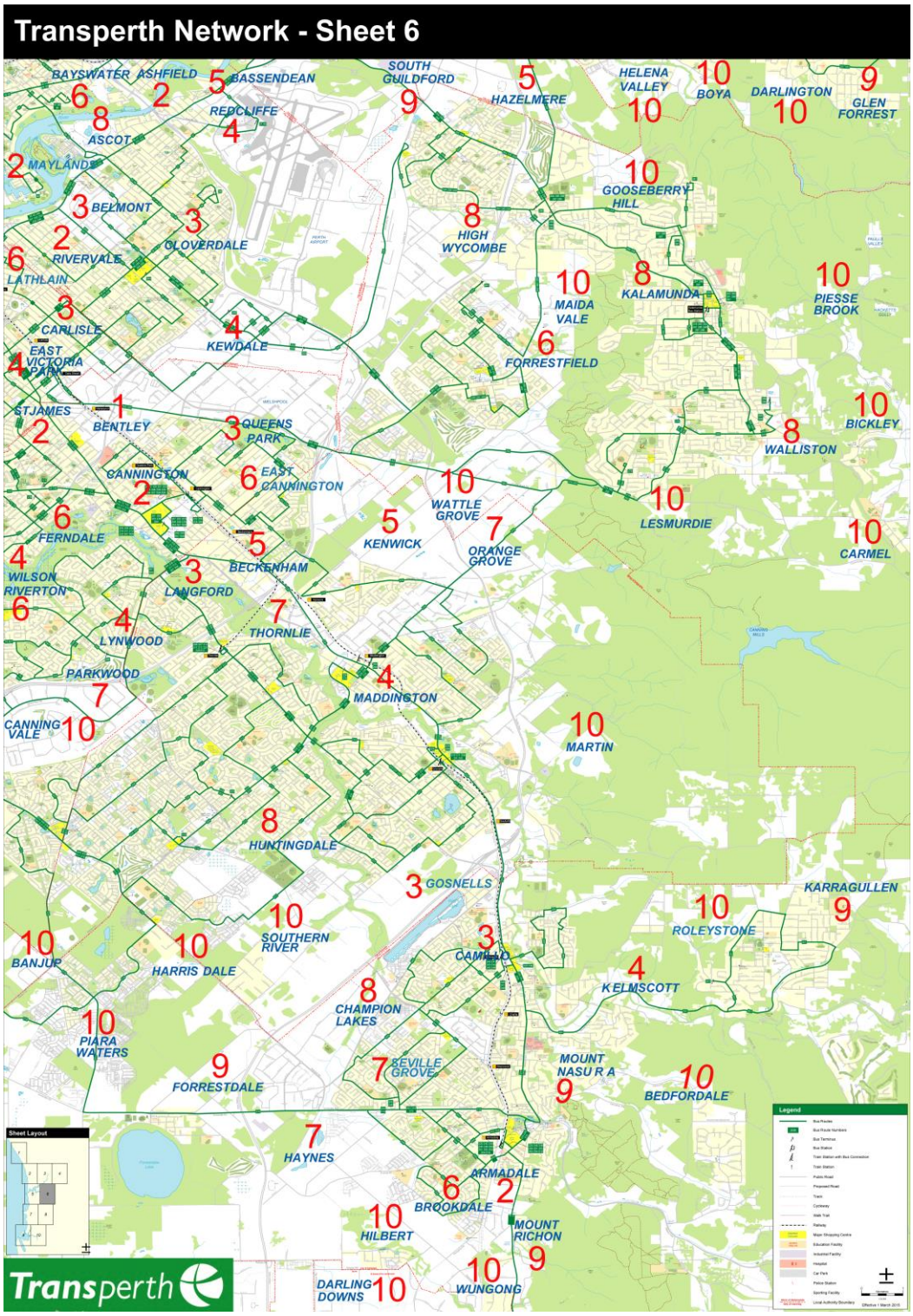


The Central sub-region offers better access to quality public transport and close proximity to the CBD, which can make transport and other living costs lower than they are for households in outlying suburbs. Central Metro Framework Pg 17.

Clearly there are multiple factors impacting on where people on lower incomes live. If we are to mitigate the negative impacts of social disadvantage we need to be far more responsive to what the drivers are, rather than taking the simplistic measure of distance from the CBD. Not only does the CBD only have around 15% of the jobs in Greater Perth, distance from the CBD is irrelevant to people on social benefits, business owner-operators. Of far greater importance are social networks, public transport and affordable housing.

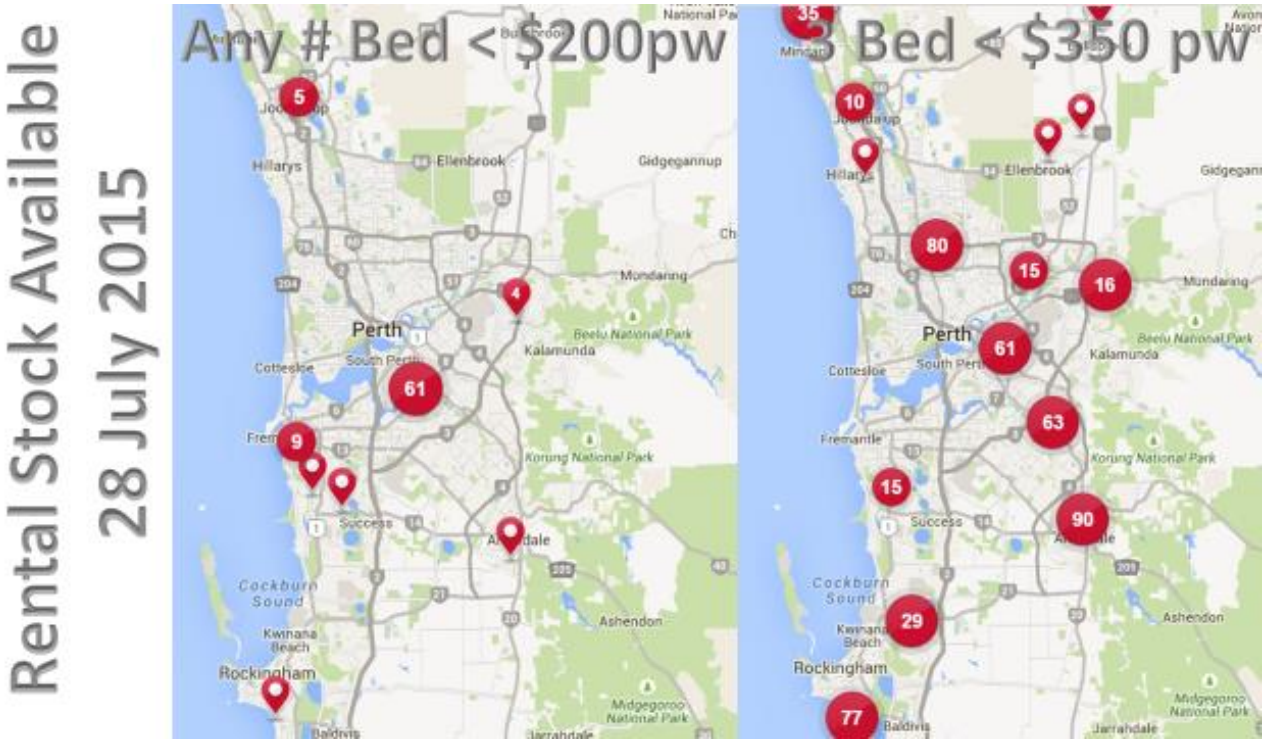
On the map below, which is premised on the public transport map of the PTA for the south eastern corridor of Perth, it is clear that the social advantage/disadvantage is far more nuanced than appears to be enshrined in the current policy settings. Social disadvantage is not related to proximity to the CBD, rather a complex mix of age of the housing product and distance from amenity (including coast/river and coffee culture). Interestingly, where gentrification has not (yet) occurred there are clusters of socially disadvantaged household seeking to maximise their access to public transport, which is one of the desirable outcomes.

Figure 14 Map of ABS Social Advantage and Disadvantage (Decibel Level) Overlayed with Public Transport Options



Affordable dwellings are available for rent in close proximity to the CBD with more affordable options for less than $200 per week available in the central region, located as a market response to demand for student accommodation. The opportunities expand for three bedroom homes less than $350 per week, with choice both close to the CBD and to other employment opportunities such as Kwinana and Malaga. Key to this discussion is that you do not need to be "displaced to outer suburbs" to find affordable rental product – affordable living depends on individual employment and personal circumstances.

Figure 15 Rental Properties available in Perth July 2015

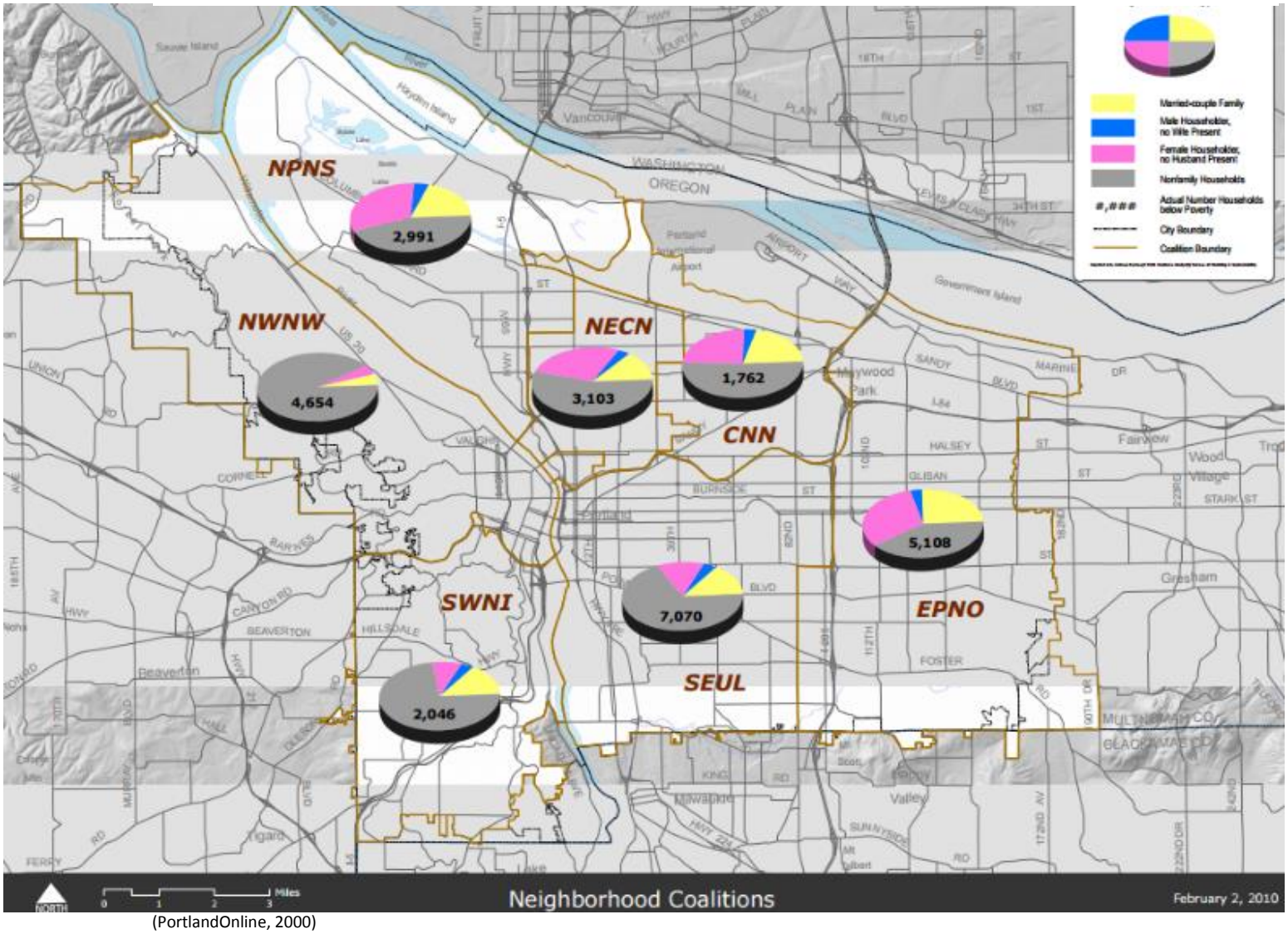


The Portland Experience

In Portland the price of a single family home rose over 50% from $104,743 in 1990 to $160,217 in 2000, creating some of the most unaffordable housing in the US. The overall increase in home values was 142 % between 1970 and 2000. Home ownership rates were significantly lower (20% lower) for minority residents. Furthermore, household income only grew 31 % from 1969 to 1999, far outrun by housing values (Howe).

Whilst drawing young professionals, the city has significant pockets of poverty and a low percentage of the population has completed high school. There was also a significantly high unemployment rate of 7.8% (Mayer). Fig 16 (below) shows the proportion of residents in each of the areas of Portland that are below the poverty level and the associated household composition.

Figure 16 Social Disadvantage Portland



(PortlandOnline, 2000)

Assumption 2: Density

UDIA strongly supports the development of high and medium density activity centres which offer lifestyle choice for residents. There are many benefits of the highly urbanised outcomes offered in these precincts including vibrancy, amenity and services.

Density, however, does come with negatives and these need to be acknowledged if we are to manage and mitigate those impacts.

The arguments made in relation to density are not well formed and data is misused to understate the position of Perth. Some of those data flaws are unpacked in this section, which is followed by a look at Perth densities in both greenfield and infill areas which shows that the market response to density is strong and growing as policy restriction are removed.

International Comparisons

Density is not the panacea for all that ails us, as the documentation seems to imply rather it is part of a diverse response to a growing city. The introductory document to the Subregional Frameworks: "*Perth and Peel @ 3.5 million*" cites London as an example of high density. Whilst the highest densities in London are well beyond those experienced in Perth, it is far less dense than it was in 1939 and only returned to that level of population in early in 2015.

Figure 17 Density of London 1939 - 2015

London was obviously impacted by the bombings during World War II, what is less well known is the impact of the Greater London Plan of 1944, which was developed to overcome the lack of planning that occurred during the rapid industrialisation of the late nineteenth century. It also acted to reduce population levels. While well intended, concentrating on employment and industry, open spaces, transport and appropriate housing, there were significant repercussions of the Greater London Plan mainly because the infrastructure that was essential to the plan was not implemented in the tough economic circumstances of post war England.

London today has a less intense residential core than in 1939, however living standards have improved, as have the expectations of the residents. There remains a significant challenge in relation to housing affordability with the average cost of a dwelling now 12.5 times the median wage in Inner London (Data.Gov.UK, n.d.). There are 344,294 people on the social housing waiting list in London (Department for Communities and Local Government, April 2013).

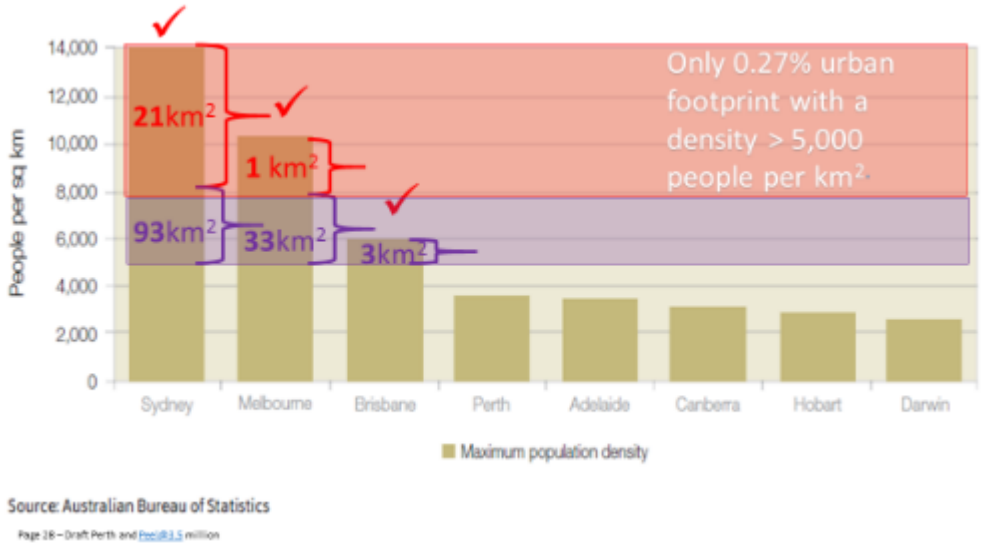
Figure 18 Median Earnings to House Price Ratio Greater

The negative outcomes of the Greater London Plan, due to the lack of investment to support the implementation, should be noted by all decision makers. It is essential that there is bi-partisan agreement on a funded infrastructure program and recognition that the full cost of services such as water, power, waste water and telecommunications cannot be front loaded on development if affordable outcomes are to be achieved.

Australian Comparisons

With density as a major driver in the documentation, it appears that data has been used to exaggerate the disparity between other cities, especially Brisbane. In their analysis, the Department of Planning selected the maximum densities achieved in other Australian cities, and indeed there are some very dense areas in Sydney. Sydney has 21km^2 (0.17%) of their statistical area with a density higher than 8000 people per km^2 and a further 0.77% greater than 5000 people km^2. The proportion of the Greater Melbourne area over 8000 people per km^2 is 1km with 33km greater than 5000 people km^2. Density in Brisbane is deemed to be greater than Perth because they have a maximum density of greater than 6,000 people km^2 in just 3km of their footprint. Using maximum density is misleading as it can be a tiny portion of a city which reaches that trigger point. This tiny percentage should only be seen as what can be achieved rather than as a basis of a plan for a large metropolitan region.

Figure 19 Maximum Density Australian Capital Cities Source: ABS/Department of Planning.

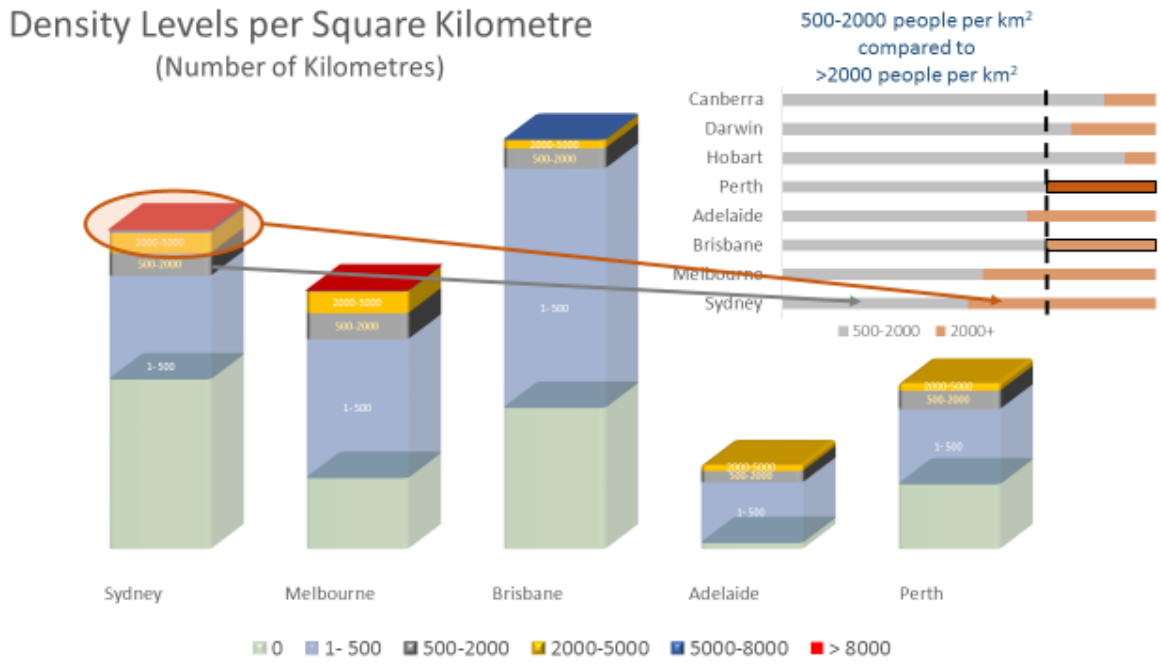


In reality, even with a sympathetic view of Brisbane, it could only be seen on a par with Perth. This is predominantly due to topography there are many areas that cannot, and should not, be developed due to flood risk. This results in a profile which sees considerable areas that have from 1-500 person per km^2. If you eliminate those low density outcomes, Perth and Brisbane are have a very similar profile of land use.

Whilst comparisons are useful they are only valid if they are used to ascertain both the positive and negative aspects of the urban profile to ensure that outcomes are maximised and negative aspects mitigated. The Institute does not have faith that this was the purpose that underpinned the inclusion of the data.

It is also important to note those areas with zero residential population and to determine the driver. For Perth, much of the land was set aside for conservation, whether through the formal conservation estate or through the Bush Forever program. To relegate the description of Greater Perth as a sprawled city is to do a disservice to the planners who set aside land for conservation on roughly on a 2:1 basis – the alternative was to clear the land for urbanisation without regard for the environment. This showed vision and foresight which should be respected.

Figure 20 Density Levels Per Square Kilometre: Source UDIA/ABS



This analysis undertaken by UDIA is supported by population weighted density analysis using at SA2 level (suburbs) (Charting Transport, n.d.). According to the Author, most [Australian] cities bottomed out in density in the mid-1990s. Sydney, Melbourne and Perth have shown the fastest rates of densification in the last three years. The Graph below shows that Perth is on par with Brisbane when it comes to overall density levels.

Figure 21 Population Weighted Density of Australian Cities Over Time (Charting Transport, n.d.)

