



Department of
Sport and Recreation

Active Open Space (playing fields) in a growing Perth-Peel

January 2013



Our whole
community **wins**



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Centre for
Sport and Recreation
Research

Department of Urban and Regional Planning





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Disclaimer

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About the Centre for Sport and Recreation Research (CSRR):

CSRR is a partnership between Curtin University and the Department of Sport and Recreation WA.

CSRR provides an independent perspective to look at the horizon and beyond, and identify issues that will:

- Impact sport and recreation decision making.
- Benefit from sport and recreation association.

CSRR operates by drawing together multi-disciplinary teams to undertake research that informs decision makers.

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“ *Sport is not simply about being the best or beating other countries or gaining the most medals. From events like the Olympic Games to local matches on a Saturday afternoon, sport brings people together. It is a key part of creating safe, strong and sustainable communities.* ”

Nicholson, M. Hoyer, R. (Ed's.) (2008). *Sport and social capital*. Amsterdam: Elsevier p.72.

Summary

The research found:

- *In delivering significant environmental and social benefits, the unintended consequence of implementing Bush Forever, Water Sensitive Urban Design and Liveable Neighbourhoods planning policies has been a reduction in the amount of open space able to accommodate organised sport.*
- *With a high degree of certainty, the new suburbs in each of the fringe growth sub-regions of Perth already have a shortage of active playing fields.*

The research concluded:

- *If the provision of the support facilities is taken into account, the total shortfall of open space required for active sport by 2031 is around 495 hectares.*
- *Without a change to the relevant planning policies and without the State Government stepping in to provide additional active open space as Regional Open Space, this shortage can only get worse.*

Background

Open space is an inherent part of the Australian culture, helping to define Perth and contribute to the physical and mental health of our community. Public open space (POS) comprises the freely accessible areas that support the functions of recreation, relaxation, socialisation, organised sporting activities, informal play and environmental protection.

The past two decades has seen POS used for a greater range of applications, notably environmental protection, water management and walkable catchments. The introduction of Bush Forever, which aims to protect important bushland in Perth and the move to better urban stormwater management through Water Sensitive Urban Design (WSUD) has seen more open space being set aside for these purposes. Both of these policies have led to significant benefits by delivering positive environmental and social outcomes for the community. The Western Australian Planning Commission's (WAPC) Liveable Neighbourhoods (LN) policy, which offers reduced POS provision incentives to developers, has also had implications for open space. When combined, these initiatives have resulted in the perception that there are now insufficient active reserves (active open space) to accommodate organised sport.

Aim of the research

The aim of the research was to find out if the perception that there are insufficient active reserves being provided in the newer suburbs of Perth on which to accommodate organised sport—is correct.

Types of open space covered in this study

This research focused on active POS which, for the purposes of this study, comprises those spaces that are deliberately designed and managed for organised sporting activities including football ovals, soccer pitches, cricket grounds, rugby grounds and athletics fields.

Whilst this study focused on POS, where necessary, regional open space (ROS) was also included. POS is vested in and managed by local government, and is given up free-of-cost by a developer at the time of subdivision. ROS is usually reserved and purchased by the State Government and managed either by the State or the relevant local government.

Research methods

A total of 139 suburbs were covered in the study, over a period of 18 months. Every piece of POS and ROS was mapped and its exact size calculated.

Each piece of POS had a detailed map drawn showing the use 'zones' present. The zones refer to areas of:

- Passive recreation
- Active recreation
- Permanent stormwater
- Passive/temporary wet
- Nature conservation
- Mixed conservation/stormwater






POS Type/Zone	
Active	
Passive	
Stormwater	
Passive/temporary wet	
Conservation	



Figure 1: Example of POS area map showing zones (Quinns Rock)

Figure 1 is an example of how the mapping was undertaken. It should be noted that the active recreation zone is the actual playing surface and does not include the clubrooms and surrounding area where spectators stand—this is zoned passive recreation.

Suburbs were categorised based on the policies relevant to the provision of POS that applied at the time, notably:

- Those that were built pre Stephenson-Hepburn, called here Old-inner.
- Those built post Stephenson-Hepburn and before the policy constraints came into force, called 10% POS.
- Those that were Bush Forever and WSUD constrained—called Bush Forever and WSUD constrained.
- Those designed under LN but were not Bush Forever and WSUD constrained—called LN constrained.

Overall result

The data for all suburbs in each POS category were combined to provide an overall picture of the types of POS that have been provided. Figure 2 summarises the data for all the areas of POS showing the total proportions of each POS zone or use type.

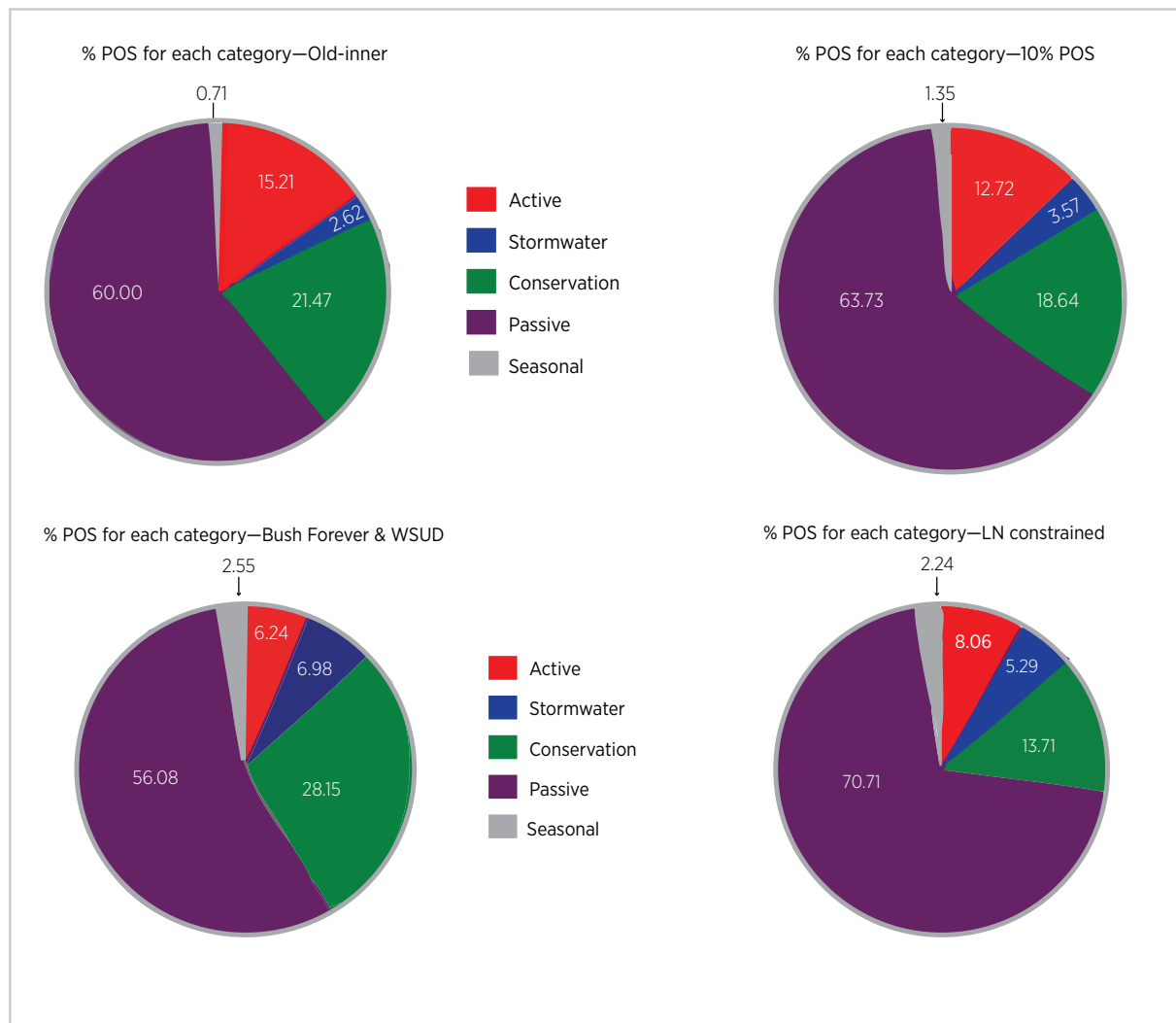


Figure 2: Percentage of each POS use type by suburb category

The data shows that in suburbs constrained by Bush Forever and WSUD, more POS is dedicated to conservation and stormwater than in the Old-inner and the 10% POS suburbs. This has come at a cost to both the provision of active open space and passive open space.

For those suburbs that are LN constrained, there is significantly more passive open space, reflecting in part the greater number of smaller parks that are passive only spaces and more space set aside for WSUD purposes. This has come at the cost of less active open space and less space for conservation.