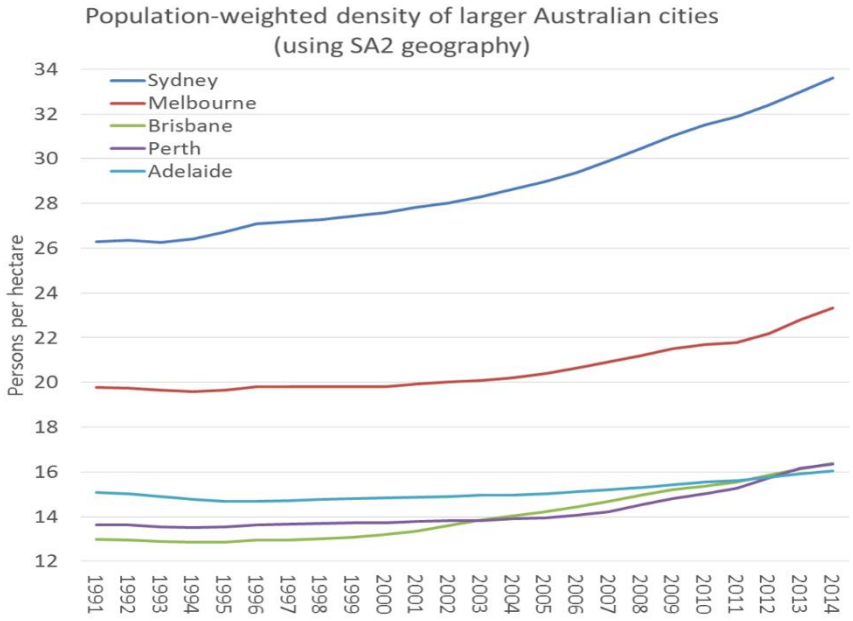
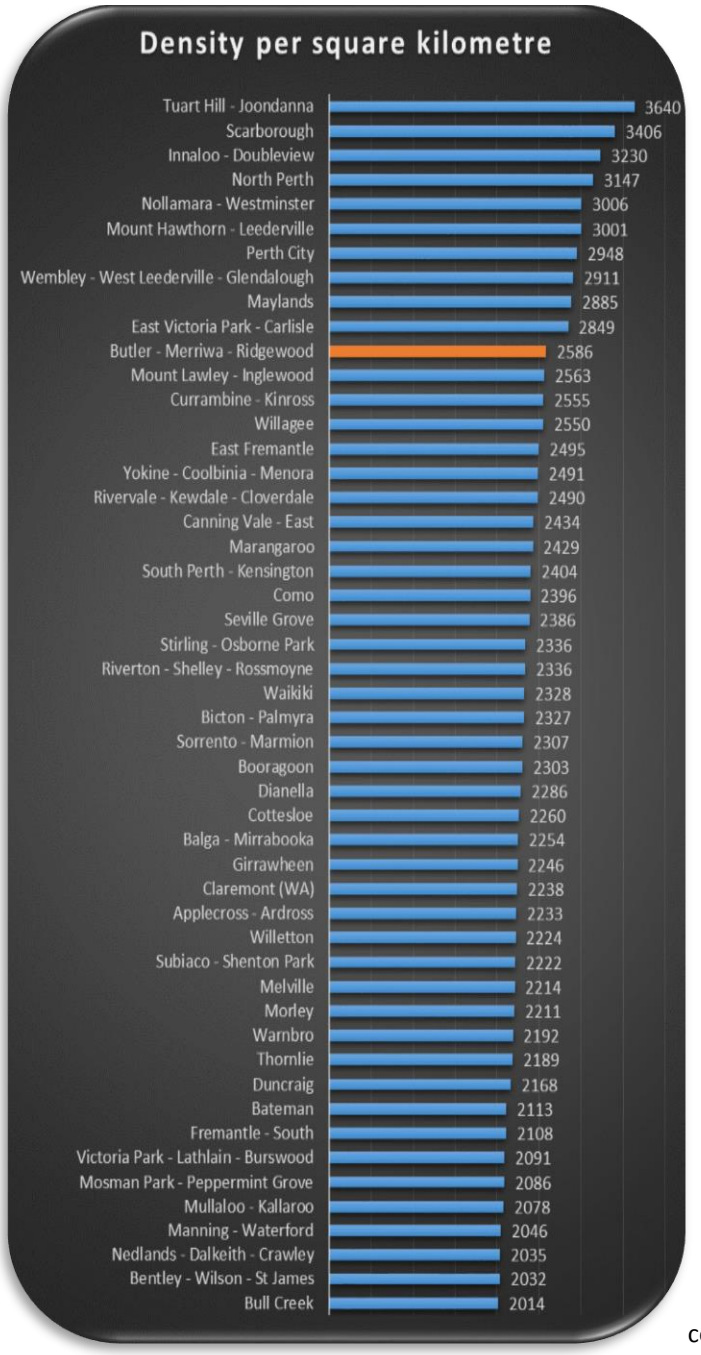


Figure 22 Density Perth Suburbs 2015 Source: ABS/UDIA



Evolution of Density in Perth

Perth is getting rapidly denser through the contribution of both new developments in the outer suburbs which are achieving 15 – 19 dwelling units per gross hectare which is considerably denser than some middle ring suburbs. The challenge for measuring density is that it is a measure of people within a statistical area so for developments that have not yet reached full build out it is difficult to ascertain their real density.

The Brighton Estate in the Butler – Merriwa – Ridgewood data cohort, demonstrates the densities being achieved in a near complete estate. At 2586 people per square kilometre, it is denser than other well-known inner suburban areas such as Subiaco (Subiaco-Shenton Park) which has 2,222 people per sq/km. It is anticipated that the density achieved in the Brighton development will be exceeded by new developments as they come on stream and respond to the policy framework which demands a high rate of density.

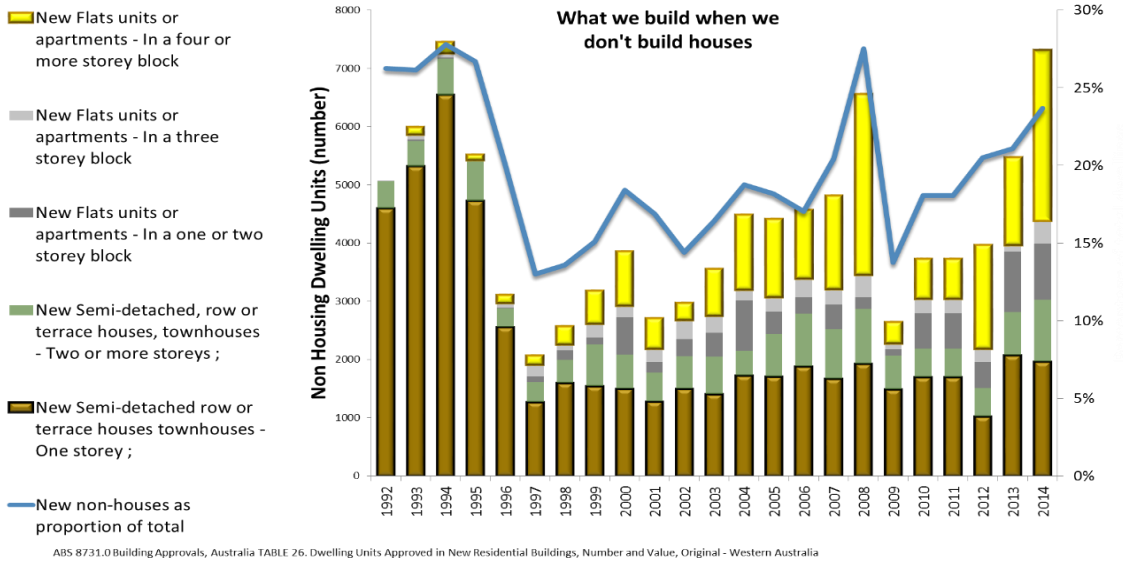
Perth has evolved based on government policy at the time. In the 1980s, Perth's development was being guided by the State Government's "corridor plan," which had been adopted the previous decade. By the mid-1980s, the middle ring suburbs of Perth – those within 15km of the city – were nearly built out in a low density approach.

The development of Noranda, Willetton and Bull Creek and the extension of Booragoon meant the only land remaining in that middle band was the former Somerville Pine Plantation, which was later developed into the suburbs of Winthrop, Murdoch and Kardinya. At that time, Perth covered just under 500sq km and had a population of one million. Today, Perth has a footprint of 870sq km and a population of 1.834 million, giving us a marginally higher population density as older large lots are being subdivided, particularly those in formerly unsewered areas that had a minimum lot size of 1012sqm.

By the 1980s, all new lots were fully serviced, including mains sewerage. The introduction of the Residential Design Codes (R-Codes) in 1982 reduced the minimum lot size for a single house to 450sqm, with the average lot size 680sqm, but the shape became more irregular after a 1973 government report championed the introduction of cul-de-sac development as a strategy for increasing yields and liveability. The combination of cul-de-sacs and curvilinear streets has left a legacy of irregularly shaped blocks that are harder to subdivide than the quarter-acre blocks that preceded them. The introduction of the Strata Titles Act in 1975 facilitated individual ownership in multi-unit developments, which pushed the number of occupied flats, units and apartments as a proportion of all occupied permanent dwellings to a high 21 per cent in 1986. The R-Codes, however, negatively impacted on small, affordable multi-unit dwellings because they prescribed density and plot ratio, which meant that in some locations only larger units were commercially viable.

Inner urban areas have made a considerable contribution, and there is more that can be achieved now that some of the more restrictive policies have been removed, New policy settings, including the Multi-Unit Housing Code, have changed the level of density being achieved with apartments over four storeys now a significant component of the new product. The Global Financial Crisis had a crippling impact on the delivery of high density with the recovery accelerating to reach record levels in 2014. Since the 2011 census (undertaken in August 2011), there were 20,524 "non-houses," i.e. units, apartments and other attached dwellings, approved for construction in Greater Perth with 61,936 houses (ABS).

Figure 23 Approvals for Non-Housing Residential by Typology (Source UDIA/ABS)

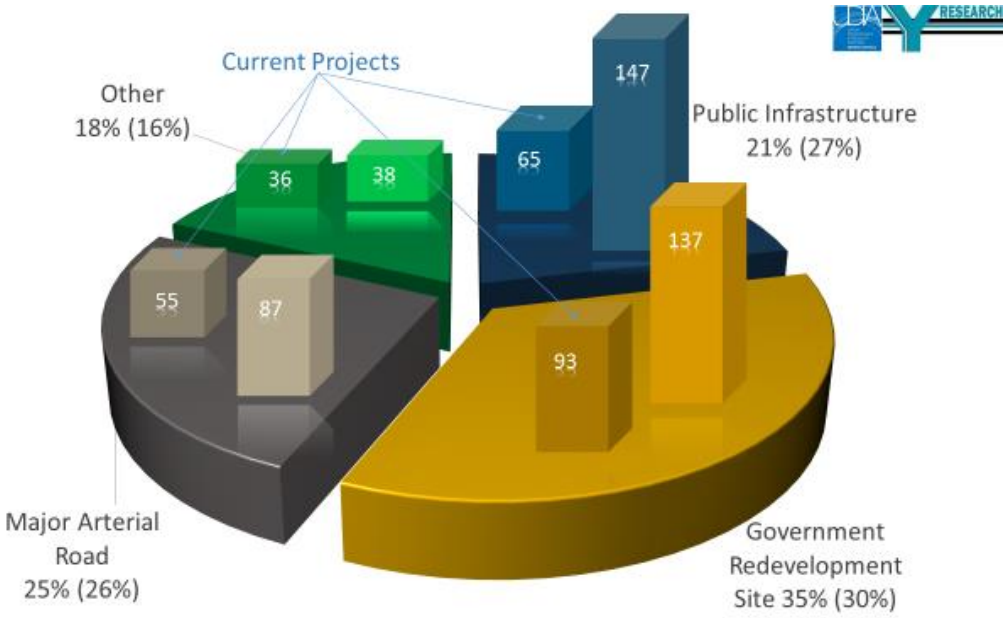


ABS 8731.0 Building Approvals, Australia TABLE 26. Dwelling Units Approved in New Residential Buildings, Number and Value, Original - Western Australia

The industry is highly responsive to policy settings, both positive and negative and there are process improvements that are needed today to encourage further densification through precinct scale planning and development. There is also a need to address the interface issues with existing residents and provide sufficient design guidance to avoid lengthy and unproductive deliberations that add delays and costs to projects. Detailed commentary on barriers to infill are provided in Part 6 of this submission.

Unfortunately acquiring sites can be challenging with land assembly programs only viable for the larger projects. There has been a reliance on government land for precinct scale development and there was concern about getting high density projects in the most appropriate locations. Fig 22 below shows that currently 56% of precinct scale development is on government land or around public infrastructure such as train stations.

Figure 24 Location and Scale of Precinct Projects Source YResearch/UDIA



A further 25% is being developed along major arterial routes with 18% in other locations. Importantly the scale of projects is increasing with the average project on government redevelopment land going from 93 to 137 units, and those around public infrastructure rising from 65 units on average to 147.

The scale of development is significant and can be seen in the number of large projects approved in what will be a future Transport Orientated Development in South Perth. This is an example of Local Government and the private sector working together to meet State Government objectives without the support required to deliver critical infrastructure. Assessing the delivery of density must include an understanding of both the history of the urban form and the trajectory of change or there is a high risk of unintended consequences.

Figure 25 South Perth: a TOD in Waiting

Assumption 3: Centralisation of Employment

"….the vast majority of all workers travelling daily to the CBD to work."
Pg. 42 of Perth and Peel @ 3.5 million

UDIA recognises that the Central Business District (CBD) is the largest single employment centre in Greater Perth in terms of number of jobs however, the 85% of people **do not** work in the CBD, which is acknowledged on page 16 of the Central Subregional Planning Framework but contradicted in the overarching document.

The importance of the CBD in terms of a transport destination is recognised by the Institute but many commuters now utilise public transport in peak hour. The Public Transport Authority reports that 60% of the distance travelled to the CBD in peak hour is taken by public transport (Department of Transport, n.d., p. 12) and 82% of rail passengers go to or pass through CBD stations (Department of Transport, n.d., p. 14).

By logical extension, this means that people that work in the CBD that do not use public transport in peak hours account for less than 40% of the 15% of people that work in the CBD, or less than 6% of the CBD work force (approximately 7,500 people - the amount of people travelling in peak hour is not known so this would represent the maximum).

The "dominance" of the Perth CBD is less evident when the economic activity per working hour is considered. Greater Perth is unique as no other Australian Capital City has the distribution of areas with a productivity per working hour greater than $90. This planned development of Kwinana and Kewdale, as well as the growing importance of Osborne Park shows the success of distributed employment over Perth's history. See Fig 26.

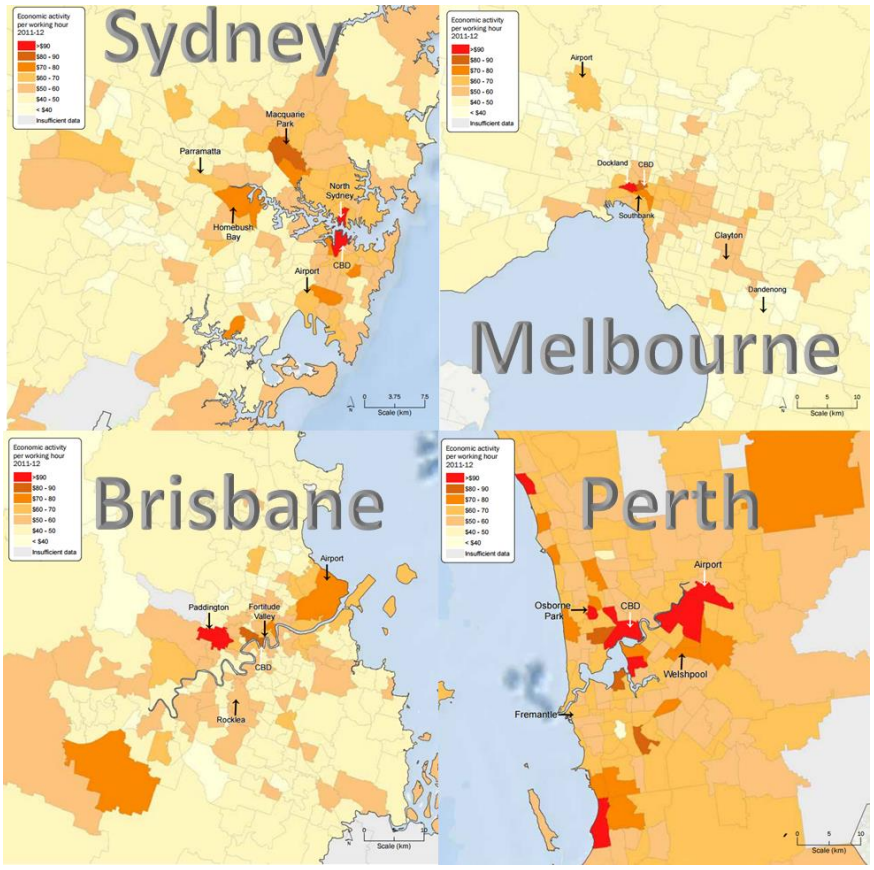


Figure 26 Economic Activity Areas Capital Cities Source: Department of Infrastructure and Regional Development

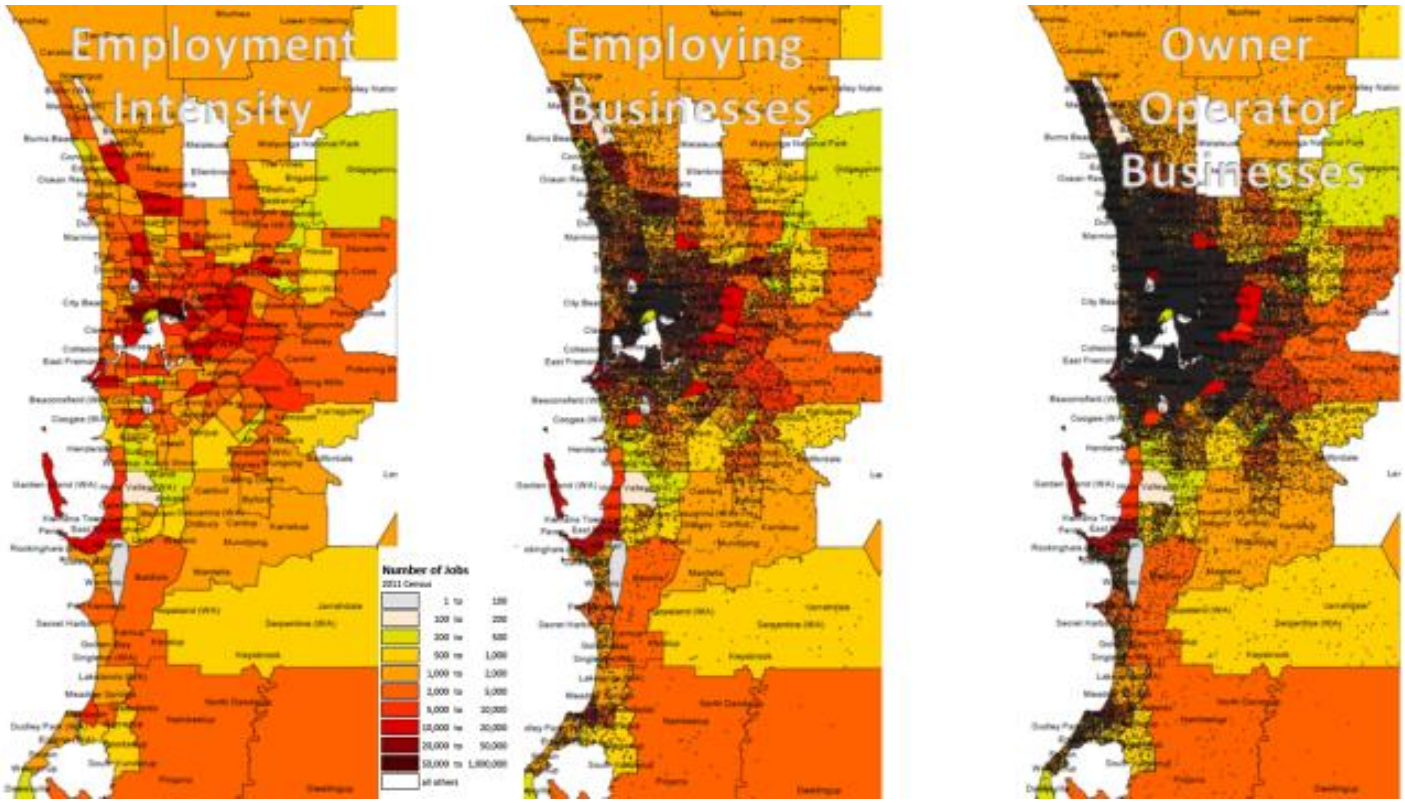
Encourage the distribution of employment across all activity and industrial centres to create the opportunity for people to live closer to where they work.

Page 16 Central Sub-Region Planning Framework.

UDIA strongly supports the decentralisation of employment. BITRE analysis of the ABS Census of Population and Housing data in 2006 stated that the outer subregions accounted for nearly half of all employment growth between 2001 and 2006 with an average annual rate of 3.7%, much higher than the Perth average of 2.3%. Average annual employment growth for middle ring suburbs was 1.4 percent with jobs in the inner suburbs growing marginally faster at 1.8 percent. Due to the lower population, the number of jobs, however, was lower (Bureau of Infrastucture, Transport and Regional Economics, 2010, p. 77).

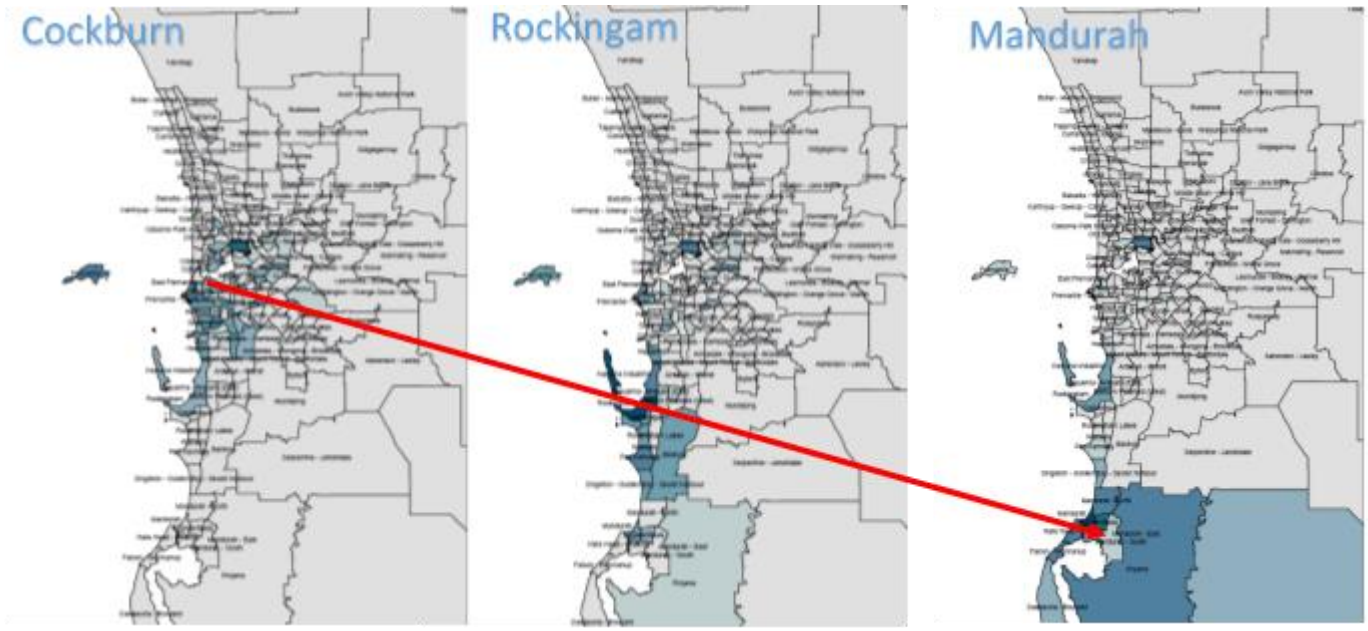
Fig 27 shows that there is significant employment across the metropolitan area, with significant distribution both employing and owner operated businesses.

Figure 27 Employment Greater Perth



The distance that will be reasonably travelled by an employee to a workplace is normally considered in the time that it takes, rather than the distance travelled. Marchetti's Constant, developed by physicist Cesare Marchetti, estimates that the average commute time that is tolerated before either the residential location or the employment arrangements change is one hour per day. In more recent times this has been expanded to 1.5 hours. As can be seen from the figures below, this influences the range of jobs taken up based on resident locations. The presence of high frequency rail can influence the distance travelled but it is clear that the bulk of workers tend to remain in reasonable proximity to home.

Figure 28 Residential Location Impact on Work Location – Source ABS Census Data



The documents tend to consider the appropriateness of distance travelled to work based on whether an artificial administrative boundary, i.e. a sub-region, is crossed rather than recognition of the work/place of residence relationship. This could mean that a person could travel less than a kilometre and be classed as being inappropriately located in relation to the place of work, but a person could travel across the CBD in the central subregion and have that regarded as optimal. This must be re-examined to look at finer detail rather than rely on high level analysis.

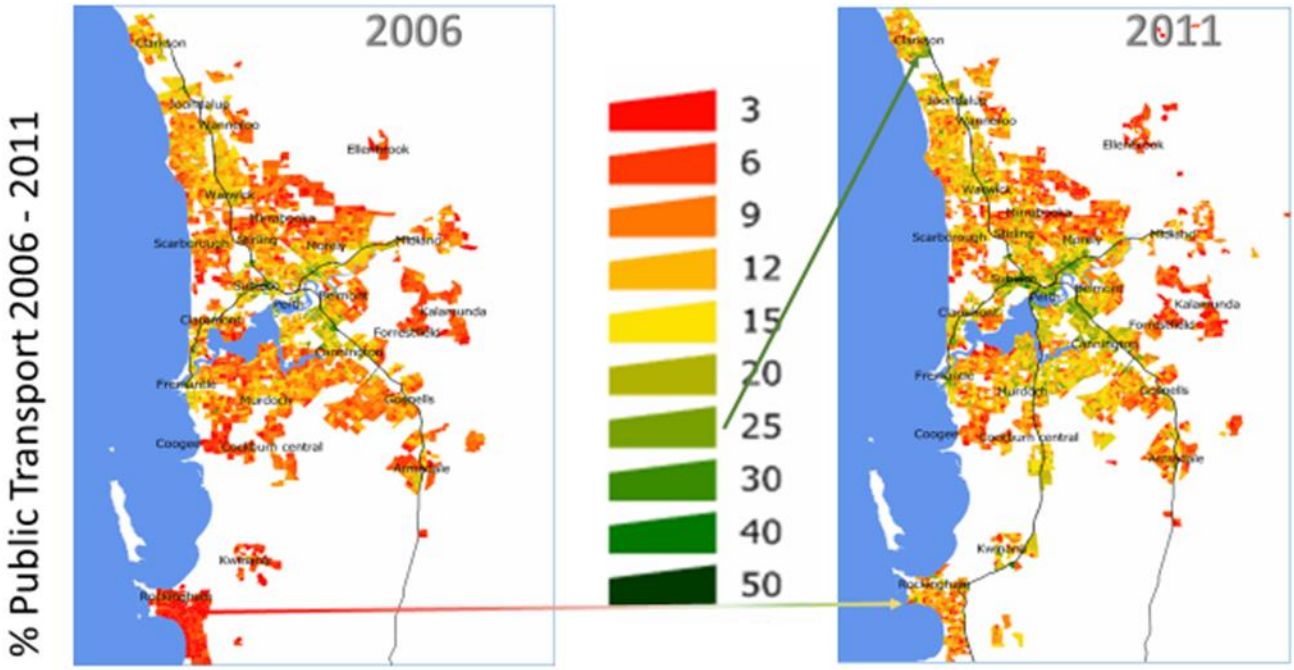
For those that will continue to go to a fixed location outside of the CBD to work, the challenge, which is acknowledged by the Public Transport Authority (PTA), is the current radial system of public transport does not meet all of the requirements for Perth and a public transport network that provides east-west as well as North-South connections will open up opportunities for many more travellers. Links such as the “Knowledge Arc” must be considered as part of the solution to the movement network in Perth.

Use of public transport for journeys to work is influenced by both access to, and quality of, the network and fleet of vehicles. Significant investment by successive State Governments in public transport saw rail patronage jump four-fold to 54.7 million passengers annually in just over a decade to 2010 and bus patronage increase by 43% in the decade to 2009 whilst the population increased by 22%.

Whilst this is extremely positive, there will be significant investment required to maintain the pace of modal growth. In 2010 the PTA estimated that capital expenditure to construct the infrastructure recommended in the report "*Public Transport for Perth in 2031*" as $2.9 billion in 2010 dollars, including $1.2b on rail system expansion and $1b on light rail. Whilst it is essential that there is bipartisan support for the funding and implementation of an expanded public transport system, commitment to operating costs is also required.

PTA estimated that the cost of operating the public transport system would have risen to $820m, with the expansion potentially taking that cost to $1.2 billion in 2010 dollars. It is important to note that revenue received from fares, Perth Parking license fee and joint ticketing only delivers 33% of the funding required. The commitment must be both public and long term or the negative effect of density on congestion could come to the fore even if funding is made available in the future as the urban form may not be optimised. Commuters will transition to public transport when it is provided and fit for purpose as can be seen in Figure 29 below.

Figure 29 Percentage of Public Transport Usage 2006 and 2011: (Charting Transport, n.d.)



The new Mandurah rail line has been transformational with significant modal shift occurring in Kwinana, Rockingham, and Atwell/Success/Hammond Park/Aubin Grove (South of Cockburn Central). Clarkson, on the northern railway line has also been strongly responsive to public transport with 29% of commuters now using public transport. With the planned heavy rail links to the North and ongoing improvements in frequency across the network, there is no reason for Perth not to cope with those commuting to the city or locations within walkable catchments of stations.

This transport network will need to be enhanced with stronger East-West linkages. The Institute was concerned about the lack of depth in the information provided in the documentation on the future of mass transit. Even some of the most basic information was flawed, such as the aspirational "peak frequency of 5 minute intervals" (Department of Planning, 2015, p. 45) for rail in peak hour, times that are already being exceeded by the Public Transport Authority on some lines.

Planning should also consider the disruptive technologies that are being experienced overseas such as the rise of telecommuting. Going forward, the knowledge-based enterprises and government agencies which are highly concentration in the CBD are the most likely to benefit from new approaches to employment which will reduce pressure on transport systems.

Due to the nature of the work, many knowledge-based employers in Perth have embraced "hot desking" to reduce the real estate cost burden (and gain efficiencies) and they are likely to be the early adopters of telecommuting. A report by Global Workplace Analytics in 2013 estimates that full implementation of the Telework Enhancement Act of 2010 (TEA), which requires agencies to report progress against participation goals, could save tax payers $14 billion a year (Harnish and Lister 2013). Uptake of telecommuting has accelerated in the USA with most large companies now offering the opportunity to workers.

The savings are likely to drive adoption in Perth as an extension to the existing hot desk arrangements. Based on a rental rate of $900sqm even a tight office allocation of 13sqm (Department of Finance; Building Management and Works, 2014) per worker could lead to savings of over $13,000 per FTE position in real estate costs alone. Translating this into practice would mean if 25% of employees in a 100 person office took up the opportunity to telecommute just one day per week a saving of $58,500 would be created. This figure is multiplied when absenteeism, productivity, continuity of operations, etc. are factored in.

It is estimated by Forbes that 30 million people in the USA now telecommute and that figure is set to rise by 63% in the next ten years. The 2013 Federal Viewpoint Survey reported that 79% of US workers would like to work from home, with 87% of Federal employees in favour of the option (2013 Federal Viewpoint Survey). Taken together it is suggested that 50 million workers both could and want to telework. If this trend is applied to Perth and continues over the life of the current plan, it is likely that there would be a significant change in journey to work behaviour (GlobalWorkplaceAnalytics.com, n.d.).

Assumption 4: Demographically Relevant Dwelling Stock

UDIA is supportive of a diverse range of dwelling stock but the discussion put forward in the documentation seems to confuse many issues in an ideologically driven approach. It continues to push the notion that living away from the CBD is a second choice option rather than a lifestyle option and shows little understanding of commercial realities or family composition.

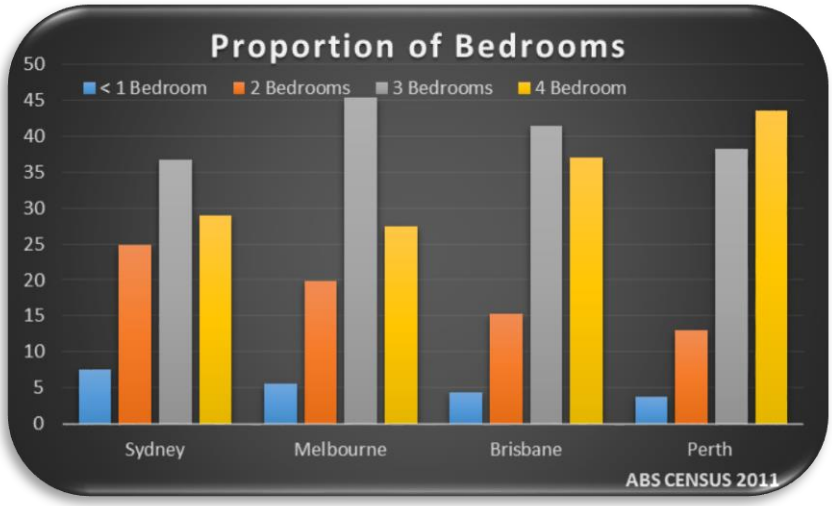
For the Institute this is a key discussion and needs to be for effectively shaped to determine if the driver is to reduce infrastructure costs, mitigate environmental impacts, and/or create affordable options. Each of these should be unpacked separately and an evidence based evaluation of the causes and actual risks that are involved.

This section looks at the dwelling stock in Perth, and considers in detail the age profile of suburbs with high levels of density and the rate of owner occupation.

Analysis of this type is vital if we are to develop demographically relevant dwelling stock.

The documentation supports diversity of dwelling stock but does not provide any guidance as to what that should look like, apart from indicating a reduction in detached housing. UDIA is concerned that density has overridden careful consideration of the housing composition that is required, i.e. number of bedrooms, rather than the typology (housing, unit, apartment, etc.) and location (infill/greenfield). Based on the 2011 census data, 56% of dwellings are three bedrooms or less with 9% having five bedrooms or more. There are more three bedroom dwellings than those with four bedrooms, although the combination of three and four bedrooms make up the vast majority of stock (Australian Bureau of Statistics, 2011).

Figure 30 Dwelling Stock by Number of Bedrooms



The document is not clear on what is the right balance of housing stock, simply referring to diversity as an outcome. There is little doubt that Perth requires more smaller dwellings, both attached and detached and this is occurring now that the restrictive provisions in the R-Codes, that combine plot ratio and density, have been superseded (although the policy settings are still suboptimal). It is anticipated that the proportion of smaller dwellings will increase significantly when measured in the 2016 census as there has been a step change in the market that has seen significantly more small houses, units and apartments brought to the market. Free of policy constraints, the market is moving towards a more balanced outcome.

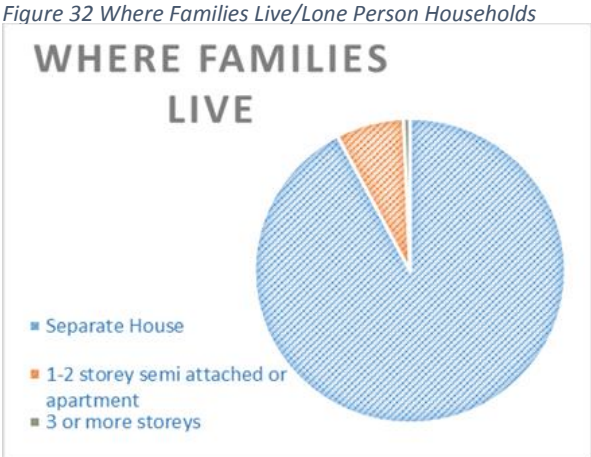
The percentage of change over the decade to the 2011 census of both under and over housing should be taken into consideration in the planning for Greater Perth. Under housing has been associated with socio-economic disadvantage and having well located, affordable family dwellings to avoid under-housing should be a key part of the plan for Perth at 3.5 million. If the current trends continue, the impact could be significant. Whilst the cohort is relatively small, there are 2,321 families of four or more people living in two bedroom dwellings or less (Australian Bureau of Statistics, 2011). This growth, as a percentage change, is shown in Fig 31 below.

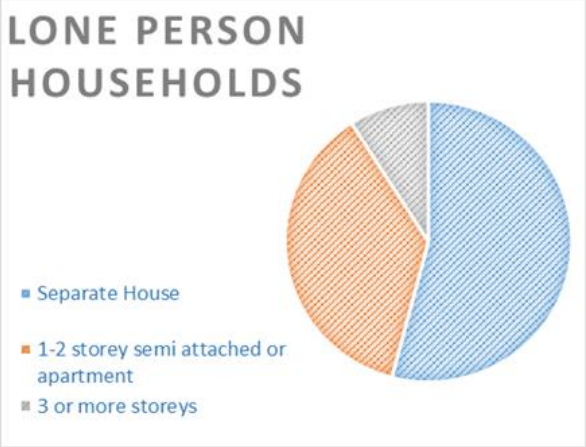
Figure 31 Change in Family Size/Dwelling Bedrooms 2001 – 2011 (Australian Bureau of Statistics, 2011).

Change in Number & percentage:
Number of bedrooms compared to family size - change 2001 - 2011 (Census data 2001 & 2011)

	Two People	Three People	Four People	Five People	Six People or More
None (includes bedsitters)	63 (22%)	49 (45%)	34 (44%)	3 (9%)	0 (0%)
One bedroom	1495 (35%)	230 (46%)	38 (25%)	3 (6%)	17 (65%)
Two Bedrooms	2467 (9%)	1134 (18%)	559 (23%)	196 (35%)	53 (34%)
Three Bedrooms	8584 (10%)	2602 (7%)	1033 (4%)	202 (3%)	453 (17%)
Four or more bedrooms	25851 (35%)	14392 (29%)	17543 (25%)	4599 (14%)	2907 (19%)

Figure 32 Where Families Live/Lone Person Households





The typology of the building stock is strongly orientated towards detached housing, driven by the preference of many families for internal space with adequate allocation of bedrooms. Families, whether couple or sole parent households, predominantly live in detached housing or low rise units/apartments. Just 0.7% of families live in dwellings within buildings greater than three storeys. These findings are consistent with the Housing We Choose Survey undertaken by the Department of Planning in 2013: Page 16 says that:

- 98% of the 866 survey respondents stated their preferred housing tenure was owner occupation.
- When not constrained by income, 79% of survey respondents preferred a separate dwelling and 13% a semi-detached option.
- Only 7% preferred flats, units or apartments.

For those participants currently living in a flat, unit or apartment, 64% would prefer a separate house. Given a choice, only 16% would choose to remain in an apartment.

These preferences are evident in the ABS Census Data which shows that multi-unit dwellings are primarily rented, whilst houses are primarily owner occupied (with or without a mortgage) (Fig 33). This translates into high levels of rental properties in areas of higher density compared to growth areas or the Greater Perth profile (Fig 34).

Figure 33 Proportion of Rental Properties by Building Typology (Australian Bureau of Statistics, 2011)

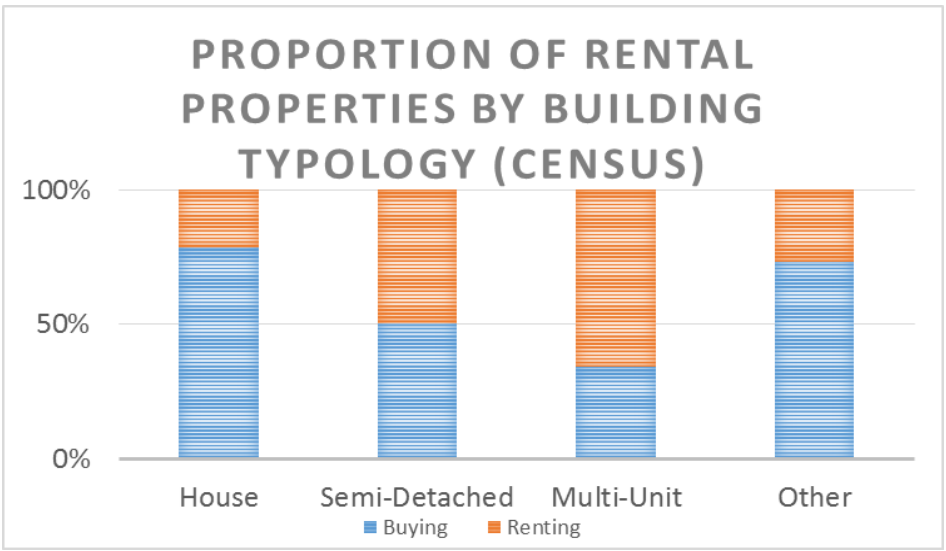
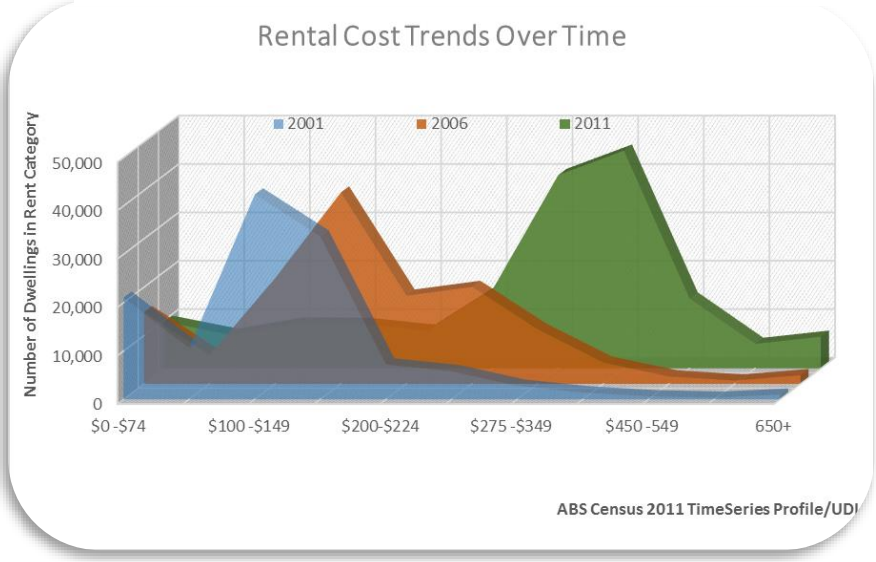


Figure 34 Proportion of Rental Stock by Location (Australian Bureau of Statistics, 2011)

Percentage Rental Stock	
South Perth	46.2%
Victoria Park	53%
Burswood	52.5%
Baldivis	20%
Wellard	20.5%
Brighton	28.6%
Greater Perth	27.6%

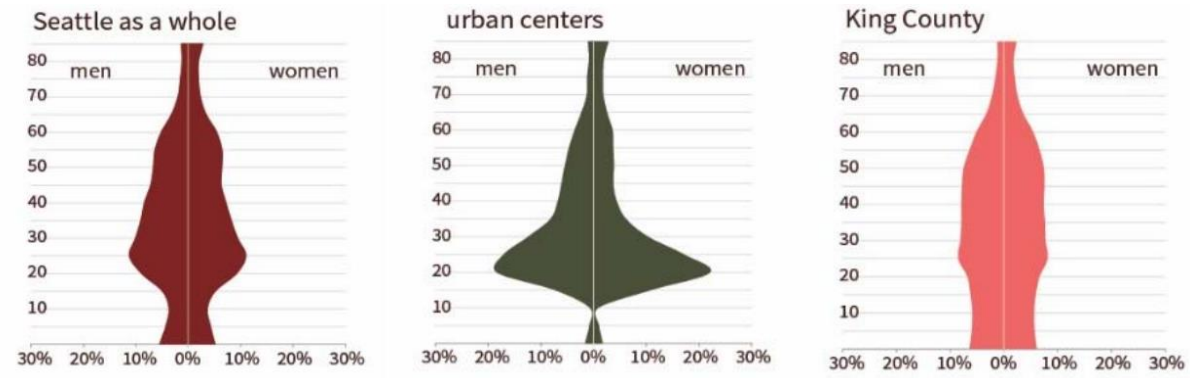
Figure 35 Rental Cost Trends Over Time (Australian Bureau of Statistics, 2011)



From an affordability perspective this makes renters vulnerable to rapid escalations in rentals costs, which occurred in the post-GFC (Fig 35).