In common to all of the new suburbs overall, there is a reduced supply of active POS.

Figure 3 shows the average percentage of open space (POS and ROS) by suburb category.

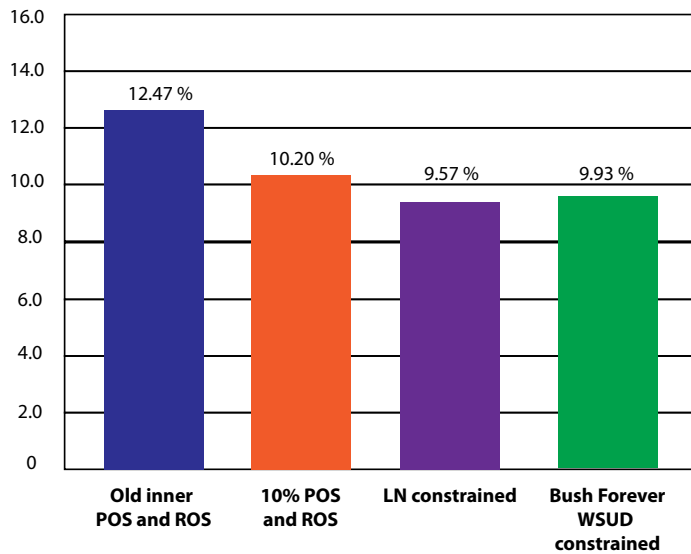


Figure 3: Average percentage of OS by suburb category

Old inner suburbs have the highest percentage of open space, followed by the 10% suburbs and Bush Forever and WSUD constrained suburbs. It should be noted that the majority of this open space in the Old-inner suburbs is regional open space (of the 12.47%, 4.98% is POS and 7.49% ROS). The LN constrained suburbs have the lowest percentage of open space. Figure 4 shows the data for active open space only.

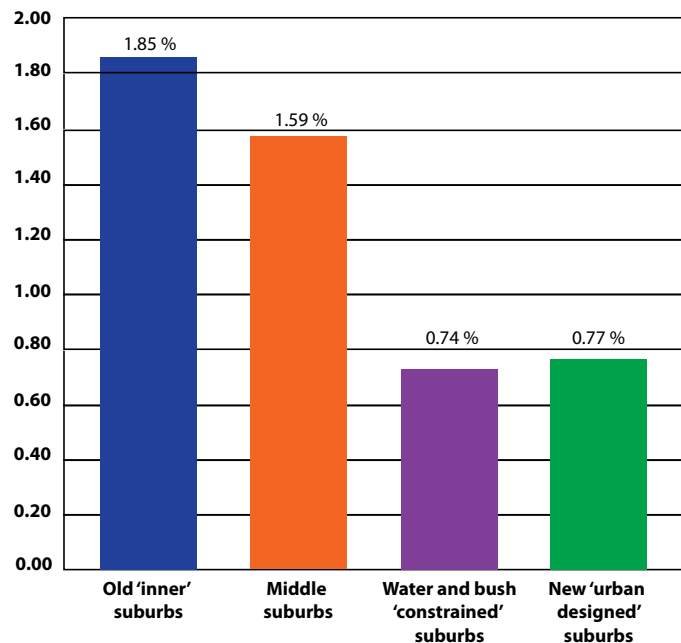


Figure 4: Average percentage of active open space by suburb category

As can be seen, the percentage of active open space in Bush Forever and WSUD constrained suburbs, as well as the LN constrained suburbs, is much lower than Old-inner suburbs and the 10% POS suburbs.

Based on this data, it can be concluded that the implementation of Bush Forever, WSUD and LN, whilst delivering significant environmental and social benefits, has resulted in a reduced supply of active POS in the new suburbs.

Key questions

Four key questions have emerged as an outcome of the findings:

- Q1. Does the reduction matter? If yes:
- Q2. What is an adequate amount of active open space?
- Q3. Is there an existing shortfall of active open space and if so how much?
- Q4. What is the predicted shortfall in active open space by 2031 if there is no change in planning policies?

Q1. Does the reduction matter?

In order to ascertain whether the reduced supply of active open space in the newer suburbs is having an impact, (that is, are existing grounds being heavily and unsustainably used) a case study of the South West Corridor was undertaken as part of the overall research. Playing fields in both POS and ROS were included in the study, as well as school sports grounds if used for organised sport on weekends and/or training during the week. The case study focused on two specific sports: the winter sport of soccer and the summer sport of cricket.

The findings highlighted the following for the case study area:

- Half of the grounds in the study area are being heavily used, primarily because of the absence of grounds in the Bush Forever and WSUD constrained areas.
- The situation would be worse if it were not for the active open space available elsewhere.
- Should Bush Forever and WSUD constrained suburbs continue to be developed in the south of the corridor with the same lack of active POS areas, then the pressure on existing grounds located elsewhere will grow and more grounds will become heavily used. This situation is considered unsustainable.
- Additionally, there is also an issue of spatial equality, where the residents of the new suburbs of Cockburn have to travel much further to access playing fields than the residents in the established suburbs.

The conclusion reached was yes, the reduced supply is already having an impact.

Q2. What is an adequate amount of active open space?

Given the above conclusion, the key follow-on question was “how much active open space is enough?” Based on the data, the study developed Curtin Guidelines, not specific criteria, for the supply of active open space. The Curtin Guidelines are:

- For new suburbs where the density of development is typical for Perth’s suburbs 1.4% of the subdividable area should be set aside as active open space.
- For infill developments and greenfield developments that are much denser than typical, 6.5m² of active open space per resident should be set aside as active open space.

NOTE: Active open space refers to the area of the playing surface. In general, at least double that again needs to be set aside to allow for supporting infrastructure such as club rooms, spectator areas, parking etc.

It is important to note that the stated metrics are guidelines and serve to provide an indication of the amount of active open space required. As illustrated in Figure 5, the intent of the Guidelines is best represented by a broad band rather than a fine line, with action needed if provision falls noticeably below the recommended Guideline.

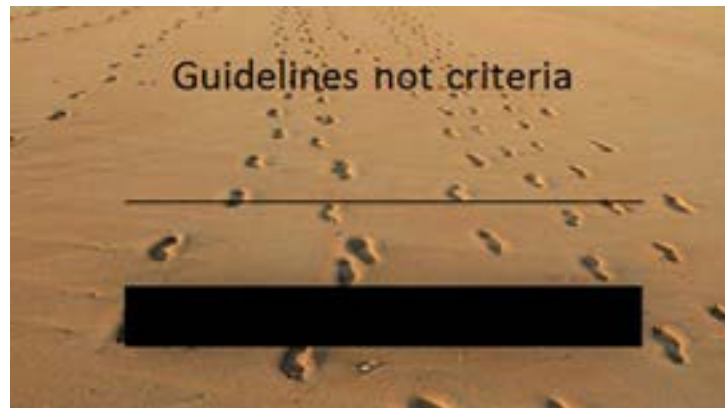


Figure 5

Q3. Is there an existing shortfall of active open space and if so, how much?

The study was able to estimate the notional existing shortfall in active open space in the outer metropolitan areas of Perth by applying the above guidelines.

This shortfall is estimated to be 96.7 ha, which equates to approximately 44 senior AFL ovals or 135 senior soccer pitches.

If the provision of the support facilities is taken into account, the current total existing shortfall of open space required for active sport is around 290 ha.

Q4. What is the predicted shortfall in active open space by 2031 if there is no change in planning policies?

The study went on to predict the notional shortfall in active open space by 2031. Three broad assumptions were made:

1. No changes to the application of the three planning policies.
2. No additional regional active OS is provided.
3. The population predictions in Directions 2031 and also the WA Tomorrow reports.

Based on the above, the predicted notional shortfall of active open space by 2031 will be around 165 ha (depending on the population projections used). This equates to 75 senior AFL ovals or 230 senior soccer pitches.

If the provision of the support facilities is taken into account, the total shortfall of open space required for active sport by 2031 is around 495 ha.

Summarising the data

Table 1 summarises the data for both existing shortfall and predicted shortfall for the Perth-Peel region, by sub-regions and the total for the whole of the Perth-Peel region.

NOTE: Where two figures are shown in a column (e.g. population growth), the first figure uses the Directions 2031 population predictions and the second the updated WA Tomorrow 2012 data.

Sub-region	Existing shortfall (playing surface only)	Population growth to 2031 (Directions 2031 / WA Tomorrow)	Predicted shortfall at 2031 (Directions 2031 / WA Tomorrow)	Total predicted shortfall 2031 - including support facilities (Directions 2031 / WA Tomorrow)
North West	27.2 ha	70,000/80,500	45.1/47.8 ha	135/143 ha
North East	7.0 ha	50,000/57,500	19.8/21.7 ha	60/65 ha
South West	10.5 ha	50,000/57,500	19.8/21.7 ha	60/65 ha
South East	30.0 ha	50,000/57,500	42.8/44.7 ha	128/134 ha
Peel	22.0 ha	30,000/34,500	29.7/30.8 ha	89/92 ha
Total Perth-Peel	96.7 ha	250,000/287,500	160.7/170.2 ha	482/509 ha

What about the inner suburbs of Perth?