Internationally the inner-ring, higher density areas attract a younger demographic as Fig 36 below indicates. This is the demographic breakdown by age and gender which demonstrates the strong attraction of young adults to the urban core and the attraction of families to areas that offer larger dwellings.

Figure 36 Seattle Population Profile 2010 by Location (City of Seattle, 2015)



This same pattern can be seen in Greater Perth when comparing inner ring locations and family/first home buyer suburbs (Fig 37). Dense, apartment style living is a very important part of the supply of dwelling stock, however over emphasis can create a range of unintended social consequences. It is essential that affordable choice remains to service the varying needs of residents of Greater Perth.

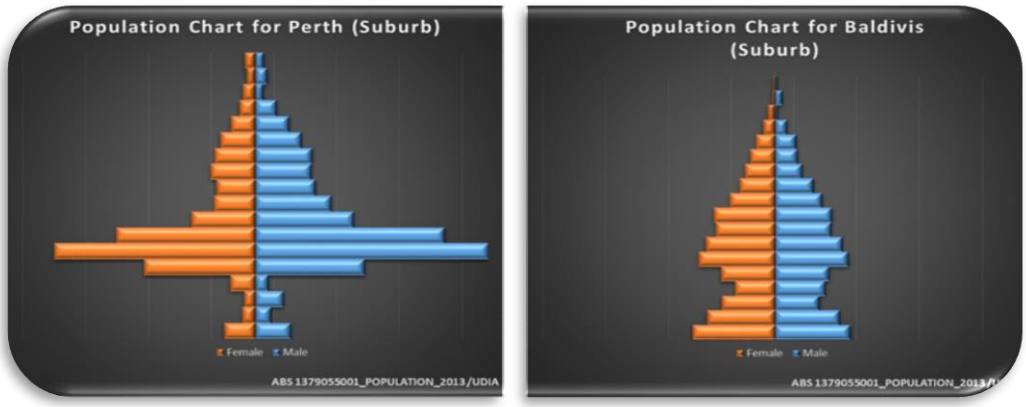


Figure 37 Population Profile for Inner and Growth Locations

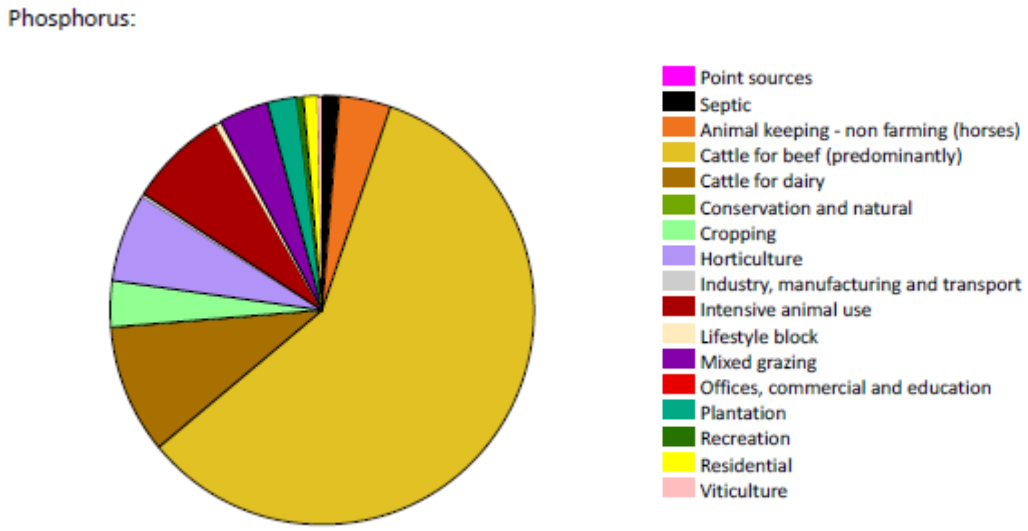
Assumption 5: Nutrient Management

Based on the information available, the documents appear to take an overly restrictive approach to any change in land use associated within the Peel Harvey Catchment area (Namely the SPP2.1 Peel-Harvey Coastal Plain Catchment Area, as delineated in the SMF mapping). This approach is largely believed to have been taken, based on assumptions about the risk of nutrient export from urban development and urban land uses.

The Peel Yalgorup system is the largest registered Ramsar site in the State's South-West and is a complex system of interconnected wetlands, rivers and drainage features, of which the Peel Harvey Estuary is a part. While UDIA acknowledges the significance of the area, and stresses placed on the area due to nutrient discharge from surrounding areas, we believe that land use planning decisions within the catchment should be evidence based, considering the real risk posed by land uses.

Based on Department of Water (DoW) data, charting the historical average annual nutrient loads over an 11 year period from 1997-2007 (Kelsey, et al., 2011), residential land uses contributed just 0.2% of the total Nitrogen Load and 1.1% of total phosphorous to the Peel Inlet and Harvey Estuary.

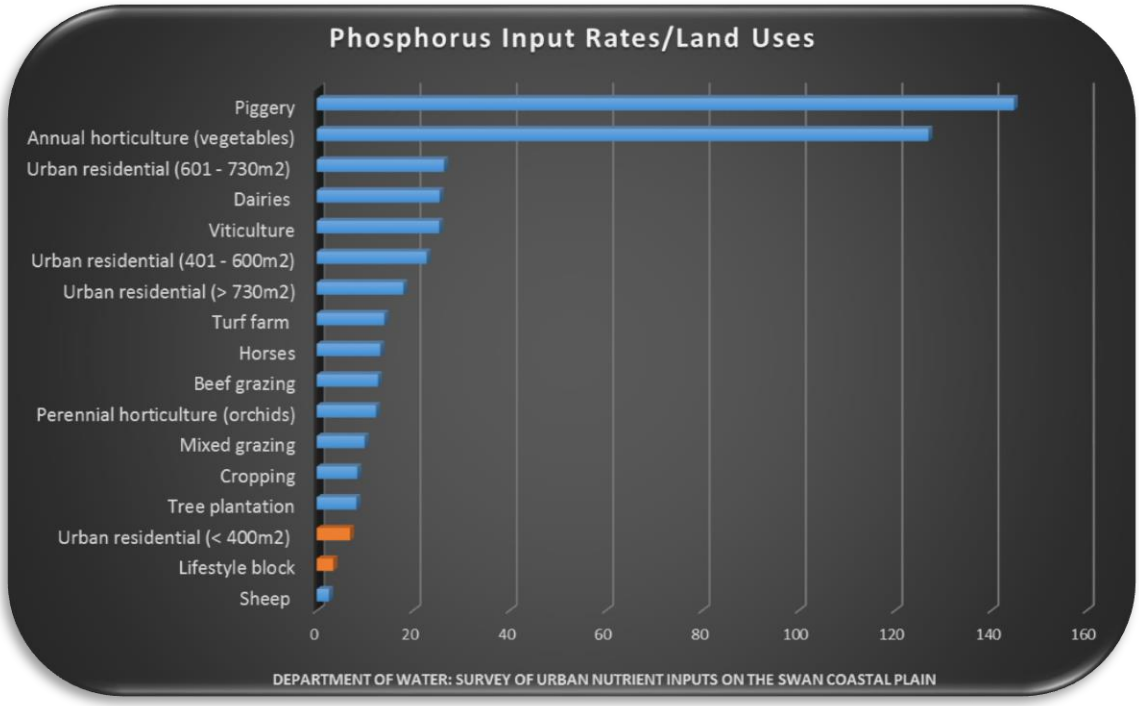
Figure 38 Land use areas and average annual phosphorous loads to the Peel Inlet and Harvey Estuary (Kelsey, et al., 2011)



Considerable research and policy documentation has been developed over time with respect to the Peel Harvey catchment, including the development of appropriate target loads. The Environmental Protection (Peel Inlet-Harvey Estuary) Policy 1992 (Government of Western Australia, 1992) identified specific total phosphorus target load for the Serpentine River of 21 Tonnes/year. In 2008 the Water Quality Management Plan for the Rivers and Estuary for the Peel Harvey system – Phosphorus Management (Environmental Protection Authority, 2008) was prepared. Target phosphorus and nitrogen export loads for the Serpentine catchment were developed based on the EPP (1992) (Peel Inlet-Harvey Estuary) and the ANZECC guideline value in lowland rivers of South-Western Australia for slightly disturbed ecosystems (ANZECC & ARMCANZ, 2000). In consideration of the various research and literature that exists with regard to setting of nutrient targets, the DoW acknowledged in their 2011 report (*Hydrological and nutrient modelling of the Peel-Harvey catchment*) the need for a cross-agency approach to target setting, in conjunction with a clear implementation strategy, endorsed, enforced and supported by all levels of government (Kelsey, et al., 2011).

In looking to further compare and extrapolate the respective nutrient load profiles of different land use typologies, modelling undertaken by the DoW demonstrates that urban development consisting of larger lots (600sqm – 730sqm) has a phosphorous output of 26.4kg/ha/yr, however residential development with lots of less than 400sqm have an output of 6.9kg/ha/yr. This compares to 144.74kg/ha/yr for piggeries, 126.94kg/ha/yr for turf farms, 3.44kg/ha/yr for lifestyle lots and 2.54kg/ha/yr for sheep farming. The below figure clearly demonstrates the difference in phosphorus input rates for different land uses (Kelsey, et al., 2010).

Figure 39 Phosphorous input rates for rural and urban residential land uses (Urban residential rates are for application to cadastral lots) (Kelsey, et al., 2011)



The above analysis for urban development looked predominantly at lot size and did not consider the age of lots, nor the use in modern developments of more sophisticated processes, implementation of Water Sensitive Urban Design (WSUD) principles and achievement of better urban water management objectives which can reduce nutrient export through, (but are not limited to):

- Constructed wetlands
- Biofiltration swales or raingardens
- Soil amendments
- Infiltration systems
- Dry/ephemeral detention areas
- Behaviour modification/garden design

The effective implementation of WSUD principles act to reduce risk to the health of waterways, and in fact DoW concluded that certain scenarios have *"Demonstrate[d] that urban development in the Peel-Harvey catchment with appropriate WSUDs will not further degrade the waterways, and if the interventions are of sufficient size may even improve them."* (Kelsey, et al., 2011, p. 120).

Water quality can be improved through urban development and further research should be undertaken to determine if the issues facing the catchment, can be managed by leveraging investment in high quality, strategically located residential development at scale. The implementation of WSUD through urban development can be used to mitigate legacy water quality issues and improve the overall health and environmental value of the Peel Harvey Estuary. The following figures demonstrate the effectiveness of a number of constructed strategies compiled from Engineers Australia and the Department of Water sources as they relates to the removal of phosphorus.

Figure 40 Effectiveness of Phosphorous Removal Strategies (Department of Water, 2007)

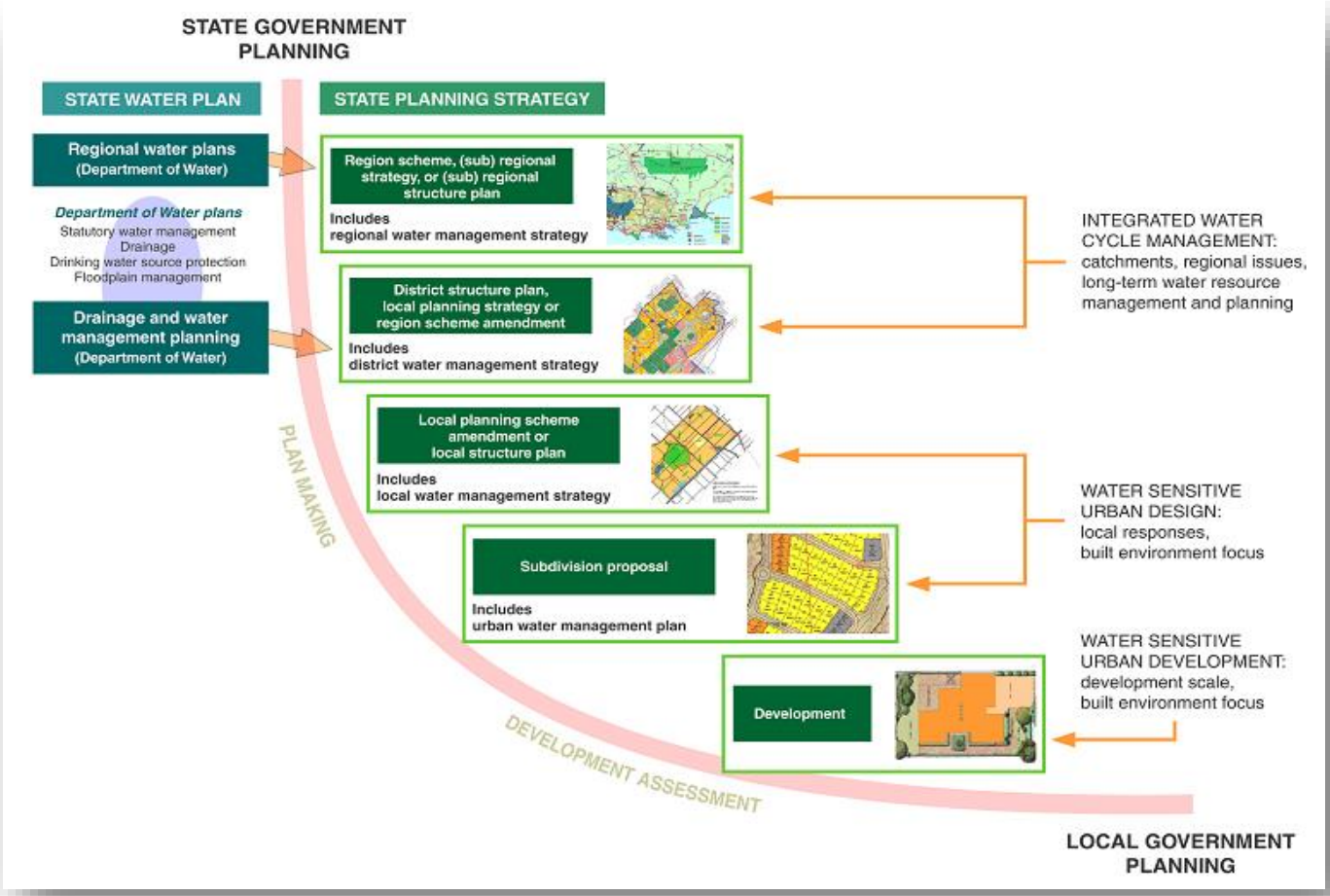
Strategy	Removal of Phosphorous	
Infiltration Systems (Basins & Trenches)	40-80%	Depends upon speciation and particle size distribution. Greater where a high proportion is particulate
Vegetated Swales	30-50%	
Bio-retention systems	60%	
Constructed Wetlands	60-85%	
Sedimentation basins	50-75%	

Non constructed strategies are also effective e.g. soil amendment reducing the export of phosphorus by up to 70%.

Analysis above demonstrates that modern urban development has the capacity to reduce inflows of phosphorous and other nutrients to the extent that it will be part of an integrated solution that makes a strong positive contribution to restoring the health of the system. This must be explored as doing nothing, and maintaining existing land uses is an unacceptable strategy for managing the issues.

It should also be noted that a detailed suite of urban water management objectives underpin a rigorous water planning system that acts to ensure high quality, water sensitive design is incorporated within modern urban development projects. Any assumption that urban development is inherently negative or likely to result in adverse water quality outcomes, fails to understand and appropriately consider the level of scientific rigour that exists within the State Government policy framework. A summary of the policy structure is provided in Figure 41, and has been developed with regard to detailed, published, scientific analysis over many years and in consultation with an array of stakeholders.

Figure 41 State Government Planning Policy Structure (Department of Water, 2011)



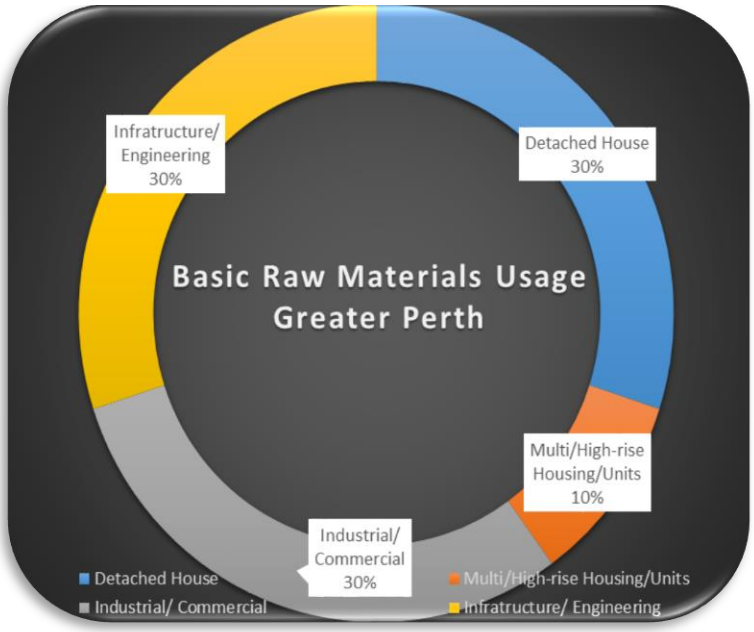
Assumption 6: Use of Basic Raw Materials in Urban Development

An estimated 90 per cent of all extracted BRM is used in commercial and residential development and demand is increasing. At the same time, the number of economically viable deposits is decreasing, with availability of these finite resources generally restricted by a range of environmental and land use constraints and while extraction costs are moderate, considerable transportation costs are impacting on housing affordability. *Pg 58, Perth and Peel @3.5million*

It is evident in reading the document that basic raw materials have been a key consideration in shaping the spatial plan, and more specifically "*Investigations into the demand and supply of basic raw materials*" (Department of Planning, 2015, pp. 12, CF).

The Institute is deeply concerned about the unreferenced statistical data and in the case of basic raw materials, the assumption that 90 per cent of all BRM is used in commercial and residential development is challenged. Information provided by the Cement Concrete and Aggregates Australia (CCAA) from data collected from a member survey paints a different picture. Approximate figures by material type for sectors in Perth and Peel are shown in the diagram below with the typologies of the BRM identified as follows:

Figure 42 Basic Raw Material Usage Greater Perth



Fill Sand	50%
Construction Sand	15%
Hard Rock	25%
Limestone	10%

By way of example, the amount of fill sand used by the detached housing industry as a percentage of the total BRM demand is 30% of 50% = 15%. According to analysis undertaken by the CCAA, if innovation drove a 20% saving of fill sand for detached housing the result would likely to be only approximately a 3% saving in BRM. This does not justify it being used to exclude development.

According to the CCAA, if innovation drove a 20% saving of fill sand for detached housing the result would likely to be approximately 3% saving in BRM.

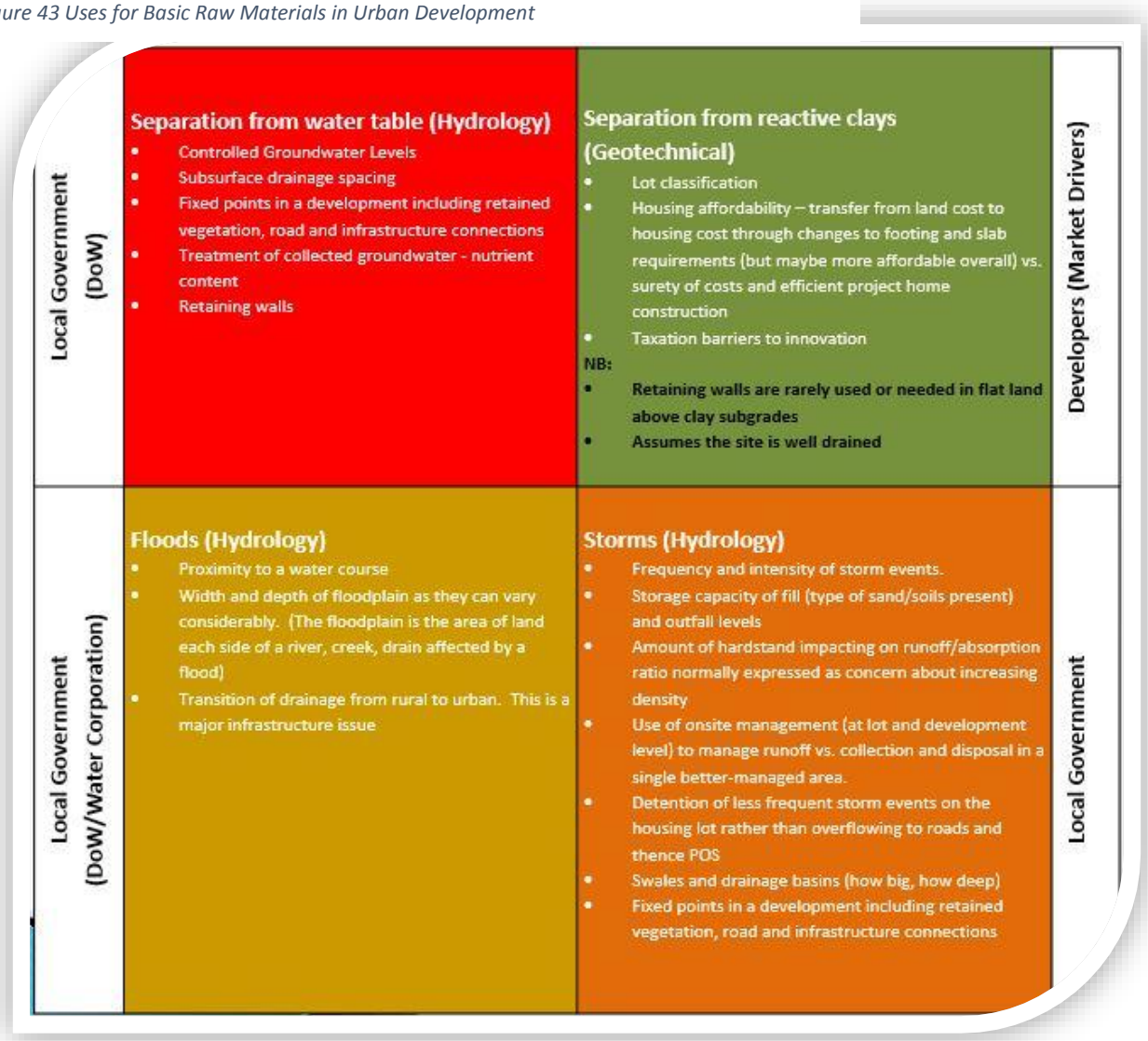
Importantly the overall use of basic raw materials will not be significantly reduced by transition to denser product. Currently there is a marginal difference between the proportions of BRM used by multi/high rise vs the proportion used for detached housing development and the ratio of those products in the market place. There is no evidential justification for sterilising land to conserve BRM based on building typology/location.

Further, the document appears to indicate that anticipated future demand for basic raw materials is based on historical data and a business as usual approach to development. This approach fails to fully consider the reasons for use of BRM, alternative methods for management of these issues and future innovations and/or technological improvements which may provide alternative solutions in low, medium and high rise developments.

Basic Raw Materials (BRM) have been used traditionally as an affordable strategy for managing hydrological factors on development sites including:

- Flooding
- Separation from water table
- Storm Events

Figure 43 Uses for Basic Raw Materials in Urban Development



Fill has also been used for management of site classifications, creating A-Class lots in reactive clay sites. It is important to understand that some or all of these factors may be in play and the one that generates the highest level of fill defines the site requirements. Figure 43 shows some of the uses for BRM in urban development.

In addition to the matters listed above, which are predominately engineering responses to environmental conditions, there are other factors that dictate the amount of fill being utilised on site including the:

- Requirement by the Water Corporation for gravity fed sewerage systems which creates a need for an artificial gradient to be created in many areas.
- The retention of specific trees where gradients need to be adjusted around that point
- Connection with adjoining properties.

In older developments, fill was used extensively but only relatively few projects were driven exclusively by the requirement for an A-Class lot. The creation of A-Class lots was often the outcome of addressing other requirements. With the cost of fill today, many developers work with builders to deliver a built form appropriate to reactive clays. Indeed, the clays found in Perth are less reactive than many areas where the slab is placed directly on the clay in Melbourne. Fill is rarely used in this circumstance in Perth today unless the "top up" to A Class is minor in nature and delivers an overall more affordable product to the end consumer.

The standard approach to separation from the water table in the rest of Australia, the United Kingdom, throughout Europe and most of the USA is to provide footings/foundations that are appropriate to the soil type and provide surface drainage (and grade the site) to prevent ponding of water around the buildings. Buildings are then provided with damp-proofing to protect from rising damp or groundwater ingress.

Perth is challenged in low lying flat areas so gradient is was artificially introduced for run off. It was further complicated by traditional approaches to urban development where larger lots with turfed gardens tended to create lower quality runoff that was then required to be contained on site. There are two key drivers that underpin reconsideration of this issue:

- changed development strategies which have radically improved the quality of the water run-off; and,
- the drying climate that puts into jeopardy some of the wetlands in the Perth and Peel region.

With the use of *Better Urban Water Management* practices, the quality of water outflows has improved to the point where it would be practical to use the run off, in a controlled manner to improve many degraded wetlands. The urban development industry is able to respond to challenges posed by landscape, water table and other site typologies in a variety of ways. The industry is now quite advanced in terms of the techniques and engineered solutions being developed to manage various constraints. The frameworks, in numerous places, reference the application of 'best practice' drainage management programs, yet the special mapping ignores the potential for restorative environmental projects.

There is a sense within the document that the industry is being judged based on outcomes in middle ring areas and systems developed decades ago in relation to nutrient export, especially as some of the older systems were designed to flush directly into waterways. There is also a stark contrast between what can be achieved in an infill setting, which is reliant on existing drainage systems, compared to the best practice systems within master planned communities. Systems designed from a strategic level are better able to respond to challenges as opposed to ad hoc infill development with little strategic oversight or systems designed to interface with older existing networks.

Assumption 7: Availability of Infrastructure

Whilst there are extensive references to infrastructure in the documents, the detail is very sparse. It is also firmly locked into a network approach for infrastructure which is looking to be increasingly less relevant into the future as technology improves and costs fall. The question for the Institute is just how much of a driver, the reduction in infrastructure investment (both capital and recurrent) was in the highly restrictive approaches outlined within the documentation.

> *"Development that is not sequential, even when supported by a structure plan, will be expected to have agreed and finalised funding arrangements with essential service providers in place before rezoning under a region planning scheme will be considered."* *Section 4.5 Regional Frameworks*

Whilst the intent of the statement above is understandable, these provisions are extremely unlikely to be implementable in a practical sense and result in an anti-competitive system that is not technology responsive.

In 2012 UDIA outlined concerns about the impact current practices were having on the ability for new water providers to enter the market in Western Australia as commitment to service at rezoning was not always practicable. At rezoning it is difficult, if not impossible to lock in a private infrastructure provider due to the long lead times, particularly if finalised funding arrangements need to be in place. This leads to a default position of reliance on the government provider rather supporting the extension of choice. As technology for distributed energy and waste water improve, and are facilitated through the review of the Strata Titles Act, it is likely that a greater range of providers will enter the market place delivering choice and competition. This requirement would stifle their participation in the market. For water, although a complex matter, alternative providers are already licensed and should be able to contract for work at appropriate times.

To facilitate increased competition, the identification of the providers was intended to be undertaken after rezoning with rezoning only be affected if it was not possible to service an area for practical reasons. The Minister for Water at that time, the Hon Bill Marmion MLA, recognised that if there were no "showstopper issues" that infrastructure provision was a financial arrangement between a developer and a service provider. In his letter dated the 9th May 2012, he stated that:

> "DoW is working with the Department of Planning and the Western Australian Planning Commission to examine policy options in land use planning to enable an improved, staged approach to the requirement for approvals for demonstrating water serviceability."

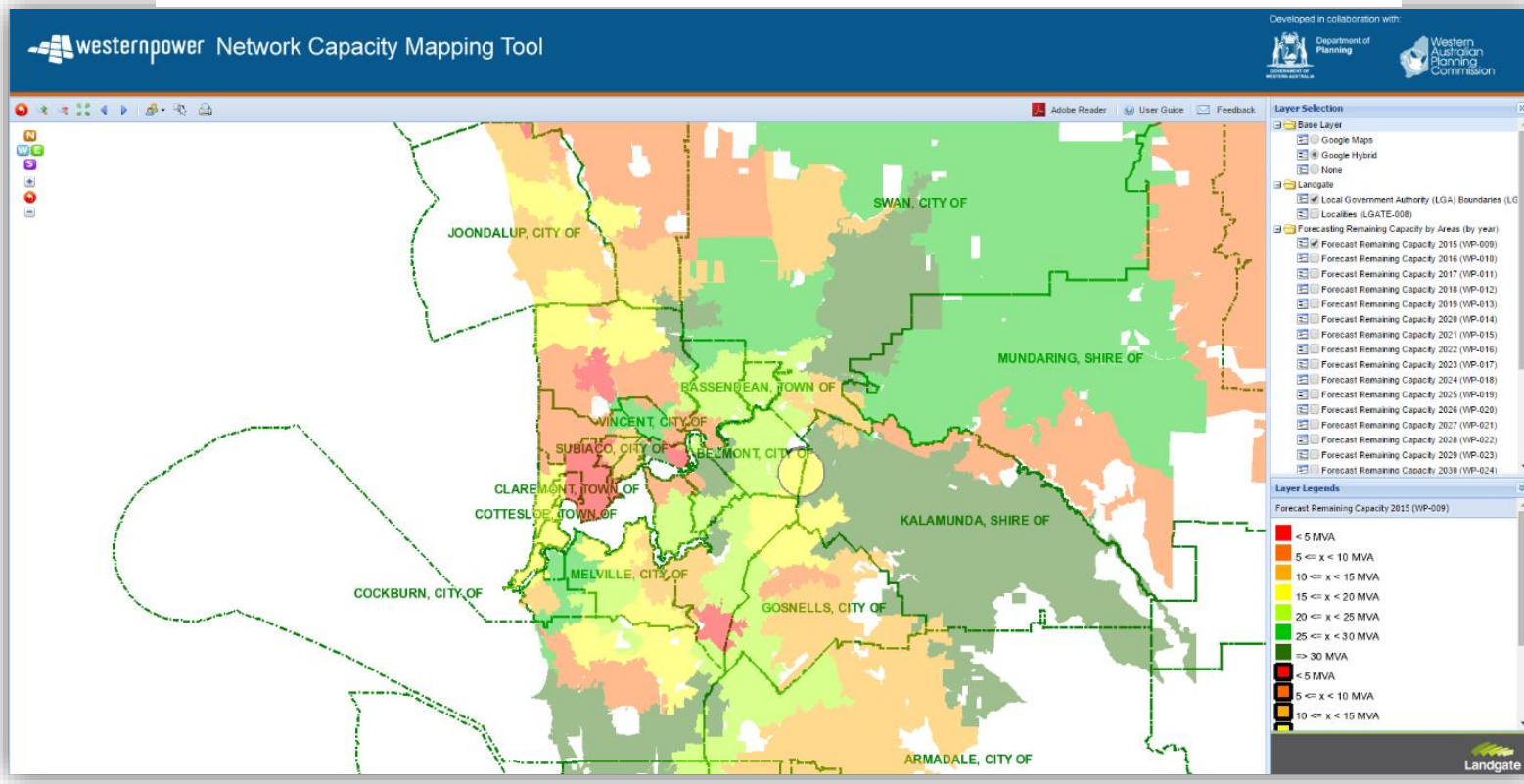
This approach now appears to have been abandoned, and it is interesting to note that the documents do not reference distributed energy either, yet trials are being run in Perth and the cost of storage halved with making distributed energy both practical and viable. It is essential that planning does not get in the way of competition and innovation – unfortunately these frameworks may be an impenetrable barrier into the future.

The real challenge for infrastructure, however, is not new developments but existing areas. Whilst the documents make broad generalised statements about the adequacy of service infrastructure for urban intensification, the experience of developers is very different. UDIA has long recognised Western Power's commitment to transparency of their network capacity as it assists the development industry's understanding of where infrastructure is available. Far from the generic commitment, the website provides details and demonstrates that very few areas targeted for urban intensification currently have "spare capacity" and will be reliant on network enhancement to support the infill targets. The Water Corporation is now also publishing plans to assist the industry. Retrofitting is not a cheap option and should be fully factored in, especially when discussing housing affordability and state government commitment to infrastructure.

It is critically important that a transparent infrastructure plan is development and updated regularly, covering all services rather than platitudes to paper over gaps. Members reflect that the "Developer Intentions Survey" delivered valuable insights into infrastructure delivery which shaped their land delivery program.

Government is not the only provider of infrastructure and sterilisation of land should not be predicated on service provision through a government provider, particularly in an era of increasing choice.

Figure 44 Network Capacity Mapping Tool



On a positive note, UDIA strongly supports the roll out of shared corridors for network based infrastructure and commend the department's work in this area.

Part 4 – Commercial Realities

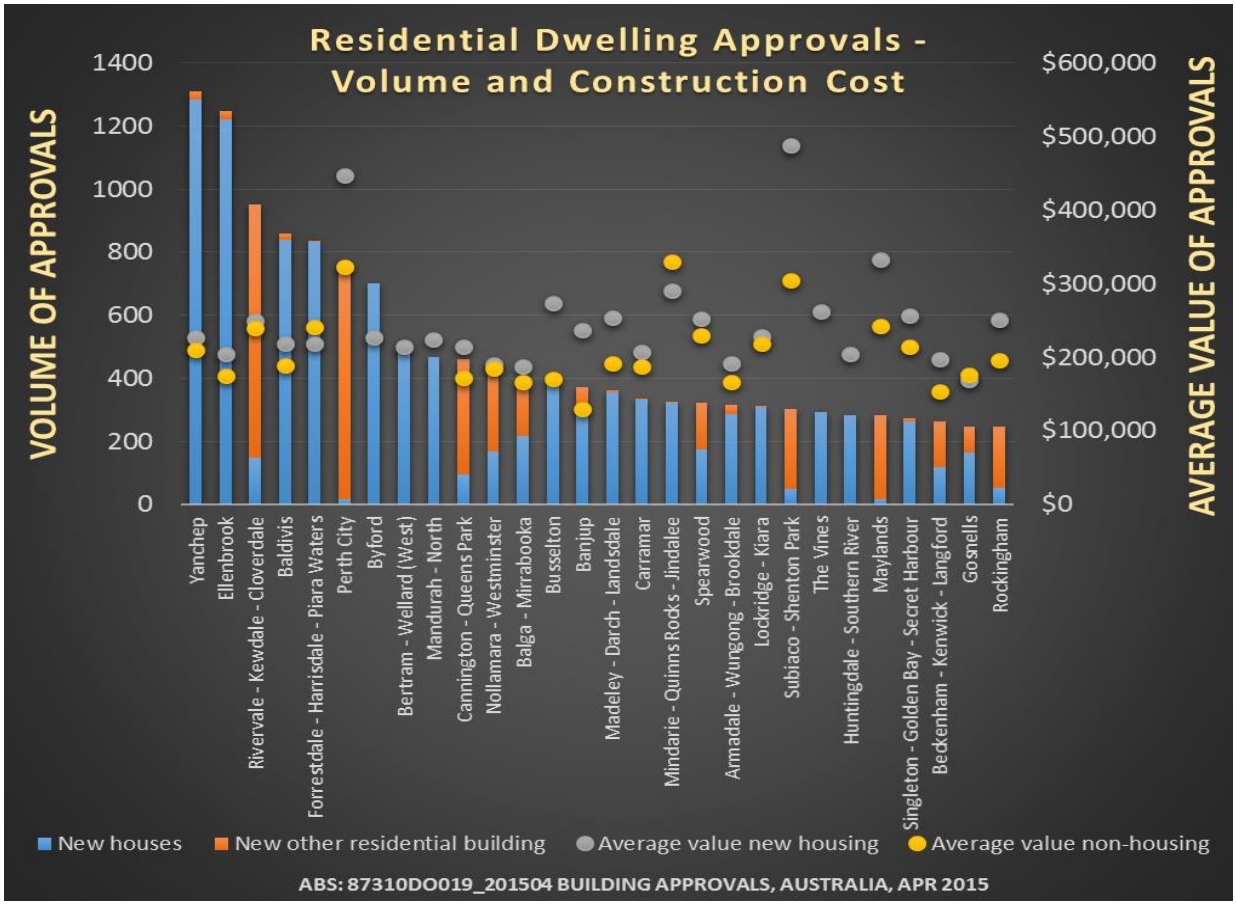
This section unpacks the cost of delivering different products to the market, how projects are funded. It also provides indicative price points and looks at financing barriers for high density owner occupier purchases.

This section attempts to unpack some of the overarching considerations when developing land and housing, including apartments, units of all forms.

Whether in brownfields or greenfields there is normally competition between product typologies. In brownfields a medium density development has to offer a value for money proposition compared to any existing housing in the area. In greenfields, usually there needs to be a cost advantage, as well as amenity, for people to trade off the private back yard space. Diversity in housing stock will always play a role in supporting different forms of dwellings in all locations, however, the over-riding market factor for the vast majority of purchasers is seeking value for money. Without this factor being fulfilled development will not proceed, leading to a reduction of new housing stock. The graph below gives an indication of the complex relationship between housing and non-housing pricing structures in different areas. The "dots" indicate the construction cost of non-housing, which is influenced by a range of factors including the size required by the market and the level of finish. In suburbs such as Yanchep, Ellenbrook and Baldivis there is a relatively minor variation between the construction cost of a house and a non-house with the product to market then reliant on the cost of the land to find a market price point.

In the vast majority of cases the construction cost for an apartment is lower than the construction cost of a house, particularly as the land becomes more expensive and higher density becomes viable (Subiaco, Perth). A strong understanding of construction price point and volume (market acceptance) is important when considering the product to come to the market over the next thirty or more years.

Figure 45 Residential Dwelling Approvals: Volume and Construction Cost



Brownfields

Core to viability and cost per unit is the number of dwelling units that can be reasonably developed on a site. An R50 coding in brownfields development is very hard to "stack up." Generally an R code of R80 as a minimum is required. The example below based is based on a 1,000m^2 site in the western suburbs that would cost approximately $2.5 million.

Figure 46 R-Code Impact on Project Viability

	R50 Grouped	R80 Grouped	R50 Multi Unit	R80 Multi Unit
Min Site Area	160m2 min – 180m2 ave	100m2 min – 120m2ave		
Open Space	40%	30%		
Plot Ratio	NA	NA	0.6x	1x
Height Limit	Residential standards	Residential Standards	9m	12m
Development Scenario				
Developable area			600sqm	1,000sqm
Number of dwellings	5	8	10 (assuming average size 60sqm)	16 (assuming average size 60sqm)
Number of storeys	2 (residential)	2 (residential)	3	4
Cost per unit site	$500,000	$312,500	$250,000	$156,250

Construction costs for the different scenarios above would differ. For instance, the R50 grouped would likely be a townhouse that would range from $1750sqm - $2750sqm depending on quality of finish but the size of the townhouse would probably be 120 – 140sqm therefore average cost would be $295,000 for construction alone. Likely sales price to make this work would be $950,000. An R80 unit would be $3,500 sqm to build which is $210,000 and likely sales price would be $500,000.

Feedback from UDIA Members:

"There appears to be a large number of inner-city councils who are upping zonings close to transport and or amenity but only going as far as the R50 as they see this as a substantial jumped from R20 / 30. They think that they are doing the right thing but will see development of medium density as a result. Landowners then get unrealistic expectations of the value of their property and believe that the sky is the limit when in fact the zoning to R50 will mean that their property is worth the same as it was before and the best outcome is for them to leave as a single house. If councils were to push density to R80 as a minimum then you would see a much quicker take up of redevelopment and whilst you would see an increase in land prices as a result it would likely stimulate the market as these people are trading their houses for either a new house in the same area or even the apartment you are going to develop on the site and retain equity for retirement.

If the R-Codes were to be rejigged to provide a "developable box" like Victoria does, that would allow a developer to come along and let the market determine what is acceptable in terms of sales. This avoids plot ratio or minimum lot size. I may, for instance, develop six high end large apartments in the box and another developer may develop 25 small affordable apartments but at the end of the day the bulk and scale of the development would be the same externally."

Figure 47 Entry Level Apartment Price Points

Location	Entry Price	Size	FORM
Wandi	$330,000	40sqm	1x1 walk-up
Butler	$311,000	50sqm	2x1
Cockburn	$375,000	41sqm	1x1(up to 9 storeys)
Cockburn	$465,000	80sqm	2x2 (up to 9 storeys)
Rivervale	$400,000	41sqm	1x1(up to 9 storeys)
Rivervale	$490,000	80sqm	2x2 (up to 9 storeys)

Greenfields

There are many location specific factors that influence the product mix, and therefore the cost of the product. As a starting point, there is very little difference between the cost of delivering a house or an apartment, it comes down to lifestyle preference rather than a significant advance on affordability.

Whilst the benefits of trading private space (house size/backyards) for public space (cafes, parks, transport) are well known, it is the size of the trade-off that is likely to be a major factor in the decision making. Without factoring in land price, the space trade-off is apparent in the construction costs. A $200,000 construction budget will buy three times the space in a project home versus an apartment. In simple terms:

- Construction cost for a 2-4 storey walk up are double that of house.
- Construction cost for a 4-6 levels is triple that of house.