The implications for the inner suburbs of Perth were also examined. The study concluded that currently the inner suburbs are well supplied with active open space, with an average of 7.27 m² per resident, which is well above the Curtin Guideline. However, Directions 2031 estimates that 47% of the population growth for Perth will be as infill in the inner and middle suburbs.

By 2031, the predicted shortfall of active open space of in the central sub-region of Perth will be 79.0 ha, which is equivalent to 36 senior AFL ovals or 110 senior soccer pitches.

If the provision of the support facilities is taken into account, the total shortfall of open space required for active sport in 2031 in the central sub-region, is around 237 ha.

Spatial inequality?

One consequence of the reduced supply of active open space in the growth suburbs of Perth is the emergence of spatial inequality. The new suburbs of Perth can be considered active open space poor. This is well demonstrated in Figure 6. The dots represent suburbs and the colours indicate:

- **Green** - well above the Curtin 1.4% Guideline.
- **Blue** - reasonably consistent with the Curtin 1.4% Guideline.
- **Red** - well below the Curtin 1.4% Guideline.

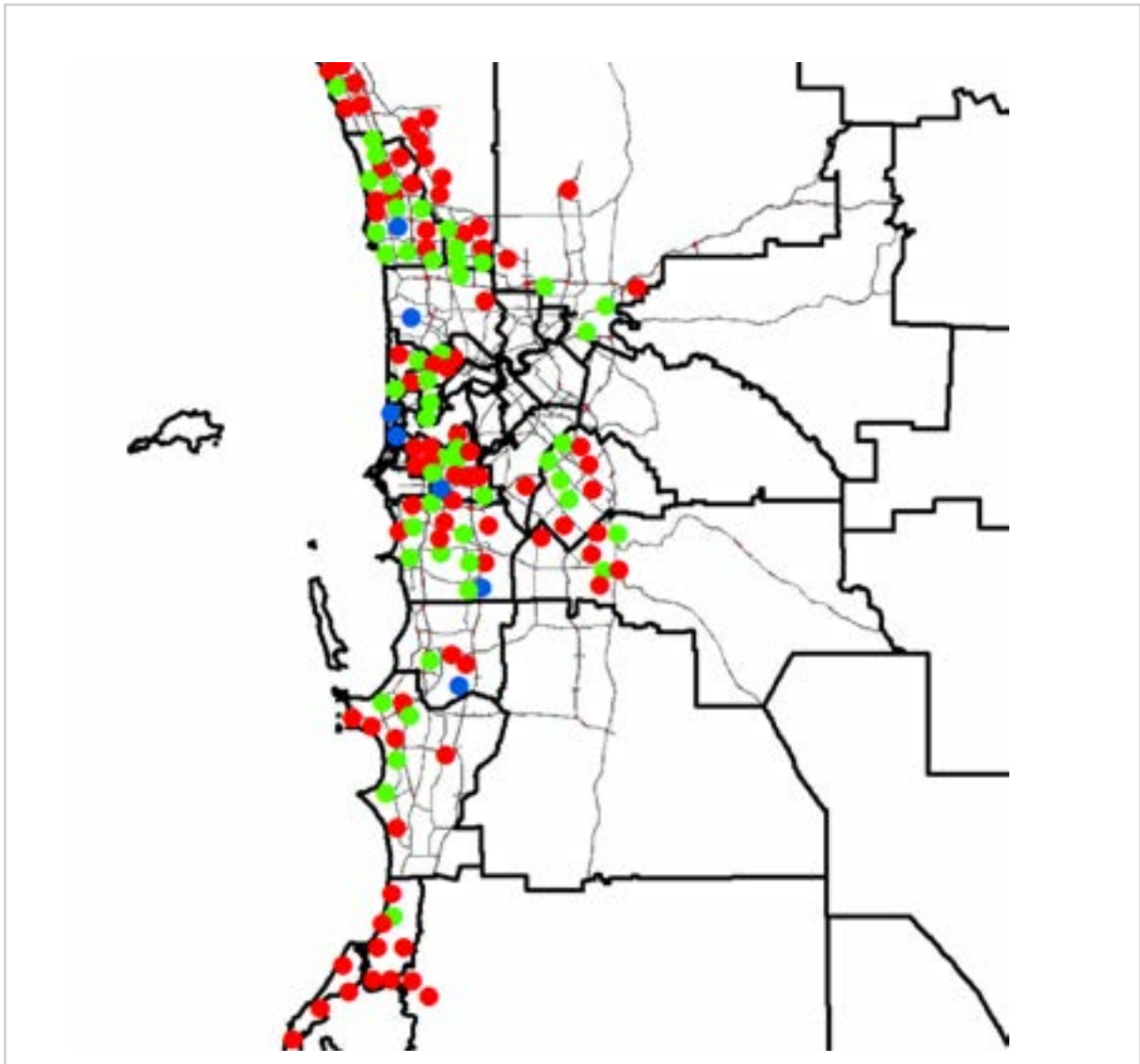


Figure 6: Map showing distribution of active open space

Final conclusions from the study

1. The data presented in this study make it clear that the implementation of Bush Forever, WSUD and Liveable Neighbourhoods has resulted in a significant existing shortfall in the supply of active open space in the fringe growth suburbs—notionally, this shortfall is 51.6 ha.

Projecting to 2031, using the population prediction in Directions 2031, assuming no changes to the above three policies, and assuming no additional regional active open space is provided, the notional shortfall of active open space in 2031 will be 160.7 ha (equivalent to 73 senior AFL ovals or 225 senior soccer pitches).

Directions 2031 - If the provision of the support facilities is taken into account, the total shortfall of open space required for active sport is around 495 ha.

2. Further, if instead of using the population prediction in Directions 2031 the updated figures from WA Tomorrow 2012 are used, the situation is worse: the notional shortfall of active open space in 2031 will be 170.2 ha (equivalent to 77 senior AFL ovals or 238 senior soccer pitches).

WA Tomorrow —If the provision of the support facilities is taken into account, the total shortfall of open space required for active sport is around 509 ha.

3. The situation for each of the four outer growth sub-regions identified in Directions 2031 reflects the overall picture for Perth.

It can be concluded with a high degree of certainty that the new suburbs in each of the fringe growth sub-regions of Perth already have a shortage of active playing fields.

Without a change to the relevant planning policies and without the State Government stepping in to provide additional active open space as ROS, this shortage can only get worse.