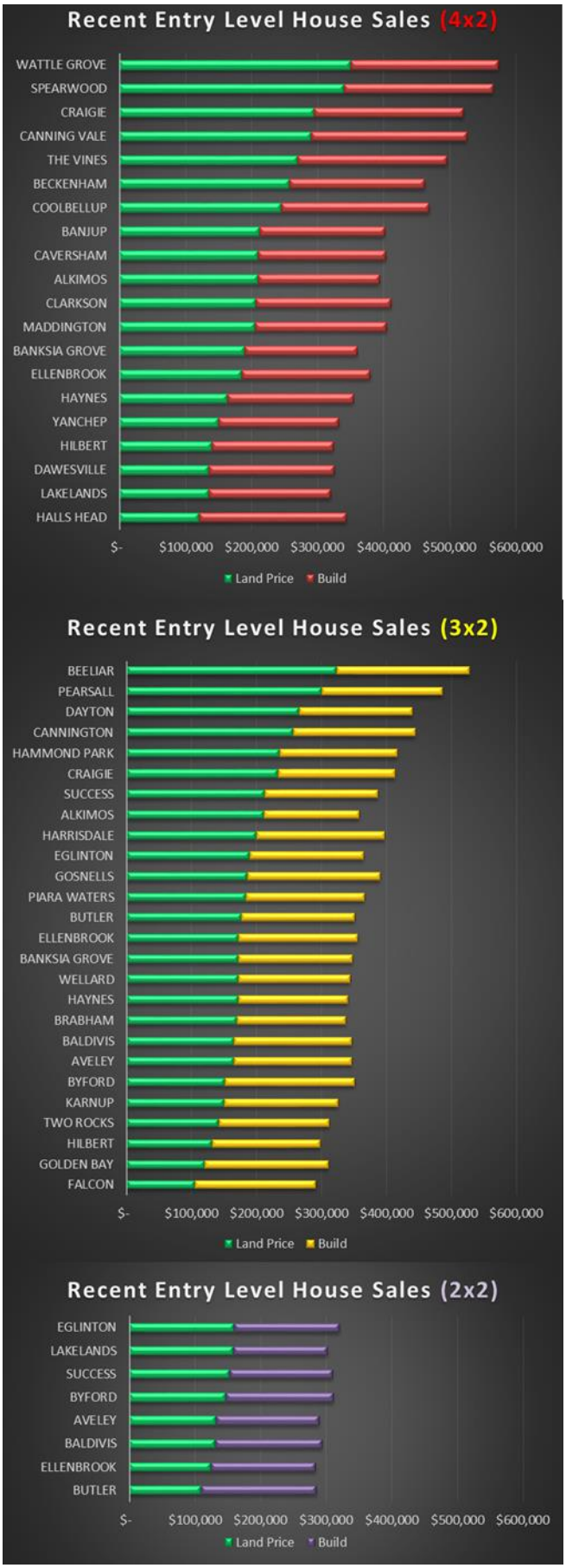
Where the estate is mature and/or there is a high level of amenity or transport linkages, the market is very accepting of apartment product. Apartments are being delivered in greenfields markets as part of master planned communities as the diversity of product and the vibrancy that the denser products bring is recognised as delivering a better outcome in the longer term for residents, but it potentially does not optimise outcomes in the shorter term.

Figure 49 Entry Level Housing Price Points

Location	PRICE	LAND SIZE	HOUSE SIZE	FORM
Mandurah, Pinjarra, Yanchep, Two Rock	$275,000 - $300,000	175m2 – 225m2	approx. 70m2	2x1
Baldivis, East Wanneroo, Armadale	$300,000 - $330,000	225m2 - 300m2	approx. 100m2	3 x 2

A more detailed breakdown of housing cost by number of bedrooms is provided in Fig 49.

Figure 48 Pricing of Entry Level Housing Sales by No Bedrooms



Location

There is a fundamental balance between detached housing and apartments where people trade off private space for public amenity. In greenfields, access to transport is an important stimulator of density so certainty around transport extensions, both timing and location, is essential for ensuring complementary urban form is developed.

Development Financing

The major banks typically fund an amount up to the lesser of two metrics; 75% of total development costs or 65% of the total net value of the completed development. This bank funding is provided as debt, with an interest rate return, secured over the development. The developer then provides all or part of the remaining 25% of total development costs. Delivered by a combination of funding hard development costs (cash equity), and also when applicable e.g. obtaining a development approval, an uplift in the land value (sweat equity). However recognising any land value appreciation remains solely at the discretion of the bank, even when supported by a third party valuation. The developer earns a return as profit from the development.

Developers (and occasionally banks) often call on the assistance of specialist development funders to assist in providing part of the required 25% of total development costs. These specialist funders bring further experience and also allow the developer to commit less cash equity to each development, enabling them to undertake more developments concurrently. The specialist funders provide either debt or equity or a combination of both, for interest or profit returns respectively. As a condition precedent to securing any bank or specialised development funding, a developer typically must demonstrate that the developments return on cost (equity profit divided by total development costs) is equal to or greater than 20%. This requirement is to ensure the developer remains committed to completion of the development if profit is eroded. In situations where there is a sound relationship with the developer, or the development is of significant scale, the 20% hurdle rate can be lowered.

Retail Lending

Another stumbling block for developing apartments is the bank deposits requirements. The normal requirement is for developers to obtain 10% deposits on apartments totalling, generally 80 – 100% of the debt required. With land, the banks will be happy with a nominal deposit of $1 - $2k due to the different risk structure in place. As an example, on a $300,000 apartment a purchaser needs to provide $30,000 whereas on a land purchase of the same value would require $1000 - $2000. This issue is exacerbated the higher the apartment price, which impacts on many developments closer to the city. The impact on the market is you will generally not see as many first home buyers looking at apartments because they simply can't afford the upfront deposit and without it the developer can't get funding. This increases the likelihood of the product being purchased by an investor which leads to the high levels of rental product in denser areas as outlined in this submission.

Stamp Duty Impost

Stamp Duty is another barrier to the uptake of multi-unit apartments by owner occupiers as it is applied to both the land and built form. For a house and land package the stamp duty is calculated on the land as that is the transfer transaction recorded by Landgate. The built form is a contract which occurs after the settlement of the land. For apartments the land and the built form are the transfer transaction recorded by Landgate so stamp duty is calculated on the entire amount. This doesn't only apply to apartments but any built form outcome. Stamp Duty applied to the unimproved value of the land would create a level playing field for the different dwelling typologies.

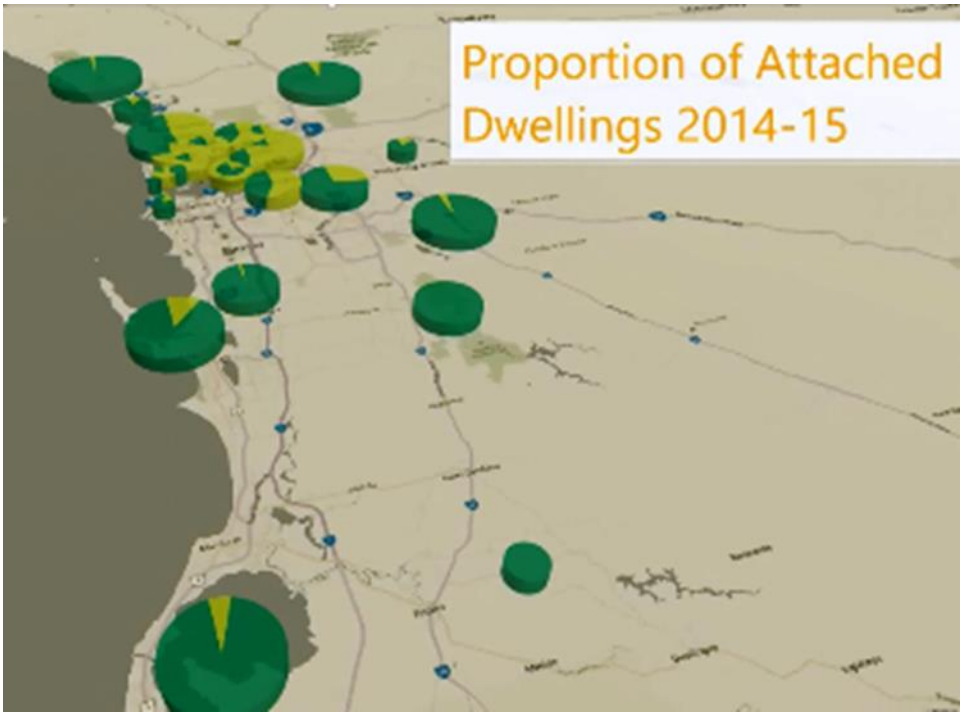
Part 5 – Barriers of Infill Development

Increasing density in infill location is part of the future of Perth, however UDIA believes that the barriers remain significant and need to be reviewed urgently. This section unpacks the current barriers to infill which, if addressed, would free up market response to Perth's growing population.

By the sheer nature of the business, built form development has a higher risk profile than residential land development as there is greater flexibility by land developers to manage the roll out of product. For most built form developers, it is an all or nothing scenario. That is not to say there hasn't been considerable development of denser product as can be seen in Fig 50.

There is no one silver bullet to resolve barriers to infill development. Citizens quite rightly have a right to have a say in their local area and expensive serving of new infill developments must quite rightly be justified. The key factor is timing.

Figure 50 Proportion of Attached Dwelling Approvals 2014 - 15



Residents should be looking at the bulk and scale desired/required in different precincts, but early in the process rather than at a time when delays will impact on the viability of compliant projects. The availability of utility services should be transparent, along with the costings for upgrading services with transparent mechanisms in place for cost sharing/cost recovery when there are multiple beneficiaries.

The key issues that are routinely raised by members that must be addressed by government to lift red tape and facilitate development are as follows:

- Shared pumps and tanks. Water for firefighting requires additional pressure delivered through localised pumps and tank storage. As a minimum, this costs around $200,000 which, if amortised across 100 units is only $200 however for developments of 20 units it adds $10,000 which could move the dwelling out of the competitive price range in key market segments. Rather than each building requiring a pump and tank, this should be tackled at precinct scale where significant intensification is required.
- Design Review Panels (DRP). These are relatively new committees which pre-assess developments which then move through private certification. Some local authorities will not process applications without the support of the panels. UDIA is concerned that these committees lack any form of consistency of scope, membership and the decision making process varies between local authorities. This is leading to delays and sub-optimal outcomes. Much more important is a robust policy framework which clearly articulate design requirements and DRP should only be used where they will enhance the outcomes, not simply cause frustration and delay with opinion based decision making.

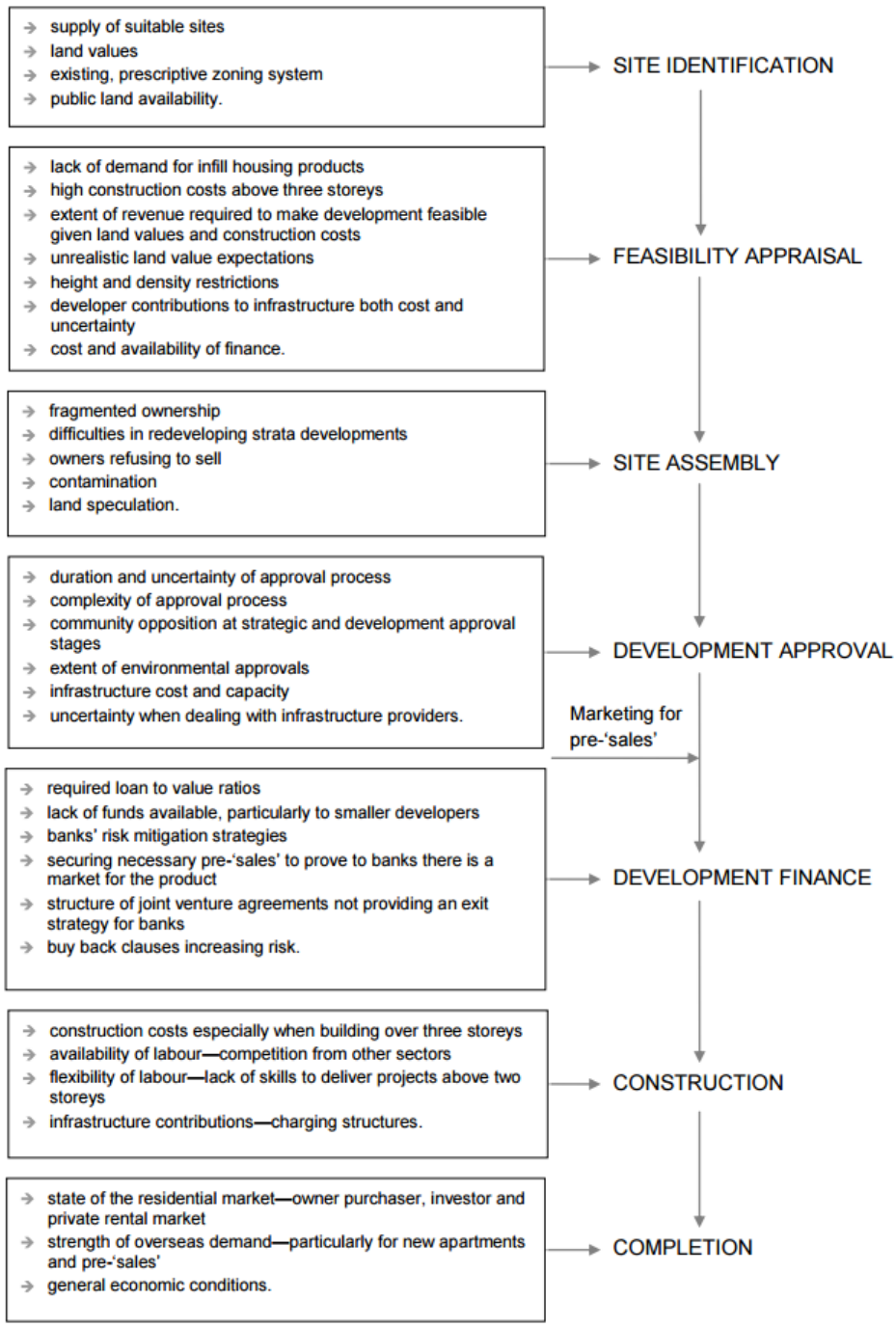
- Moving from prescriptive policies like the R-Codes, to a more 'holistic' approach where building envelopes (height, bulk and scale) are defined as policy objectives but the market determines the detail of the product on offer is a necessary step. This is an extremely responsive approach to meeting the changing demands of buyers and residents. A shortage of one bedroom product will be filled quickly, as would a shortage of three bedroom product when that emerges. A forced approach to dwelling typology normally leads to unintended consequences, as did the introduction of the Residential Design Codes (R-Codes). The R-Codes significantly reduced the provision of multi-unit development in all bar the top end of the market after they were introduced in 1982 due to the combination of density and plot ratio. Multi-Unit Housing Code, which was initiated after discussions with the then Minister for Planning and Infrastructure, the Hon Alannah MacTiernan to address this issue, included the same requirements, reducing their effectiveness. The Multi-Unit Housing Code is regarded as being too rigid as it now stands and is stifling innovation.
- There must be clarity of policy that allows significant community input into the planning process but does not impede development which is consistent with the agreed outcomes.
- There must be commitment by all government agencies to timeframes as the cost of time delays is crippling for developers and ultimately the purchasers of infill product.
- Development of mechanisms for land assembly is essential, including state government policy guidance in relation to split coding of sites.
- Recognition of the commercial viability of locations and the practical delivery of building typologies is key and is discussed in Part 5 of this submission.
- Idealistic mixed use requirements are impeding affordability through the over provision of commercial/retail space. In a large number of projects the commercial sections of larger mixed use developments often remain dormant for a period of time while the whole residential portion of developments tend to be fully occupied. This adds to the cost of the dwelling units in two ways, firstly directly through the need to manage the holding cost of the unsold units and secondly, the loss of strata levies means a greater burden on existing residents.

  This could be better addressed through adaptable use to zoning which enables court yard ground floor residential use which can transition into commercial/retail when viable. The critical mass that justifies commercial businesses into these newer areas (whether greenfield or infill) often does not occur for a number of years after development. Thus the requirement to have ground floor commercial space in new developments contradicts the intent of the policies to have activated areas. Allowing flexibility – within reason – in these ground floor locations would decrease the time required to activate a precinct. The impact on car parking requirements of this flexible approach would need to be explored.
- Quasi Height Control are of particular concern, not just in the R-Codes but within Local Planning Policies. Planning should not be assessed on the number of 'storeys' but as the height above natural ground level. Furthermore blanket height restrictions can result in poor planning outcomes which stifles innovation.
- Car parking requirements are one of the most costly burdens on infill development. There should be more of a case-by-case basis approach, particularly close to employment or transport nodes. When people purchase houses/apartments/units they are aware of the number of car bays included and make the purchase according to their lifestyle situation. The rise of the sharing economy and automated vehicle gives further weight to the review of car parking requirements.

UDIA recognises that there are many reform processes in place and has not reiterated concerns in relation to the Town Planning Scheme amendment and review processes and hopes that the current review will resolve many of the issues. Further, it is noted that a variety of State Planning Policies and key documents such as Liveable Neighbourhoods are currently under review.

The barriers to infill are reasonably well summarised by the Australian Housing and Urban Research Institute (AHURI) in the flow chart below.

Figure 51 AHURI Summary of Infill/Density Barriers



Part 6 – Precinct Scale Development

Precinct scale development is the pathway to quality, diverse housing stock that is relevant and responsive to the community. This applies equally to both brownfield and greenfield locations. There are outstanding greenfield examples of medium and high density precinct scale development at different scales and two are provided in this submission along with feedback on some of the challenges involved in achieving quality outcomes that are desired by future residents.

To achieve what the community wants to see in an ideal Perth, with density consolidated around infrastructure, centres and amenities courageous decisions will be needed by Government to overcome opposition from a range of local interest groups, and indeed those that are uncertain about the impact that change will have on their own lives.

From a practical perspective, there are many factors that underpin the ability to deliver effective infill density. In particular far greater streamlining of the planning process and government decision making needs to occur in inner and middle suburbs, as well as the commitment to, and delivery of significant infrastructure underpinned by a transparent process of investment, including by other parties such as superannuation funds.

There are other mechanisms that would give greater certainty and efficiency to the infill intensification process, such as new Town Planning Schemes for inner and middle local governments with more rigorous and accountable provisions. This could be achieved under the Department's draft Planning and Development (Local Planning Scheme) Regulations 2014 albeit with some modification to the draft version. Local planning policies that are inconsistent with State Policies must also be reviewed to avoid conflicting policy drivers.

Multiple (fragmented) ownership in infill areas also presents significant challenges to precinct based density, such as co-ordination of design, infrastructure, access, servicing and delivery, as well as having all landowners as willing participants. There are mechanisms available to the Commission and the Minister to be able to intervene in these situations, such as Improvement Schemes with statutory force however there would need to be substantial political will to precinct scale development. The benefit to industry of Improvement Schemes for infill is that it applies a new statutory framework, overriding the local scheme. This provides far greater certainty to industry and the ability for the industry to more efficiently deliver large scale intensification in multiple ownership situations, rather than it being the sole domain of a Redevelopment Authority.

There could also be a role for a Liveable Neighbourhoods style document to guide the development of these intensification precincts with good local, national and international examples which are image rich to help inform the community. We also need to improve the way we seek feedback from the community to give voice to the silent majority that support quality development and the benefits it delivers for the local community.

Most importantly industry, state government and local government must develop a much clearer message about why we are changing our approach to housing the growing population of our capital cities. It is about delivering a positive outcome for the community with dynamic, engaged and activated communities both in our existing suburbs and new areas where there is sufficient diversity to meet the needs of our many household typologies.

As part of the change process we need a strategy to manage both transition over time as well as how to manage transition zones between existing residential areas and density precincts. Indeed, without a clear strategy for both we risk sub-optimal outcomes that will become a liability for future generations.

Piecemeal development of activity centres is challenging. Land assembly, utilities, coordinated design and timeliness of product are difficult without either government intervention or a site of significant scale. We are seeing amazing outcomes on large brownfields sites, from the early East Perth and Subiaco redevelopments to the recent Cockburn Central and Riverside projects.

Precincts have distinctly different community acceptance contingent upon the location according to the UDIA Housing We Love Survey conducted in January 2015. The survey considered four locations for density and respondents were very discrete about their choices for each with indicative acceptance of height shown on the bell chart below.

Near the City

Acceptance of density in and around city centres was very high with both multiple dwellings and high rise supported. This was the location that the greatest degree of height was accepted.

Near Transport

Acceptance of height diminished away from city location with eight storeys around train stations acceptable, however there were also many transition buildings with a combination of two, three and four storeys included.

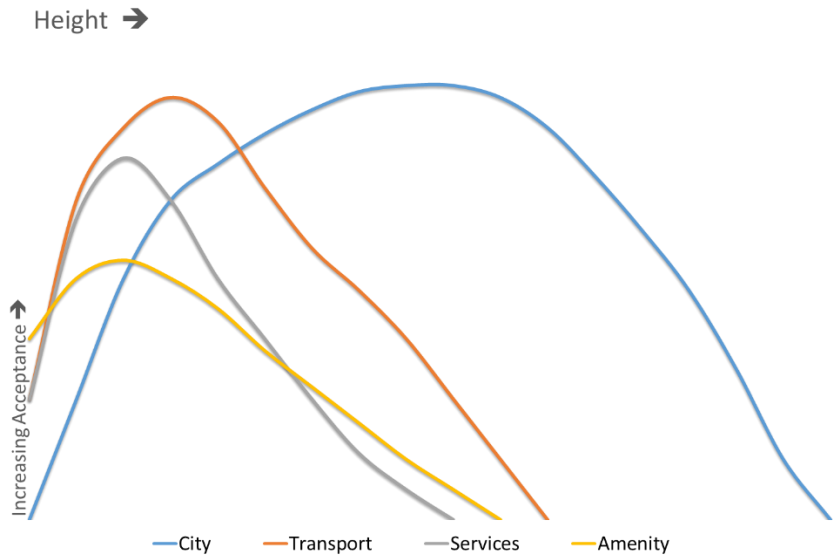
Near Services

The average height fell further, although apartments over shops increased the overall acceptance of height. In these precincts the general appetite was more in the two to three storey range.

Near amenity such as parks, beach and cafes

This was the most diverse response with single story (attached and detached), two and three storey apartments dominating however developments up to six storeys were included in the top five choices. Because of the diversity of opportunity that an amenity option delivers, this would have been a more subjective outcome.