Opportunities

Of the three planning policies that have likely contributed to the shortages of active playing fields, changes to LN is likely to provide the best opportunities for gains in the future. Both Bush Forever and WSUD design have led to significant environmental benefits, which should not be significantly changed.

An additional supplementary measure would be to work with the Education Department so that school ovals are available for joint use (school and community), are large enough and fit for purpose to accommodate senior sport.

The new fringe suburbs that have a reduced supply of active open space can be considered active open space poor. There is an opportunity to gain greater insight into these suburbs—it is likely that it will be more costly for these residents to play sport, both financially and also in terms of time. It could also mean that the participation rates in active sport in these suburbs would be significantly less than in suburbs well-supplied with playing fields and may have particular implications for junior sport participation in more vulnerable populations.

Policy definitions

Bush Forever	Bush Forever is a Government policy that aims to protect significant bushland in the coastal plain portion of the Perth Metropolitan area. Whilst there is a considerable bushland already reserved, Bush Forever identifies additional areas that need to be protected so that our conservation reserve system is comprehensive, adequate and representative of the ecological communities of the region. The Government has committed \$100M to implement Bush Forever. Much of this additional land will be purchased, but some will be included as Public Open Space (POS).
Water Sensitive Urban Design (WSUD)	WSUD is a more environmentally sensitive way to manage urban stormwater and drainage. Traditionally, stormwater was directly discharged into the Swan River, wetlands and the ocean. This caused a range of negative impacts including pollution of wetland and the Swan River. WSUD avoids these problems by treating stormwater at the source and making water management part of the landscape. Inevitably, more open space is required to accommodate this.
Liveable Neighbourhoods (LN)	LN is a planning policy that seeks better urban design for our suburbs based on broad sustainability principles. One key element of LN is better accessibility to open spaces. POS became part of the design of the suburb, which favoured more linear parks and smaller pocket parks favouring passive uses over larger active spaces.
Stephenson-Hepburn Plan	Developed in 1955, by Gordon Stephenson and Alistair Hepburn, the Stephenson-Hepburn Plan was the strategic plan guiding the growth and development of Perth and Fremantle until 1970. The plan led to the establishment of the statutory Metropolitan Region Scheme.





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