Figure 52 Precinct Development by Resident Appetite for Height

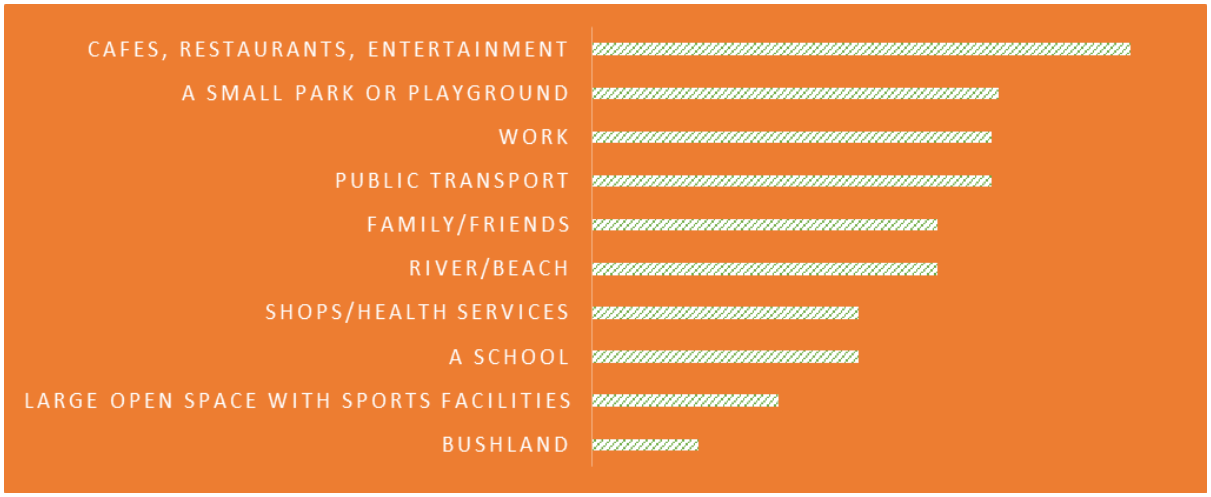


This chart from the UDIA Housing We Love Survey indicative of the acceptance of height. It is based on information extrapolated from the images used in the survey and the proportion of respondents that reacted positively in the locations included in the chart. The purpose is to show the variation between locations rather than specific heights

For density to have widespread appeal there needs to be a trade-off between private space and public amenity/services. As part of the Housing We Love survey respondents were asked to rank their priorities, which are shown in Figure 53 below. The ranking of cafes, restaurants and entertainment as the highest response gives rise to the question of why density is resisted if density delivers the commercial precursor to the delivery of cafes, restaurants and other forms of activation. The written comments provide greater insight, with some respondents expressing concern about density leading to ghettos and anti-social behaviour. Given that safety was in the top three concerns, this may counterbalance the positive outcomes of intensification. Given these factors, there appears to be an intellectual awareness of some of the positive benefits of intensification, but resistance to it happening near the respondents may reflect outdated examples of poor density outcomes.

Whilst difficult to achieve, precinct scale redevelopment, and the detailed visioning that normally accompanies such an exercise, would provide greater clarity for the community about the benefits that can be accrued from high density living. It is essential that industry and government work together to showcase excellence in modern dense living styles and proactively engage with the community early in intensification projects.

Figure 53 Locational Trade-Off Priorities (Source Housing We Love Survey)

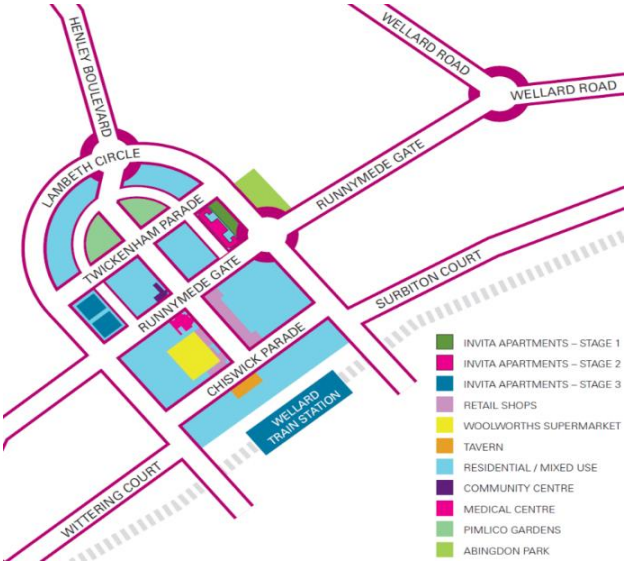


It should not be overlooked that density is an option in many locations, delivering diversity and affordability of product. The practicalities of what works and where is essential information for all strategic planners and we urge the government to ensure that adequate consultation is undertaken to avoid unrealistic expectations of deliverables.

On the following pages are two case studies of Transport Orientated, precinct scale developments. These two developments have achieved different rates of density but are setting the scene for what can be achieved in new areas being developed. These are examples of post Global Financial Crisis projects that have been implemented, provided to demonstrate that the shift towards denser living had already occurred and that draconian measures to restrict the market are unnecessary.

The Perth Experience of Transport Oriented Development

Case Study: Wellard



The TOD at the Wellard Train Station is part of a larger master-planned community. The apartments were a non-traditional inclusion in a development located 40km from the CBD, albeit that they are located within the walkable catchment of a train station.

The density planned and built to date is at the lower end of the scale for a TOD, primarily being of two to three storeys. The stage one apartments were released in in late 2014 and settled in early 2015, with 100 percent sold in the first four weeks. There were 36 maisonette style walk up apartments priced to suit an affordable market. The one bedroom apartments were priced from $280,000 with the two bedroom prices from $330,000.

The apartments went on to win both the State and National Awards for Affordable Housing.

The second stage consisting of 46 apartments, has sold out. Again affordability has been maintained through delivery of maisonette style walk up apartments combined with some traditional lift apartments and were delivered to the market at a similar price point to those in stage one.

Stage three apartments have an expected completion date of late 2016 and include 106 three storey lift apartments with an initial price point of $295,000 for a one bedroom and $325,000 for a two storey apartment.

Key learnings from this development was the need to gradually release product to enable transition from the more typical greenfields development, and have a price point below that of house and land to provide an affordable comparison. In the outer suburbs purchasers preferred smaller “boutique apartment developments” and were less inclined to trade off private space, preferring two bedroom apartments to the single bedroom offering.

Case Study: Cockburn

Cockburn is an important transit development 20km south of the Perth CBD with the town centre covering 12 hectares of the 42 hectare precinct.

The development commenced in conjunction with the construction of the Cockburn Central Station and included the relocation of the Department of Fire and Emergency Services in a new $40million building as the anchor tenant for the employment centre.

The precinct offers many living opportunities and significantly higher density than the Wellard precinct. At the date of publication, a total of eight residential buildings providing 466 dwellings have been completed in the Cockburn Central Town Centre. Another 160 dwellings are currently under construction and a further 276 dwellings have received planning approval but are yet to commence construction. The total number of residential apartments currently approved in the Town Centre is 902.

When completed, Cockburn town Centre will be home to 2000 residents with a mix of residential, mixed use, commercial and retail buildings up to eight storeys tall.

Price points vary with a combination of private sector and Department of Housing buildings offering a range of apartments, the predominant offerings are 1x1, 2x1 and 2x2.

Buildings in this precinct are multi-award winners, as are the buildings themselves. Core to the success of the precinct was the initial structure planning process and the release of super-lots to the private sector. This enabled a consolidated approach which supported good planning outcomes and the early provision of facilities and activation for initial residents.

Part 7 – Specific Items

This section of the submission responds to specific issues that have been raised in the documentation including:

- Staging and Sequencing Requirements
- Extraction of Fill – Sequential Development
- Environmental Considerations
- Fragmentation and Delivery

This section also provides commentary on the documentation structure.

Staging and Sequencing

> *For proposals to be considered ahead of the timeframe, it will need to be demonstrated that: there is a demand for such development that cannot be met elsewhere in the Perth and Peel regions in the same timeframe".* *Section 4.2 Regional Frameworks*

The provision above, included at section 4.2 'Staging and Sequencing' within of each of the Regional Frameworks, fails to demonstrate an understanding of key commercial considerations underpinning the land development process, as well as the elasticity and drivers of consumer demand.

1. Whilst the Western Australian Planning Commission (WAPC) has sought to truncate the timeframes for processing land development proposals, the reality is that it still takes many years to bring land to the market. To determine if land – anywhere else in the Perth and Peel regions can meet demand in the same timeframe is impossible.
2. The statement is blind to price points, making an assumption that all land is equally affordable for prospective purchasers.
3. Research shows that the majority of residential land purchasers live, or have lived, within a ten minute drive of their prospective new home. This means that the market is far less elastic that this statement would indicate.
4. If implemented, even if all of the factors listed above could be accommodated, would run counter to the intent of the document in seeking to reduce journey to work times. If implemented, this policy would remove the opportunity to live and work in close proximity. Assuming the most disparate case, a person could be forced to purchase in Mandurah, whilst working in Bullsbrook. This is obviously an absurd outcome.

UDIA is concerned that the policy intent is so firmly fixed on constraining supply that reasonable assessment of what is in the best interests of the community has been lost.

A case study of Geographical Liquidity of Housing Demand in Perth is provided on the next page. In looking at a number of indicators, this case study demonstrates that a large proportion of people have chosen to live within relative close proximity to their previous residence and in the case of Baldivis and Ellenbrook, over 30% of people have chosen to move within the same suburb. Therefore, this data demonstrates a level of localised demand for property in neighbouring areas which is unlikely to be transferable between corridors. Where supply is unable to meet demand within a particular area, this is likely to result in not only increased prices, but create an artificial barrier to housing transition, leaving people living in inappropriate dwelling types and/or displacing people to areas which may be some distance from work/family/transport/amenity that they wish to live near.

Case Study – Geographical Liquidity of Demand for Housing

PropertyESP undertook detailed analysis of ABS data to determine the geographical liquidity of demand for housing. Below is a snapshot of their findings.

For Baldivis:

- 31% moved from somewhere else in Baldivis
- The average distance people moved to Baldivis was 20km. By road, this would be from Mundijong in the Shire of Serpentine-Jarrahdale or from Singleton in the City of Rockingham
- Half of them moved 10.6km (this is the median distance they moved). By road, this would be from Port Kennedy in the City of Rockingham

For Byford:

- 20% moved from somewhere else in Byford
- The average distance people moved to Byford was 17km. By road, this would be from Serpentine in the Shire of Serpentine-Jarrahdale or from Gosnells in the City of Gosnells
- Half of them moved 13km (this is the median distance they moved). By road, this would be from Seville Grove in the City of Armadale

For Ellenbrook:

- 34% moved from somewhere else in Ellenbrook
- The average distance people moved to Ellenbrook was 17km. By road, this would be from Swan View in the City of Swan or from Woodvale in the City of Joondalup
- Half of them moved 15.4km (this is the median distance they moved). By road, this would be from Stratton in the City of Swan

Figure 54 Geographical Liquidity of Housing Demand

Baldivis	Byford	Ellenbrook
Warnbro	Byford	Ellenbrook
Baldivis	Armadale - Wungong - Brookdale	The Vines
Waikiki	Mundijong	Beechboro
Cooloongup	Mount Nasura - Mount Richon - Bedfordale	Ballajura
Safety Bay - Shoalwater	Kelmscott	Lockridge - Kiara
Port Kennedy	Seville Grove	Bassendean - Eden Hill - Ashfield
		Middle Swan - Herne Hill
		Stratton - Jane Brook

Source is ABS Internal Migration 1 year ago - so people who were living at another address one year before Census night. Only those people moving from somewhere in the Perth Greater Capital City region (which includes Mandurah) were included in this analysis. Those people moving from outside the Perth Greater Capital City region (which includes Mandurah) were excluded.
Where they moved from is the SA2. This is whole suburbs or combination of suburbs or parts of very large suburbs. Where they moved to is the state suburb … of Baldivis or Byford or Ellenbrook.
here there are combinations of suburbs, first mentioned suburb is used (unless it has already been used, then second is used) to calculate the distance

- *Distances were derived from Google maps.*
- *Distance were based on the fastest route, not the shortest.*
- *Those WHO MOVED HOUSE within the suburb (e.g. from one address in Baldivis to another address in Baldivis) are included. Their distance is calculated by determining the driving distance from one side of the suburb to the other and dividing by two (the inference being that people are moving their suburb away). This means that most of those moving within their suburb are moving shorter distances than those moving from the next suburb.*
- *Includes renters as well as people who own / are paying off their home.*
- *Figures are based on people, not households. So a family of 5 counts for 5 people.*

Extraction of Fill - Sequential Development

Land identified for development… [Which] contain important basic raw materials. Planning for these areas will need to have due regard for the principle of sequential land use and land use buffers so that the regional value of these resources can be realised and materials are available as demand dictates. Pg 44, South-Metro Frameworks (also other sub-region docs)

The framework sets out proposals to: Protect areas with basic raw materials for timely extraction. Pg6, South-Metro Frameworks (also other sub-regions)

Identify ultimate land uses for industrial and public purposes sites, while promoting access to finite basic raw materials, through the staging and sequencing of development. Pg 16, NW Metro Frameworks (and sub-regions)

The processes of accessing, extracting and utilising Basic Raw Material (BRM) resources that may exist within a landholding, need to be better understood within the plans text if the realisation of these resources is be effective, as would appear to be the intent of statements such as those above. In many cases, landholders wish to access BRM resources for use in earlier stages on the same site, or other projects; however administrative barriers to extraction of BRM currently exist.

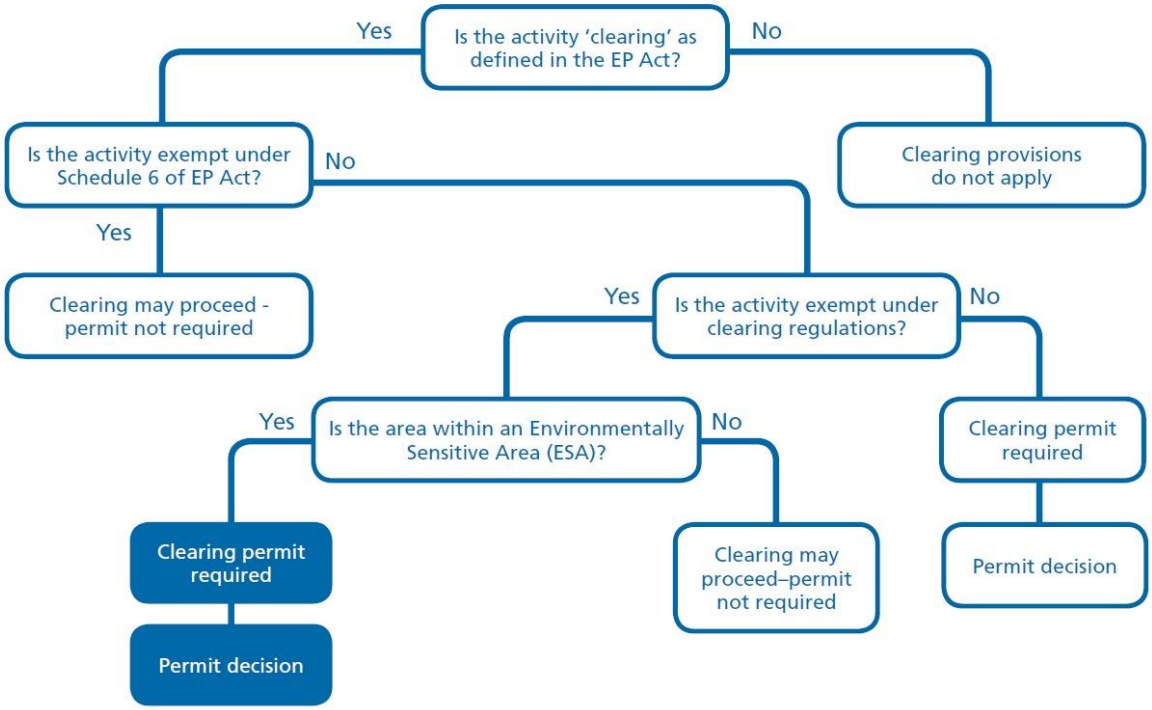
In current practice, if a landholder wants to access sand for fill on site, prior to subdivision approval (pertaining to the land on which the resource exists), a clearing permit must be obtained under the *Environmental Protection (Clearing of Native Vegetation) Regulations 2004*. In cases where the land on which a clearing permit is required, has been the subject of various planning approvals, the requirement is somewhat of an artificial administrative barrier. Once an area of land has been approval for subdivision, a clearing permit is no longer required, due to the application of a Schedule 6 (EP Act) clearing exemption. Therefore this barrier subsists in the misalignment of timings between when a site is able to be cleared, and when the BRM within the site is required for use. *Further explanation of the nuanced clearing permit process below.*

All clearing of native vegetation requires a permit unless it is exempt. There are two types of clearing exemptions:

- that are a requirement of a written law, or authorised under certain statutory processes under Schedule 6 of the EP Act; and
- for prescribed routine low impact land management practices under Regulations. These exemptions do not apply in environmentally sensitive areas (ESAs).

Subdivision falls under schedule 6 of the EP Act, clearing for the purposes of the extraction of fill as part of sequential development however, does not.

Framework for regulation of clearing under EP Act 1986



EP Act: *Environmental Protection Act 1986*
Clearing Regulations: *Environmental Protection (Clearing of Native Vegetation) Regulations 2004*

As it currently stands, a developer or landowner seeking to extract excess fill from a development site will require a clearing permit, as will the recipient of the fill. As the practice on the ground is to receive fill as it becomes available at a competitive rate (including transport costs), rather than necessarily purchasing the fill required immediately prior to construction, it is important that there are no administrative barriers in achieving the desired outcome of maximising extraction.

It is critical that a statutory head of power is provided under the *Planning and Development Act (2005)*, enabling the extraction and placement of fill materials without penalties and requirements beyond those that would otherwise be experienced through the subdivision process. Without that opportunity, the cost of the fill will rise to compensate for the additional cost and time burden, exacerbating the current issues with fill, resulting in a poor outcome for the community.

Further, it is important that commercial reality remains part of the decision making process. If land with BRM for fill is the last in an area to be developed, the transport costs may prohibit it being used at an offsite location. Therefore "protecting areas with BRM for timely extraction" (Section 1.2 above), may have the opposite effect, making the resource unviable for use. These plans should not act to sterilise otherwise developable land on the basis of flawed assumptions about fill use and extraction practices.

Further Investigations need to be conducted into the opportunities that urban development generate, for the extraction and maximisation of BRM resources, and how the strategies employed by government can better align with industries operational realities.

Water Source Areas – Jandakot and Gnangara Mounds

> *Effective management of these significant water sources [Jandakot and Gnangara Mounds] require careful consideration of land uses that impact on the quantity and quality of water that enters the underground aquifer. Further management is required to rationalise urban and rural uses… Both policies are currently under review with the expectation that these water sources will continue to be protected from inappropriate development with only limited areas being available for land use change into the future. (Section 8.7, The Plan)*

The Plan references the need to protect water sources with particular reference to the Jandakot & Gnangara Water Mounds. Although little detail is provided in regard to how these areas will be protected on an ongoing basis, the language used with respect to land use in these resource areas would appear to be very prohibitive. Land use planning with regard to the resource areas are currently managed through the respective State Planning Policies (SPP), namely SPP 2.2 & 2.3. The frameworks should not act to further constraint land uses in these resource areas, where proponents are able to demonstrate effective management of any risks that may "*impact on the quantity and quality of water that enters the underground aquifer."* (Section 8.7, The Plan). While UDIA recognises the need to protect our States water resources, land use planning with respect to affected areas should be evidence based, with uses to be considered based on the real risk to the water source.

The Plan acknowledges that both the Gnangara and Jandakot Groundwater Protection Policies are currently under review. With review of these policies yet to be finalised, it remains unclear what role the policies will play into the future and the degree to which protection of these resources have impacted the frameworks spatial mapping. UDIA remains of the belief (as conveyed during advertising periods for the SPP's) that evidence based, performance criteria be used to assess the risk posed by urban land uses and the evolving ability of industry to mitigate such risks through innovative, engineered solutions.

Environmental Considerations

The Western Australian assessment is the largest urban-based environmental approvals process in Australia, encompassing an area of some 900,000 hectares and has played a major role in the development of the draft sub-regional planning frameworks through the preparation of the proposed spatial plan for the long-term development of Perth and Peel. It is scheduled to be completed in 2016.
Section 8.1, Draft Perth and Peel@3.5million

The document includes reference to the Strategic Assessment of the Perth and Peel Regions (SAPPR), which would appear to infer that the SAPPR has been a significant influence on the spatial mapping.

Opening comments from Mr Eric Lumsden, contained within each of the Draft Frameworks would appear to indicate that the environmental values, which will be addressed by the SAPPR, have been included in their entirety within the spatial mapping i.e. the SAPPR will not further impact any land designated for use whether it be urban, industrial or otherwise within the frameworks.

This section goes on to discuss the *Strategic Conservation Plan* (plan for protection of MNES) & the Draft Impact Assessment Report that will set out the impacts and outcomes that will result from that plan. Both the Plan and Impact assessment are yet to be released. It is somewhat uncertain as to whether these strategic conservation areas have been incorporated with the current Frameworks spatial mapping.

The EPA section 16 interim advice on the frameworks was yet to be released at the time this submission was developed thus the extent to which environmental considerations have impacted the spatial plan are difficult to ascertain. This creates uncertainty for proponents as to how they should respond effectively during the consultation period.

The denial of natural justice for proponents that have land excluded based on undisclosed criteria is noted by the Institute and may give rise to further concerns being expressed by the industry going forward.

UDIA strongly recommends the readvertising of the *Documents* when all of the information is publicly available in early 2016.

Green Network

Green Networks have been defined with the Frameworks as follows:

…consists of public and private open spaces. The green network includes Bush Forever sites, national and regional parks, district and local parks, sports fields, school grounds, community facilities, golf courses, foreshores and beachfront areas connected by streetscapes, trails, cycle paths and pedestrian footpaths.

Glossary within each of the framework documents -

The frameworks discuss further development of the green network as a key strategy in achieving a number of the documents objectives. Additionally, references to green networks, discuss their support of ecological linkages, with little information given as to how these linkages are to be assessed; or where these linkages are to be located.

The principals of encouraging and guiding increased connectivity between open space and conservation through an integrated green network are supported however, these principals should not be applied slavishly where the attributes of the land are not appropriate for conservation. It should be recognised that land with significant environmental assets are best suited to achieve conservation outcomes whilst land that has been heavily disturbed and has little conservation value is better utilised for housing or other development, even though it might serve as a convenient link between green areas.

The real biodiversity values of proposed ecological corridors, and criteria for connecting areas of biodiversity should be established to further better understand how these initiatives are implemented and how they achieve their purpose. Various practical considerations must be acknowledged in this regard, for instance, long thin vegetation corridors are subject to weed intrusion and can provide easy rangelands for feral animals. It is UDIA's understanding that few Western Australian species need the range that would be made available through these networks, creating an imbalance between feral animals and local species.

Additionally, it is also noted that proposed open space sporting amenities do not seem to be proposed for locations that will serve as part of the green networks. Further, there are proposed sporting facilities in locations which duplicate planned facilities in close proximity, leaving other areas un-serviced.

Landscape Value

The sub-region also includes some valued landscapes with both natural and rural character, including market gardens associated with wetlands, the adjoining limestone ridge with tuarts. (Section 3.7, Regional Frameworks)

Each of the documents discuss landscapes in conjunction with the environment, including 'landscape value' as a new consideration, with no definition as to what constitutes a valued landscape. These values are outside of those that would generally be accepted environmental values.

Comment from industry practitioners is that Landscape value is notoriously difficult to obtain a consensus view on in practices and its application, as a planning tool is often based on value judgements rather than defined criteria. When applied on a large scale, it has the potential to alienate extensive areas of land from development. It is within this context that the Institute questions why market gardens have a landscape value. If there is no specific environmental value, historical use of an area should not be used as the basis for maintaining an existing use.

The lack of detail provided in the documentation limits the ability to interrogate the application of this criterion. The approach to considering landscape values should be described in the documentation in more detail as should its application to allow an appropriate process of public consultation. If a defendable position on the incorporation of landscape value into the decision making process cannot be reached it is recommended that this factor be removed from the documentation all together.

Bushfire Management

The following key principles have been fundamental to the delivery of the framework… Avoid areas that are at a high risk of bushfire to manage the potential impact on people, property and infrastructure. Section 3.1 Regional Frameworks

The Institute supports the use of high quality planning in the management of bushfire risk, however this requires a sophisticated arrangement where post development outcomes are not judged by the pre-development risk profile. The management of Bushfire risk is nuanced with highly specialised and technical detail which is not appropriate to consider in depth in this submission. A process of sterilisation through planning frameworks that over-rides the policy process that has been defined by the State Government, is unnecessary.

UDIA understands that the Bushfire Policy (SPP3.7) is intended to operate as a **trigger document**, requiring further investigation as to the real risk posed through further assessment (i.e. BAL and BHL assessments). If areas have been excluded from the frameworks spatial mapping on the basis of Bushfire Prone Area (BPA) mapping, this is contrary to the purpose and intent of SPP3.7. Furthermore, assumptions have been made in relation to risk, which fail to consider the changing nature of land use and vegetation over time, including the sequential movement of the urban front. As stated above, the operation of BAL and BHL assessments within SPP3.7, are intended to assess the real risk of bushfire at a point in time following a BPA designation. The designation of an area as bushfire prone, is not intended to signal a permanent risk. The urban development industry routinely implement a range of measures as part of the development process which act to mitigate risk in an effective and efficient manner.

An approach whereby land is sterilised based on the risk profile determined as a fixed point in time, act to prevent the planning and construction of well-designed urban development that can act as a buffer to existing residences that would not meet the current building standards relevant to their BAL. A more sophisticated and nuanced approach is required, that considers the opportunities for better outcomes, inherent in best practice urban development.

As a matter of procedural fairness, The Documents refer to bushfire management documentation and State Planning Policy 3.7, which UDIA understands is currently being revised prior to further public advertising. If decisions within The Documents have been made based on associated documents which are yet to be finalised and gazetted, this is quite concerning. The bushfire-prone area (BPA) determination criteria referred to within The Plan, are not consistent with the Institute's understanding of what is likely to be included in the policy going forward. Furthermore, bushfire-prone area mapping has not yet been released publically, with the Fire and Emergency Services Commissioner still lacking the legislative authority (at the time of writing) to designate such areas within a state map, as intended to operate under the Draft SPP. If spatial decision making within the draft sub-regional frameworks has been made based on policies and mapping, yet to be endorsed and still subject to public advertising periods, this is of significant concern.

Fragmentation and Deliverability

The Institute has grave concerns about the calculation of land supply as highly fragmented, difficult to service land has been included that is unlikely to be brought to market in a timely way, even given the protracted timeline of this planning framework.

UDIA further notes that parcels of land in single ownership are unlikely to be developed in the foreseeable future.

Fragmentation of ownership is, in itself, not a barrier as long as the management of the development process is in a formal arrangement which can progress those lands. Without that consolidation of control, it is very challenging to deliver high quality outcomes and address the complexities associated with the approvals system as it now stands.

UDIA is deeply concerned by anecdotal feedback from members of advice that the intent of the frameworks is to bring on these parcels of land by frustrating alternative supply. This can only be achieve in one way, that is for land prices to rise sufficiently for those parcels to become commercially viable to develop. This would mean a catastrophic failure of supply leading to the market being willing to pay around double the price of the product that is currently within the Geographic Liquidity of Housing Demand limit for the area (see page 80 of this submission for further explanation).

The economics of commercial viability is echoed across all production based businesses, indeed the current iron ore price has reduced or extinguished the viability of some of the lower grade mines. When (if) the price rises sufficiently, they will move into production. This is the exact same principle for land supply and if affordability is to be part of the future for Greater Perth, these commercial realities cannot be ignored in the pursuit of an idealised planning outcome.

The Institute questions the underlying principle of constraining land supply to a “just in time approach.” Whilst there is logic around the premise of managing government investment in servicing infrastructure, that is a process of clearly defining servicing areas rather than preventing reasonable, market driven supply. If the intent is for environmental protection that is a policy setting which should be clear and transparently applied.

Documentation

UDIA questions the level of duplication within the documents and suggests a far more integrated approach to their publication. Where an issue applies across the entire region, it should be placed in the overarching document. UDIA's assessment is that around fifty percent of the text in the frameworks documents is duplicated.

Data in most of the documents is not referenced, or inconsistently referenced with sweeping assumption made that are likely to be based on outdated assumptions. UDIA notes that the Central Sub-regional Planning Framework was more appropriately referenced that the other documents.

The circumstance of Perth is changing very rapidly. Indeed the original Directions 2031 was drafted prior to the 2011 Census making detailed analysis of trends in Greater Perth an essential component of the process.

Part 8 – Leveraging the Future

This section looks forward to technology and social change that is likely over the life of this plan and projects that can enhance the future outcomes for Perth.

Whilst UDIA recognises that the documentation is population driven rather than time based, the documentation is predicated on a notional timeframe of 2050.

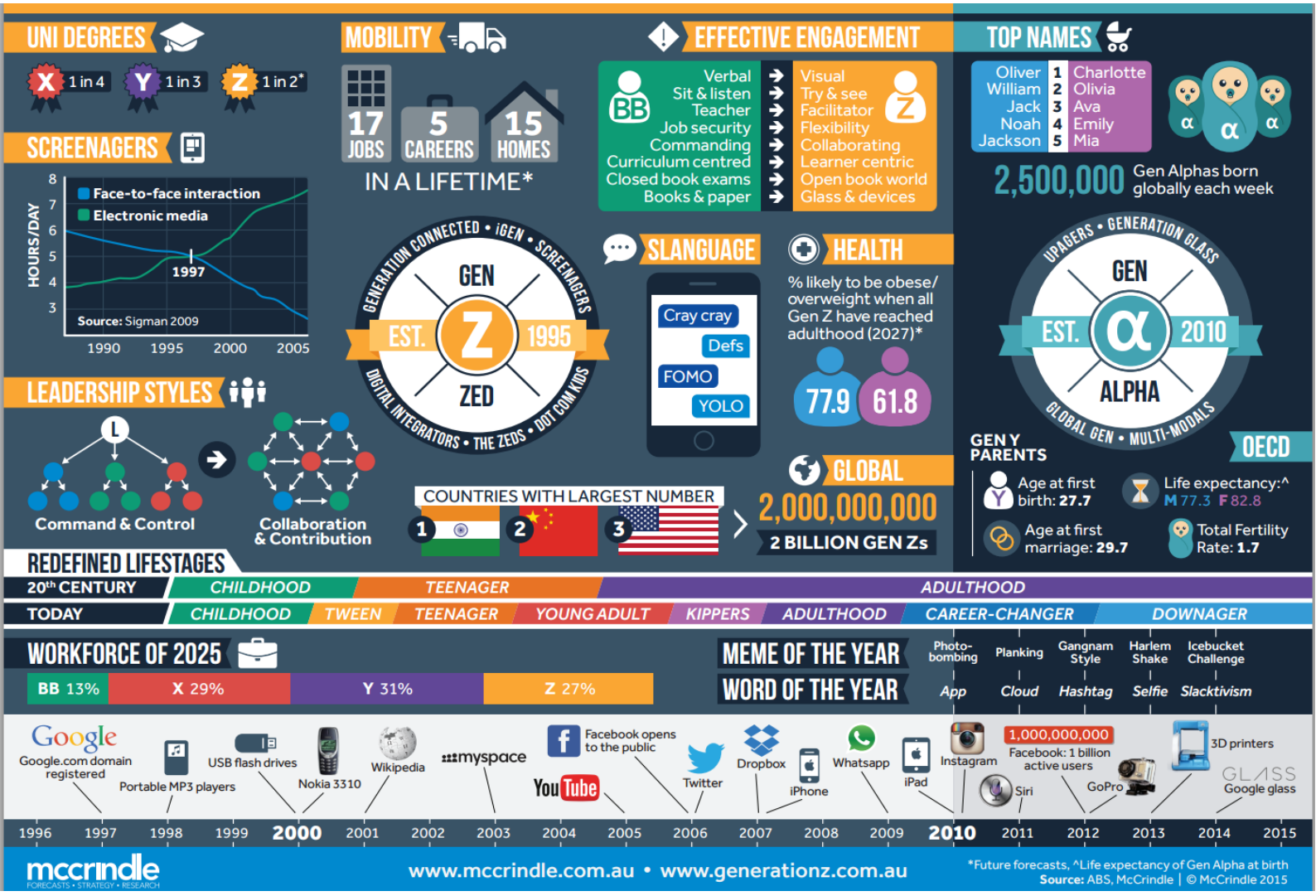
That means a child starting school this year will be 40 when implementation of this plan is completed. Page 33 of Perth and Peel @ 3.5 million states that "Technology will be pivotal in enabling an innovative, globally – competitive and sustainable future for Perth and Peel regions", yet there appears to be limited understanding of the major changes that will occur over the medium term. Highlighted below are just some of the changes which could significantly impact on where and how we live, work and play.

1. Digital globalisation of workforce. This takes two forms, firstly the offshore preparation of e-design, whether that be CAD engineering designs, house plans or any other form of computer based work which can be managed remotely. The other is the increasing use of freelancer style websites. According to research by Edelman Berland there are 53 million Americans doing freelance work; that is 34% of the population and a contribution of $715 billion annually to the economy (Freelancers Union & Elance-oDesk, 2015). Whilst not all of this work is digitally based, 7 in 10 found work through the internet and 4 out of 10 have done online freelance work. The growth of employee based telecommuting in the US is also significant at 79.7%, all be it off a relatively small base (GlobalWorkplaceAnalytics.com, 2013).
2. Changes to the internet: In 2015 OneWeb attracted funding to build a satellite system to deliver internet services globally. Consisting of 648 satellites, the first stage of the $1.5 billion program will see 65 satellites launched and services available from 2019. They are not alone, with SpaceX anticipating services will commence in five years. Satellite technology has the potential to uncouple worker and office in a way not previously possible (Knapp, 2015).
3. Automated and autonomous vehicles. Main Roads has moved on from the intelligent transport systems that are referenced in the documentation of Perth & Peel at 3.5 million to harness the investment of the private sector. There are currently two lines of development with automated vehicles gradually improving the safety management of vehicles through driver support mechanisms while autonomous vehicles will not require active participation of the driver. Main Roads released a report on the implications in 2015 (Somers & Weeratunga, 2015). Google and Nissan are anticipating the first commercial autonomous vehicle by 2020. '*The Institution of Electrical and Electronics Engineers (IEEE) believes that by 2025, 60% of the cars on the road will be internet connected. The increased dependence on CVs will increase consumers' trust and reliance on automated systems. IEEE predicts that 75% of the cars on the road will be AVs by 2040'* (Somers & Weeratunga, 2015, p. 30).
4. Care Robots: Aging in place may be supported through care robots which are being developed in Japan and improvements made to online care and diagnosis will support the aging population. Not a solution, but the demand for nursing home places may be mitigated by technology which allows the elderly to stay in their homes (ABC/AFP, 2015).
5. 3D printing, the impact on the supply chain is unknown but the diversity of product is significant and ranges from houses to food.

Whilst it would be impossible to plan for all eventualities, there are three key social outcomes which should be considered:

- The development of a sharing economy. The penetration of smart communication technology has unleashed a new approach to the access of goods and services. Private room rental, peer-to-peer car or bike sharing are just a few examples. This willingness to share rather than own will have implications going forward, particularly when combined with the introduction of autonomous vehicles. The positive impact on congestion by 2050 could be significant.
- Different ways of working and communicating; the globalisation of work.
- Non-lineal life pathways. This encompasses many life choices from having multiple jobs/careers to multiple changes in living arrangements rather than a steady progression from small to larger home then downsizing post-children. The infogram below provides some insight into the changed lifestyle and expectations going forward.

The changes outlined above reinforce the need to have a flexible plan which can be readily adapted to the changing needs of the community.



Levering the Future Discussion Starter

UDIA is committed to creating a liveable, vibrant and diversified place for people in Greater Perth to live. The Institute recognises that there are many challenges ahead of us, however we recommend that urban development is included in the government's suite of solutions rather than being seen as an a problem to be constrained.

Discussions need to be had about how we can leverage investment in urban development to deliver solutions to even the most complex of problems. The Concepts outlined below are simply discussion starters and should not be seen as endorsed projects, promoted by UDIA. UDIA feels that it is this type of discussion and engagement, as well as the more local discussion of character and place that has been missing from the current process.

Concept 1 – Leveraging urban development for port infrastructure
The freight task in Perth will be inadequately serviced into the future by the existing Fremantle Port. Even with automation and some improvements to the road network, the freight task will remain controversial with local residents and is likely to achieve sub-optimal outcomes due to congestion and turn-around times for trucks operating in the port. Given the state government is considering the sale of the port, the transaction could be more sophisticated and leverage the construction of a new port facility in outer harbour; with the inner harbour being released for development as a high density, sustainable urban community. The current harbour remains functional as a cruise port, creating a sophisticated gateway for tourists to Perth and to deliver valuable economic activity for Fremantle area and the broader Perth region.

Concept 2 - Managing Nutrient runoff into the Peel Harvey Estuary.
Modern urban development practices can be employed to convert high nutrient stream flows into environmentally compatible water for the wetlands, river and estuary systems. At scale, urban development could provide a protective ring that includes constructed wetlands, vegetated swales and other appropriate strategies to deliver the desired environmental outcomes. Any offsets required could go directly to the rehabilitation of priority areas to further enhance the outcomes. This masterplanning would need to embrace numerous landholders through a detailed masterplanned community process, but the outcome could lead to a world's best practice environmental restoration process.

Concept 3 – Aquifer Recharge
Urban development could be considered for the water mounds, with a view to achieving three outcomes: the development of an east-west light rail link; storm water collection and management for aquifer recharge; and rehabilitation of environmentally degraded areas (such as the Pine Plantations). Development along the light rail line would include well located child care and seniors' facilities, as well as a diversity in building stock to encourage a range of age groups to locate to enjoy employment opportunities for the new digital age and high levels of amenity. The release of Crown land could provide significant funds to underwrite the delivery of the vision and complement the identified infill targets.

These examples are simply discussion starters, but are indicative of the conversations that the community, government and industry should be having going forward.

Part 9 - Next Steps

UDIA does not believe that the frameworks should be discarded, rather they become the basis of a more informed discussion about what Perth should look like with a resident population of 3.5 million people. This discussion must be evidenced based and inclusive of the community, industry and local government views.

UDIA encourages consideration of the approach being undertaken in the Seattle 2035: Your City, Your Future, the draft Comprehensive Plan which was released for consultation on the 8th July 2015. The document has not tried to be prescriptive, rather provided an indicative plan for the future that is guided by detailed policy documents and funding for local planning. Categories are broad but paint a picture of the planning outcomes that are likely. This allows for flexibility within a shared understanding of the outcomes required.

This principles based approach is far more responsive that the current proposal for Perth. The Seattle plan is not a perfect approach but the goals in the document are more precise and transparent, recognising the role of residents and their representatives in defining the local character. The funding and empowerment of these communities has been vital in community acceptance of change over several decades. The Documents released for Greater Perth do not have an adequate engagement strategy and, without community acceptance and commercial realities being recognised, the plans will be overturned in the near future.

It almost goes without saying that any move towards adoption must be accompanied by readvertising as currently proponents are being denied natural justice due to the opaque nature of the criteria used for decision making.

UDIA believes that there are seven initial steps that must be implemented to effectively manage the growth of the city going forward.

Step 1

Consistent with the stated aim of a collaborative process, a Steering Group of government, industry and community representatives is formed to guide a review of the planning for Greater Perth at 3.5 million. The Steering Group will ensure that a practical, principle based approach, consistent with the agreed aims and objectives of the city as a whole, is developed along with a reporting regime that provides transparent information to government, industry and the community on progress. The planning process will include both proponent and government identification of land, with a well-developed facilitation strategy available to support development.

Step 2

Costed, rolling five, ten and twenty year comprehensive infrastructure plans with appropriate levels of detail are developed in consultation with industry to guide growth.

Step 3

That a bi-partisan rolling 20 year Transport Plan, which has regard of social and technological trends, is developed and adopted by Government.

Step 4

That a desktop analysis be undertaken to identify international examples of best practice of planning systems that focus on enabling and facilitating quality development in both greenfield and brownfield locations. Systems should be non-prescriptive, adopting a principles based approach to maximise opportunities for innovation. A five year program of reorientation of the planning framework to both be, and to facilitate, best practice outcomes should be developed and implemented.

Step 5

A strategic approach is implemented to encourage land assembly to maximise opportunities for precinct scale development for both brownfield and greenfield contexts.

Step 6

That the State Government appoints a "Futures Committee" that brings together industry and government stakeholders to monitor the impact that technological change will have on the demand for, and provision of, infrastructure, the impact on the speed and direction of social change and the opportunities for the broader economy in a globally competitive market.

Step 7

That consideration is given to utilising the Metropolitan Region Improvement Tax as a funding pool to underwrite contribution schemes for strategic developments to ensure that value capture from development opportunities is managed effectively to unlock precinct scale development.

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Appendix 1

ABS FINAL VARIABLE LIST

SOCIAL ADVANTAGE/DISADVANTAGE

Variable	Description	Loading
INC_HIGH	% of people with stated household equivalised income greater than $52,000 per year	0.84
HIGHMORTGAGE	% of occupied private dwellings paying mortgage greater than $2,800 per month	0.70
DIPLOMA	% of people aged 15 years and over whose highest level of educational attainment is a diploma qualification	0.63
OCC_PROF	% of employed people classified as Professionals	0.62
HIGHBED	% of occupied private dwellings with four (4) or more bedrooms	0.52
OCC_MANAGER	% of employed people classified as managers	0.42
HIGHRENT	% of occupied private dwellings paying rent greater than $370 per week	0.40
SPAREBED	% of occupied private dwellings with one or more spare bedrooms	0.37
ATUNI	% of people aged 15 years and over at university or other tertiary institution	0.36
HIGHCAR	% of occupied private dwellings with three (3) or more cars	0.35
NOEDU	% of people aged 15 years and over who have no educational attainment	-0.37
OVERCROWD	% of occupied private dwellings requiring one or more extra bedrooms	-0.45
NOCAR	% of occupied private dwellings with no cars	-0.49
OCC_SERVICE_L	% of employed people classified as low skill Community and Personal Service workers	-0.51
OCC_DRIVER	% of employed people classified as Machinery Operators and Drivers	-0.57
SEP_DIVORCED	% of people aged 15 years and over who are separated or divorced	-0.57
LOWRENT	% of occupied private dwellings paying rent less than $166 per week (excluding $0 per week)	-0.67
DISABILITYU70	% of people under the age of 70 who have a long-term health condition or disability and need assistance with core activities	-0.67
UNEMPLOYED	% of people (in the labour force) who are unemployed	-0.69
ONEPARENT	% of one parent families with dependent offspring only	-0.69
OCC_LABOUR	% of employed people classified as Labourers	-0.78
CHILDJOBLESS	% of families with children under 15 years of age who live with jobless parents	-0.80
NOYEAR12ORHIGHER	% of people aged 15 years and over whose highest level of education is Year 11 or lower	-0.82
NONET	% of occupied private dwellings with no internet connection	-0.82
INC_LOW	% of people with stated household equivalised income between $1 and $20,799 per year	-0.89